The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC6803

Sampling Date: 06/08/23

Report to:

AECOM, Inc
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ATTN: Katie Abbott

Total number of pages in report: **1130**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, IL, UT, VT, WA, WI, WV

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Sample Summary

AECOM, INC.

Job No: FC6803

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FC6803-1	06/08/23	09:15	MYJV	06/10/23	AQ	Ground Water	AF-RHMW225401-WGN01B-2306
FC6803-2	06/08/23	09:20	CPAY	06/10/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2306
FC6803-3	06/08/23	09:45	CPAY	06/10/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2306
FC6803-4	06/08/23	10:45	CPAY	06/10/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2306
FC6803-5	06/08/23	10:10	CPAY	06/10/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2306
FC6803-6	06/08/23	12:00	CPAY	06/10/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2306

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC. **Job No:** FC6803

Site: N6274223F0104 RH Fire Suppression System **Report Date:** 6/21/2023 5:02:52 PM

On 06/10/2023, 5 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 4.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC6803 was assigned to the project.

Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Semi-volatiles By Method EPA DRAFT 1633

Matrix: AQ **Batch ID:** OP97325

Sample(s) FC6803-1MS, FC6803-2DUP were used as the QC samples indicated.

Blank Spike Recovery(s) for 3:3 Fluorotelomer carboxylate are outside control limits.

Sample(s) FC6803-4 have surrogates outside control limits.

FC6803-1 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6803-2 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6803-3 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6803-4: Confirmation run.

FC6803-5 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

FC6803-6 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits.

Matrix: AQ **Batch ID:** OP97385

Sample(s) FC6444-23MS, FC6444-24DUP were used as the QC samples indicated.

Blank Spike Recovery(s) for 3:3 Fluorotelomer carboxylate are outside control limits.

Sample(s) FC6803-4 have surrogates outside control limits.

FC6803-4 for 3:3 Fluorotelomer carboxylate: Associated BS recovery outside control limits; LLBS recovery was within control limits and sample was ND.

FC6803-4 for 13C4-PFBA: Outside control limits.

FC6803-4 for d3-MeFOSAA: Outside control limits.

SGS North America Inc. - Orlando certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc.- Orlando is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Kim Benham, Client Services *(Signature on File)*

Summary of Hits

Job Number: FC6803
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 06/08/23

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC6803-1	**AF-RHMW225401-WGN01B-2306**					
Perfluoropentanoic acid		1.0 J	7.3	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		0.79 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.60 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid		0.92 J	3.6	0.91	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid		0.58 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanesulfonic acid		0.92 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid		0.87 J	3.6	1.8	ng/l	EPA DRAFT 1633
FC6803-2	**AF-RHMW17S-WGN01LF-2306**					
Perfluorobutanoic acid		13.7 J	14	3.6	ng/l	EPA DRAFT 1633
Perfluoropentanoic acid		16.6	7.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		1.7 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.77 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid		0.94 J	3.6	0.89	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid		0.48 J	3.6	1.8	ng/l	EPA DRAFT 1633
FC6803-3	**AF-RHMW17S-WQEB01-2306**					
No hits reported in this sample.						
FC6803-4	**AF-RHMW17D-WGN01LF-2306**					
No hits reported in this sample.						
FC6803-5	**AF-RHMW17D-WQFB01-2306**					
No hits reported in this sample.						
FC6803-6	**AF-RHMW17-WGN01LF-2306**					
Perfluoropentanoic acid		2.6 J	7.3	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		2.1 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid		0.67 J	3.6	1.8	ng/l	EPA DRAFT 1633
6:2 Fluorotelomer sulfonate		10.7 J	18	7.3	ng/l	EPA DRAFT 1633

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2306		
Lab Sample ID:	FC6803-1	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q19366.D	1	06/14/23 19:40	MV	06/13/23 13:00	OP97325	S6Q289
Run #2							

	Initial Volume	Final Volume
Run #1	550 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	15	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.0	7.3	1.8	0.85	ng/l	J
307-24-4	Perfluorohexanoic acid	0.79	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.60	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	0.92	3.6	0.91	0.45	ng/l	J
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.76	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.58	3.6	1.8	0.45	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	0.92	3.6	1.8	0.64	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	0.87	3.6	1.8	0.49	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.58	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.3 U	18	7.3	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.7	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	3.6	1.8	0.61	ng/l	
31506-32-8	MeFOSA	3.6 U	7.3	3.6	0.91	ng/l	
4151-50-2	EtFOSA	3.6 U	7.3	3.6	0.91	ng/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2306		
Lab Sample ID:	FC6803-1	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.6 U	4.5	3.6	0.91	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	18 U	36	18	4.0	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.7	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.91	ng/l	
919005-14-4	ADONA	3.6 U	7.3	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.3	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	7.3	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.3	3.6	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.3	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.3	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.3	1.8	0.71	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [a]	9.1 U	18	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	91	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	91	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	108%		20-150%
	13C5-PFPeA	118%		20-150%
	13C5-PFHxA	115%		20-150%
	13C4-PFHpA	118%		20-150%
	13C8-PFOA	113%		20-150%
	13C9-PFNA	116%		20-150%
	13C6-PFDA	117%		20-150%
	13C7-PFUnDA	106%		20-150%
	13C2-PFDoDA	106%		20-150%
	13C2-PFTeDA	96%		20-150%
	13C3-PFBS	124%		20-150%
	13C3-PFHxS	118%		20-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2306		
Lab Sample ID:	FC6803-1	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	125%		20-150%
	13C8-FOSA	91%		20-150%
	d3-MeFOSA	94%		20-150%
	d5-EtFOSA	94%		20-150%
	d3-MeFOSAA	119%		20-150%
	d5-EtFOSAA	123%		20-150%
	d7-MeFOSE	85%		20-150%
	d9-EtFOSE	96%		20-150%
	13C2-4:2FTS	140%		20-180%
	13C2-6:2FTS	127%		20-180%
	13C2-8:2FTS	121%		20-180%
	13C3-HFPO-DA	113%		20-150%

(a) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2306		
Lab Sample ID:	FC6803-2	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q19368.D	1	06/14/23 20:08	MV	06/13/23 13:00	OP97325	S6Q289
Run #2							

	Initial Volume	Final Volume
Run #1	560 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	13.7	14	3.6	1.7	ng/l	J
2706-90-3	Perfluoropentanoic acid	16.6	7.1	1.8	0.84	ng/l	
307-24-4	Perfluorohexanoic acid	1.7	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.77	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	0.94	3.6	0.89	0.45	ng/l	J
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.48	3.6	1.8	0.45	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.57	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.1 U	18	7.1	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.1	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	3.6	1.8	0.60	ng/l	
31506-32-8	MeFOSA	3.6 U	7.1	3.6	0.89	ng/l	
4151-50-2	EtFOSA	3.6 U	7.1	3.6	0.89	ng/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2306		
Lab Sample ID:	FC6803-2	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.6 U	4.5	3.6	0.89	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	18 U	36	18	3.9	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.6	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.89	ng/l	
919005-14-4	ADONA	3.6 U	7.1	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.1	1.8	0.89	ng/l	
863090-89-5	PFMBA	3.6 U	7.1	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.1	3.6	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.1	3.6	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.1	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.1	1.8	0.70	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [a]	8.9 U	18	8.9	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	89	18	7.8	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	89	18	7.0	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	48%		20-150%
	13C5-PFPeA	110%		20-150%
	13C5-PFHxA	118%		20-150%
	13C4-PFHpA	118%		20-150%
	13C8-PFOA	115%		20-150%
	13C9-PFNA	105%		20-150%
	13C6-PFDA	110%		20-150%
	13C7-PFUnDA	94%		20-150%
	13C2-PFDoDA	87%		20-150%
	13C2-PFTeDA	73%		20-150%
	13C3-PFBS	113%		20-150%
	13C3-PFHxS	111%		20-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2306		
Lab Sample ID:	FC6803-2	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	95%		20-150%
	13C8-FOSA	92%		20-150%
	d3-MeFOSA	78%		20-150%
	d5-EtFOSA	77%		20-150%
	d3-MeFOSAA	103%		20-150%
	d5-EtFOSAA	90%		20-150%
	d7-MeFOSE	76%		20-150%
	d9-EtFOSE	81%		20-150%
	13C2-4:2FTS	101%		20-180%
	13C2-6:2FTS	95%		20-180%
	13C2-8:2FTS	100%		20-180%
	13C3-HFPO-DA	110%		20-150%

(a) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2306		
Lab Sample ID:	FC6803-3	**Date Sampled:**	06/08/23
Matrix:	AQ - Equipment Blank	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q19370.D	1	06/14/23 20:36	MV	06/13/23 13:00	OP97325	S6Q289
Run #2							

	Initial Volume	Final Volume
Run #1	570 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.5 U	14	3.5	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.0	1.8	0.82	ng/l	
307-24-4	Perfluorohexanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
335-67-1	Perfluorooctanoic acid	0.88 U	3.5	0.88	0.44	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.5	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.5	1.8	0.53	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.5	1.8	0.74	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.5	1.8	0.44	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.5	1.8	0.44	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.5 U	4.4	3.5	0.98	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.5	1.8	0.61	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.5	1.8	0.44	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.5	1.8	0.47	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.5	1.8	0.50	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.5	1.8	0.56	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.5 U	4.4	3.5	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.0 U	18	7.0	2.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.0	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.0 U	18	7.0	3.6	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	3.5	1.8	0.59	ng/l	
31506-32-8	MeFOSA	3.5 U	7.0	3.5	0.88	ng/l	
4151-50-2	EtFOSA	3.5 U	7.0	3.5	0.88	ng/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2306		
Lab Sample ID:	FC6803-3	**Date Sampled:**	06/08/23
Matrix:	AQ - Equipment Blank	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.5 U	4.4	3.5	0.88	ng/l	
2991-50-6	EtFOSAA	3.5 U	4.4	3.5	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	18 U	35	18	3.8	ng/l	
1691-99-2	EtFOSE	18 U	35	18	6.5	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.8 U	3.5	1.8	0.88	ng/l	
919005-14-4	ADONA	3.5 U	7.0	3.5	1.6	ng/l	
377-73-1	PFMPA	1.8 U	7.0	1.8	0.88	ng/l	
863090-89-5	PFMBA	3.5 U	7.0	3.5	1.0	ng/l	
151772-58-6	NFDHA	3.5 U	7.0	3.5	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.5 U	7.0	3.5	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.5 U	7.0	3.5	1.5	ng/l	
113507-82-7	PFEESA	1.8 U	7.0	1.8	0.68	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [a]	8.8 U	18	8.8	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	88	18	7.7	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	88	18	6.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	119%		20-150%
	13C5-PFPeA	127%		20-150%
	13C5-PFHxA	126%		20-150%
	13C4-PFHpA	124%		20-150%
	13C8-PFOA	102%		20-150%
	13C9-PFNA	119%		20-150%
	13C6-PFDA	99%		20-150%
	13C7-PFUnDA	99%		20-150%
	13C2-PFDoDA	101%		20-150%
	13C2-PFTeDA	93%		20-150%
	13C3-PFBS	111%		20-150%
	13C3-PFHxS	107%		20-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2306		
Lab Sample ID:	FC6803-3	**Date Sampled:**	06/08/23
Matrix:	AQ - Equipment Blank	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	114%		20-150%
	13C8-FOSA	96%		20-150%
	d3-MeFOSA	94%		20-150%
	d5-EtFOSA	106%		20-150%
	d3-MeFOSAA	116%		20-150%
	d5-EtFOSAA	120%		20-150%
	d7-MeFOSE	87%		20-150%
	d9-EtFOSE	103%		20-150%
	13C2-4:2FTS	133%		20-180%
	13C2-6:2FTS	124%		20-180%
	13C2-8:2FTS	103%		20-180%
	13C3-HFPO-DA	116%		20-150%

(a) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2306		
Lab Sample ID:	FC6803-4	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q19598.D	1	06/20/23 09:20	MV	06/16/23 13:00	OP97385	S6Q292
Run #2	6Q19599.D	1	06/20/23 09:34	MV	06/16/23 13:00	OP97385	S6Q292
Run #3 [a]	6Q19371.D	1	06/14/23 20:50	MV	06/13/23 13:00	OP97325	S6Q289

	Initial Volume	Final Volume
Run #1	520 ml	5.0 ml
Run #2	66.0 ml	5.0 ml
Run #3	530 ml	5.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	30 U [b]	120	30	14	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.7	1.9	0.90	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
335-67-1	Perfluorooctanoic acid	0.96 U	3.8	0.96	0.48	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.59	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.81	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.48	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.8	1.9	0.48	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.8	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.8	1.9	0.67	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.48	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.8	1.9	0.52	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.55	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.8	1.9	0.62	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.8	3.8	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.1	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.7 U	19	7.7	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.7 U	19	7.7	4.0	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	3.8	1.9	0.64	ng/l	

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LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2306		
Lab Sample ID:	FC6803-4	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
31506-32-8	MeFOSA	3.8 U	7.7	3.8	0.96	ng/l	
4151-50-2	EtFOSA	3.8 U	7.7	3.8	0.96	ng/l	
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	30 U [b]	38	30	7.6	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.8	3.8	1.3	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	19 U	38	19	4.2	ng/l	
1691-99-2	EtFOSE	19 U	38	19	7.1	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.9 U	3.8	1.9	0.96	ng/l	
919005-14-4	ADONA	3.8 U	7.7	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.7	1.9	0.96	ng/l	
863090-89-5	PFMBA	3.8 U	7.7	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.7	3.8	1.2	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.7	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.7	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	7.7	1.9	0.75	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [c]	9.6 U	19	9.6	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	96	19	8.4	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	96	19	7.5	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Run# 3	Limits
	13C4-PFBA	4% [d]	107%	4% [d]	20-150%
	13C5-PFPeA	28%	118%	30%	20-150%
	13C5-PFHxA	100%	112%	112%	20-150%
	13C4-PFHpA	116%	111%	123%	20-150%
	13C8-PFOA	112%	107%	120%	20-150%
	13C9-PFNA	108%	109%	123%	20-150%
	13C6-PFDA	104%	101%	121%	20-150%
	13C7-PFUnDA	99%	95%	121%	20-150%
	13C2-PFDoDA	94%	91%	117%	20-150%
	13C2-PFTeDA	68%	76%	88%	20-150%

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LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2306		
Lab Sample ID:	FC6803-4	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Run# 3	Limits
	13C3-PFBS	104%	114%	116%	20-150%
	13C3-PFHxS	115%	113%	120%	20-150%
	13C8-PFOS	123%	85%	126%	20-150%
	13C8-FOSA	88%	72%	102%	20-150%
	d3-MeFOSA	101%	77%	110%	20-150%
	d5-EtFOSA	107%	79%	114%	20-150%
	d3-MeFOSAA	156% d	80%	168% d	20-150%
	d5-EtFOSAA	133%	82%	168% d	20-150%
	d7-MeFOSE	76%	63%	84%	20-150%
	d9-EtFOSE	92%	77%	100%	20-150%
	13C2-4:2FTS	120%	131%	149%	20-180%
	13C2-6:2FTS	100%	116%	112%	20-180%
	13C2-8:2FTS	108%	99%	122%	20-180%
	13C3-HFPO-DA	93%	119%	102%	20-150%

(a) Confirmation run.
(b) Result is from Run# 2
(c) Associated BS recovery outside control limits; LLBS recovery was within control limits and sample was ND.
(d) Outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2306		
Lab Sample ID:	FC6803-5	**Date Sampled:**	06/08/23
Matrix:	AQ - Field Blank Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q19372.D	1	06/14/23 21:04	MV	06/13/23 13:00	OP97325	S6Q289
Run #2							

	Initial Volume	Final Volume
Run #1	560 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	14	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.1	1.8	0.84	ng/l	
307-24-4	Perfluorohexanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.89 U	3.6	0.89	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.57	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.1 U	18	7.1	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.1	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	3.6	1.8	0.60	ng/l	
31506-32-8	MeFOSA	3.6 U	7.1	3.6	0.89	ng/l	
4151-50-2	EtFOSA	3.6 U	7.1	3.6	0.89	ng/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2306		
Lab Sample ID:	FC6803-5	**Date Sampled:**	06/08/23
Matrix:	AQ - Field Blank Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.6 U	4.5	3.6	0.89	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	18 U	36	18	3.9	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.6	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.89	ng/l	
919005-14-4	ADONA	3.6 U	7.1	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.1	1.8	0.89	ng/l	
863090-89-5	PFMBA	3.6 U	7.1	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.1	3.6	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.1	3.6	1.2	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.1	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.1	1.8	0.70	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [a]	8.9 U	18	8.9	4.0	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	89	18	7.8	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	89	18	7.0	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	118%		20-150%
	13C5-PFPeA	119%		20-150%
	13C5-PFHxA	120%		20-150%
	13C4-PFHpA	120%		20-150%
	13C8-PFOA	107%		20-150%
	13C9-PFNA	117%		20-150%
	13C6-PFDA	107%		20-150%
	13C7-PFUnDA	114%		20-150%
	13C2-PFDoDA	99%		20-150%
	13C2-PFTeDA	81%		20-150%
	13C3-PFBS	120%		20-150%
	13C3-PFHxS	121%		20-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17D-WQFB01-2306		
Lab Sample ID:	FC6803-5	**Date Sampled:**	06/08/23
Matrix:	AQ - Field Blank Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	106%		20-150%
	13C8-FOSA	83%		20-150%
	d3-MeFOSA	81%		20-150%
	d5-EtFOSA	86%		20-150%
	d3-MeFOSAA	112%		20-150%
	d5-EtFOSAA	100%		20-150%
	d7-MeFOSE	77%		20-150%
	d9-EtFOSE	94%		20-150%
	13C2-4:2FTS	142%		20-180%
	13C2-6:2FTS	137%		20-180%
	13C2-8:2FTS	125%		20-180%
	13C3-HFPO-DA	104%		20-150%

(a) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2306		
Lab Sample ID:	FC6803-6	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q19375.D	1	06/14/23 21:46	MV	06/13/23 13:00	OP97325	S6Q289
Run #2							

	Initial Volume	Final Volume
Run #1	550 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	15	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	2.6	7.3	1.8	0.85	ng/l	J
307-24-4	Perfluorohexanoic acid	2.1	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.67	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	0.91 U	3.6	0.91	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.76	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.64	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.49	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.58	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.3 U	18	7.3	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	10.7	18	7.3	3.2	ng/l	J
39108-34-4	8:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.7	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	3.6	1.8	0.61	ng/l	
31506-32-8	MeFOSA	3.6 U	7.3	3.6	0.91	ng/l	
4151-50-2	EtFOSA	3.6 U	7.3	3.6	0.91	ng/l	

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2306		
Lab Sample ID:	FC6803-6	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS							
2355-31-9	MeFOSAA	3.6 U	4.5	3.6	0.91	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	18 U	36	18	4.0	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.7	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.91	ng/l	
919005-14-4	ADONA	3.6 U	7.3	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.3	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	7.3	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.3	3.6	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.3	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.3	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.3	1.8	0.71	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylat [a]	9.1 U	18	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	91	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	91	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	108%		20-150%
	13C5-PFPeA	123%		20-150%
	13C5-PFHxA	125%		20-150%
	13C4-PFHpA	123%		20-150%
	13C8-PFOA	111%		20-150%
	13C9-PFNA	118%		20-150%
	13C6-PFDA	104%		20-150%
	13C7-PFUnDA	70%		20-150%
	13C2-PFDoDA	57%		20-150%
	13C2-PFTeDA	37%		20-150%
	13C3-PFBS	118%		20-150%
	13C3-PFHxS	121%		20-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2306		
Lab Sample ID:	FC6803-6	**Date Sampled:**	06/08/23
Matrix:	AQ - Ground Water	**Date Received:**	06/10/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	**Percent Solids:**	n/a
Project:	N6274223F0104 RH Fire Suppression System		

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	88%		20-150%
	13C8-FOSA	86%		20-150%
	d3-MeFOSA	73%		20-150%
	d5-EtFOSA	75%		20-150%
	d3-MeFOSAA	110%		20-150%
	d5-EtFOSAA	113%		20-150%
	d7-MeFOSE	65%		20-150%
	d9-EtFOSE	80%		20-150%
	13C2-4:2FTS	128%		20-180%
	13C2-6:2FTS	119%		20-180%
	13C2-8:2FTS	78%		20-180%
	13C3-HFPO-DA	117%		20-150%

(a) Associated BS recovery outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

SGS North America Inc - Orlando
Chain of Custody

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COC #: 2306AFSG07
PAGE 1 OF 1
SGS - ORLANDO JOB #: FC6803
SGS - ORLANDO Quote #
SKIFF #

Client / Reporting Information	Project Information
Company Name: AECOM	**Project Name:** N6274223F0104 RH Fire Suppression System
Address: 1001 Bishop St. ste 1600	**Street**
City: Honolulu **State:** HI **Zip:** 96813	**City** Honolulu **State** Hawaii
Project Contact: Katie Abbott **Email:** katie.abbott@aecom.com	**Project #** 60697810
Project Manager: Watson Tanji **Email:** watson.tanji@aecom.com	
Phone #: 303-796-4624 / 808-954-4512	**Fax #**
Sampler(s) Name(s) (Printed) **Sampler 1:** Matt Yim **Sampler 2:** Jackson Vo	**Client Purchase Order #**

Analytical Information

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	CONTAINER INFORMATION MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
1	AF-RHMW225401-WGN01B-2306	6/7/23	0915	MY, JV	GW	3		X								X	

MY 6/8/23

MY 6/8/23

INITIAL ASSESSMENT SP

LABEL VERIFICATION SP

Turnaround Time (Business days)	Data Deliverable Information	Comments / Remarks
10 Day (Business) Approved By: / Date:	[ ] COMMERCIAL "A" (RESULTS ONLY)	EDMS upload database: JBPHE
7 Day	[ ] COMMERCIAL "B" (RESULTS PLUS QC)	EDMS Coverage: AFFF Assessment Sampling GW
[5 Day]	[ ] REDT1 (EPA LEVEL 3)	UNITED AWB 016-47599075
3 Day *RUSH*	[x] FULLT1 (EPA LEVEL 4)	
2 Day *RUSH*	[x] EDD'S	
1 Day *RUSH*		
Other		
Rush T/A Data Available VIA Email or Lablink		

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Matt Yim AECOM	6/7/23 1430	2 Miranda DeGarmo /AECOM	3 Miranda DeGarmo/AECOM	6/8/23 1435	4 UC
5	UC	Date Time:	6 1015	7	Date Time:	8

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 4.4 IR# 06/10/23

http://www.sgs.com/en/terms-and-conditions

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FC6803: Chain of Custody
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Chain of Custody

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COC #: 2306AFSG12
PAGE 1 OF 1
SGS - ORLANDO JOB #:
SGS - ORLANDO Quote #
SKIFF # FC6803

Client / Reporting Information

Company Name: AECOM
Address: 1001 Bishop St. ste 1600
City: Honolulu State: HI Zip: 96813
Project Contact: Katie Abbott Email: katie.abbott@aecom.com
Project Manager: Watson Tanji Email: watson.tanji@aecom.com
Phone #: 303-796-4624 / 808-954-4512
Sampler(s) Name(s) (Printed)
Sampler 1: Cristian Perez Sampler 2: Andy Young

Project Information

Project Name: N6274223F0104 RH Fire Suppression System
Street
City Honolulu State Hawaii
Project # 60697810
Fax #
Client Purchase Order #

Analytical Information

PFAS EPA Draft 1633

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	CONTAINER INFORMATION TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
2	AF-RHMW17S-WGN01LF-2306	6/8/23	0920	CP, AY	GW	3		X								X	
3	AF-RHMW17S-WQEB01-2306	6/8/23	~~0930~~ 0975	CP, AY	GW	3		X								X	

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
[5 Day]
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

[ ] COMMERCIAL "A" (RESULTS ONLY)
[ ] COMMERCIAL "B" (RESULTS PLUS QC)
[ ] REDT1 (EPA LEVEL 3)
[x] FULLT1 (EPA LEVEL 4)
[x] EDD'S

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
United ANB-016-47999075

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Andy Young / AECOM	6/8/23 1300	2 Eli Martin / AECOM	3 Eli Martin / AECOM	6/8/23 1420	4 UC
5	UC	Date Time:	6 06/10/23 1015	7	Date Time:	8

Lab Use Only: Cooler Temperature (s) Celsius (corrected):

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FC6803: Chain of Custody
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SGS North America Inc - Orlando
Chain of Custody

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COC #: 2306AFSG11

SGS - ORLANDO JOB # : PAGE 1 OF 1

SGS - ORLANDO Quote # SKIFF # FC6803

Client / Reporting Information | **Project Information** | **Analytical Information** | **Matrix Codes**

Company Name: AECOM
Address: 1001 Bishop St. ste 1600
City: Honolulu **State:** HI **Zip:** 96813
Project Contact: Katie Abbott **Email:** katie.abbott@aecom.com
Project Manager: Watson Tanji **Email:** watson.tanji@aecom.com
Phone #: 303-796-4624 / 808-954-4512
Sampler(s) Name(s) (Printed)
Sampler 1: Cristian Perez **Sampler 2:** Andy Young

Project Name: N6274223F0104 RH Fire Suppression System
Street
City Honolulu **State** Hawaii
Project # 60697810
Fax #
Client Purchase Order #

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	CONTAINER INFORMATION: TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
4	AF-RHMW17D-WGN01LF-2306	6/8/23	1045	CP,AY	GW	3		x								x	
5	AF-RHMW17D-WQFB01-2306	6/8/23	1010	CP,AY	GW	3		x								x	

Turnaround Time (Business days)

- 10 Day (Business) — Approved By: / Date:
- 7 Day
- [5 Day]
- 3 Day *RUSH*
- 2 Day *RUSH*
- 1 Day *RUSH*
- Other

Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [x] FULLT1 (EPA LEVEL 4)
- [x] EDD'S

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
United AWB_016-47599075

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Andy Young/AECOM	6/8/23 1300	2 Eli Martin/AECOM	3 Eli Martin/AECOM	6/8/23 1420	4 MC
5	MC	Date Time:	6 06/10/23 1015	7	Date Time:	8

Lab Use Only : Cooler Temperature (s) Celsius (corrected):

http://www.sgs.com/en/terms-and-conditions

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FC6803: Chain of Custody
Page 3 of 5

SGS North America Inc - Orlando
Chain of Custody

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COC #: 2306AFSG10
PAGE 1 OF 1
SGS - ORLANDO JOB # :
SGS - ORLANDO Quote #
SKIFF # FC6803

Client / Reporting Information

Company Name: AECOM
Address: 1001 Bishop St. ste 1600
City: Honolulu State: HI Zip: 96813
Project Contact: Katie Abbott Email: katie.abbott@aecom.com
Project Manager: Watson Tanji Email: watson.tanji@aecom.com
Phone #: 303-796-4624 / 808-954-4512
Sampler(s) Name(s) (Printed)
Sampler 1: Cristian Perez Sampler 2: Andy Young

Project Information

Project Name: N6274223F0104 RH Fire Suppression System
Street
City Honolulu State Hawaii
Project # 60697810
Fax #
Client Purchase Order #

Analytical Information

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	CONTAINER INFORMATION TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	PFAS EPA Draft 1633	LAB USE ONLY
4	AF-RHMW17-WGN01LF-2306	6/8/23	1200	CP, AY	GW	3		x								x	

6/8/23

6/8/23

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Rush T/A Data Available VIA Email or Lablink

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [ ] COMMERCIAL "B" (RESULTS PLUS QC)
- [ ] REDT1 (EPA LEVEL 3)
- [x] FULLT1 (EPA LEVEL 4)
- [x] EDD'S

Comments / Remarks

EDMS upload database: JBPHE
EDMS Coverage: AFFF Assessment Sampling GW
United AWB - 016-47589073

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	Andy Young / AECOM	6/8/23 1300	2 Eli Martin / AECOM	3 Eli Martin / AECOM	6/8/23 1420	4 UC
5	UC		6 06/10/23 1015	7		8

Lab Use Only : Cooler Temperature (s) Celsius (corrected):

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FC6803: Chain of Custody
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SGS Sample Receipt Summary

Job Number: FC6803 **Client:** AECOM **Project:** N6274223F0104 RH Fire Suppression System

Date / Time Received: 6/10/2023 10:15:00 AM **Delivery Method:** United Cargo/Airspace **Airbill #'s:** United Cargo AWB #: 016-47599075

Therm ID: IR 1; **Therm CF:** -0.1; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (4.5);

Cooler Temps (Corrected) °C: Cooler 1: (4.4);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230320 pH 10-12 _____ Other: (Specify) pH 1.0 - 12.0 222221

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP Date: 6/10/2023 10:15:00 A Reviewer: SP Date: 6/11/2023

FC6803: Chain of Custody
Page 5 of 5

QC Evaluation: DOD QSM5.x Limits

Job Number: FC6803
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 06/08/23

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

No DOD QSM5.x Limits found for methods in this job.

* Sample used for QC is not from job FC6803

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Injection Standard Area Summaries
- TDCA Retention Time Checks
- Ion Ratio Summaries
- Isotope Dilution Standard Recovery Summaries
- Initial and Continuing Calibration Summaries
- Run Sequence Reports

Instrument Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q289-IBLK	6Q19333.D	1	06/14/23	MV	n/a	n/a	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q289-IBLK	6Q19333.D	1	06/14/23	MV	n/a	n/a	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	101%	20-150%
	13C5-PFPeA	110%	20-150%
	13C5-PFHxA	104%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	113%	20-150%
	13C9-PFNA	102%	20-150%
	13C6-PFDA	97%	20-150%
	13C7-PFUnDA	92%	20-150%
	13C2-PFDoDA	96%	20-150%
	13C2-PFTeDA	100%	20-150%
	13C3-PFBS	99%	20-150%
	13C3-PFHxS	101%	20-150%
	13C8-PFOS	91%	20-150%
	13C8-FOSA	92%	20-150%
	d3-MeFOSA	94%	20-150%
	d5-EtFOSA	97%	20-150%
	d3-MeFOSAA	97%	20-150%
	d5-EtFOSAA	96%	20-150%
	d7-MeFOSE	97%	20-150%
	d9-EtFOSE	96%	20-150%
	13C2-4:2FTS	116%	20-180%
	13C2-6:2FTS	112%	20-180%
	13C2-8:2FTS	112%	20-180%
	13C3-HFPO-DA	110%	20-150%

Instrument Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q292-IBLK	6Q19529.D	1	06/19/23	MV	n/a	n/a	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q292-IBLK	6Q19529.D	1	06/19/23	MV	n/a	n/a	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	97%	20-150%
	13C5-PFHxA	93%	20-150%
	13C4-PFHpA	97%	20-150%
	13C8-PFOA	99%	20-150%
	13C9-PFNA	97%	20-150%
	13C6-PFDA	100%	20-150%
	13C7-PFUnDA	98%	20-150%
	13C2-PFDoDA	93%	20-150%
	13C2-PFTeDA	96%	20-150%
	13C3-PFBS	106%	20-150%
	13C3-PFHxS	99%	20-150%
	13C8-PFOS	102%	20-150%
	13C8-FOSA	104%	20-150%
	d3-MeFOSA	97%	20-150%
	d5-EtFOSA	95%	20-150%
	d3-MeFOSAA	87%	20-150%
	d5-EtFOSAA	95%	20-150%
	d7-MeFOSE	101%	20-150%
	d9-EtFOSE	100%	20-150%
	13C2-4:2FTS	114%	20-180%
	13C2-6:2FTS	115%	20-180%
	13C2-8:2FTS	107%	20-180%
	13C3-HFPO-DA	97%	20-150%

Instrument Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q292-IBLK	6Q19624.D	1	06/20/23	MV	n/a	n/a	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q292-IBLK	6Q19624.D	1	06/20/23	MV	n/a	n/a	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	103%	20-150%
	13C5-PFHxA	100%	20-150%
	13C4-PFHpA	91%	20-150%
	13C8-PFOA	105%	20-150%
	13C9-PFNA	102%	20-150%
	13C6-PFDA	90%	20-150%
	13C7-PFUnDA	88%	20-150%
	13C2-PFDoDA	92%	20-150%
	13C2-PFTeDA	84%	20-150%
	13C3-PFBS	95%	20-150%
	13C3-PFHxS	104%	20-150%
	13C8-PFOS	102%	20-150%
	13C8-FOSA	97%	20-150%
	d3-MeFOSA	92%	20-150%
	d5-EtFOSA	99%	20-150%
	d3-MeFOSAA	92%	20-150%
	d5-EtFOSAA	84%	20-150%
	d7-MeFOSE	86%	20-150%
	d9-EtFOSE	91%	20-150%
	13C2-4:2FTS	121%	20-180%
	13C2-6:2FTS	108%	20-180%
	13C2-8:2FTS	104%	20-180%
	13C3-HFPO-DA	98%	20-150%

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q289-ICCB	6Q19362.D	1	06/14/23	MV	n/a	n/a	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q289-ICCB	6Q19362.D	1	06/14/23	MV	n/a	n/a	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	101%	20-150%
	13C5-PFPeA	109%	20-150%
	13C5-PFHxA	109%	20-150%
	13C4-PFHpA	107%	20-150%
	13C8-PFOA	103%	20-150%
	13C9-PFNA	90%	20-150%
	13C6-PFDA	82%	20-150%
	13C7-PFUnDA	90%	20-150%
	13C2-PFDoDA	89%	20-150%
	13C2-PFTeDA	95%	20-150%
	13C3-PFBS	99%	20-150%
	13C3-PFHxS	96%	20-150%
	13C8-PFOS	97%	20-150%
	13C8-FOSA	92%	20-150%
	d3-MeFOSA	89%	20-150%
	d5-EtFOSA	94%	20-150%
	d3-MeFOSAA	104%	20-150%
	d5-EtFOSAA	93%	20-150%
	d7-MeFOSE	96%	20-150%
	d9-EtFOSE	93%	20-150%
	13C2-4:2FTS	114%	20-180%
	13C2-6:2FTS	109%	20-180%
	13C2-8:2FTS	103%	20-180%
	13C3-HFPO-DA	101%	20-150%

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q289-ICCB	6Q19374.D	1	06/14/23	MV	n/a	n/a	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-6

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q289-ICCB	6Q19374.D	1	06/14/23	MV	n/a	n/a	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-6

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	103%	20-150%
	13C5-PFHxA	102%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	104%	20-150%
	13C9-PFNA	102%	20-150%
	13C6-PFDA	114%	20-150%
	13C7-PFUnDA	115%	20-150%
	13C2-PFDoDA	105%	20-150%
	13C2-PFTeDA	108%	20-150%
	13C3-PFBS	103%	20-150%
	13C3-PFHxS	98%	20-150%
	13C8-PFOS	95%	20-150%
	13C8-FOSA	100%	20-150%
	d3-MeFOSA	95%	20-150%
	d5-EtFOSA	102%	20-150%
	d3-MeFOSAA	99%	20-150%
	d5-EtFOSAA	98%	20-150%
	d7-MeFOSE	105%	20-150%
	d9-EtFOSE	99%	20-150%
	13C2-4:2FTS	122%	20-180%
	13C2-6:2FTS	115%	20-180%
	13C2-8:2FTS	110%	20-180%
	13C3-HFPO-DA	100%	20-150%

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q289-ICCB	6Q19377.D	1	06/14/23	MV	n/a	n/a	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-6

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q289-ICCB	6Q19377.D	1	06/14/23	MV	n/a	n/a	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-6

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	102%	20-150%
	13C5-PFPeA	98%	20-150%
	13C5-PFHxA	96%	20-150%
	13C4-PFHpA	100%	20-150%
	13C8-PFOA	95%	20-150%
	13C9-PFNA	111%	20-150%
	13C6-PFDA	101%	20-150%
	13C7-PFUnDA	96%	20-150%
	13C2-PFDoDA	106%	20-150%
	13C2-PFTeDA	105%	20-150%
	13C3-PFBS	90%	20-150%
	13C3-PFHxS	90%	20-150%
	13C8-PFOS	104%	20-150%
	13C8-FOSA	98%	20-150%
	d3-MeFOSA	99%	20-150%
	d5-EtFOSA	102%	20-150%
	d3-MeFOSAA	116%	20-150%
	d5-EtFOSAA	106%	20-150%
	d7-MeFOSE	101%	20-150%
	d9-EtFOSE	93%	20-150%
	13C2-4:2FTS	106%	20-180%
	13C2-6:2FTS	112%	20-180%
	13C2-8:2FTS	96%	20-180%
	13C3-HFPO-DA	94%	20-150%

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q292-ICCB	6Q19592.D	1	06/20/23	MV	n/a	n/a	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q292-ICCB	6Q19592.D	1	06/20/23	MV	n/a	n/a	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	107%	20-150%
	13C5-PFHxA	103%	20-150%
	13C4-PFHpA	99%	20-150%
	13C8-PFOA	103%	20-150%
	13C9-PFNA	92%	20-150%
	13C6-PFDA	89%	20-150%
	13C7-PFUnDA	93%	20-150%
	13C2-PFDoDA	84%	20-150%
	13C2-PFTeDA	77%	20-150%
	13C3-PFBS	106%	20-150%
	13C3-PFHxS	95%	20-150%
	13C8-PFOS	102%	20-150%
	13C8-FOSA	97%	20-150%
	d3-MeFOSA	95%	20-150%
	d5-EtFOSA	95%	20-150%
	d3-MeFOSAA	92%	20-150%
	d5-EtFOSAA	91%	20-150%
	d7-MeFOSE	95%	20-150%
	d9-EtFOSE	91%	20-150%
	13C2-4:2FTS	126%	20-180%
	13C2-6:2FTS	119%	20-180%
	13C2-8:2FTS	100%	20-180%
	13C3-HFPO-DA	104%	20-150%

Method Blank Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97325-MB	6Q19365.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Method Blank Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97325-MB	6Q19365.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	105%	20-150%
	13C5-PFPeA	106%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	106%	20-150%
	13C8-PFOA	103%	20-150%
	13C9-PFNA	117%	20-150%
	13C6-PFDA	98%	20-150%
	13C7-PFUnDA	98%	20-150%
	13C2-PFDoDA	96%	20-150%
	13C2-PFTeDA	96%	20-150%
	13C3-PFBS	108%	20-150%
	13C3-PFHxS	109%	20-150%
	13C8-PFOS	88%	20-150%
	13C8-FOSA	59%	20-150%
	d3-MeFOSA	59%	20-150%
	d5-EtFOSA	69%	20-150%
	d3-MeFOSAA	102%	20-150%
	d5-EtFOSAA	99%	20-150%
	d7-MeFOSE	51%	20-150%
	d9-EtFOSE	66%	20-150%
	13C2-4:2FTS	130%	20-180%
	13C2-6:2FTS	135%	20-180%
	13C2-8:2FTS	113%	20-180%
	13C3-HFPO-DA	104%	20-150%

Method Blank Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97385-MB	6Q19597.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Method Blank Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97385-MB	6Q19597.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	106%	20-150%
	13C5-PFPeA	108%	20-150%
	13C5-PFHxA	105%	20-150%
	13C4-PFHpA	99%	20-150%
	13C8-PFOA	112%	20-150%
	13C9-PFNA	108%	20-150%
	13C6-PFDA	97%	20-150%
	13C7-PFUnDA	95%	20-150%
	13C2-PFDoDA	95%	20-150%
	13C2-PFTeDA	85%	20-150%
	13C3-PFBS	108%	20-150%
	13C3-PFHxS	100%	20-150%
	13C8-PFOS	102%	20-150%
	13C8-FOSA	73%	20-150%
	d3-MeFOSA	77%	20-150%
	d5-EtFOSA	80%	20-150%
	d3-MeFOSAA	95%	20-150%
	d5-EtFOSAA	82%	20-150%
	d7-MeFOSE	64%	20-150%
	d9-EtFOSE	80%	20-150%
	13C2-4:2FTS	129%	20-180%
	13C2-6:2FTS	113%	20-180%
	13C2-8:2FTS	96%	20-180%
	13C3-HFPO-DA	104%	20-150%

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q292-ICCB	6Q19604.D	1	06/20/23	MV	n/a	n/a	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

OP97385-DUP, OP97385-MS

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q292-ICCB	6Q19604.D	1	06/20/23	MV	n/a	n/a	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

OP97385-DUP, OP97385-MS

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	99%	20-150%
	13C5-PFPeA	105%	20-150%
	13C5-PFHxA	103%	20-150%
	13C4-PFHpA	100%	20-150%
	13C8-PFOA	92%	20-150%
	13C9-PFNA	106%	20-150%
	13C6-PFDA	103%	20-150%
	13C7-PFUnDA	102%	20-150%
	13C2-PFDoDA	97%	20-150%
	13C2-PFTeDA	87%	20-150%
	13C3-PFBS	102%	20-150%
	13C3-PFHxS	100%	20-150%
	13C8-PFOS	94%	20-150%
	13C8-FOSA	94%	20-150%
	d3-MeFOSA	89%	20-150%
	d5-EtFOSA	94%	20-150%
	d3-MeFOSAA	89%	20-150%
	d5-EtFOSAA	91%	20-150%
	d7-MeFOSE	86%	20-150%
	d9-EtFOSE	88%	20-150%
	13C2-4:2FTS	124%	20-180%
	13C2-6:2FTS	121%	20-180%
	13C2-8:2FTS	108%	20-180%
	13C3-HFPO-DA	103%	20-150%

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q292-ICCB	6Q19620.D	1	06/20/23	MV	n/a	n/a	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

S6Q292-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.020	0.0035	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.020	0.0041	ug/l	
754-91-6	PFOSA	ND	0.0040	0.00067	ug/l	
31506-32-8	MeFOSA	ND	0.0080	0.0010	ug/l	
4151-50-2	EtFOSA	ND	0.0080	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0050	0.0010	ug/l	
2991-50-6	EtFOSAA	ND	0.0050	0.0013	ug/l	
24448-09-7	MeFOSE	ND	0.040	0.0044	ug/l	
1691-99-2	EtFOSE	ND	0.040	0.0074	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0010	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0019	ug/l	
377-73-1	PFMPA	ND	0.0080	0.0010	ug/l	
863090-89-5	PFMBA	ND	0.0080	0.0011	ug/l	
151772-58-6	NFDHA	ND	0.0080	0.0012	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q292-ICCB	6Q19620.D	1	06/20/23	MV	n/a	n/a	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

S6Q292-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-3	5:3 Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	101%	20-150%
	13C5-PFPeA	111%	20-150%
	13C5-PFHxA	105%	20-150%
	13C4-PFHpA	102%	20-150%
	13C8-PFOA	94%	20-150%
	13C9-PFNA	100%	20-150%
	13C6-PFDA	106%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	101%	20-150%
	13C2-PFTeDA	89%	20-150%
	13C3-PFBS	102%	20-150%
	13C3-PFHxS	98%	20-150%
	13C8-PFOS	101%	20-150%
	13C8-FOSA	98%	20-150%
	d3-MeFOSA	97%	20-150%
	d5-EtFOSA	100%	20-150%
	d3-MeFOSAA	98%	20-150%
	d5-EtFOSAA	98%	20-150%
	d7-MeFOSE	91%	20-150%
	d9-EtFOSE	95%	20-150%
	13C2-4:2FTS	118%	20-180%
	13C2-6:2FTS	111%	20-180%
	13C2-8:2FTS	105%	20-180%
	13C3-HFPO-DA	111%	20-150%

Blank Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97325-LLBS	6Q19364.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0263	88	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0128	85	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0066	88	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0060	80	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0064	85	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0063	84	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0061	81	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0064	85	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0068	91	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0066	88	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0068	91	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0055	83	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0058	82	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0059	86	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0060	84	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0055	79	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0064	89	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0069	95	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0063	87	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0281	0.0244	87	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0224	79	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0220	76	40-150
754-91-6	PFOSA	0.0075	0.0064	85	40-150
31506-32-8	MeFOSA	0.015	0.0124	83	40-150
4151-50-2	EtFOSA	0.015	0.0131	87	40-150
2355-31-9	MeFOSAA	0.0075	0.0062	83	40-150
2991-50-6	EtFOSAA	0.0075	0.0064	85	40-150
24448-09-7	MeFOSE	0.0375	0.0332	89	40-150
1691-99-2	EtFOSE	0.0375	0.0309	82	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0132	88	40-150
919005-14-4	ADONA	0.0142	0.0123	87	40-150
377-73-1	PFMPA	0.015	0.0128	85	40-150
863090-89-5	PFMBA	0.015	0.0126	84	40-150
151772-58-6	NFDHA	0.015	0.0129	86	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.014	0.0124	88	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0142	0.0120	85	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97325-LLBS	6Q19364.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0115	86	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0229	61	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.188	0.151	81	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.174	93	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	116%	20-150%
	13C5-PFPeA	119%	20-150%
	13C5-PFHxA	117%	20-150%
	13C4-PFHpA	123%	20-150%
	13C8-PFOA	108%	20-150%
	13C9-PFNA	130%	20-150%
	13C6-PFDA	115%	20-150%
	13C7-PFUnDA	115%	20-150%
	13C2-PFDoDA	112%	20-150%
	13C2-PFTeDA	105%	20-150%
	13C3-PFBS	120%	20-150%
	13C3-PFHxS	122%	20-150%
	13C8-PFOS	113%	20-150%
	13C8-FOSA	82%	20-150%
	d3-MeFOSA	80%	20-150%
	d5-EtFOSA	83%	20-150%
	d3-MeFOSAA	122%	20-150%
	d5-EtFOSAA	113%	20-150%
	d7-MeFOSE	71%	20-150%
	d9-EtFOSE	86%	20-150%
	13C2-4:2FTS	134%	20-180%
	13C2-6:2FTS	142%	20-180%
	13C2-8:2FTS	142%	20-180%
	13C3-HFPO-DA	114%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97385-LLBS	6Q19596.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0269	90	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0132	88	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0073	97	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0066	88	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0061	81	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0059	79	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0073	97	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0071	95	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0063	84	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0062	83	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0075	100	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0057	86	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0066	94	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0059	86	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0065	91	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0056	80	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0058	80	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0060	83	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0059	81	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0281	0.0230	82	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0271	95	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0231	80	40-150
754-91-6	PFOSA	0.0075	0.0066	88	40-150
31506-32-8	MeFOSA	0.015	0.0131	87	40-150
4151-50-2	EtFOSA	0.015	0.0135	90	40-150
2355-31-9	MeFOSAA	0.0075	0.0067	89	40-150
2991-50-6	EtFOSAA	0.0075	0.0067	89	40-150
24448-09-7	MeFOSE	0.0375	0.0363	97	40-150
1691-99-2	EtFOSE	0.0375	0.0350	93	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0133	89	40-150
919005-14-4	ADONA	0.0142	0.0118	83	40-150
377-73-1	PFMPA	0.015	0.0136	91	40-150
863090-89-5	PFMBA	0.015	0.0134	89	40-150
151772-58-6	NFDHA	0.015	0.0135	90	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.014	0.0111	79	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0142	0.0114	80	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97385-LLBS	6Q19596.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0123	92	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0196	52	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.188	0.150	80	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.162	86	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	102%	20-150%
	13C5-PFPeA	104%	20-150%
	13C5-PFHxA	96%	20-150%
	13C4-PFHpA	97%	20-150%
	13C8-PFOA	104%	20-150%
	13C9-PFNA	101%	20-150%
	13C6-PFDA	108%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	101%	20-150%
	13C2-PFTeDA	83%	20-150%
	13C3-PFBS	111%	20-150%
	13C3-PFHxS	106%	20-150%
	13C8-PFOS	98%	20-150%
	13C8-FOSA	69%	20-150%
	d3-MeFOSA	68%	20-150%
	d5-EtFOSA	72%	20-150%
	d3-MeFOSAA	89%	20-150%
	d5-EtFOSAA	90%	20-150%
	d7-MeFOSE	58%	20-150%
	d9-EtFOSE	73%	20-150%
	13C2-4:2FTS	129%	20-180%
	13C2-6:2FTS	118%	20-180%
	13C2-8:2FTS	125%	20-180%
	13C3-HFPO-DA	101%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97325-BS	6Q19363.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0863	86	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0424	85	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0226	90	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0197	79	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0224	90	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0225	90	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0201	80	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0202	81	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0228	91	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0208	83	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0222	89	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0185	83	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0186	79	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0177	77	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0199	84	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0178	77	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0199	83	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0194	80	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0181	75	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.0783	84	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0784	83	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0839	87	40-150
754-91-6	PFOSA	0.025	0.0230	92	40-150
31506-32-8	MeFOSA	0.05	0.0404	81	40-150
4151-50-2	EtFOSA	0.05	0.0422	84	40-150
2355-31-9	MeFOSAA	0.025	0.0210	84	40-150
2991-50-6	EtFOSAA	0.025	0.0187	75	40-150
24448-09-7	MeFOSE	0.125	0.109	87	40-150
1691-99-2	EtFOSE	0.125	0.105	84	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0403	81	40-150
919005-14-4	ADONA	0.0473	0.0402	85	40-150
377-73-1	PFMPA	0.05	0.0231	46	40-150
863090-89-5	PFMBA	0.05	0.0430	86	40-150
151772-58-6	NFDHA	0.05	0.0426	85	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0468	0.0392	84	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0473	0.0400	85	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97325-BS	6Q19363.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0382	86	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0406	32*	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.512	82	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.564	90	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	33%	20-150%
	13C5-PFPeA	113%	20-150%
	13C5-PFHxA	111%	20-150%
	13C4-PFHpA	121%	20-150%
	13C8-PFOA	106%	20-150%
	13C9-PFNA	116%	20-150%
	13C6-PFDA	120%	20-150%
	13C7-PFUnDA	116%	20-150%
	13C2-PFDoDA	116%	20-150%
	13C2-PFTeDA	109%	20-150%
	13C3-PFBS	126%	20-150%
	13C3-PFHxS	130%	20-150%
	13C8-PFOS	117%	20-150%
	13C8-FOSA	83%	20-150%
	d3-MeFOSA	88%	20-150%
	d5-EtFOSA	88%	20-150%
	d3-MeFOSAA	119%	20-150%
	d5-EtFOSAA	120%	20-150%
	d7-MeFOSE	71%	20-150%
	d9-EtFOSE	85%	20-150%
	13C2-4:2FTS	143%	20-180%
	13C2-6:2FTS	145%	20-180%
	13C2-8:2FTS	130%	20-180%
	13C3-HFPO-DA	115%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97385-BS	6Q19595.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.0914	91	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0452	90	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0235	94	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0208	83	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0223	89	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0215	86	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0239	96	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0247	99	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0217	87	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0209	84	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0222	89	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0186	84	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0215	91	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0196	86	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0228	96	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0201	87	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0238	99	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0223	92	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0210	87	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.0782	83	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.0852	90	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.0806	84	40-150
754-91-6	PFOSA	0.025	0.0245	98	40-150
31506-32-8	MeFOSA	0.05	0.0446	89	40-150
4151-50-2	EtFOSA	0.05	0.0469	94	40-150
2355-31-9	MeFOSAA	0.025	0.0248	99	40-150
2991-50-6	EtFOSAA	0.025	0.0226	90	40-150
24448-09-7	MeFOSE	0.125	0.119	95	40-150
1691-99-2	EtFOSE	0.125	0.115	92	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0471	94	40-150
919005-14-4	ADONA	0.0473	0.0390	83	40-150
377-73-1	PFMPA	0.05	0.0237	47	40-150
863090-89-5	PFMBA	0.05	0.0456	91	40-150
151772-58-6	NFDHA	0.05	0.0423	85	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0468	0.0378	81	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0473	0.0355	75	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97385-BS	6Q19595.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0401	90	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0256	20*	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.478	76	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.553	88	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	30%	20-150%
	13C5-PFPeA	110%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	107%	20-150%
	13C8-PFOA	110%	20-150%
	13C9-PFNA	112%	20-150%
	13C6-PFDA	113%	20-150%
	13C7-PFUnDA	102%	20-150%
	13C2-PFDoDA	105%	20-150%
	13C2-PFTeDA	95%	20-150%
	13C3-PFBS	122%	20-150%
	13C3-PFHxS	111%	20-150%
	13C8-PFOS	96%	20-150%
	13C8-FOSA	66%	20-150%
	d3-MeFOSA	78%	20-150%
	d5-EtFOSA	78%	20-150%
	d3-MeFOSAA	100%	20-150%
	d5-EtFOSAA	95%	20-150%
	d7-MeFOSE	69%	20-150%
	d9-EtFOSE	75%	20-150%
	13C2-4:2FTS	133%	20-180%
	13C2-6:2FTS	123%	20-180%
	13C2-8:2FTS	120%	20-180%
	13C3-HFPO-DA	110%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97325-MS	6Q19367.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289
FC6803-1	6Q19366.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	FC6803-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.015	U	0.0926	0.0856	92	40-150
2706-90-3	Perfluoropentanoic acid	0.0010	J	0.0463	0.0421	89	40-150
307-24-4	Perfluorohexanoic acid	0.00079	J	0.0231	0.0208	86	40-150
375-85-9	Perfluoroheptanoic acid	0.00060	J	0.0231	0.0211	89	40-150
335-67-1	Perfluorooctanoic acid	0.00092	J	0.0231	0.0197	81	40-150
375-95-1	Perfluorononanoic acid	0.0036	U	0.0231	0.0202	87	40-150
335-76-2	Perfluorodecanoic acid	0.0036	U	0.0231	0.0205	89	40-150
2058-94-8	Perfluoroundecanoic acid	0.0036	U	0.0231	0.0201	87	40-150
307-55-1	Perfluorododecanoic acid	0.0036	U	0.0231	0.0206	89	40-150
72629-94-8	Perfluorotridecanoic acid	0.0036	U	0.0231	0.0183	79	40-150
376-06-7	Perfluorotetradecanoic acid	0.0036	U	0.0231	0.0212	92	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00058	J	0.0205	0.0180	85	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0045	U	0.0218	0.0184	84	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00092	J	0.0212	0.0185	83	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0036	U	0.0221	0.0219	99	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00087	J	0.0215	0.0201	90	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0036	U	0.0223	0.0210	94	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0036	U	0.0223	0.0197	88	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0045	U	0.0225	0.0190	85	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.018	U	0.0868	0.0783	90	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	0.088	0.0778	88	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	0.0889	0.0825	93	40-150
754-91-6	PFOSA	0.0036	U	0.0231	0.0206	89	40-150
31506-32-8	MeFOSA	0.0073	U	0.0463	0.0407	88	40-150
4151-50-2	EtFOSA	0.0073	U	0.0463	0.0425	92	40-150
2355-31-9	MeFOSAA	0.0045	U	0.0231	0.0201	87	40-150
2991-50-6	EtFOSAA	0.0045	U	0.0231	0.0216	93	40-150
24448-09-7	MeFOSE	0.036	U	0.116	0.111	96	40-150
1691-99-2	EtFOSE	0.036	U	0.116	0.112	97	40-150
13252-13-6	HFPO-DA (GenX)	0.0036	U	0.0463	0.0414	89	40-150
919005-14-4	ADONA	0.0073	U	0.0438	0.0386	88	40-150
377-73-1	PFMPA	0.0073	U	0.0463	0.0407	88	40-150
863090-89-5	PFMBA	0.0073	U	0.0463	0.0415	90	40-150
151772-58-6	NFDHA	0.0073	U	0.0463	0.0407	88	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0073	U	0.0433	0.0348	80	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0073	U	0.0438	0.0369	84	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97325-MS	6Q19367.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289
FC6803-1	6Q19366.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	FC6803-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0073	U	0.0412	0.0381	92	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.018	U	0.116	0.0762	66	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.091	U	0.579	0.503	87	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.091	U	0.579	0.558	96	40-150

CAS No.	ID Standard Recoveries	MS	FC6803-1	Limits
	13C4-PFBA	85%	108%	20-150%
	13C5-PFPeA	113%	118%	20-150%
	13C5-PFHxA	110%	115%	20-150%
	13C4-PFHpA	112%	118%	20-150%
	13C8-PFOA	117%	113%	20-150%
	13C9-PFNA	113%	116%	20-150%
	13C6-PFDA	117%	117%	20-150%
	13C7-PFUnDA	112%	106%	20-150%
	13C2-PFDoDA	112%	106%	20-150%
	13C2-PFTeDA	100%	96%	20-150%
	13C3-PFBS	128%	124%	20-150%
	13C3-PFHxS	126%	118%	20-150%
	13C8-PFOS	103%	125%	20-150%
	13C8-FOSA	92%	91%	20-150%
	d3-MeFOSA	86%	94%	20-150%
	d5-EtFOSA	91%	94%	20-150%
	d3-MeFOSAA	113%	119%	20-150%
	d5-EtFOSAA	109%	123%	20-150%
	d7-MeFOSE	78%	85%	20-150%
	d9-EtFOSE	88%	96%	20-150%
	13C2-4:2FTS	131%	140%	20-180%
	13C2-6:2FTS	117%	127%	20-180%
	13C2-8:2FTS	119%	121%	20-180%
	13C3-HFPO-DA	110%	113%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97385-MS	6Q19606.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292
FC6444-23 [a]	6Q19605.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	FC6444-23 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.13 U		0.833	0.774	93	40-150
2706-90-3	Perfluoropentanoic acid	0.067 U		0.417	0.376	90	40-150
307-24-4	Perfluorohexanoic acid	0.033 U		0.208	0.184	88	40-150
375-85-9	Perfluoroheptanoic acid	0.033 U		0.208	0.206	99	40-150
335-67-1	Perfluorooctanoic acid	0.0079	J	0.208	0.180	83	40-150
375-95-1	Perfluorononanoic acid	0.033 U		0.208	0.176	84	40-150
335-76-2	Perfluorodecanoic acid	0.033 U		0.208	0.196	94	40-150
2058-94-8	Perfluoroundecanoic acid	0.033 U		0.208	0.180	86	40-150
307-55-1	Perfluorododecanoic acid	0.033 U		0.208	0.182	87	40-150
72629-94-8	Perfluorotridecanoic acid	0.033 U		0.208	0.182	87	40-150
376-06-7	Perfluorotetradecanoic acid	0.033 U		0.208	0.210	101	40-150
375-73-5	Perfluorobutanesulfonic acid	0.033 U		0.185	0.154	83	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.042 U		0.196	0.187	95	40-150
355-46-4	Perfluorohexanesulfonic acid	0.033 U		0.19	0.163	86	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.033 U		0.199	0.171	86	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.033 U		0.193	0.174	90	40-150
68259-12-1	Perfluorononanesulfonic acid	0.033 U		0.2	0.165	82	40-150
335-77-3	Perfluorodecanesulfonic acid	0.033 U		0.201	0.146	73	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.042 U		0.202	0.137	68	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.17 U		0.781	0.745	95	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.17 U		0.792	0.777	98	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.17 U		0.8	0.642	80	40-150
754-91-6	PFOSA	0.033 U		0.208	0.202	97	40-150
31506-32-8	MeFOSA	0.067 U		0.417	0.346	83	40-150
4151-50-2	EtFOSA	0.067 U		0.417	0.361	87	40-150
2355-31-9	MeFOSAA	0.042 U		0.208	0.190	91	40-150
2991-50-6	EtFOSAA	0.042 U		0.208	0.198	95	40-150
24448-09-7	MeFOSE	0.33 U		1.04	1.08	104	40-150
1691-99-2	EtFOSE	0.33 U		1.04	0.962	92	40-150
13252-13-6	HFPO-DA (GenX)	0.033 U		0.417	0.377	90	40-150
919005-14-4	ADONA	0.067 U		0.394	0.352	89	40-150
377-73-1	PFMPA	0.067 U		0.417	0.385	92	40-150
863090-89-5	PFMBA	0.067 U		0.417	0.372	89	40-150
151772-58-6	NFDHA	0.067 U		0.417	0.364	87	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.067 U		0.39	0.305	78	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.067 U		0.394	0.259	66	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97385-MS	6Q19606.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292
FC6444-23 [a]	6Q19605.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	FC6444-23 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.067	U	0.371	0.336	91	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.17	U	1.04	0.622	60	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.83	U	5.21	4.18	80	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.83	U	5.21	4.16	80	40-150

CAS No.	ID Standard Recoveries	MS	FC6444-23	Limits
	13C4-PFBA	108%	114%	20-150%
	13C5-PFPeA	115%	119%	20-150%
	13C5-PFHxA	109%	109%	20-150%
	13C4-PFHpA	100%	110%	20-150%
	13C8-PFOA	107%	101%	20-150%
	13C9-PFNA	109%	101%	20-150%
	13C6-PFDA	91%	104%	20-150%
	13C7-PFUnDA	93%	92%	20-150%
	13C2-PFDoDA	84%	86%	20-150%
	13C2-PFTeDA	65%	79%	20-150%
	13C3-PFBS	118%	107%	20-150%
	13C3-PFHxS	105%	98%	20-150%
	13C8-PFOS	101%	100%	20-150%
	13C8-FOSA	75%		20-150%
	d3-MeFOSA	82%		20-150%
	d5-EtFOSA	88%		20-150%
	d3-MeFOSAA	97%	108%	20-150%
	d5-EtFOSAA	93%	95%	20-150%
	d7-MeFOSE	61%		20-150%
	d9-EtFOSE	80%		20-150%
	13C2-4:2FTS	118%		20-180%
	13C2-6:2FTS	110%	109%	20-180%
	13C2-8:2FTS	113%	104%	20-180%
	13C3-HFPO-DA	111%		20-150%

(a) Reduced volume extracted due to high solids content.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97325-DUP	6Q19369.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289
FC6803-2	6Q19368.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	FC6803-2 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.0137	J	0.0137	J	0	30
2706-90-3	Perfluoropentanoic acid	0.0166		0.0181		9	30
307-24-4	Perfluorohexanoic acid	0.0017	J	0.0015	J	13	30
375-85-9	Perfluoroheptanoic acid	0.00077	J	0.00062	J	22	30
335-67-1	Perfluorooctanoic acid	0.00094	J	0.00097	J	3	30
375-95-1	Perfluorononanoic acid	0.0036	U	ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0036	U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0036	U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0036	U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0036	U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0036	U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.00048	J	0.00051	J	6	30
2706-91-4	Perfluoropentanesulfonic acid	0.0045	U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0036	U	ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0036	U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0036	U	ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0036	U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0036	U	ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0045	U	ND		nc	30
757124-72-4	4:2 Fluorotelomer sulfonate	0.018	U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	ND		nc	30
754-91-6	PFOSA	0.0036	U	ND		nc	30
31506-32-8	MeFOSA	0.0071	U	ND		nc	30
4151-50-2	EtFOSA	0.0071	U	ND		nc	30
2355-31-9	MeFOSAA	0.0045	U	ND		nc	30
2991-50-6	EtFOSAA	0.0045	U	ND		nc	30
24448-09-7	MeFOSE	0.036	U	ND		nc	30
1691-99-2	EtFOSE	0.036	U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0036	U	ND		nc	30
919005-14-4	ADONA	0.0071	U	ND		nc	30
377-73-1	PFMPA	0.0071	U	ND		nc	30
863090-89-5	PFMBA	0.0071	U	ND		nc	30
151772-58-6	NFDHA	0.0071	U	ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0071	U	ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0071	U	ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97325-DUP	6Q19369.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289
FC6803-2	6Q19368.D	1	06/14/23	MV	06/13/23	OP97325	S6Q289

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-1, FC6803-2, FC6803-3, FC6803-5, FC6803-6

CAS No.	Compound	FC6803-2 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0071	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018	U	ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.089	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.089	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC6803-2	Limits
	13C4-PFBA	52%	48%	20-150%
	13C5-PFPeA	117%	110%	20-150%
	13C5-PFHxA	129%	118%	20-150%
	13C4-PFHpA	127%	118%	20-150%
	13C8-PFOA	107%	115%	20-150%
	13C9-PFNA	122%	105%	20-150%
	13C6-PFDA	109%	110%	20-150%
	13C7-PFUnDA	103%	94%	20-150%
	13C2-PFDoDA	90%	87%	20-150%
	13C2-PFTeDA	78%	73%	20-150%
	13C3-PFBS	114%	113%	20-150%
	13C3-PFHxS	109%	111%	20-150%
	13C8-PFOS	103%	95%	20-150%
	13C8-FOSA	89%	92%	20-150%
	d3-MeFOSA	79%	78%	20-150%
	d5-EtFOSA	80%	77%	20-150%
	d3-MeFOSAA	101%	103%	20-150%
	d5-EtFOSAA	91%	90%	20-150%
	d7-MeFOSE	70%	76%	20-150%
	d9-EtFOSE	80%	81%	20-150%
	13C2-4:2FTS	105%	101%	20-180%
	13C2-6:2FTS	94%	95%	20-180%
	13C2-8:2FTS	102%	100%	20-180%
	13C3-HFPO-DA	112%	110%	20-150%

(a) Associated BS recovery outside DOD QSM control limits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97385-DUP	6Q19608.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292
FC6444-24 [a]	6Q19607.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	FC6444-24 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.13 U		ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.067 U		ND		nc	30
307-24-4	Perfluorohexanoic acid	0.033 U		ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.033 U		ND		nc	30
335-67-1	Perfluorooctanoic acid	0.033 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.033 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.033 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.033 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.033 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.033 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.033 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.033 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.042 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.033 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.033 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0088	J	0.0065	J	30	30
68259-12-1	Perfluorononanesulfonic acid	0.033 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.033 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.042 U		ND		nc	30
757124-72-4	4:2 Fluorotelomer sulfonate	0.17 U		ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.17 U		ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.17 U		ND		nc	30
754-91-6	PFOSA	0.033 U		ND		nc	30
31506-32-8	MeFOSA	0.067 U		ND		nc	30
4151-50-2	EtFOSA	0.067 U		ND		nc	30
2355-31-9	MeFOSAA	0.042 U		ND		nc	30
2991-50-6	EtFOSAA	0.042 U		ND		nc	30
24448-09-7	MeFOSE	0.33 U		ND		nc	30
1691-99-2	EtFOSE	0.33 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.033 U		ND		nc	30
919005-14-4	ADONA	0.067 U		ND		nc	30
377-73-1	PFMPA	0.067 U		ND		nc	30
863090-89-5	PFMBA	0.067 U		ND		nc	30
151772-58-6	NFDHA	0.067 U		ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.067 U		ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.067 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97385-DUP	6Q19608.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292
FC6444-24 [a]	6Q19607.D	1	06/20/23	MV	06/16/23	OP97385	S6Q292

The QC reported here applies to the following samples: **Method:** EPA DRAFT 1633

FC6803-4

CAS No.	Compound	FC6444-24 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.067 U		ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.17 U		ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.83 U		ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.83 U		ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC6444-24	Limits
	13C4-PFBA	112%	105%	20-150%
	13C5-PFPeA	120%	106%	20-150%
	13C5-PFHxA	110%	105%	20-150%
	13C4-PFHpA	106%	94%	20-150%
	13C8-PFOA	106%	97%	20-150%
	13C9-PFNA	109%	108%	20-150%
	13C6-PFDA	102%	101%	20-150%
	13C7-PFUnDA	99%	92%	20-150%
	13C2-PFDoDA	87%	81%	20-150%
	13C2-PFTeDA	70%	60%	20-150%
	13C3-PFBS	111%	109%	20-150%
	13C3-PFHxS	116%	105%	20-150%
	13C8-PFOS	101%	86%	20-150%
	13C8-FOSA	74%		20-150%
	d3-MeFOSA	78%		20-150%
	d5-EtFOSA	84%		20-150%
	d3-MeFOSAA	99%	90%	20-150%
	d5-EtFOSAA	91%	87%	20-150%
	d7-MeFOSE	65%		20-150%
	d9-EtFOSE	80%		20-150%
	13C2-4:2FTS	130%		20-180%
	13C2-6:2FTS	124%	129%	20-180%
	13C2-8:2FTS	105%	106%	20-180%
	13C3-HFPO-DA	122%		20-150%

(a) Reduced volume extracted due to high solids content.
(b) Associated BS recovery outside DOD QSM control limits.

* = Outside of Control Limits.

Injection Standard Area Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q289-CC288	**Injection Date:**	06/14/23
Lab File ID:	6Q19361.D	**Injection Time:**	18:30
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal [b]	59753	3.09	49109	5.79	80981	7.35	45376	7.88	29139	8.39
Check Std [c]	64981	3.09	54028	5.79	80641	7.35	47319	7.89	29564	8.40
Upper Limit [d]	119506	3.49	98218	6.19	161962	7.75	90752	8.29	58278	8.80
Lower Limit [e]	17926	2.69	14733	5.39	24294	6.95	13613	7.49	8742	8.00

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	DF [a]
S6Q289-ICCB	67007	3.09	50656	5.79	89714	7.35	54920	7.89	35288	8.40	1
S6Q289-ICCB	67007	3.09	50656	5.79	89714	7.35	54920	7.89	35288	8.40	1
OP97325-BS	57173	3.09	45922	5.79	79457	7.35	41860	7.89	26354	8.40	1
OP97325-LLBS	57856	3.10	45534	5.79	77894	7.35	40135	7.89	27237	8.39	1
OP97325-MB	58190	3.10	46500	5.79	74608	7.35	42039	7.89	28580	8.40	1
FC6803-1	59914	3.10	46815	5.79	78429	7.35	44093	7.89	30459	8.40	1
OP97325-MS	57268	3.10	46292	5.79	75139	7.35	43697	7.89	26734	8.40	1
FC6803-2	54177	3.09	47036	5.79	79003	7.35	45105	7.89	29257	8.40	1
OP97325-DUP	49805	3.09	44391	5.79	78413	7.35	41301	7.89	26588	8.40	1
FC6803-3	58203	3.10	44324	5.79	83216	7.35	42374	7.89	30430	8.40	1
FC6803-4 [f]	58076	3.10	44297	5.79	76821	7.35	41271	7.89	26735	8.39	1
FC6803-5	59916	3.10	47770	5.79	83469	7.35	44129	7.89	28274	8.40	1

IS 1 = 13C3-PFBA
IS 2 = 13C2-PFHxA
IS 3 = 13C4-PFOA
IS 4 = 13C5-PFNA
IS 5 = 13C2-PFDA

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q288-ICC288 6Q19298.D 06/13/23 12:17. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -70 to +100% of initial cal area.
(d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
(e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.
(f) Confirmation run.

Injection Standard Area Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q289-CC288	**Injection Date:**	06/14/23
Lab File ID:	6Q19361.D	**Injection Time:**	18:30
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal [b]	8909	7.48	14635	8.56
Check Std [c]	9017	7.48	15821	8.58
Upper Limit [d]	17818	7.88	29270	8.98
Lower Limit [e]	2673	7.08	4391	8.18

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF [a]
S6Q289-ICCB	9947	7.48	17140	8.58	1
S6Q289-ICCB	9947	7.48	17140	8.58	1
OP97325-BS	7585	7.48	13977	8.58	1
OP97325-LLBS	8039	7.48	14052	8.58	1
OP97325-MB	8157	7.48	14699	8.58	1
FC6803-1	8009	7.49	13435	8.58	1
OP97325-MS	7739	7.48	13993	8.58	1
FC6803-2	8810	7.48	15073	8.58	1
OP97325-DUP	8504	7.49	14338	8.58	1
FC6803-3	8634	7.48	13283	8.58	1
FC6803-4 [f]	8245	7.49	12919	8.56	1
FC6803-5	8107	7.49	15024	8.58	1

IS 6 = 18O2-PFHXS
IS 7 = 13C4-PFOS

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q288-ICC288 6Q19298.D 06/13/23 12:17. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -70 to +100% of initial cal area.
(d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
(e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.
(f) Confirmation run.

Injection Standard Area Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q289-CC288	**Injection Date:**	06/14/23
Lab File ID:	6Q19373.D	**Injection Time:**	21:18
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal [b]	59753	3.09	49109	5.79	80981	7.35	45376	7.88	29139	8.39
Check Std [c]	65182	3.09	53949	5.79	84124	7.35	46616	7.89	32832	8.40
Upper Limit [d]	119506	3.49	98218	6.19	161962	7.75	90752	8.29	58278	8.80
Lower Limit [e]	17926	2.69	14733	5.39	24294	6.95	13613	7.49	8742	8.00

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	DF [a]
S6Q289-ICCB	67612	3.09	53091	5.79	88891	7.35	51273	7.89	29586	8.39	1
FC6803-6	57101	3.10	44442	5.79	82721	7.35	41575	7.89	26236	8.40	1
S6Q289-ECC288	66032	3.09	53264	5.79	90575	7.35	49529	7.89	33350	8.40	1

IS 1 = 13C3-PFBA
IS 2 = 13C2-PFHxA
IS 3 = 13C4-PFOA
IS 4 = 13C5-PFNA
IS 5 = 13C2-PFDA

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q288-ICC288 6Q19298.D 06/13/23 12:17. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -70 to +100% of initial cal area.
(d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
(e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

Injection Standard Area Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q289-CC288	**Injection Date:**	06/14/23
Lab File ID:	6Q19373.D	**Injection Time:**	21:18
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal [b]	8909	7.48	14635	8.56
Check Std [c]	10055	7.48	15790	8.58
Upper Limit [d]	17818	7.88	29270	8.98
Lower Limit [e]	2673	7.08	4391	8.18

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF [a]
S6Q289-ICCB	9714	7.48	16642	8.58	1
FC6803-6	8403	7.49	14179	8.58	1
S6Q289-ECC288	9615	7.48	16665	8.58	1

IS 6 = 18O2-PFHXS
IS 7 = 13C4-PFOS

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q288-ICC288 6Q19298.D 06/13/23 12:17. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -70 to +100% of initial cal area.
(d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
(e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

Injection Standard Area Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q292-CC288	**Injection Date:**	06/20/23
Lab File ID:	6Q19591.D	**Injection Time:**	07:37
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal [b]	59753	3.09	49109	5.79	80981	7.35	45376	7.88	29139	8.39
Check Std [c]	64381	3.09	50332	5.79	82823	7.34	44677	7.88	28196	8.39
Upper Limit [d]	119506	3.49	98218	6.19	161962	7.74	90752	8.28	58278	8.79
Lower Limit [e]	17926	2.69	14733	5.39	24294	6.94	13613	7.48	8742	7.99

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	DF [a]
S6Q292-ICCB	64117	3.09	49115	5.79	81188	7.34	49839	7.88	31276	8.39	1
S6Q292-ICCB	64117	3.09	49115	5.79	81188	7.34	49839	7.88	31276	8.39	1
ZZZZZZ	58908	3.10	42419	5.79	71756	7.34	41531	7.88	26940	8.39	1
ZZZZZZ	58085	3.10	44605	5.79	75270	7.34	39705	7.88	26555	8.38	5
OP97385-BS	54745	3.10	42846	5.79	67017	7.34	38729	7.88	23377	8.39	1
OP97385-LLBS	59769	3.10	46952	5.79	75829	7.35	43484	7.89	24505	8.39	1
OP97385-MB	54946	3.13	42452	5.80	67912	7.35	37742	7.89	24047	8.39	1
FC6803-4	51603	3.10	38634	5.79	63375	7.34	38870	7.88	24302	8.39	1
FC6803-4	53202	3.10	40370	5.79	70128	7.35	38123	7.89	24312	8.39	1
ZZZZZZ	54144	3.10	43193	5.79	65302	7.35	36241	7.89	24864	8.39	1
ZZZZZZ	54508	3.10	42099	5.80	67017	7.35	36908	7.89	21393	8.39	1
ZZZZZZ	52827	3.10	39356	5.79	68304	7.34	36849	7.88	22342	8.39	1

IS 1 = 13C3-PFBA
IS 2 = 13C2-PFHxA
IS 3 = 13C4-PFOA
IS 4 = 13C5-PFNA
IS 5 = 13C2-PFDA

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q288-ICC288 6Q19298.D 06/13/23 12:17. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -70 to +100% of initial cal area.
(d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
(e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

Injection Standard Area Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q292-CC288	**Injection Date:**	06/20/23
Lab File ID:	6Q19591.D	**Injection Time:**	07:37
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal [b]	8909	7.48	14635	8.56
Check Std [c]	9505	7.48	15861	8.56
Upper Limit [d]	17818	7.88	29270	8.96
Lower Limit [e]	2673	7.08	4391	8.16

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF [a]
S6Q292-ICCB	9171	7.48	15453	8.56	1
S6Q292-ICCB	9171	7.48	15453	8.56	1
ZZZZZZ	8927	7.48	13654	8.56	1
ZZZZZZ	8000	7.48	13615	8.56	5
OP97385-BS	7452	7.48	13172	8.56	1
OP97385-LLBS	7951	7.48	14608	8.56	1
OP97385-MB	7888	7.48	12773	8.56	1
FC6803-4	7317	7.48	11331	8.55	1
FC6803-4	7847	7.48	15436	8.56	1
ZZZZZZ	7849	7.48	13289	8.56	1
ZZZZZZ	7151	7.48	12757	8.56	1
ZZZZZZ	7403	7.48	11969	8.56	1

IS 6 = 18O2-PFHXS
IS 7 = 13C4-PFOS

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q288-ICC288 6Q19298.D 06/13/23 12:17. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -70 to +100% of initial cal area.
(d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
(e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

Injection Standard Area Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q292-CC288	**Injection Date:**	06/20/23
Lab File ID:	6Q19603.D	**Injection Time:**	10:30
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Initial Cal [b]	59753	3.09	49109	5.79	80981	7.35	45376	7.88	29139	8.39
Check Std [c]	65232	3.09	50567	5.80	81232	7.35	43995	7.88	28290	8.39
Upper Limit [d]	119506	3.49	98218	6.20	161962	7.75	90752	8.28	58278	8.79
Lower Limit [e]	17926	2.69	14733	5.40	24294	6.95	13613	7.48	8742	7.99

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	DF [a]
S6Q292-ICCB	65166	3.09	50068	5.79	84686	7.35	45562	7.88	28456	8.39	1
S6Q292-ICCB	65166	3.09	50068	5.79	84686	7.35	45562	7.88	28456	8.39	1
FC6444-23	55079	3.10	42346	5.79	71495	7.34	37953	7.88	23284	8.39	1
OP97385-MS	55129	3.10	42017	5.80	67727	7.35	37731	7.89	25984	8.39	1
FC6444-24	54064	3.10	43147	5.80	70585	7.35	36939	7.88	24220	8.39	1
OP97385-DUP	55350	3.10	41773	5.79	71000	7.35	37499	7.88	24051	8.39	1
ZZZZZZ	55014	3.10	42759	5.79	72724	7.35	38739	7.88	24948	8.39	1
ZZZZZZ	57863	3.10	44150	5.80	74785	7.35	42479	7.88	24795	8.39	1
ZZZZZZ	52450	3.10	40711	5.80	65512	7.35	38422	7.88	23482	8.39	1
ZZZZZZ	52462	3.10	38197	5.80	67651	7.35	35384	7.88	21515	8.39	1
ZZZZZZ	55508	3.10	42912	5.79	69482	7.34	41949	7.88	24637	8.39	1
ZZZZZZ	53260	3.10	44580	5.80	65460	7.34	39060	7.88	21760	8.39	10

IS 1 = 13C3-PFBA
IS 2 = 13C2-PFHxA
IS 3 = 13C4-PFOA
IS 4 = 13C5-PFNA
IS 5 = 13C2-PFDA

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q288-ICC288 6Q19298.D 06/13/23 12:17. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -70 to +100% of initial cal area.
(d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
(e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

Injection Standard Area Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q292-CC288	**Injection Date:**	06/20/23
Lab File ID:	6Q19603.D	**Injection Time:**	10:30
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal [b]	8909	7.48	14635	8.56
Check Std [c]	8751	7.48	16245	8.56
Upper Limit [d]	17818	7.88	29270	8.96
Lower Limit [e]	2673	7.08	4391	8.16

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF [a]
S6Q292-ICCB	9026	7.48	15745	8.56	1
S6Q292-ICCB	9026	7.48	15745	8.56	1
FC6444-23	8231	7.48	12435	8.56	1
OP97385-MS	7622	7.48	13190	8.56	1
FC6444-24	7605	7.48	13414	8.56	1
OP97385-DUP	7917	7.48	13234	8.56	1
ZZZZZZ	7367	7.48	13652	8.56	1
ZZZZZZ	8189	7.48	13901	8.56	1
ZZZZZZ	8123	7.48	12441	8.56	1
ZZZZZZ	7173	7.48	12731	8.56	1
ZZZZZZ	7497	7.48	12591	8.56	1
ZZZZZZ	9790	7.48	12170	8.56	10

IS 6 = 18O2-PFHXS
IS 7 = 13C4-PFOS

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q288-ICC288 6Q19298.D 06/13/23 12:17. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -70 to +100% of initial cal area.
(d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
(e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

TDCA Retention Time Check

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q288-RT
Lab File ID: 6Q19292.D
Instrument ID: GCMS6Q
Injection Date: 06/13/23
Injection Time: 10:53

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.564	--	--
TDCA	7.012	1.552	1.000
TCDCA	6.863	1.701	1.000
TUDCA	6.048	2.516	1.000

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q288-IC288	6Q19294.D	06/13/23	11:21	00:28	Mass Calibration Verification
S6Q288-IC288	6Q19295.D	06/13/23	11:35	00:42	Initial cal 1
S6Q288-IC288	6Q19296.D	06/13/23	11:49	00:56	Initial cal 2
S6Q288-IC288	6Q19297.D	06/13/23	12:03	01:10	Initial cal 3
S6Q288-ICC288	6Q19298.D	06/13/23	12:17	01:24	Initial cal 4
S6Q288-IC288	6Q19299.D	06/13/23	12:31	01:38	Initial cal 5
S6Q288-IC288	6Q19300.D	06/13/23	12:45	01:52	Initial cal 6
S6Q288-IC288	6Q19301.D	06/13/23	12:59	02:06	Initial cal 7
S6Q288-IC288	6Q19302.D	06/13/23	13:13	02:20	Initial cal 8
S6Q288-IBLK	6Q19303.D	06/13/23	13:27	02:34	Instrument Blank
S6Q288-IBLK	6Q19303.D	06/13/23	13:27	02:34	Instrument Blank
S6Q288-ICV288	6Q19304.D	06/13/23	13:41	02:48	Initial cal verification 4
S6Q288-ICV288	6Q19305.D	06/13/23	13:55	03:02	Initial cal verification 20
S6Q288-CC288	6Q19306.D	06/13/23	14:09	03:16	Continuing cal 4
S6Q288-CC288	6Q19307.D	06/13/23	14:31	03:38	Continuing cal 1.0LL
OP97303-BS	6Q19308.D	06/13/23	14:45	03:52	Blank Spike
OP97303-LLBS	6Q19309.D	06/13/23	14:59	04:06	Blank Spike
OP97303-MB	6Q19310.D	06/13/23	15:13	04:20	Method Blank
ZZZZZZ	6Q19311.D	06/13/23	15:27	04:34	(unrelated sample)
ZZZZZZ	6Q19312.D	06/13/23	15:41	04:48	(unrelated sample)
FC6266-3	6Q19313.D	06/13/23	15:55	05:02	(used for QC only; not part of job FC6803)
OP97303-MS	6Q19314.D	06/13/23	16:09	05:16	Matrix Spike
OP97303-MSD	6Q19315.D	06/13/23	16:23	05:30	Matrix Spike Duplicate
ZZZZZZ	6Q19316.D	06/13/23	16:37	05:44	(unrelated sample)
ZZZZZZ	6Q19317.D	06/13/23	16:51	05:58	(unrelated sample)
S6Q288-CC288	6Q19318.D	06/13/23	17:05	06:12	Continuing cal 4
S6Q288-ICCB	6Q19319.D	06/13/23	17:19	06:26	Continuing Calibration Blank
ZZZZZZ	6Q19320.D	06/13/23	17:33	06:40	(unrelated sample)
ZZZZZZ	6Q19321.D	06/13/23	17:47	06:54	(unrelated sample)
ZZZZZZ	6Q19324.D	06/13/23	18:28	07:35	(unrelated sample)
ZZZZZZ	6Q19325.D	06/13/23	18:42	07:49	(unrelated sample)
S6Q288-ECC288	6Q19326.D	06/13/23	18:56	08:03	Ending cal 4
S6Q288-ICCB	6Q19327.D	06/13/23	19:10	08:17	Continuing Calibration Blank

TDCA Retention Time Check

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q289-RT
Lab File ID: 6Q19330.D
Instrument ID: GCMS6Q
Injection Date: 06/14/23
Injection Time: 10:42

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.564	--	--
TDCA	7.012	1.552	1.000
TCDCA	6.851	1.713	1.000
TUDCA	6.035	2.529	1.000

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q289-IBLK	6Q19333.D	06/14/23	11:24	00:42	Instrument Blank
S6Q289-IBLK	6Q19333.D	06/14/23	11:24	00:42	Instrument Blank
S6Q289-CC288	6Q19334.D	06/14/23	11:38	00:56	Continuing cal 4
S6Q289-CC288	6Q19335.D	06/14/23	11:52	01:10	Continuing cal 1.0LL
ZZZZZZ	6Q19336.D	06/14/23	12:06	01:24	(unrelated sample)
ZZZZZZ	6Q19337.D	06/14/23	12:20	01:38	(unrelated sample)
S6Q289-CC288	6Q19342.D	06/14/23	13:33	02:51	Continuing cal 4
S6Q289-CC288	6Q19343.D	06/14/23	14:17	03:35	Continuing cal 1.0LL
S6Q289-ICCB	6Q19344.D	06/14/23	14:32	03:50	Continuing Calibration Blank
S6Q289-ICCB	6Q19344.D	06/14/23	14:32	03:50	Continuing Calibration Blank
OP97308-BS	6Q19345.D	06/14/23	14:46	04:04	Blank Spike
OP97308-LLBS	6Q19346.D	06/14/23	15:00	04:18	Blank Spike
OP97308-MB	6Q19347.D	06/14/23	15:14	04:32	Method Blank
ZZZZZZ	6Q19348.D	06/14/23	15:28	04:46	(unrelated sample)
ZZZZZZ	6Q19349.D	06/14/23	15:42	05:00	(unrelated sample)
ZZZZZZ	6Q19350.D	06/14/23	15:56	05:14	(unrelated sample)
ZZZZZZ	6Q19351.D	06/14/23	16:10	05:28	(unrelated sample)
ZZZZZZ	6Q19352.D	06/14/23	16:24	05:42	(unrelated sample)
S6Q289-CC288	6Q19353.D	06/14/23	16:38	05:56	Continuing cal 4
S6Q289-ICCB	6Q19354.D	06/14/23	16:52	06:10	Continuing Calibration Blank
S6Q289-ICCB	6Q19354.D	06/14/23	16:52	06:10	Continuing Calibration Blank
ZZZZZZ	6Q19355.D	06/14/23	17:06	06:24	(unrelated sample)
ZZZZZZ	6Q19356.D	06/14/23	17:20	06:38	(unrelated sample)
ZZZZZZ	6Q19357.D	06/14/23	17:34	06:52	(unrelated sample)
JD66386-18A	6Q19358.D	06/14/23	17:48	07:06	(used for QC only; not part of job FC6803)
OP97308-MS	6Q19359.D	06/14/23	18:02	07:20	Matrix Spike
OP97308-MSD	6Q19360.D	06/14/23	18:16	07:34	Matrix Spike Duplicate
S6Q289-CC288	6Q19361.D	06/14/23	18:30	07:48	Continuing cal 4
S6Q289-ICCB	6Q19362.D	06/14/23	18:44	08:02	Continuing Calibration Blank
S6Q289-ICCB	6Q19362.D	06/14/23	18:44	08:02	Continuing Calibration Blank
OP97325-BS	6Q19363.D	06/14/23	18:58	08:16	Blank Spike
OP97325-LLBS	6Q19364.D	06/14/23	19:12	08:30	Blank Spike
OP97325-MB	6Q19365.D	06/14/23	19:26	08:44	Method Blank
FC6803-1	6Q19366.D	06/14/23	19:40	08:58	AF-RHMW225401-WGN01B-2306

TDCA Retention Time Check

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q289-RT	**Injection Date:**	06/14/23
Lab File ID:	6Q19330.D	**Injection Time:**	10:42
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
OP97325-MS	6Q19367.D	06/14/23	19:54	09:12	Matrix Spike
FC6803-2	6Q19368.D	06/14/23	20:08	09:26	AF-RHMW17S-WGN01LF-2306
OP97325-DUP	6Q19369.D	06/14/23	20:22	09:40	Duplicate
FC6803-3	6Q19370.D	06/14/23	20:36	09:54	AF-RHMW17S-WQEB01-2306
FC6803-4	6Q19371.D	06/14/23	20:50	10:08	AF-RHMW17D-WGN01LF-2306
FC6803-5	6Q19372.D	06/14/23	21:04	10:22	AF-RHMW17D-WQFB01-2306
S6Q289-CC288	6Q19373.D	06/14/23	21:18	10:36	Continuing cal 4
S6Q289-ICCB	6Q19374.D	06/14/23	21:32	10:50	Continuing Calibration Blank
FC6803-6	6Q19375.D	06/14/23	21:46	11:04	AF-RHMW17-WGN01LF-2306
S6Q289-ECC288	6Q19376.D	06/14/23	22:00	11:18	Ending cal 4
S6Q289-ICCB	6Q19377.D	06/14/23	22:14	11:32	Continuing Calibration Blank

TDCA Retention Time Check

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-RT
Lab File ID: 6Q19526.D
Instrument ID: GCMS6Q
Injection Date: 06/19/23
Injection Time: 13:28

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.552	--	--
TDCA	7.012	1.540	1.000
TCDCA	6.863	1.689	1.000
TUDCA	6.035	2.517	1.000

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q292-IBLK	6Q19529.D	06/19/23	14:10	00:42	Instrument Blank
S6Q292-IBLK	6Q19529.D	06/19/23	14:10	00:42	Instrument Blank
S6Q292-CC288	6Q19530.D	06/19/23	14:24	00:56	Continuing cal 4
S6Q292-CC288	6Q19531.D	06/19/23	14:38	01:10	Continuing cal 1.0LL
OP97328-BS	6Q19532.D	06/19/23	14:52	01:24	Blank Spike
OP97328-LLBS	6Q19533.D	06/19/23	15:06	01:38	Blank Spike
OP97328-MB	6Q19534.D	06/19/23	15:20	01:52	Method Blank
FC6443-20	6Q19535.D	06/19/23	15:34	02:06	(used for QC only; not part of job FC6803)
OP97328-MS	6Q19536.D	06/19/23	15:48	02:20	Matrix Spike
OP97328-MSD	6Q19537.D	06/19/23	16:02	02:34	Matrix Spike Duplicate
ZZZZZZ	6Q19538.D	06/19/23	16:16	02:48	(unrelated sample)
ZZZZZZ	6Q19539.D	06/19/23	16:30	03:02	(unrelated sample)
ZZZZZZ	6Q19540.D	06/19/23	16:44	03:16	(unrelated sample)
S6Q292-CC288	6Q19541.D	06/19/23	16:58	03:30	Continuing cal 4
S6Q292-ICCB	6Q19542.D	06/19/23	17:12	03:44	Continuing Calibration Blank
S6Q292-ICCB	6Q19542.D	06/19/23	17:12	03:44	Continuing Calibration Blank
OP97386-BS	6Q19543.D	06/19/23	17:26	03:58	Blank Spike
OP97386-LLBS	6Q19544.D	06/19/23	17:40	04:12	Blank Spike
OP97386-MB	6Q19545.D	06/19/23	17:54	04:26	Method Blank
ZZZZZZ	6Q19546.D	06/19/23	18:08	04:40	(unrelated sample)
FC6580-7A	6Q19550.D	06/19/23	22:03	08:35	(used for QC only; not part of job FC6803)
OP97386-MS	6Q19551.D	06/19/23	22:17	08:49	Matrix Spike
FC6580-8A	6Q19552.D	06/19/23	22:31	09:03	(used for QC only; not part of job FC6803)
OP97386-DUP	6Q19553.D	06/19/23	22:45	09:17	Duplicate
S6Q292-CC288	6Q19554.D	06/19/23	22:59	09:31	Continuing cal 4
S6Q292-ICCB	6Q19555.D	06/19/23	23:13	09:45	Continuing Calibration Blank
ZZZZZZ	6Q19556.D	06/19/23	23:27	09:59	(unrelated sample)
ZZZZZZ	6Q19557.D	06/19/23	23:41	10:13	(unrelated sample)
ZZZZZZ	6Q19558.D	06/19/23	23:55	10:27	(unrelated sample)
ZZZZZZ	6Q19559.D	06/20/23	00:09	10:41	(unrelated sample)
ZZZZZZ	6Q19560.D	06/20/23	00:23	10:55	(unrelated sample)
ZZZZZZ	6Q19561.D	06/20/23	00:37	11:09	(unrelated sample)
ZZZZZZ	6Q19562.D	06/20/23	00:51	11:23	(unrelated sample)
ZZZZZZ	6Q19563.D	06/20/23	01:05	11:37	(unrelated sample)

TDCA Retention Time Check

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q292-RT	**Injection Date:**	06/19/23
Lab File ID:	6Q19526.D	**Injection Time:**	13:28
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	6Q19564.D	06/20/23	01:19	11:51	(unrelated sample)
ZZZZZZ	6Q19565.D	06/20/23	01:33	12:05	(unrelated sample)
S6Q292-CC288	6Q19566.D	06/20/23	01:47	12:19	Continuing cal 4
S6Q292-ICCB	6Q19567.D	06/20/23	02:01	12:33	Continuing Calibration Blank
S6Q292-ICCB	6Q19567.D	06/20/23	02:01	12:33	Continuing Calibration Blank
ZZZZZZ	6Q19569.D	06/20/23	02:29	13:01	(unrelated sample)
OP97348-BS	6Q19570.D	06/20/23	02:43	13:15	Blank Spike
OP97348-LLBS	6Q19571.D	06/20/23	02:57	13:29	Blank Spike
OP97348-MB	6Q19572.D	06/20/23	03:11	13:43	Method Blank
ZZZZZZ	6Q19573.D	06/20/23	03:25	13:57	(unrelated sample)
ZZZZZZ	6Q19574.D	06/20/23	03:39	14:11	(unrelated sample)
ZZZZZZ	6Q19575.D	06/20/23	03:53	14:25	(unrelated sample)
ZZZZZZ	6Q19576.D	06/20/23	04:07	14:39	(unrelated sample)
ZZZZZZ	6Q19577.D	06/20/23	04:21	14:53	(unrelated sample)
S6Q292-CC288	6Q19578.D	06/20/23	04:35	15:07	Continuing cal 4
S6Q292-CC288	6Q19579.D	06/20/23	04:49	15:21	Continuing cal 1.0LL
S6Q292-ICCB	6Q19580.D	06/20/23	05:03	15:35	Continuing Calibration Blank
S6Q292-ICCB	6Q19580.D	06/20/23	05:03	15:35	Continuing Calibration Blank
ZZZZZZ	6Q19581.D	06/20/23	05:17	15:49	(unrelated sample)
ZZZZZZ	6Q19582.D	06/20/23	05:31	16:03	(unrelated sample)
FC6347-7	6Q19583.D	06/20/23	05:45	16:17	(used for QC only; not part of job FC6803)
OP97348-MS	6Q19584.D	06/20/23	05:59	16:31	Matrix Spike
OP97348-MSD	6Q19585.D	06/20/23	06:13	16:45	Matrix Spike Duplicate
ZZZZZZ	6Q19586.D	06/20/23	06:27	16:59	(unrelated sample)
ZZZZZZ	6Q19587.D	06/20/23	06:41	17:13	(unrelated sample)
ZZZZZZ	6Q19588.D	06/20/23	06:55	17:27	(unrelated sample)
ZZZZZZ	6Q19589.D	06/20/23	07:09	17:41	(unrelated sample)
ZZZZZZ	6Q19590.D	06/20/23	07:23	17:55	(unrelated sample)
S6Q292-CC288	6Q19591.D	06/20/23	07:37	18:09	Continuing cal 4
S6Q292-ICCB	6Q19592.D	06/20/23	07:50	18:22	Continuing Calibration Blank
S6Q292-ICCB	6Q19592.D	06/20/23	07:50	18:22	Continuing Calibration Blank
ZZZZZZ	6Q19593.D	06/20/23	08:04	18:36	(unrelated sample)
ZZZZZZ	6Q19594.D	06/20/23	08:18	18:50	(unrelated sample)
OP97385-BS	6Q19595.D	06/20/23	08:32	19:04	Blank Spike
OP97385-LLBS	6Q19596.D	06/20/23	08:46	19:18	Blank Spike
OP97385-MB	6Q19597.D	06/20/23	09:06	19:38	Method Blank
FC6803-4	6Q19598.D	06/20/23	09:20	19:52	AF-RHMW17D-WGN01LF-2306
FC6803-4	6Q19599.D	06/20/23	09:34	20:06	AF-RHMW17D-WGN01LF-2306
ZZZZZZ	6Q19600.D	06/20/23	09:48	20:20	(unrelated sample)
ZZZZZZ	6Q19601.D	06/20/23	10:02	20:34	(unrelated sample)
ZZZZZZ	6Q19602.D	06/20/23	10:16	20:48	(unrelated sample)
S6Q292-CC288	6Q19603.D	06/20/23	10:30	21:02	Continuing cal 4
S6Q292-ICCB	6Q19604.D	06/20/23	10:44	21:16	Continuing Calibration Blank
S6Q292-ICCB	6Q19604.D	06/20/23	10:44	21:16	Continuing Calibration Blank

TDCA Retention Time Check

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q292-RT	**Injection Date:**	06/19/23
Lab File ID:	6Q19526.D	**Injection Time:**	13:28
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
FC6444-23	6Q19605.D	06/20/23	10:58	21:30	(used for QC only; not part of job FC6803)
OP97385-MS	6Q19606.D	06/20/23	11:12	21:44	Matrix Spike
FC6444-24	6Q19607.D	06/20/23	11:26	21:58	(used for QC only; not part of job FC6803)
OP97385-DUP	6Q19608.D	06/20/23	11:40	22:12	Duplicate
ZZZZZZ	6Q19609.D	06/20/23	11:54	22:26	(unrelated sample)
ZZZZZZ	6Q19610.D	06/20/23	12:07	22:39	(unrelated sample)
ZZZZZZ	6Q19611.D	06/20/23	12:21	22:53	(unrelated sample)
ZZZZZZ	6Q19612.D	06/20/23	12:35	23:07	(unrelated sample)
ZZZZZZ	6Q19613.D	06/20/23	12:49	23:21	(unrelated sample)
ZZZZZZ	6Q19614.D	06/20/23	13:04	23:36	(unrelated sample)
S6Q292-CC288	6Q19615.D	06/20/23	13:18	23:50	Continuing cal 4
S6Q292-ICCB	6Q19616.D	06/20/23	13:32	24:04	Continuing Calibration Blank
ZZZZZZ	6Q19617.D	06/20/23	13:46	24:18	(unrelated sample)
ZZZZZZ	6Q19618.D	06/20/23	14:00	24:32	(unrelated sample)
S6Q292-CC288	6Q19619.D	06/20/23	14:14	24:46	Continuing cal 4
S6Q292-ICCB	6Q19620.D	06/20/23	14:28	25:00	Continuing Calibration Blank

TDCA Retention Time Check

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-RT
Lab File ID: 6Q19621.D
Instrument ID: GCMS6Q
Injection Date: 06/20/23
Injection Time: 14:42

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.564	--	--
TDCA	7.025	1.539	1.000
TCDCA	6.863	1.701	1.000
TUDCA	6.048	2.516	1.000

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q292-IBLK	6Q19624.D	06/20/23	15:25	00:43	Instrument Blank
S6Q292-IBLK	6Q19624.D	06/20/23	15:25	00:43	Instrument Blank
S6Q292-CC288	6Q19625.D	06/20/23	15:39	00:57	Continuing cal 1.0LL
ZZZZZZ	6Q19626.D	06/20/23	15:53	01:11	(unrelated sample)
ZZZZZZ	6Q19627.D	06/20/23	16:07	01:25	(unrelated sample)
ZZZZZZ	6Q19628.D	06/20/23	16:21	01:39	(unrelated sample)
ZZZZZZ	6Q19629.D	06/20/23	16:35	01:53	(unrelated sample)
FC6580-7A	6Q19631.D	06/20/23	17:21	02:39	(used for QC only; not part of job FC6803)
ZZZZZZ	6Q19632.D	06/20/23	17:35	02:53	(unrelated sample)
ZZZZZZ	6Q19633.D	06/20/23	17:50	03:08	(unrelated sample)
S6Q292-CC288	6Q19634.D	06/20/23	18:04	03:22	Continuing cal 4
S6Q292-ICCB	6Q19635.D	06/20/23	18:18	03:36	Continuing Calibration Blank
OP97406-BS	6Q19636.D	06/20/23	18:32	03:50	Blank Spike
OP97406-LLBS	6Q19637.D	06/20/23	18:45	04:03	Blank Spike
OP97406-MB	6Q19638.D	06/20/23	18:59	04:17	Method Blank
ZZZZZZ	6Q19639.D	06/20/23	19:13	04:31	(unrelated sample)
ZZZZZZ	6Q19640.D	06/20/23	19:27	04:45	(unrelated sample)
ZZZZZZ	6Q19641.D	06/20/23	19:41	04:59	(unrelated sample)
ZZZZZZ	6Q19642.D	06/20/23	19:55	05:13	(unrelated sample)
ZZZZZZ	6Q19643.D	06/20/23	20:09	05:27	(unrelated sample)
ZZZZZZ	6Q19644.D	06/20/23	20:23	05:41	(unrelated sample)
ZZZZZZ	6Q19645.D	06/20/23	20:37	05:55	(unrelated sample)
S6Q292-CC288	6Q19646.D	06/20/23	20:51	06:09	Continuing cal 4
S6Q292-ICCB	6Q19647.D	06/20/23	21:05	06:23	Continuing Calibration Blank
ZZZZZZ	6Q19648.D	06/20/23	21:19	06:37	(unrelated sample)
FC6740-10	6Q19649.D	06/20/23	21:33	06:51	(used for QC only; not part of job FC6803)
OP97406-MS	6Q19650.D	06/20/23	21:47	07:05	Matrix Spike
OP97406-MSD	6Q19651.D	06/20/23	22:01	07:19	Matrix Spike Duplicate
ZZZZZZ	6Q19652.D	06/20/23	22:15	07:33	(unrelated sample)
ZZZZZZ	6Q19653.D	06/20/23	22:29	07:47	(unrelated sample)
ZZZZZZ	6Q19654.D	06/20/23	22:43	08:01	(unrelated sample)
ZZZZZZ	6Q19655.D	06/20/23	22:57	08:15	(unrelated sample)
ZZZZZZ	6Q19656.D	06/20/23	23:11	08:29	(unrelated sample)
ZZZZZZ	6Q19657.D	06/20/23	23:25	08:43	(unrelated sample)

TDCA Retention Time Check

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q292-RT	**Injection Date:**	06/20/23
Lab File ID:	6Q19621.D	**Injection Time:**	14:42
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q292-CC288	6Q19658.D	06/20/23	23:39	08:57	Continuing cal 4
S6Q292-ICCB	6Q19659.D	06/20/23	23:53	09:11	Continuing Calibration Blank
ZZZZZZ	6Q19660.D	06/21/23	00:07	09:25	(unrelated sample)
S6Q292-ECC288	6Q19661.D	06/21/23	00:21	09:39	Ending cal 4
S6Q292-ICCB	6Q19662.D	06/21/23	00:35	09:53	Continuing Calibration Blank

Ion Ratio Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q289 **Method:** EPA DRAFT 1633

Lab Sample ID	Lab File ID	Ion Ratios (Set 1) PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFBS	PFHxS
S6Q288-ICC288	6Q19298.D	0	0	5.2	15.2	16.8	38	48.6
FC6803-1	6Q19366.D		0	5.3	15.6	15.6	42.8	43.5
FC6803-2	6Q19368.D	0	0	5.7	15.4	17	44.9	
FC6803-3	6Q19370.D							
FC6803-4	6Q19371.D							
FC6803-5	6Q19372.D							
FC6803-6	6Q19375.D		0	5.6	19.1			

Ion Ratio Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q289 **Method:** EPA DRAFT 1633

Lab Sample ID	Lab File ID	Ion Ratios (Set 2) PFOS	6:2FTS
S6Q288-ICC288	6Q19298.D	46.4	32.7
FC6803-1	6Q19366.D	41.4	
FC6803-2	6Q19368.D		
FC6803-3	6Q19370.D		
FC6803-4	6Q19371.D		
FC6803-5	6Q19372.D		
FC6803-6	6Q19375.D		33.7

Isotope Dilution Standard Recovery Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6	S7	S8
FC6803-1	6Q19366.D	108	118	115	118	113	116	117	106
FC6803-2	6Q19368.D	48	110	118	118	115	105	110	94
FC6803-3	6Q19370.D	119	127	126	124	102	119	99	99
FC6803-4	6Q19598.D	4* [a]	28	100	116	112	108	104	99
FC6803-4	6Q19371.D	4* [a]	30	112	123	120	123	121	121
FC6803-4	6Q19599.D	107	118	112	111	107	109	101	95
FC6803-5	6Q19372.D	118	119	120	120	107	117	107	114
FC6803-6	6Q19375.D	108	123	125	123	111	118	104	70
OP97325-BS	6Q19363.D	33	113	111	121	106	116	120	116
OP97325-DUP	6Q19369.D	52	117	129	127	107	122	109	103
OP97325-LLBS	6Q19364.D	116	119	117	123	108	130	115	115
OP97325-MB	6Q19365.D	105	106	107	106	103	117	98	98
OP97325-MS	6Q19367.D	85	113	110	112	117	113	117	112
OP97385-BS	6Q19595.D	30	110	107	107	110	112	113	102
OP97385-DUP	6Q19608.D	112	120	110	106	106	109	102	99
OP97385-LLBS	6Q19596.D	102	104	96	97	104	101	108	101
OP97385-MB	6Q19597.D	106	108	105	99	112	108	97	95
OP97385-MS	6Q19606.D	108	115	109	100	107	109	91	93
S6Q289-IBLK	6Q19333.D	101	110	104	104	113	102	97	92
S6Q289-ICCB	6Q19362.D	101	109	109	107	103	90	82	90
S6Q289-ICCB	6Q19374.D	100	103	102	104	104	102	114	115
S6Q289-ICCB	6Q19377.D	102	98	96	100	95	111	101	96
S6Q292-IBLK	6Q19529.D	100	97	93	97	99	97	100	98
S6Q292-IBLK	6Q19624.D	100	103	100	91	105	102	90	88
S6Q292-ICCB	6Q19592.D	100	107	103	99	103	92	89	93
S6Q292-ICCB	6Q19604.D	99	105	103	100	92	106	103	102
S6Q292-ICCB	6Q19620.D	101	111	105	102	94	100	106	101

Isotope Dilution Standards	Recovery Limits
S1 = 13C4-PFBA	20-150%
S2 = 13C5-PFPeA	20-150%
S3 = 13C5-PFHxA	20-150%
S4 = 13C4-PFHpA	20-150%
S5 = 13C8-PFOA	20-150%
S6 = 13C9-PFNA	20-150%
S7 = 13C6-PFDA	20-150%
S8 = 13C7-PFUnDA	20-150%

Isotope Dilution Standard Recovery Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633	**Matrix:** AQ

Samples and QC shown here apply to the above method

Isotope Dilution Standards	**Recovery Limits**

(a) Outside control limits.

Isotope Dilution Standard Recovery Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S9	S10	S11	S12	S13	S14	S15	S16
FC6803-1	6Q19366.D	106	96	124	118	125	91	94	94
FC6803-2	6Q19368.D	87	73	113	111	95	92	78	77
FC6803-3	6Q19370.D	101	93	111	107	114	96	94	106
FC6803-4	6Q19598.D	94	68	104	115	123	88	101	107
FC6803-4	6Q19371.D	117	88	116	120	126	102	110	114
FC6803-4	6Q19599.D	91	76	114	113	85	72	77	79
FC6803-5	6Q19372.D	99	81	120	121	106	83	81	86
FC6803-6	6Q19375.D	57	37	118	121	88	86	73	75
OP97325-BS	6Q19363.D	116	109	126	130	117	83	88	88
OP97325-DUP	6Q19369.D	90	78	114	109	103	89	79	80
OP97325-LLBS	6Q19364.D	112	105	120	122	113	82	80	83
OP97325-MB	6Q19365.D	96	96	108	109	88	59	59	69
OP97325-MS	6Q19367.D	112	100	128	126	103	92	86	91
OP97385-BS	6Q19595.D	105	95	122	111	96	66	78	78
OP97385-DUP	6Q19608.D	87	70	111	116	101	74	78	84
OP97385-LLBS	6Q19596.D	101	83	111	106	98	69	68	72
OP97385-MB	6Q19597.D	95	85	108	100	102	73	77	80
OP97385-MS	6Q19606.D	84	65	118	105	101	75	82	88
S6Q289-IBLK	6Q19333.D	96	100	99	101	91	92	94	97
S6Q289-ICCB	6Q19362.D	89	95	99	96	97	92	89	94
S6Q289-ICCB	6Q19374.D	105	108	103	98	95	100	95	102
S6Q289-ICCB	6Q19377.D	106	105	90	90	104	98	99	102
S6Q292-IBLK	6Q19529.D	93	96	106	99	102	104	97	95
S6Q292-IBLK	6Q19624.D	92	84	95	104	102	97	92	99
S6Q292-ICCB	6Q19592.D	84	77	106	95	102	97	95	95
S6Q292-ICCB	6Q19604.D	97	87	102	100	94	94	89	94
S6Q292-ICCB	6Q19620.D	101	89	102	98	101	98	97	100

Isotope Dilution Standards	Recovery Limits
S9 = 13C2-PFDoDA	20-150%
S10 = 13C2-PFTeDA	20-150%
S11 = 13C3-PFBS	20-150%
S12 = 13C3-PFHxS	20-150%
S13 = 13C8-PFOS	20-150%
S14 = 13C8-FOSA	20-150%
S15 = d3-MeFOSA	20-150%
S16 = d5-EtFOSA	20-150%

Isotope Dilution Standard Recovery Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633 **Matrix:** AQ

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S17	S18	S19	S20	S21	S22	S23	S24
FC6803-1	6Q19366.D	119	123	85	96	140	127	121	113
FC6803-2	6Q19368.D	103	90	76	81	101	95	100	110
FC6803-3	6Q19370.D	116	120	87	103	133	124	103	116
FC6803-4	6Q19598.D	156* [a]	133	76	92	120	100	108	93
FC6803-4	6Q19371.D	168* [a]	168* [a]	84	100	149	112	122	102
FC6803-4	6Q19599.D	80	82	63	77	131	116	99	119
FC6803-5	6Q19372.D	112	100	77	94	142	137	125	104
FC6803-6	6Q19375.D	110	113	65	80	128	119	78	117
OP97325-BS	6Q19363.D	119	120	71	85	143	145	130	115
OP97325-DUP	6Q19369.D	101	91	70	80	105	94	102	112
OP97325-LLBS	6Q19364.D	122	113	71	86	134	142	142	114
OP97325-MB	6Q19365.D	102	99	51	66	130	135	113	104
OP97325-MS	6Q19367.D	113	109	78	88	131	117	119	110
OP97385-BS	6Q19595.D	100	95	69	75	133	123	120	110
OP97385-DUP	6Q19608.D	99	91	65	80	130	124	105	122
OP97385-LLBS	6Q19596.D	89	90	58	73	129	118	125	101
OP97385-MB	6Q19597.D	95	82	64	80	129	113	96	104
OP97385-MS	6Q19606.D	97	93	61	80	118	110	113	111
S6Q289-IBLK	6Q19333.D	97	96	97	96	116	112	112	110
S6Q289-ICCB	6Q19362.D	104	93	96	93	114	109	103	101
S6Q289-ICCB	6Q19374.D	99	98	105	99	122	115	110	100
S6Q289-ICCB	6Q19377.D	116	106	101	93	106	112	96	94
S6Q292-IBLK	6Q19529.D	87	95	101	100	114	115	107	97
S6Q292-IBLK	6Q19624.D	92	84	86	91	121	108	104	98
S6Q292-ICCB	6Q19592.D	92	91	95	91	126	119	100	104
S6Q292-ICCB	6Q19604.D	89	91	86	88	124	121	108	103
S6Q292-ICCB	6Q19620.D	98	98	91	95	118	111	105	111

Isotope Dilution Standards	Recovery Limits
S17 = d3-MeFOSAA	20-150%
S18 = d5-EtFOSAA	20-150%
S19 = d7-MeFOSE	20-150%
S20 = d9-EtFOSE	20-150%
S21 = 13C2-4:2FTS	20-180%
S22 = 13C2-6:2FTS	20-180%
S23 = 13C2-8:2FTS	20-180%
S24 = 13C3-HFPO-DA	20-150%

Isotope Dilution Standard Recovery Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633	**Matrix:** AQ

Samples and QC shown here apply to the above method

Isotope Dilution Standards	**Recovery Limits**

(a) Outside control limits.

Initial Calibration Report

Method Path	D:\MassHunter\Methods
Method File	1633_061323_S6Q288.quantmethod.xml
Batch Name	D:\MassHunter\Data\061323_1633_S6Q288\QuantResults\s6q288.batch.bin
Last Calib Update	6/13/2023 2:27:45 PM

Level Name	Calibration Files	Acq. Date-Time	Level Last Update Time
1	D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d	6/13/2023 11:35:49 AM	6/13/2023 2:27:45 PM
2	D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d	6/13/2023 11:49:47 AM	6/13/2023 2:27:45 PM
3	D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d	6/13/2023 12:03:47 PM	6/13/2023 2:27:45 PM
4	D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d	6/13/2023 12:17:48 PM	6/13/2023 2:27:45 PM
5	D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d	6/13/2023 12:31:46 PM	6/13/2023 2:27:45 PM
6	D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d	6/13/2023 12:45:45 PM	6/13/2023 2:27:45 PM
7	D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d	6/13/2023 12:59:43 PM	6/13/2023 2:27:45 PM
8	D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d	6/13/2023 1:13:42 PM	6/13/2023 2:27:45 PM

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I M4-PFBA						ISTD					
T PFBA	Avg RF	0.4709	0.4055	0.3923	0.3855	0.3832	0.3937	0.3976	0.3950	0.4030	7.025
I M5-PFPeA						ISTD					
T PFMPA	Avg RF	0.9589	0.8341	0.8022	0.7841	0.7839	0.8034	0.8082	0.8110	0.8232	6.937
T 3:3FTCA	Avg RF	0.1143	0.1034	0.0954	0.0938	0.0921	0.0969	0.0991	0.1037	0.0999	7.175
T PFPeA	Avg RF	1.7616	1.5115	1.4429	1.4055	1.3886	1.4373	1.4440	1.4189	1.4763	8.190
T PFMBA	Avg RF	1.2014	1.0930	1.0175	1.0046	0.9935	1.0353	1.0327	1.0401	1.0523	6.391
I M5-PFHxA						ISTD					
T NFDHA	Avg RF	0.1517	0.1432	0.1196	0.1176	0.1246	0.1220	0.1352	0.1172	0.1289	10.064
T PFHxA	Avg RF	1.2830	0.9817	0.9664	0.9710	0.9423	0.9691	0.9780	0.9814	1.0091	11.039
T PFEESA	Avg RF	1.6049	1.3973	1.3615	1.3198	1.2700	1.3034	1.3935	1.2581	1.3636	8.113
T 5:3FTCA	Avg RF	0.2502	0.2205	0.1912	0.1886	0.1888	0.1957	0.1928	0.1766	0.2005	11.760
T 7:3FTCA	Avg RF	0.1613	0.1485	0.1293	0.1288	0.1279	0.1338	0.1283	0.1267	0.1356	9.273
I M4-PFHpA						ISTD					
T PFHpA	Avg RF	1.6468	1.3725	1.2938	1.3007	1.2238	1.3095	1.2722	1.2582	1.3347	9.985
I M8-PFOA						ISTD					
T PFOA	Avg RF	1.7157	1.5949	1.2096	1.3296	1.2169	1.3610	1.2540	1.3041	1.3732	13.448
I M9-PFNA						ISTD					
T PFNA	Avg RF	1.3734	1.2092	1.0482	1.1629	1.0592	1.1654	1.0740	1.1529	1.1557	9.130
I M6-PFDA						ISTD					
T PFDA	Avg RF	2.0907	2.0894	1.6726	1.6652	1.9278	1.6720	1.9241	1.8333	1.8594	9.613
I M7-PFUnDA						ISTD					
T PFUnDA	Avg RF	1.0682	0.9126	1.0621	0.9133	0.8399	0.9636	0.9568	1.0041	0.9651	8.099
I M2-PFDoDA						ISTD					

Initial Calibration Summary
Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Sample: S6Q288-ICC288
Lab FileID: 6Q19298.D
Page 1 of 4

Initial Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q288-ICC288
Lab FileID: 6Q19298.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
T PFDoDA	Avg RF	1.2146	1.1257	0.9233	1.0266	1.0482	1.0124	0.9472	1.0033	1.0377	9.095
T PFTrDA	Avg RF	1.2277	1.1567	0.9483	1.0910	0.9610	0.9982	1.0079	1.0380	1.0536	9.314
I M2-PFTeDA					ISTD						
T PFTeDA	Avg RF	1.8126	1.6221	1.3727	1.4101	1.4203	1.4583	1.4553	1.4322	1.4979	9.822
I M8-FOSA					ISTD						
T FOSA	Avg RF	1.1072	0.9666	1.0067	1.0422	0.8654	1.0772	0.9254	0.9553	0.9933	8.136
I M3-PFBS					ISTD						
T PFBS	Avg RF	1.2968	1.1681	1.0795	1.1037	1.0281	1.0570	1.0931	1.1052	1.1164	7.474
I M3-PFHxS					ISTD						
T PFPeS	Avg RF	1.7019	1.3450	1.3674	1.3961	1.3046	1.3496	1.3132	1.4282	1.4008	9.159
T PFHxS	Avg RF	1.9019	1.6116	1.4484	1.4493	1.3736	1.3879	1.3966	1.4750	1.5055	11.744
I M8-PFOS					ISTD						
T PFHpS	Avg RF	1.6314	1.6543	1.3399	1.3537	1.4075	1.4731	1.5151	1.5777	1.4941	8.133
T PFOS	Avg RF	1.7625	1.6221	1.4278	1.3589	1.3677	1.4440	1.3642	1.5191	1.4833	9.743
T PFNS	Avg RF	1.4752	1.4267	1.1898	1.2449	1.2676	1.2403	1.2932	1.2375	1.2969	7.733
T PFDS	Avg RF	0.8698	0.7977	0.7147	0.6740	0.7531	0.7451	0.7375	0.7542	0.7558	7.680
T PFDoDS	Avg RF	0.4256	0.4058	0.3604	0.3414	0.3722	0.3648	0.3393	0.3713	0.3726	7.988
I M2-4:2FTS					ISTD						
T 4:2FTS	Avg RF	10.28	9.0415	8.6135	8.3433	8.1207	8.8835	8.4190	7.8553	8.6949	8.604
I M2-6:2FTS					ISTD						
T 6:2FTS	Avg RF	7.4339	5.8846	5.9867	5.9121	5.8586	6.1793	5.5047	4.8707	5.9538	12.100
I M2-8:2FTS					ISTD						
T 8:2FTS	Avg RF	4.0612	3.6210	3.3675	3.1532	3.1579	3.2193	3.1776	2.8278	3.3232	11.195
I M3-MeFOSAA					ISTD						
T MeFOSAA	Avg RF	1.4468	1.5472	1.3882	1.0928	1.0963	1.2503	1.2816	1.2649	1.2960	12.330
I M3-HFPO-DA					ISTD						
T HFPO-DA	Avg RF	1.3311	1.0343	0.9948	0.9986	1.0148	1.0589	1.0116	0.9282	1.0465	11.562
T ADONA	Avg RF	19.40	16.54	16.83	15.91	14.86	16.25	15.91	13.74	16.18	10.109
T 9Cl-PF3ONS	Avg RF	10.13	7.8820	7.6737	7.5276	7.6359	6.9100	7.1628		7.8463	13.515
T 11Cl-PF3OUdS	Avg RF	5.1507	5.0035	4.5152	4.8162	4.4022	4.6091	4.5187	3.4150	4.5538	11.599
I M5-EtFOSAA					ISTD						
T EtFOSAA	Avg RF	0.9831	0.8325	0.8554	0.9532	0.7683	0.7679	0.8002	0.8134	0.8467	9.559
I M7-MeFOSE					ISTD						
T MeFOSE	Avg RF	1.2749	1.1000	1.0460	1.0291	1.0362	1.0134	1.0977	1.0702	1.0834	7.709
I M9-EtFOSE					ISTD						
T EtFOSE	Avg RF	1.4753	1.2990	1.2953	1.2461	1.2146	1.2386	1.2839	1.2977	1.2938	6.173

Generated at 2:28 PM on 6/13/2023

Initial Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q288-ICC288
Lab FileID: 6Q19298.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I M5-EtFOSA						ISTD					
T EtFOSA	Avg RF	1.6494	1.3088	1.3015	1.1840	1.3180	1.2702	1.3263	1.3246	1.3354	10.132
I M3-MeFOSA						ISTD					
T MeFOSA	Avg RF	1.4472	1.1650	1.1141	1.0255	1.0789	1.0582	1.0356		1.1321	12.985
I 13C4-PFOS						ISTD					
S d3-MeFOSAA	Linear	0.9776	0.8957	0.8746	1.0105	1.0794	0.9685	0.8696	0.8912	0.9459	7.983
S 13C8-PFOS	Linear	0.7971	0.7264	0.7236	0.7766	0.7578	0.7628	0.7617	0.7326	0.7548	3.419
S d5-EtFOSAA	Linear	0.8311	0.8345	0.7083	0.6928	0.8313	0.8408	0.8433	0.8409	0.8029	7.903
S 13C8-FOSA	Linear	1.9941	2.0083	1.7496	1.8075	1.9896	1.8362	1.8652	1.8977	1.8935	5.079
S d7-MeFOSE	Linear	0.8482	0.8700	0.7960	0.8415	0.8668	0.8701	0.8107	0.8077	0.8389	3.610
S d3-MeFOSA	Linear	0.7646	0.7907	0.7224	0.8436	0.7959	0.8432	0.8741	0.9477	0.8228	8.508
S d9-EtFOSE	Linear	1.0271	0.9982	0.9239	0.9795	1.0332	1.0220	0.9801	0.9474	0.9889	3.954
S d5-EtFOSA	Linear	0.7725	0.8159	0.7355	0.8543	0.7963	0.8344	0.8070	0.8096	0.8032	4.558
I 13C3-PFBA						ISTD					
S 13C4-PFBA	Linear	1.1665	1.1824	1.1699	1.1819	1.1784	1.1677	1.1720	1.1656	1.1731	0.586
I 18O2-PFHxS						ISTD					
S 13C2-4:2FTS	Linear	0.1707	0.1641	0.1745	0.1729	0.1543	0.1395	0.1183	0.1058	0.1500	17.528
S 13C3-PFBS	Linear	1.8997	2.0329	2.2545	2.1885	2.1113	2.2212	1.9792	1.9609	2.0810	6.349
S 13C2-6:2FTS	Linear	0.2298	0.2664	0.2638	0.2611	0.2334	0.2125	0.1777	0.1676	0.2265	16.918
S 13C3-PFHxS	Linear	1.2482	1.3091	1.4001	1.3103	1.2967	1.4201	1.2825	1.2429	1.3137	4.933
S 13C2-8:2FTS	Linear	0.2116	0.2225	0.2360	0.2413	0.2179	0.2218	0.1816	0.1718	0.2130	11.514
I 13C4-PFOA						ISTD					
S 13C8-PFOA	Linear	0.9414	0.8962	0.9270	0.9576	0.9705	0.8616	0.9732	0.9491	0.9346	4.131
I 13C2-PFDA						ISTD					
S 13C6-PFDA	Linear	0.7418	0.6520	0.7553	0.7505	0.7176	0.7378	0.6804	0.7033	0.7173	5.105
S 13C7-PFUnDA	Linear	0.9900	0.9637	0.9294	0.9241	1.0696	0.9363	0.9704	0.9058	0.9612	5.385
S 13C2-PFDoDA	Linear	0.8079	0.7758	0.9141	0.8250	0.8639	0.8038	0.8894	0.8058	0.8357	5.758
S 13C2-PFTeDA	Linear	0.4416	0.4513	0.4786	0.4790	0.4770	0.4606	0.4671	0.4761	0.4664	3.023
I 13C5-PFNA						ISTD					
S 13C9-PFNA	Linear	0.7938	0.7909	0.7764	0.7370	0.7337	0.7606	0.8079	0.6869	0.7609	5.258
I 13C2-PFHxA						ISTD					
S 13C5-PFPeA	Linear	0.4599	0.4765	0.4865	0.4683	0.4570	0.4837	0.4794	0.4716	0.4729	2.264
S 13C5-PFHxA	Linear	0.9778	1.0213	1.0660	1.0116	0.9844	1.0455	1.0270	1.1199	1.0317	4.461
S 13C3-HFPO-DA	Linear	0.1575	0.1698	0.1747	0.1634	0.1641	0.1720	0.1790	0.2006	0.1726	7.659
S 13C4-PFHpA	Linear	0.9274	0.9658	0.9495	0.9359	0.8996	0.9934	1.0280	1.0209	0.9651	4.745

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Generated at 2:28 PM on 6/13/2023

Initial Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q288-ICC288
Lab FileID: 6Q19298.D

Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

Compound	Curve Fit	Curve Fit Formula	%RSE
S 13C4-PFBA	Linear	y = 1.173051 * x	
S 13C5-PFPeA	Linear	y = 0.472874 * x	
S 13C2-4:2FTS	Linear	y = 0.150010 * x	
S 13C3-PFBS	Linear	y = 2.081041 * x	
S 13C5-PFHxA	Linear	y = 1.031698 * x	
S 13C3-HFPO-DA	Linear	y = 0.172644 * x	
S 13C4-PFHpA	Linear	y = 0.965070 * x	
S 13C2-6:2FTS	Linear	y = 0.226550 * x	
S 13C8-PFOA	Linear	y = 0.934571 * x	
S 13C3-PFHxS	Linear	y = 1.313731 * x	
S 13C9-PFNA	Linear	y = 0.760904 * x	
S 13C2-8:2FTS	Linear	y = 0.213050 * x	
S 13C6-PFDA	Linear	y = 0.717341 * x	
S d3-MeFOSAA	Linear	y = 0.945865 * x	
S 13C8-PFOS	Linear	y = 0.754815 * x	
S d5-EtFOSAA	Linear	y = 0.802864 * x	
S 13C7-PFUnDA	Linear	y = 0.961183 * x	
S 13C2-PFDoDA	Linear	y = 0.835729 * x	
S 13C8-FOSA	Linear	y = 1.893528 * x	
S 13C2-PFTeDA	Linear	y = 0.466418 * x	
S d7-MeFOSE	Linear	y = 0.838871 * x	
S d3-MeFOSA	Linear	y = 0.822778 * x	
S d9-EtFOSE	Linear	y = 0.988935 * x	
S d5-EtFOSA	Linear	y = 0.803180 * x	

(RedFont and #) = Outlier Flag; (I) = Internal Standard; (T) = Target; (S) = Surrogate; (M) = Matrix Spike

Initial Calibration Verification

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q288-ICV288
Lab FileID: 6Q19304.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061323_1633_S6Q288\s6q288.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19304
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	6.026	20.5	120.5
13C2-6:2FTS	5.000	5.860	17.2	117.2
13C2-8:2FTS	5.000	5.924	18.5	118.5
13C2-PFDoDA	1.250	1.272	1.8	101.8
13C2-PFTeDA	1.250	1.236	-1.1	98.9
13C3-PFBS	2.500	2.557	2.3	102.3
13C3-PFHxS	2.500	2.560	2.4	102.4
13C4-PFBA	10.000	10.040	0.4	100.4
13C4-PFHpA	2.500	2.662	6.5	106.5
13C5-PFHxA	2.500	2.758	10.3	110.3
13C5-PFPeA	5.000	5.322	6.4	106.4
13C6-PFDA	1.250	1.272	1.8	101.8
13C7-PFUnDA	1.250	1.285	2.8	102.8
13C8-FOSA	2.500	2.424	-3.1	96.9
13C8-PFOA	2.500	2.503	0.1	100.1
13C8-PFOS	2.500	2.548	1.9	101.9
13C9-PFNA	1.250	1.239	-0.9	99.1
4:2FTS	9.375	9.637	2.8	102.8
6:2FTS	9.500	8.953	-5.8	94.2
8:2FTS	9.600	9.132	-4.9	95.1
d3-MeFOSAA	5.000	4.778	-4.4	95.6
EtFOSAA	2.500	2.580	3.2	103.2
FOSA	2.500	2.478	-0.9	99.1
MeFOSAA	2.500	2.657	6.3	106.3
PFBA	10.000	9.897	-1.0	99.0
PFBS	2.218	2.271	2.4	102.4
PFDA	2.500	2.468	-1.3	98.7
PFDoDA	2.500	2.461	-1.6	98.4
PFDS	2.413	2.315	-4.1	95.9
PFHpA	2.500	2.436	-2.6	97.4
PFHpS	2.383	2.171	-8.9	91.1
PFHxA	2.500	2.412	-3.5	96.5
PFHxS	2.285	2.322	1.6	101.6
PFNA	2.500	2.392	-4.3	95.7
PFNS	2.405	2.350	-2.3	97.7
PFOA	2.500	2.398	-4.1	95.9
PFOS	2.320	2.231	-3.8	96.2

Initial Calibration Verification

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q288-ICV288
Lab FileID: 6Q19304.D

PFPeA	5.000	4.954	-0.9	99.1
PFPeS	2.353	2.293	-2.5	97.5
PFTeDA	2.500	2.651	6.0	106.0
PFTrDA	2.500	2.350	-6.0	94.0
PFUnDA	2.500	2.434	-2.6	97.4
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	4.725	4.672	-1.1	98.9
13C3-HFPO-DA	10.000	10.404	4.0	104.0
9Cl-PF3ONS	4.675	4.717	0.9	100.9
ADONA	4.725	4.569	-3.3	96.7
HFPO-DA	5.000	4.990	-0.2	99.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.041	-3.5	96.5
5:3FTCA	62.400	56.633	-9.2	90.8
7:3FTCA	62.400	61.492	-1.5	98.5
d3-MeFOSA	2.500	2.406	-3.7	96.3
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.880	-2.4	97.6
EtFOSE	12.500	12.941	3.5	103.5
MeFOSA	5.000	4.972	-0.6	99.4
MeFOSE	12.500	12.195	-2.4	97.6
PFDoDS	2.425	2.288	-5.6	94.4
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.788	-4.2	95.8
d7-MeFOSE	25.000	25.069	0.3	100.3
d9-EtFOSE	25.000	24.296	-2.8	97.2
d5-EtFOSA	2.500	2.493	-0.3	99.7
NFDHA	5.000	4.912	-1.8	98.2
PFMBA	5.000	5.009	0.2	100.2
PFMPA	5.000	4.918	-1.6	98.4
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.522	1.6	101.6

CC Criteria: +/- 30%

Initial Calibration Verification

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q288-ICV288
Lab FileID: 6Q19305.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061323_1633_S6Q288\s6q288.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19305
Type : QC
Level : 20

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.731	14.6	114.6
13C2-6:2FTS	5.000	5.612	12.2	112.2
13C2-8:2FTS	5.000	5.234	4.7	104.7
13C2-PFDoDA	1.250	1.288	3.0	103.0
13C2-PFTeDA	1.250	1.214	-2.9	97.1
13C3-PFBS	2.500	2.743	9.7	109.7
13C3-PFHxS	2.500	2.649	5.9	105.9
13C4-PFBA	10.000	9.958	-0.4	99.6
13C4-PFHpA	2.500	2.613	4.5	104.5
13C5-PFHxA	2.500	2.697	7.9	107.9
13C5-PFPeA	5.000	5.311	6.2	106.2
13C6-PFDA	1.250	1.266	1.3	101.3
13C7-PFUnDA	1.250	1.245	-0.4	99.6
13C8-FOSA	2.500	2.422	-3.1	96.9
13C8-PFOA	2.500	2.292	-8.3	91.7
13C8-PFOS	2.500	2.563	2.5	102.5
13C9-PFNA	1.250	1.392	11.3	111.3
4:2FTS	20.000	21.171	5.9	105.9
6:2FTS	20.000	21.083	5.4	105.4
8:2FTS	20.000	23.139	15.7	115.7
d3-MeFOSAA	5.000	4.602	-8.0	92.0
EtFOSAA	20.000	19.408	-3.0	97.0
FOSA	20.000	20.248	1.2	101.2
MeFOSAA	20.000	22.276	11.4	111.4
PFBA	20.000	20.330	1.6	101.6
PFBS	20.000	20.960	4.8	104.8
PFDA	20.000	20.468	2.3	102.3
PFDoDA	20.000	17.722	-11.4	88.6
PFDS	20.000	20.333	1.7	101.7
PFHpA	20.000	20.522	2.6	102.6
PFHpS	20.000	19.727	-1.4	98.6
PFHxA	20.000	20.090	0.4	100.4
PFHxS	20.000	21.862	9.3	109.3
PFNA	20.000	19.497	-2.5	97.5
PFNS	20.000	21.102	5.5	105.5
PFOA	20.000	19.576	-2.1	97.9
PFOS	20.000	17.275	-13.6	86.4

Initial Calibration Verification

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q288-ICV288
Lab FileID: 6Q19305.D

PFPeA	20.000	21.388	6.9	106.9
PFPeS	20.000	21.716	8.6	108.6
PFTeDA	20.000	21.949	9.7	109.7
PFTrDA	20.000	15.865	-20.7	79.3
PFUnDA	20.000	20.239	1.2	101.2
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	20.000	20.689	3.4	103.4
13C3-HFPO-DA	10.000	10.566	5.7	105.7
9Cl-PF3ONS	20.000	19.994	0.0	100.0
ADONA	20.000	18.483	-7.6	92.4
HFPO-DA	20.000	20.895	4.5	104.5
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	20.000	20.003	0.0	100.0
5:3FTCA	20.000	20.892	4.5	104.5
7:3FTCA	20.000	20.709	3.5	103.5
d3-MeFOSA	2.500	2.580	3.2	103.2
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	20.000	20.300	1.5	101.5
EtFOSE	100.000	113.865	13.9	113.9
MeFOSA	20.000	18.484	-7.6	92.4
MeFOSE	100.000	103.084	3.1	103.1
PFDoDS	20.000	18.616	-6.9	93.1
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.366	7.3	107.3
d7-MeFOSE	25.000	25.726	2.9	102.9
d9-EtFOSE	25.000	23.849	-4.6	95.4
d5-EtFOSA	2.500	2.473	-1.1	98.9
NFDHA	20.000	20.647	3.2	103.2
PFMBA	20.000	20.529	2.6	102.6
PFMPA	20.000	20.587	2.9	102.9
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	20.000	17.336	-13.3	86.7

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q289-CC288
Lab FileID: 6Q19343.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061423_1633_S6Q289\s6q289.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19343
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.474	9.5	109.5
13C2-6:2FTS	5.000	5.586	11.7	111.7
13C2-8:2FTS	5.000	5.615	12.3	112.3
13C2-PFDoDA	1.250	1.278	2.3	102.3
13C2-PFTeDA	1.250	1.204	-3.7	96.3
13C3-PFBS	2.500	2.327	-6.9	93.1
13C3-PFHxS	2.500	2.322	-7.1	92.9
13C4-PFBA	10.000	10.046	0.5	100.5
13C4-PFHpA	2.500	2.534	1.3	101.3
13C5-PFHxA	2.500	2.566	2.7	102.7
13C5-PFPeA	5.000	5.045	0.9	100.9
13C6-PFDA	1.250	1.177	-5.8	94.2
13C7-PFUnDA	1.250	1.306	4.5	104.5
13C8-FOSA	2.500	2.548	1.9	101.9
13C8-PFOA	2.500	2.542	1.7	101.7
13C8-PFOS	2.500	2.639	5.6	105.6
13C9-PFNA	1.250	1.467	17.4	117.4
4:2FTS	0.750	0.677	-9.7	90.3
6:2FTS	0.760	0.658	-13.4	86.6
8:2FTS	0.768	0.678	-11.7	88.3
d3-MeFOSAA	5.000	4.845	-3.1	96.9
EtFOSAA	0.200	0.179	-10.3	89.7
FOSA	0.200	0.176	-12.1	87.9
MeFOSAA	0.200	0.181	-9.5	90.5
PFBA	0.800	0.719	-10.2	89.8
PFBS	0.177	0.161	-8.8	91.2
PFDA	0.200	0.187	-6.6	93.4
PFDoDA	0.200	0.174	-12.8	87.2
PFDS	0.193	0.159	-17.7	82.3
PFHpA	0.200	0.182	-9.1	90.9
PFHpS	0.191	0.167	-12.7	87.3
PFHxA	0.200	0.176	-11.8	88.2
PFHxS	0.183	0.166	-9.1	90.9
PFNA	0.200	0.166	-17.0	83.0
PFNS	0.192	0.159	-17.2	82.8
PFOA	0.200	0.156	-22.2	77.8
PFOS	0.186	0.160	-14.2	85.8

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q289-CC288
Lab FileID: 6Q19343.D

PFPeA	0.400	0.358	-10.6	89.4
PFPeS	0.188	0.179	-4.7	95.3
PFTeDA	0.200	0.192	-4.2	95.8
PFTrDA	0.200	0.181	-9.7	90.3
PFUnDA	0.200	0.180	-10.0	90.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	0.378	0.351	-7.2	92.8
13C3-HFPO-DA	10.000	10.042	0.4	100.4
9Cl-PF3ONS	0.367	0.335	-8.8	91.2
ADONA	0.378	0.355	-6.1	93.9
HFPO-DA	0.400	0.331	-17.3	82.7
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	1.072	7.4	107.4
5:3FTCA	4.992	5.496	10.1	110.1
7:3FTCA	4.992	5.529	10.8	110.8
d3-MeFOSA	2.500	2.357	-5.7	94.3
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.349	-12.8	87.2
EtFOSE	1.000	0.888	-11.2	88.8
MeFOSA	0.400	0.346	-13.4	86.6
MeFOSE	1.000	0.851	-14.9	85.1
PFDoDS	0.194	0.182	-6.1	93.9
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.803	-3.9	96.1
d7-MeFOSE	25.000	25.181	0.7	100.7
d9-EtFOSE	25.000	24.839	-0.6	99.4
d5-EtFOSA	2.500	2.491	-0.4	99.6
NFDHA	0.400	0.310	-22.5	77.5
PFMBA	0.400	0.355	-11.3	88.7
PFMPA	0.400	0.343	-14.1	85.9
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	0.356	0.309	-13.1	86.9

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q289-CC288
Lab FileID: 6Q19353.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061423_1633_S6Q289\s6q289.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19353
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.704	14.1	114.1
13C2-6:2FTS	5.000	5.703	14.1	114.1
13C2-8:2FTS	5.000	5.372	7.4	107.4
13C2-PFDoDA	1.250	1.266	1.3	101.3
13C2-PFTeDA	1.250	1.241	-0.8	99.2
13C3-PFBS	2.500	2.484	-0.6	99.4
13C3-PFHxS	2.500	2.678	7.1	107.1
13C4-PFBA	10.000	10.103	1.0	101.0
13C4-PFHpA	2.500	2.538	1.5	101.5
13C5-PFHxA	2.500	2.585	3.4	103.4
13C5-PFPeA	5.000	5.070	1.4	101.4
13C6-PFDA	1.250	1.250	0.0	100.0
13C7-PFUnDA	1.250	1.254	0.3	100.3
13C8-FOSA	2.500	2.473	-1.1	98.9
13C8-PFOA	2.500	2.481	-0.8	99.2
13C8-PFOS	2.500	2.512	0.5	100.5
13C9-PFNA	1.250	1.282	2.6	102.6
4:2FTS	9.375	8.980	-4.2	95.8
6:2FTS	9.500	9.266	-2.5	97.5
8:2FTS	9.600	9.263	-3.5	96.5
d3-MeFOSAA	5.000	5.426	8.5	108.5
EtFOSAA	2.500	2.400	-4.0	96.0
FOSA	2.500	2.396	-4.2	95.8
MeFOSAA	2.500	2.326	-6.9	93.1
PFBA	10.000	9.662	-3.4	96.6
PFBS	2.218	2.291	3.3	103.3
PFDA	2.500	2.414	-3.4	96.6
PFDoDA	2.500	2.295	-8.2	91.8
PFDS	2.413	2.475	2.6	102.6
PFHpA	2.500	2.432	-2.7	97.3
PFHpS	2.383	2.180	-8.5	91.5
PFHxA	2.500	2.271	-9.2	90.8
PFHxS	2.285	2.068	-9.5	90.5
PFNA	2.500	2.421	-3.2	96.8
PFNS	2.405	2.243	-6.7	93.3
PFOA	2.500	2.173	-13.1	86.9
PFOS	2.320	2.323	0.1	100.1

Continuing Calibration Summary

Job Number: FC6803 **Sample:** S6Q289-CC288
Account: AECOMCOD AECOM, INC. **Lab FileID:** 6Q19353.D
Project: N6274223F0104 RH Fire Suppression System

PFPeA	5.000	4.708	-5.8	94.2
PFPeS	2.353	2.185	-7.2	92.8
PFTeDA	2.500	2.540	1.6	101.6
PFTrDA	2.500	2.356	-5.8	94.2
PFUnDA	2.500	2.378	-4.9	95.1
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	4.725	4.808	1.7	101.7
13C3-HFPO-DA	10.000	9.516	-4.8	95.2
9Cl-PF3ONS	4.675	4.622	-1.1	98.9
ADONA	4.725	4.825	2.1	102.1
HFPO-DA	5.000	5.068	1.4	101.4
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.548	-7.5	92.5
5:3FTCA	62.400	58.517	-6.2	93.8
7:3FTCA	62.400	58.769	-5.8	94.2
d3-MeFOSA	2.500	2.442	-2.3	97.7
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.558	-8.8	91.2
EtFOSE	12.500	11.207	-10.3	89.7
MeFOSA	5.000	4.674	-6.5	93.5
MeFOSE	12.500	12.086	-3.3	96.7
PFDoDS	2.425	2.479	2.2	102.2
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.966	-0.7	99.3
d7-MeFOSE	25.000	24.295	-2.8	97.2
d9-EtFOSE	25.000	24.945	-0.2	99.8
d5-EtFOSA	2.500	2.556	2.3	102.3
NFDHA	5.000	4.426	-11.5	88.5
PFMBA	5.000	4.689	-6.2	93.8
PFMPA	5.000	4.744	-5.1	94.9
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.143	-6.9	93.1

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q289-CC288
Lab FileID: 6Q19361.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061423_1633_S6Q289\s6q289.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19361
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.430	8.6	108.6
13C2-6:2FTS	5.000	5.642	12.8	112.8
13C2-8:2FTS	5.000	5.923	18.5	118.5
13C2-PFDoDA	1.250	1.211	-3.1	96.9
13C2-PFTeDA	1.250	1.288	3.0	103.0
13C3-PFBS	2.500	2.631	5.2	105.2
13C3-PFHxS	2.500	2.672	6.9	106.9
13C4-PFBA	10.000	9.990	-0.1	99.9
13C4-PFHpA	2.500	2.536	1.4	101.4
13C5-PFHxA	2.500	2.401	-4.0	96.0
13C5-PFPeA	5.000	4.856	-2.9	97.1
13C6-PFDA	1.250	1.342	7.4	107.4
13C7-PFUnDA	1.250	1.404	12.3	112.3
13C8-FOSA	2.500	2.555	2.2	102.2
13C8-PFOA	2.500	2.792	11.7	111.7
13C8-PFOS	2.500	2.339	-6.4	93.6
13C9-PFNA	1.250	1.314	5.1	105.1
4:2FTS	9.375	9.408	0.4	100.4
6:2FTS	9.500	9.718	2.3	102.3
8:2FTS	9.600	9.244	-3.7	96.3
d3-MeFOSAA	5.000	5.394	7.9	107.9
EtFOSAA	2.500	2.462	-1.5	98.5
FOSA	2.500	2.296	-8.2	91.8
MeFOSAA	2.500	2.233	-10.7	89.3
PFBA	10.000	9.804	-2.0	98.0
PFBS	2.218	2.083	-6.1	93.9
PFDA	2.500	2.456	-1.7	98.3
PFDoDA	2.500	2.570	2.8	102.8
PFDS	2.413	2.622	8.7	108.7
PFHpA	2.500	2.270	-9.2	90.8
PFHpS	2.383	2.303	-3.4	96.6
PFHxA	2.500	2.396	-4.1	95.9
PFHxS	2.285	2.074	-9.2	90.8
PFNA	2.500	2.232	-10.7	89.3
PFNS	2.405	2.477	3.0	103.0
PFOA	2.500	2.152	-13.9	86.1
PFOS	2.320	2.226	-4.1	95.9

Continuing Calibration Summary

Job Number: FC6803 **Sample:** S6Q289-CC288
Account: AECOMCOD AECOM, INC. **Lab FileID:** 6Q19361.D
Project: N6274223F0104 RH Fire Suppression System

PFPeA	5.000	4.750	-5.0	95.0
PFPeS	2.353	2.236	-5.0	95.0
PFTeDA	2.500	2.427	-2.9	97.1
PFTrDA	2.500	2.729	9.2	109.2
PFUnDA	2.500	2.320	-7.2	92.8
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	4.725	4.730	0.1	100.1
13C3-HFPO-DA	10.000	9.205	-7.9	92.1
9Cl-PF3ONS	4.675	4.639	-0.8	99.2
ADONA	4.725	4.561	-3.5	96.5
HFPO-DA	5.000	5.046	0.9	100.9
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.797	-5.5	94.5
5:3FTCA	62.400	61.256	-1.8	98.2
7:3FTCA	62.400	61.281	-1.8	98.2
d3-MeFOSA	2.500	2.304	-7.8	92.2
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.015	0.3	100.3
EtFOSE	12.500	12.236	-2.1	97.9
MeFOSA	5.000	4.702	-6.0	94.0
MeFOSE	12.500	12.881	3.0	103.0
PFDoDS	2.425	2.320	-4.3	95.7
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.046	0.9	100.9
d7-MeFOSE	25.000	22.013	-11.9	88.1
d9-EtFOSE	25.000	24.341	-2.6	97.4
d5-EtFOSA	2.500	2.306	-7.8	92.2
NFDHA	5.000	4.554	-8.9	91.1
PFMBA	5.000	4.800	-4.0	96.0
PFMPA	5.000	4.803	-3.9	96.1
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.230	-4.9	95.1

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q289-CC288
Lab FileID: 6Q19373.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061423_1633_S6Q289\s6q289.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19373
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.314	6.3	106.3
13C2-6:2FTS	5.000	5.280	5.6	105.6
13C2-8:2FTS	5.000	4.849	-3.0	97.0
13C2-PFDoDA	1.250	1.234	-1.3	98.7
13C2-PFTeDA	1.250	1.103	-11.8	88.2
13C3-PFBS	2.500	2.345	-6.2	93.8
13C3-PFHxS	2.500	2.313	-7.5	92.5
13C4-PFBA	10.000	10.079	0.8	100.8
13C4-PFHpA	2.500	2.644	5.8	105.8
13C5-PFHxA	2.500	2.473	-1.1	98.9
13C5-PFPeA	5.000	4.911	-1.8	98.2
13C6-PFDA	1.250	1.105	-11.6	88.4
13C7-PFUnDA	1.250	1.255	0.4	100.4
13C8-FOSA	2.500	2.437	-2.5	97.5
13C8-PFOA	2.500	2.635	5.4	105.4
13C8-PFOS	2.500	2.514	0.6	100.6
13C9-PFNA	1.250	1.322	5.8	105.8
4:2FTS	9.375	8.701	-7.2	92.8
6:2FTS	9.500	8.848	-6.9	93.1
8:2FTS	9.600	9.721	1.3	101.3
d3-MeFOSAA	5.000	5.105	2.1	102.1
EtFOSAA	2.500	2.269	-9.3	90.7
FOSA	2.500	2.354	-5.8	94.2
MeFOSAA	2.500	2.249	-10.0	90.0
PFBA	10.000	9.718	-2.8	97.2
PFBS	2.218	2.015	-9.1	90.9
PFDA	2.500	2.608	4.3	104.3
PFDoDA	2.500	2.264	-9.4	90.6
PFDS	2.413	2.277	-5.6	94.4
PFHpA	2.500	2.130	-14.8	85.2
PFHpS	2.383	2.258	-5.2	94.8
PFHxA	2.500	2.477	-0.9	99.1
PFHxS	2.285	2.232	-2.3	97.7
PFNA	2.500	2.264	-9.4	90.6
PFNS	2.405	2.247	-6.6	93.4
PFOA	2.500	2.380	-4.8	95.2
PFOS	2.320	2.113	-8.9	91.1

Continuing Calibration Summary

Job Number: FC6803 **Sample:** S6Q289-CC288
Account: AECOMCOD AECOM, INC. **Lab FileID:** 6Q19373.D
Project: N6274223F0104 RH Fire Suppression System

PFPeA	5.000	4.731	-5.4	94.6
PFPeS	2.353	2.221	-5.6	94.4
PFTeDA	2.500	2.627	5.1	105.1
PFTrDA	2.500	2.337	-6.5	93.5
PFUnDA	2.500	2.161	-13.6	86.4
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	4.725	4.720	-0.1	99.9
13C3-HFPO-DA	10.000	9.584	-4.2	95.8
9Cl-PF3ONS	4.675	4.207	-10.0	90.0
ADONA	4.725	4.409	-6.7	93.3
HFPO-DA	5.000	4.951	-1.0	99.0
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.575	-7.3	92.7
5:3FTCA	62.400	60.264	-3.4	96.6
7:3FTCA	62.400	64.065	2.7	102.7
d3-MeFOSA	2.500	2.404	-3.8	96.2
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.874	-2.5	97.5
EtFOSE	12.500	12.314	-1.5	98.5
MeFOSA	5.000	4.613	-7.7	92.3
MeFOSE	12.500	11.546	-7.6	92.4
PFDoDS	2.425	2.287	-5.7	94.3
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.904	-1.9	98.1
d7-MeFOSE	25.000	24.437	-2.3	97.7
d9-EtFOSE	25.000	23.560	-5.8	94.2
d5-EtFOSA	2.500	2.428	-2.9	97.1
NFDHA	5.000	4.696	-6.1	93.9
PFMBA	5.000	4.714	-5.7	94.3
PFMPA	5.000	4.774	-4.5	95.5
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.347	-2.3	97.7

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q289-ECC288
Lab FileID: 6Q19376.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061423_1633_S6Q289\s6q289.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19376
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.141	2.8	102.8
13C2-6:2FTS	5.000	5.138	2.8	102.8
13C2-8:2FTS	5.000	5.093	1.9	101.9
13C2-PFDoDA	1.250	1.166	-6.7	93.3
13C2-PFTeDA	1.250	1.162	-7.0	93.0
13C3-PFBS	2.500	2.427	-2.9	97.1
13C3-PFHxS	2.500	2.426	-3.0	97.0
13C4-PFBA	10.000	10.036	0.4	100.4
13C4-PFHpA	2.500	2.477	-0.9	99.1
13C5-PFHxA	2.500	2.417	-3.3	96.7
13C5-PFPeA	5.000	5.054	1.1	101.1
13C6-PFDA	1.250	1.124	-10.1	89.9
13C7-PFUnDA	1.250	1.209	-3.3	96.7
13C8-FOSA	2.500	2.382	-4.7	95.3
13C8-PFOA	2.500	2.356	-5.8	94.2
13C8-PFOS	2.500	2.503	0.1	100.1
13C9-PFNA	1.250	1.272	1.8	101.8
4:2FTS	9.375	9.277	-1.0	99.0
6:2FTS	9.500	9.646	1.5	101.5
8:2FTS	9.600	9.175	-4.4	95.6
d3-MeFOSAA	5.000	4.927	-1.5	98.5
EtFOSAA	2.500	2.402	-3.9	96.1
FOSA	2.500	2.336	-6.6	93.4
MeFOSAA	2.500	2.307	-7.7	92.3
PFBA	10.000	9.658	-3.4	96.6
PFBS	2.218	2.146	-3.2	96.8
PFDA	2.500	2.595	3.8	103.8
PFDoDA	2.500	2.392	-4.3	95.7
PFDS	2.413	2.158	-10.6	89.4
PFHpA	2.500	2.356	-5.8	94.2
PFHpS	2.383	1.997	-16.2	83.8
PFHxA	2.500	2.435	-2.6	97.4
PFHxS	2.285	2.043	-10.6	89.4
PFNA	2.500	2.276	-9.0	91.0
PFNS	2.405	2.161	-10.1	89.9
PFOA	2.500	2.457	-1.7	98.3
PFOS	2.320	2.007	-13.5	86.5

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q289-ECC288
Lab FileID: 6Q19376.D

PFPeA	5.000	4.680	-6.4	93.6
PFPeS	2.353	2.327	-1.1	98.9
PFTeDA	2.500	2.456	-1.8	98.2
PFTrDA	2.500	2.534	1.4	101.4
PFUnDA	2.500	2.397	-4.1	95.9
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	4.725	4.634	-1.9	98.1
13C3-HFPO-DA	10.000	9.602	-4.0	96.0
9Cl-PF3ONS	4.675	4.068	-13.0	87.0
ADONA	4.725	4.596	-2.7	97.3
HFPO-DA	5.000	5.167	3.3	103.3
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.412	-8.6	91.4
5:3FTCA	62.400	61.314	-1.7	98.3
7:3FTCA	62.400	62.249	-0.2	99.8
d3-MeFOSA	2.500	2.204	-11.8	88.2
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.668	-6.6	93.4
EtFOSE	12.500	12.547	0.4	100.4
MeFOSA	5.000	4.868	-2.6	97.4
MeFOSE	12.500	12.813	2.5	102.5
PFDoDS	2.425	2.213	-8.7	91.3
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.795	-4.1	95.9
d7-MeFOSE	25.000	21.380	-14.5	85.5
d9-EtFOSE	25.000	22.284	-10.9	89.1
d5-EtFOSA	2.500	2.374	-5.1	94.9
NFDHA	5.000	4.774	-4.5	95.5
PFMBA	5.000	4.641	-7.2	92.8
PFMPA	5.000	4.725	-5.5	94.5
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.395	-1.2	98.8

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19579.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061923_1633_S6Q292\s6q292.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19579
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.596	11.9	111.9
13C2-6:2FTS	5.000	5.319	6.4	106.4
13C2-8:2FTS	5.000	4.929	-1.4	98.6
13C2-PFDoDA	1.250	1.277	2.2	102.2
13C2-PFTeDA	1.250	1.188	-4.9	95.1
13C3-PFBS	2.500	2.403	-3.9	96.1
13C3-PFHxS	2.500	2.445	-2.2	97.8
13C4-PFBA	10.000	10.007	0.1	100.1
13C4-PFHpA	2.500	2.563	2.5	102.5
13C5-PFHxA	2.500	2.647	5.9	105.9
13C5-PFPeA	5.000	5.323	6.5	106.5
13C6-PFDA	1.250	1.337	6.9	106.9
13C7-PFUnDA	1.250	1.305	4.4	104.4
13C8-FOSA	2.500	2.500	0.0	100.0
13C8-PFOA	2.500	2.381	-4.8	95.2
13C8-PFOS	2.500	2.509	0.4	100.4
13C9-PFNA	1.250	1.226	-1.9	98.1
4:2FTS	0.750	0.647	-13.8	86.2
6:2FTS	0.760	0.682	-10.2	89.8
8:2FTS	0.768	0.611	-20.4	79.6
d3-MeFOSAA	5.000	4.704	-5.9	94.1
EtFOSAA	0.200	0.170	-15.2	84.8
FOSA	0.200	0.186	-7.2	92.8
MeFOSAA	0.200	0.183	-8.6	91.4
PFBA	0.800	0.726	-9.3	90.7
PFBS	0.177	0.162	-8.7	91.3
PFDA	0.200	0.186	-7.1	92.9
PFDoDA	0.200	0.193	-3.5	96.5
PFDS	0.193	0.152	-21.2	78.8
PFHpA	0.200	0.174	-12.9	87.1
PFHpS	0.191	0.167	-12.7	87.3
PFHxA	0.200	0.181	-9.5	90.5
PFHxS	0.183	0.151	-17.4	82.6
PFNA	0.200	0.175	-12.3	87.7
PFNS	0.192	0.170	-11.3	88.7
PFOA	0.200	0.168	-16.1	83.9
PFOS	0.186	0.161	-13.7	86.3

Continuing Calibration Summary

Job Number: FC6803 **Sample:** S6Q292-CC288
Account: AECOMCOD AECOM, INC. **Lab FileID:** 6Q19579.D
Project: N6274223F0104 RH Fire Suppression System

PFPeA	0.400	0.358	-10.4	89.6
PFPeS	0.188	0.168	-10.7	89.3
PFTeDA	0.200	0.199	-0.6	99.4
PFTrDA	0.200	0.165	-17.4	82.6
PFUnDA	0.200	0.186	-6.9	93.1
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	0.378	0.304	-19.7	80.3
13C3-HFPO-DA	10.000	10.603	6.0	106.0
9Cl-PF3ONS	0.367	0.326	-11.2	88.8
ADONA	0.378	0.317	-16.1	83.9
HFPO-DA	0.400	0.379	-5.3	94.7
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	1.031	3.2	103.2
5:3FTCA	4.992	5.333	6.8	106.8
7:3FTCA	4.992	5.680	13.8	113.8
d3-MeFOSA	2.500	2.426	-3.0	97.0
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.329	-17.8	82.2
EtFOSE	1.000	0.933	-6.7	93.3
MeFOSA	0.400	0.346	-13.4	86.6
MeFOSE	1.000	0.845	-15.5	84.5
PFDoDS	0.194	0.170	-12.2	87.8
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.904	-1.9	98.1
d7-MeFOSE	25.000	23.993	-4.0	96.0
d9-EtFOSE	25.000	22.911	-8.4	91.6
d5-EtFOSA	2.500	2.489	-0.4	99.6
NFDHA	0.400	0.359	-10.2	89.8
PFMBA	0.400	0.348	-13.0	87.0
PFMPA	0.400	0.348	-13.1	86.9
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	0.356	0.275	-22.6	77.4

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19591.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061923_1633_S6Q292\s6q292.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19591
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.293	5.9	105.9
13C2-6:2FTS	5.000	5.225	4.5	104.5
13C2-8:2FTS	5.000	4.600	-8.0	92.0
13C2-PFDoDA	1.250	1.156	-7.6	92.4
13C2-PFTeDA	1.250	1.062	-15.0	85.0
13C3-PFBS	2.500	2.493	-0.3	99.7
13C3-PFHxS	2.500	2.366	-5.3	94.7
13C4-PFBA	10.000	9.983	-0.2	99.8
13C4-PFHpA	2.500	2.410	-3.6	96.4
13C5-PFHxA	2.500	2.447	-2.1	97.9
13C5-PFPeA	5.000	5.181	3.6	103.6
13C6-PFDA	1.250	1.349	7.9	107.9
13C7-PFUnDA	1.250	1.195	-4.4	95.6
13C8-FOSA	2.500	2.320	-7.2	92.8
13C8-PFOA	2.500	2.429	-2.9	97.1
13C8-PFOS	2.500	2.324	-7.0	93.0
13C9-PFNA	1.250	1.326	6.1	106.1
4:2FTS	9.375	8.952	-4.5	95.5
6:2FTS	9.500	9.490	-0.1	99.9
8:2FTS	9.600	9.492	-1.1	98.9
d3-MeFOSAA	5.000	4.501	-10.0	90.0
EtFOSAA	2.500	2.347	-6.1	93.9
FOSA	2.500	2.239	-10.5	89.5
MeFOSAA	2.500	2.457	-1.7	98.3
PFBA	10.000	9.714	-2.9	97.1
PFBS	2.218	1.975	-10.9	89.1
PFDA	2.500	2.269	-9.2	90.8
PFDoDA	2.500	2.518	0.7	100.7
PFDS	2.413	2.155	-10.7	89.3
PFHpA	2.500	2.325	-7.0	93.0
PFHpS	2.383	2.227	-6.6	93.4
PFHxA	2.500	2.451	-2.0	98.0
PFHxS	2.285	2.157	-5.6	94.4
PFNA	2.500	2.340	-6.4	93.6
PFNS	2.405	2.261	-6.0	94.0
PFOA	2.500	2.349	-6.0	94.0
PFOS	2.320	2.255	-2.8	97.2

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19591.D

PFPeA	5.000	4.756	-4.9	95.1
PFPeS	2.353	2.314	-1.7	98.3
PFTeDA	2.500	2.704	8.1	108.1
PFTrDA	2.500	2.437	-2.5	97.5
PFUnDA	2.500	2.592	3.7	103.7
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	4.725	3.803	-19.5	80.5
13C3-HFPO-DA	10.000	10.150	1.5	101.5
9Cl-PF3ONS	4.675	3.898	-16.6	83.4
ADONA	4.725	4.171	-11.7	88.3
HFPO-DA	5.000	4.750	-5.0	95.0
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.016	-11.7	88.3
5:3FTCA	62.400	57.376	-8.1	91.9
7:3FTCA	62.400	58.432	-6.4	93.6
d3-MeFOSA	2.500	2.268	-9.3	90.7
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.682	-6.4	93.6
EtFOSE	12.500	12.661	1.3	101.3
MeFOSA	5.000	4.820	-3.6	96.4
MeFOSE	12.500	12.841	2.7	102.7
PFDoDS	2.425	2.153	-11.2	88.8
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.451	-11.0	89.0
d7-MeFOSE	25.000	21.569	-13.7	86.3
d9-EtFOSE	25.000	21.761	-13.0	87.0
d5-EtFOSA	2.500	2.307	-7.7	92.3
NFDHA	5.000	4.909	-1.8	98.2
PFMBA	5.000	4.815	-3.7	96.3
PFMPA	5.000	4.911	-1.8	98.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.587	3.1	103.1

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19603.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061923_1633_S6Q292\s6q292.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19603
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.726	14.5	114.5
13C2-6:2FTS	5.000	5.657	13.1	113.1
13C2-8:2FTS	5.000	5.643	12.9	112.9
13C2-PFDoDA	1.250	1.163	-6.9	93.1
13C2-PFTeDA	1.250	1.045	-16.4	83.6
13C3-PFBS	2.500	2.731	9.2	109.2
13C3-PFHxS	2.500	2.596	3.9	103.9
13C4-PFBA	10.000	9.934	-0.7	99.3
13C4-PFHpA	2.500	2.382	-4.7	95.3
13C5-PFHxA	2.500	2.421	-3.2	96.8
13C5-PFPeA	5.000	5.280	5.6	105.6
13C6-PFDA	1.250	1.269	1.5	101.5
13C7-PFUnDA	1.250	1.223	-2.2	97.8
13C8-FOSA	2.500	2.181	-12.8	87.2
13C8-PFOA	2.500	2.450	-2.0	98.0
13C8-PFOS	2.500	2.412	-3.5	96.5
13C9-PFNA	1.250	1.301	4.1	104.1
4:2FTS	9.375	9.151	-2.4	97.6
6:2FTS	9.500	9.592	1.0	101.0
8:2FTS	9.600	8.461	-11.9	88.1
d3-MeFOSAA	5.000	4.512	-9.8	90.2
EtFOSAA	2.500	2.506	0.3	100.3
FOSA	2.500	2.469	-1.2	98.8
MeFOSAA	2.500	2.671	6.8	106.8
PFBA	10.000	9.739	-2.6	97.4
PFBS	2.218	2.017	-9.1	90.9
PFDA	2.500	2.559	2.4	102.4
PFDoDA	2.500	2.505	0.2	100.2
PFDS	2.413	1.962	-18.7	81.3
PFHpA	2.500	2.345	-6.2	93.8
PFHpS	2.383	2.143	-10.1	89.9
PFHxA	2.500	2.532	1.3	101.3
PFHxS	2.285	2.128	-6.9	93.1
PFNA	2.500	2.292	-8.3	91.7
PFNS	2.405	2.269	-5.6	94.4
PFOA	2.500	2.214	-11.4	88.6
PFOS	2.320	2.058	-11.3	88.7

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19603.D

PFPeA	5.000	4.665	-6.7	93.3
PFPeS	2.353	2.235	-5.0	95.0
PFTeDA	2.500	2.554	2.2	102.2
PFTrDA	2.500	2.375	-5.0	95.0
PFUnDA	2.500	2.431	-2.7	97.3
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	4.725	3.632	-23.1	76.9
13C3-HFPO-DA	10.000	10.979	9.8	109.8
9Cl-PF3ONS	4.675	3.765	-19.5	80.5
ADONA	4.725	3.956	-16.3	83.7
HFPO-DA	5.000	4.575	-8.5	91.5
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	10.868	-12.9	87.1
5:3FTCA	62.400	57.956	-7.1	92.9
7:3FTCA	62.400	59.891	-4.0	96.0
d3-MeFOSA	2.500	2.283	-8.7	91.3
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.468	-10.6	89.4
EtFOSE	12.500	12.687	1.5	101.5
MeFOSA	5.000	4.464	-10.7	89.3
MeFOSE	12.500	12.555	0.4	100.4
PFDoDS	2.425	1.958	-19.3	80.7
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.353	-12.9	87.1
d7-MeFOSE	25.000	19.286	-22.9	77.1
d9-EtFOSE	25.000	20.403	-18.4	81.6
d5-EtFOSA	2.500	2.386	-4.6	95.4
NFDHA	5.000	4.814	-3.7	96.3
PFMBA	5.000	4.639	-7.2	92.8
PFMPA	5.000	4.821	-3.6	96.4
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.560	2.5	102.5

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19615.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061923_1633_S6Q292\s6q292.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19615
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.581	11.6	111.6
13C2-6:2FTS	5.000	5.963	19.3	119.3
13C2-8:2FTS	5.000	5.680	13.6	113.6
13C2-PFDoDA	1.250	1.054	-15.7	84.3
13C2-PFTeDA	1.250	0.984	-21.3	78.7
13C3-PFBS	2.500	2.863	14.5	114.5
13C3-PFHxS	2.500	2.696	7.8	107.8
13C4-PFBA	10.000	10.009	0.1	100.1
13C4-PFHpA	2.500	2.466	-1.4	98.6
13C5-PFHxA	2.500	2.556	2.2	102.2
13C5-PFPeA	5.000	5.394	7.9	107.9
13C6-PFDA	1.250	1.292	3.4	103.4
13C7-PFUnDA	1.250	1.101	-11.9	88.1
13C8-FOSA	2.500	2.347	-6.1	93.9
13C8-PFOA	2.500	2.484	-0.6	99.4
13C8-PFOS	2.500	2.532	1.3	101.3
13C9-PFNA	1.250	1.214	-2.9	97.1
4:2FTS	9.375	9.327	-0.5	99.5
6:2FTS	9.500	8.970	-5.6	94.4
8:2FTS	9.600	8.295	-13.6	86.4
d3-MeFOSAA	5.000	4.595	-8.1	91.9
EtFOSAA	2.500	2.193	-12.3	87.7
FOSA	2.500	2.255	-9.8	90.2
MeFOSAA	2.500	2.561	2.4	102.4
PFBA	10.000	9.665	-3.4	96.6
PFBS	2.218	2.097	-5.5	94.5
PFDA	2.500	2.140	-14.4	85.6
PFDoDA	2.500	2.538	1.5	101.5
PFDS	2.413	2.244	-7.0	93.0
PFHpA	2.500	2.410	-3.6	96.4
PFHpS	2.383	2.195	-7.9	92.1
PFHxA	2.500	2.382	-4.7	95.3
PFHxS	2.285	2.122	-7.1	92.9
PFNA	2.500	2.465	-1.4	98.6
PFNS	2.405	2.143	-10.9	89.1
PFOA	2.500	2.270	-9.2	90.8
PFOS	2.320	2.119	-8.7	91.3

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19615.D

PFPeA	5.000	4.788	-4.2	95.8
PFPeS	2.353	2.222	-5.6	94.4
PFTeDA	2.500	2.475	-1.0	99.0
PFTrDA	2.500	2.387	-4.5	95.5
PFUnDA	2.500	2.545	1.8	101.8
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	4.725	3.816	-19.2	80.8
13C3-HFPO-DA	10.000	11.069	10.7	110.7
9Cl-PF3ONS	4.675	3.832	-18.0	82.0
ADONA	4.725	4.217	-10.8	89.2
HFPO-DA	5.000	4.482	-10.4	89.6
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.005	-11.8	88.2
5:3FTCA	62.400	58.273	-6.6	93.4
7:3FTCA	62.400	61.478	-1.5	98.5
d3-MeFOSA	2.500	2.360	-5.6	94.4
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.438	-11.2	88.8
EtFOSE	12.500	12.905	3.2	103.2
MeFOSA	5.000	4.666	-6.7	93.3
MeFOSE	12.500	11.955	-4.4	95.6
PFDoDS	2.425	2.032	-16.2	83.8
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.941	-1.2	98.8
d7-MeFOSE	25.000	20.937	-16.3	83.7
d9-EtFOSE	25.000	20.745	-17.0	83.0
d5-EtFOSA	2.500	2.547	1.9	101.9
NFDHA	5.000	4.874	-2.5	97.5
PFMBA	5.000	4.857	-2.9	97.1
PFMPA	5.000	4.876	-2.5	97.5
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.217	-5.2	94.8

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19619.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061923_1633_S6Q292\s6q292.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19619
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.438	8.8	108.8
13C2-6:2FTS	5.000	5.675	13.5	113.5
13C2-8:2FTS	5.000	5.349	7.0	107.0
13C2-PFDoDA	1.250	1.131	-9.5	90.5
13C2-PFTeDA	1.250	1.008	-19.4	80.6
13C3-PFBS	2.500	2.639	5.6	105.6
13C3-PFHxS	2.500	2.478	-0.9	99.1
13C4-PFBA	10.000	9.999	0.0	100.0
13C4-PFHpA	2.500	2.515	0.6	100.6
13C5-PFHxA	2.500	2.519	0.8	100.8
13C5-PFPeA	5.000	5.393	7.9	107.9
13C6-PFDA	1.250	1.159	-7.3	92.7
13C7-PFUnDA	1.250	1.186	-5.1	94.9
13C8-FOSA	2.500	2.336	-6.6	93.4
13C8-PFOA	2.500	2.550	2.0	102.0
13C8-PFOS	2.500	2.230	-10.8	89.2
13C9-PFNA	1.250	1.378	10.2	110.2
4:2FTS	9.375	9.609	2.5	102.5
6:2FTS	9.500	8.669	-8.7	91.3
8:2FTS	9.600	8.928	-7.0	93.0
d3-MeFOSAA	5.000	4.360	-12.8	87.2
EtFOSAA	2.500	2.420	-3.2	96.8
FOSA	2.500	2.380	-4.8	95.2
MeFOSAA	2.500	2.680	7.2	107.2
PFBA	10.000	9.688	-3.1	96.9
PFBS	2.218	2.056	-7.3	92.7
PFDA	2.500	2.576	3.0	103.0
PFDoDA	2.500	2.278	-8.9	91.1
PFDS	2.413	2.298	-4.8	95.2
PFHpA	2.500	2.255	-9.8	90.2
PFHpS	2.383	2.632	10.4	110.4
PFHxA	2.500	2.224	-11.0	89.0
PFHxS	2.285	2.143	-6.2	93.8
PFNA	2.500	2.349	-6.1	93.9
PFNS	2.405	2.409	0.2	100.2
PFOA	2.500	2.440	-2.4	97.6
PFOS	2.320	2.337	0.8	100.8

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19619.D

PFPeA	5.000	4.769	-4.6	95.4
PFPeS	2.353	2.279	-3.2	96.8
PFTeDA	2.500	2.450	-2.0	98.0
PFTrDA	2.500	2.314	-7.5	92.5
PFUnDA	2.500	2.373	-5.1	94.9
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	4.725	4.107	-13.1	86.9
13C3-HFPO-DA	10.000	10.183	1.8	101.8
9Cl-PF3ONS	4.675	4.081	-12.7	87.3
ADONA	4.725	4.512	-4.5	95.5
HFPO-DA	5.000	5.240	4.8	104.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	10.998	-11.9	88.1
5:3FTCA	62.400	56.935	-8.8	91.2
7:3FTCA	62.400	57.192	-8.3	91.7
d3-MeFOSA	2.500	2.212	-11.5	88.5
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.864	-2.7	97.3
EtFOSE	12.500	11.821	-5.4	94.6
MeFOSA	5.000	4.744	-5.1	94.9
MeFOSE	12.500	12.834	2.7	102.7
PFDoDS	2.425	2.072	-14.5	85.5
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.439	-11.2	88.8
d7-MeFOSE	25.000	19.266	-22.9	77.1
d9-EtFOSE	25.000	21.423	-14.3	85.7
d5-EtFOSA	2.500	2.309	-7.7	92.3
NFDHA	5.000	4.979	-0.4	99.6
PFMBA	5.000	4.778	-4.4	95.6
PFMPA	5.000	4.879	-2.4	97.6
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.462	0.3	100.3

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19625.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\061923_1633_S6Q292\s6q292.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\061323_1633_S6Q288\6Q19295.d
2:D:\MassHunter\Data\061323_1633_S6Q288\6Q19296.d
3:D:\MassHunter\Data\061323_1633_S6Q288\6Q19297.d
4:D:\MassHunter\Data\061323_1633_S6Q288\6Q19298.d
5:D:\MassHunter\Data\061323_1633_S6Q288\6Q19299.d
6:D:\MassHunter\Data\061323_1633_S6Q288\6Q19300.d
7:D:\MassHunter\Data\061323_1633_S6Q288\6Q19301.d
8:D:\MassHunter\Data\061323_1633_S6Q288\6Q19302.d

Data File: 6Q19625
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.822	16.4	116.4
13C2-6:2FTS	5.000	5.377	7.5	107.5
13C2-8:2FTS	5.000	4.700	-6.0	94.0
13C2-PFDoDA	1.250	1.104	-11.7	88.3
13C2-PFTeDA	1.250	0.980	-21.6	78.4
13C3-PFBS	2.500	2.556	2.2	102.2
13C3-PFHxS	2.500	2.396	-4.2	95.8
13C4-PFBA	10.000	10.099	1.0	101.0
13C4-PFHpA	2.500	2.512	0.5	100.5
13C5-PFHxA	2.500	2.605	4.2	104.2
13C5-PFPeA	5.000	5.484	9.7	109.7
13C6-PFDA	1.250	1.119	-10.5	89.5
13C7-PFUnDA	1.250	1.113	-10.9	89.1
13C8-FOSA	2.500	2.409	-3.6	96.4
13C8-PFOA	2.500	2.561	2.4	102.4
13C8-PFOS	2.500	2.809	12.3	112.3
13C9-PFNA	1.250	1.390	11.2	111.2
4:2FTS	0.750	0.672	-10.4	89.6
6:2FTS	0.760	0.713	-6.2	93.8
8:2FTS	0.768	0.760	-1.1	98.9
d3-MeFOSAA	5.000	4.816	-3.7	96.3
EtFOSAA	0.200	0.189	-5.5	94.5
FOSA	0.200	0.181	-9.3	90.7
MeFOSAA	0.200	0.186	-7.2	92.8
PFBA	0.800	0.720	-10.0	90.0
PFBS	0.177	0.140	-20.8	79.2
PFDA	0.200	0.194	-3.2	96.8
PFDoDA	0.200	0.191	-4.3	95.7
PFDS	0.193	0.148	-23.1	76.9
PFHpA	0.200	0.188	-5.8	94.2
PFHpS	0.191	0.173	-9.2	90.8
PFHxA	0.200	0.165	-17.6	82.4
PFHxS	0.183	0.161	-11.9	88.1
PFNA	0.200	0.169	-15.7	84.3
PFNS	0.192	0.153	-20.5	79.5
PFOA	0.200	0.189	-5.4	94.6
PFOS	0.186	0.153	-17.8	82.2

Continuing Calibration Summary

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q292-CC288
Lab FileID: 6Q19625.D

PFPeA	0.400	0.361	-9.6	90.4
PFPeS	0.188	0.168	-10.6	89.4
PFTeDA	0.200	0.199	-0.6	99.4
PFTrDA	0.200	0.169	-15.5	84.5
PFUnDA	0.200	0.191	-4.6	95.4
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11Cl-PF3OUdS	0.378	0.318	-16.0	84.0
13C3-HFPO-DA	10.000	10.534	5.3	105.3
9Cl-PF3ONS	0.367	0.316	-13.9	86.1
ADONA	0.378	0.319	-15.6	84.4
HFPO-DA	0.400	0.373	-6.8	93.2
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	1.061	6.3	106.3
5:3FTCA	4.992	5.644	13.1	113.1
7:3FTCA	4.992	6.053	21.3	121.3
d3-MeFOSA	2.500	2.390	-4.4	95.6
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.327	-18.2	81.8
EtFOSE	1.000	0.903	-9.7	90.3
MeFOSA	0.400	0.340	-15.0	85.0
MeFOSE	1.000	0.855	-14.5	85.5
PFDoDS	0.194	0.142	-26.6	73.4
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.702	-6.0	94.0
d7-MeFOSE	25.000	23.195	-7.2	92.8
d9-EtFOSE	25.000	22.073	-11.7	88.3
d5-EtFOSA	2.500	2.615	4.6	104.6
NFDHA	0.400	0.395	-1.1	98.9
PFMBA	0.400	0.343	-14.4	85.6
PFMPA	0.400	0.348	-12.9	87.1
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	0.356	0.316	-11.3	88.7

CC Criteria: +/- 30%

Run Sequence Report

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q288 **Method:** EPA DRAFT 1633 **Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q288-RT	6Q19292.D	06/13/23 10:53	n/a	Retention Time Marker
S6Q288-RT	6Q19293.D	06/13/23 11:07	n/a	Retention Time Marker
S6Q288-IC288	6Q19294.D	06/13/23 11:21	n/a	Mass Calibration Verification
S6Q288-IC288	6Q19295.D	06/13/23 11:35	n/a	Initial cal 1
S6Q288-IC288	6Q19296.D	06/13/23 11:49	n/a	Initial cal 2
S6Q288-IC288	6Q19297.D	06/13/23 12:03	n/a	Initial cal 3
S6Q288-ICC288	6Q19298.D	06/13/23 12:17	n/a	Initial cal 4
S6Q288-IC288	6Q19299.D	06/13/23 12:31	n/a	Initial cal 5
S6Q288-IC288	6Q19300.D	06/13/23 12:45	n/a	Initial cal 6
S6Q288-IC288	6Q19301.D	06/13/23 12:59	n/a	Initial cal 7
S6Q288-IC288	6Q19302.D	06/13/23 13:13	n/a	Initial cal 8
S6Q288-IBLK	6Q19303.D	06/13/23 13:27	n/a	Instrument Blank
S6Q288-IBLK	6Q19303.D	06/13/23 13:27	n/a	Instrument Blank
S6Q288-ICV288	6Q19304.D	06/13/23 13:41	n/a	Initial cal verification 4
S6Q288-ICV288	6Q19305.D	06/13/23 13:55	n/a	Initial cal verification 20
S6Q288-CC288	6Q19306.D	06/13/23 14:09	n/a	Continuing cal 4
S6Q288-CC288	6Q19307.D	06/13/23 14:31	n/a	Continuing cal 1.0LL
OP97303-BS	6Q19308.D	06/13/23 14:45	OP97303	Blank Spike
OP97303-LLBS	6Q19309.D	06/13/23 14:59	OP97303	Blank Spike
OP97303-MB	6Q19310.D	06/13/23 15:13	OP97303	Method Blank
ZZZZZZ	6Q19311.D	06/13/23 15:27	OP97303	(unrelated sample)
ZZZZZZ	6Q19312.D	06/13/23 15:41	OP97303	(unrelated sample)
FC6266-3	6Q19313.D	06/13/23 15:55	OP97303	(used for QC only; not part of job FC6803)
OP97303-MS	6Q19314.D	06/13/23 16:09	OP97303	Matrix Spike
OP97303-MSD	6Q19315.D	06/13/23 16:23	OP97303	Matrix Spike Duplicate
ZZZZZZ	6Q19316.D	06/13/23 16:37	OP97303	(unrelated sample)
ZZZZZZ	6Q19317.D	06/13/23 16:51	OP97303	(unrelated sample)
S6Q288-CC288	6Q19318.D	06/13/23 17:05	n/a	Continuing cal 4
S6Q288-ICCB	6Q19319.D	06/13/23 17:19	n/a	Continuing Calibration Blank
ZZZZZZ	6Q19320.D	06/13/23 17:33	OP97303	(unrelated sample)
ZZZZZZ	6Q19321.D	06/13/23 17:47	OP97303	(unrelated sample)
ZZZZZZ	6Q19324.D	06/13/23 18:28	OP97303	(unrelated sample)
ZZZZZZ	6Q19325.D	06/13/23 18:42	OP97303	(unrelated sample)
S6Q288-ECC288	6Q19326.D	06/13/23 18:56	n/a	Ending cal 4
S6Q288-ICCB	6Q19327.D	06/13/23 19:10	n/a	Continuing Calibration Blank

Run Sequence Report

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q289 **Method:** EPA DRAFT 1633 **Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q289-RT	6Q19330.D	06/14/23 10:42	n/a	Retention Time Marker
S6Q289-RT	6Q19331.D	06/14/23 10:56	n/a	Retention Time Marker
S6Q289-IBLK	6Q19333.D	06/14/23 11:24	n/a	Instrument Blank
S6Q289-IBLK	6Q19333.D	06/14/23 11:24	n/a	Instrument Blank
S6Q289-CC288	6Q19334.D	06/14/23 11:38	n/a	Continuing cal 4
S6Q289-CC288	6Q19335.D	06/14/23 11:52	n/a	Continuing cal 1.0LL
ZZZZZZ	6Q19336.D	06/14/23 12:06	OP97303	(unrelated sample)
ZZZZZZ	6Q19337.D	06/14/23 12:20	OP97303	(unrelated sample)
S6Q289-CC288	6Q19342.D	06/14/23 13:33	n/a	Continuing cal 4
S6Q289-CC288	6Q19343.D	06/14/23 14:17	n/a	Continuing cal 1.0LL
S6Q289-ICCB	6Q19344.D	06/14/23 14:32	n/a	Continuing Calibration Blank
S6Q289-ICCB	6Q19344.D	06/14/23 14:32	n/a	Continuing Calibration Blank
OP97308-BS	6Q19345.D	06/14/23 14:46	OP97308	Blank Spike
OP97308-LLBS	6Q19346.D	06/14/23 15:00	OP97308	Blank Spike
OP97308-MB	6Q19347.D	06/14/23 15:14	OP97308	Method Blank
ZZZZZZ	6Q19348.D	06/14/23 15:28	OP97308	(unrelated sample)
ZZZZZZ	6Q19349.D	06/14/23 15:42	OP97308	(unrelated sample)
ZZZZZZ	6Q19350.D	06/14/23 15:56	OP97308	(unrelated sample)
ZZZZZZ	6Q19351.D	06/14/23 16:10	OP97308	(unrelated sample)
ZZZZZZ	6Q19352.D	06/14/23 16:24	OP97308	(unrelated sample)
S6Q289-CC288	6Q19353.D	06/14/23 16:38	n/a	Continuing cal 4
S6Q289-ICCB	6Q19354.D	06/14/23 16:52	n/a	Continuing Calibration Blank
S6Q289-ICCB	6Q19354.D	06/14/23 16:52	n/a	Continuing Calibration Blank
ZZZZZZ	6Q19355.D	06/14/23 17:06	OP97308	(unrelated sample)
ZZZZZZ	6Q19356.D	06/14/23 17:20	OP97308	(unrelated sample)
ZZZZZZ	6Q19357.D	06/14/23 17:34	OP97308	(unrelated sample)
JD66386-18A	6Q19358.D	06/14/23 17:48	OP97308	(used for QC only; not part of job FC6803)
OP97308-MS	6Q19359.D	06/14/23 18:02	OP97308	Matrix Spike
OP97308-MSD	6Q19360.D	06/14/23 18:16	OP97308	Matrix Spike Duplicate
S6Q289-CC288	6Q19361.D	06/14/23 18:30	n/a	Continuing cal 4
S6Q289-ICCB	6Q19362.D	06/14/23 18:44	n/a	Continuing Calibration Blank
S6Q289-ICCB	6Q19362.D	06/14/23 18:44	n/a	Continuing Calibration Blank
OP97325-BS	6Q19363.D	06/14/23 18:58	OP97325	Blank Spike
OP97325-LLBS	6Q19364.D	06/14/23 19:12	OP97325	Blank Spike
OP97325-MB	6Q19365.D	06/14/23 19:26	OP97325	Method Blank
FC6803-1	6Q19366.D	06/14/23 19:40	OP97325	AF-RHMW225401-WGN01B-2306
OP97325-MS	6Q19367.D	06/14/23 19:54	OP97325	Matrix Spike
FC6803-2	6Q19368.D	06/14/23 20:08	OP97325	AF-RHMW17S-WGN01LF-2306
OP97325-DUP	6Q19369.D	06/14/23 20:22	OP97325	Duplicate
FC6803-3	6Q19370.D	06/14/23 20:36	OP97325	AF-RHMW17S-WQEB01-2306
FC6803-4	6Q19371.D	06/14/23 20:50	OP97325	AF-RHMW17D-WGN01LF-2306
FC6803-5	6Q19372.D	06/14/23 21:04	OP97325	AF-RHMW17D-WQFB01-2306
S6Q289-CC288	6Q19373.D	06/14/23 21:18	n/a	Continuing cal 4
S6Q289-ICCB	6Q19374.D	06/14/23 21:32	n/a	Continuing Calibration Blank
FC6803-6	6Q19375.D	06/14/23 21:46	OP97325	AF-RHMW17-WGN01LF-2306
S6Q289-ECC288	6Q19376.D	06/14/23 22:00	n/a	Ending cal 4

Run Sequence Report

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q289	**Method:** EPA DRAFT 1633	**Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q289-ICCB	6Q19377.D	06/14/23 22:14	n/a	Continuing Calibration Blank

Run Sequence Report

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q292 **Method:** EPA DRAFT 1633 **Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q292-RT	6Q19526.D	06/19/23 13:28	n/a	Retention Time Marker
S6Q292-RT	6Q19527.D	06/19/23 13:42	n/a	Retention Time Marker
S6Q292-IBLK	6Q19529.D	06/19/23 14:10	n/a	Instrument Blank
S6Q292-IBLK	6Q19529.D	06/19/23 14:10	n/a	Instrument Blank
S6Q292-CC288	6Q19530.D	06/19/23 14:24	n/a	Continuing cal 4
S6Q292-CC288	6Q19531.D	06/19/23 14:38	n/a	Continuing cal 1.0LL
OP97328-BS	6Q19532.D	06/19/23 14:52	OP97328	Blank Spike
OP97328-LLBS	6Q19533.D	06/19/23 15:06	OP97328	Blank Spike
OP97328-MB	6Q19534.D	06/19/23 15:20	OP97328	Method Blank
FC6443-20	6Q19535.D	06/19/23 15:34	OP97328	(used for QC only; not part of job FC6803)
OP97328-MS	6Q19536.D	06/19/23 15:48	OP97328	Matrix Spike
OP97328-MSD	6Q19537.D	06/19/23 16:02	OP97328	Matrix Spike Duplicate
ZZZZZZ	6Q19538.D	06/19/23 16:16	OP97328	(unrelated sample)
ZZZZZZ	6Q19539.D	06/19/23 16:30	OP97328	(unrelated sample)
ZZZZZZ	6Q19540.D	06/19/23 16:44	OP97328	(unrelated sample)
S6Q292-CC288	6Q19541.D	06/19/23 16:58	n/a	Continuing cal 4
S6Q292-ICCB	6Q19542.D	06/19/23 17:12	n/a	Continuing Calibration Blank
S6Q292-ICCB	6Q19542.D	06/19/23 17:12	n/a	Continuing Calibration Blank
OP97386-BS	6Q19543.D	06/19/23 17:26	OP97386	Blank Spike
OP97386-LLBS	6Q19544.D	06/19/23 17:40	OP97386	Blank Spike
OP97386-MB	6Q19545.D	06/19/23 17:54	OP97386	Method Blank
ZZZZZZ	6Q19546.D	06/19/23 18:08	OP97386	(unrelated sample)
FC6580-7A	6Q19550.D	06/19/23 22:03	OP97386	(used for QC only; not part of job FC6803)
OP97386-MS	6Q19551.D	06/19/23 22:17	OP97386	Matrix Spike
FC6580-8A	6Q19552.D	06/19/23 22:31	OP97386	(used for QC only; not part of job FC6803)
OP97386-DUP	6Q19553.D	06/19/23 22:45	OP97386	Duplicate
S6Q292-CC288	6Q19554.D	06/19/23 22:59	n/a	Continuing cal 4
S6Q292-ICCB	6Q19555.D	06/19/23 23:13	n/a	Continuing Calibration Blank
ZZZZZZ	6Q19556.D	06/19/23 23:27	OP97386	(unrelated sample)
ZZZZZZ	6Q19557.D	06/19/23 23:41	OP97386	(unrelated sample)
ZZZZZZ	6Q19558.D	06/19/23 23:55	OP97386	(unrelated sample)
ZZZZZZ	6Q19559.D	06/20/23 00:09	OP97386	(unrelated sample)
ZZZZZZ	6Q19560.D	06/20/23 00:23	OP97386	(unrelated sample)
ZZZZZZ	6Q19561.D	06/20/23 00:37	OP97386	(unrelated sample)
ZZZZZZ	6Q19562.D	06/20/23 00:51	OP97386	(unrelated sample)
ZZZZZZ	6Q19563.D	06/20/23 01:05	OP97386	(unrelated sample)
ZZZZZZ	6Q19564.D	06/20/23 01:19	OP97386	(unrelated sample)
ZZZZZZ	6Q19565.D	06/20/23 01:33	OP97386	(unrelated sample)
S6Q292-CC288	6Q19566.D	06/20/23 01:47	n/a	Continuing cal 4
S6Q292-ICCB	6Q19567.D	06/20/23 02:01	n/a	Continuing Calibration Blank
S6Q292-ICCB	6Q19567.D	06/20/23 02:01	n/a	Continuing Calibration Blank
ZZZZZZ	6Q19569.D	06/20/23 02:29	OP97344	(unrelated sample)
OP97348-BS	6Q19570.D	06/20/23 02:43	OP97348	Blank Spike
OP97348-LLBS	6Q19571.D	06/20/23 02:57	OP97348	Blank Spike
OP97348-MB	6Q19572.D	06/20/23 03:11	OP97348	Method Blank
ZZZZZZ	6Q19573.D	06/20/23 03:25	OP97348	(unrelated sample)

Run Sequence Report

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q292	**Method:** EPA DRAFT 1633	**Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	6Q19574.D	06/20/23 03:39	OP97348	(unrelated sample)
ZZZZZZ	6Q19575.D	06/20/23 03:53	OP97348	(unrelated sample)
ZZZZZZ	6Q19576.D	06/20/23 04:07	OP97348	(unrelated sample)
ZZZZZZ	6Q19577.D	06/20/23 04:21	OP97348	(unrelated sample)
S6Q292-CC288	6Q19578.D	06/20/23 04:35	n/a	Continuing cal 4
S6Q292-CC288	6Q19579.D	06/20/23 04:49	n/a	Continuing cal 1.0LL
S6Q292-ICCB	6Q19580.D	06/20/23 05:03	n/a	Continuing Calibration Blank
S6Q292-ICCB	6Q19580.D	06/20/23 05:03	n/a	Continuing Calibration Blank
ZZZZZZ	6Q19581.D	06/20/23 05:17	OP97348	(unrelated sample)
ZZZZZZ	6Q19582.D	06/20/23 05:31	OP97348	(unrelated sample)
FC6347-7	6Q19583.D	06/20/23 05:45	OP97348	(used for QC only; not part of job FC6803)
OP97348-MS	6Q19584.D	06/20/23 05:59	OP97348	Matrix Spike
OP97348-MSD	6Q19585.D	06/20/23 06:13	OP97348	Matrix Spike Duplicate
ZZZZZZ	6Q19586.D	06/20/23 06:27	OP97348	(unrelated sample)
ZZZZZZ	6Q19587.D	06/20/23 06:41	OP97348	(unrelated sample)
ZZZZZZ	6Q19588.D	06/20/23 06:55	OP97348	(unrelated sample)
ZZZZZZ	6Q19589.D	06/20/23 07:09	OP97348	(unrelated sample)
ZZZZZZ	6Q19590.D	06/20/23 07:23	OP97348	(unrelated sample)
S6Q292-CC288	6Q19591.D	06/20/23 07:37	n/a	Continuing cal 4
S6Q292-ICCB	6Q19592.D	06/20/23 07:50	n/a	Continuing Calibration Blank
S6Q292-ICCB	6Q19592.D	06/20/23 07:50	n/a	Continuing Calibration Blank
ZZZZZZ	6Q19593.D	06/20/23 08:04	OP97348	(unrelated sample)
ZZZZZZ	6Q19594.D	06/20/23 08:18	OP97345	(unrelated sample)
OP97385-BS	6Q19595.D	06/20/23 08:32	OP97385	Blank Spike
OP97385-LLBS	6Q19596.D	06/20/23 08:46	OP97385	Blank Spike
OP97385-MB	6Q19597.D	06/20/23 09:06	OP97385	Method Blank
FC6803-4	6Q19598.D	06/20/23 09:20	OP97385	AF-RHMW17D-WGN01LF-2306
FC6803-4	6Q19599.D	06/20/23 09:34	OP97385	AF-RHMW17D-WGN01LF-2306
ZZZZZZ	6Q19600.D	06/20/23 09:48	OP97385	(unrelated sample)
ZZZZZZ	6Q19601.D	06/20/23 10:02	OP97385	(unrelated sample)
ZZZZZZ	6Q19602.D	06/20/23 10:16	OP97385	(unrelated sample)
S6Q292-CC288	6Q19603.D	06/20/23 10:30	n/a	Continuing cal 4
S6Q292-ICCB	6Q19604.D	06/20/23 10:44	n/a	Continuing Calibration Blank
S6Q292-ICCB	6Q19604.D	06/20/23 10:44	n/a	Continuing Calibration Blank
FC6444-23	6Q19605.D	06/20/23 10:58	OP97385	(used for QC only; not part of job FC6803)
OP97385-MS	6Q19606.D	06/20/23 11:12	OP97385	Matrix Spike
FC6444-24	6Q19607.D	06/20/23 11:26	OP97385	(used for QC only; not part of job FC6803)
OP97385-DUP	6Q19608.D	06/20/23 11:40	OP97385	Duplicate
ZZZZZZ	6Q19609.D	06/20/23 11:54	OP97385	(unrelated sample)
ZZZZZZ	6Q19610.D	06/20/23 12:07	OP97385	(unrelated sample)
ZZZZZZ	6Q19611.D	06/20/23 12:21	OP97385	(unrelated sample)
ZZZZZZ	6Q19612.D	06/20/23 12:35	OP97385	(unrelated sample)
ZZZZZZ	6Q19613.D	06/20/23 12:49	OP97385	(unrelated sample)
ZZZZZZ	6Q19614.D	06/20/23 13:04	OP97386	(unrelated sample)
S6Q292-CC288	6Q19615.D	06/20/23 13:18	n/a	Continuing cal 4
S6Q292-ICCB	6Q19616.D	06/20/23 13:32	n/a	Continuing Calibration Blank

Run Sequence Report

Job Number: FC6803
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q292 **Method:** EPA DRAFT 1633 **Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	6Q19617.D	06/20/23 13:46	OP97386	(unrelated sample)
ZZZZZZ	6Q19618.D	06/20/23 14:00	OP97386	(unrelated sample)
S6Q292-CC288	6Q19619.D	06/20/23 14:14	n/a	Continuing cal 4
S6Q292-ICCB	6Q19620.D	06/20/23 14:28	n/a	Continuing Calibration Blank
S6Q292-RT	6Q19621.D	06/20/23 14:42	n/a	Retention Time Marker
S6Q292-RT	6Q19622.D	06/20/23 14:56	n/a	Retention Time Marker
S6Q292-IBLK	6Q19624.D	06/20/23 15:25	n/a	Instrument Blank
S6Q292-IBLK	6Q19624.D	06/20/23 15:25	n/a	Instrument Blank
S6Q292-CC288	6Q19625.D	06/20/23 15:39	n/a	Continuing cal 1.0LL
ZZZZZZ	6Q19626.D	06/20/23 15:53	OP97385	(unrelated sample)
ZZZZZZ	6Q19627.D	06/20/23 16:07	OP97385	(unrelated sample)
ZZZZZZ	6Q19628.D	06/20/23 16:21	OP97385	(unrelated sample)
ZZZZZZ	6Q19629.D	06/20/23 16:35	OP97385	(unrelated sample)
FC6580-7A	6Q19631.D	06/20/23 17:21	OP97386	(used for QC only; not part of job FC6803)
ZZZZZZ	6Q19632.D	06/20/23 17:35	OP97386	(unrelated sample)
ZZZZZZ	6Q19633.D	06/20/23 17:50	OP97386	(unrelated sample)
S6Q292-CC288	6Q19634.D	06/20/23 18:04	n/a	Continuing cal 4
S6Q292-ICCB	6Q19635.D	06/20/23 18:18	n/a	Continuing Calibration Blank
OP97406-BS	6Q19636.D	06/20/23 18:32	OP97406	Blank Spike
OP97406-LLBS	6Q19637.D	06/20/23 18:45	OP97406	Blank Spike
OP97406-MB	6Q19638.D	06/20/23 18:59	OP97406	Method Blank
ZZZZZZ	6Q19639.D	06/20/23 19:13	OP97406	(unrelated sample)
ZZZZZZ	6Q19640.D	06/20/23 19:27	OP97406	(unrelated sample)
ZZZZZZ	6Q19641.D	06/20/23 19:41	OP97406	(unrelated sample)
ZZZZZZ	6Q19642.D	06/20/23 19:55	OP97406	(unrelated sample)
ZZZZZZ	6Q19643.D	06/20/23 20:09	OP97406	(unrelated sample)
ZZZZZZ	6Q19644.D	06/20/23 20:23	OP97406	(unrelated sample)
ZZZZZZ	6Q19645.D	06/20/23 20:37	OP97406	(unrelated sample)
S6Q292-CC288	6Q19646.D	06/20/23 20:51	n/a	Continuing cal 4
S6Q292-ICCB	6Q19647.D	06/20/23 21:05	n/a	Continuing Calibration Blank
ZZZZZZ	6Q19648.D	06/20/23 21:19	OP97406	(unrelated sample)
FC6740-10	6Q19649.D	06/20/23 21:33	OP97406	(used for QC only; not part of job FC6803)
OP97406-MS	6Q19650.D	06/20/23 21:47	OP97406	Matrix Spike
OP97406-MSD	6Q19651.D	06/20/23 22:01	OP97406	Matrix Spike Duplicate
ZZZZZZ	6Q19652.D	06/20/23 22:15	OP97406	(unrelated sample)
ZZZZZZ	6Q19653.D	06/20/23 22:29	OP97406	(unrelated sample)
ZZZZZZ	6Q19654.D	06/20/23 22:43	OP97406	(unrelated sample)
ZZZZZZ	6Q19655.D	06/20/23 22:57	OP97406	(unrelated sample)
ZZZZZZ	6Q19656.D	06/20/23 23:11	OP97406	(unrelated sample)
ZZZZZZ	6Q19657.D	06/20/23 23:25	OP97406	(unrelated sample)
S6Q292-CC288	6Q19658.D	06/20/23 23:39	n/a	Continuing cal 4
S6Q292-ICCB	6Q19659.D	06/20/23 23:53	n/a	Continuing Calibration Blank
ZZZZZZ	6Q19660.D	06/21/23 00:07	OP97406	(unrelated sample)
S6Q292-ECC288	6Q19661.D	06/21/23 00:21	n/a	Ending cal 4
S6Q292-ICCB	6Q19662.D	06/21/23 00:35	n/a	Continuing Calibration Blank

MS Semi-volatiles

Raw Data

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:58

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19366.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 7:40:30 PM
Sample Name : FC6803-1
Vial : P4-C2
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97325,S6Q289,550,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	151310	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	52258	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	55712	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	53187	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	82645	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	38842	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	25580	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	31162	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	26948	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	13604	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	23265	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	20650	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12415	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	12639	2.50	µg/L	0.012
M2-4:2FTS	5.454	329.1 -> 80.9	3373	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4622	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4139	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	30287	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	36656	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	26433	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	96326	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	128140	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	10160	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	10350	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	13435	2.50	µg/L	0.012
13C3-PFBA	3.101	216.0 -> 172.0	59914	5.00	µg/L	0.012
18O2-PFHxS	7.490	403.0 -> 83.9	8009	2.50	µg/L	0.012
13C4-PFOA	7.352	417.1 -> 372.0	78429	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	30459	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	44093	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	46815	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3373	7.02	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 140.4%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4622	6.37	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 127.4%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4139	6.06	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 121.3%		
13C2-PFDoDA	9.297	615.1 -> 570.0	26948	1.32	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.9%		
13C2-PFTeDA	10.012	715.2 -> 670.0	13604	1.20	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.8%		
13C3-PFBS	5.746	302.1 -> 79.9	20650	3.10	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 123.9%		
13C3-PFHxS	7.478	402.1 -> 79.9	12415	2.95	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 118.0%	
13C4-PFBA	3.097	216.8 -> 171.9	151310	10.76 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 107.6%	
13C4-PFHpA	6.707	367.1 -> 322.0	53187	2.94 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 117.7%	
13C5-PFHxA	5.792	318.0 -> 273.0	55712	2.88 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.3%	
13C5-PFPeA	4.560	268.3 -> 223.0	52258	5.90 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.0%	
13C6-PFDA	8.400	519.1 -> 474.1	25580	1.46 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 117.1%	
13C7-PFUnDA	8.866	570.0 -> 525.1	31162	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C8-FOSA	9.687	506.1 -> 77.8	23265	2.29 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.5%	
13C8-PFOA	7.352	421.1 -> 376.0	82645	2.82 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.8%	
13C8-PFOS	8.575	507.1 -> 79.9	12639	3.12 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 124.6%	
13C9-PFNA	7.895	472.1 -> 427.0	38842	1.45 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 115.8%	
d3-MeFOSAA	8.420	573.2 -> 419.0	30287	5.96 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.2%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	36656	11.34 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 113.4%	
d3-MeFOSA	10.775	515.0 -> 219.0	10350	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.6%	
d5-EtFOSAA	8.628	589.2 -> 419.0	26433	6.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 122.5%	
d7-MeFOSE	10.696	623.2 -> 58.9	96326	21.37 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 85.5%	
d9-EtFOSE	10.930	639.2 -> 58.9	128140	24.11 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.4%	
d5-EtFOSA	10.996	531.1 -> 219.0	10160	2.35 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.2%	
Target Compounds					**QValue**
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	5.747	298.7 -> 79.9	590	0.06 µg/L	92
		298.7 -> 98.8	253		
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDoDA	9.261	613.1 -> 569.0	0	µg/L m	1
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

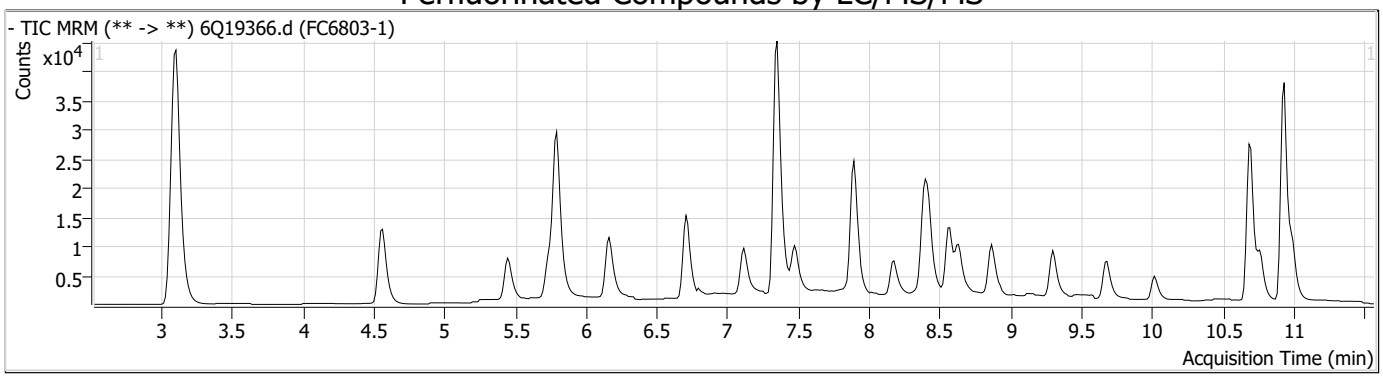
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	6.708	363.1 -> 319.0	1861	0.07	µg/L		99
		363.1 -> 169.0	290				
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	5.795	313.0 -> 269.0	1952	0.09	µg/L		100
		313.0 -> 118.9	104				
PFHxS	7.491	398.7 -> 79.9	756	0.10	µg/L	m	89
		398.7 -> 98.9	329				
PFNA	8.417	463.0 -> 419.0	0		µg/L	m	1
		463.0 -> 219.0	0				
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	7.353	413.0 -> 369.0	4613	0.10	µg/L	m	97
		413.0 -> 169.0	720				
PFOS	8.576	498.9 -> 79.9	715	0.10	µg/L	m	84
		498.9 -> 98.8	296				
PFPeA	4.563	263.0 -> 219.0	1774	0.11	µg/L		100
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	9.313	563.1 -> 519.0	0		µg/L	m	1
		563.1 -> 269.1	0				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

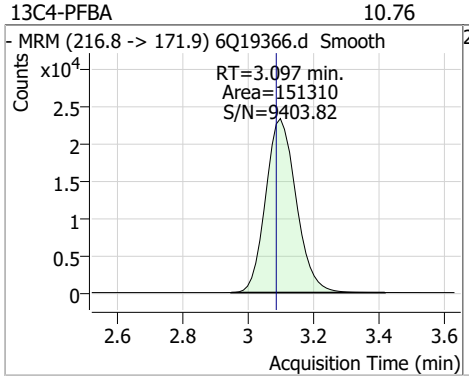
Perfluorinated Compounds by LC/MS/MS

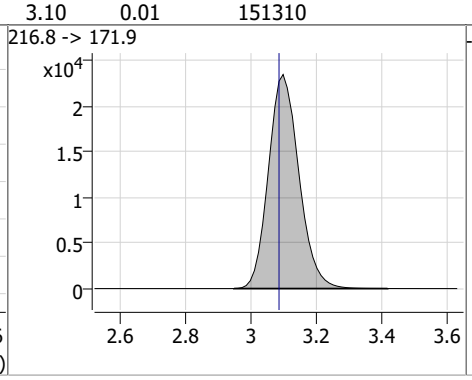
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

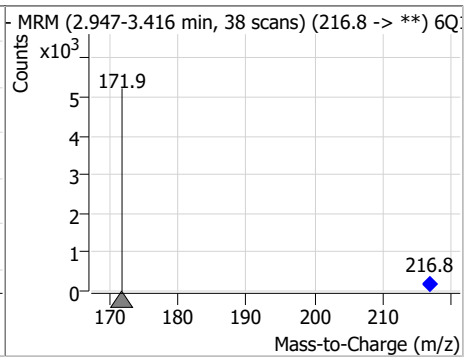
Perfluorinated Compounds by LC/MS/MS



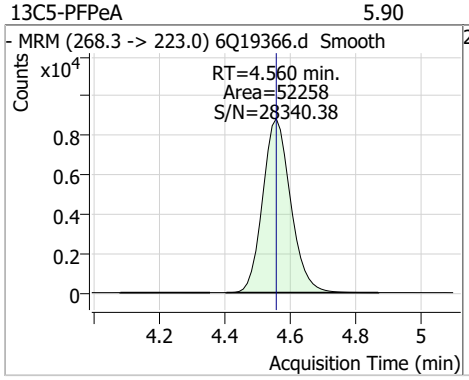
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.76	3.10	0.01	151310				

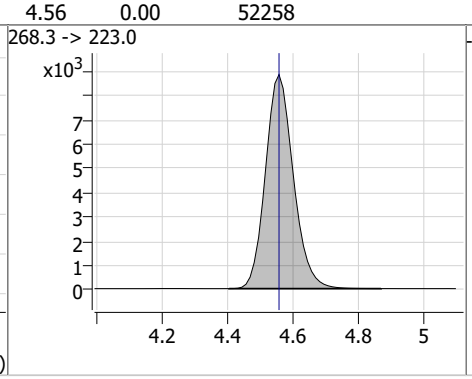


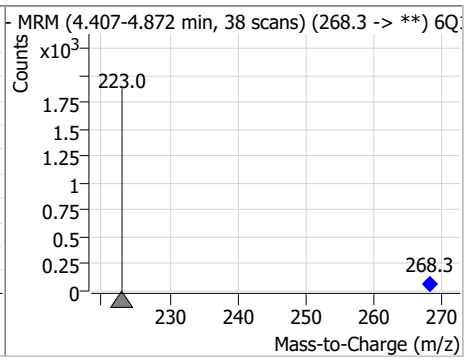




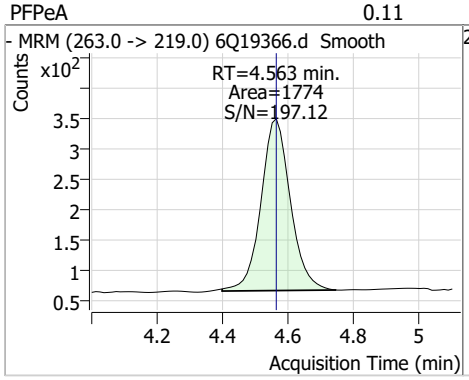
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.90	4.56	0.00	52258				

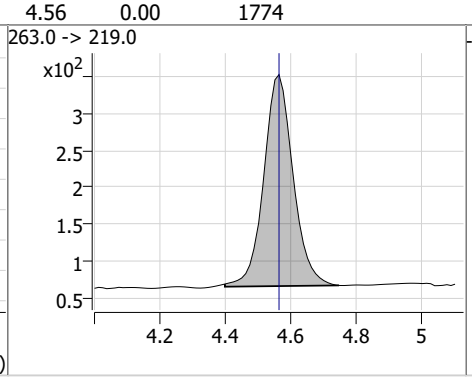


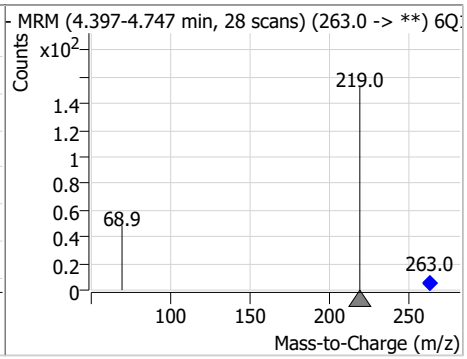




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.11	4.56	0.00	1774				

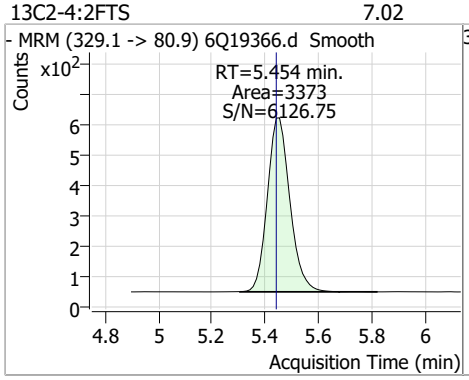


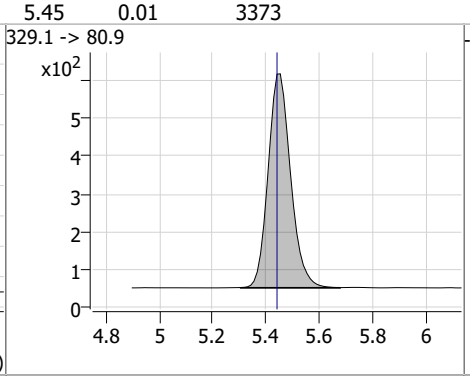


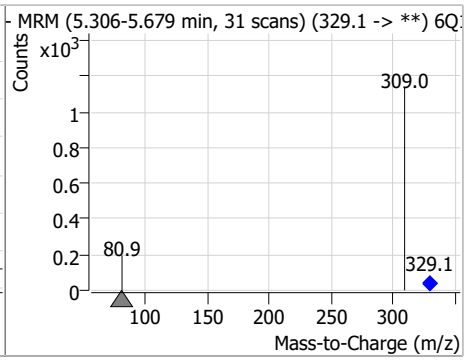


Perfluorinated Compounds by LC/MS/MS

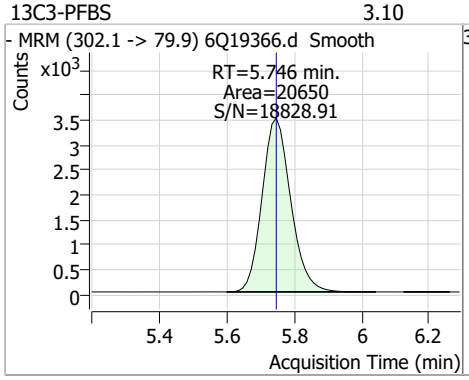
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	7.02	5.45	0.01	3373				

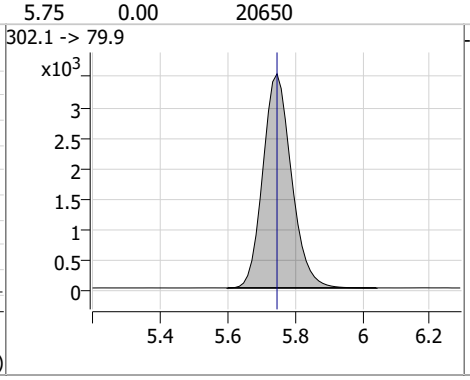


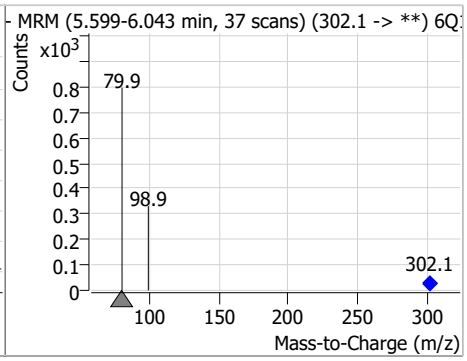




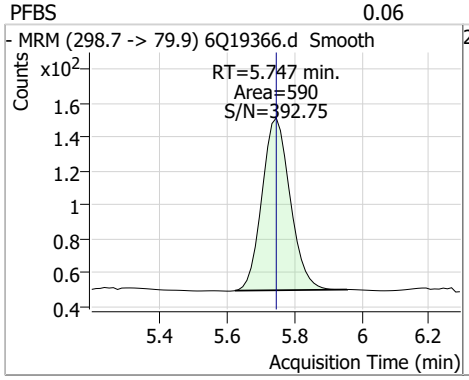
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.10	5.75	0.00	20650				

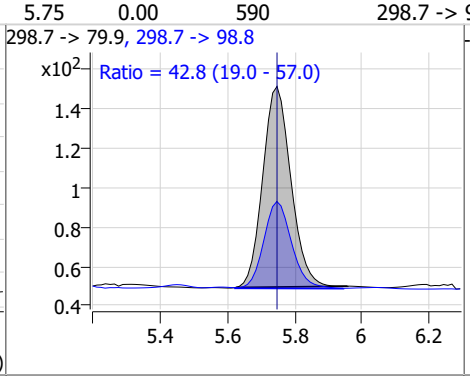


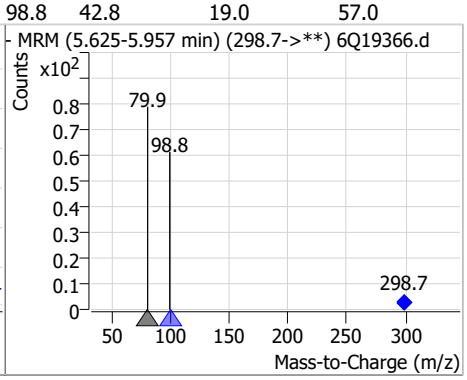




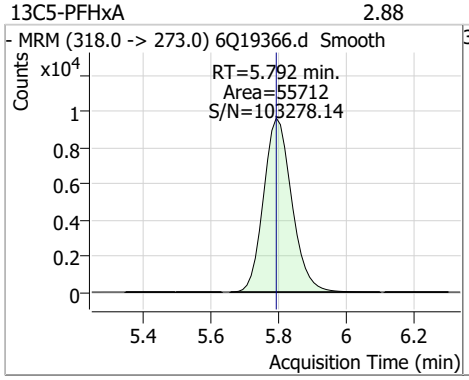
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.06	5.75	0.00	590	298.7 -> 98.8	42.8	19.0	57.0

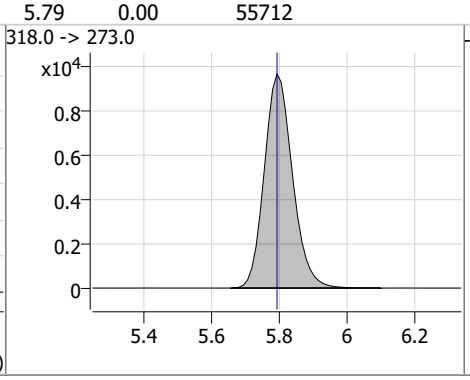


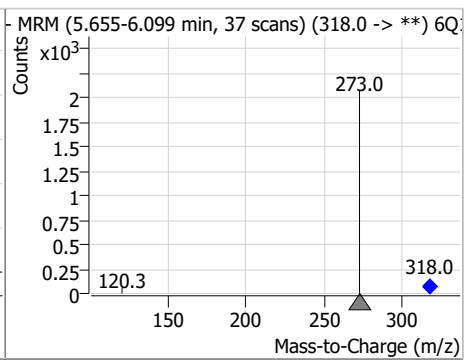




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.88	5.79	0.00	55712				

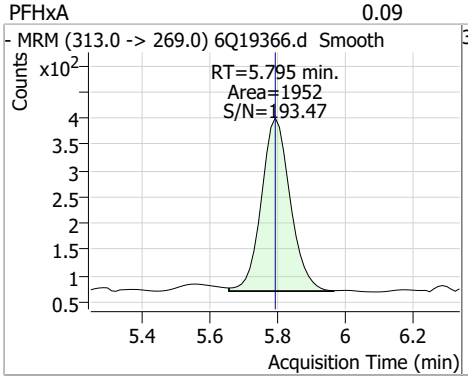


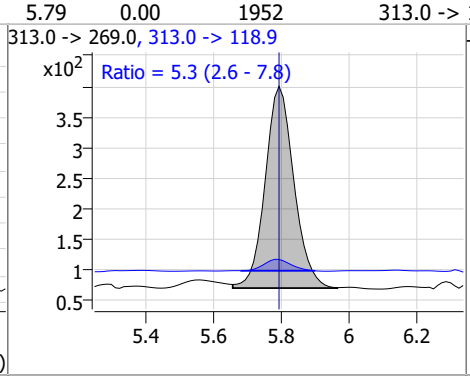


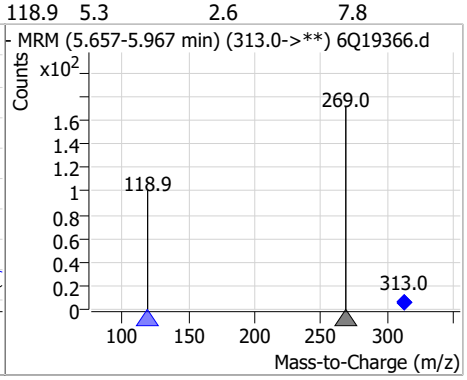


Perfluorinated Compounds by LC/MS/MS

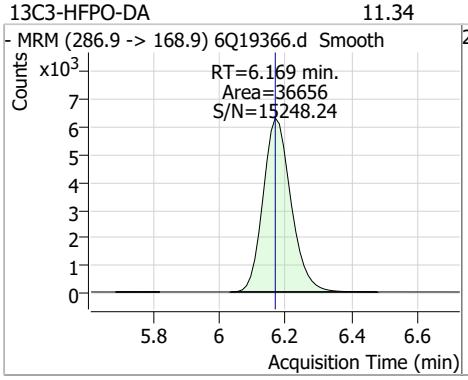
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.09	5.79	0.00	1952	313.0 -> 118.9	5.3	2.6	7.8

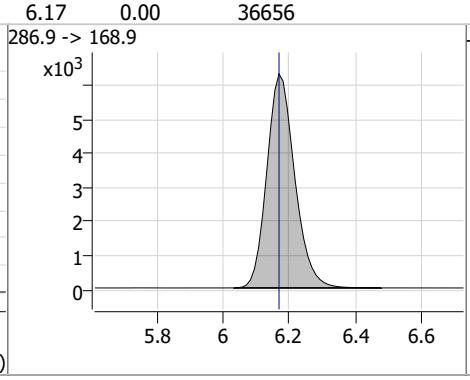


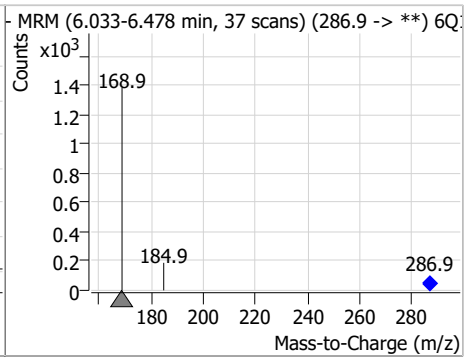




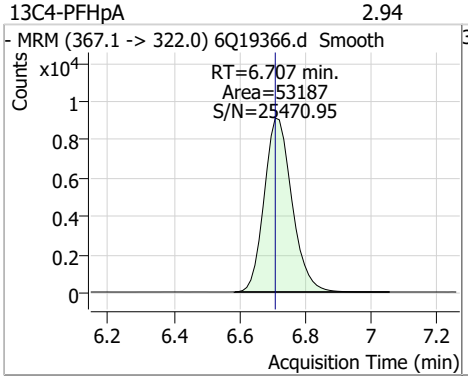
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.34	6.17	0.00	36656				

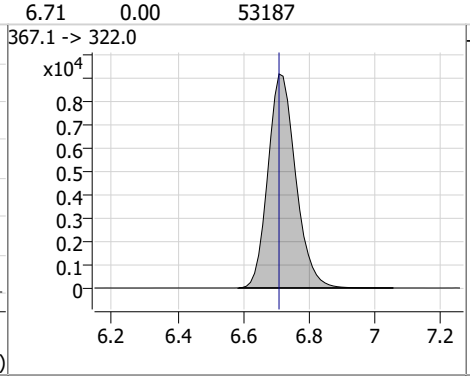


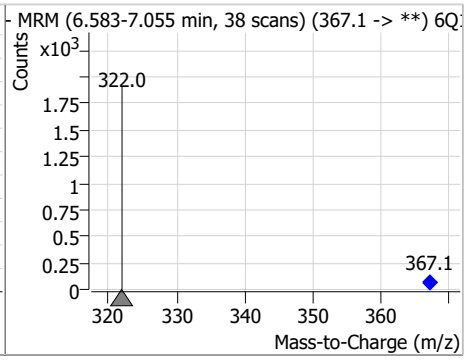




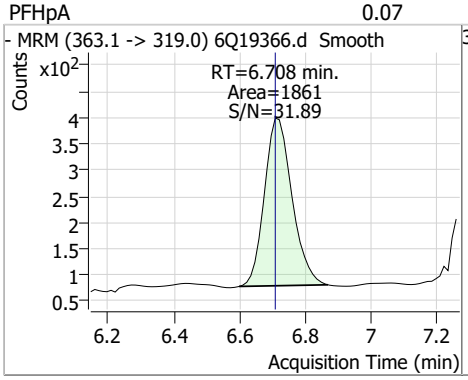
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.94	6.71	0.00	53187				

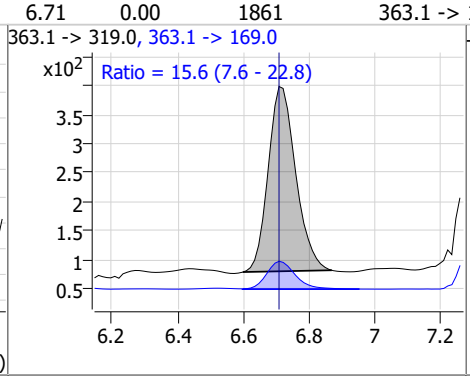


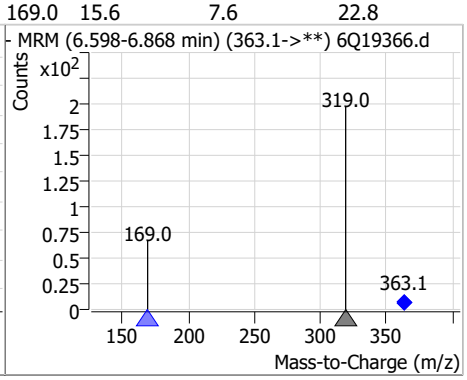




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.07	6.71	0.00	1861	363.1 -> 169.0	15.6	7.6	22.8

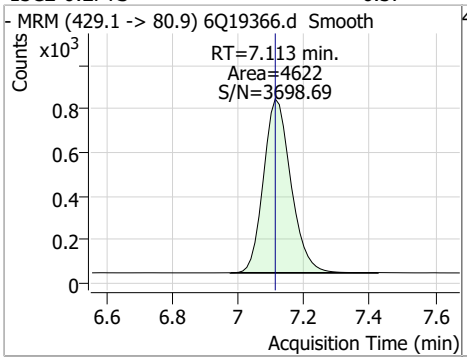


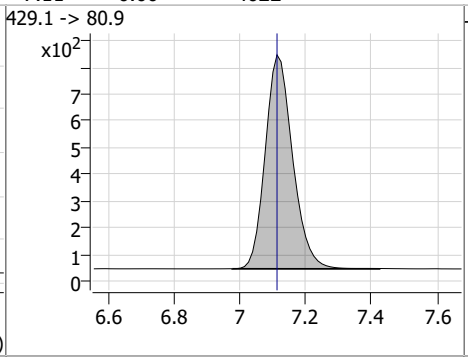


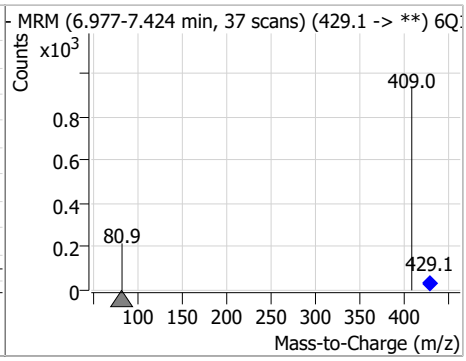


Perfluorinated Compounds by LC/MS/MS

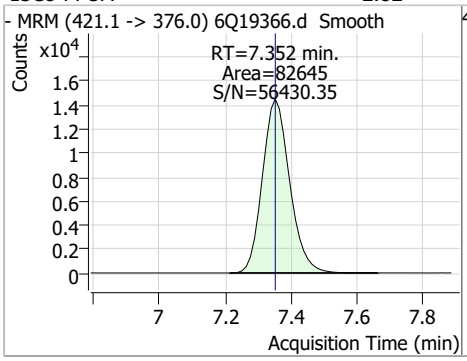
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.37	7.11	0.00	4622				

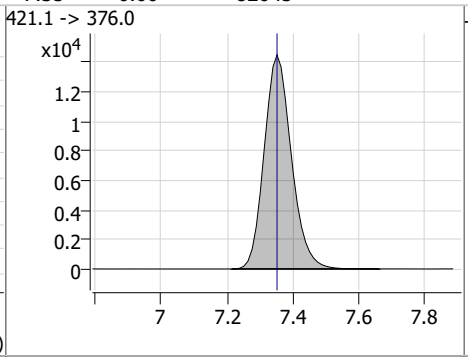


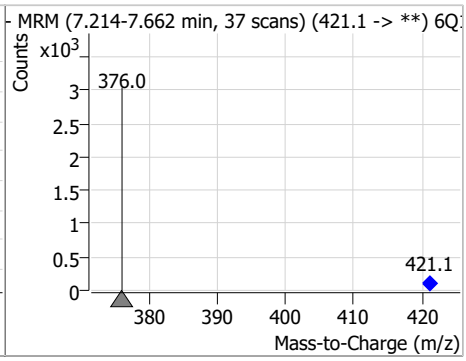




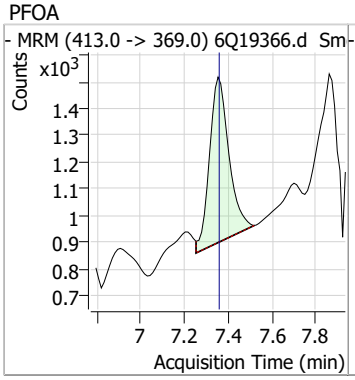
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.82	7.35	0.00	82645				

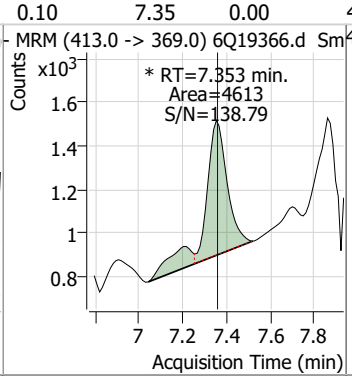


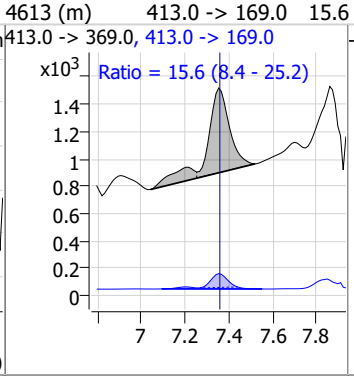


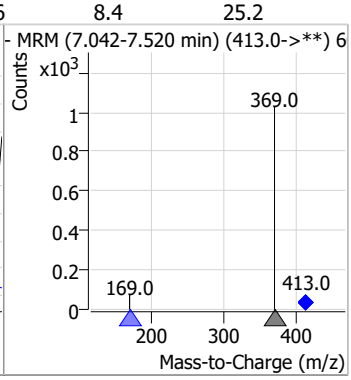


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.10	7.35	0.00	4613 (m)	413.0 -> 169.0	15.6	8.4	25.2

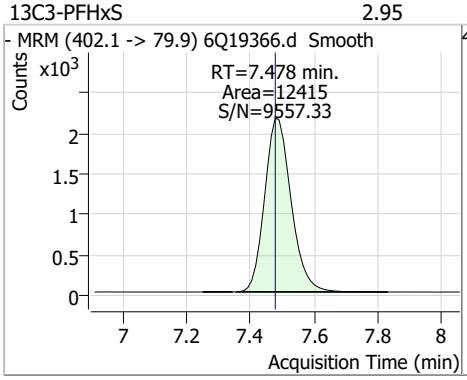


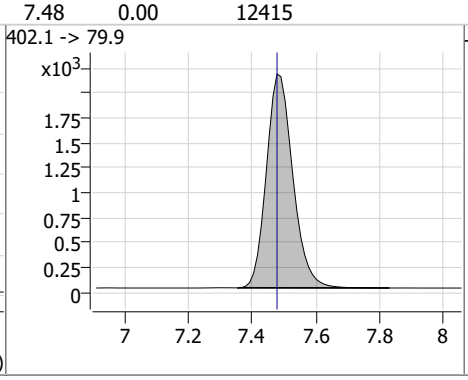


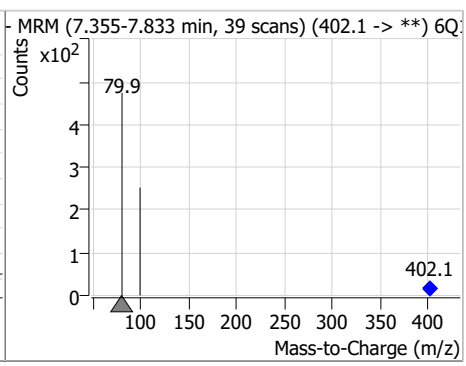




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.95	7.48	0.00	12415				

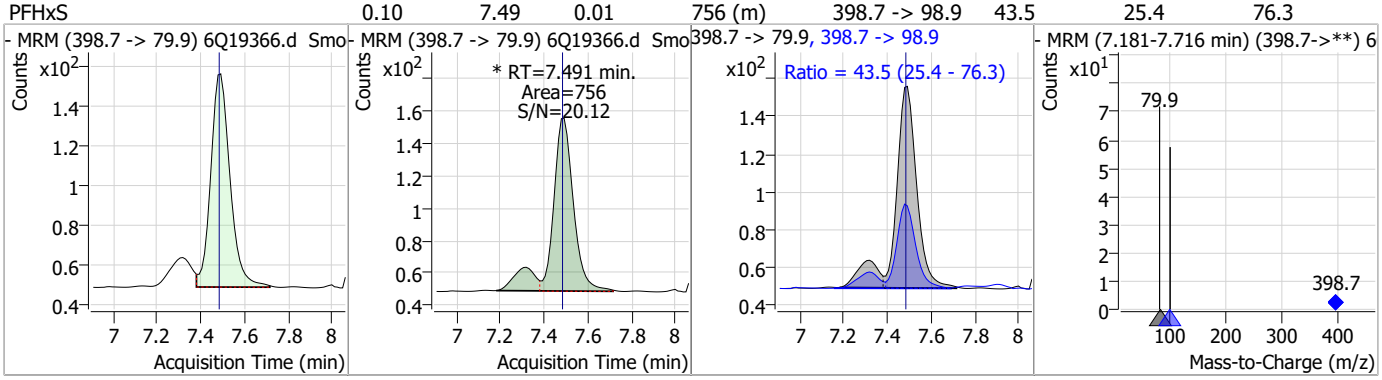




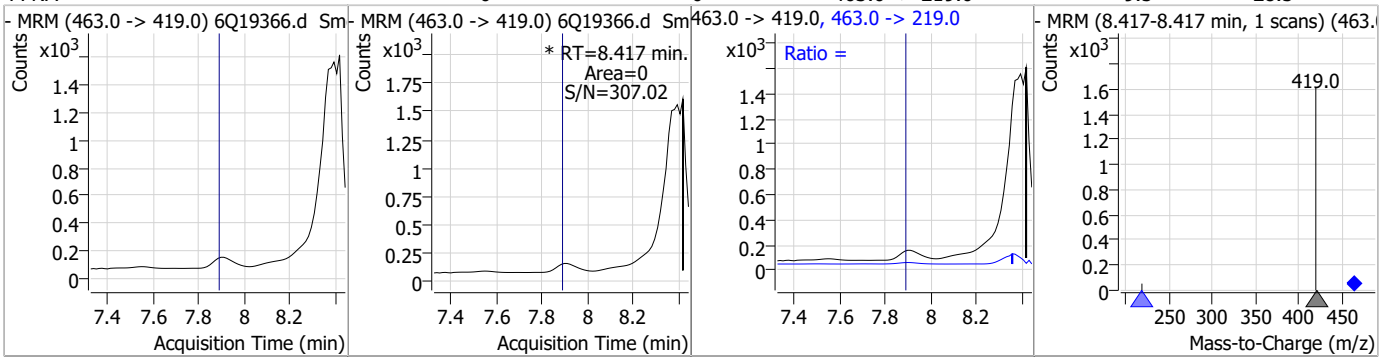


Perfluorinated Compounds by LC/MS/MS

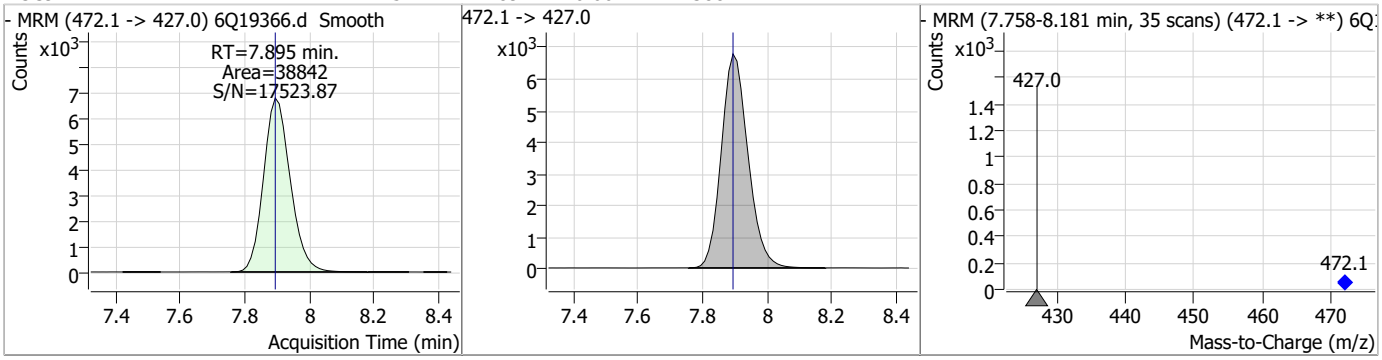
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.10	7.49	0.01	756 (m)	398.7 -> 98.9	43.5	25.4	76.3



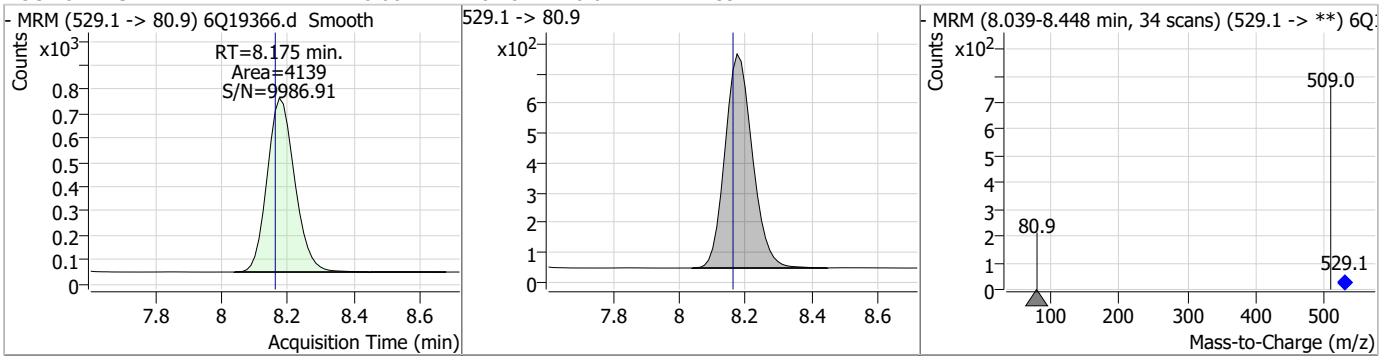
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA		0		0	463.0 -> 219.0		9.5	28.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.45	7.89	0.00	38842				

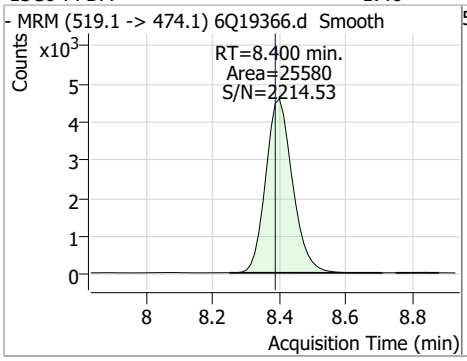


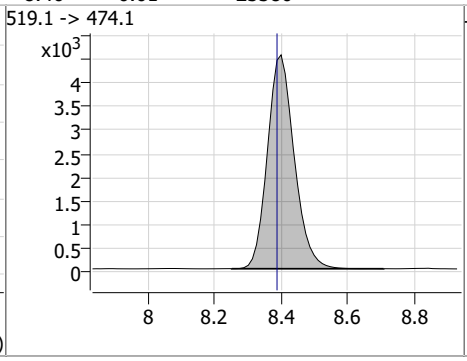
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	6.06	8.18	0.01	4139				

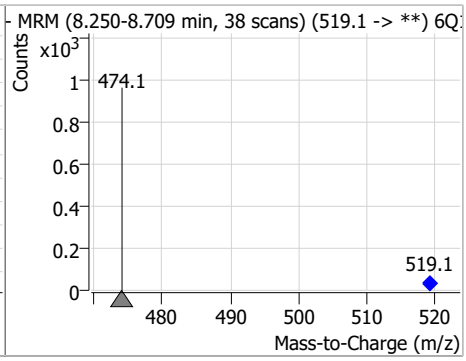


Perfluorinated Compounds by LC/MS/MS

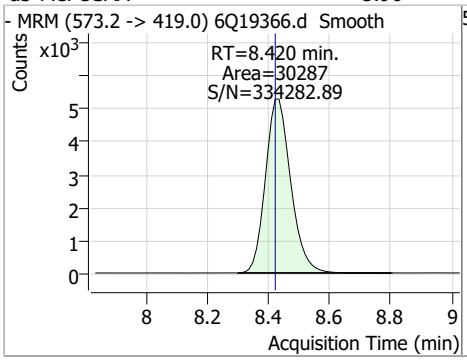
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.46	8.40	0.01	25580				

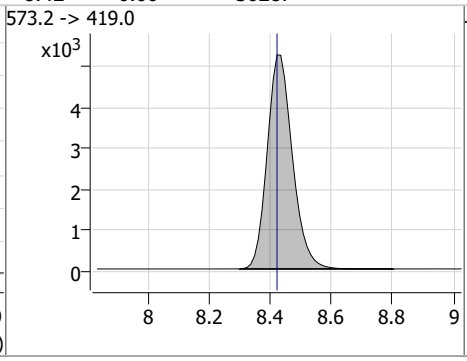


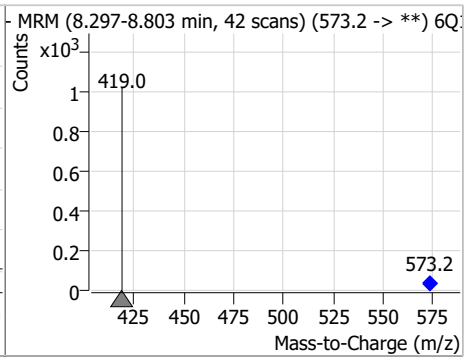




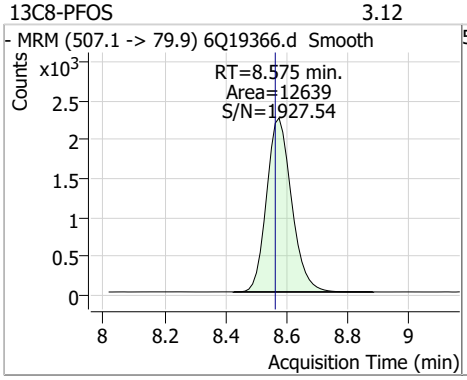
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.96	8.42	0.00	30287				

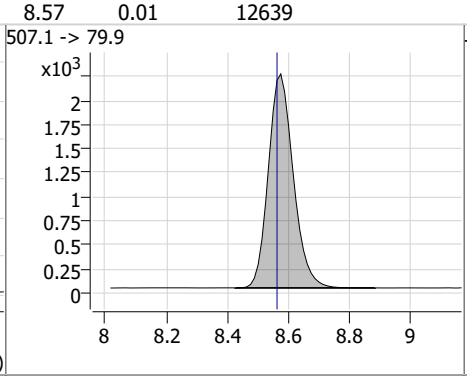


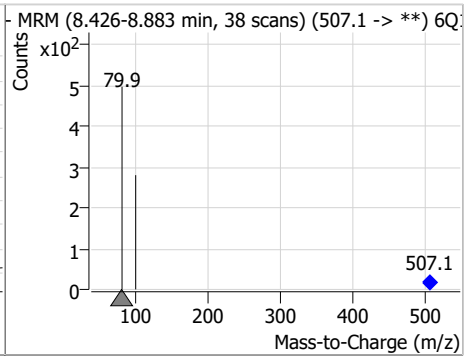




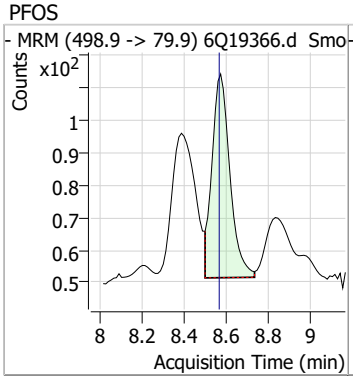
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	3.12	8.57	0.01	12639				

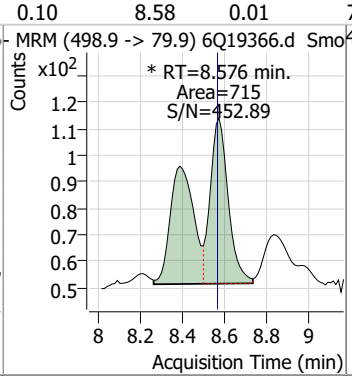


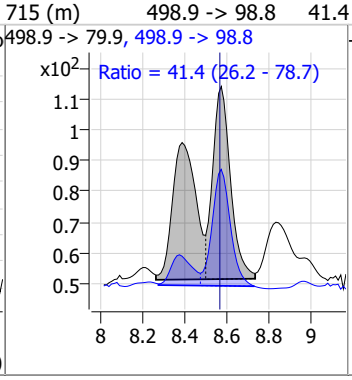


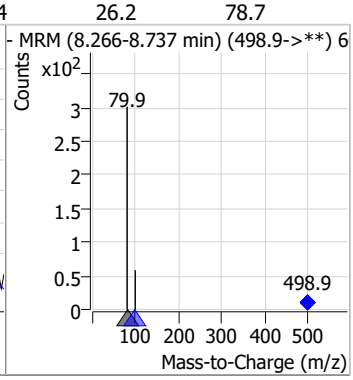


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.10	8.58	0.01	715 (m)	498.9 -> 98.8	41.4	26.2	78.7



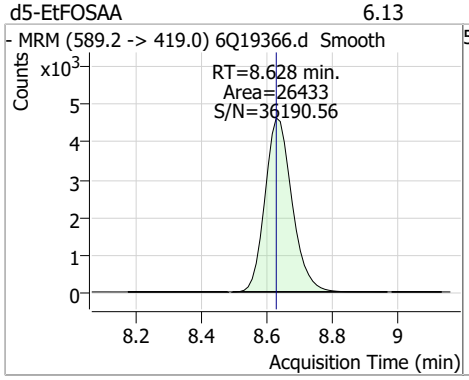


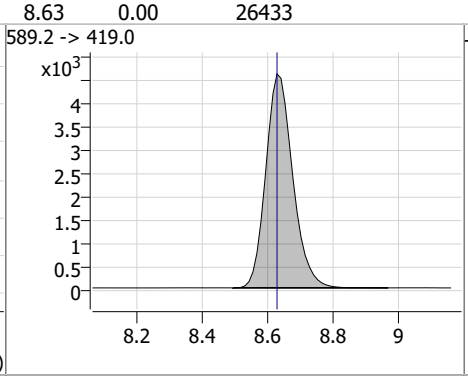


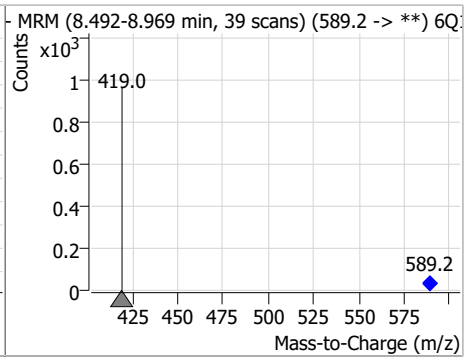


Perfluorinated Compounds by LC/MS/MS

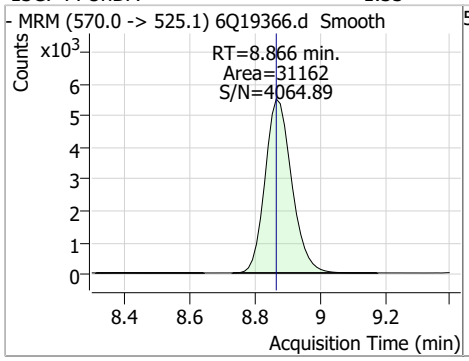
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	6.13	8.63	0.00	26433				

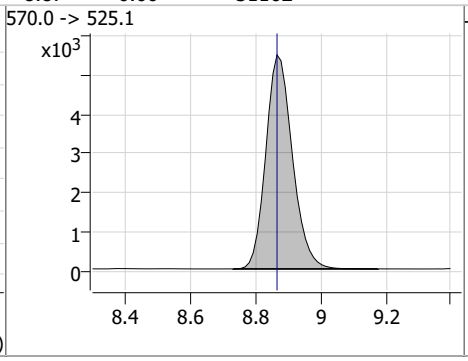


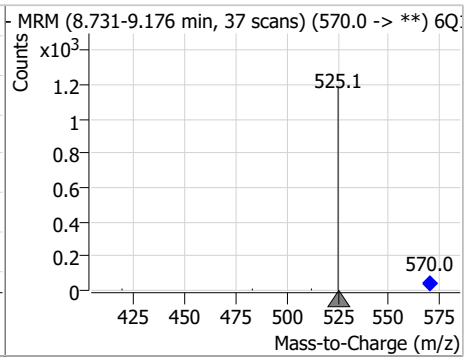




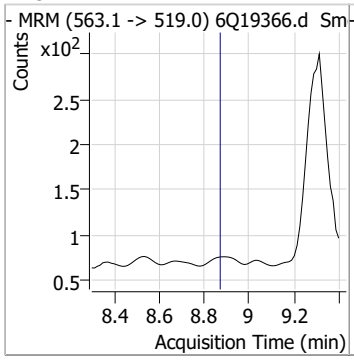
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.33	8.87	0.00	31162				

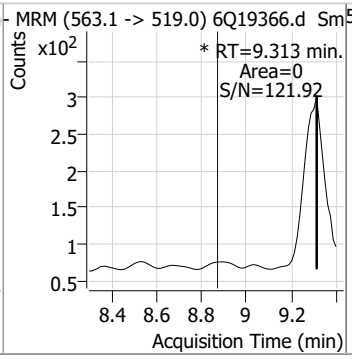


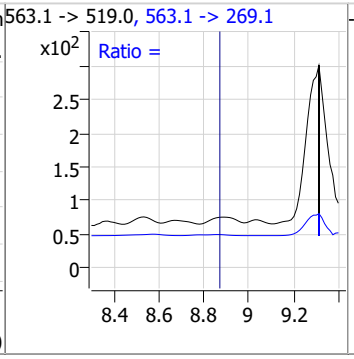


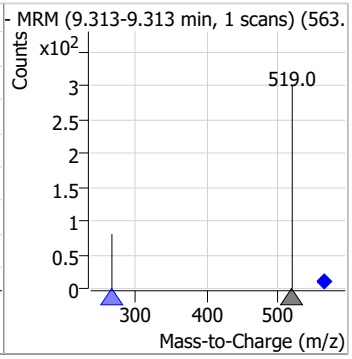


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA		0		0	563.1 -> 269.1		9.4	28.1

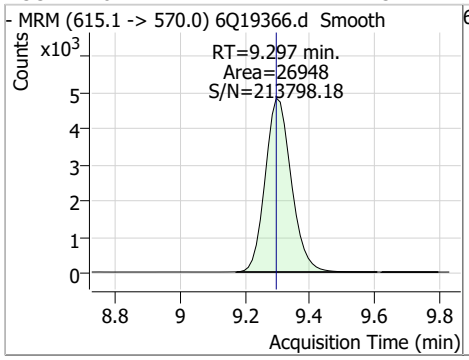


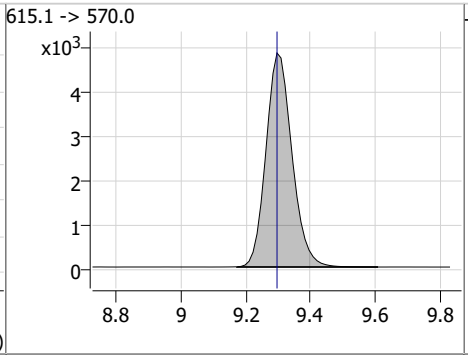


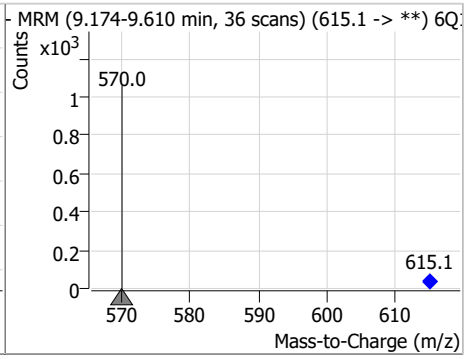




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.32	9.30	0.00	26948				

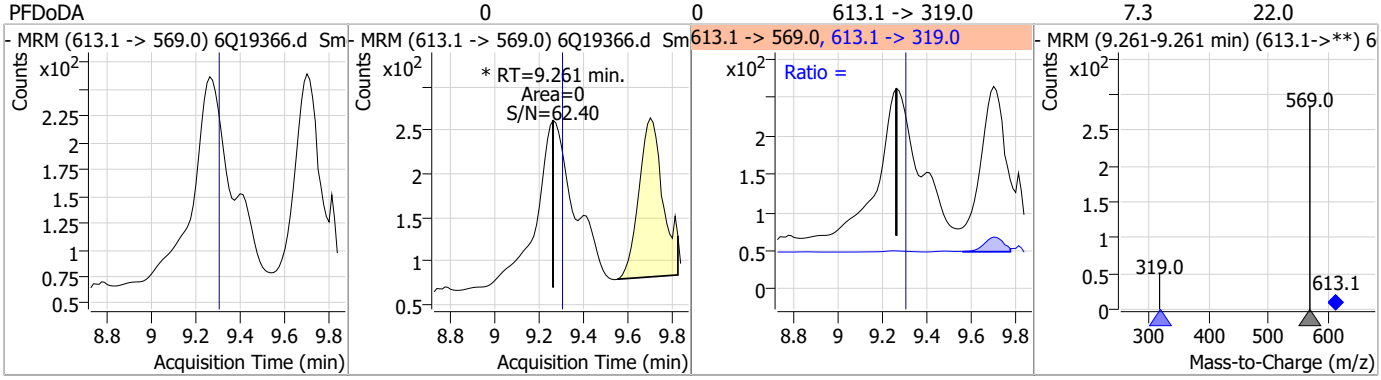




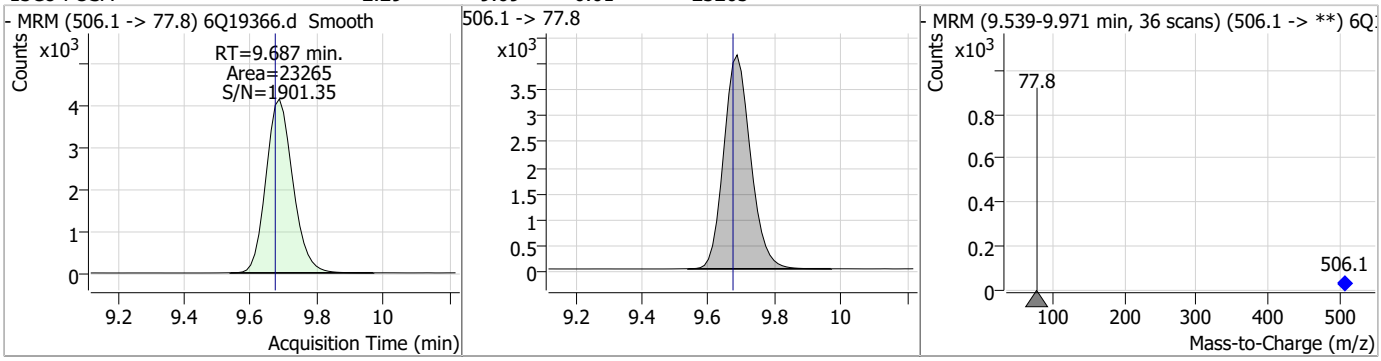


Perfluorinated Compounds by LC/MS/MS

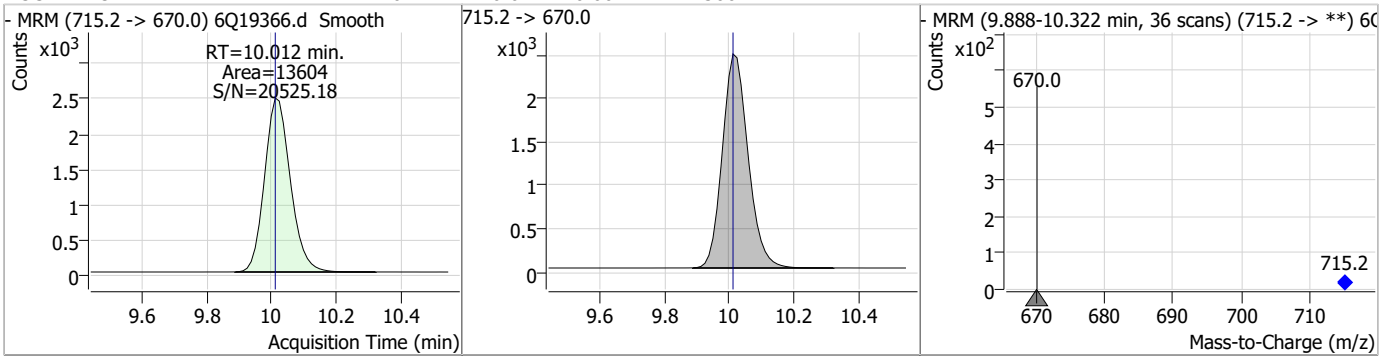
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA		0		0	613.1 -> 319.0		7.3	22.0



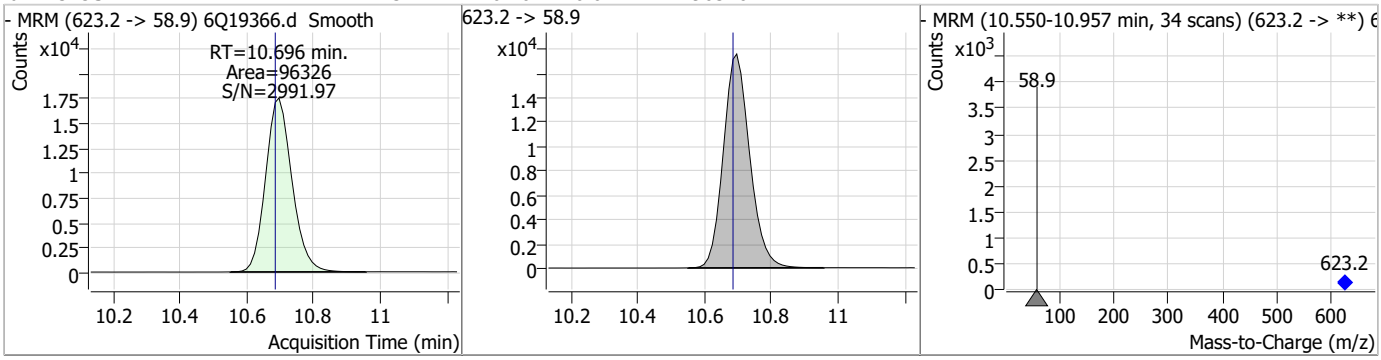
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.29	9.69	0.01	23265				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.20	10.01	0.00	13604				

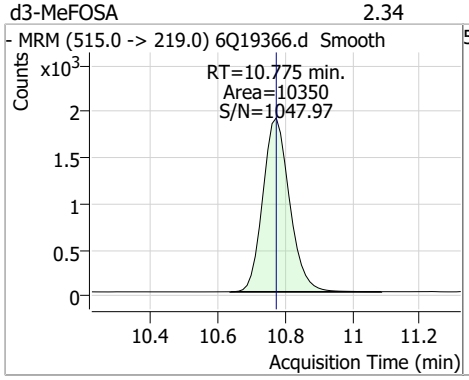


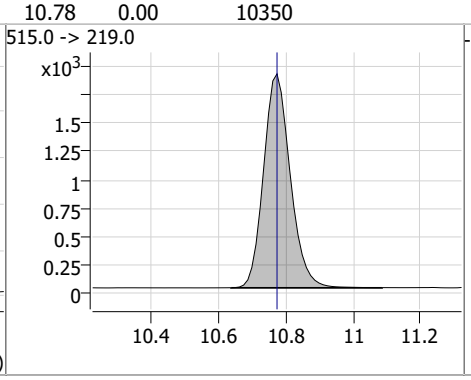
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	21.37	10.70	0.01	96326				

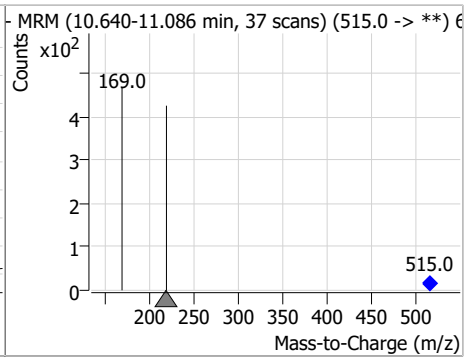


Perfluorinated Compounds by LC/MS/MS

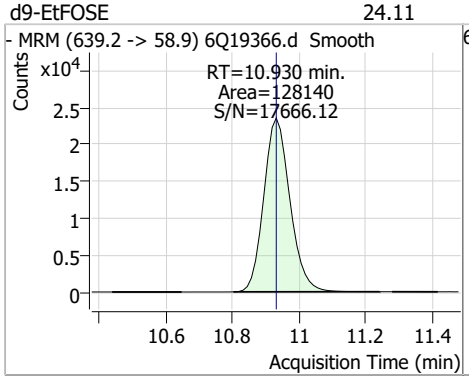
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.34	10.78	0.00	10350				

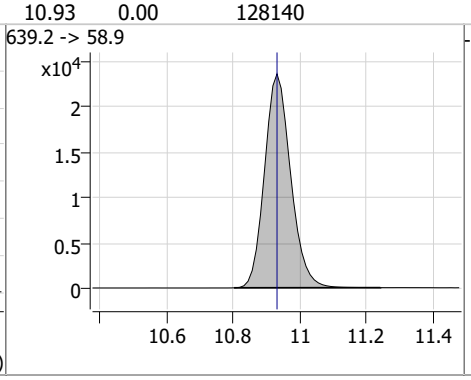


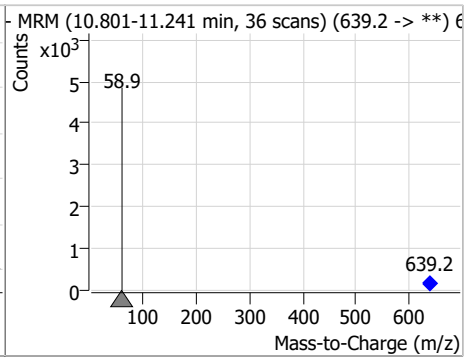




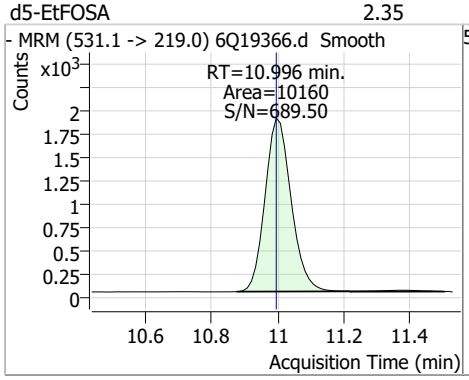
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.11	10.93	0.00	128140				

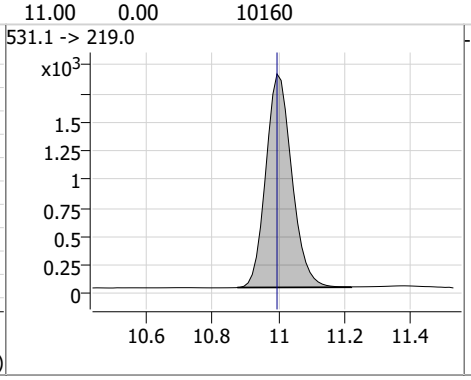


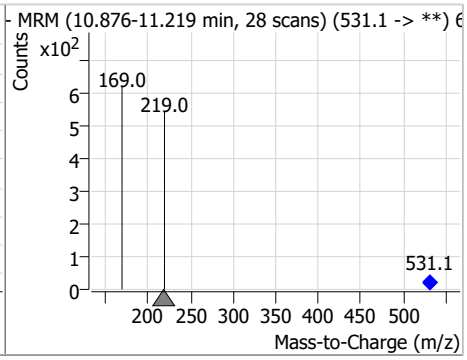




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.35	11.00	0.00	10160				







Manual Integration Approval Summary

Sample Number: FC6803-1
Lab FileID: 6Q19366.D
Injection Time: 06/14/23 19:40

Method: EPA DRAFT 1633
Analyst approved: 06/15/23 10:13 Martha Valls
Supervisor approved: 06/15/23 10:58 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.35	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.49	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.58	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:58

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19368.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 8:08:26 PM
Sample Name : FC6803-2
Vial : P4-C4
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97325,S6Q289,560,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	60991	10.00	µg/L	0.012
M5-PFPeA	4.548	268.3 -> 223.0	48970	5.00	µg/L	-0.012
M5-PFHxA	5.792	318.0 -> 273.0	57213	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	53714	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	84630	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	36136	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	23162	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	26317	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	21337	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	9956	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	26121	2.50	µg/L	0.012
M3-PFBS	5.733	302.1 -> 79.9	20659	2.50	µg/L	-0.013
M3-PFHxS	7.478	402.1 -> 79.9	12806	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	10847	2.50	µg/L	0.012
M2-4:2FTS	5.442	329.1 -> 80.9	2672	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	3811	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	3741	5.00	µg/L	0.012
M3-MeFOSAA	8.432	573.2 -> 419.0	29443	5.00	µg/L	0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	35689	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	21690	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	96311	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	121091	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	9290	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	9719	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	15073	2.50	µg/L	0.012
13C3-PFBA	3.089	216.0 -> 172.0	54177	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8810	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	79003	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	29257	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	45105	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	47036	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	2672	5.05	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.1%		
13C2-6:2FTS	7.113	429.1 -> 80.9	3811	4.77	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.5%		
13C2-8:2FTS	8.175	529.1 -> 80.9	3741	4.98	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.6%		
13C2-PFDoDA	9.297	615.1 -> 570.0	21337	1.09	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 87.3%		
13C2-PFTeDA	10.012	715.2 -> 670.0	9956	0.91	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 73.0%		
13C3-PFBS	5.733	302.1 -> 79.9	20659	2.82	µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.7%		
13C3-PFHxS	7.478	402.1 -> 79.9	12806	2.77	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.6%		
13C4-PFBA	3.097	216.8 -> 171.9	60991	4.80 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 48.0%		
13C4-PFHpA	6.707	367.1 -> 322.0	53714	2.96 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 118.3%		
13C5-PFHxA	5.792	318.0 -> 273.0	57213	2.95 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 117.9%		
13C5-PFPeA	4.548	268.3 -> 223.0	48970	5.50 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.1%		
13C6-PFDA	8.400	519.1 -> 474.1	23162	1.38 µg/L		0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.4%		
13C7-PFUnDA	8.866	570.0 -> 525.1	26317	1.17 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.6%		
13C8-FOSA	9.687	506.1 -> 77.8	26121	2.29 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.5%		
13C8-PFOA	7.352	421.1 -> 376.0	84630	2.87 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.6%		
13C8-PFOS	8.575	507.1 -> 79.9	10847	2.38 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.3%		
13C9-PFNA	7.895	472.1 -> 427.0	36136	1.32 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.3%		
d3-MeFOSAA	8.432	573.2 -> 419.0	29443	5.16 µg/L		0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.3%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	35689	10.99 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.9%		
d3-MeFOSA	10.775	515.0 -> 219.0	9719	1.96 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.4%		
d5-EtFOSAA	8.628	589.2 -> 419.0	21690	4.48 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 89.6%		
d7-MeFOSE	10.696	623.2 -> 58.9	96311	19.04 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 76.2%		
d9-EtFOSE	10.930	639.2 -> 58.9	121091	20.31 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 81.2%		
d5-EtFOSA	10.996	531.1 -> 219.0	9290	1.92 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 76.7%		
Target Compounds						QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.		
		327.1 -> 80.9				
6:2FTS	7.113	427.1 -> 407.0	1290	0.28 µg/L		95
		427.1 -> 80.9	389			
8:2FTS	-	527.1 -> 507.0	-	N.D.		
		527.1 -> 80.8				
EtFOSAA	-	584.2 -> 419.1	-	N.D.		
		584.2 -> 526.0				
FOSA	-	498.1 -> 77.9	-	N.D.		
		498.1 -> 478.0				
MeFOSAA	-	570.1 -> 419.0	-	N.D.		
		570.1 -> 483.0				
PFBA	3.018	212.8 -> 168.9	3784	1.54 µg/L	m	100
PFBS	5.747	298.7 -> 79.9	492	0.05 µg/L		89
		298.7 -> 98.8	221			
PFDA	-	512.9 -> 469.0	-	N.D.		
		512.9 -> 219.0				
PFDoDA	-	613.1 -> 569.0	-	N.D.		
		613.1 -> 319.0				
PFDS	-	599.0 -> 79.9	-	N.D.		

Perfluorinated Compounds by LC/MS/MS

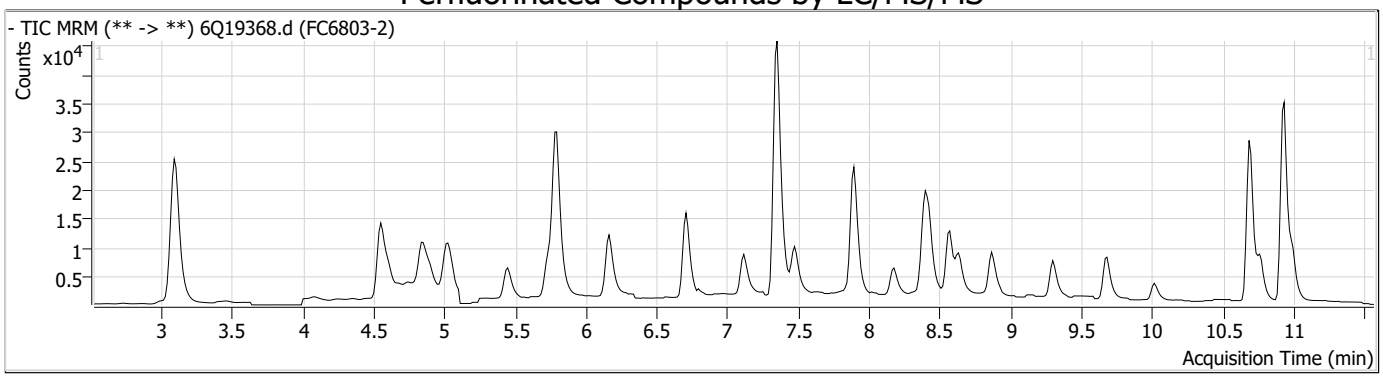
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	6.708	363.1 -> 319.0	2486	0.09	µg/L	m	100
		363.1 -> 169.0	383				
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	5.795	313.0 -> 269.0	4427	0.19	µg/L		98
		313.0 -> 118.9	253				
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	7.896	463.0 -> 419.0	1048	0.03	µg/L	m	91
		463.0 -> 219.0	159				
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	7.353	413.0 -> 369.0	4913	0.11	µg/L	m	100
		413.0 -> 169.0	835				
PFOS	-	498.9 -> 79.9	-	N.D.			
		498.9 -> 98.8					
PFPeA	4.613	263.0 -> 219.0	26814	1.85	µg/L		100
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	-	563.1 -> 519.0	-	N.D.			
		563.1 -> 269.1					
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

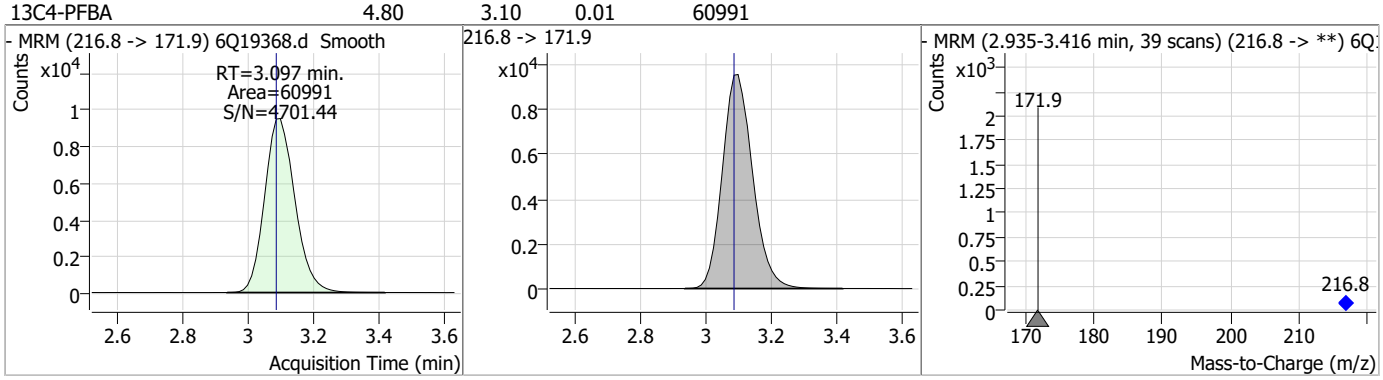
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

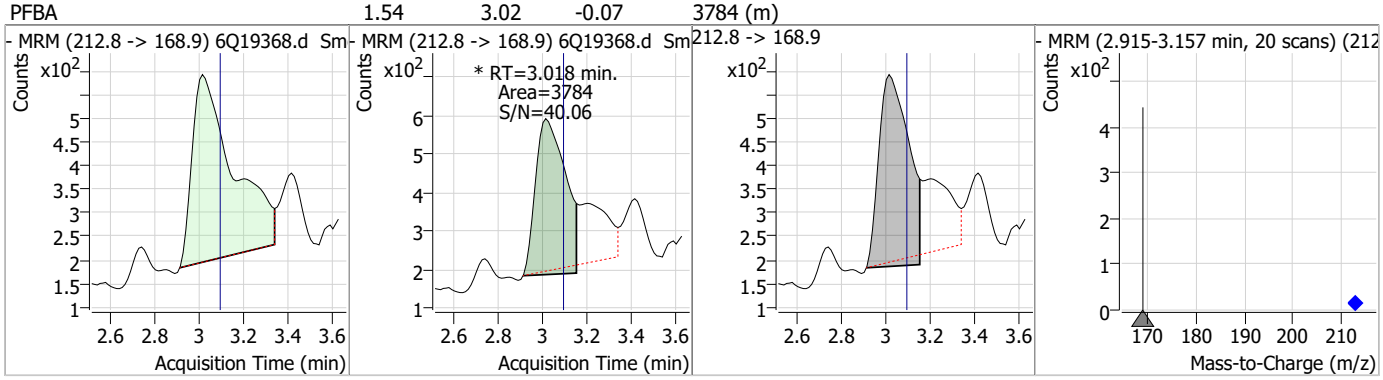
Perfluorinated Compounds by LC/MS/MS



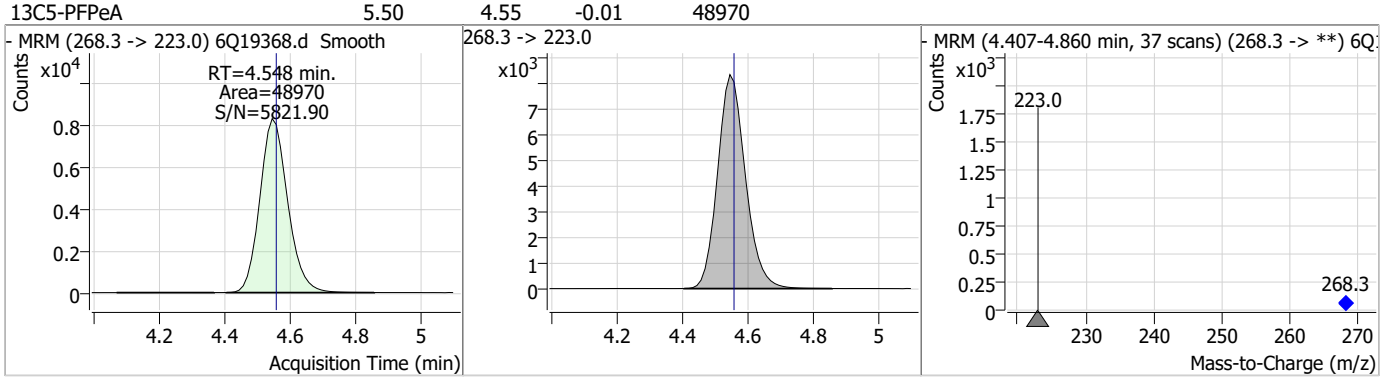
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	4.80	3.10	0.01	60991				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	1.54	3.02	-0.07	3784 (m)				

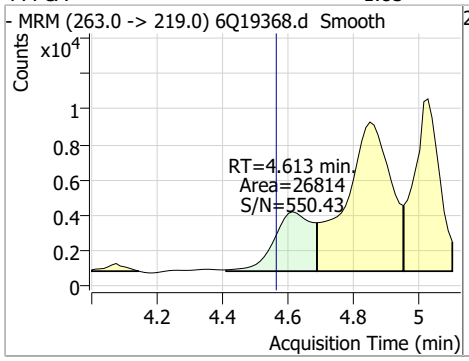


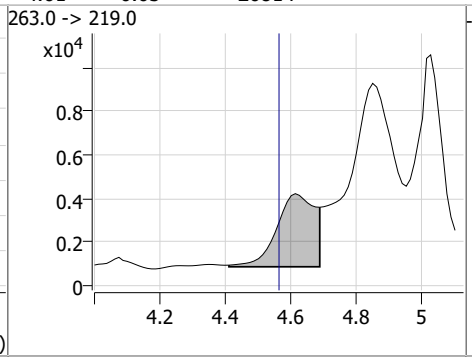
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.50	4.55	-0.01	48970				

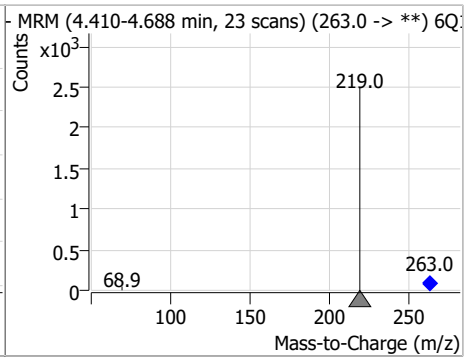


Perfluorinated Compounds by LC/MS/MS

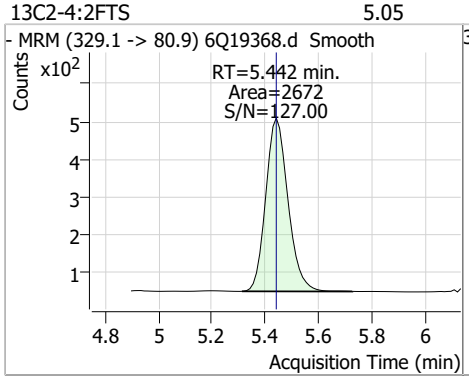
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	1.85	4.61	0.05	26814				

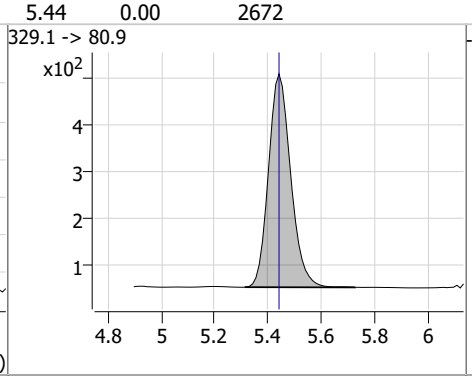


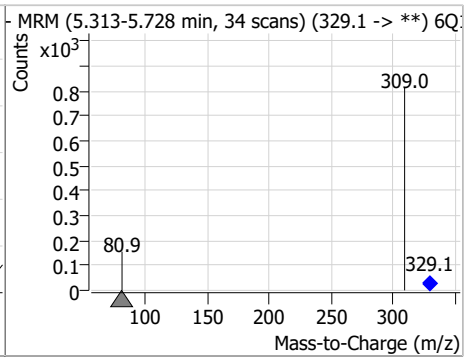




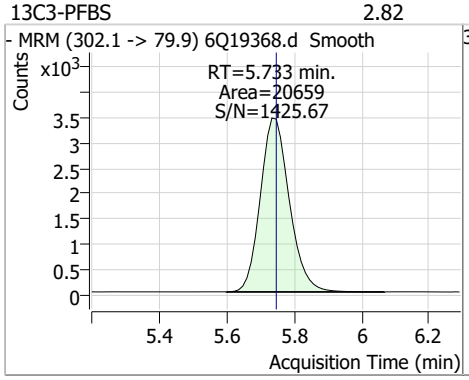
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.05	5.44	0.00	2672				

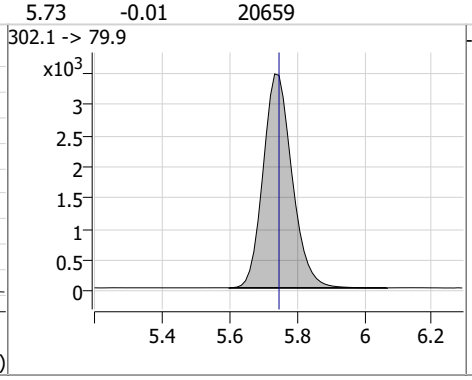


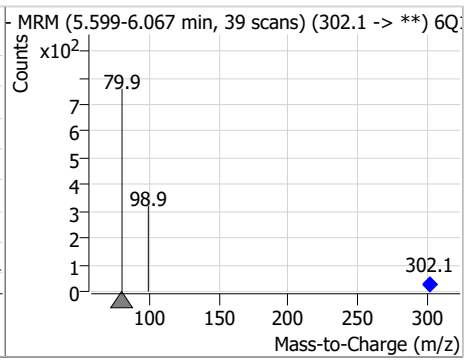




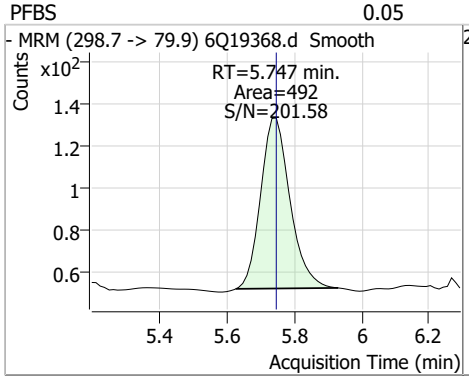
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.82	5.73	-0.01	20659				

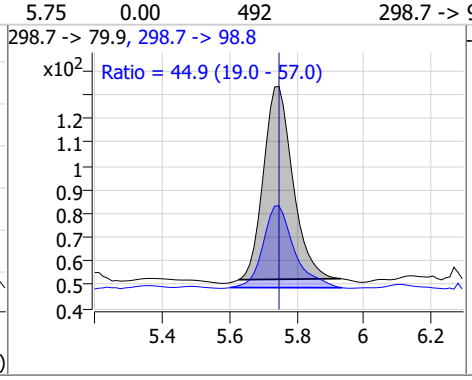


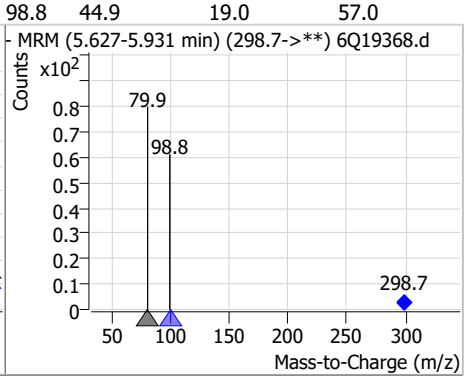




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.05	5.75	0.00	492	298.7 -> 98.8	44.9	19.0	57.0

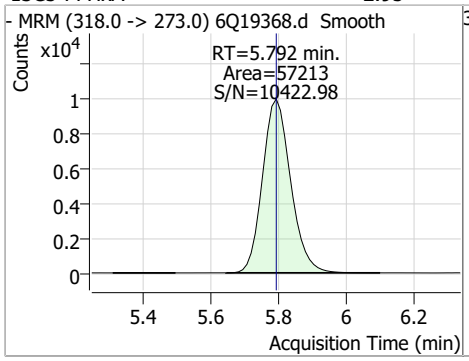


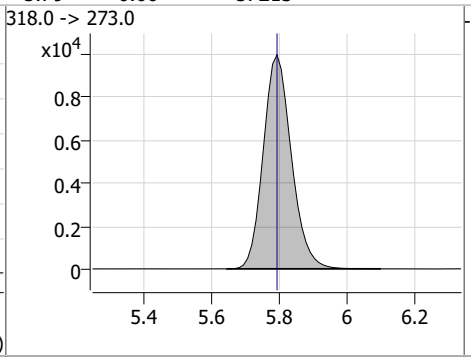


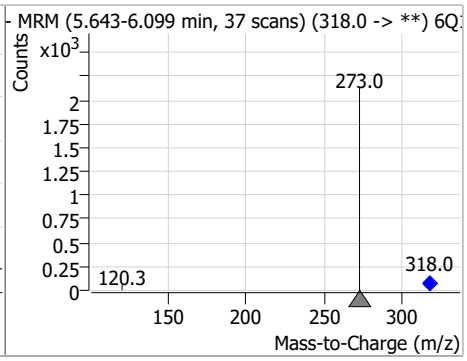


Perfluorinated Compounds by LC/MS/MS

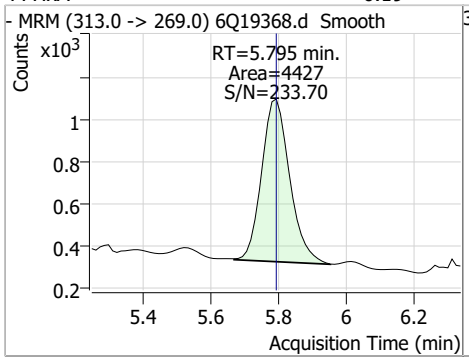
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.95	5.79	0.00	57213				

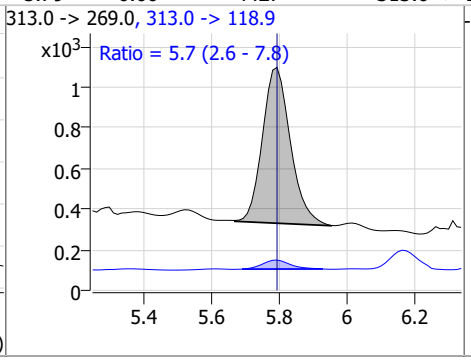


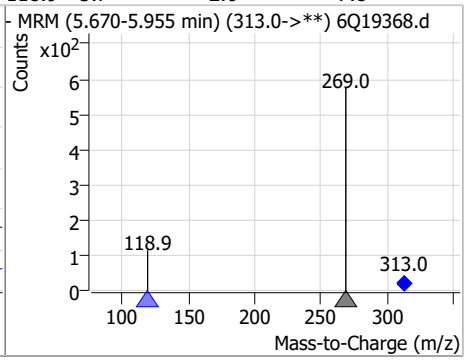




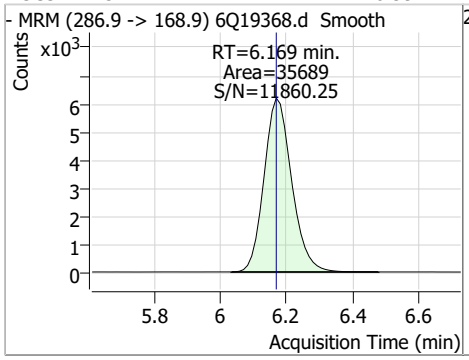
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.19	5.79	0.00	4427	313.0 -> 118.9	5.7	2.6	7.8

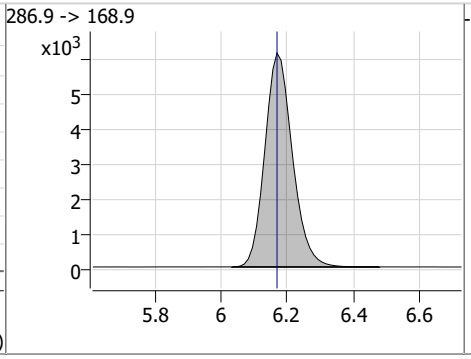


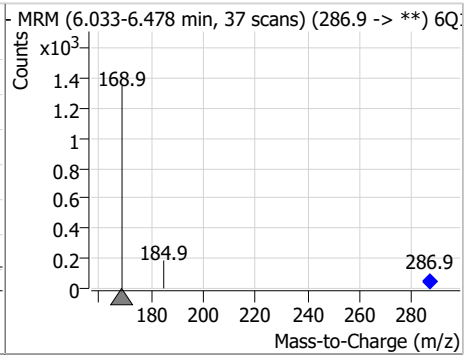




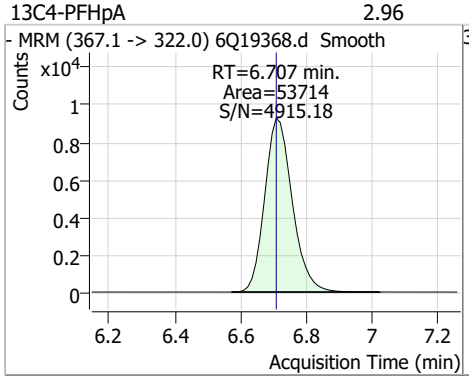
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.99	6.17	0.00	35689				

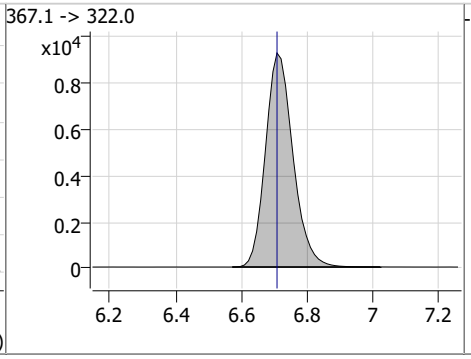


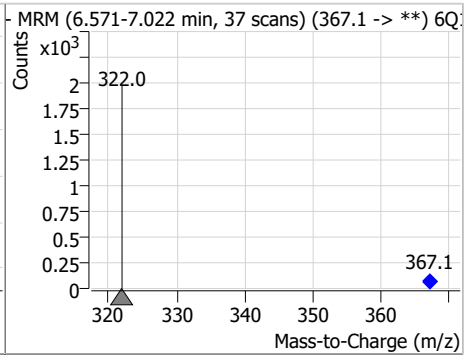




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.96	6.71	0.00	53714				

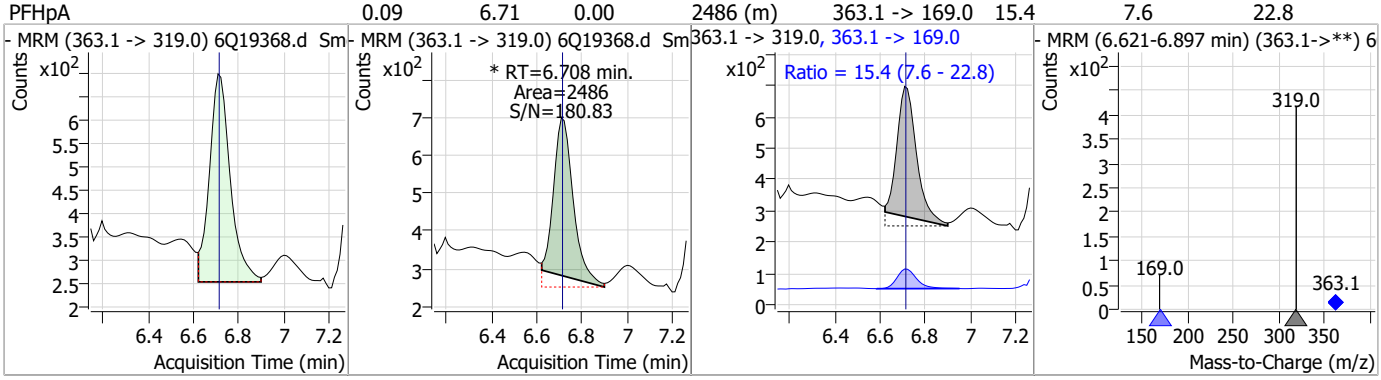




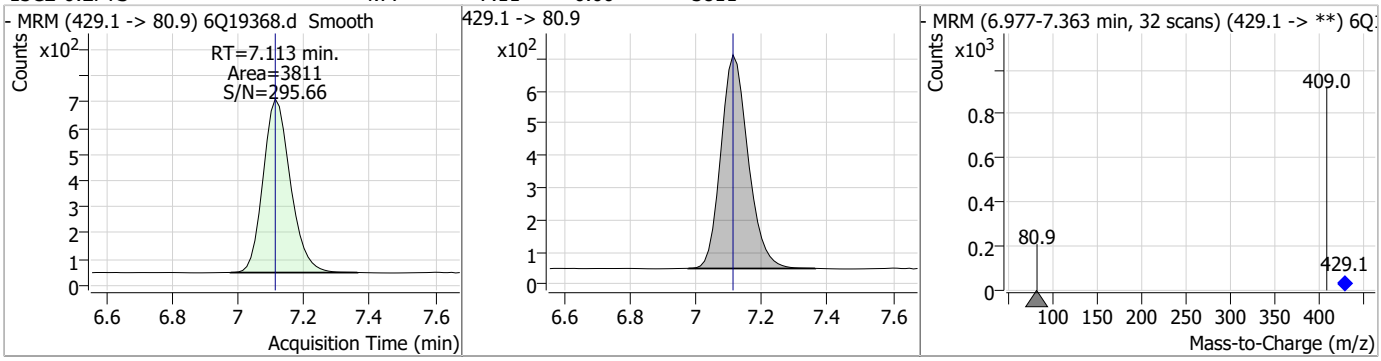


Perfluorinated Compounds by LC/MS/MS

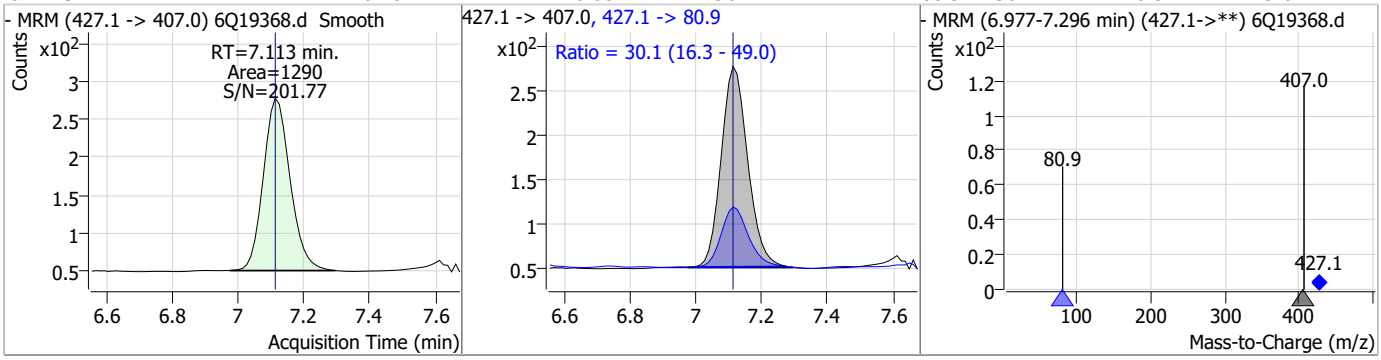
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.09	6.71	0.00	2486 (m)	363.1 -> 169.0	15.4	7.6	22.8



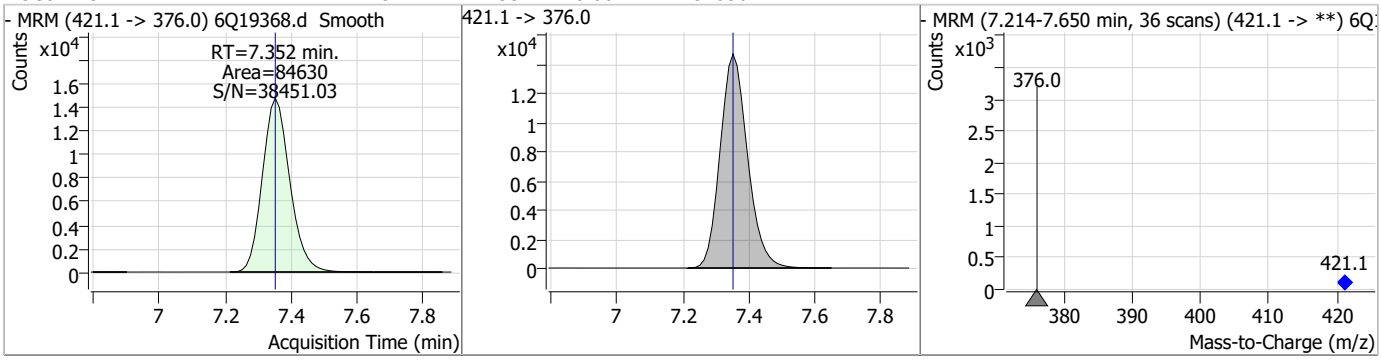
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.77	7.11	0.00	3811				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.28	7.11	0.00	1290	427.1 -> 80.9	30.1	16.3	49.0

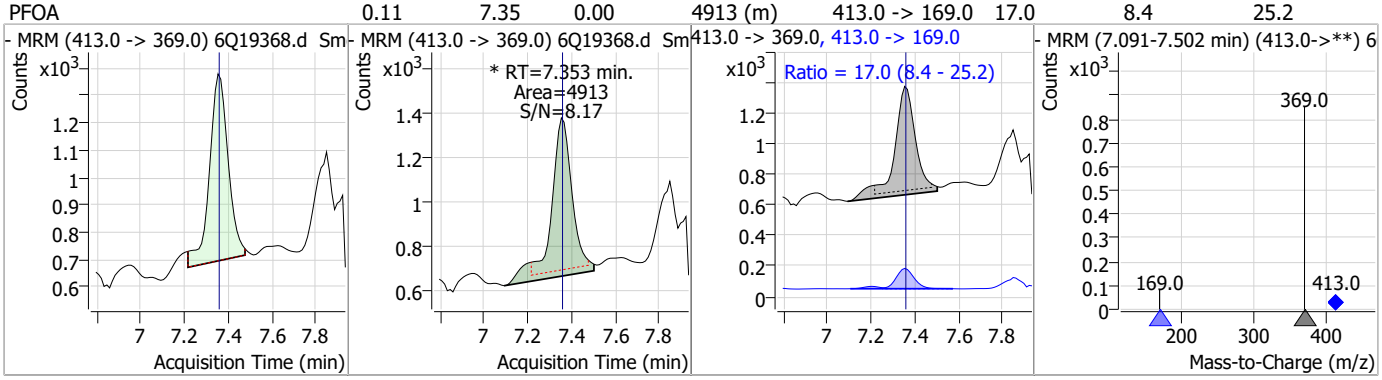


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.87	7.35	0.00	84630				

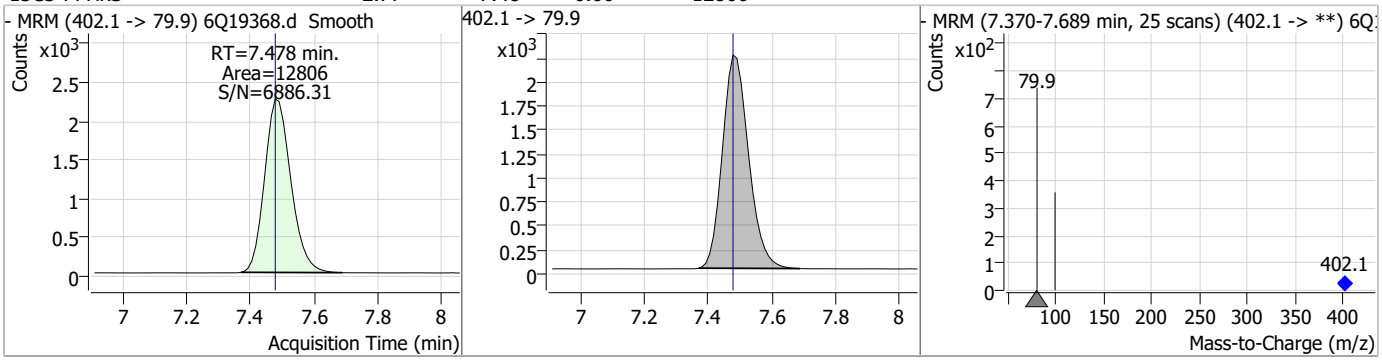


Perfluorinated Compounds by LC/MS/MS

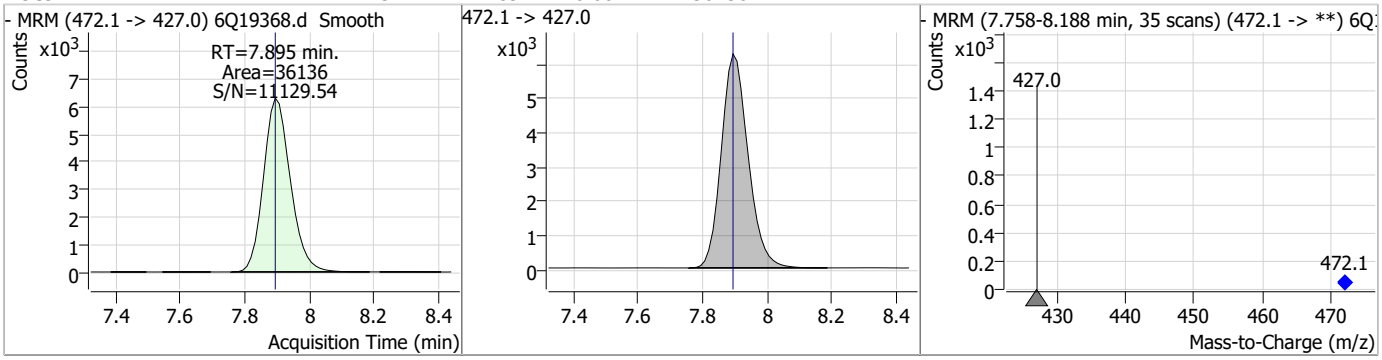
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.11	7.35	0.00	4913 (m)	413.0 -> 169.0	17.0	8.4	25.2



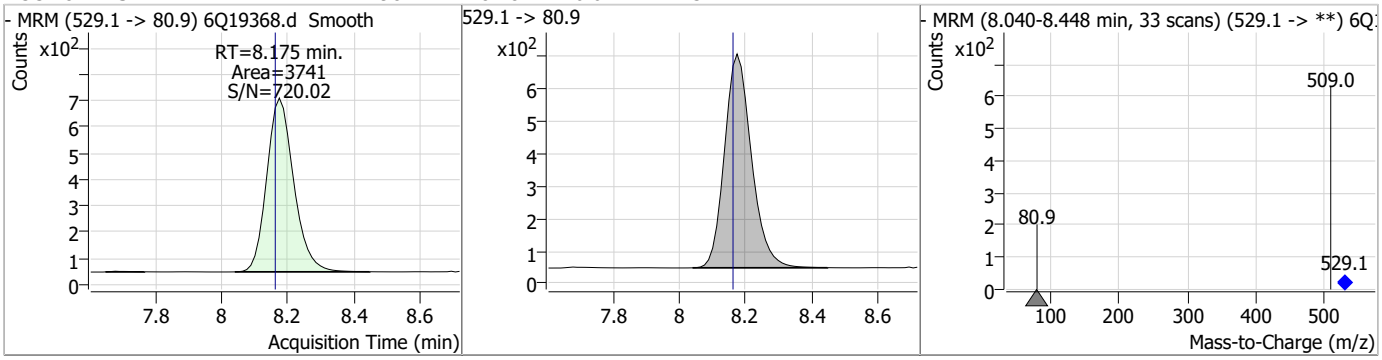
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.77	7.48	0.00	12806				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.32	7.89	0.00	36136				

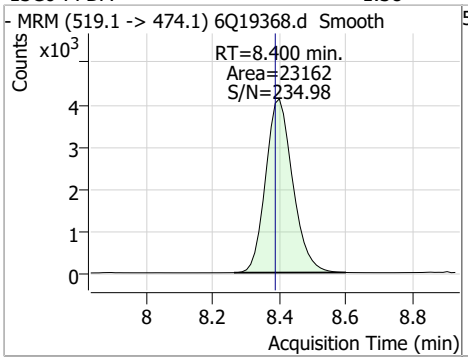


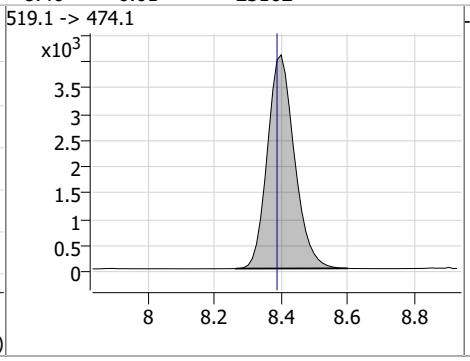
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.98	8.18	0.01	3741				

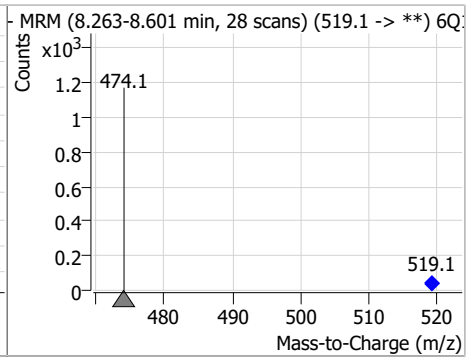


Perfluorinated Compounds by LC/MS/MS

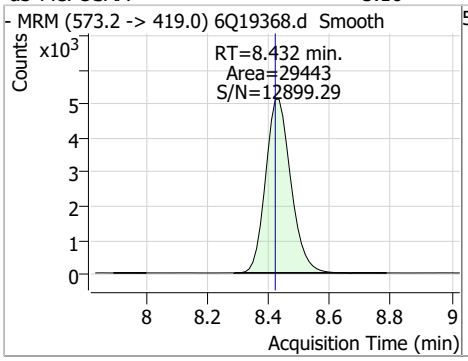
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.38	8.40	0.01	23162				

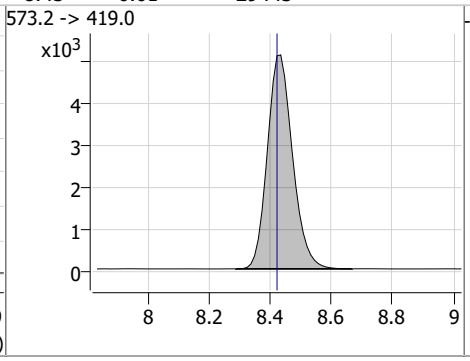


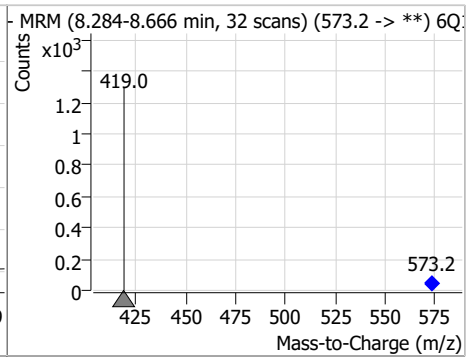




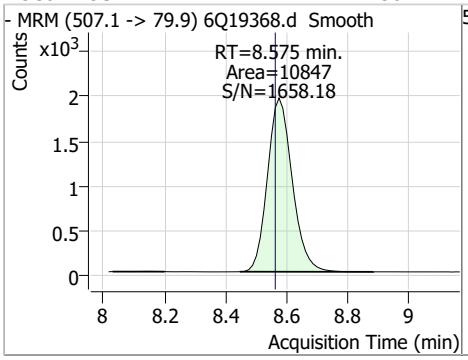
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.16	8.43	0.01	29443				

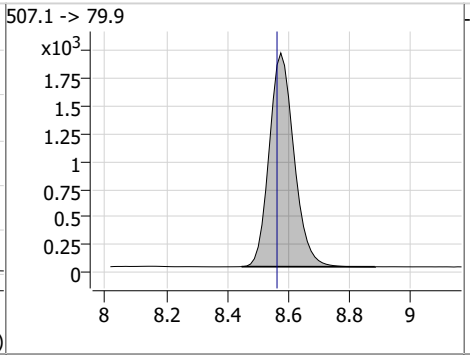


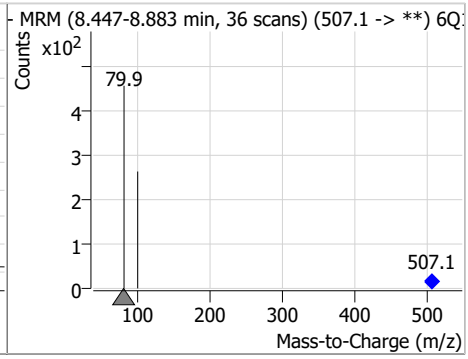




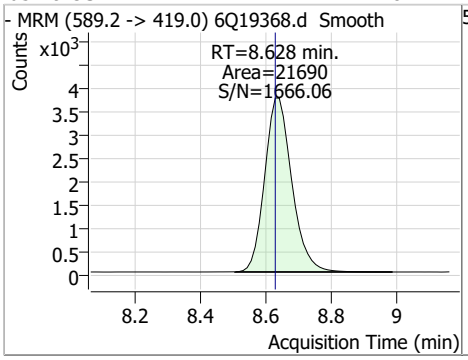
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.38	8.57	0.01	10847				

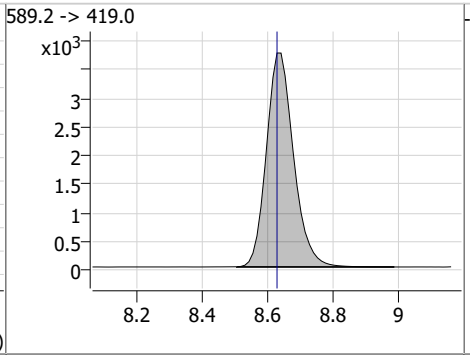


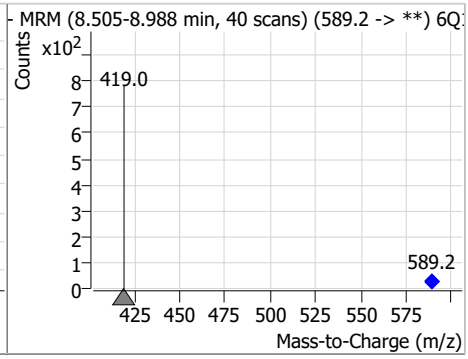




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.48	8.63	0.00	21690				

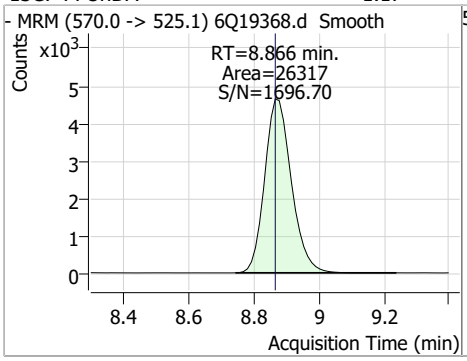


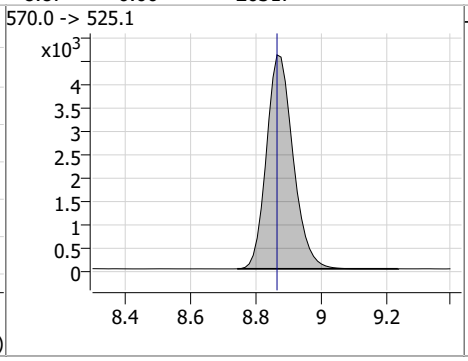


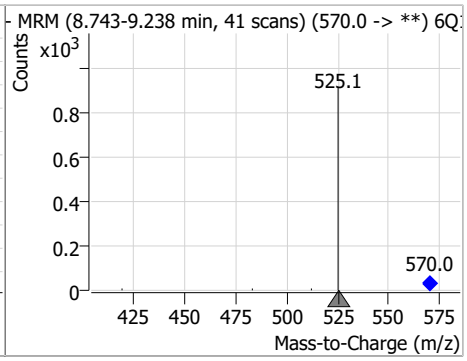


Perfluorinated Compounds by LC/MS/MS

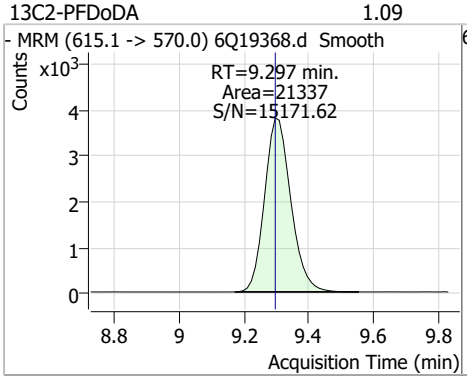
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.17	8.87	0.00	26317				

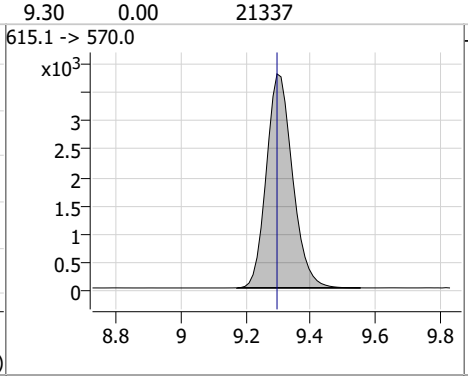


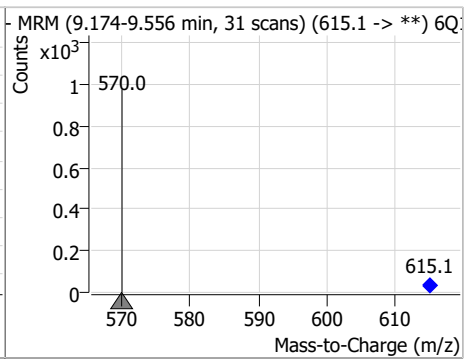




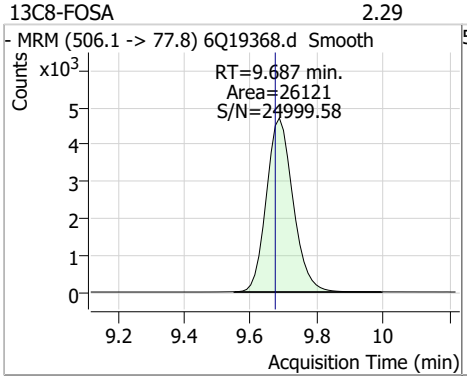
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.09	9.30	0.00	21337				

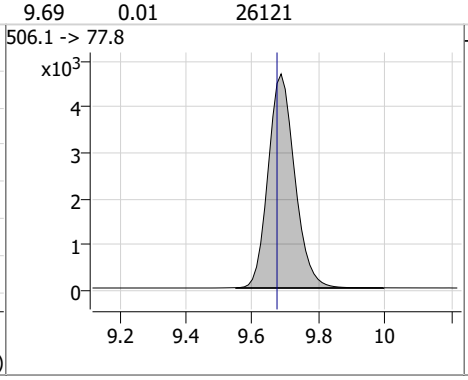


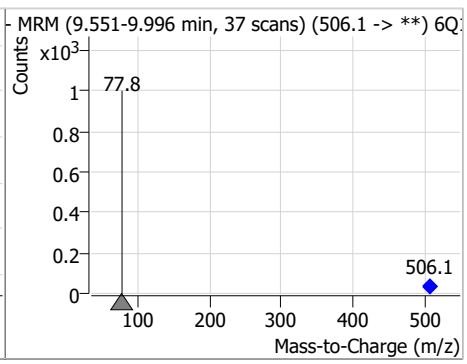




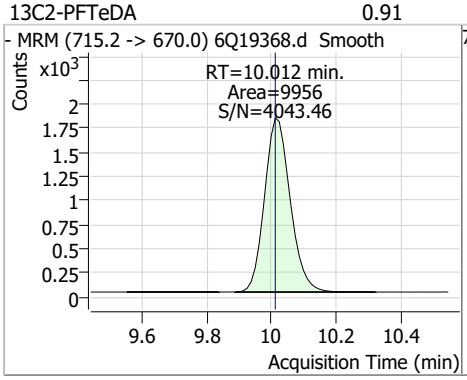
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.29	9.69	0.01	26121				

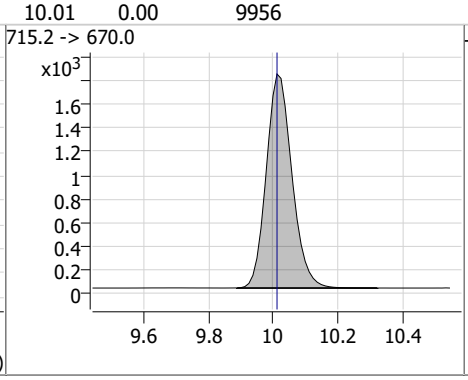


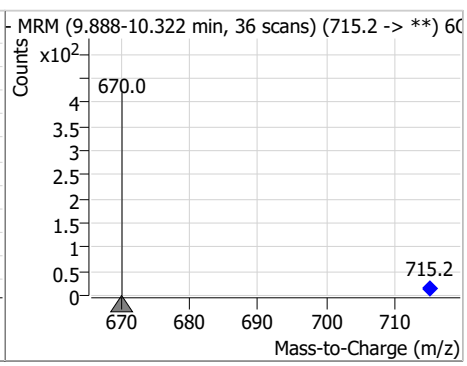




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.91	10.01	0.00	9956				

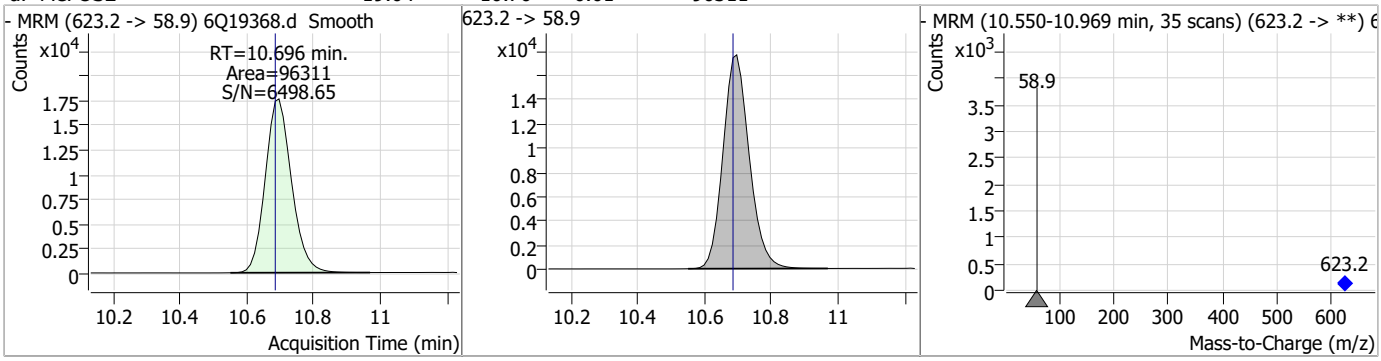




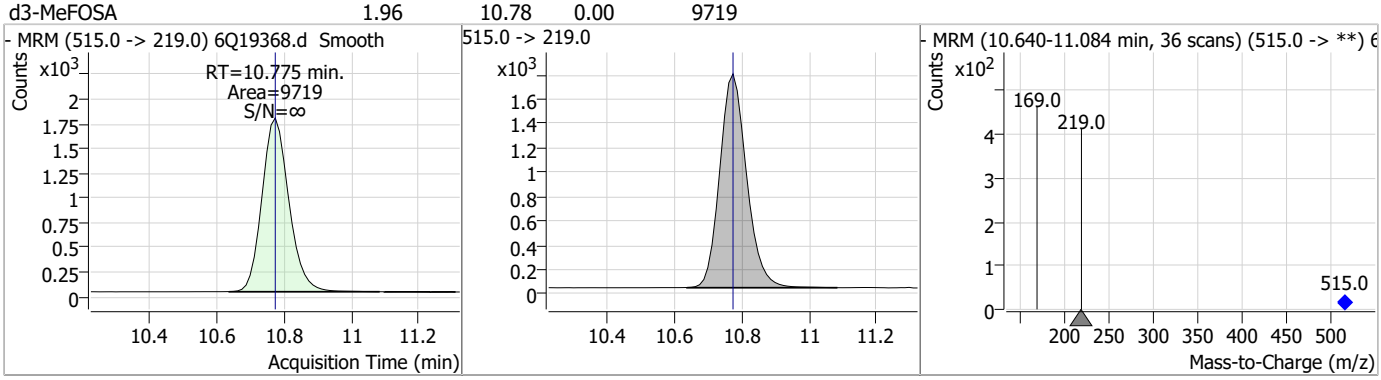


Perfluorinated Compounds by LC/MS/MS

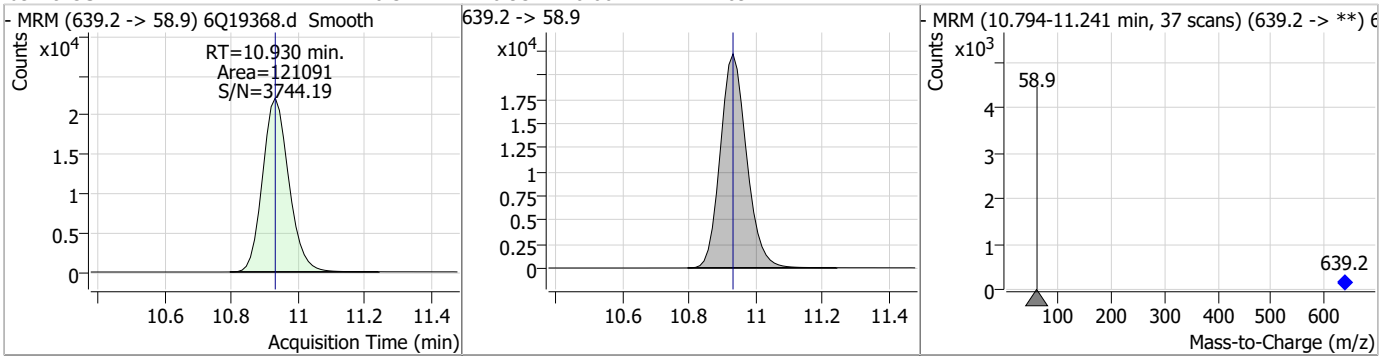
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	19.04	10.70	0.01	96311				



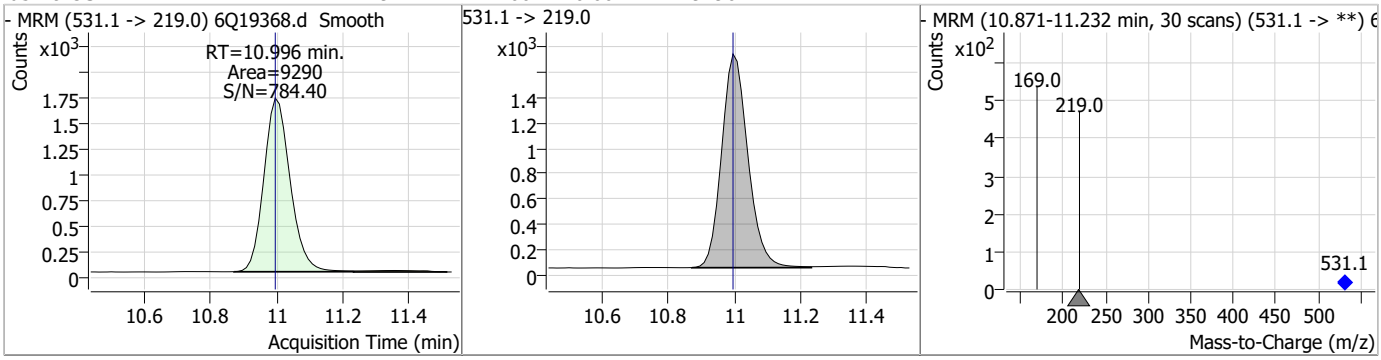
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.96	10.78	0.00	9719				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	20.31	10.93	0.00	121091				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.92	11.00	0.00	9290				



Manual Integration Approval Summary

Sample Number: FC6803-2
Lab FileID: 6Q19368.D
Injection Time: 06/14/23 20:08
Method: EPA DRAFT 1633
Analyst approved: 06/15/23 10:13 Martha Valls
Supervisor approved: 06/15/23 10:58 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanoic acid	375-22-4		3.02	Poor instrument integration
Perfluoroheptanoic acid	375-85-9		6.71	Poor instrument integration
Perfluorooctanoic acid	335-67-1		7.35	Split peak
Perfluorononanoic acid	375-95-1		7.90	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19370.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 8:36:22 PM
Sample Name : FC6803-3
Vial : P4-C6
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97325,S6Q289,570,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	161816	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	53049	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	57465	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	52851	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	79056	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	38378	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	21700	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	28841	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	25589	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	13215	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	24137	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	20017	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12166	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	11478	2.50	µg/L	0.012
M2-4:2FTS	5.454	329.1 -> 80.9	3447	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4850	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	3781	5.00	µg/L	0.012
M3-MeFOSAA	8.432	573.2 -> 419.0	29158	5.00	µg/L	0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	35480	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	25512	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	96877	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	135610	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11278	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	10223	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	13283	2.50	µg/L	0.012
13C3-PFBA	3.101	216.0 -> 172.0	58203	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	8634	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	83216	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	30430	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	42374	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	44324	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3447	6.65	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 133.1%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4850	6.20	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 124.0%		
13C2-8:2FTS	8.175	529.1 -> 80.9	3781	5.14	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C2-PFDoDA	9.297	615.1 -> 570.0	25589	1.26	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C2-PFTeDA	10.012	715.2 -> 670.0	13215	1.16	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.1%		
13C3-PFBS	5.746	302.1 -> 79.9	20017	2.79	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.4%		
13C3-PFHxS	7.478	402.1 -> 79.9	12166	2.68	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C4-PFBA	3.097	216.8 -> 171.9	161816	11.85 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 118.5%	
13C4-PFHpA	6.707	367.1 -> 322.0	52851	3.09 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 123.6%	
13C5-PFHxA	5.792	318.0 -> 273.0	57465	3.14 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 125.7%	
13C5-PFPeA	4.560	268.3 -> 223.0	53049	6.33 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 126.6%	
13C6-PFDA	8.400	519.1 -> 474.1	21700	1.24 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C7-PFUnDA	8.866	570.0 -> 525.1	28841	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C8-FOSA	9.687	506.1 -> 77.8	24137	2.40 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.0%	
13C8-PFOA	7.352	421.1 -> 376.0	79056	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C8-PFOS	8.575	507.1 -> 79.9	11478	2.86 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.5%	
13C9-PFNA	7.895	472.1 -> 427.0	38378	1.49 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 119.0%	
d3-MeFOSAA	8.432	573.2 -> 419.0	29158	5.80 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.0%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	35480	11.59 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 115.9%	
d3-MeFOSA	10.775	515.0 -> 219.0	10223	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.5%	
d5-EtFOSAA	8.628	589.2 -> 419.0	25512	5.98 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.6%	
d7-MeFOSE	10.696	623.2 -> 58.9	96877	21.74 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 86.9%	
d9-EtFOSE	10.930	639.2 -> 58.9	135610	25.81 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.2%	
d5-EtFOSA	10.996	531.1 -> 219.0	11278	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.7%	

Target Compounds						QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.		
		327.1 -> 80.9				
6:2FTS	-	427.1 -> 407.0	-	N.D.		
		427.1 -> 80.9				
8:2FTS	-	527.1 -> 507.0	-	N.D.		
		527.1 -> 80.8				
EtFOSAA	-	584.2 -> 419.1	-	N.D.		
		584.2 -> 526.0				
FOSA	-	498.1 -> 77.9	-	N.D.		
		498.1 -> 478.0				
MeFOSAA	-	570.1 -> 419.0	-	N.D.		
		570.1 -> 483.0				
PFBA	-	212.8 -> 168.9	-	N.D.		
PFBS	-	298.7 -> 79.9	-	N.D.		
		298.7 -> 98.8				
PFDA	8.845	512.9 -> 469.0	0	µg/L	m	1
		512.9 -> 219.0	0			
PFDoDA	-	613.1 -> 569.0	-	N.D.		
		613.1 -> 319.0				
PFDS	-	599.0 -> 79.9	-	N.D.		

Perfluorinated Compounds by LC/MS/MS

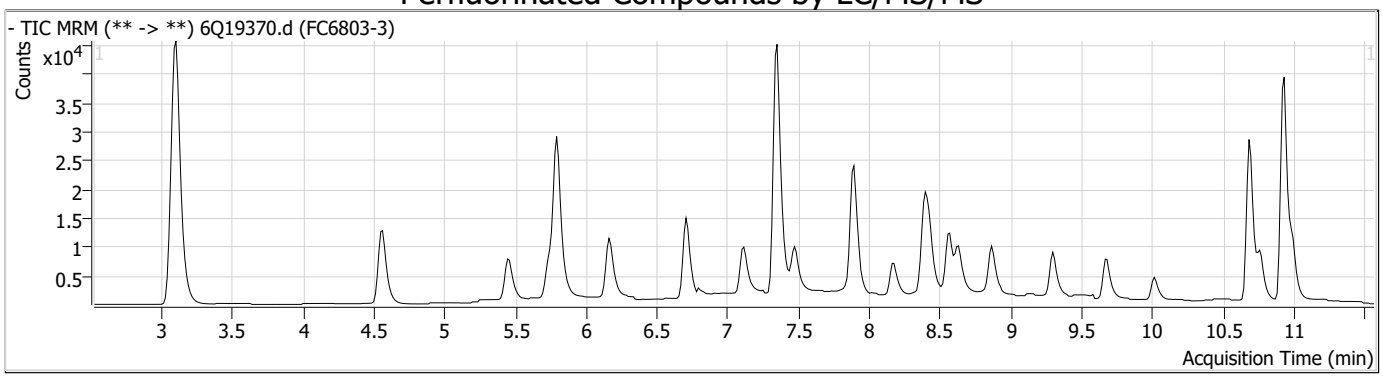
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	N.D.		
		463.0 -> 219.0				
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	-	413.0 -> 369.0	-	N.D.		
		413.0 -> 169.0				
PFOS	-	498.9 -> 79.9	-	N.D.		
		498.9 -> 98.8				
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

 # = Qualifier out of range, m = manually integrated, + = Area summed

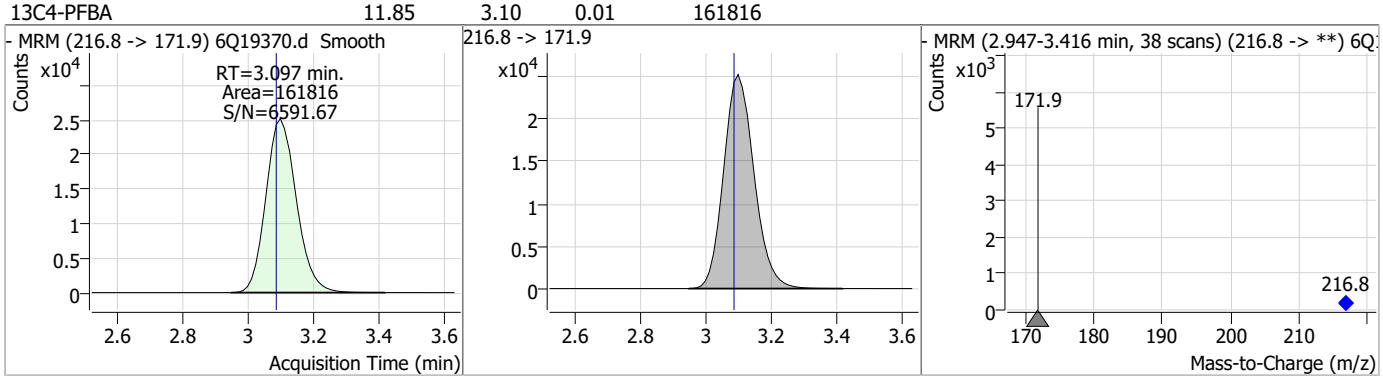
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

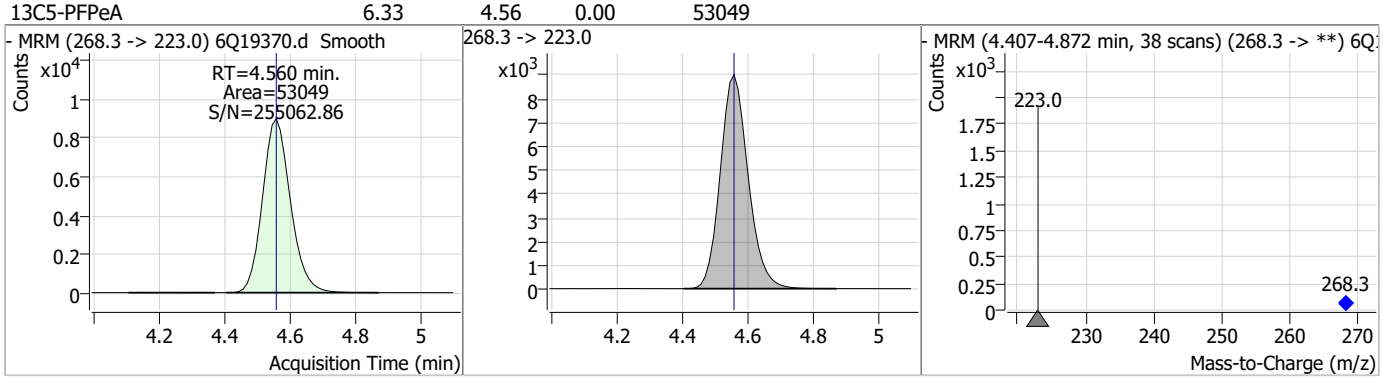
Perfluorinated Compounds by LC/MS/MS



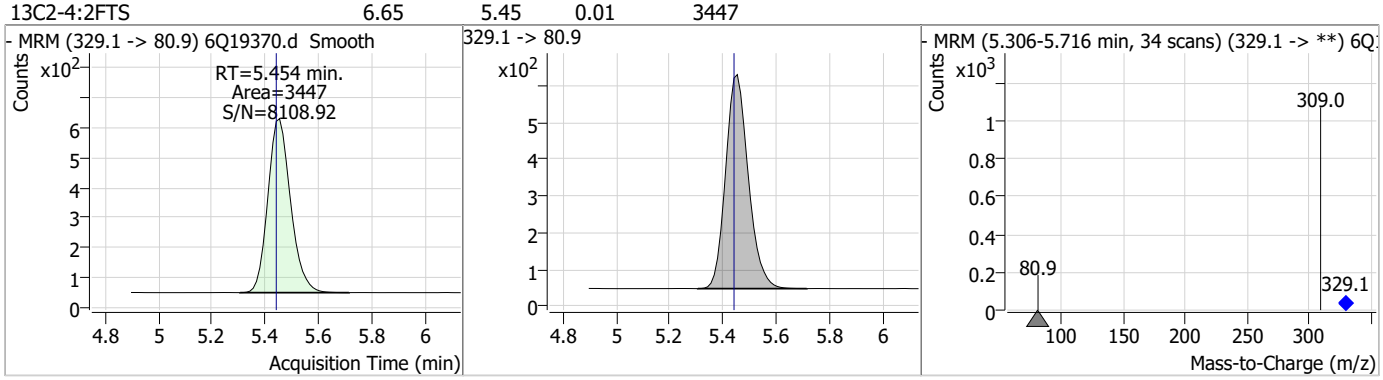
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	11.85	3.10	0.01	161816				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	6.33	4.56	0.00	53049				

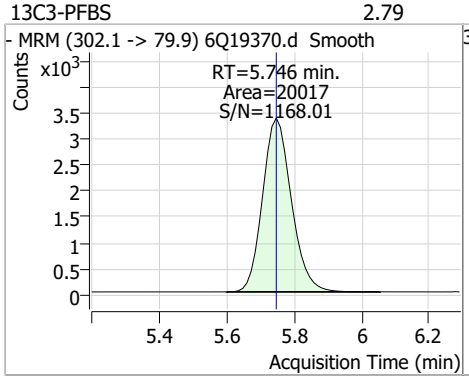


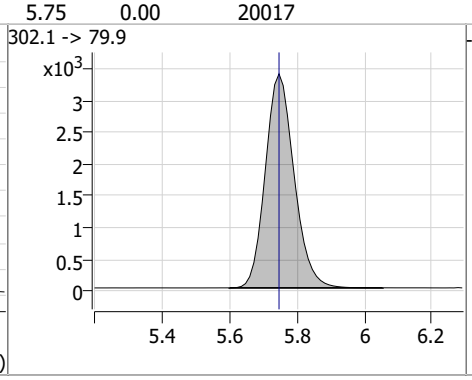
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.65	5.45	0.01	3447				

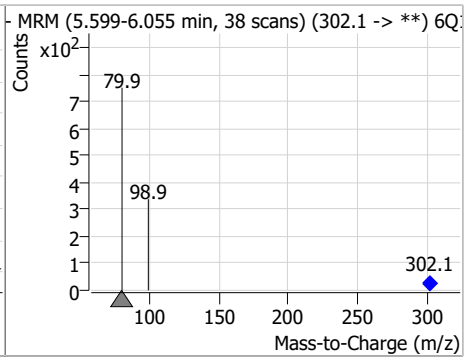


Perfluorinated Compounds by LC/MS/MS

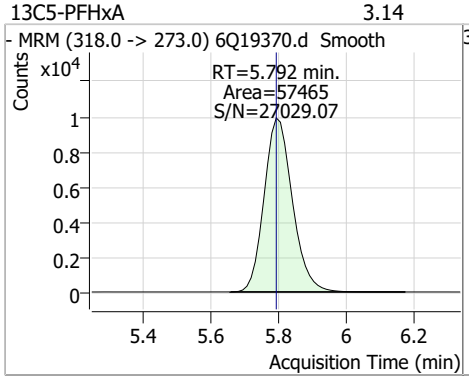
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.79	5.75	0.00	20017				

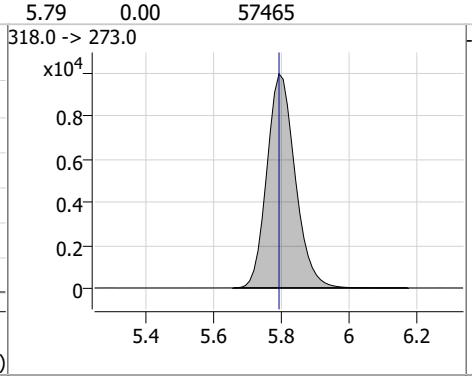


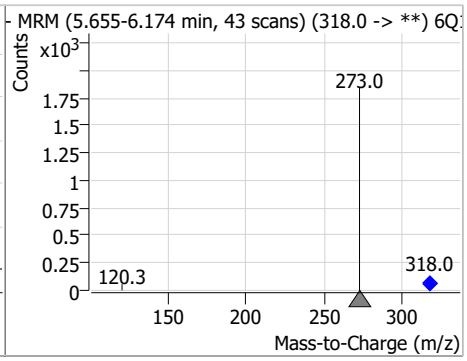




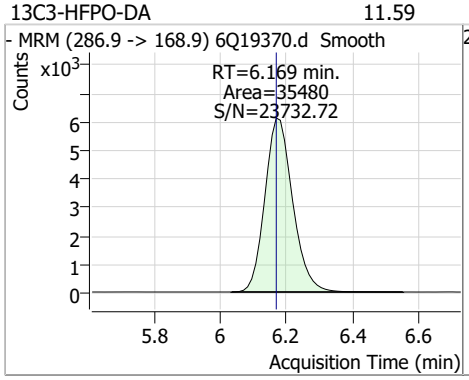
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.14	5.79	0.00	57465				

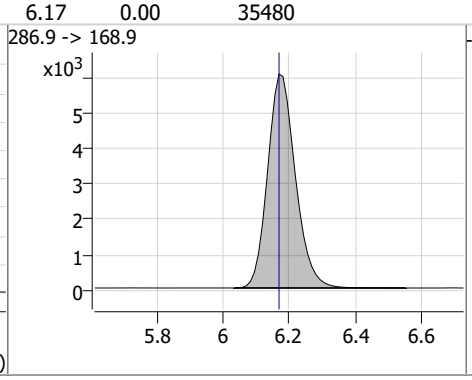


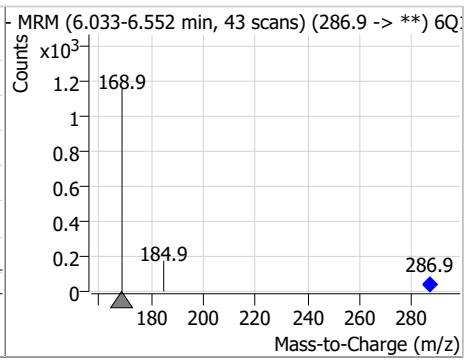




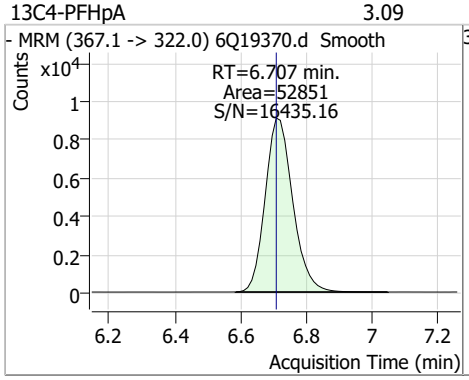
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.59	6.17	0.00	35480				

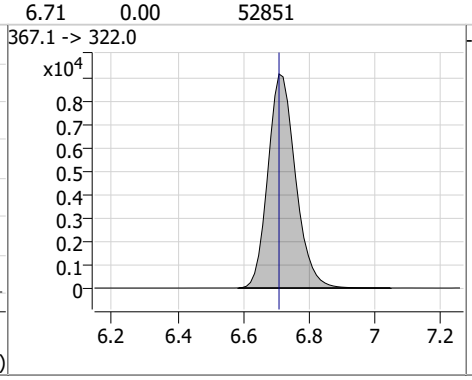


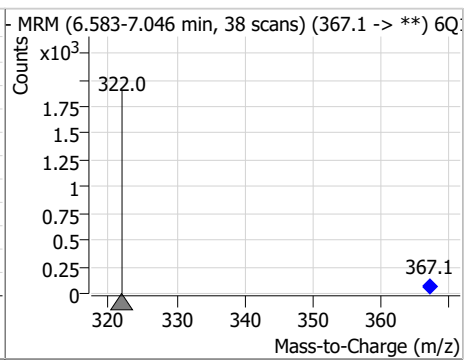




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.09	6.71	0.00	52851				

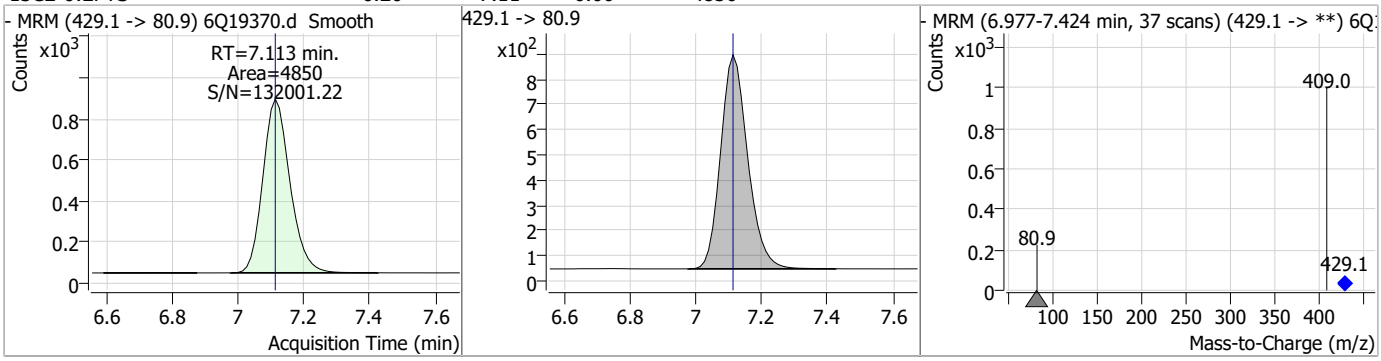




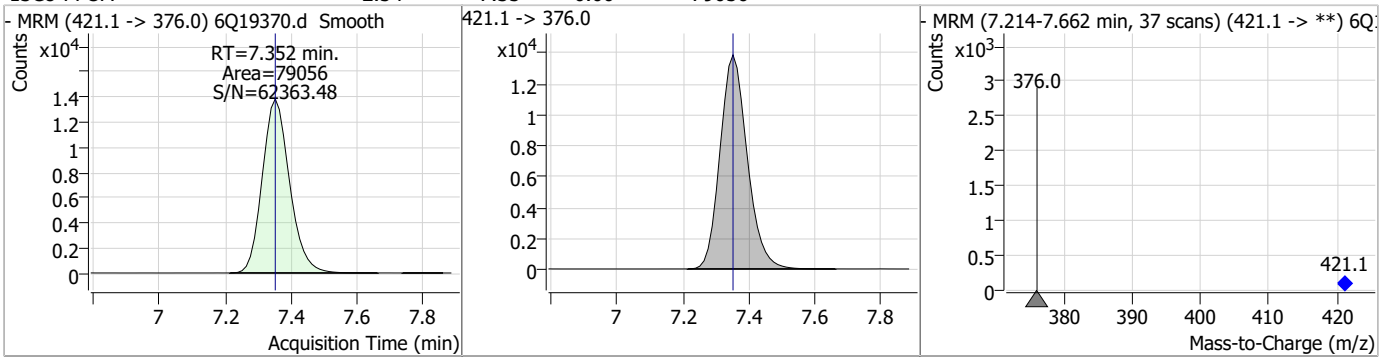


Perfluorinated Compounds by LC/MS/MS

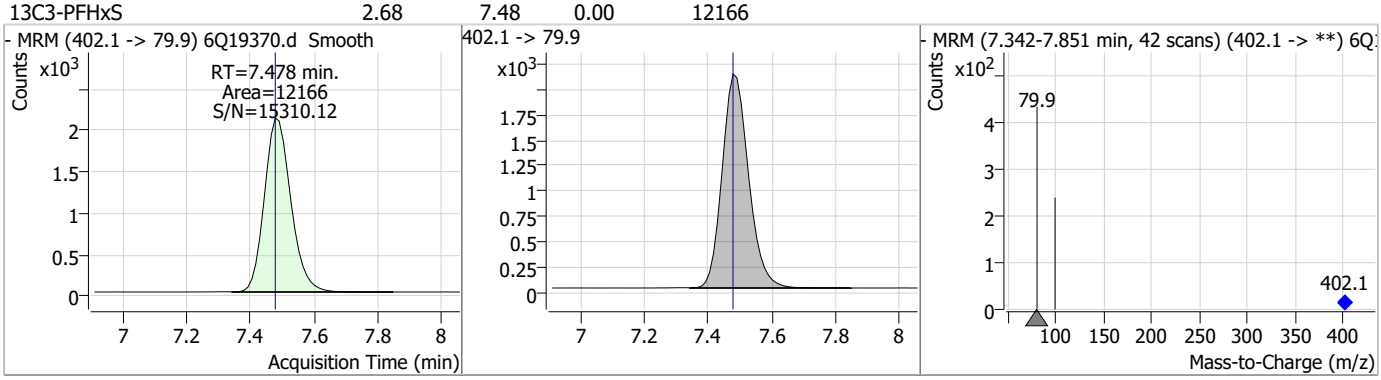
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.20	7.11	0.00	4850				



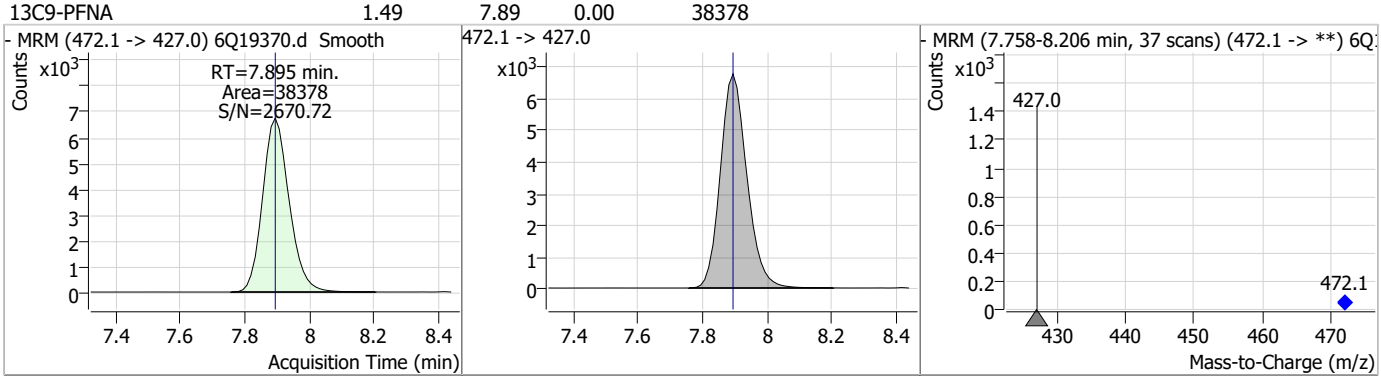
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.54	7.35	0.00	79056				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.68	7.48	0.00	12166				

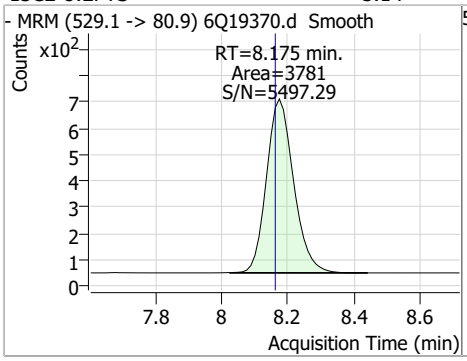


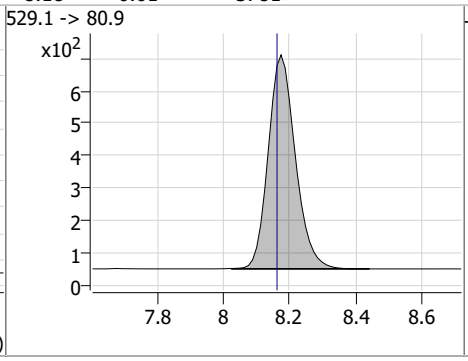
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.49	7.89	0.00	38378				

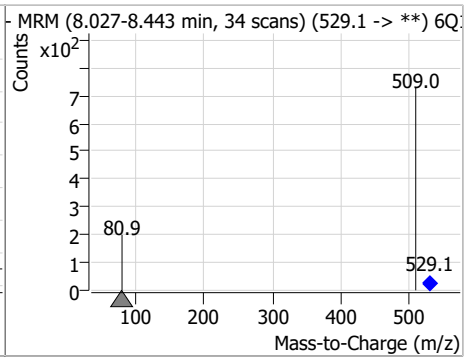


Perfluorinated Compounds by LC/MS/MS

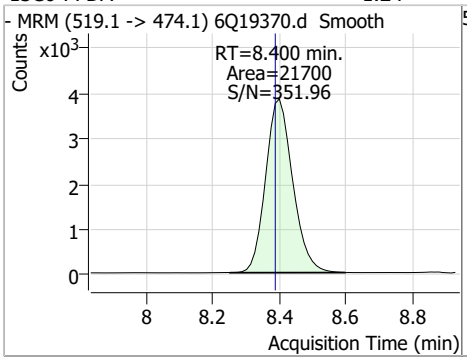
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.14	8.18	0.01	3781				

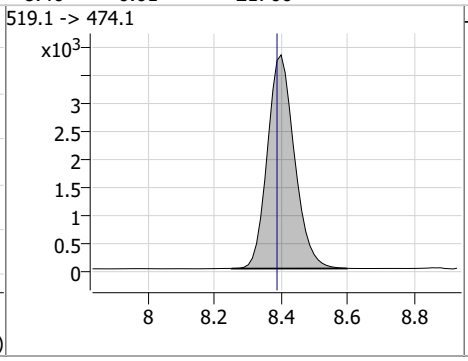


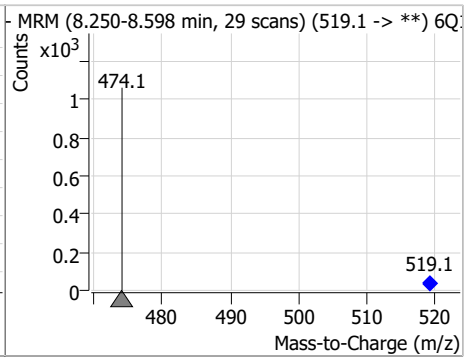




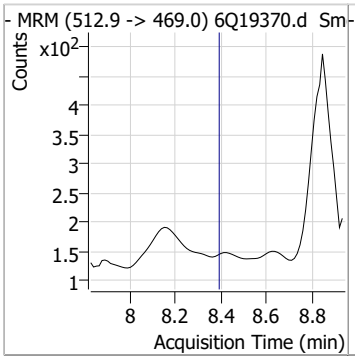
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.24	8.40	0.01	21700				

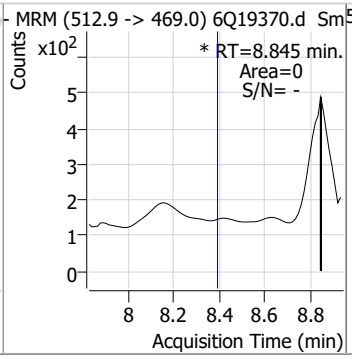


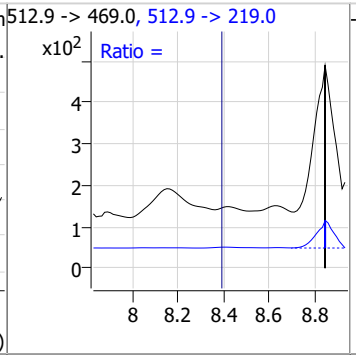


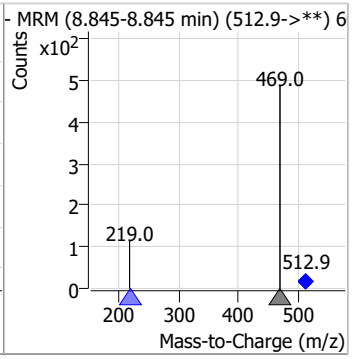


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0		0		512.9 -> 219.0		7.9	23.7

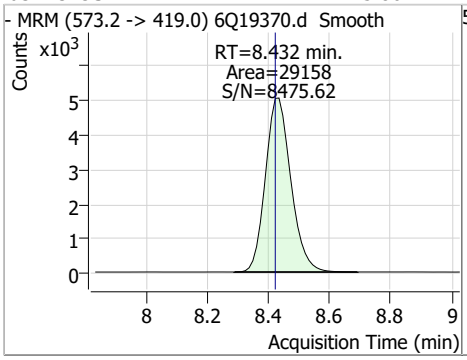


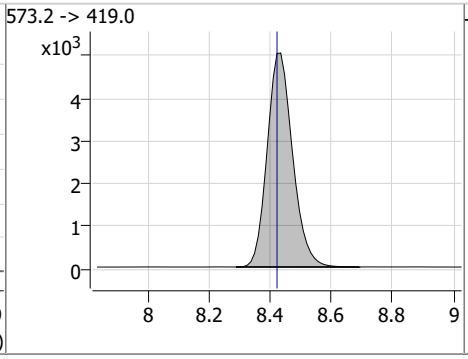


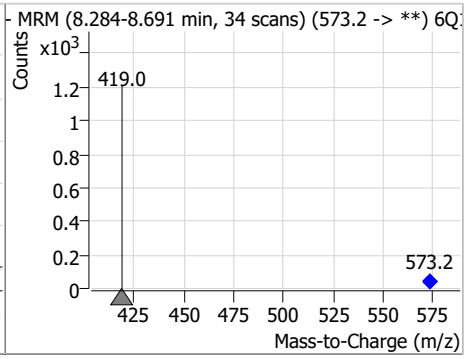




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.80	8.43	0.01	29158				

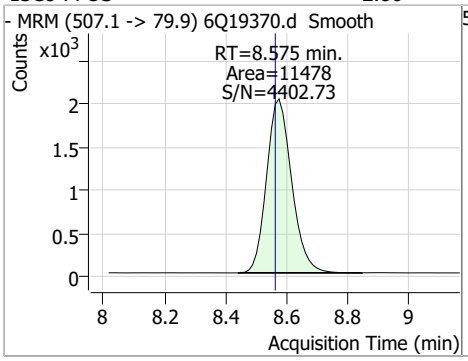


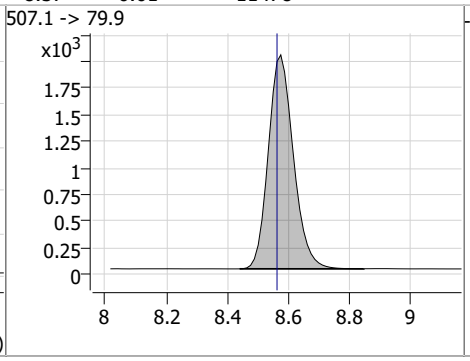


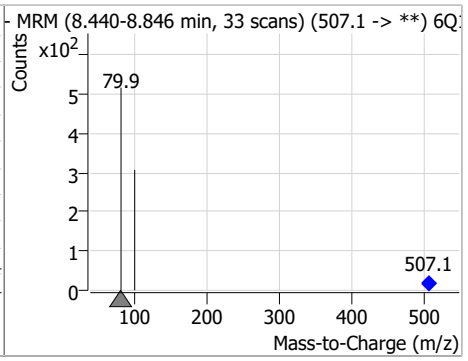


Perfluorinated Compounds by LC/MS/MS

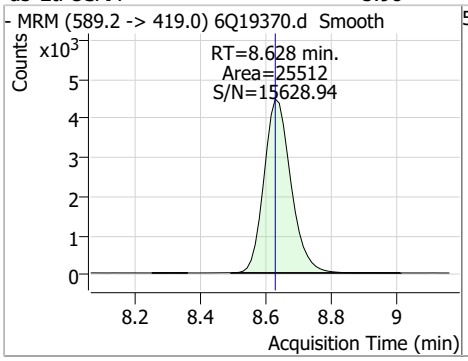
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.86	8.57	0.01	11478				

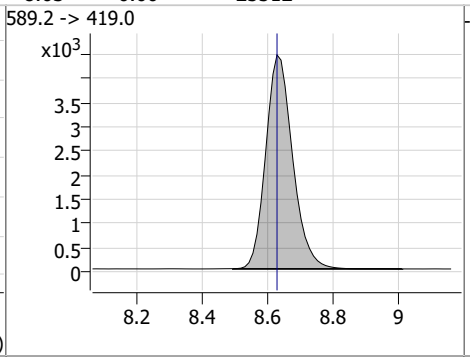


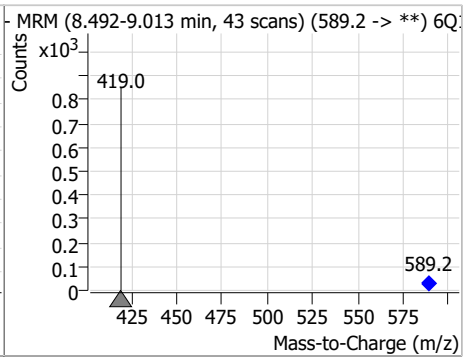




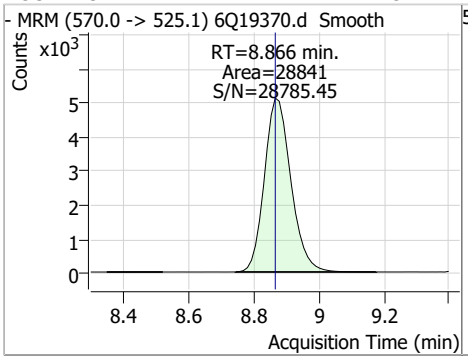
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.98	8.63	0.00	25512				

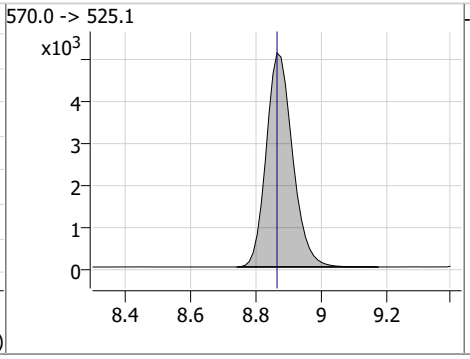


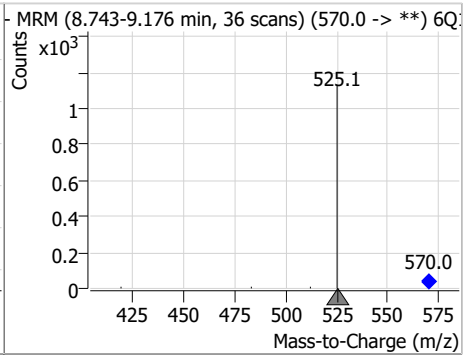




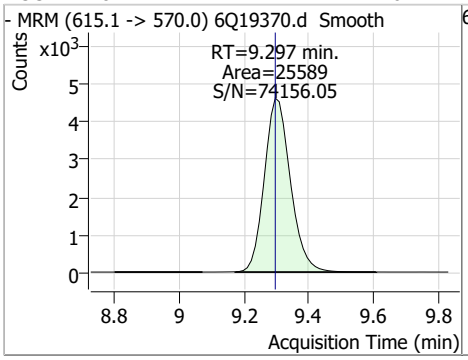
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.23	8.87	0.00	28841				

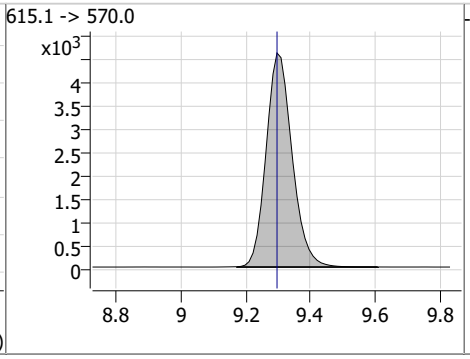


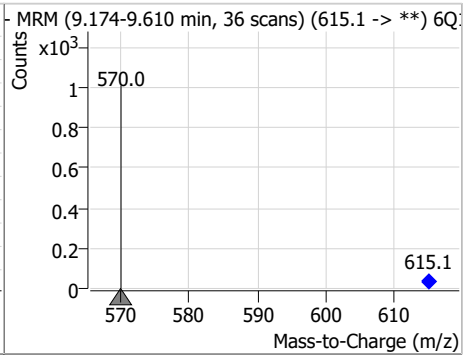




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.26	9.30	0.00	25589				

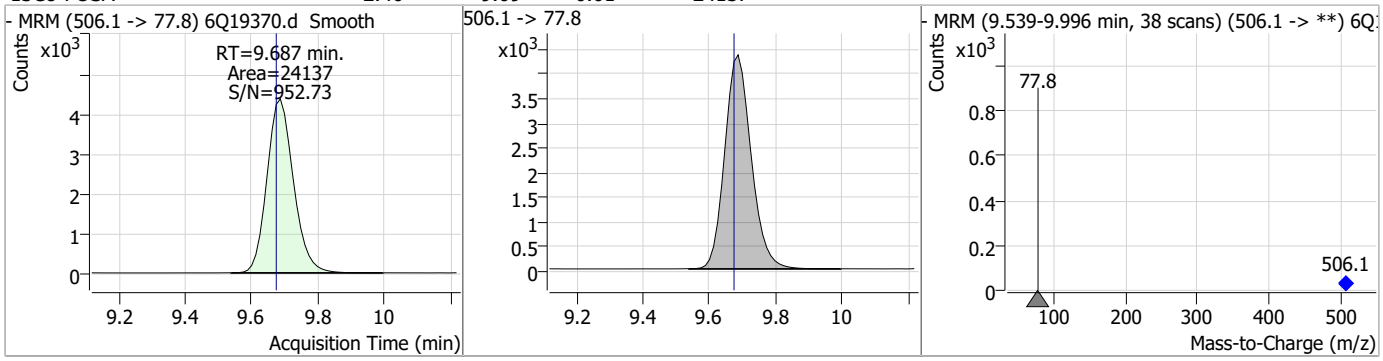




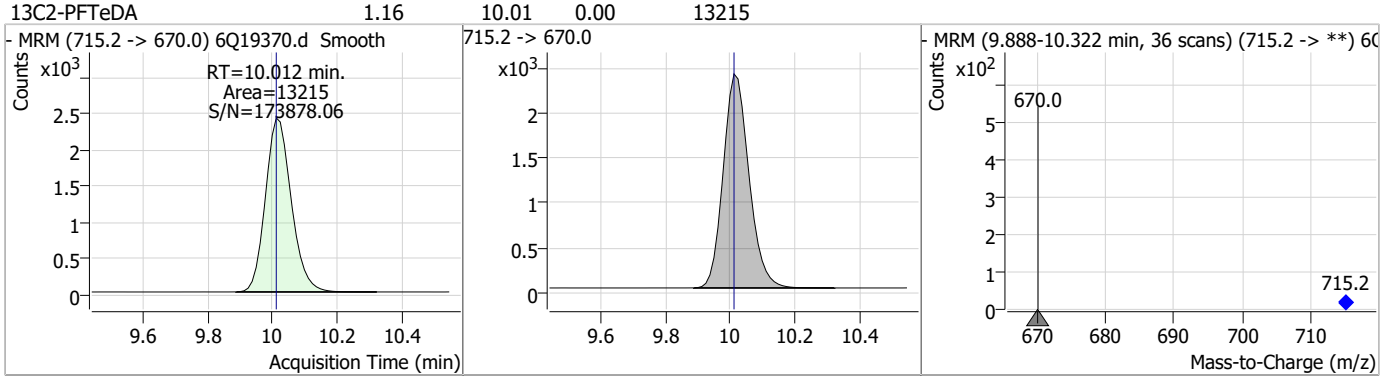


Perfluorinated Compounds by LC/MS/MS

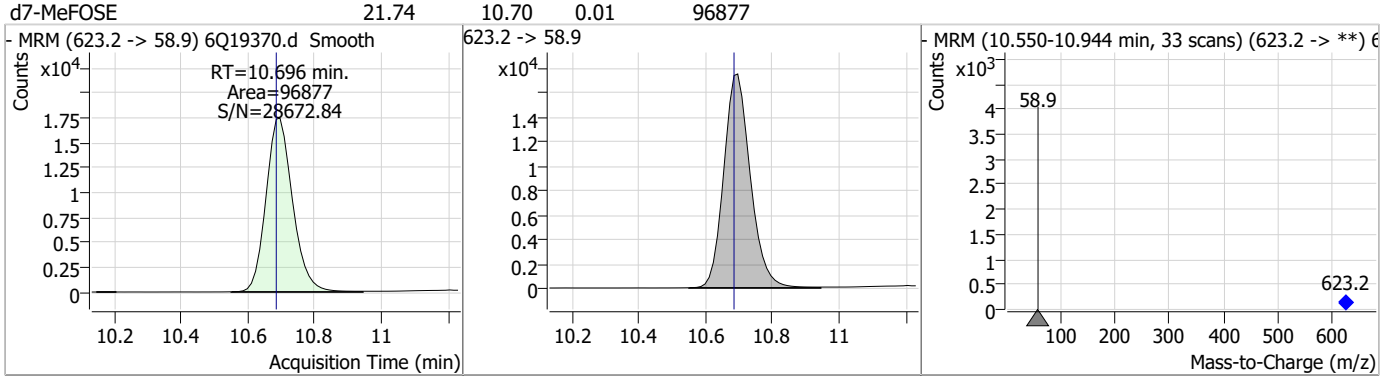
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.40	9.69	0.01	24137				



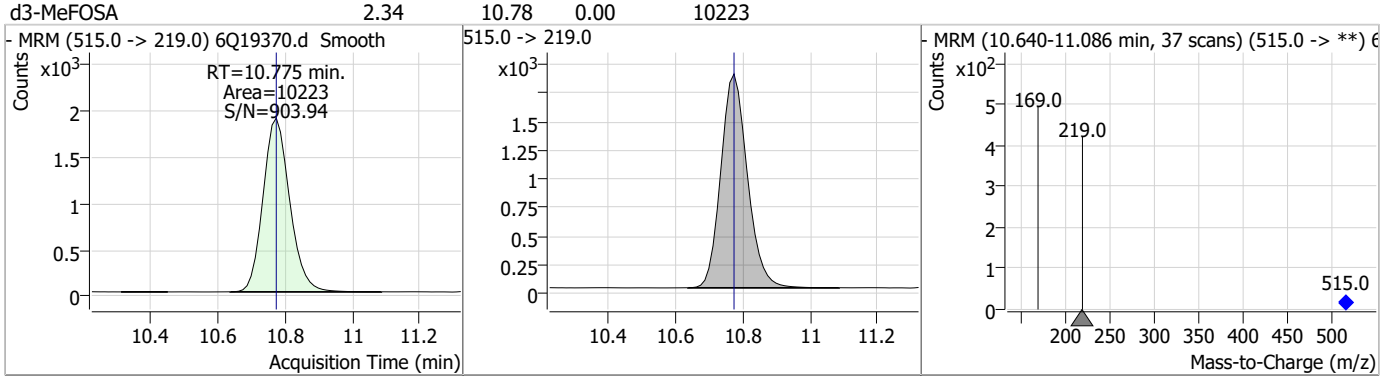
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.16	10.01	0.00	13215				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	21.74	10.70	0.01	96877				

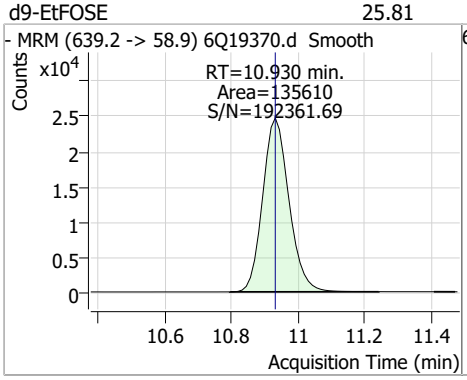


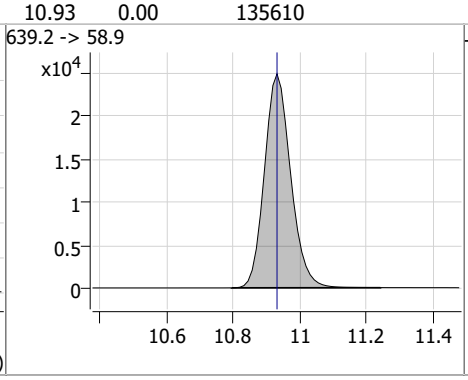
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.34	10.78	0.00	10223				

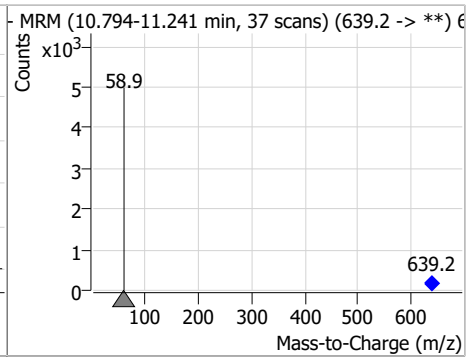


Perfluorinated Compounds by LC/MS/MS

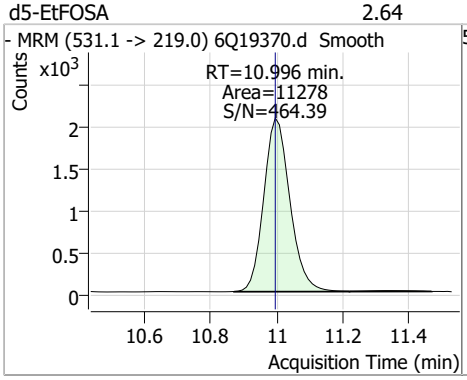
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.81	10.93	0.00	135610				

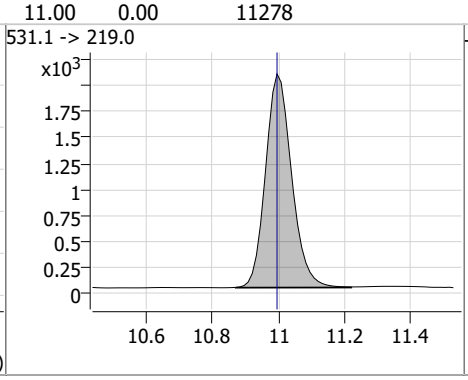


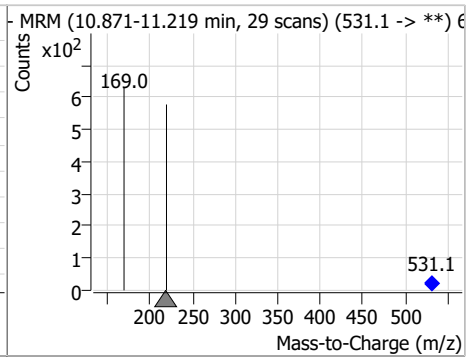




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.64	11.00	0.00	11278				







Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19598.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 9:20:10 AM
Sample Name : FC6803-4
Vial : P2-D8
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97385,S6Q292,520,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	4634	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	10405	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	40030	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	43074	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	66374	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	31897	1.25	µg/L	-0.013
M6-PFDA	8.375	519.1 -> 474.1	18195	1.25	µg/L	-0.012
M7-PFUnDA	8.853	570.0 -> 525.1	23053	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	18999	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	7692	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	18847	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	15848	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11038	2.50	µg/L	0.000
M8-PFOS	8.550	507.1 -> 79.9	10494	2.50	µg/L	-0.012
M2-4:2FTS	5.454	329.1 -> 80.9	2644	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	3323	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3363	5.00	µg/L	0.000
M3-MeFOSAA	8.407	573.2 -> 419.0	33507	5.00	µg/L	-0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	24764	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	24155	5.00	µg/L	-0.012
M7-MeFOSE	10.696	623.2 -> 58.9	72708	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	102654	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	9725	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	9373	2.50	µg/L	0.000
13C4-PFOS	8.551	502.8 -> 79.9	11331	2.50	µg/L	-0.012
13C3-PFBA	3.101	216.0 -> 172.0	51603	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	7317	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	63375	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	24302	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	38870	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	38634	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	2644	6.02	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 120.5%		
13C2-6:2FTS	7.113	429.1 -> 80.9	3323	5.01	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.2%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3363	5.39	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.9%		
13C2-PFDoDA	9.285	615.1 -> 570.0	18999	1.17	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.5%		
13C2-PFTeDA	10.000	715.2 -> 670.0	7692	0.85	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 67.9%		
13C3-PFBS	5.746	302.1 -> 79.9	15848	2.60	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%		
13C3-PFHxS	7.478	402.1 -> 79.9	11038	2.87	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.8%	
13C4-PFBA	3.097	216.8 -> 171.9	4634	0.38 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 3.8%	
13C4-PFHpA	6.707	367.1 -> 322.0	43074	2.89 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.5%	
13C5-PFHxA	5.792	318.0 -> 273.0	40030	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C5-PFPeA	4.560	268.3 -> 223.0	10405	1.42 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 28.5%	
13C6-PFDA	8.375	519.1 -> 474.1	18195	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C7-PFUnDA	8.853	570.0 -> 525.1	23053	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.7%	
13C8-FOSA	9.687	506.1 -> 77.8	18847	2.20 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.8%	
13C8-PFOA	7.339	421.1 -> 376.0	66374	2.80 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.1%	
13C8-PFOS	8.550	507.1 -> 79.9	10494	3.07 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 122.7%	
13C9-PFNA	7.882	472.1 -> 427.0	31897	1.35 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.8%	
d3-MeFOSAA	8.407	573.2 -> 419.0	33507	7.82 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 156.3%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	24764	9.28 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 92.8%	
d3-MeFOSA	10.775	515.0 -> 219.0	9373	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
d5-EtFOSAA	8.615	589.2 -> 419.0	24155	6.64 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 132.8%	
d7-MeFOSE	10.696	623.2 -> 58.9	72708	19.12 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 76.5%	
d9-EtFOSE	10.930	639.2 -> 58.9	102654	22.90 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.6%	
d5-EtFOSA	10.996	531.1 -> 219.0	9725	2.67 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.9%	
Target Compounds					**QValue**
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9 298.7 -> 98.8	-	N.D.	
PFDA	-	512.9 -> 469.0 512.9 -> 219.0	-	N.D.	
PFDoDA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	9.424	599.0 -> 79.9	0	µg/L m	1

Perfluorinated Compounds by LC/MS/MS

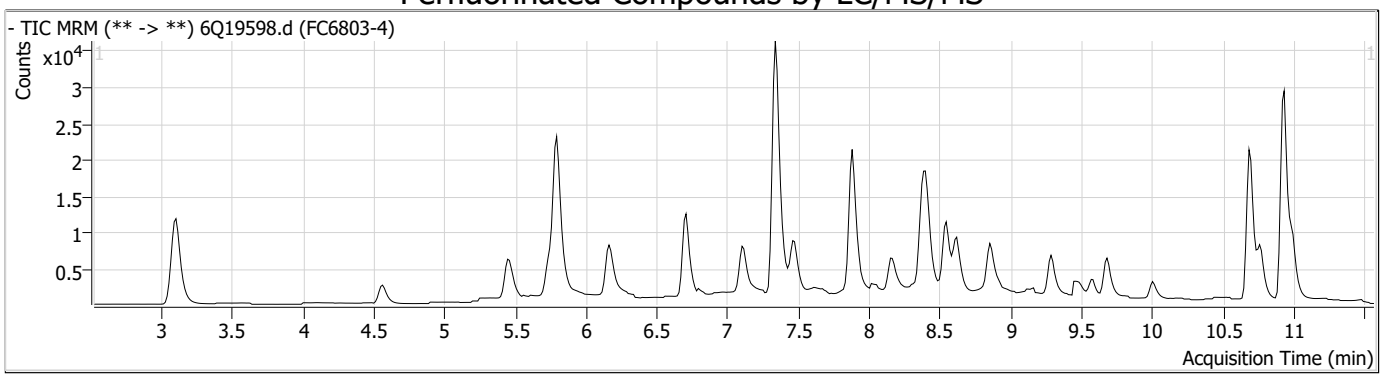
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	8.529	449.0 -> 79.9	0		µg/L	m	1
		449.0 -> 98.9	0				
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	9.413	548.8 -> 79.9	0		µg/L	m	1
		548.8 -> 98.9	0				
PFOA	7.341	413.0 -> 369.0	0		µg/L	m	1
		413.0 -> 169.0	0				
PFOS	8.266	498.9 -> 79.9	0		µg/L	m	1
		498.9 -> 98.8	0				
PFPeA	-	263.0 -> 219.0	-	N.D.			
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	9.567	713.1 -> 669.0	0		µg/L	m	1
		713.1 -> 168.9	0				
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	8.360	563.1 -> 519.0	0		µg/L	m	1
		563.1 -> 269.1	0				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

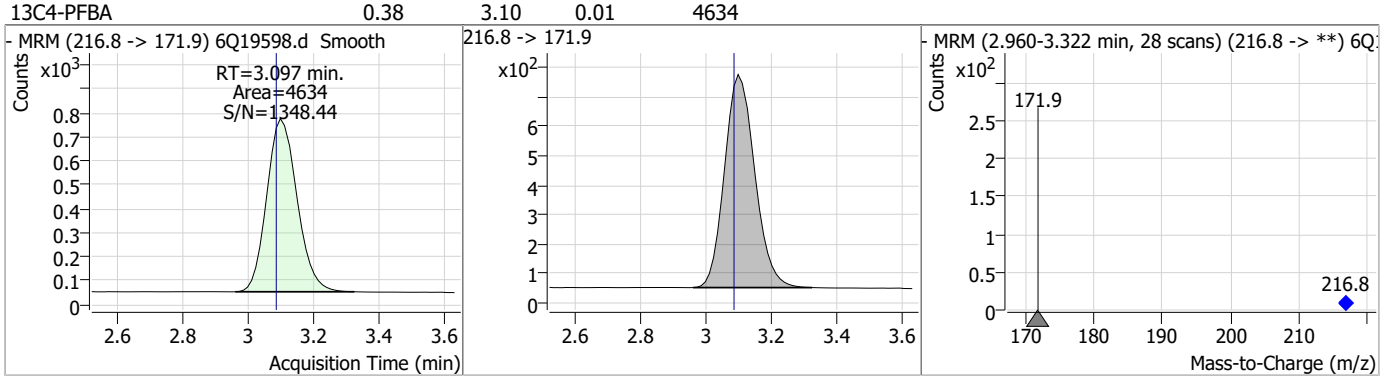
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

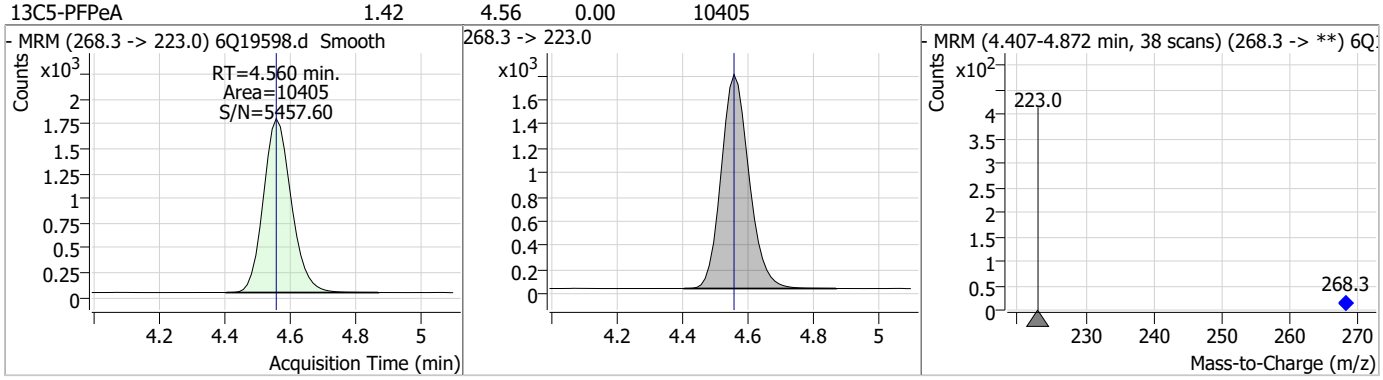
Perfluorinated Compounds by LC/MS/MS



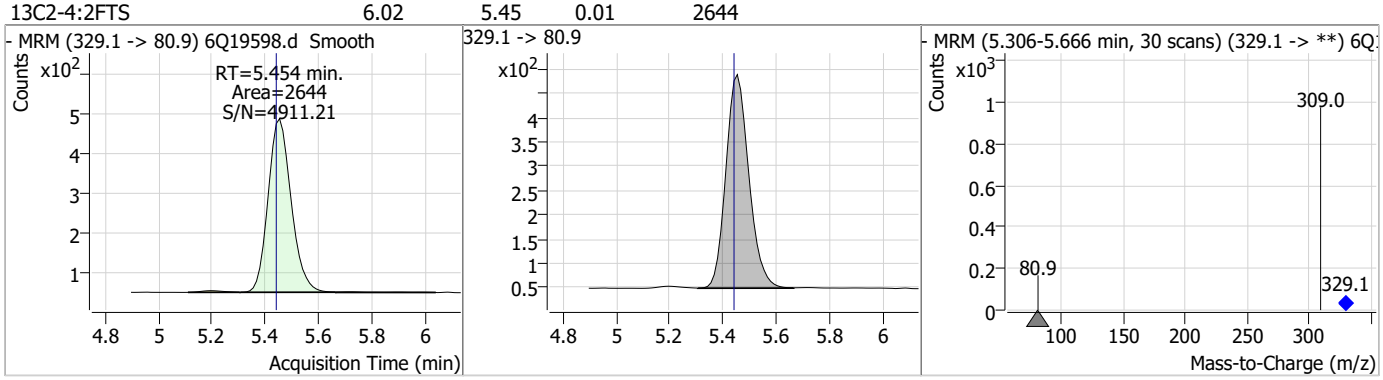
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	0.38	3.10	0.01	4634				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	1.42	4.56	0.00	10405				

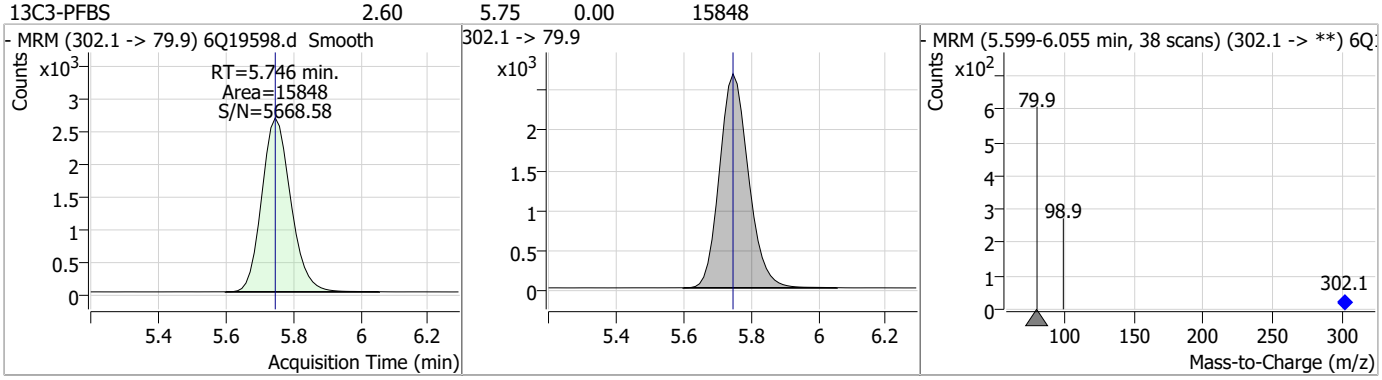


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.02	5.45	0.01	2644				

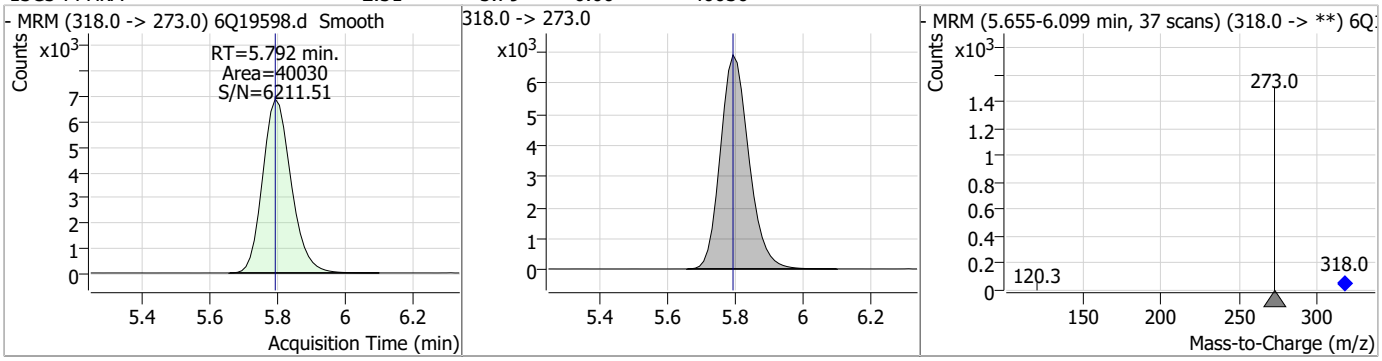


Perfluorinated Compounds by LC/MS/MS

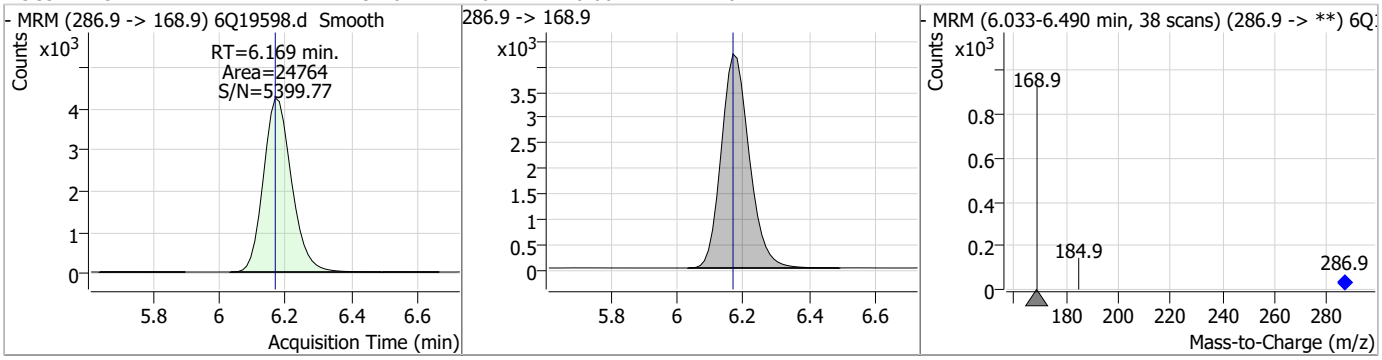
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.60	5.75	0.00	15848				



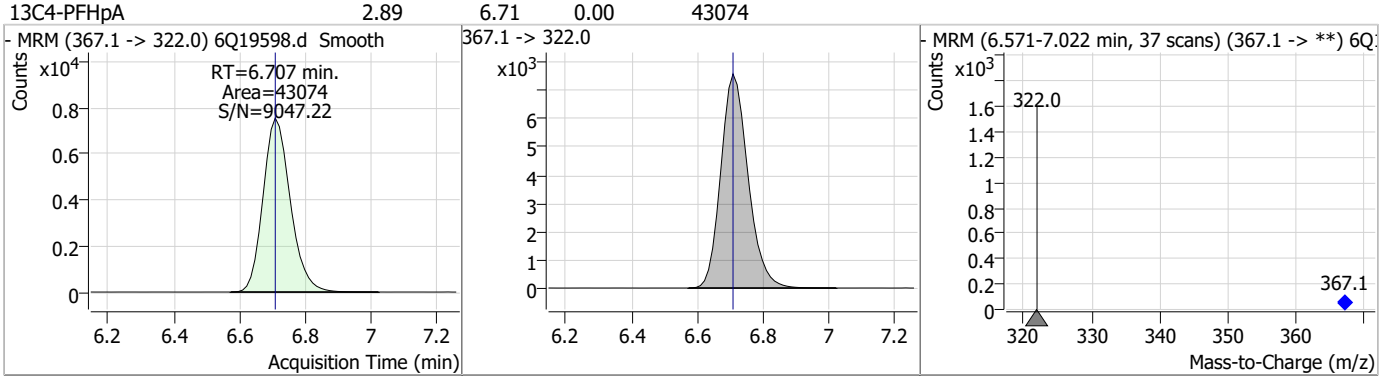
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.51	5.79	0.00	40030				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.28	6.17	0.00	24764				

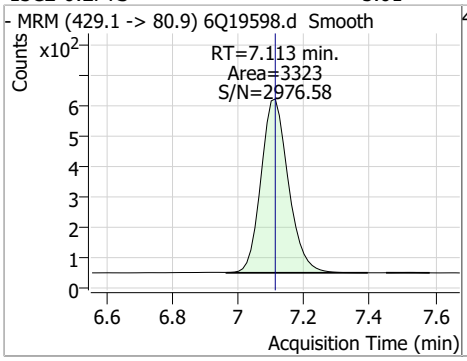


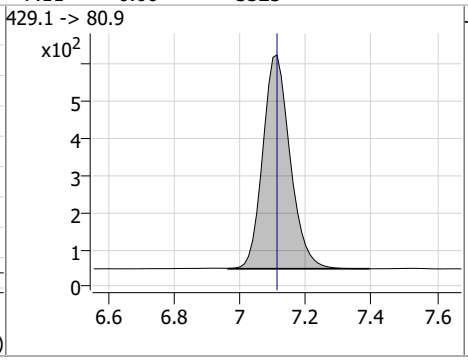
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.89	6.71	0.00	43074				

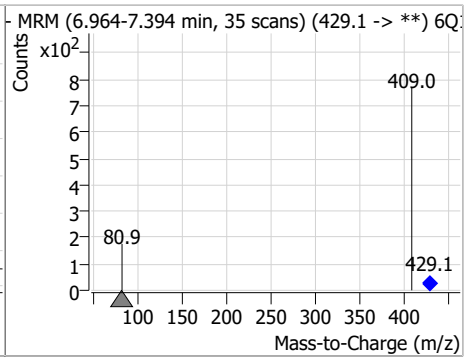


Perfluorinated Compounds by LC/MS/MS

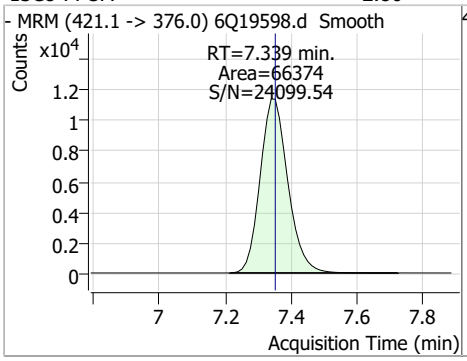
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.01	7.11	0.00	3323				

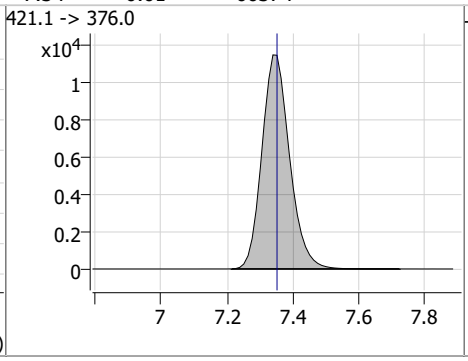


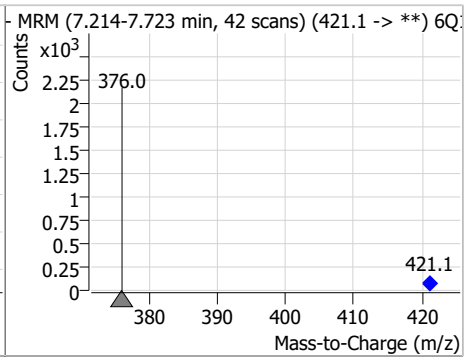




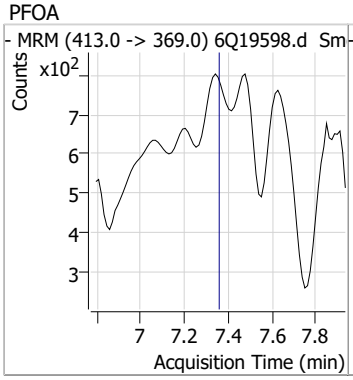
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.80	7.34	-0.01	66374				

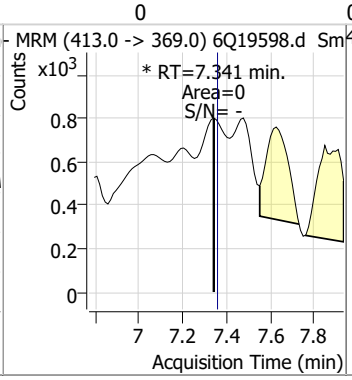


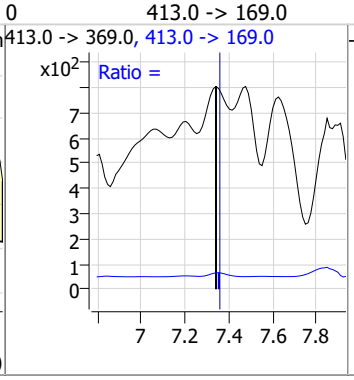


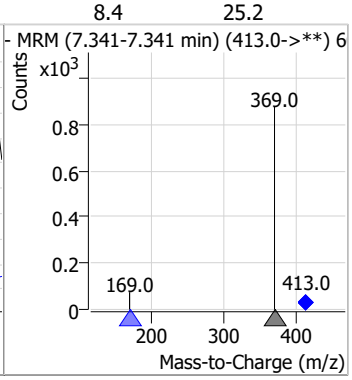


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0		0	0	413.0 -> 169.0		8.4	25.2

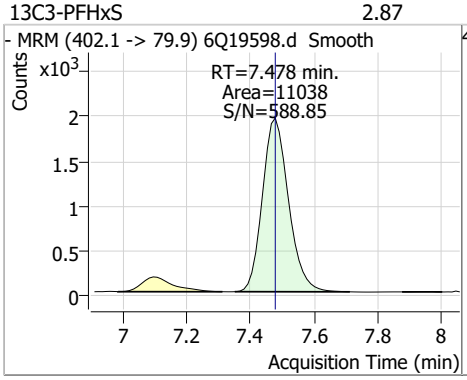


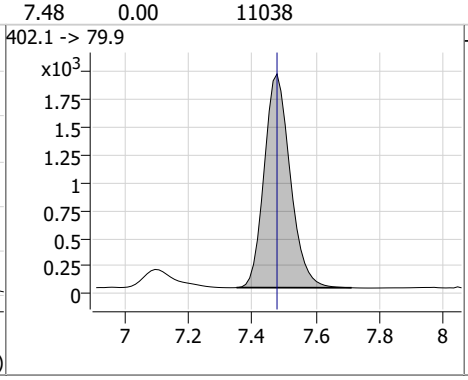


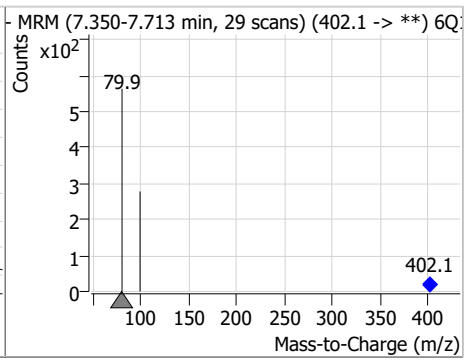




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.87	7.48	0.00	11038				

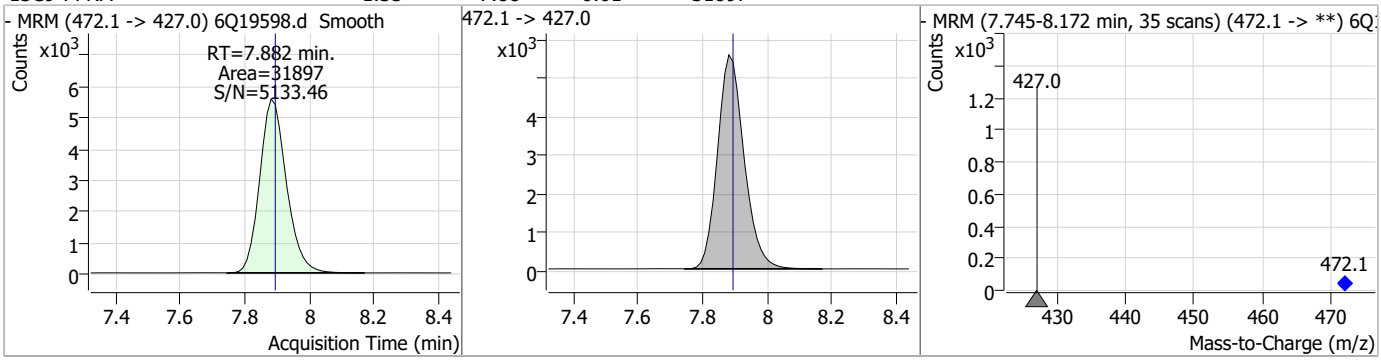




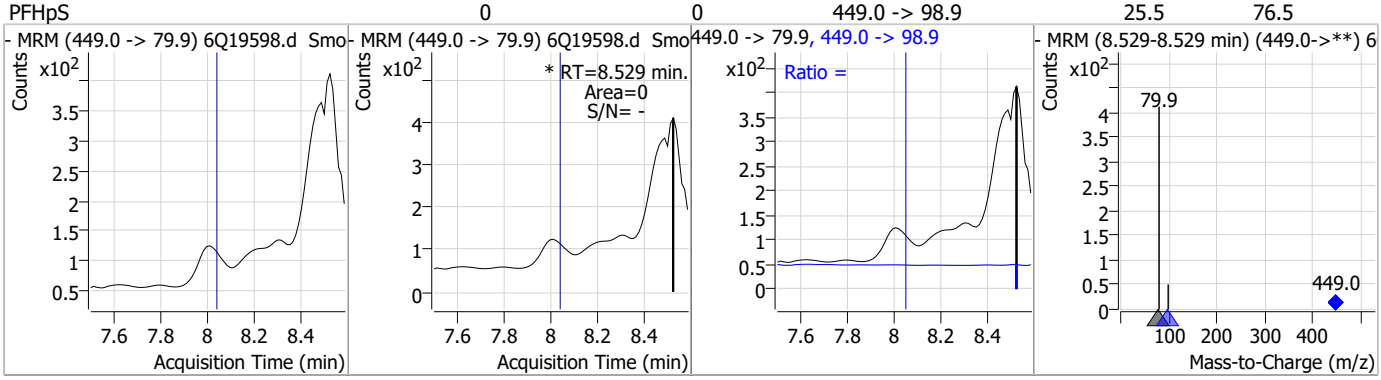


Perfluorinated Compounds by LC/MS/MS

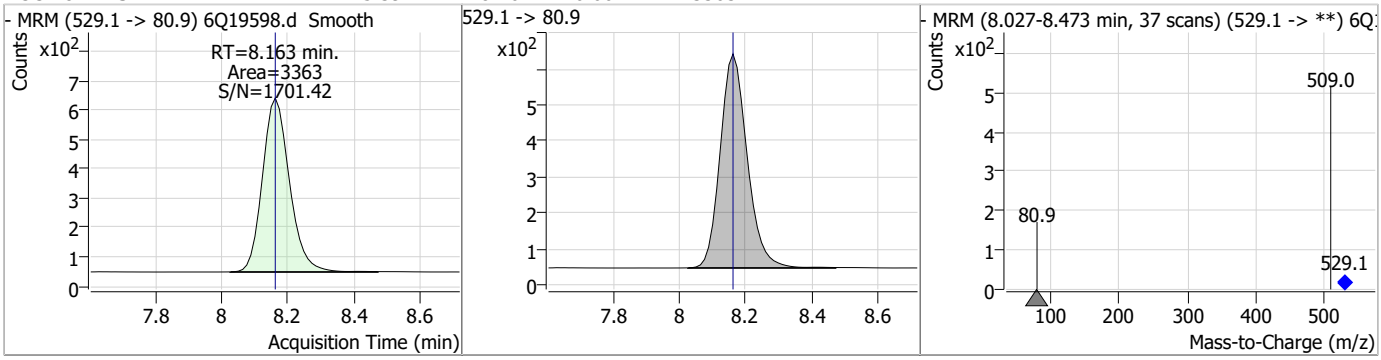
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.35	7.88	-0.01	31897				



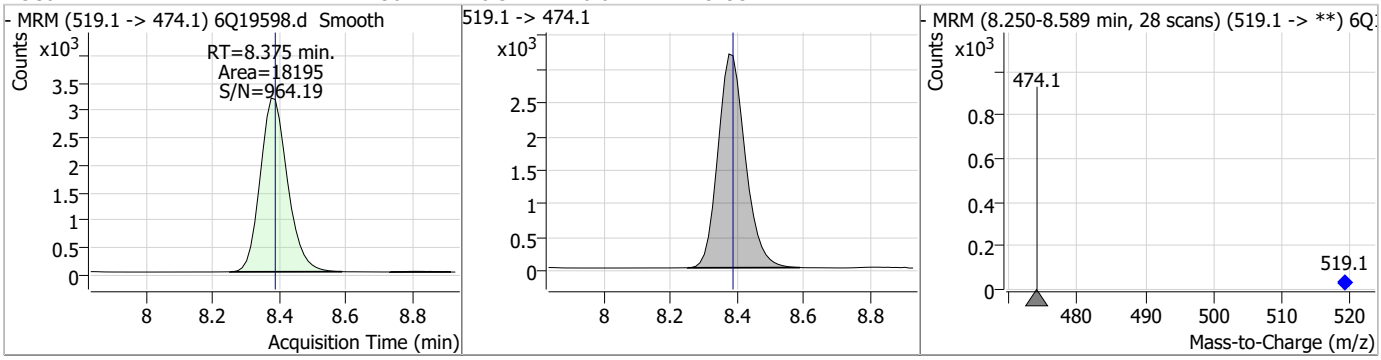
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS		0		0	449.0 -> 98.9		25.5	76.5



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.39	8.16	0.00	3363				

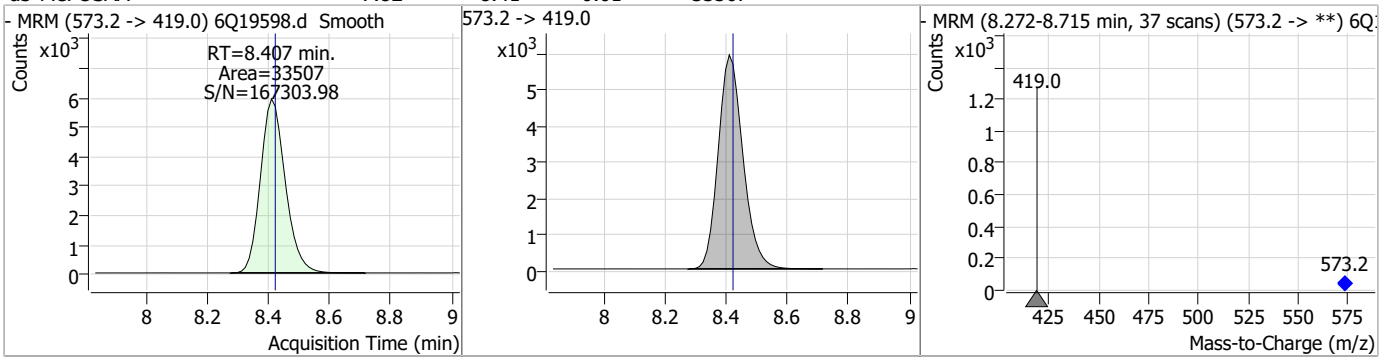


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.30	8.37	-0.01	18195				

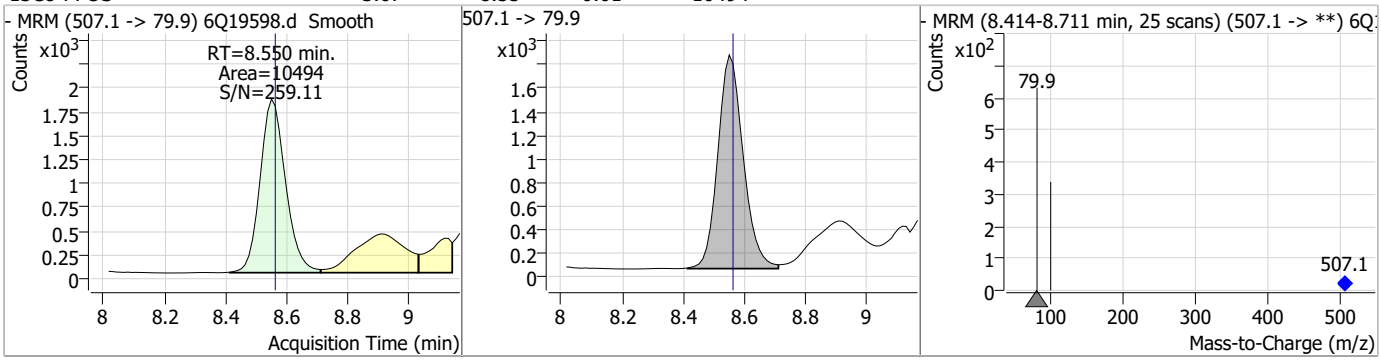


Perfluorinated Compounds by LC/MS/MS

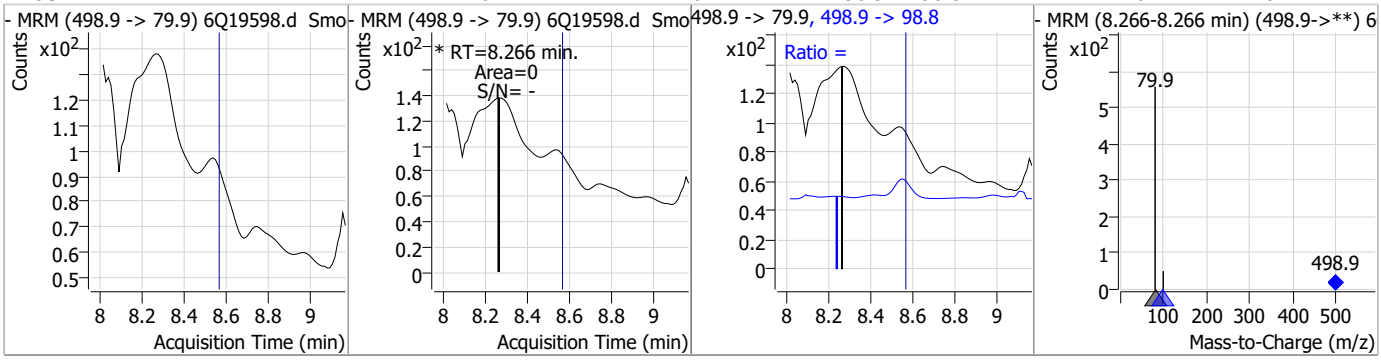
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	7.82	8.41	-0.01	33507				



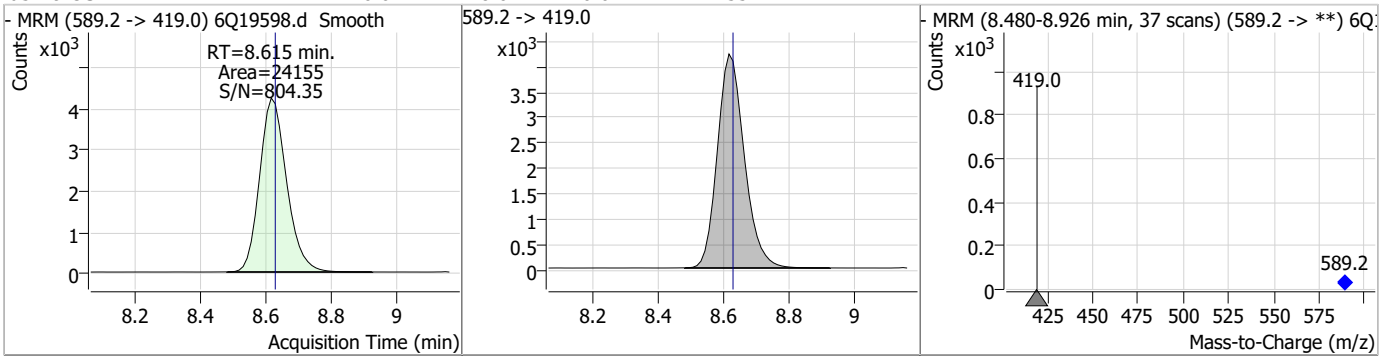
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	3.07	8.55	-0.01	10494				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS		0		0	498.9 -> 98.8		26.2	78.7

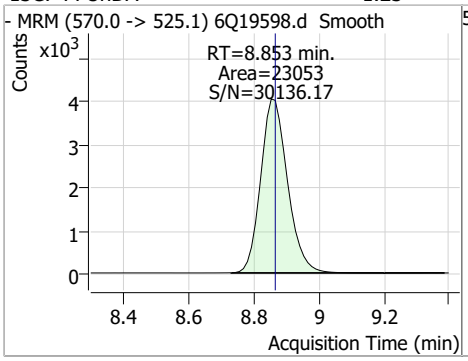


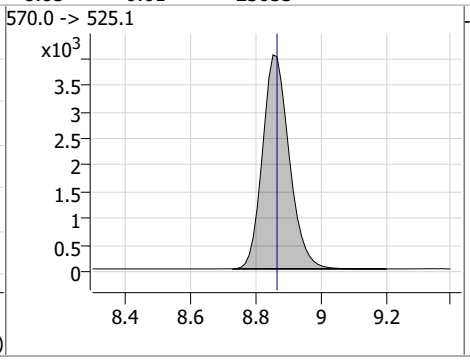
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	6.64	8.62	-0.01	24155				

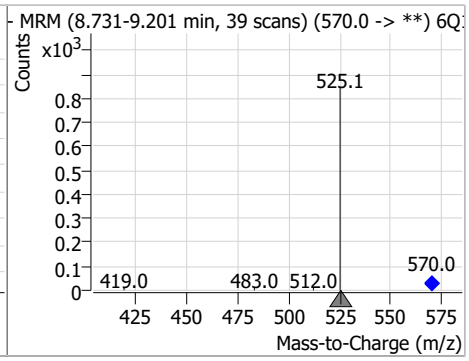


Perfluorinated Compounds by LC/MS/MS

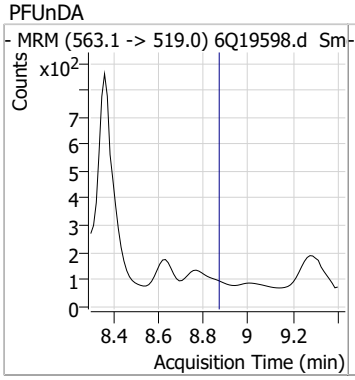
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.23	8.85	-0.01	23053				

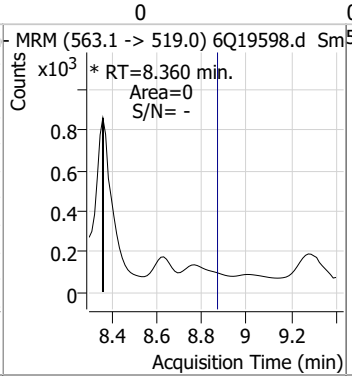


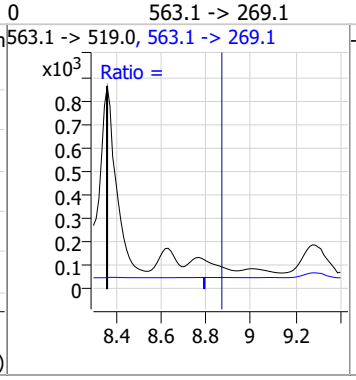


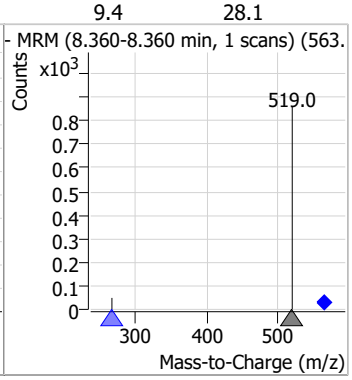


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA		0		0	563.1 -> 269.1		9.4	28.1

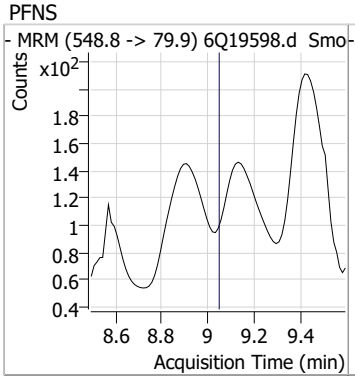


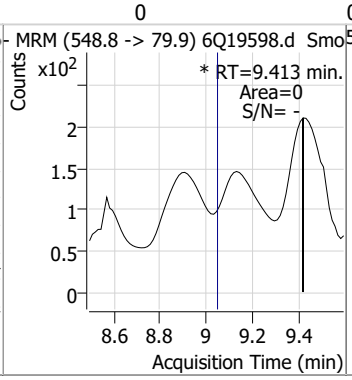


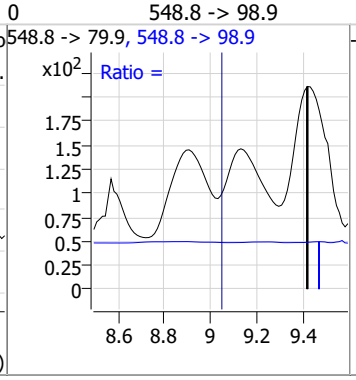


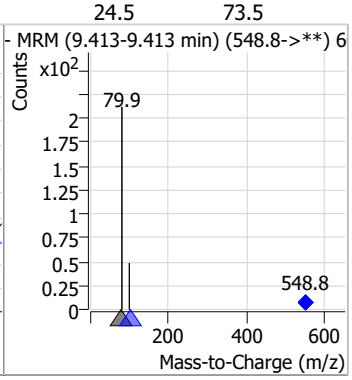


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS		0		0	548.8 -> 98.9		24.5	73.5

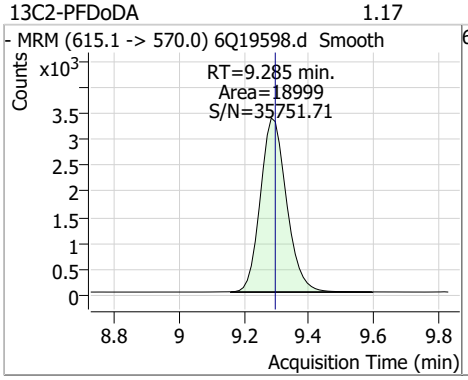


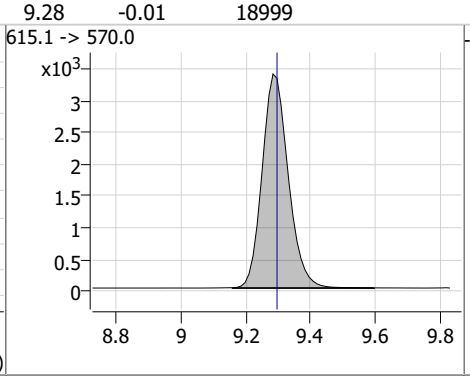


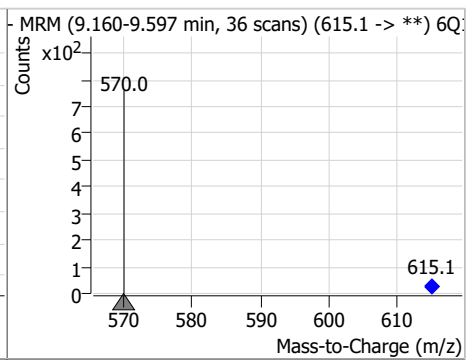




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.17	9.28	-0.01	18999				

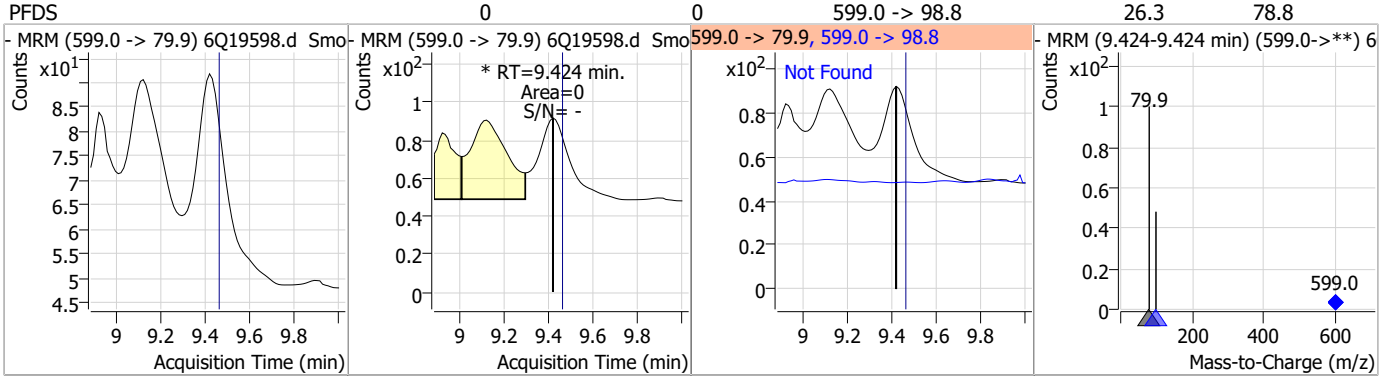




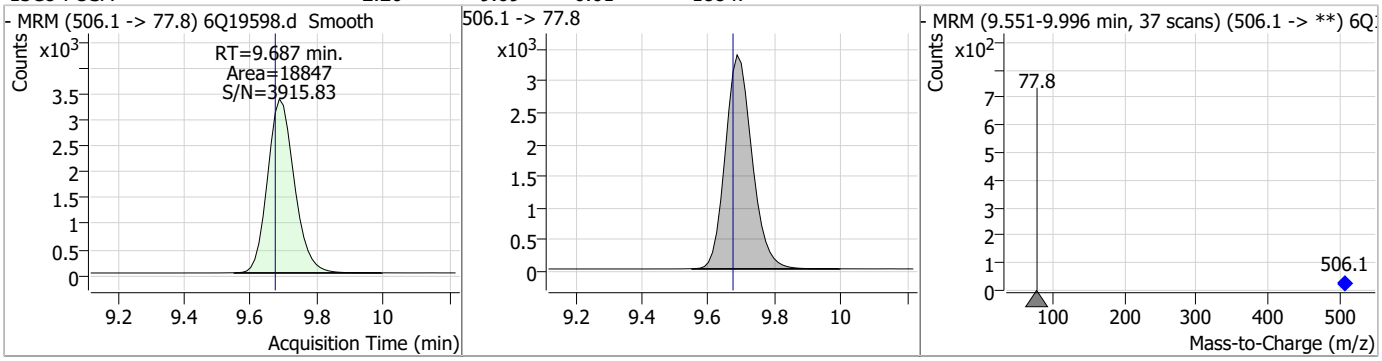


Perfluorinated Compounds by LC/MS/MS

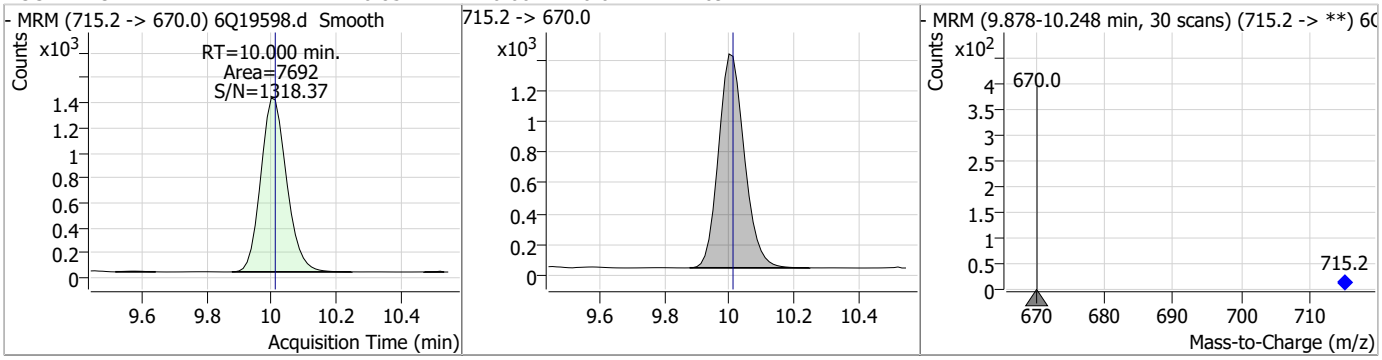
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS		0		0	599.0 -> 98.8		26.3	78.8



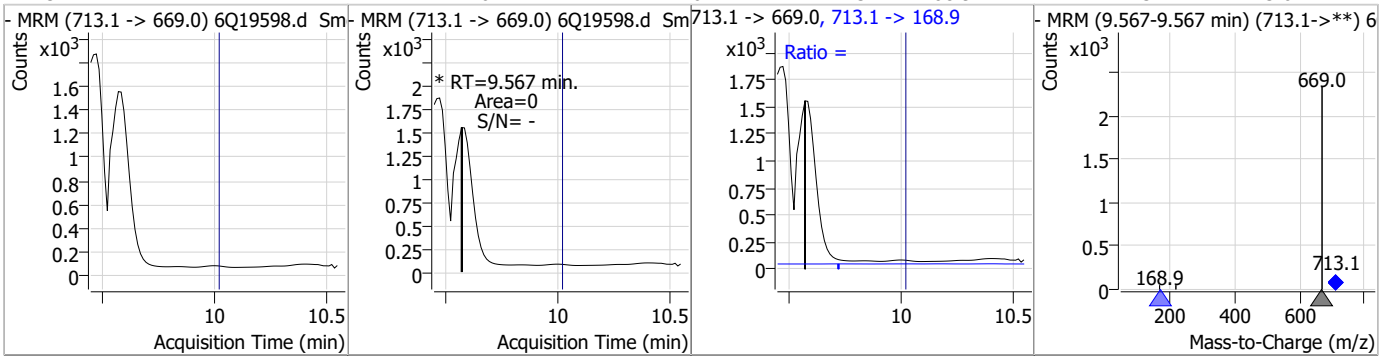
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.20	9.69	0.01	18847				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.85	10.00	-0.01	7692				

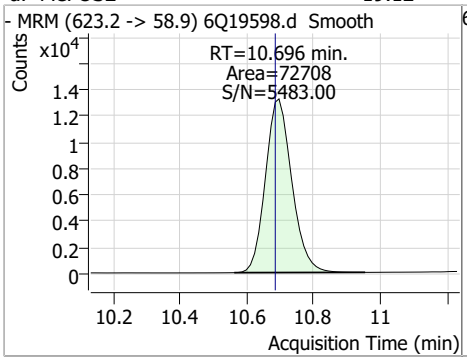


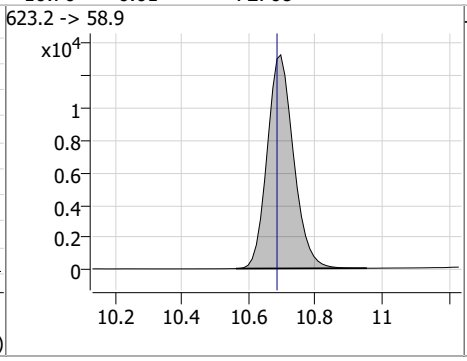
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA		0		0	713.1 -> 168.9		4.3	13.0

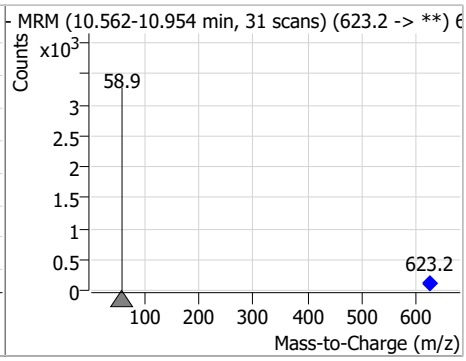


Perfluorinated Compounds by LC/MS/MS

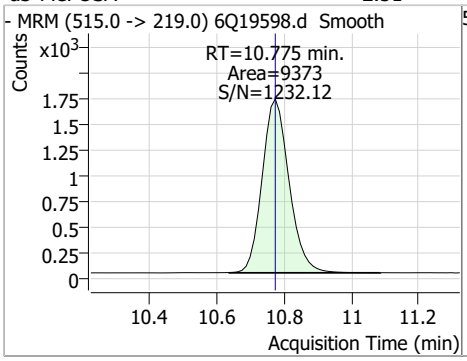
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	19.12	10.70	0.01	72708				

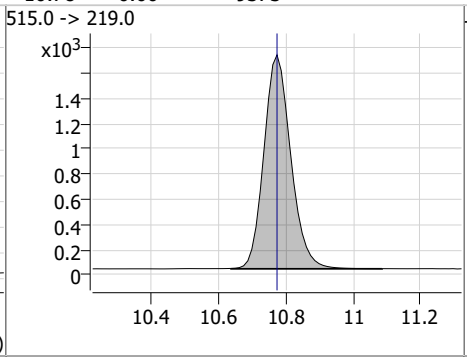


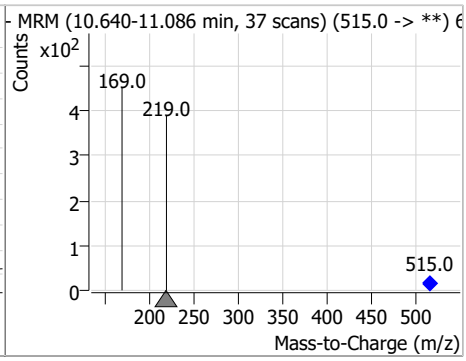




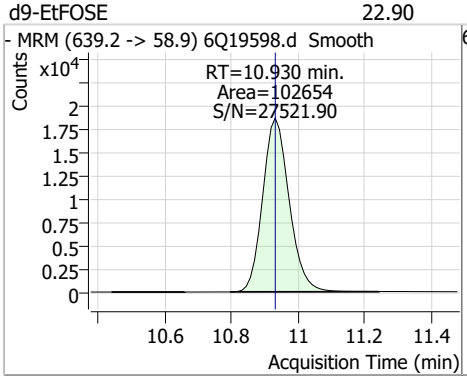
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.51	10.78	0.00	9373				

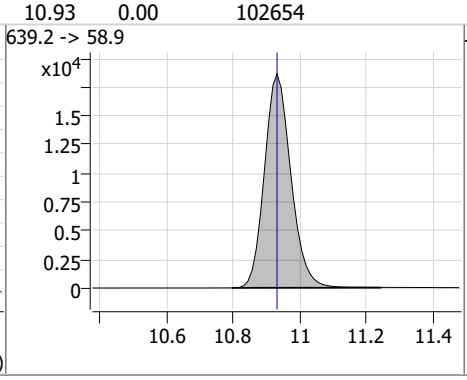


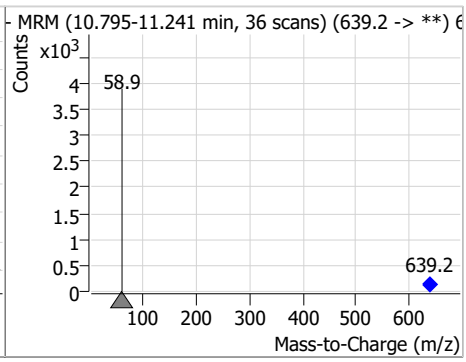




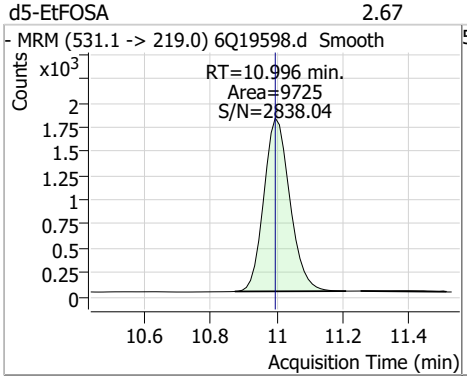
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.90	10.93	0.00	102654				

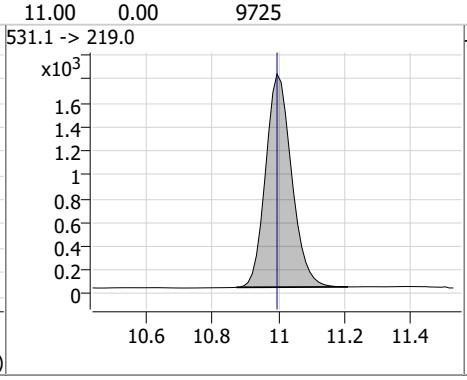


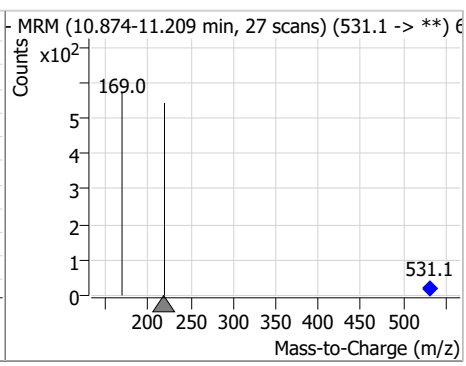




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.67	11.00	0.00	9725				







Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19599.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 9:34:09 AM
Sample Name : FC6803-4
Vial : P2-D9
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97385,S6Q292,66,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	133355	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	44929	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	46663	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	43393	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	70316	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	31547	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	17661	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	22189	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	18461	1.25	µg/L	0.000
M2-PFTeDA	10.000	715.2 -> 670.0	8637	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	20950	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	18608	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11616	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	9858	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3079	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4128	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3302	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	23315	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	33092	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	20411	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	81022	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	118236	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	9841	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	9826	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15436	2.50	µg/L	0.000
13C3-PFBA	3.101	216.0 -> 172.0	53202	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	7847	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	70128	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	24312	1.25	µg/L	0.000
13C5-PFNA	7.895	468.0 -> 423.0	38123	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	40370	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3079	6.54	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 130.8%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4128	5.81	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.1%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3302	4.94	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.8%		
13C2-PFDoDA	9.297	615.1 -> 570.0	18461	1.14	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.9%		
13C2-PFTeDA	10.000	715.2 -> 670.0	8637	0.95	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 76.2%		
13C3-PFBS	5.746	302.1 -> 79.9	18608	2.85	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 113.9%		
13C3-PFHxS	7.478	402.1 -> 79.9	11616	2.82	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.7%	
13C4-PFBA	3.097	216.8 -> 171.9	133355	10.68 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.8%	
13C4-PFHpA	6.707	367.1 -> 322.0	43393	2.78 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.4%	
13C5-PFHxA	5.792	318.0 -> 273.0	46663	2.80 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.0%	
13C5-PFPeA	4.560	268.3 -> 223.0	44929	5.88 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.7%	
13C6-PFDA	8.387	519.1 -> 474.1	17661	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C7-PFUnDA	8.866	570.0 -> 525.1	22189	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.0%	
13C8-FOSA	9.687	506.1 -> 77.8	20950	1.79 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 71.7%	
13C8-PFOA	7.352	421.1 -> 376.0	70316	2.68 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C8-PFOS	8.563	507.1 -> 79.9	9858	2.12 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 84.6%	
13C9-PFNA	7.895	472.1 -> 427.0	31547	1.36 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.8%	
d3-MeFOSAA	8.420	573.2 -> 419.0	23315	3.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 79.8%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	33092	11.87 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 118.7%	
d3-MeFOSA	10.775	515.0 -> 219.0	9826	1.93 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 77.4%	
d5-EtFOSAA	8.628	589.2 -> 419.0	20411	4.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 82.3%	
d7-MeFOSE	10.696	623.2 -> 58.9	81022	15.64 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 62.6%	
d9-EtFOSE	10.930	639.2 -> 58.9	118236	19.36 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 77.5%	
d5-EtFOSA	10.996	531.1 -> 219.0	9841	1.98 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 79.4%	
Target Compounds					**QValue**
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDoDA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

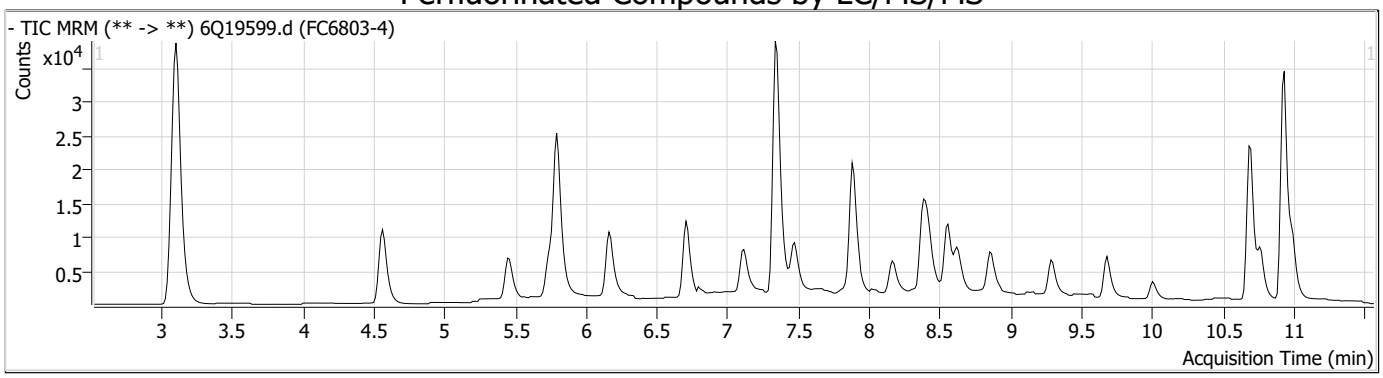
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	-	413.0 -> 369.0	-	N.D.			
		413.0 -> 169.0					
PFOS	8.539	498.9 -> 79.9	0		µg/L	m	1
		498.9 -> 98.8	0				
PFPeA	-	263.0 -> 219.0	-	N.D.			
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	8.372	563.1 -> 519.0	0		µg/L	m	1
		563.1 -> 269.1	0				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

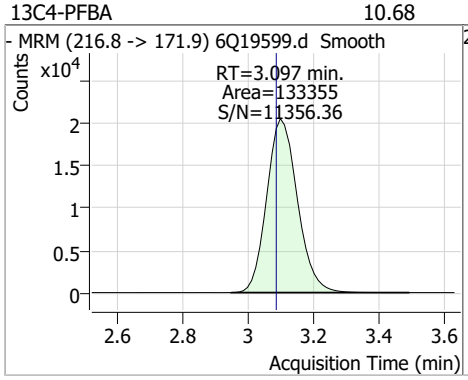
Perfluorinated Compounds by LC/MS/MS

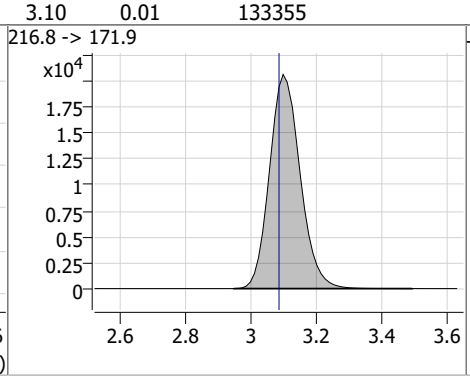
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

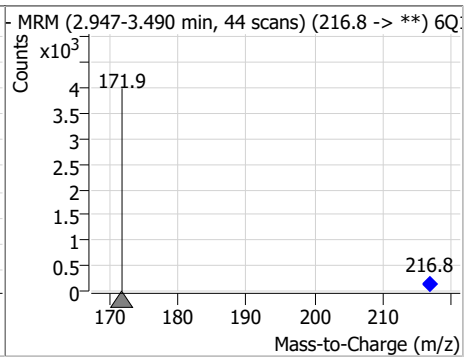
Perfluorinated Compounds by LC/MS/MS



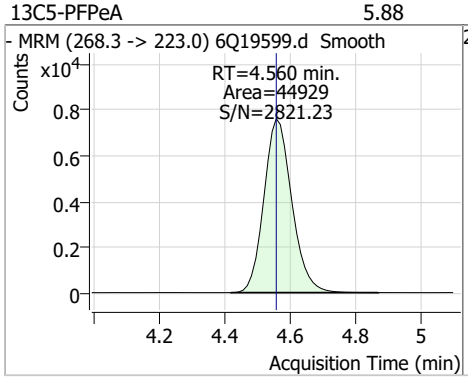
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.68	3.10	0.01	133355				

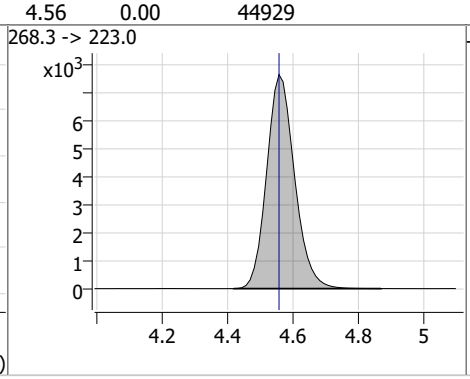


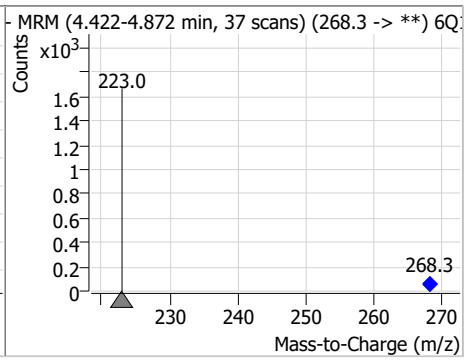




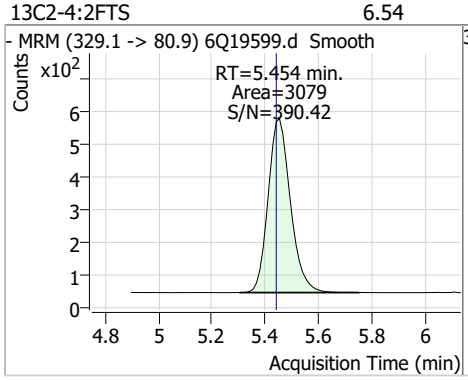
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.88	4.56	0.00	44929				

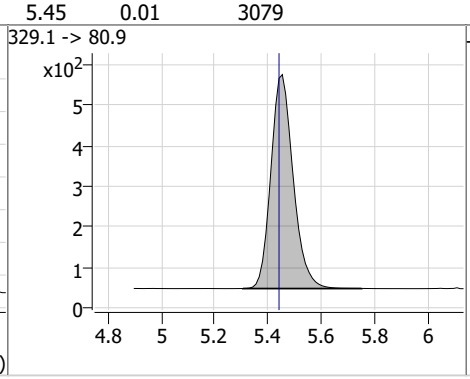


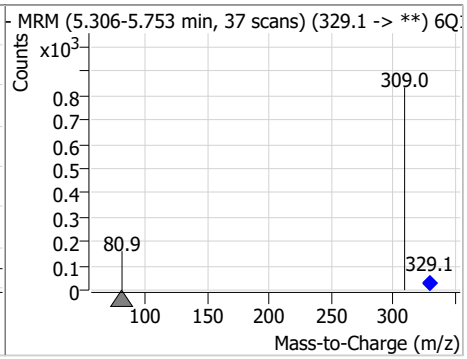




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.54	5.45	0.01	3079				

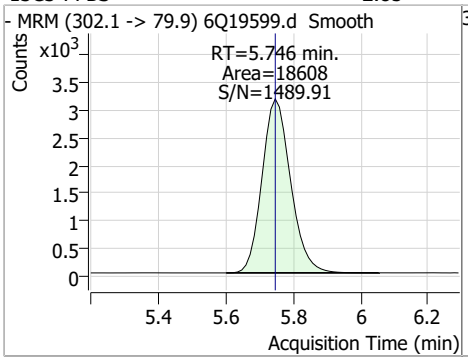


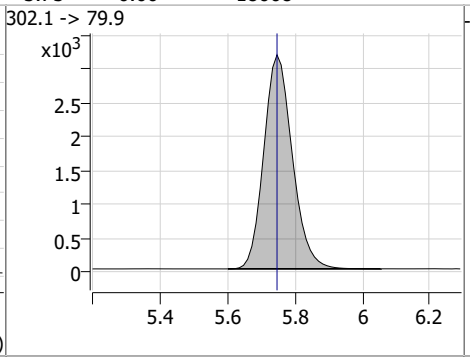


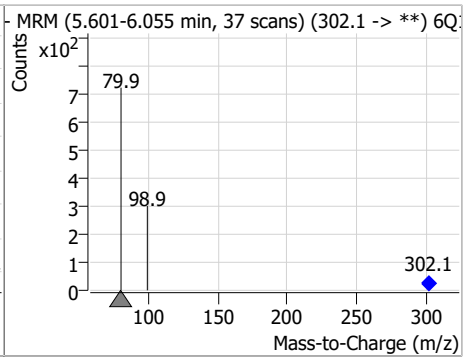


Perfluorinated Compounds by LC/MS/MS

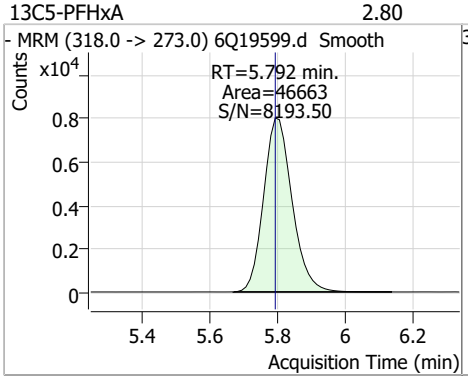
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.85	5.75	0.00	18608				

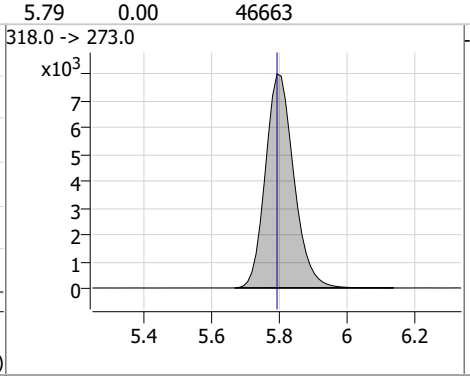


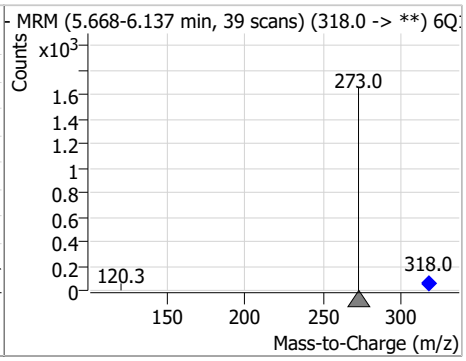




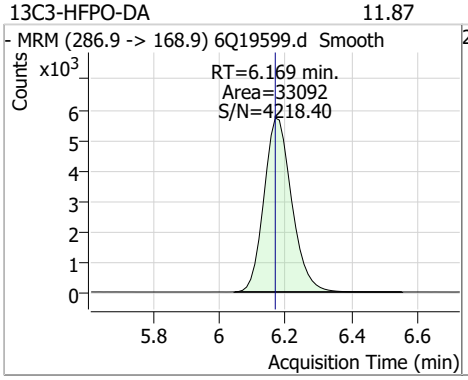
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.80	5.79	0.00	46663				

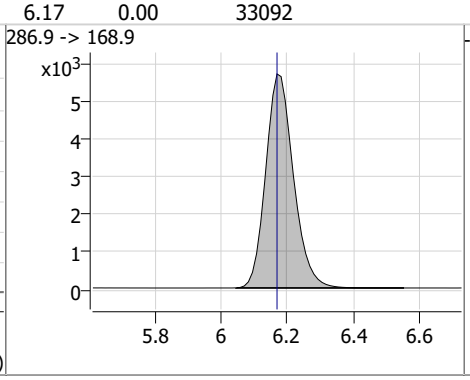


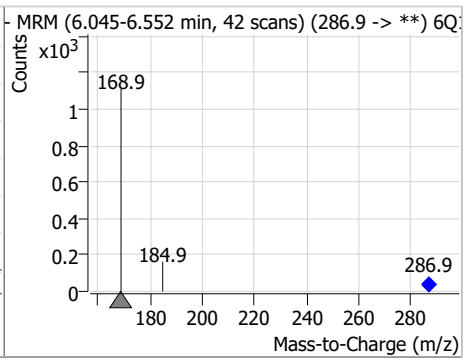




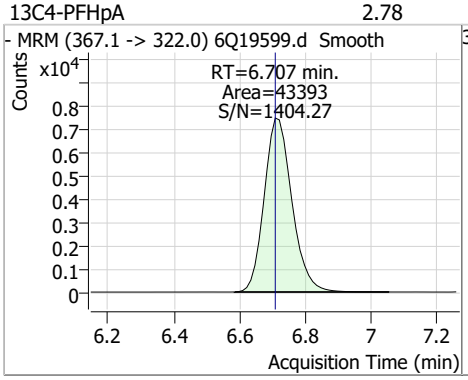
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.87	6.17	0.00	33092				

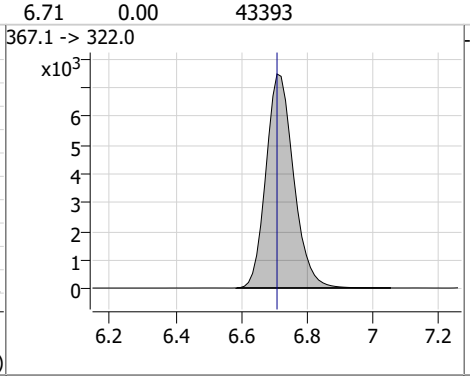


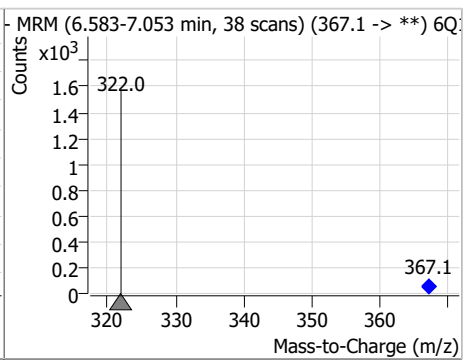




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.78	6.71	0.00	43393				

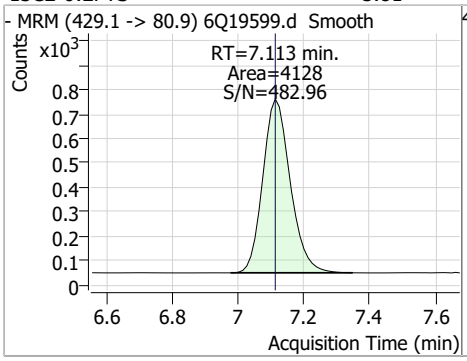


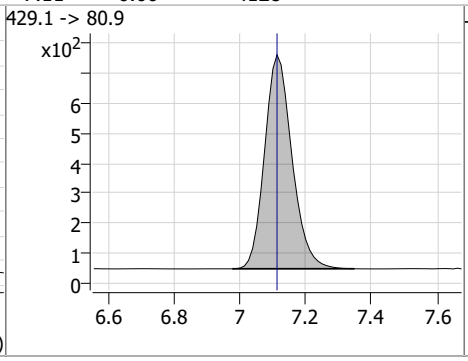


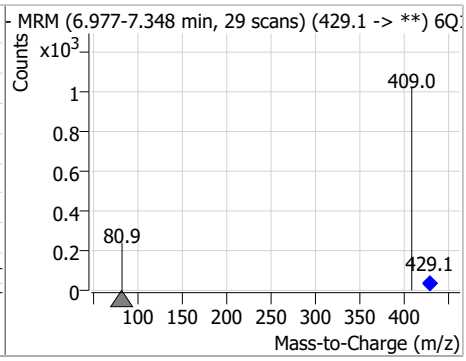


Perfluorinated Compounds by LC/MS/MS

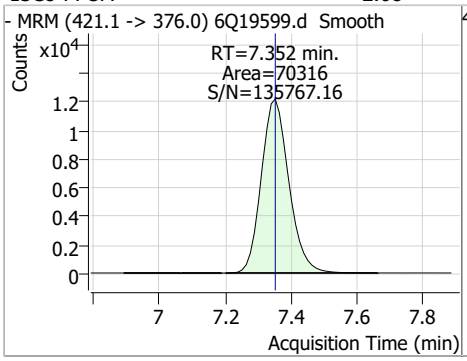
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.81	7.11	0.00	4128				

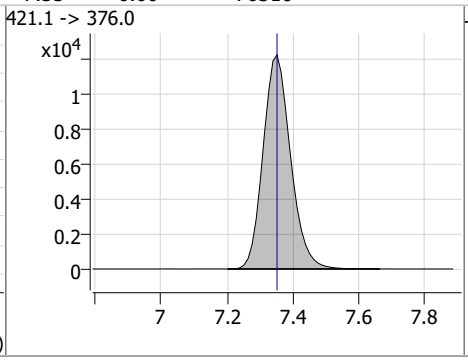


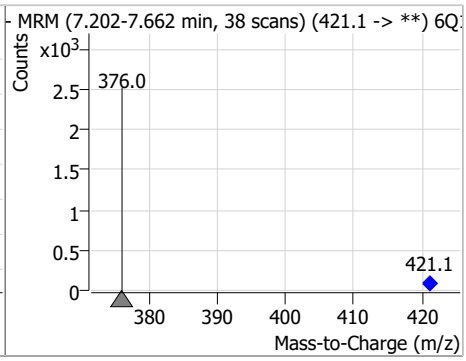




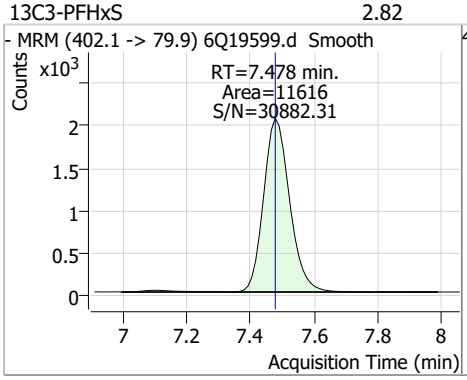
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.68	7.35	0.00	70316				

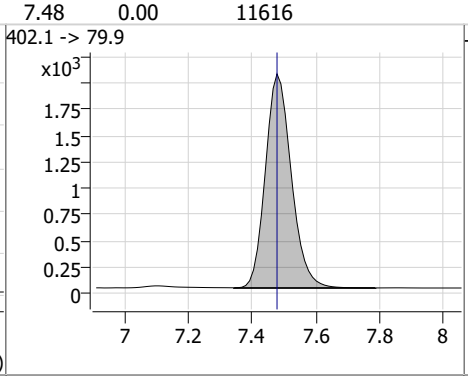


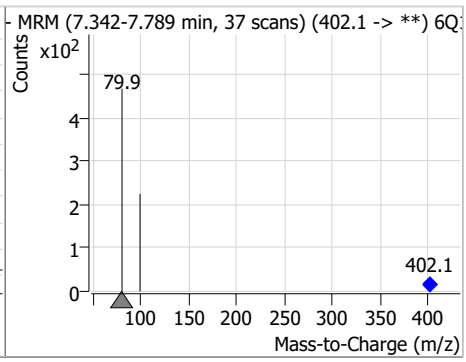




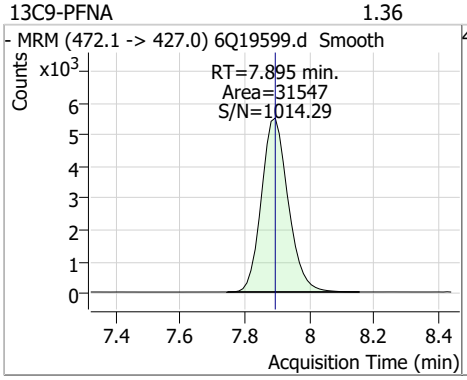
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.82	7.48	0.00	11616				

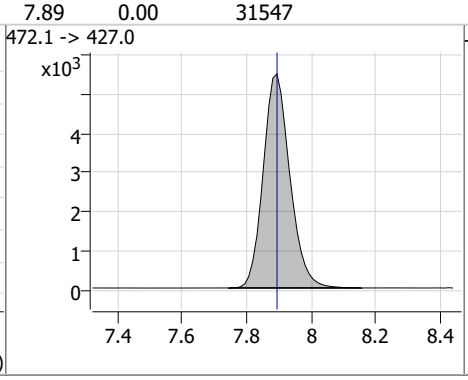


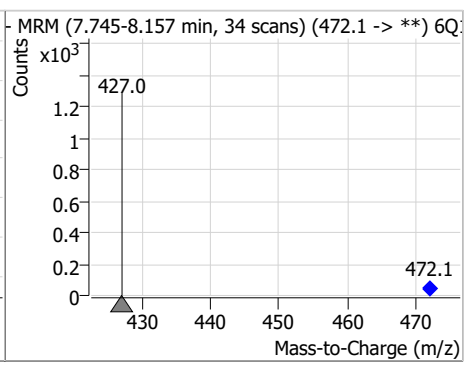




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.36	7.89	0.00	31547				

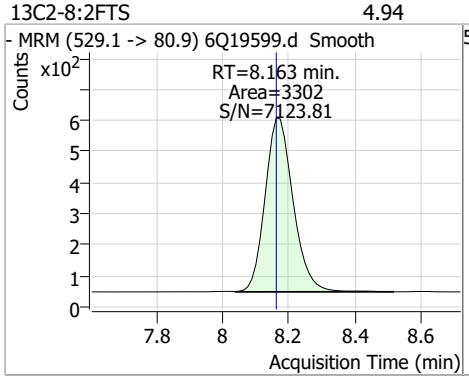


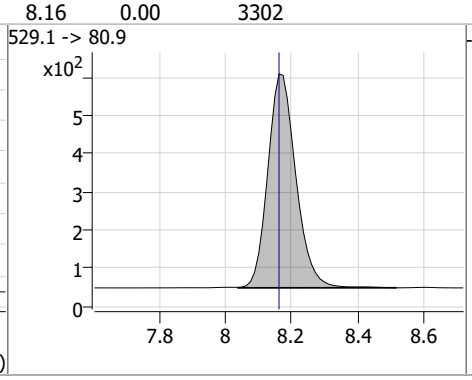


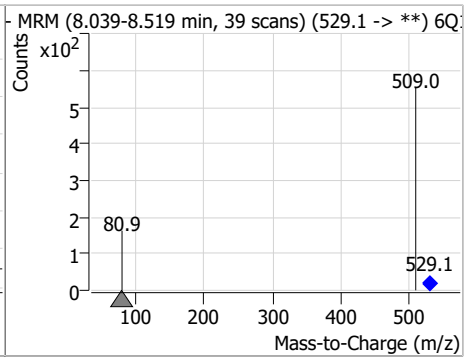


Perfluorinated Compounds by LC/MS/MS

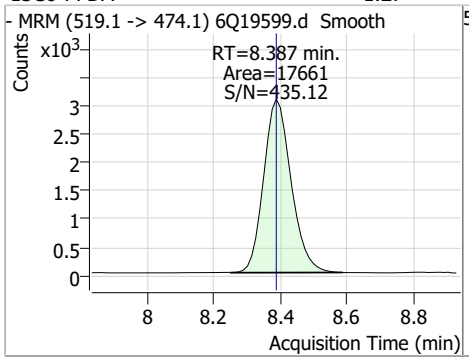
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.94	8.16	0.00	3302				

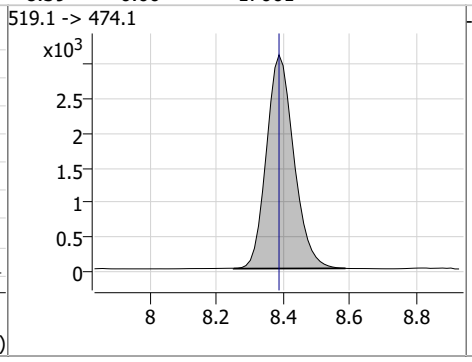


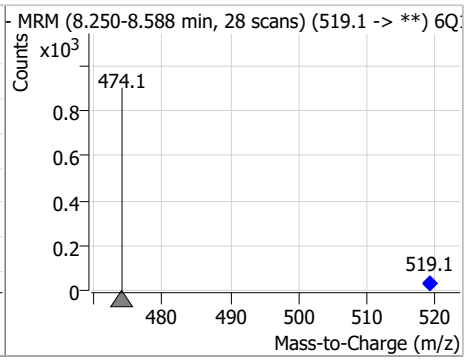




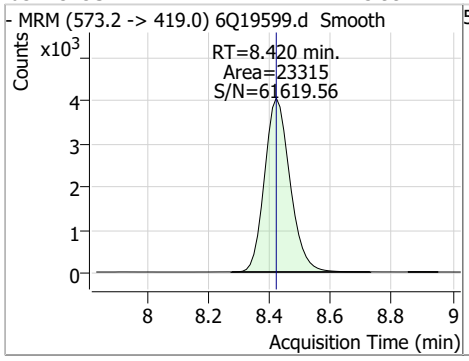
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.27	8.39	0.00	17661				

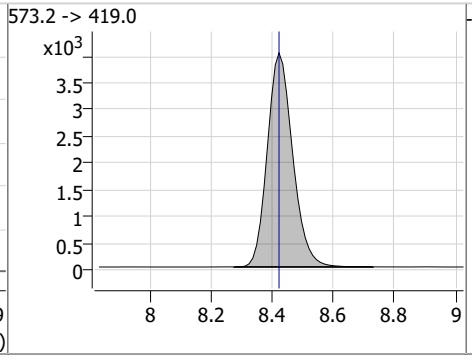


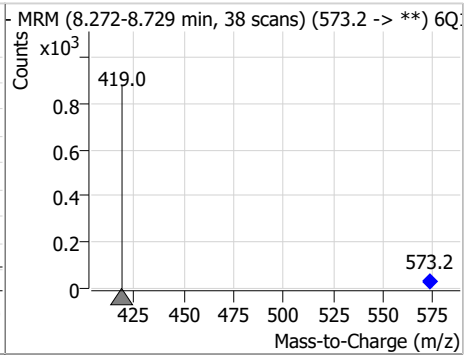




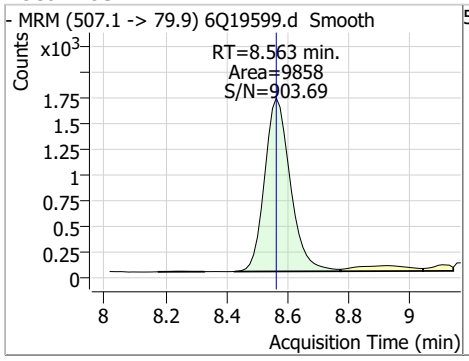
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	3.99	8.42	0.00	23315				

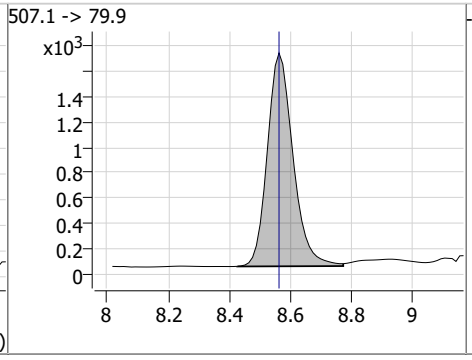


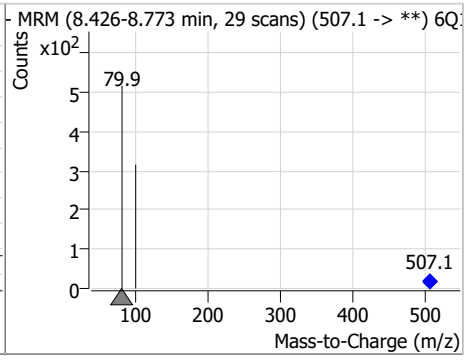




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.12	8.56	0.00	9858				

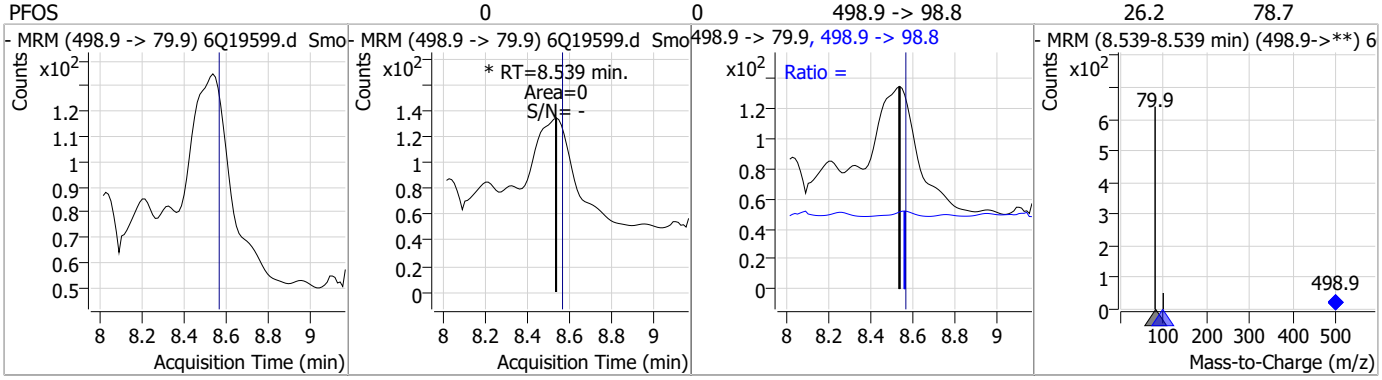




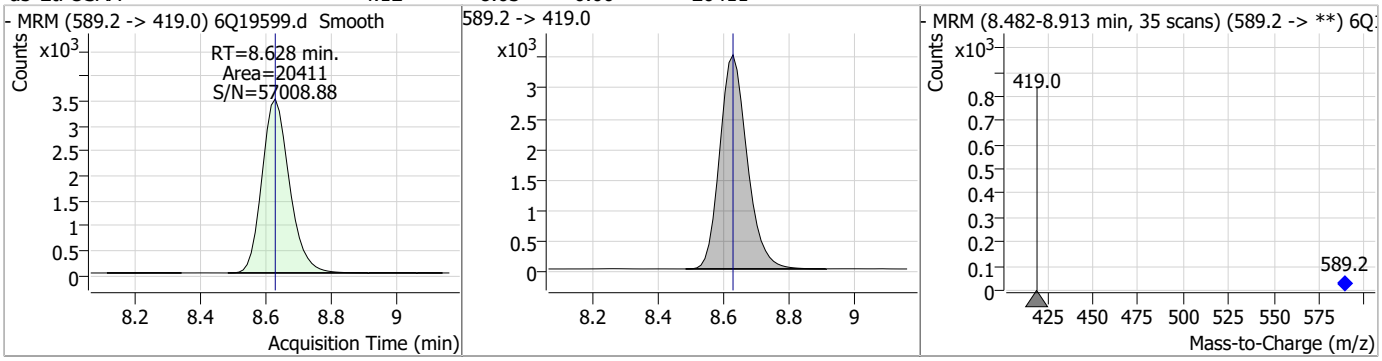


Perfluorinated Compounds by LC/MS/MS

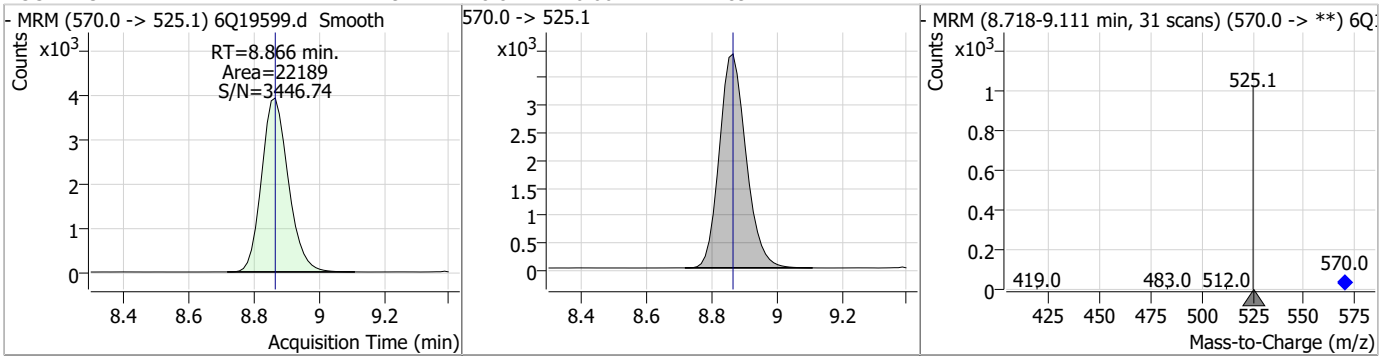
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS		0		0	498.9 -> 98.8		26.2	78.7



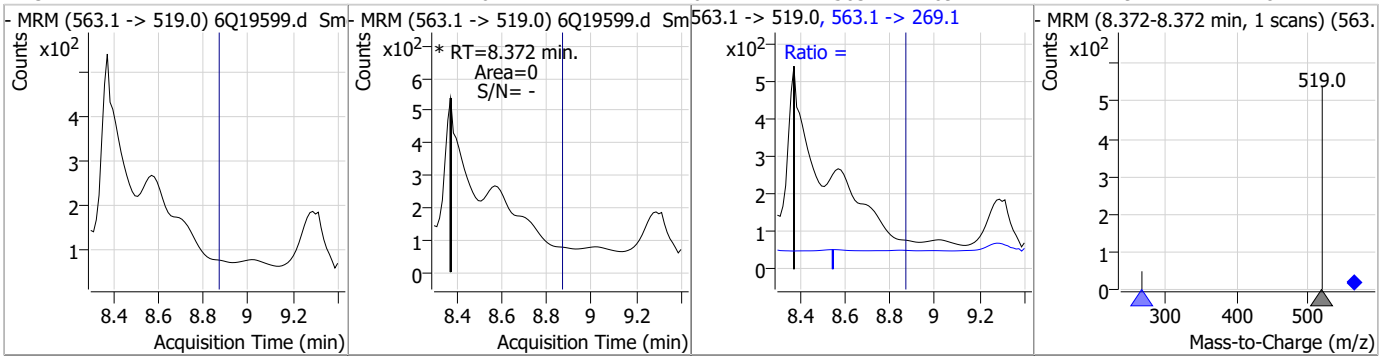
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.12	8.63	0.00	20411				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.19	8.87	0.00	22189				

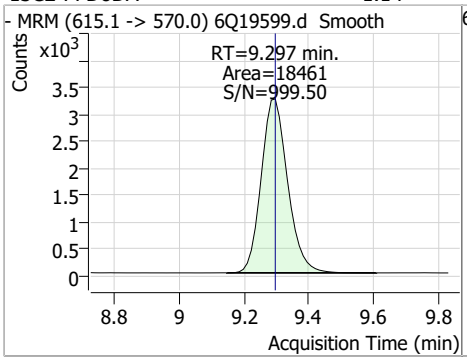


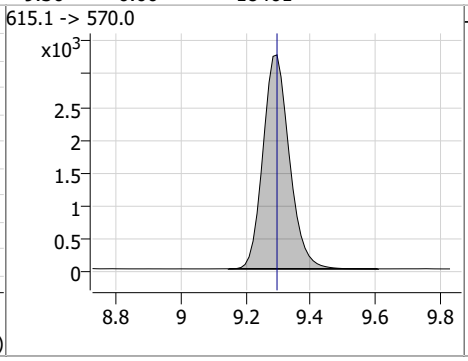
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA		0		0	563.1 -> 269.1		9.4	28.1

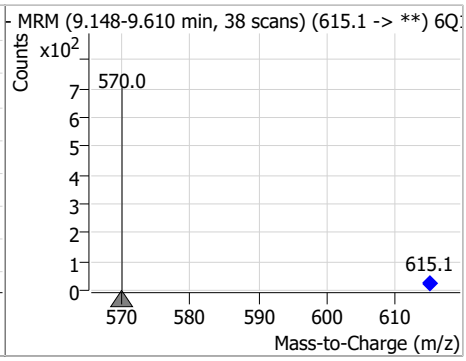


Perfluorinated Compounds by LC/MS/MS

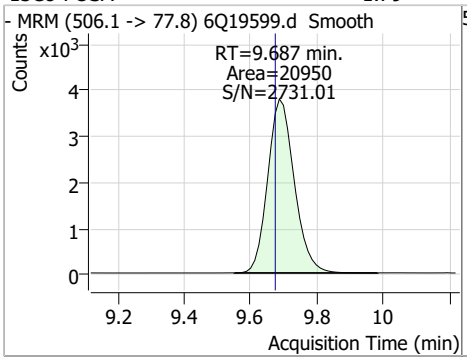
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.14	9.30	0.00	18461				

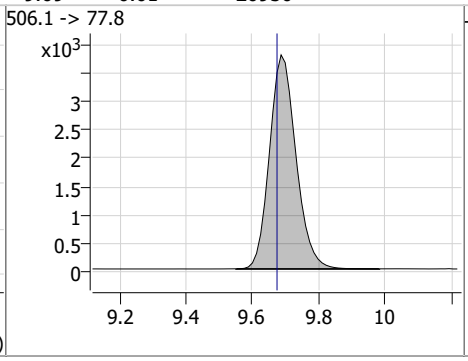


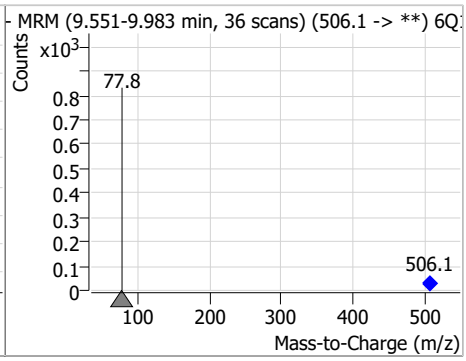




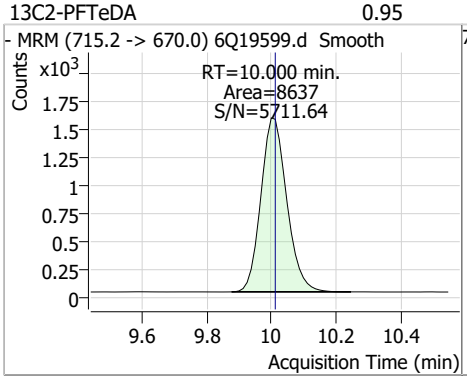
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.79	9.69	0.01	20950				

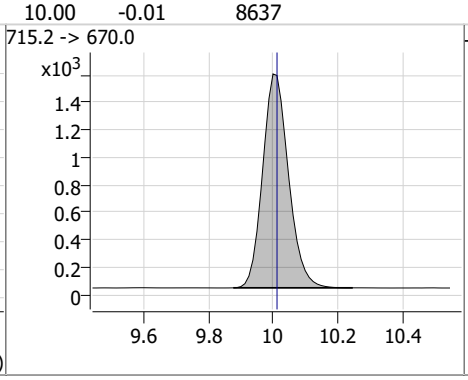


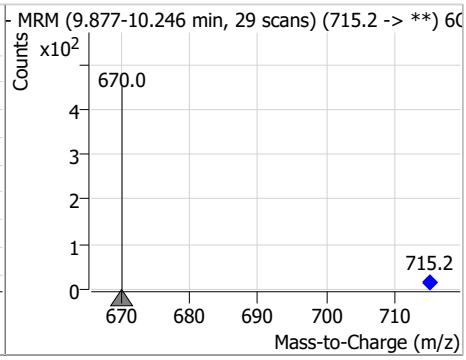




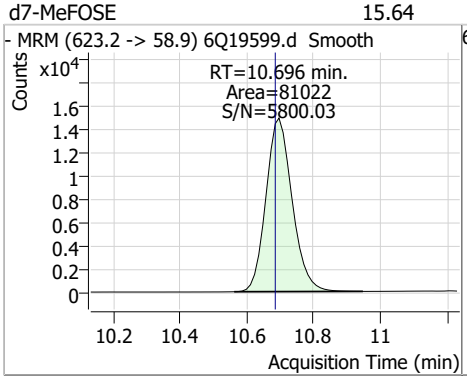
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.95	10.00	-0.01	8637				

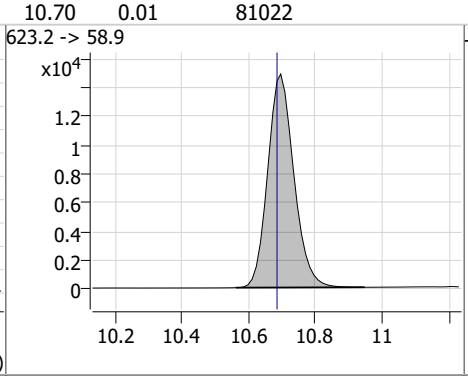


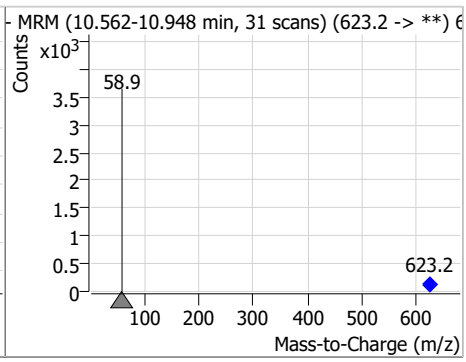




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	15.64	10.70	0.01	81022				

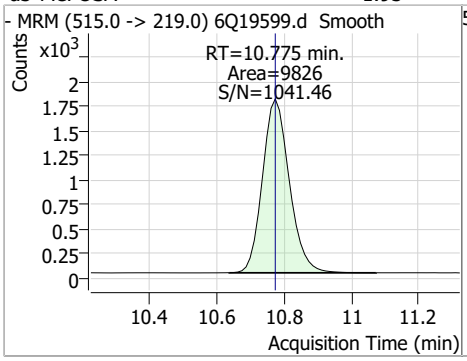


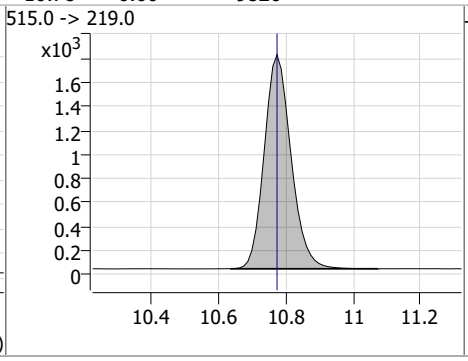


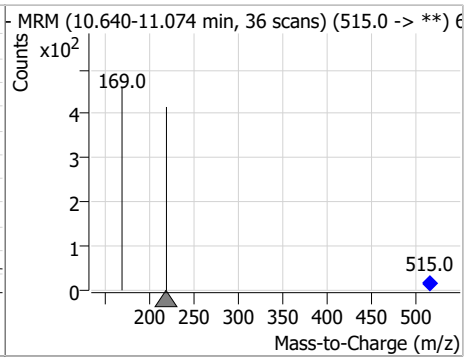


Perfluorinated Compounds by LC/MS/MS

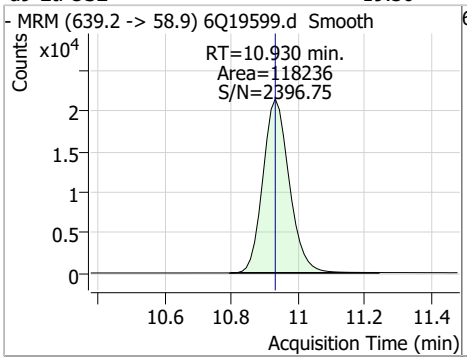
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.93	10.78	0.00	9826				

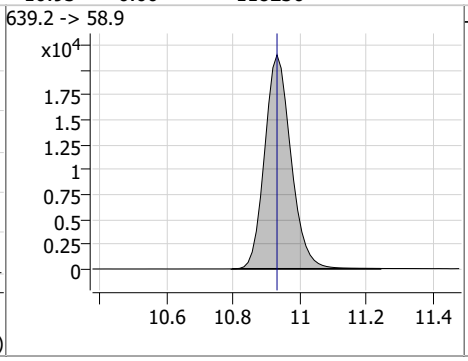


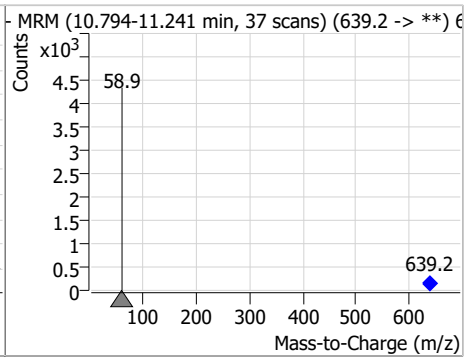




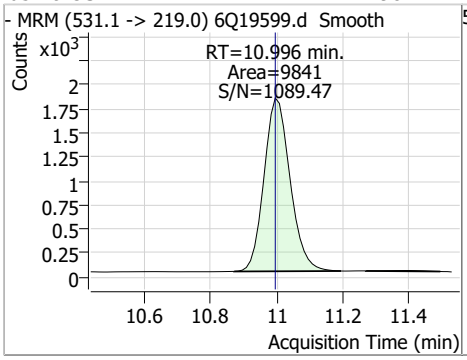
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	19.36	10.93	0.00	118236				

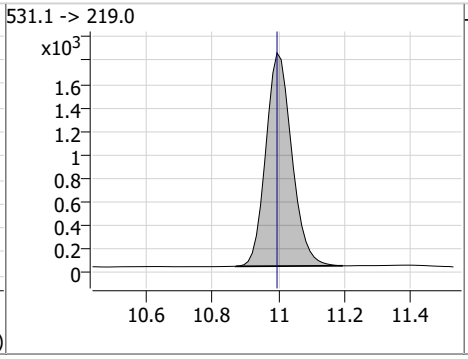


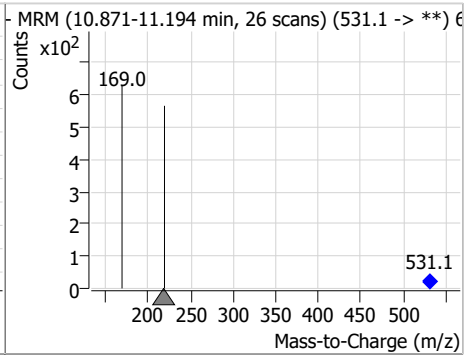




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.98	11.00	0.00	9841				







Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/20/23 16:54

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19371.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 8:50:21 PM
Sample Name : FC6803-4
Vial : P4-C7
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97325,S6Q289,530,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	5643	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	12678	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	51011	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	52772	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	85920	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	38514	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	23248	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	31009	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	26133	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	10991	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	25015	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19822	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	13047	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	12335	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3676	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4175	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4282	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	41015	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	31293	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	34863	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	91170	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	128285	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11828	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11655	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	12919	2.50	µg/L	0.000
13C3-PFBA	3.101	216.0 -> 172.0	58076	5.00	µg/L	0.012
18O2-PFHxS	7.490	403.0 -> 83.9	8245	2.50	µg/L	0.012
13C4-PFOA	7.352	417.1 -> 372.0	76821	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	26735	1.25	µg/L	0.000
13C5-PFNA	7.895	468.0 -> 423.0	41271	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	44297	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3676	7.43	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 148.6%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4175	5.59	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.7%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4282	6.09	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 121.9%		
13C2-PFDoDA	9.297	615.1 -> 570.0	26133	1.46	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 117.0%		
13C2-PFTeDA	10.012	715.2 -> 670.0	10991	1.10	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 88.1%		
13C3-PFBS	5.746	302.1 -> 79.9	19822	2.89	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.5%		
13C3-PFHxS	7.478	402.1 -> 79.9	13047	3.01	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 120.5%		
13C4-PFBA	3.097	216.8 -> 171.9	5643	0.41 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 4.1%		
13C4-PFHpA	6.707	367.1 -> 322.0	52772	3.09 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 123.4%		
13C5-PFHxA	5.792	318.0 -> 273.0	51011	2.79 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.6%		
13C5-PFPeA	4.560	268.3 -> 223.0	12678	1.51 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 30.3%		
13C6-PFDA	8.387	519.1 -> 474.1	23248	1.52 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 121.2%		
13C7-PFUnDA	8.866	570.0 -> 525.1	31009	1.51 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 120.7%		
13C8-FOSA	9.687	506.1 -> 77.8	25015	2.56 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C8-PFOA	7.352	421.1 -> 376.0	85920	2.99 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 119.7%		
13C8-PFOS	8.563	507.1 -> 79.9	12335	3.16 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 126.5%		
13C9-PFNA	7.895	472.1 -> 427.0	38514	1.53 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 122.6%		
d3-MeFOSAA	8.420	573.2 -> 419.0	41015	8.39 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 167.8%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	31293	10.23 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.3%		
d3-MeFOSA	10.775	515.0 -> 219.0	11655	2.74 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.6%		
d5-EtFOSAA	8.628	589.2 -> 419.0	34863	8.40 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 168.1%		
d7-MeFOSE	10.696	623.2 -> 58.9	91170	21.03 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 84.1%		
d9-EtFOSE	10.930	639.2 -> 58.9	128285	25.10 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.4%		
d5-EtFOSA	10.996	531.1 -> 219.0	11828	2.85 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.0%		
Target Compounds						QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.		
		327.1 -> 80.9				
6:2FTS	7.113	427.1 -> 407.0	1360	0.27 µg/L		99
		427.1 -> 80.9	435			
8:2FTS	-	527.1 -> 507.0	-	N.D.		
		527.1 -> 80.8				
EtFOSAA	-	584.2 -> 419.1	-	N.D.		
		584.2 -> 526.0				
FOSA	-	498.1 -> 77.9	-	N.D.		
		498.1 -> 478.0				
MeFOSAA	-	570.1 -> 419.0	-	N.D.		
		570.1 -> 483.0				
PFBA	-	212.8 -> 168.9	-	N.D.		
PFBS	-	298.7 -> 79.9	-	N.D.		
		298.7 -> 98.8				
PFDA	8.845	512.9 -> 469.0	0	µg/L	m	1
		512.9 -> 219.0	0			
PFDoDA	-	613.1 -> 569.0	-	N.D.		
		613.1 -> 319.0				
PFDS	9.436	599.0 -> 79.9	0	µg/L	m	1

Perfluorinated Compounds by LC/MS/MS

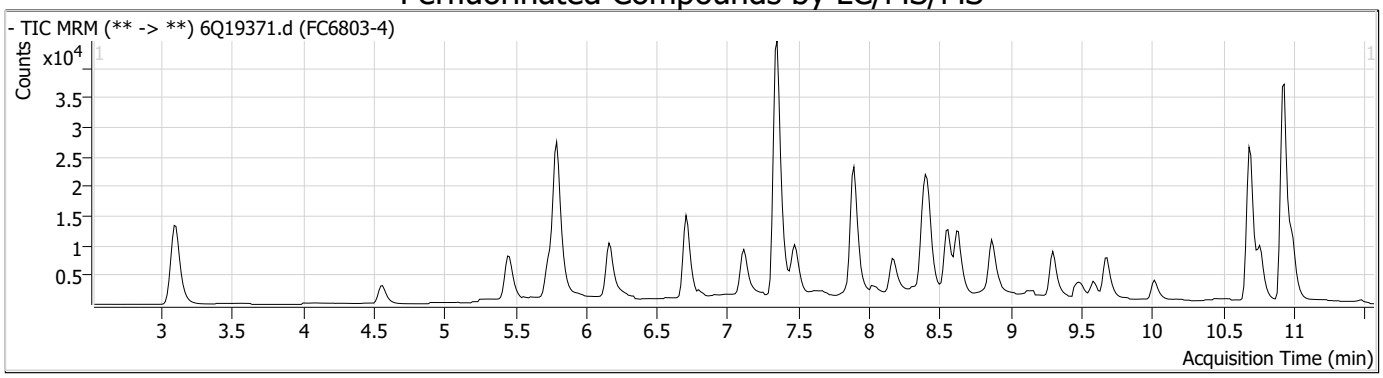
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	8.541	449.0 -> 79.9	0		µg/L	m	1
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	9.140	548.8 -> 79.9	0		µg/L	m	1
		548.8 -> 98.9	0				
PFOA	7.365	413.0 -> 369.0	0		µg/L	m	1
		413.0 -> 169.0	0				
PFOS	8.552	498.9 -> 79.9	307	0.04	µg/L	#m	46
		498.9 -> 98.8	44				
PFPeA	-	263.0 -> 219.0	-	N.D.			
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	9.579	713.1 -> 669.0	0		µg/L	m	1
		713.1 -> 168.9	0				
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	8.372	563.1 -> 519.0	0		µg/L	m	1
		563.1 -> 269.1	0				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

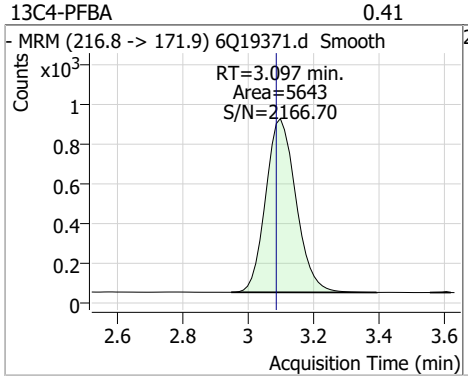
Perfluorinated Compounds by LC/MS/MS

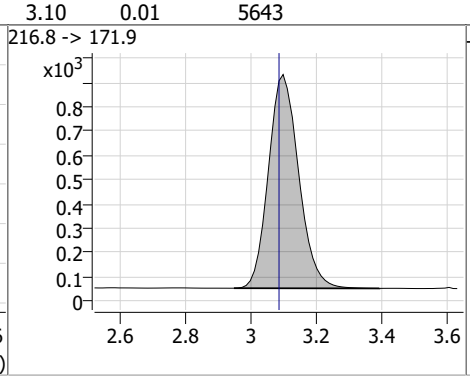
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

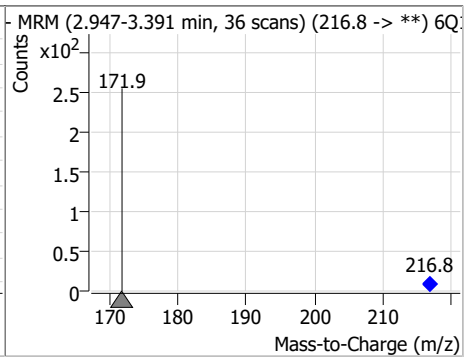
Perfluorinated Compounds by LC/MS/MS



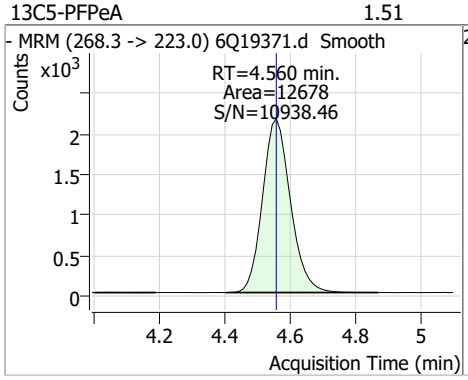
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	0.41	3.10	0.01	5643				

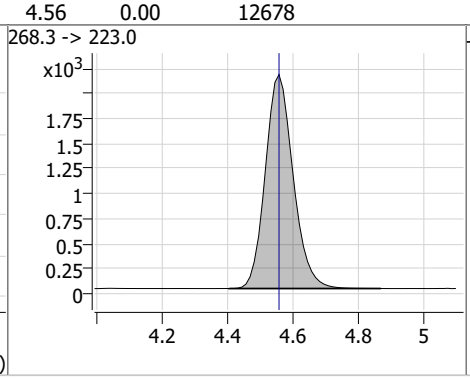


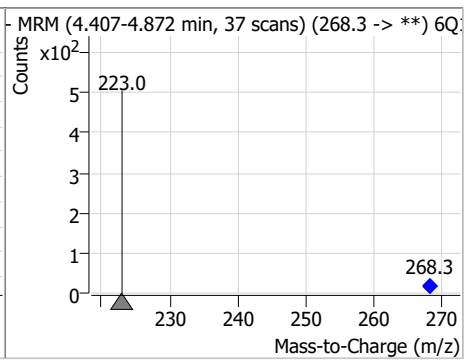




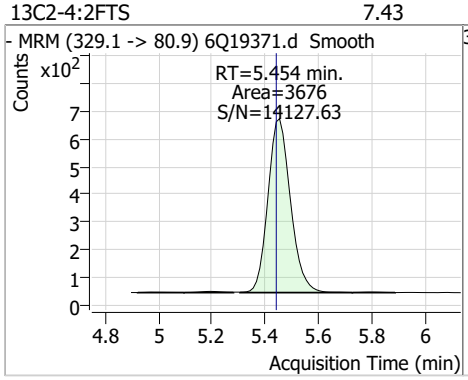
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	1.51	4.56	0.00	12678				

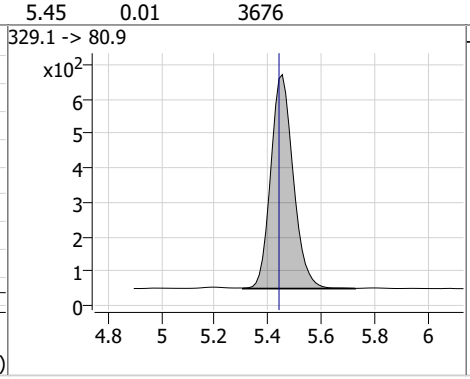


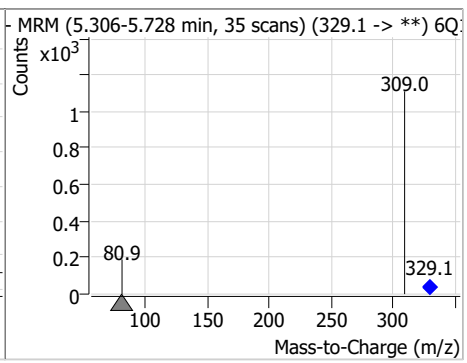




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	7.43	5.45	0.01	3676				

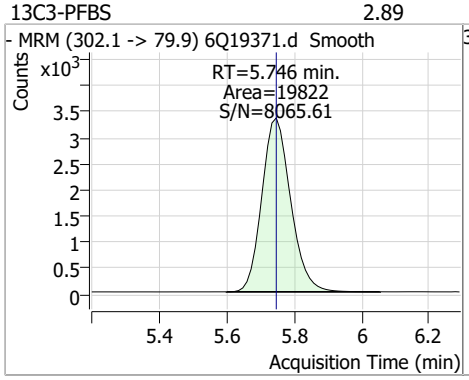


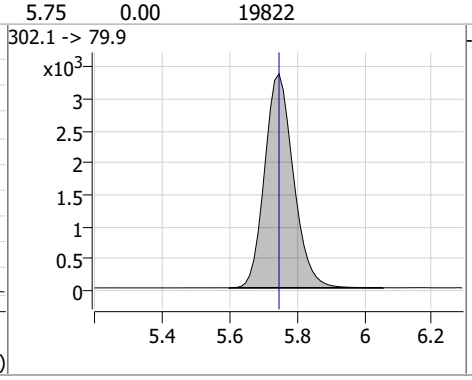


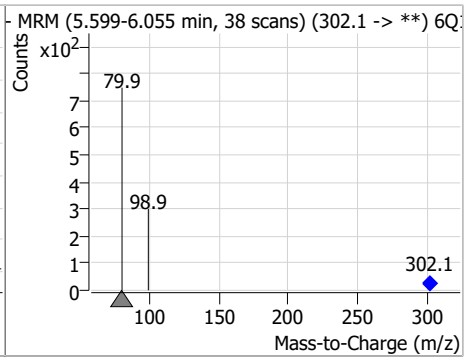


Perfluorinated Compounds by LC/MS/MS

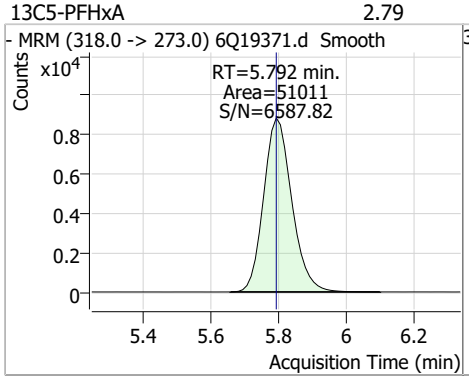
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.89	5.75	0.00	19822				

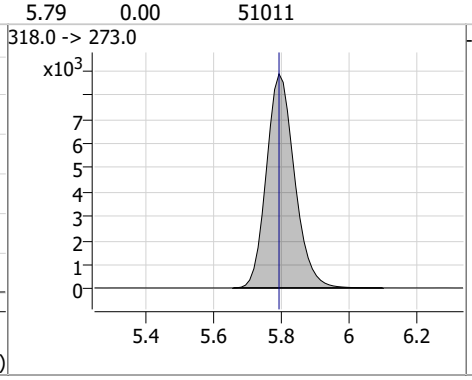


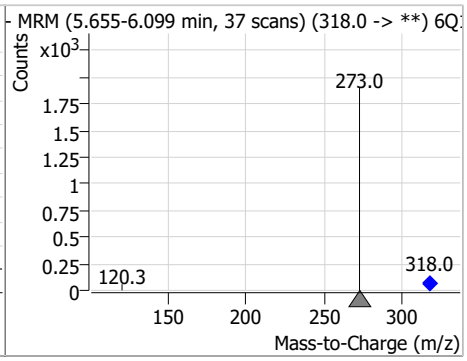




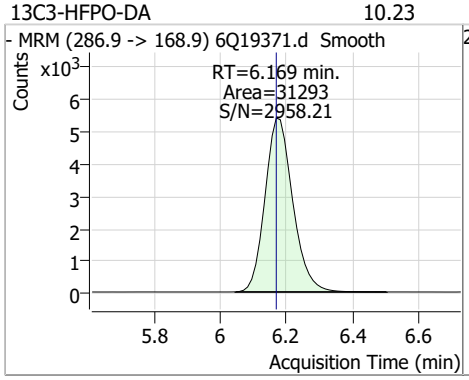
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.79	5.79	0.00	51011				

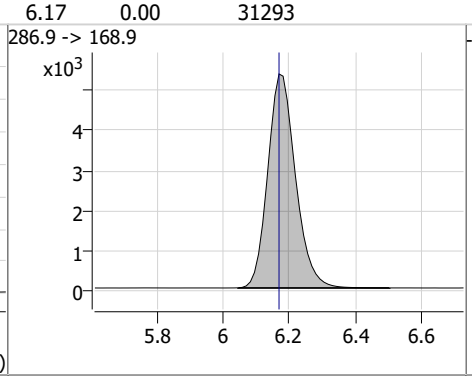


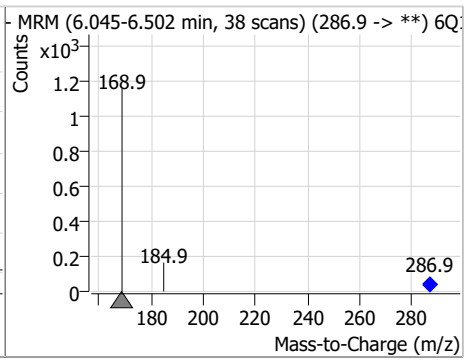




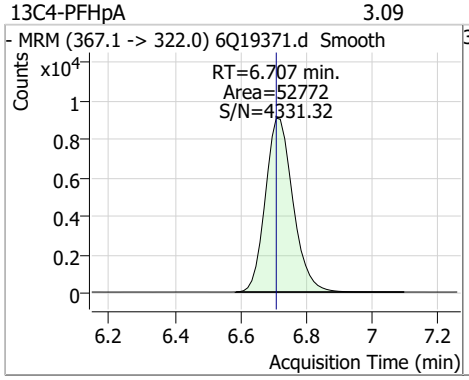
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.23	6.17	0.00	31293				

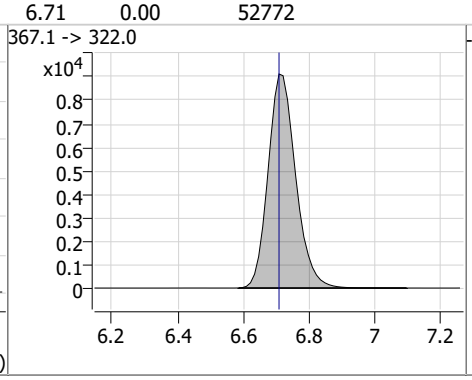


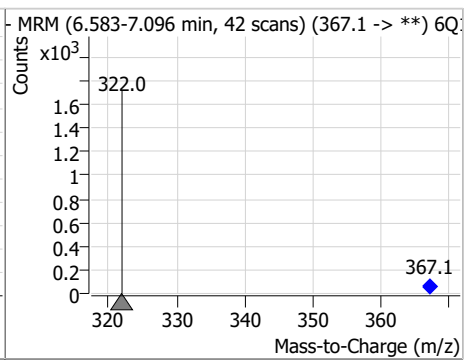




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.09	6.71	0.00	52772				

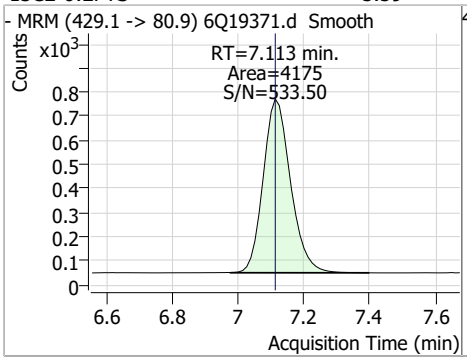


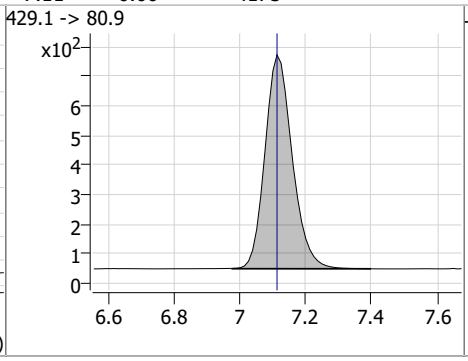


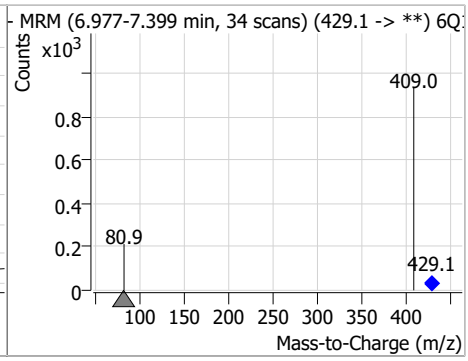


Perfluorinated Compounds by LC/MS/MS

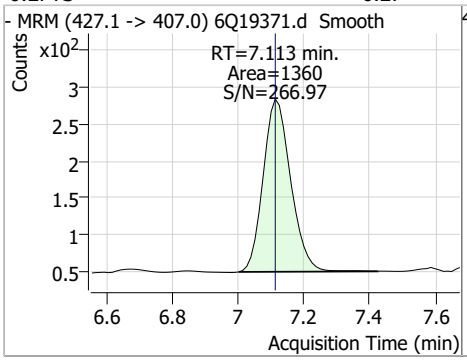
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.59	7.11	0.00	4175				

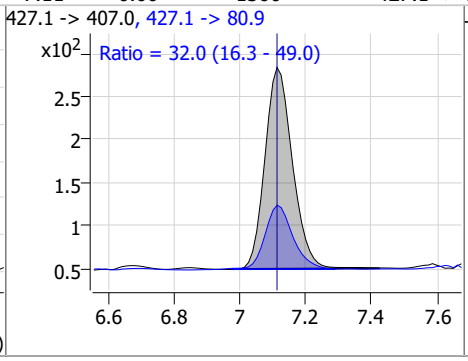


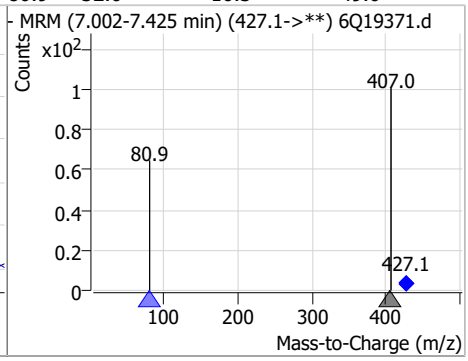




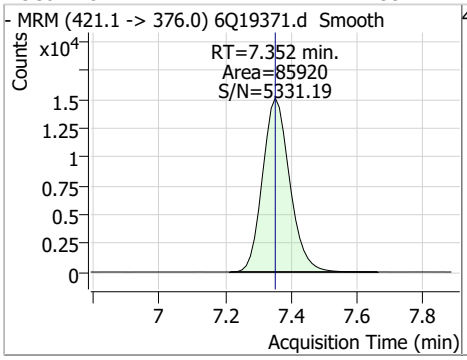
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.27	7.11	0.00	1360	427.1 -> 80.9	32.0	16.3	49.0

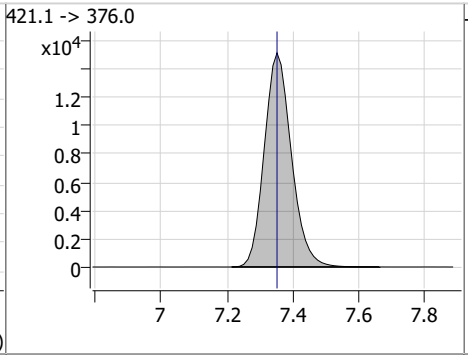


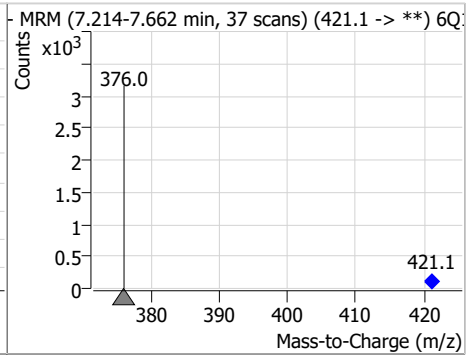




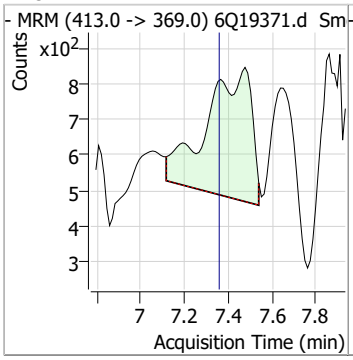
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.99	7.35	0.00	85920				

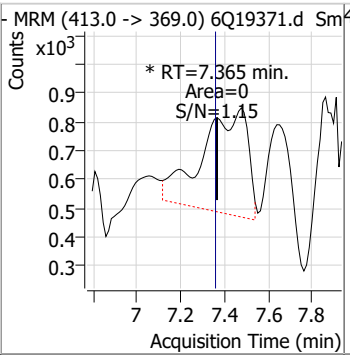


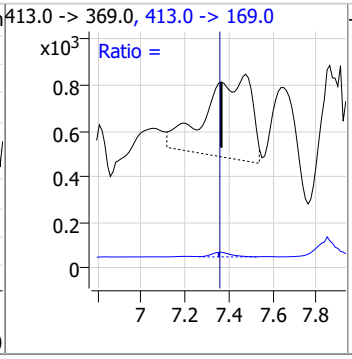


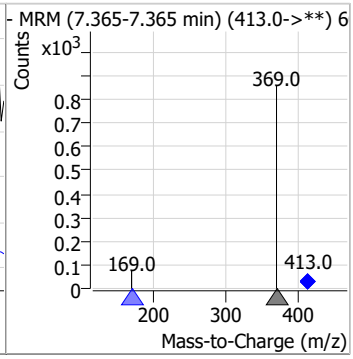


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA		0		0	413.0 -> 169.0		8.4	25.2



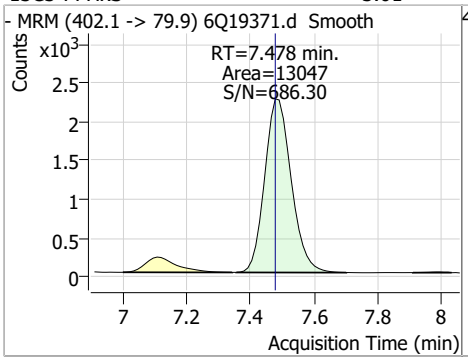


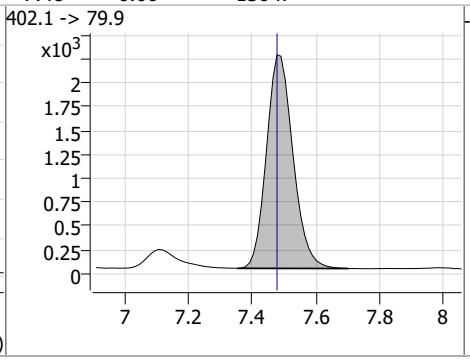


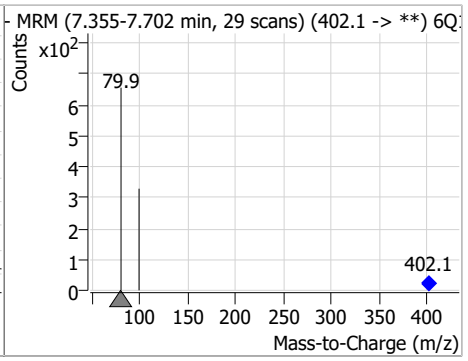


Perfluorinated Compounds by LC/MS/MS

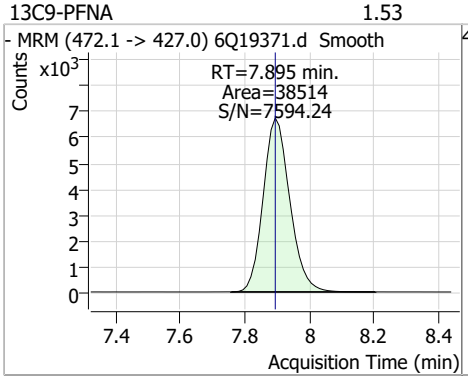
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.01	7.48	0.00	13047				

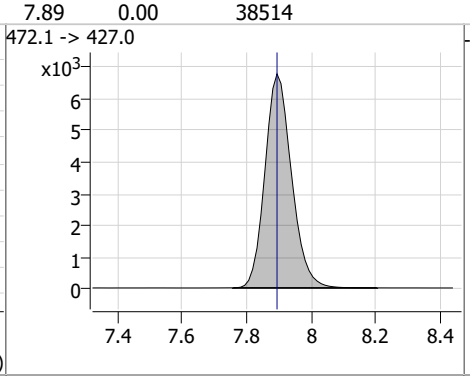


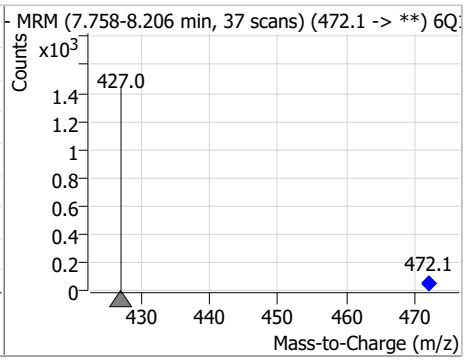




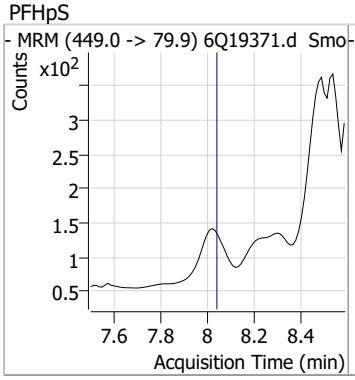
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.53	7.89	0.00	38514				

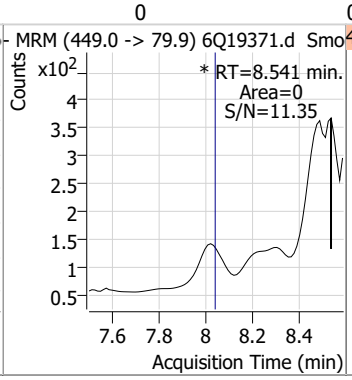


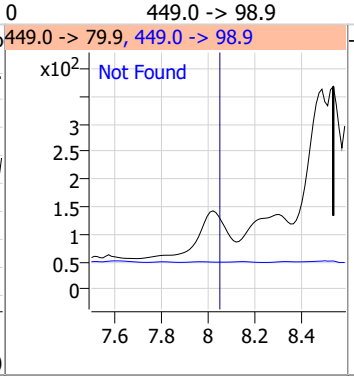


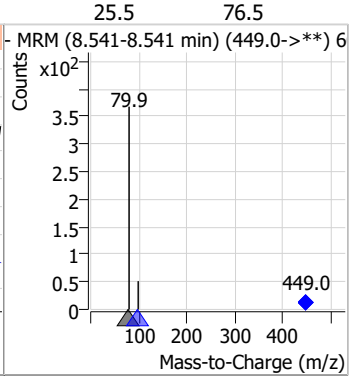


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0		0		449.0 -> 98.9		25.5	76.5

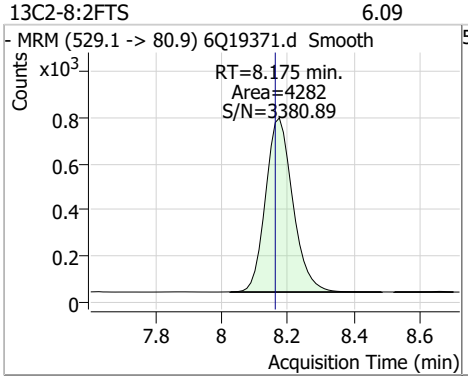


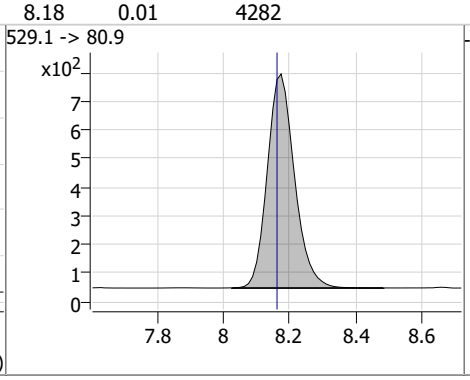


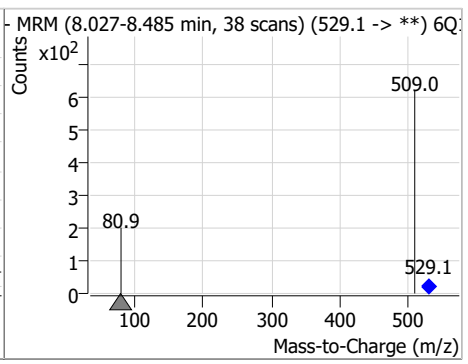




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	6.09	8.18	0.01	4282				

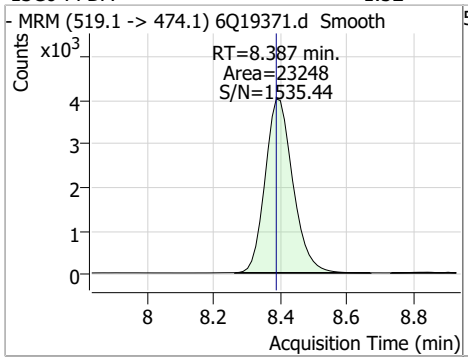


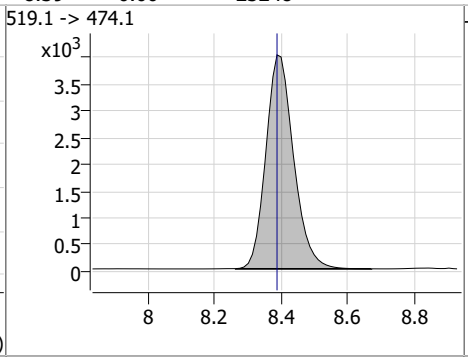


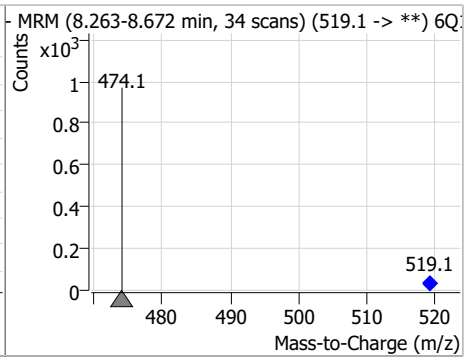


Perfluorinated Compounds by LC/MS/MS

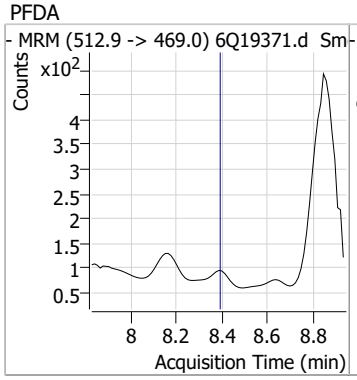
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.52	8.39	0.00	23248				

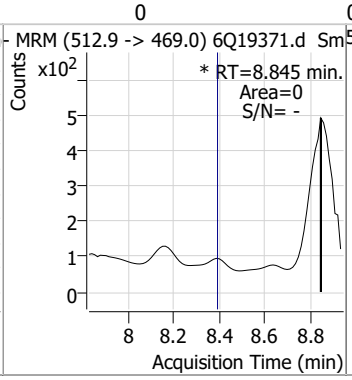


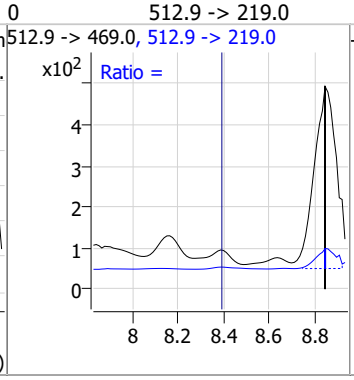


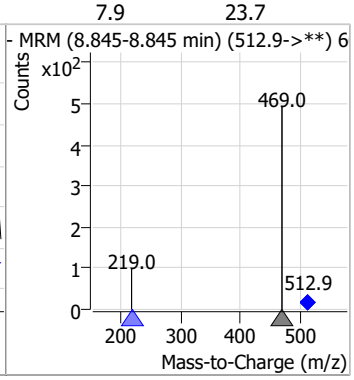


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA		0		0	512.9 -> 219.0		7.9	23.7

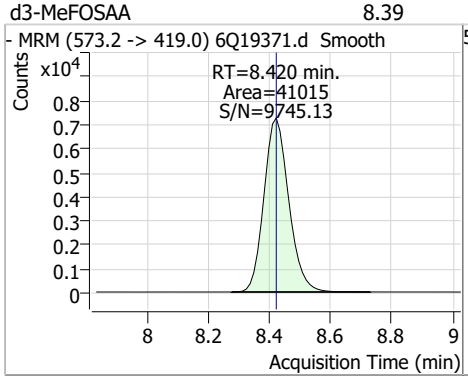


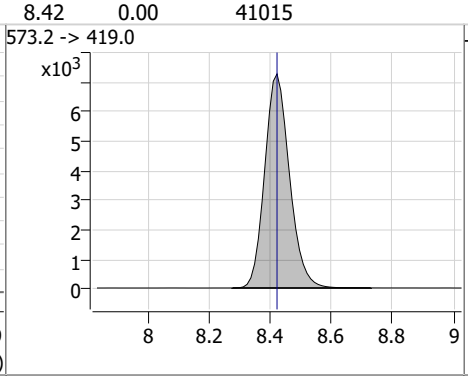


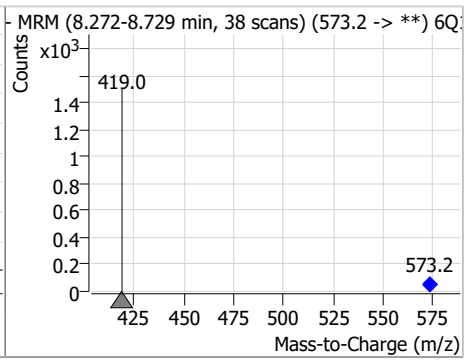




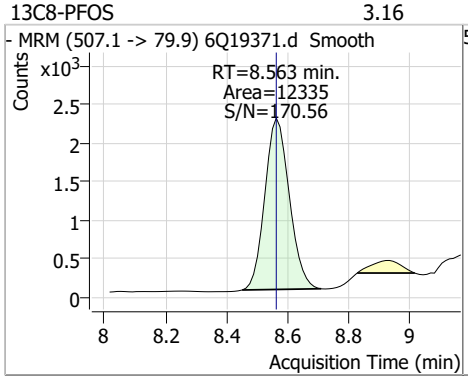
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	8.39	8.42	0.00	41015				

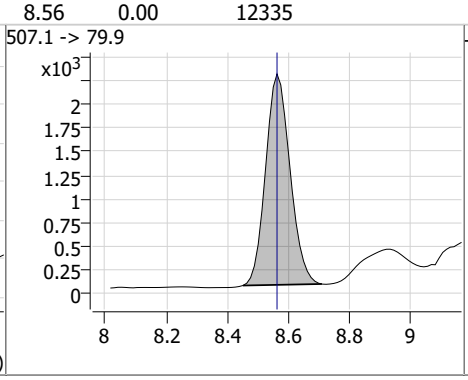


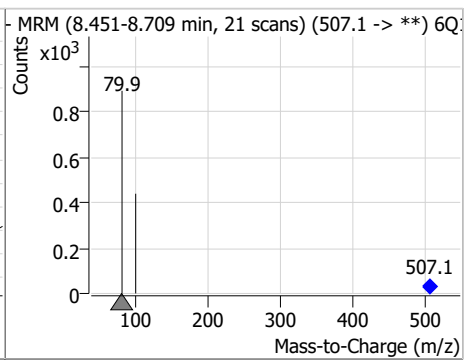




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	3.16	8.56	0.00	12335				

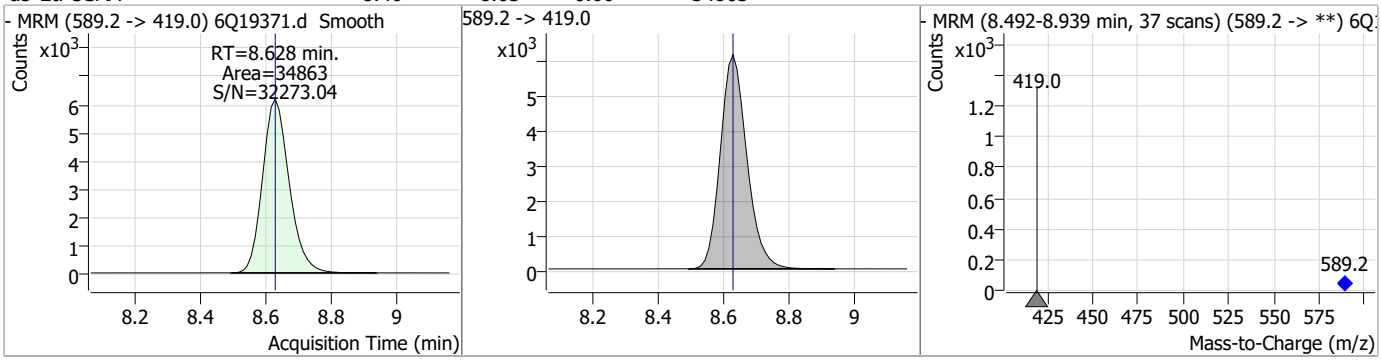




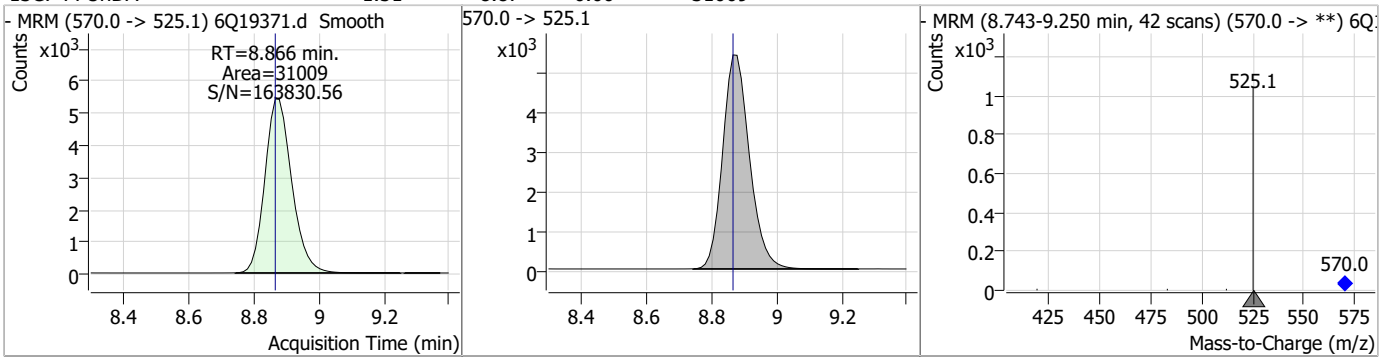


Perfluorinated Compounds by LC/MS/MS

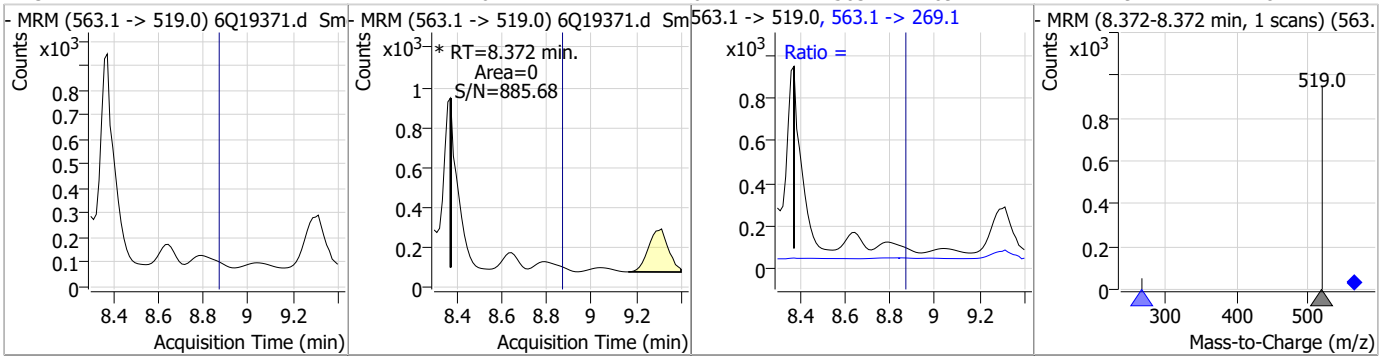
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	8.40	8.63	0.00	34863				



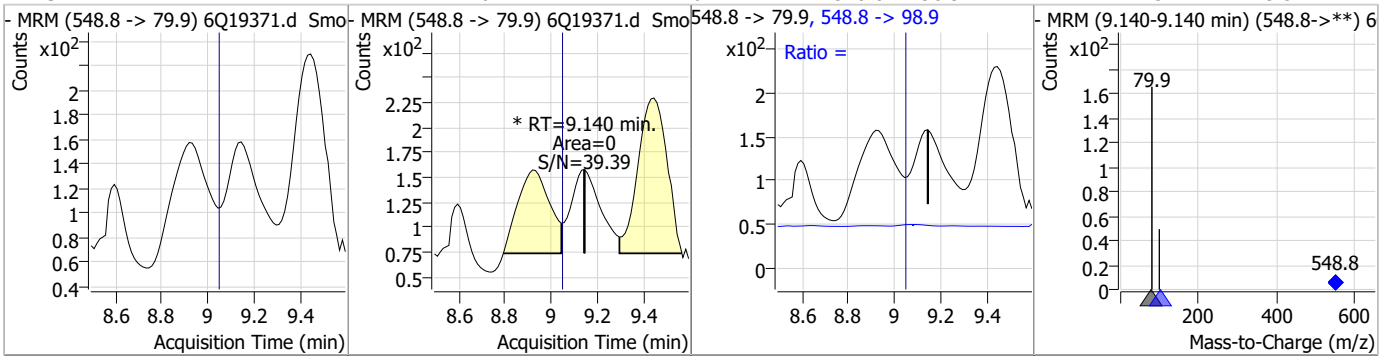
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.51	8.87	0.00	31009				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA		0		0	563.1 -> 269.1		9.4	28.1

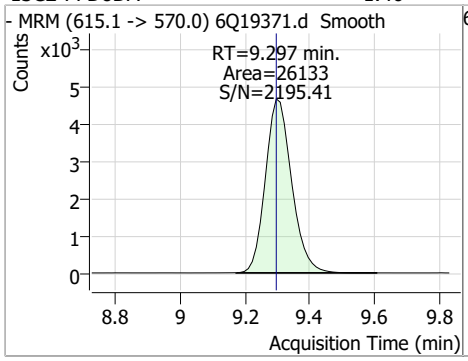


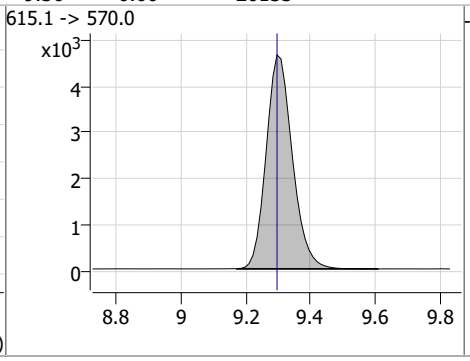
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS		0		0	548.8 -> 98.9		24.5	73.5

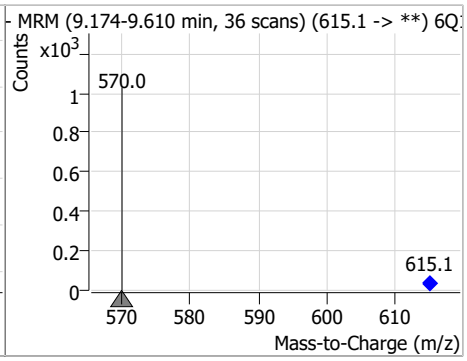


Perfluorinated Compounds by LC/MS/MS

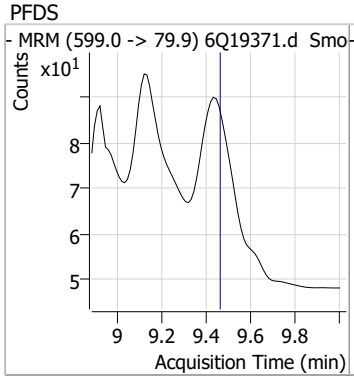
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.46	9.30	0.00	26133				

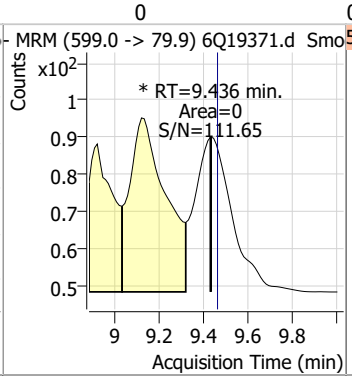


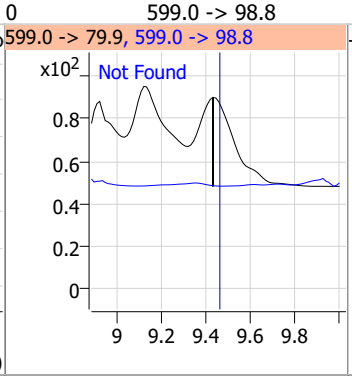


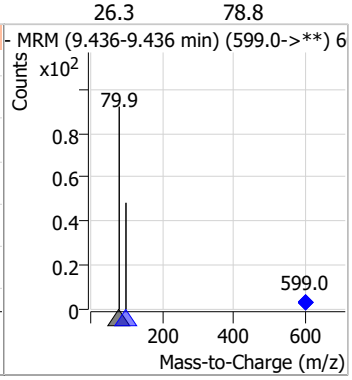


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS		0		0	599.0 -> 98.8		26.3	78.8

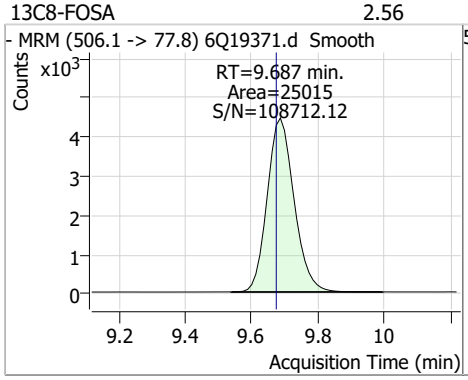


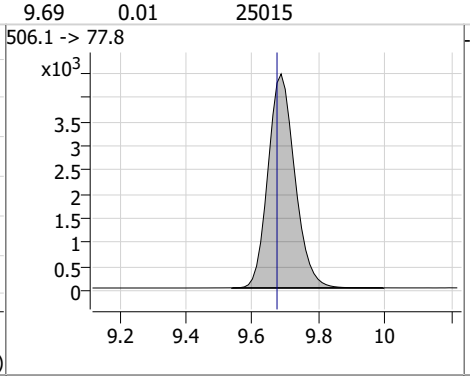


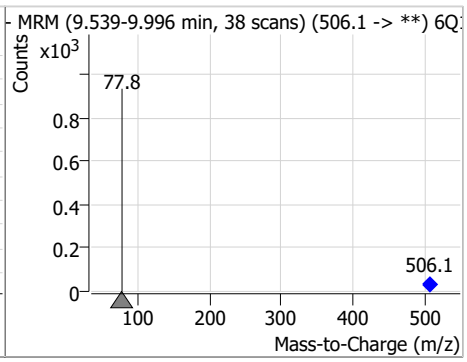




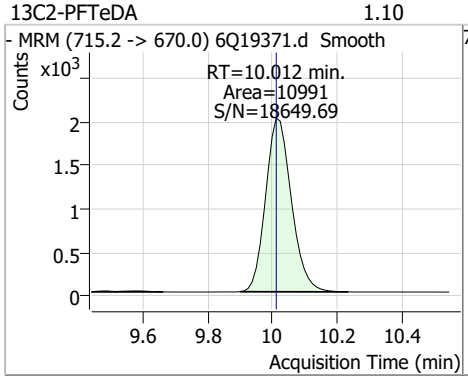
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.56	9.69	0.01	25015				

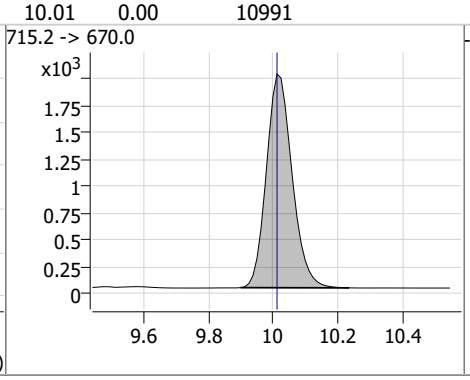


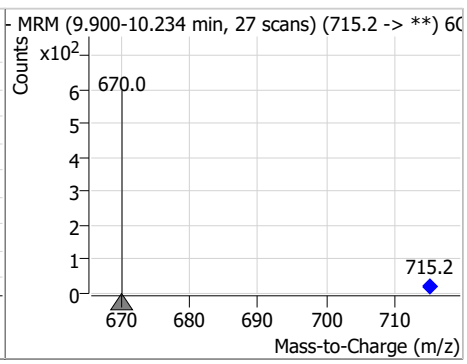




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.10	10.01	0.00	10991				

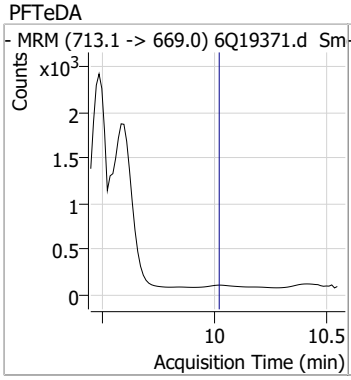


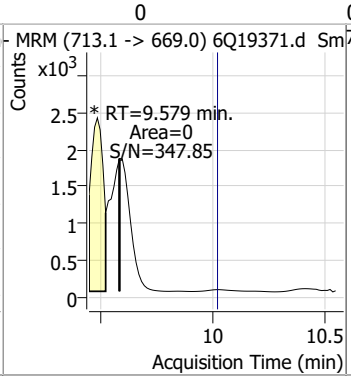


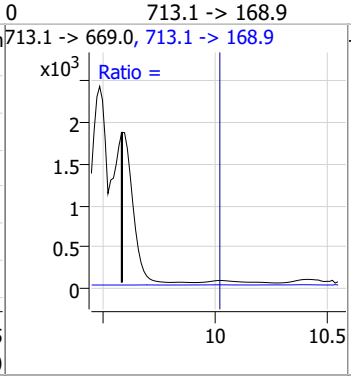


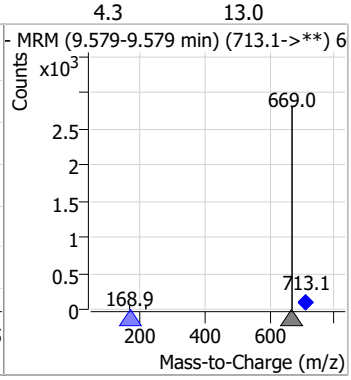
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA		0		0	713.1 -> 168.9		4.3	13.0

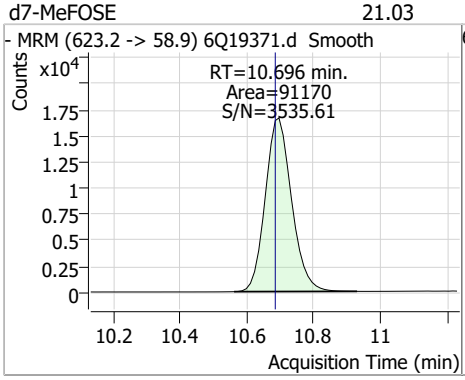


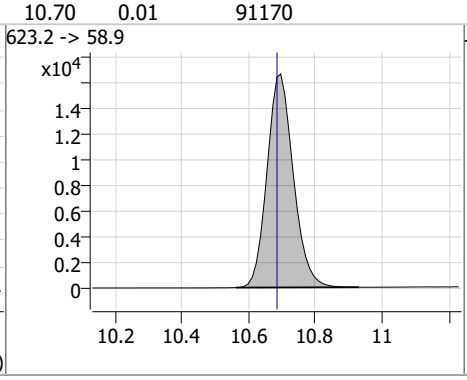


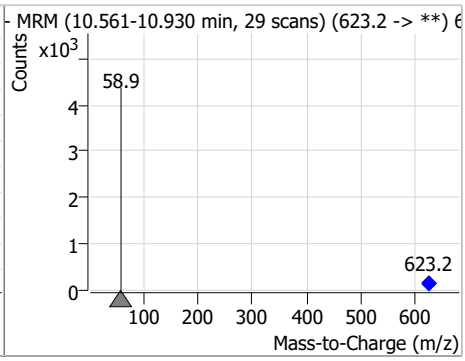




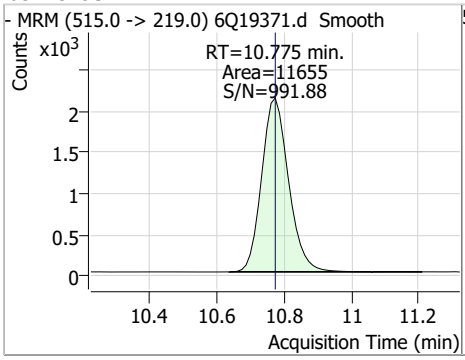
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	21.03	10.70	0.01	91170				

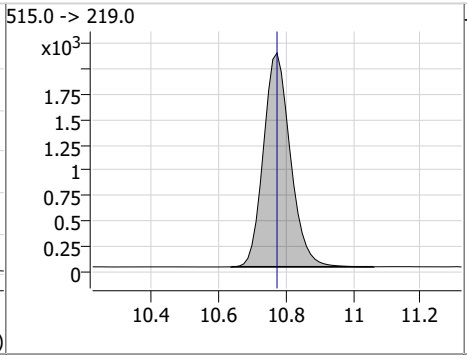


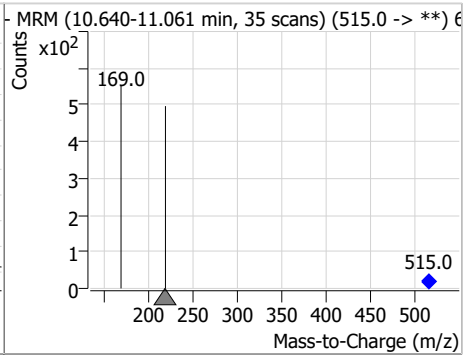




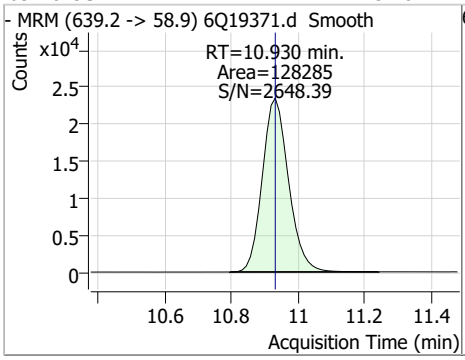
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.74	10.78	0.00	11655				

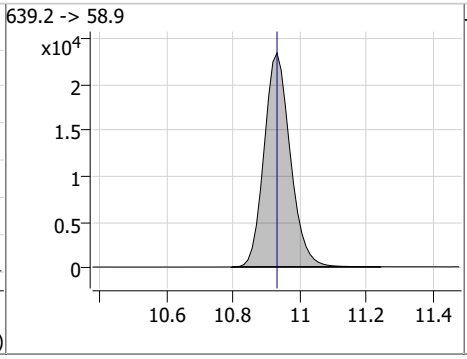


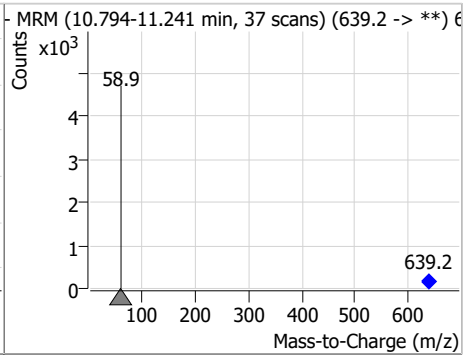




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.10	10.93	0.00	128285				

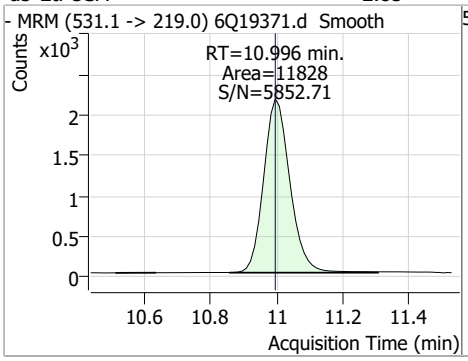


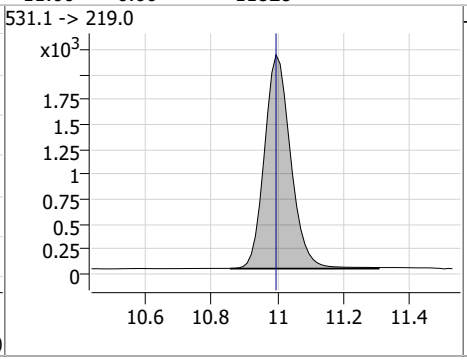


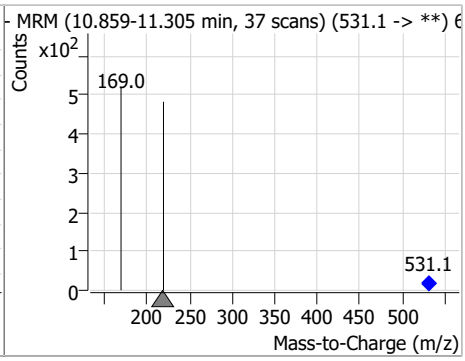


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.85	11.00	0.00	11828				







Manual Integration Approval Summary

Sample Number:	FC6803-4	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19371.D	**Analyst approved:**	06/20/23 15:03 Martha Valls
Injection Time:	06/14/23 20:50	**Supervisor approved:**	06/20/23 16:54 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.55	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19372.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 9:04:19 PM
Sample Name : FC6803-5
Vial : P4-C8
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97325,S6Q289,560,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	165271	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	53929	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	58904	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	55202	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	83275	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	39261	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	21697	1.25	µg/L	0.012
M7-PFUnDA	8.878	570.0 -> 525.1	31023	1.25	µg/L	0.012
M2-PFDoDA	9.310	615.1 -> 570.0	23374	1.25	µg/L	0.012
M2-PFTeDA	10.012	715.2 -> 670.0	10658	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	23527	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	20240	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12901	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	12018	2.50	µg/L	0.012
M2-4:2FTS	5.454	329.1 -> 80.9	3446	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	5044	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4315	5.00	µg/L	0.012
M3-MeFOSAA	8.432	573.2 -> 419.0	31752	5.00	µg/L	0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	34213	10.00	µg/L	0.000
M5-EtFOSAA	8.640	589.2 -> 419.0	24232	5.00	µg/L	0.012
M7-MeFOSE	10.696	623.2 -> 58.9	96555	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	139671	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	10432	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	10037	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	15024	2.50	µg/L	0.012
13C3-PFBA	3.101	216.0 -> 172.0	59916	5.00	µg/L	0.012
18O2-PFHxS	7.490	403.0 -> 83.9	8107	2.50	µg/L	0.012
13C4-PFOA	7.352	417.1 -> 372.0	83469	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	28274	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	44129	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	47770	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3446	7.08	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 141.7%		
13C2-6:2FTS	7.113	429.1 -> 80.9	5044	6.87	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 137.3%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4315	6.25	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 124.9%		
13C2-PFDoDA	9.310	615.1 -> 570.0	23374	1.24	µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C2-PFTeDA	10.012	715.2 -> 670.0	10658	1.01	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 80.8%		
13C3-PFBS	5.746	302.1 -> 79.9	20240	3.00	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 120.0%		
13C3-PFHxS	7.478	402.1 -> 79.9	12901	3.03	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 121.1%	
13C4-PFBA	3.097	216.8 -> 171.9	165271	11.76 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 117.6%	
13C4-PFHpA	6.707	367.1 -> 322.0	55202	2.99 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 119.7%	
13C5-PFHxA	5.792	318.0 -> 273.0	58904	2.99 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 119.5%	
13C5-PFPeA	4.560	268.3 -> 223.0	53929	5.97 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.4%	
13C6-PFDA	8.400	519.1 -> 474.1	21697	1.34 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.0%	
13C7-PFUnDA	8.878	570.0 -> 525.1	31023	1.43 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 114.2%	
13C8-FOSA	9.687	506.1 -> 77.8	23527	2.07 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.7%	
13C8-PFOA	7.352	421.1 -> 376.0	83275	2.67 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.8%	
13C8-PFOS	8.575	507.1 -> 79.9	12018	2.65 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.0%	
13C9-PFNA	7.895	472.1 -> 427.0	39261	1.46 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 116.9%	
d3-MeFOSAA	8.432	573.2 -> 419.0	31752	5.59 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.7%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	34213	10.37 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.7%	
d3-MeFOSA	10.775	515.0 -> 219.0	10037	2.03 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 81.2%	
d5-EtFOSAA	8.640	589.2 -> 419.0	24232	5.02 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
d7-MeFOSE	10.696	623.2 -> 58.9	96555	19.15 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 76.6%	
d9-EtFOSE	10.930	639.2 -> 58.9	139671	23.50 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.0%	
d5-EtFOSA	10.996	531.1 -> 219.0	10432	2.16 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.4%	

Target Compounds						QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.		
		327.1 -> 80.9				
6:2FTS	-	427.1 -> 407.0	-	N.D.		
		427.1 -> 80.9				
8:2FTS	-	527.1 -> 507.0	-	N.D.		
		527.1 -> 80.8				
EtFOSAA	-	584.2 -> 419.1	-	N.D.		
		584.2 -> 526.0				
FOSA	-	498.1 -> 77.9	-	N.D.		
		498.1 -> 478.0				
MeFOSAA	-	570.1 -> 419.0	-	N.D.		
		570.1 -> 483.0				
PFBA	-	212.8 -> 168.9	-	N.D.		
PFBS	-	298.7 -> 79.9	-	N.D.		
		298.7 -> 98.8				
PFDA	8.857	512.9 -> 469.0	0	µg/L	m	1
		512.9 -> 219.0	0			
PFDoDA	9.709	613.1 -> 569.0	0	µg/L	m	1
		613.1 -> 319.0	0			
PFDS	-	599.0 -> 79.9	-	N.D.		

Perfluorinated Compounds by LC/MS/MS

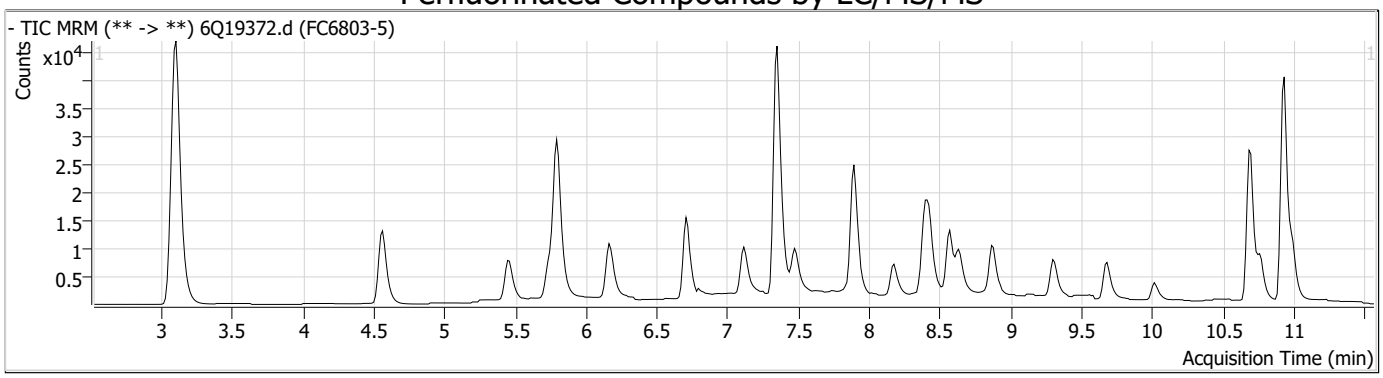
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	-	413.0 -> 369.0	-	N.D.			
		413.0 -> 169.0					
PFOS	-	498.9 -> 79.9	-	N.D.			
		498.9 -> 98.8					
PFPeA	-	263.0 -> 219.0	-	N.D.			
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	9.313	563.1 -> 519.0	0		µg/L	m	1
		563.1 -> 269.1	0				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

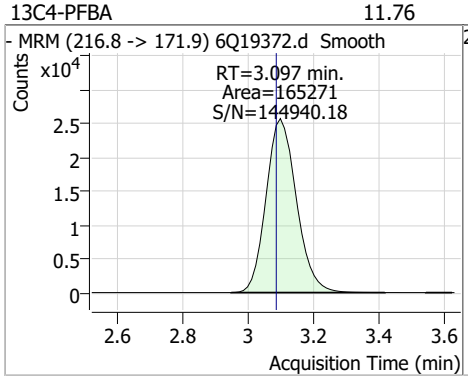
Perfluorinated Compounds by LC/MS/MS

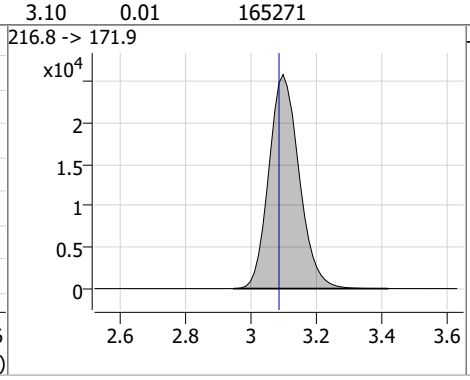
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

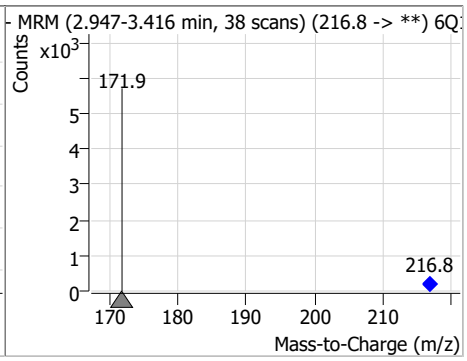
Perfluorinated Compounds by LC/MS/MS



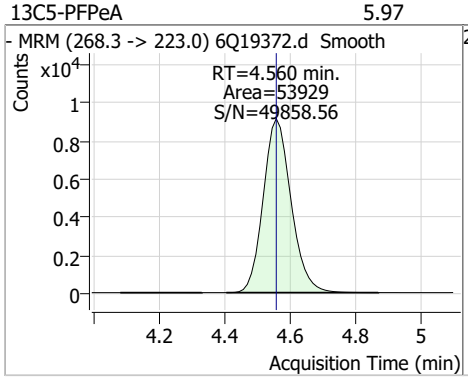
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	11.76	3.10	0.01	165271				

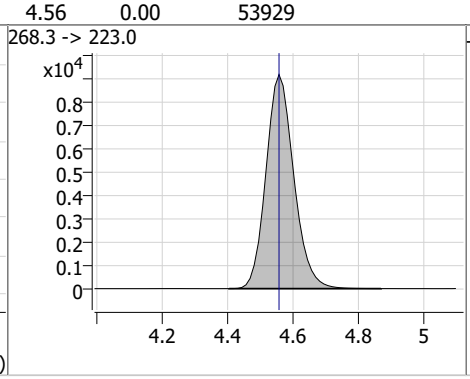


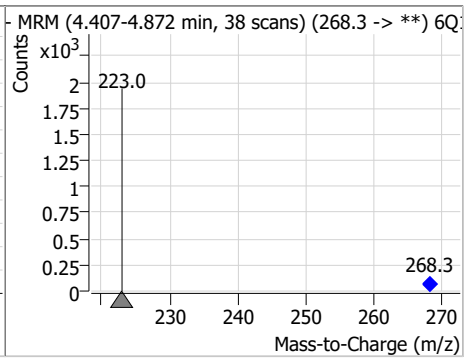




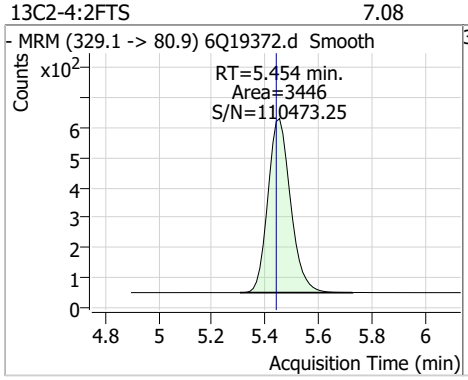
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.97	4.56	0.00	53929				

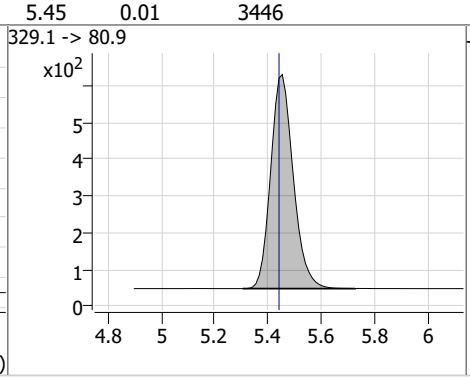


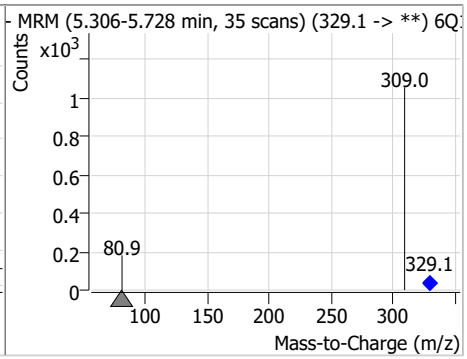




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	7.08	5.45	0.01	3446				

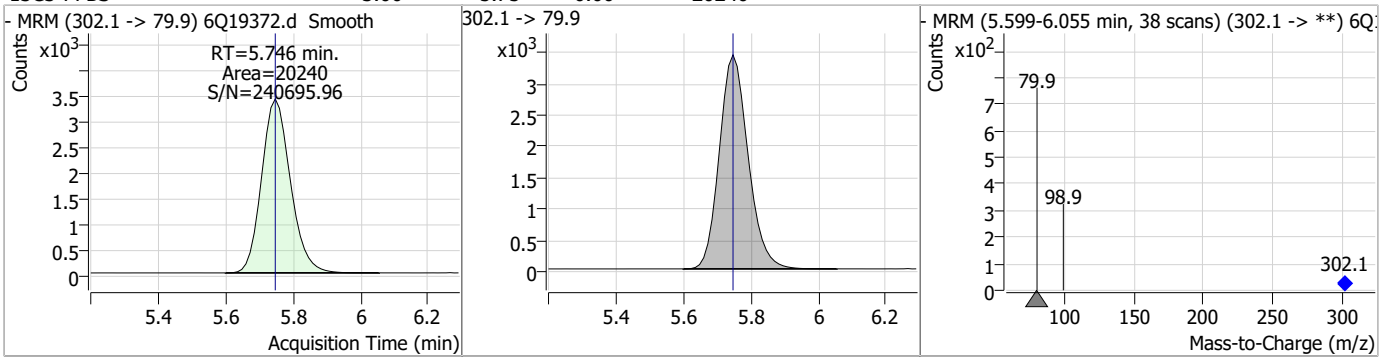




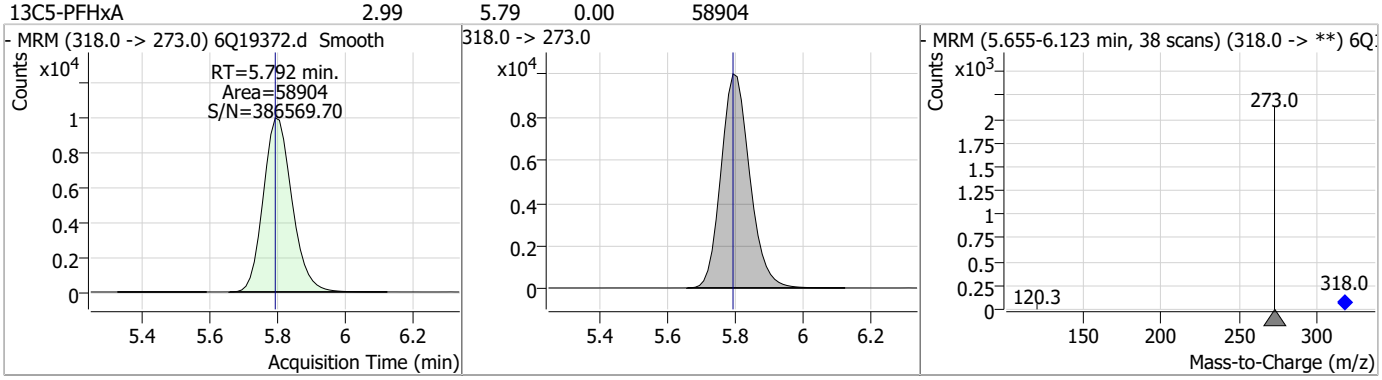


Perfluorinated Compounds by LC/MS/MS

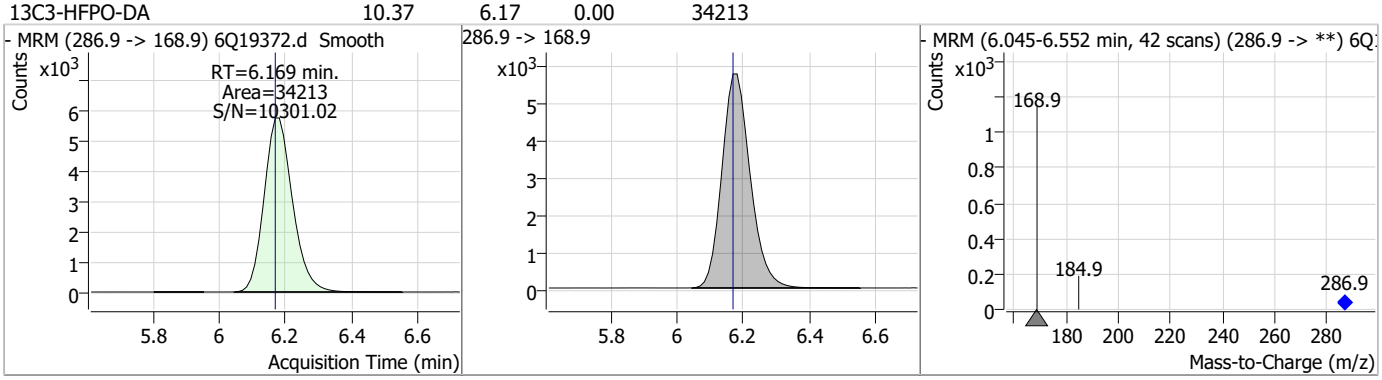
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.00	5.75	0.00	20240				



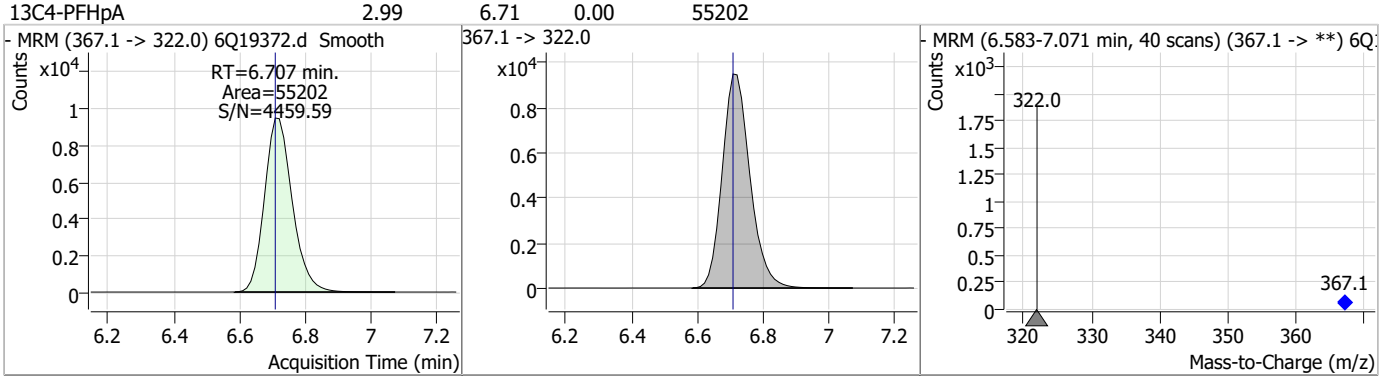
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.99	5.79	0.00	58904				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.37	6.17	0.00	34213				

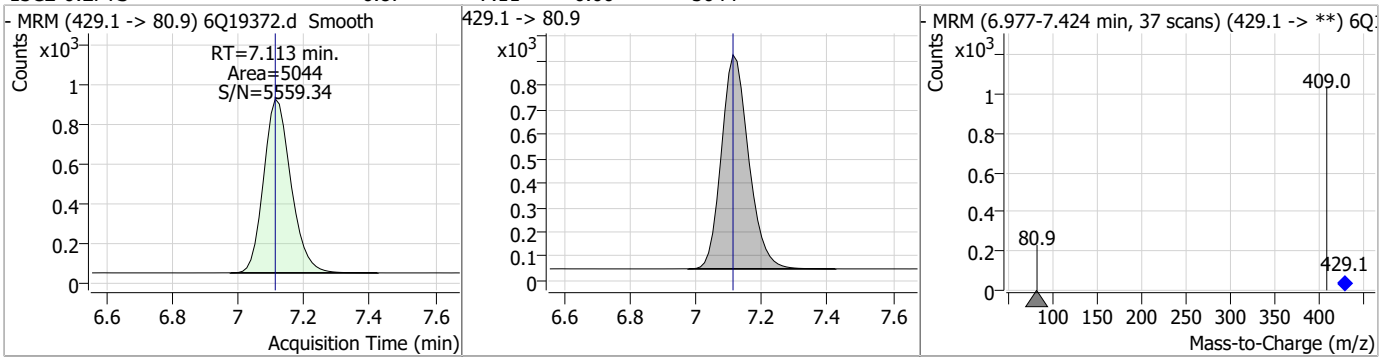


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.99	6.71	0.00	55202				

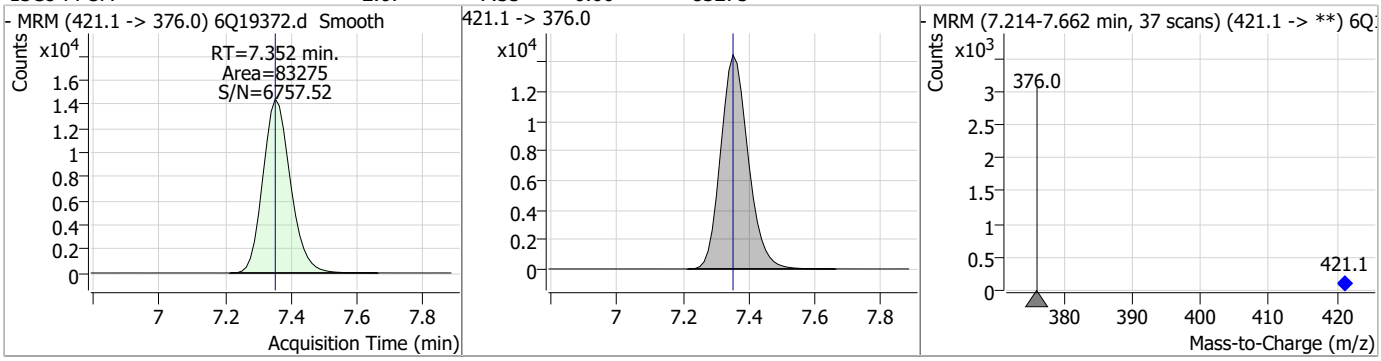


Perfluorinated Compounds by LC/MS/MS

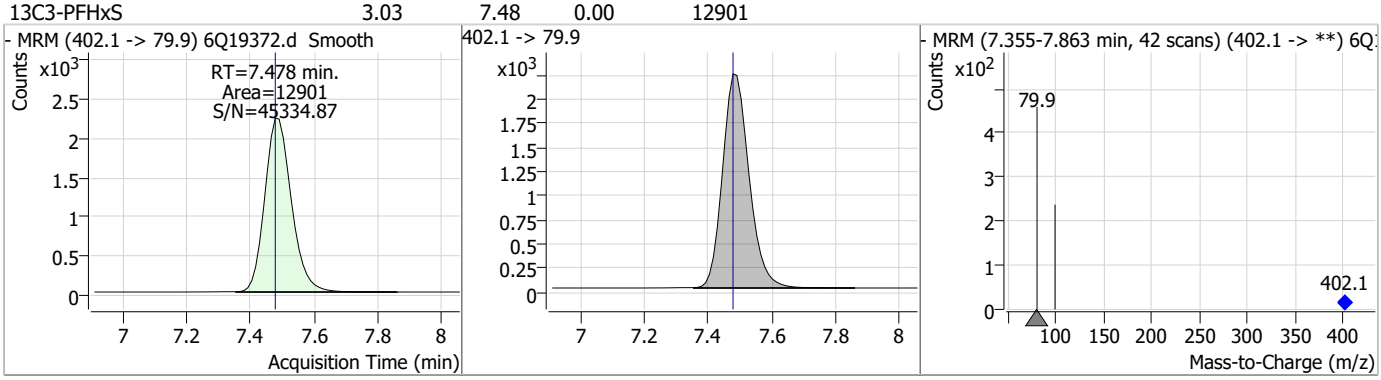
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.87	7.11	0.00	5044				



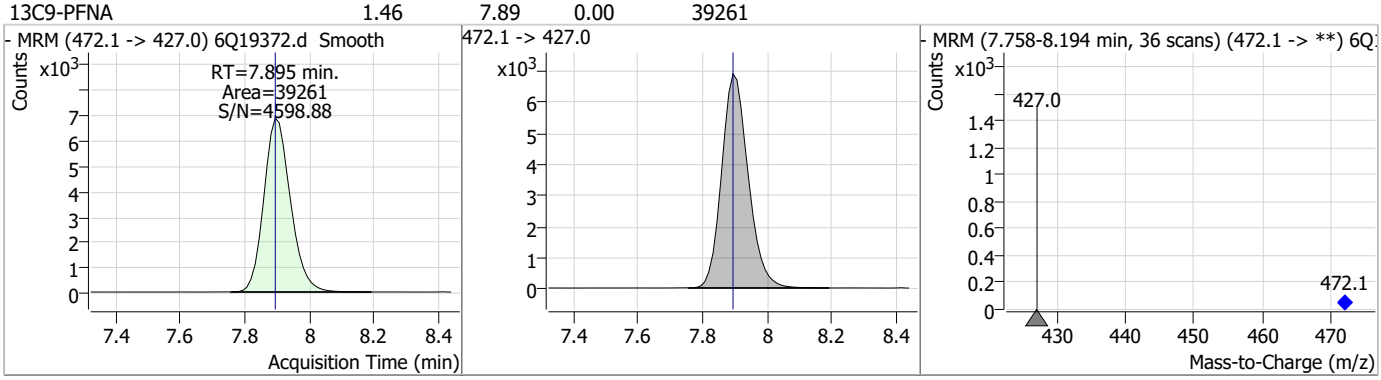
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.67	7.35	0.00	83275				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.03	7.48	0.00	12901				

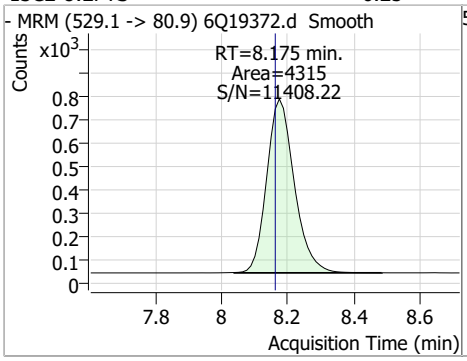


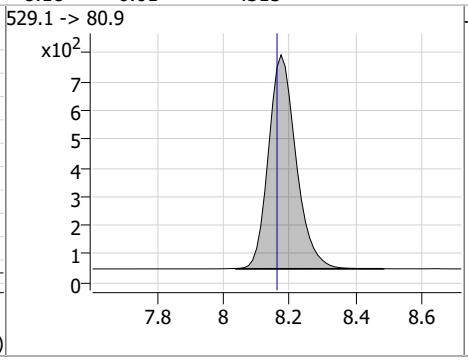
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.46	7.89	0.00	39261				

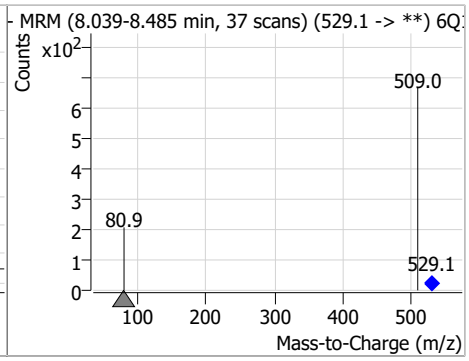


Perfluorinated Compounds by LC/MS/MS

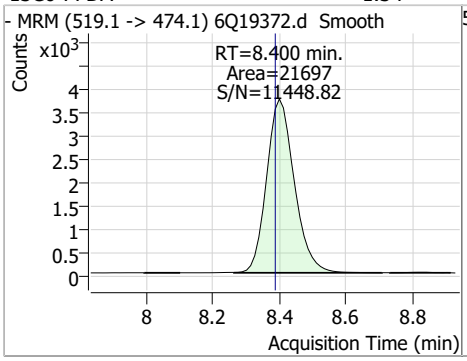
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	6.25	8.18	0.01	4315				

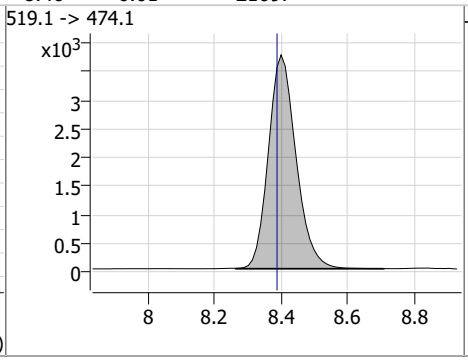


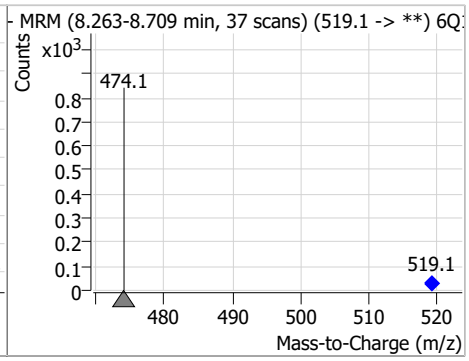




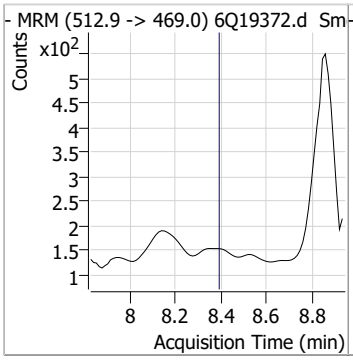
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.34	8.40	0.01	21697				

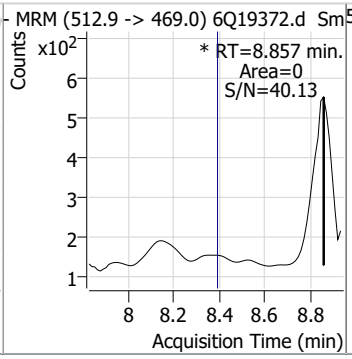


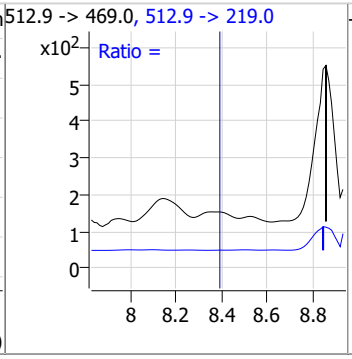


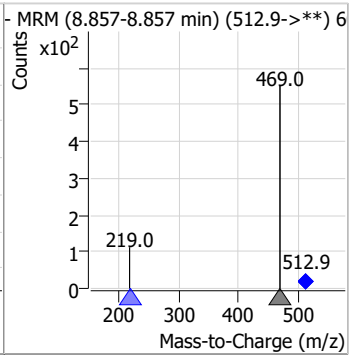


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0		0		512.9 -> 219.0		7.9	23.7

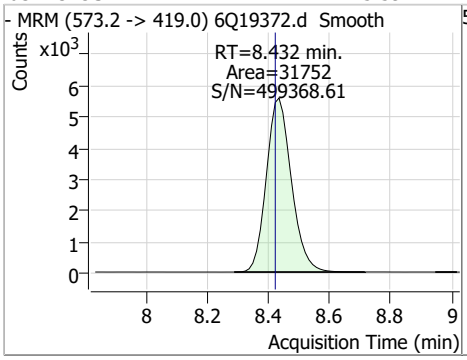


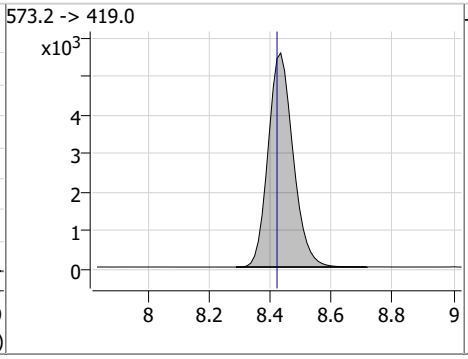


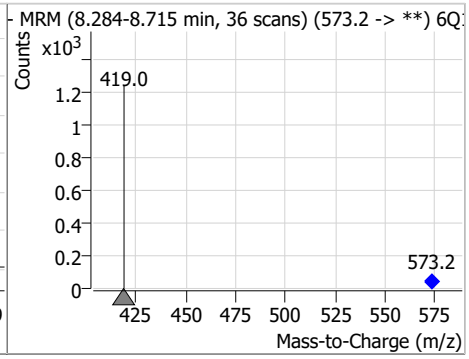




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.59	8.43	0.01	31752				

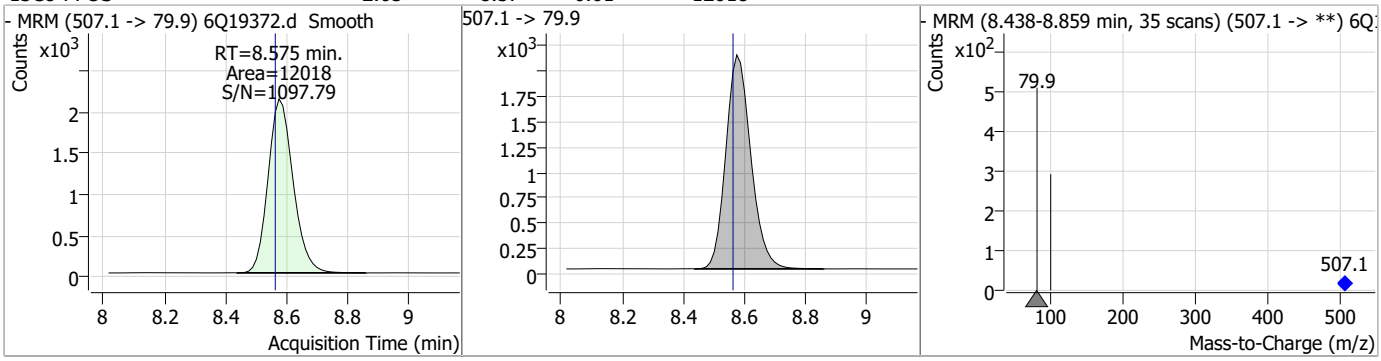




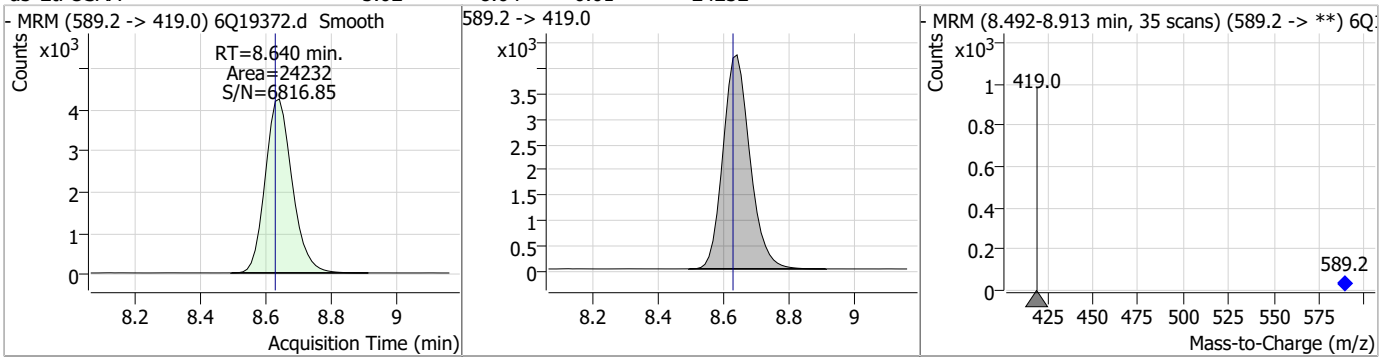


Perfluorinated Compounds by LC/MS/MS

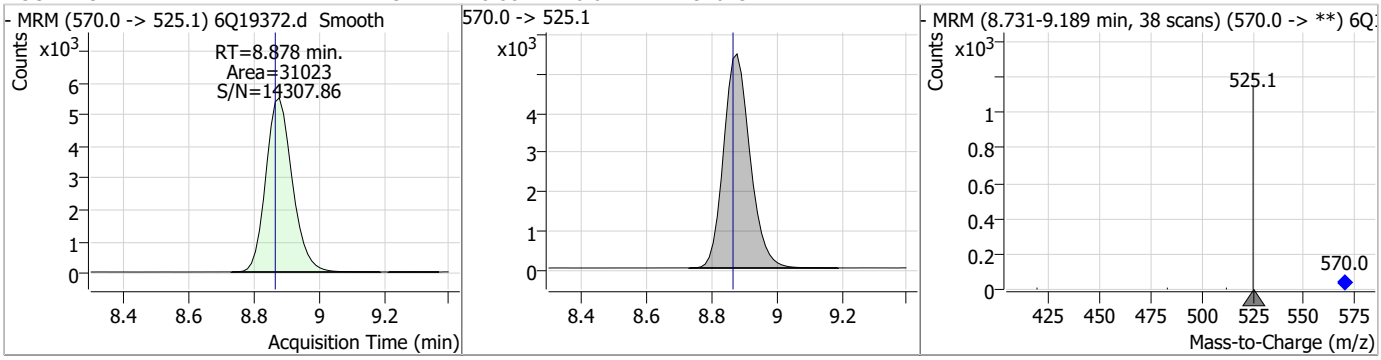
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.65	8.57	0.01	12018				



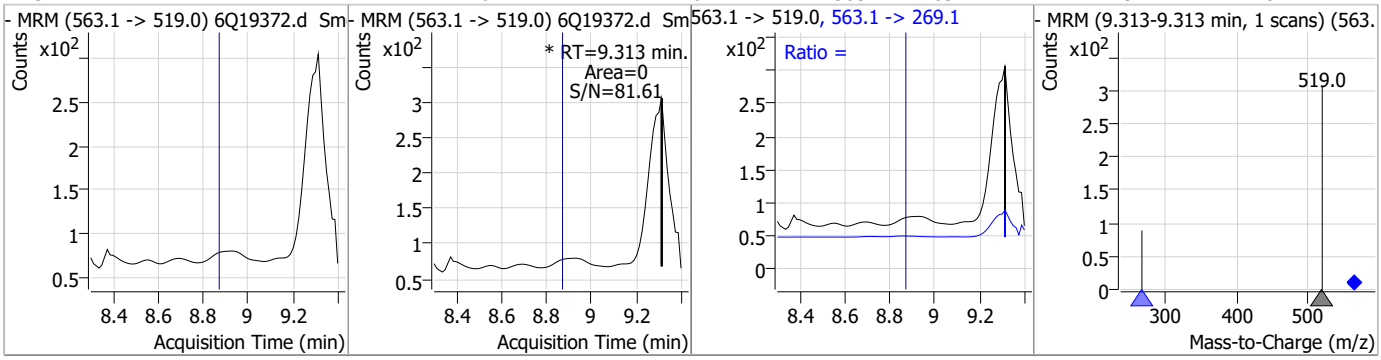
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.02	8.64	0.01	24232				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.43	8.88	0.01	31023				

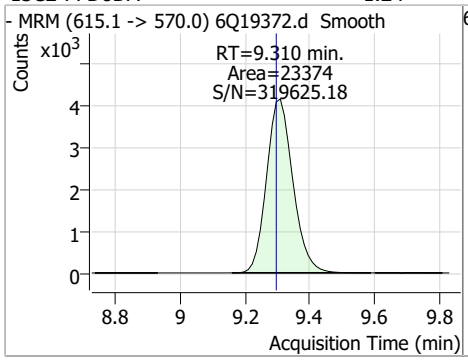


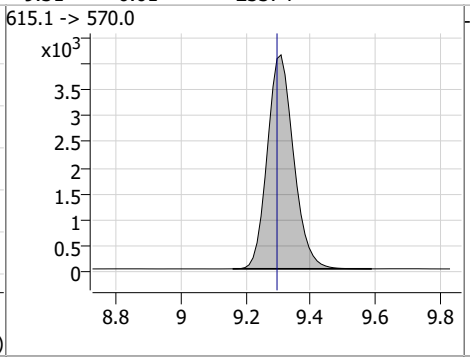
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA		0		0	563.1 -> 269.1		9.4	28.1

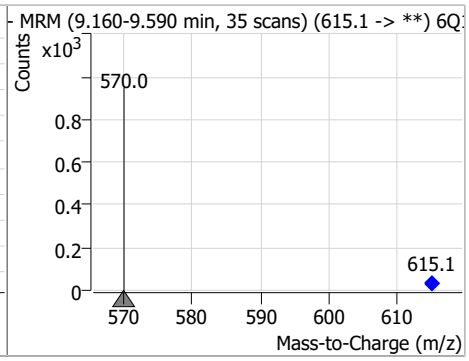


Perfluorinated Compounds by LC/MS/MS

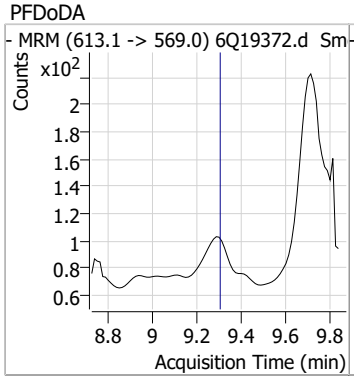
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.24	9.31	0.01	23374				

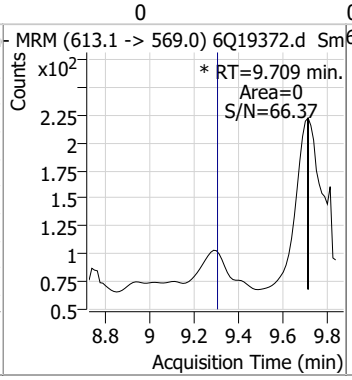


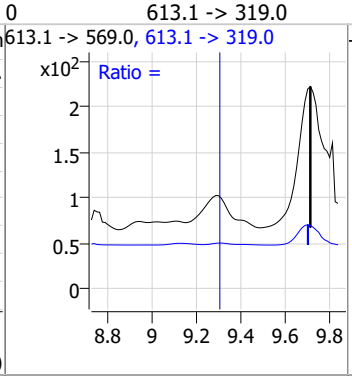


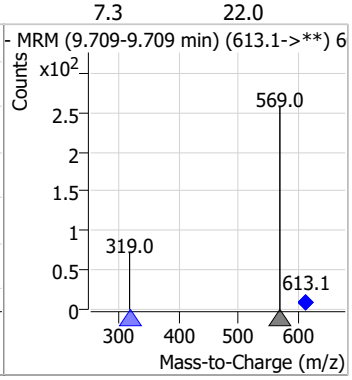


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA		0		0	613.1 -> 319.0		7.3	22.0

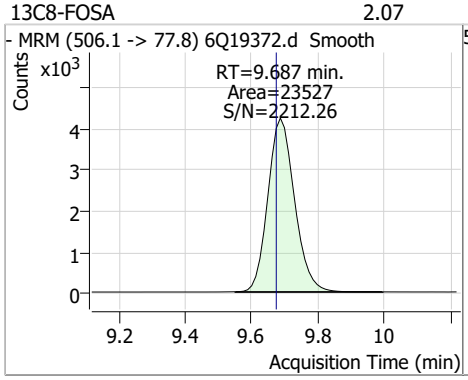


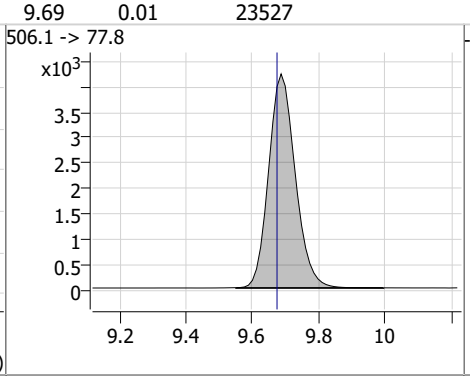


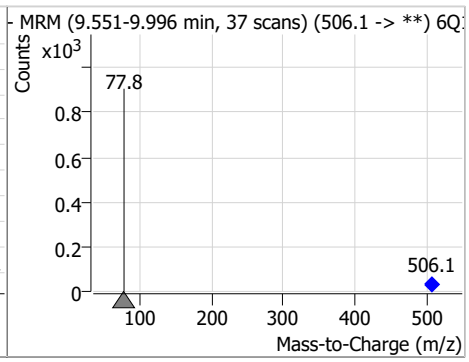




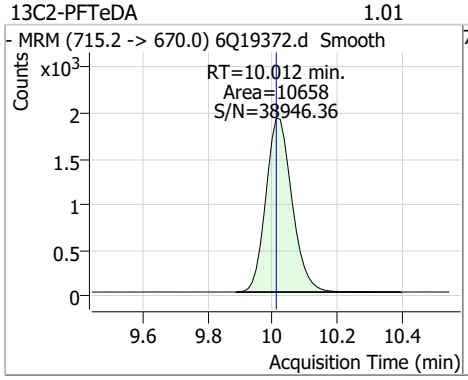
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.07	9.69	0.01	23527				

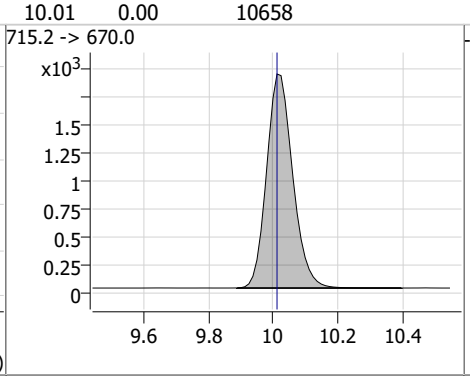


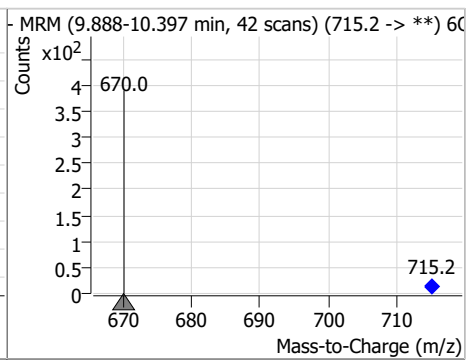




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.01	10.01	0.00	10658				

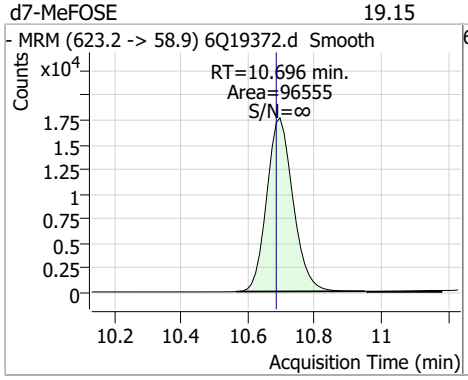


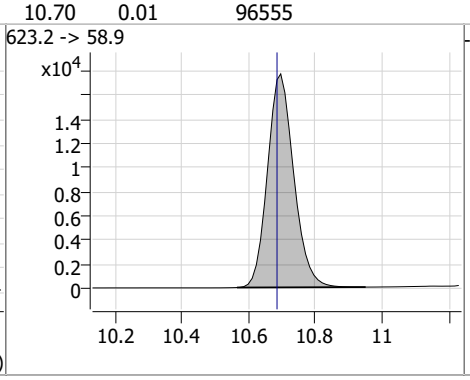


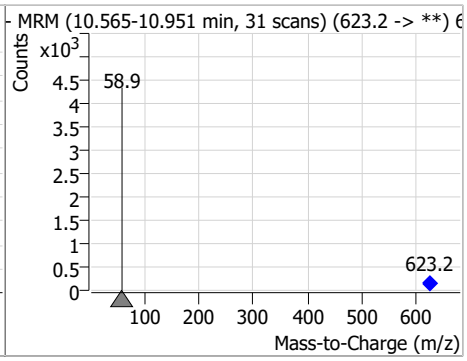


Perfluorinated Compounds by LC/MS/MS

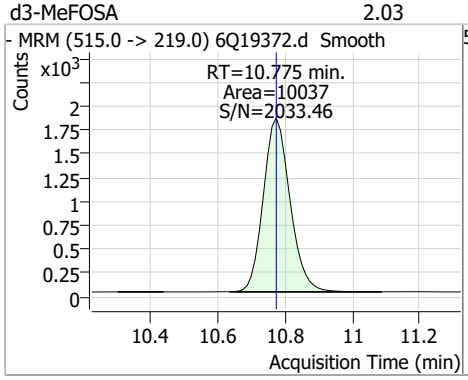
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	19.15	10.70	0.01	96555				

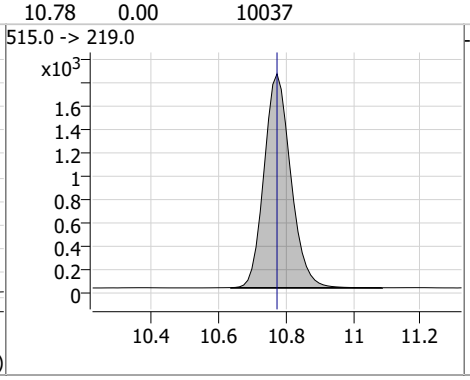


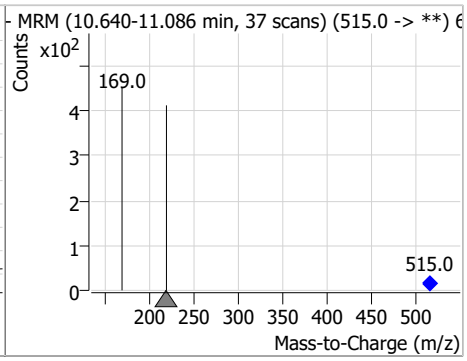




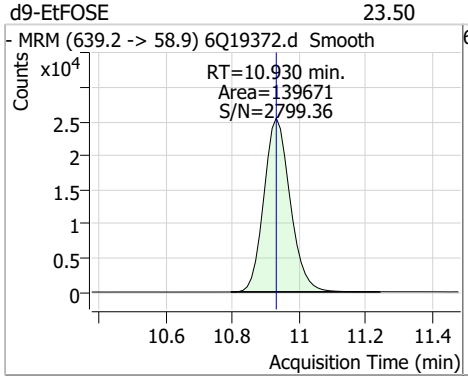
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.03	10.78	0.00	10037				

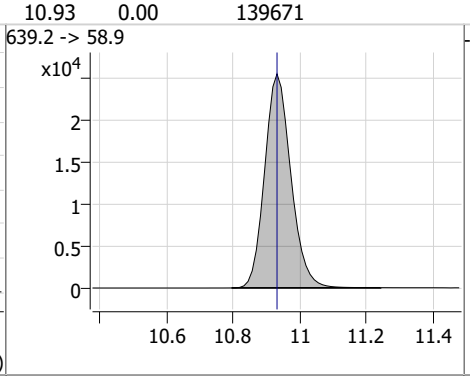


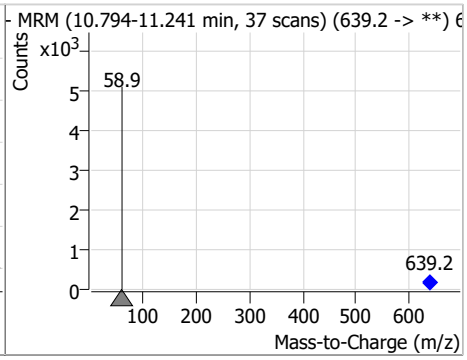




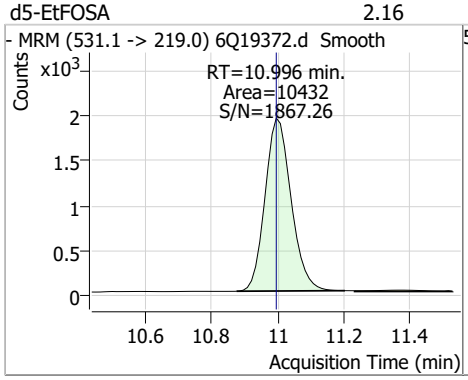
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.50	10.93	0.00	139671				

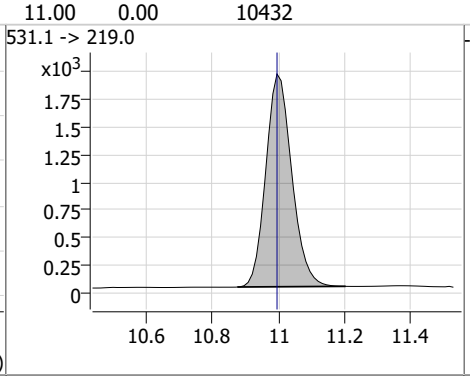


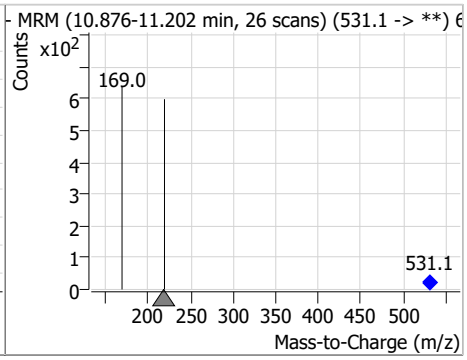




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.16	11.00	0.00	10432				







Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19375.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 9:46:14 PM
Sample Name : FC6803-6
Vial : P4-C9
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97325,S6Q289,550,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	144159	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	51685	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	57144	2.50	µg/L	0.000
M4-PFHpA	6.719	367.1 -> 322.0	52717	2.50	µg/L	0.012
M8-PFOA	7.352	421.1 -> 376.0	85849	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	37225	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	19513	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	17652	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	12508	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	4494	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	23178	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	20697	2.50	µg/L	0.000
M3-PFHxS	7.490	402.1 -> 79.9	13323	2.50	µg/L	0.012
M8-PFOS	8.575	507.1 -> 79.9	9439	2.50	µg/L	0.012
M2-4:2FTS	5.454	329.1 -> 80.9	3236	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4546	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	2783	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	29446	5.00	µg/L	0.000
M3-HFPO-DA	6.181	286.9 -> 168.9	35761	10.00	µg/L	0.012
M5-EtFOSAA	8.640	589.2 -> 419.0	25839	5.00	µg/L	0.012
M7-MeFOSE	10.696	623.2 -> 58.9	77501	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	112666	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	8554	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	8507	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	14179	2.50	µg/L	0.012
13C3-PFBA	3.101	216.0 -> 172.0	57101	5.00	µg/L	0.012
18O2-PFHxS	7.490	403.0 -> 83.9	8403	2.50	µg/L	0.012
13C4-PFOA	7.352	417.1 -> 372.0	82721	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	26236	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	41575	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	44442	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3236	6.42	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 128.4%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4546	5.97	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.4%		
13C2-8:2FTS	8.175	529.1 -> 80.9	2783	3.89	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 77.7%		
13C2-PFDoDA	9.297	615.1 -> 570.0	12508	0.71	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 57.0%		
13C2-PFTeDA	10.012	715.2 -> 670.0	4494	0.46	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 36.7%		
13C3-PFBS	5.746	302.1 -> 79.9	20697	2.96	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 118.4%		
13C3-PFHxS	7.490	402.1 -> 79.9	13323	3.02	µg/L	0.012

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 120.7%		
13C4-PFBA	3.097	216.8 -> 171.9	144159	10.76 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 107.6%		
13C4-PFHpA	6.719	367.1 -> 322.0	52717	3.07 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 122.9%		
13C5-PFHxA	5.792	318.0 -> 273.0	57144	3.12 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 124.6%		
13C5-PFPeA	4.560	268.3 -> 223.0	51685	6.15 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 123.0%		
13C6-PFDA	8.400	519.1 -> 474.1	19513	1.30 µg/L		0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.7%		
13C7-PFUnDA	8.866	570.0 -> 525.1	17652	0.88 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 70.0%		
13C8-FOSA	9.687	506.1 -> 77.8	23178	2.16 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.3%		
13C8-PFOA	7.352	421.1 -> 376.0	85849	2.78 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.0%		
13C8-PFOS	8.575	507.1 -> 79.9	9439	2.20 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.2%		
13C9-PFNA	7.895	472.1 -> 427.0	37225	1.47 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 117.7%		
d3-MeFOSAA	8.420	573.2 -> 419.0	29446	5.49 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.8%		
13C3-HFPO-DA	6.181	286.9 -> 168.9	35761	11.65 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 116.5%		
d3-MeFOSA	10.775	515.0 -> 219.0	8507	1.82 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 72.9%		
d5-EtFOSAA	8.640	589.2 -> 419.0	25839	5.67 µg/L		0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.5%		
d7-MeFOSE	10.696	623.2 -> 58.9	77501	16.29 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 65.2%		
d9-EtFOSE	10.930	639.2 -> 58.9	112666	20.09 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 80.3%		
d5-EtFOSA	10.996	531.1 -> 219.0	8554	1.88 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.1%		
Target Compounds						QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.		
		327.1 -> 80.9				
6:2FTS	7.113	427.1 -> 407.0	6398	1.18 µg/L		98
		427.1 -> 80.9	2159			
8:2FTS	-	527.1 -> 507.0	-	N.D.		
		527.1 -> 80.8				
EtFOSAA	-	584.2 -> 419.1	-	N.D.		
		584.2 -> 526.0				
FOSA	-	498.1 -> 77.9	-	N.D.		
		498.1 -> 478.0				
MeFOSAA	-	570.1 -> 419.0	-	N.D.		
		570.1 -> 483.0				
PFBA	-	212.8 -> 168.9	-	N.D.		
PFBS	-	298.7 -> 79.9	-	N.D.		
		298.7 -> 98.8				
PFDA	8.845	512.9 -> 469.0	0	µg/L	m	1
		512.9 -> 219.0	0			
PFDoDA	-	613.1 -> 569.0	-	N.D.		
		613.1 -> 319.0				
PFDS	-	599.0 -> 79.9	-	N.D.		

Perfluorinated Compounds by LC/MS/MS

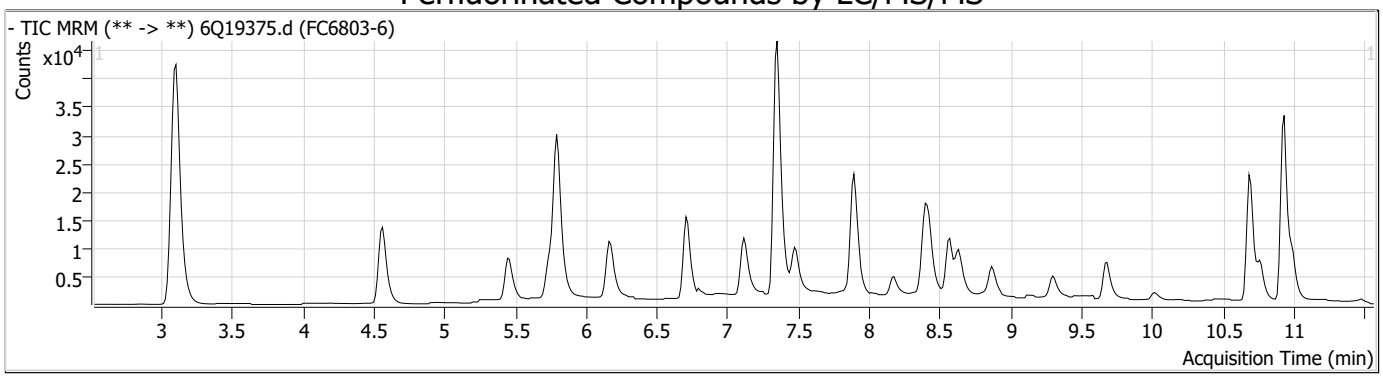
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	6.720	363.1 -> 319.0	2081	0.07	µg/L		91
		363.1 -> 169.0	398				
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	5.795	313.0 -> 269.0	5305	0.23	µg/L		99
		313.0 -> 118.9	296				
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	8.355	463.0 -> 419.0	0		µg/L	m	1
		463.0 -> 219.0	0				
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	-	413.0 -> 369.0	-	N.D.			
		413.0 -> 169.0					
PFOS	-	498.9 -> 79.9	-	N.D.			
		498.9 -> 98.8					
PFPeA	4.563	263.0 -> 219.0	4439	0.29	µg/L		100
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	9.313	563.1 -> 519.0	0		µg/L	m	1
		563.1 -> 269.1	0				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

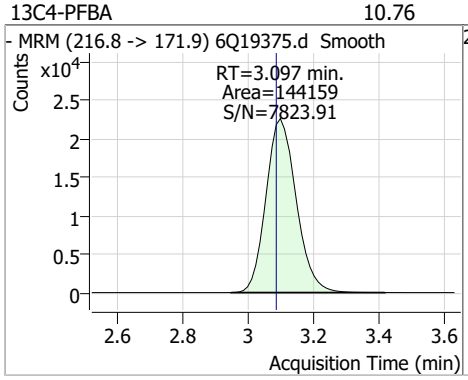
Perfluorinated Compounds by LC/MS/MS

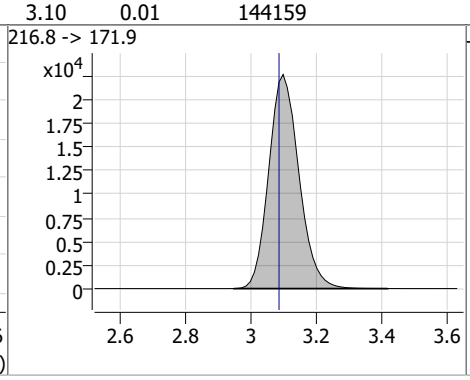
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

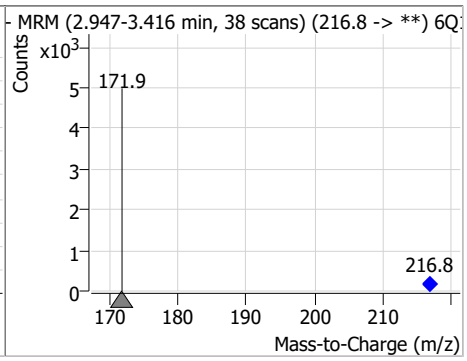
Perfluorinated Compounds by LC/MS/MS



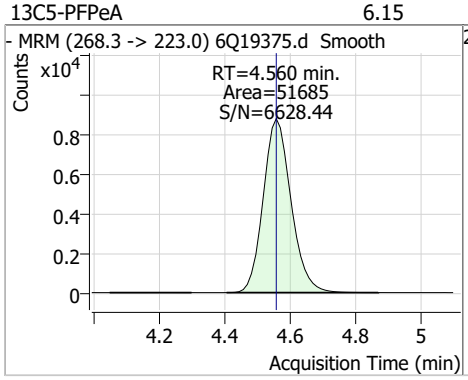
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.76	3.10	0.01	144159				

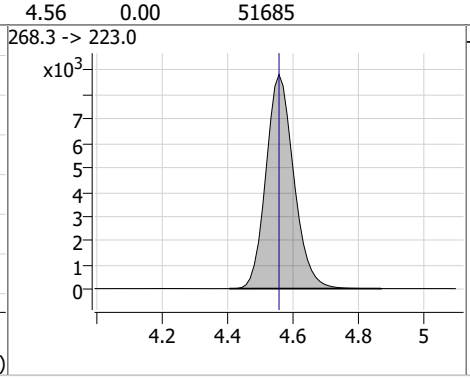


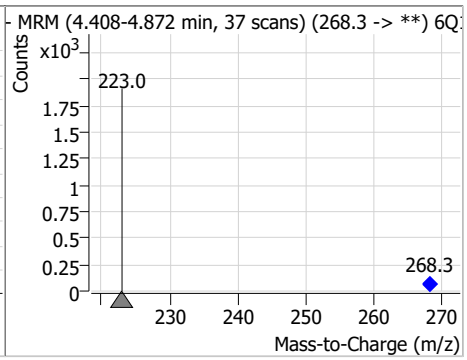




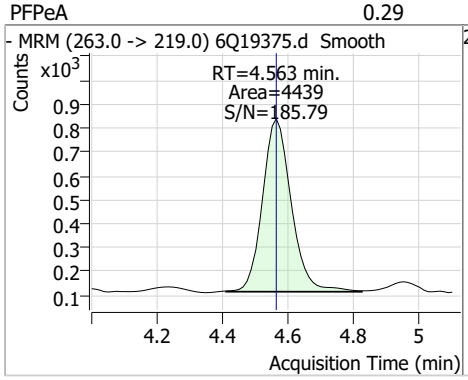
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	6.15	4.56	0.00	51685				

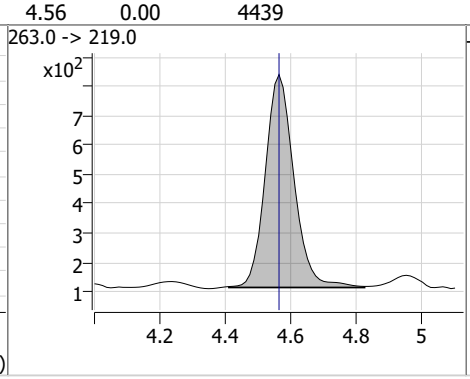


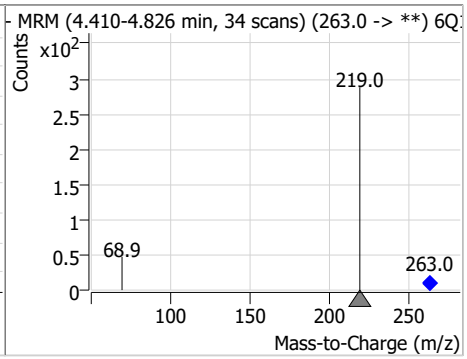




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.29	4.56	0.00	4439				

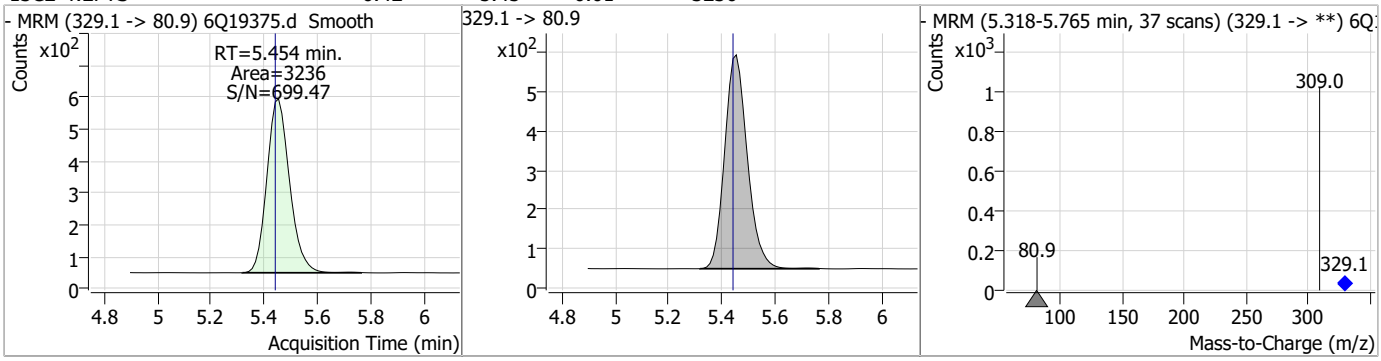




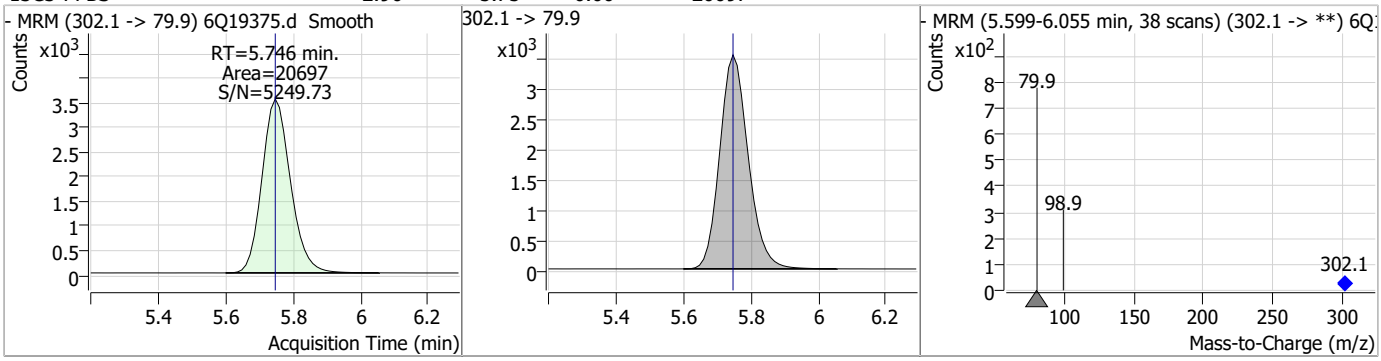


Perfluorinated Compounds by LC/MS/MS

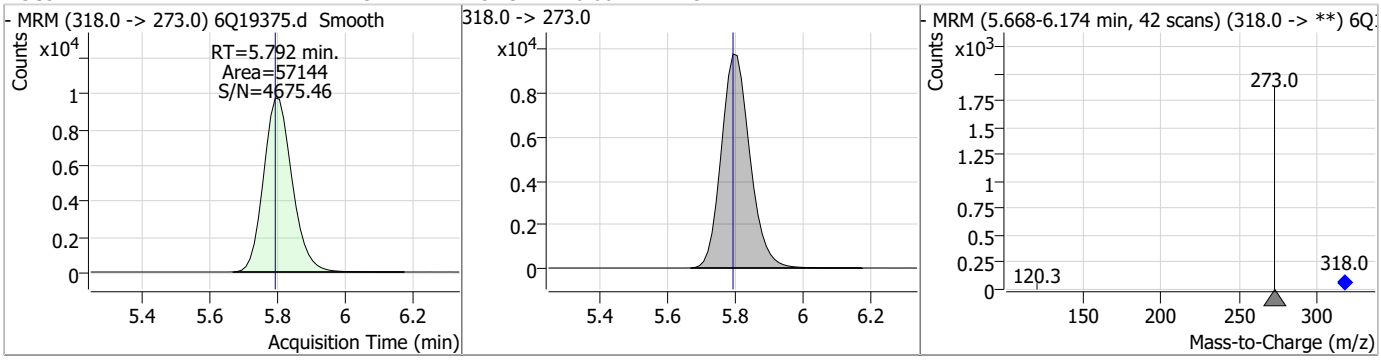
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.42	5.45	0.01	3236				



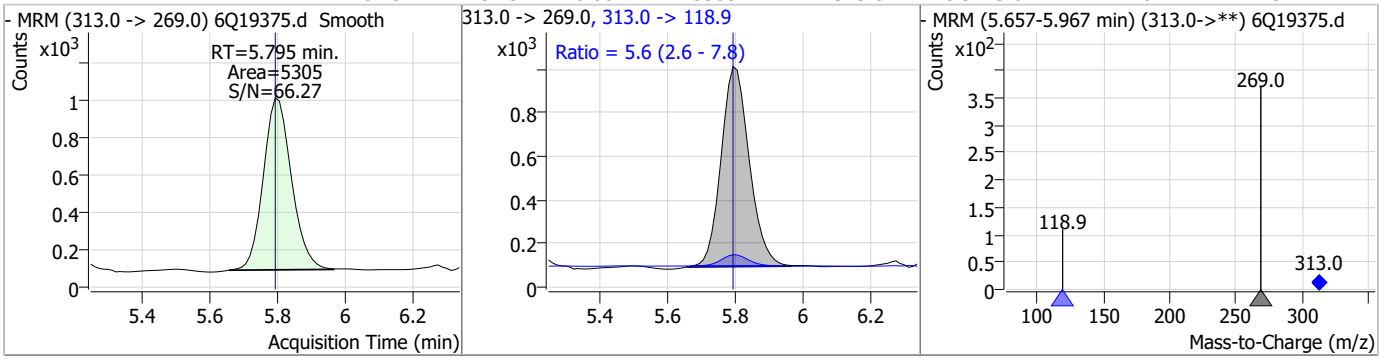
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.96	5.75	0.00	20697				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.12	5.79	0.00	57144				

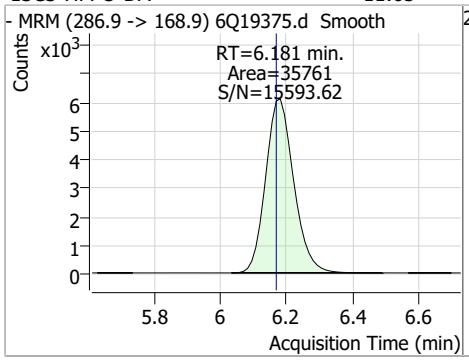


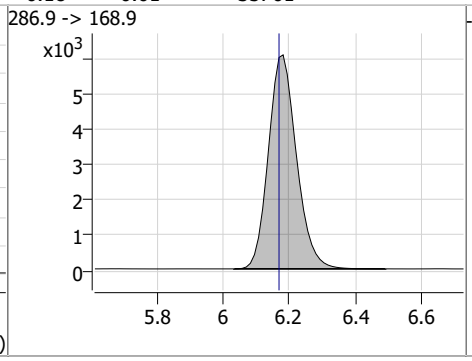
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.23	5.79	0.00	5305	313.0 -> 118.9	5.6	2.6	7.8

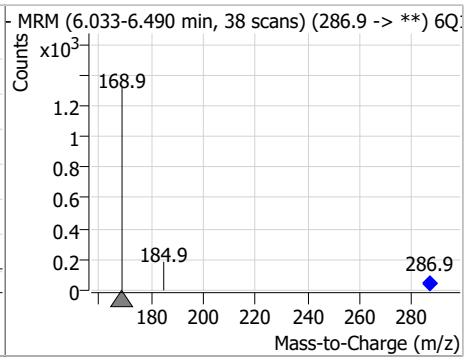


Perfluorinated Compounds by LC/MS/MS

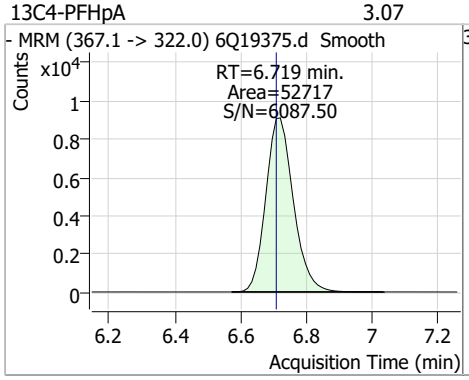
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.65	6.18	0.01	35761				

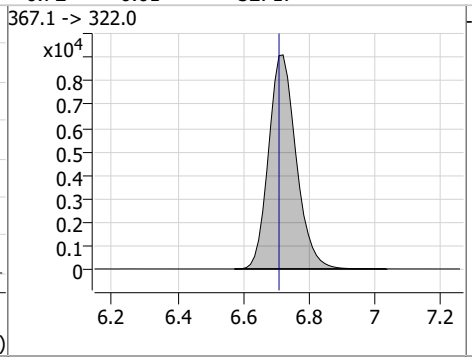


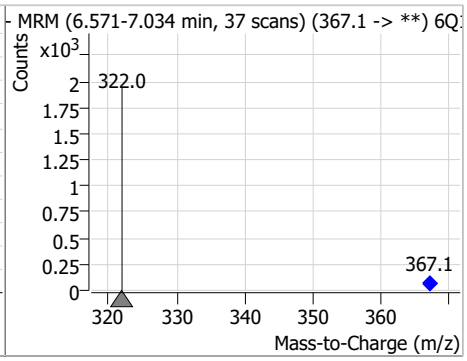




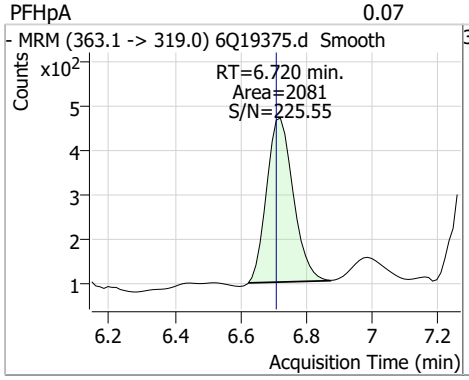
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.07	6.72	0.01	52717				

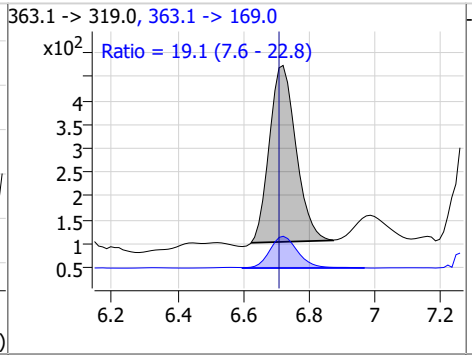


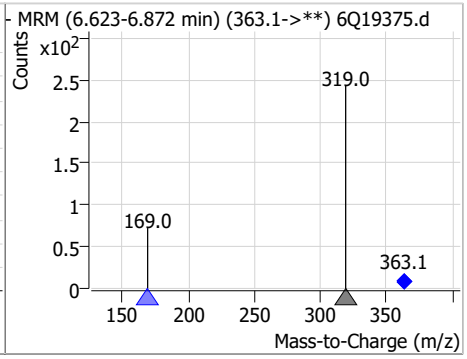




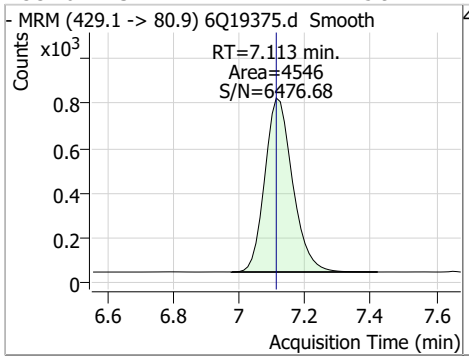
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.07	6.72	0.01	2081	363.1 -> 169.0	19.1	7.6	22.8

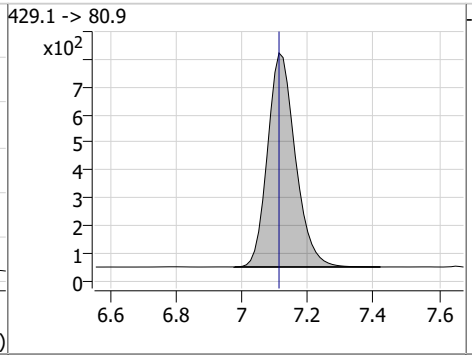


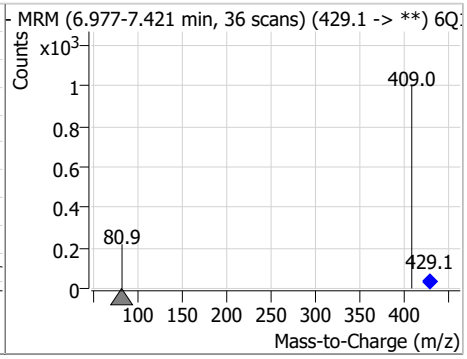




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.97	7.11	0.00	4546				

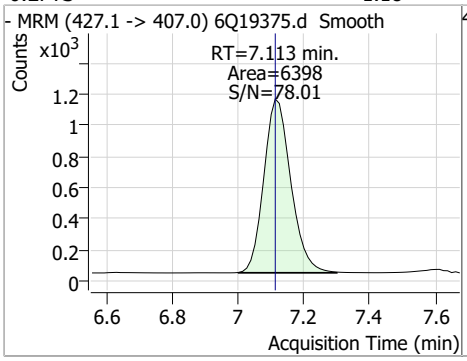


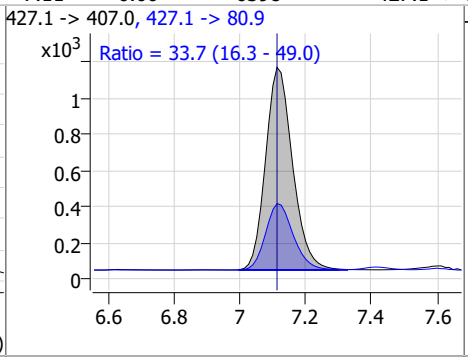


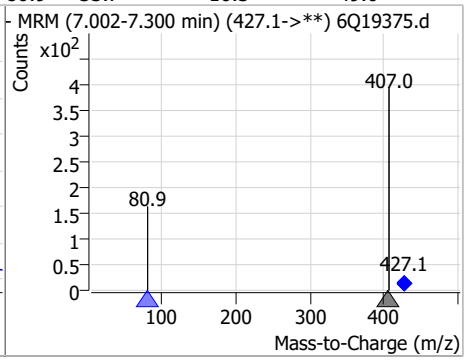


Perfluorinated Compounds by LC/MS/MS

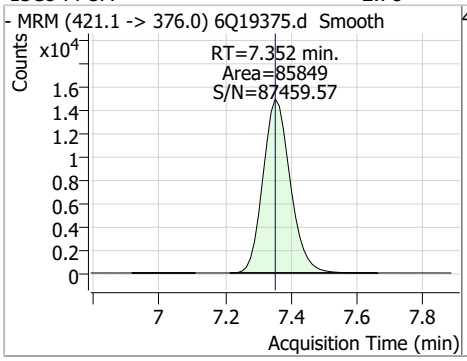
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	1.18	7.11	0.00	6398	427.1 -> 80.9	33.7	16.3	49.0

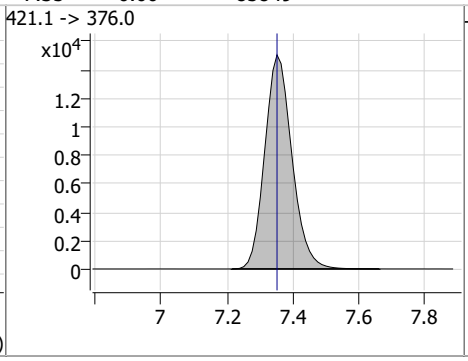


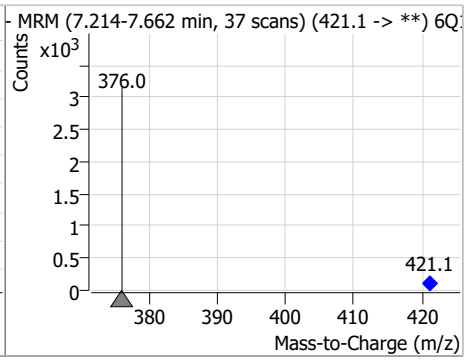




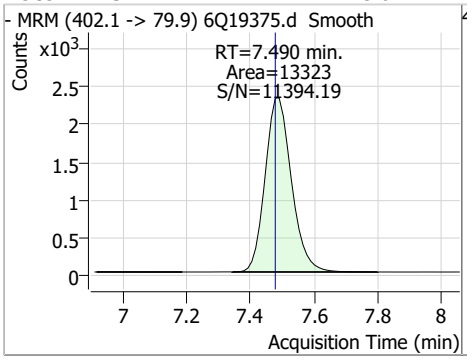
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.78	7.35	0.00	85849				

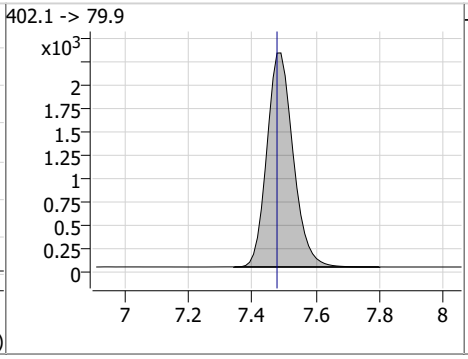


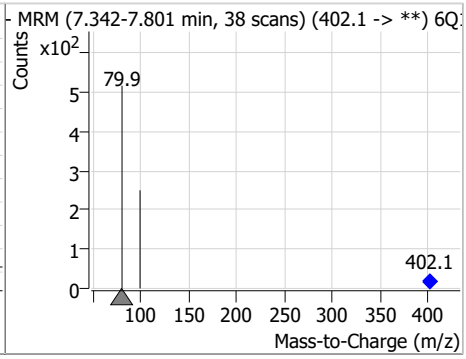




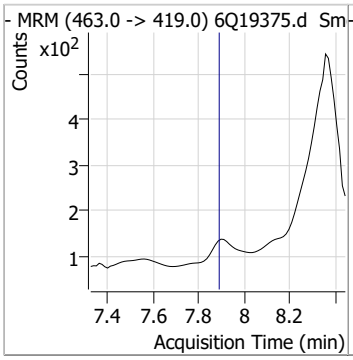
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.02	7.49	0.01	13323				

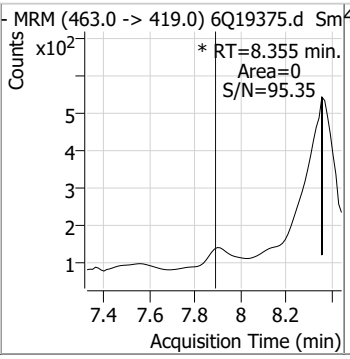


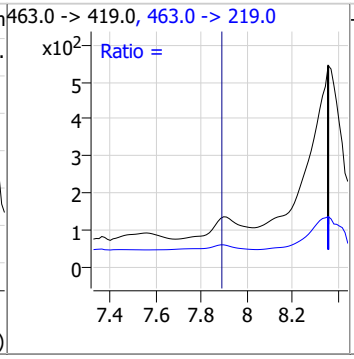


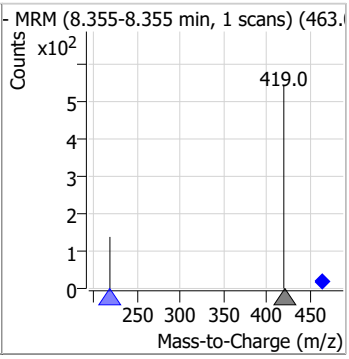


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA		0		0	463.0 -> 219.0		9.5	28.5



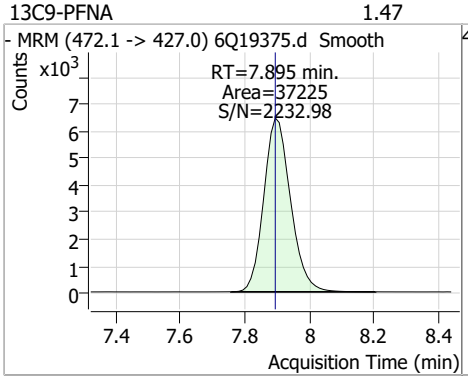


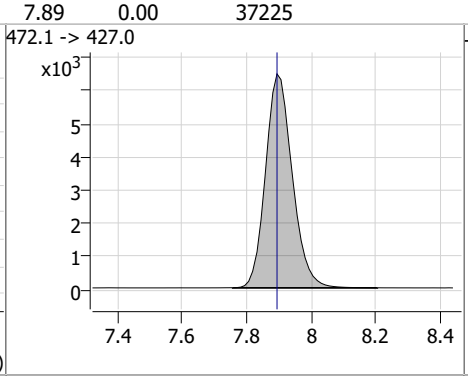


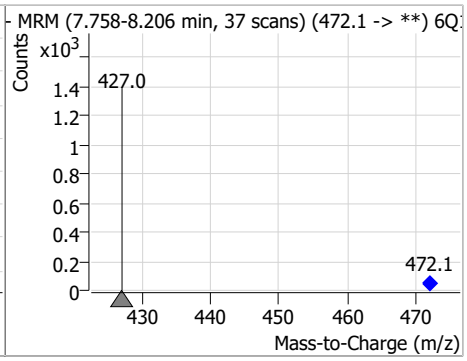


Perfluorinated Compounds by LC/MS/MS

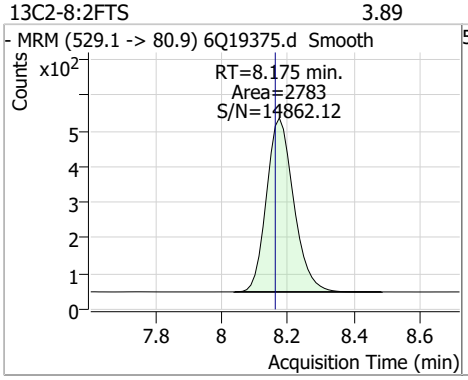
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.47	7.89	0.00	37225				

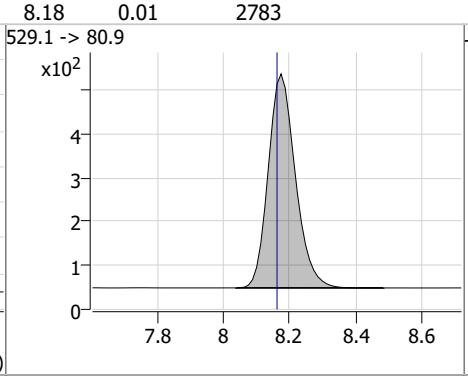


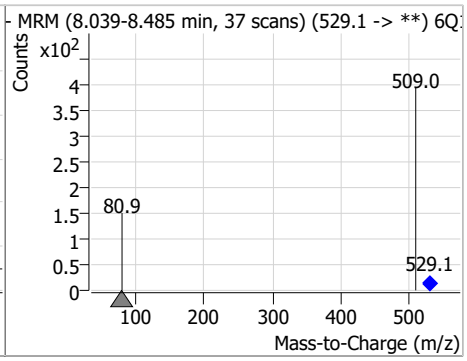




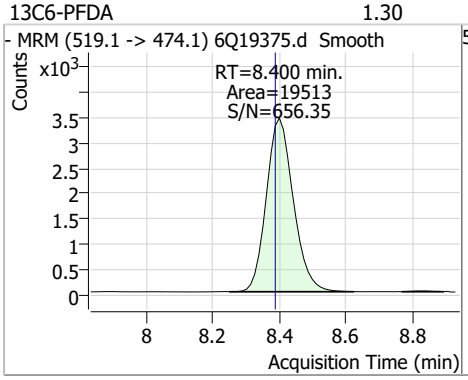
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	3.89	8.18	0.01	2783				

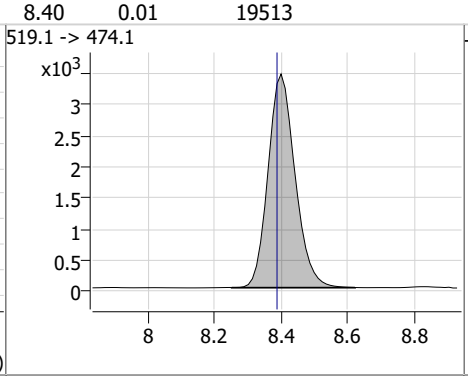


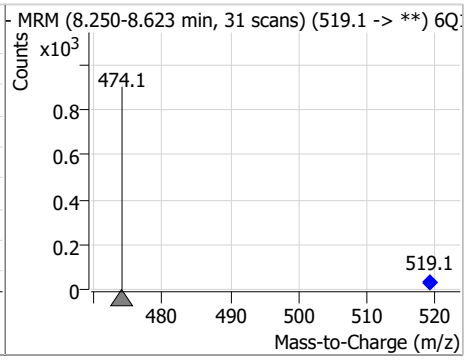




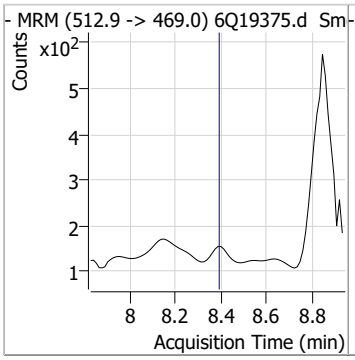
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.30	8.40	0.01	19513				

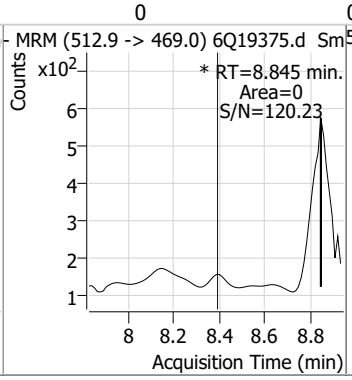


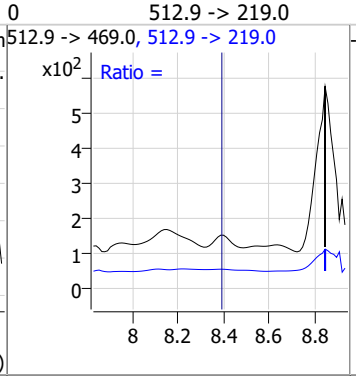


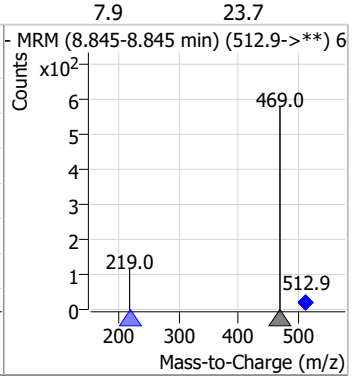


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA		0		0	512.9 -> 219.0		7.9	23.7



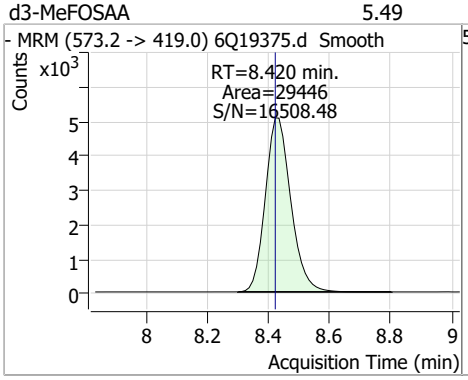


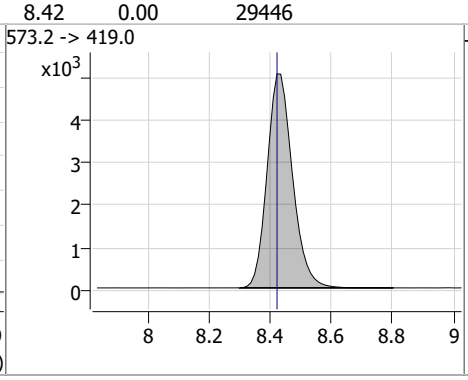


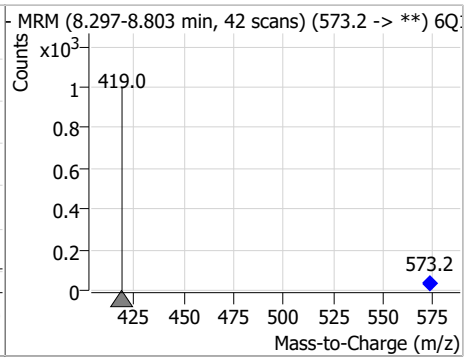


Perfluorinated Compounds by LC/MS/MS

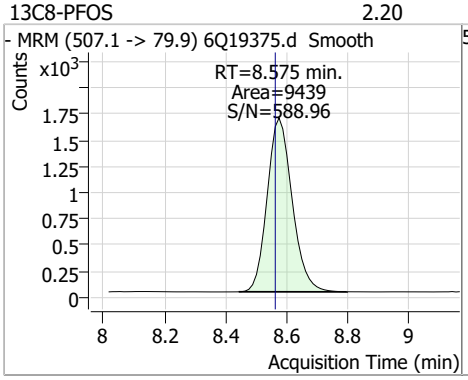
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.49	8.42	0.00	29446				

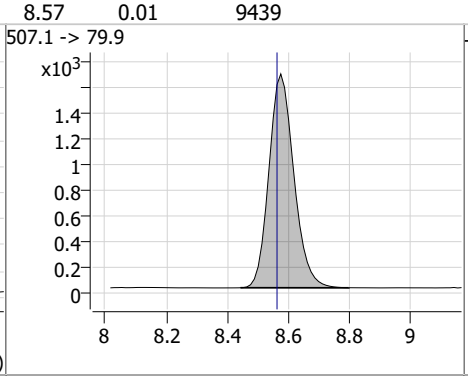


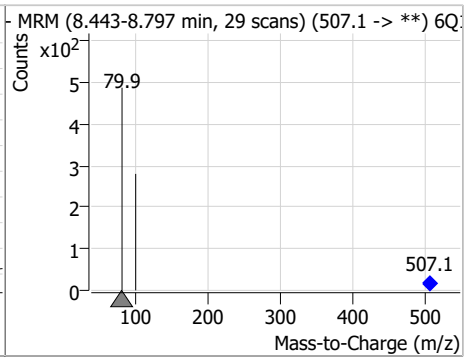




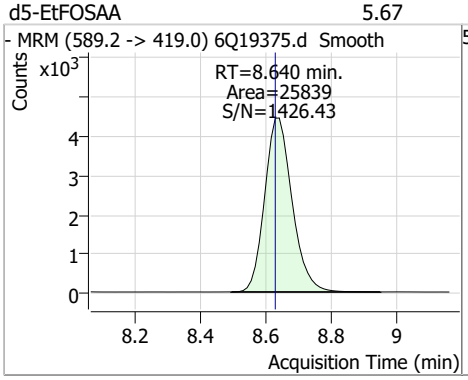
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.20	8.57	0.01	9439				

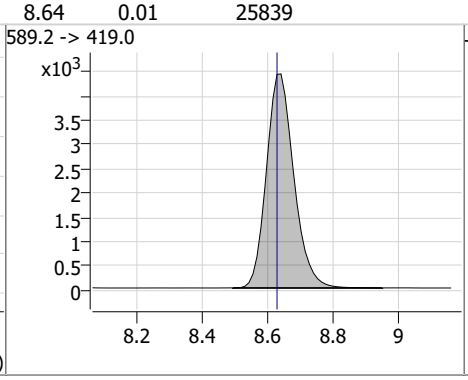


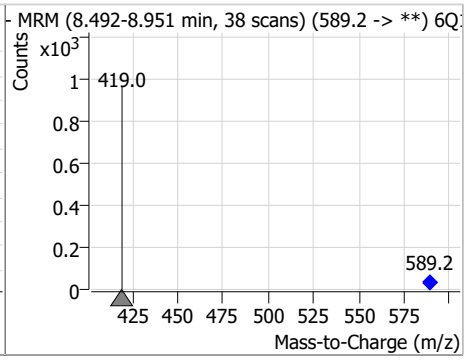




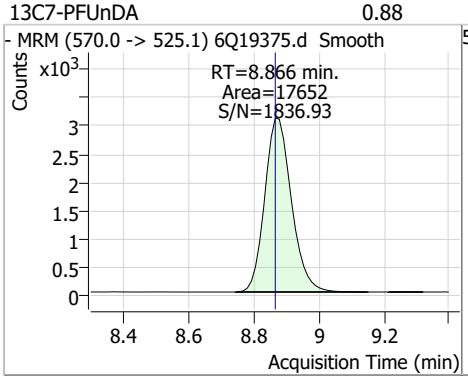
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.67	8.64	0.01	25839				

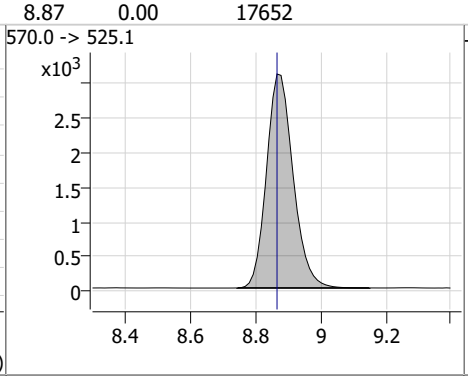


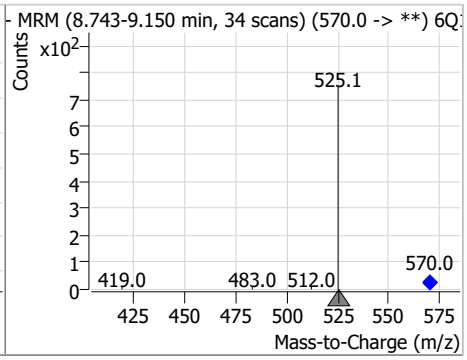




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	0.88	8.87	0.00	17652				

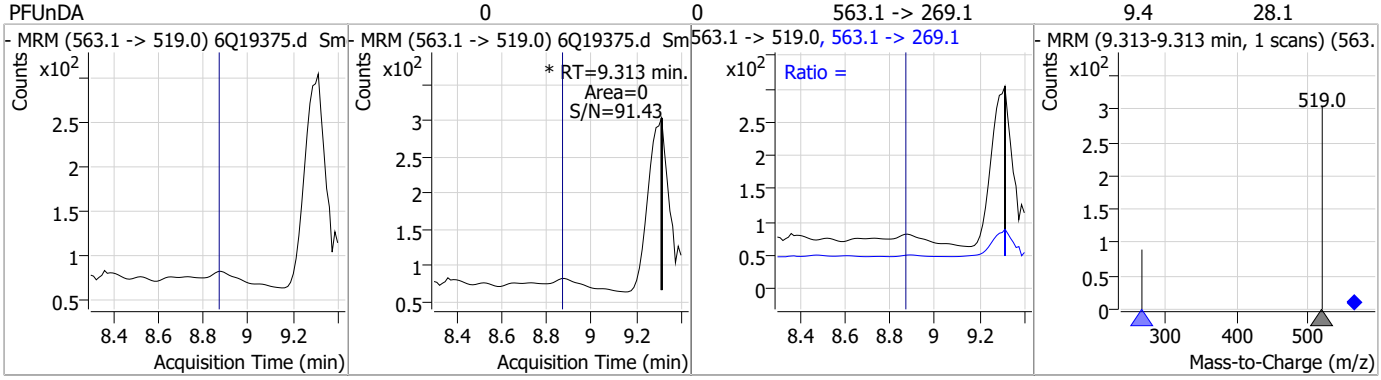




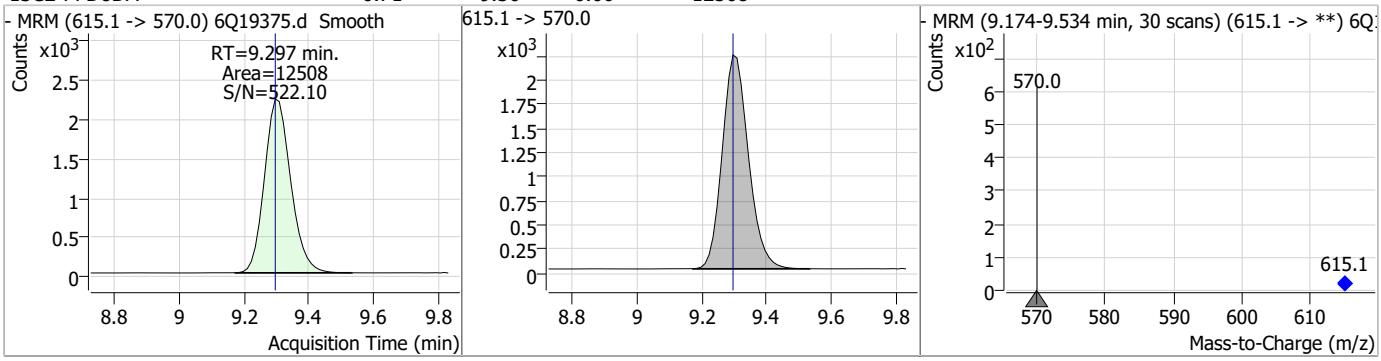


Perfluorinated Compounds by LC/MS/MS

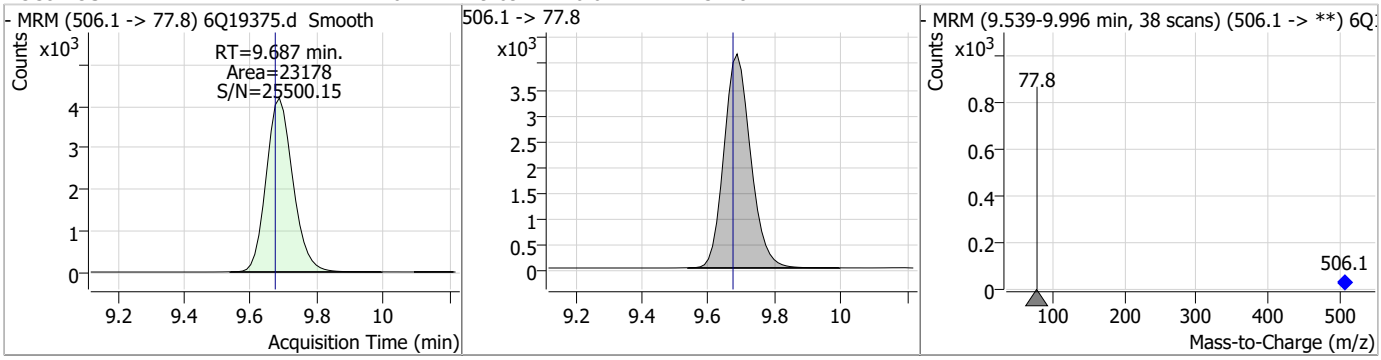
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA		0		0	563.1 -> 269.1		9.4	28.1



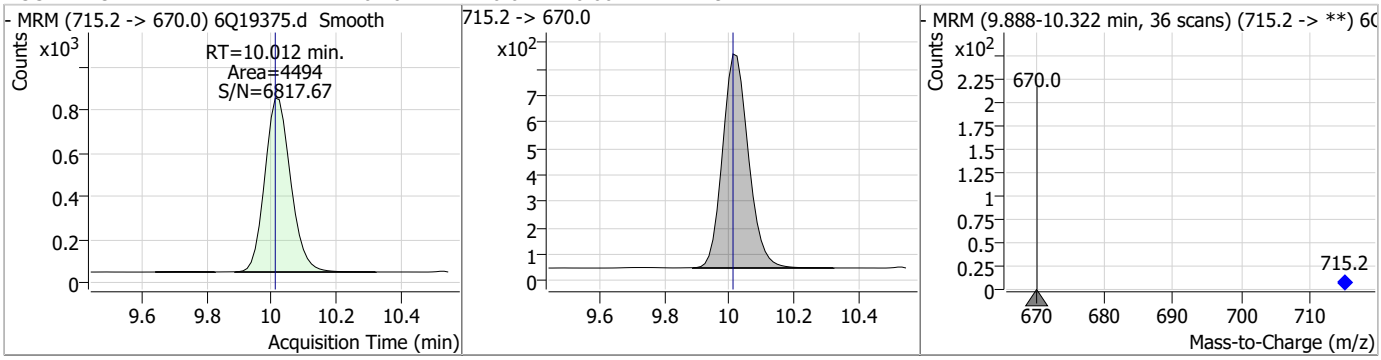
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	0.71	9.30	0.00	12508				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.16	9.69	0.01	23178				

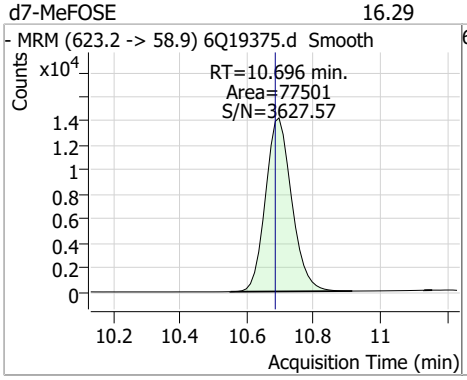


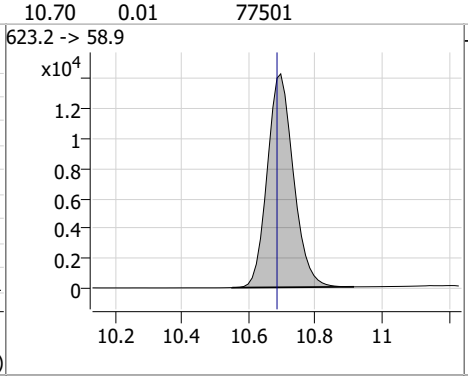
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.46	10.01	0.00	4494				

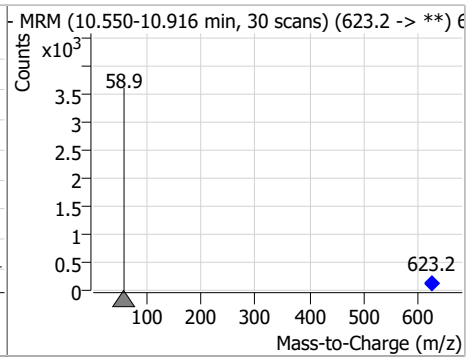


Perfluorinated Compounds by LC/MS/MS

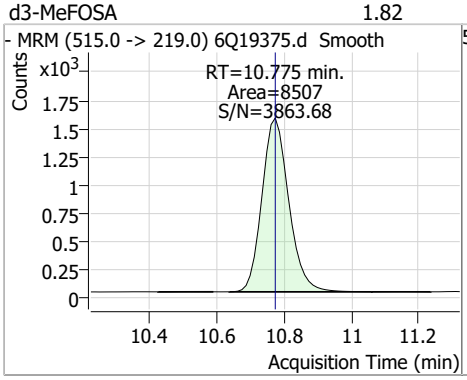
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	16.29	10.70	0.01	77501				

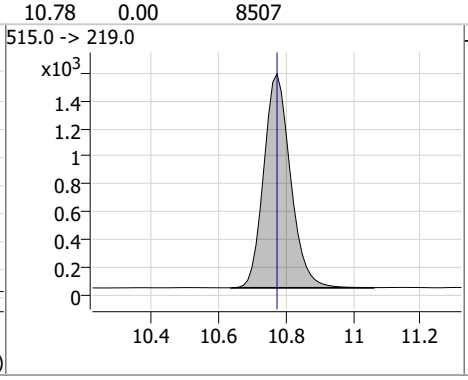


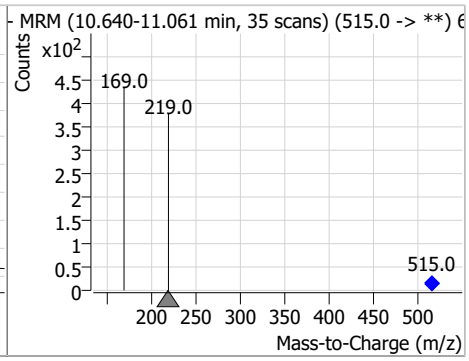




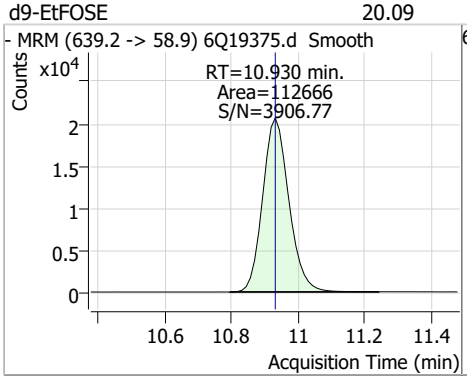
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.82	10.78	0.00	8507				

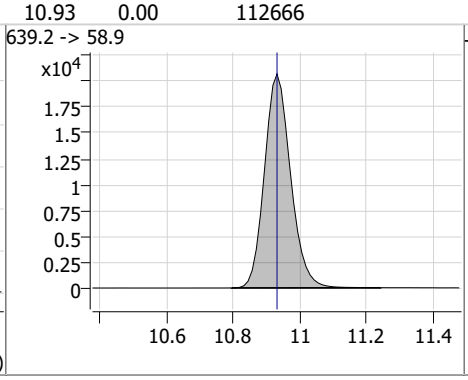


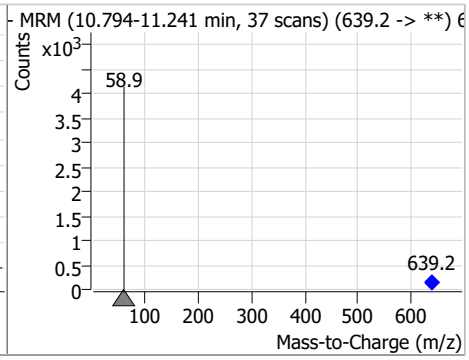




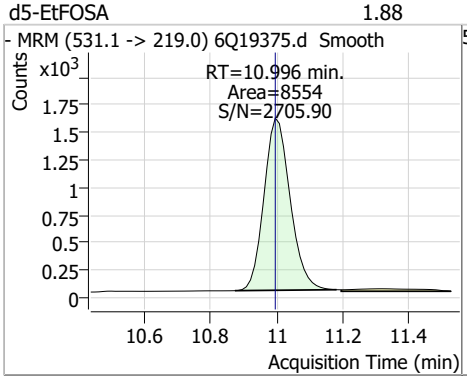
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	20.09	10.93	0.00	112666				

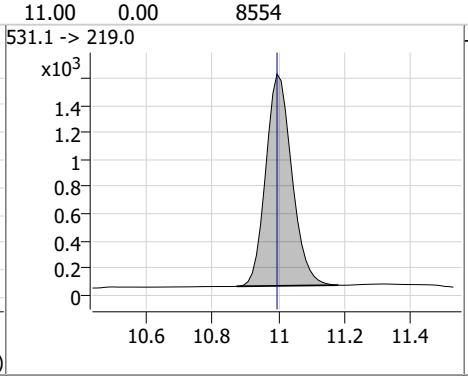


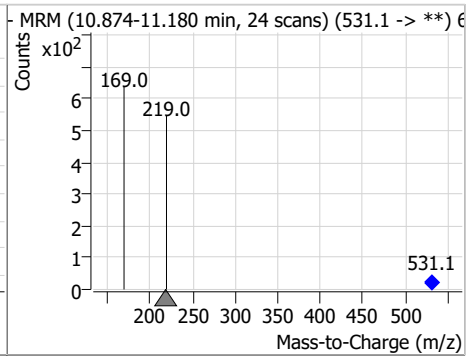




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.88	11.00	0.00	8554				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q19365.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	6/14/2023 7:26:30 PM
Sample Name	:	op97325-mb
Vial	:	P4-C1
DA Method File	:	1633_061323_S6Q288.quantmethod.xml
Batch Name	:	s6q289.batch.bin
Sample Information	:	OP97325,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	143418	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	46484	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	51340	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	47740	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	71849	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	37316	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	20040	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	27027	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	22984	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	12731	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	16425	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	18349	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11711	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	9814	2.50	µg/L	0.012
M2-4:2FTS	5.442	329.1 -> 80.9	3180	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	4992	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	3932	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	28336	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	33481	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	23326	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	63065	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	96312	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	8090	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	7115	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	14699	2.50	µg/L	0.012
13C3-PFBA	3.101	216.0 -> 172.0	58190	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	8157	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	74608	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	28580	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	42039	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	46500	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	3180	6.50	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 129.9%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4992	6.75	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 135.1%		
13C2-8:2FTS	8.175	529.1 -> 80.9	3932	5.66	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.1%		
13C2-PFDoDA	9.297	615.1 -> 570.0	22984	1.20	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.2%		
13C2-PFTeDA	10.012	715.2 -> 670.0	12731	1.19	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.5%		
13C3-PFBS	5.746	302.1 -> 79.9	18349	2.70	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.1%		
13C3-PFHxS	7.478	402.1 -> 79.9	11711	2.73	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.3%	
13C4-PFBA	3.097	216.8 -> 171.9	143418	10.51 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C4-PFHpA	6.707	367.1 -> 322.0	47740	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C5-PFHxA	5.792	318.0 -> 273.0	51340	2.68 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.0%	
13C5-PFPeA	4.560	268.3 -> 223.0	46484	5.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.7%	
13C6-PFDA	8.400	519.1 -> 474.1	20040	1.22 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.7%	
13C7-PFUnDA	8.866	570.0 -> 525.1	27027	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C8-FOSA	9.687	506.1 -> 77.8	16425	1.48 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 59.0%	
13C8-PFOA	7.352	421.1 -> 376.0	71849	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C8-PFOS	8.575	507.1 -> 79.9	9814	2.21 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.5%	
13C9-PFNA	7.895	472.1 -> 427.0	37316	1.46 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 116.7%	
d3-MeFOSAA	8.420	573.2 -> 419.0	28336	5.10 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.9%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	33481	10.43 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.3%	
d3-MeFOSA	10.775	515.0 -> 219.0	7115	1.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 58.8%	
d5-EtFOSAA	8.628	589.2 -> 419.0	23326	4.94 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.8%	
d7-MeFOSE	10.696	623.2 -> 58.9	63065	12.79 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 51.1%	
d9-EtFOSE	10.930	639.2 -> 58.9	96312	16.56 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 66.3%	
d5-EtFOSA	10.996	531.1 -> 219.0	8090	1.71 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 68.5%	
Target Compounds					**QValue**
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDoDA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

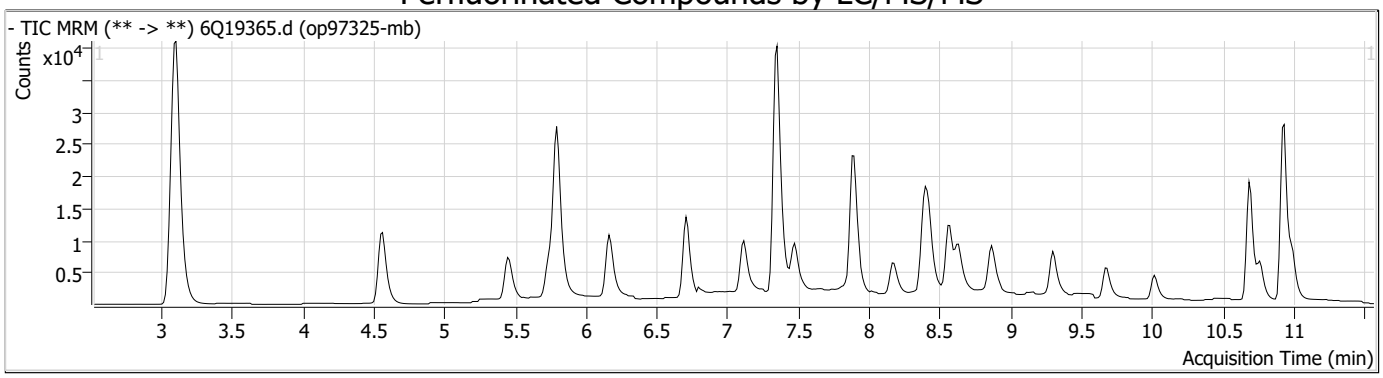
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	7.861	413.0 -> 369.0	0		µg/L	m	1
		413.0 -> 169.0	0				
PFOS	-	498.9 -> 79.9	-	N.D.			
		498.9 -> 98.8					
PFPeA	-	263.0 -> 219.0	-	N.D.			
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	-	563.1 -> 519.0	-	N.D.			
		563.1 -> 269.1					
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

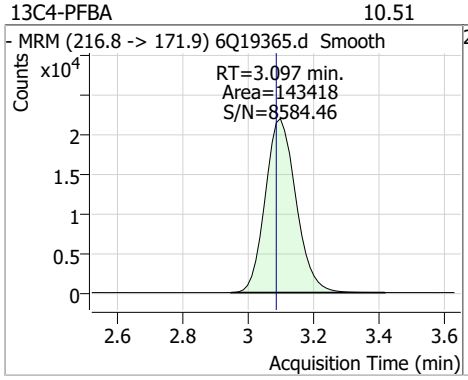
Perfluorinated Compounds by LC/MS/MS

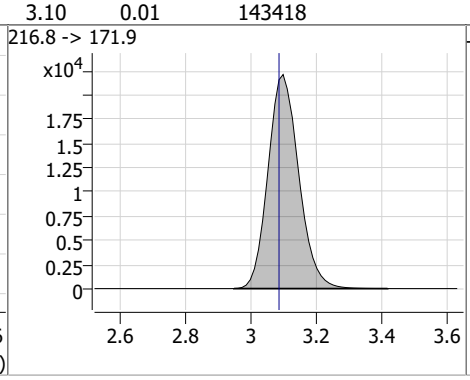
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

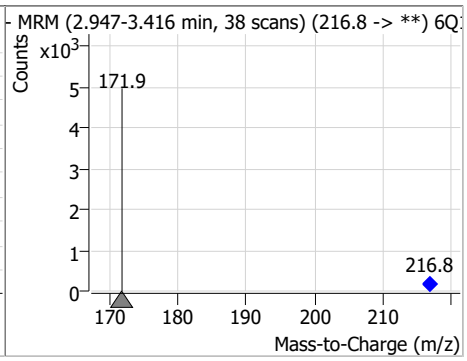
Perfluorinated Compounds by LC/MS/MS



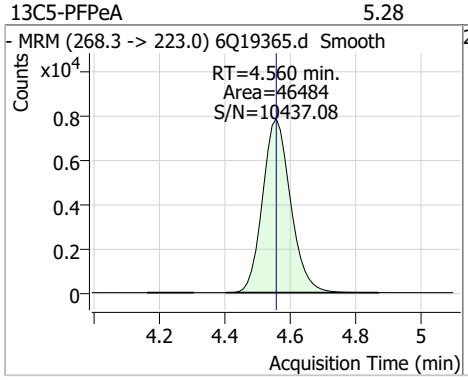
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.51	3.10	0.01	143418				

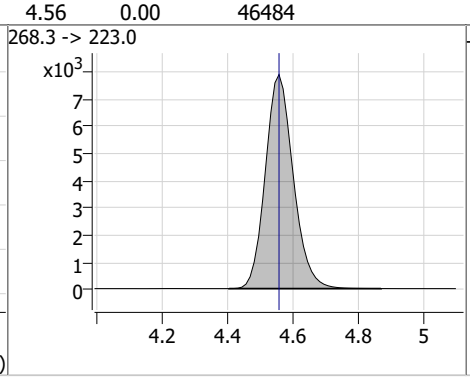


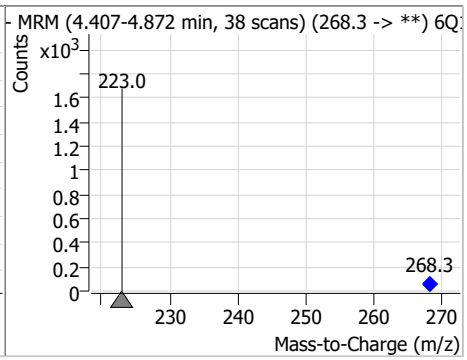




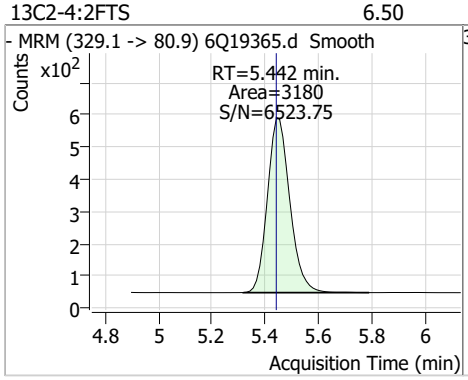
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.28	4.56	0.00	46484				

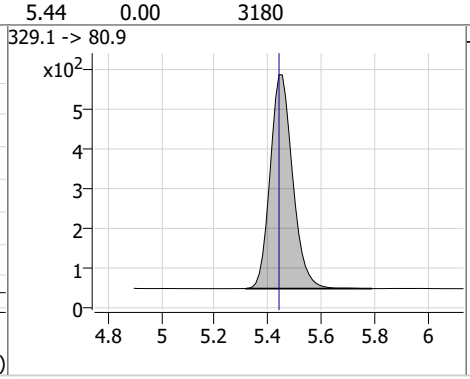


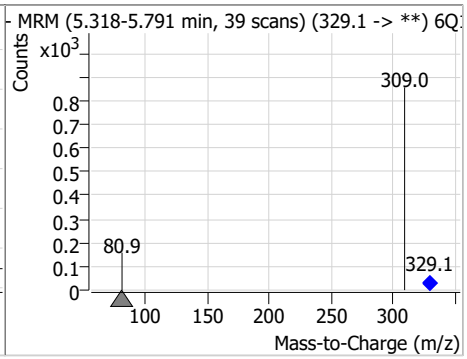




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.50	5.44	0.00	3180				

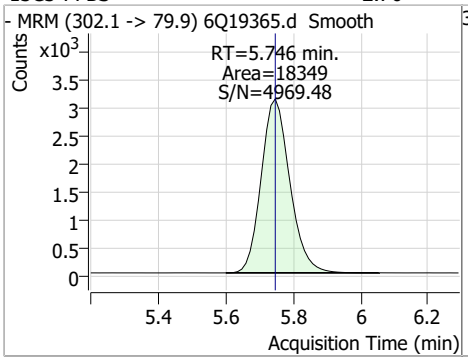


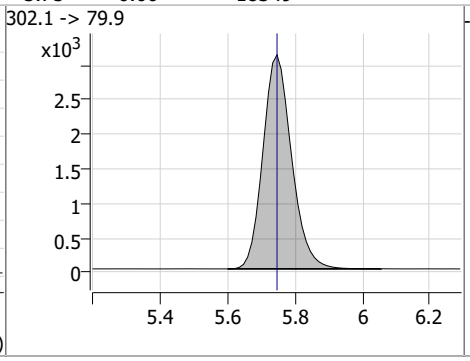


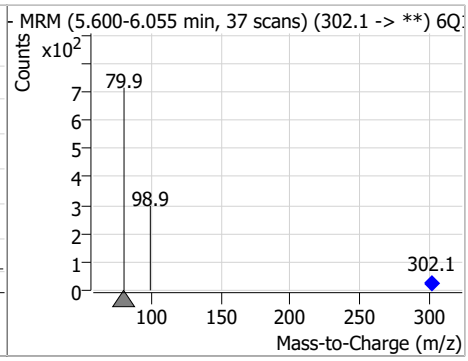


Perfluorinated Compounds by LC/MS/MS

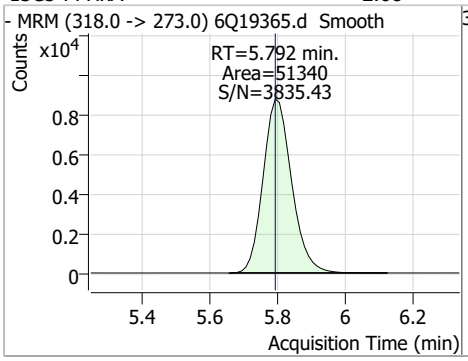
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.70	5.75	0.00	18349				

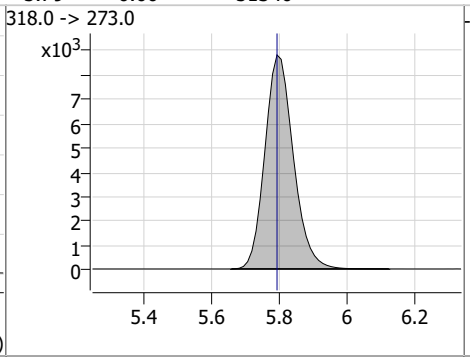


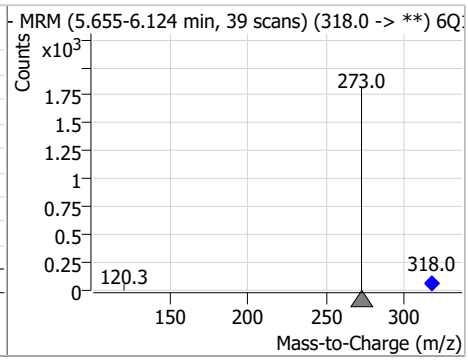




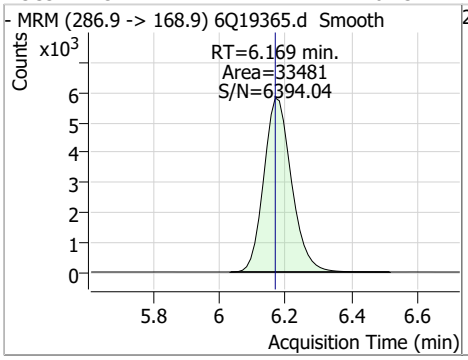
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.68	5.79	0.00	51340				

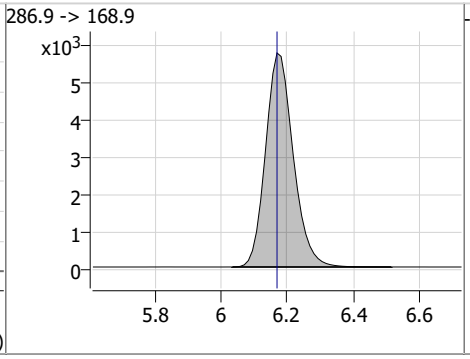


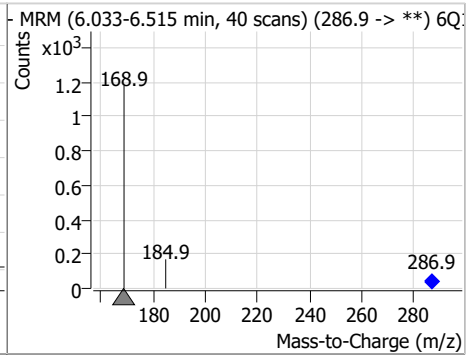




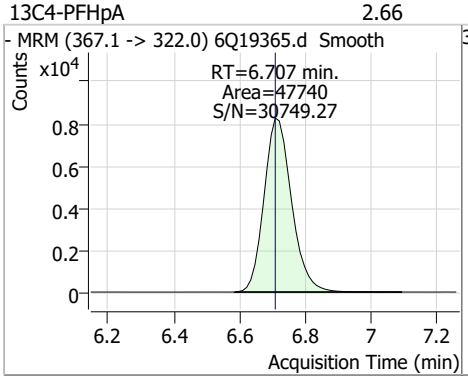
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.43	6.17	0.00	33481				

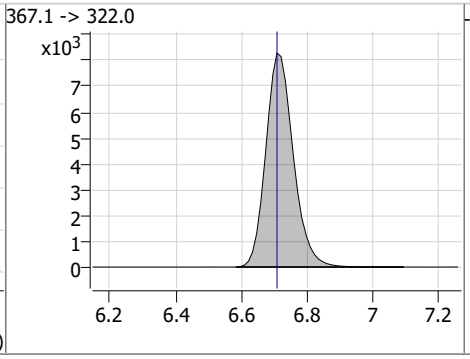


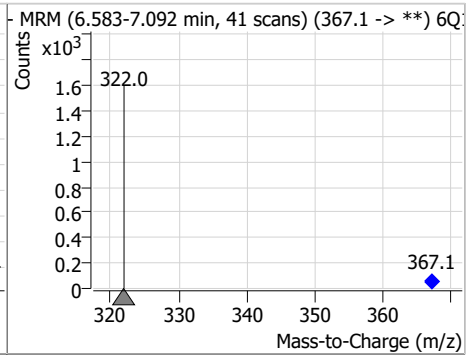




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.66	6.71	0.00	47740				

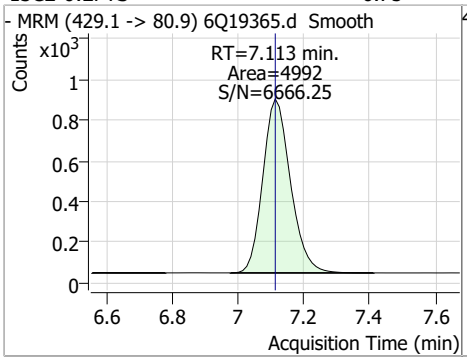


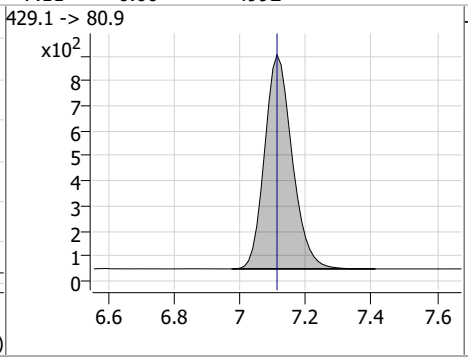


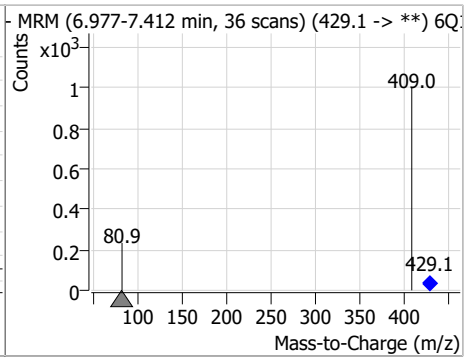


Perfluorinated Compounds by LC/MS/MS

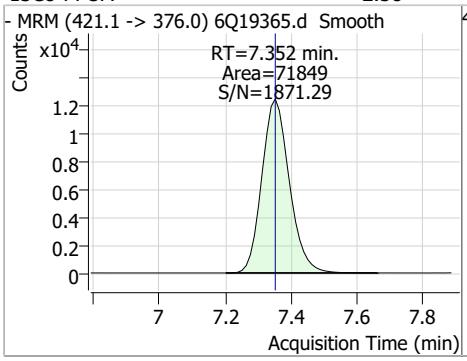
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.75	7.11	0.00	4992				

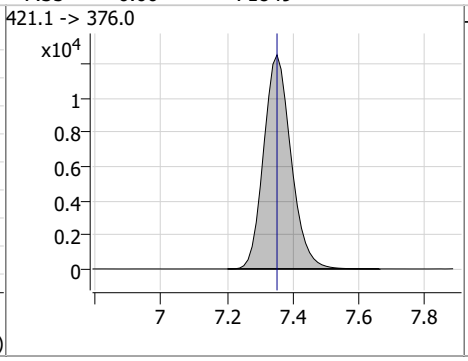


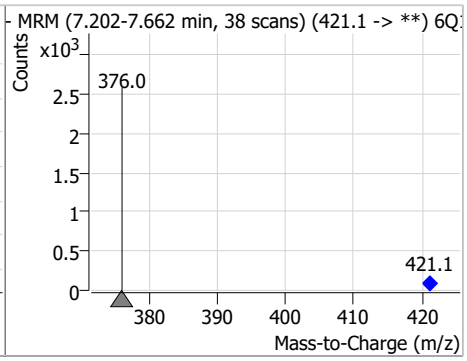




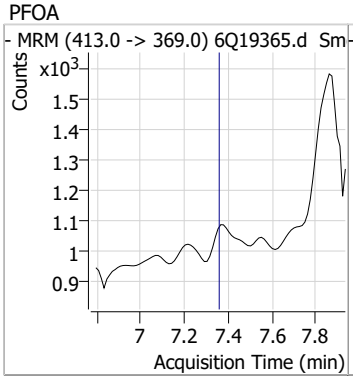
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.58	7.35	0.00	71849				

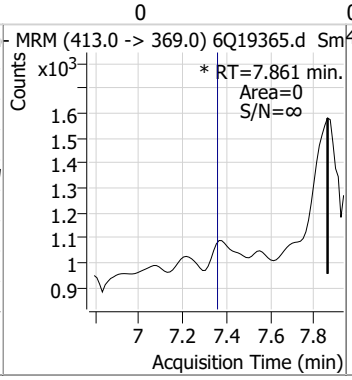


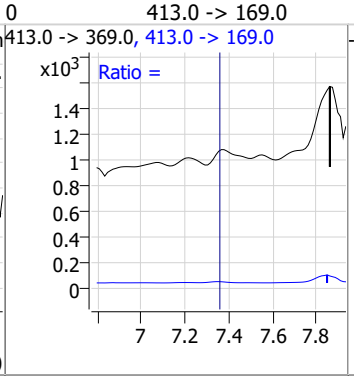


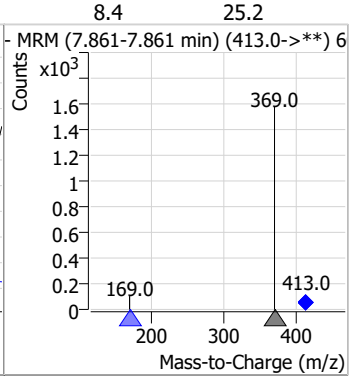


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0	0		0	413.0 -> 169.0		8.4	25.2

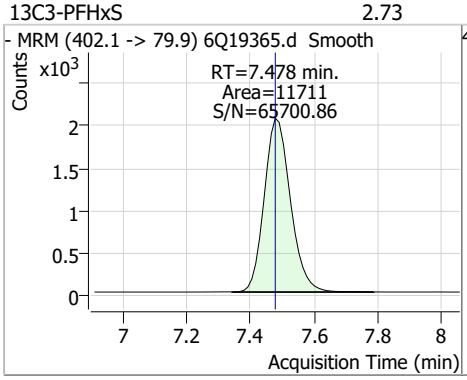


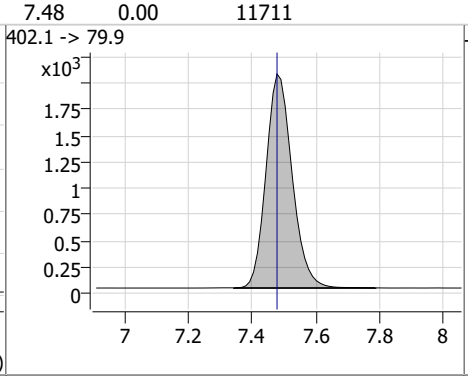


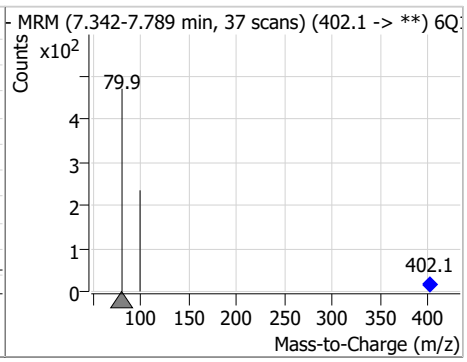




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.73	7.48	0.00	11711				

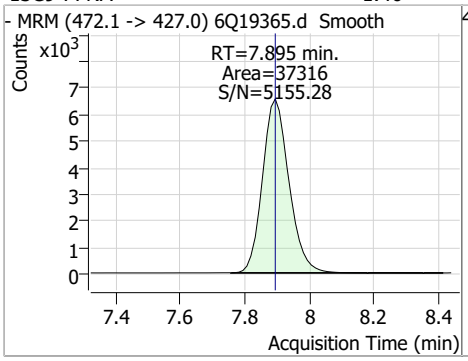


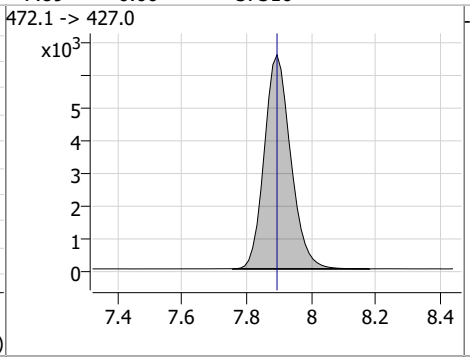


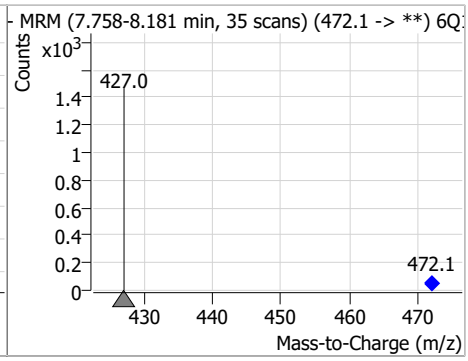


Perfluorinated Compounds by LC/MS/MS

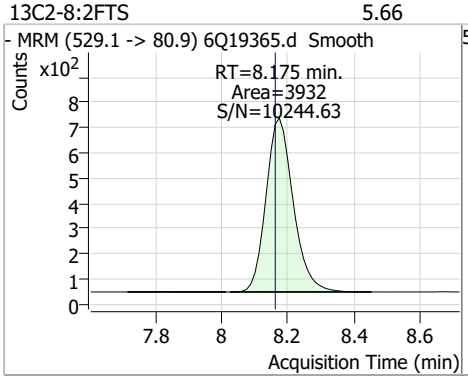
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.46	7.89	0.00	37316				

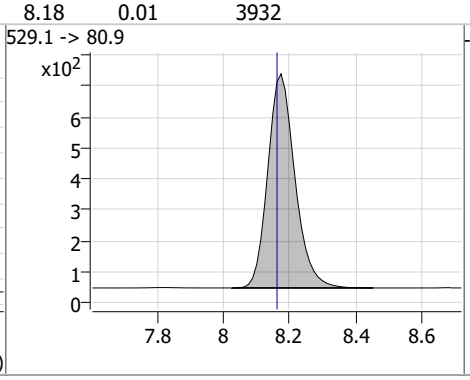


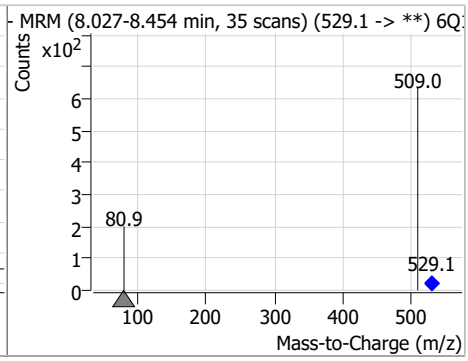




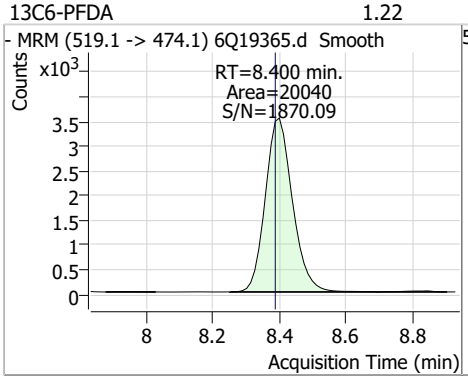
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.66	8.18	0.01	3932				

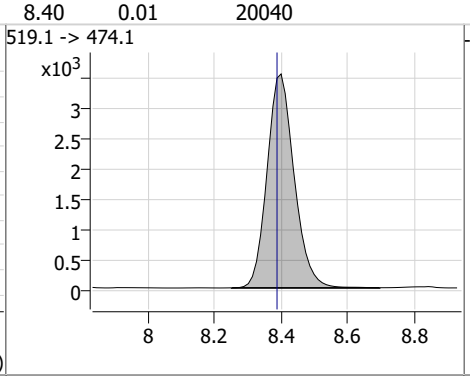


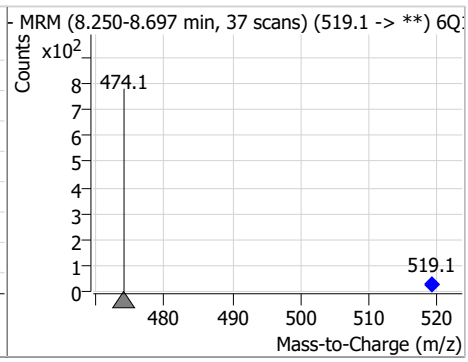




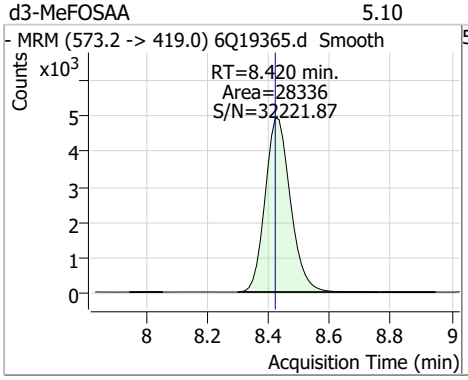
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.22	8.40	0.01	20040				

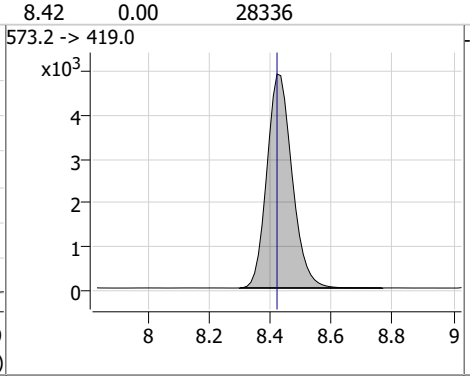


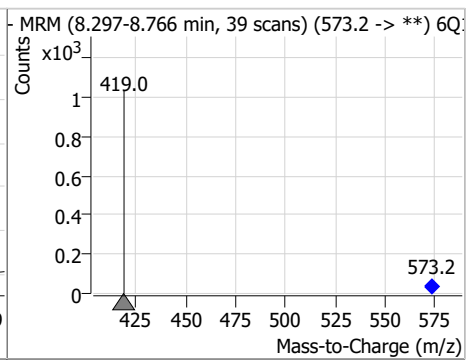




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.10	8.42	0.00	28336				

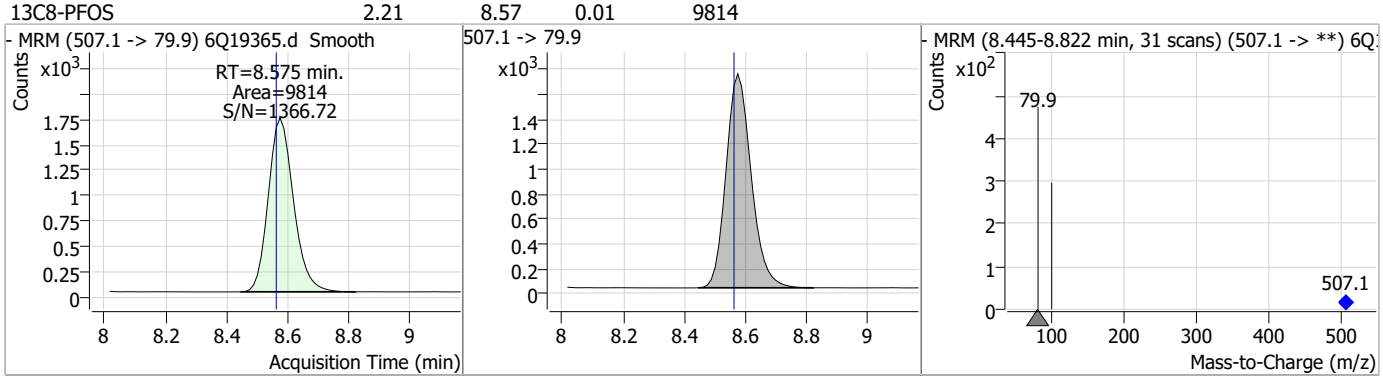




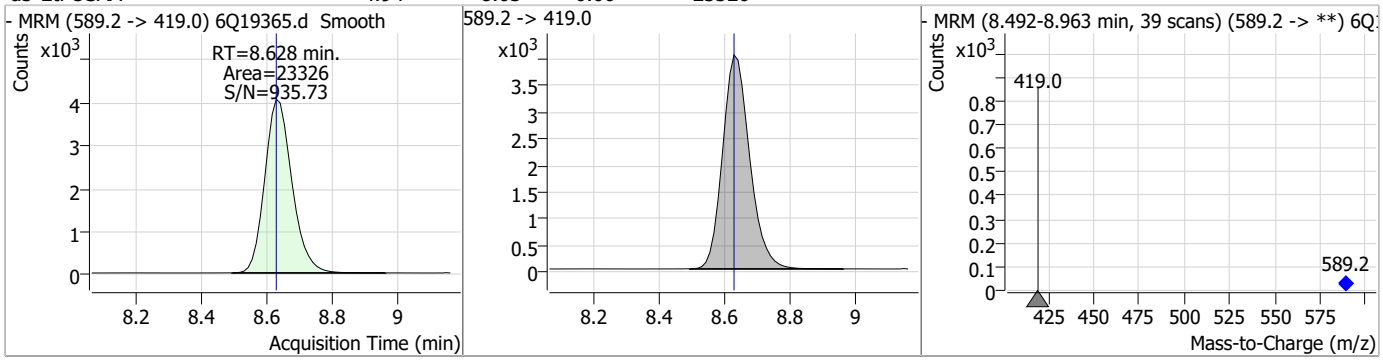


Perfluorinated Compounds by LC/MS/MS

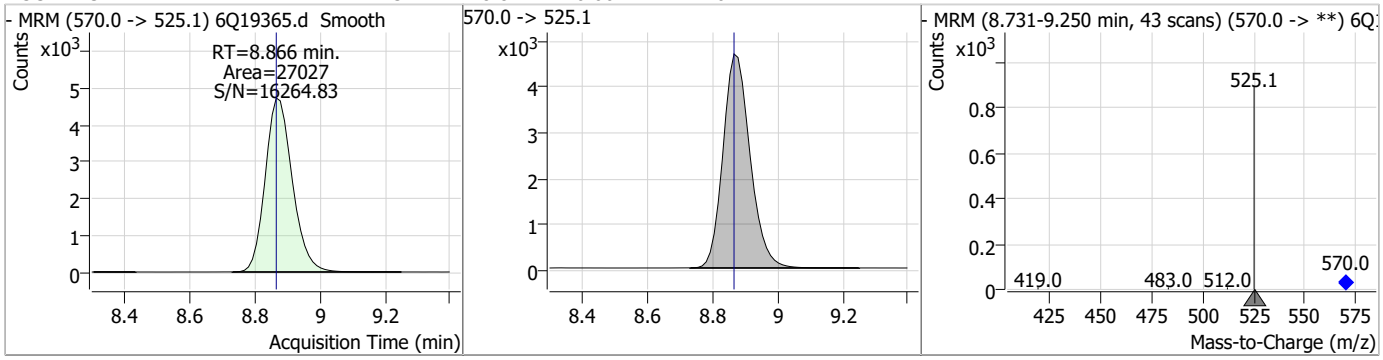
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.21	8.57	0.01	9814				



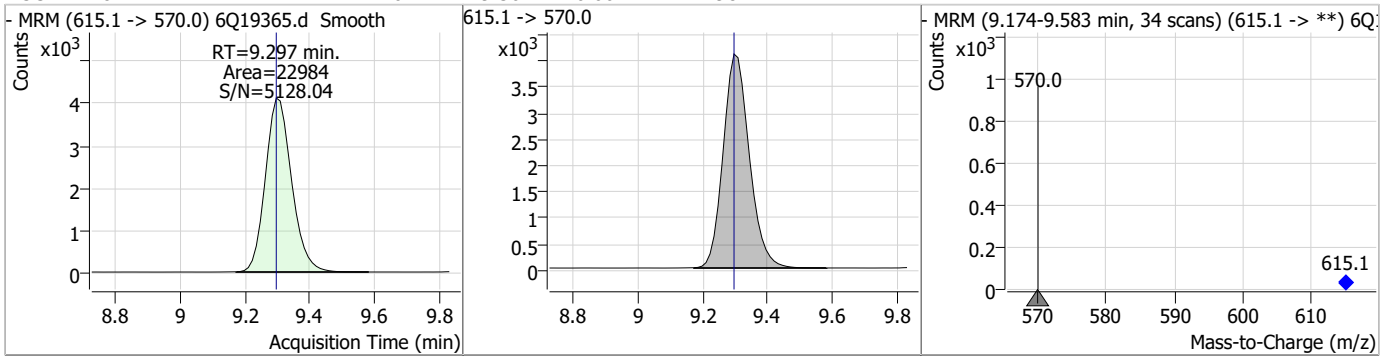
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.94	8.63	0.00	23326				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.23	8.87	0.00	27027				

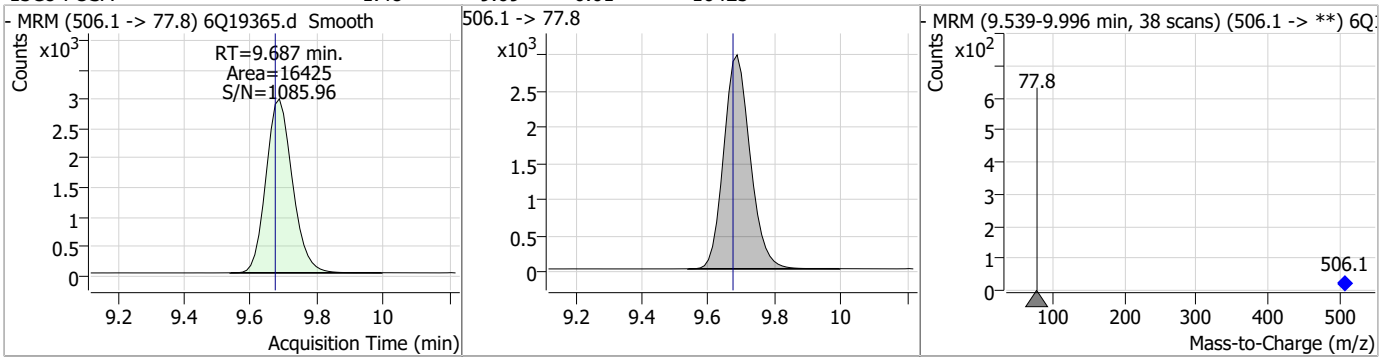


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.20	9.30	0.00	22984				

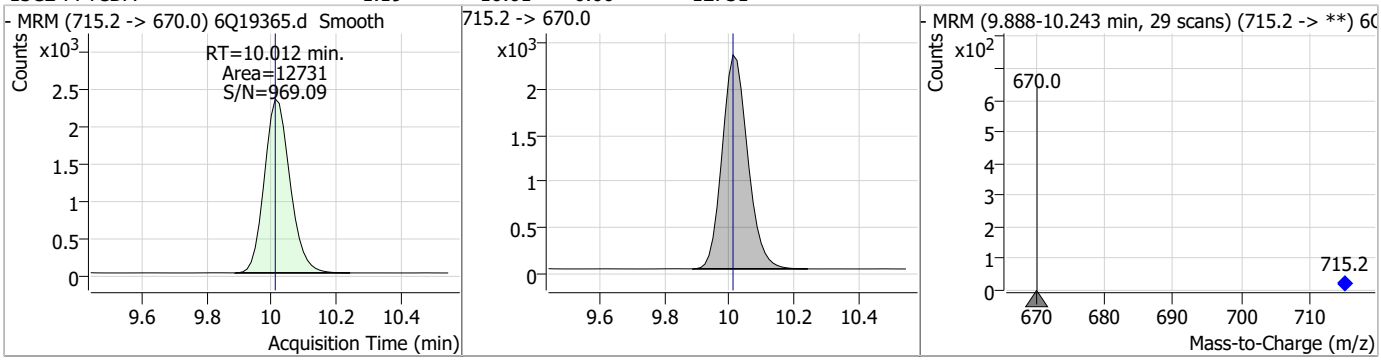


Perfluorinated Compounds by LC/MS/MS

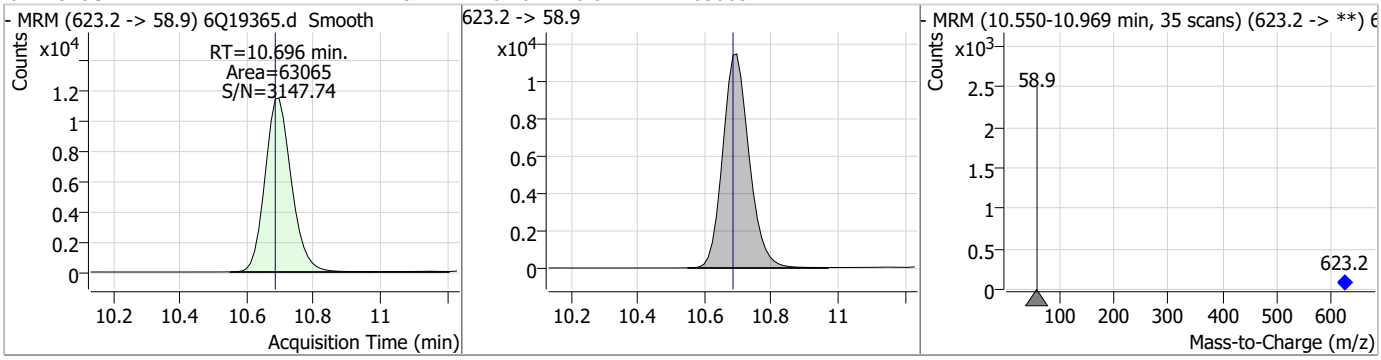
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.48	9.69	0.01	16425				



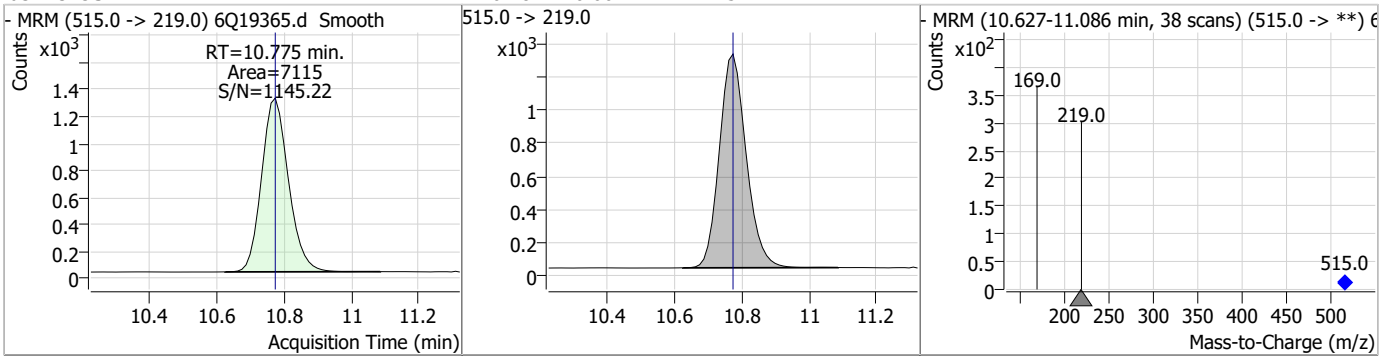
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.19	10.01	0.00	12731				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	12.79	10.70	0.01	63065				

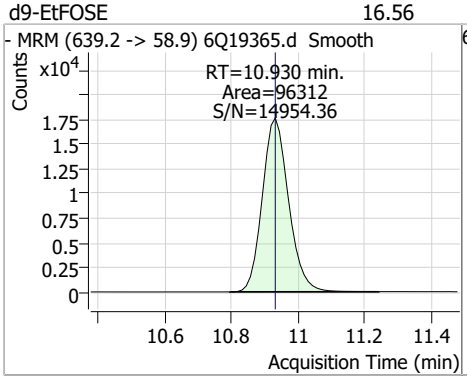


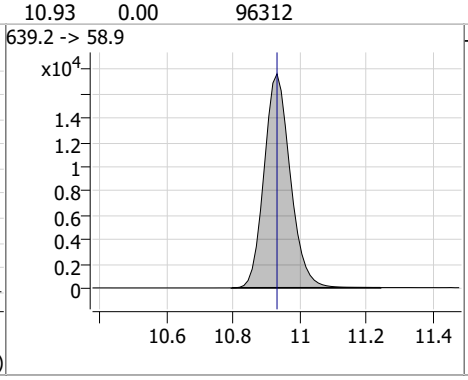
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.47	10.78	0.00	7115				

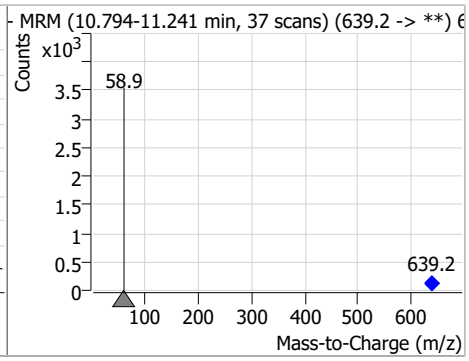


Perfluorinated Compounds by LC/MS/MS

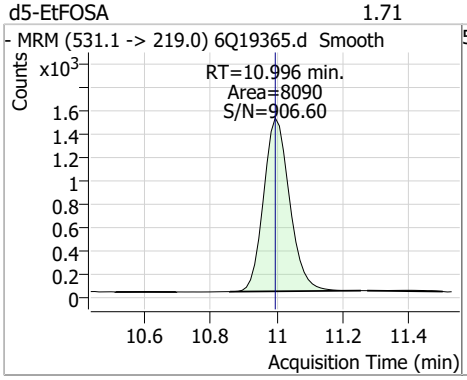
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	16.56	10.93	0.00	96312				

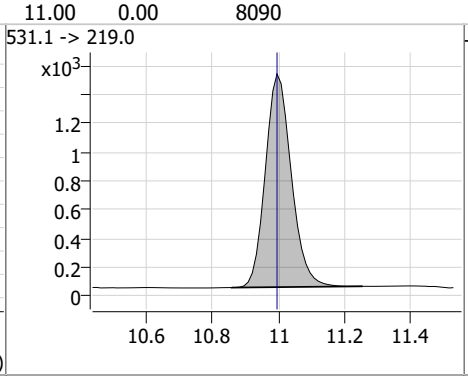


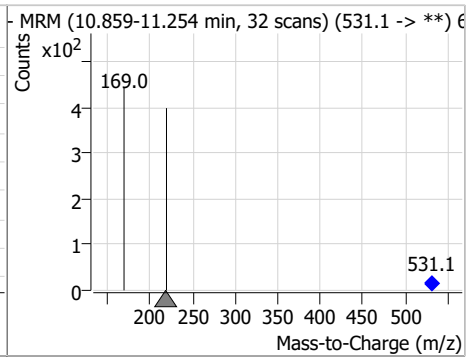




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.71	11.00	0.00	8090				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q19597.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	6/20/2023 9:06:12 AM
Sample Name	:	op97385-mb
Vial	:	P2-D7
DA Method File	:	1633_061323_S6Q288.quantmethod.xml
Batch Name	:	s6q292.batch.bin
Sample Information	:	OP97385,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.125	216.8 -> 171.9	136485	10.00	µg/L	0.041
M5-PFPeA	4.573	268.3 -> 223.0	43460	5.00	µg/L	0.012
M5-PFHxA	5.804	318.0 -> 273.0	46006	2.50	µg/L	0.012
M4-PFHpA	6.720	367.1 -> 322.0	40575	2.50	µg/L	0.012
M8-PFOA	7.352	421.1 -> 376.0	70881	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	31018	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	16759	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	22030	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	19087	1.25	µg/L	0.000
M2-PFTeDA	10.000	715.2 -> 670.0	9577	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	17711	2.50	µg/L	0.012
M3-PFBS	5.759	302.1 -> 79.9	17799	2.50	µg/L	0.012
M3-PFHxS	7.478	402.1 -> 79.9	10408	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	9828	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3058	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4055	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	3225	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	22896	5.00	µg/L	0.000
M3-HFPO-DA	6.181	286.9 -> 168.9	30574	10.00	µg/L	0.012
M5-EtFOSAA	8.628	589.2 -> 419.0	16872	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	68118	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	101498	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	8232	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	8120	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	12773	2.50	µg/L	0.000
13C3-PFBA	3.128	216.0 -> 172.0	54946	5.00	µg/L	0.040
18O2-PFHxS	7.477	403.0 -> 83.9	7888	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	67912	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	24047	1.25	µg/L	0.000
13C5-PFNA	7.895	468.0 -> 423.0	37742	1.25	µg/L	0.013
13C2-PFHxA	5.805	315.1 -> 270.0	42452	2.50	µg/L	0.012
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3058	6.46	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 129.2%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4055	5.67	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.5%		
13C2-8:2FTS	8.175	529.1 -> 80.9	3225	4.80	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.0%		
13C2-PFDoDA	9.297	615.1 -> 570.0	19087	1.19	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.0%		
13C2-PFTeDA	10.000	715.2 -> 670.0	9577	1.07	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 85.4%		
13C3-PFBS	5.759	302.1 -> 79.9	17799	2.71	µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.4%		
13C3-PFHxS	7.478	402.1 -> 79.9	10408	2.51	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%			
13C4-PFBA	3.125	216.8 -> 171.9	136485	10.59	µg/L		0.041
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.9%			
13C4-PFHpA	6.720	367.1 -> 322.0	40575	2.48	µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%			
13C5-PFHxA	5.804	318.0 -> 273.0	46006	2.63	µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.0%			
13C5-PFPeA	4.573	268.3 -> 223.0	43460	5.41	µg/L		0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.2%			
13C6-PFDA	8.387	519.1 -> 474.1	16759	1.21	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.2%			
13C7-PFUnDA	8.866	570.0 -> 525.1	22030	1.19	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.3%			
13C8-FOSA	9.687	506.1 -> 77.8	17711	1.83	µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 73.2%			
13C8-PFOA	7.352	421.1 -> 376.0	70881	2.79	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.7%			
13C8-PFOS	8.563	507.1 -> 79.9	9828	2.55	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.9%			
13C9-PFNA	7.895	472.1 -> 427.0	31018	1.35	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.0%			
d3-MeFOSAA	8.420	573.2 -> 419.0	22896	4.74	µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.8%			
13C3-HFPO-DA	6.181	286.9 -> 168.9	30574	10.43	µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.3%			
d3-MeFOSA	10.775	515.0 -> 219.0	8120	1.93	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 77.3%			
d5-EtFOSAA	8.628	589.2 -> 419.0	16872	4.11	µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 82.3%			
d7-MeFOSE	10.696	623.2 -> 58.9	68118	15.89	µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 63.6%			
d9-EtFOSE	10.930	639.2 -> 58.9	101498	20.09	µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 80.4%			
d5-EtFOSA	10.996	531.1 -> 219.0	8232	2.01	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 80.2%			
Target Compounds							**QValue**
4:2FTS	-	327.1 -> 307.0	-	N.D.			
		327.1 -> 80.9					
6:2FTS	-	427.1 -> 407.0	-	N.D.			
		427.1 -> 80.9					
8:2FTS	-	527.1 -> 507.0	-	N.D.			
		527.1 -> 80.8					
EtFOSAA	-	584.2 -> 419.1	-	N.D.			
		584.2 -> 526.0					
FOSA	-	498.1 -> 77.9	-	N.D.			
		498.1 -> 478.0					
MeFOSAA	-	570.1 -> 419.0	-	N.D.			
		570.1 -> 483.0					
PFBA	-	212.8 -> 168.9	-	N.D.			
PFBS	-	298.7 -> 79.9	-	N.D.			
		298.7 -> 98.8					
PFDA	8.845	512.9 -> 469.0	0		µg/L	m	1
		512.9 -> 219.0	0				
PFDoDA	-	613.1 -> 569.0	-	N.D.			
		613.1 -> 319.0					
PFDS	-	599.0 -> 79.9	-	N.D.			

Perfluorinated Compounds by LC/MS/MS

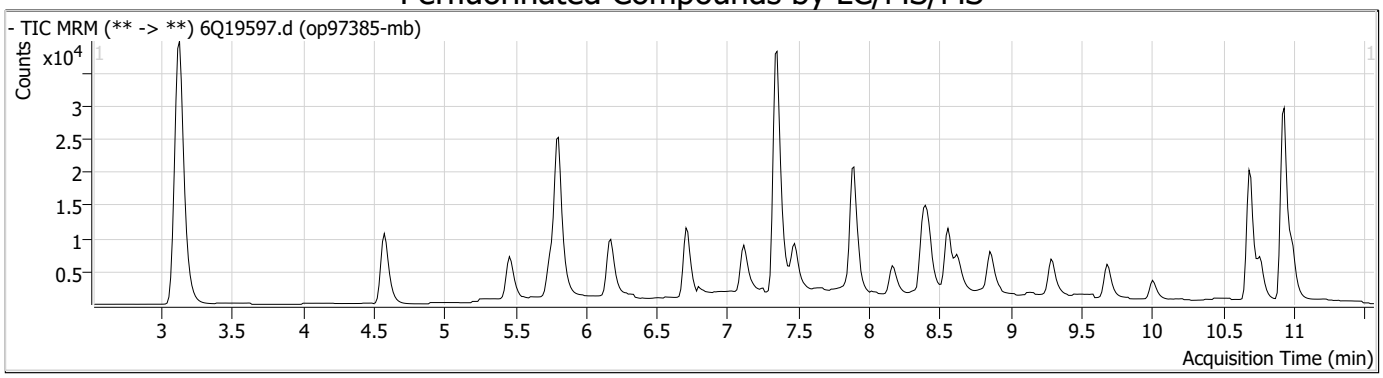
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	7.849	413.0 -> 369.0	0		µg/L	m	1
		413.0 -> 169.0	0				
PFOS	-	498.9 -> 79.9	-	N.D.			
		498.9 -> 98.8					
PFPeA	-	263.0 -> 219.0	-	N.D.			
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	-	563.1 -> 519.0	-	N.D.			
		563.1 -> 269.1					
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

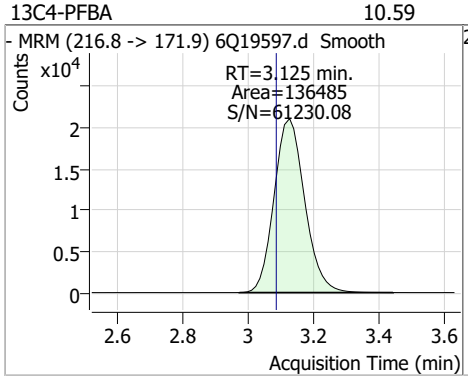
Perfluorinated Compounds by LC/MS/MS

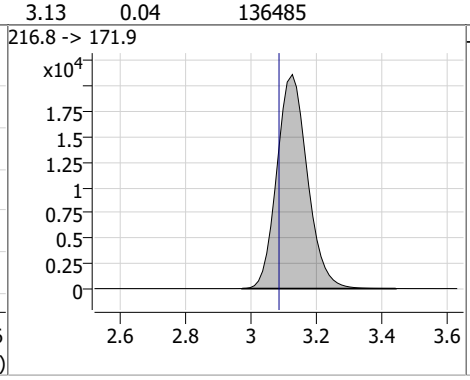
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

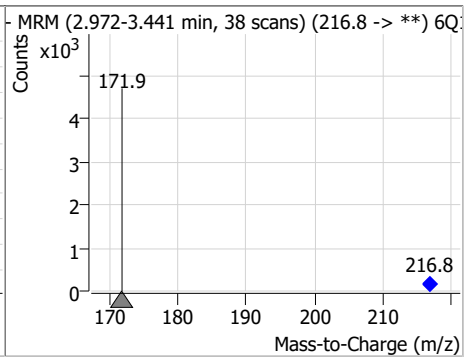
Perfluorinated Compounds by LC/MS/MS



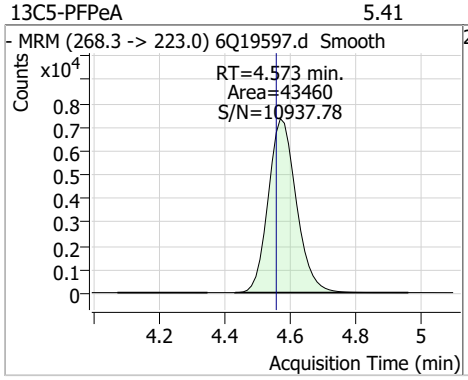
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.59	3.13	0.04	136485				

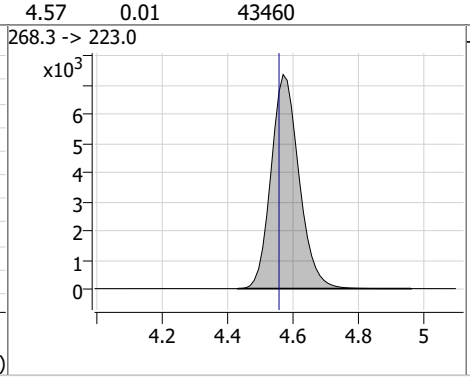


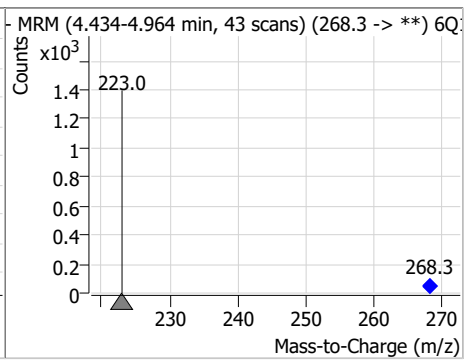




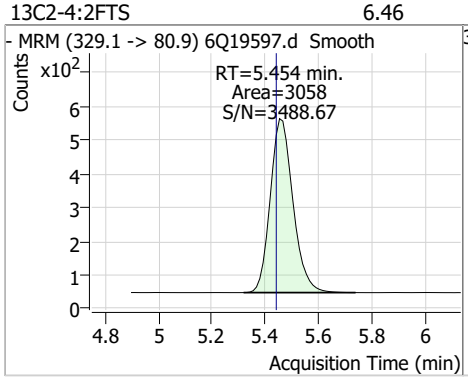
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.41	4.57	0.01	43460				

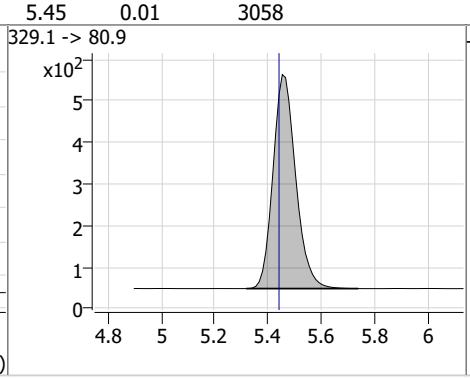


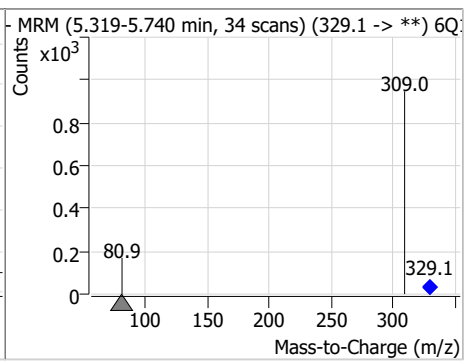




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.46	5.45	0.01	3058				

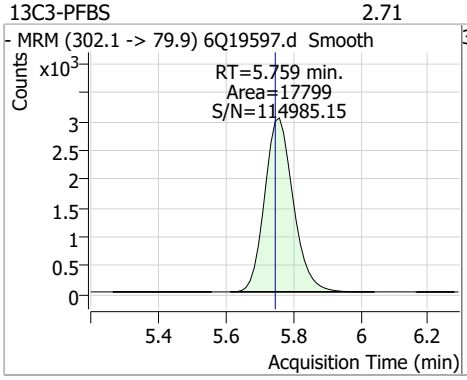


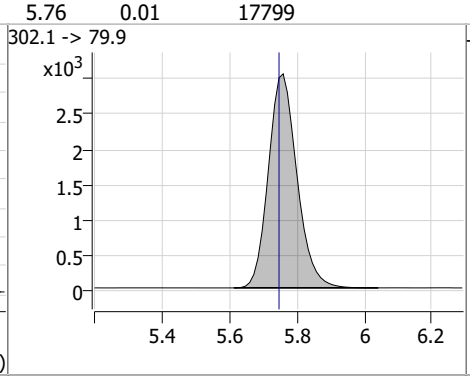


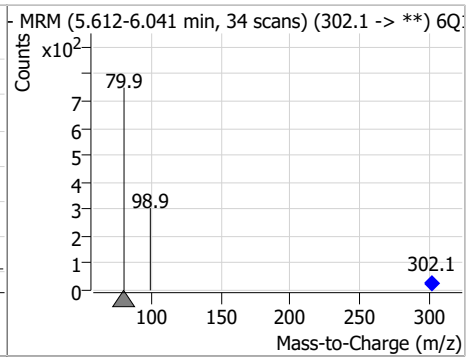


Perfluorinated Compounds by LC/MS/MS

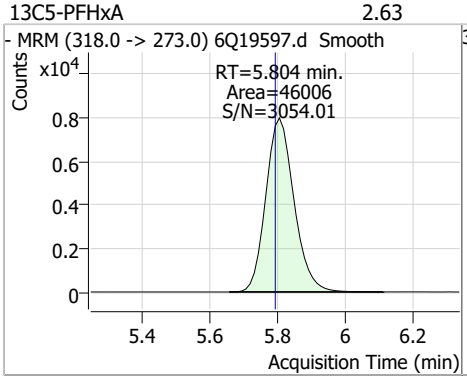
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.71	5.76	0.01	17799				

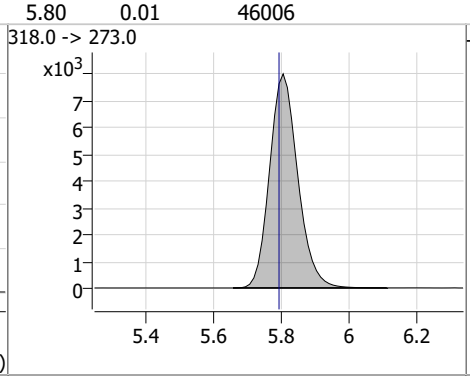


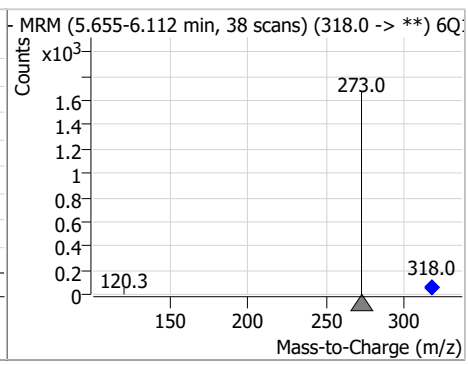




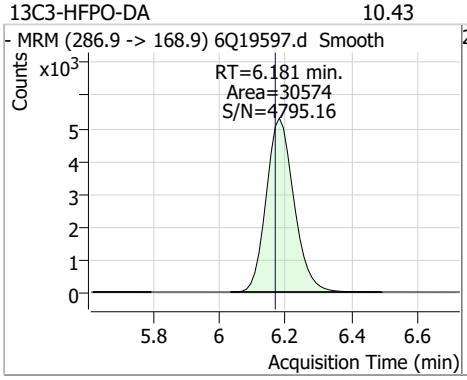
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.63	5.80	0.01	46006				

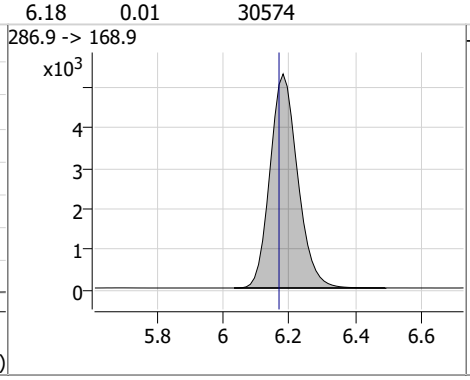


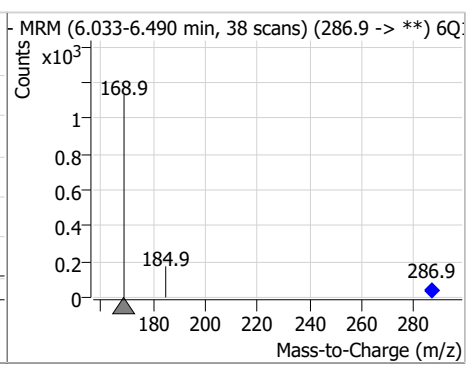




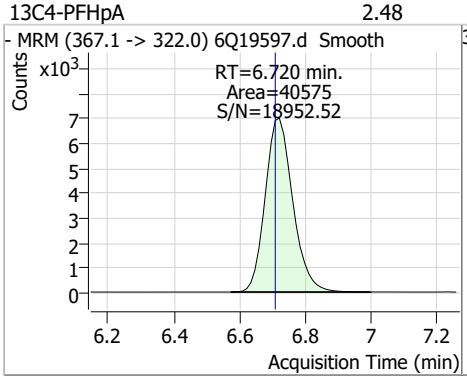
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.43	6.18	0.01	30574				

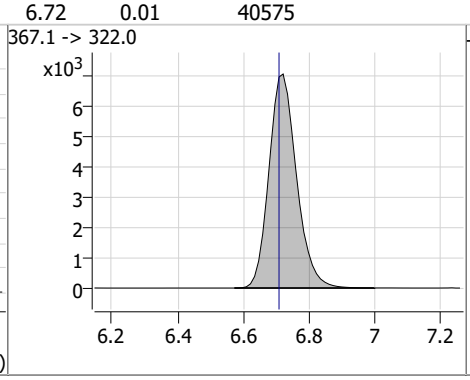


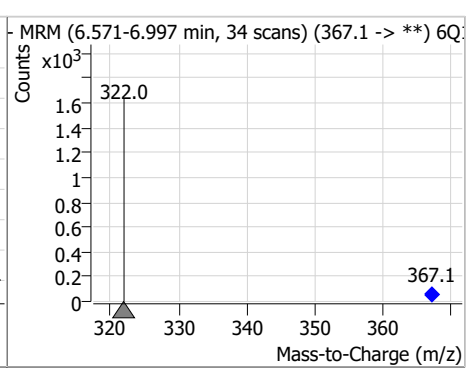




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.48	6.72	0.01	40575				

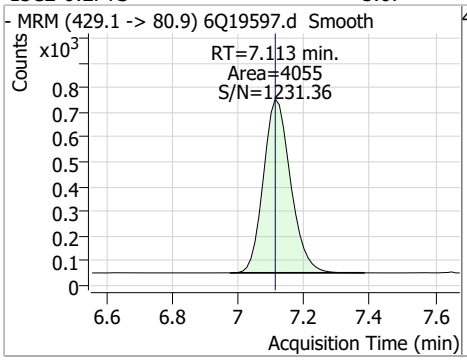


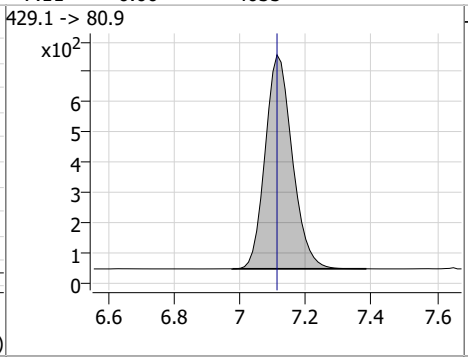


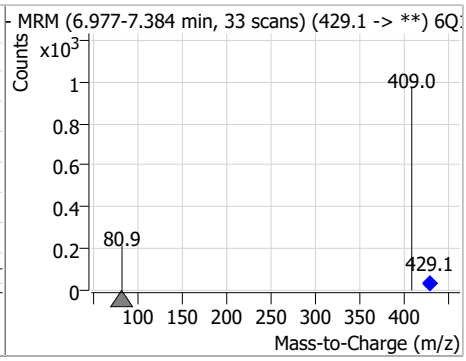


Perfluorinated Compounds by LC/MS/MS

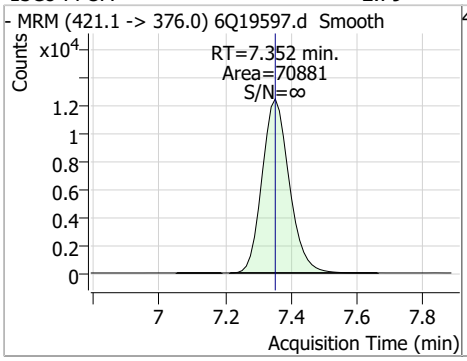
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.67	7.11	0.00	4055				

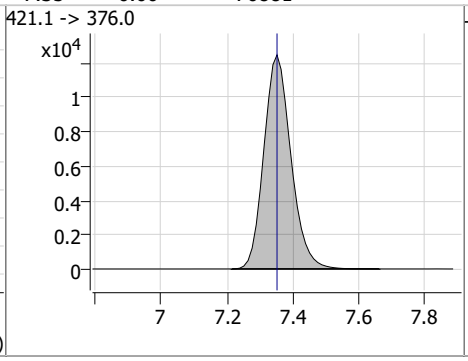


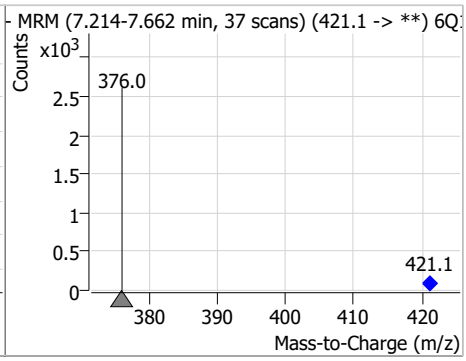




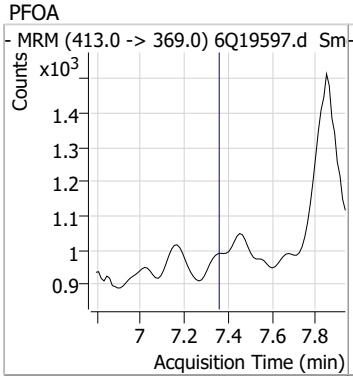
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.79	7.35	0.00	70881				

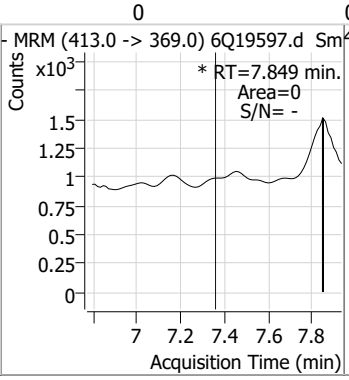


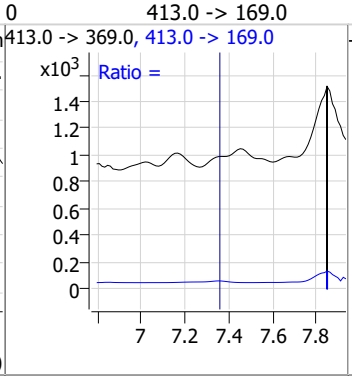


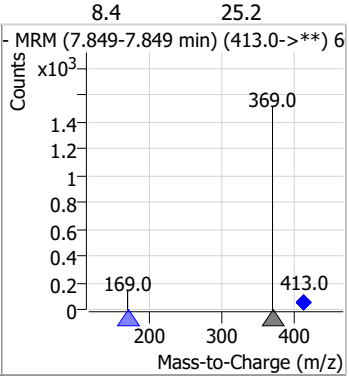


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0		0	0	413.0 -> 169.0		8.4	25.2

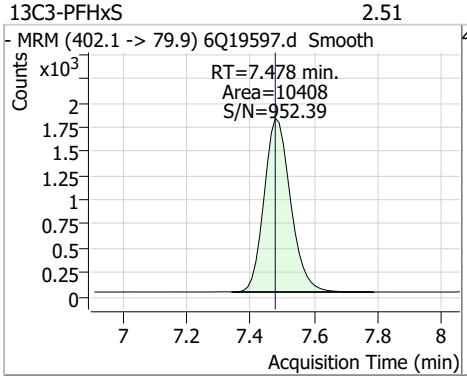


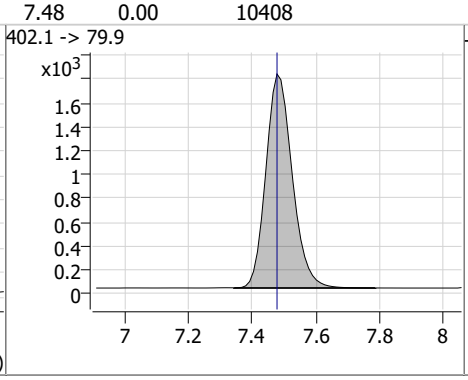


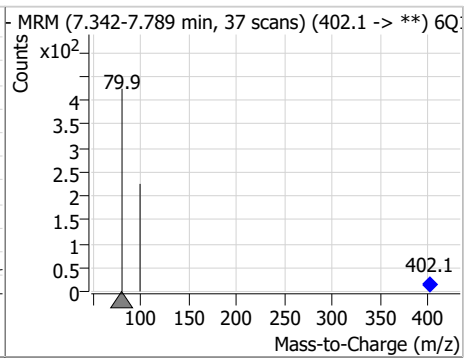




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.51	7.48	0.00	10408				

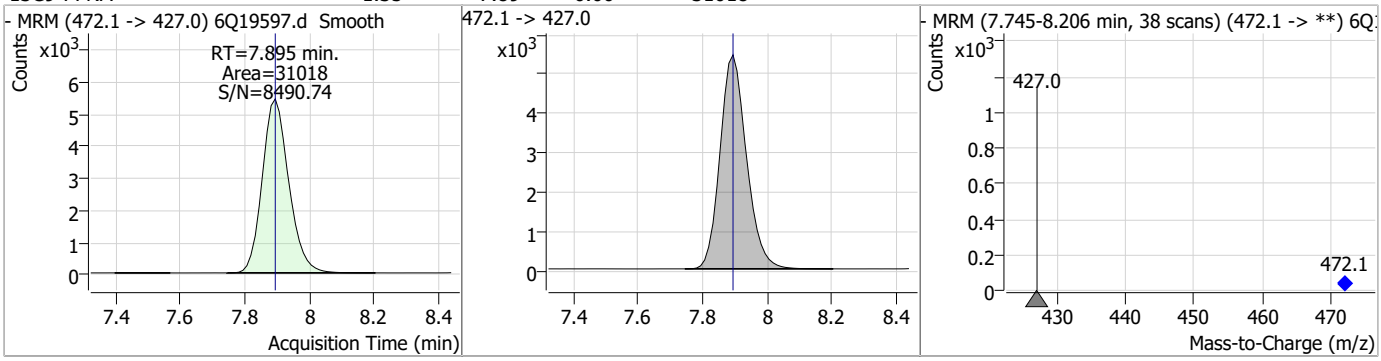




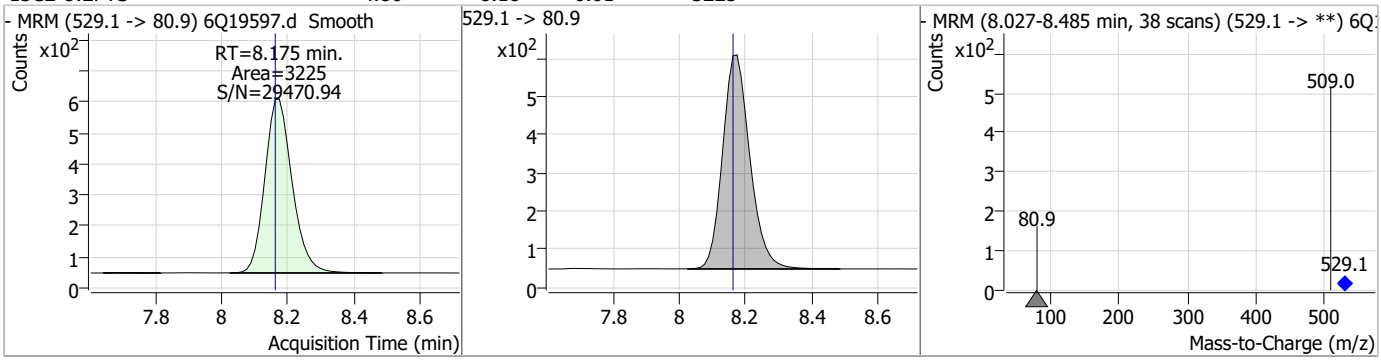


Perfluorinated Compounds by LC/MS/MS

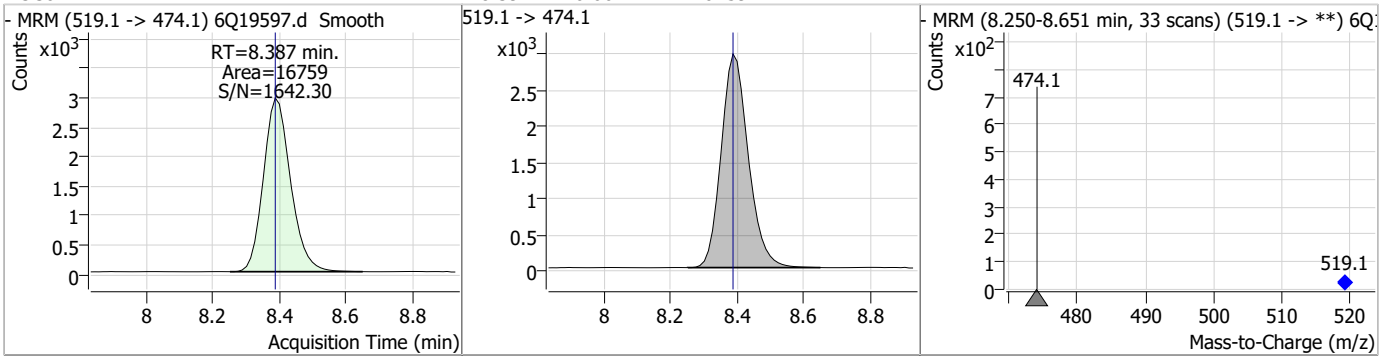
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.35	7.89	0.00	31018				



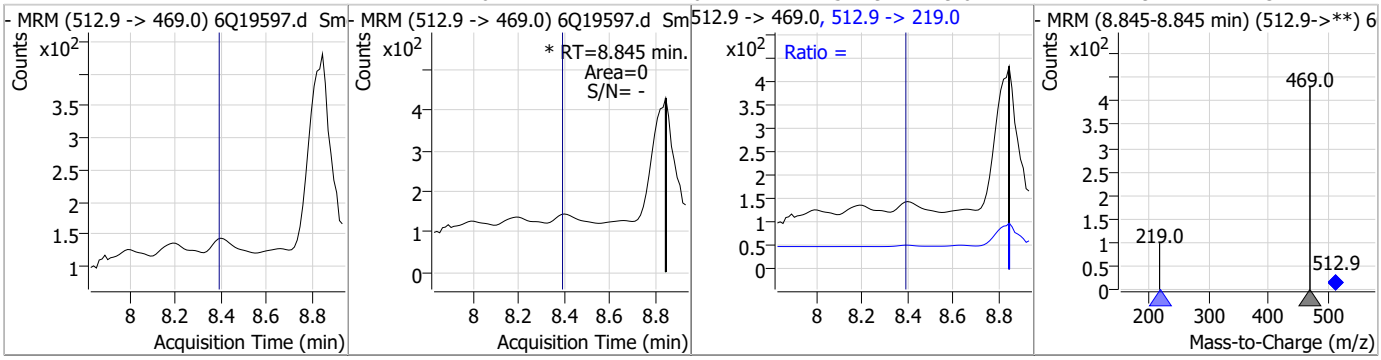
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.80	8.18	0.01	3225				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.21	8.39	0.00	16759				

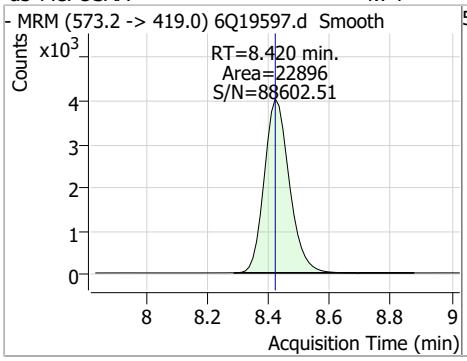


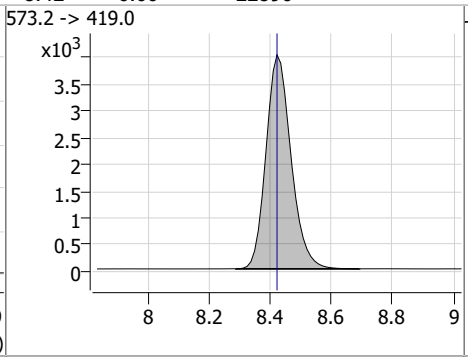
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA		0		0	512.9 -> 219.0		7.9	23.7

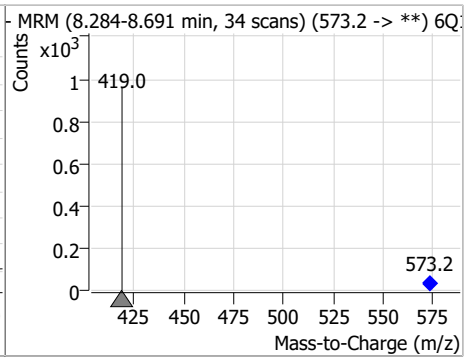


Perfluorinated Compounds by LC/MS/MS

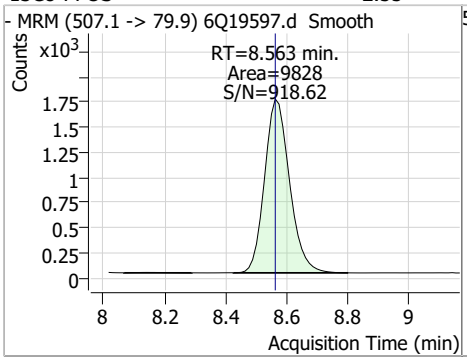
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.74	8.42	0.00	22896				

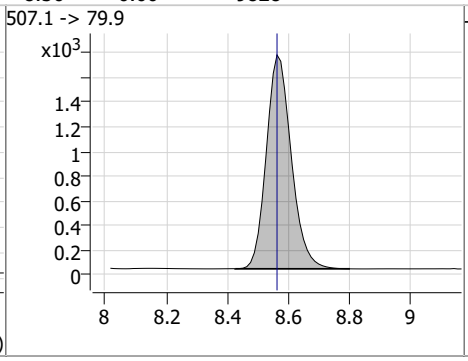


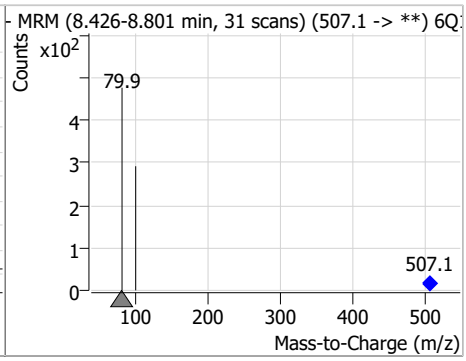




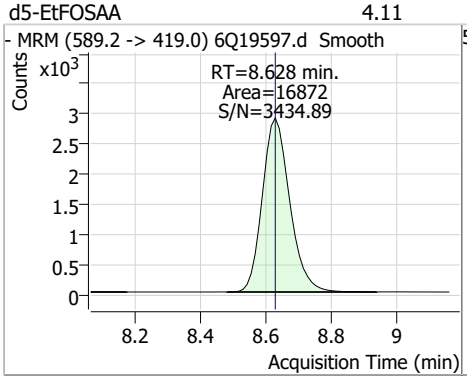
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.55	8.56	0.00	9828				

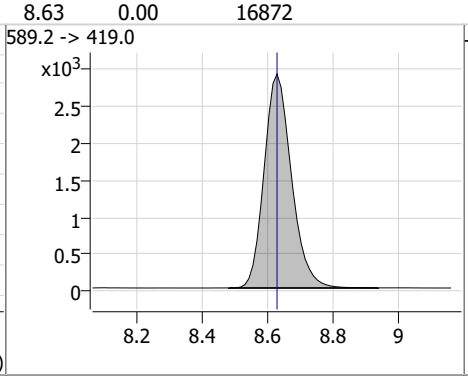


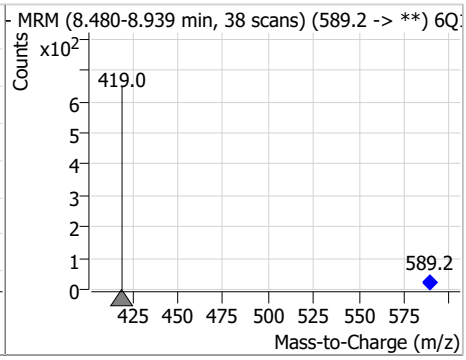




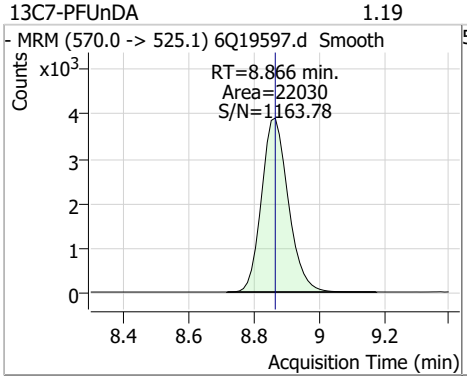
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.11	8.63	0.00	16872				

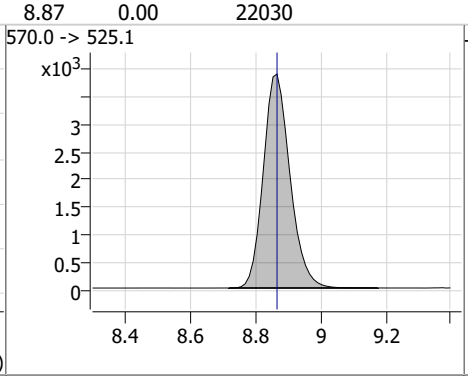


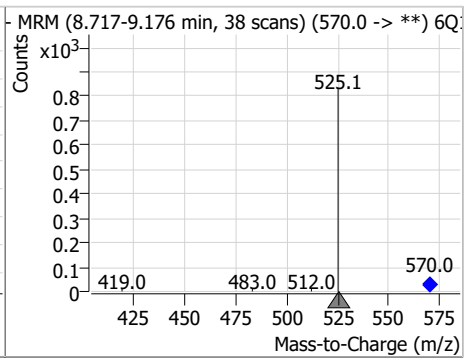




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.19	8.87	0.00	22030				

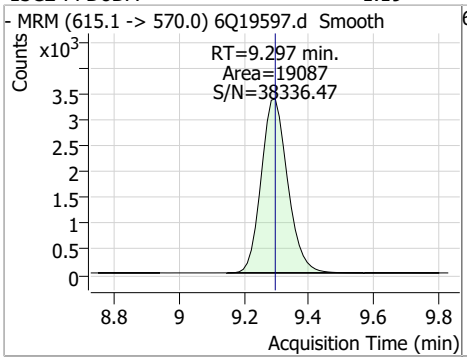


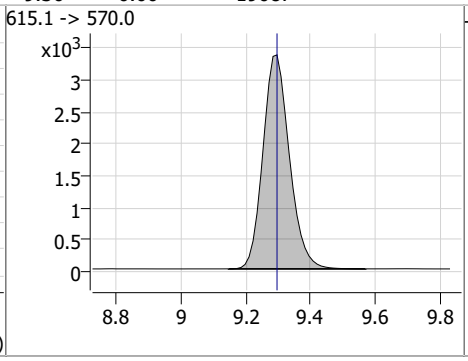


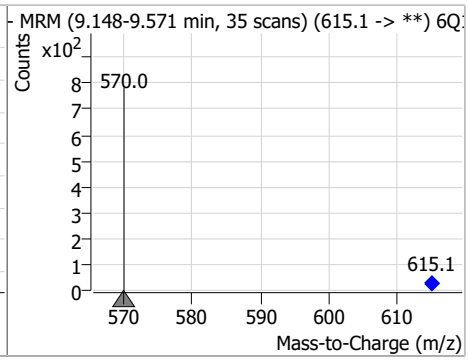


Perfluorinated Compounds by LC/MS/MS

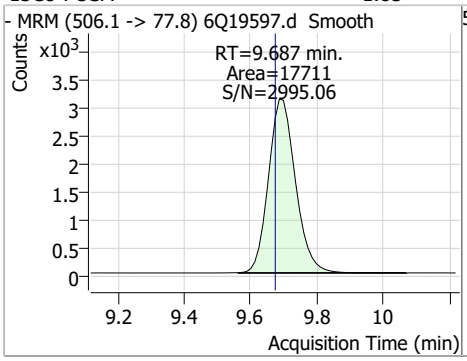
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.19	9.30	0.00	19087				

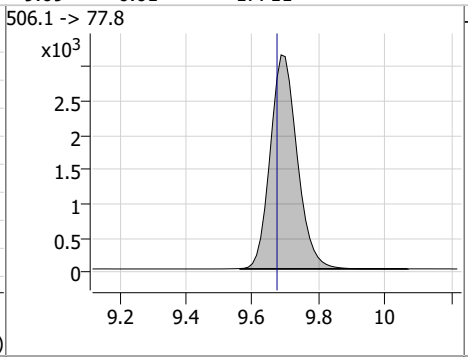


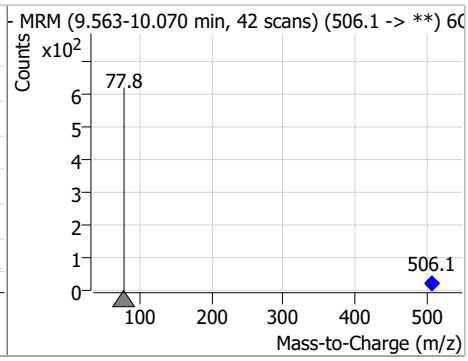




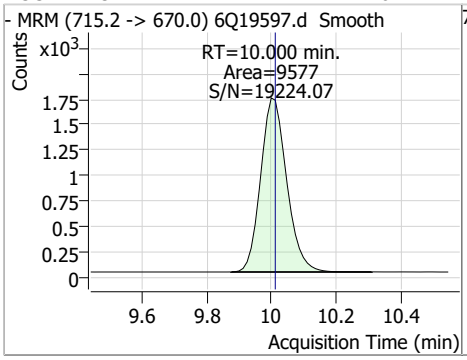
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.83	9.69	0.01	17711				

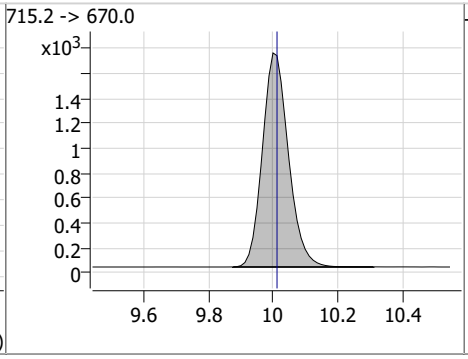


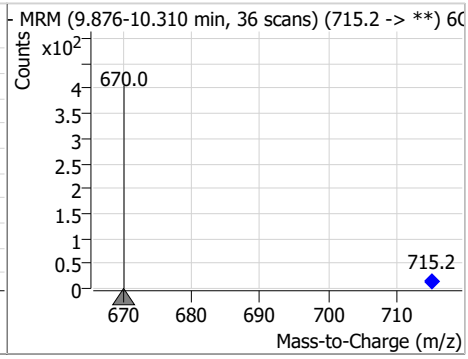




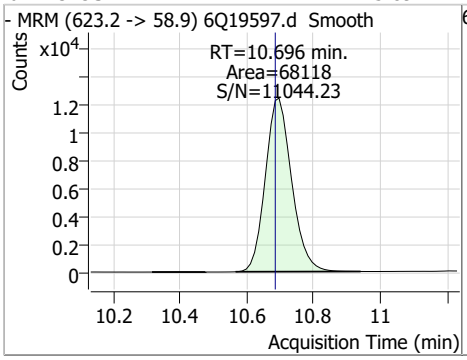
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.07	10.00	-0.01	9577				

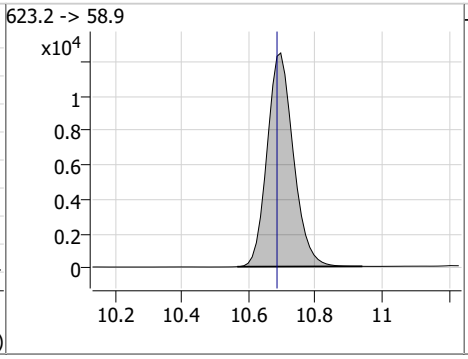


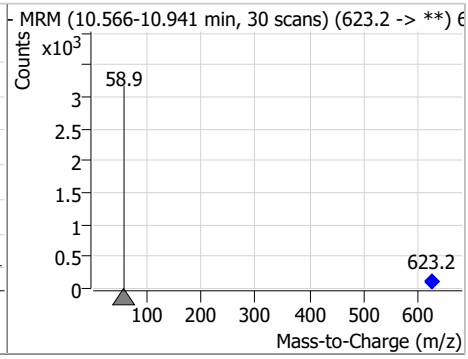




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	15.89	10.70	0.01	68118				

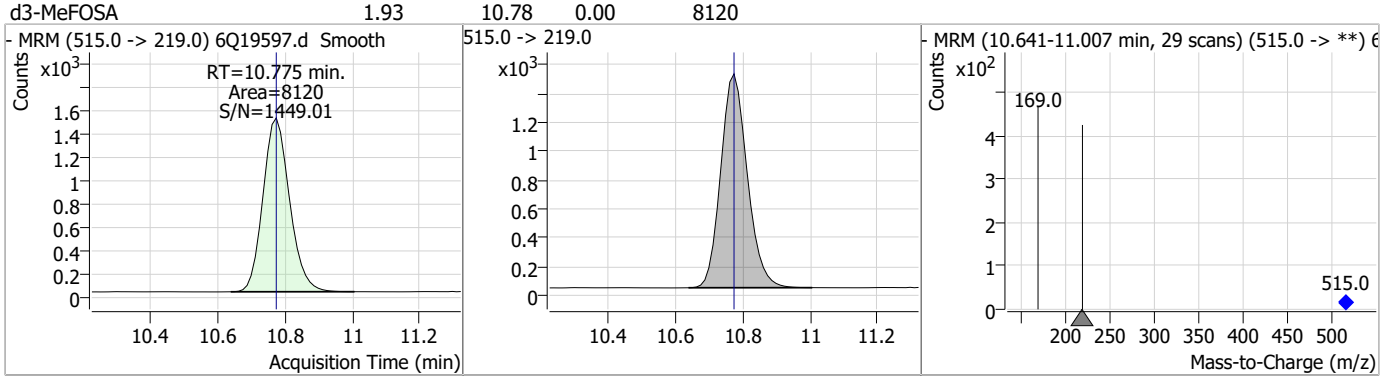




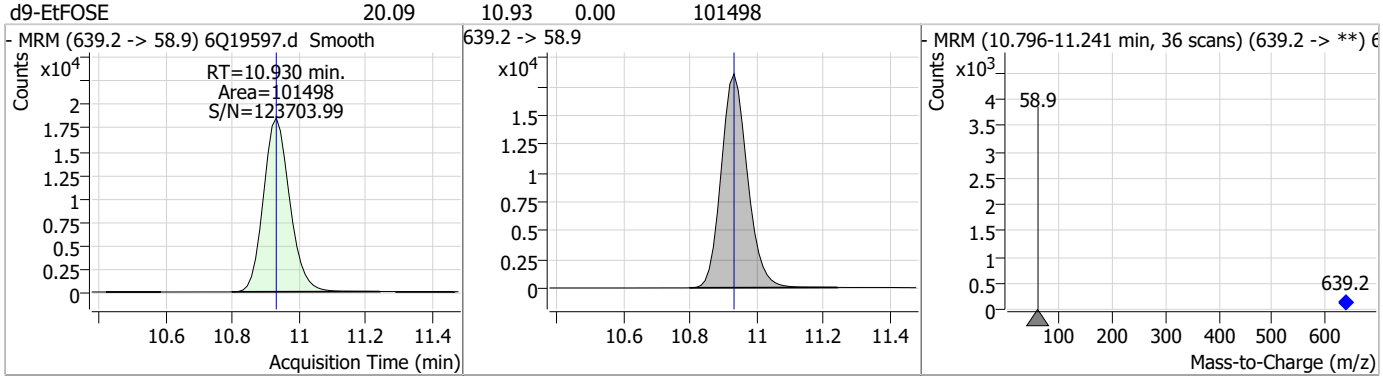


Perfluorinated Compounds by LC/MS/MS

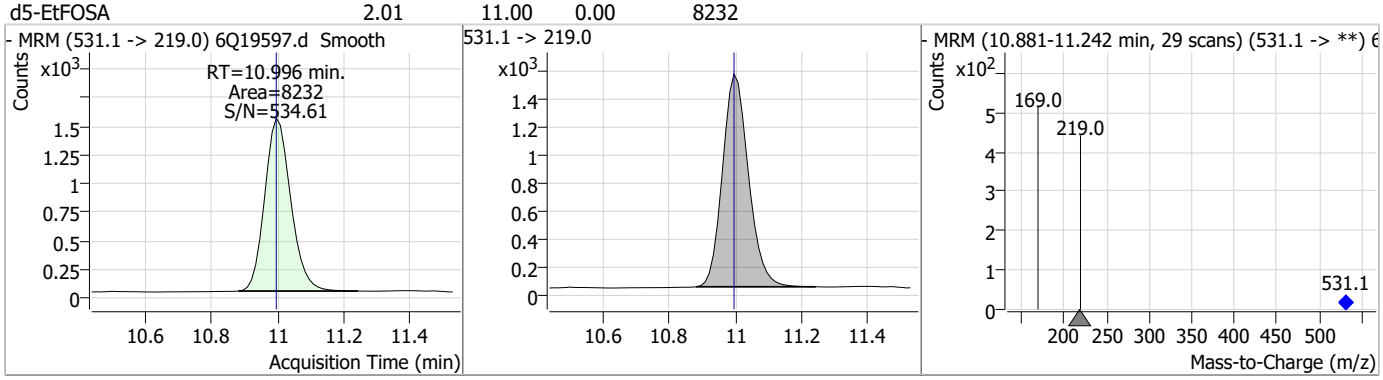
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.93	10.78	0.00	8120				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	20.09	10.93	0.00	101498				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.01	11.00	0.00	8232				



Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19333.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 11:24:35 AM
Sample Name : iblk
Vial : P1-A1
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	154762	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	50510	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	51814	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	48802	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	84312	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	39105	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	22649	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	28704	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	25963	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	15166	1.25	µg/L	-0.012
M8-FOSA	9.674	506.1 -> 77.8	29142	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	19336	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12471	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11454	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3288	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4765	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4509	5.00	µg/L	0.000
M3-MeFOSAA	8.407	573.2 -> 419.0	30468	5.00	µg/L	-0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	36913	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	25606	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	136445	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	158218	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12972	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12951	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	16684	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	65598	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9415	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	79743	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	32493	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	50306	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	48513	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3288	5.82	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.4%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4765	5.59	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.7%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4509	5.62	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.4%		
13C2-PFDoDA	9.285	615.1 -> 570.0	25963	1.20	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.6%		
13C2-PFTeDA	10.000	715.2 -> 670.0	15166	1.25	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C3-PFBS	5.746	302.1 -> 79.9	19336	2.47	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C3-PFHxS	7.478	402.1 -> 79.9	12471	2.52	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFBA	3.097	216.8 -> 171.9	154762	10.06 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C4-PFHpA	6.707	367.1 -> 322.0	48802	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.2%	
13C5-PFHxA	5.792	318.0 -> 273.0	51814	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C5-PFPeA	4.560	268.3 -> 223.0	50510	5.50 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.1%	
13C6-PFDA	8.387	519.1 -> 474.1	22649	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C7-PFUnDA	8.853	570.0 -> 525.1	28704	1.15 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.9%	
13C8-FOSA	9.674	506.1 -> 77.8	29142	2.31 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.2%	
13C8-PFOA	7.339	421.1 -> 376.0	84312	2.83 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 113.1%	
13C8-PFOS	8.563	507.1 -> 79.9	11454	2.27 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.9%	
13C9-PFNA	7.882	472.1 -> 427.0	39105	1.28 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.2%	
d3-MeFOSAA	8.407	573.2 -> 419.0	30468	4.83 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.5%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	36913	11.02 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 110.2%	
d3-MeFOSA	10.775	515.0 -> 219.0	12951	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.3%	
d5-EtFOSAA	8.615	589.2 -> 419.0	25606	4.78 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.6%	
d7-MeFOSE	10.685	623.2 -> 58.9	136445	24.37 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.5%	
d9-EtFOSE	10.930	639.2 -> 58.9	158218	23.97 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.9%	
d5-EtFOSA	10.996	531.1 -> 219.0	12972	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
Target Compounds					**QValue**
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9 298.7 -> 98.8	-	N.D.	
PFDA	-	512.9 -> 469.0 512.9 -> 219.0	-	N.D.	
PFDoDA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

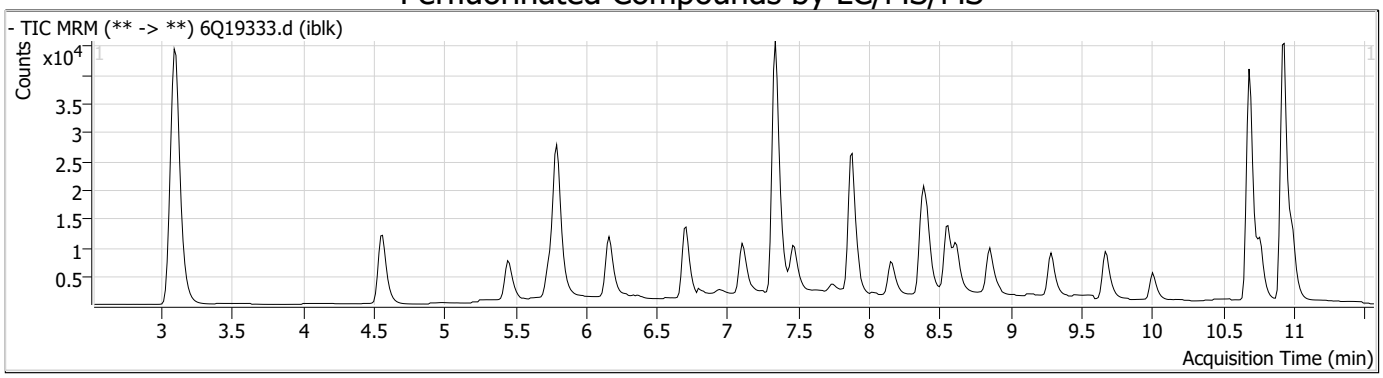
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	N.D.		
		463.0 -> 219.0				
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	-	413.0 -> 369.0	-	N.D.		
		413.0 -> 169.0				
PFOS	-	498.9 -> 79.9	-	N.D.		
		498.9 -> 98.8				
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

 # = Qualifier out of range, m = manually integrated, + = Area summed

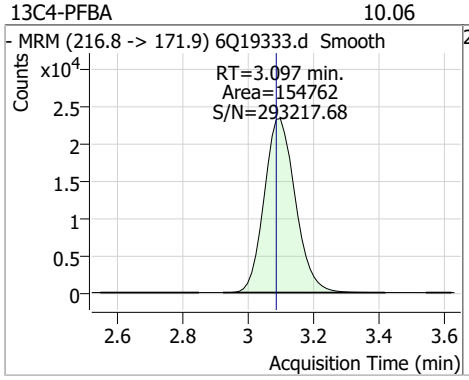
Perfluorinated Compounds by LC/MS/MS

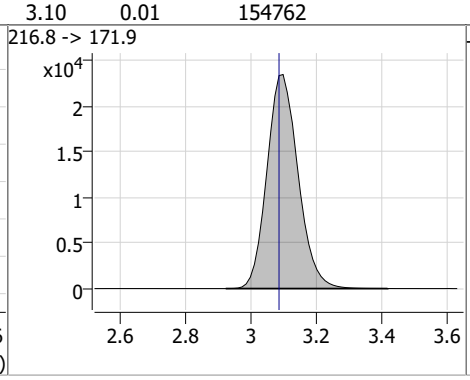
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

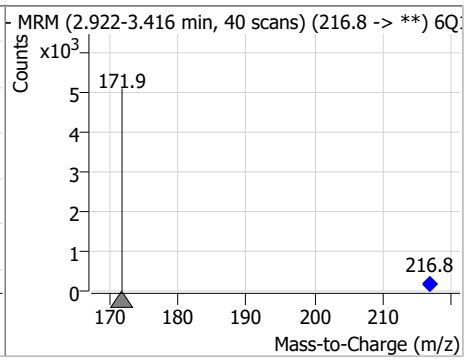
Perfluorinated Compounds by LC/MS/MS



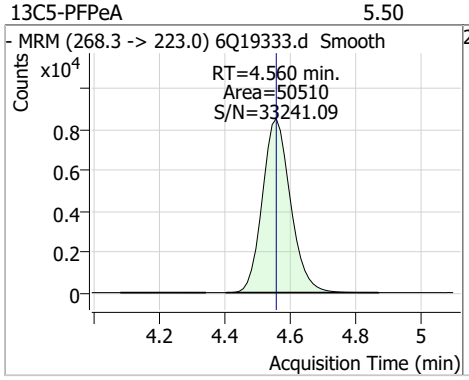
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.06	3.10	0.01	154762				

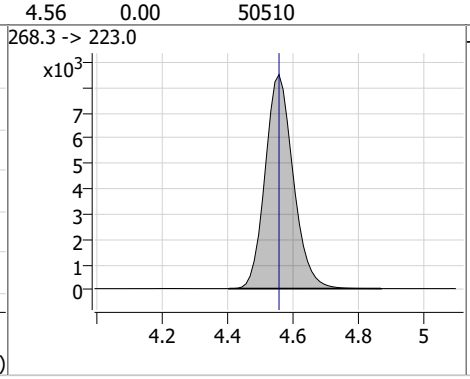


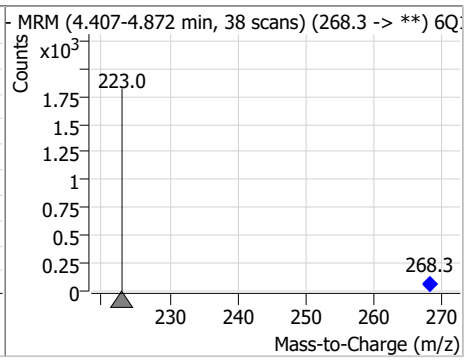




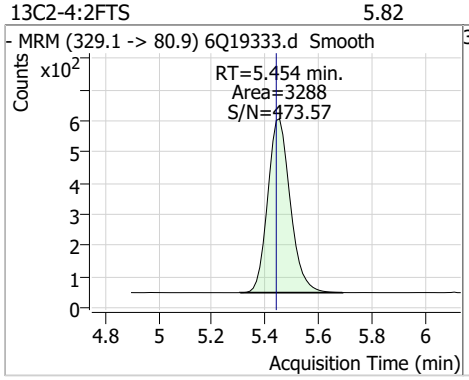
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.50	4.56	0.00	50510				

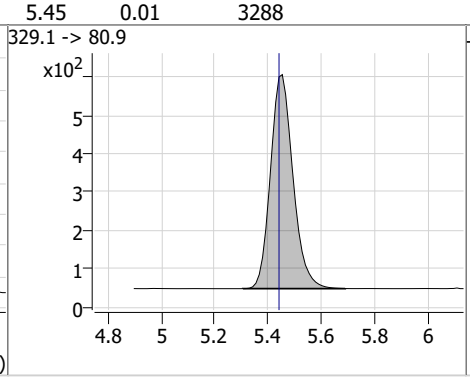


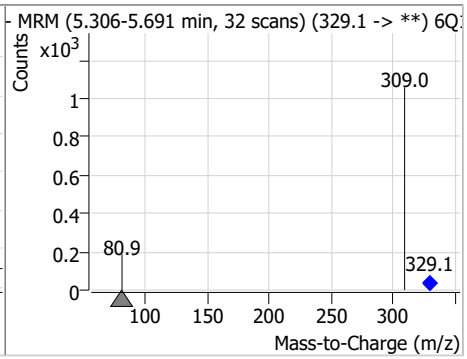




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.82	5.45	0.01	3288				

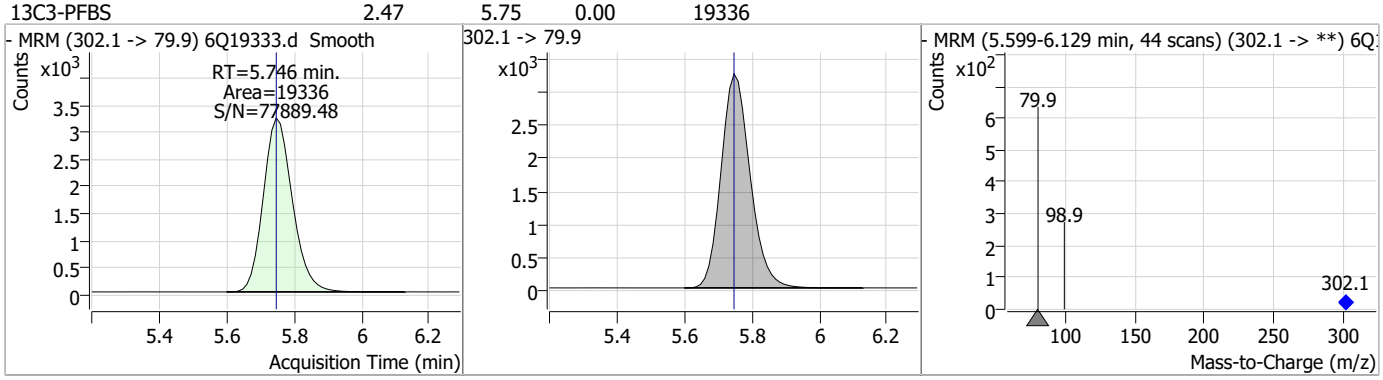




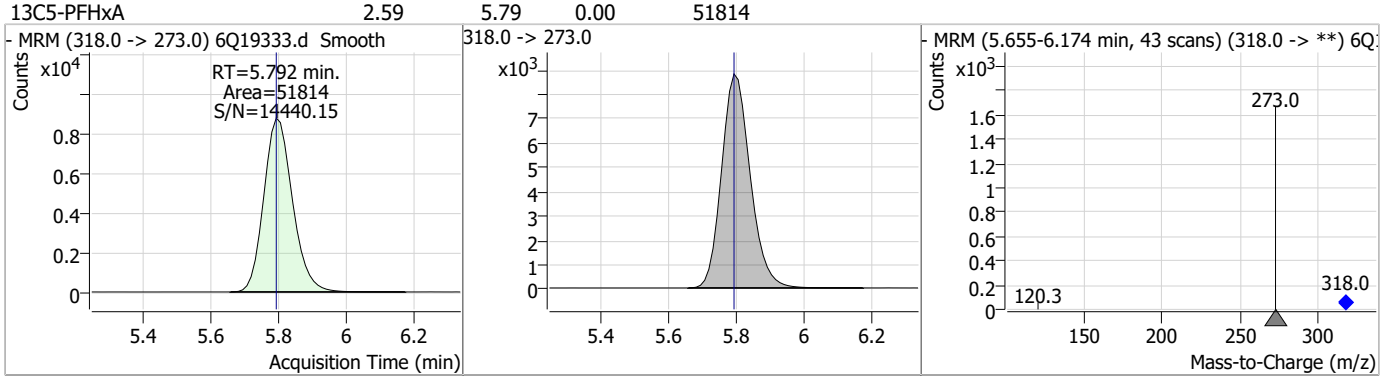


Perfluorinated Compounds by LC/MS/MS

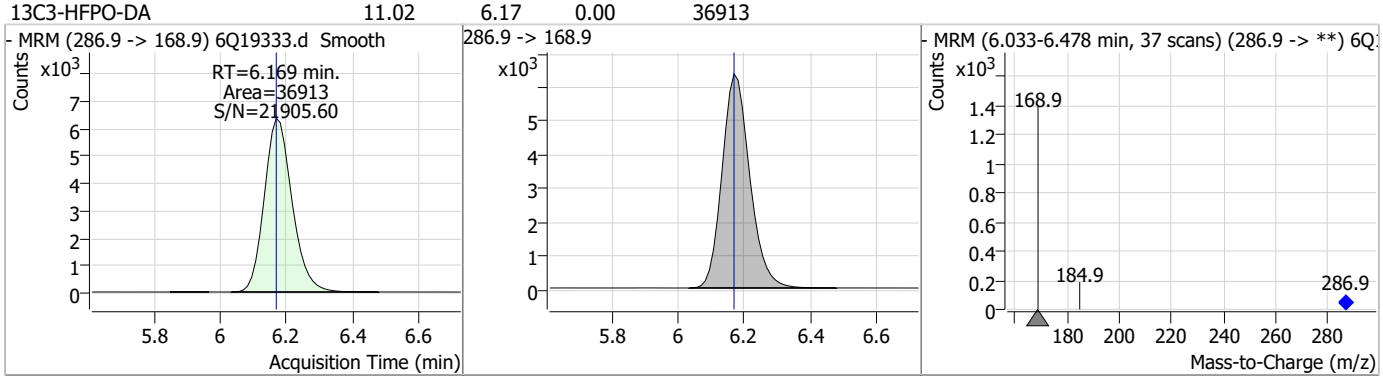
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.47	5.75	0.00	19336				



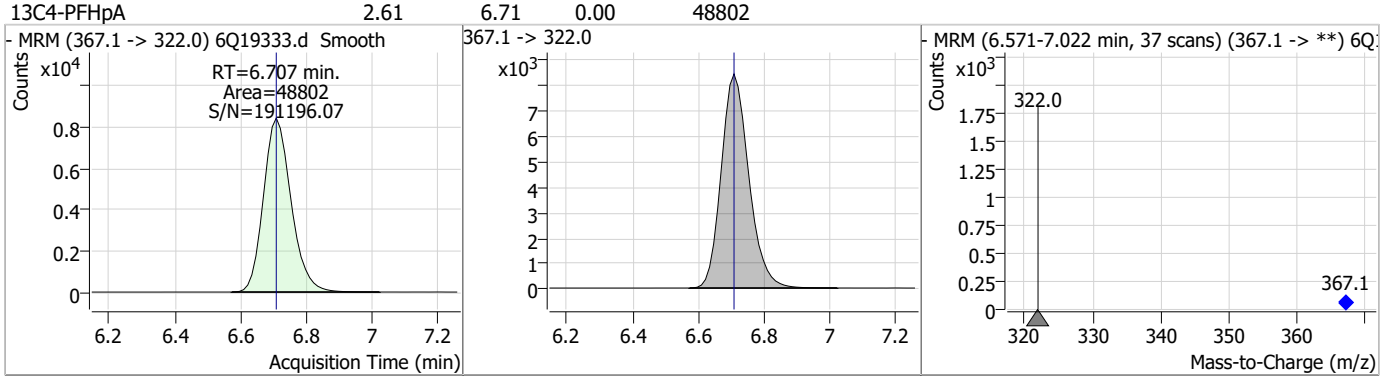
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.59	5.79	0.00	51814				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.02	6.17	0.00	36913				

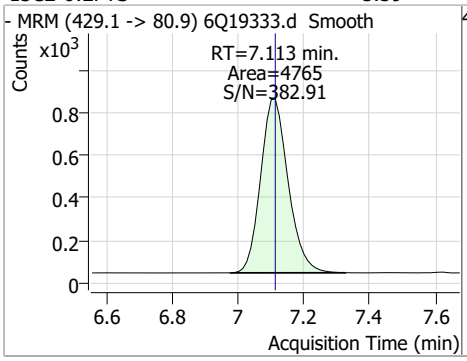


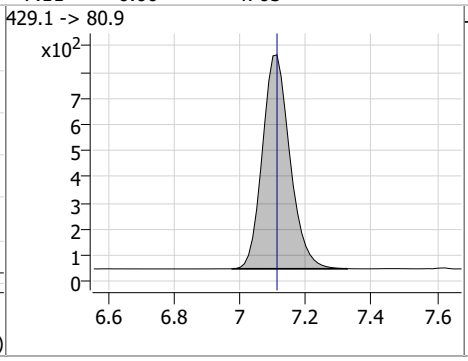
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.61	6.71	0.00	48802				

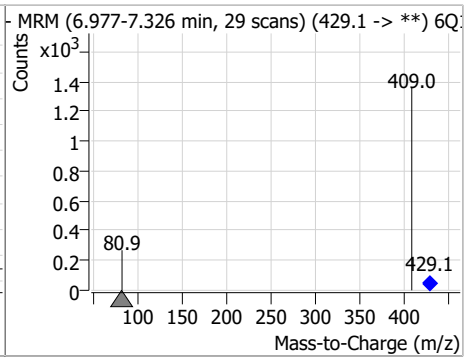


Perfluorinated Compounds by LC/MS/MS

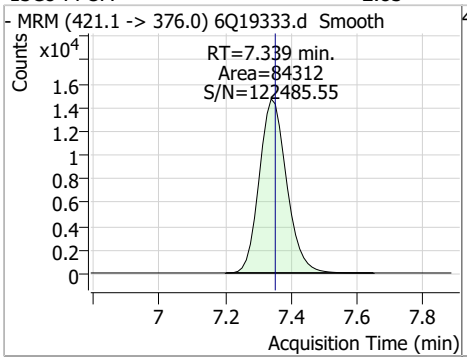
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.59	7.11	0.00	4765				

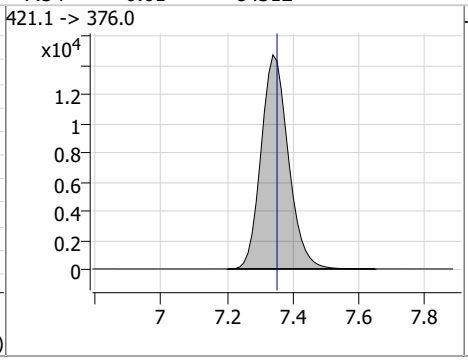


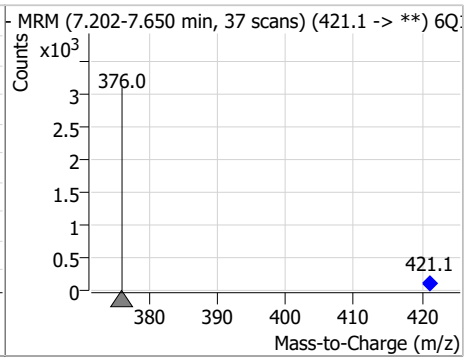




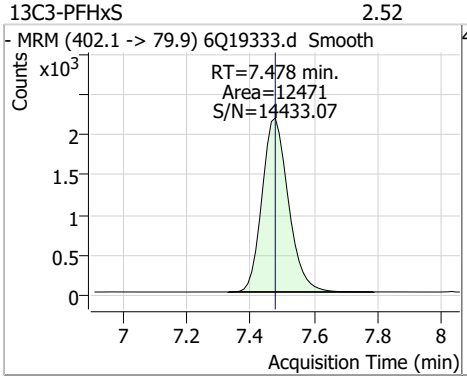
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.83	7.34	-0.01	84312				

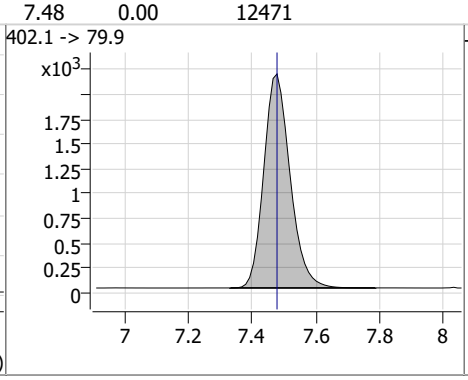


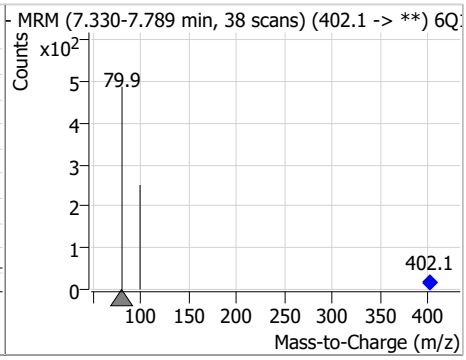




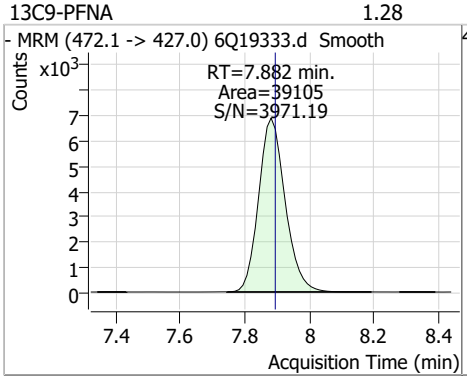
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.52	7.48	0.00	12471				

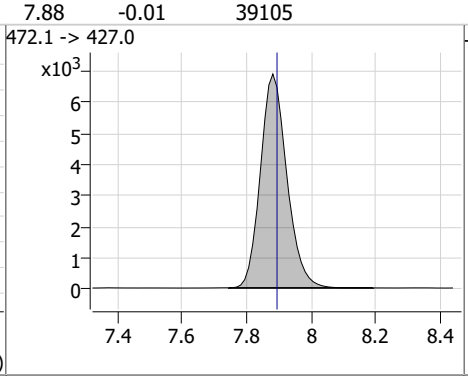


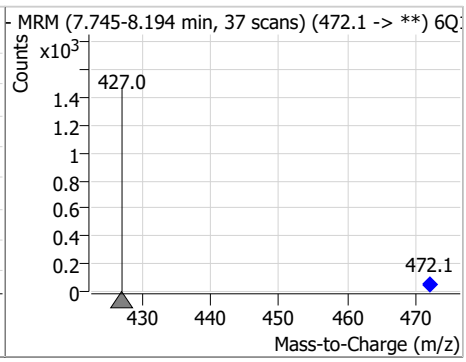




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.28	7.88	-0.01	39105				

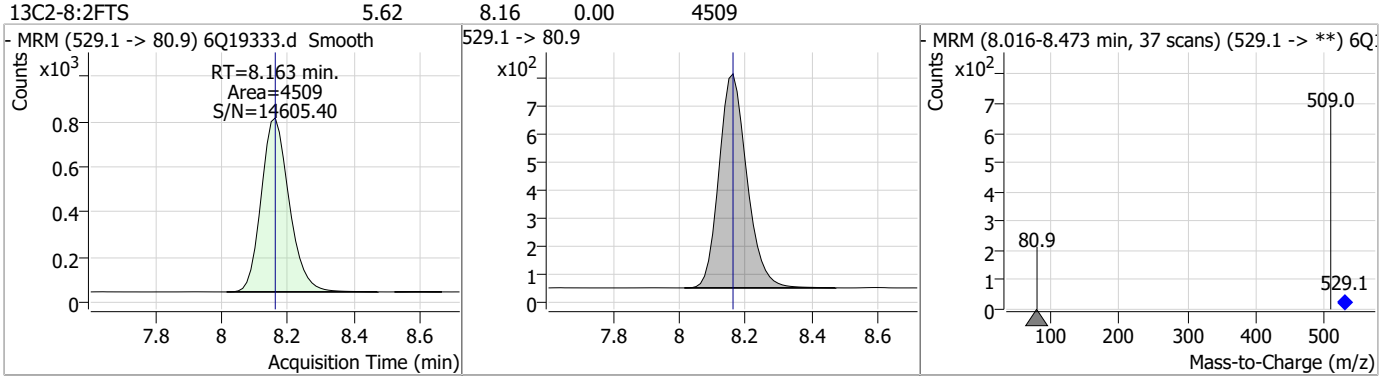




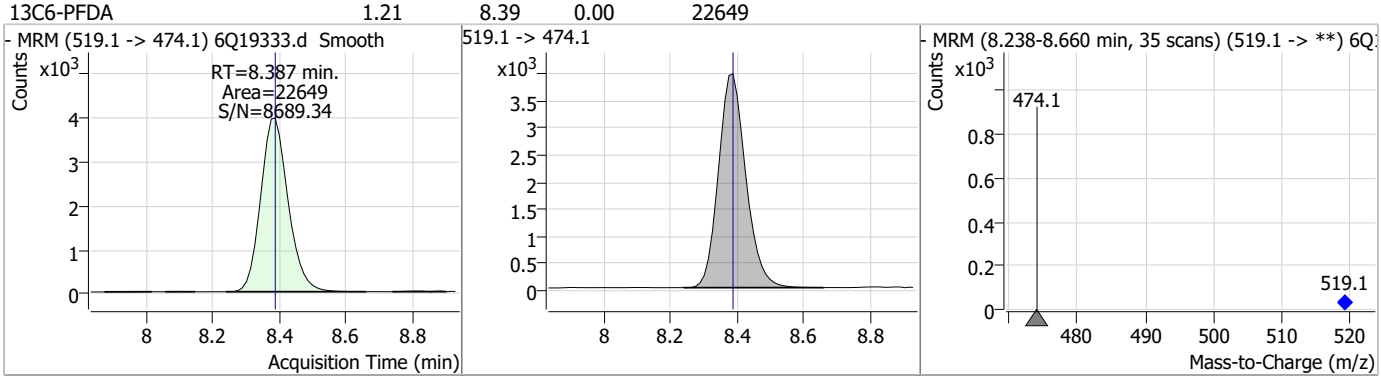


Perfluorinated Compounds by LC/MS/MS

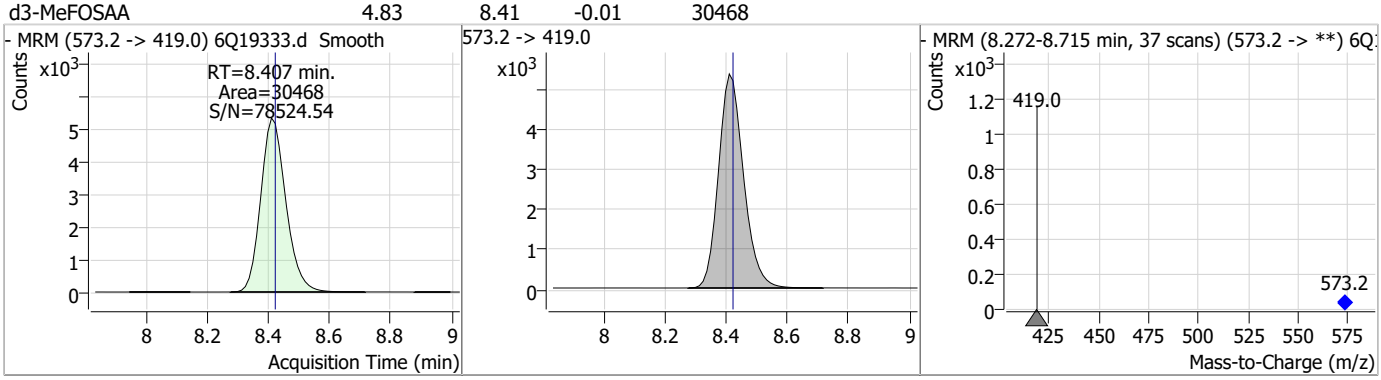
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.62	8.16	0.00	4509				



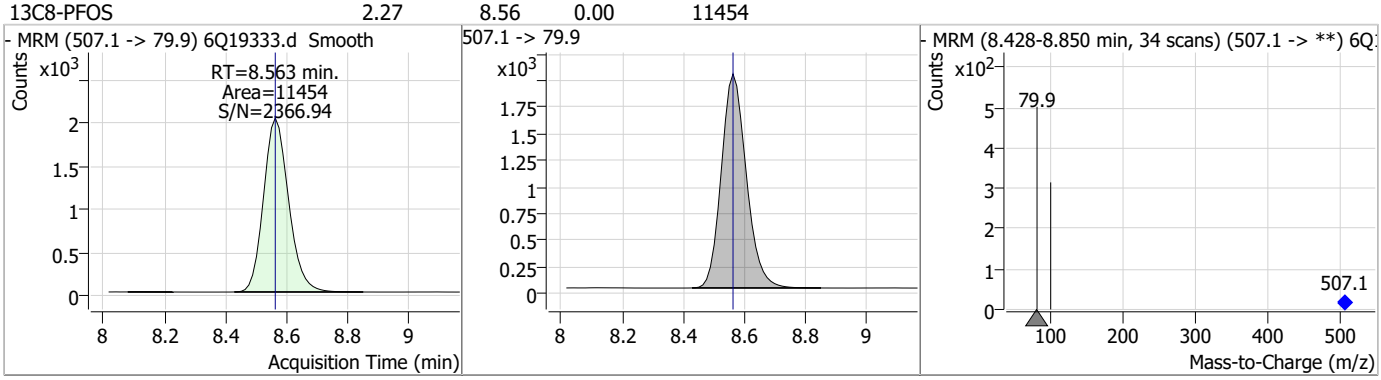
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.21	8.39	0.00	22649				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.83	8.41	-0.01	30468				

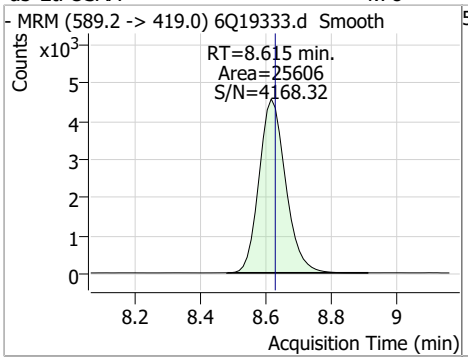


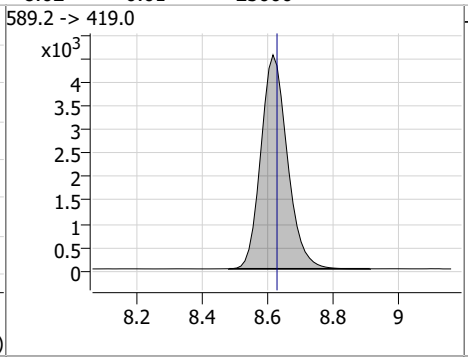
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.27	8.56	0.00	11454				

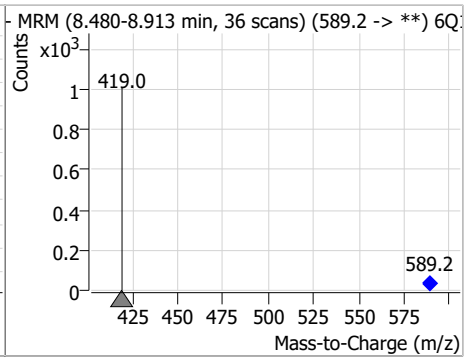


Perfluorinated Compounds by LC/MS/MS

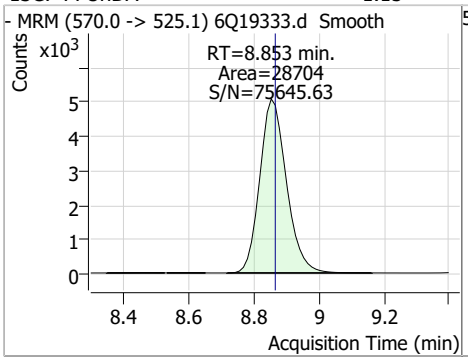
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.78	8.62	-0.01	25606				

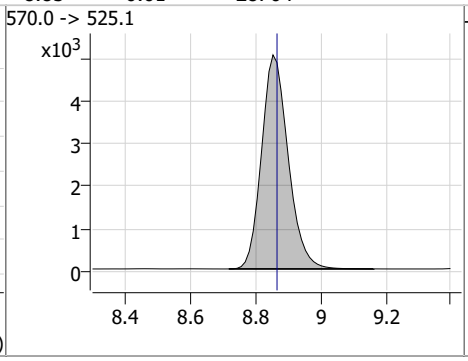


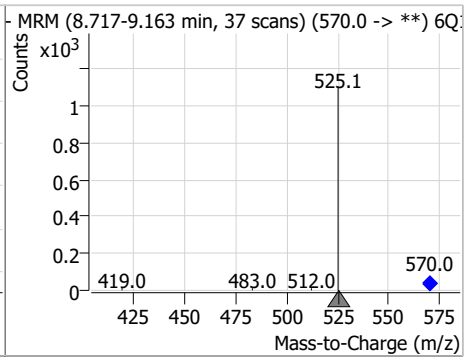




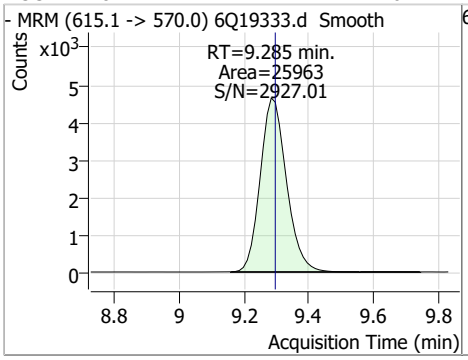
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.15	8.85	-0.01	28704				

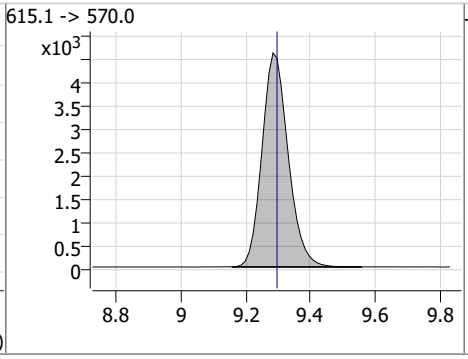


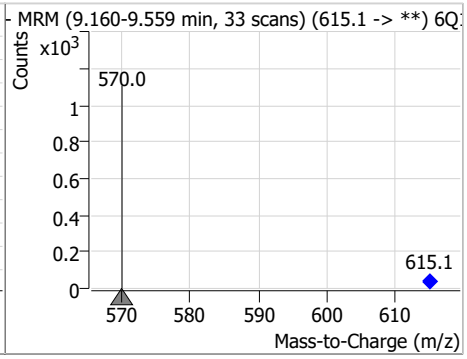




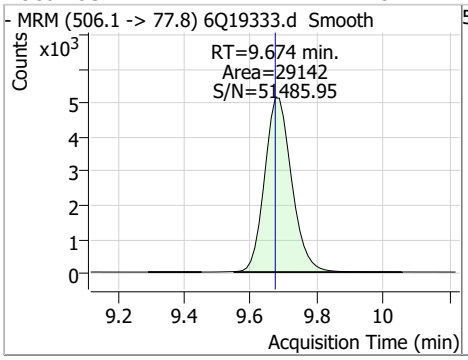
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.20	9.28	-0.01	25963				

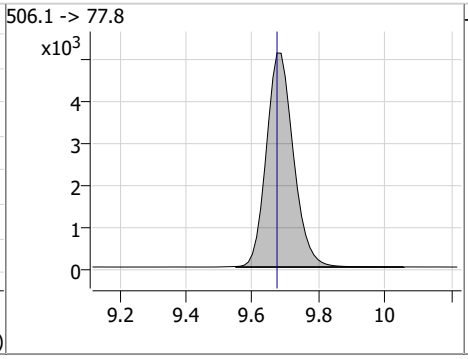


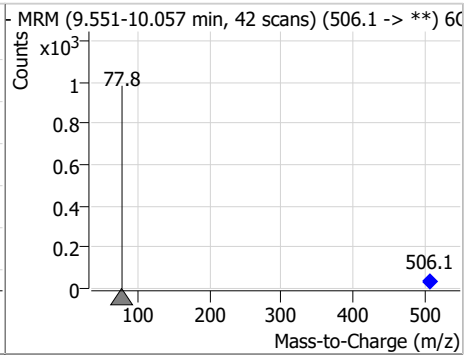




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.31	9.67	0.00	29142				

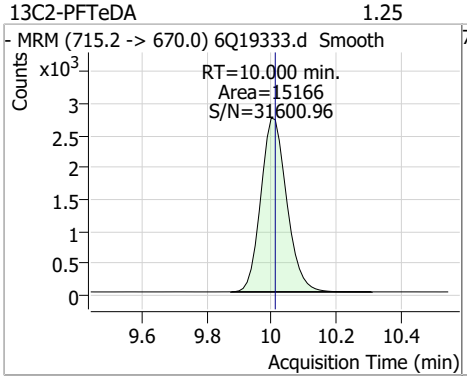


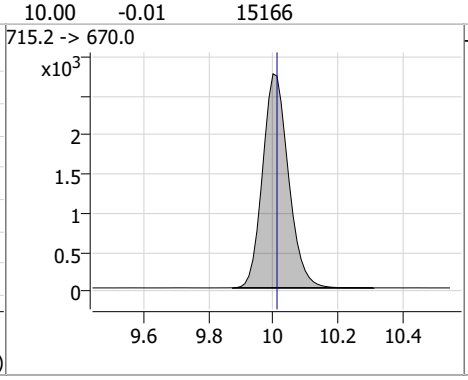


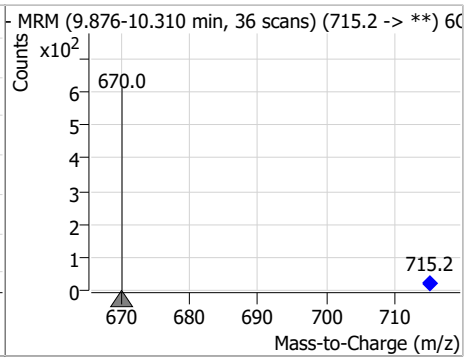


Perfluorinated Compounds by LC/MS/MS

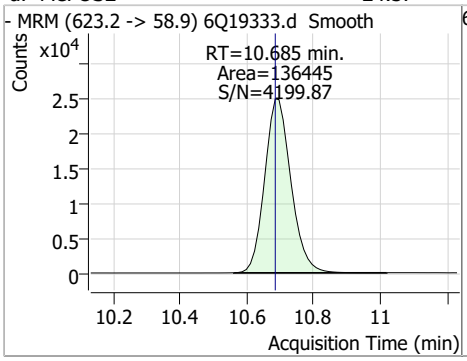
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.25	10.00	-0.01	15166				

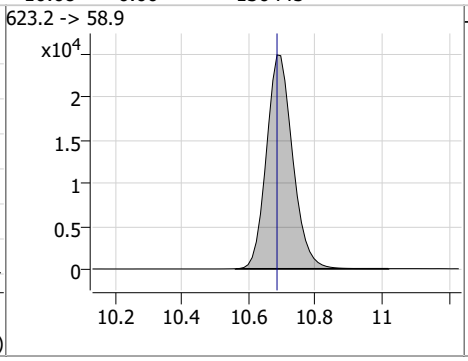


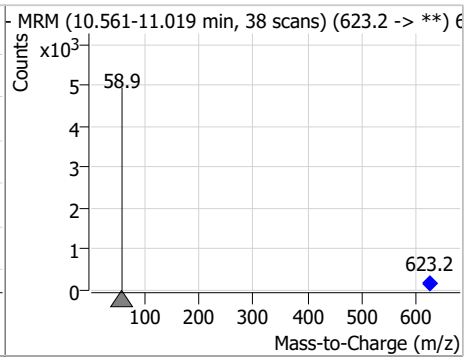




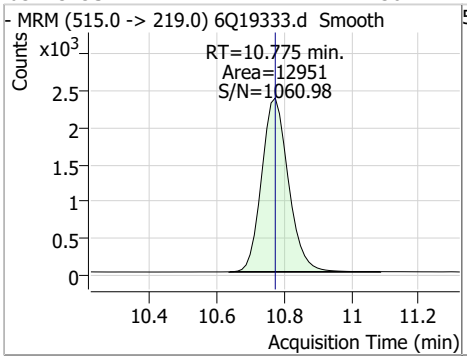
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.37	10.68	0.00	136445				

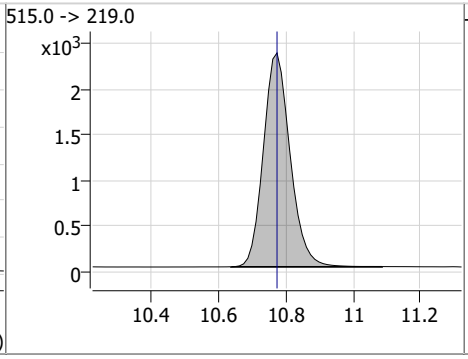


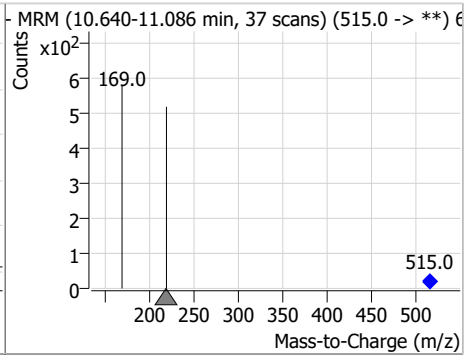




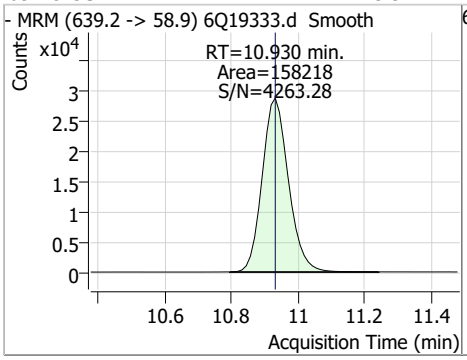
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.36	10.78	0.00	12951				

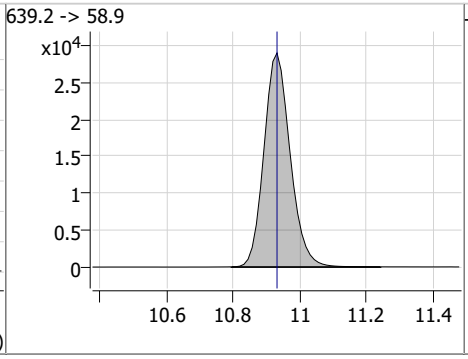


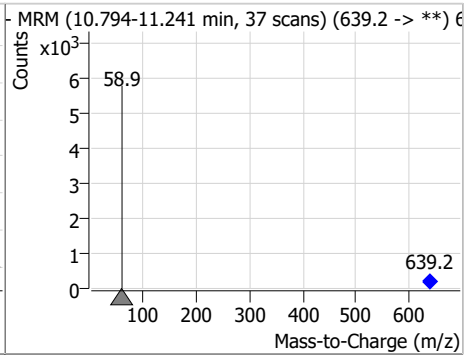




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.97	10.93	0.00	158218				

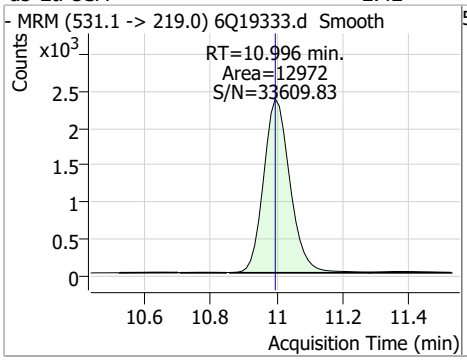


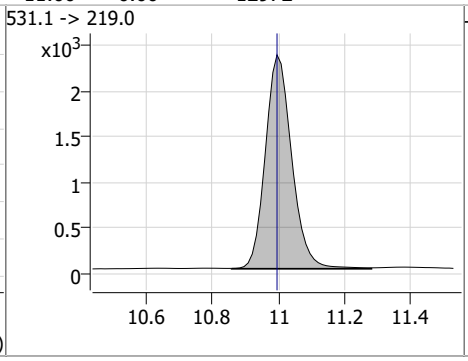


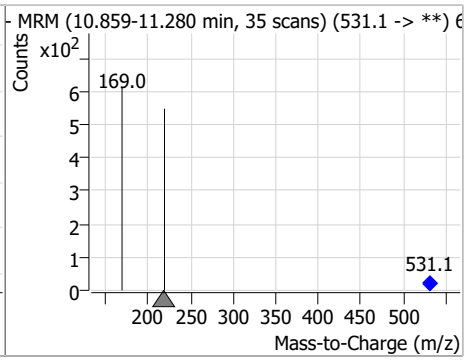


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.42	11.00	0.00	12972				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q19362.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	6/14/2023 6:44:34 PM
Sample Name	:	iccb
Vial	:	P1-A1
DA Method File	:	1633_061323_S6Q288.quantmethod.xml
Batch Name	:	s6q289.batch.bin
Sample Information	:	OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	158522	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	52012	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	56940	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	52135	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	86276	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	37456	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	20745	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	30592	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	26105	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	15603	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	29843	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	20561	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12605	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	12525	2.50	µg/L	0.012
M2-4:2FTS	5.442	329.1 -> 80.9	3410	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	4911	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4375	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	33678	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35300	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	25552	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	137390	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	157298	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12885	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12512	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	17140	2.50	µg/L	0.012
13C3-PFBA	3.089	216.0 -> 172.0	67007	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9947	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	89714	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	35288	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	54920	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	50656	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	3410	5.71	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.3%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4911	5.45	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.0%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4375	5.16	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C2-PFDoDA	9.297	615.1 -> 570.0	26105	1.11	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 88.5%		
13C2-PFTeDA	10.012	715.2 -> 670.0	15603	1.19	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.8%		
13C3-PFBS	5.746	302.1 -> 79.9	20561	2.48	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C3-PFHxS	7.478	402.1 -> 79.9	12605	2.41	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.5%	
13C4-PFBA	3.085	216.8 -> 171.9	158522	10.08 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFHpA	6.707	367.1 -> 322.0	52135	2.67 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.6%	
13C5-PFHxA	5.792	318.0 -> 273.0	56940	2.72 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.0%	
13C5-PFPeA	4.560	268.3 -> 223.0	52012	5.43 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.6%	
13C6-PFDA	8.387	519.1 -> 474.1	20745	1.02 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 82.0%	
13C7-PFUnDA	8.866	570.0 -> 525.1	30592	1.13 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.2%	
13C8-FOSA	9.687	506.1 -> 77.8	29843	2.30 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.0%	
13C8-PFOA	7.352	421.1 -> 376.0	86276	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C8-PFOS	8.575	507.1 -> 79.9	12525	2.42 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C9-PFNA	7.895	472.1 -> 427.0	37456	1.12 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 89.6%	
d3-MeFOSAA	8.420	573.2 -> 419.0	33678	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.9%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	35300	10.09 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
d3-MeFOSA	10.775	515.0 -> 219.0	12512	2.22 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.7%	
d5-EtFOSAA	8.628	589.2 -> 419.0	25552	4.64 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.8%	
d7-MeFOSE	10.696	623.2 -> 58.9	137390	23.89 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.6%	
d9-EtFOSE	10.930	639.2 -> 58.9	157298	23.20 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 92.8%	
d5-EtFOSA	10.996	531.1 -> 219.0	12885	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.6%	
Target Compounds					**QValue**
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDoDA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

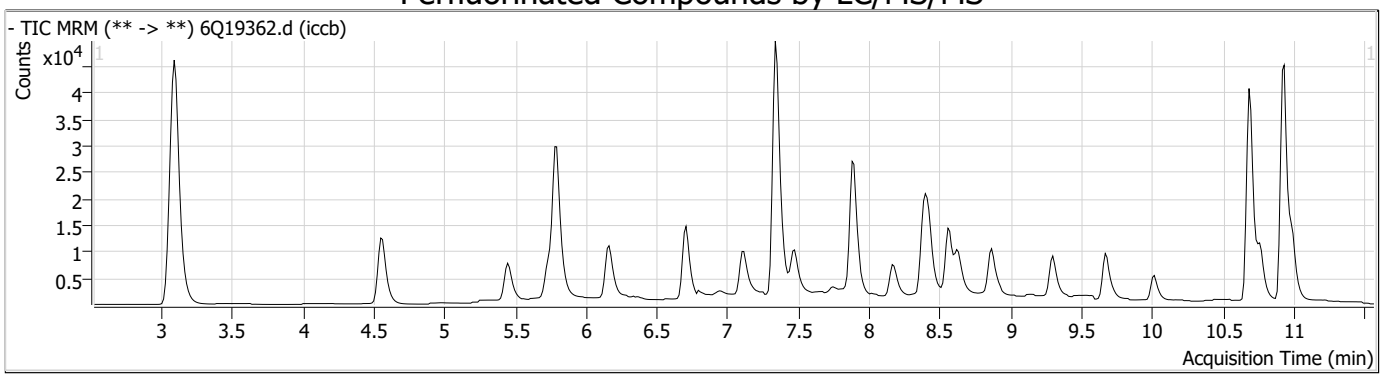
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	7.353	413.0 -> 369.0	0		µg/L	m	1
		413.0 -> 169.0	0				
PFOS	-	498.9 -> 79.9	-	N.D.			
		498.9 -> 98.8					
PFPeA	-	263.0 -> 219.0	-	N.D.			
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	9.313	563.1 -> 519.0	0		µg/L	m	1
		563.1 -> 269.1	0				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

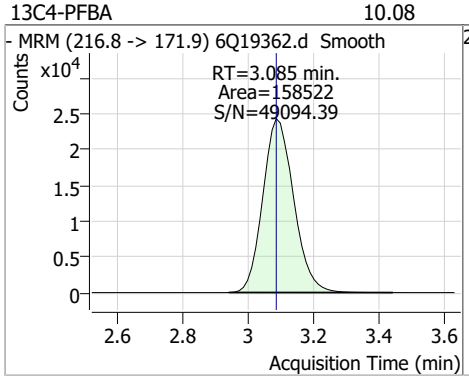
Perfluorinated Compounds by LC/MS/MS

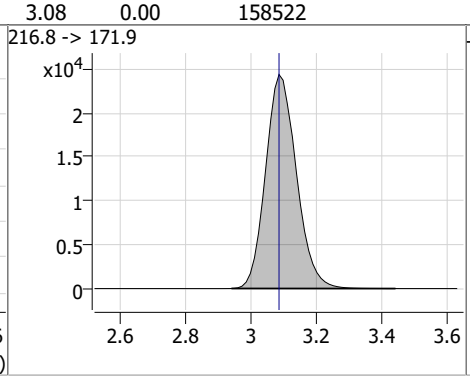
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

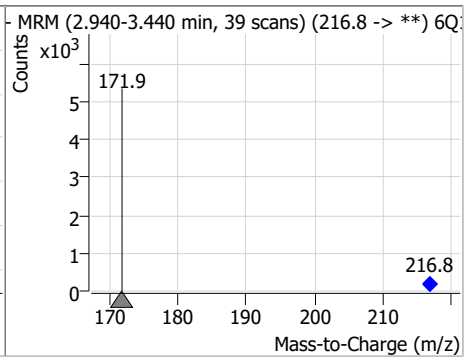
Perfluorinated Compounds by LC/MS/MS



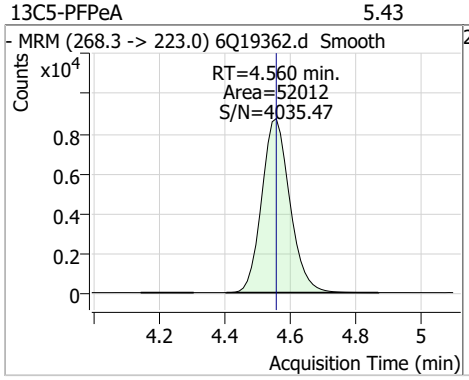
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.08	3.08	0.00	158522				

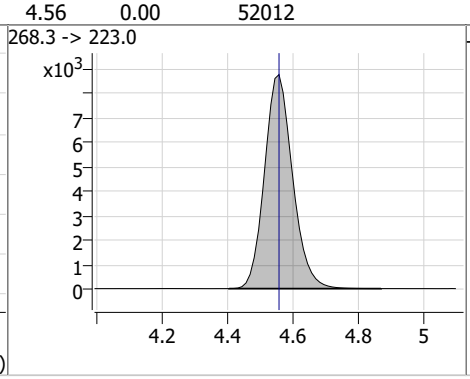


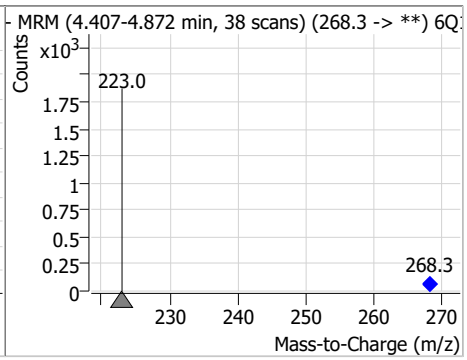




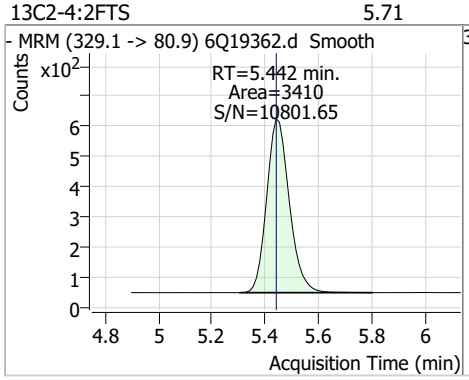
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.43	4.56	0.00	52012				

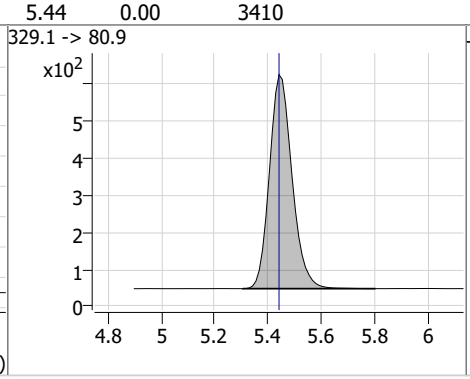


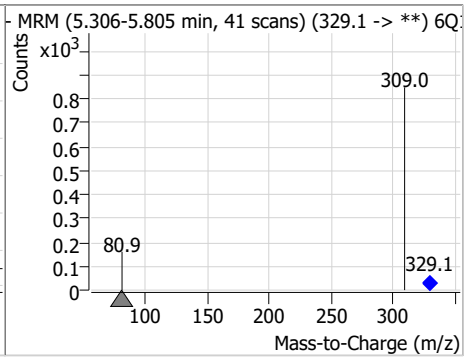




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.71	5.44	0.00	3410				

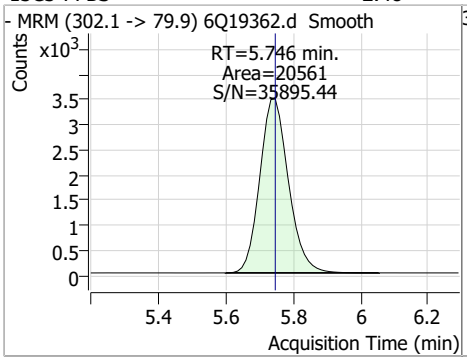


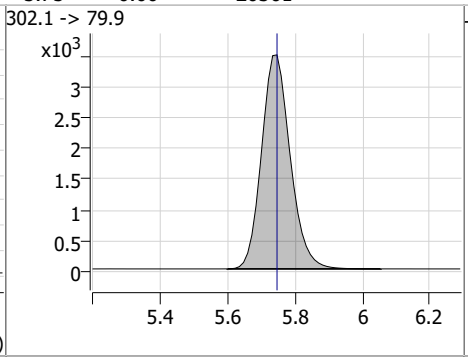


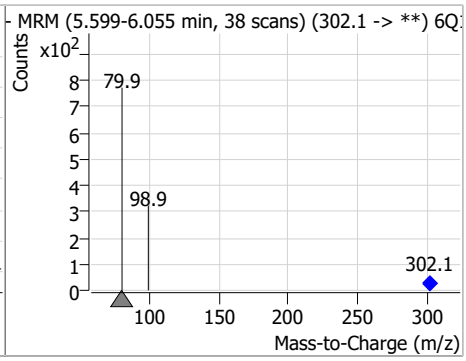


Perfluorinated Compounds by LC/MS/MS

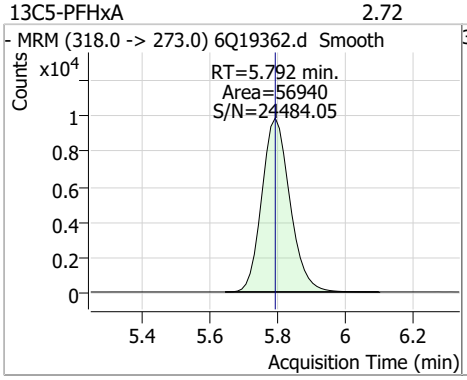
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.48	5.75	0.00	20561				

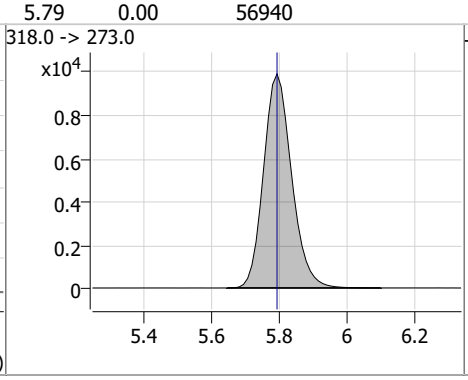


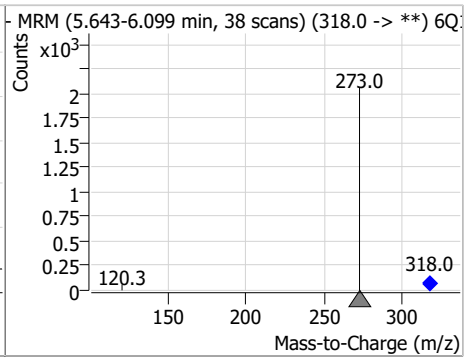




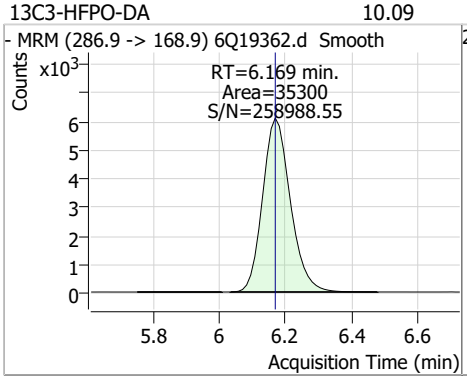
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.72	5.79	0.00	56940				

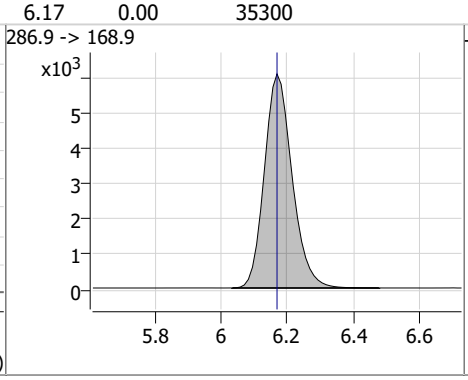


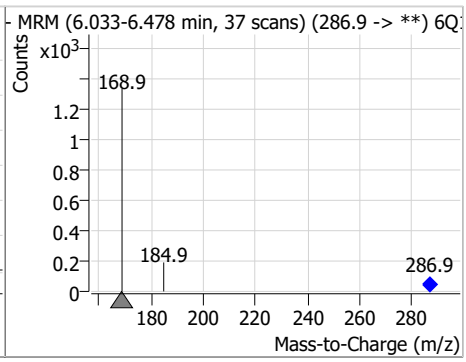




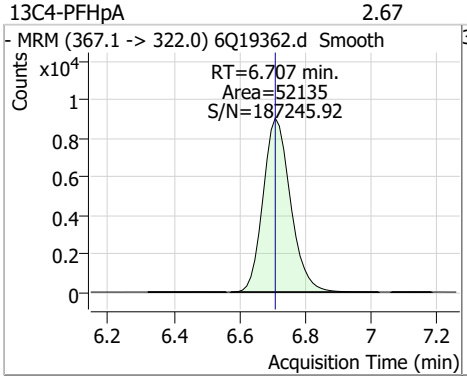
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.09	6.17	0.00	35300				

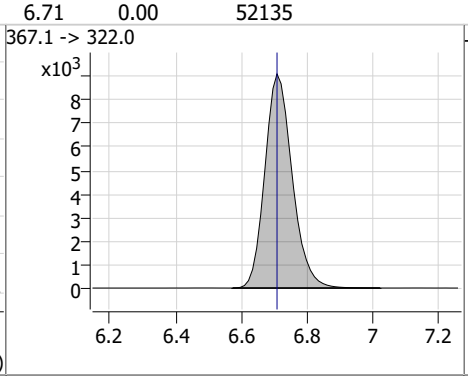


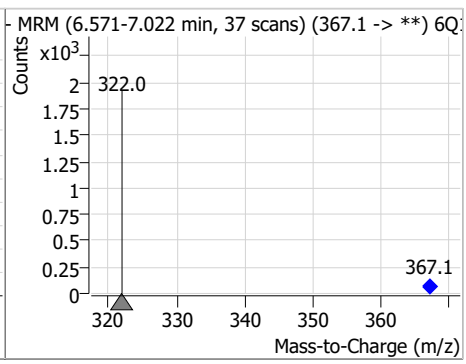




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.67	6.71	0.00	52135				

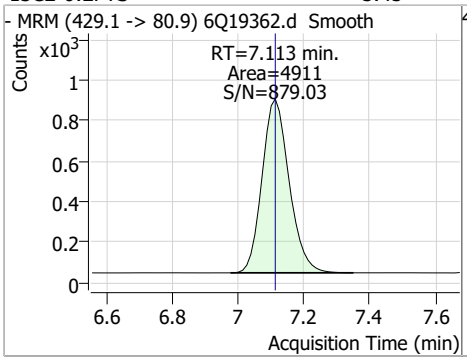


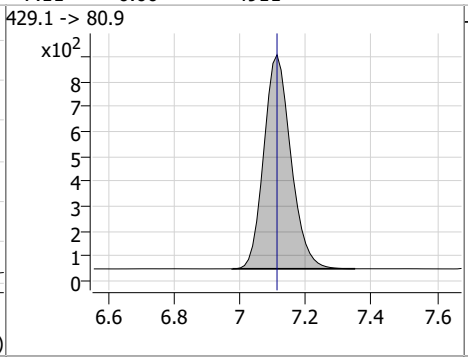


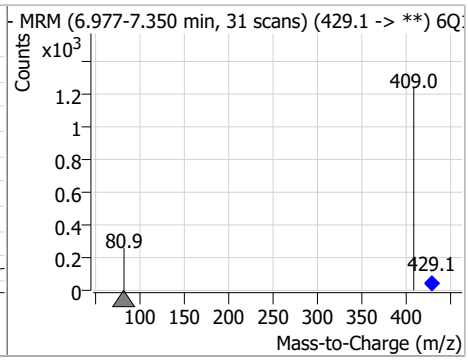


Perfluorinated Compounds by LC/MS/MS

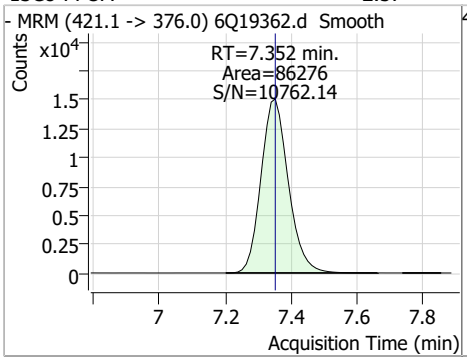
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.45	7.11	0.00	4911				

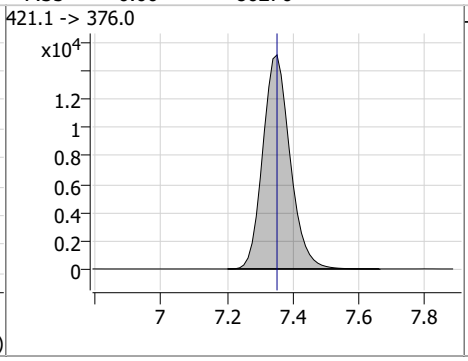


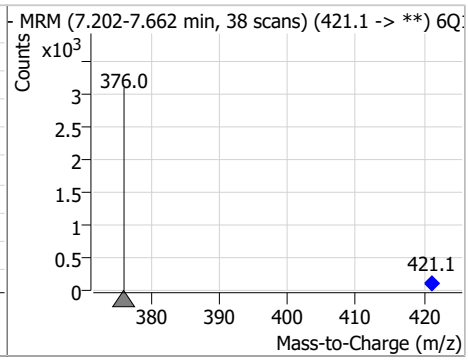




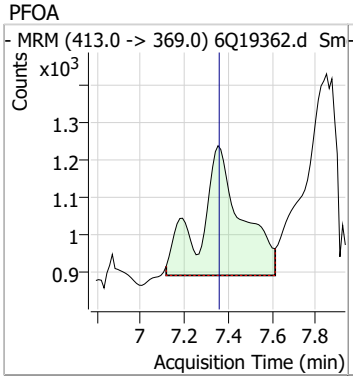
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.57	7.35	0.00	86276				

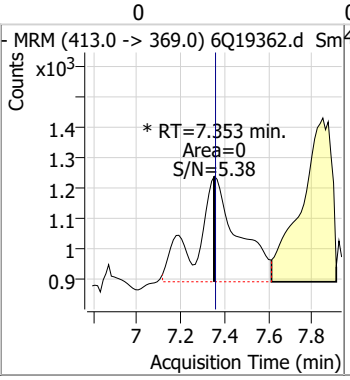


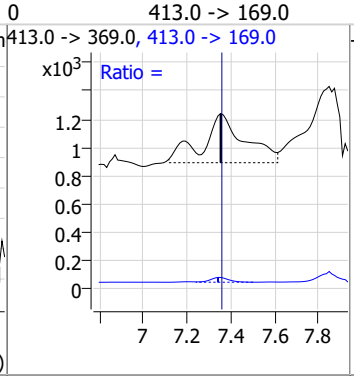


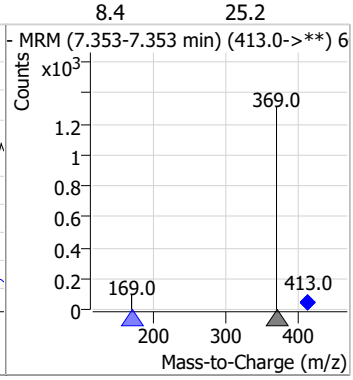


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA		0		0	413.0 -> 169.0		8.4	25.2

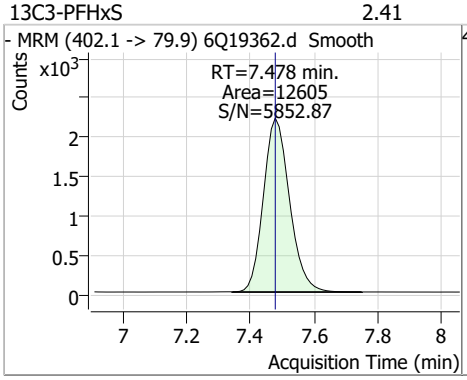


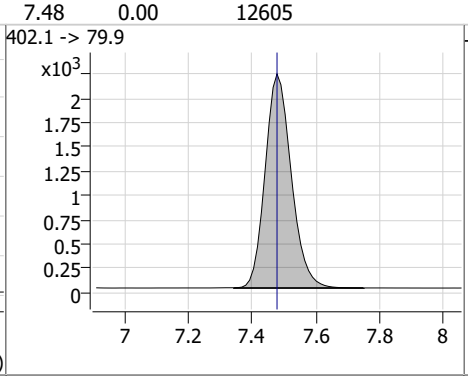


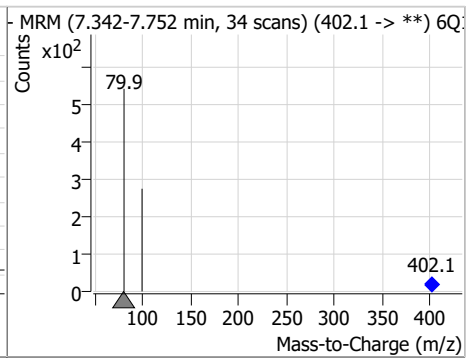




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.41	7.48	0.00	12605				

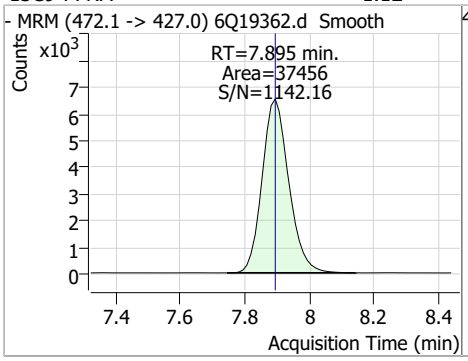


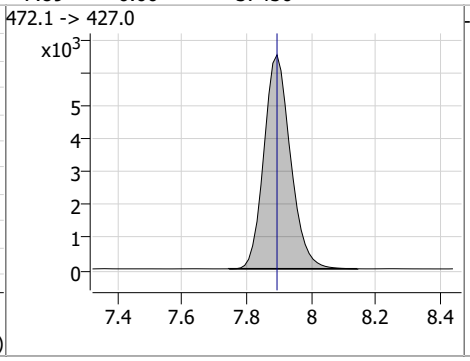


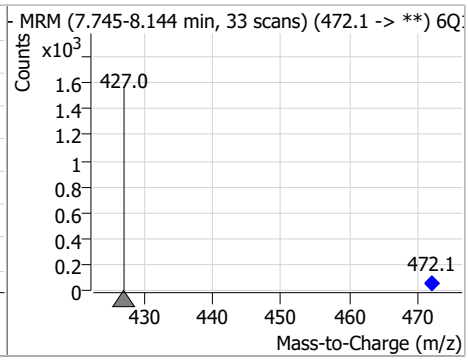


Perfluorinated Compounds by LC/MS/MS

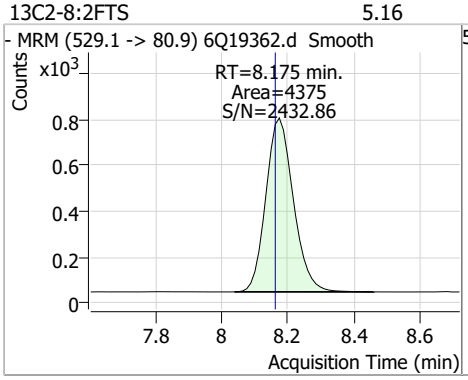
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.12	7.89	0.00	37456				

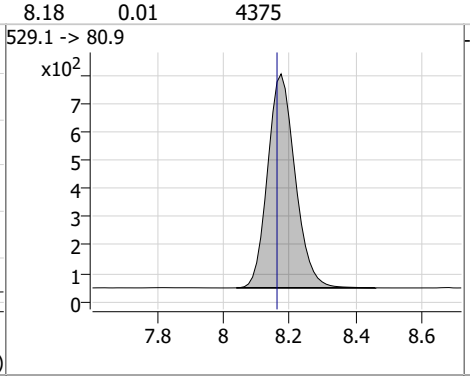


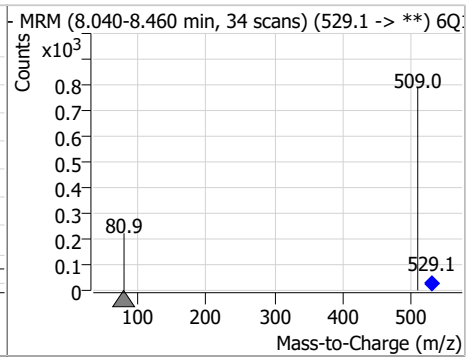




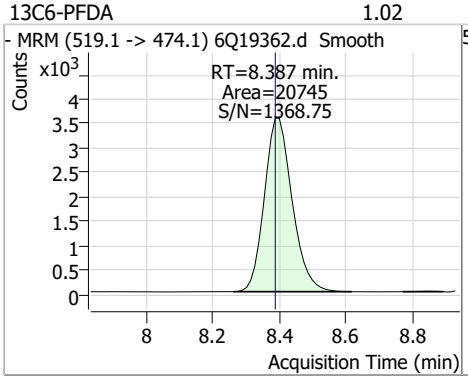
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.16	8.18	0.01	4375				

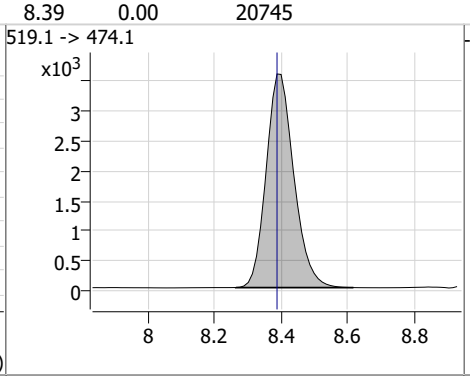


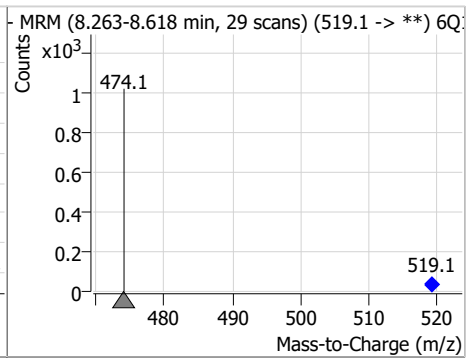




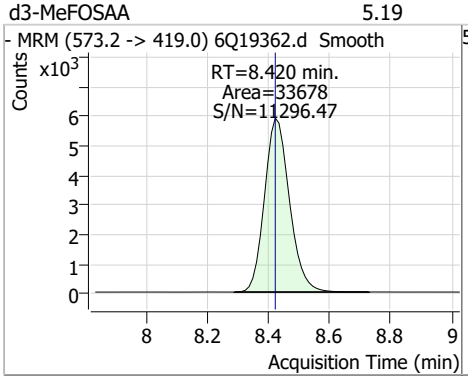
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.02	8.39	0.00	20745				

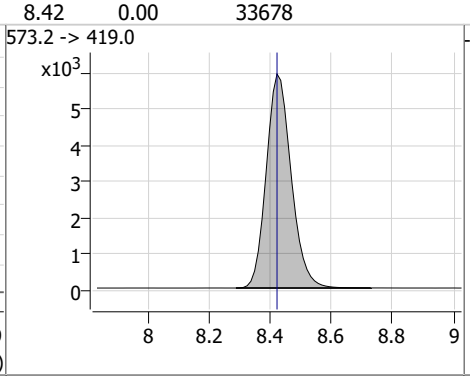


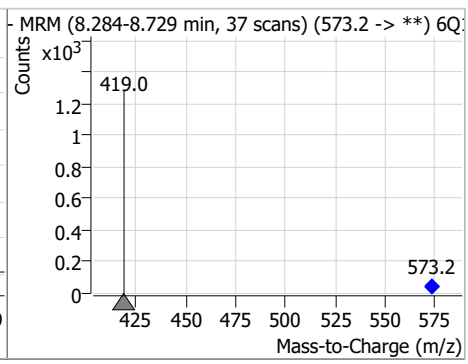




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.19	8.42	0.00	33678				

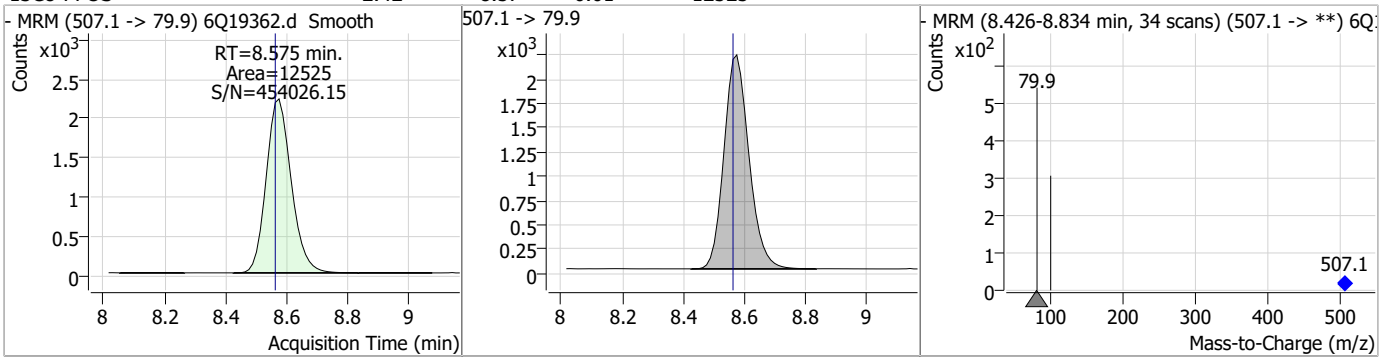




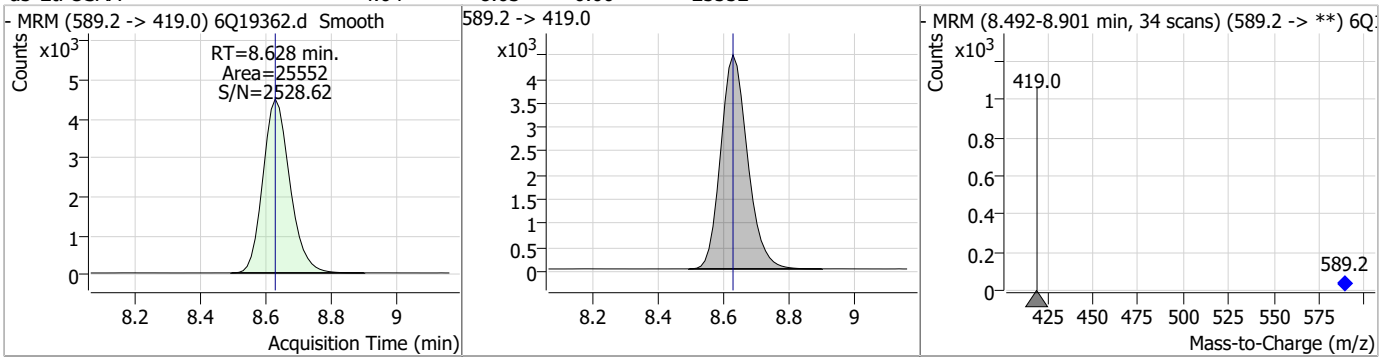


Perfluorinated Compounds by LC/MS/MS

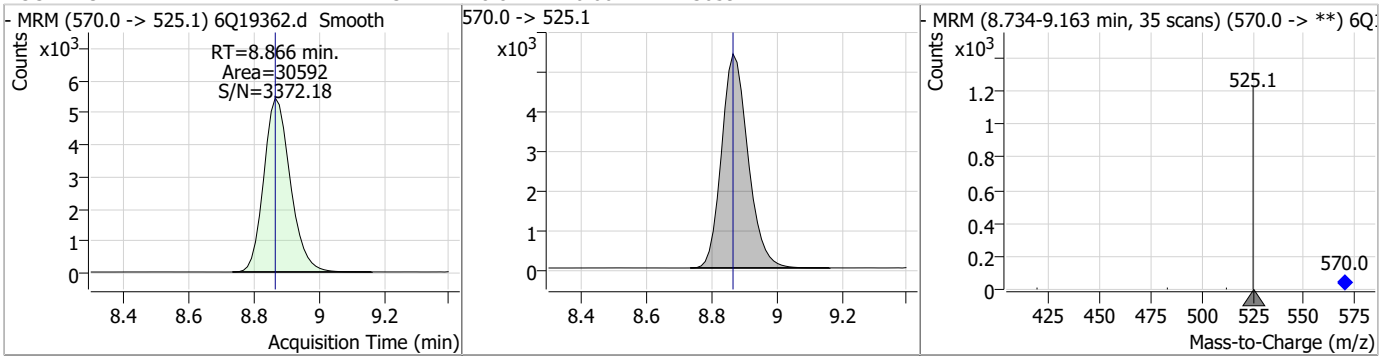
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.42	8.57	0.01	12525				



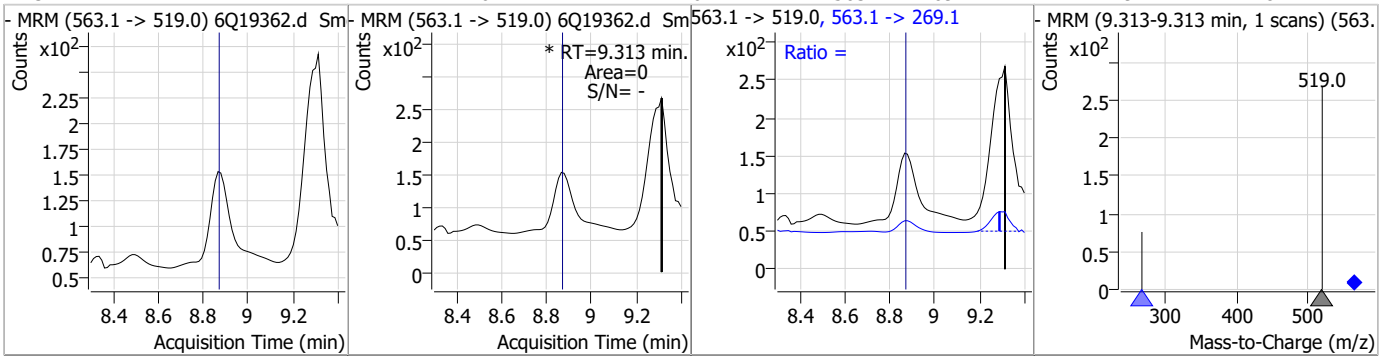
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.64	8.63	0.00	25552				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.13	8.87	0.00	30592				

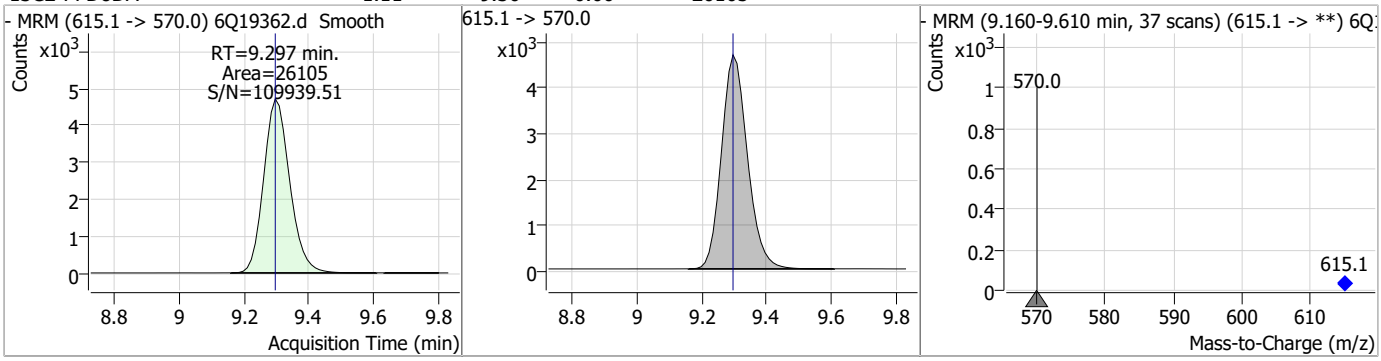


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA		0		0	563.1 -> 269.1		9.4	28.1

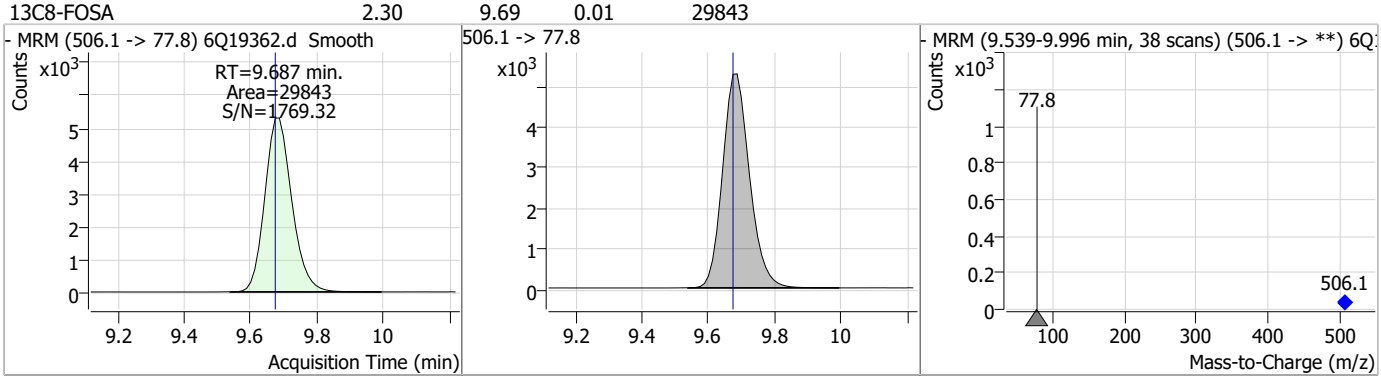


Perfluorinated Compounds by LC/MS/MS

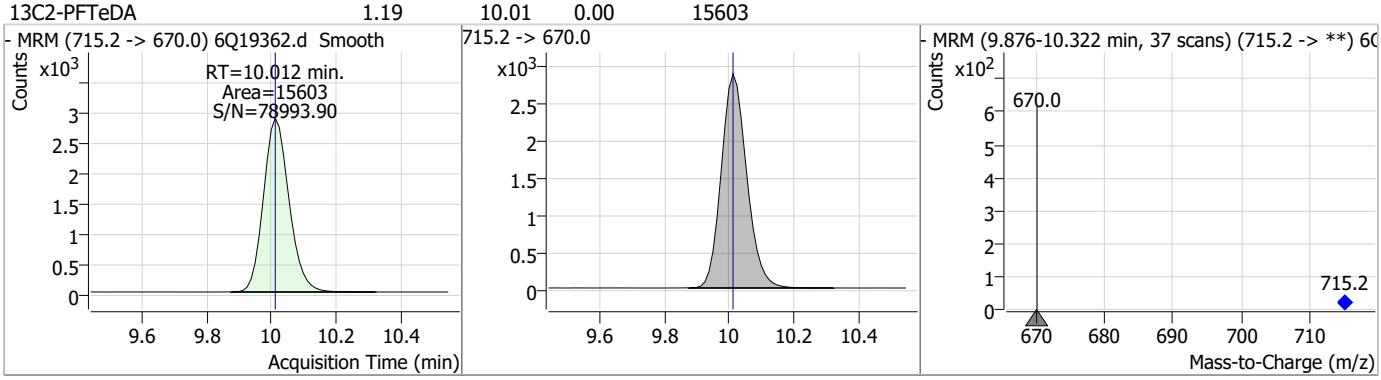
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.11	9.30	0.00	26105				



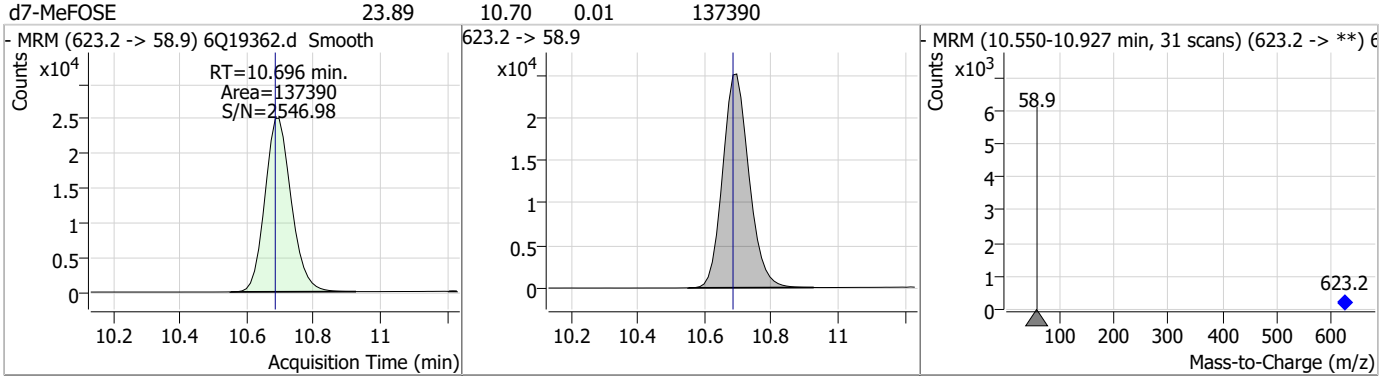
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.30	9.69	0.01	29843				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.19	10.01	0.00	15603				

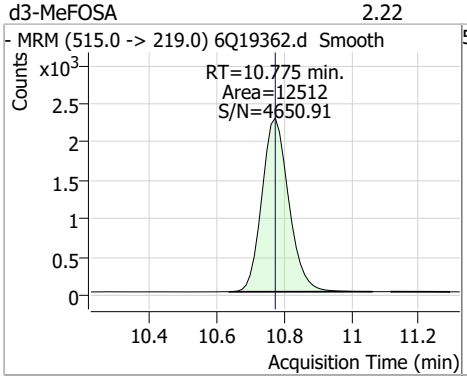


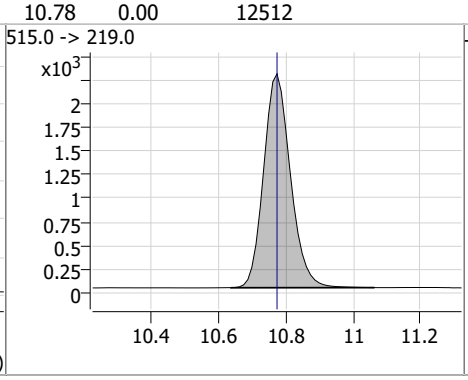
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.89	10.70	0.01	137390				

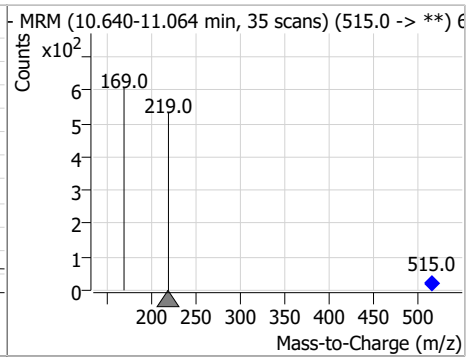


Perfluorinated Compounds by LC/MS/MS

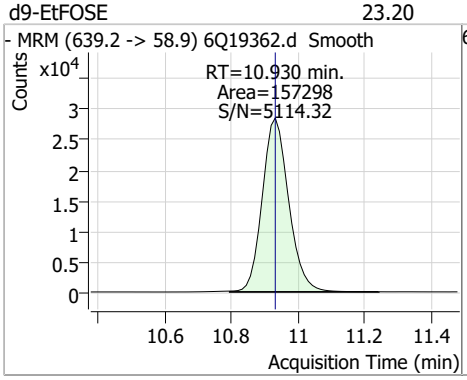
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.22	10.78	0.00	12512				

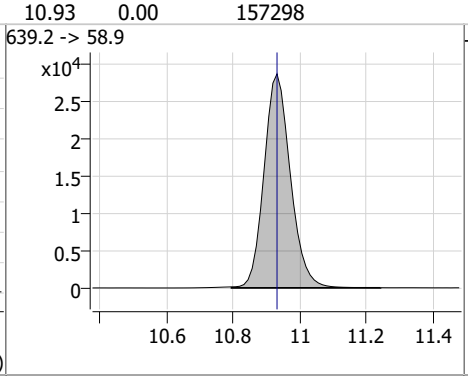


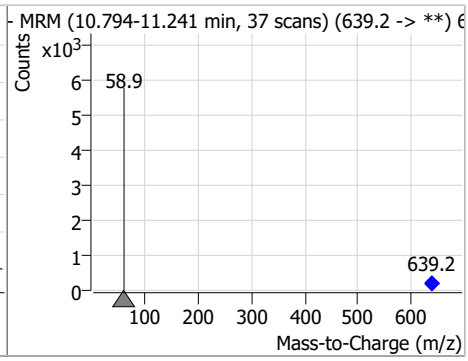




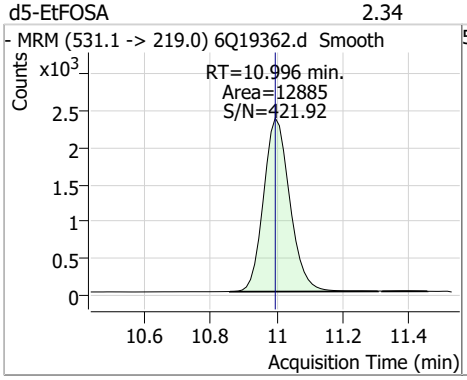
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.20	10.93	0.00	157298				

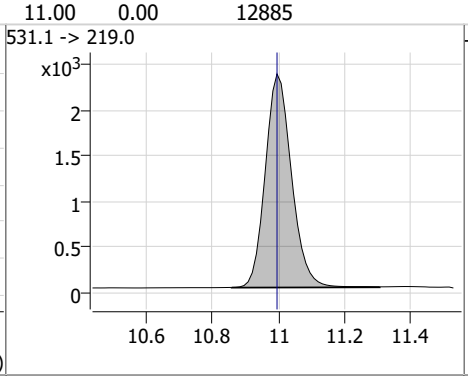


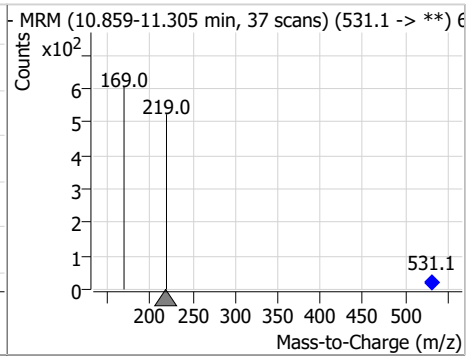




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.34	11.00	0.00	12885				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q19374.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	6/14/2023 9:32:16 PM
Sample Name	:	iccb
Vial	:	P1-A1
DA Method File	:	1633_061323_S6Q288.quantmethod.xml
Batch Name	:	s6q289.batch.bin
Sample Information	:	OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	158943	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	51827	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	55878	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	53347	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	86381	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	39821	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	24291	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	32665	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	26075	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	14904	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	31357	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	20864	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12486	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11875	2.50	µg/L	0.000
M2-4:2FTS	5.442	329.1 -> 80.9	3551	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	5041	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4554	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	31273	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	36546	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	26314	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	146926	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	163218	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	13591	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12946	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	16642	2.50	µg/L	0.012
13C3-PFBA	3.089	216.0 -> 172.0	67612	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9714	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	88891	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	29586	1.25	µg/L	0.000
13C5-PFNA	7.895	468.0 -> 423.0	51273	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	53091	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	3551	6.09	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 121.9%		
13C2-6:2FTS	7.113	429.1 -> 80.9	5041	5.73	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.5%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4554	5.50	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.0%		
13C2-PFDoDA	9.297	615.1 -> 570.0	26075	1.32	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.5%		
13C2-PFTeDA	10.012	715.2 -> 670.0	14904	1.35	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.0%		
13C3-PFBS	5.746	302.1 -> 79.9	20864	2.58	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C3-PFHxS	7.478	402.1 -> 79.9	12486	2.45	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.8%			
13C4-PFBA	3.085	216.8 -> 171.9	158943	10.02	µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.2%			
13C4-PFHpA	6.707	367.1 -> 322.0	53347	2.60	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%			
13C5-PFHxA	5.792	318.0 -> 273.0	55878	2.55	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%			
13C5-PFPeA	4.560	268.3 -> 223.0	51827	5.16	µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.2%			
13C6-PFDA	8.387	519.1 -> 474.1	24291	1.43	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 114.5%			
13C7-PFUnDA	8.866	570.0 -> 525.1	32665	1.44	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 114.9%			
13C8-FOSA	9.674	506.1 -> 77.8	31357	2.49	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%			
13C8-PFOA	7.352	421.1 -> 376.0	86381	2.60	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.0%			
13C8-PFOS	8.563	507.1 -> 79.9	11875	2.36	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.5%			
13C9-PFNA	7.895	472.1 -> 427.0	39821	1.28	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.1%			
d3-MeFOSAA	8.420	573.2 -> 419.0	31273	4.97	µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.3%			
13C3-HFPO-DA	6.169	286.9 -> 168.9	36546	9.97	µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%			
d3-MeFOSA	10.775	515.0 -> 219.0	12946	2.36	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.5%			
d5-EtFOSAA	8.628	589.2 -> 419.0	26314	4.92	µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.5%			
d7-MeFOSE	10.685	623.2 -> 58.9	146926	26.31	µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.2%			
d9-EtFOSE	10.930	639.2 -> 58.9	163218	24.79	µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.2%			
d5-EtFOSA	10.996	531.1 -> 219.0	13591	2.54	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%			
Target Compounds							**QValue**
4:2FTS	-	327.1 -> 307.0	-	N.D.			
		327.1 -> 80.9					
6:2FTS	-	427.1 -> 407.0	-	N.D.			
		427.1 -> 80.9					
8:2FTS	-	527.1 -> 507.0	-	N.D.			
		527.1 -> 80.8					
EtFOSAA	-	584.2 -> 419.1	-	N.D.			
		584.2 -> 526.0					
FOSA	-	498.1 -> 77.9	-	N.D.			
		498.1 -> 478.0					
MeFOSAA	-	570.1 -> 419.0	-	N.D.			
		570.1 -> 483.0					
PFBA	-	212.8 -> 168.9	-	N.D.			
PFBS	-	298.7 -> 79.9	-	N.D.			
		298.7 -> 98.8					
PFDA	8.845	512.9 -> 469.0	0		µg/L	m	1
		512.9 -> 219.0	0				
PFDoDA	-	613.1 -> 569.0	-	N.D.			
		613.1 -> 319.0					
PFDS	-	599.0 -> 79.9	-	N.D.			

Perfluorinated Compounds by LC/MS/MS

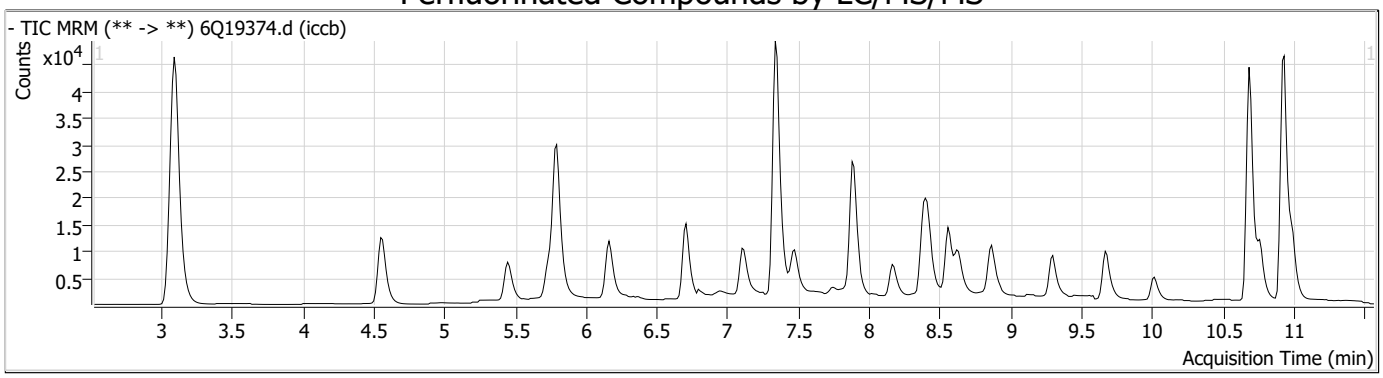
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	7.849	413.0 -> 369.0	0		µg/L	m	1
		413.0 -> 169.0	0				
PFOS	-	498.9 -> 79.9	-	N.D.			
		498.9 -> 98.8					
PFPeA	-	263.0 -> 219.0	-	N.D.			
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	-	563.1 -> 519.0	-	N.D.			
		563.1 -> 269.1					
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

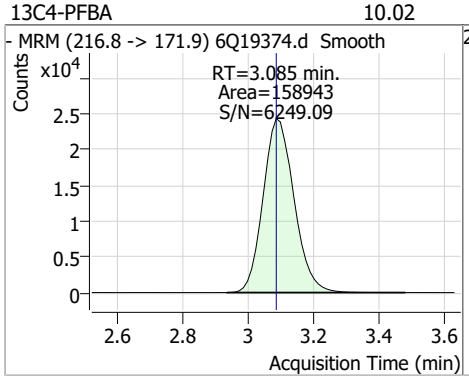
Perfluorinated Compounds by LC/MS/MS

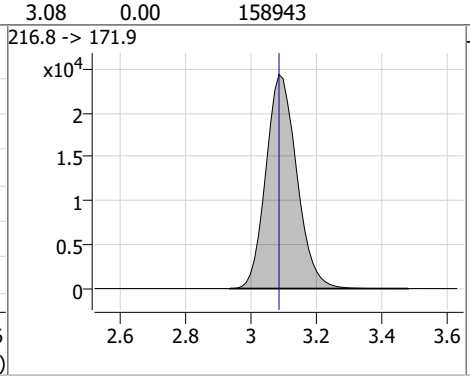
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

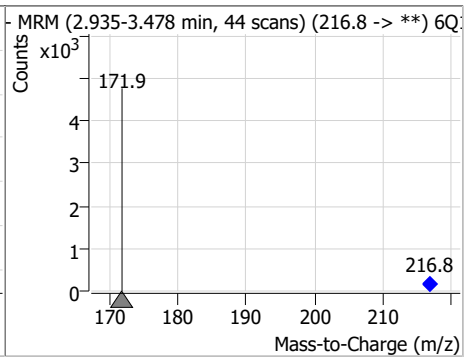
Perfluorinated Compounds by LC/MS/MS



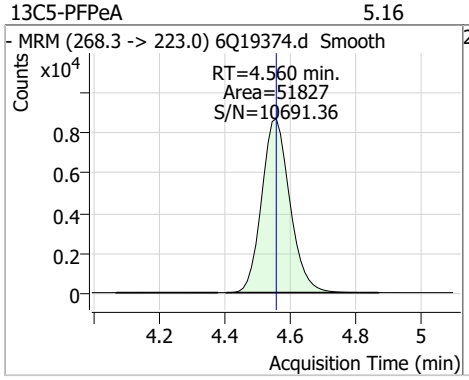
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.02	3.08	0.00	158943				

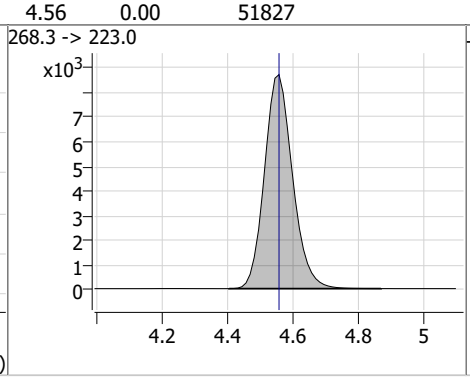


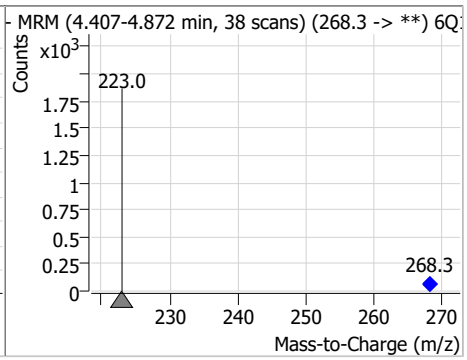




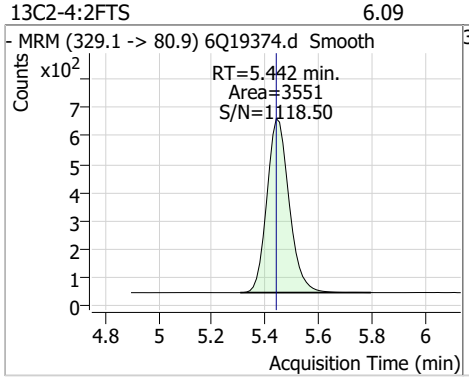
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.16	4.56	0.00	51827				

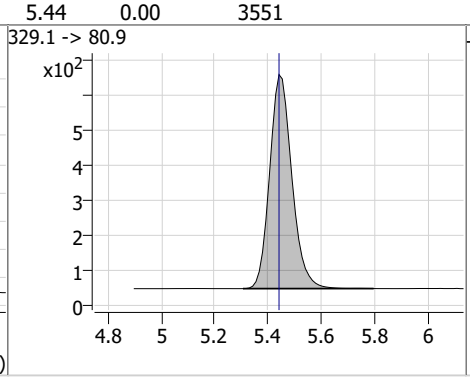


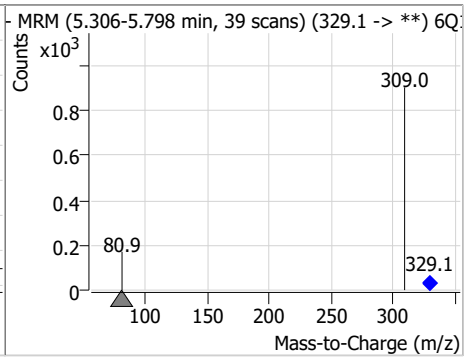




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.09	5.44	0.00	3551				

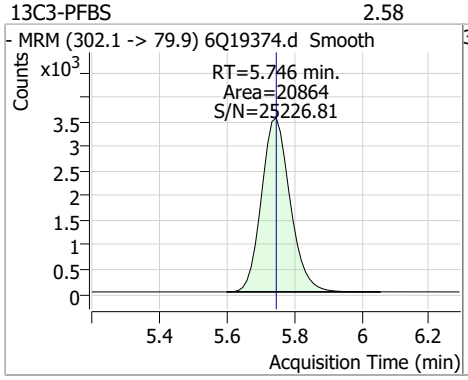


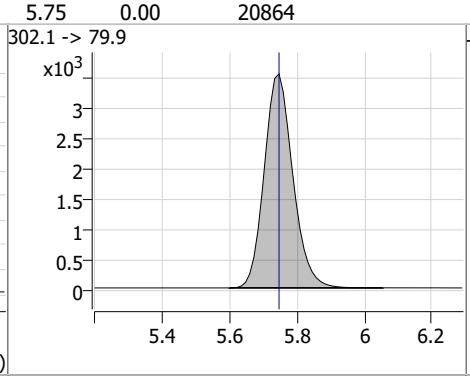


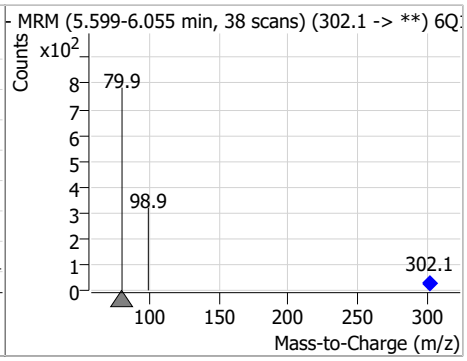


Perfluorinated Compounds by LC/MS/MS

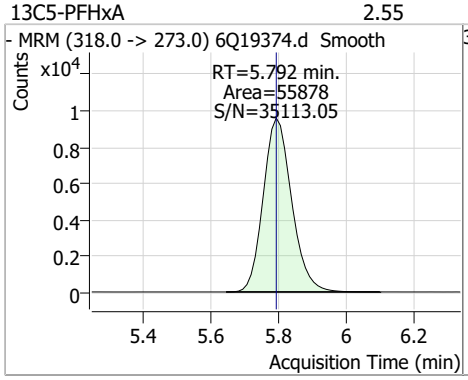
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.58	5.75	0.00	20864				

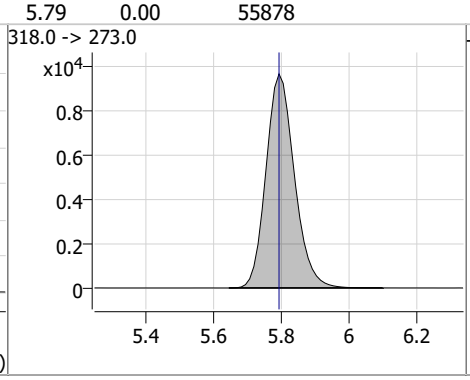


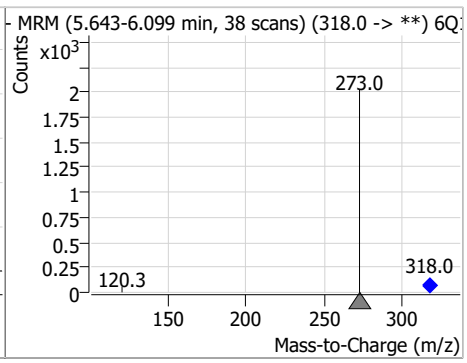




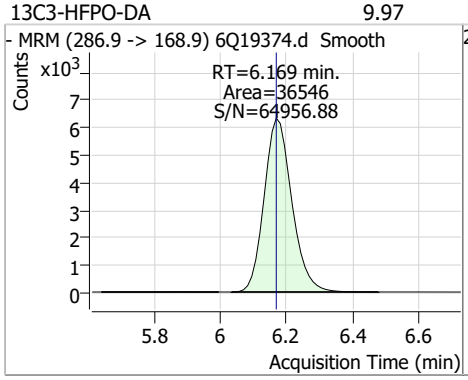
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.55	5.79	0.00	55878				

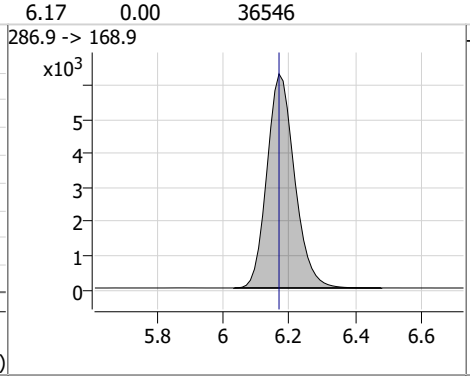


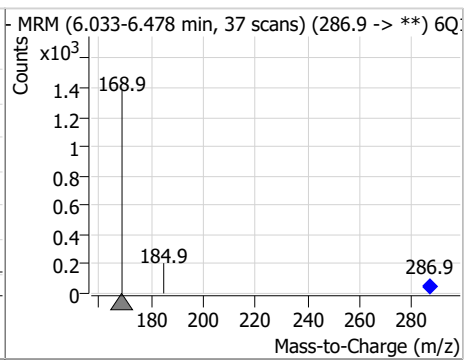




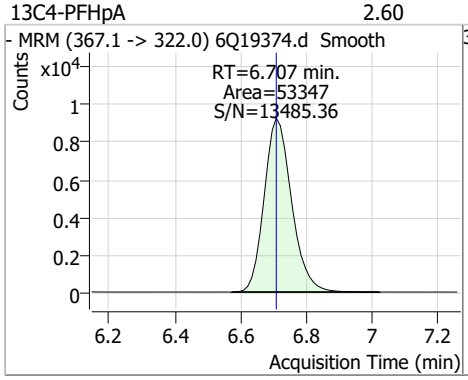
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.97	6.17	0.00	36546				

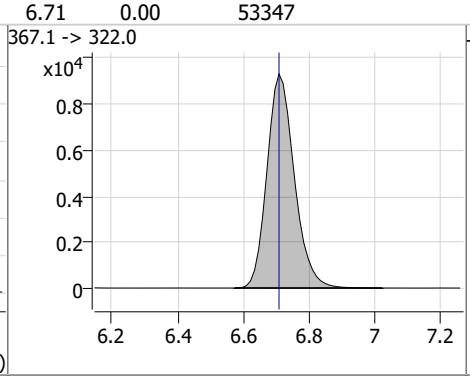


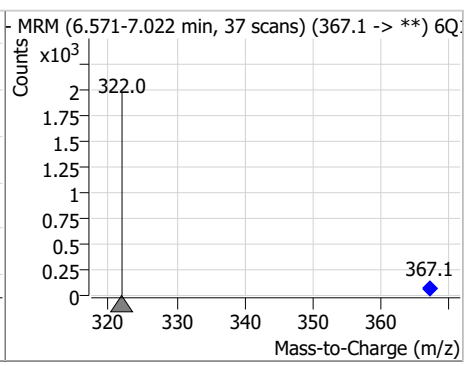




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.60	6.71	0.00	53347				

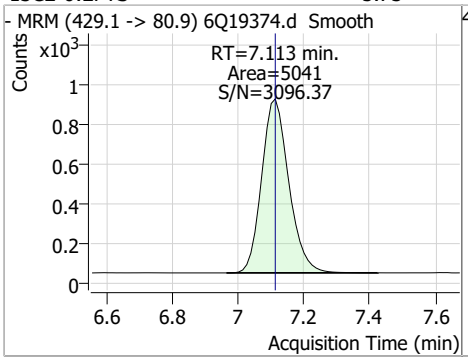


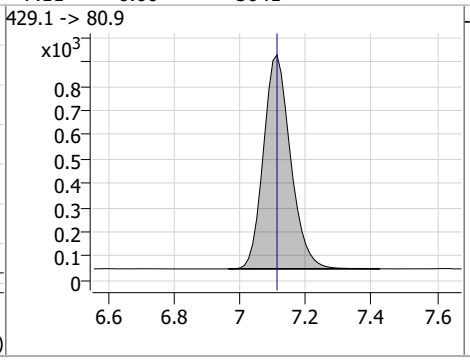


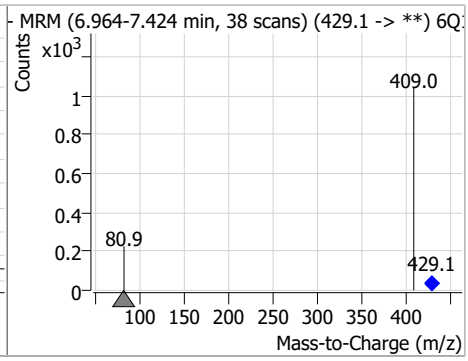


Perfluorinated Compounds by LC/MS/MS

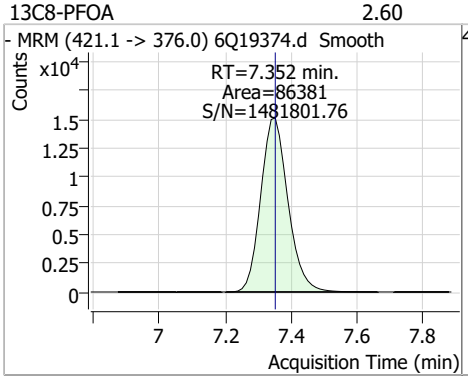
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.73	7.11	0.00	5041				

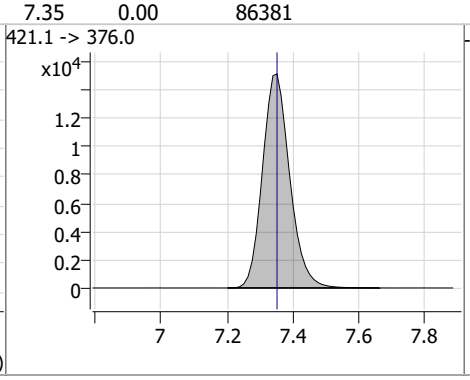


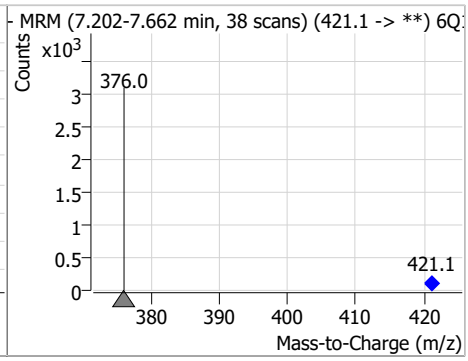




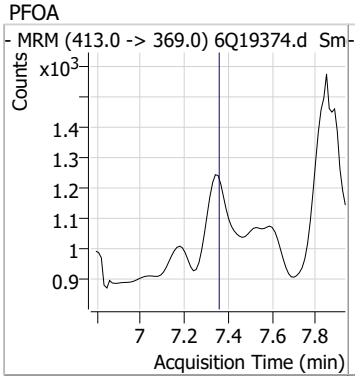
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.60	7.35	0.00	86381				

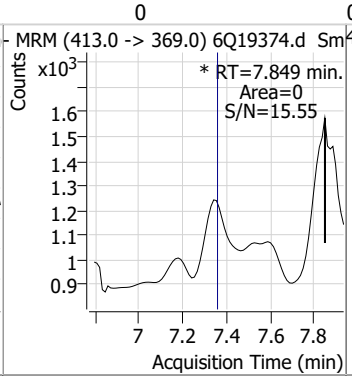


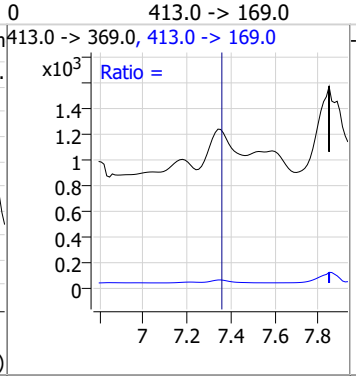


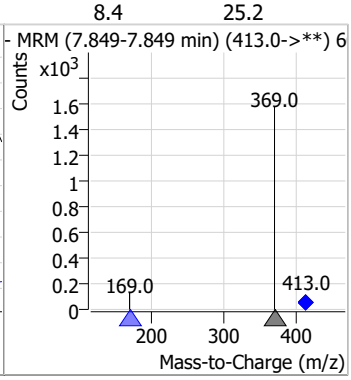


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0	0		0	413.0 -> 169.0		8.4	25.2

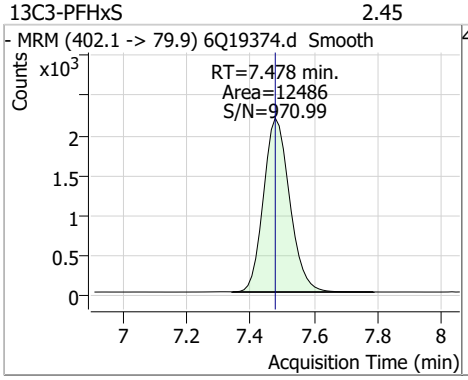


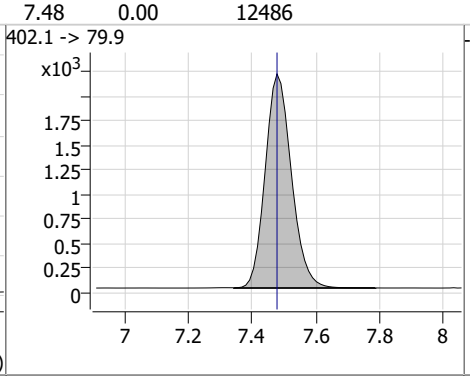


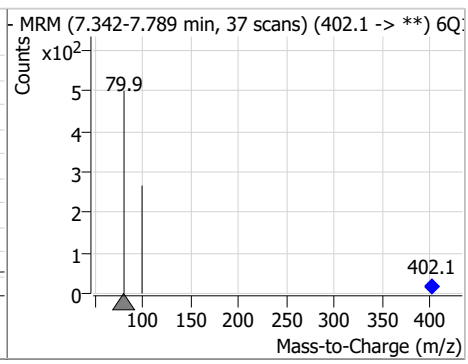




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.45	7.48	0.00	12486				

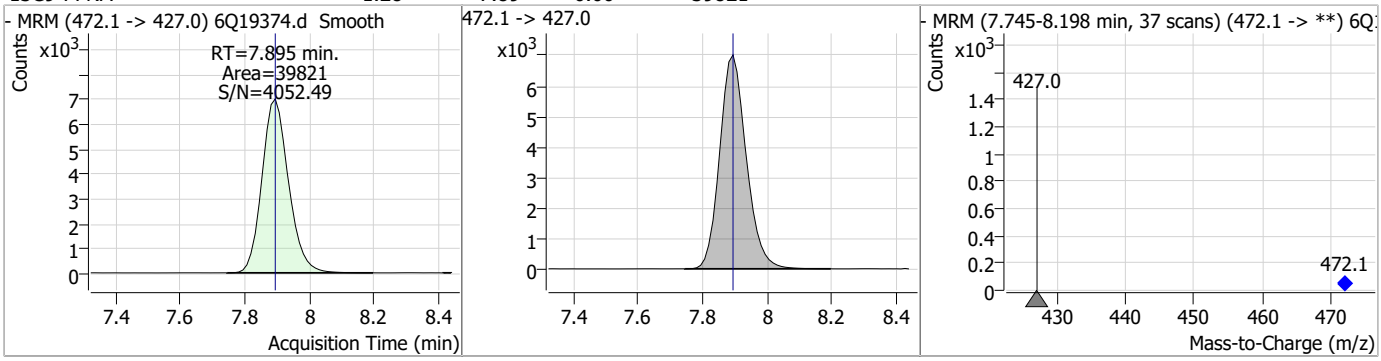




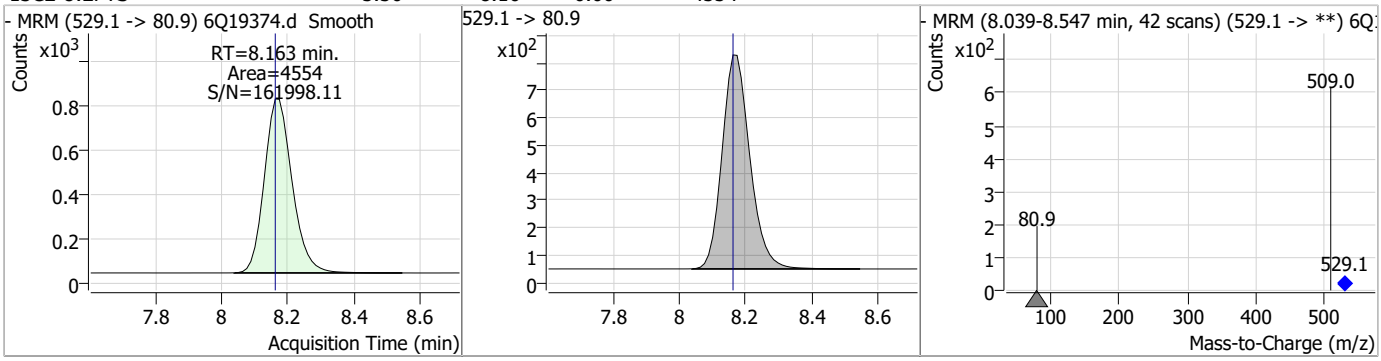


Perfluorinated Compounds by LC/MS/MS

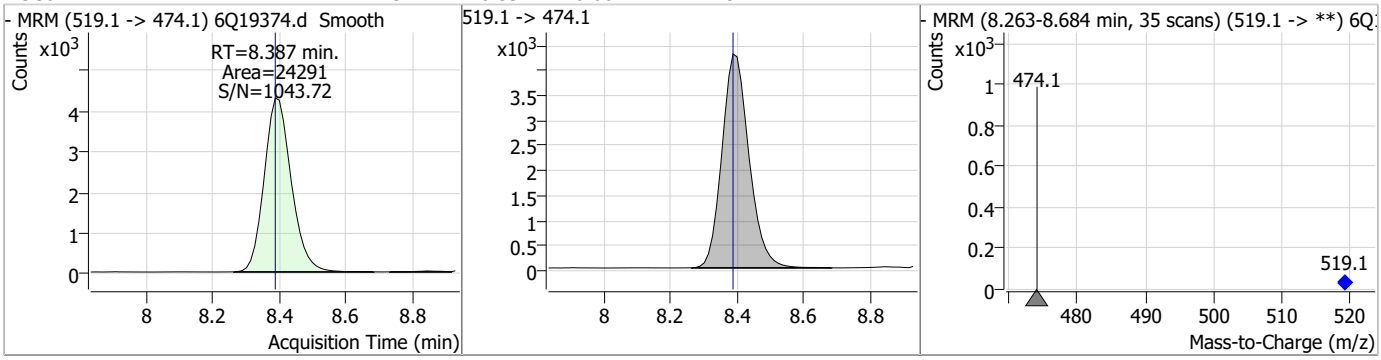
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.28	7.89	0.00	39821				



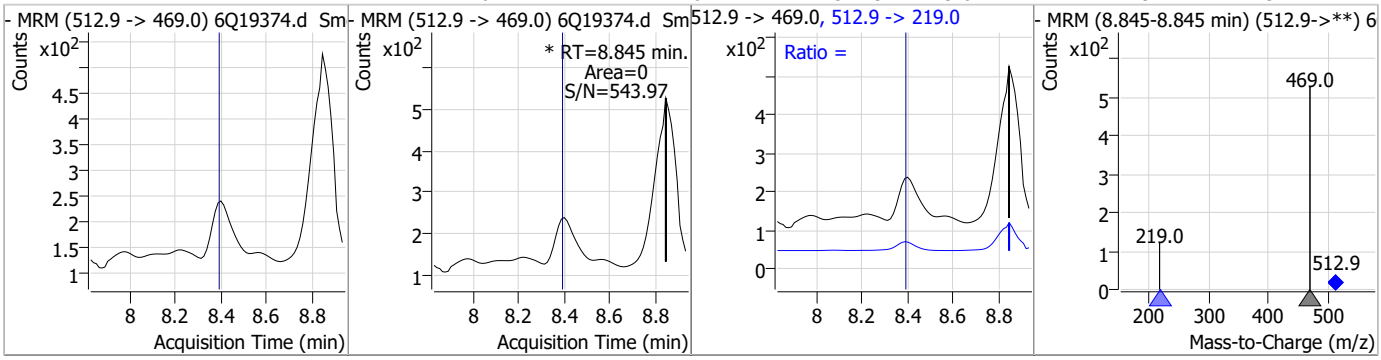
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.50	8.16	0.00	4554				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.43	8.39	0.00	24291				

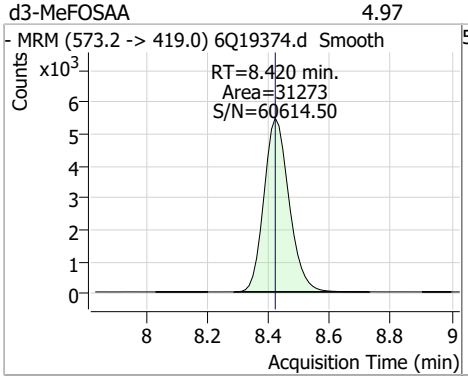


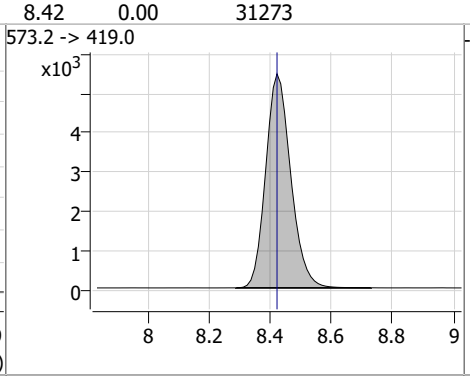
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA		0		0	512.9 -> 219.0		7.9	23.7

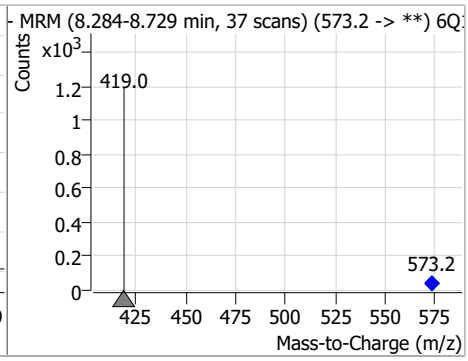


Perfluorinated Compounds by LC/MS/MS

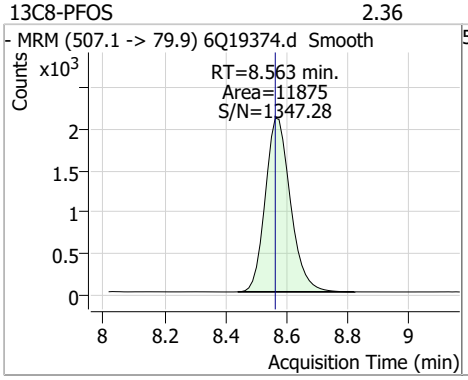
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.97	8.42	0.00	31273				

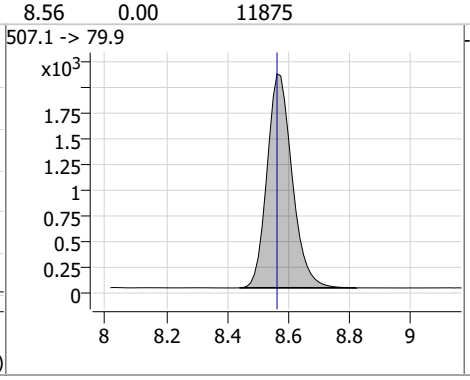


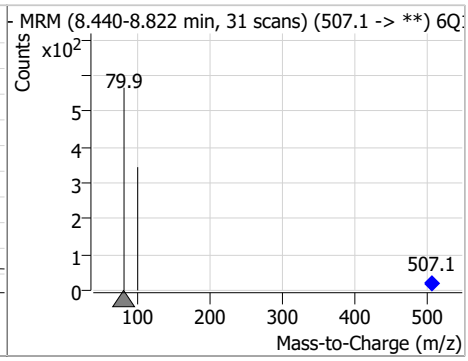




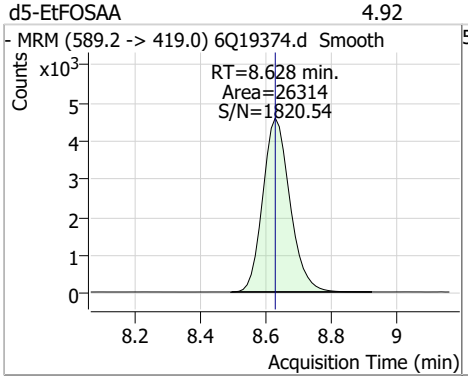
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.36	8.56	0.00	11875				

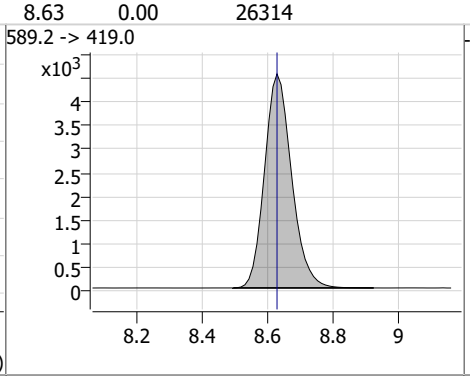


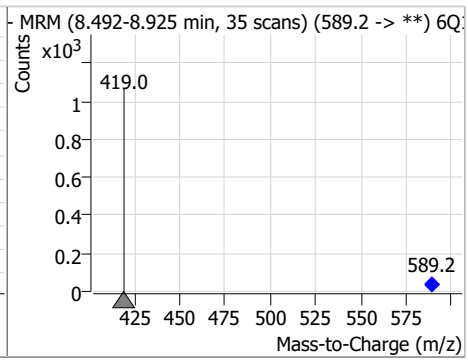




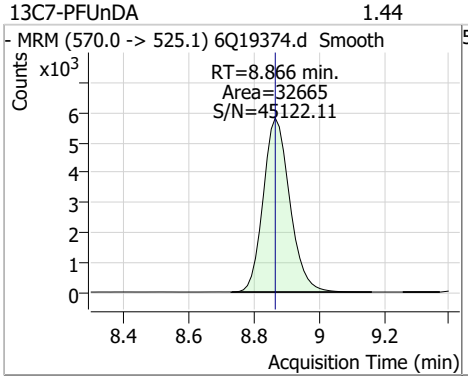
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.92	8.63	0.00	26314				

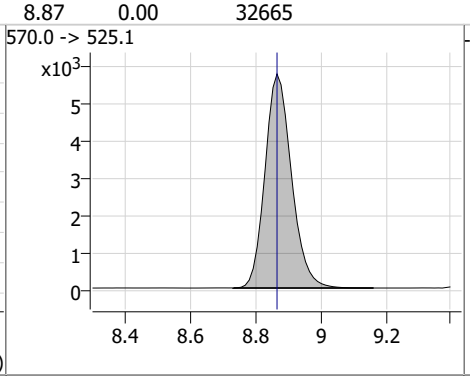


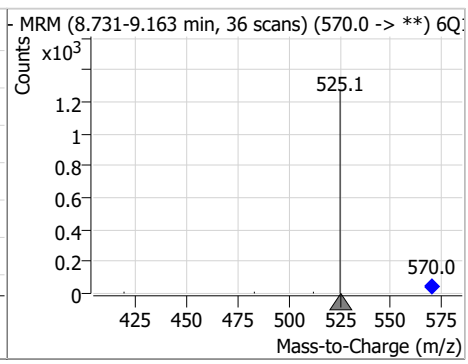




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.44	8.87	0.00	32665				

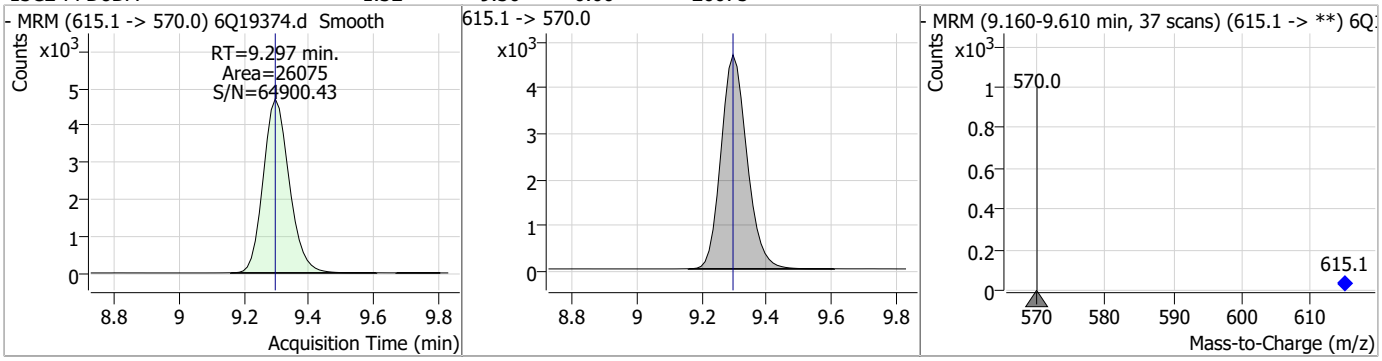




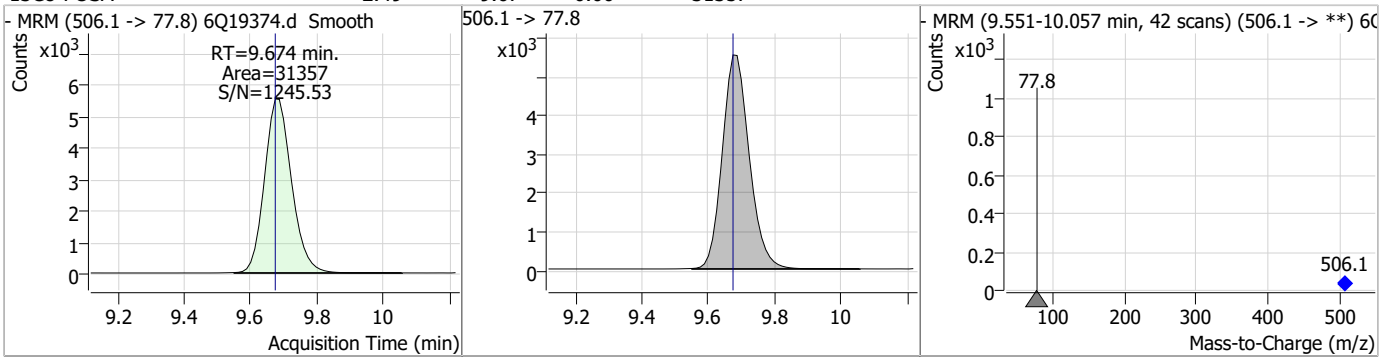


Perfluorinated Compounds by LC/MS/MS

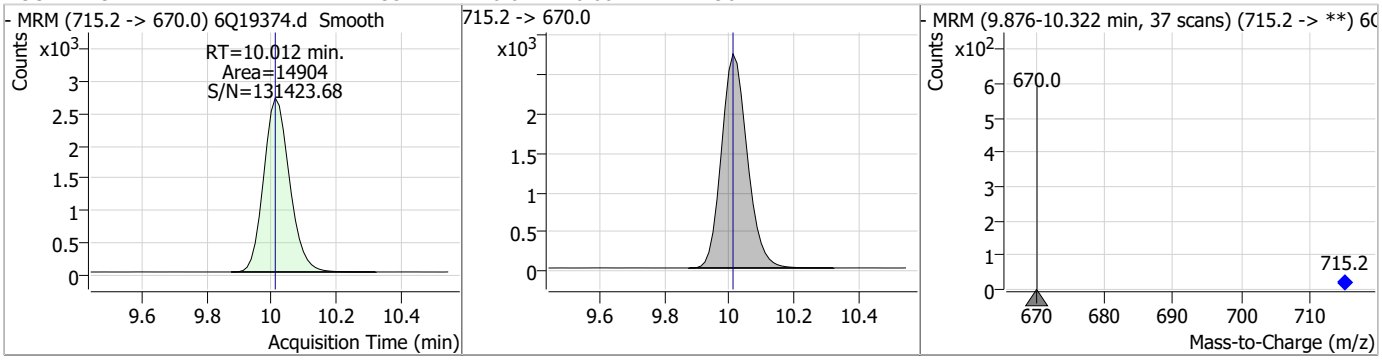
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.32	9.30	0.00	26075				



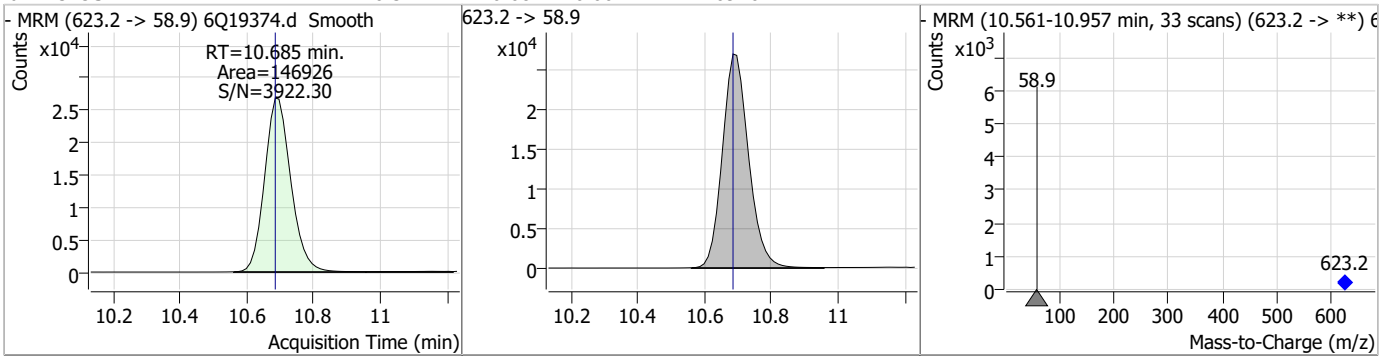
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.49	9.67	0.00	31357				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.35	10.01	0.00	14904				

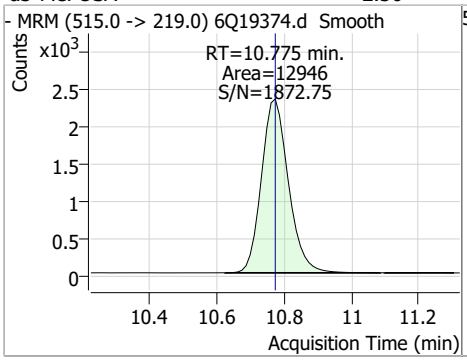


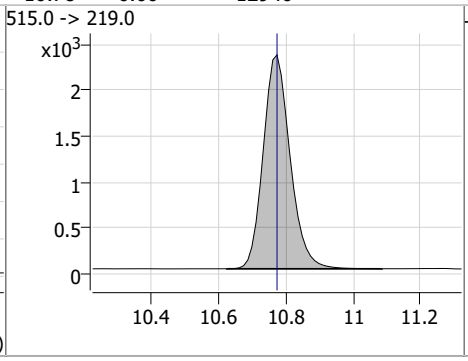
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.31	10.68	0.00	146926				

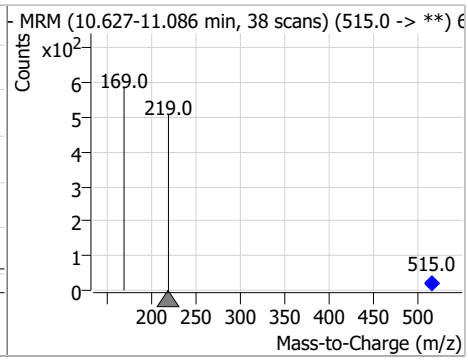


Perfluorinated Compounds by LC/MS/MS

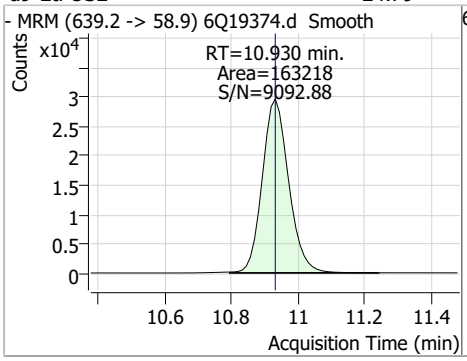
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.36	10.78	0.00	12946				

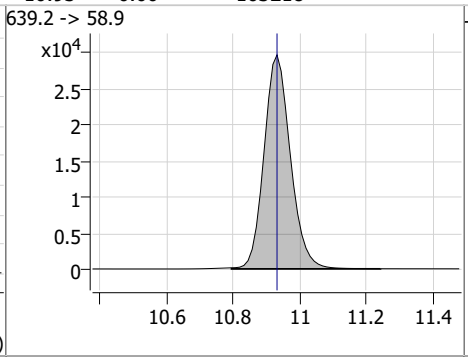


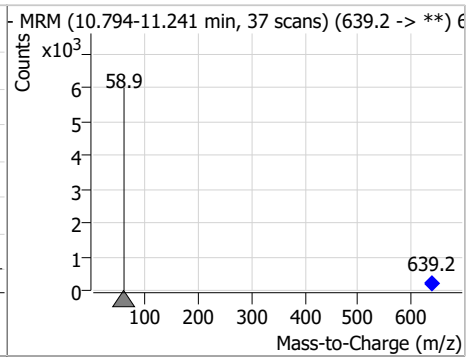




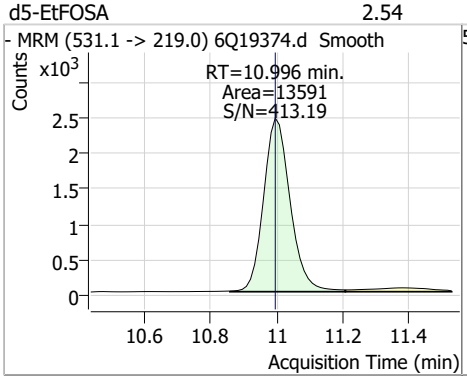
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.79	10.93	0.00	163218				

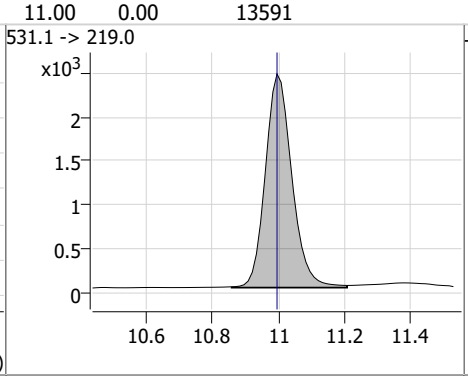


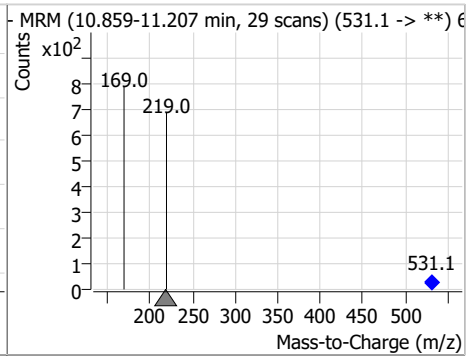




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.54	11.00	0.00	13591				







Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19377.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 10:14:15 PM
Sample Name : iccb
Vial : P1-A1
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	159951	10.00	µg/L	0.000
M5-PFPeA	4.548	268.3 -> 223.0	51715	5.00	µg/L	-0.012
M5-PFHxA	5.792	318.0 -> 273.0	55540	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	54058	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	82630	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	42333	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	23313	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	29499	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	28379	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	15768	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	30151	2.50	µg/L	0.012
M3-PFBS	5.733	302.1 -> 79.9	20146	2.50	µg/L	-0.013
M3-PFHxS	7.478	402.1 -> 79.9	12730	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	12710	2.50	µg/L	0.012
M2-4:2FTS	5.442	329.1 -> 80.9	3408	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	5458	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4365	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	35519	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	36409	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	27659	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	137120	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	149444	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	13194	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	13235	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	16179	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	66620	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	10710	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	92997	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	32117	1.25	µg/L	0.000
13C5-PFNA	7.895	468.0 -> 423.0	49927	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	55922	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	3408	5.30	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.1%		
13C2-6:2FTS	7.113	429.1 -> 80.9	5458	5.62	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.5%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4365	4.78	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.6%		
13C2-PFDoDA	9.297	615.1 -> 570.0	28379	1.32	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.7%		
13C2-PFTeDA	10.012	715.2 -> 670.0	15768	1.32	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.3%		
13C3-PFBS	5.733	302.1 -> 79.9	20146	2.26	µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.4%		
13C3-PFHxS	7.478	402.1 -> 79.9	12730	2.26	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.5%			
13C4-PFBA	3.085	216.8 -> 171.9	159951	10.23	µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.3%			
13C4-PFHpA	6.707	367.1 -> 322.0	54058	2.50	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%			
13C5-PFHxA	5.792	318.0 -> 273.0	55540	2.41	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.3%			
13C5-PFPeA	4.548	268.3 -> 223.0	51715	4.89	µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.8%			
13C6-PFDA	8.387	519.1 -> 474.1	23313	1.26	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.2%			
13C7-PFUnDA	8.866	570.0 -> 525.1	29499	1.19	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.6%			
13C8-FOSA	9.687	506.1 -> 77.8	30151	2.46	µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%			
13C8-PFOA	7.352	421.1 -> 376.0	82630	2.38	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.1%			
13C8-PFOS	8.575	507.1 -> 79.9	12710	2.60	µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%			
13C9-PFNA	7.895	472.1 -> 427.0	42333	1.39	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 111.4%			
d3-MeFOSAA	8.420	573.2 -> 419.0	35519	5.80	µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.0%			
13C3-HFPO-DA	6.169	286.9 -> 168.9	36409	9.43	µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 94.3%			
d3-MeFOSA	10.775	515.0 -> 219.0	13235	2.49	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%			
d5-EtFOSAA	8.628	589.2 -> 419.0	27659	5.32	µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.5%			
d7-MeFOSE	10.696	623.2 -> 58.9	137120	25.26	µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.0%			
d9-EtFOSE	10.930	639.2 -> 58.9	149444	23.35	µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 93.4%			
d5-EtFOSA	10.996	531.1 -> 219.0	13194	2.54	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%			
Target Compounds							**QValue**
4:2FTS	-	327.1 -> 307.0	-	N.D.			
		327.1 -> 80.9					
6:2FTS	-	427.1 -> 407.0	-	N.D.			
		427.1 -> 80.9					
8:2FTS	-	527.1 -> 507.0	-	N.D.			
		527.1 -> 80.8					
EtFOSAA	-	584.2 -> 419.1	-	N.D.			
		584.2 -> 526.0					
FOSA	-	498.1 -> 77.9	-	N.D.			
		498.1 -> 478.0					
MeFOSAA	-	570.1 -> 419.0	-	N.D.			
		570.1 -> 483.0					
PFBA	-	212.8 -> 168.9	-	N.D.			
PFBS	-	298.7 -> 79.9	-	N.D.			
		298.7 -> 98.8					
PFDA	8.845	512.9 -> 469.0	0		µg/L	m	1
		512.9 -> 219.0	0				
PFDoDA	-	613.1 -> 569.0	-	N.D.			
		613.1 -> 319.0					
PFDS	-	599.0 -> 79.9	-	N.D.			

Perfluorinated Compounds by LC/MS/MS

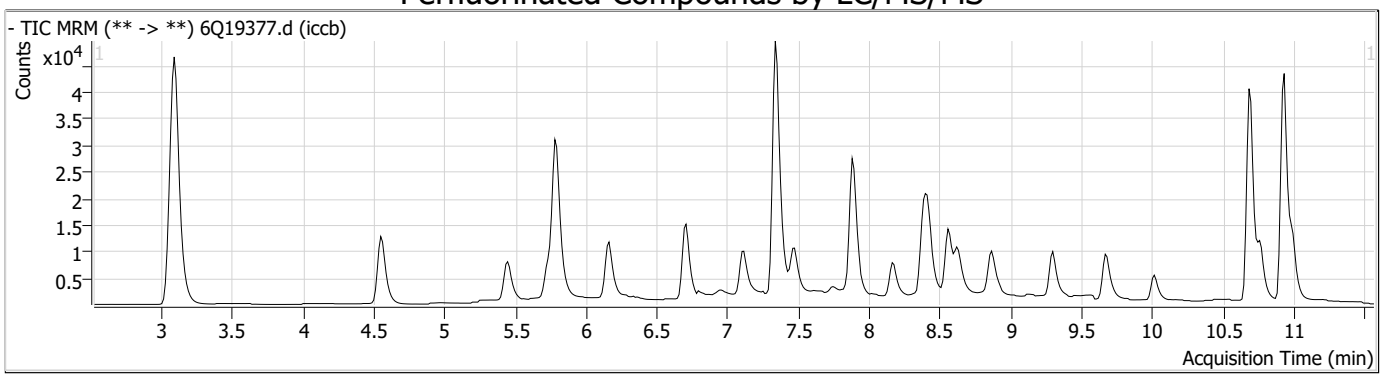
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	N.D.		
		463.0 -> 219.0				
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	-	413.0 -> 369.0	-	N.D.		
		413.0 -> 169.0				
PFOS	-	498.9 -> 79.9	-	N.D.		
		498.9 -> 98.8				
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

 # = Qualifier out of range, m = manually integrated, + = Area summed

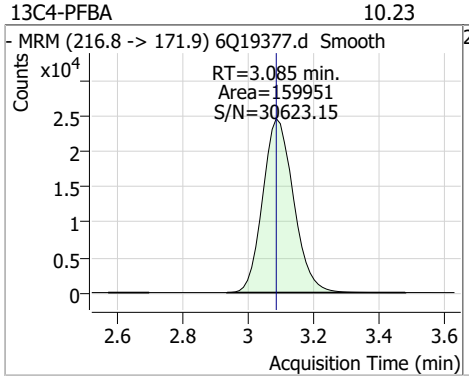
Perfluorinated Compounds by LC/MS/MS

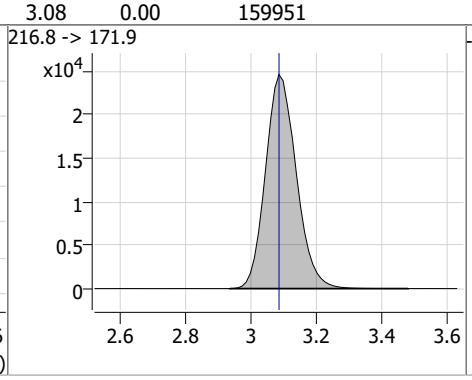
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

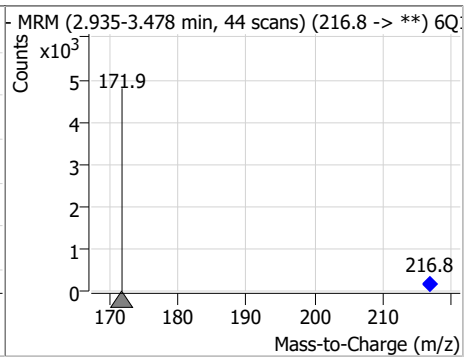
Perfluorinated Compounds by LC/MS/MS



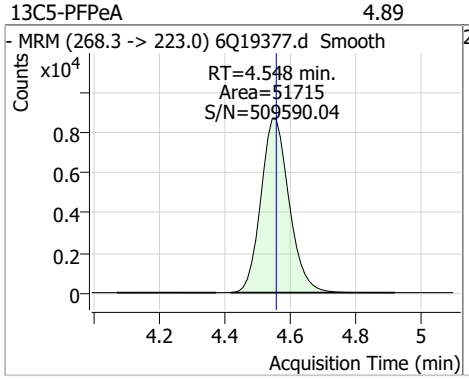
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.23	3.08	0.00	159951				

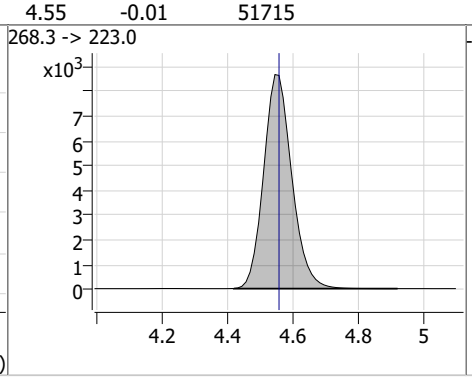


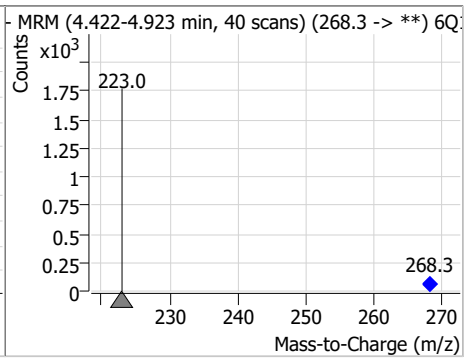




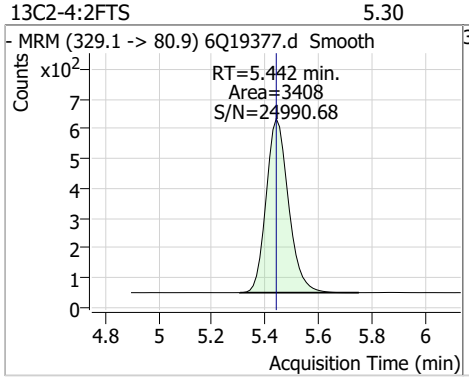
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.89	4.55	-0.01	51715				

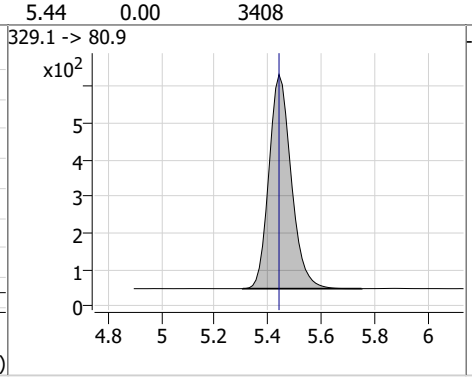


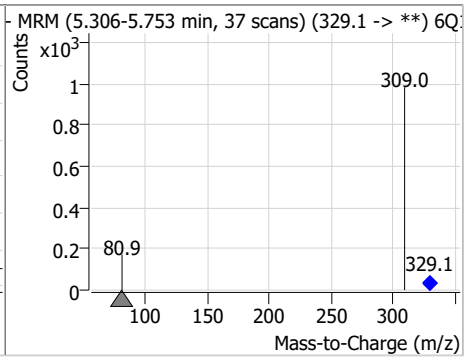




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.30	5.44	0.00	3408				

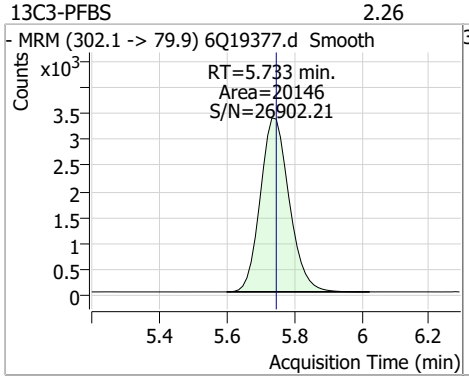


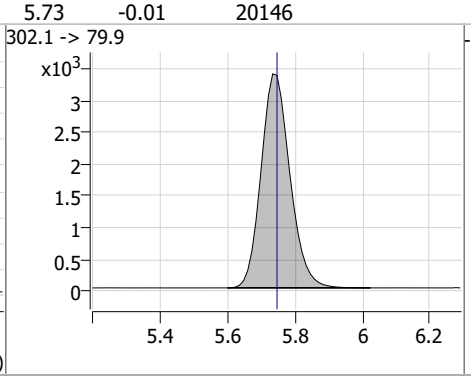


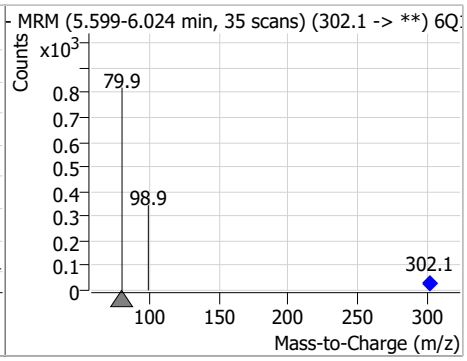


Perfluorinated Compounds by LC/MS/MS

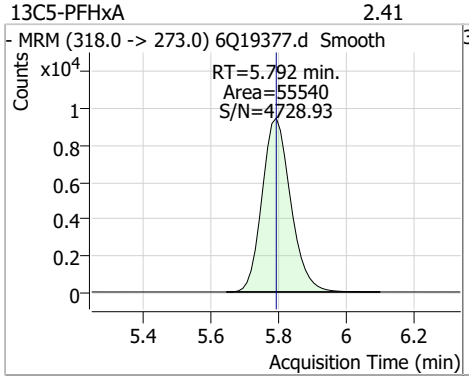
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.26	5.73	-0.01	20146				

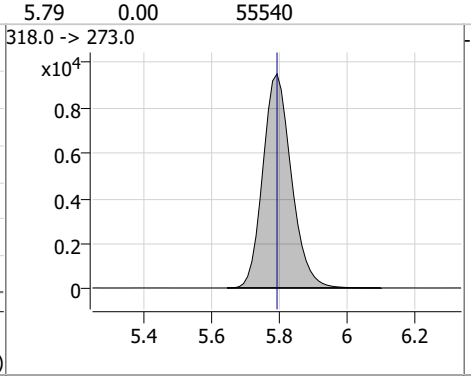


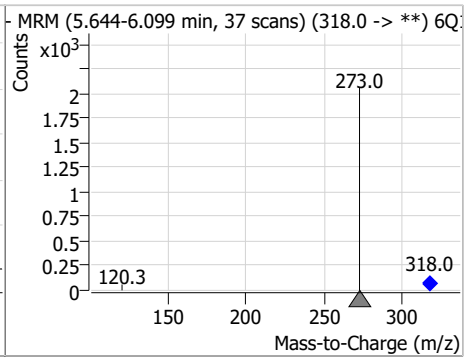




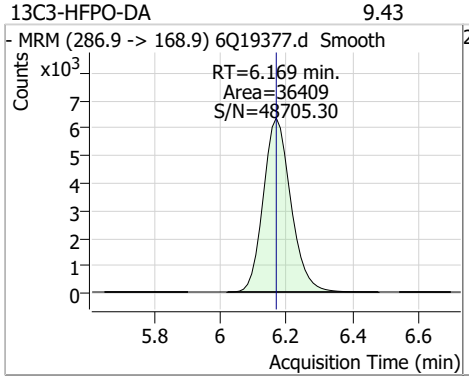
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.41	5.79	0.00	55540				

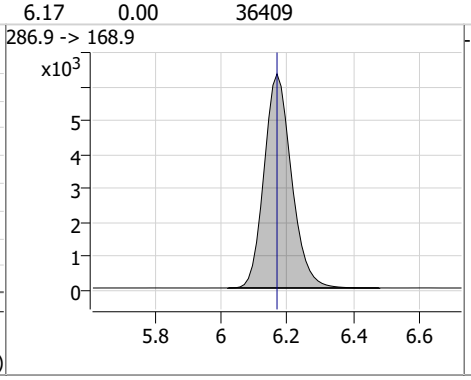


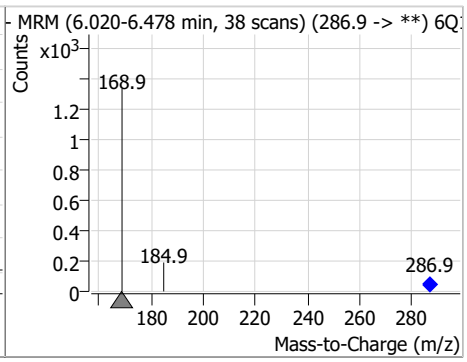




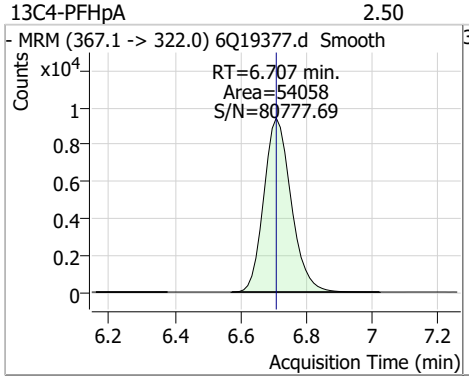
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.43	6.17	0.00	36409				

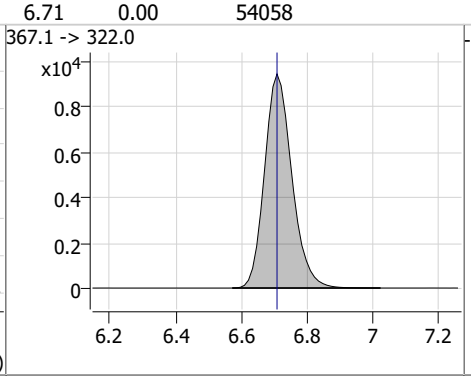


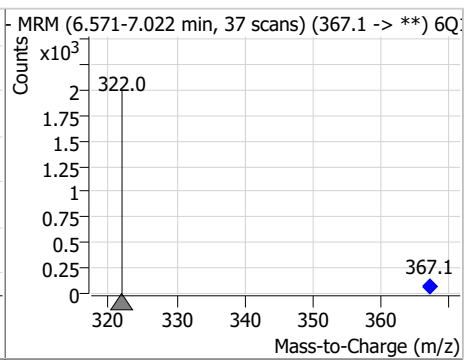




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.50	6.71	0.00	54058				

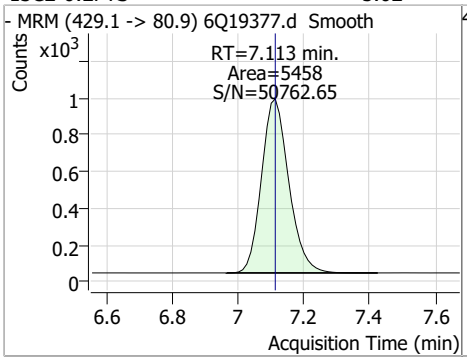


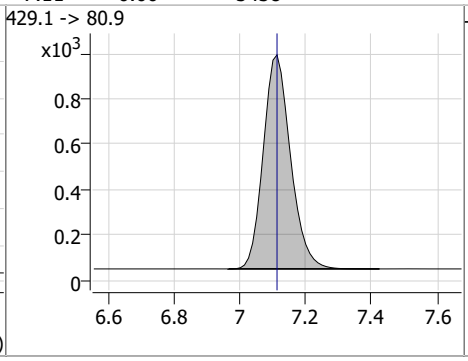


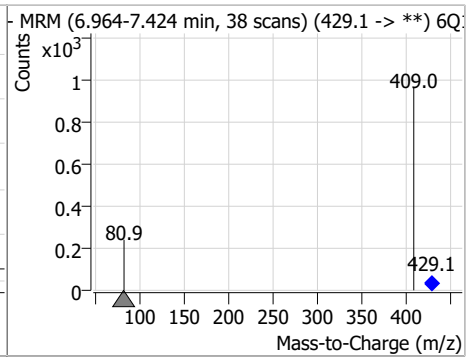


Perfluorinated Compounds by LC/MS/MS

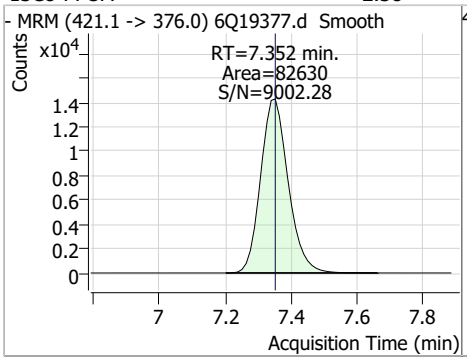
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.62	7.11	0.00	5458				

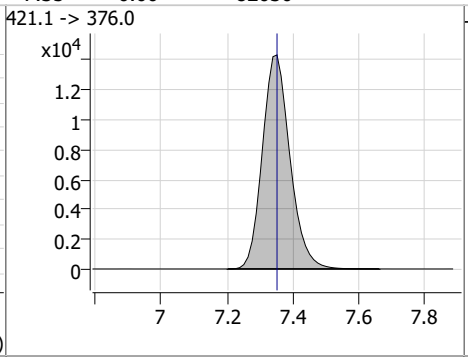


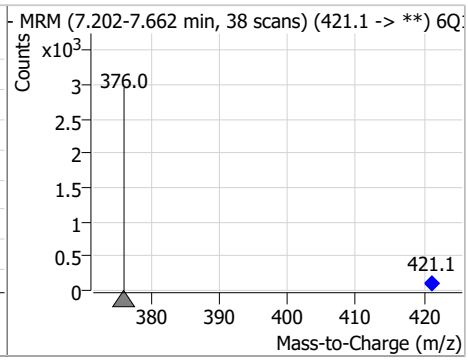




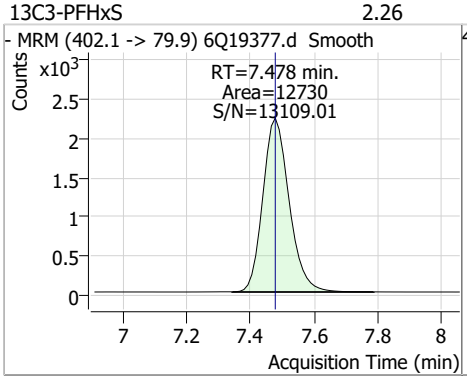
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.38	7.35	0.00	82630				

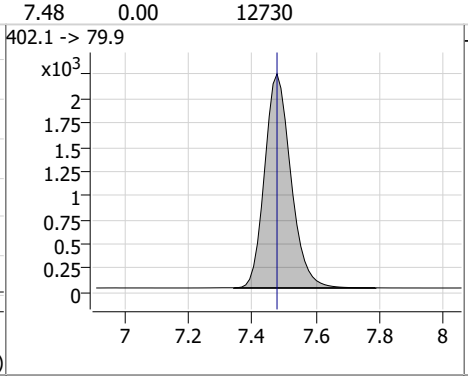


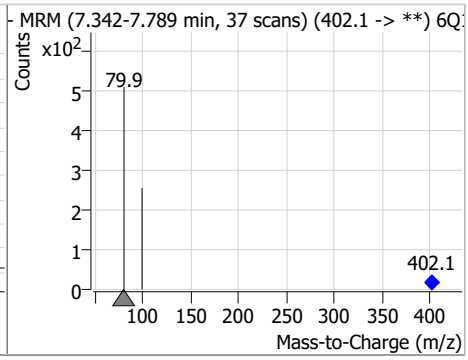




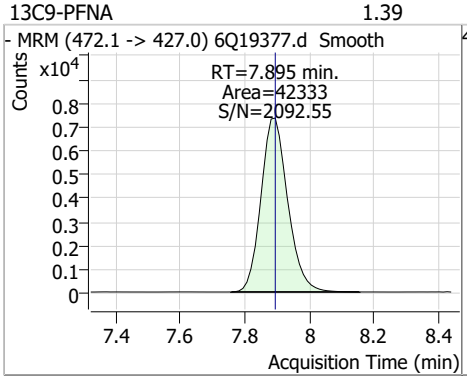
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.26	7.48	0.00	12730				

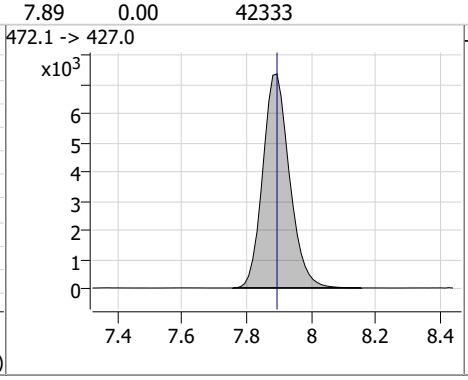


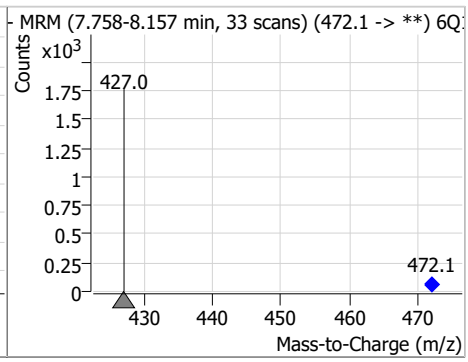




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.39	7.89	0.00	42333				

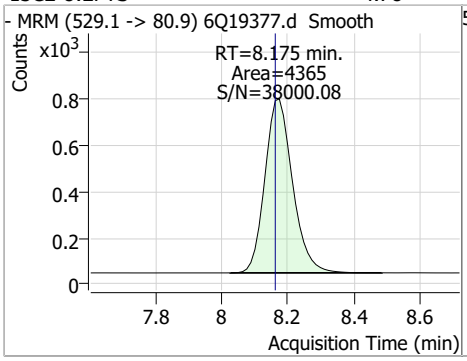


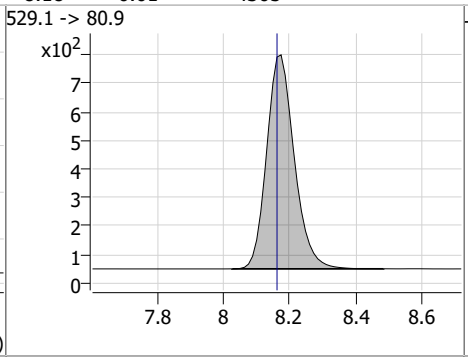


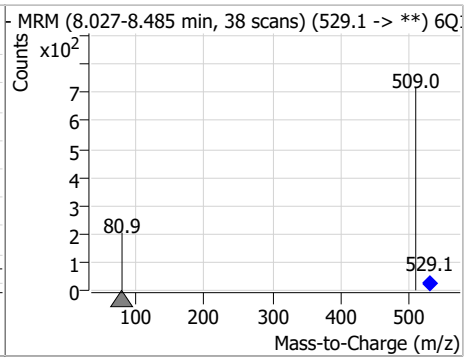


Perfluorinated Compounds by LC/MS/MS

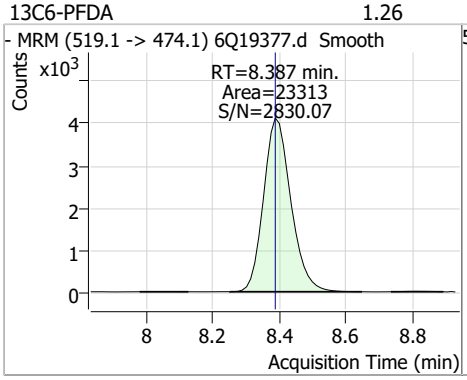
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.78	8.18	0.01	4365				

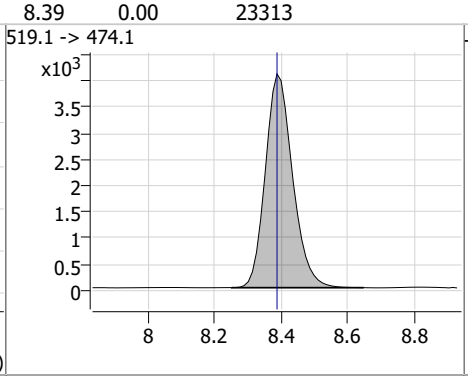


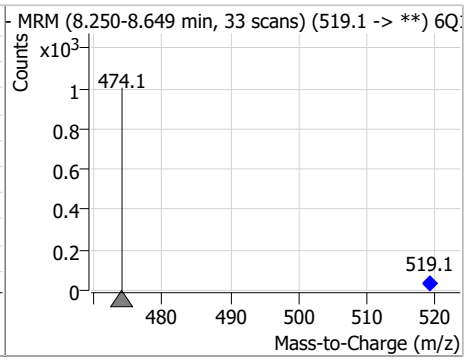




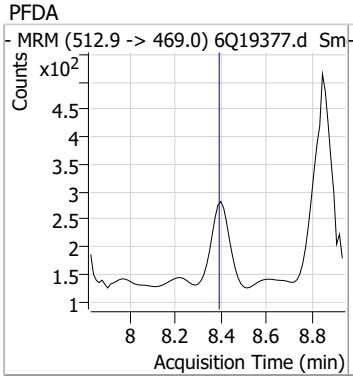
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.26	8.39	0.00	23313				

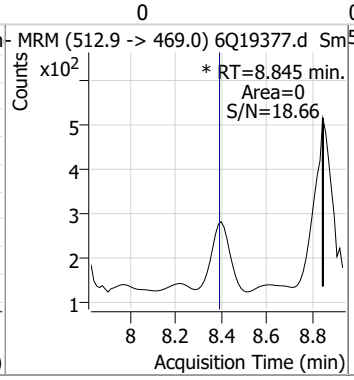


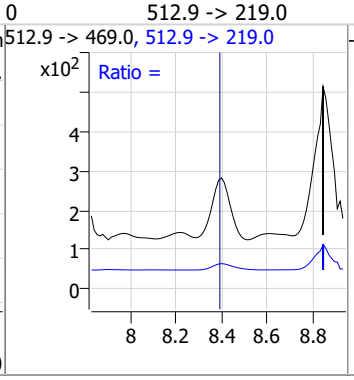


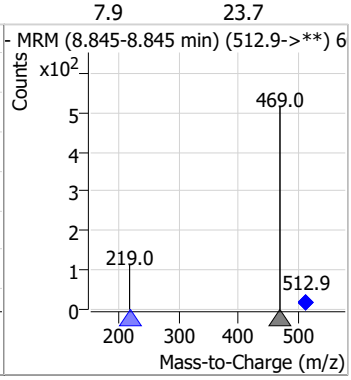


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0		0		512.9 -> 219.0		7.9	23.7

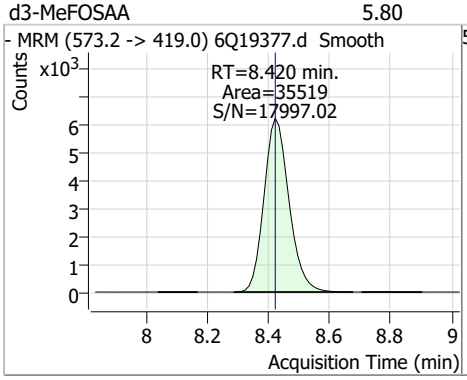


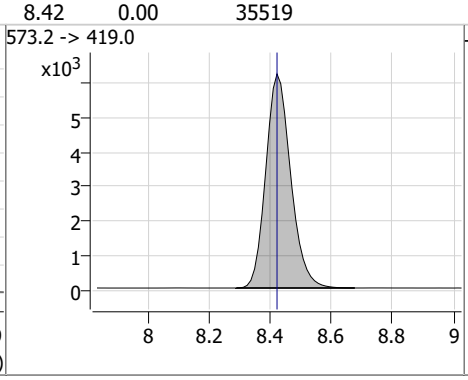


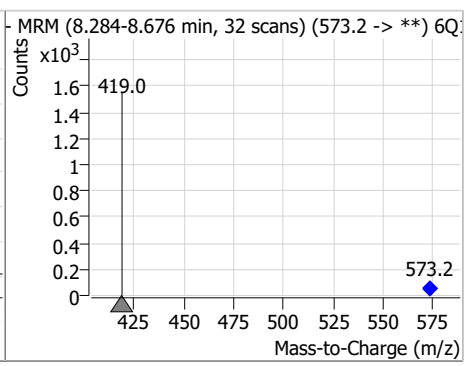




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.80	8.42	0.00	35519				

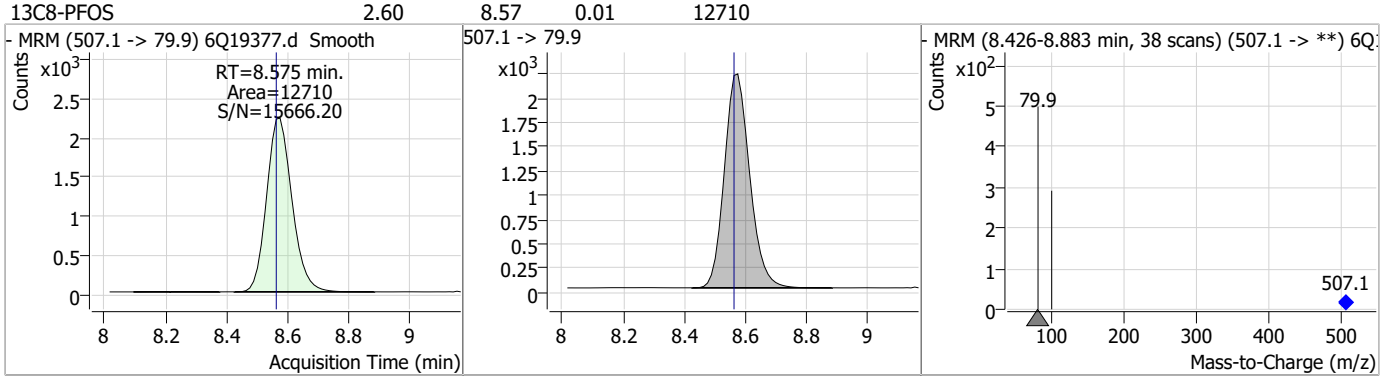




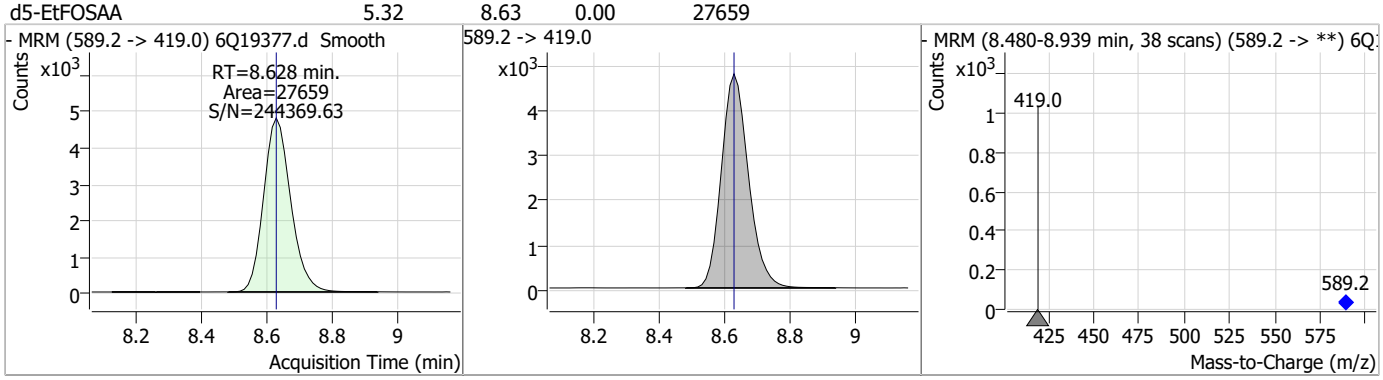


Perfluorinated Compounds by LC/MS/MS

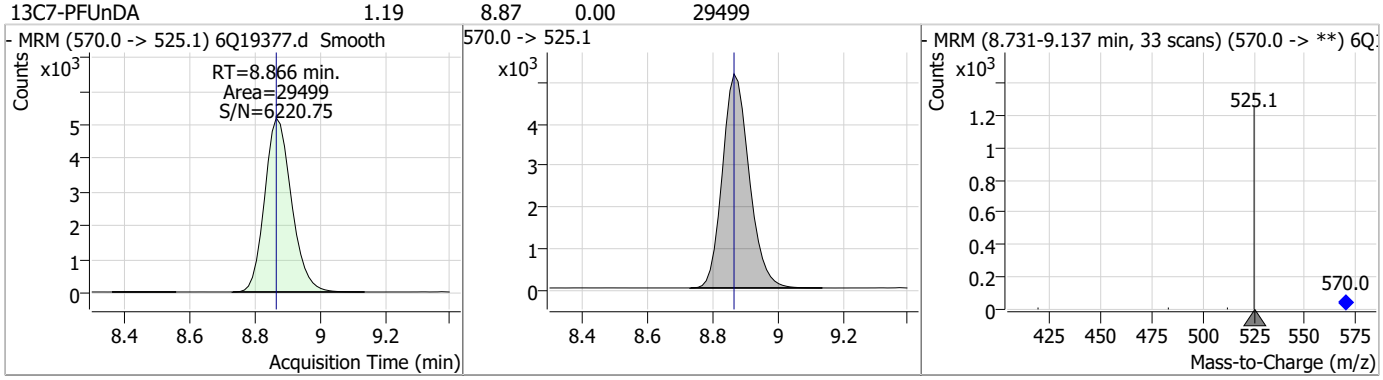
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.60	8.57	0.01	12710				



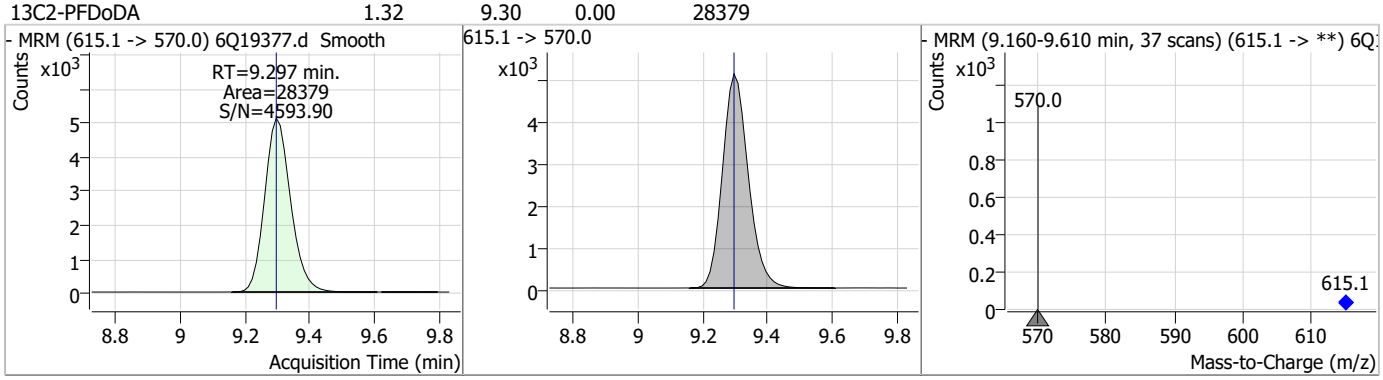
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.32	8.63	0.00	27659				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.19	8.87	0.00	29499				

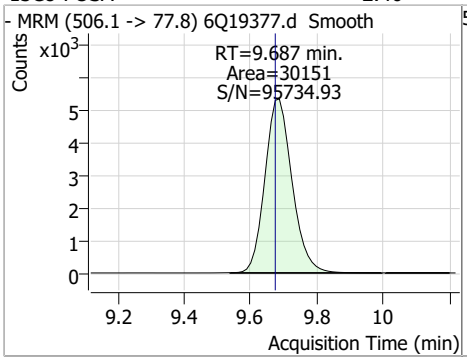


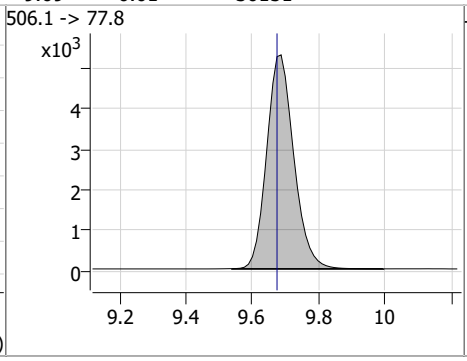
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.32	9.30	0.00	28379				

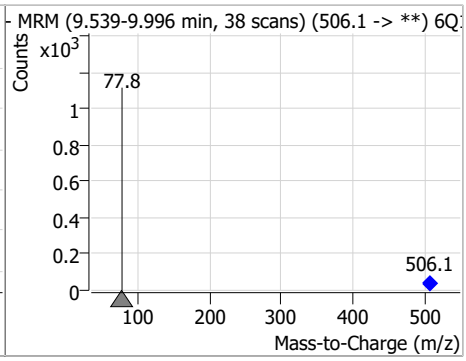


Perfluorinated Compounds by LC/MS/MS

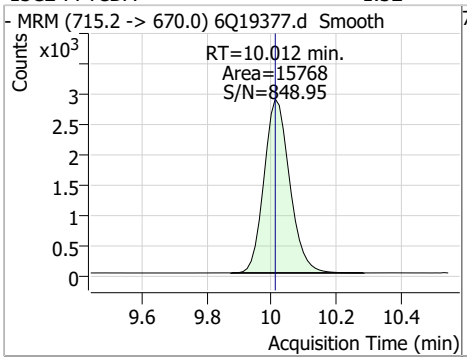
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.46	9.69	0.01	30151				

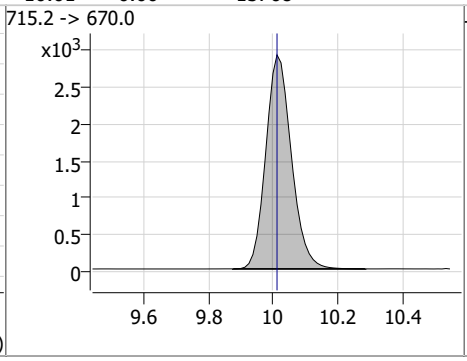


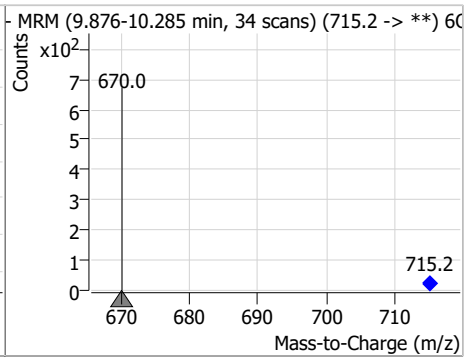




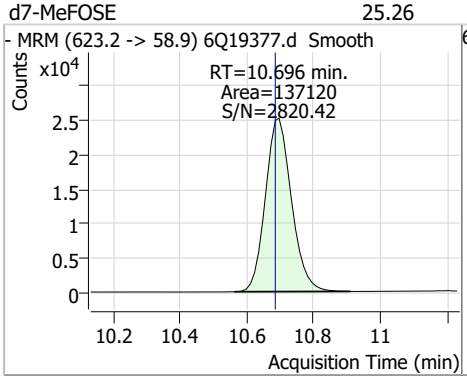
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.32	10.01	0.00	15768				

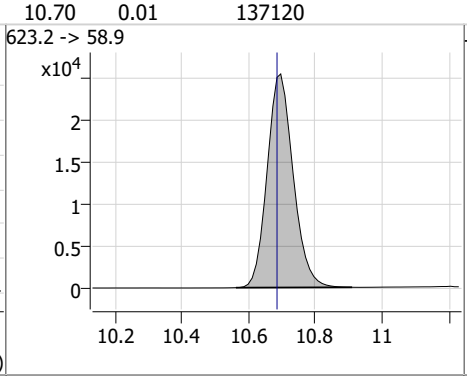


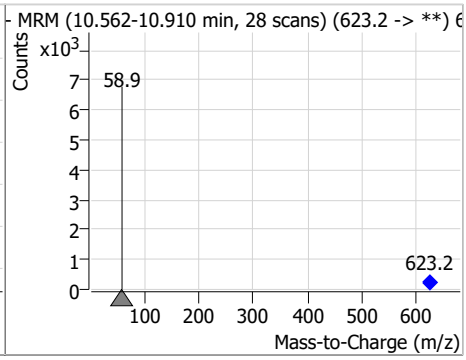




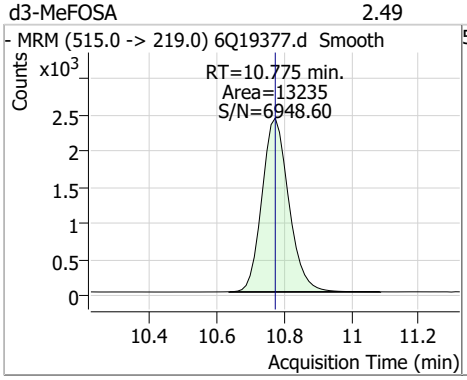
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.26	10.70	0.01	137120				

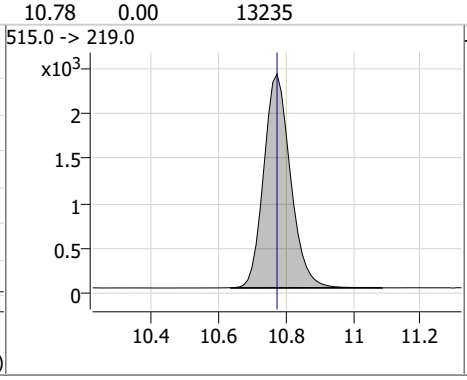


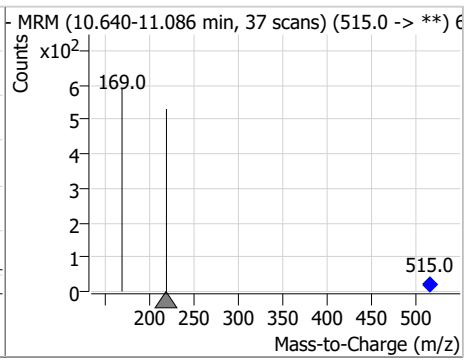




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.49	10.78	0.00	13235				

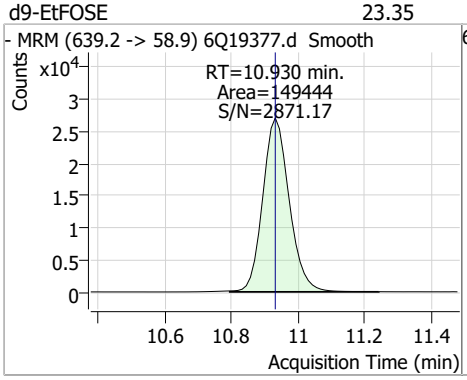


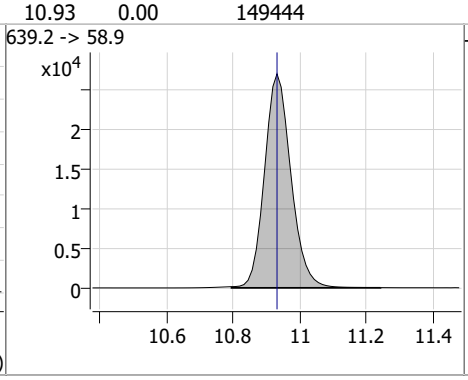


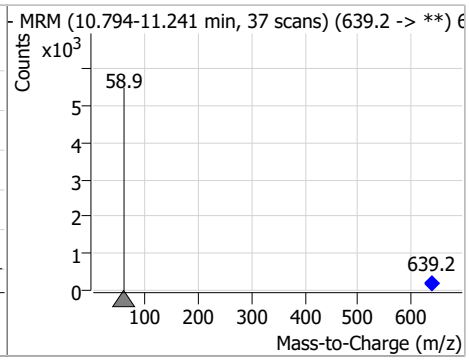


Perfluorinated Compounds by LC/MS/MS

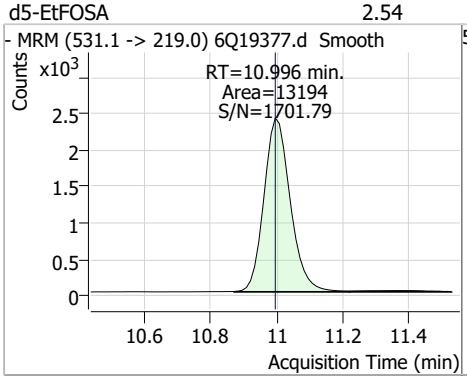
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.35	10.93	0.00	149444				

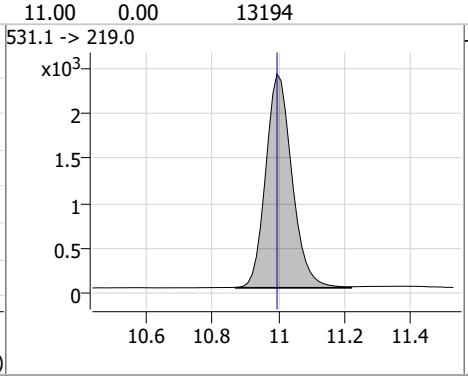


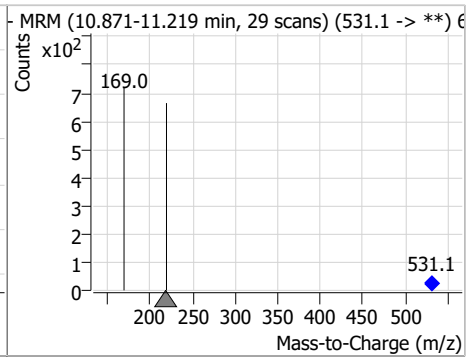




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.54	11.00	0.00	13194				







Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19529.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/19/2023 2:10:25 PM
Sample Name : iblk
Vial : P1-A1
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	138401	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	45408	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	47404	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	46254	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	72207	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	32691	1.25	µg/L	-0.013
M6-PFDA	8.375	519.1 -> 474.1	20565	1.25	µg/L	-0.012
M7-PFUnDA	8.853	570.0 -> 525.1	26850	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	22336	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	12810	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	28991	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19111	2.50	µg/L	0.000
M3-PFHxS	7.466	402.1 -> 79.9	11362	2.50	µg/L	-0.012
M8-PFOS	8.550	507.1 -> 79.9	11405	2.50	µg/L	-0.012
M2-4:2FTS	5.442	329.1 -> 80.9	2985	5.00	µg/L	0.000
M2-6:2FTS	7.100	429.1 -> 80.9	4516	5.00	µg/L	-0.012
M2-8:2FTS	8.163	529.1 -> 80.9	3968	5.00	µg/L	0.000
M3-MeFOSAA	8.407	573.2 -> 419.0	24342	5.00	µg/L	-0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	32909	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	22487	5.00	µg/L	-0.012
M7-MeFOSE	10.696	623.2 -> 58.9	125226	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	146611	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11310	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11825	2.50	µg/L	0.000
13C4-PFOS	8.551	502.8 -> 79.9	14759	2.50	µg/L	-0.012
13C3-PFBA	3.089	216.0 -> 172.0	58782	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8696	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	77770	2.50	µg/L	-0.012
13C2-PFDA	8.375	515.1 -> 470.1	28608	1.25	µg/L	-0.012
13C5-PFNA	7.882	468.0 -> 423.0	44120	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	49295	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	2985	5.72	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.4%		
13C2-6:2FTS	7.100	429.1 -> 80.9	4516	5.73	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.6%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3968	5.35	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.1%		
13C2-PFDoDA	9.285	615.1 -> 570.0	22336	1.17	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.4%		
13C2-PFTeDA	10.000	715.2 -> 670.0	12810	1.20	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.0%		
13C3-PFBS	5.746	302.1 -> 79.9	19111	2.64	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.6%		
13C3-PFHxS	7.466	402.1 -> 79.9	11362	2.49	µg/L	-0.012

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C4-PFBA	3.085	216.8 -> 171.9	138401	10.04 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C4-PFHpA	6.707	367.1 -> 322.0	46254	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C5-PFHxA	5.792	318.0 -> 273.0	47404	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.2%	
13C5-PFPeA	4.560	268.3 -> 223.0	45408	4.87 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C6-PFDA	8.375	519.1 -> 474.1	20565	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C7-PFUnDA	8.853	570.0 -> 525.1	26850	1.22 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C8-FOSA	9.687	506.1 -> 77.8	28991	2.59 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.7%	
13C8-PFOA	7.339	421.1 -> 376.0	72207	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C8-PFOS	8.550	507.1 -> 79.9	11405	2.56 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C9-PFNA	7.882	472.1 -> 427.0	32691	1.22 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.4%	
d3-MeFOSAA	8.407	573.2 -> 419.0	24342	4.36 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 87.2%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	32909	9.67 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 96.7%	
d3-MeFOSA	10.775	515.0 -> 219.0	11825	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%	
d5-EtFOSAA	8.615	589.2 -> 419.0	22487	4.74 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.9%	
d7-MeFOSE	10.696	623.2 -> 58.9	125226	25.29 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
d9-EtFOSE	10.930	639.2 -> 58.9	146611	25.11 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
d5-EtFOSA	10.996	531.1 -> 219.0	11310	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%	

Target Compounds					QValue
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9 298.7 -> 98.8	-	N.D.	
PFDA	-	512.9 -> 469.0 512.9 -> 219.0	-	N.D.	
PFDoDA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

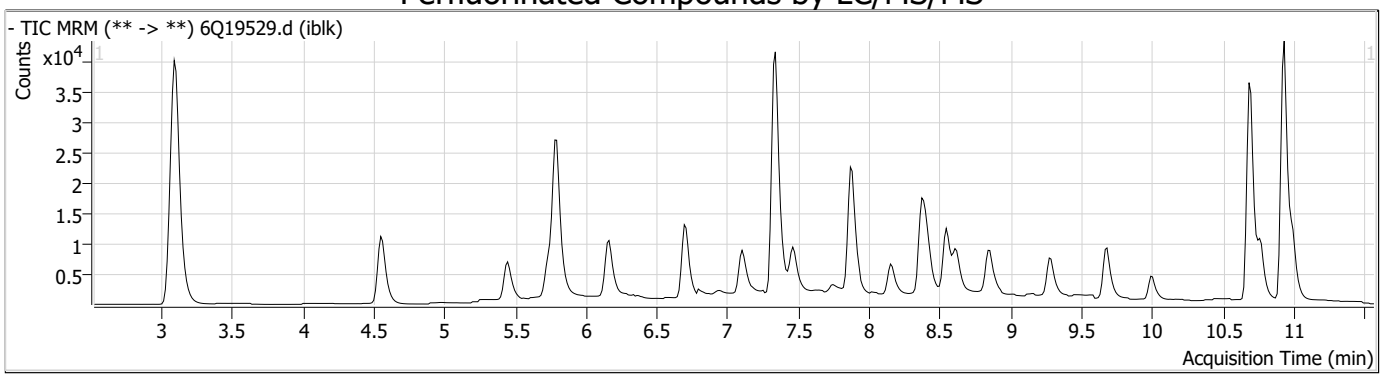
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	N.D.		
		463.0 -> 219.0				
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	-	413.0 -> 369.0	-	N.D.		
		413.0 -> 169.0				
PFOS	-	498.9 -> 79.9	-	N.D.		
		498.9 -> 98.8				
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

 # = Qualifier out of range, m = manually integrated, + = Area summed

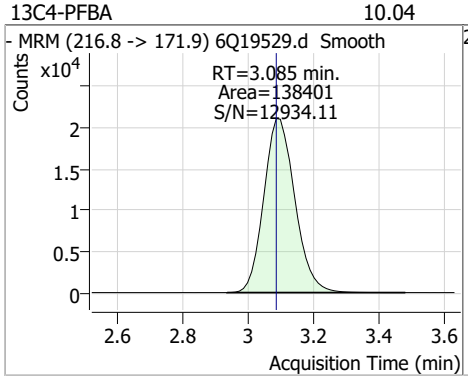
Perfluorinated Compounds by LC/MS/MS

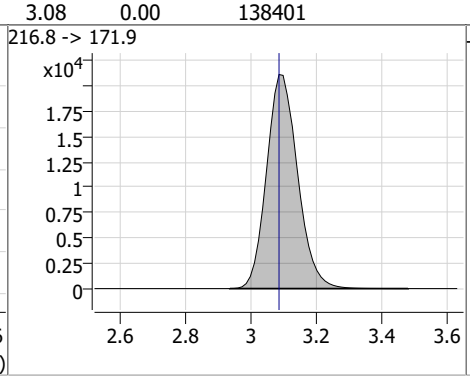
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

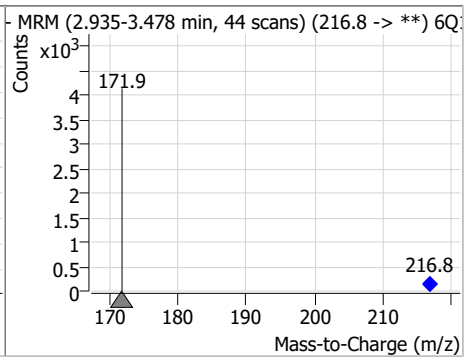
Perfluorinated Compounds by LC/MS/MS



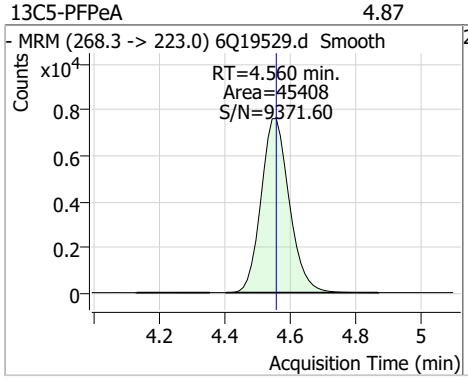
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.04	3.08	0.00	138401				

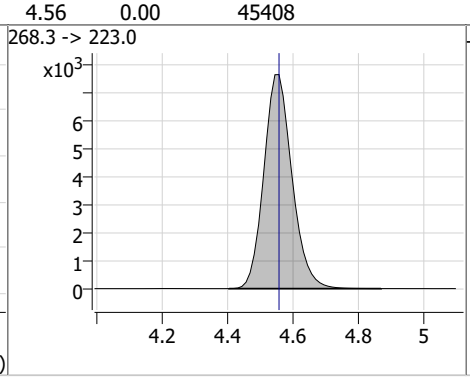


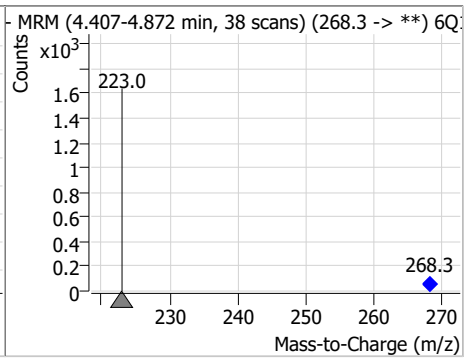




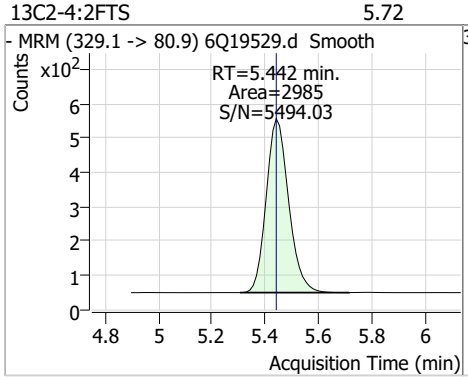
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.87	4.56	0.00	45408				

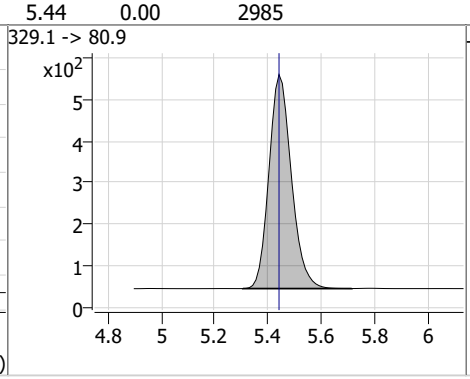


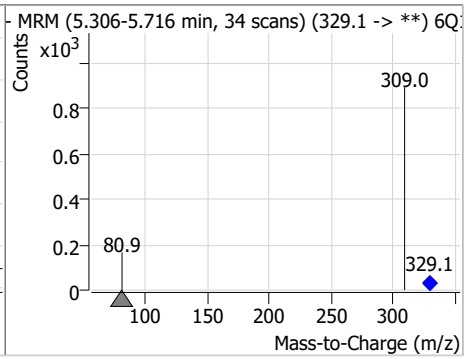




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.72	5.44	0.00	2985				

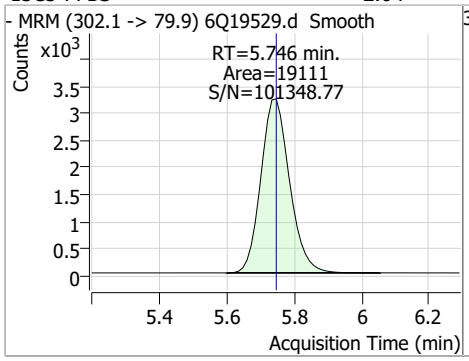


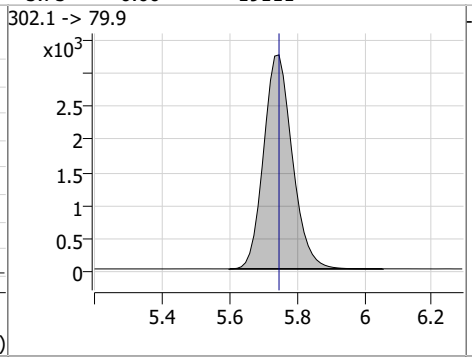


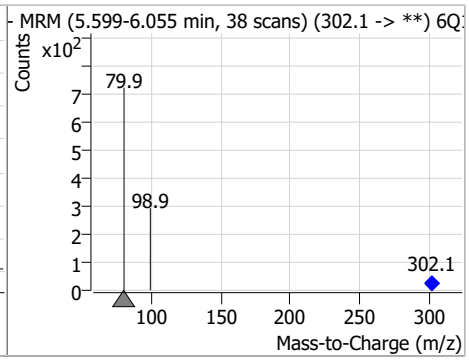


Perfluorinated Compounds by LC/MS/MS

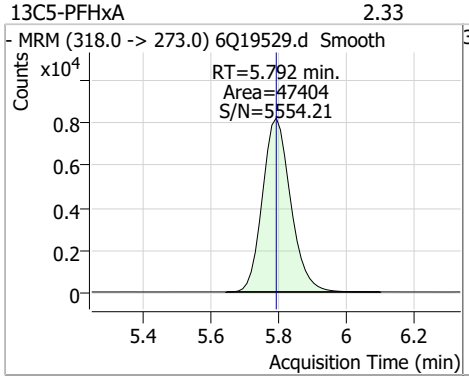
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.64	5.75	0.00	19111				

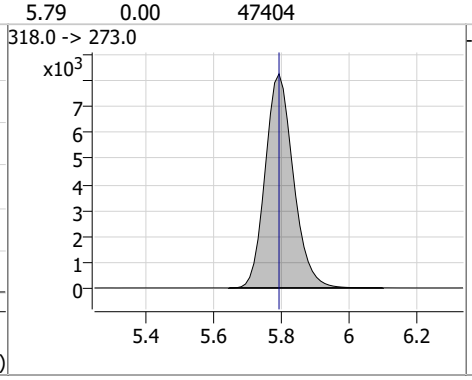


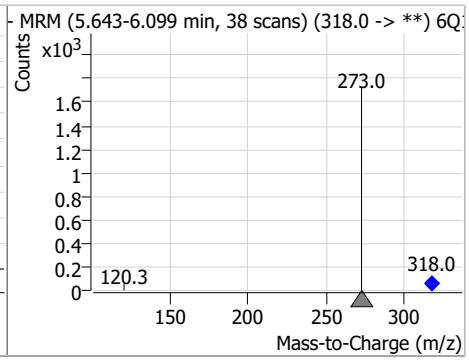




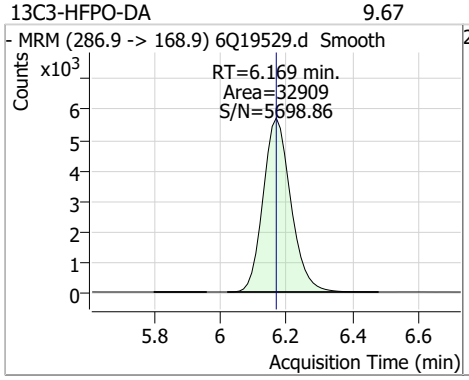
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.33	5.79	0.00	47404				

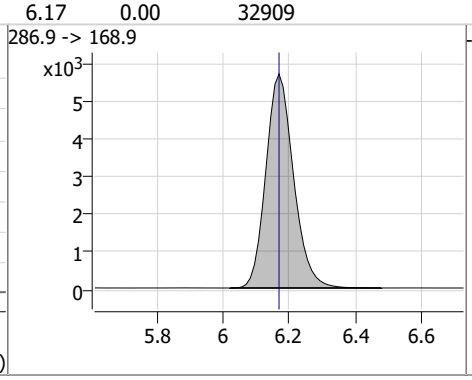


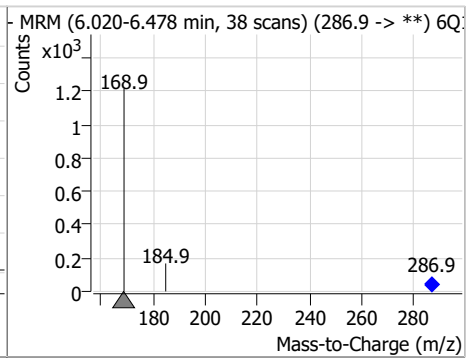




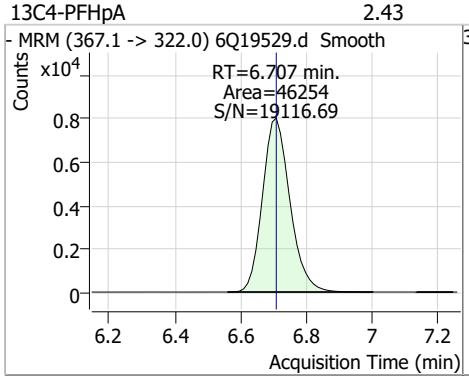
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.67	6.17	0.00	32909				

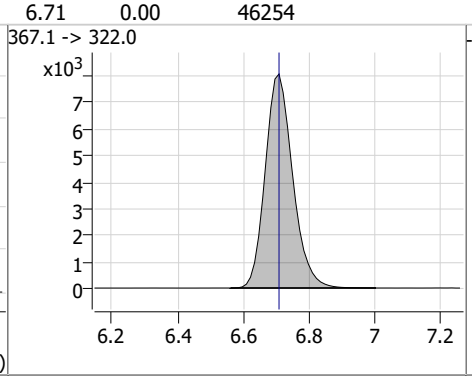


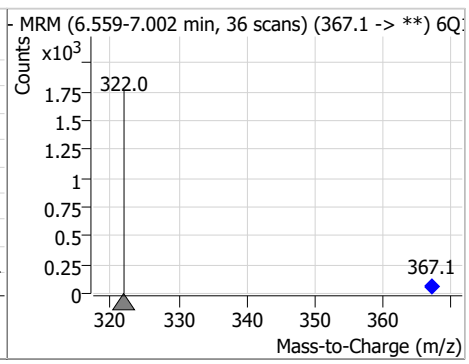




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.43	6.71	0.00	46254				

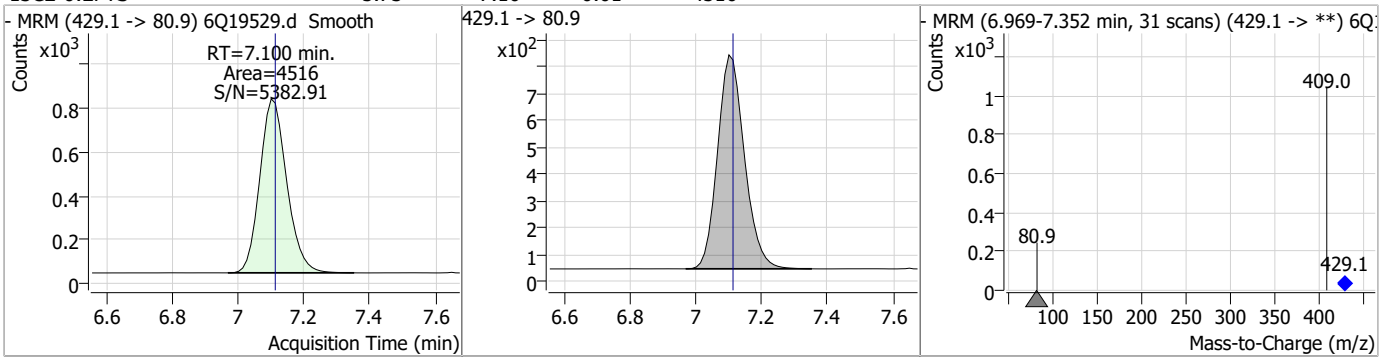




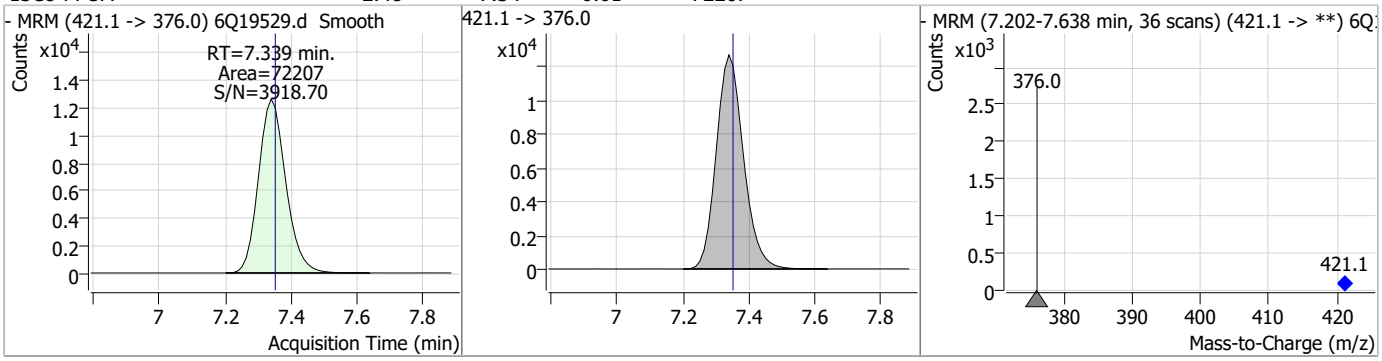


Perfluorinated Compounds by LC/MS/MS

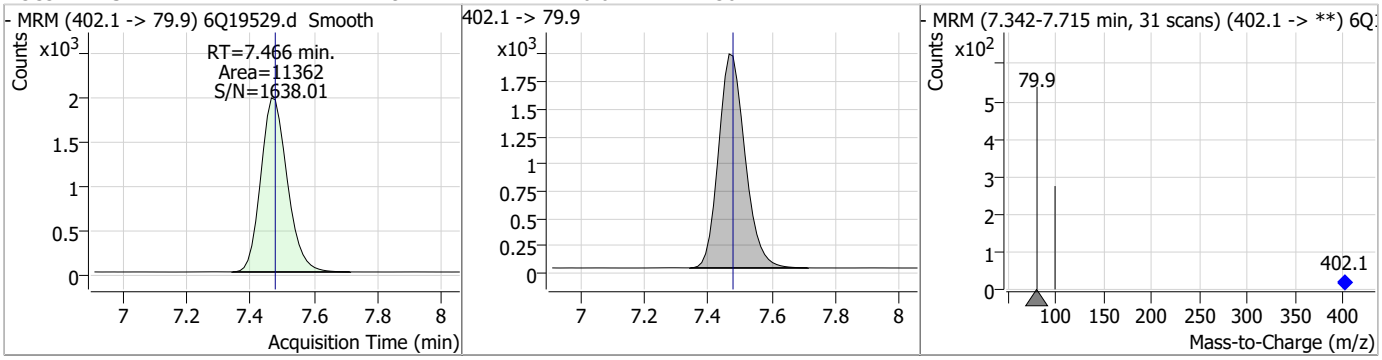
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.73	7.10	-0.01	4516				



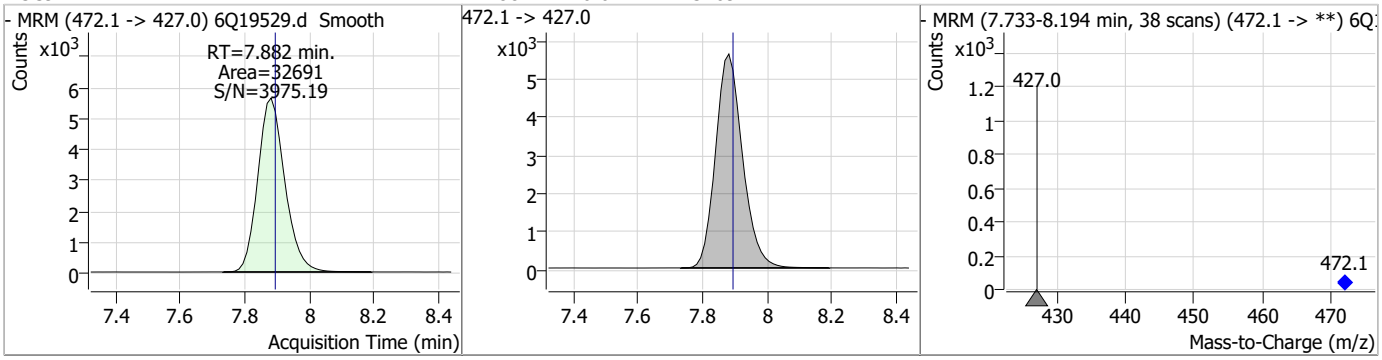
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.48	7.34	-0.01	72207				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.49	7.47	-0.01	11362				

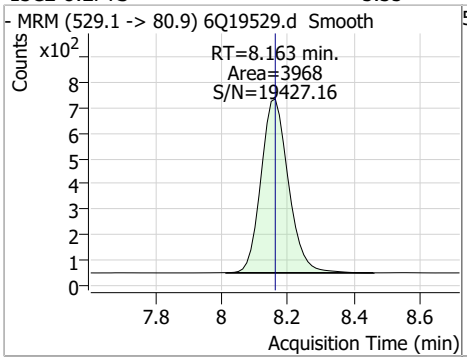


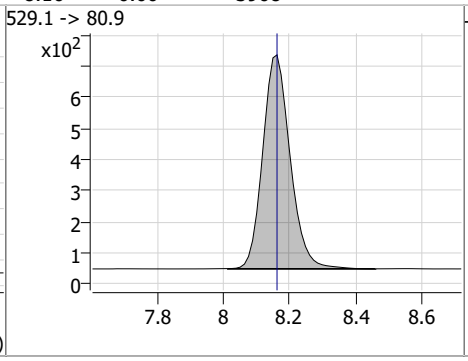
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.22	7.88	-0.01	32691				

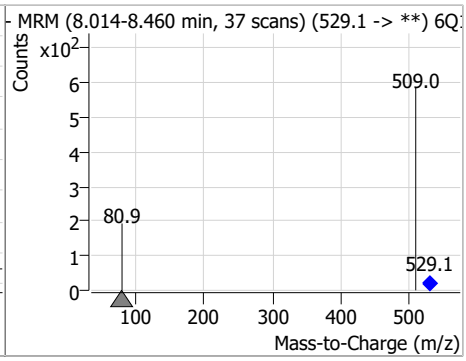


Perfluorinated Compounds by LC/MS/MS

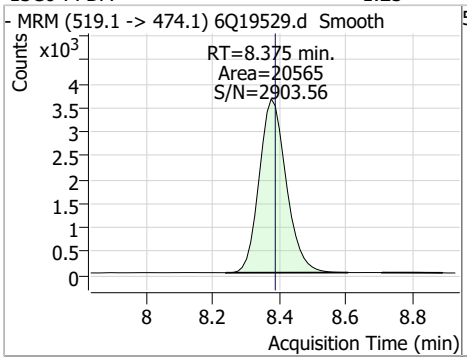
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.35	8.16	0.00	3968				

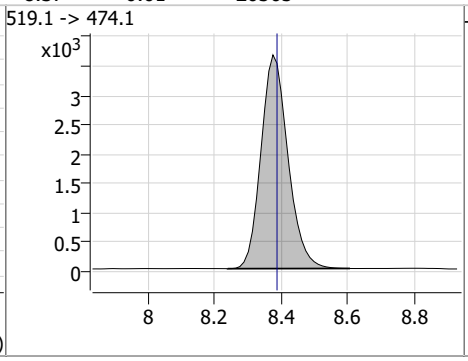


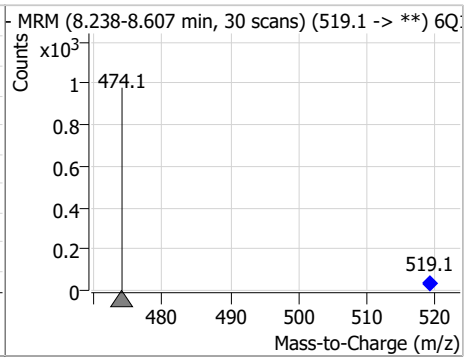




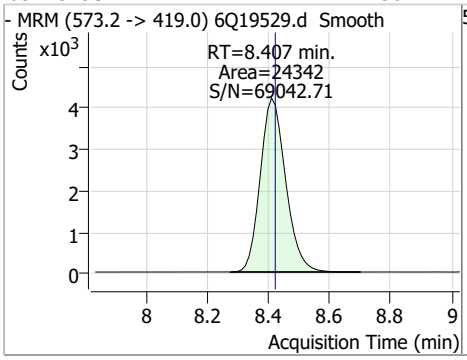
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.25	8.37	-0.01	20565				

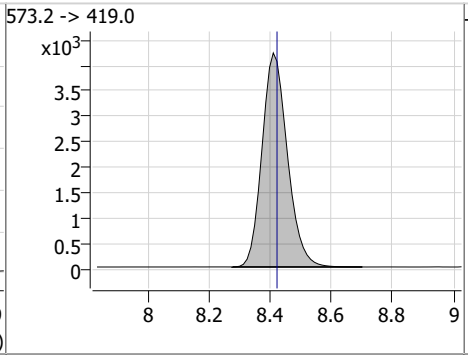


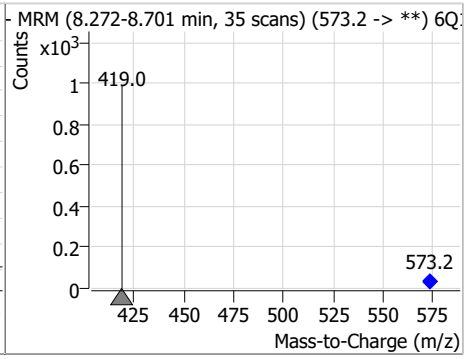




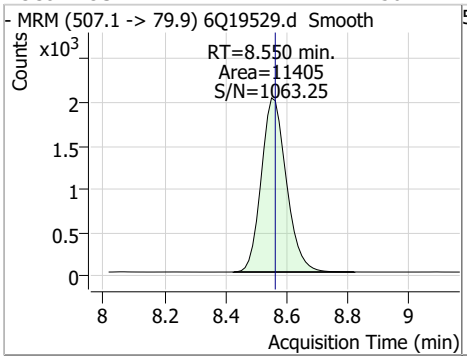
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.36	8.41	-0.01	24342				

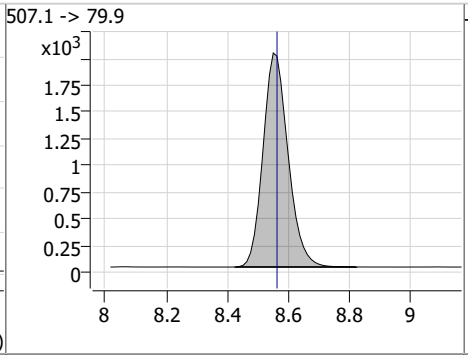


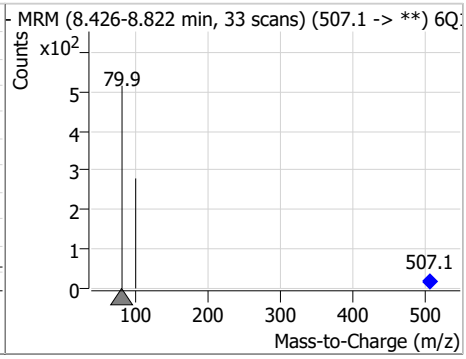




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.56	8.55	-0.01	11405				

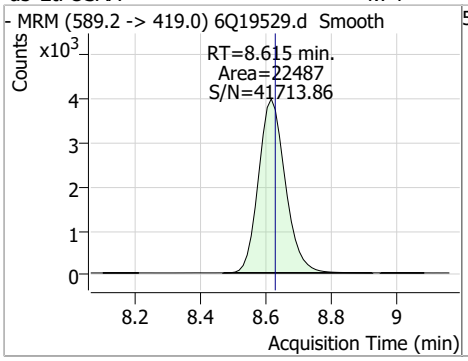


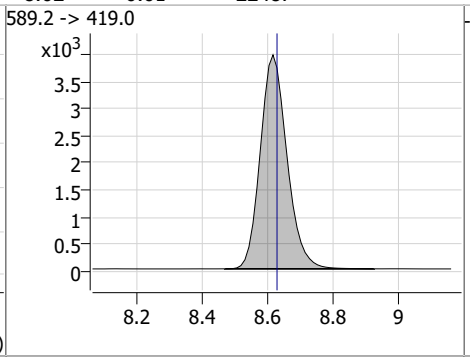


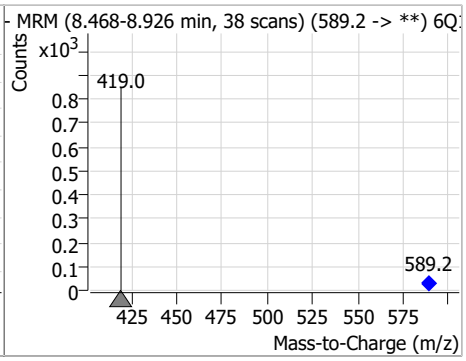


Perfluorinated Compounds by LC/MS/MS

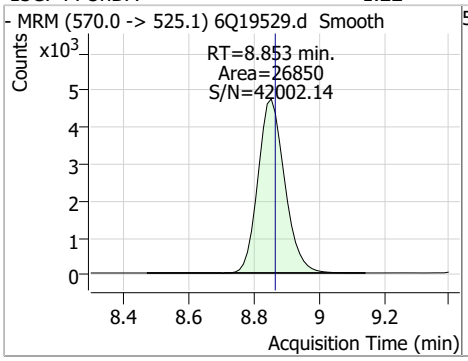
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.74	8.62	-0.01	22487				

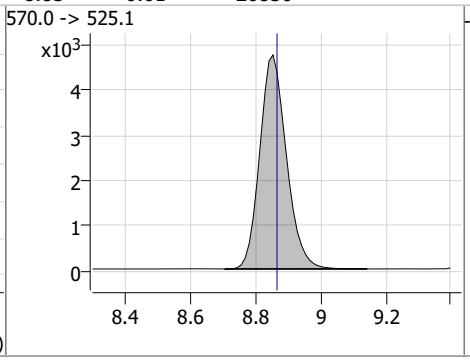


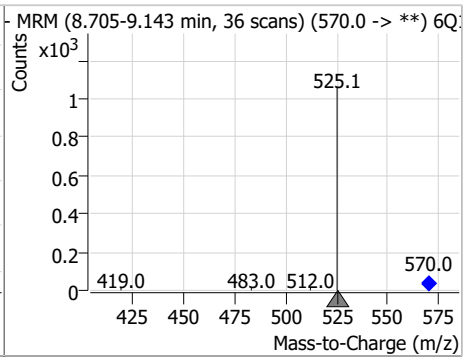




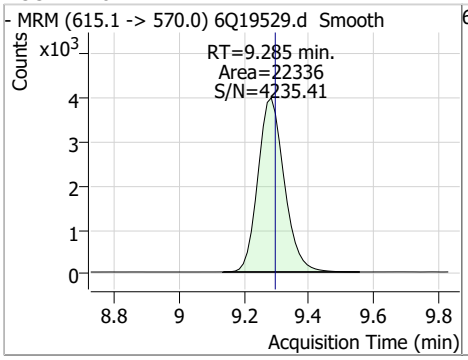
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.22	8.85	-0.01	26850				

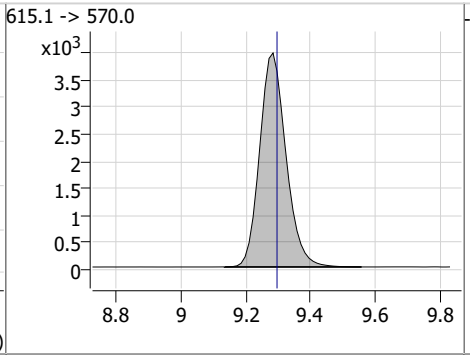


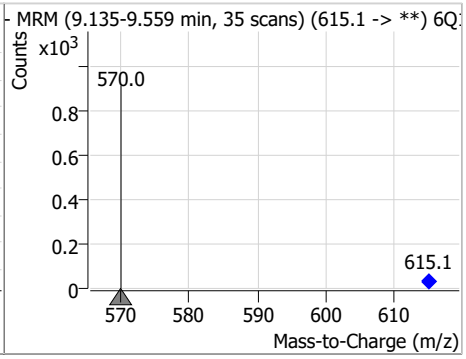




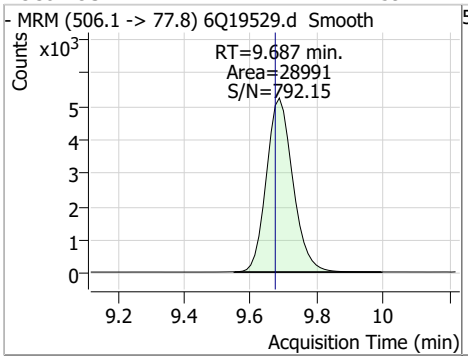
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.17	9.28	-0.01	22336				

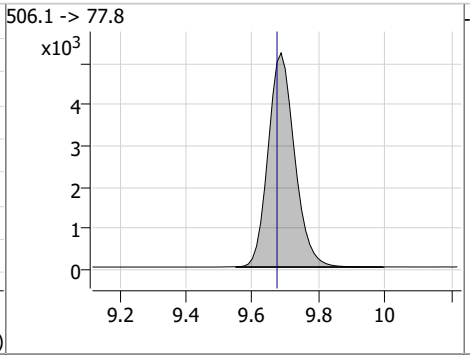


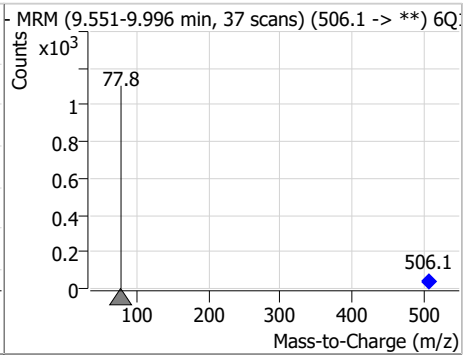




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.59	9.69	0.01	28991				

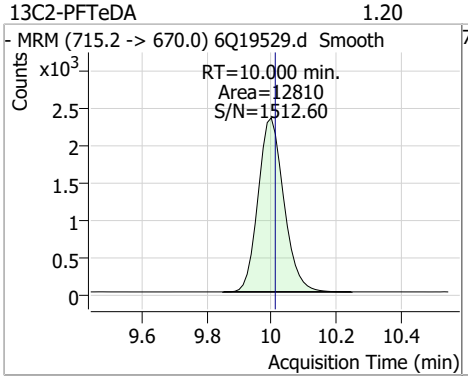


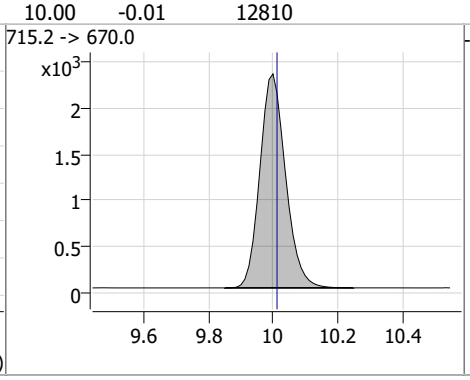


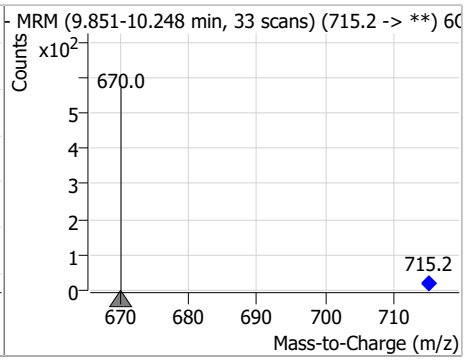


Perfluorinated Compounds by LC/MS/MS

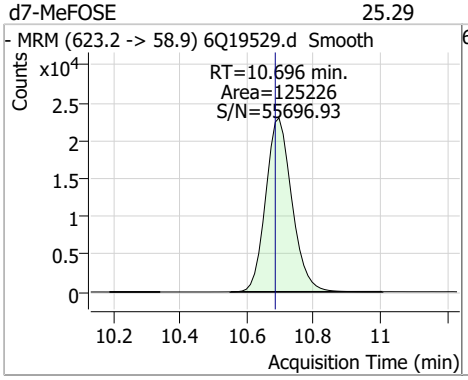
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.20	10.00	-0.01	12810				

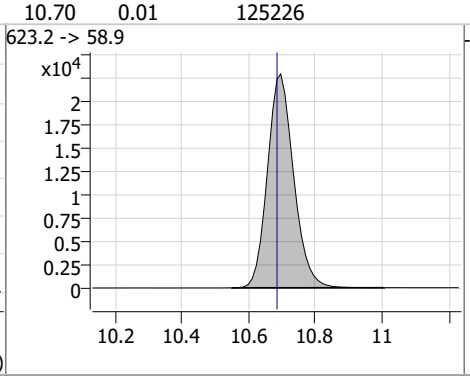


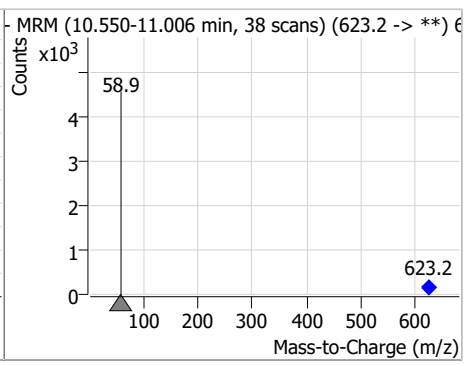




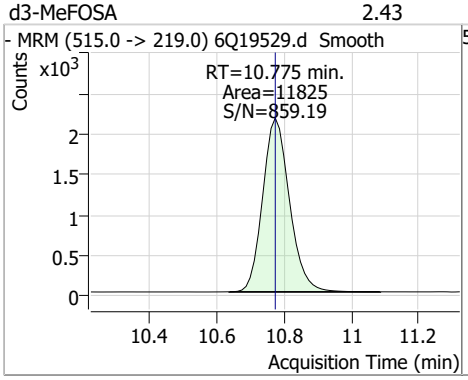
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.29	10.70	0.01	125226				

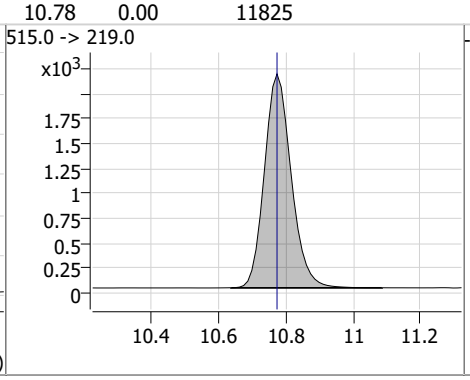


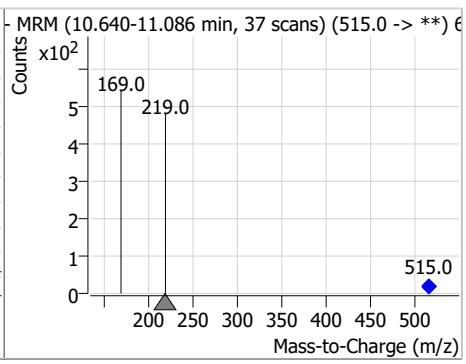




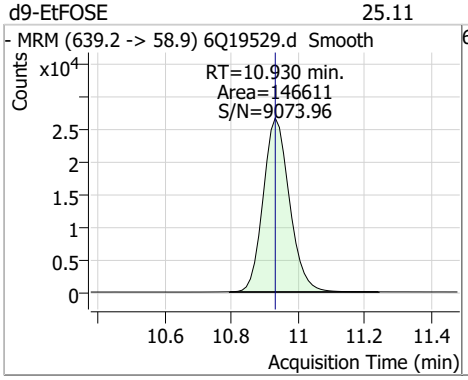
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.43	10.78	0.00	11825				

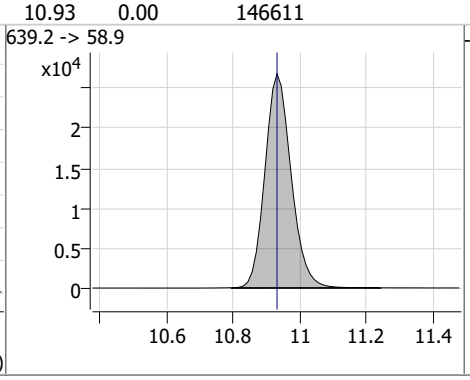


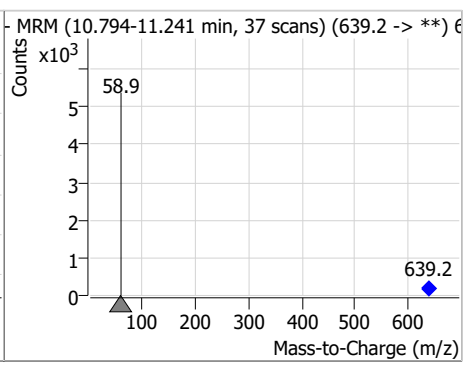




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.11	10.93	0.00	146611				

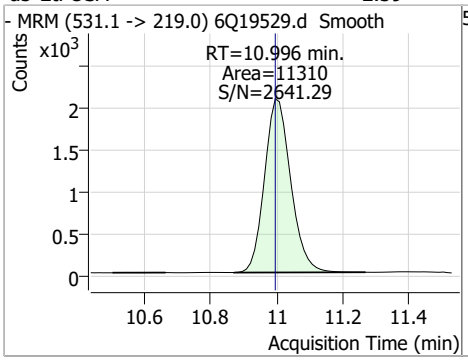


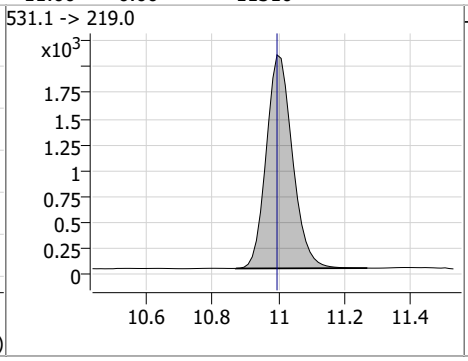


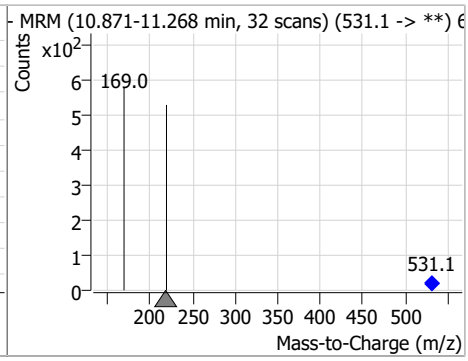


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.39	11.00	0.00	11310				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q19592.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	6/20/2023 7:50:58 AM
Sample Name	:	iccb
Vial	:	P1-A1
DA Method File	:	1633_061323_S6Q288.quantmethod.xml
Batch Name	:	s6q292.batch.bin
Sample Information	:	OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	149807	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	49768	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	52339	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	46747	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	78257	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	34729	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	19962	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	27946	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	22054	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	11288	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	28336	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	20215	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11490	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11900	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3459	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4938	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3901	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	26914	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35187	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	22462	5.00	µg/L	-0.012
M7-MeFOSE	10.696	623.2 -> 58.9	122925	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	138843	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11843	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12032	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15453	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	64117	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9171	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	81188	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	31276	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	49839	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	49115	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3459	6.29	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 125.7%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4938	5.94	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.8%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3901	4.99	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C2-PFDoDA	9.285	615.1 -> 570.0	22054	1.05	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 84.4%		
13C2-PFTeDA	10.000	715.2 -> 670.0	11288	0.97	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 77.4%		
13C3-PFBS	5.746	302.1 -> 79.9	20215	2.65	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.9%		
13C3-PFHxS	7.478	402.1 -> 79.9	11490	2.38	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C4-PFBA	3.085	216.8 -> 171.9	149807	9.96 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.707	367.1 -> 322.0	46747	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C5-PFHxA	5.792	318.0 -> 273.0	52339	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.3%	
13C5-PFPeA	4.560	268.3 -> 223.0	49768	5.36 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.1%	
13C6-PFDA	8.387	519.1 -> 474.1	19962	1.11 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 89.0%	
13C7-PFUnDA	8.853	570.0 -> 525.1	27946	1.16 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.0%	
13C8-FOSA	9.687	506.1 -> 77.8	28336	2.42 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C8-PFOA	7.339	421.1 -> 376.0	78257	2.58 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C8-PFOS	8.563	507.1 -> 79.9	11900	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C9-PFNA	7.882	472.1 -> 427.0	34729	1.14 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.6%	
d3-MeFOSAA	8.420	573.2 -> 419.0	26914	4.60 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.1%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	35187	10.37 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.7%	
d3-MeFOSA	10.775	515.0 -> 219.0	12032	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.6%	
d5-EtFOSAA	8.615	589.2 -> 419.0	22462	4.53 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.5%	
d7-MeFOSE	10.696	623.2 -> 58.9	122925	23.71 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.8%	
d9-EtFOSE	10.930	639.2 -> 58.9	138843	22.71 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.9%	
d5-EtFOSA	10.996	531.1 -> 219.0	11843	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%	

Target Compounds					QValue
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9 298.7 -> 98.8	-	N.D.	
PFDA	-	512.9 -> 469.0 512.9 -> 219.0	-	N.D.	
PFDoDA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

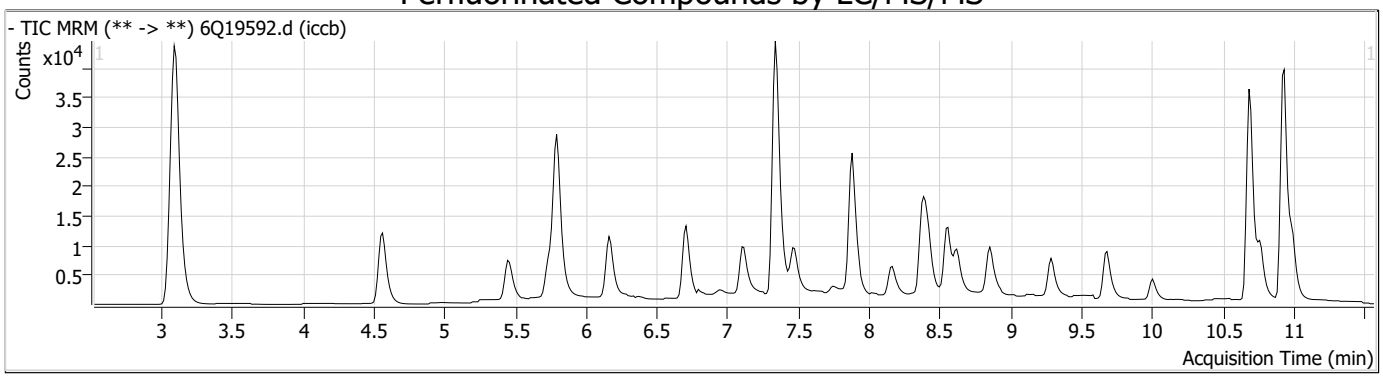
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	7.849	413.0 -> 369.0	0		µg/L	m	1
		413.0 -> 169.0	0				
PFOS	-	498.9 -> 79.9	-	N.D.			
		498.9 -> 98.8					
PFPeA	-	263.0 -> 219.0	-	N.D.			
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	-	563.1 -> 519.0	-	N.D.			
		563.1 -> 269.1					
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

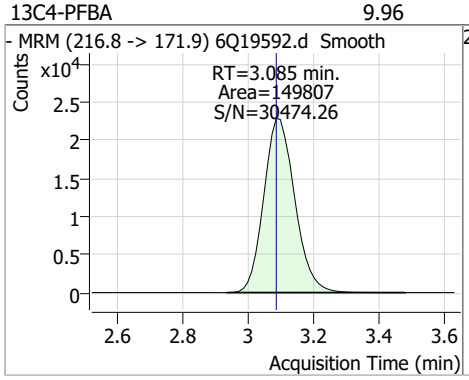
Perfluorinated Compounds by LC/MS/MS

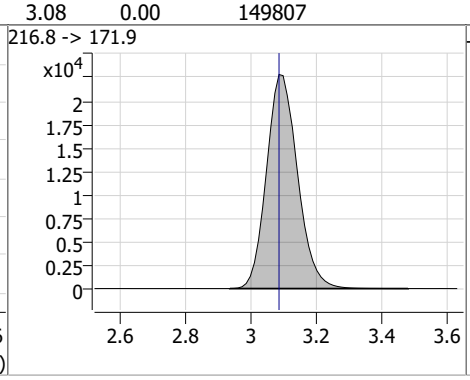
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

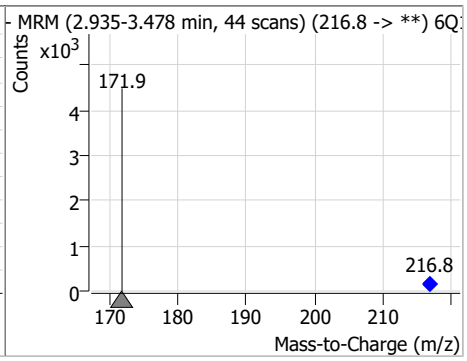
Perfluorinated Compounds by LC/MS/MS



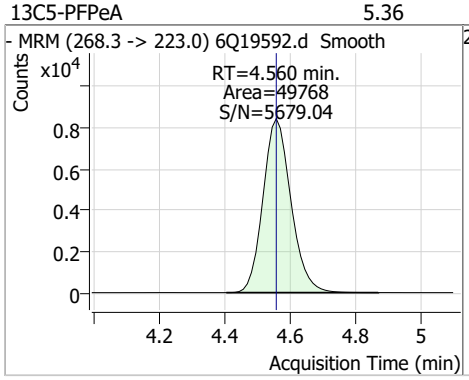
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.96	3.08	0.00	149807				

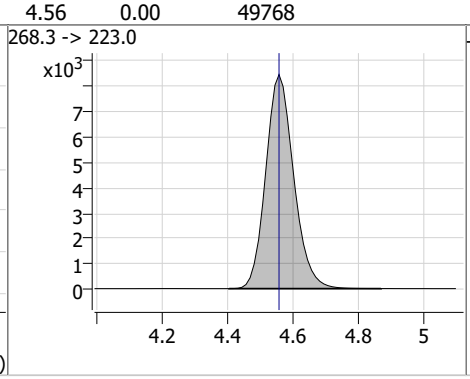


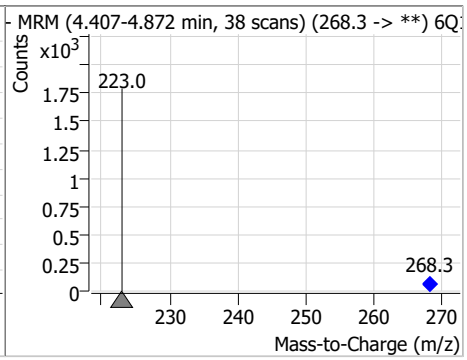




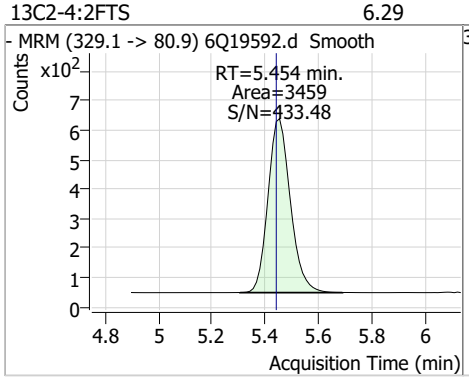
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.36	4.56	0.00	49768				

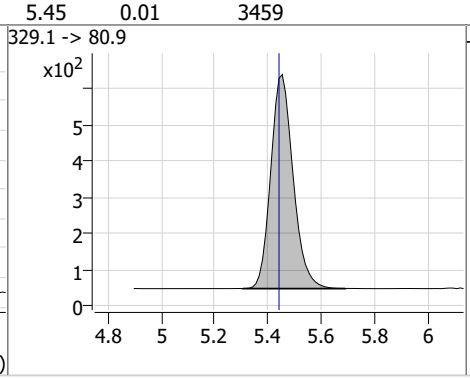


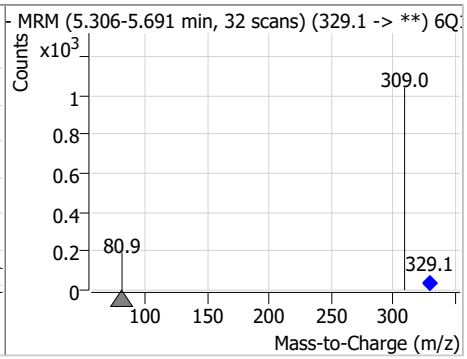




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.29	5.45	0.01	3459				

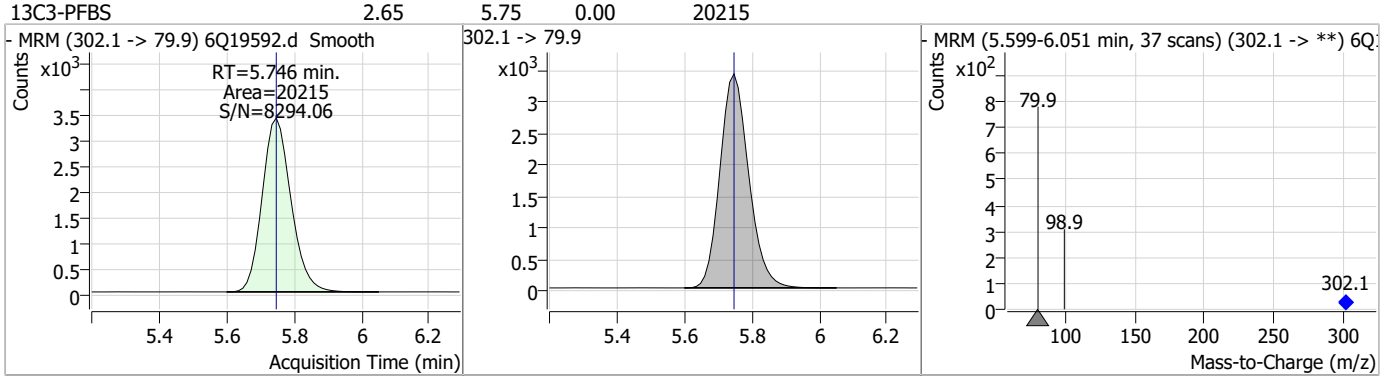




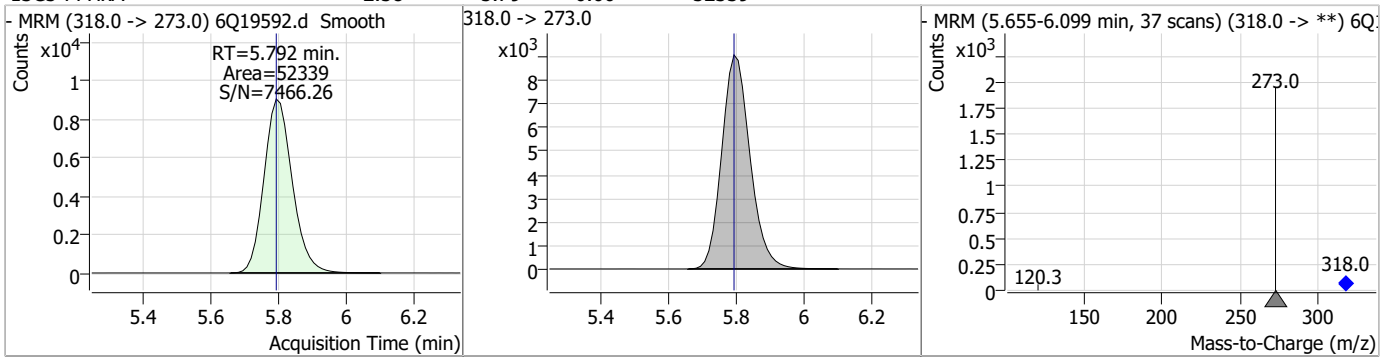


Perfluorinated Compounds by LC/MS/MS

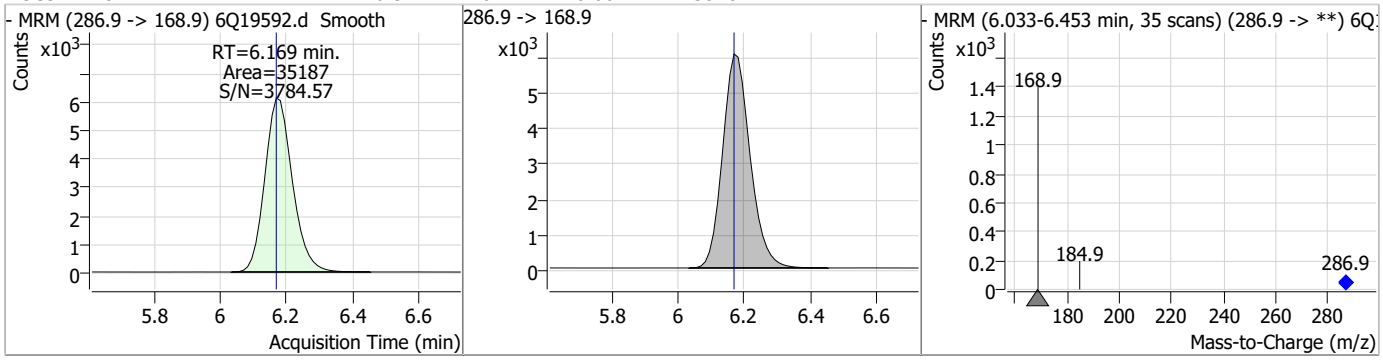
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.65	5.75	0.00	20215				



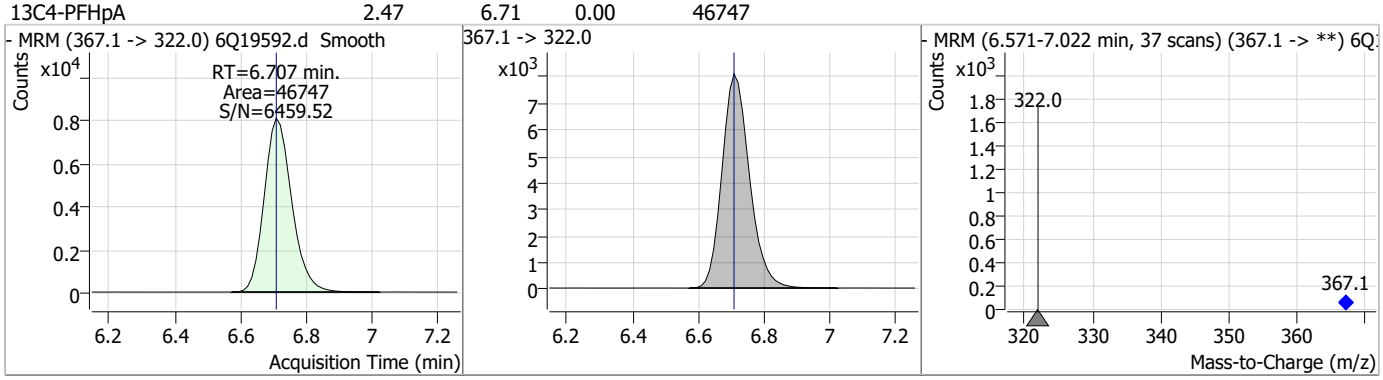
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.58	5.79	0.00	52339				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.37	6.17	0.00	35187				

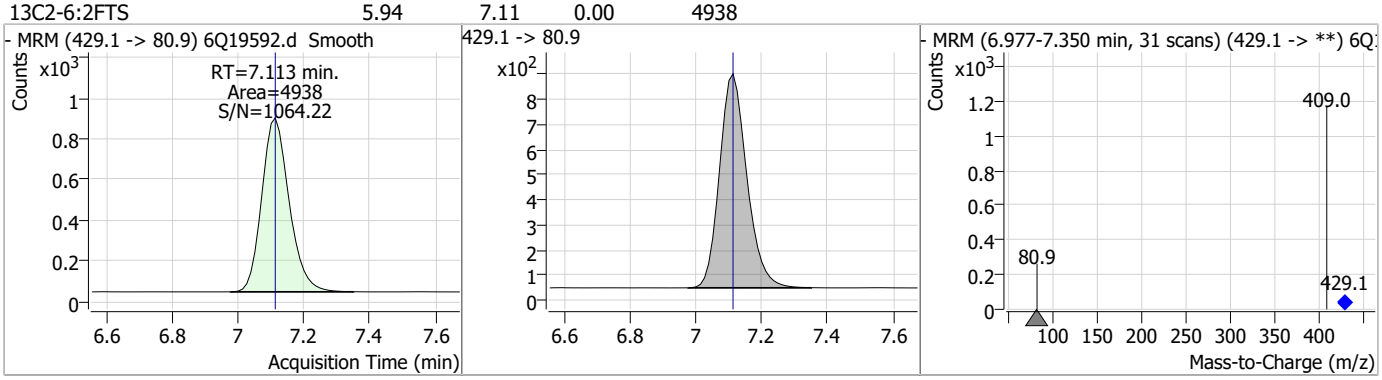


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.47	6.71	0.00	46747				

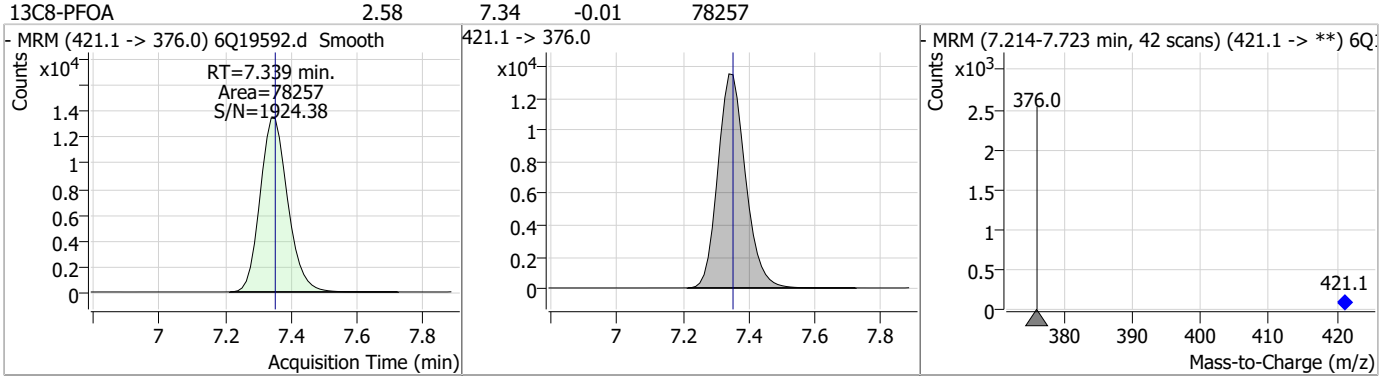


Perfluorinated Compounds by LC/MS/MS

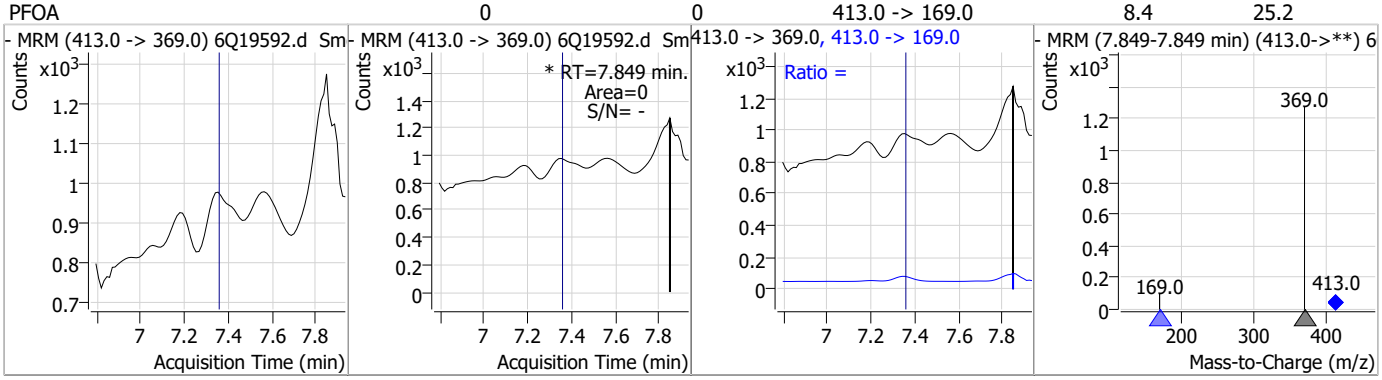
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.94	7.11	0.00	4938				



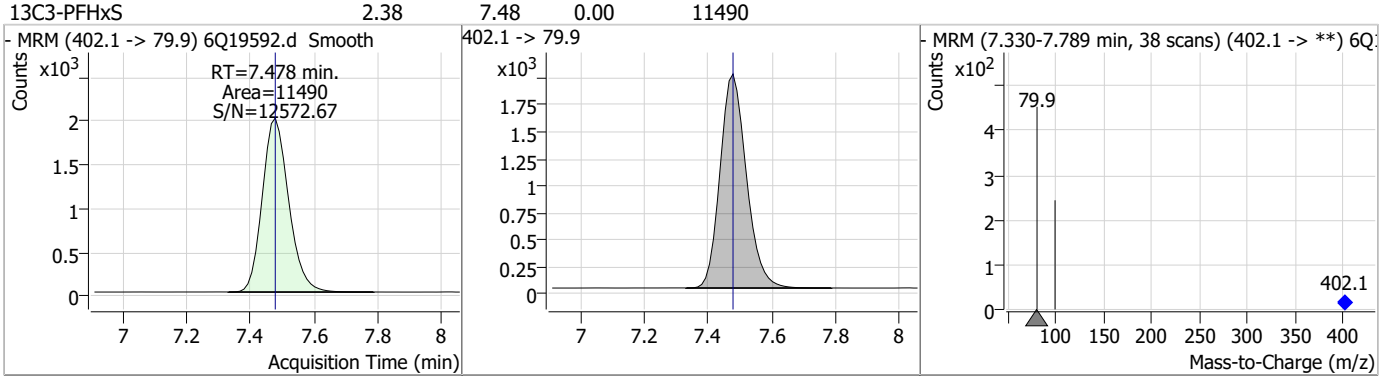
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.58	7.34	-0.01	78257				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0		0	0	413.0 -> 169.0		8.4	25.2

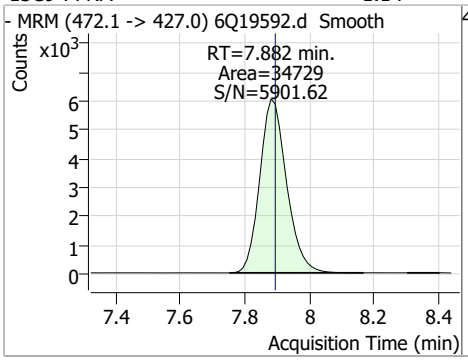


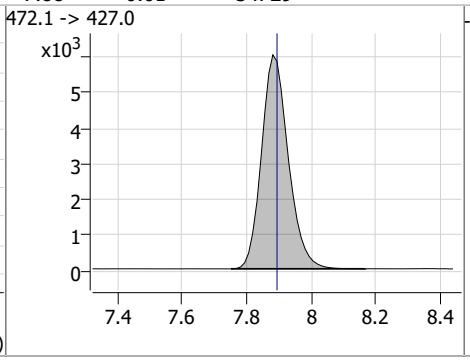
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.38	7.48	0.00	11490				

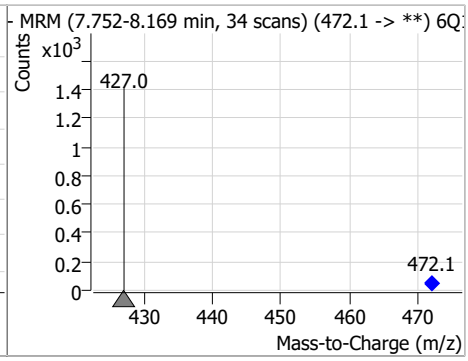


Perfluorinated Compounds by LC/MS/MS

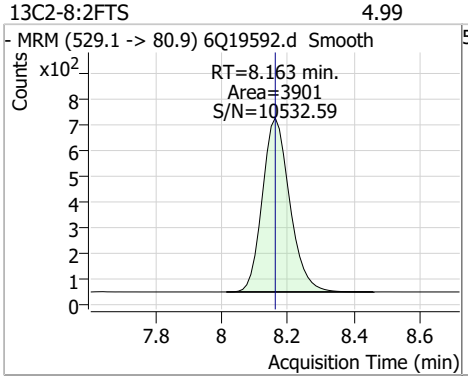
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.14	7.88	-0.01	34729				

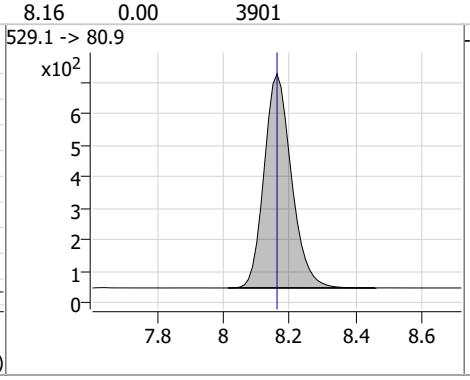


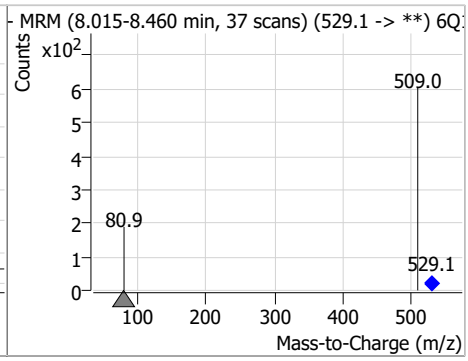




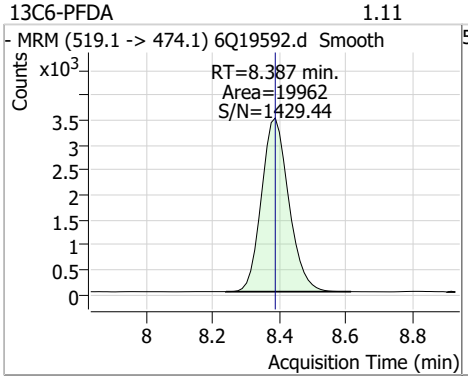
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.99	8.16	0.00	3901				

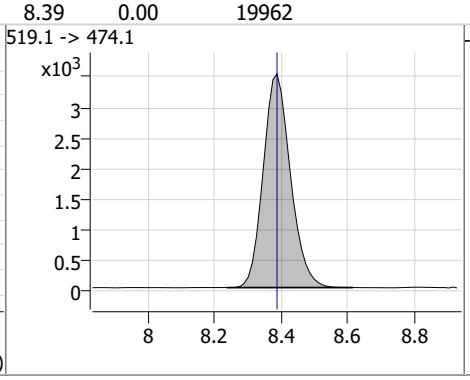


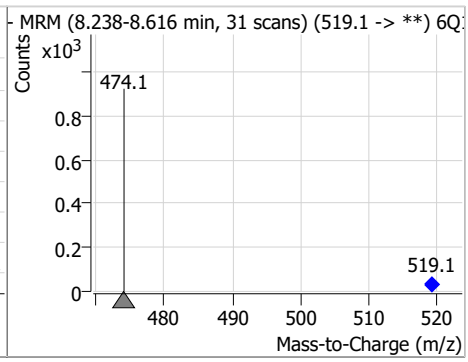




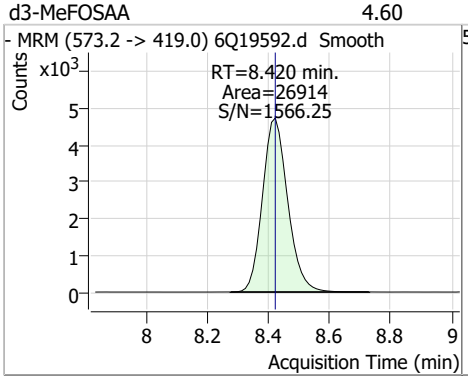
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.11	8.39	0.00	19962				

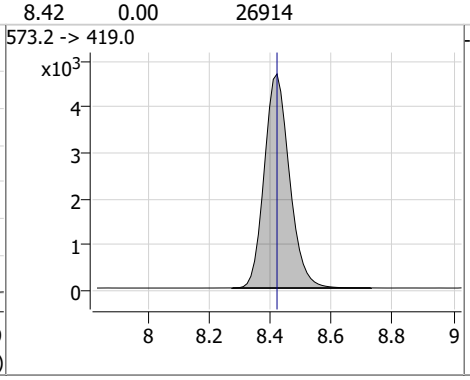


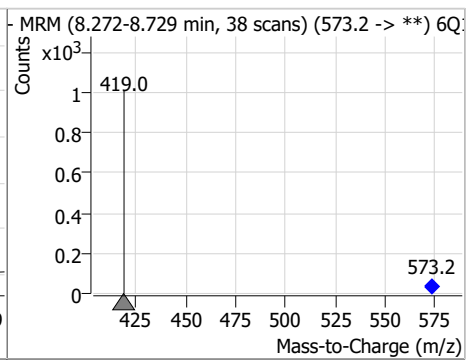




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.60	8.42	0.00	26914				

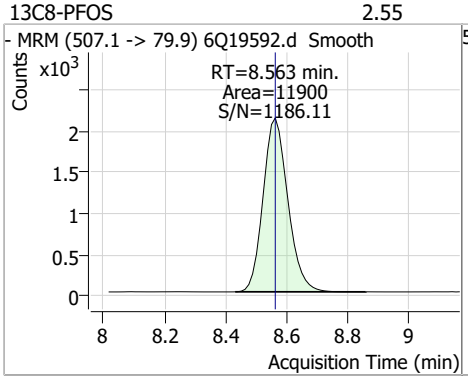


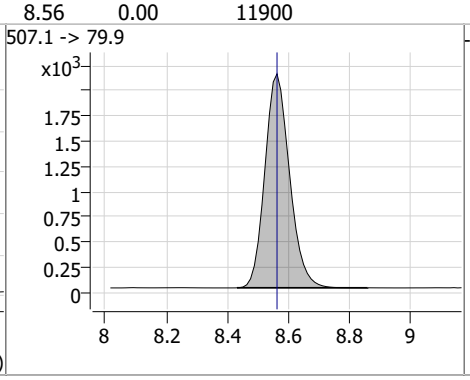


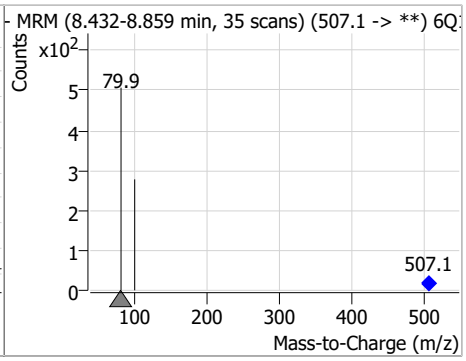


Perfluorinated Compounds by LC/MS/MS

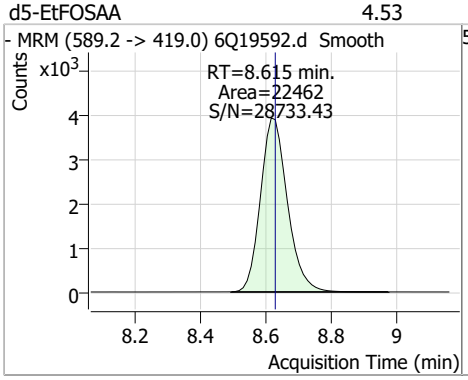
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.55	8.56	0.00	11900				

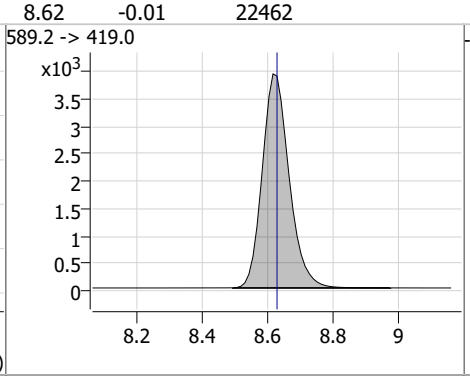


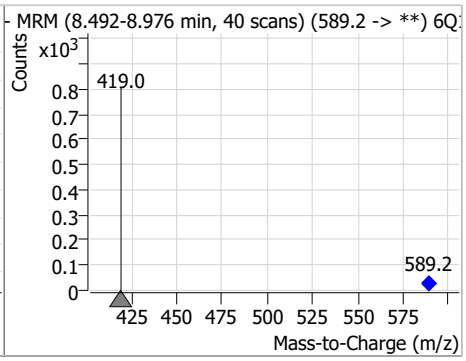




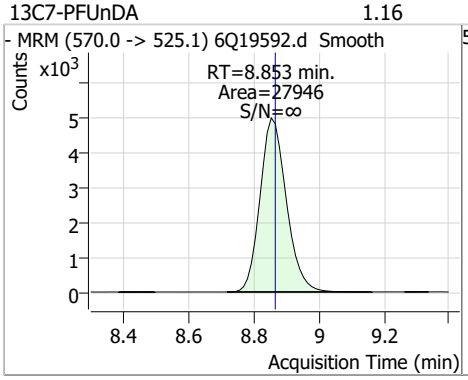
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.53	8.62	-0.01	22462				

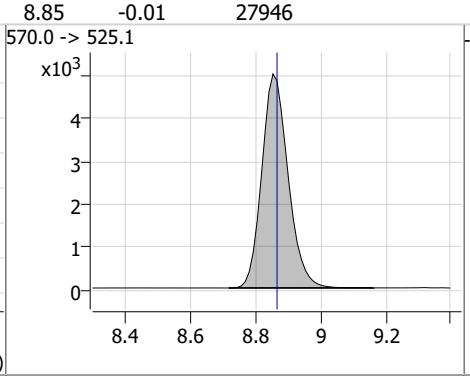


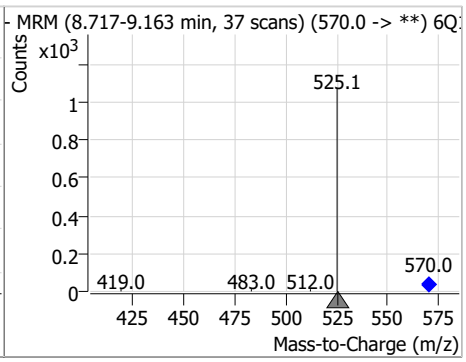




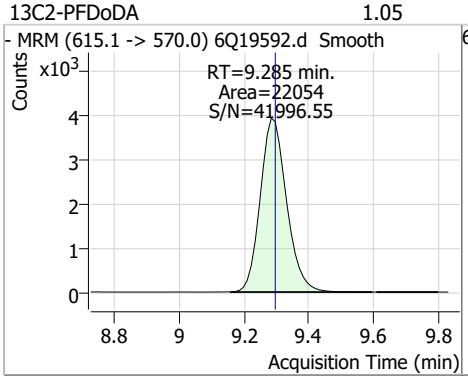
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.16	8.85	-0.01	27946				

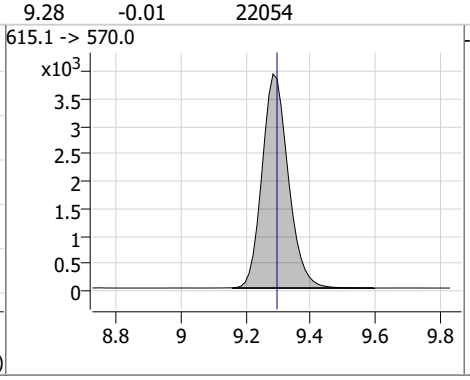


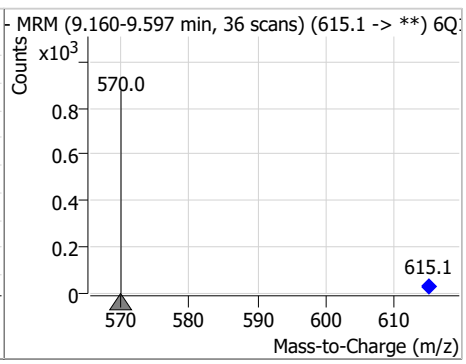




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.05	9.28	-0.01	22054				

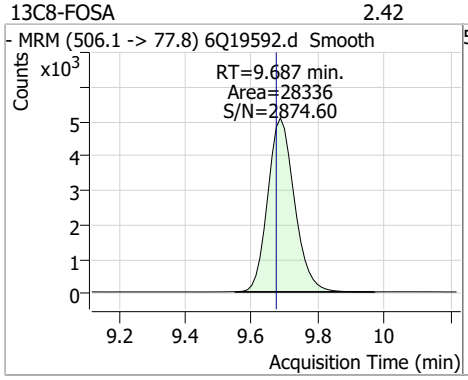


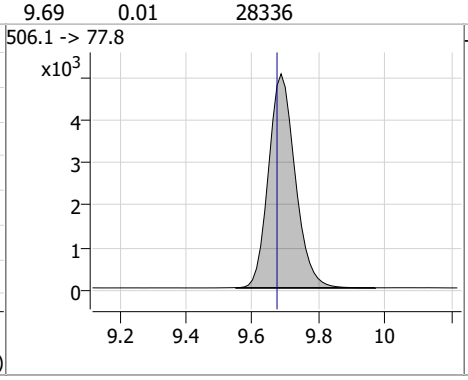


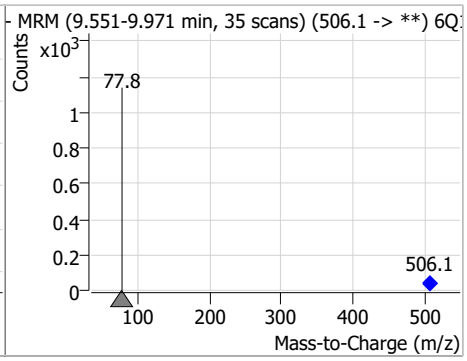


Perfluorinated Compounds by LC/MS/MS

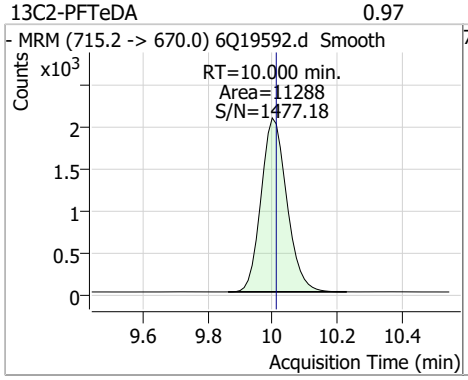
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.42	9.69	0.01	28336				

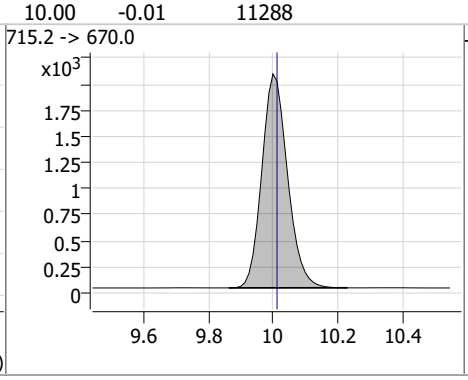


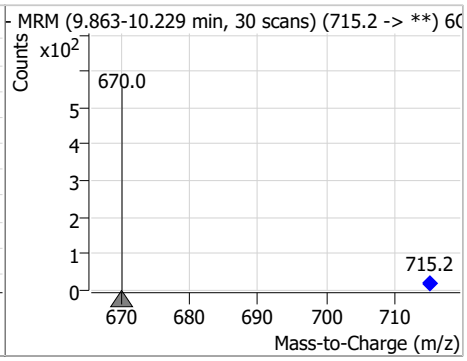




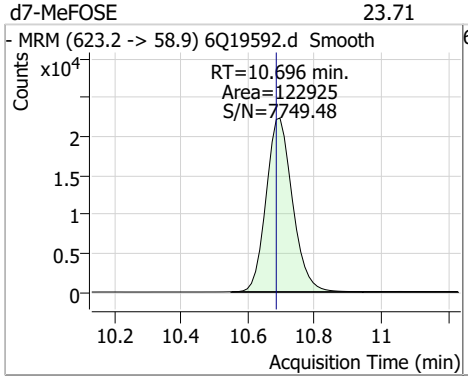
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.97	10.00	-0.01	11288				

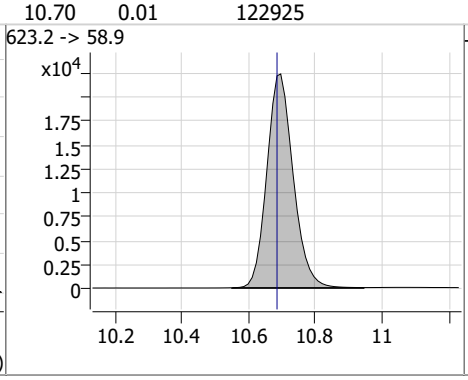


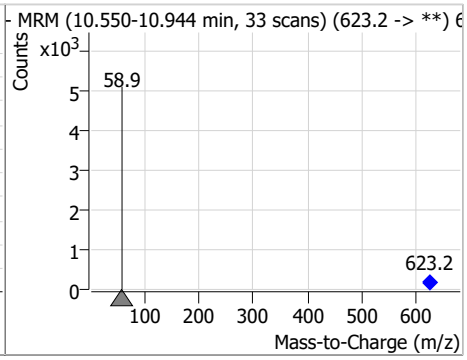




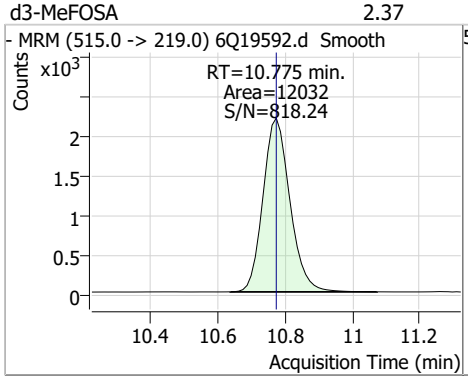
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.71	10.70	0.01	122925				

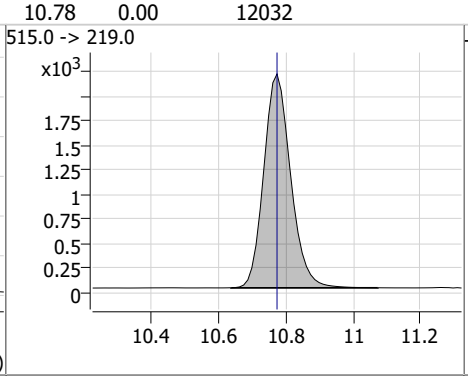


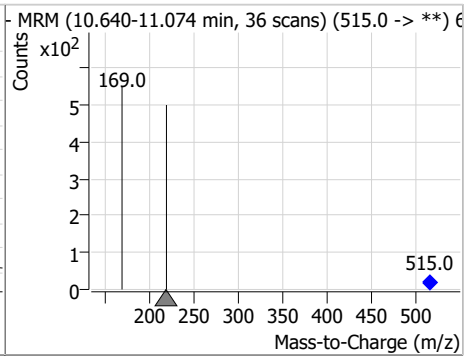




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.37	10.78	0.00	12032				

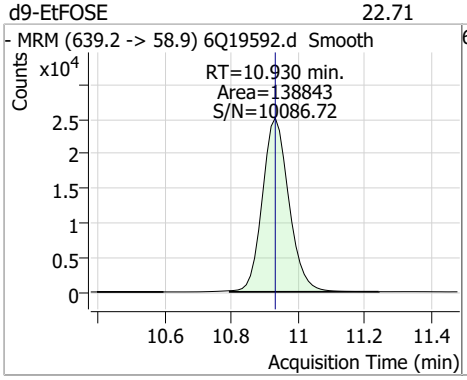


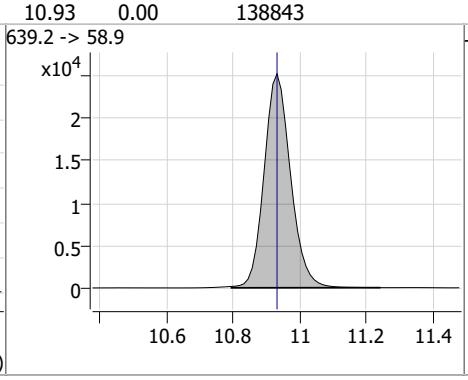


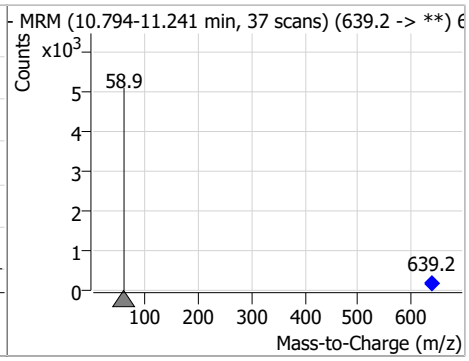


Perfluorinated Compounds by LC/MS/MS

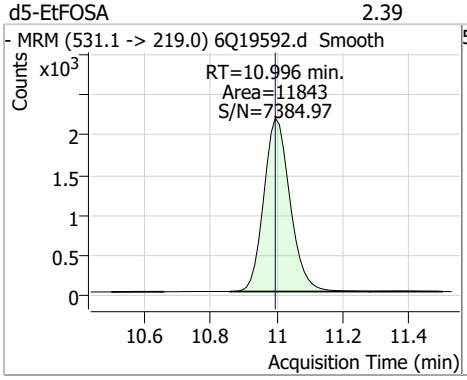
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.71	10.93	0.00	138843				

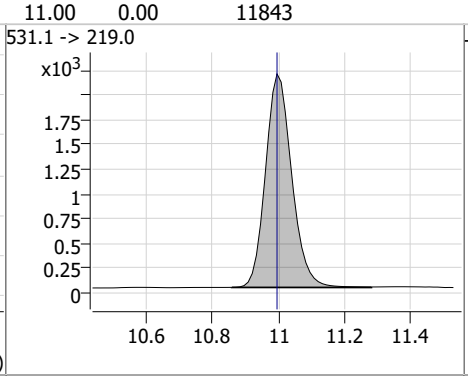


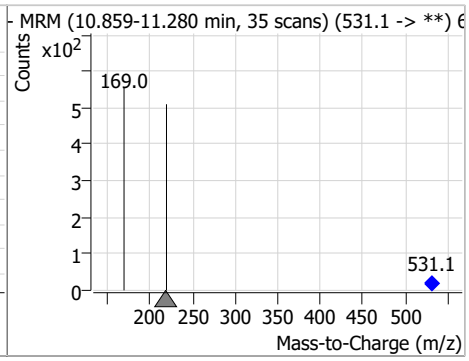




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.39	11.00	0.00	11843				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q19624.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	6/20/2023 3:25:59 PM
Sample Name	:	iblk
Vial	:	P1-A1
DA Method File	:	1633_061323_S6Q288.quantmethod.xml
Batch Name	:	s6q292.batch.bin
Sample Information	:	OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.110	216.8 -> 171.9	149860	10.00	µg/L	0.025
M5-PFPeA	4.573	268.3 -> 223.0	49238	5.00	µg/L	0.012
M5-PFHxA	5.804	318.0 -> 273.0	52167	2.50	µg/L	0.012
M4-PFHpA	6.707	367.1 -> 322.0	44548	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	76378	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	35444	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	19031	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	24981	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	22599	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	11601	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	27630	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	18277	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12565	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11553	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3329	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4502	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4068	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	26130	5.00	µg/L	0.000
M3-HFPO-DA	6.181	286.9 -> 168.9	34484	10.00	µg/L	0.012
M5-EtFOSAA	8.628	589.2 -> 419.0	20435	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	109021	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	135954	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12038	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11448	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15065	2.50	µg/L	0.000
13C3-PFBA	3.114	216.0 -> 172.0	64117	5.00	µg/L	0.025
18O2-PFHxS	7.477	403.0 -> 83.9	9207	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	77467	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	29457	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	45678	1.25	µg/L	0.000
13C2-PFHxA	5.805	315.1 -> 270.0	50793	2.50	µg/L	0.012
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3329	6.03	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 120.5%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4502	5.40	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.9%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4068	5.18	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.7%		
13C2-PFDoDA	9.285	615.1 -> 570.0	22599	1.15	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.8%		
13C2-PFTeDA	10.000	715.2 -> 670.0	11601	1.06	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 84.4%		
13C3-PFBS	5.746	302.1 -> 79.9	18277	2.38	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%		
13C3-PFHxS	7.478	402.1 -> 79.9	12565	2.60	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.9%	
13C4-PFBA	3.110	216.8 -> 171.9	149860	9.96 µg/L	0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.707	367.1 -> 322.0	44548	2.27 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.9%	
13C5-PFHxA	5.804	318.0 -> 273.0	52167	2.49 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C5-PFPeA	4.573	268.3 -> 223.0	49238	5.13 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C6-PFDA	8.387	519.1 -> 474.1	19031	1.13 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.1%	
13C7-PFUnDA	8.853	570.0 -> 525.1	24981	1.10 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 88.2%	
13C8-FOSA	9.687	506.1 -> 77.8	27630	2.42 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C8-PFOA	7.339	421.1 -> 376.0	76378	2.64 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.5%	
13C8-PFOS	8.563	507.1 -> 79.9	11553	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C9-PFNA	7.882	472.1 -> 427.0	35444	1.27 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.0%	
d3-MeFOSAA	8.420	573.2 -> 419.0	26130	4.58 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.7%	
13C3-HFPO-DA	6.181	286.9 -> 168.9	34484	9.83 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.3%	
d3-MeFOSA	10.775	515.0 -> 219.0	11448	2.31 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.4%	
d5-EtFOSAA	8.628	589.2 -> 419.0	20435	4.22 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 84.5%	
d7-MeFOSE	10.696	623.2 -> 58.9	109021	21.57 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 86.3%	
d9-EtFOSE	10.930	639.2 -> 58.9	135954	22.81 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.3%	
d5-EtFOSA	10.996	531.1 -> 219.0	12038	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	

Target Compounds					QValue
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9 298.7 -> 98.8	-	N.D.	
PFDA	-	512.9 -> 469.0 512.9 -> 219.0	-	N.D.	
PFDoDA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

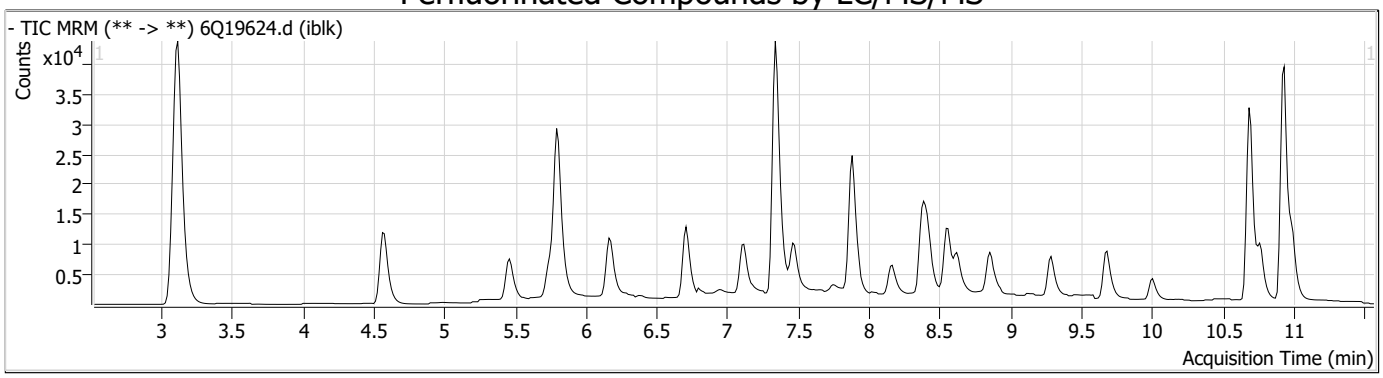
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	N.D.		
		463.0 -> 219.0				
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	-	413.0 -> 369.0	-	N.D.		
		413.0 -> 169.0				
PFOS	-	498.9 -> 79.9	-	N.D.		
		498.9 -> 98.8				
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

 # = Qualifier out of range, m = manually integrated, + = Area summed

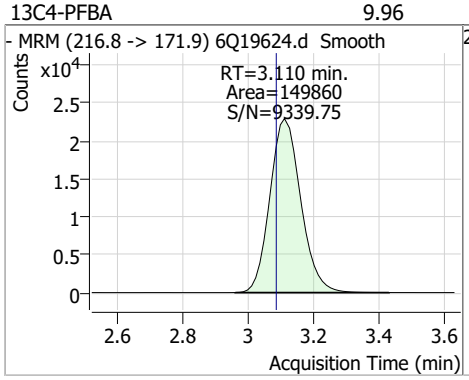
Perfluorinated Compounds by LC/MS/MS

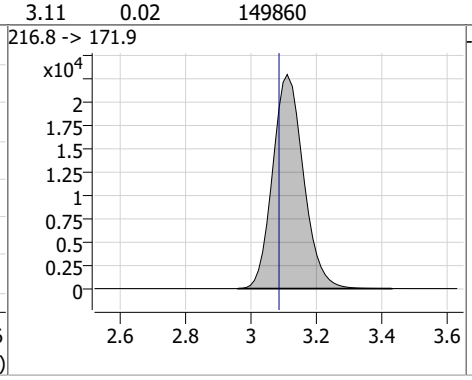
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

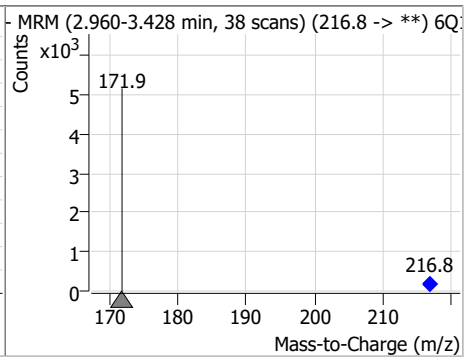
Perfluorinated Compounds by LC/MS/MS



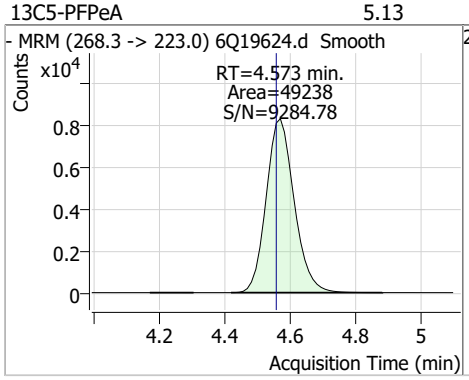
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.96	3.11	0.02	149860				

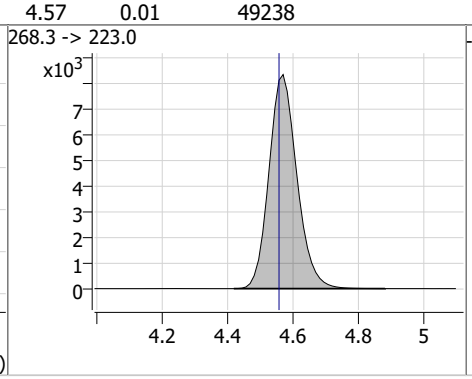


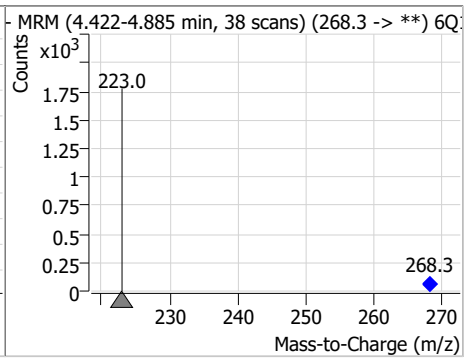




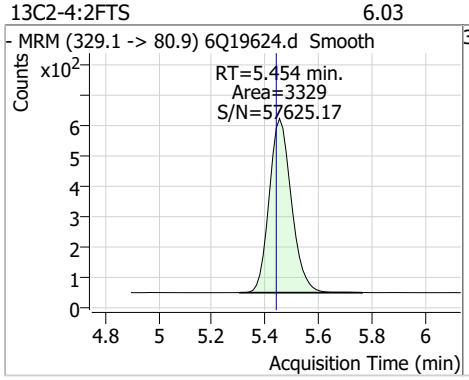
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.13	4.57	0.01	49238				

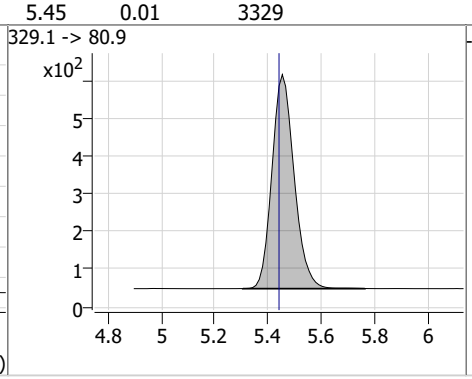


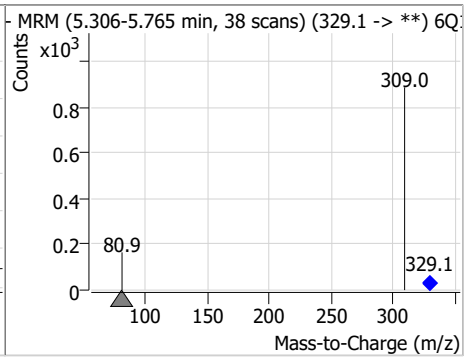




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.03	5.45	0.01	3329				

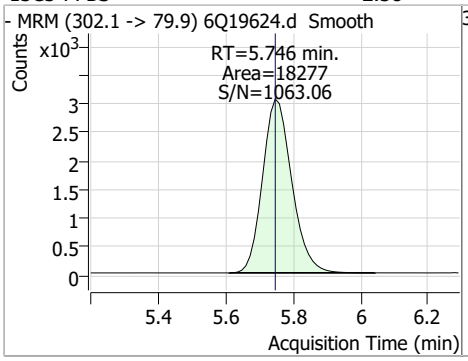


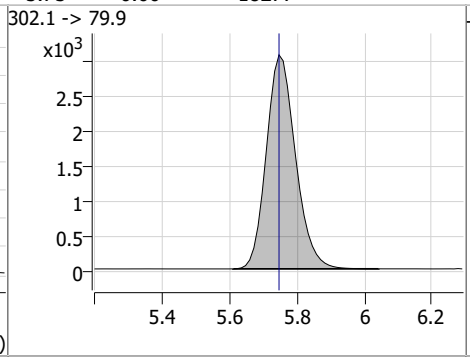


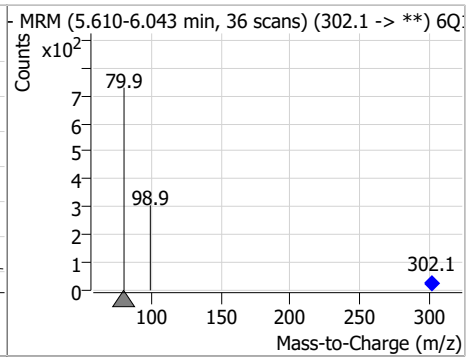


Perfluorinated Compounds by LC/MS/MS

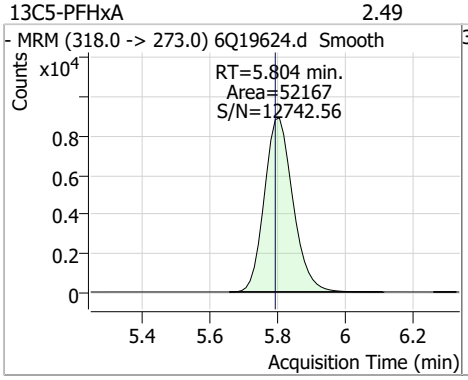
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.38	5.75	0.00	18277				

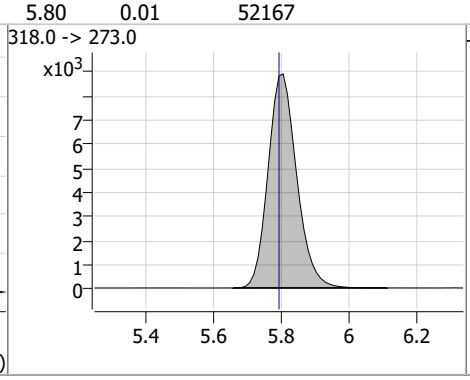


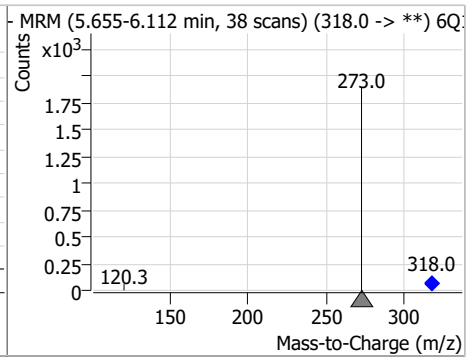




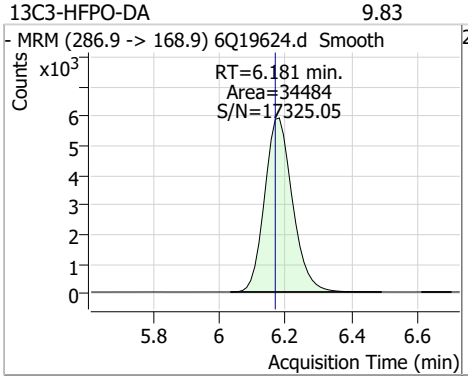
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.49	5.80	0.01	52167				

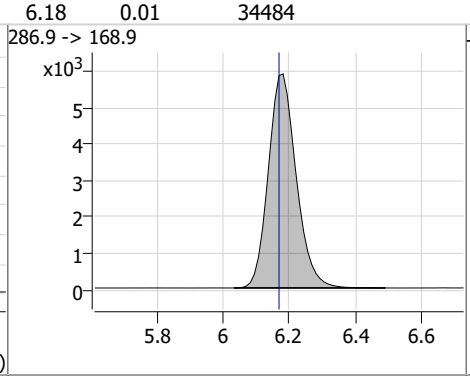


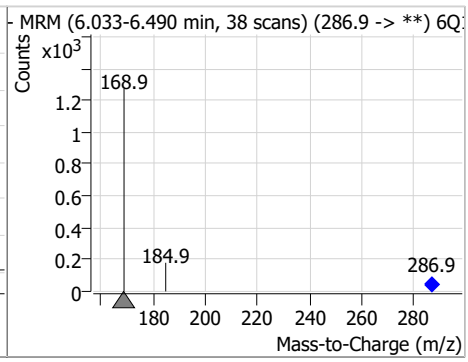




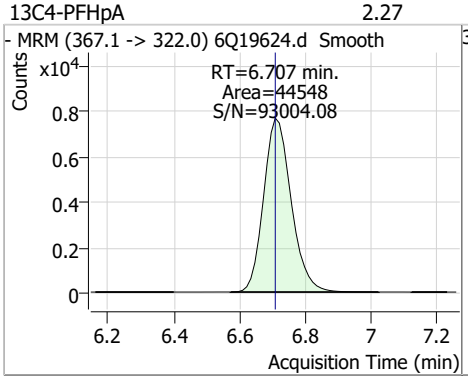
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.83	6.18	0.01	34484				

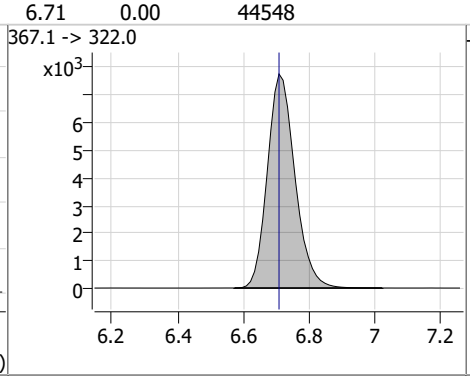


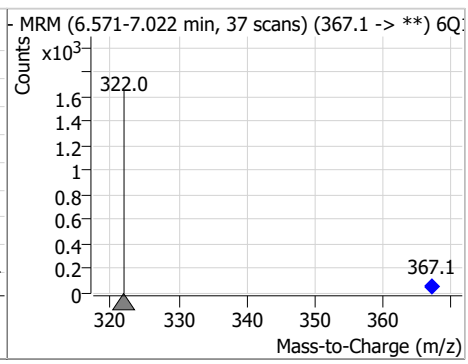




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.27	6.71	0.00	44548				

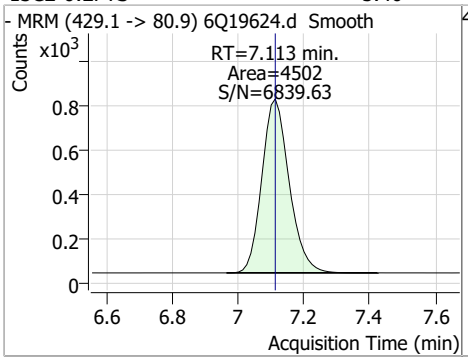


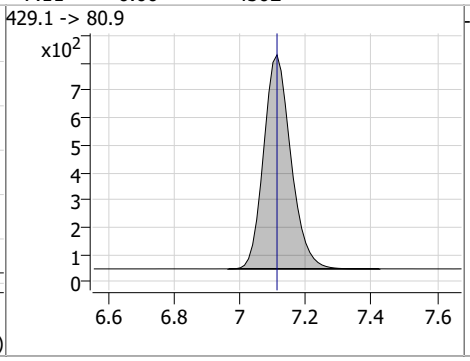


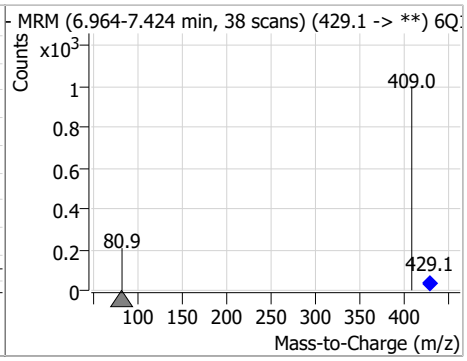


Perfluorinated Compounds by LC/MS/MS

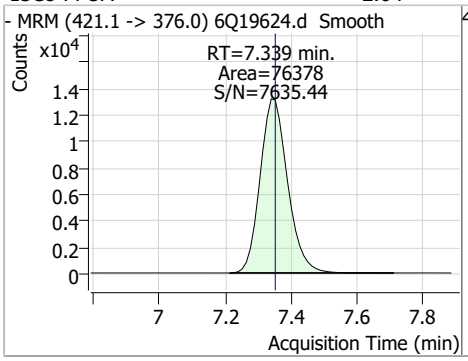
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.40	7.11	0.00	4502				

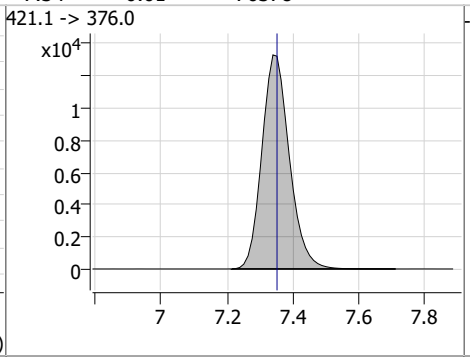


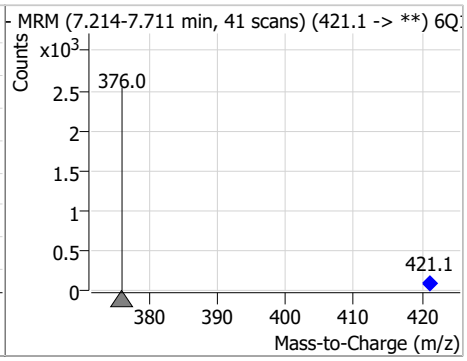




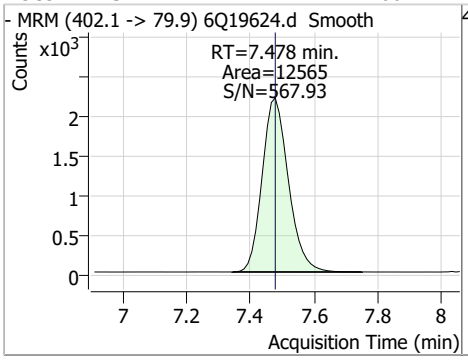
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.64	7.34	-0.01	76378				

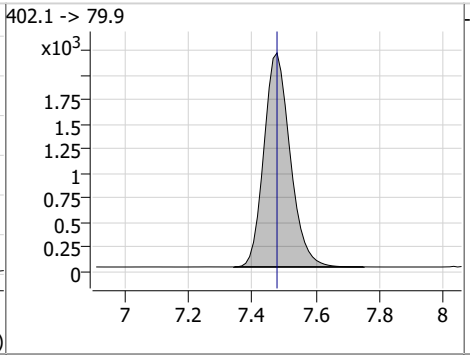


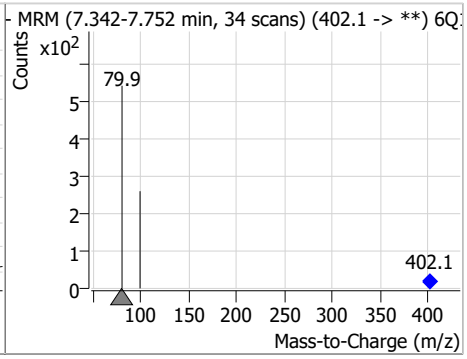




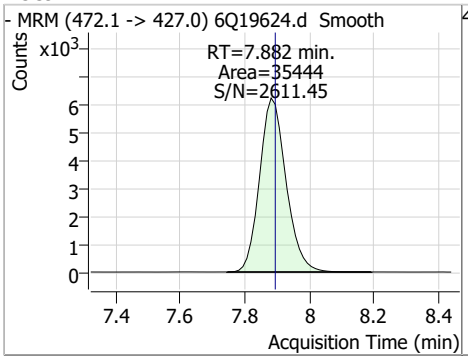
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.60	7.48	0.00	12565				

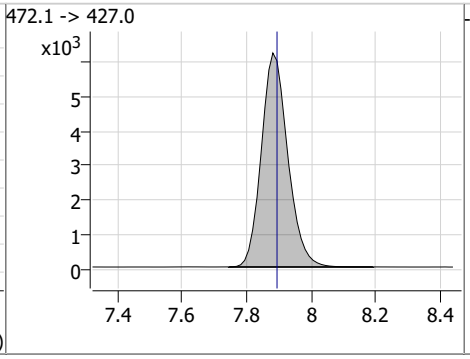


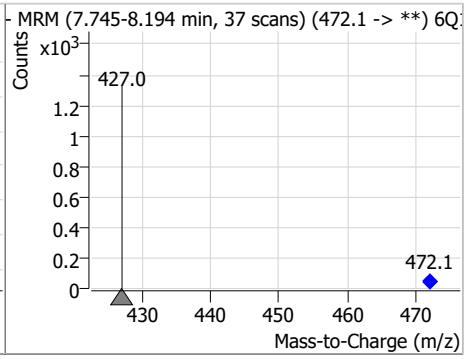




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.27	7.88	-0.01	35444				

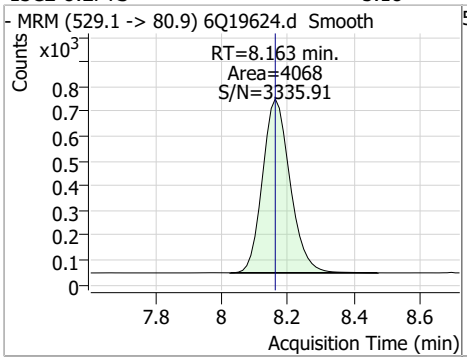


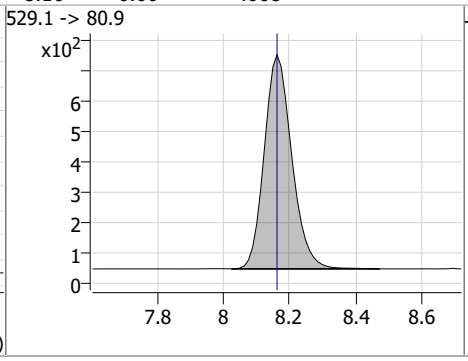


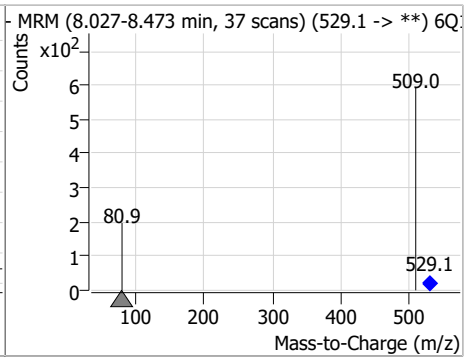


Perfluorinated Compounds by LC/MS/MS

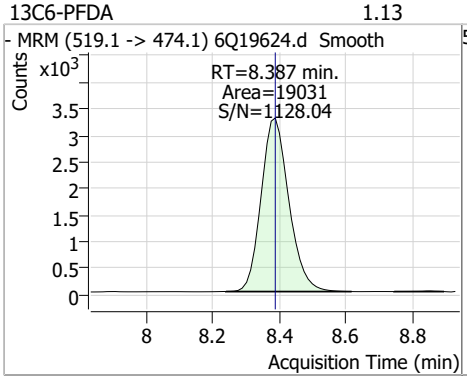
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.18	8.16	0.00	4068				

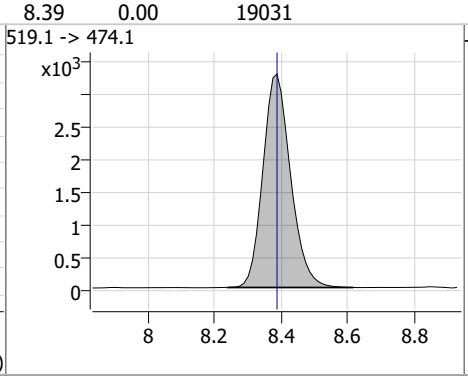


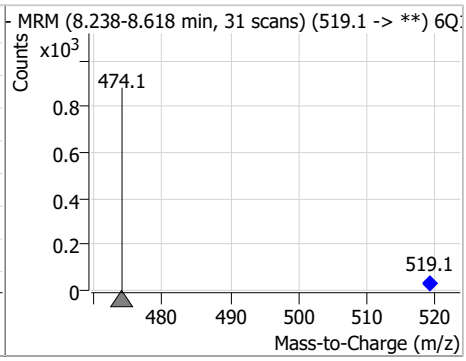




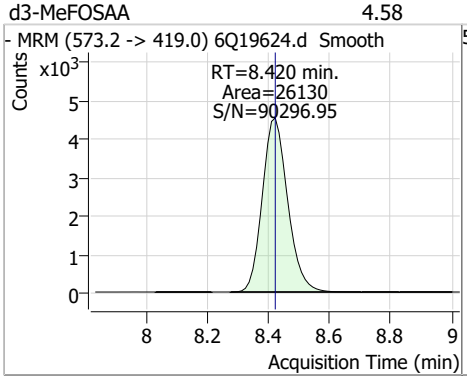
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.13	8.39	0.00	19031				

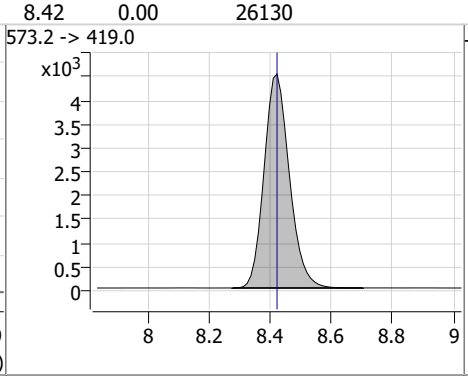


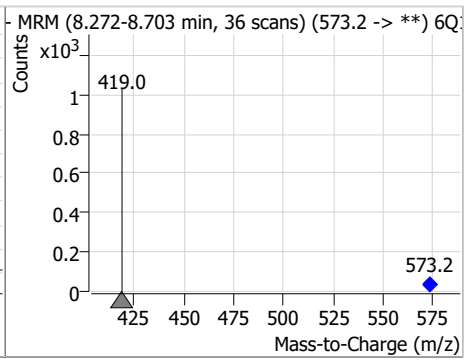




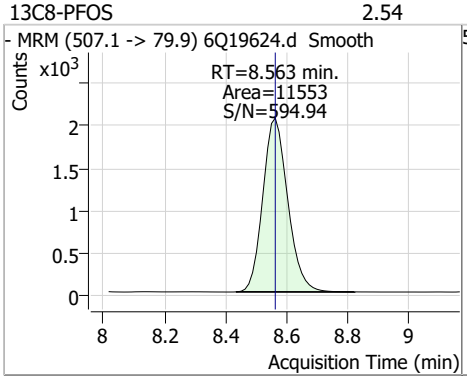
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.58	8.42	0.00	26130				

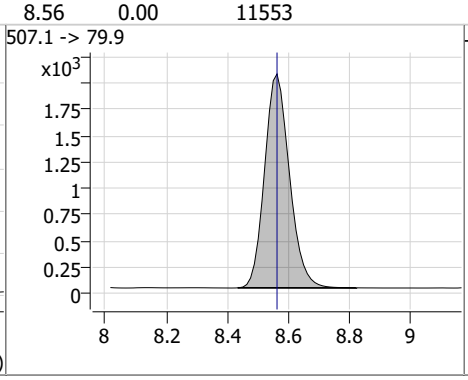


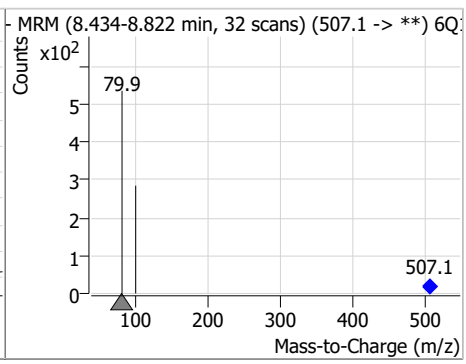




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.54	8.56	0.00	11553				

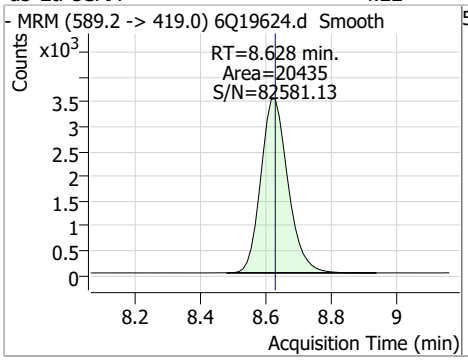


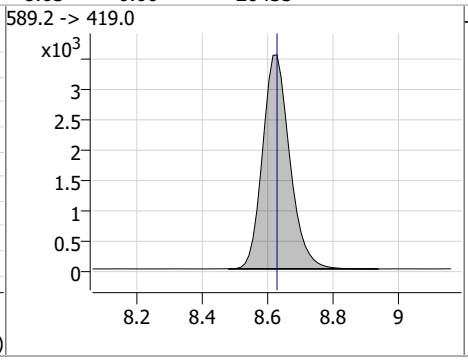


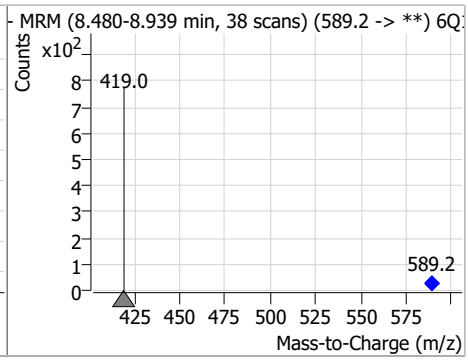


Perfluorinated Compounds by LC/MS/MS

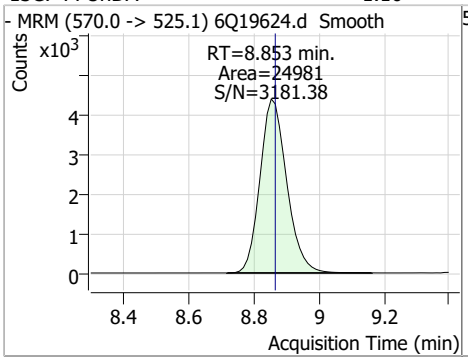
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.22	8.63	0.00	20435				

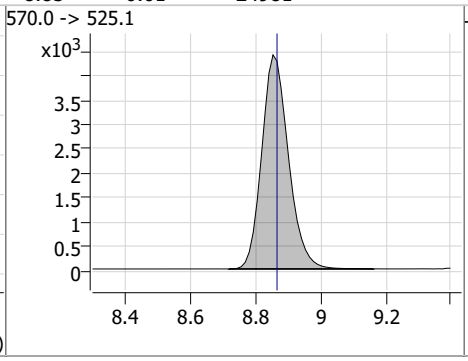


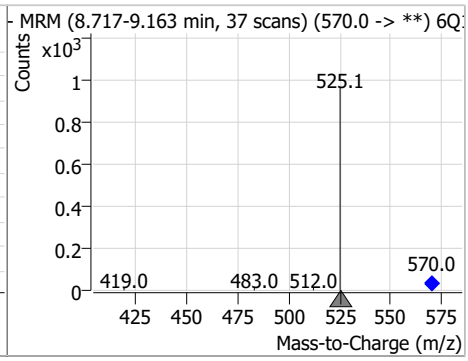




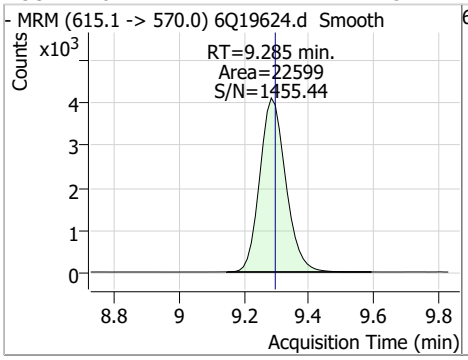
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.10	8.85	-0.01	24981				

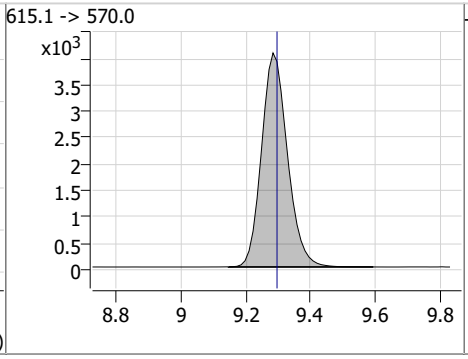


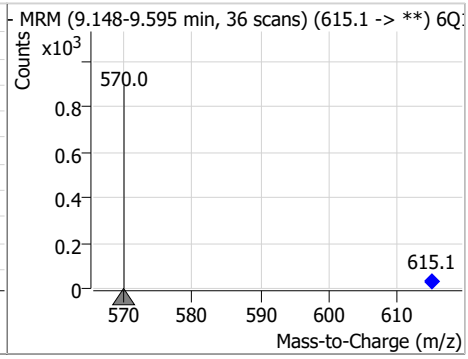




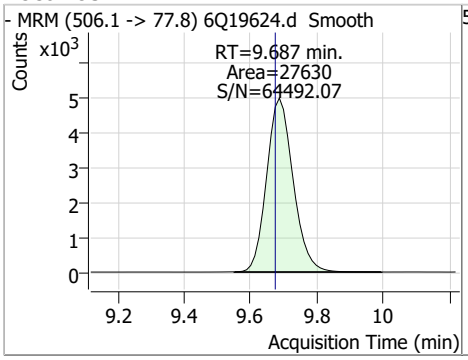
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.15	9.28	-0.01	22599				

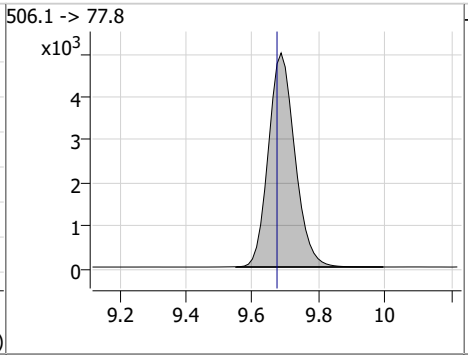


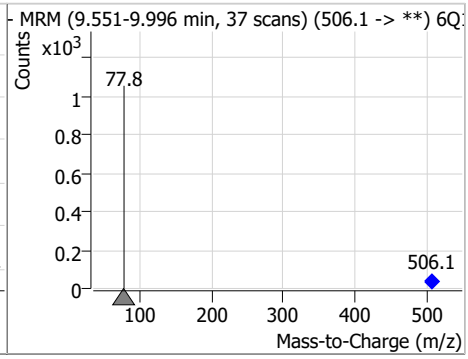




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.42	9.69	0.01	27630				

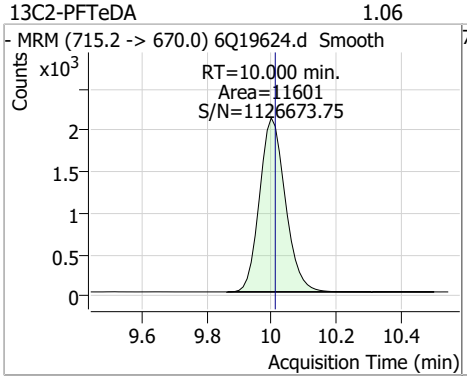


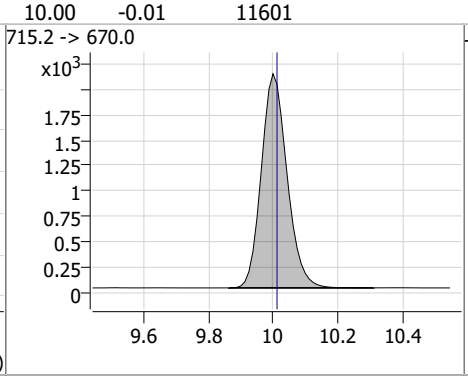


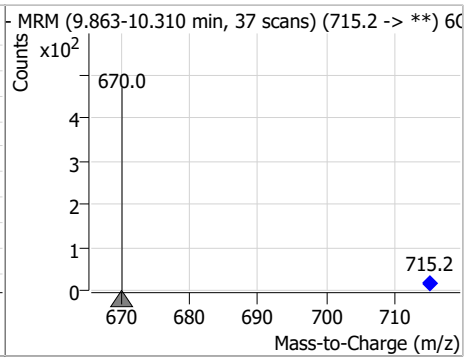


Perfluorinated Compounds by LC/MS/MS

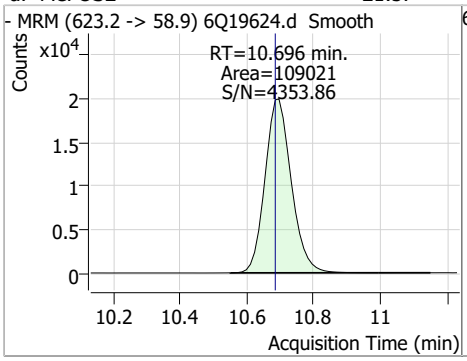
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.06	10.00	-0.01	11601				

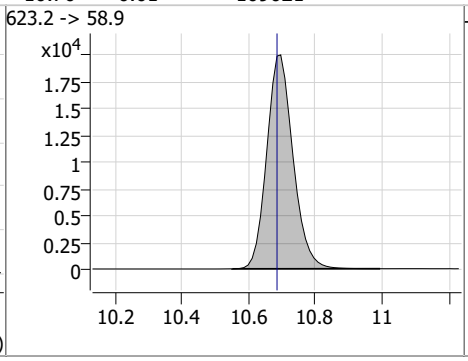


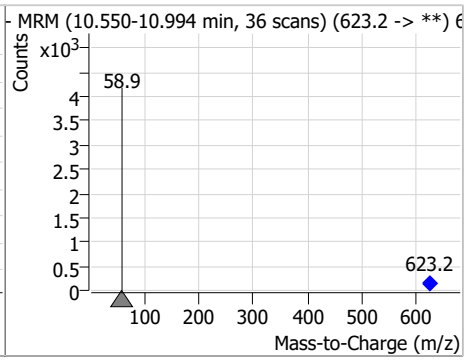




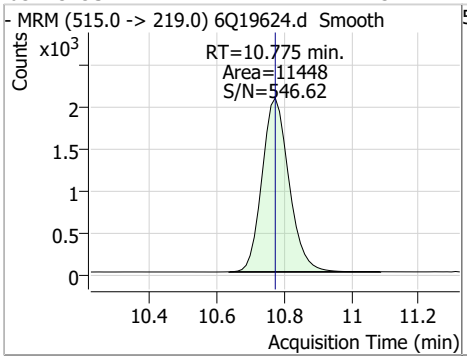
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	21.57	10.70	0.01	109021				

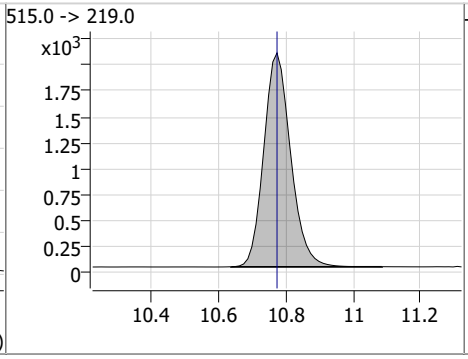


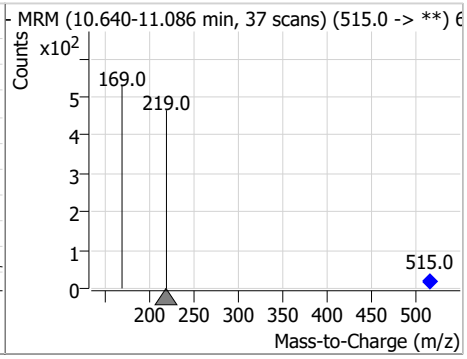




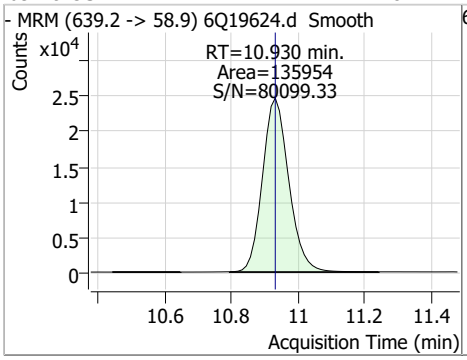
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.31	10.78	0.00	11448				

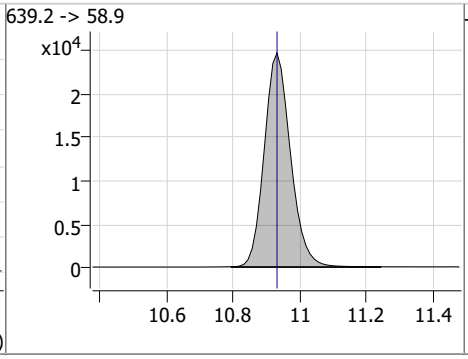


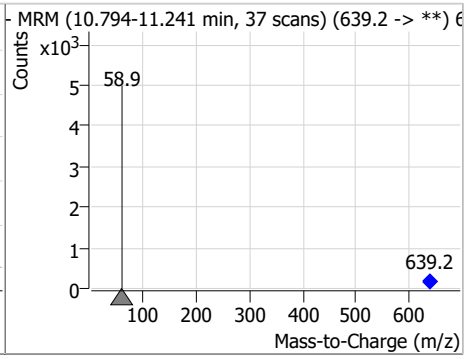




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.81	10.93	0.00	135954				

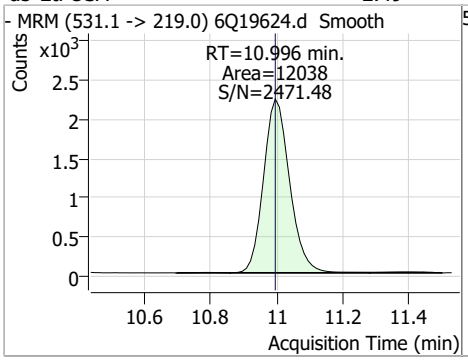


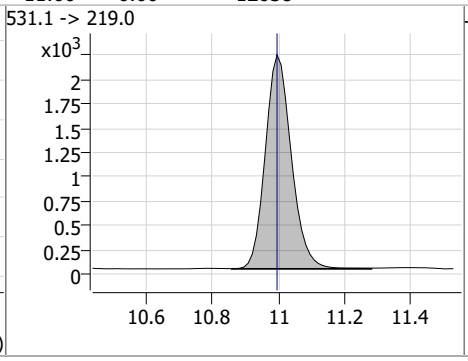


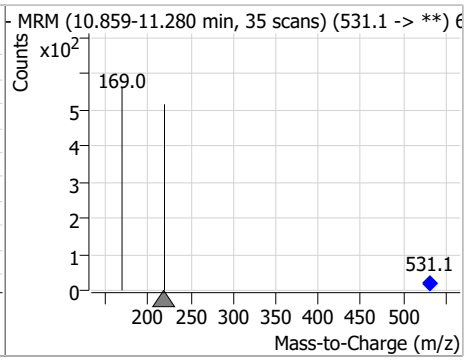


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.49	11.00	0.00	12038				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q19604.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	6/20/2023 10:44:06 AM
Sample Name	:	iccb
Vial	:	P1-A1
DA Method File	:	1633_061323_S6Q288.quantmethod.xml
Batch Name	:	s6q292.batch.bin
Sample Information	:	OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	151940	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	49902	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	53211	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	48330	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	72428	2.50	µg/L	0.000
M9-PFNA	7.882	472.1 -> 427.0	36791	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	20957	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	27961	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	23080	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	11523	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	28028	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19229	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11817	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11147	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3355	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4962	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4149	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	26476	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35519	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	22936	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	114214	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	137320	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11835	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11575	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15745	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	65166	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9026	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	84686	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	28456	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	45562	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	50068	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3355	6.19	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 123.9%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4962	6.07	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 121.3%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4149	5.39	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.9%		
13C2-PFDoDA	9.285	615.1 -> 570.0	23080	1.21	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.1%		
13C2-PFTeDA	10.000	715.2 -> 670.0	11523	1.09	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 86.8%		
13C3-PFBS	5.746	302.1 -> 79.9	19229	2.56	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C3-PFHxS	7.478	402.1 -> 79.9	11817	2.49	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFBA	3.097	216.8 -> 171.9	151940	9.94 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C4-PFHpA	6.707	367.1 -> 322.0	48330	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C5-PFHxA	5.792	318.0 -> 273.0	53211	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C5-PFPeA	4.560	268.3 -> 223.0	49902	5.27 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.4%	
13C6-PFDA	8.387	519.1 -> 474.1	20957	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C7-PFUnDA	8.853	570.0 -> 525.1	27961	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C8-FOSA	9.687	506.1 -> 77.8	28028	2.35 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.0%	
13C8-PFOA	7.352	421.1 -> 376.0	72428	2.29 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.5%	
13C8-PFOS	8.563	507.1 -> 79.9	11147	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.8%	
13C9-PFNA	7.882	472.1 -> 427.0	36791	1.33 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.1%	
d3-MeFOSAA	8.420	573.2 -> 419.0	26476	4.44 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.9%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	35519	10.27 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
d3-MeFOSA	10.775	515.0 -> 219.0	11575	2.23 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.4%	
d5-EtFOSAA	8.628	589.2 -> 419.0	22936	4.54 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.7%	
d7-MeFOSE	10.696	623.2 -> 58.9	114214	21.62 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 86.5%	
d9-EtFOSE	10.930	639.2 -> 58.9	137320	22.05 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 88.2%	
d5-EtFOSA	10.996	531.1 -> 219.0	11835	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.6%	

Target Compounds					QValue
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9 298.7 -> 98.8	-	N.D.	
PFDA	-	512.9 -> 469.0 512.9 -> 219.0	-	N.D.	
PFDoDA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

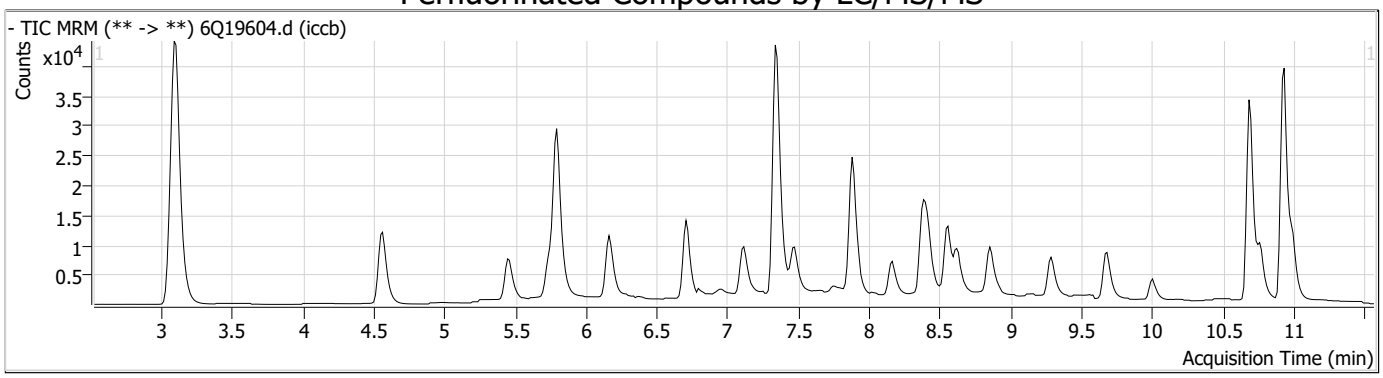
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	N.D.		
		463.0 -> 219.0				
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	-	413.0 -> 369.0	-	N.D.		
		413.0 -> 169.0				
PFOS	-	498.9 -> 79.9	-	N.D.		
		498.9 -> 98.8				
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

 # = Qualifier out of range, m = manually integrated, + = Area summed

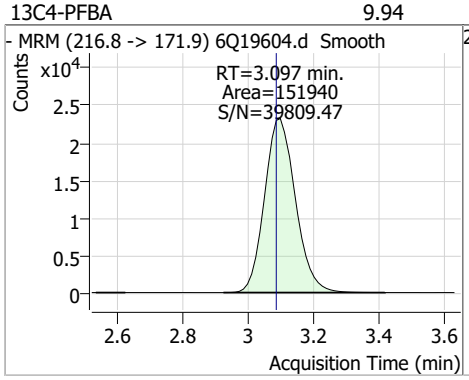
Perfluorinated Compounds by LC/MS/MS

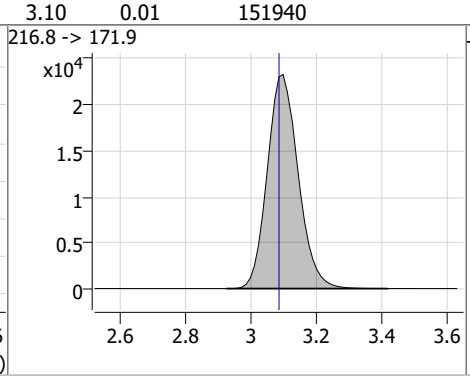
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

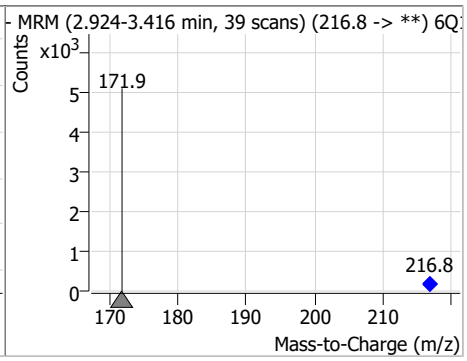
Perfluorinated Compounds by LC/MS/MS



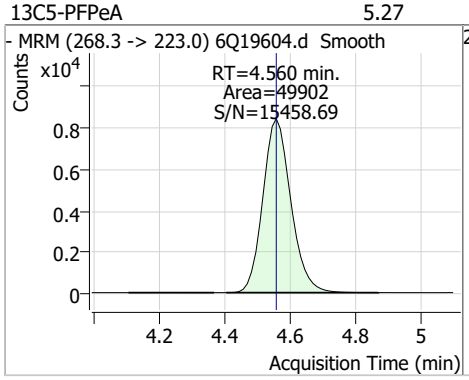
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.94	3.10	0.01	151940				

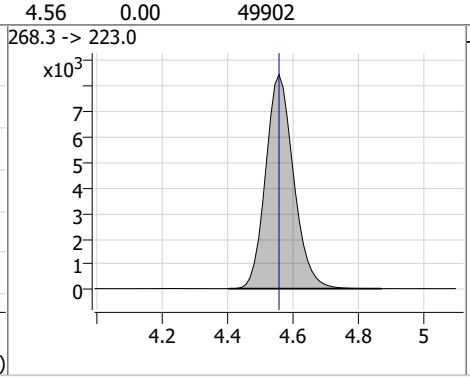


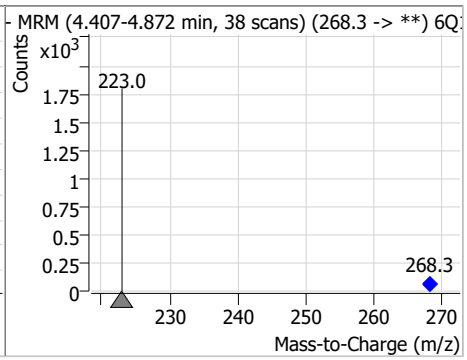




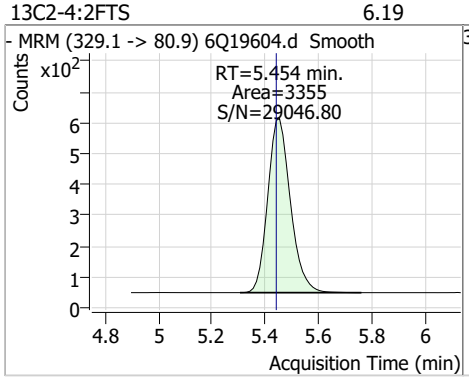
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.27	4.56	0.00	49902				

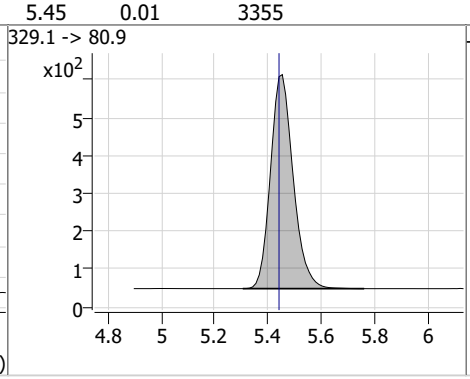


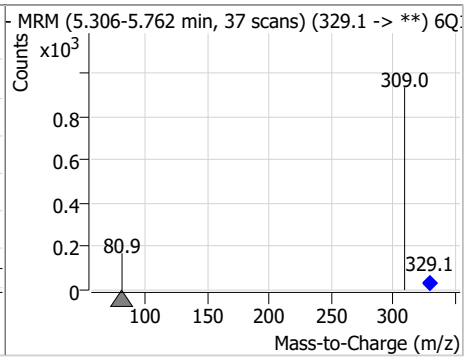




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.19	5.45	0.01	3355				

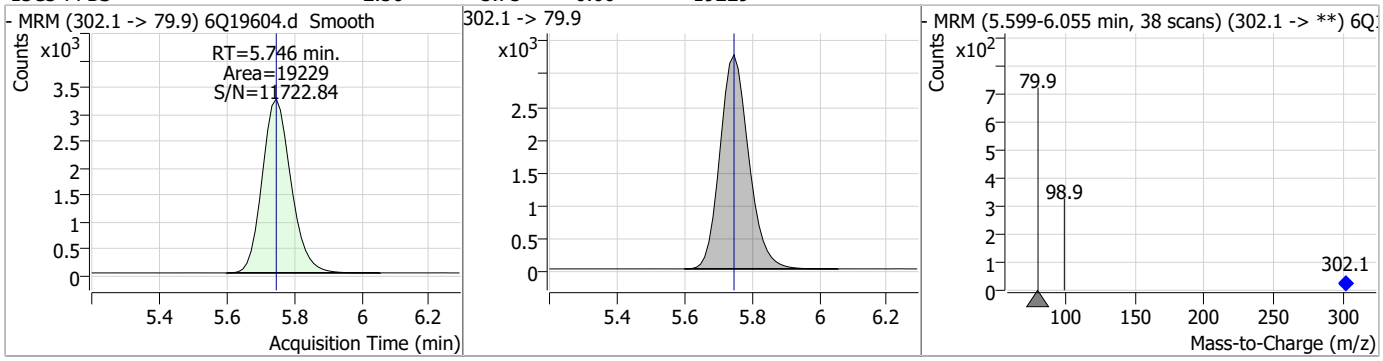




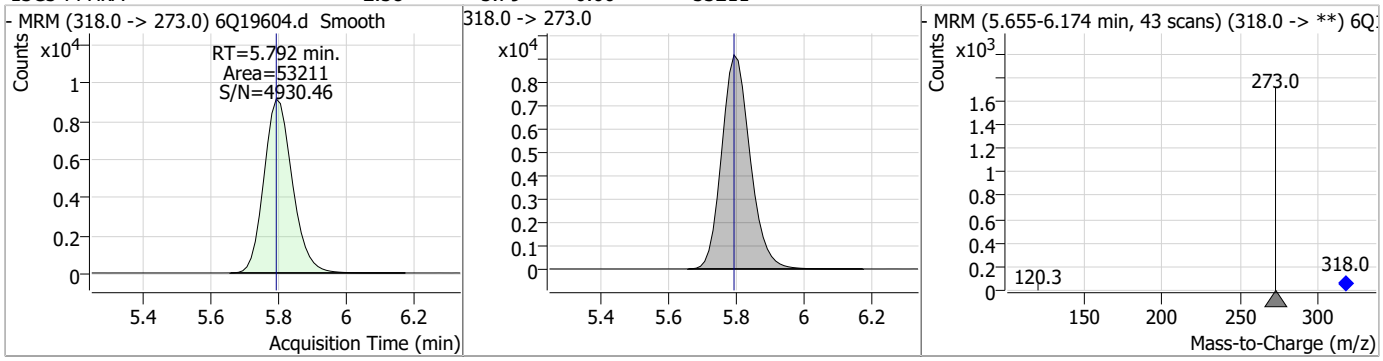


Perfluorinated Compounds by LC/MS/MS

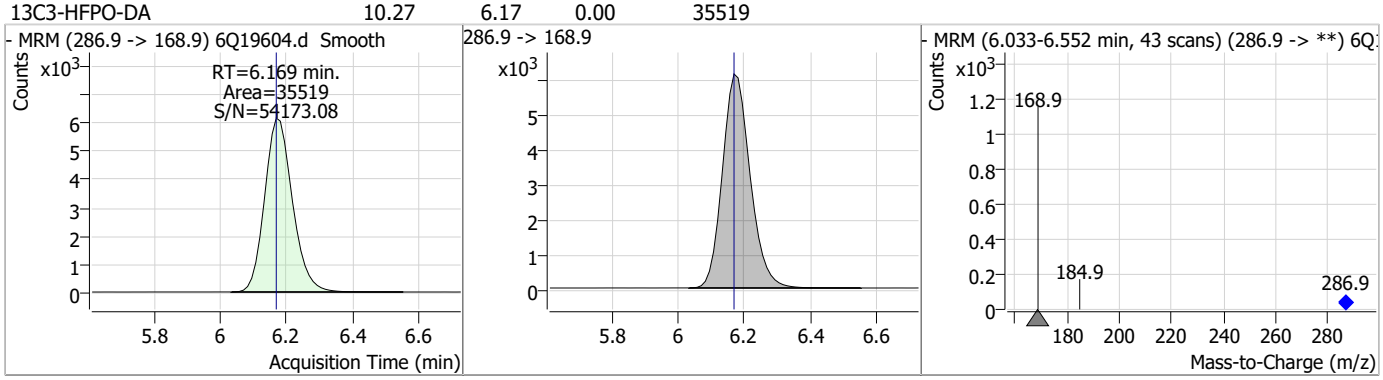
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.56	5.75	0.00	19229				



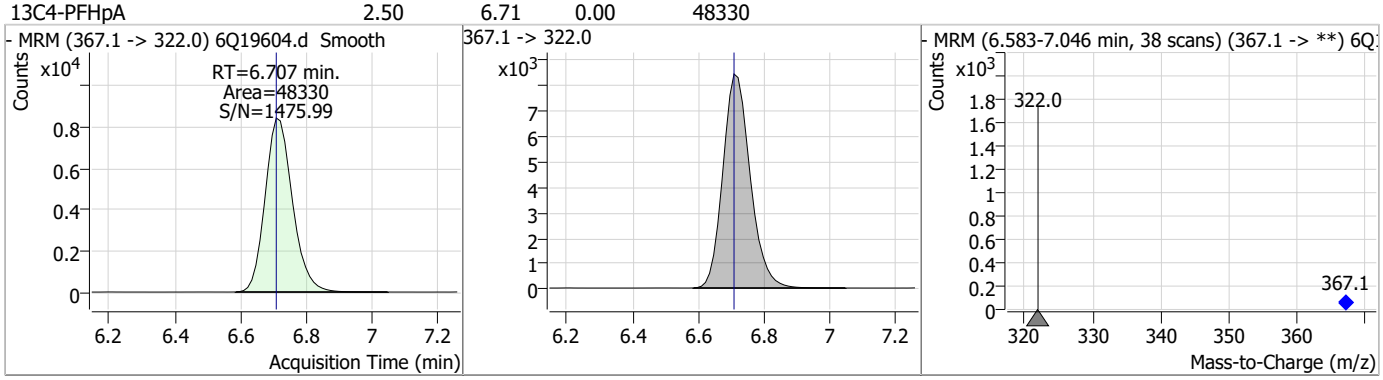
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.58	5.79	0.00	53211				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.27	6.17	0.00	35519				

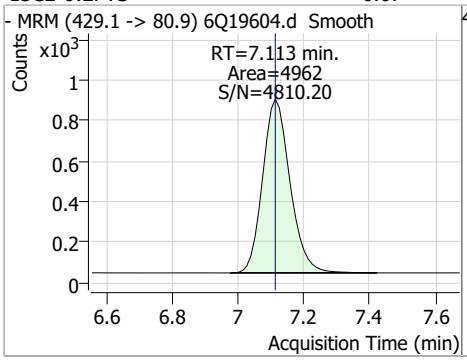


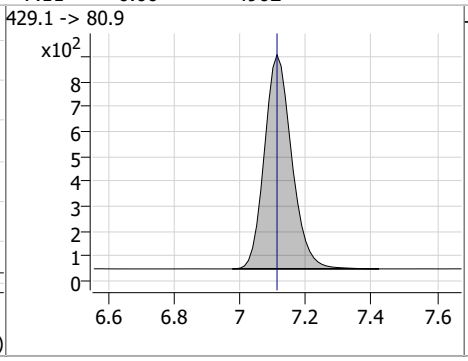
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.50	6.71	0.00	48330				

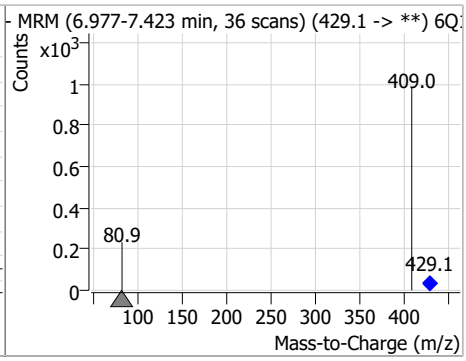


Perfluorinated Compounds by LC/MS/MS

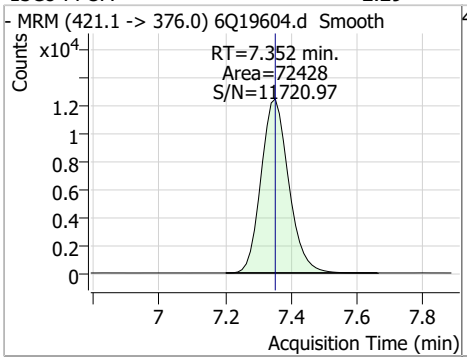
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.07	7.11	0.00	4962				

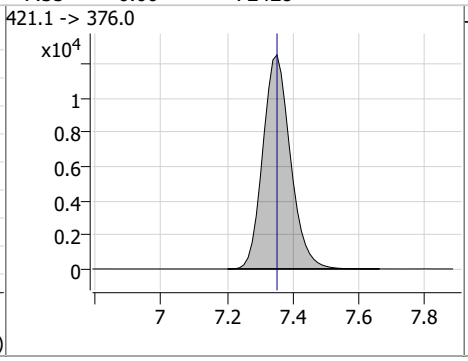


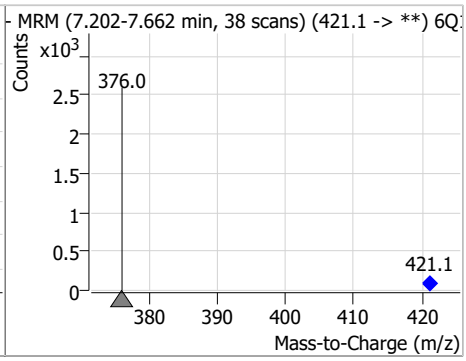




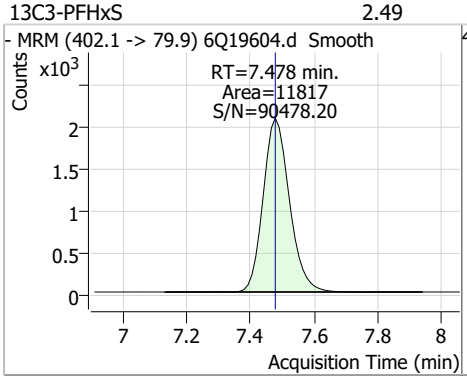
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.29	7.35	0.00	72428				

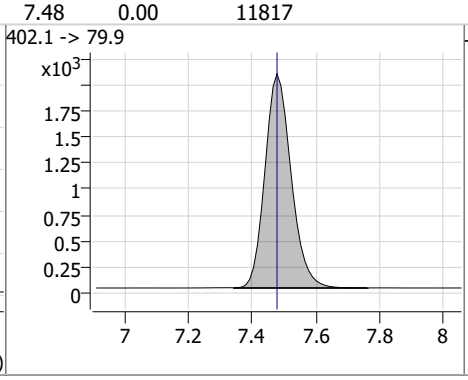


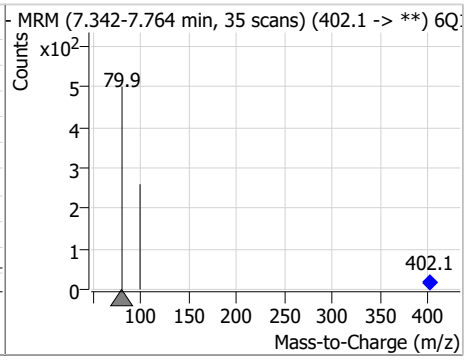




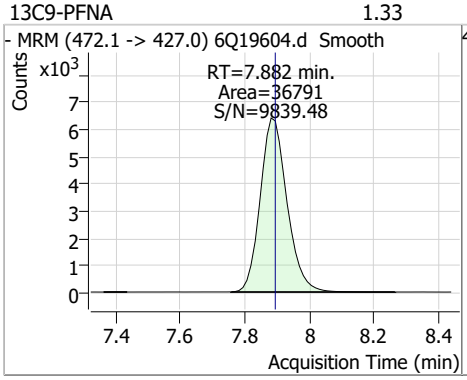
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.49	7.48	0.00	11817				

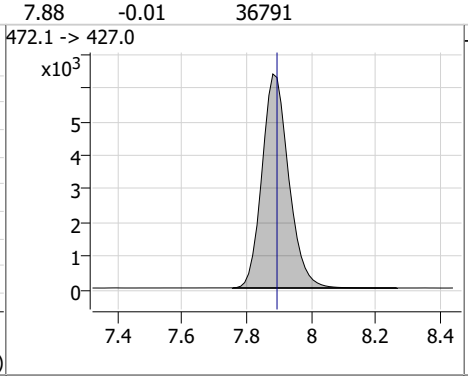


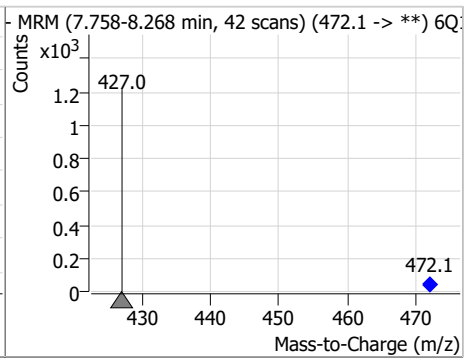




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.33	7.88	-0.01	36791				

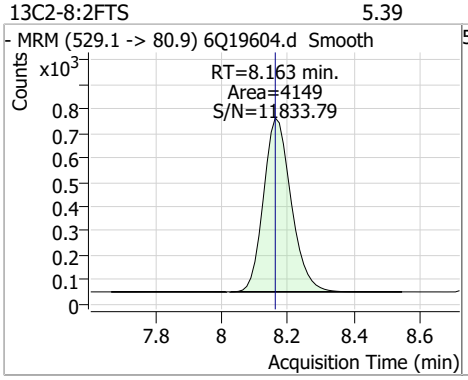


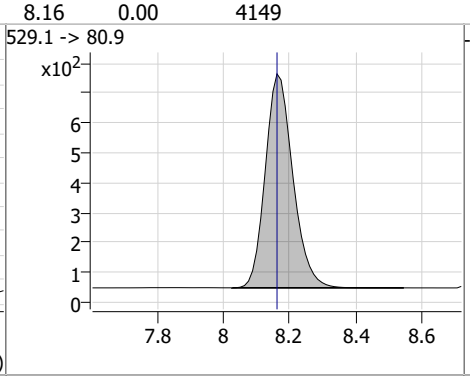


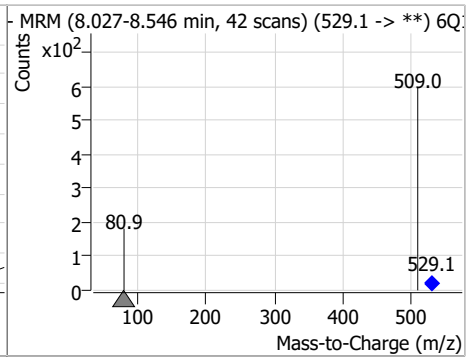


Perfluorinated Compounds by LC/MS/MS

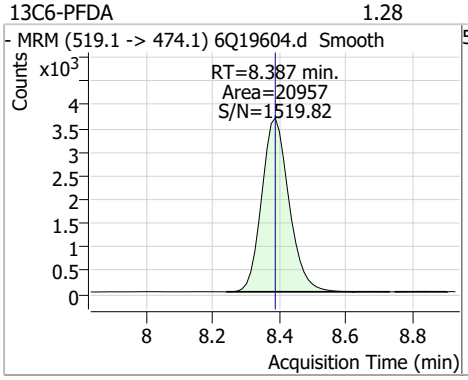
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.39	8.16	0.00	4149				

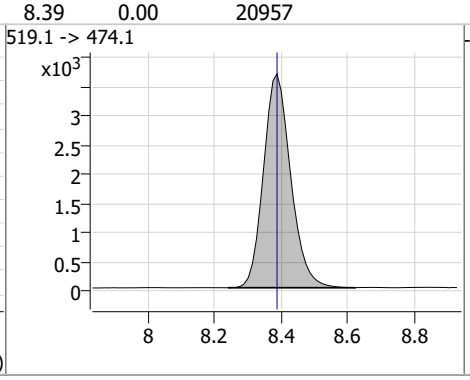


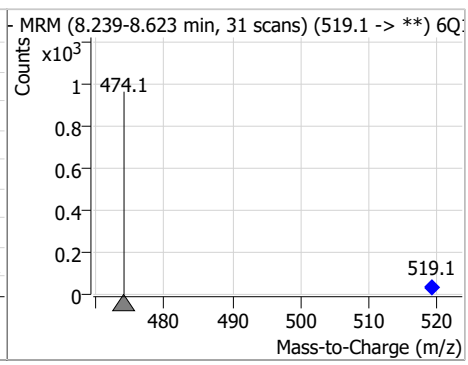




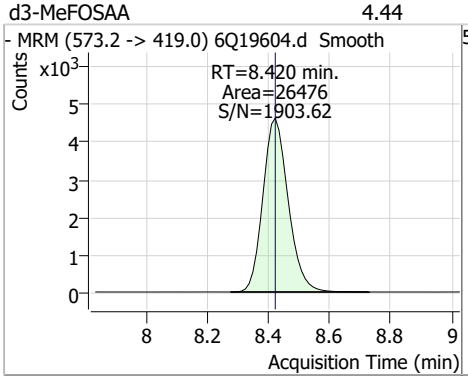
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.28	8.39	0.00	20957				

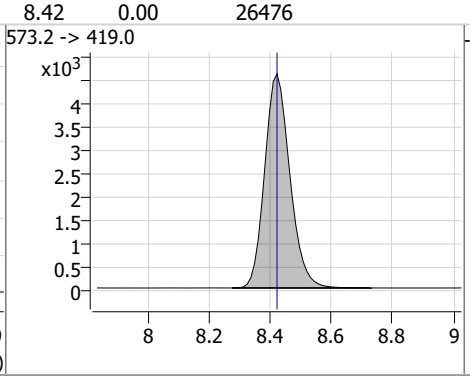


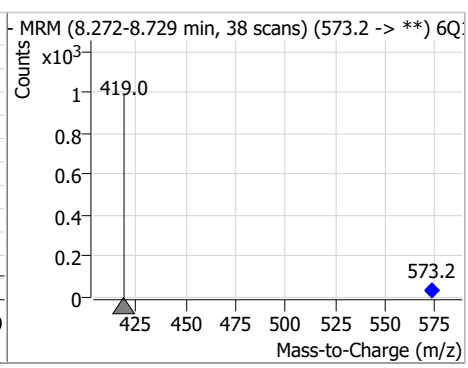




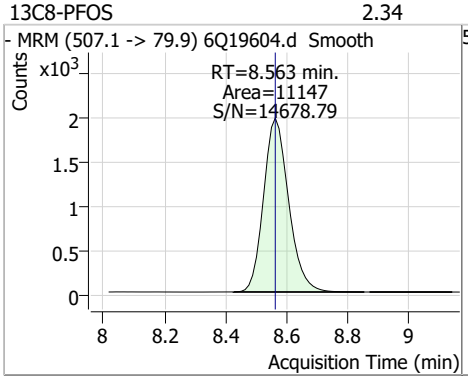
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.44	8.42	0.00	26476				

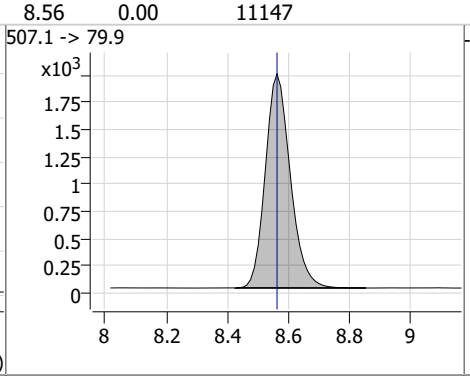


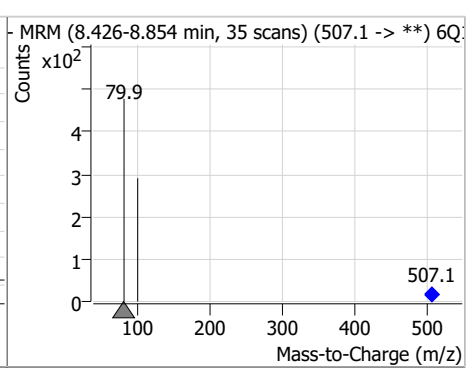




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.34	8.56	0.00	11147				

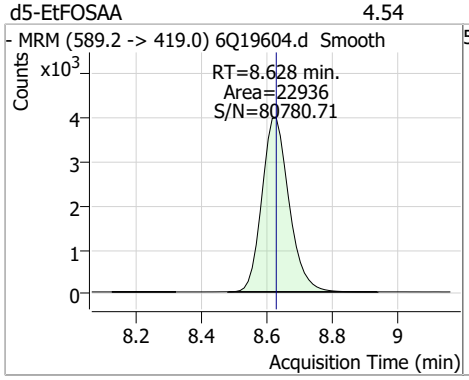


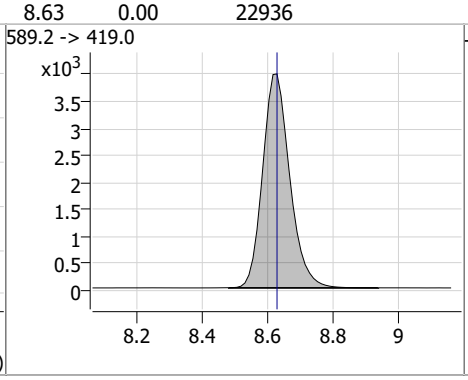


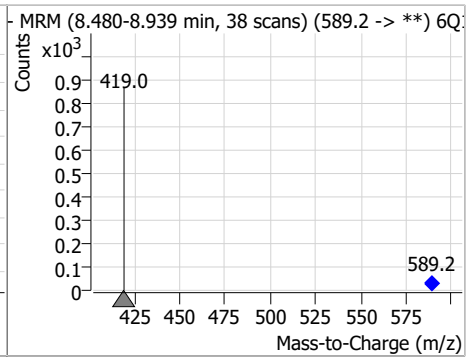


Perfluorinated Compounds by LC/MS/MS

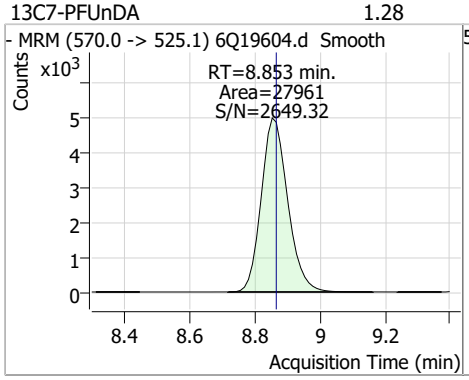
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.54	8.63	0.00	22936				

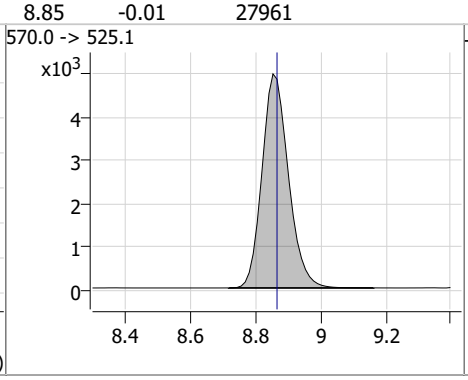


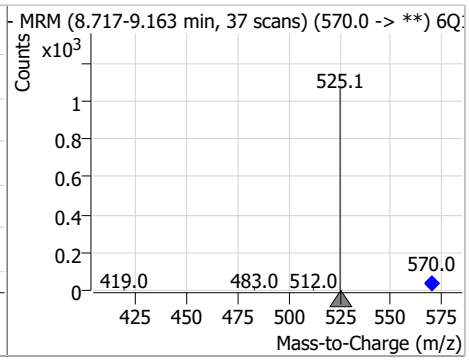




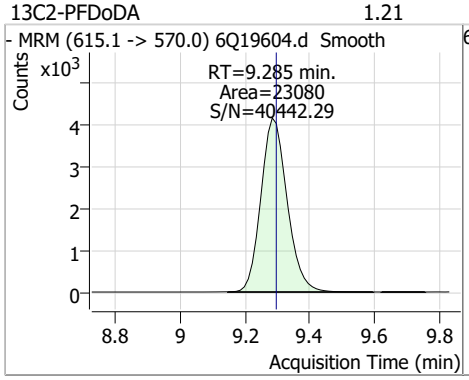
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.28	8.85	-0.01	27961				

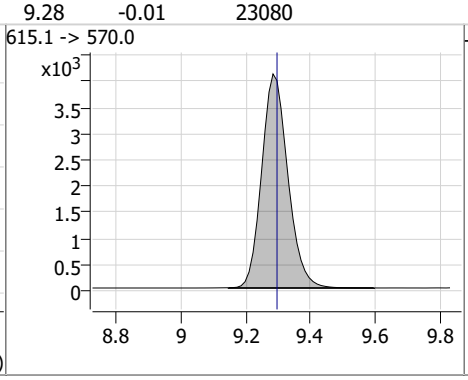


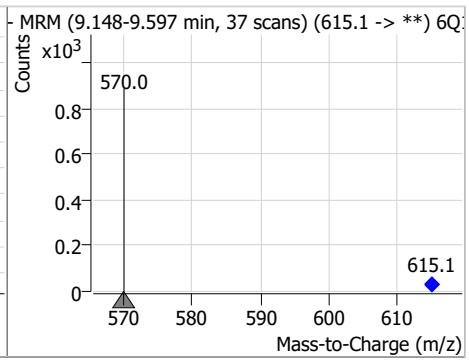




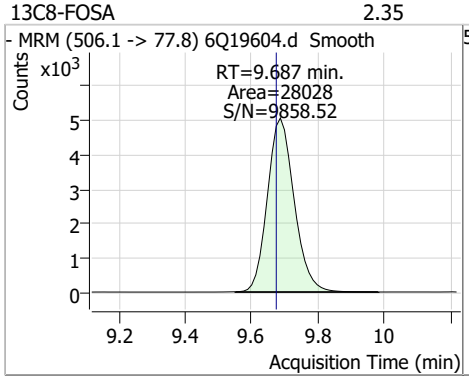
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.21	9.28	-0.01	23080				

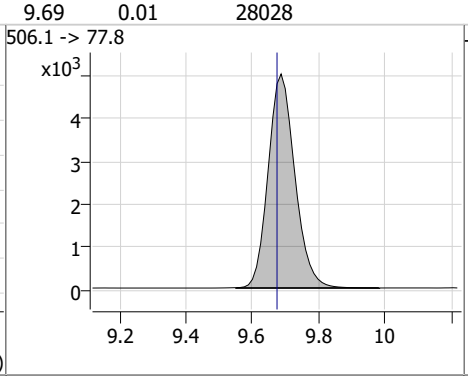


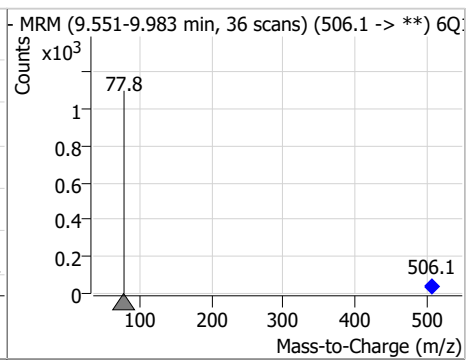




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.35	9.69	0.01	28028				

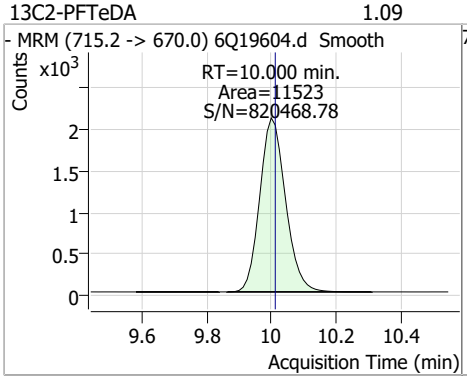


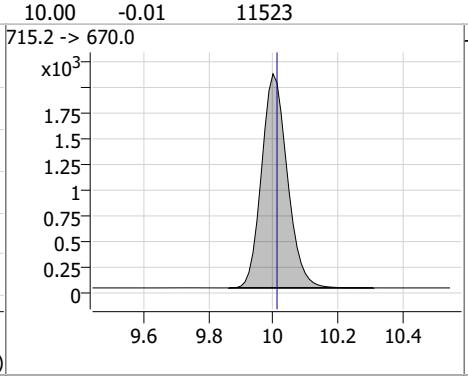


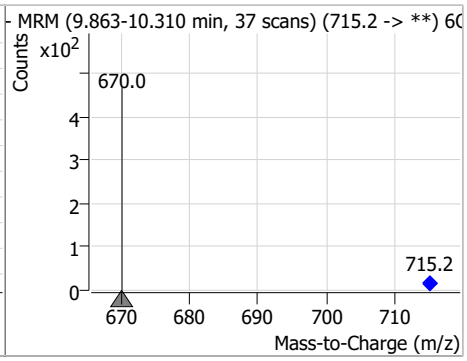


Perfluorinated Compounds by LC/MS/MS

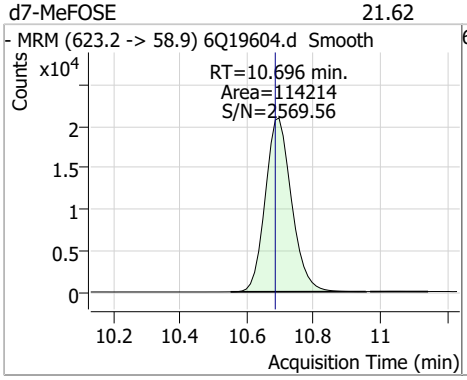
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.09	10.00	-0.01	11523				

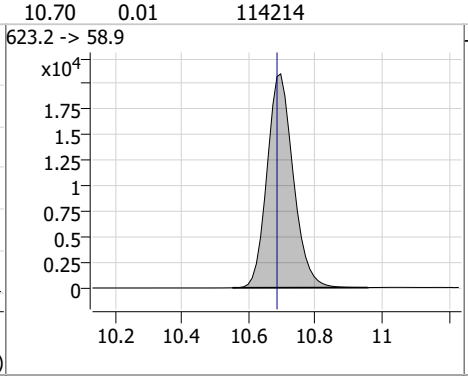


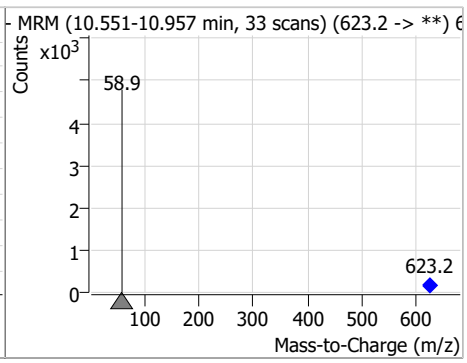




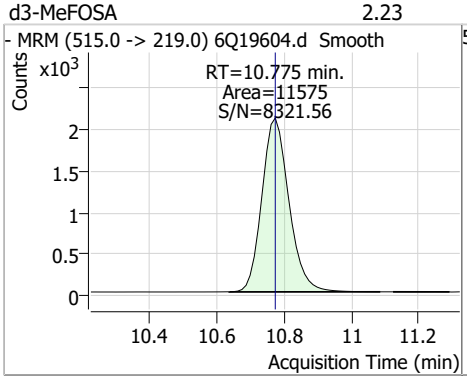
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	21.62	10.70	0.01	114214				

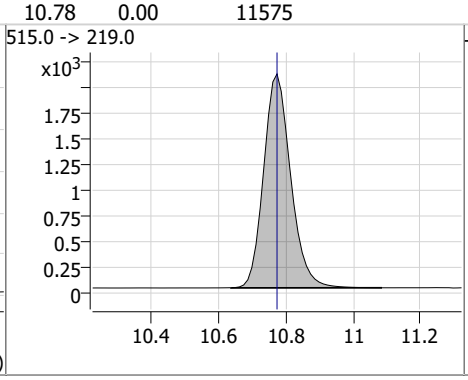


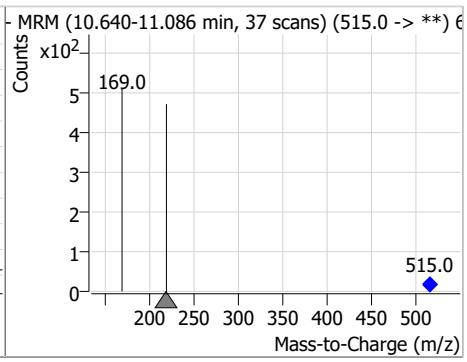




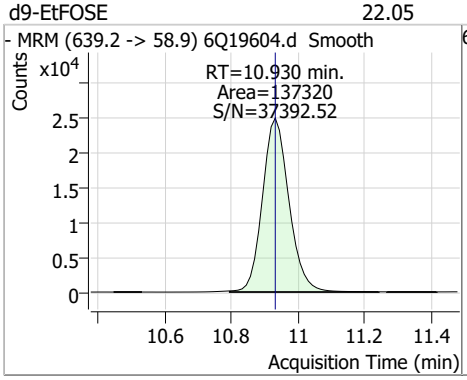
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.23	10.78	0.00	11575				

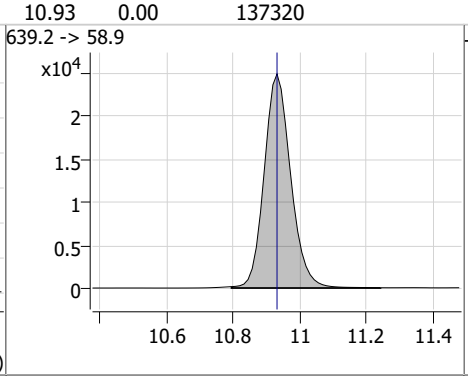


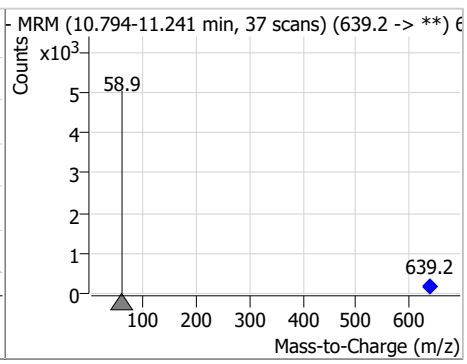




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.05	10.93	0.00	137320				

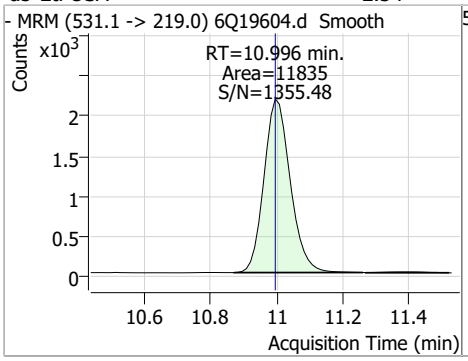


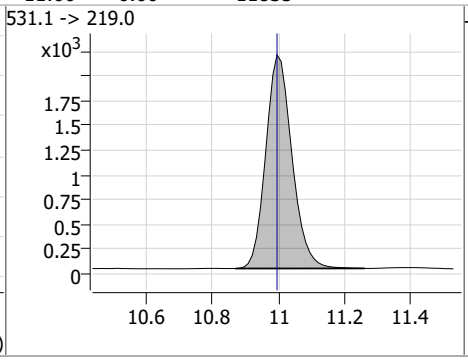


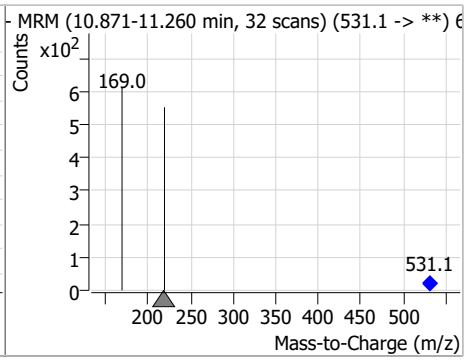


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.34	11.00	0.00	11835				







Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19620.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 2:28:09 PM
Sample Name : iccb
Vial : P1-A1
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	153741	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	49628	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	51204	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	46668	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	73633	2.50	µg/L	0.000
M9-PFNA	7.882	472.1 -> 427.0	33935	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	20707	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	26552	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	22906	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	11354	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	27176	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19850	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11976	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11134	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3305	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4694	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4175	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	27099	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	36061	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	22914	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	111875	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	136539	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11782	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11708	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	14609	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	65092	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9316	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	83644	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	27255	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	44572	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	47246	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3305	5.91	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.2%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4694	5.56	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.2%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4175	5.26	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.2%		
13C2-PFDoDA	9.285	615.1 -> 570.0	22906	1.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C2-PFTeDA	10.000	715.2 -> 670.0	11354	1.12	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 89.3%		
13C3-PFBS	5.746	302.1 -> 79.9	19850	2.56	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C3-PFHxS	7.478	402.1 -> 79.9	11976	2.45	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C4-PFBA	3.085	216.8 -> 171.9	153741	10.07 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C4-PFHpA	6.707	367.1 -> 322.0	46668	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C5-PFHxA	5.792	318.0 -> 273.0	51204	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C5-PFPeA	4.560	268.3 -> 223.0	49628	5.55 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.1%	
13C6-PFDA	8.387	519.1 -> 474.1	20707	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.9%	
13C7-PFUnDA	8.853	570.0 -> 525.1	26552	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C8-FOSA	9.687	506.1 -> 77.8	27176	2.46 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C8-PFOA	7.352	421.1 -> 376.0	73633	2.35 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.2%	
13C8-PFOS	8.563	507.1 -> 79.9	11134	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C9-PFNA	7.882	472.1 -> 427.0	33935	1.25 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.1%	
d3-MeFOSAA	8.420	573.2 -> 419.0	27099	4.90 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	36061	11.05 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 110.5%	
d3-MeFOSA	10.775	515.0 -> 219.0	11708	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%	
d5-EtFOSAA	8.628	589.2 -> 419.0	22914	4.88 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.7%	
d7-MeFOSE	10.696	623.2 -> 58.9	111875	22.82 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.3%	
d9-EtFOSE	10.930	639.2 -> 58.9	136539	23.63 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.5%	
d5-EtFOSA	10.996	531.1 -> 219.0	11782	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
Target Compounds					**QValue**
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9	-	N.D.	
		298.7 -> 98.8			
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDoDA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

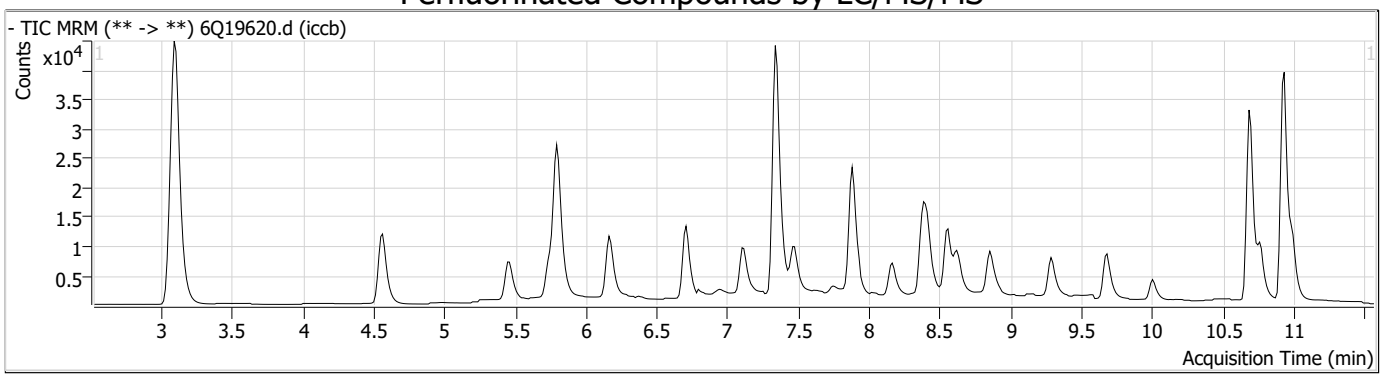
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	N.D.		
		463.0 -> 219.0				
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	-	413.0 -> 369.0	-	N.D.		
		413.0 -> 169.0				
PFOS	-	498.9 -> 79.9	-	N.D.		
		498.9 -> 98.8				
PFPeA	-	263.0 -> 219.0	-	N.D.		
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

 # = Qualifier out of range, m = manually integrated, + = Area summed

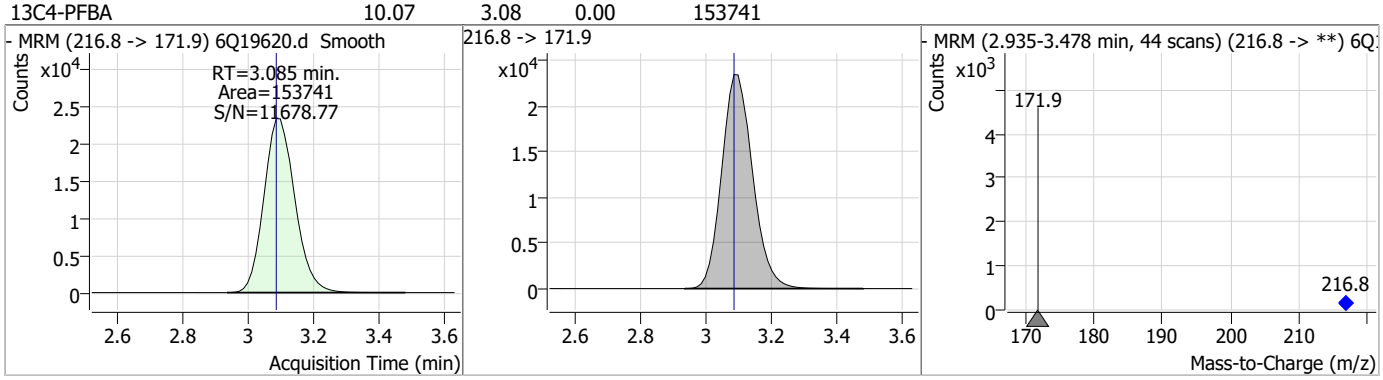
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

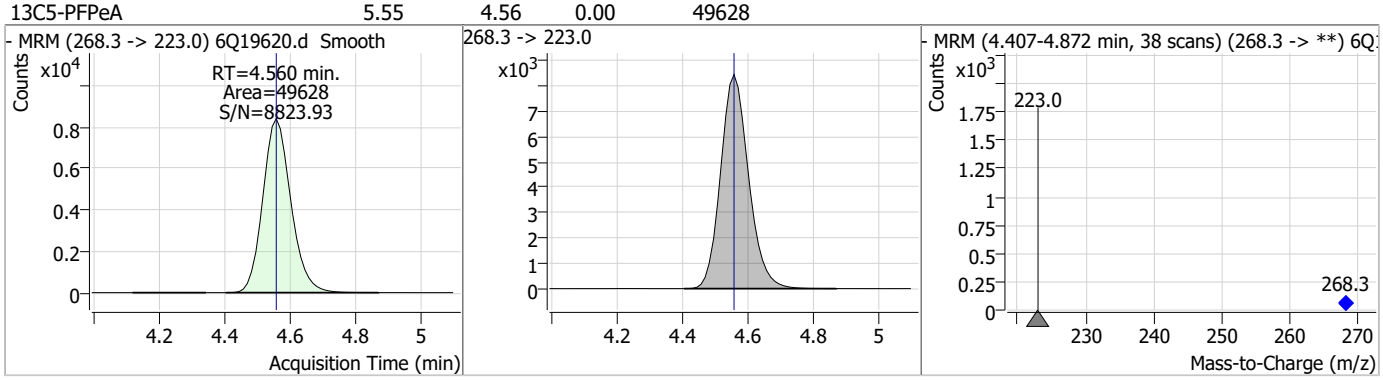
Perfluorinated Compounds by LC/MS/MS



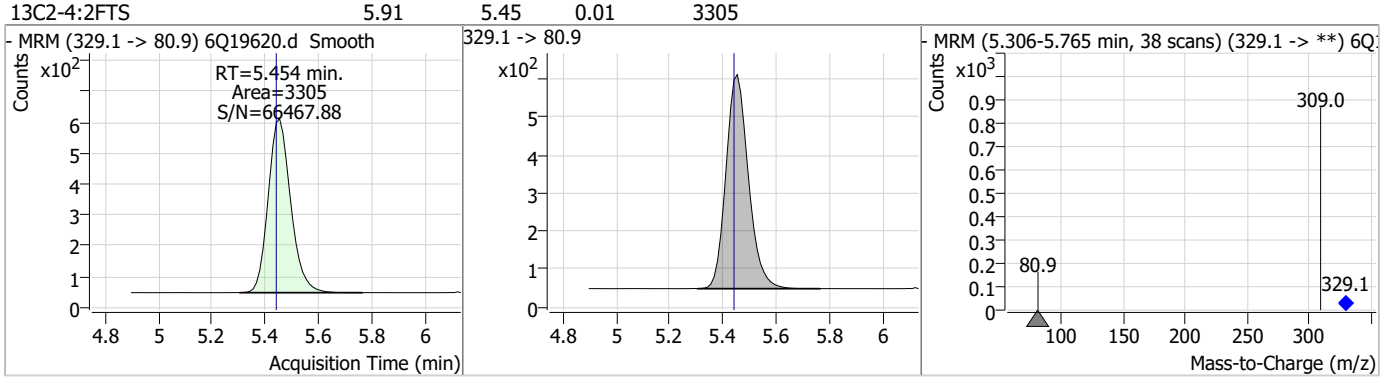
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.07	3.08	0.00	153741				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.55	4.56	0.00	49628				

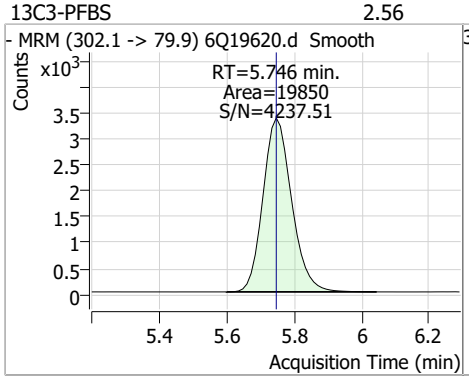


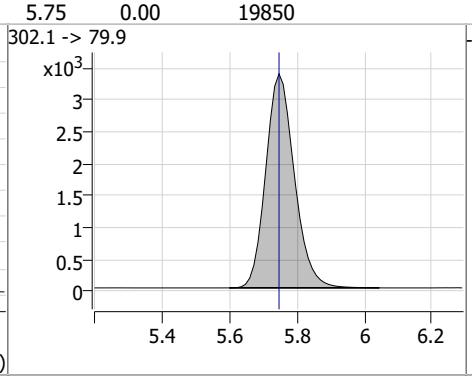
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.91	5.45	0.01	3305				

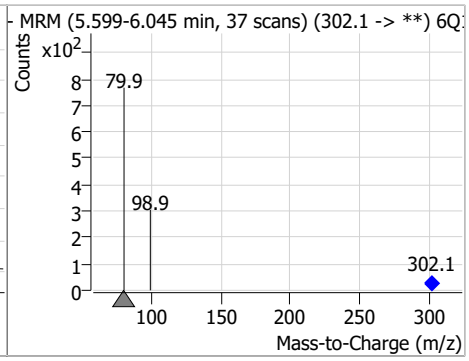


Perfluorinated Compounds by LC/MS/MS

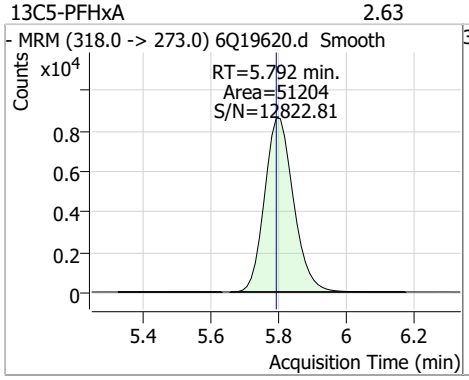
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.56	5.75	0.00	19850				

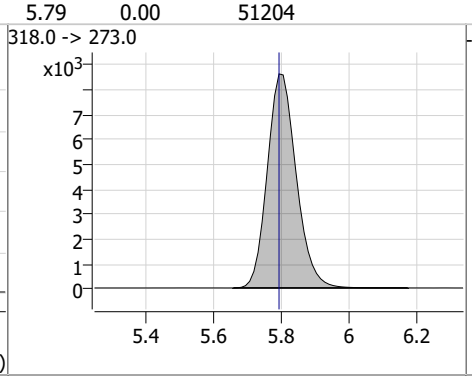


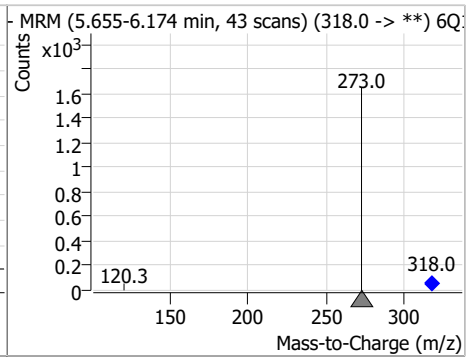




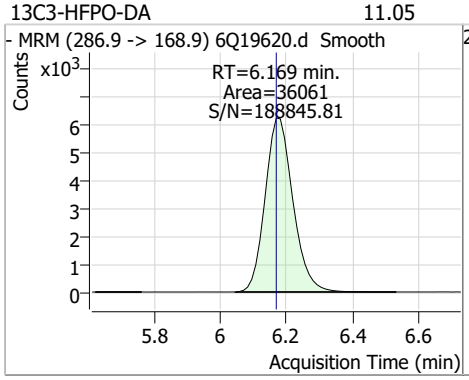
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.63	5.79	0.00	51204				

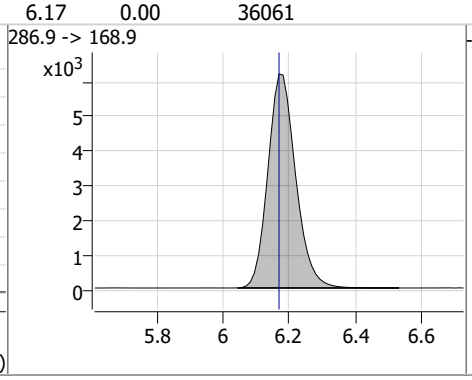


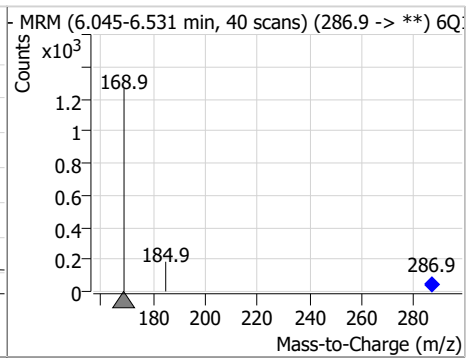




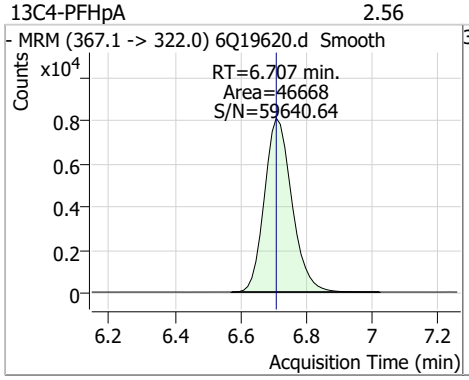
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.05	6.17	0.00	36061				

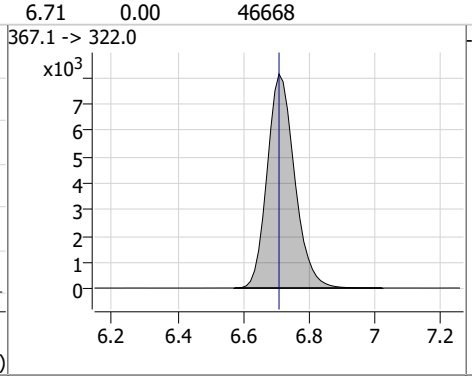


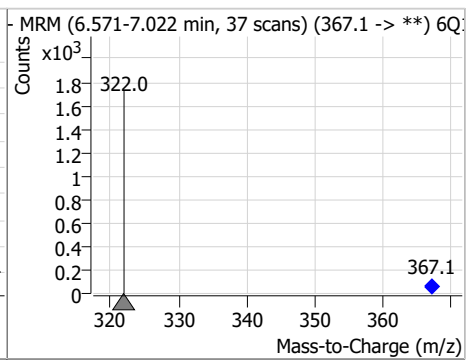




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.56	6.71	0.00	46668				

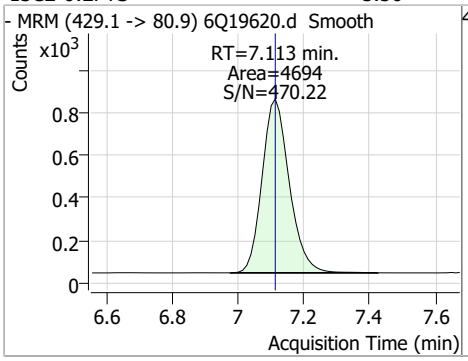


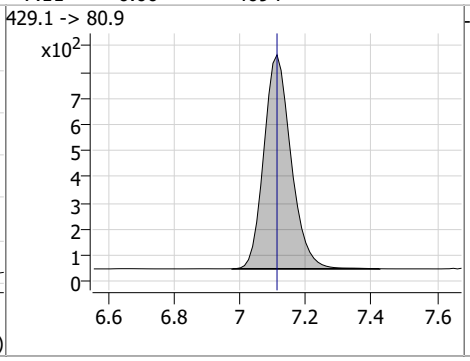


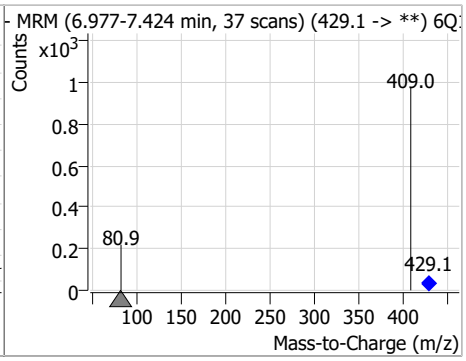


Perfluorinated Compounds by LC/MS/MS

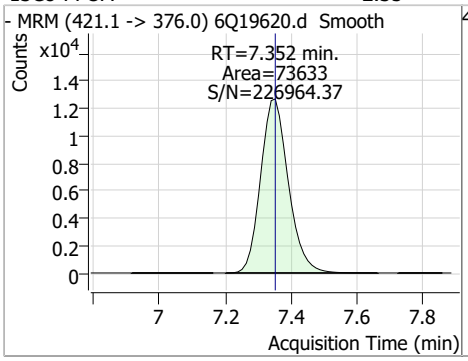
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.56	7.11	0.00	4694				

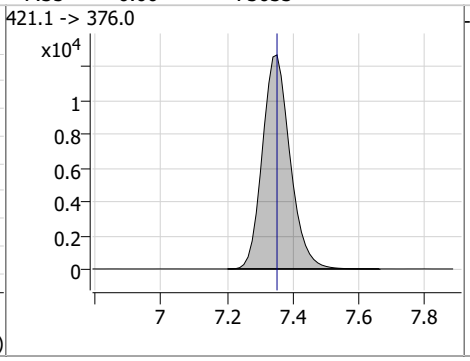


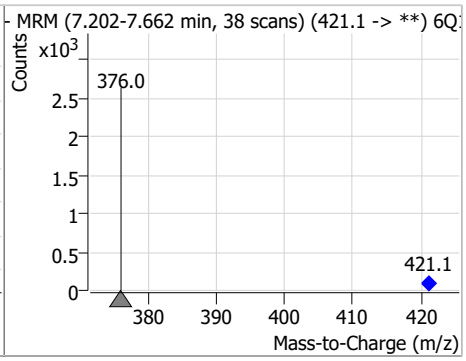




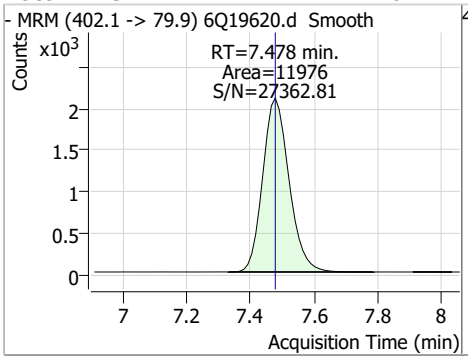
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.35	7.35	0.00	73633				

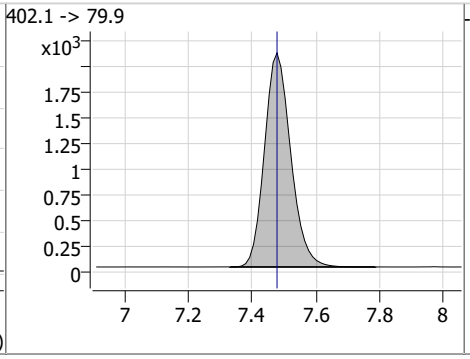


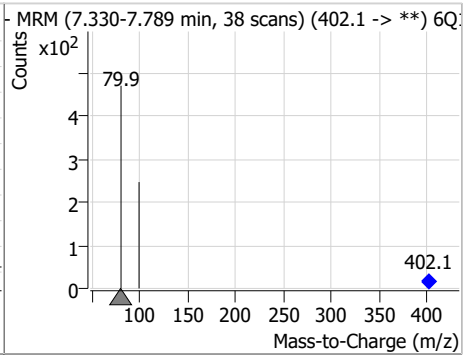




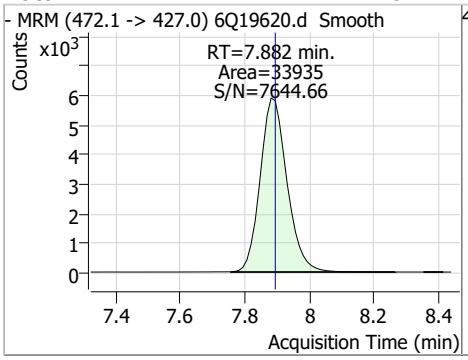
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.45	7.48	0.00	11976				

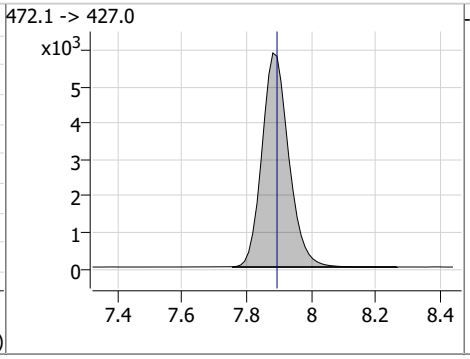


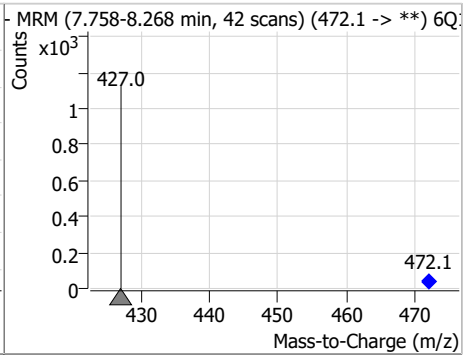




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.88	-0.01	33935				

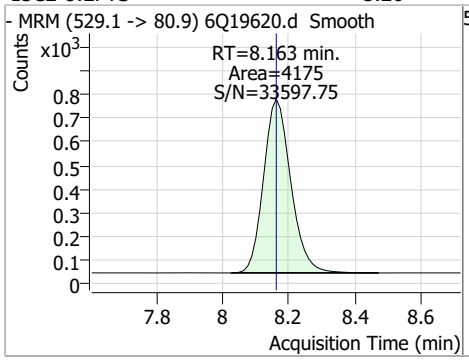


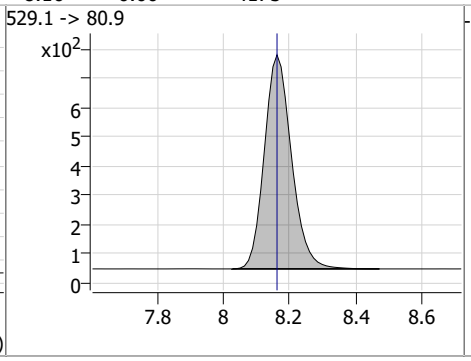


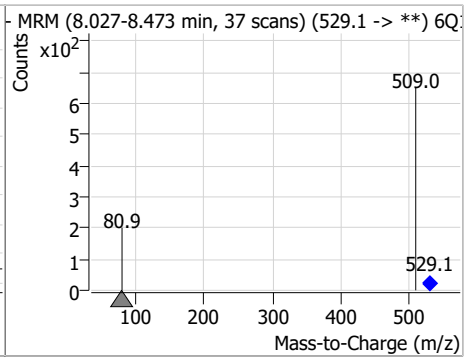


Perfluorinated Compounds by LC/MS/MS

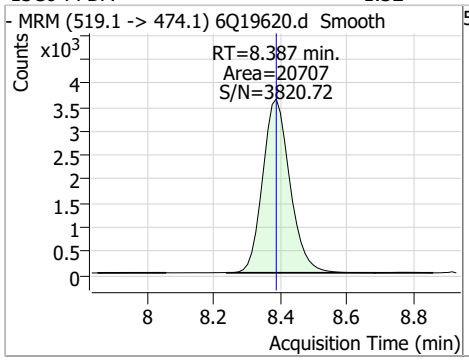
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.26	8.16	0.00	4175				

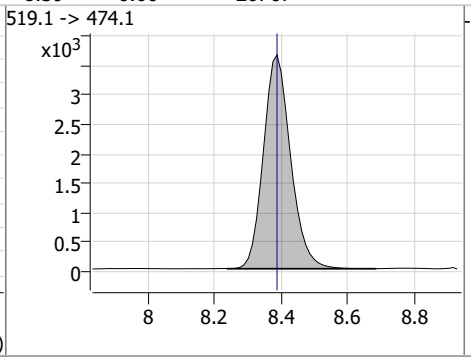


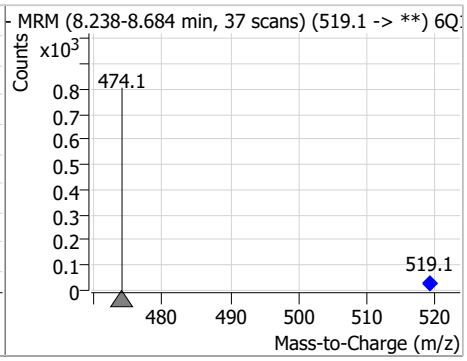




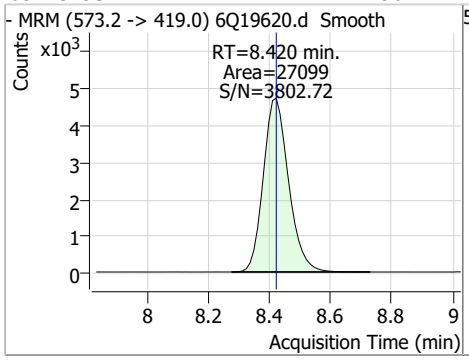
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.32	8.39	0.00	20707				

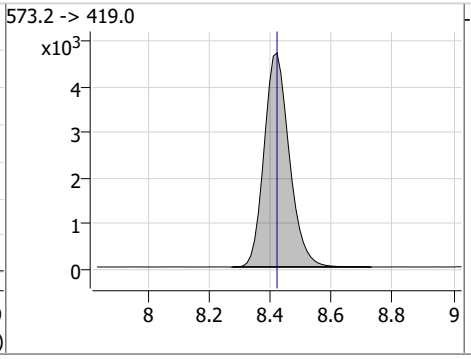


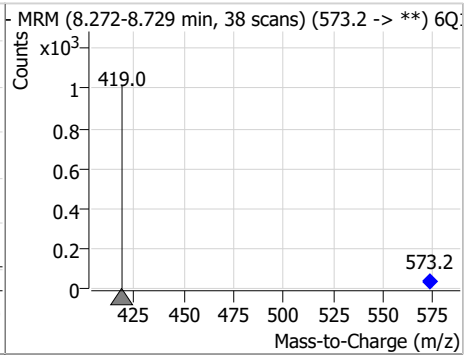




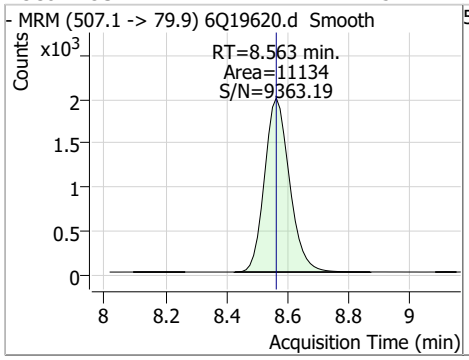
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.90	8.42	0.00	27099				

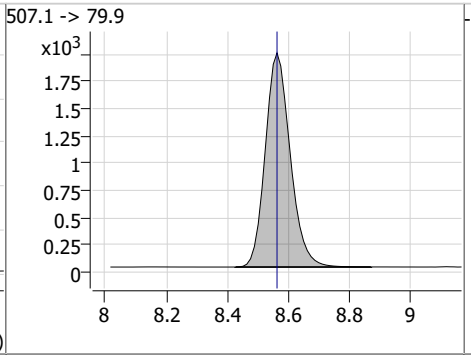


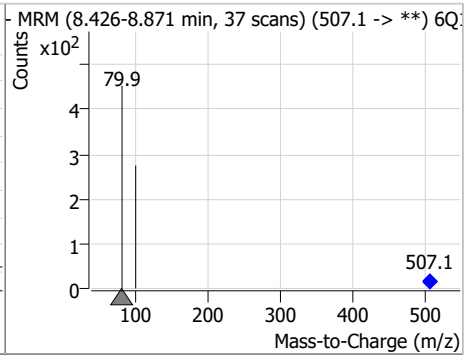




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.52	8.56	0.00	11134				

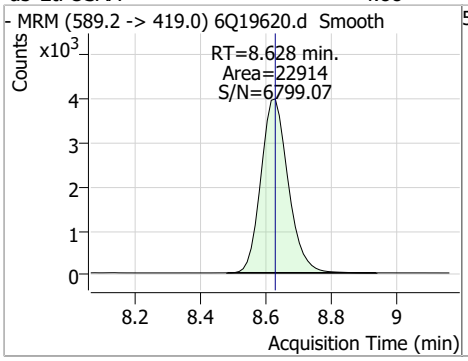


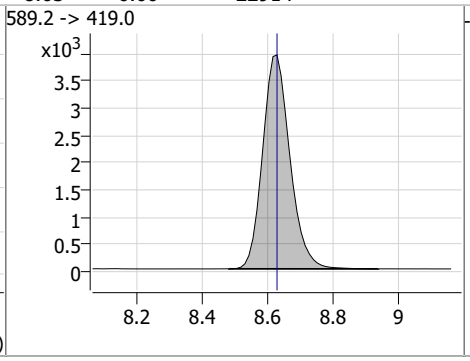


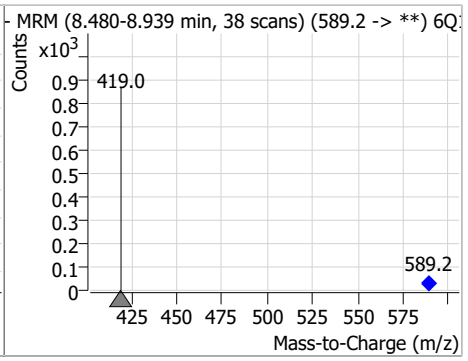


Perfluorinated Compounds by LC/MS/MS

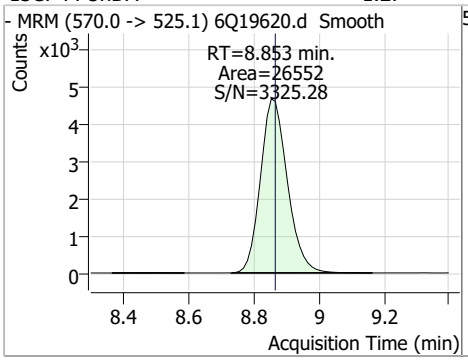
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.88	8.63	0.00	22914				

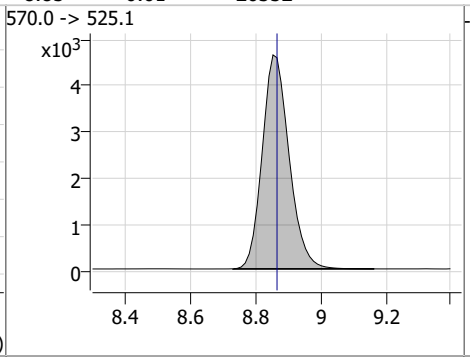


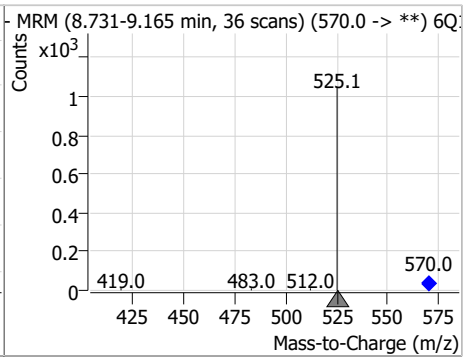




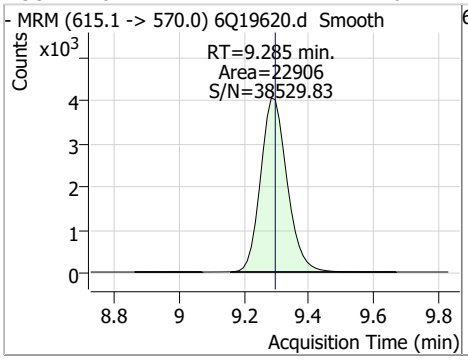
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.27	8.85	-0.01	26552				

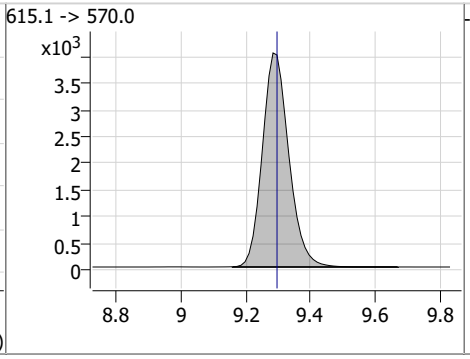


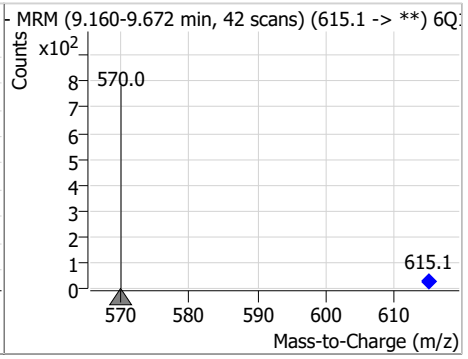




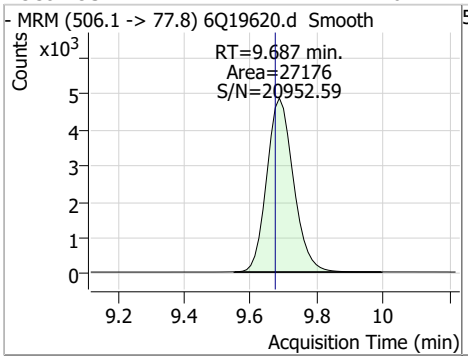
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.26	9.28	-0.01	22906				

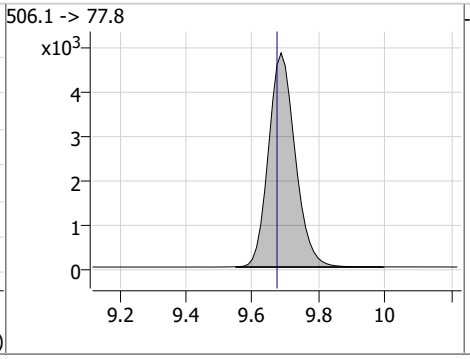


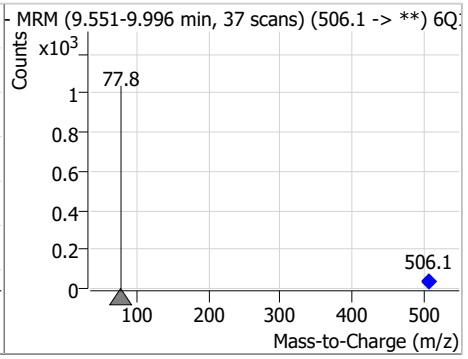




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.46	9.69	0.01	27176				

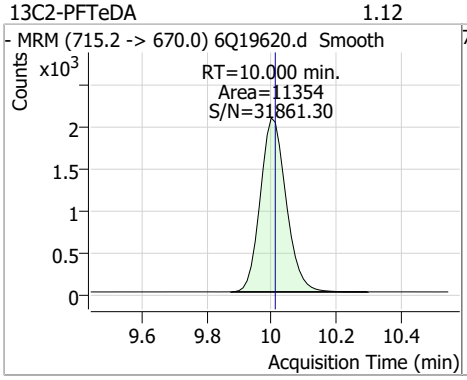


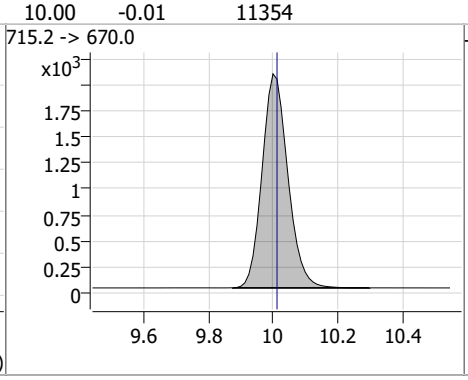


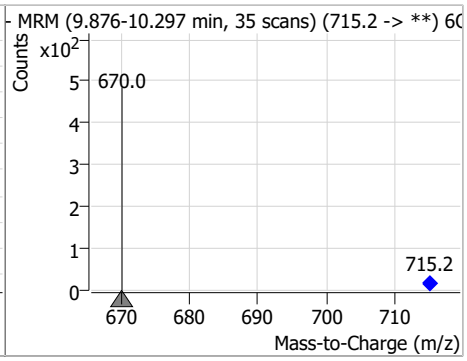


Perfluorinated Compounds by LC/MS/MS

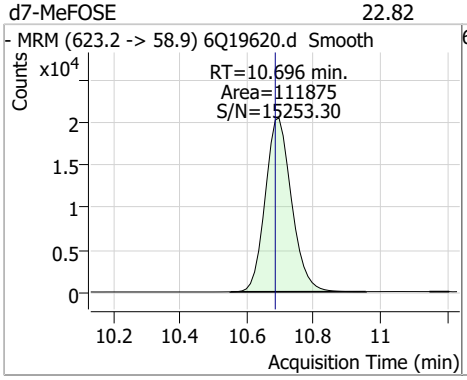
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.12	10.00	-0.01	11354				

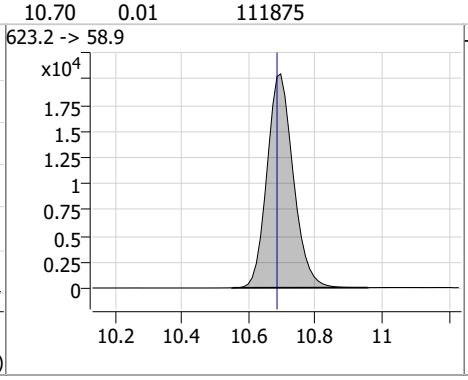


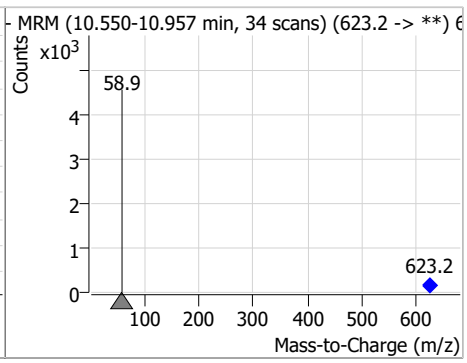




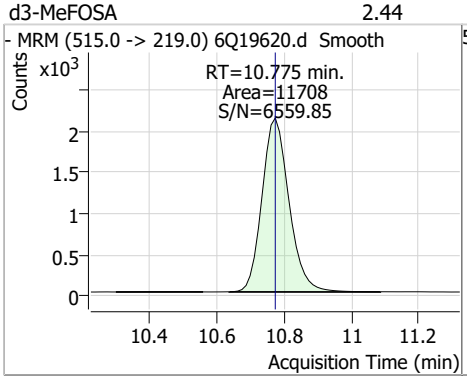
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	22.82	10.70	0.01	111875				

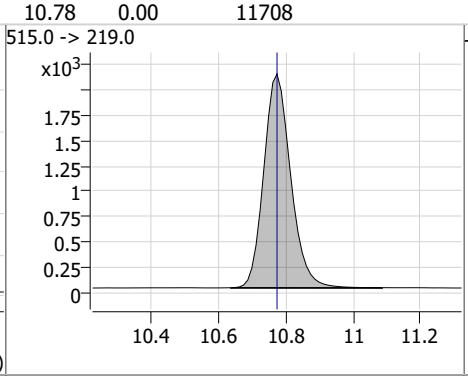


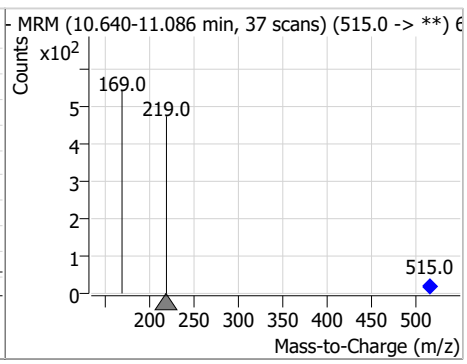




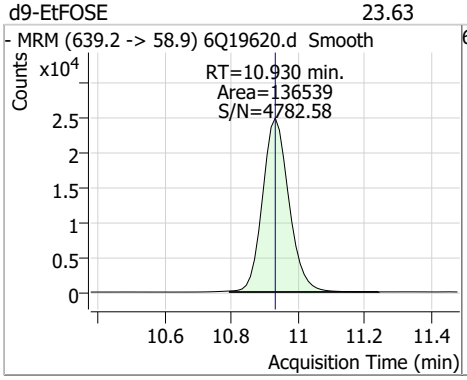
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.44	10.78	0.00	11708				

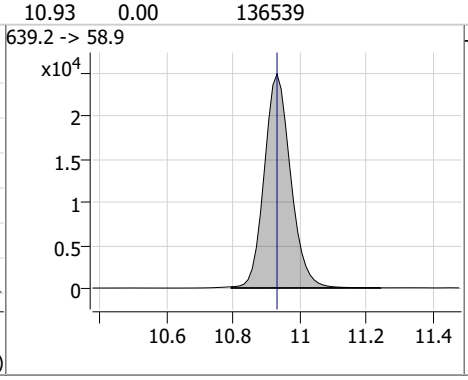


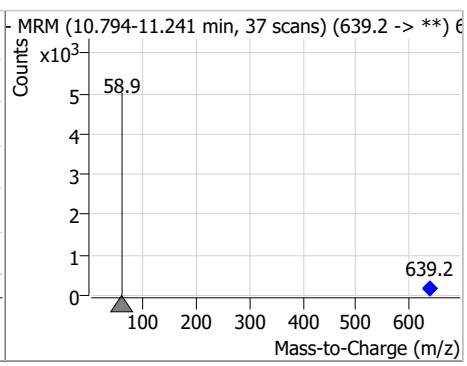




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.63	10.93	0.00	136539				

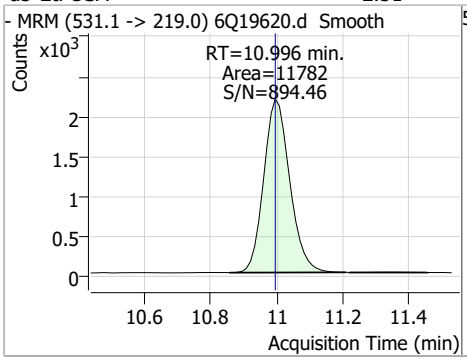


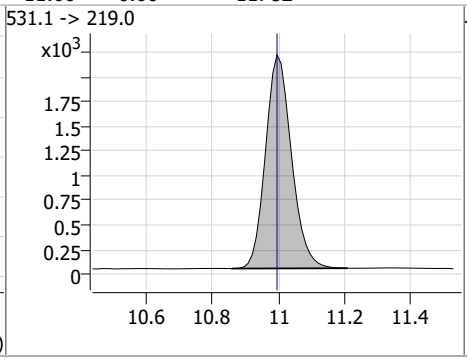


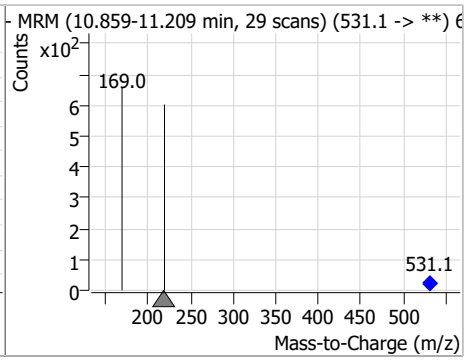


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.51	11.00	0.00	11782				







Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:58

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19363.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 6:58:33 PM
Sample Name : op97325-bs
Vial : P4-B8
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97325,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	44522	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	48920	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	52704	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	53682	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	78477	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	36809	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	22726	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	29475	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	25615	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	13341	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	21968	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19873	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12999	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	12395	2.50	µg/L	0.012
M2-4:2FTS	5.442	329.1 -> 80.9	3245	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	4969	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4207	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	31381	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	36336	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	26911	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	83747	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	117404	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	9906	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	10156	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	13977	2.50	µg/L	0.012
13C3-PFBA	3.089	216.0 -> 172.0	57173	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	7585	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	79457	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	26354	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	41860	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	45922	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	3245	7.13	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 142.6%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4969	7.23	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 144.6%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4207	6.51	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 130.2%		
13C2-PFDoDA	9.297	615.1 -> 570.0	25615	1.45	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 116.3%		
13C2-PFTeDA	10.012	715.2 -> 670.0	13341	1.36	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.5%		
13C3-PFBS	5.746	302.1 -> 79.9	19873	3.15	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 125.9%		
13C3-PFHxS	7.478	402.1 -> 79.9	12999	3.26	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 130.5%		
13C4-PFBA	3.097	216.8 -> 171.9	44522	3.32 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 33.2%		
13C4-PFHpA	6.707	367.1 -> 322.0	53682	3.03 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 121.1%		
13C5-PFHxA	5.792	318.0 -> 273.0	52704	2.78 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.2%		
13C5-PFPeA	4.560	268.3 -> 223.0	48920	5.63 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.6%		
13C6-PFDA	8.400	519.1 -> 474.1	22726	1.50 µg/L		0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 120.2%		
13C7-PFUnDA	8.866	570.0 -> 525.1	29475	1.45 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 116.4%		
13C8-FOSA	9.687	506.1 -> 77.8	21968	2.08 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.0%		
13C8-PFOA	7.352	421.1 -> 376.0	78477	2.64 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.7%		
13C8-PFOS	8.575	507.1 -> 79.9	12395	2.94 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 117.5%		
13C9-PFNA	7.895	472.1 -> 427.0	36809	1.44 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 115.6%		
d3-MeFOSAA	8.420	573.2 -> 419.0	31381	5.93 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.7%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	36336	11.46 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 114.6%		
d3-MeFOSA	10.775	515.0 -> 219.0	10156	2.21 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.3%		
d5-EtFOSAA	8.628	589.2 -> 419.0	26911	6.00 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.9%		
d7-MeFOSE	10.696	623.2 -> 58.9	83747	17.86 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 71.4%		
d9-EtFOSE	10.930	639.2 -> 58.9	117404	21.23 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 84.9%		
d5-EtFOSA	10.996	531.1 -> 219.0	9906	2.21 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.2%		
Target Compounds						**QValue**
4:2FTS	5.443	327.1 -> 307.0	44170	7.83 µg/L		95
		327.1 -> 80.9	17841			
6:2FTS	7.113	427.1 -> 407.0	46399	7.84 µg/L		99
		427.1 -> 80.9	15431			
8:2FTS	8.176	527.1 -> 507.0	23455	8.39 µg/L		96
		527.1 -> 80.8	9777			
EtFOSAA	8.641	584.2 -> 419.1	8503	1.87 µg/L	m	95
		584.2 -> 526.0	4827			
FOSA	9.677	498.1 -> 77.9	20076	2.30 µg/L		100
		498.1 -> 478.0	616			
MeFOSAA	8.433	570.1 -> 419.0	17059	2.10 µg/L	m	99
		570.1 -> 483.0	3192			
PFBA	3.093	212.8 -> 168.9	15486	8.63 µg/L		100
PFBS	5.747	298.7 -> 79.9	16449	1.85 µg/L		99
		298.7 -> 98.8	6187			
PFDA	8.400	512.9 -> 469.0	67829	2.01 µg/L		96
		512.9 -> 219.0	11802			
PFDoDA	9.298	613.1 -> 569.0	48548	2.28 µg/L		99
		613.1 -> 319.0	6902			
PFDS	9.462	599.0 -> 79.9	7275	1.94 µg/L		92

Perfluorinated Compounds by LC/MS/MS

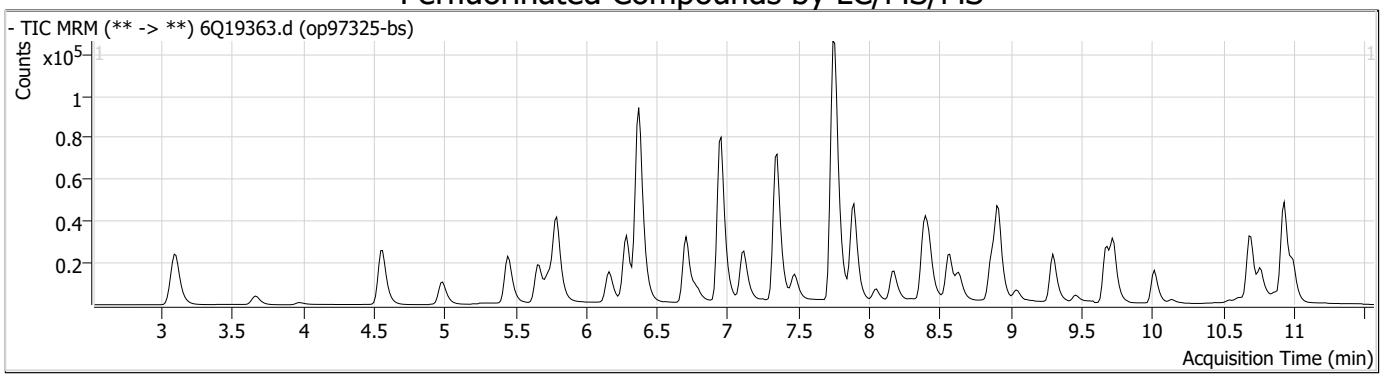
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3422				
PFHpA	6.708	363.1 -> 319.0	56572	1.97	µg/L		96
		363.1 -> 169.0	9466				
PFHpS	8.059	449.0 -> 79.9	14720	1.99	µg/L		87
		449.0 -> 98.9	6201				
PFHxA	5.795	313.0 -> 269.0	48042	2.26	µg/L		99
		313.0 -> 118.9	2609				
PFHxS	7.479	398.7 -> 79.9	13859	1.77	µg/L	m	98
		398.7 -> 98.9	6856				
PFNA	7.896	463.0 -> 419.0	76585	2.25	µg/L		96
		463.0 -> 219.0	13334				
PFNS	9.053	548.8 -> 79.9	12821	1.99	µg/L		98
		548.8 -> 98.9	6430				
PFOA	7.353	413.0 -> 369.0	96378	2.24	µg/L		99
		413.0 -> 169.0	15671				
PFOS	8.576	498.9 -> 79.9	13117	1.78	µg/L	m	99
		498.9 -> 98.8	6773				
PFPeA	4.563	263.0 -> 219.0	61207	4.24	µg/L		100
PFPeS	6.785	349.1 -> 79.9	13524	1.86	µg/L		99
		349.1 -> 98.9	6538				
PFTeDA	10.013	713.1 -> 669.0	35413	2.21	µg/L		100
		713.1 -> 168.9	2989				
PFTrDA	9.681	663.0 -> 619.0	44968	2.08	µg/L		99
		663.0 -> 168.9	4790				
PFUnDA	8.866	563.1 -> 519.0	46004	2.02	µg/L		98
		563.1 -> 269.1	8110				
11Cl-PF3OUdS	9.733	630.9 -> 450.9	66192	4.00	µg/L		98
		632.9 -> 452.9	19262				
9Cl-PF3ONS	8.918	530.8 -> 351.0	111836	3.92	µg/L		93
		532.8 -> 353.0	30379				
ADONA	6.959	376.9 -> 250.9	236258	4.02	µg/L		99
		376.9 -> 84.8	67058				
HFPO-DA	6.169	284.9 -> 168.9	15340	4.03	µg/L		94
		284.9 -> 184.9	2165				
3:3FTCA	3.971	241.0 -> 177.0	3971	4.06	µg/L		98
		241.0 -> 117.0	573				
5:3FTCA	6.374	341.0 -> 237.1	216623	51.24	µg/L		99
		341.0 -> 217.0	159165				
7:3FTCA	7.761	441.0 -> 316.9	161171	56.38	µg/L		95
		441.0 -> 336.9	350737				
EtFOSA	10.997	526.0 -> 219.0	22335	4.22	µg/L		98
		526.0 -> 169.0	30067				
EtFOSE	10.943	630.0 -> 58.9	63892	10.52	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	18583	4.04	µg/L	m	81
		511.9 -> 169.0	26105				
MeFOSE	10.709	616.1 -> 58.9	39691	10.94	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	3347	1.81	µg/L		98
		699.1 -> 98.8	2025				
NFDHA	5.673	295.0 -> 201.0	11561	4.26	µg/L		98
		295.0 -> 84.9	2959				
PFMBA	4.988	279.0 -> 85.1	44229	4.30	µg/L		100
PFMPA	3.667	229.0 -> 84.9	18605	2.31	µg/L		100
PFEESA	6.288	314.8 -> 134.9	109885	3.82	µg/L		99
		314.8 -> 82.9	4116				

 # = Qualifier out of range, m = manually integrated, + = Area summed

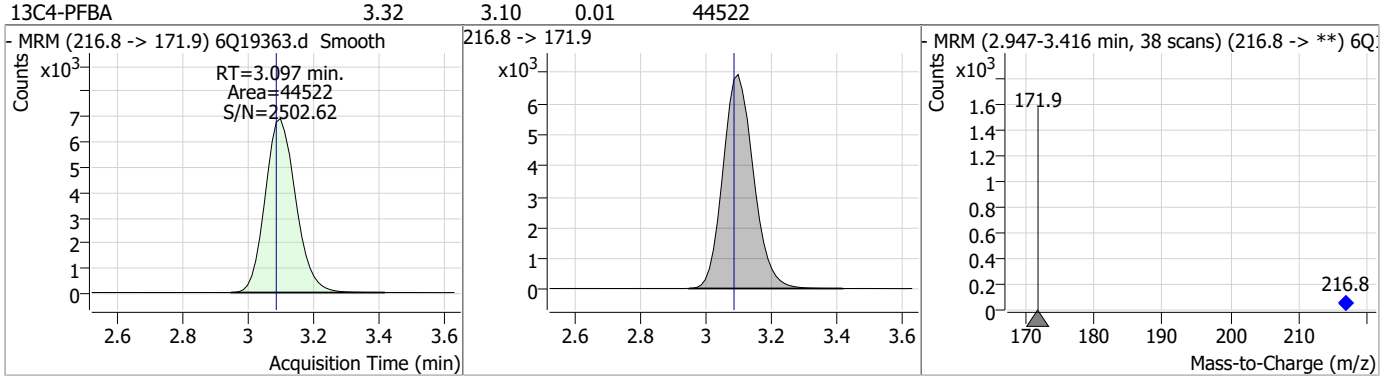
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

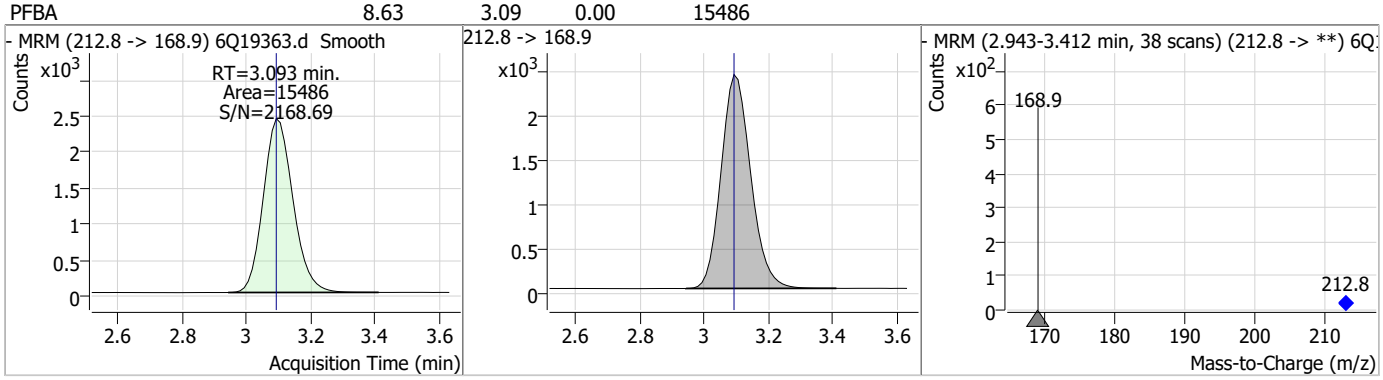
Perfluorinated Compounds by LC/MS/MS



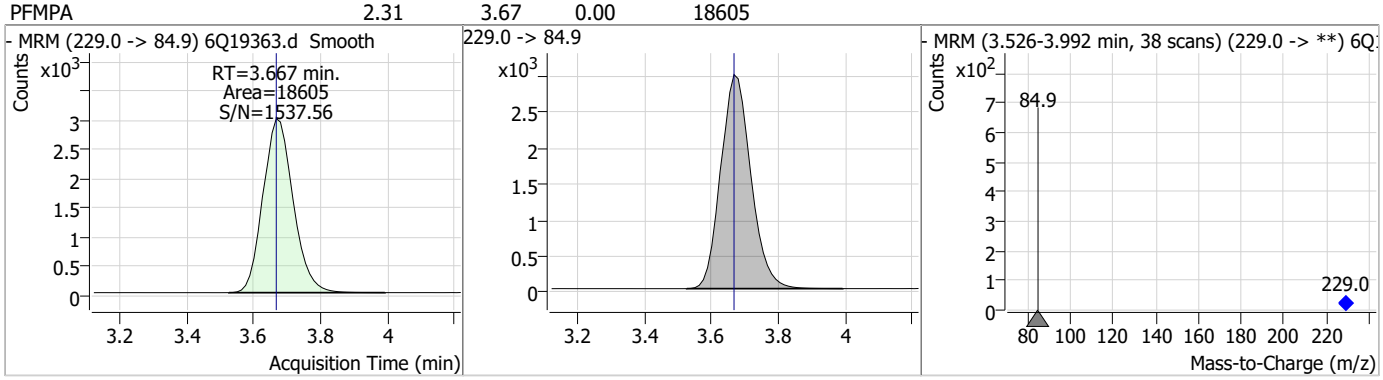
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	3.32	3.10	0.01	44522				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	8.63	3.09	0.00	15486				

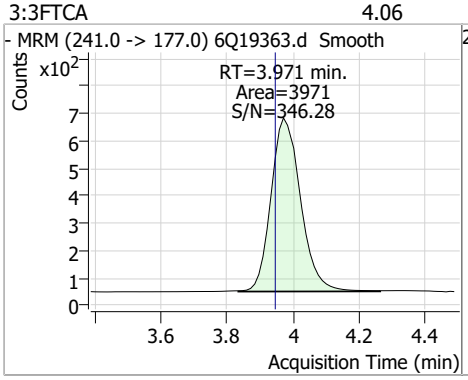


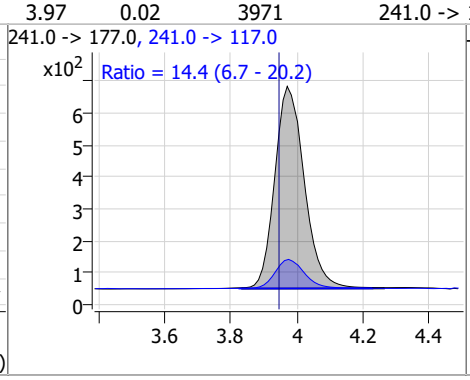
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	2.31	3.67	0.00	18605				

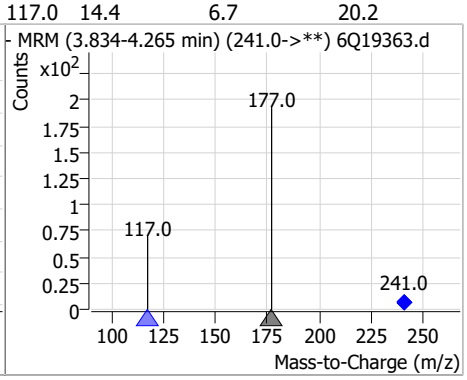


Perfluorinated Compounds by LC/MS/MS

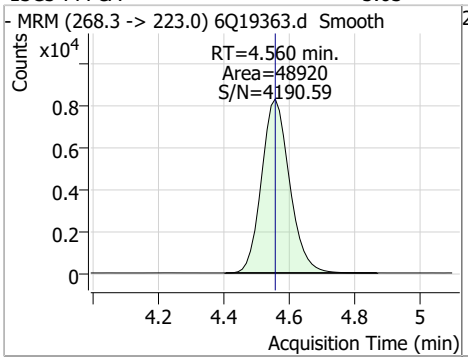
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	4.06	3.97	0.02	3971	241.0 -> 117.0	14.4	6.7	20.2

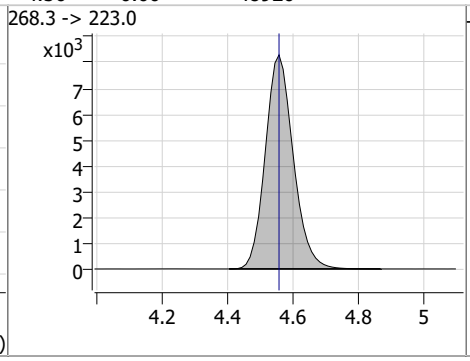


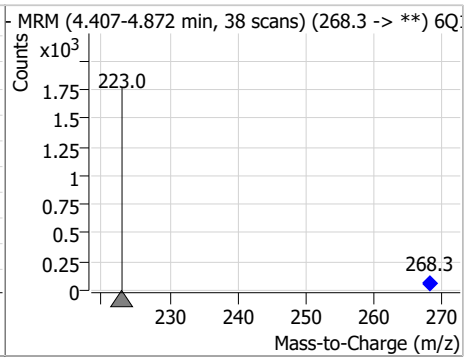




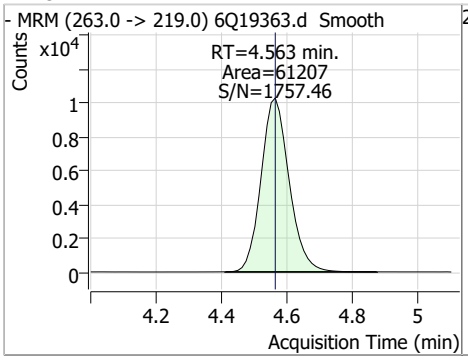
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.63	4.56	0.00	48920				

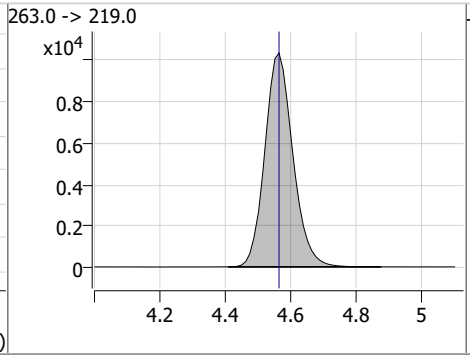


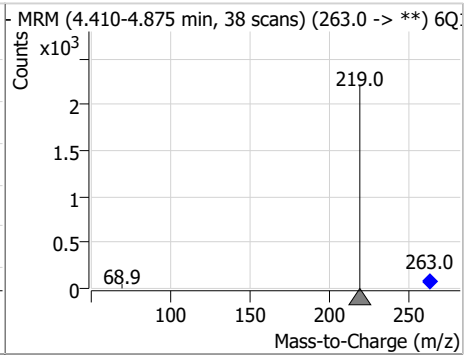




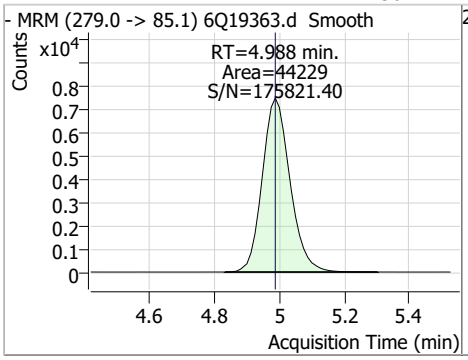
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.24	4.56	0.00	61207				

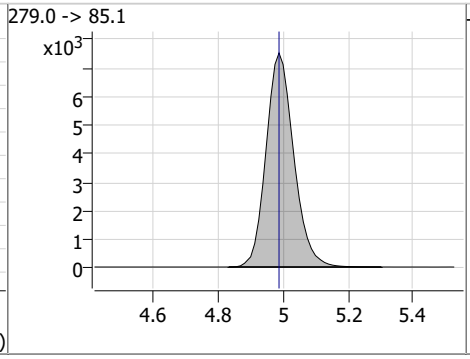


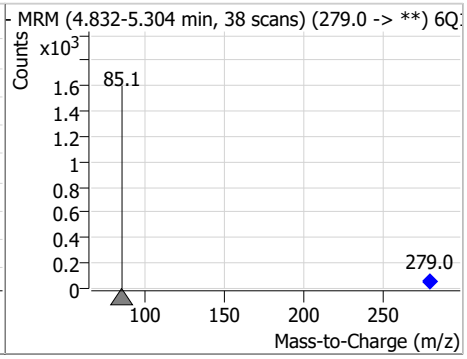




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.30	4.99	0.00	44229				

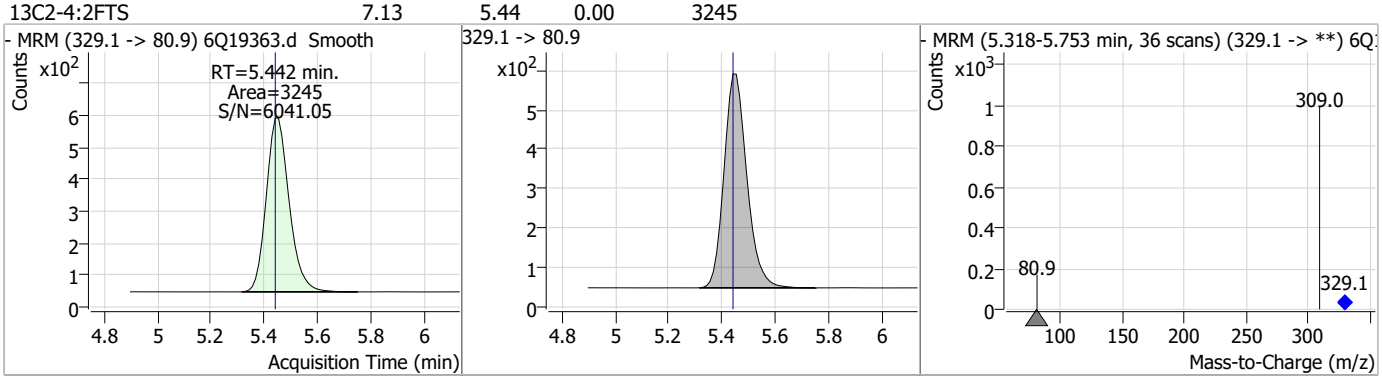




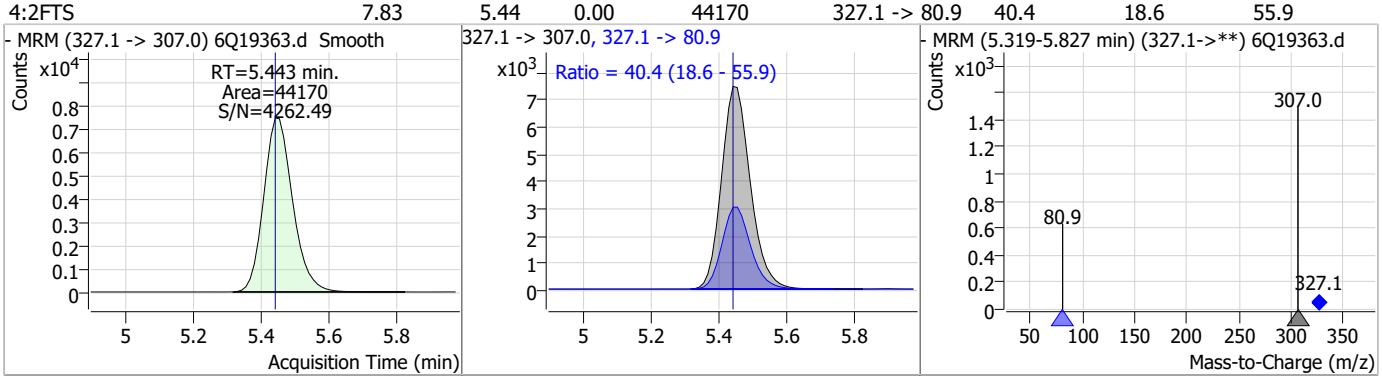


Perfluorinated Compounds by LC/MS/MS

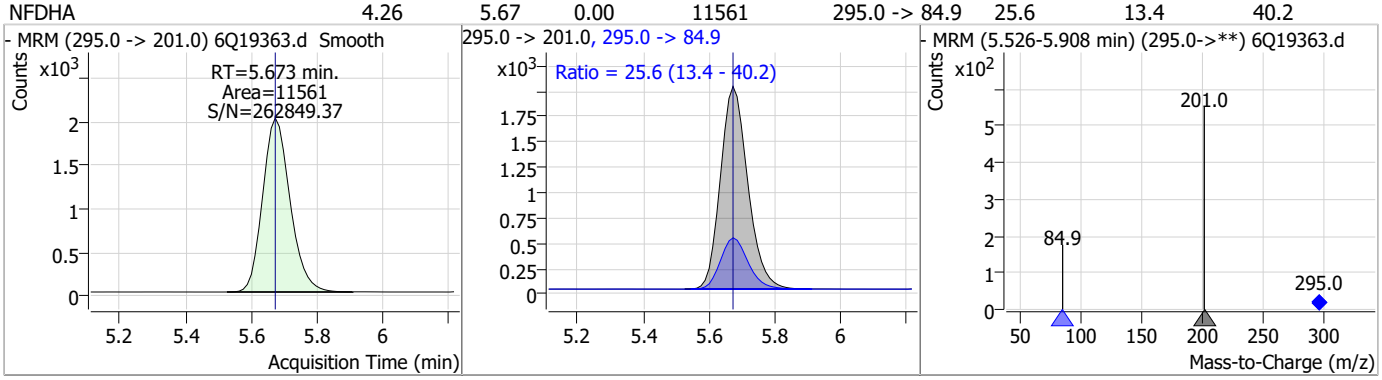
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	7.13	5.44	0.00	3245				



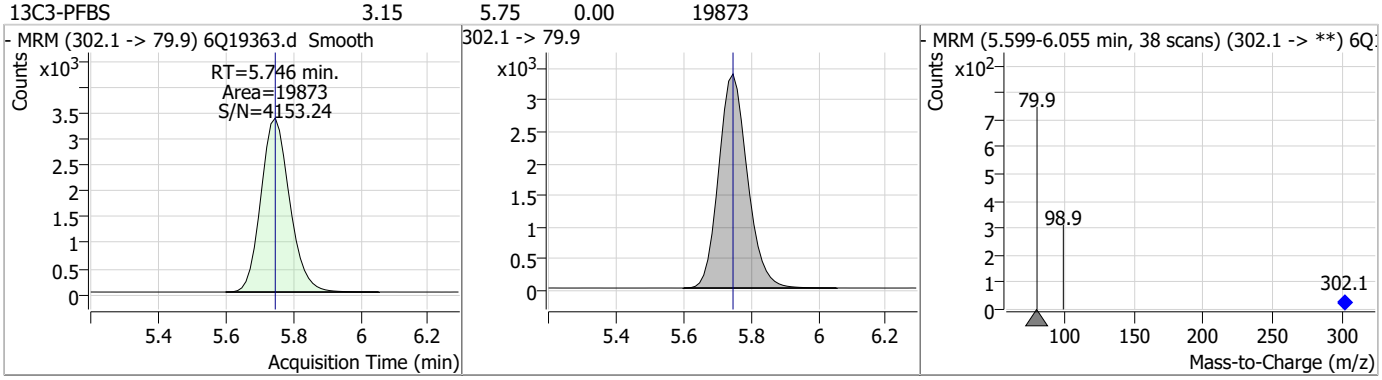
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	7.83	5.44	0.00	44170	327.1 -> 80.9	40.4	18.6	55.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.26	5.67	0.00	11561	295.0 -> 84.9	25.6	13.4	40.2

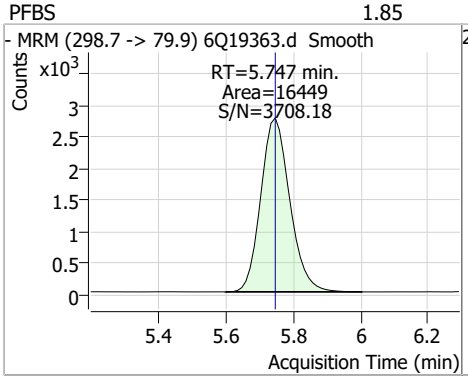


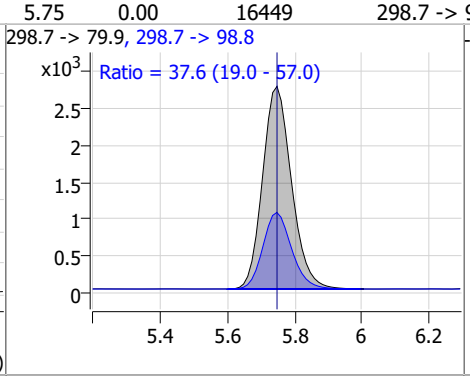
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.15	5.75	0.00	19873				

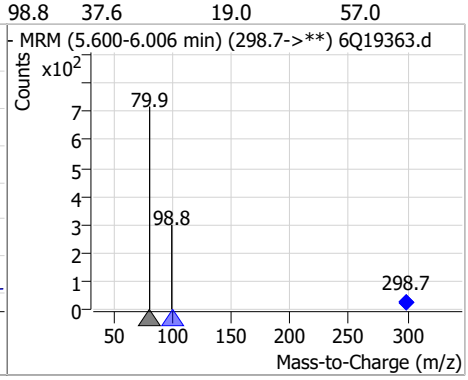


Perfluorinated Compounds by LC/MS/MS

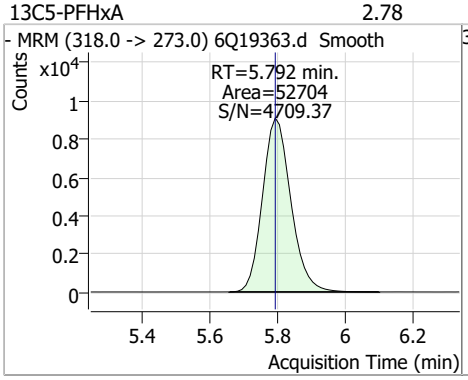
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.85	5.75	0.00	16449	298.7 -> 98.8	37.6	19.0	57.0

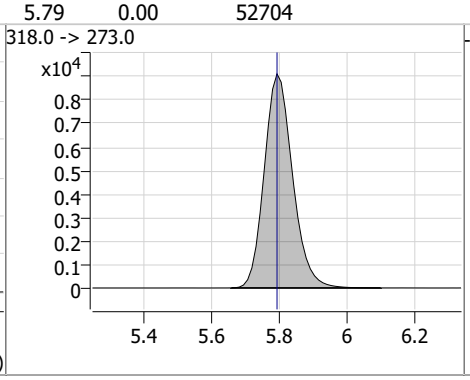


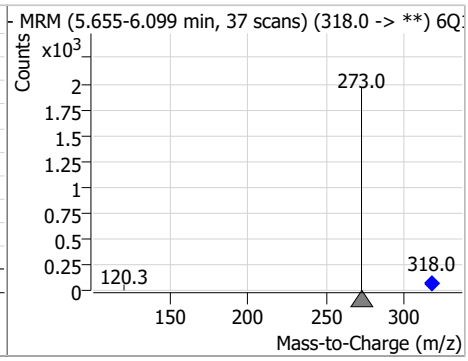




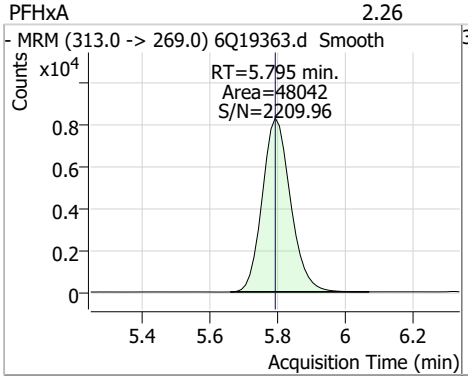
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.78	5.79	0.00	52704				

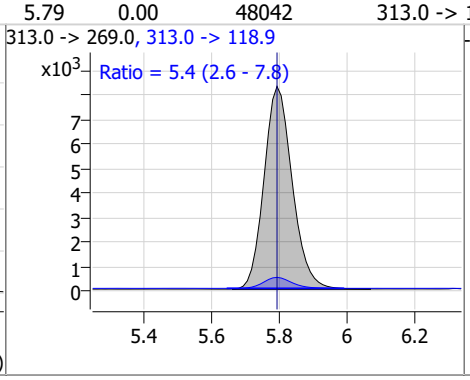


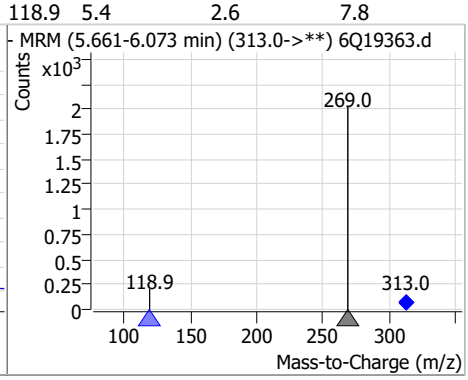




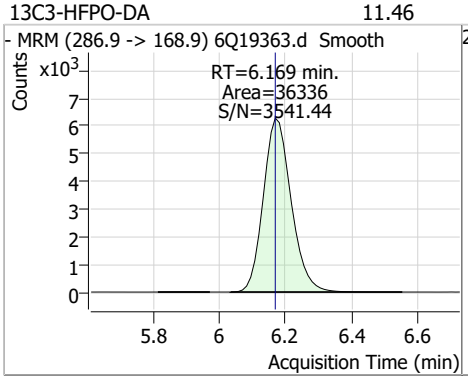
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.26	5.79	0.00	48042	313.0 -> 118.9	5.4	2.6	7.8

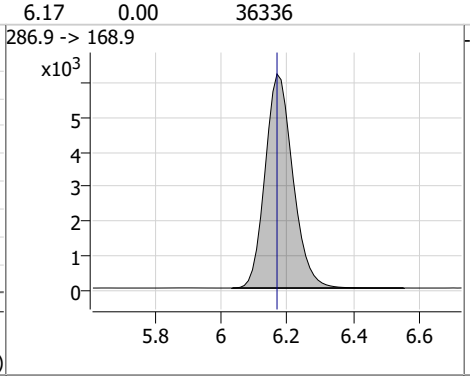


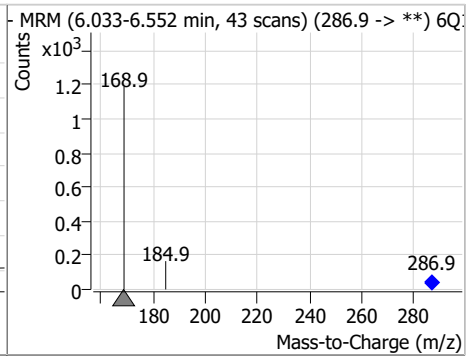




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.46	6.17	0.00	36336				

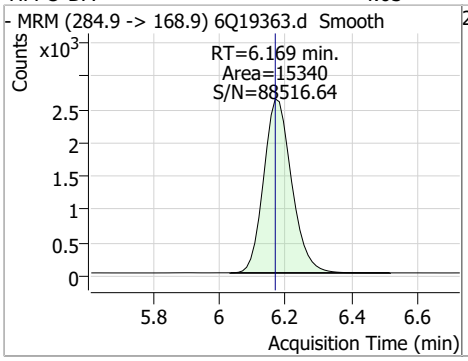


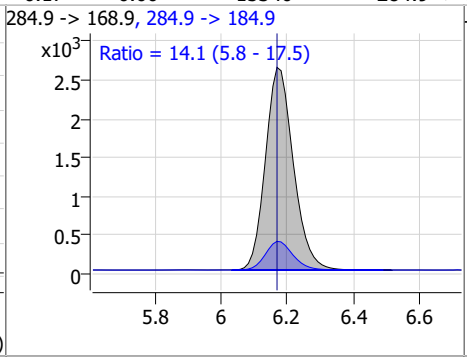


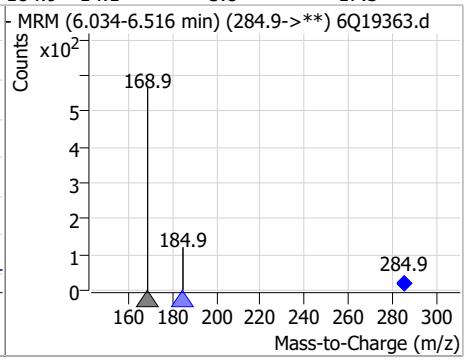


Perfluorinated Compounds by LC/MS/MS

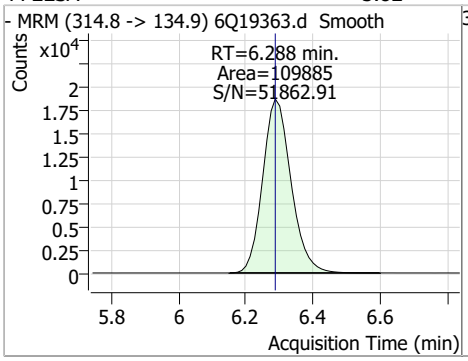
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.03	6.17	0.00	15340	284.9 -> 184.9	14.1	5.8	17.5

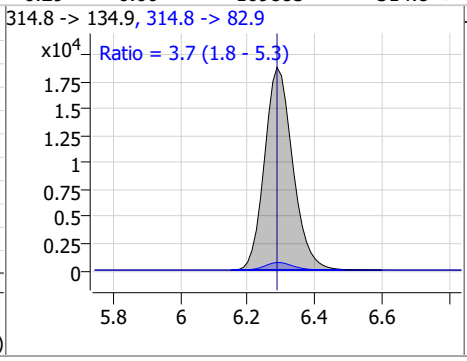


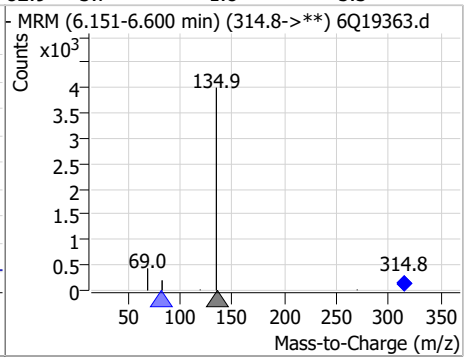




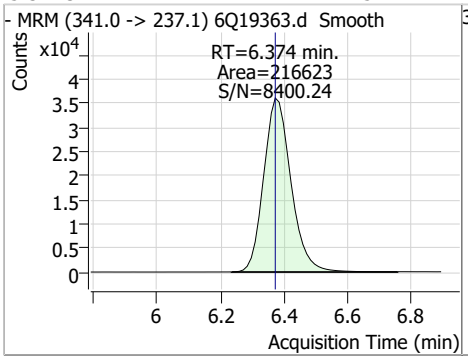
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	3.82	6.29	0.00	109885	314.8 -> 82.9	3.7	1.8	5.3

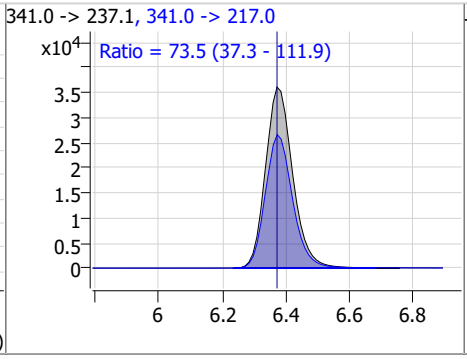


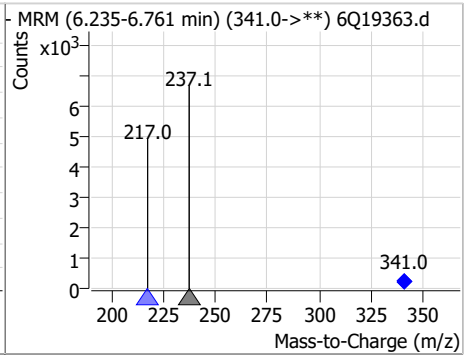




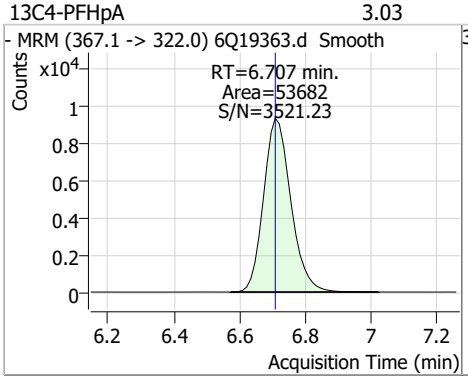
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	51.24	6.37	0.00	216623	341.0 -> 217.0	73.5	37.3	111.9

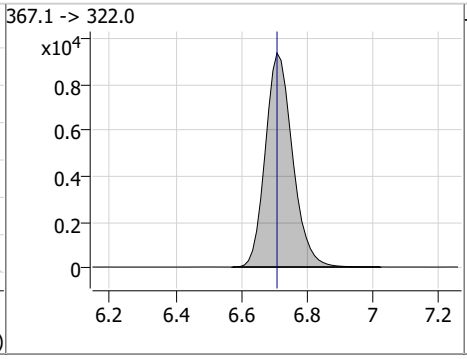


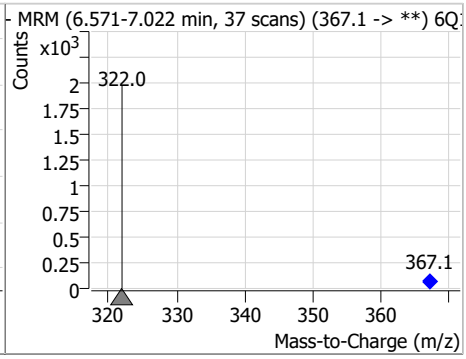




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.03	6.71	0.00	53682				

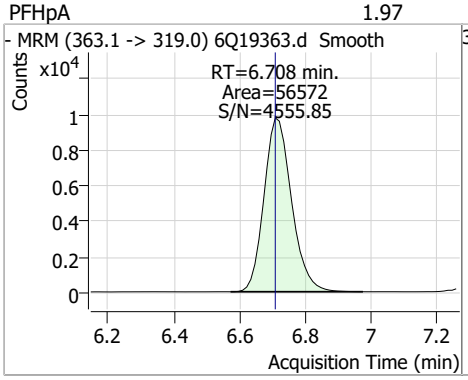


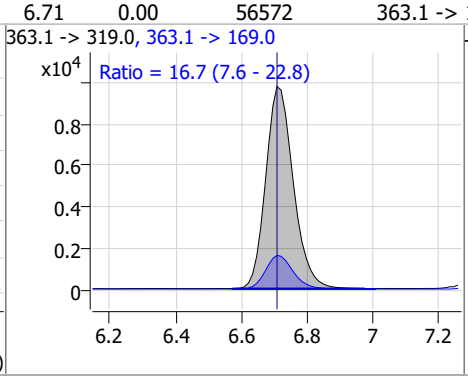


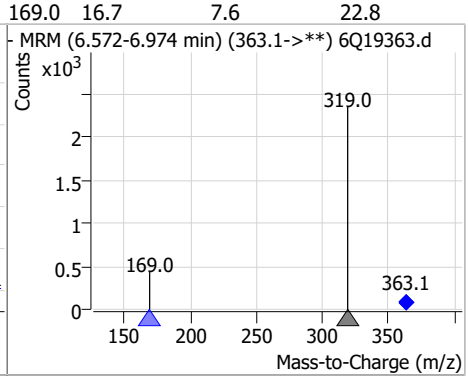


Perfluorinated Compounds by LC/MS/MS

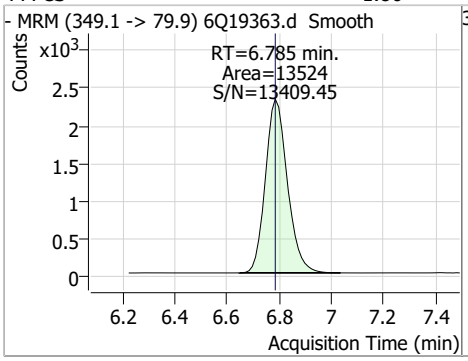
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.97	6.71	0.00	56572	363.1 -> 169.0	16.7	7.6	22.8

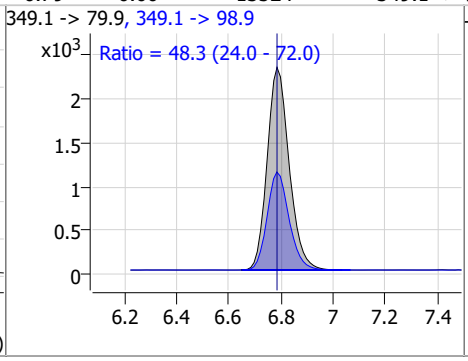


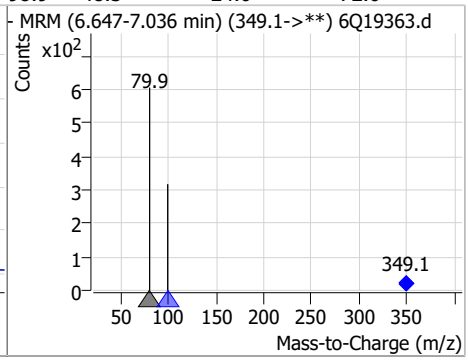




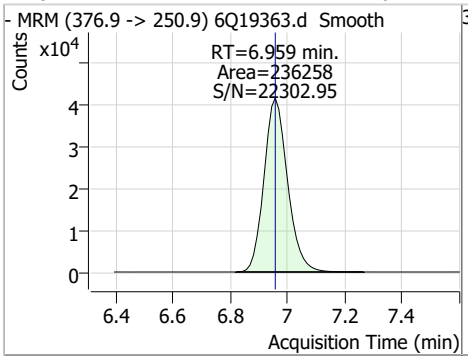
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.86	6.79	0.00	13524	349.1 -> 98.9	48.3	24.0	72.0

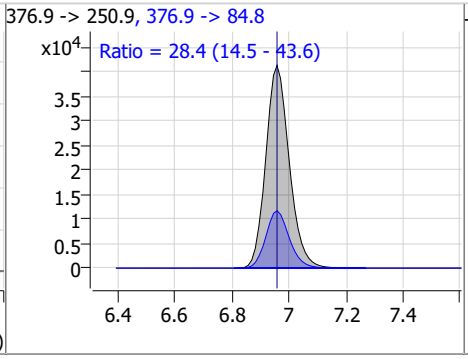


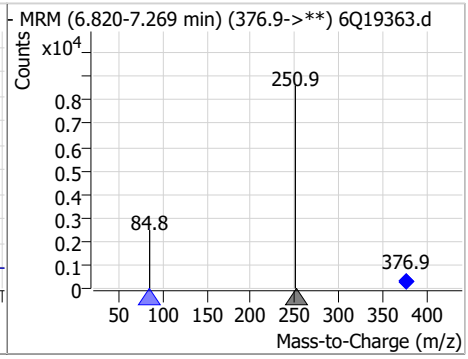




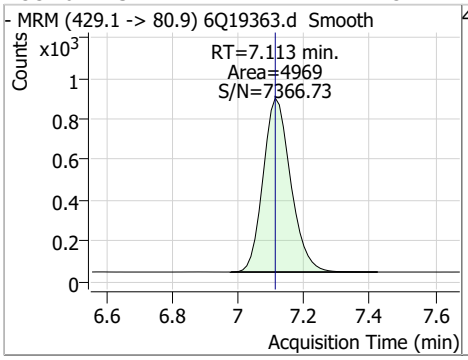
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.02	6.96	0.00	236258	376.9 -> 84.8	28.4	14.5	43.6

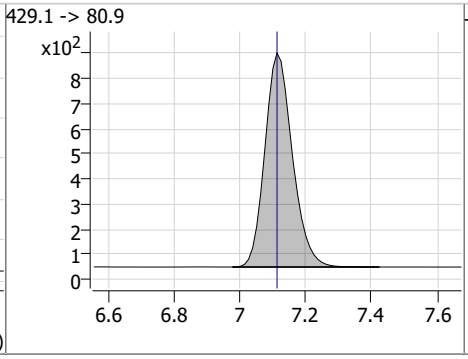


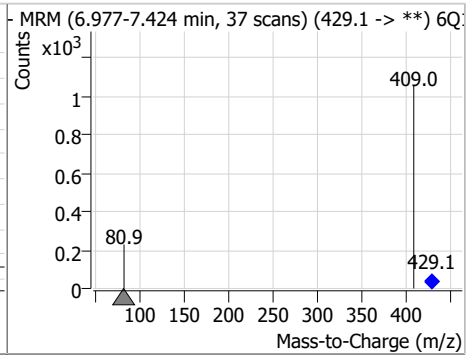




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	7.23	7.11	0.00	4969				

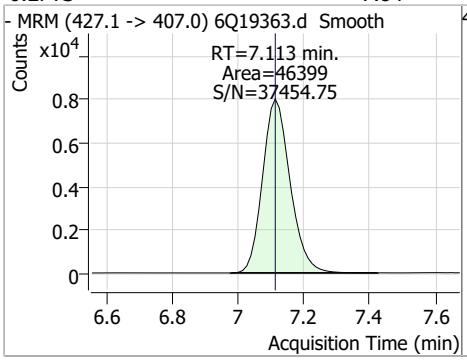


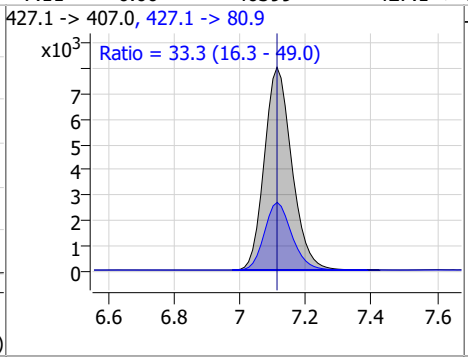


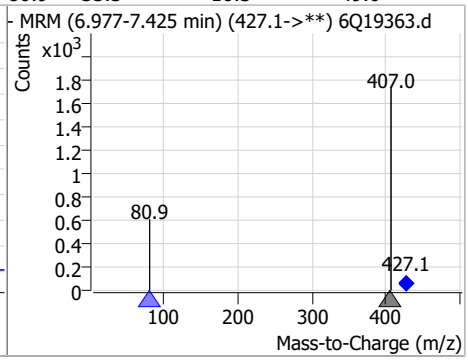


Perfluorinated Compounds by LC/MS/MS

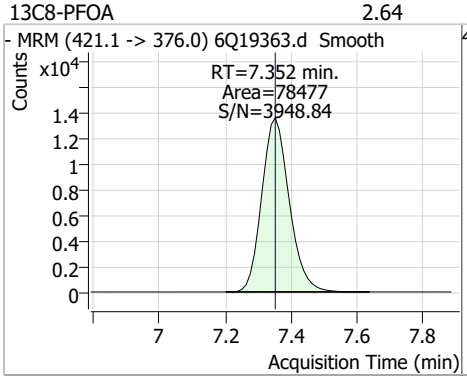
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	7.84	7.11	0.00	46399	427.1 -> 80.9	33.3	16.3	49.0

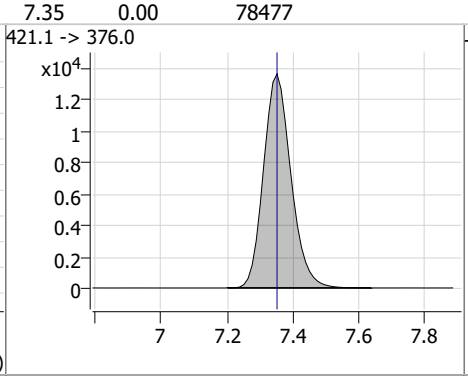


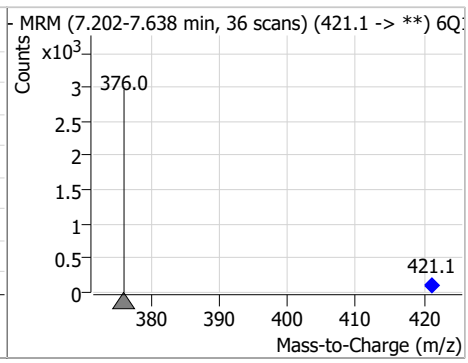




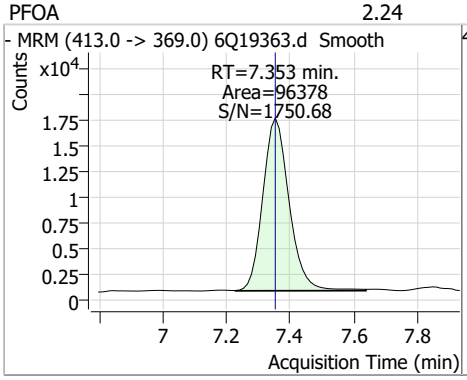
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.64	7.35	0.00	78477				

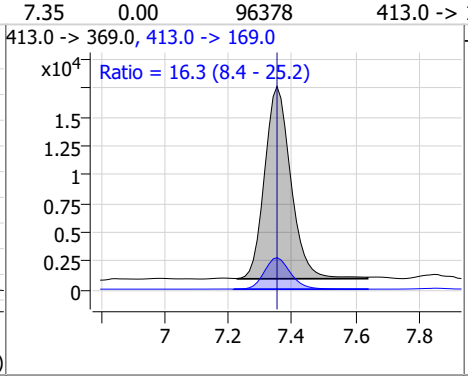


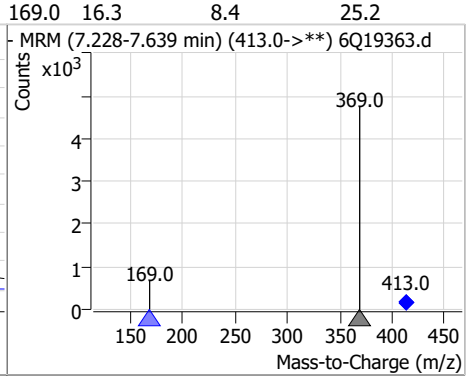




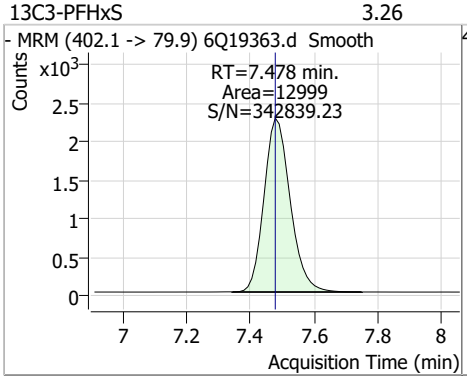
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.24	7.35	0.00	96378	413.0 -> 169.0	16.3	8.4	25.2

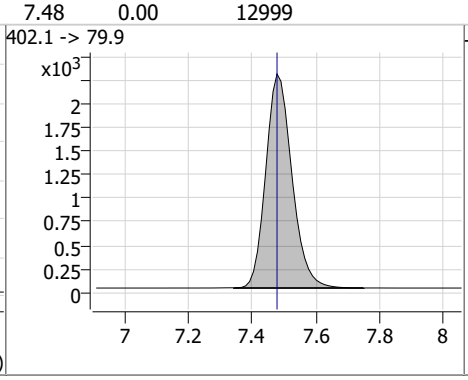


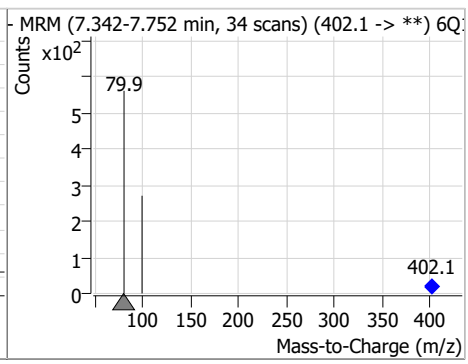




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.26	7.48	0.00	12999				

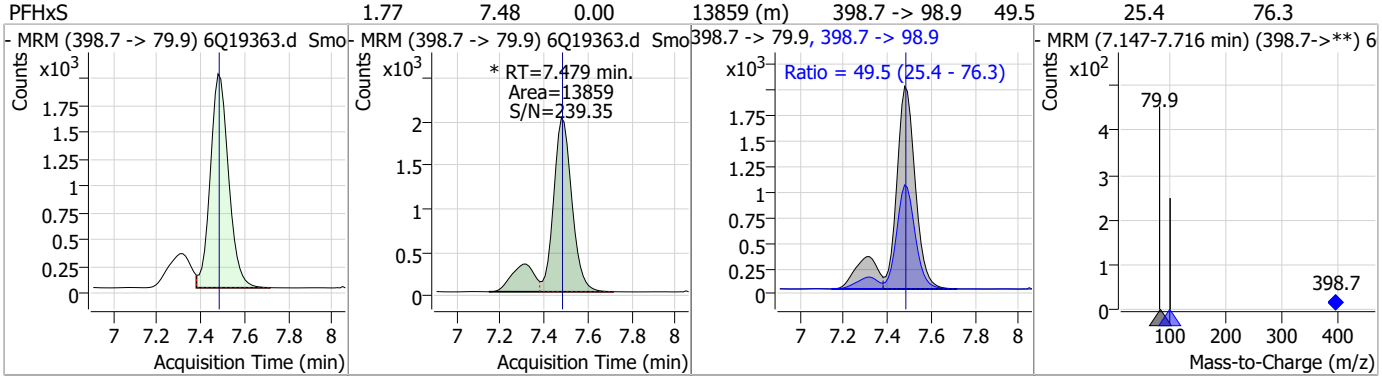




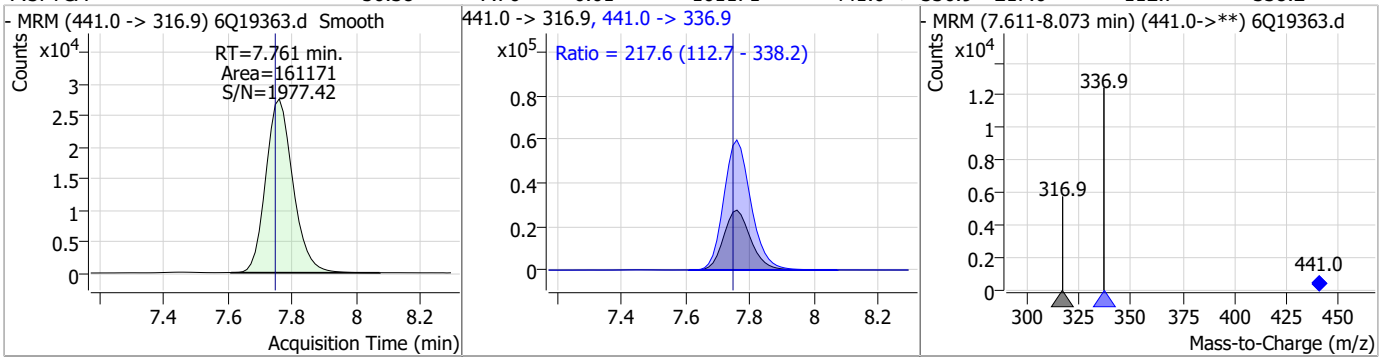


Perfluorinated Compounds by LC/MS/MS

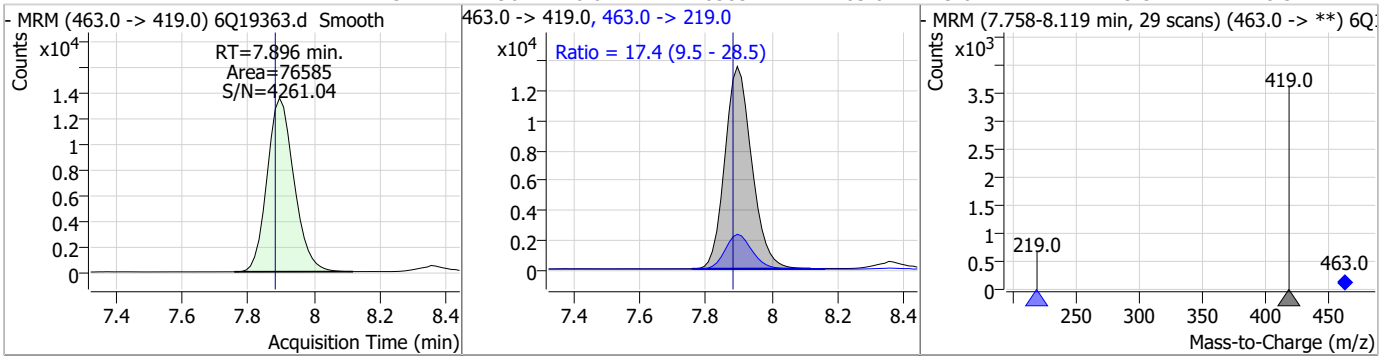
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.77	7.48	0.00	13859 (m)	398.7 -> 98.9	49.5	25.4	76.3



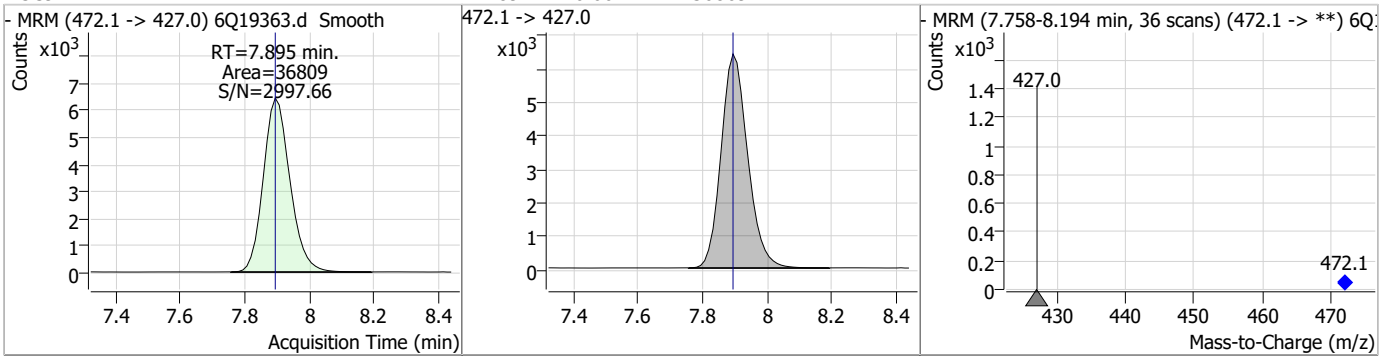
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	56.38	7.76	0.01	161171	441.0 -> 336.9	217.6	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.25	7.90	0.01	76585	463.0 -> 219.0	17.4	9.5	28.5

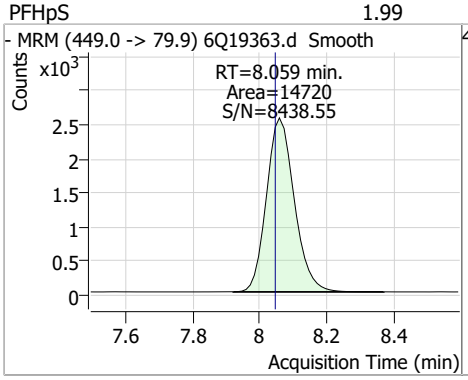


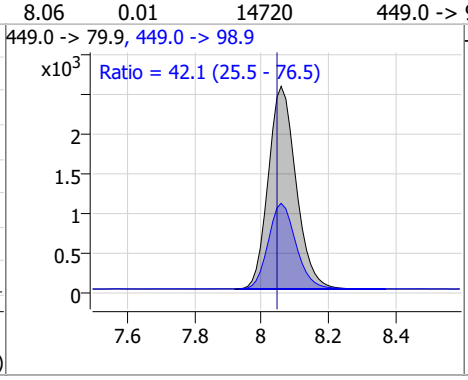
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.44	7.89	0.00	36809				

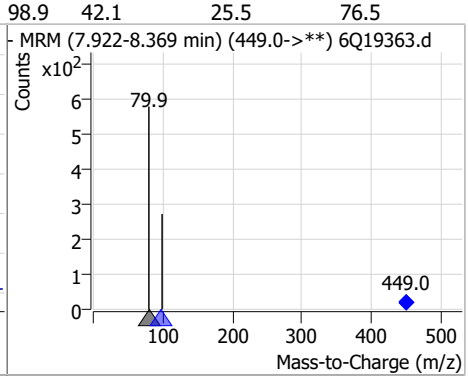


Perfluorinated Compounds by LC/MS/MS

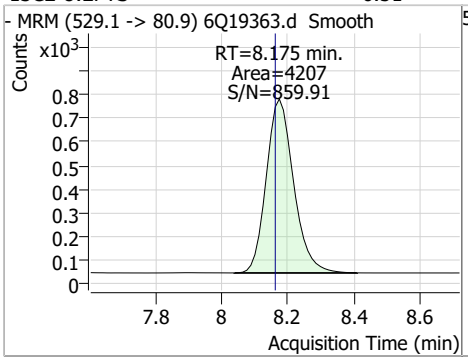
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	1.99	8.06	0.01	14720	449.0 -> 98.9	42.1	25.5	76.5

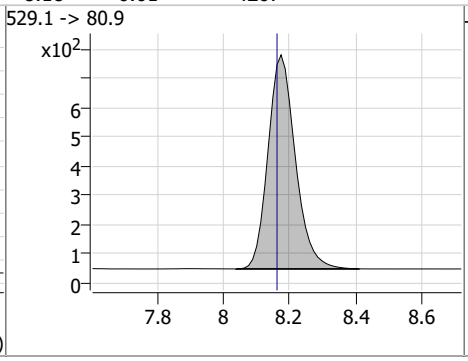


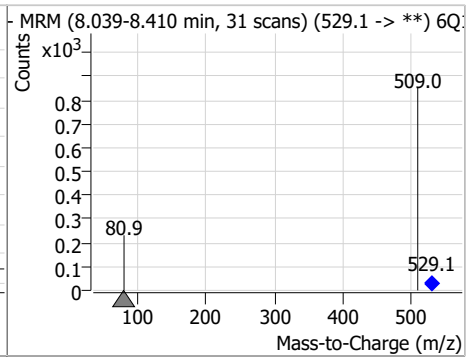




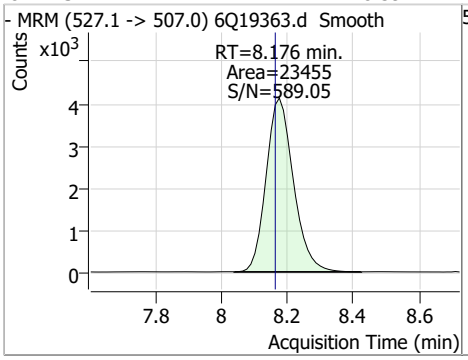
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	6.51	8.18	0.01	4207				

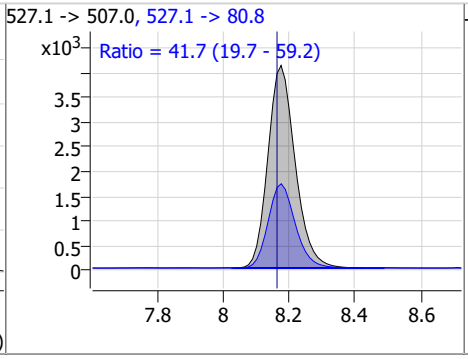


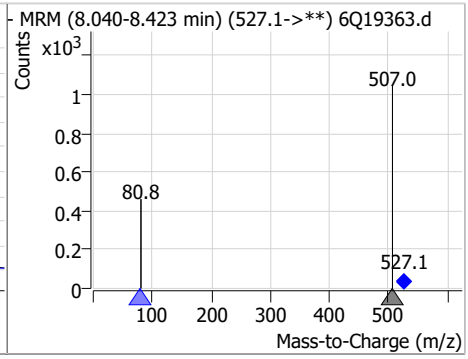




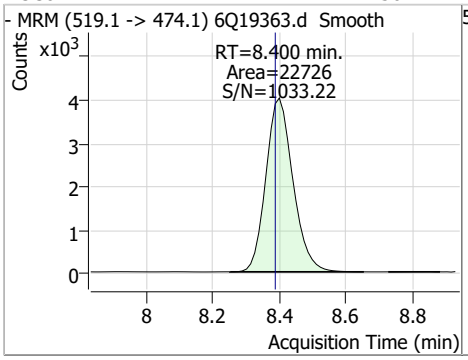
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	8.39	8.18	0.01	23455	527.1 -> 80.8	41.7	19.7	59.2

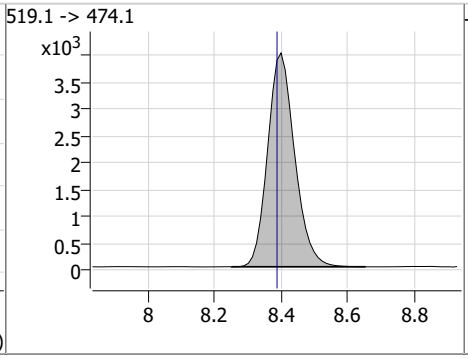


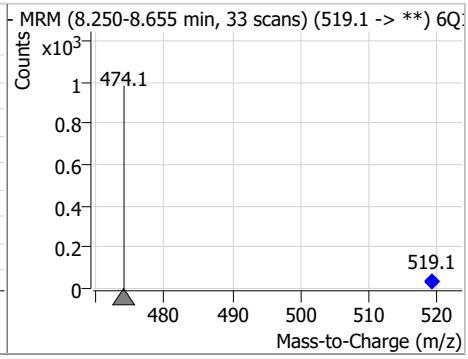




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.50	8.40	0.01	22726				

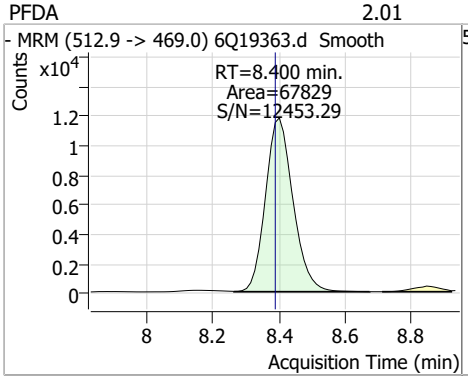


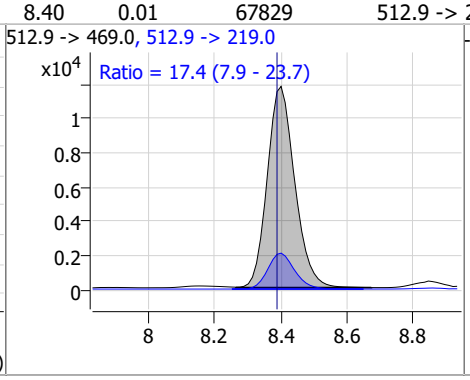


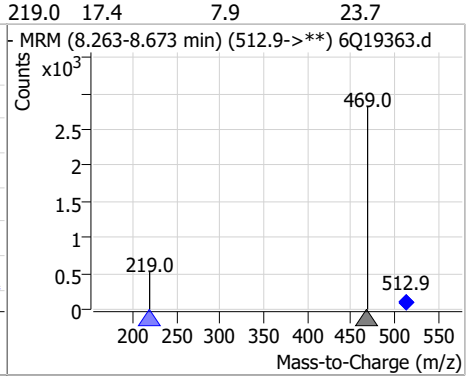


Perfluorinated Compounds by LC/MS/MS

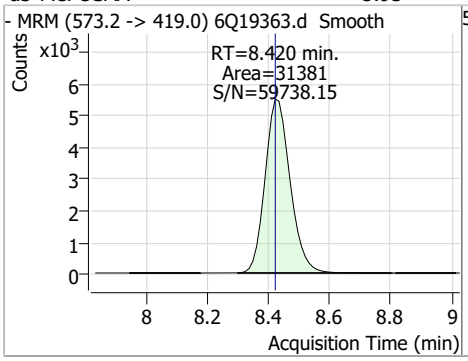
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.01	8.40	0.01	67829	512.9 -> 219.0	17.4	7.9	23.7

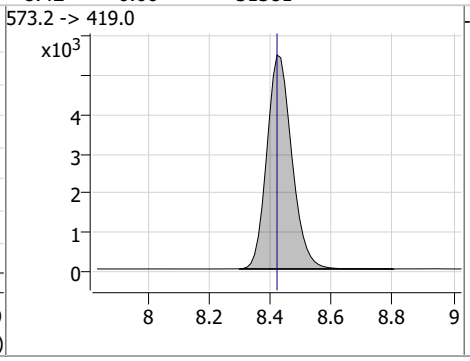


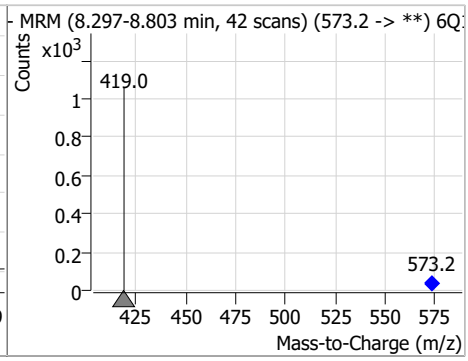




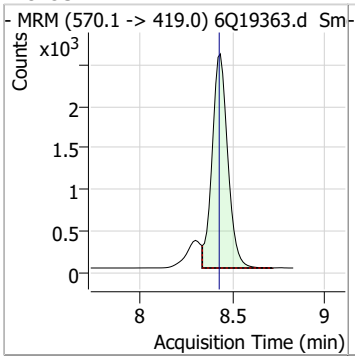
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.93	8.42	0.00	31381				

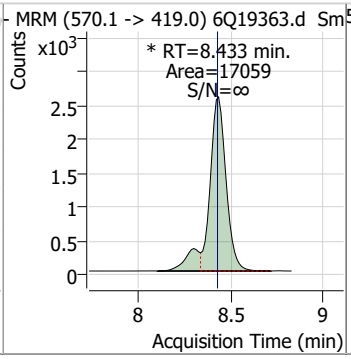


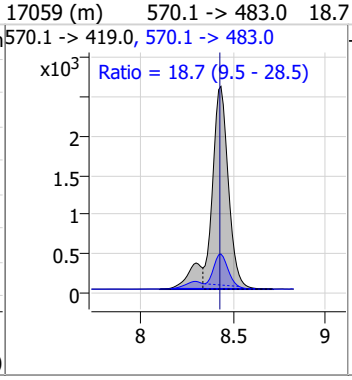


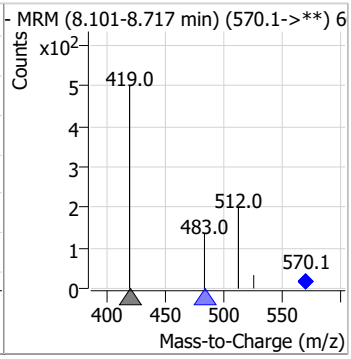


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.10	8.43	0.01	17059 (m)	570.1 -> 483.0	18.7	9.5	28.5

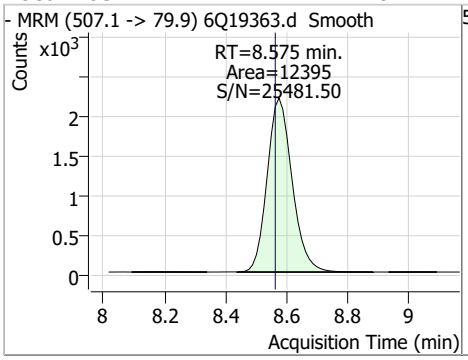


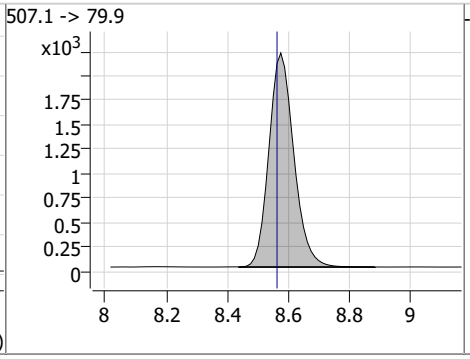


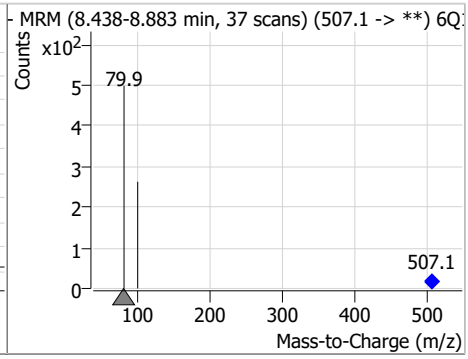




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.94	8.57	0.01	12395				

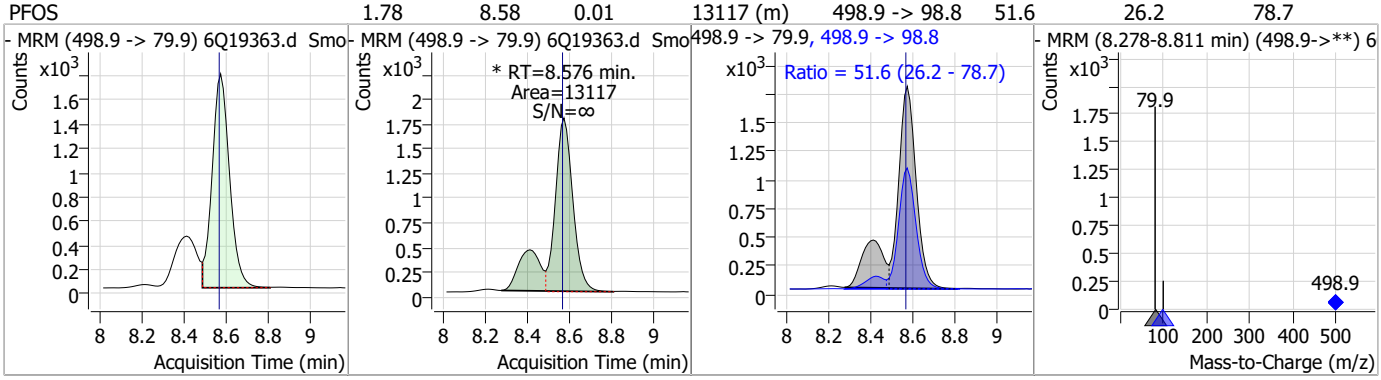




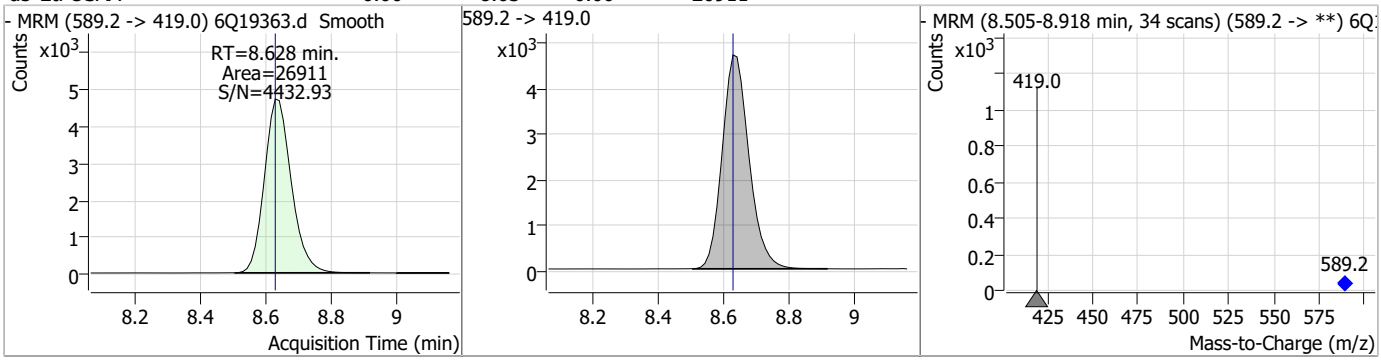


Perfluorinated Compounds by LC/MS/MS

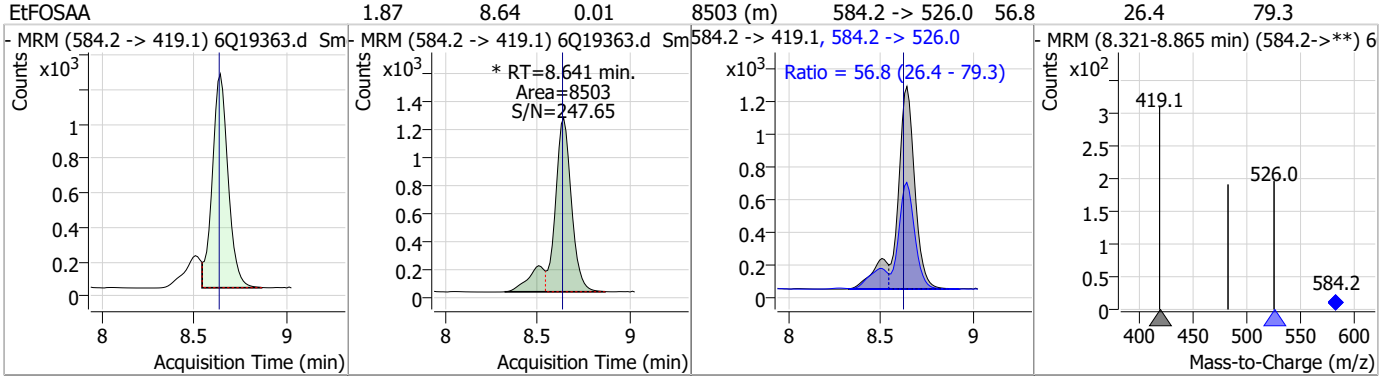
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.78	8.58	0.01	13117 (m)	498.9 -> 98.8	51.6	26.2	78.7



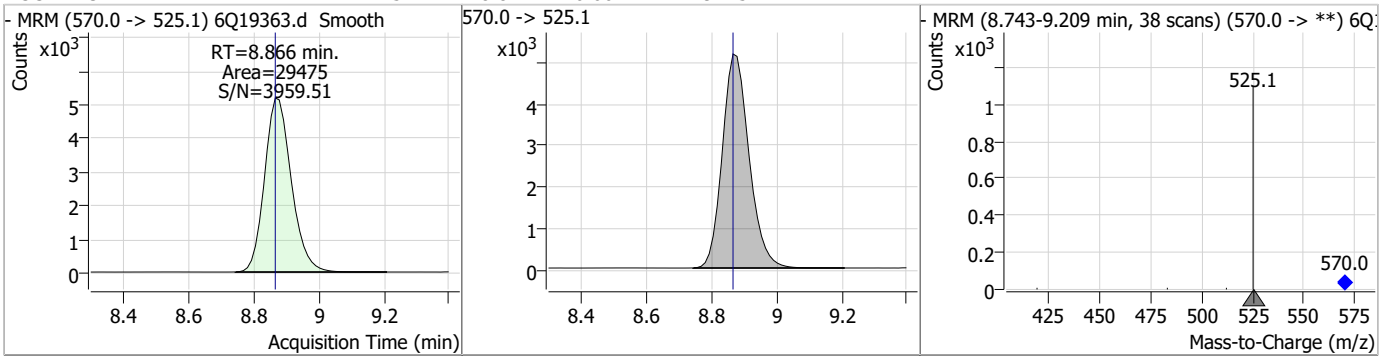
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	6.00	8.63	0.00	26911				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.87	8.64	0.01	8503 (m)	584.2 -> 526.0	56.8	26.4	79.3

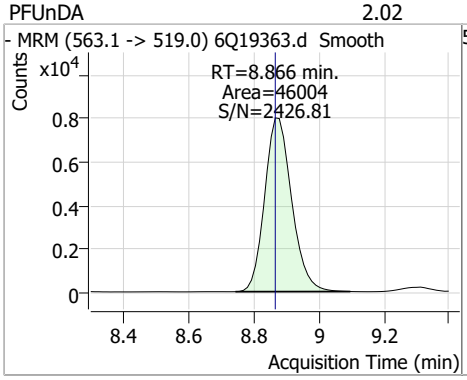


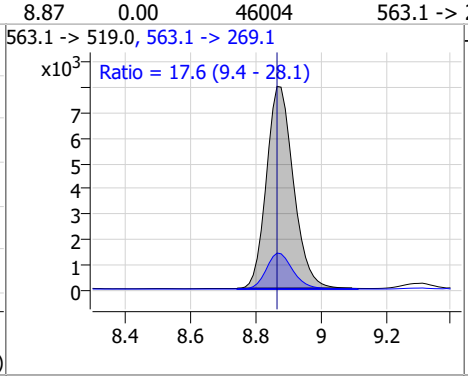
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.45	8.87	0.00	29475				

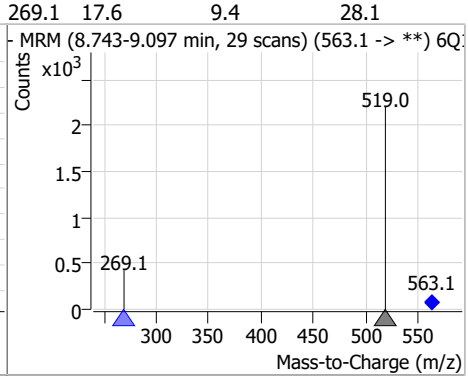


Perfluorinated Compounds by LC/MS/MS

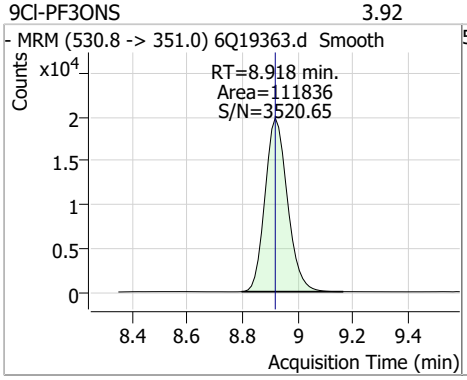
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.02	8.87	0.00	46004	563.1 -> 269.1	17.6	9.4	28.1

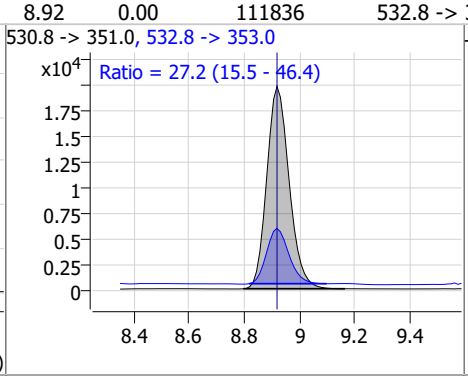


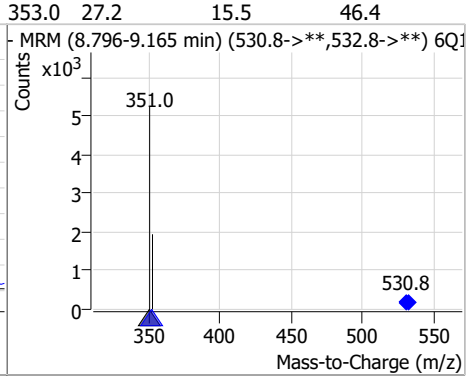




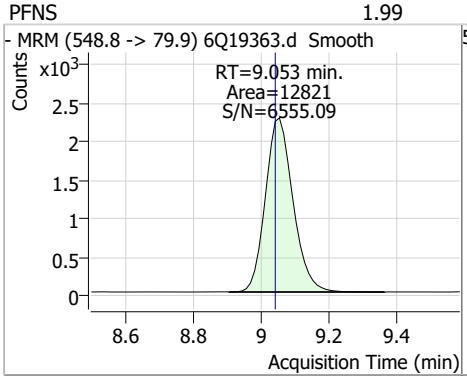
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	3.92	8.92	0.00	111836	532.8 -> 353.0	27.2	15.5	46.4

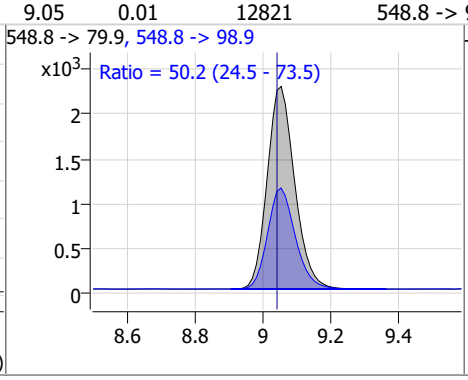


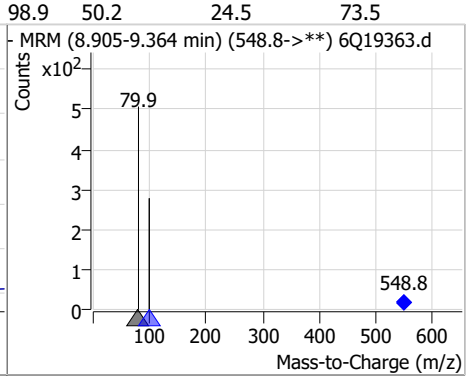




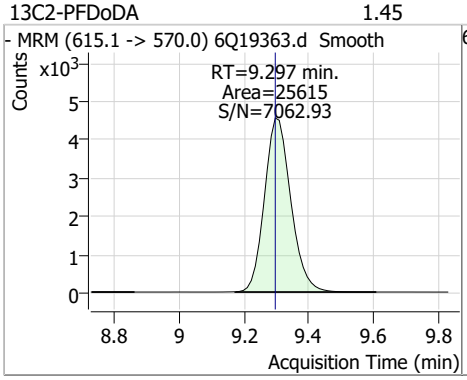
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	1.99	9.05	0.01	12821	548.8 -> 98.9	50.2	24.5	73.5

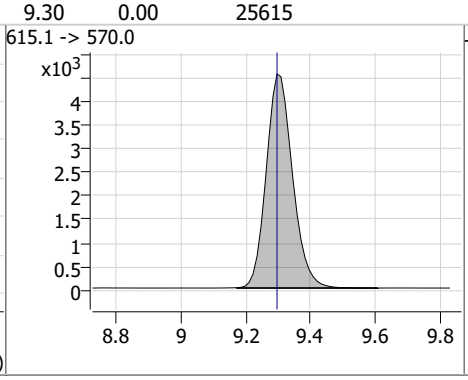


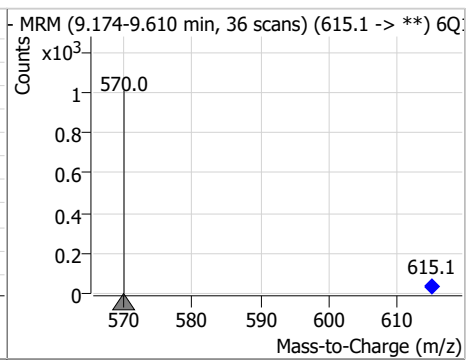




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.45	9.30	0.00	25615				

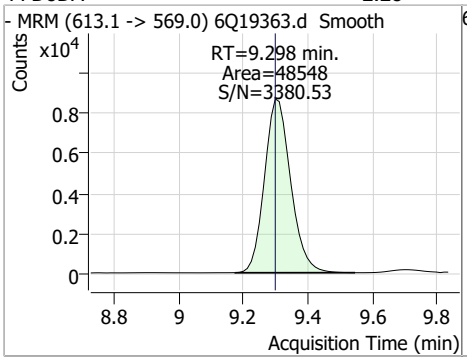


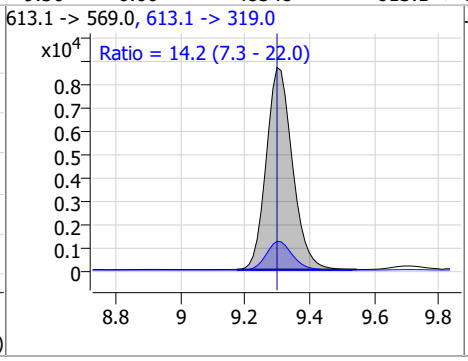


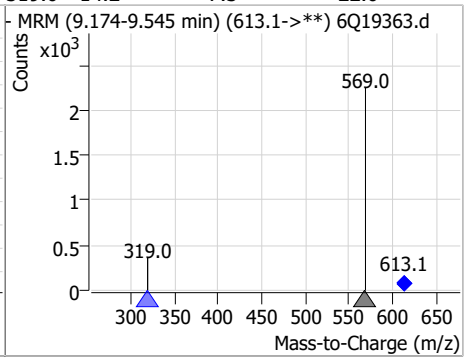


Perfluorinated Compounds by LC/MS/MS

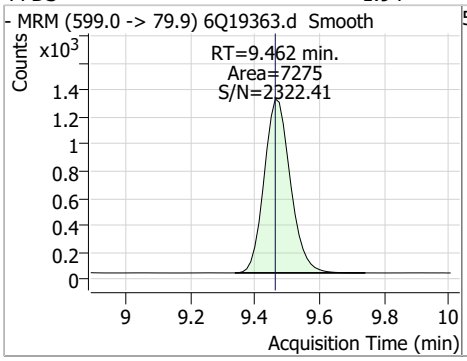
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.28	9.30	0.00	48548	613.1 -> 319.0	14.2	7.3	22.0

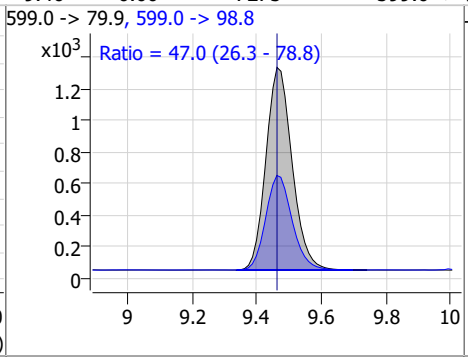


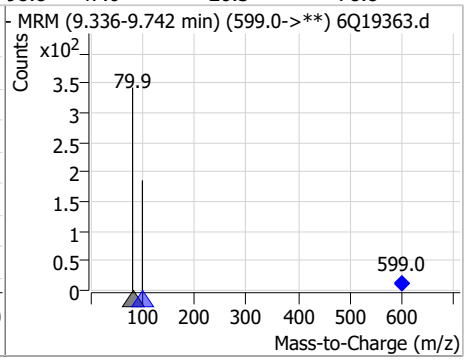




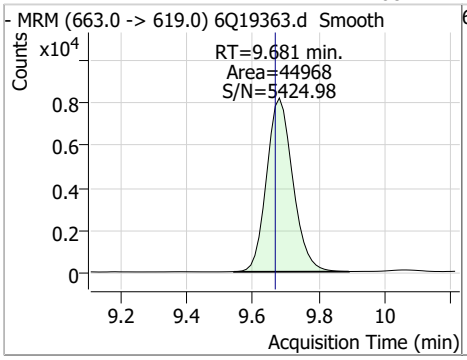
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	1.94	9.46	0.00	7275	599.0 -> 98.8	47.0	26.3	78.8

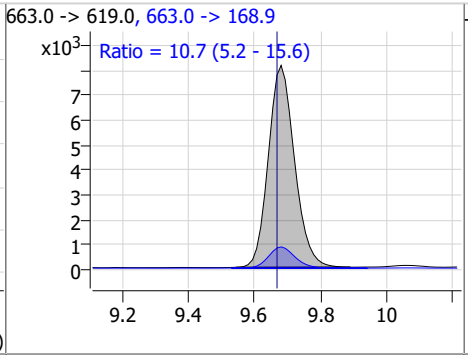


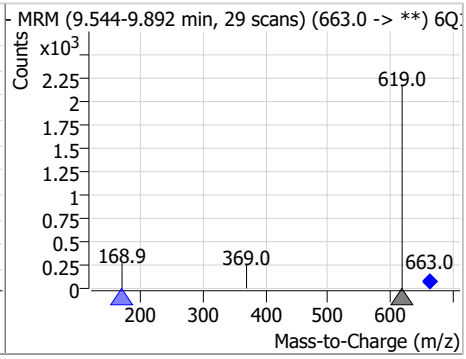




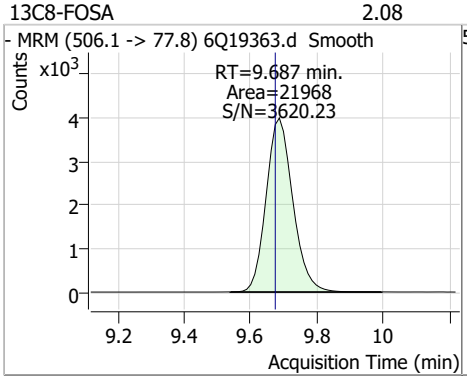
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.08	9.68	0.01	44968	663.0 -> 168.9	10.7	5.2	15.6

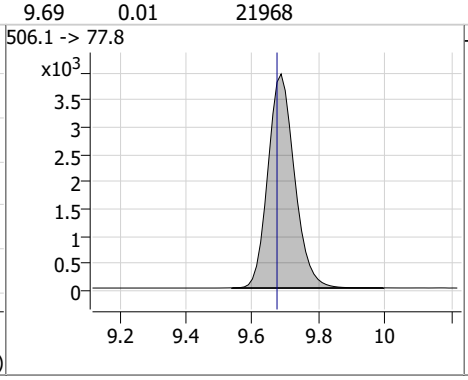


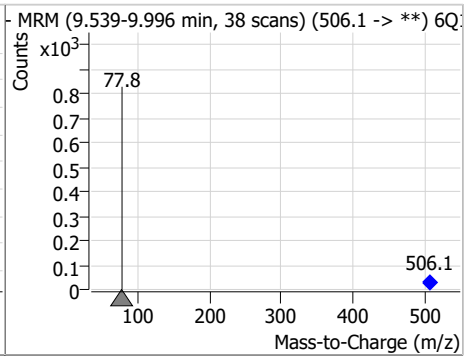




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.08	9.69	0.01	21968				

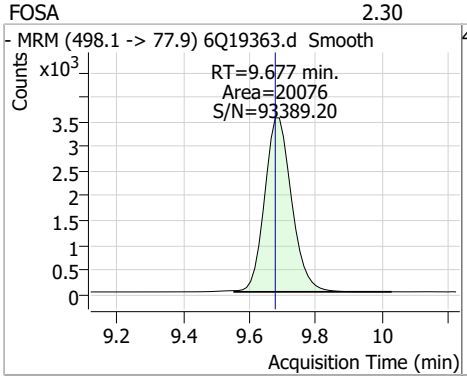


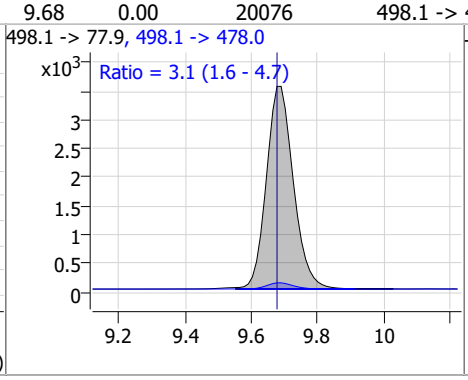


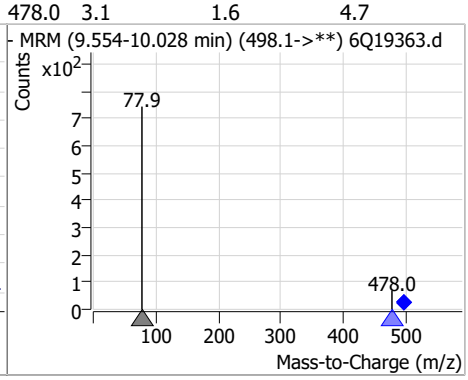


Perfluorinated Compounds by LC/MS/MS

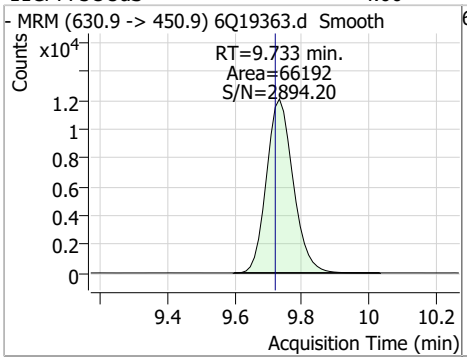
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.30	9.68	0.00	20076	498.1 -> 478.0	3.1	1.6	4.7

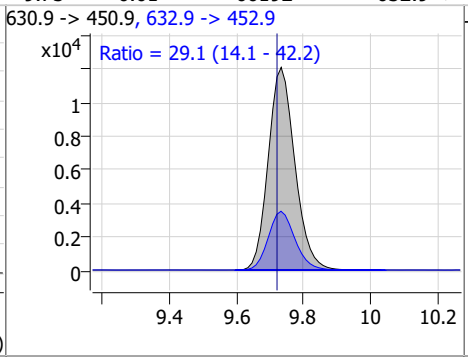


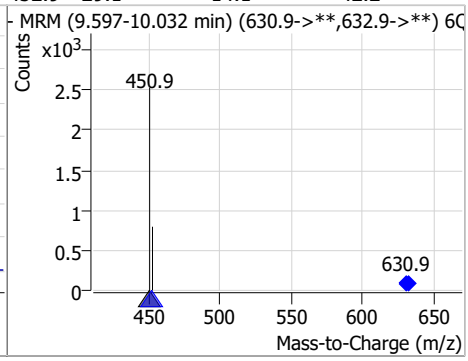




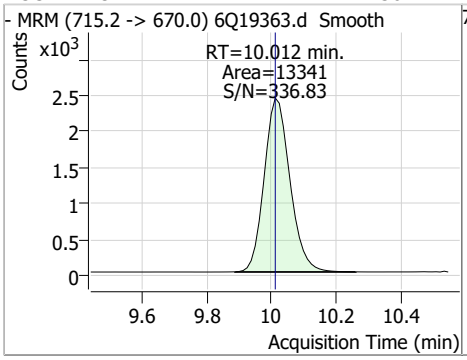
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.00	9.73	0.01	66192	632.9 -> 452.9	29.1	14.1	42.2

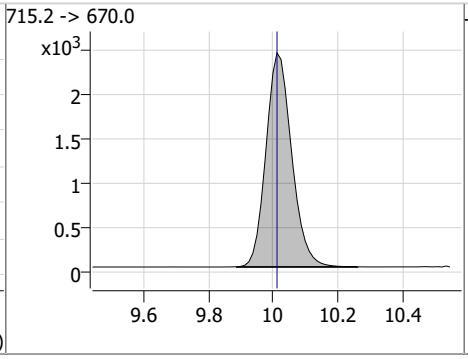


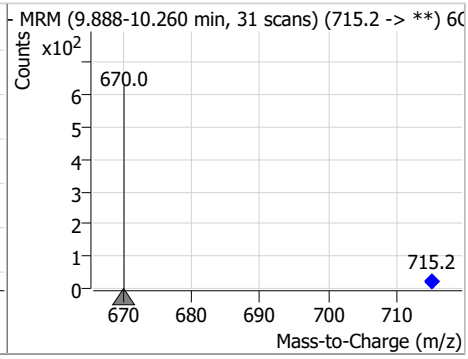




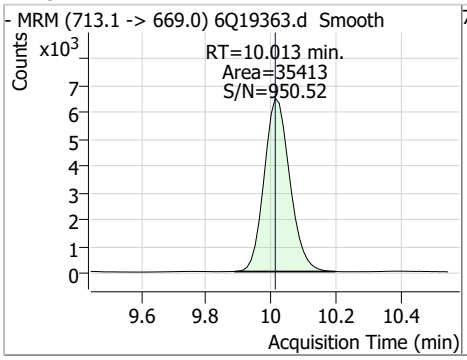
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.36	10.01	0.00	13341				

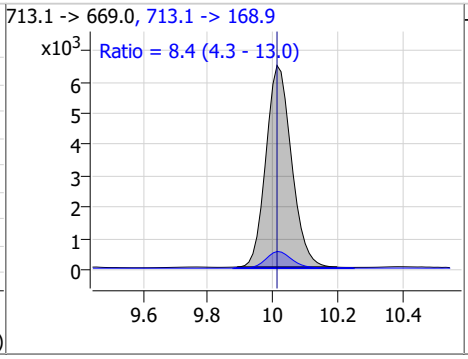


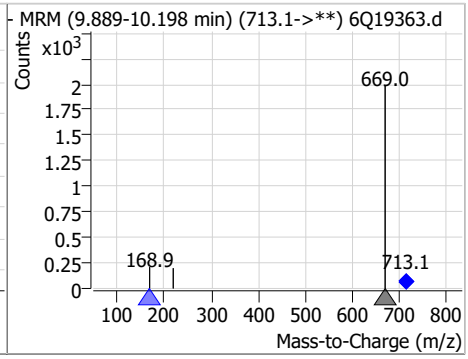




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.21	10.01	0.00	35413	713.1 -> 168.9	8.4	4.3	13.0

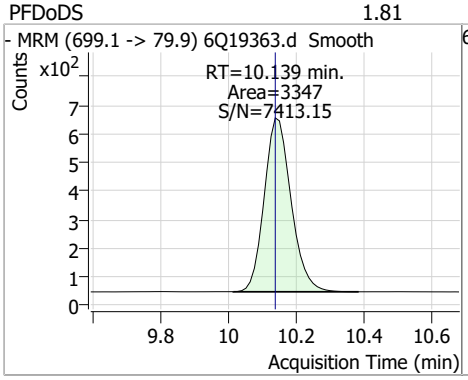


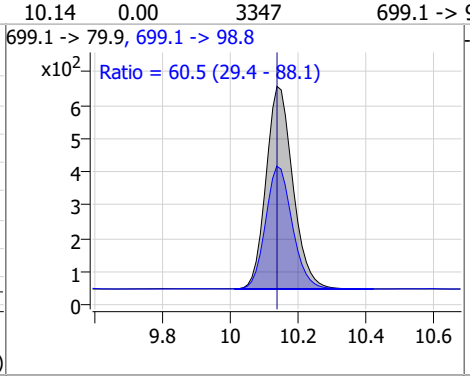


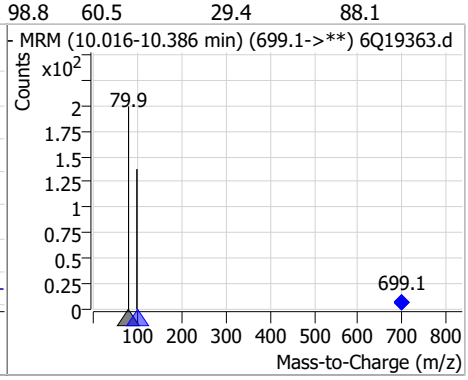


Perfluorinated Compounds by LC/MS/MS

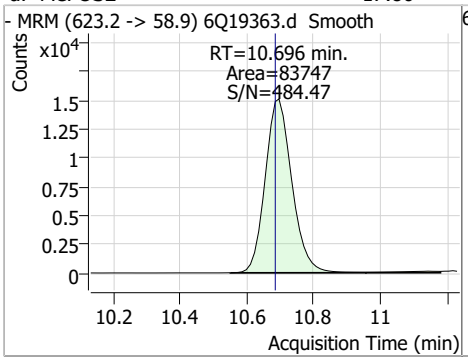
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	1.81	10.14	0.00	3347	699.1 -> 98.8	60.5	29.4	88.1

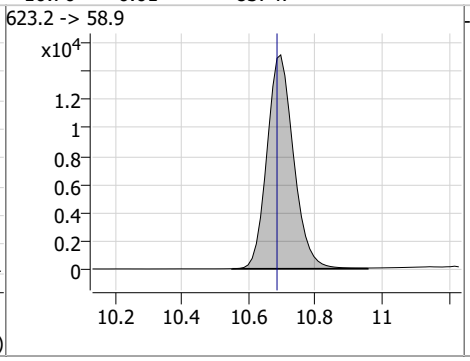


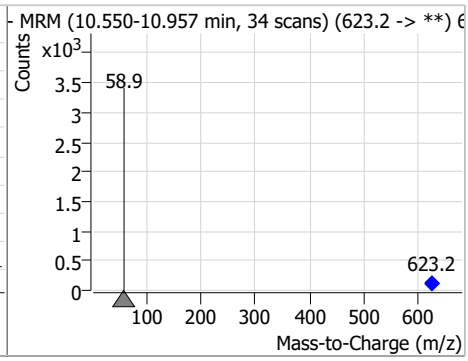




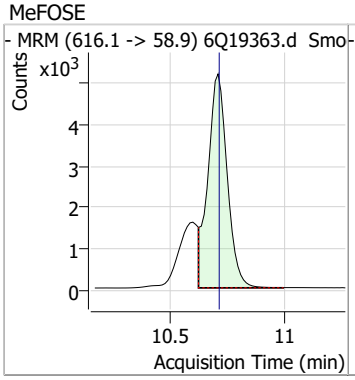
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	17.86	10.70	0.01	83747				

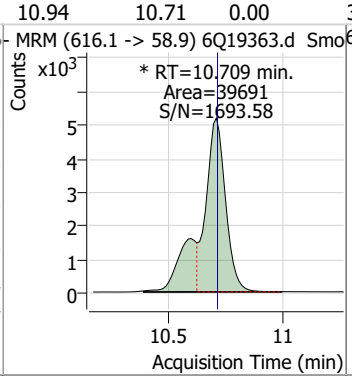


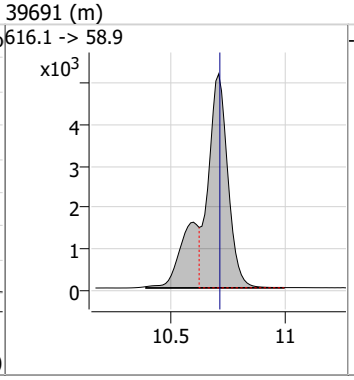


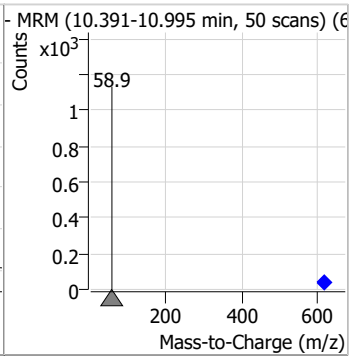


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	10.94	10.71	0.00	39691 (m)				

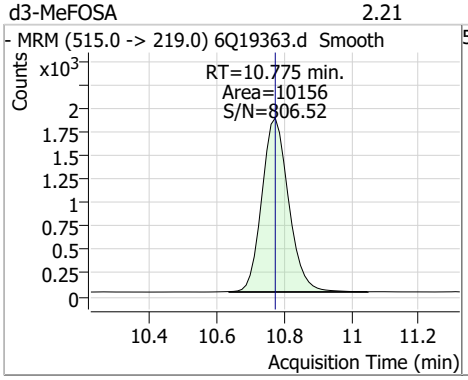


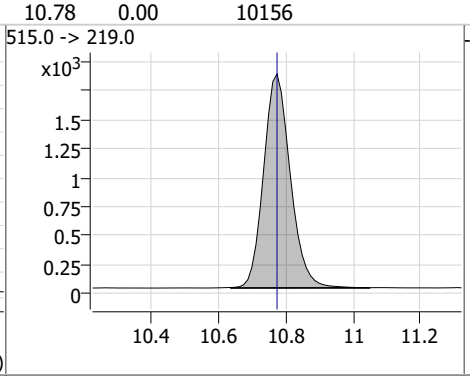


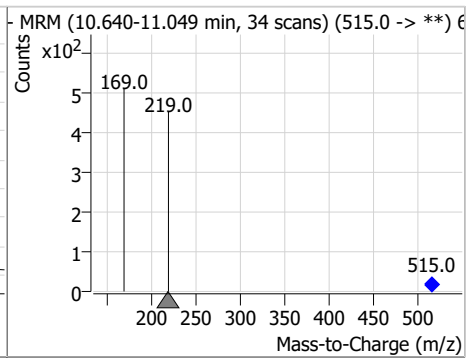




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.21	10.78	0.00	10156				

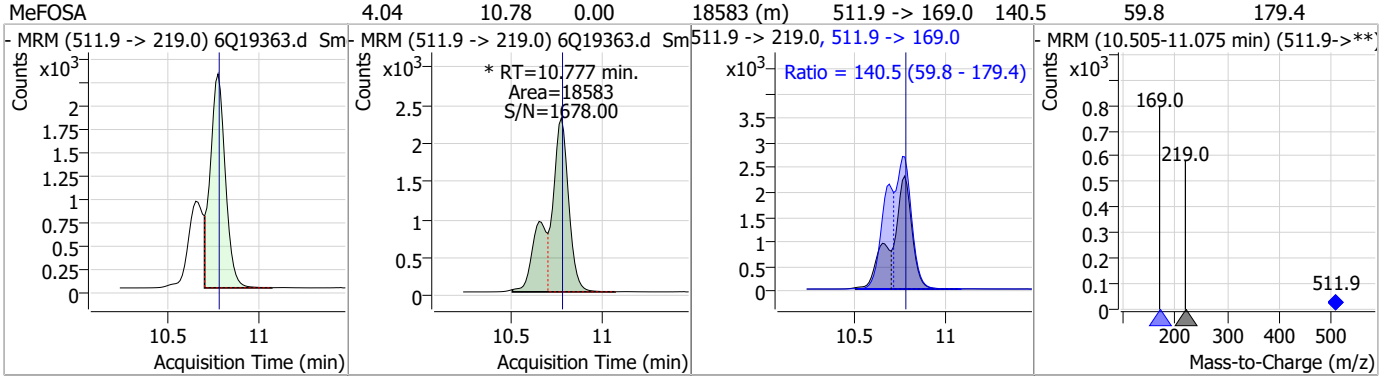




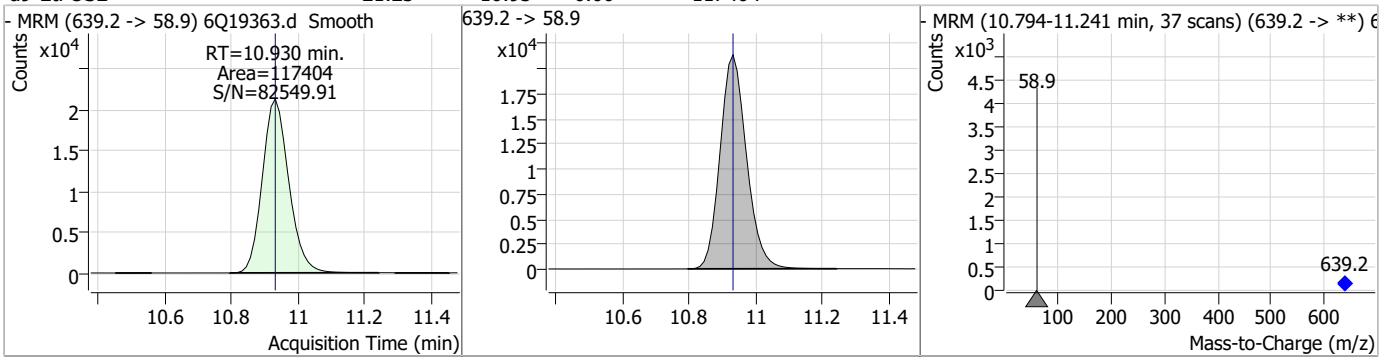


Perfluorinated Compounds by LC/MS/MS

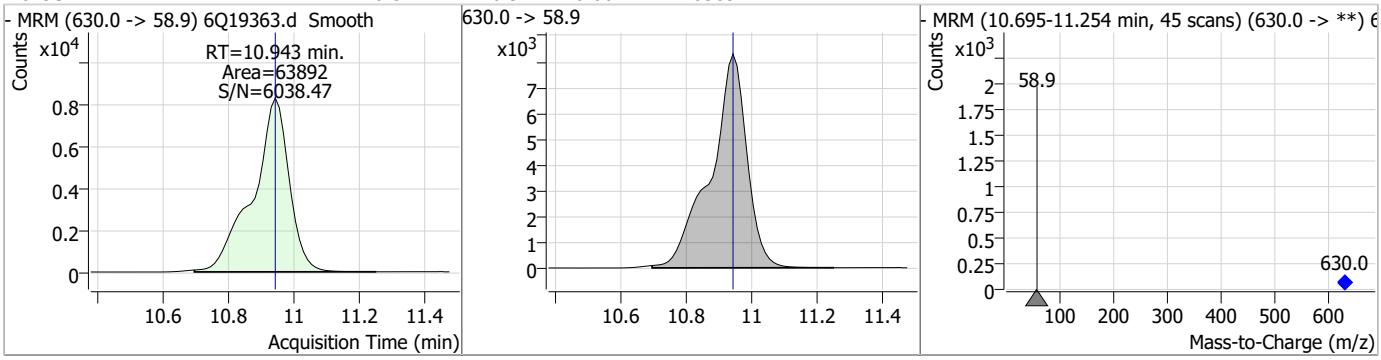
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.04	10.78	0.00	18583 (m)	511.9 -> 169.0	140.5	59.8	179.4



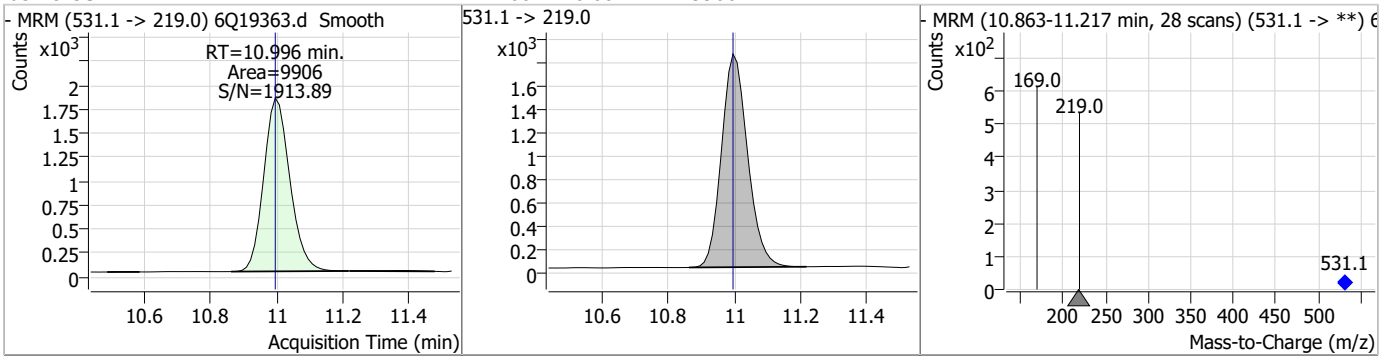
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	21.23	10.93	0.00	117404				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	10.52	10.94	0.00	63892				

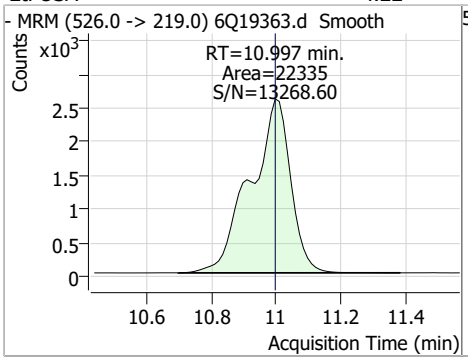


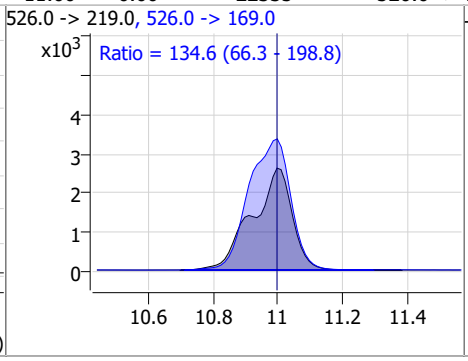
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.21	11.00	0.00	9906				

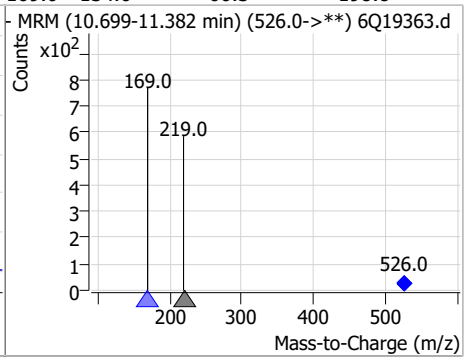


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.22	11.00	0.00	22335	526.0 -> 169.0	134.6	66.3	198.8







Manual Integration Approval Summary

Sample Number: OP97325-BS
Lab FileID: 6Q19363.D
Injection Time: 06/14/23 18:58
Method: EPA DRAFT 1633
Analyst approved: 06/15/23 10:05 Martha Valls
Supervisor approved: 06/15/23 10:58 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.43	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.58	Split peak
EtFOSAA	2991-50-6		8.64	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:58

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19364.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 7:12:31 PM
Sample Name : op97325-llbs:3
Vial : P4-B9
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97325,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	156822	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	51349	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	55091	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	54124	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	78805	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	39647	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	22563	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	30205	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	25430	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	13354	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	21894	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	20068	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12875	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	11999	2.50	µg/L	0.012
M2-4:2FTS	5.442	329.1 -> 80.9	3236	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	5169	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4871	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	32441	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35868	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	25552	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	83599	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	120173	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	9330	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	9286	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	14052	2.50	µg/L	0.012
13C3-PFBA	3.101	216.0 -> 172.0	57856	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	8039	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	77894	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	27237	1.25	µg/L	0.000
13C5-PFNA	7.895	468.0 -> 423.0	40135	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	45534	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	3236	6.71	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 134.1%		
13C2-6:2FTS	7.113	429.1 -> 80.9	5169	7.10	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 141.9%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4871	7.11	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 142.2%		
13C2-PFDoDA	9.297	615.1 -> 570.0	25430	1.40	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 111.7%		
13C2-PFTeDA	10.012	715.2 -> 670.0	13354	1.31	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.1%		
13C3-PFBS	5.746	302.1 -> 79.9	20068	3.00	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 120.0%		
13C3-PFHxS	7.478	402.1 -> 79.9	12875	3.05	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 121.9%		
13C4-PFBA	3.097	216.8 -> 171.9	156822	11.55 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 115.5%		
13C4-PFHpA	6.707	367.1 -> 322.0	54124	3.08 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 123.2%		
13C5-PFHxA	5.792	318.0 -> 273.0	55091	2.93 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 117.3%		
13C5-PFPeA	4.560	268.3 -> 223.0	51349	5.96 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.2%		
13C6-PFDA	8.400	519.1 -> 474.1	22563	1.44 µg/L		0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 115.5%		
13C7-PFUnDA	8.866	570.0 -> 525.1	30205	1.44 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 115.4%		
13C8-FOSA	9.687	506.1 -> 77.8	21894	2.06 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.3%		
13C8-PFOA	7.352	421.1 -> 376.0	78805	2.71 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.3%		
13C8-PFOS	8.575	507.1 -> 79.9	11999	2.83 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 113.1%		
13C9-PFNA	7.895	472.1 -> 427.0	39647	1.62 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 129.8%		
d3-MeFOSAA	8.420	573.2 -> 419.0	32441	6.10 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 122.0%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	35868	11.41 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 114.1%		
d3-MeFOSA	10.775	515.0 -> 219.0	9286	2.01 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 80.3%		
d5-EtFOSAA	8.628	589.2 -> 419.0	25552	5.66 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.2%		
d7-MeFOSE	10.696	623.2 -> 58.9	83599	17.73 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 70.9%		
d9-EtFOSE	10.930	639.2 -> 58.9	120173	21.62 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 86.5%		
d5-EtFOSA	10.996	531.1 -> 219.0	9330	2.07 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.7%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	13737	2.44 µg/L		98
		327.1 -> 80.9	5269			
6:2FTS	7.113	427.1 -> 407.0	13817	2.24 µg/L		94
		427.1 -> 80.9	5019			
8:2FTS	8.176	527.1 -> 507.0	7113	2.20 µg/L		90
		527.1 -> 80.8	3232			
EtFOSAA	8.641	584.2 -> 419.1	2776	0.64 µg/L	m	99
		584.2 -> 526.0	1454			
FOSA	9.690	498.1 -> 77.9	5589	0.64 µg/L		97
		498.1 -> 478.0	231			
MeFOSAA	8.421	570.1 -> 419.0	5247	0.62 µg/L	m	100
		570.1 -> 483.0	986			
PFBA	3.093	212.8 -> 168.9	16603	2.63 µg/L		100
PFBS	5.747	298.7 -> 79.9	4945	0.55 µg/L		98
		298.7 -> 98.8	1942			
PFDA	8.400	512.9 -> 469.0	20550	0.61 µg/L		98
		512.9 -> 219.0	3076			
PFDoDA	9.298	613.1 -> 569.0	14412	0.68 µg/L		99
		613.1 -> 319.0	2064			
PFDS	9.462	599.0 -> 79.9	2500	0.69 µg/L		87

Perfluorinated Compounds by LC/MS/MS

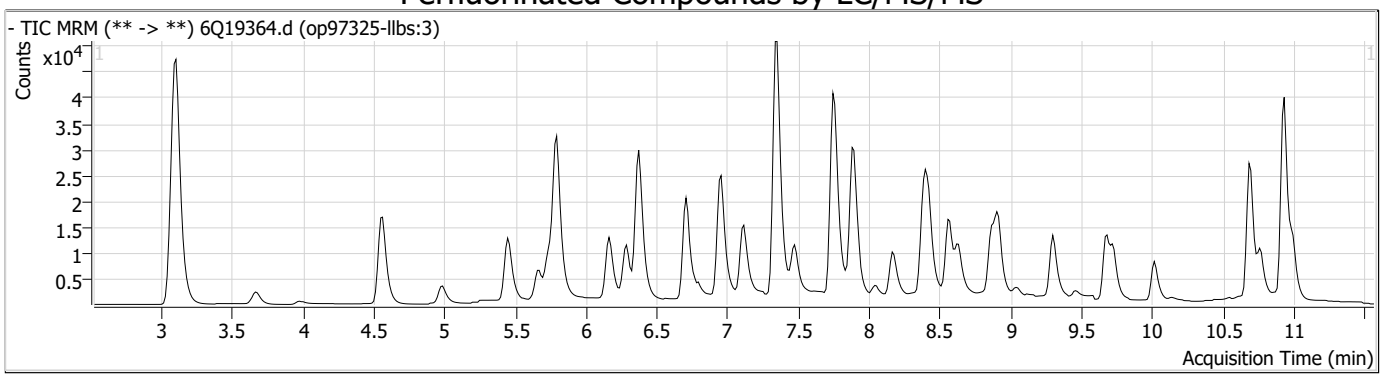
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	1081				
PFHpA	6.708	363.1 -> 319.0	17391	0.60	µg/L		95
		363.1 -> 169.0	3002				
PFHpS	8.059	449.0 -> 79.9	4302	0.60	µg/L		99
		449.0 -> 98.9	2211				
PFHxA	5.795	313.0 -> 269.0	14617	0.66	µg/L		99
		313.0 -> 118.9	796				
PFHxS	7.479	398.7 -> 79.9	4610	0.59	µg/L	m	91
		398.7 -> 98.9	2067				
PFNA	7.896	463.0 -> 419.0	23198	0.63	µg/L		97
		463.0 -> 219.0	4132				
PFNS	9.053	548.8 -> 79.9	3999	0.64	µg/L		93
		548.8 -> 98.9	2159				
PFOA	7.353	413.0 -> 369.0	27797	0.64	µg/L		96
		413.0 -> 169.0	5158				
PFOS	8.576	498.9 -> 79.9	3882	0.55	µg/L	m	96
		498.9 -> 98.8	2144				
PFPeA	4.563	263.0 -> 219.0	19438	1.28	µg/L		100
PFPeS	6.785	349.1 -> 79.9	4173	0.58	µg/L		96
		349.1 -> 98.9	1891				
PFTeDA	10.013	713.1 -> 669.0	10818	0.68	µg/L		98
		713.1 -> 168.9	989				
PFTrDA	9.681	663.0 -> 619.0	14238	0.66	µg/L		99
		663.0 -> 168.9	1520				
PFUnDA	8.866	563.1 -> 519.0	14815	0.64	µg/L		97
		563.1 -> 269.1	2550				
11Cl-PF3OUdS	9.733	630.9 -> 450.9	19602	1.20	µg/L		93
		632.9 -> 452.9	6302				
9Cl-PF3ONS	8.918	530.8 -> 351.0	34872	1.24	µg/L		91
		532.8 -> 353.0	8984				
ADONA	6.959	376.9 -> 250.9	71264	1.23	µg/L		97
		376.9 -> 84.8	19638				
HFPO-DA	6.169	284.9 -> 168.9	4972	1.32	µg/L		99
		284.9 -> 184.9	565				
3:3FTCA	3.971	241.0 -> 177.0	2348	2.29	µg/L		99
		241.0 -> 117.0	329				
5:3FTCA	6.374	341.0 -> 237.1	66609	15.07	µg/L		99
		341.0 -> 217.0	49172				
7:3FTCA	7.761	441.0 -> 316.9	51972	17.39	µg/L		85
		441.0 -> 336.9	104485				
EtFOSA	10.997	526.0 -> 219.0	6541	1.31	µg/L		99
		526.0 -> 169.0	8772				
EtFOSE	10.943	630.0 -> 58.9	19229	3.09	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	5228	1.24	µg/L	m	81
		511.9 -> 169.0	7327				
MeFOSE	10.709	616.1 -> 58.9	12036	3.32	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	1124	0.63	µg/L		92
		699.1 -> 98.8	594				
NFDHA	5.673	295.0 -> 201.0	3674	1.29	µg/L		96
		295.0 -> 84.9	909				
PFMBA	4.988	279.0 -> 85.1	13604	1.26	µg/L		100
PFMPA	3.667	229.0 -> 84.9	10810	1.28	µg/L		100
PFEESA	6.288	314.8 -> 134.9	34692	1.15	µg/L		99
		314.8 -> 82.9	1325				

 # = Qualifier out of range, m = manually integrated, + = Area summed

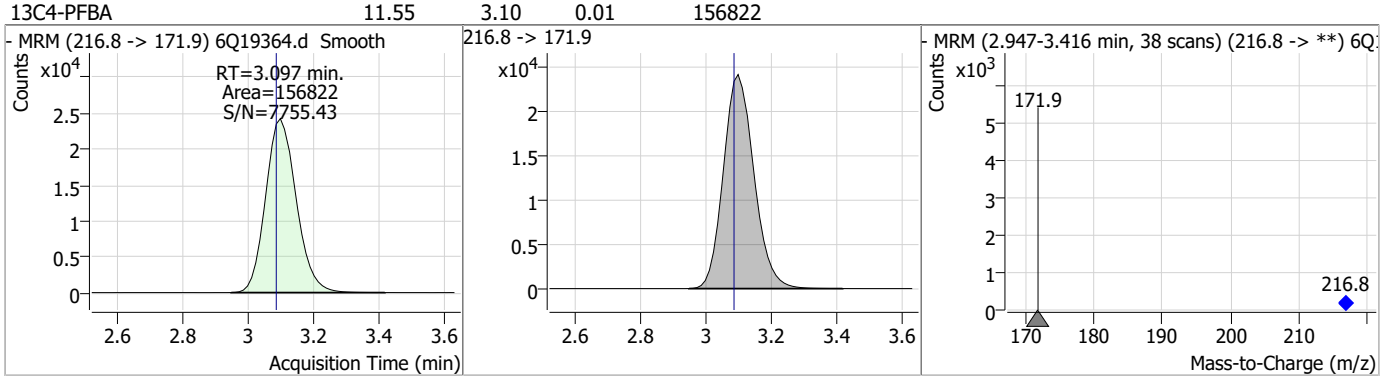
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

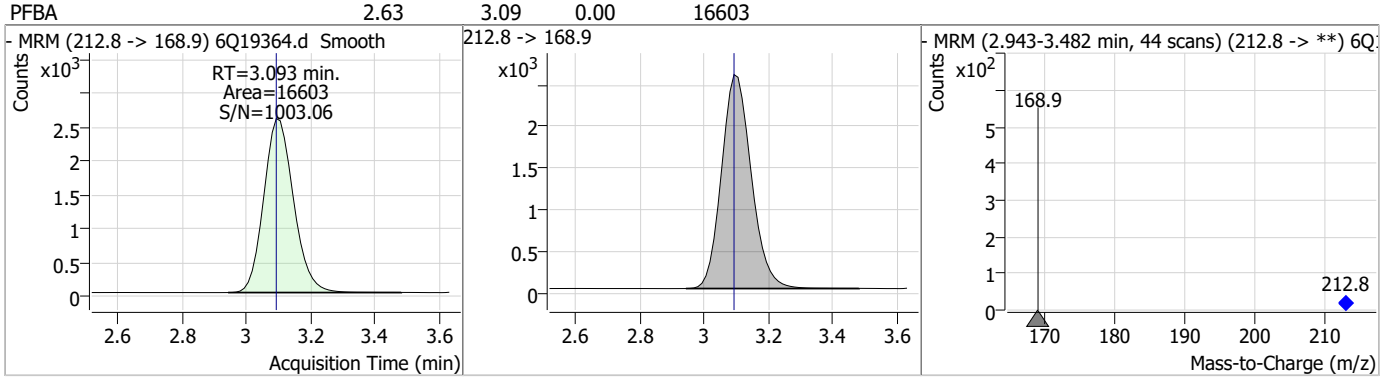
Perfluorinated Compounds by LC/MS/MS



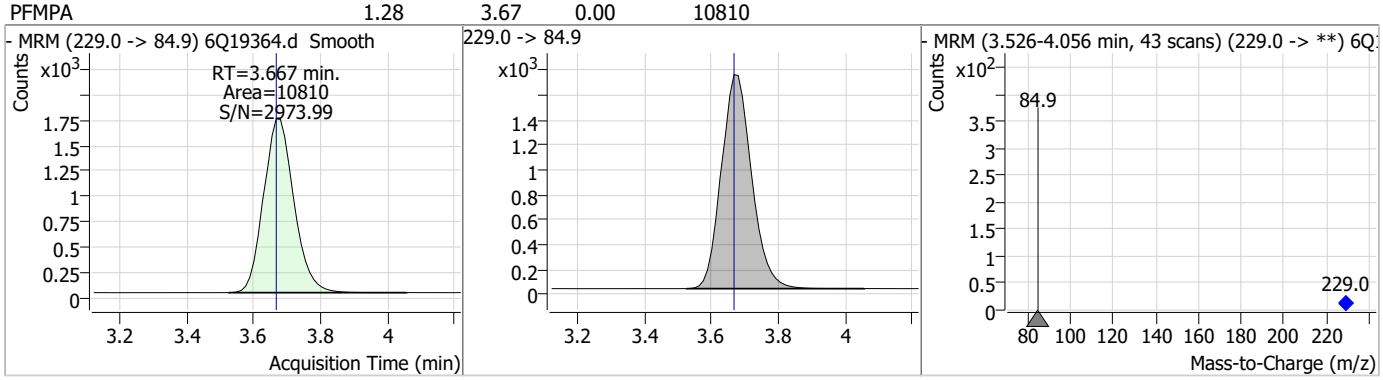
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	11.55	3.10	0.01	156822				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	2.63	3.09	0.00	16603				

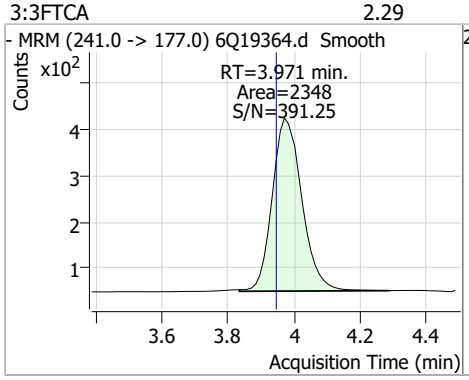


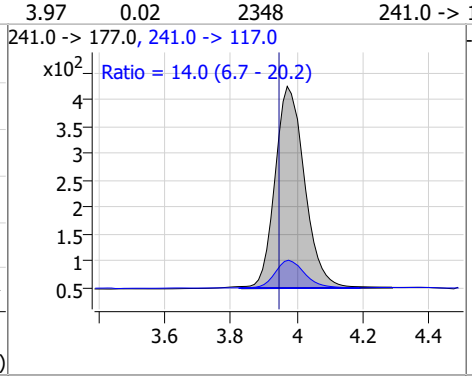
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	1.28	3.67	0.00	10810				

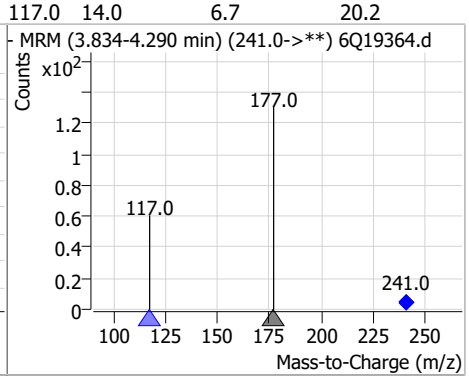


Perfluorinated Compounds by LC/MS/MS

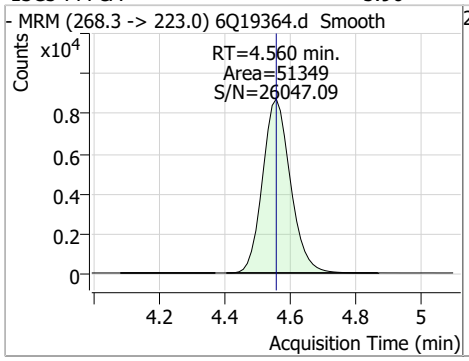
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	2.29	3.97	0.02	2348	241.0 -> 117.0	14.0	6.7	20.2

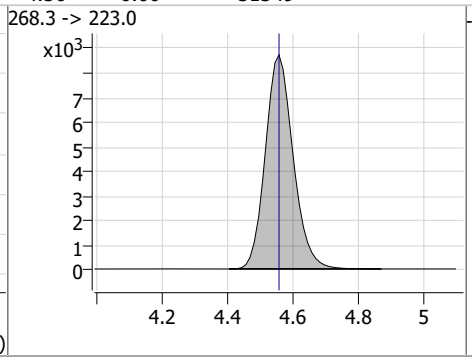


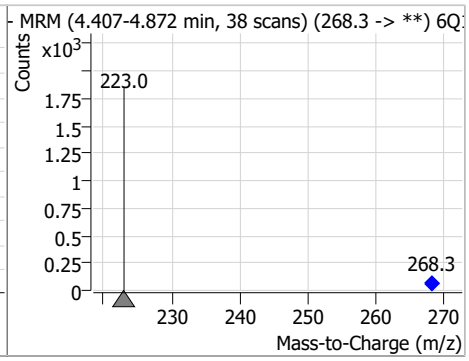




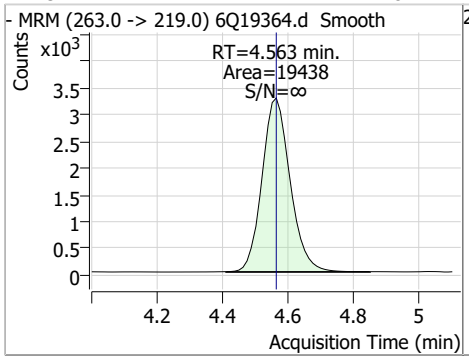
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.96	4.56	0.00	51349				

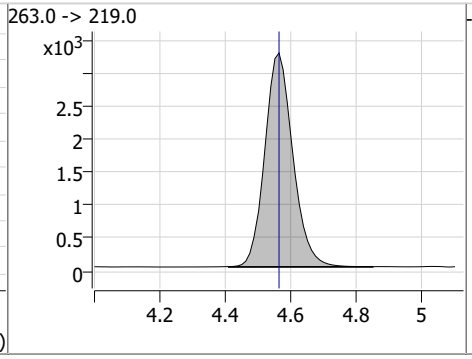


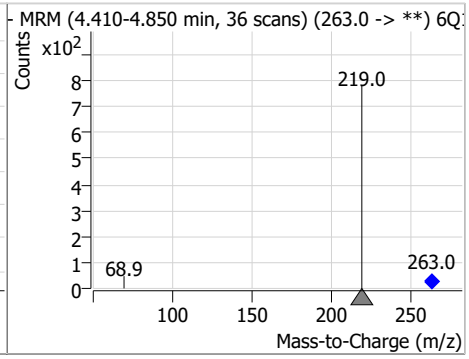




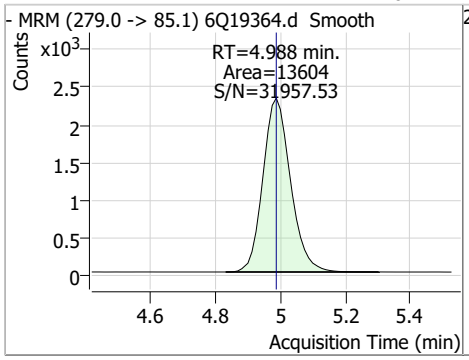
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	1.28	4.56	0.00	19438				

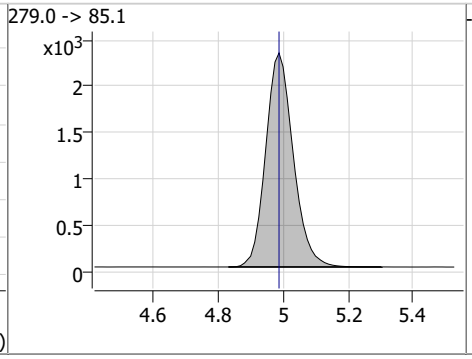


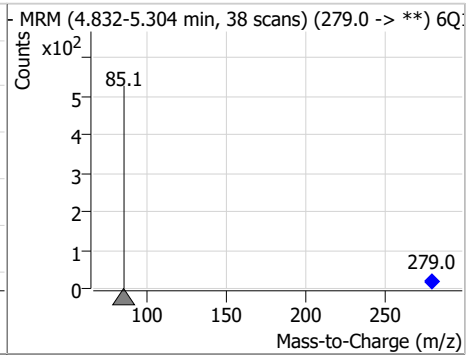




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	1.26	4.99	0.00	13604				

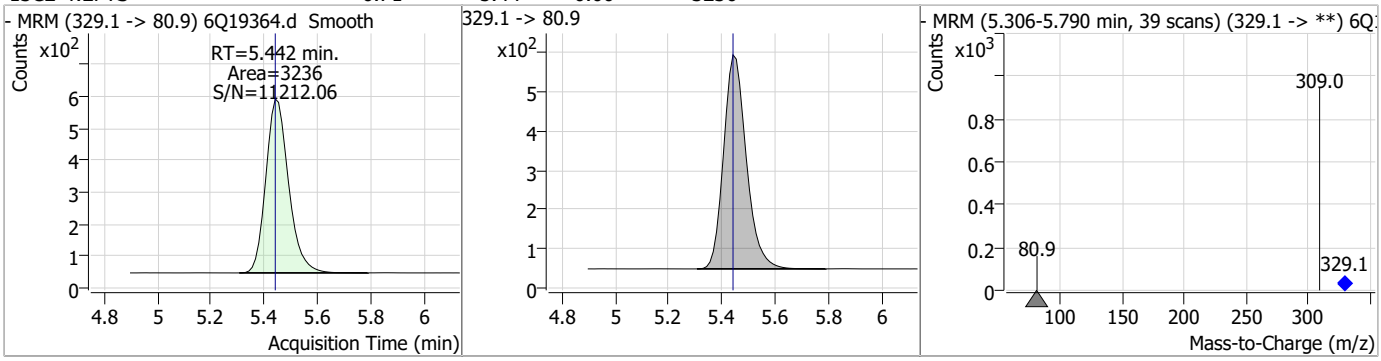




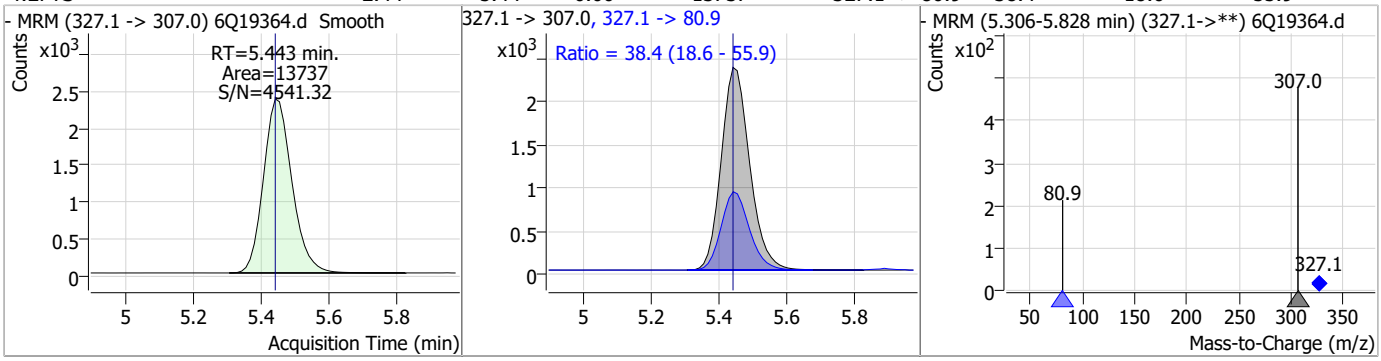


Perfluorinated Compounds by LC/MS/MS

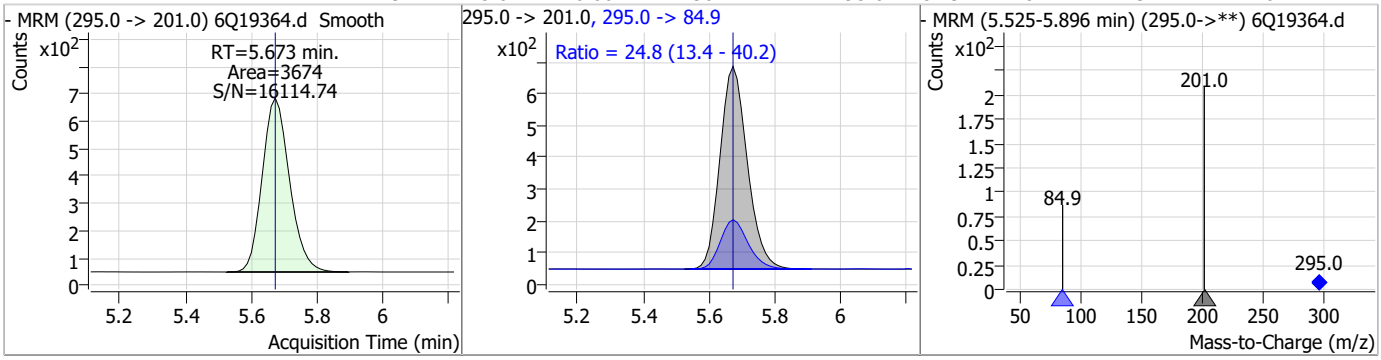
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.71	5.44	0.00	3236				



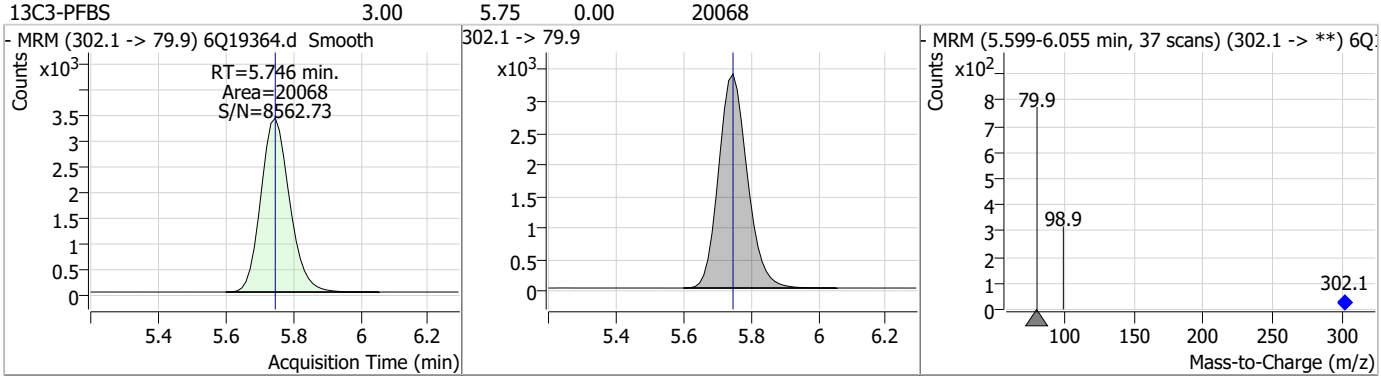
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	2.44	5.44	0.00	13737	327.1 -> 80.9	38.4	18.6	55.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	1.29	5.67	0.00	3674	295.0 -> 84.9	24.8	13.4	40.2

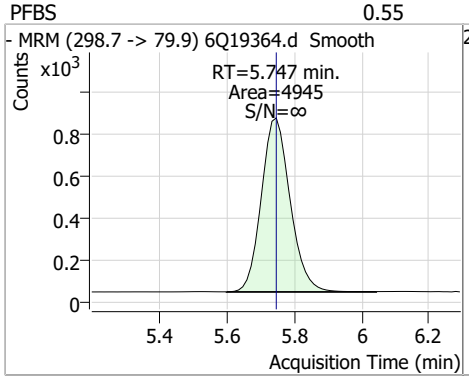


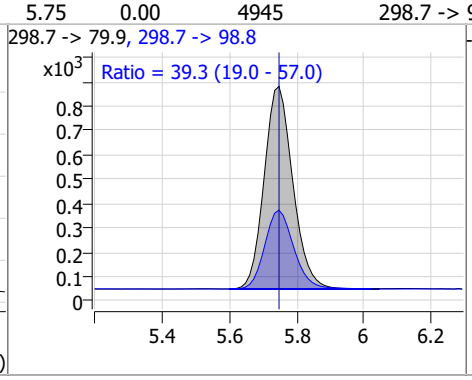
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.00	5.75	0.00	20068				

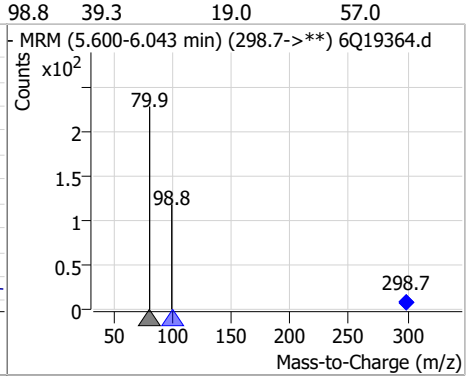


Perfluorinated Compounds by LC/MS/MS

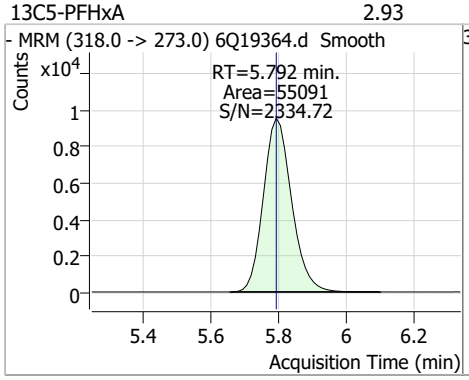
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.55	5.75	0.00	4945	298.7 -> 98.8	39.3	19.0	57.0

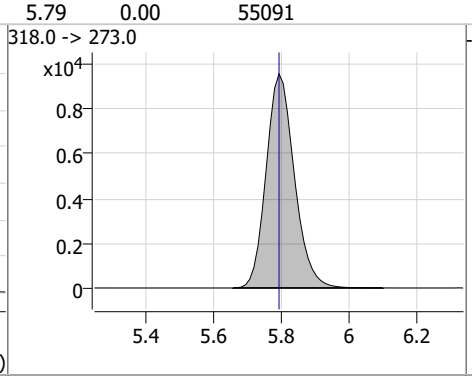


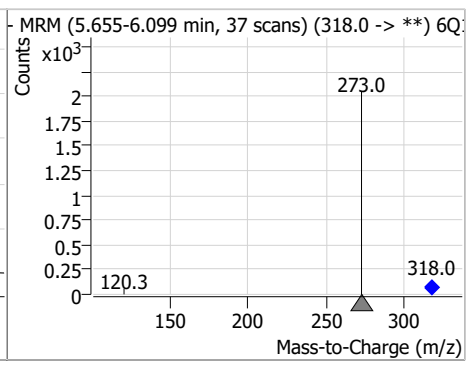




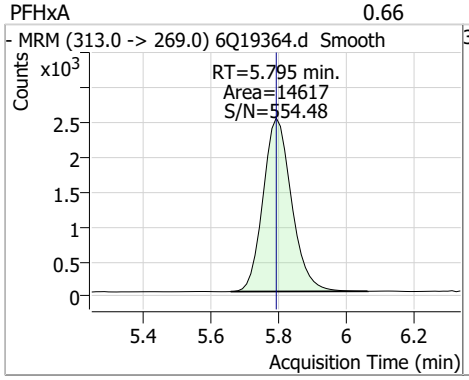
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.93	5.79	0.00	55091				

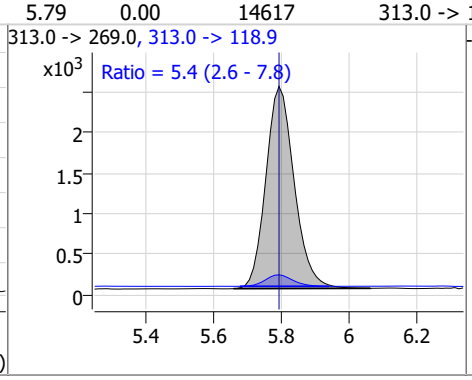


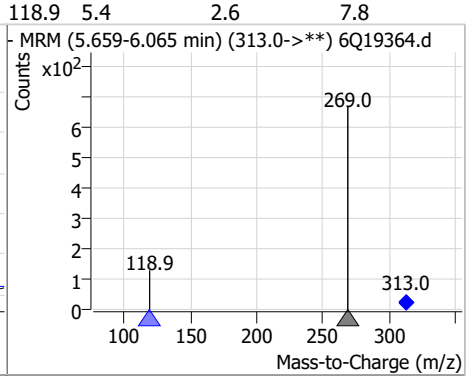




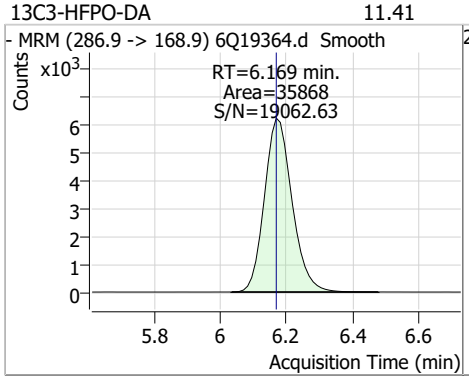
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.66	5.79	0.00	14617	313.0 -> 118.9	5.4	2.6	7.8

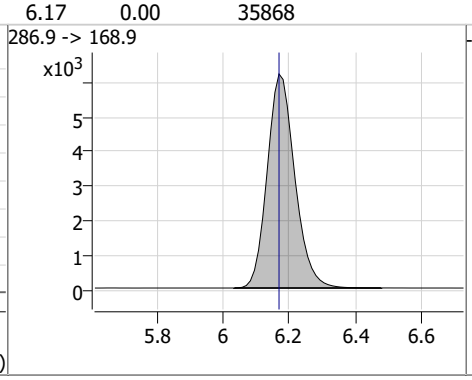


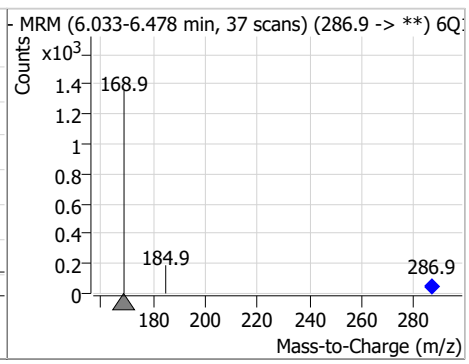




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.41	6.17	0.00	35868				

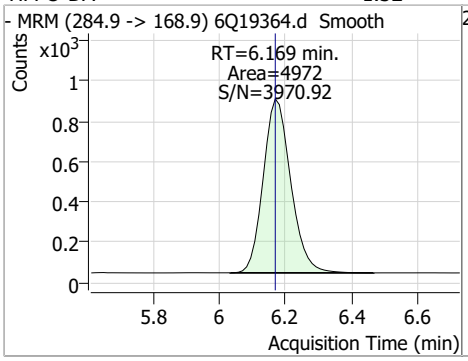


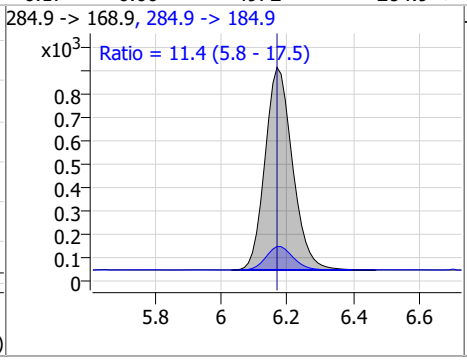


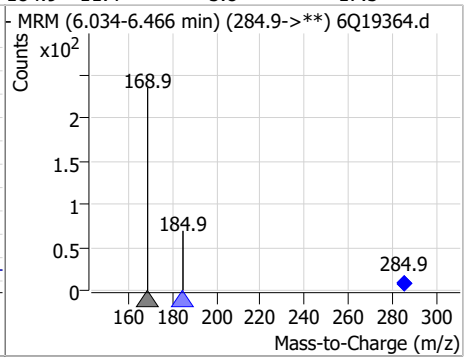


Perfluorinated Compounds by LC/MS/MS

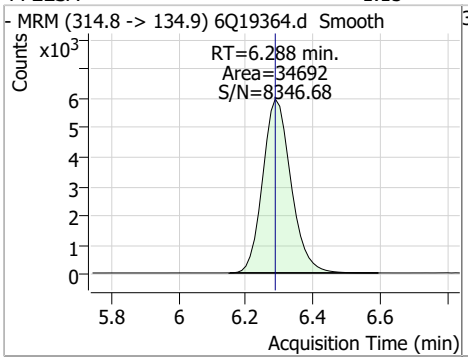
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	1.32	6.17	0.00	4972	284.9 -> 184.9	11.4	5.8	17.5

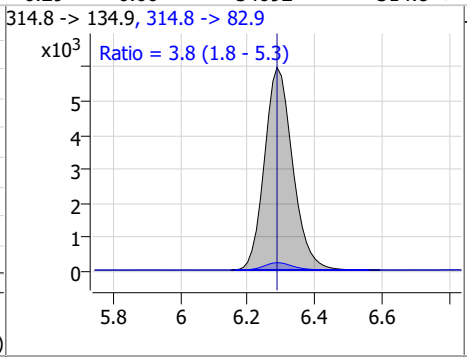


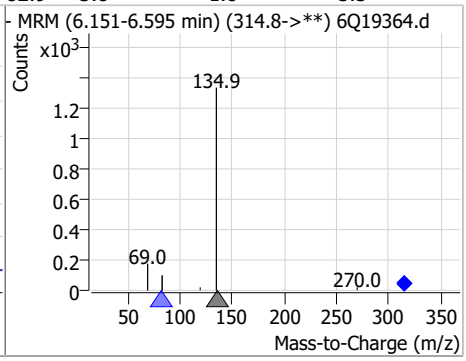




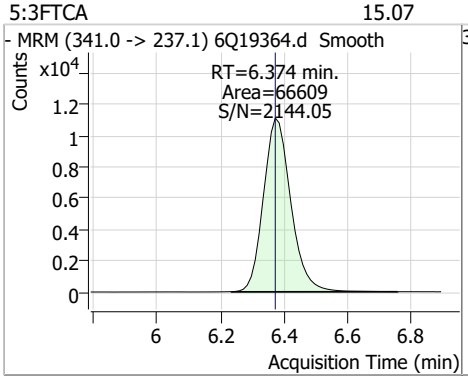
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	1.15	6.29	0.00	34692	314.8 -> 82.9	3.8	1.8	5.3

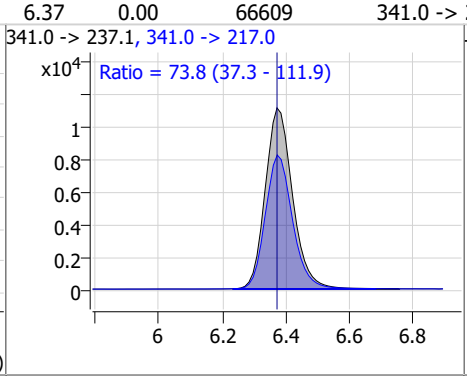


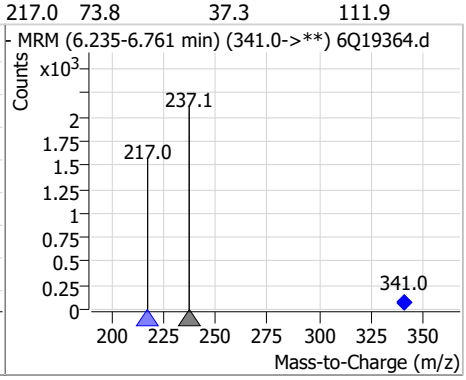




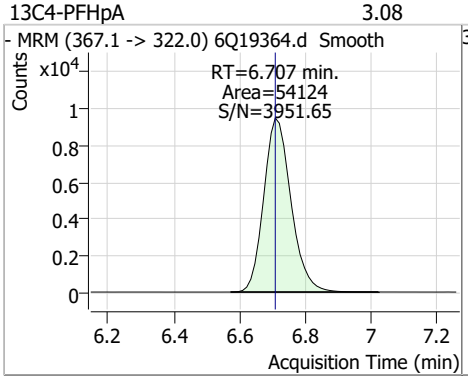
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	15.07	6.37	0.00	66609	341.0 -> 217.0	73.8	37.3	111.9

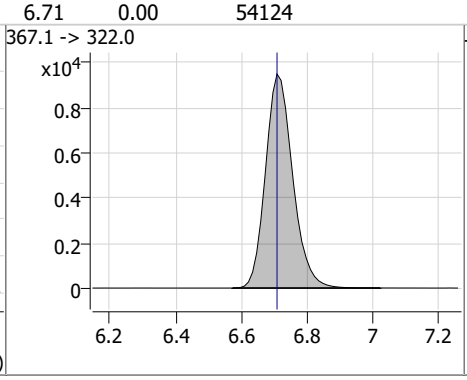


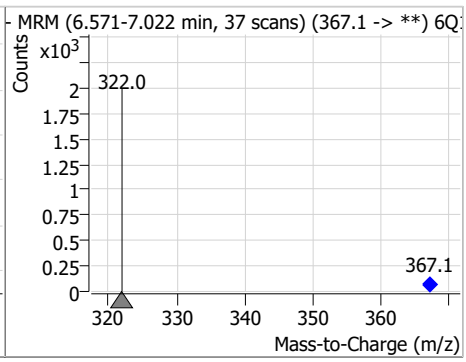




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.08	6.71	0.00	54124				

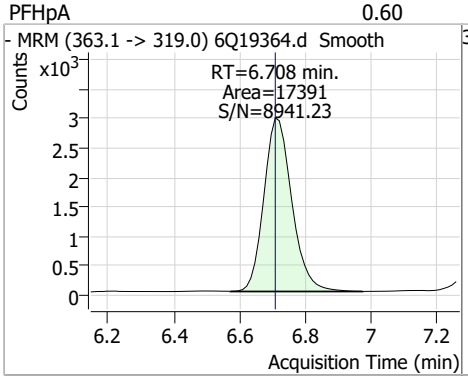


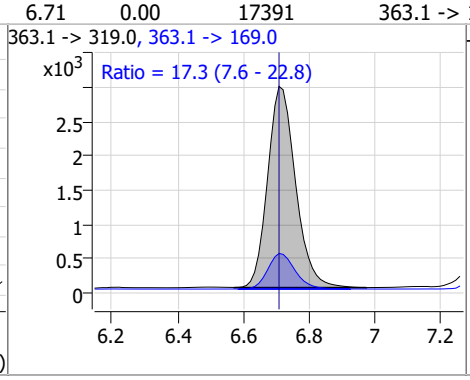


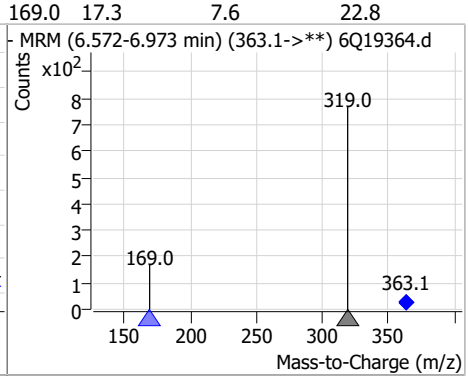


Perfluorinated Compounds by LC/MS/MS

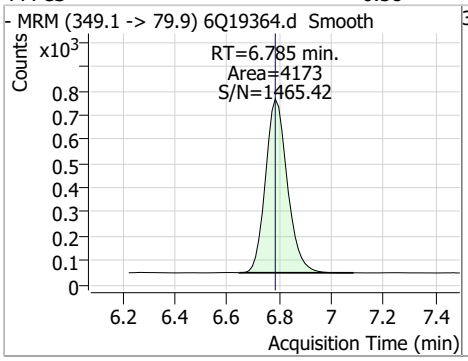
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.60	6.71	0.00	17391	363.1 -> 169.0	17.3	7.6	22.8

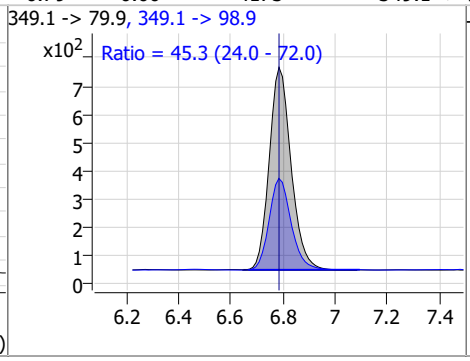


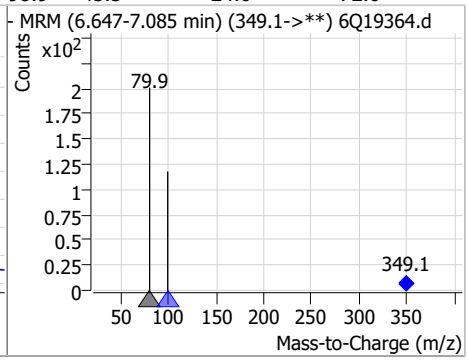




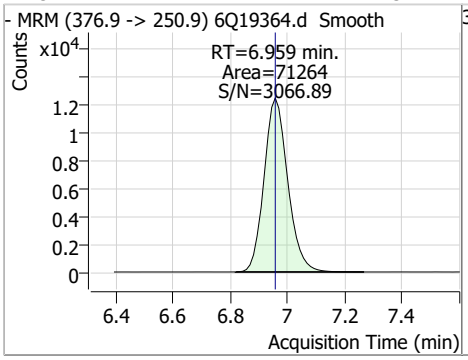
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.58	6.79	0.00	4173	349.1 -> 98.9	45.3	24.0	72.0

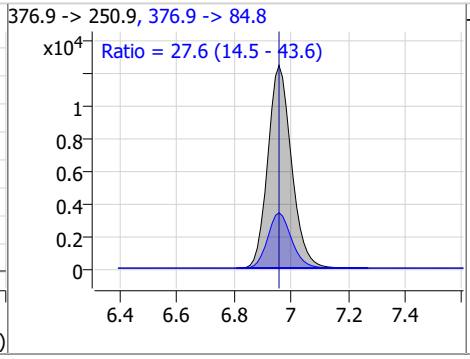


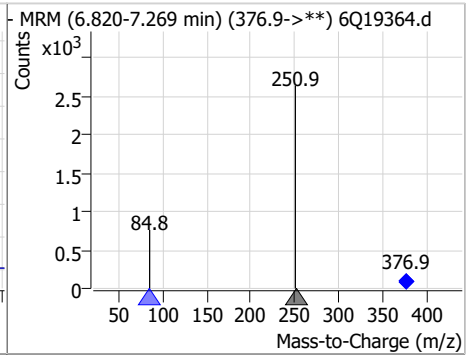




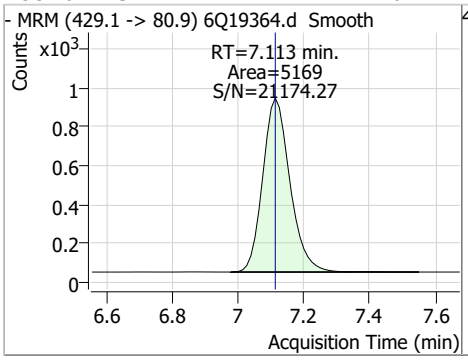
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	1.23	6.96	0.00	71264	376.9 -> 84.8	27.6	14.5	43.6

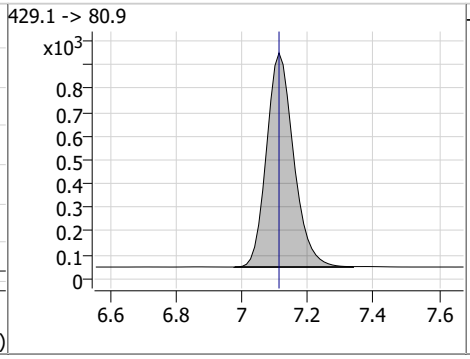


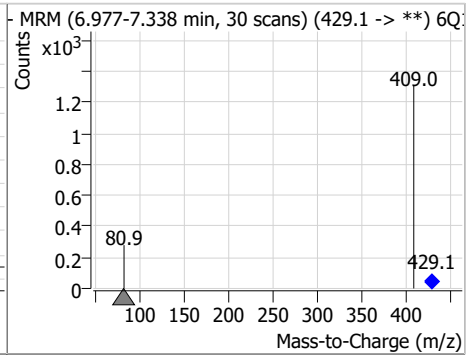




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	7.10	7.11	0.00	5169				

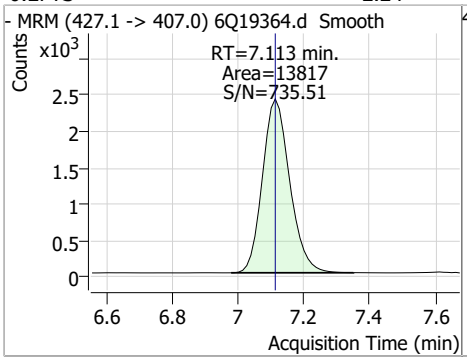


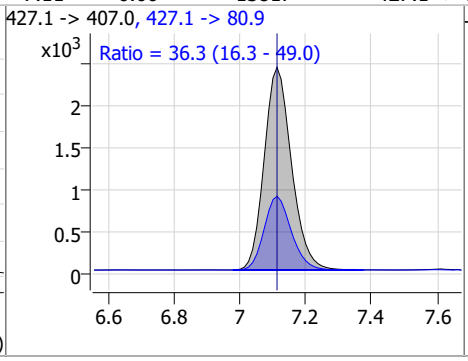


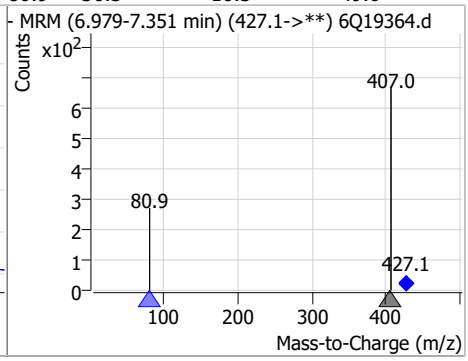


Perfluorinated Compounds by LC/MS/MS

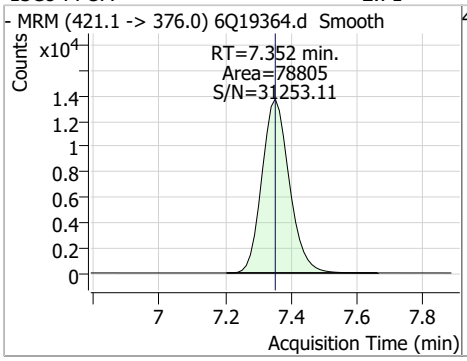
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	2.24	7.11	0.00	13817	427.1 -> 80.9	36.3	16.3	49.0

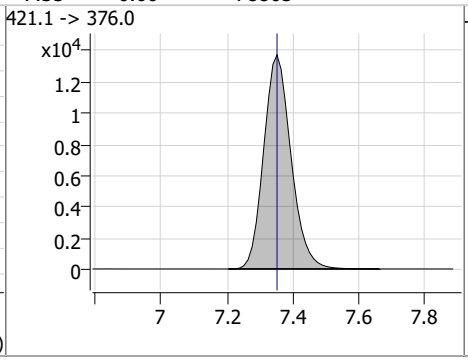


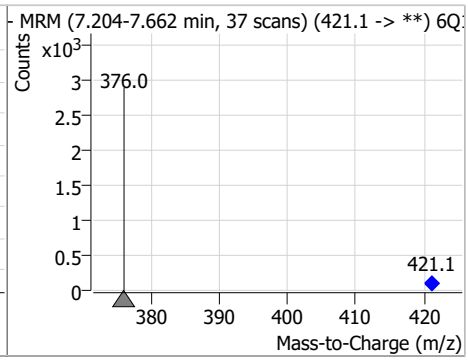




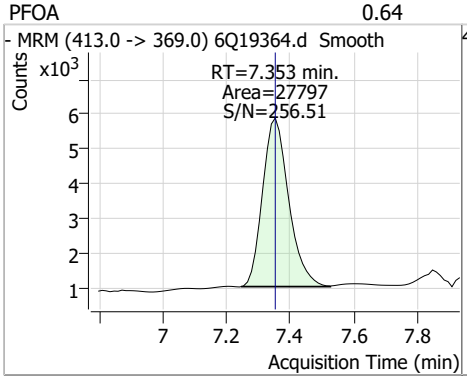
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.71	7.35	0.00	78805				

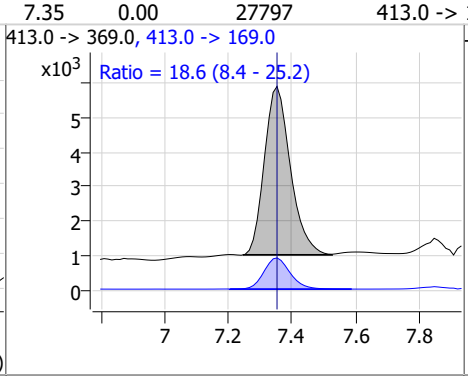


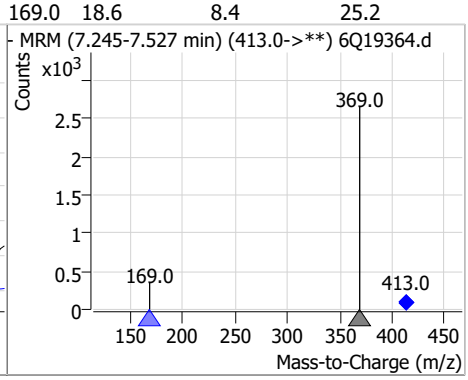




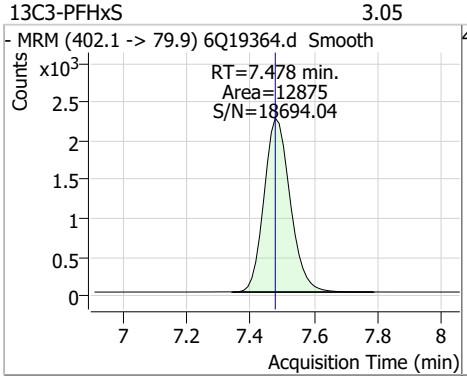
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.64	7.35	0.00	27797	413.0 -> 169.0	18.6	8.4	25.2

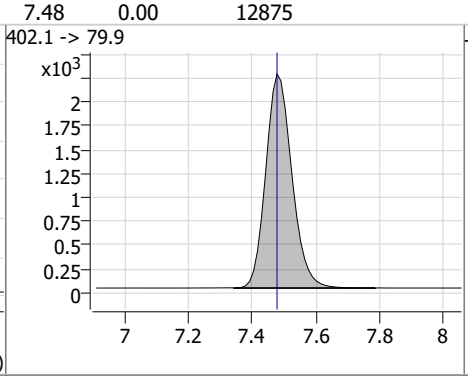


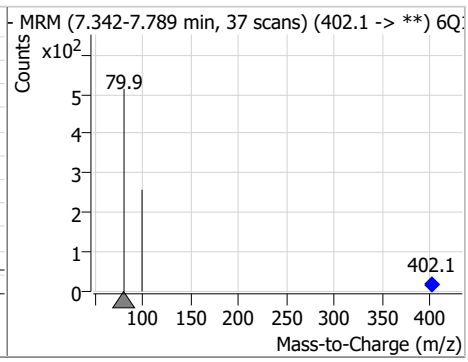




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.05	7.48	0.00	12875				

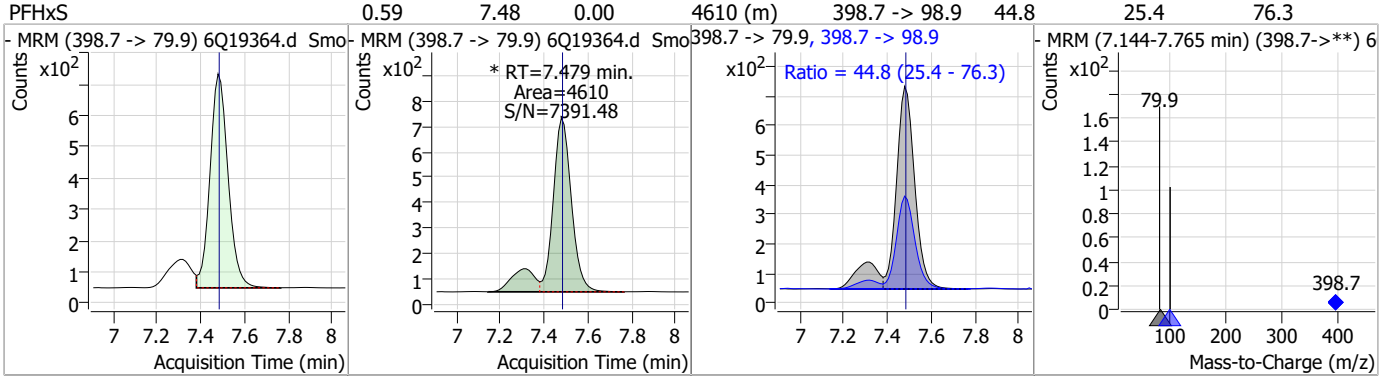




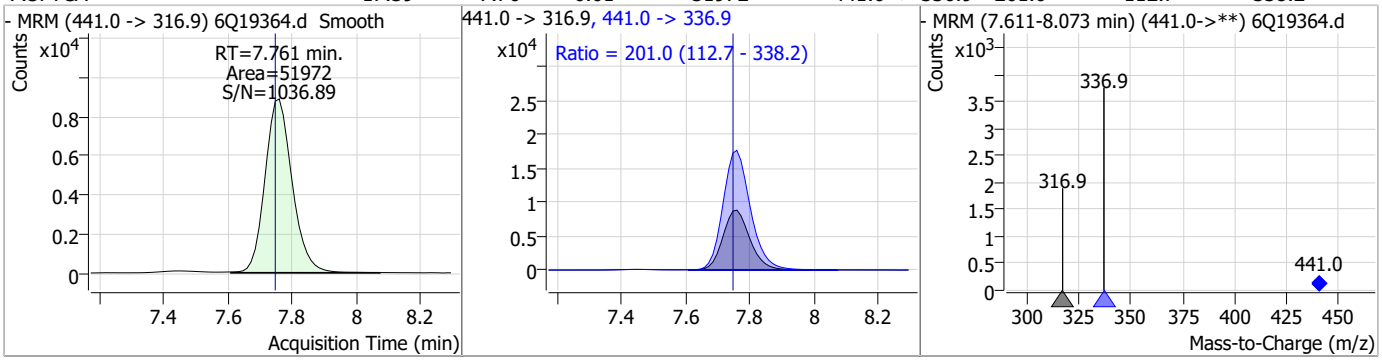


Perfluorinated Compounds by LC/MS/MS

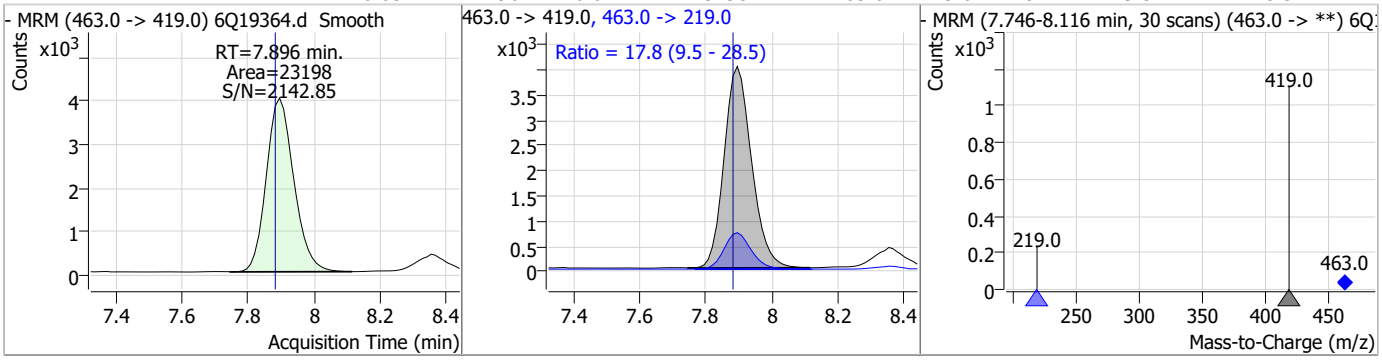
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.59	7.48	0.00	4610 (m)	398.7 -> 98.9	44.8	25.4	76.3



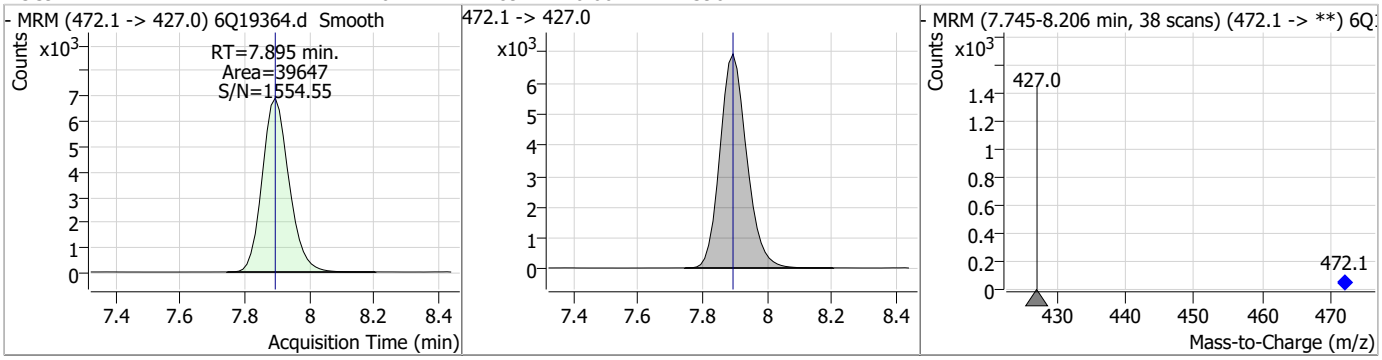
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	17.39	7.76	0.01	51972	441.0 -> 336.9	201.0	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.63	7.90	0.01	23198	463.0 -> 219.0	17.8	9.5	28.5

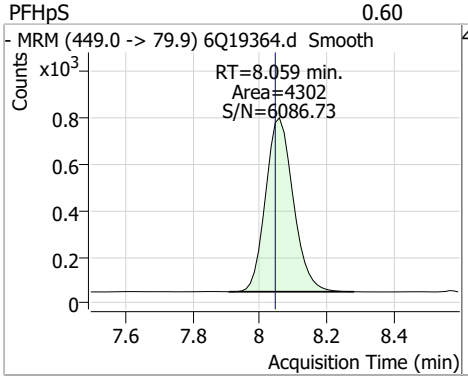


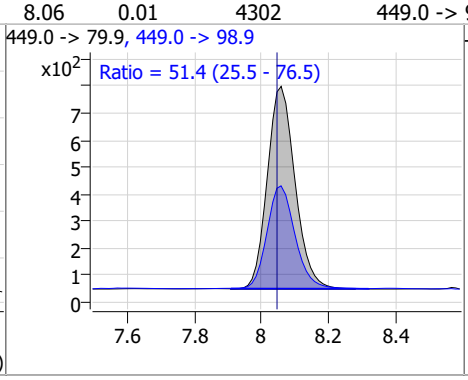
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.62	7.89	0.00	39647				

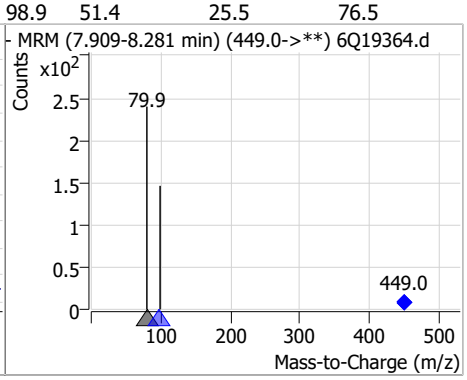


Perfluorinated Compounds by LC/MS/MS

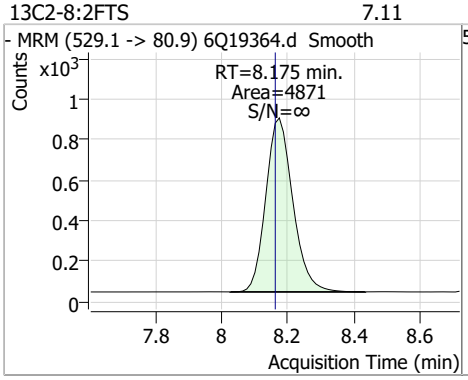
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.60	8.06	0.01	4302	449.0 -> 98.9	51.4	25.5	76.5

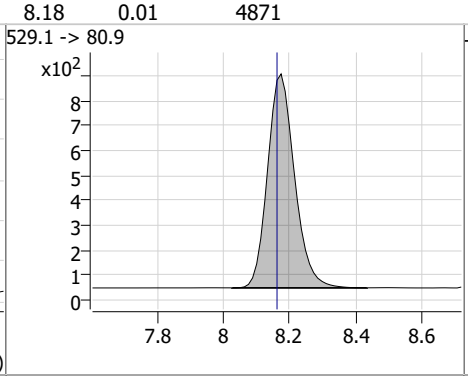


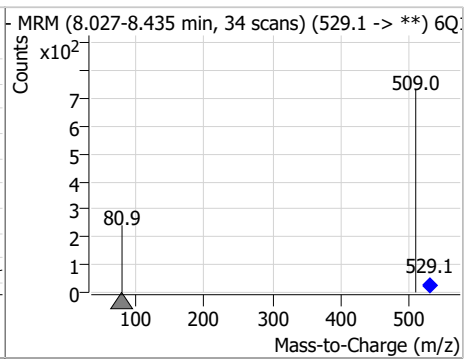




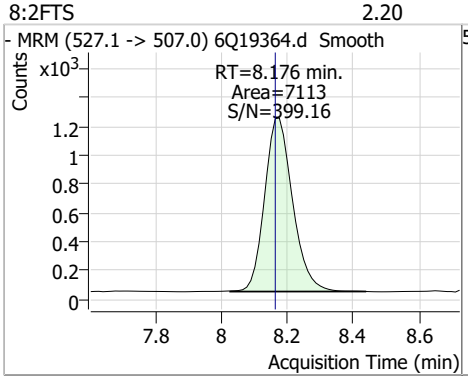
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	7.11	8.18	0.01	4871				

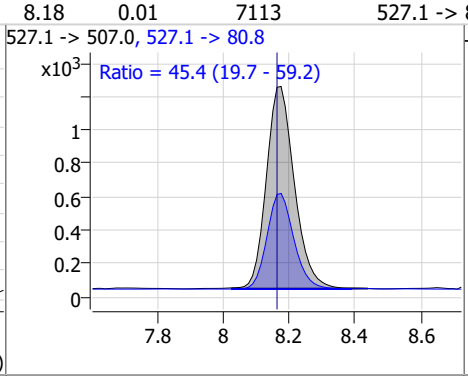


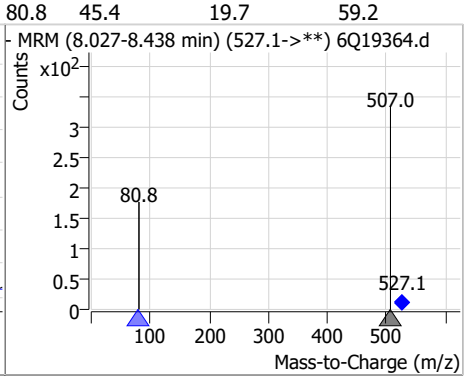




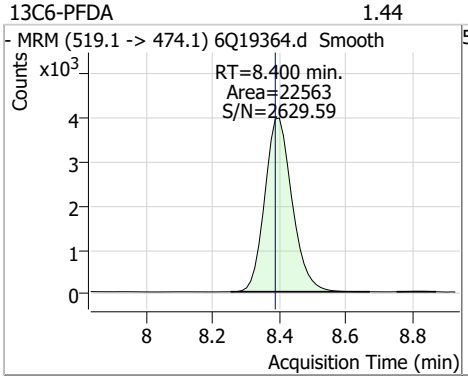
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	2.20	8.18	0.01	7113	527.1 -> 80.8	45.4	19.7	59.2

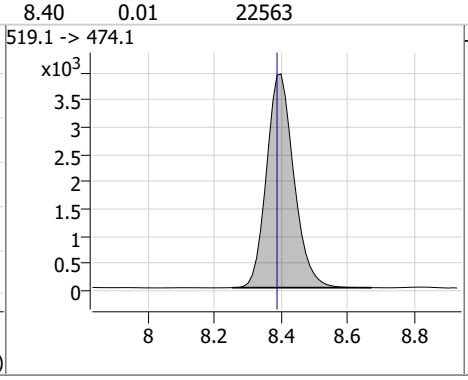


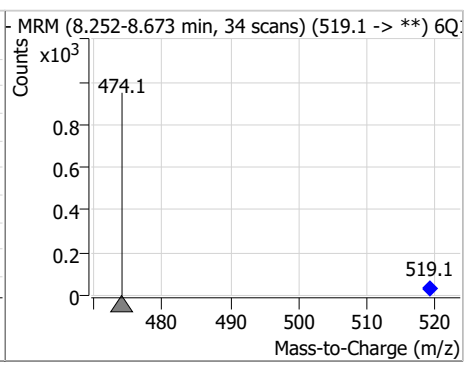




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.44	8.40	0.01	22563				

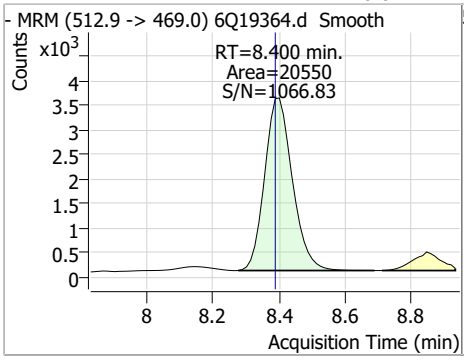


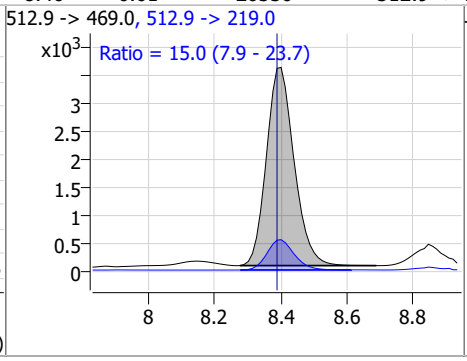


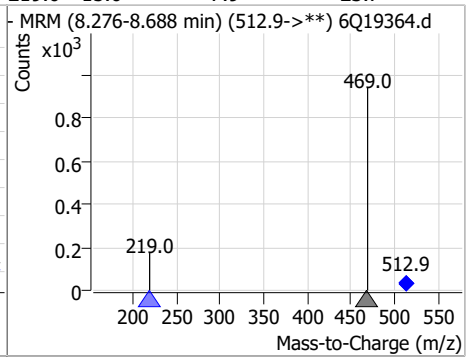


Perfluorinated Compounds by LC/MS/MS

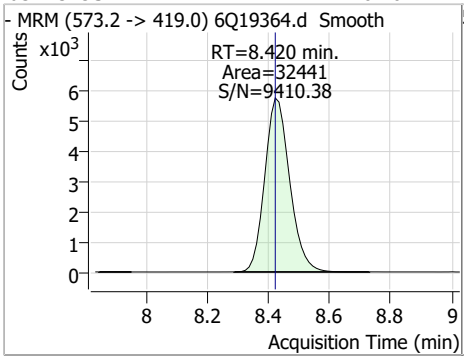
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.61	8.40	0.01	20550	512.9 -> 219.0	15.0	7.9	23.7

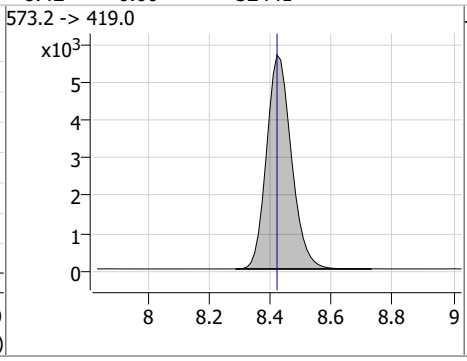


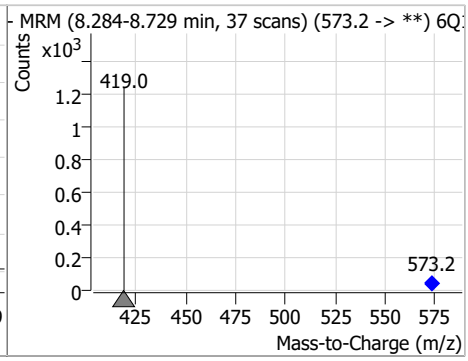




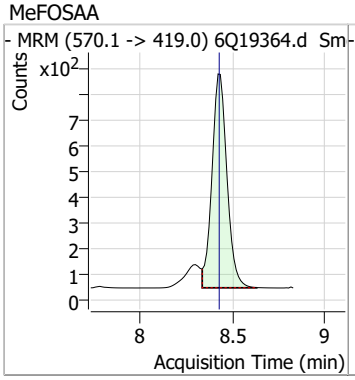
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	6.10	8.42	0.00	32441				

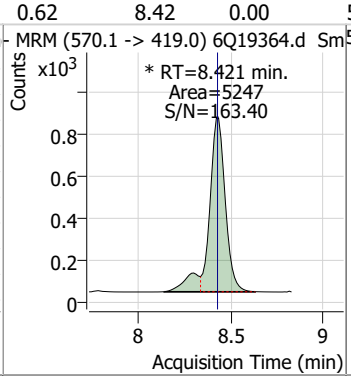


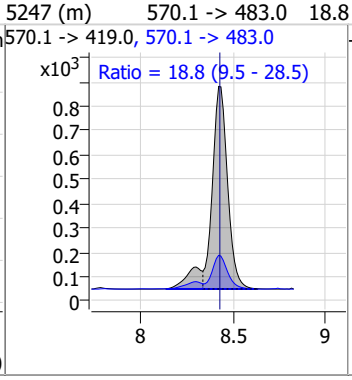


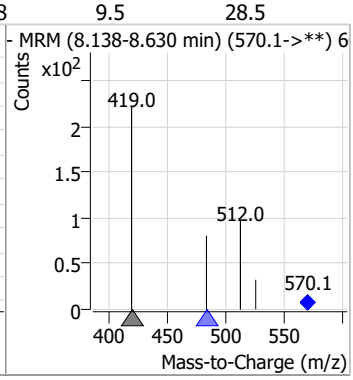


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.62	8.42	0.00	5247 (m)	570.1 -> 483.0	18.8	9.5	28.5

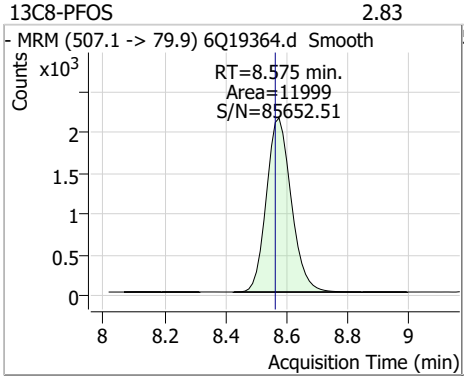


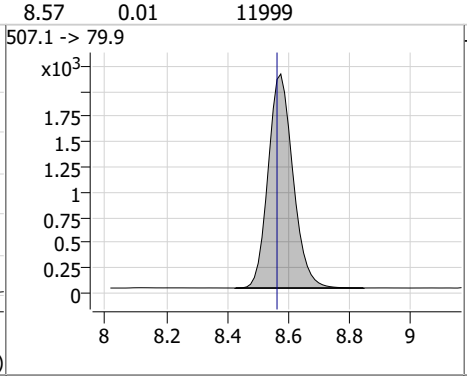


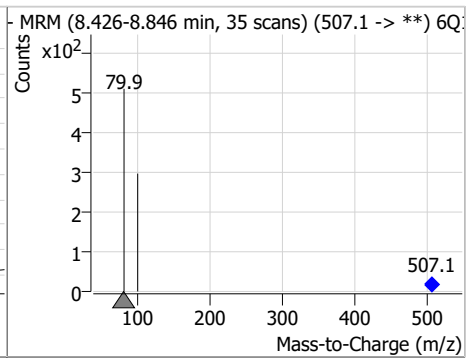




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.83	8.57	0.01	11999				

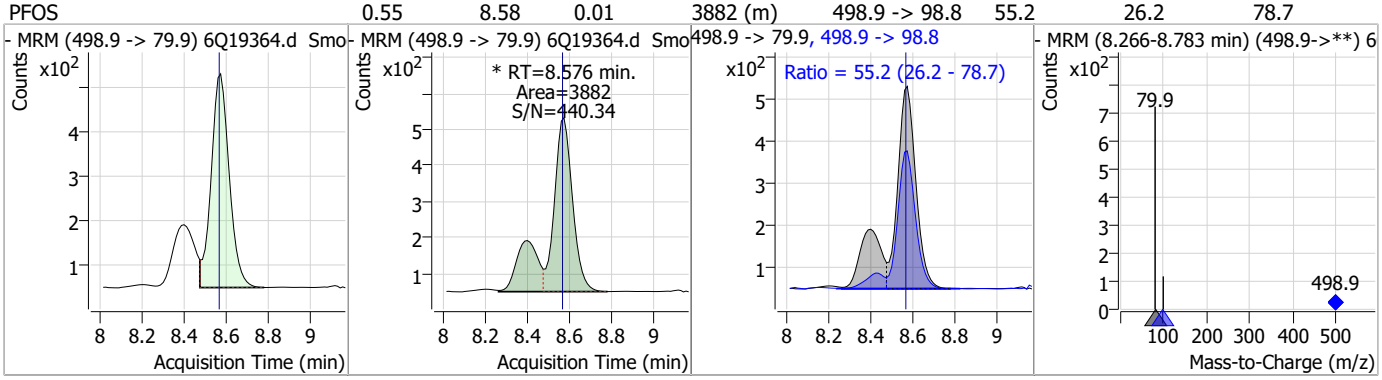




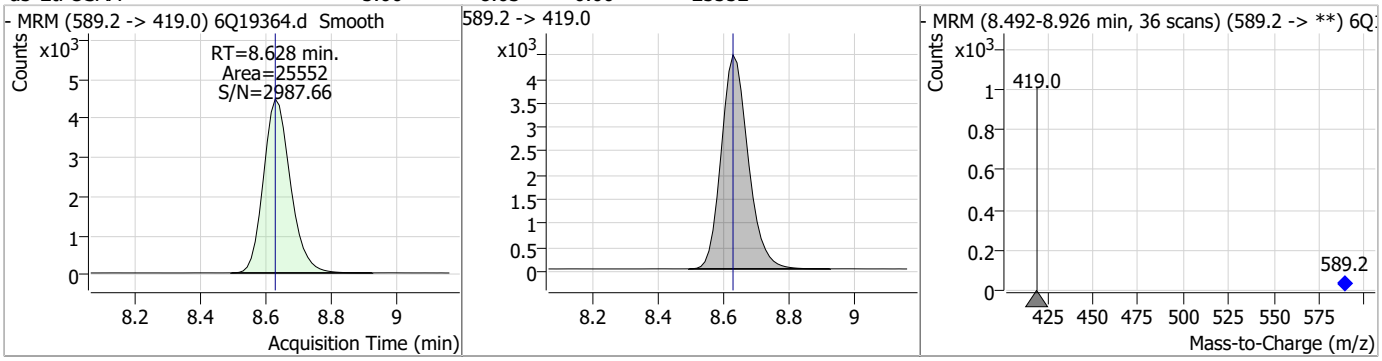


Perfluorinated Compounds by LC/MS/MS

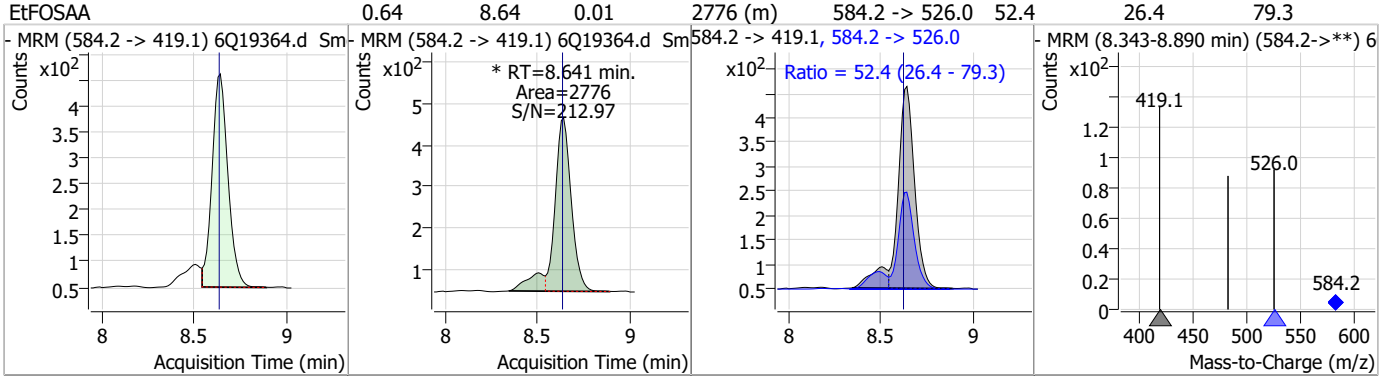
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.55	8.58	0.01	3882 (m)	498.9 -> 98.8	55.2	26.2	78.7



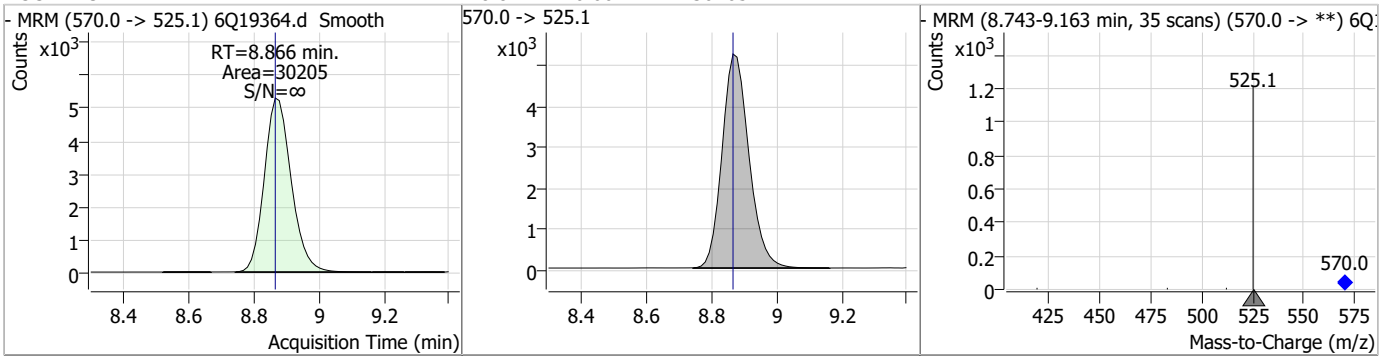
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.66	8.63	0.00	25552				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.64	8.64	0.01	2776 (m)	584.2 -> 526.0	52.4	26.4	79.3

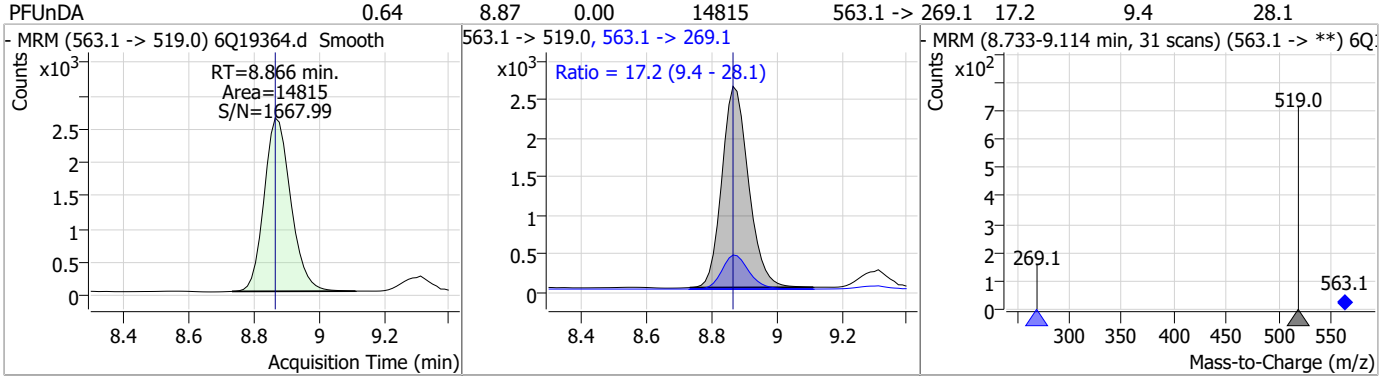


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.44	8.87	0.00	30205				

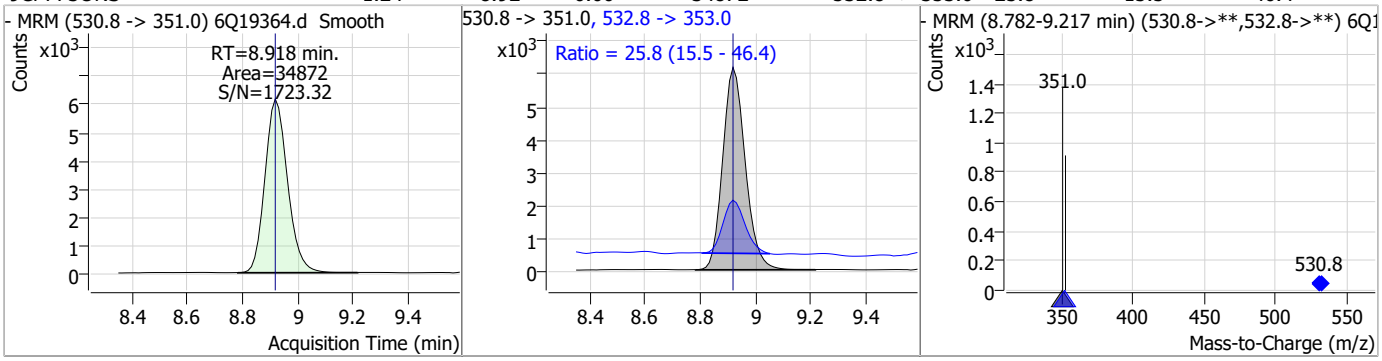


Perfluorinated Compounds by LC/MS/MS

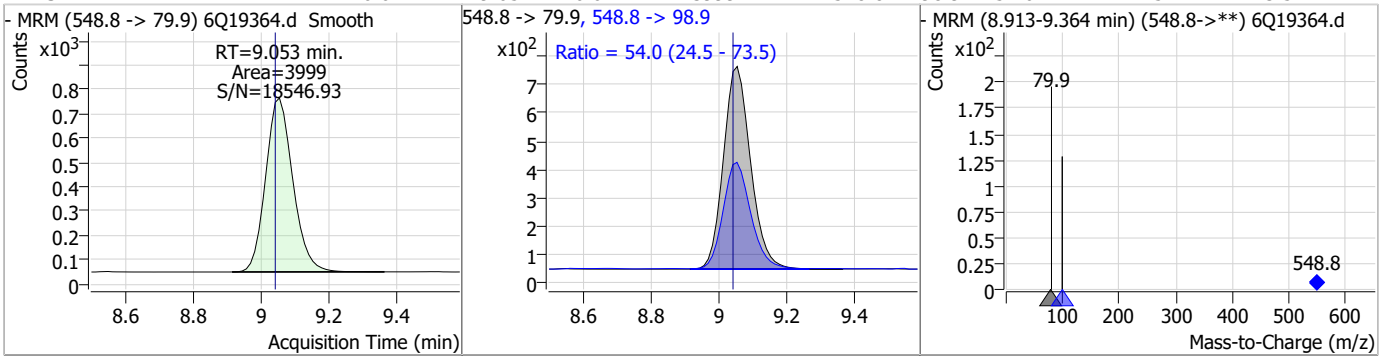
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.64	8.87	0.00	14815	563.1 -> 269.1	17.2	9.4	28.1



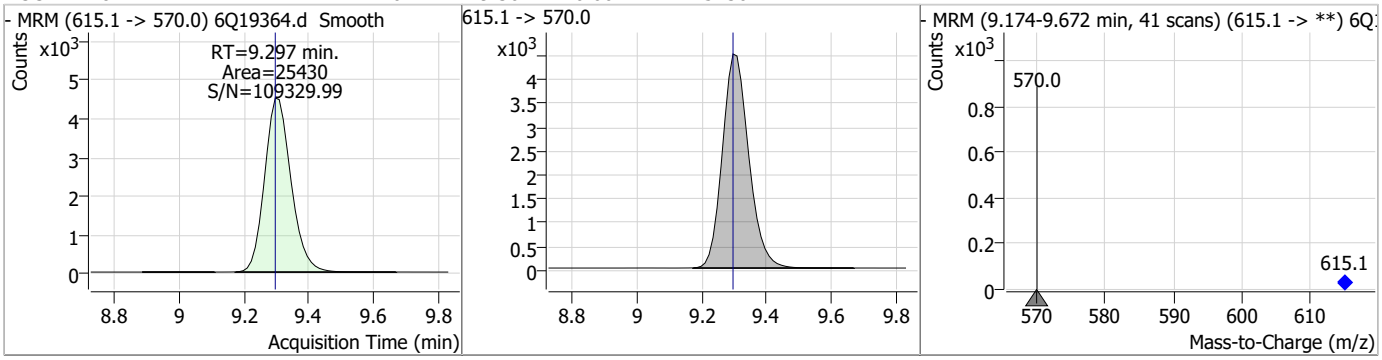
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	1.24	8.92	0.00	34872	532.8 -> 353.0	25.8	15.5	46.4



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.64	9.05	0.01	3999	548.8 -> 98.9	54.0	24.5	73.5

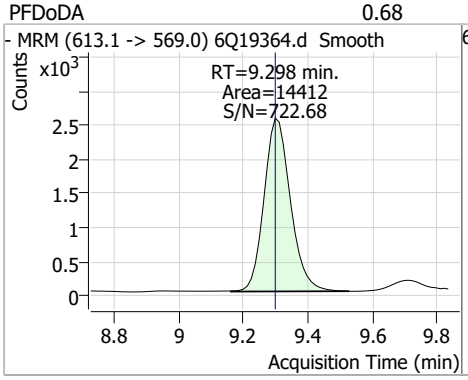


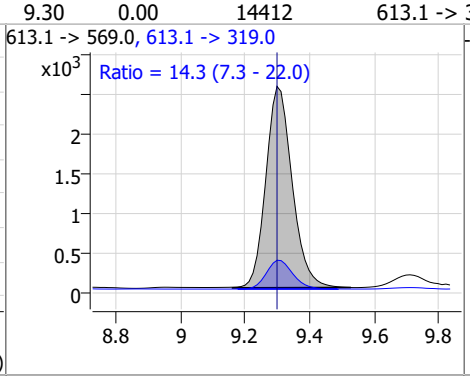
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.40	9.30	0.00	25430				

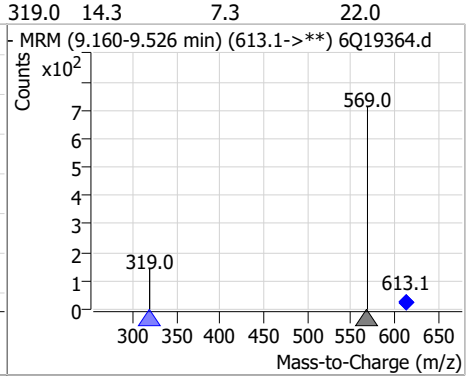


Perfluorinated Compounds by LC/MS/MS

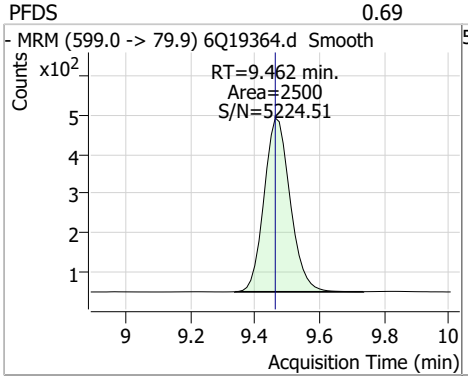
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.68	9.30	0.00	14412	613.1 -> 319.0	14.3	7.3	22.0

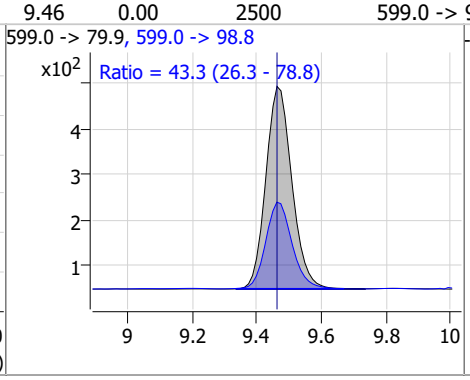


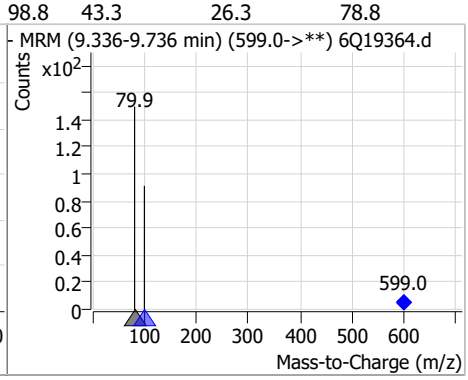




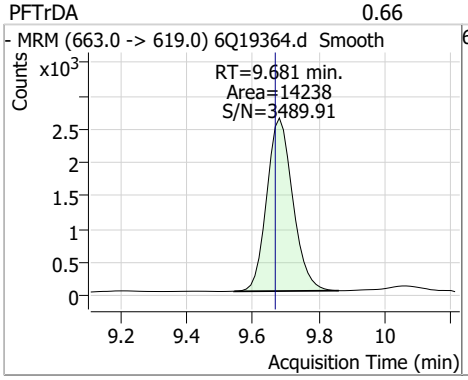
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.69	9.46	0.00	2500	599.0 -> 98.8	43.3	26.3	78.8

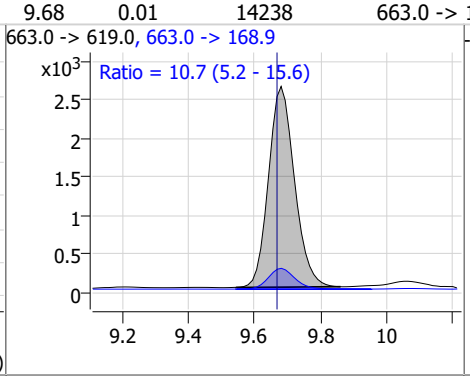


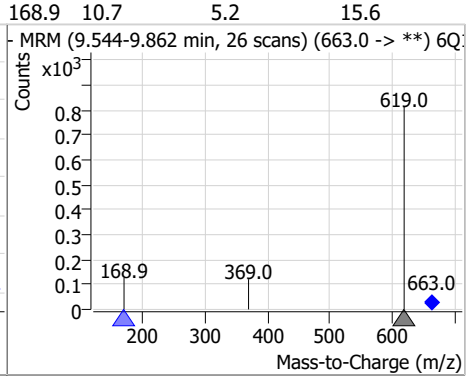




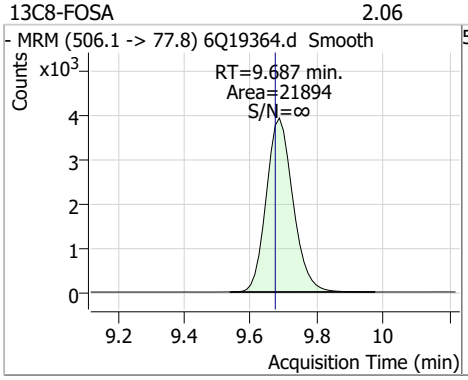
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.66	9.68	0.01	14238	663.0 -> 168.9	10.7	5.2	15.6

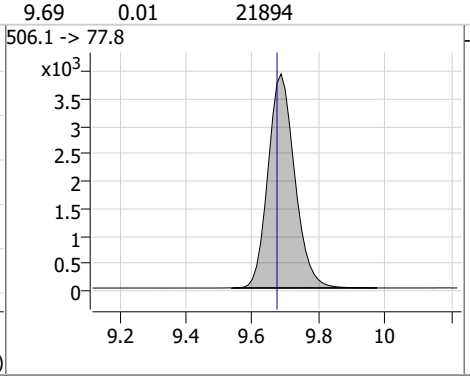


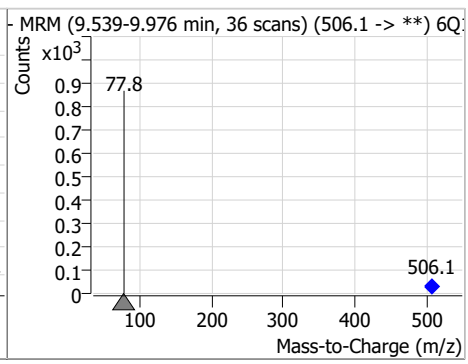




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.06	9.69	0.01	21894				

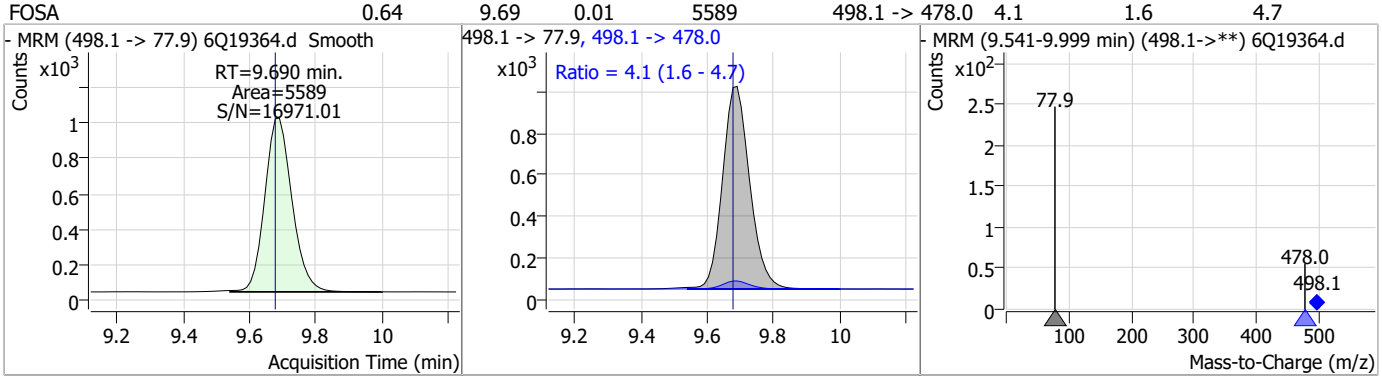




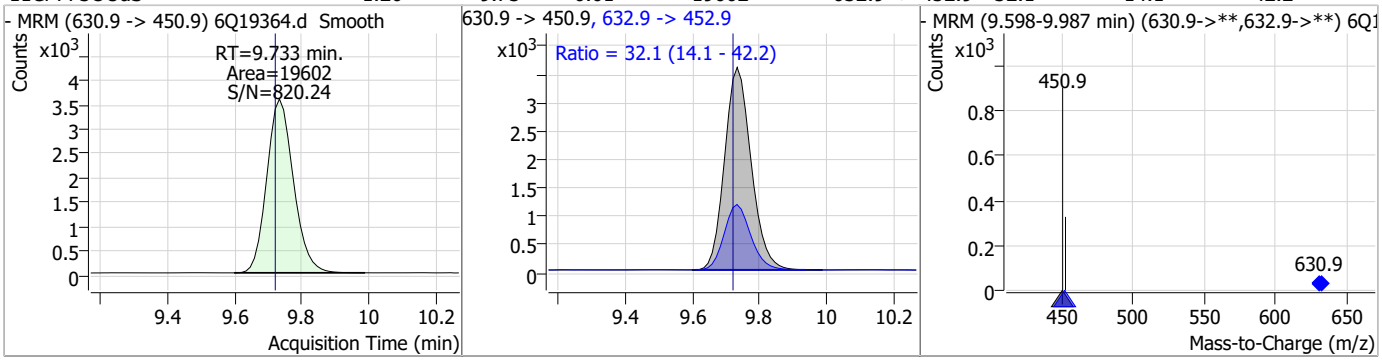


Perfluorinated Compounds by LC/MS/MS

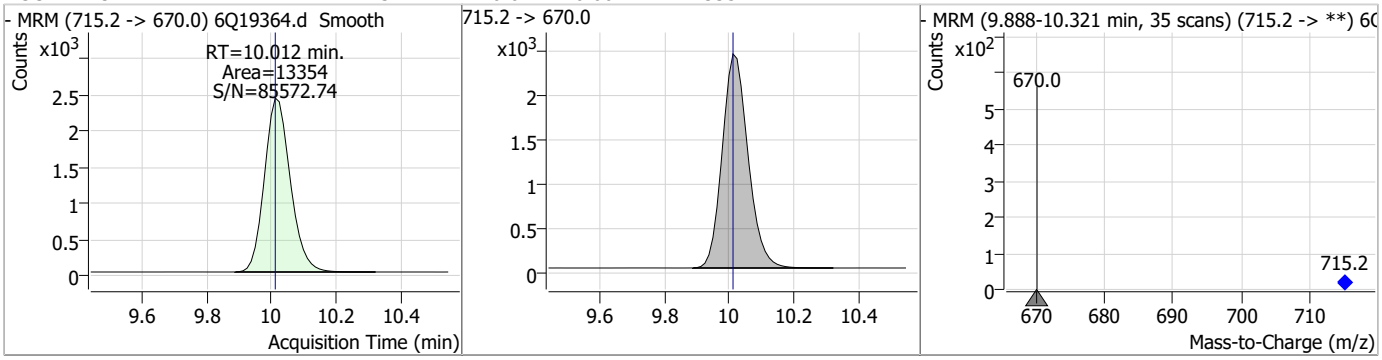
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.64	9.69	0.01	5589	498.1 -> 478.0	4.1	1.6	4.7



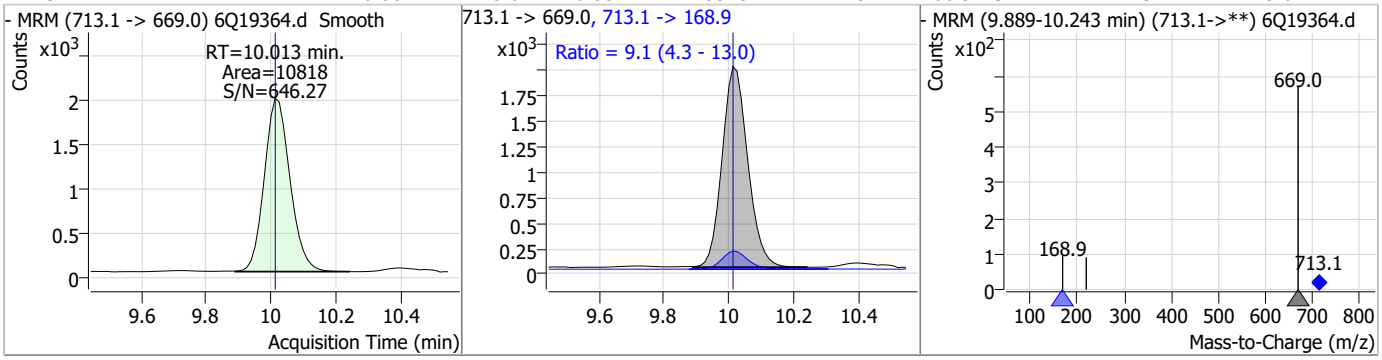
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	1.20	9.73	0.01	19602	632.9 -> 452.9	32.1	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.31	10.01	0.00	13354				

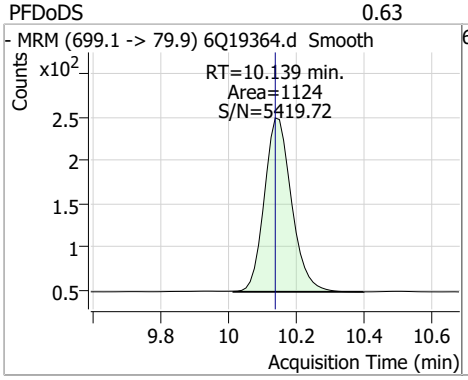


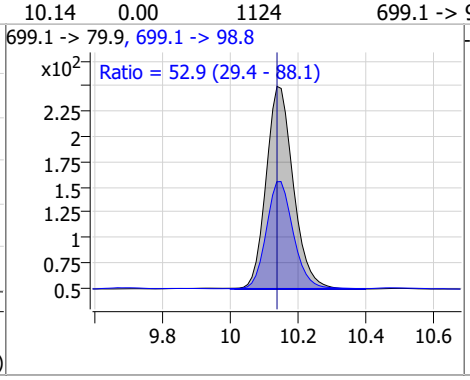
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.68	10.01	0.00	10818	713.1 -> 168.9	9.1	4.3	13.0

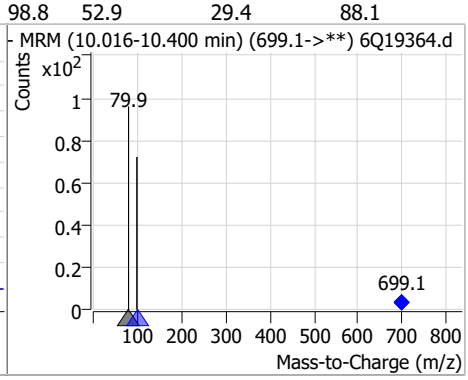


Perfluorinated Compounds by LC/MS/MS

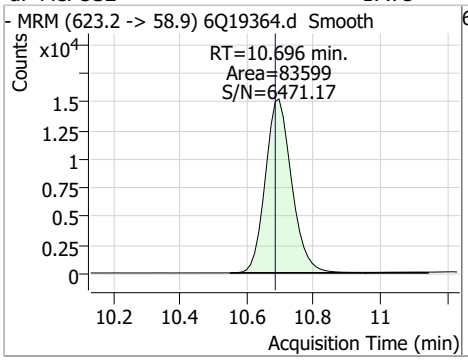
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.63	10.14	0.00	1124	699.1 -> 98.8	52.9	29.4	88.1

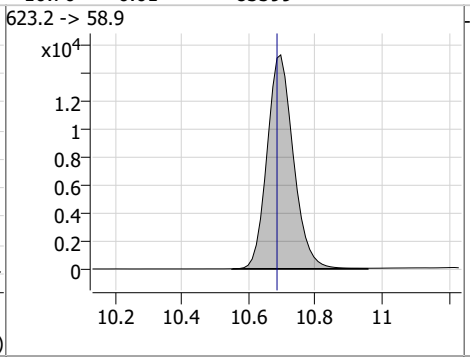


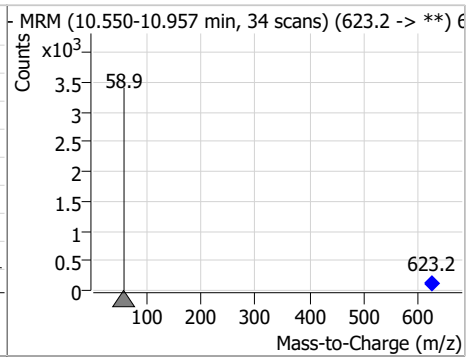




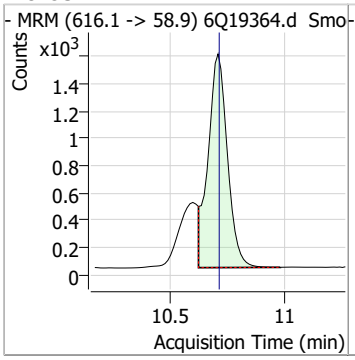
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	17.73	10.70	0.01	83599				

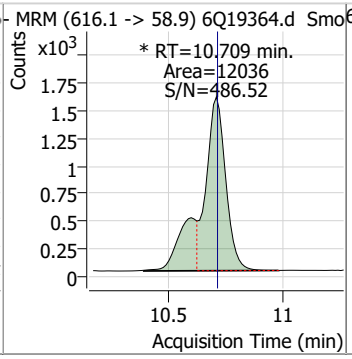


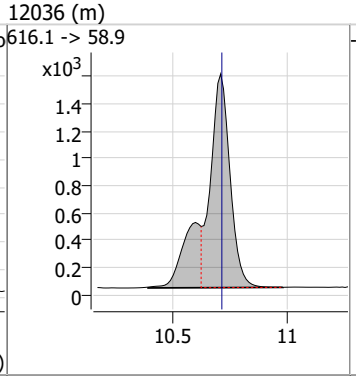


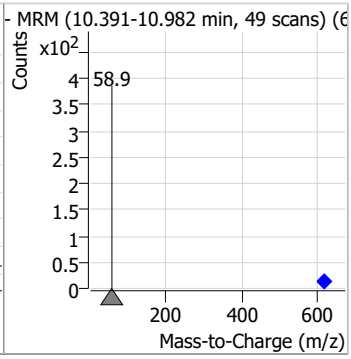


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	3.32	10.71	0.00	12036 (m)				

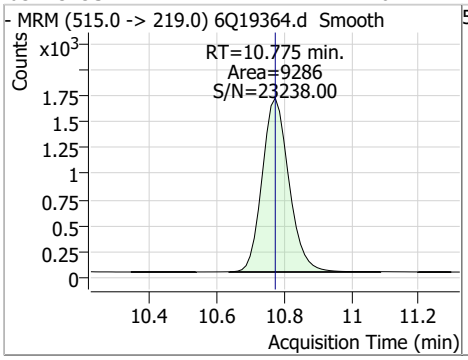


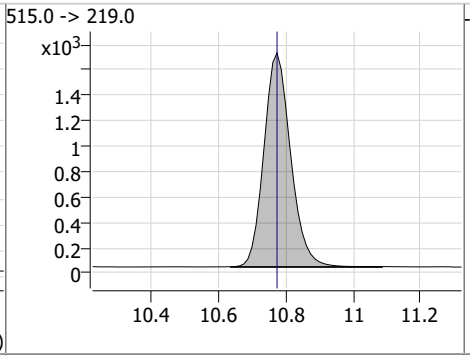


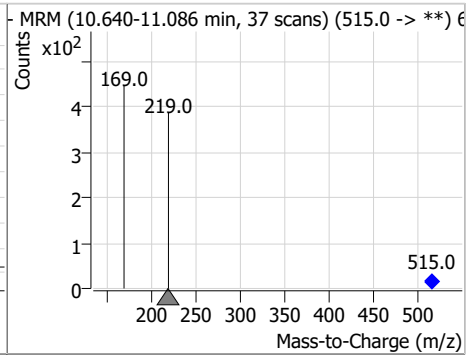




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.01	10.78	0.00	9286				

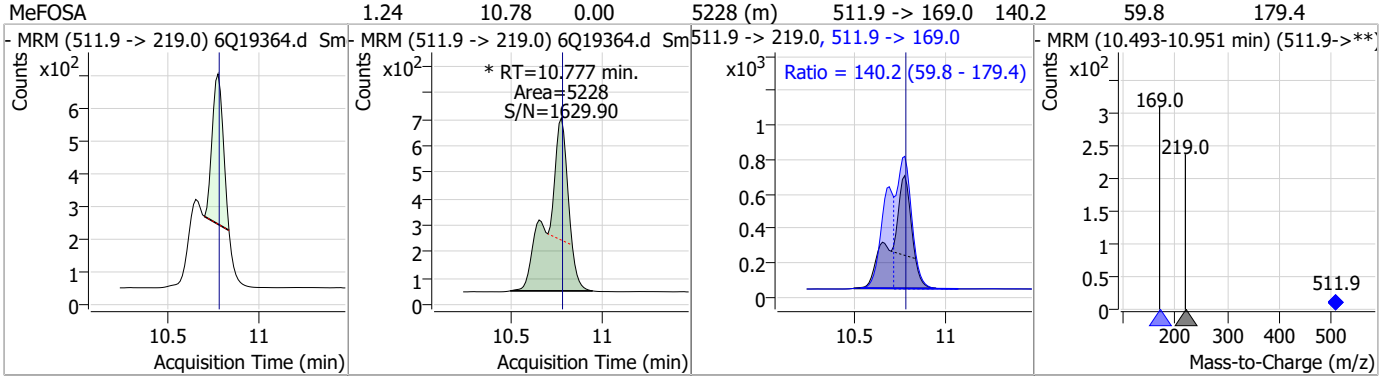




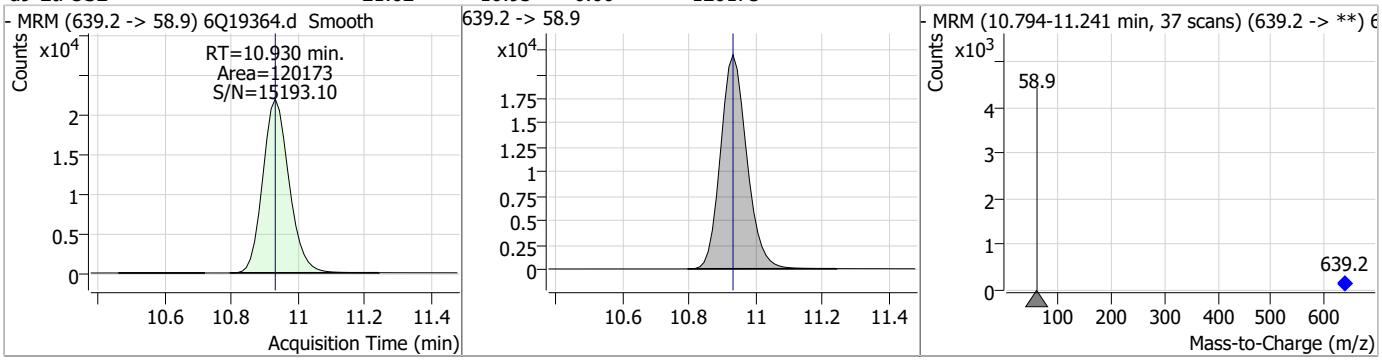


Perfluorinated Compounds by LC/MS/MS

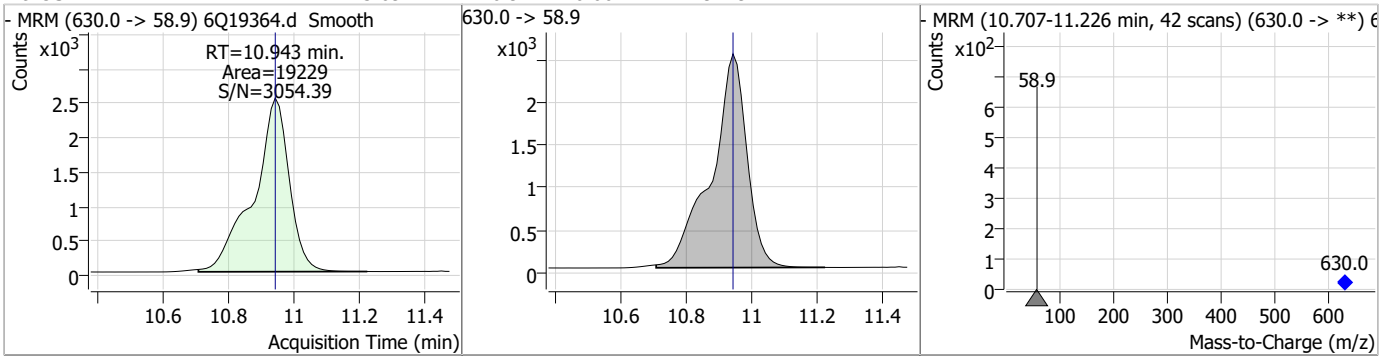
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	1.24	10.78	0.00	5228 (m)	511.9 -> 169.0	140.2	59.8	179.4



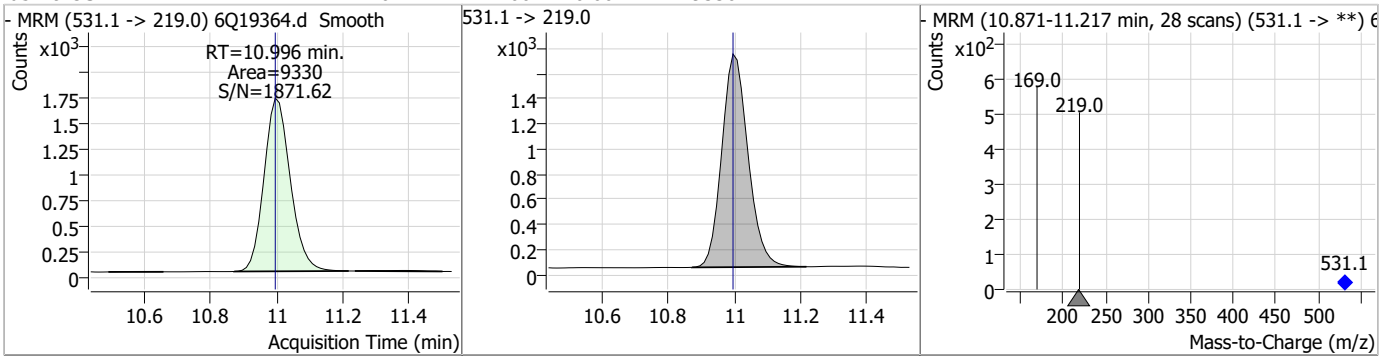
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	21.62	10.93	0.00	120173				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	3.09	10.94	0.00	19229				

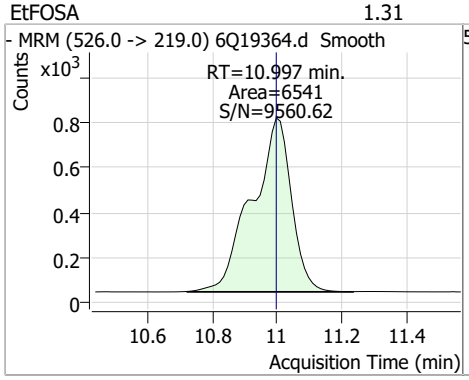


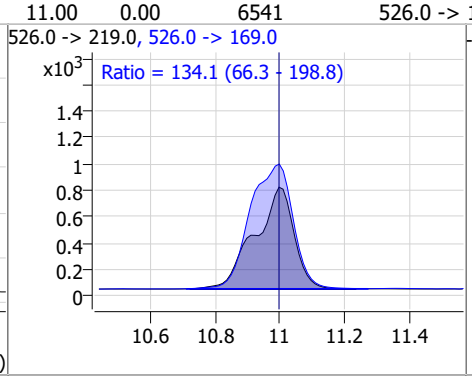
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.07	11.00	0.00	9330				

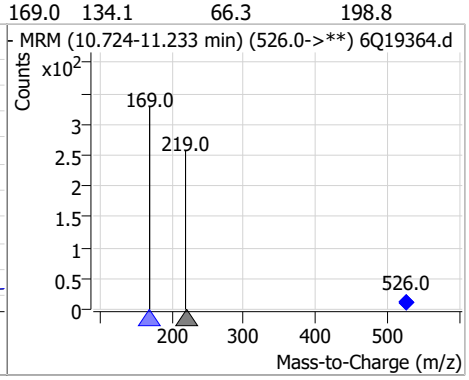


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	1.31	11.00	0.00	6541	526.0 -> 169.0	134.1	66.3	198.8







Manual Integration Approval Summary

Sample Number: OP97325-LLBS
Lab FileID: 6Q19364.D
Injection Time: 06/14/23 19:12
Method: EPA DRAFT 1633
Analyst approved: 06/15/23 10:05 Martha Valls
Supervisor approved: 06/15/23 10:58 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.58	Split peak
EtFOSAA	2991-50-6		8.64	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Norman Farmer 06/20/23 17:48

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19595.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 8:32:57 AM
Sample Name : op97385-bs
Vial : P2-D5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97385,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	38689	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	44529	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	47440	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	44376	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	68955	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	33000	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	18886	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	22976	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	20524	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	10398	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	16545	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	18965	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	10875	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	9587	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	2981	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4167	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3797	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	24962	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	32484	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	20117	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	76441	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	97203	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	8277	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	8401	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	13172	2.50	µg/L	0.000
13C3-PFBA	3.101	216.0 -> 172.0	54745	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	7452	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	67017	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	23377	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	38729	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	42846	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	2981	6.67	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 133.3%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4167	6.17	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 123.4%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3797	5.98	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.6%		
13C2-PFDoDA	9.285	615.1 -> 570.0	20524	1.31	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.1%		
13C2-PFTeDA	10.000	715.2 -> 670.0	10398	1.19	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.4%		
13C3-PFBS	5.746	302.1 -> 79.9	18965	3.06	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 122.3%		
13C3-PFHxS	7.478	402.1 -> 79.9	10875	2.78	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.1%		
13C4-PFBA	3.097	216.8 -> 171.9	38689	3.01 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 30.1%		
13C4-PFHpA	6.707	367.1 -> 322.0	44376	2.68 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.3%		
13C5-PFHxA	5.792	318.0 -> 273.0	47440	2.68 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.3%		
13C5-PFPeA	4.560	268.3 -> 223.0	44529	5.49 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.9%		
13C6-PFDA	8.387	519.1 -> 474.1	18886	1.41 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.6%		
13C7-PFUnDA	8.853	570.0 -> 525.1	22976	1.28 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C8-FOSA	9.687	506.1 -> 77.8	16545	1.66 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 66.3%		
13C8-PFOA	7.339	421.1 -> 376.0	68955	2.75 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.1%		
13C8-PFOS	8.563	507.1 -> 79.9	9587	2.41 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.4%		
13C9-PFNA	7.882	472.1 -> 427.0	33000	1.40 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.0%		
d3-MeFOSAA	8.420	573.2 -> 419.0	24962	5.01 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.2%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	32484	10.98 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.8%		
d3-MeFOSA	10.775	515.0 -> 219.0	8401	1.94 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 77.5%		
d5-EtFOSAA	8.615	589.2 -> 419.0	20117	4.76 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.1%		
d7-MeFOSE	10.685	623.2 -> 58.9	76441	17.30 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 69.2%		
d9-EtFOSE	10.930	639.2 -> 58.9	97203	18.66 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 74.6%		
d5-EtFOSA	10.996	531.1 -> 219.0	8277	1.96 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.2%		
Target Compounds						**QValue**
4:2FTS	5.455	327.1 -> 307.0	40549	7.82 µg/L		95
		327.1 -> 80.9	16320			
6:2FTS	7.113	427.1 -> 407.0	42260	8.52 µg/L		92
		427.1 -> 80.9	15621			
8:2FTS	8.164	527.1 -> 507.0	20344	8.06 µg/L		97
		527.1 -> 80.8	8404			
EtFOSAA	8.629	584.2 -> 419.1	7682	2.26 µg/L	m	99
		584.2 -> 526.0	4142			
FOSA	9.690	498.1 -> 77.9	16126	2.45 µg/L		100
		498.1 -> 478.0	487			
MeFOSAA	8.421	570.1 -> 419.0	16040	2.48 µg/L	m	100
		570.1 -> 483.0	3028			
PFBA	3.106	212.8 -> 168.9	14247	9.14 µg/L		100
PFBS	5.747	298.7 -> 79.9	15734	1.86 µg/L		100
		298.7 -> 98.8	5961			
PFDA	8.388	512.9 -> 469.0	67014	2.39 µg/L		95
		512.9 -> 219.0	9280			
PFDoDA	9.285	613.1 -> 569.0	37050	2.17 µg/L		97
		613.1 -> 319.0	5922			
PFDS	9.450	599.0 -> 79.9	6472	2.23 µg/L		89

Perfluorinated Compounds by LC/MS/MS

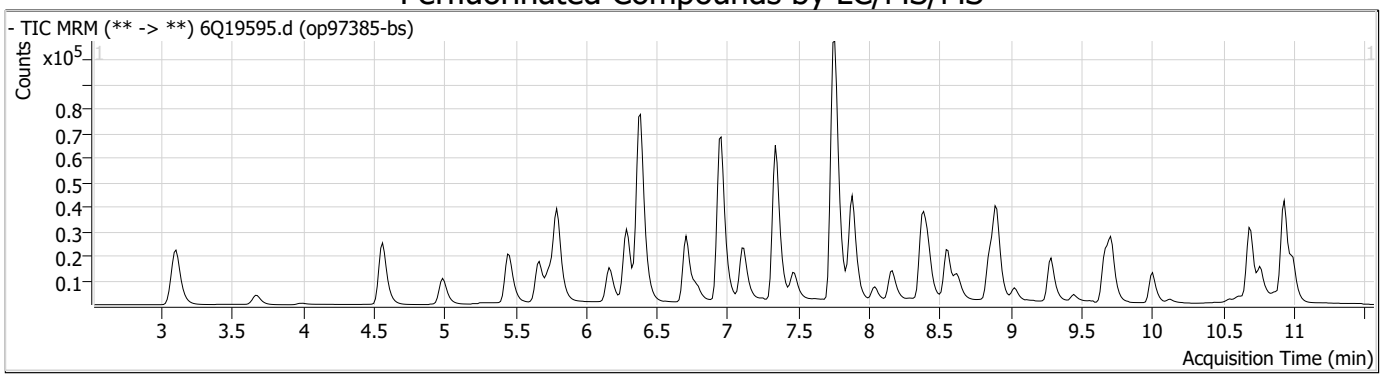
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	2900				
PFHpA	6.708	363.1 -> 319.0	49172	2.08	µg/L		94
		363.1 -> 169.0	8766				
PFHpS	8.046	449.0 -> 79.9	13049	2.28	µg/L		99
		449.0 -> 98.9	6607				
PFHxA	5.795	313.0 -> 269.0	44958	2.35	µg/L		99
		313.0 -> 118.9	2216				
PFHxS	7.479	398.7 -> 79.9	12843	1.96	µg/L	m	98
		398.7 -> 98.9	6350				
PFNA	7.883	463.0 -> 419.0	65529	2.15	µg/L		99
		463.0 -> 219.0	12733				
PFNS	9.041	548.8 -> 79.9	11835	2.38	µg/L		97
		548.8 -> 98.9	6082				
PFOA	7.341	413.0 -> 369.0	84344	2.23	µg/L		99
		413.0 -> 169.0	14607				
PFOS	8.564	498.9 -> 79.9	11416	2.01	µg/L	m	97
		498.9 -> 98.8	5736				
PFPeA	4.563	263.0 -> 219.0	59412	4.52	µg/L		100
PFPeS	6.785	349.1 -> 79.9	13126	2.15	µg/L		97
		349.1 -> 98.9	6043				
PFTeDA	10.000	713.1 -> 669.0	27642	2.22	µg/L		99
		713.1 -> 168.9	2494				
PFTrDA	9.669	663.0 -> 619.0	36153	2.09	µg/L		98
		663.0 -> 168.9	3982				
PFUnDA	8.854	563.1 -> 519.0	43822	2.47	µg/L		94
		563.1 -> 269.1	6988				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	52456	3.55	µg/L		92
		632.9 -> 452.9	17059				
9Cl-PF3ONS	8.906	530.8 -> 351.0	96347	3.78	µg/L		99
		532.8 -> 353.0	30045				
ADONA	6.959	376.9 -> 250.9	205065	3.90	µg/L		97
		376.9 -> 84.8	62464				
HFPO-DA	6.169	284.9 -> 168.9	16016	4.71	µg/L		100
		284.9 -> 184.9	1850				
3:3FTCA	3.983	241.0 -> 177.0	2278	2.56	µg/L		98
		241.0 -> 117.0	327				
5:3FTCA	6.386	341.0 -> 237.1	181735	47.76	µg/L		99
		341.0 -> 217.0	134352				
7:3FTCA	7.761	441.0 -> 316.9	142265	55.29	µg/L		90
		441.0 -> 336.9	297177				
EtFOSA	10.997	526.0 -> 219.0	20741	4.69	µg/L		100
		526.0 -> 169.0	27507				
EtFOSE	10.943	630.0 -> 58.9	58072	11.54	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	16963	4.46	µg/L	m	80
		511.9 -> 169.0	24073				
MeFOSE	10.709	616.1 -> 58.9	39285	11.86	µg/L	m	100
PFDoDS	10.127	699.1 -> 79.9	3004	2.10	µg/L		96
		699.1 -> 98.8	1668				
NFDHA	5.673	295.0 -> 201.0	10342	4.23	µg/L		95
		295.0 -> 84.9	3065				
PFMBA	4.988	279.0 -> 85.1	42728	4.56	µg/L		100
PFMPA	3.680	229.0 -> 84.9	17393	2.37	µg/L		100
PFEESA	6.288	314.8 -> 134.9	103870	4.01	µg/L		99
		314.8 -> 82.9	3446				

 # = Qualifier out of range, m = manually integrated, + = Area summed

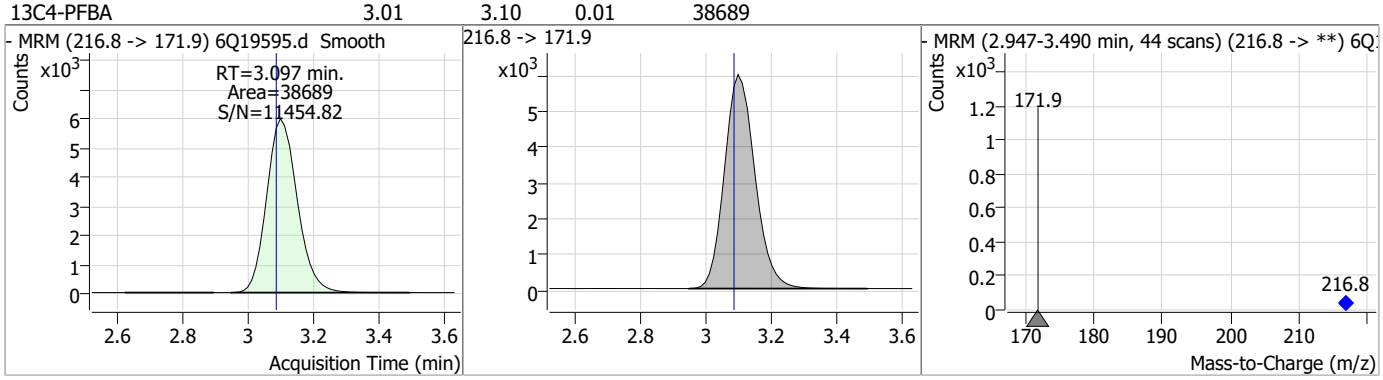
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

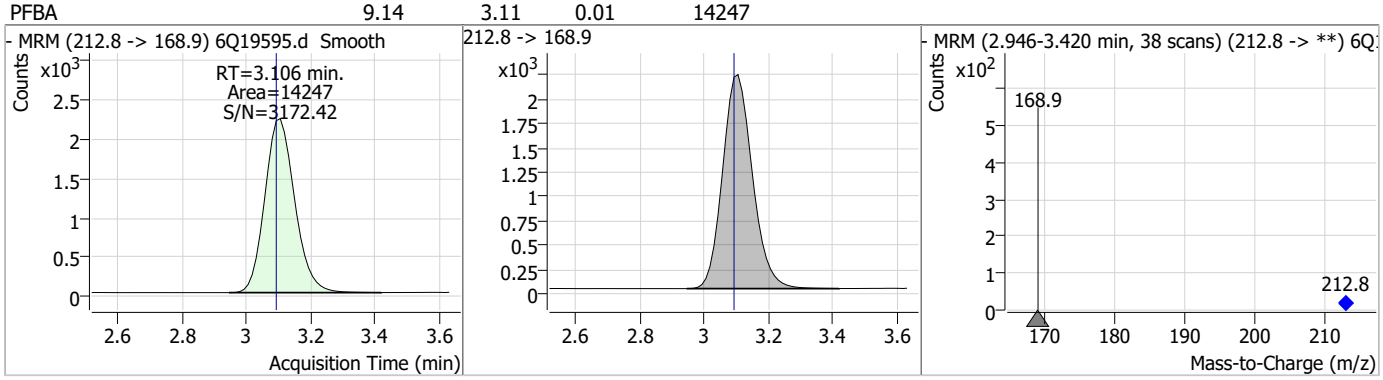
Perfluorinated Compounds by LC/MS/MS



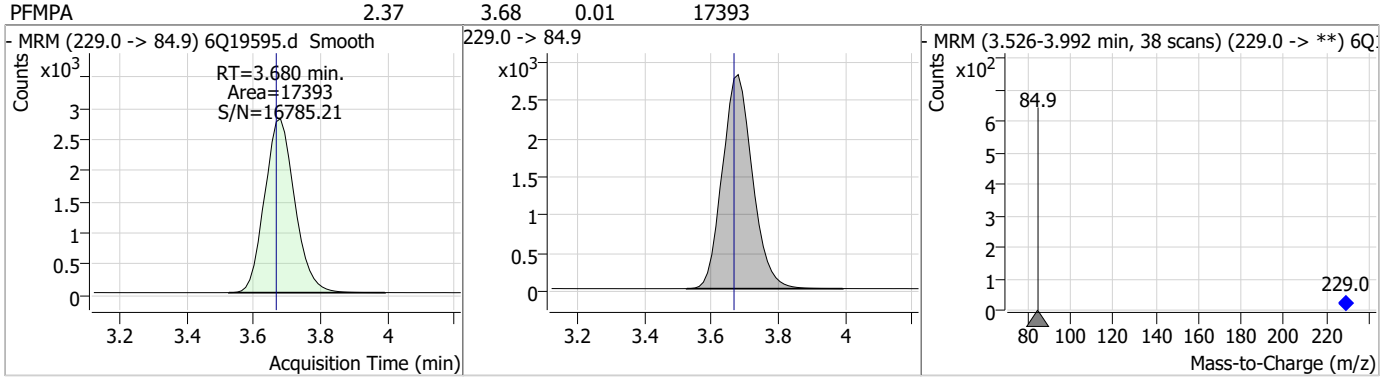
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	3.01	3.10	0.01	38689				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.14	3.11	0.01	14247				

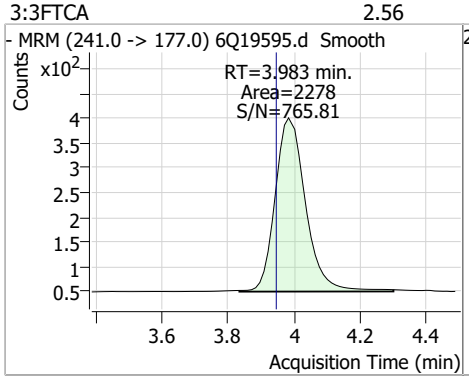


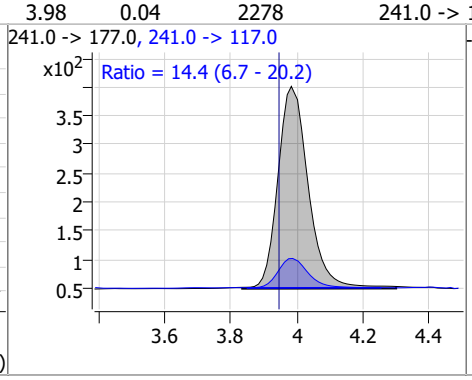
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	2.37	3.68	0.01	17393				

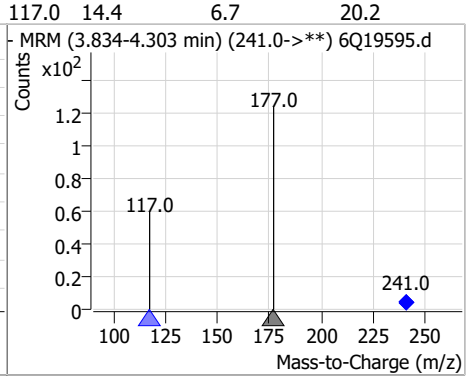


Perfluorinated Compounds by LC/MS/MS

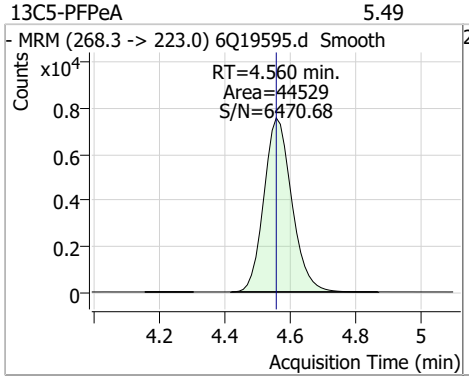
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	2.56	3.98	0.04	2278	241.0 -> 117.0	14.4	6.7	20.2

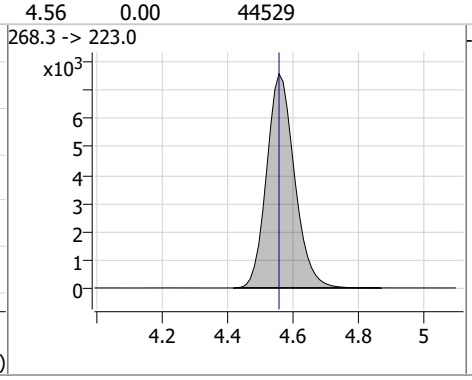


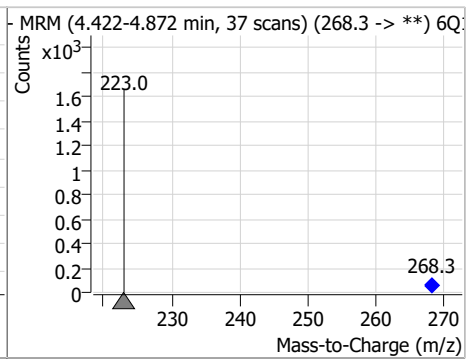




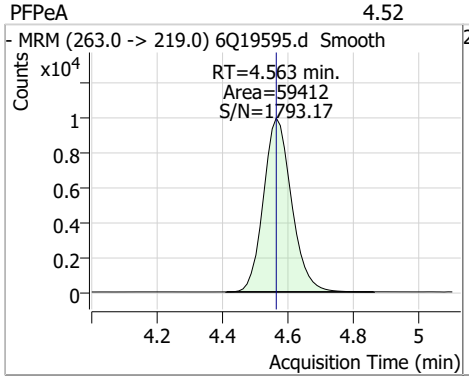
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.49	4.56	0.00	44529				

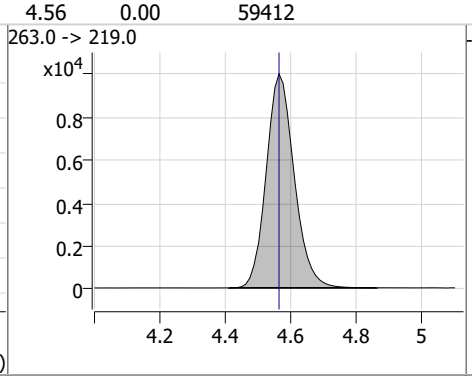


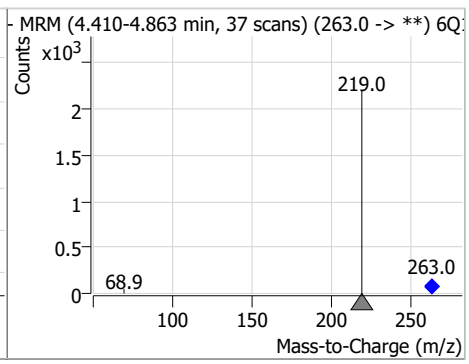




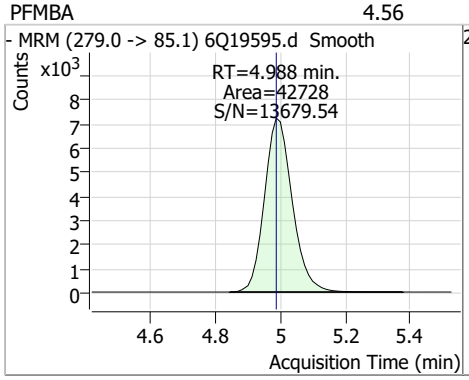
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.52	4.56	0.00	59412				

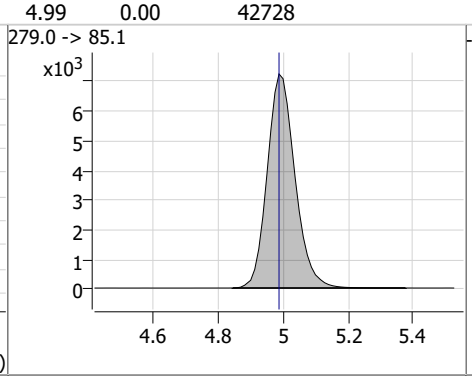


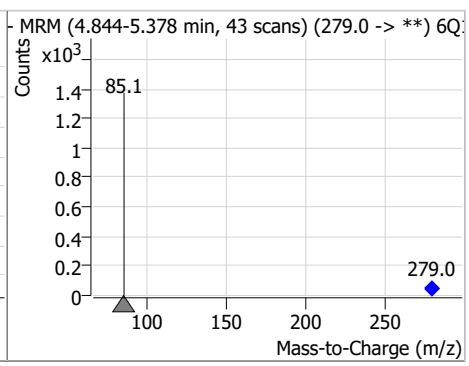




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.56	4.99	0.00	42728				

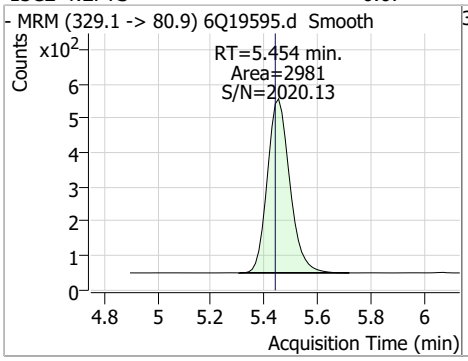


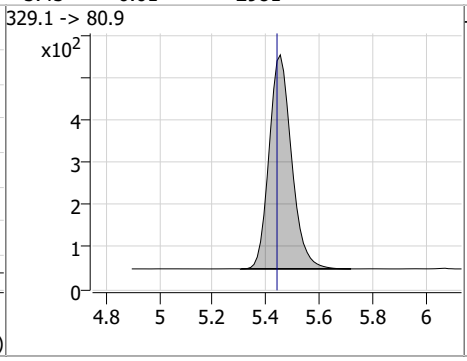


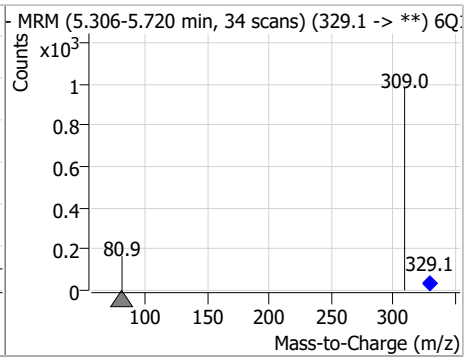


Perfluorinated Compounds by LC/MS/MS

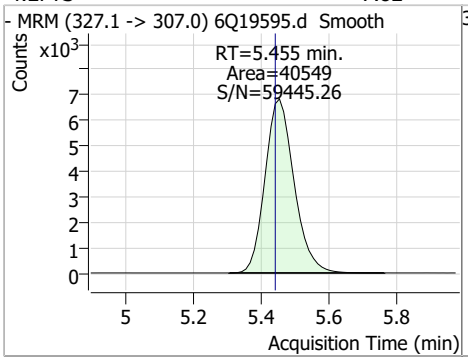
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.67	5.45	0.01	2981				

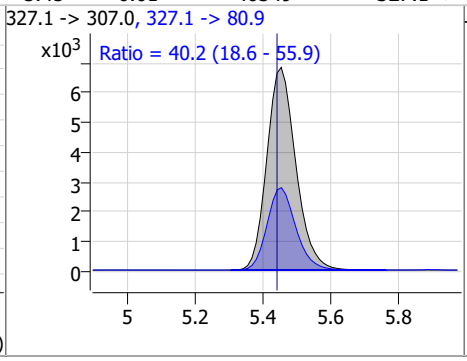


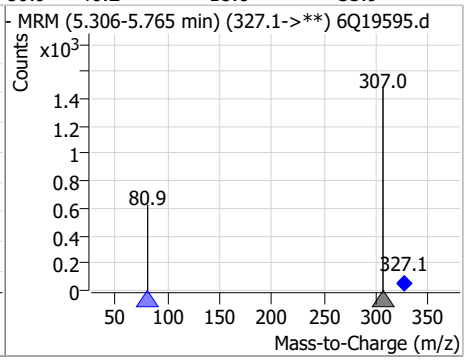




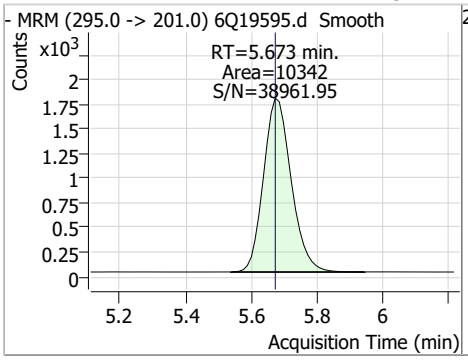
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	7.82	5.45	0.01	40549	327.1 -> 80.9	40.2	18.6	55.9

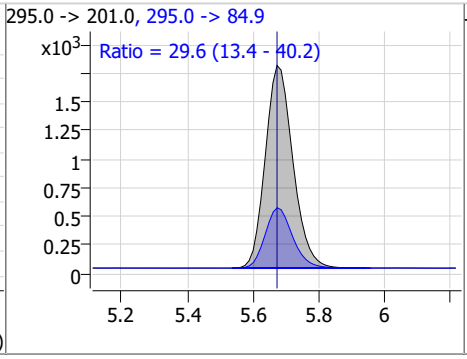


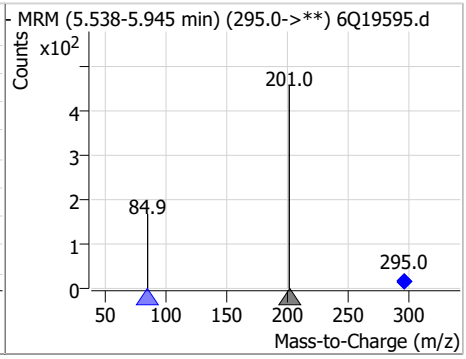




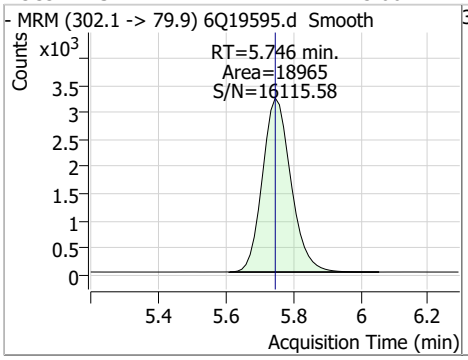
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.23	5.67	0.00	10342	295.0 -> 84.9	29.6	13.4	40.2

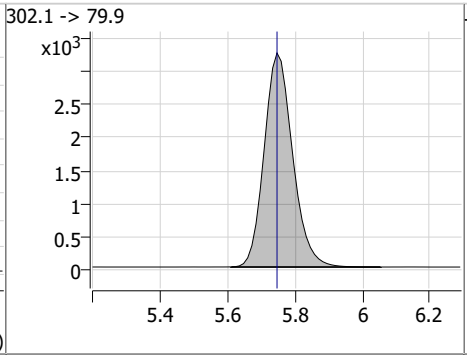


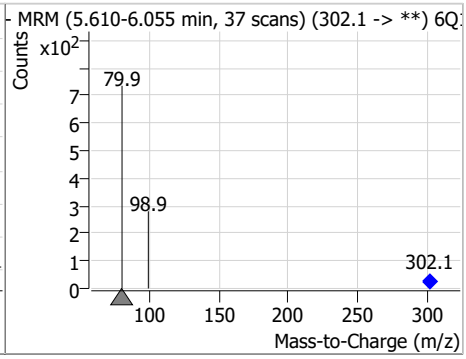




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.06	5.75	0.00	18965				

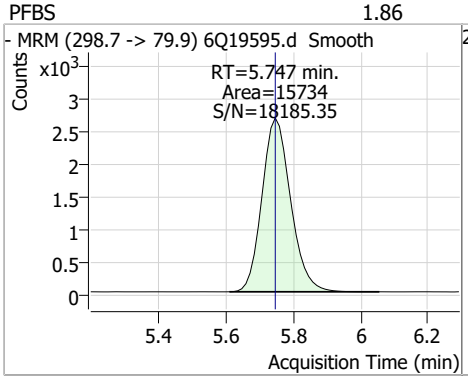


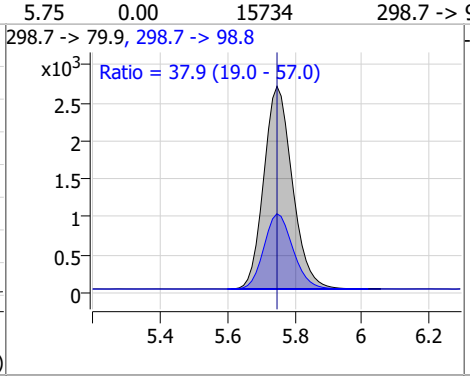


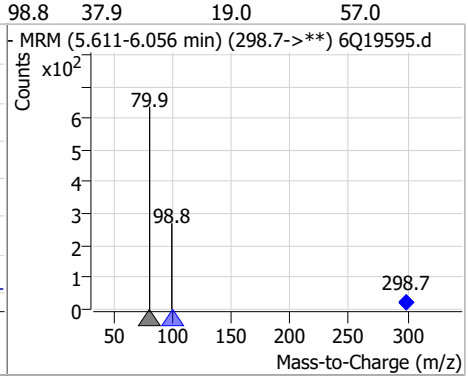


Perfluorinated Compounds by LC/MS/MS

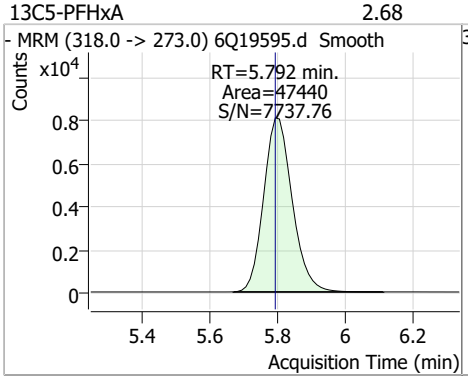
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.86	5.75	0.00	15734	298.7 -> 98.8	37.9	19.0	57.0

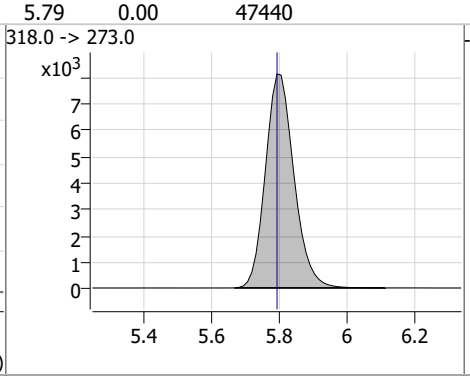


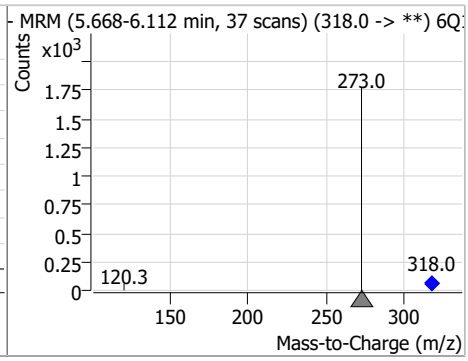




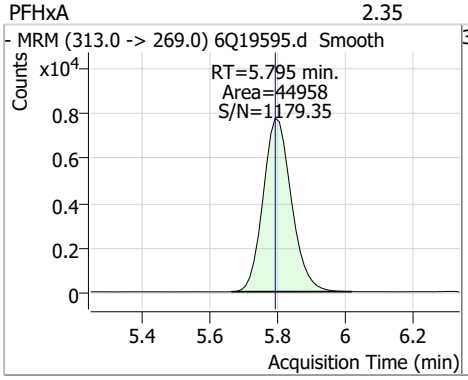
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.68	5.79	0.00	47440				

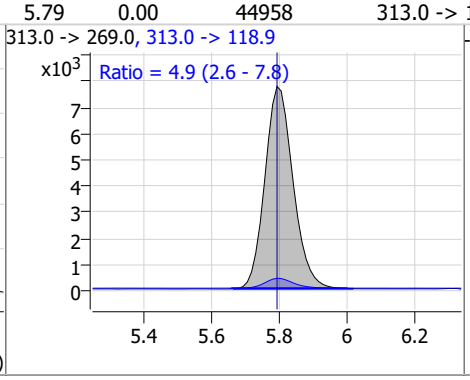


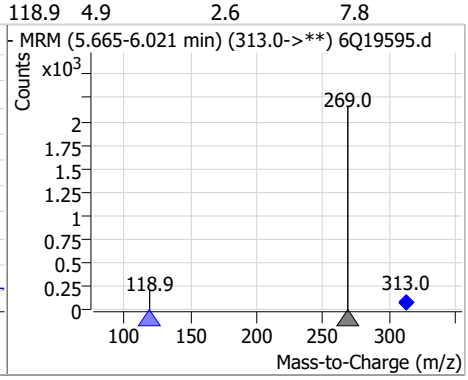




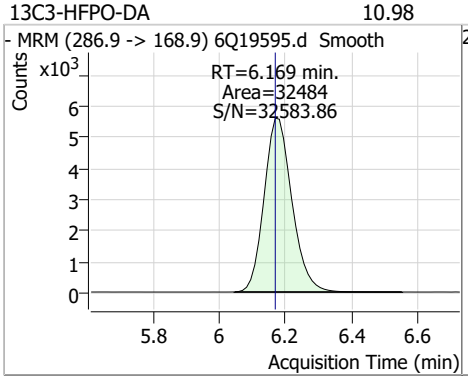
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.35	5.79	0.00	44958	313.0 -> 118.9	4.9	2.6	7.8

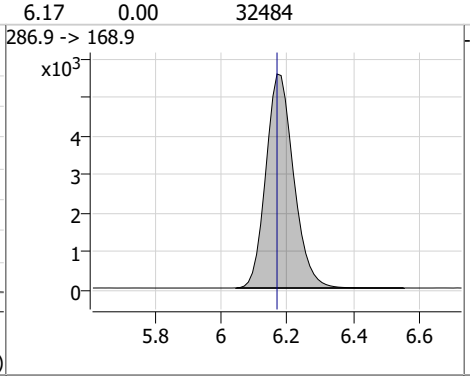


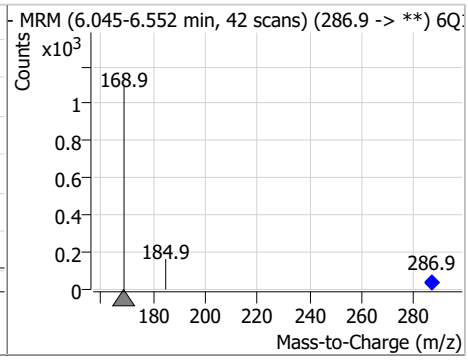




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.98	6.17	0.00	32484				

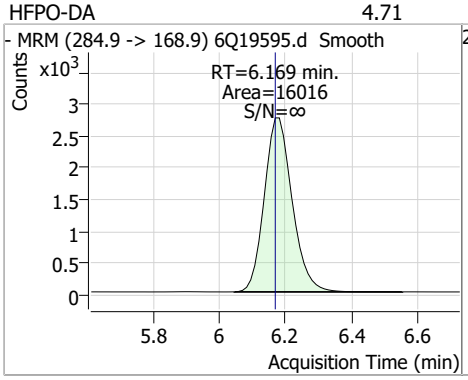


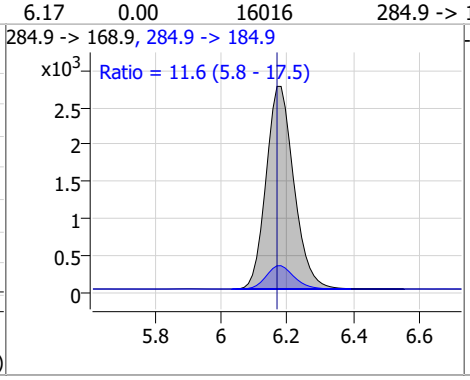


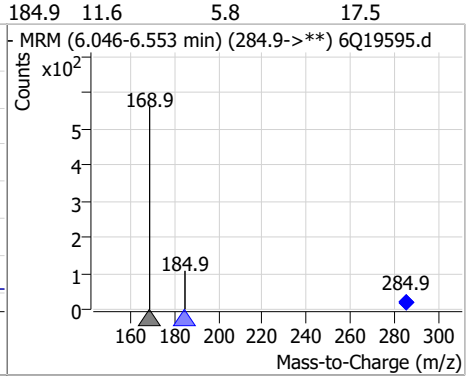


Perfluorinated Compounds by LC/MS/MS

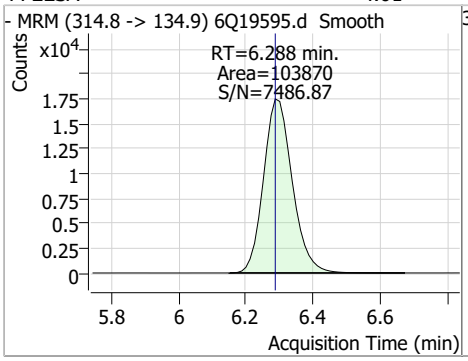
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.71	6.17	0.00	16016	284.9 -> 184.9	11.6	5.8	17.5

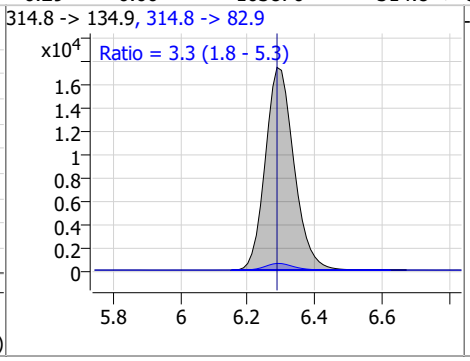


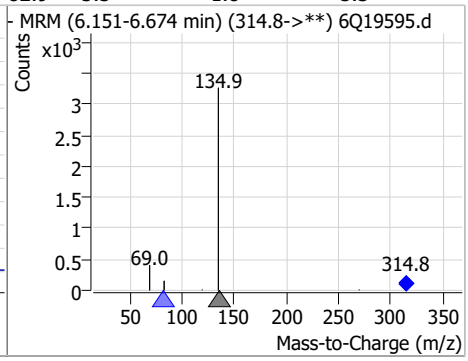




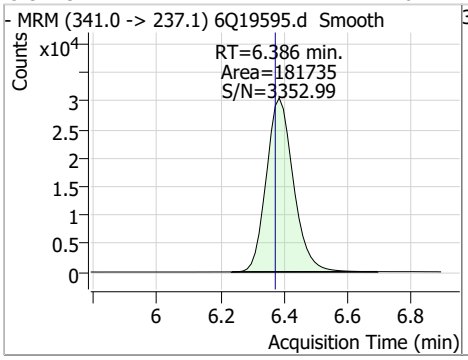
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.01	6.29	0.00	103870	314.8 -> 82.9	3.3	1.8	5.3

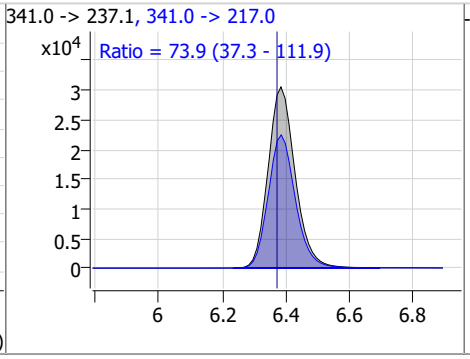


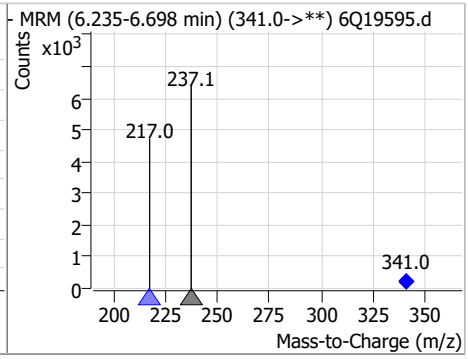




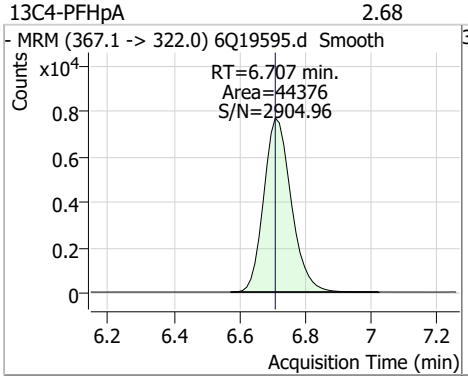
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	47.76	6.39	0.01	181735	341.0 -> 217.0	73.9	37.3	111.9

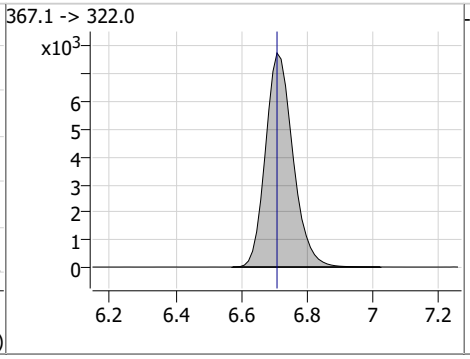


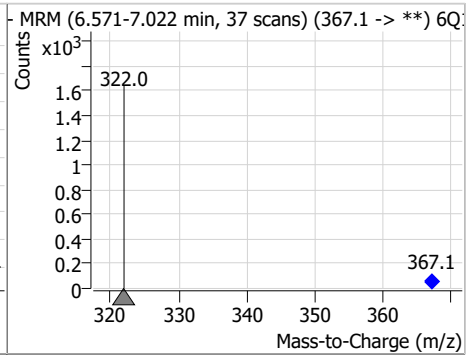




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.68	6.71	0.00	44376				

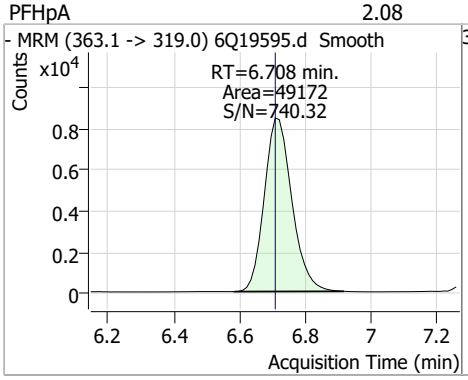


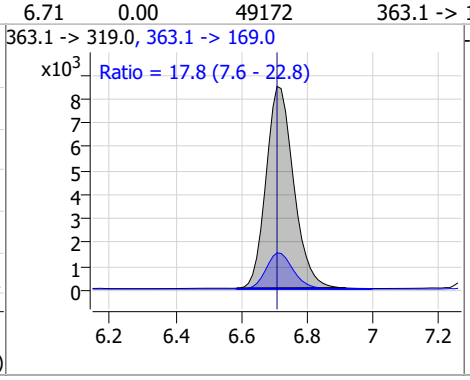


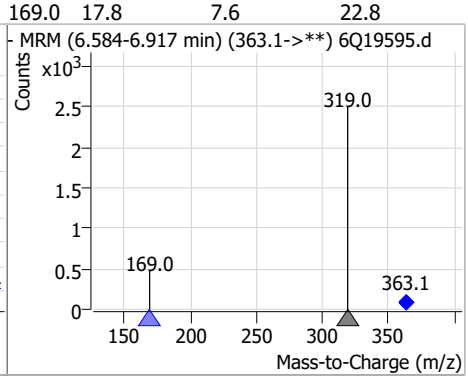


Perfluorinated Compounds by LC/MS/MS

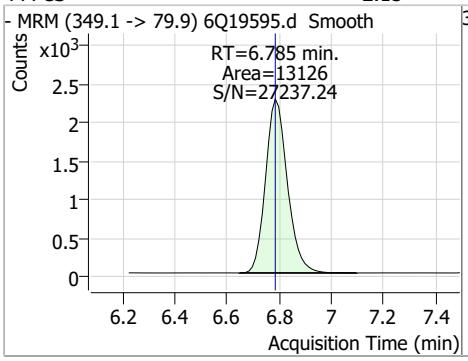
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.08	6.71	0.00	49172	363.1 -> 169.0	17.8	7.6	22.8

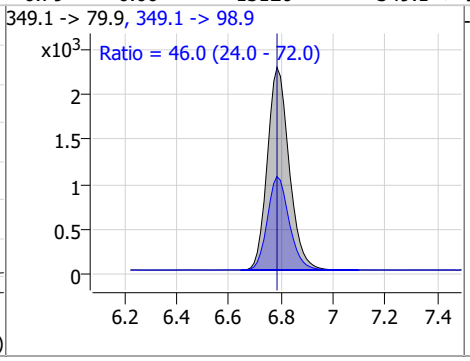


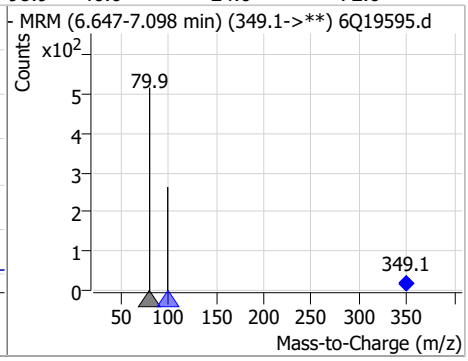




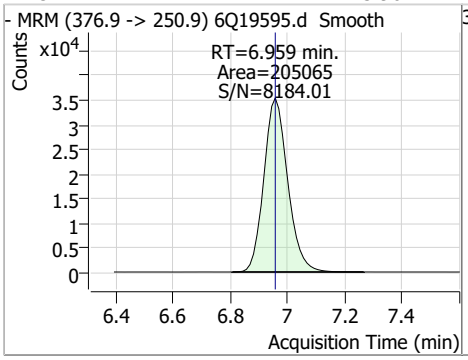
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.15	6.79	0.00	13126	349.1 -> 98.9	46.0	24.0	72.0

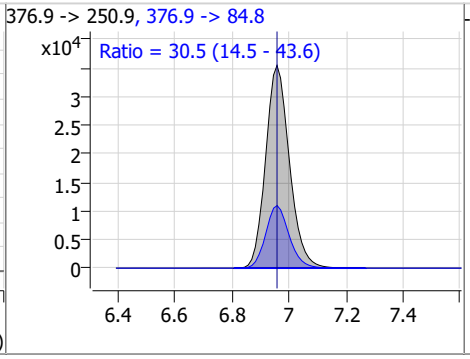


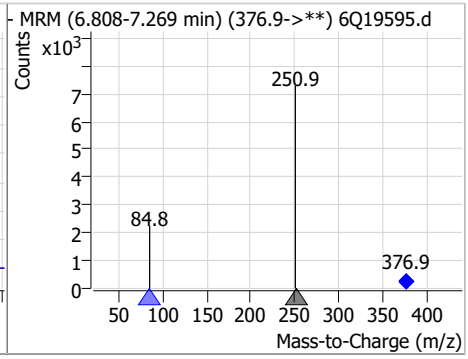




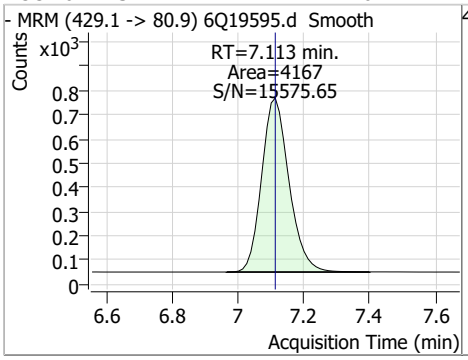
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	3.90	6.96	0.00	205065	376.9 -> 84.8	30.5	14.5	43.6

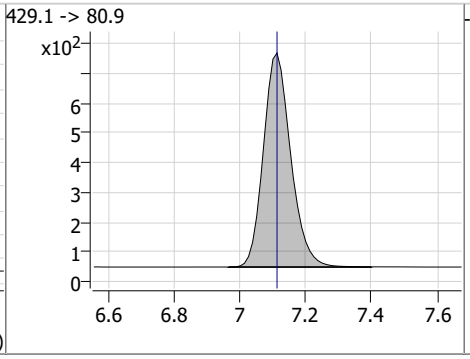


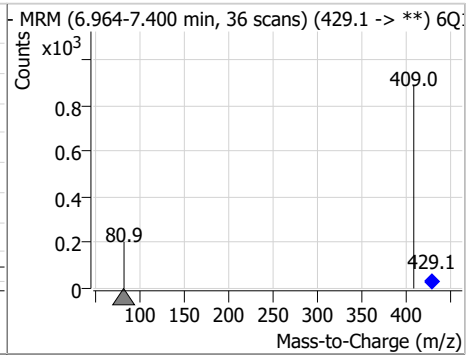




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.17	7.11	0.00	4167				

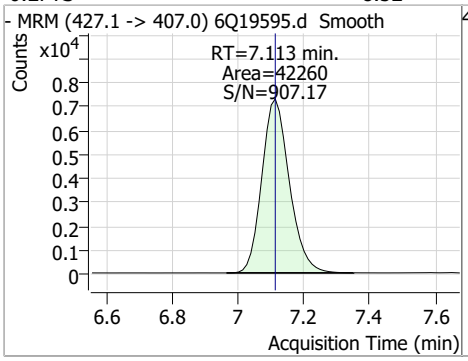


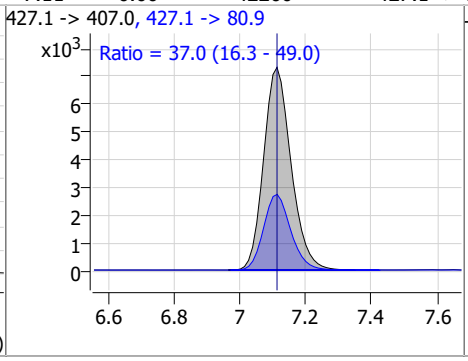


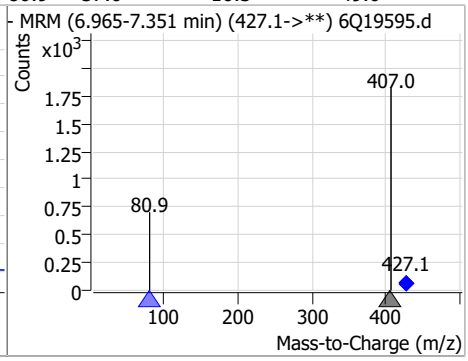


Perfluorinated Compounds by LC/MS/MS

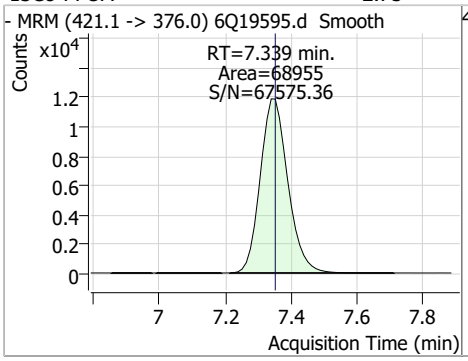
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	8.52	7.11	0.00	42260	427.1 -> 80.9	37.0	16.3	49.0

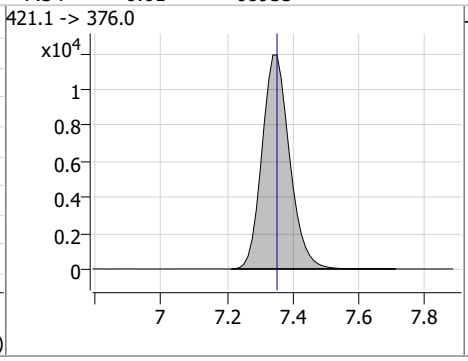


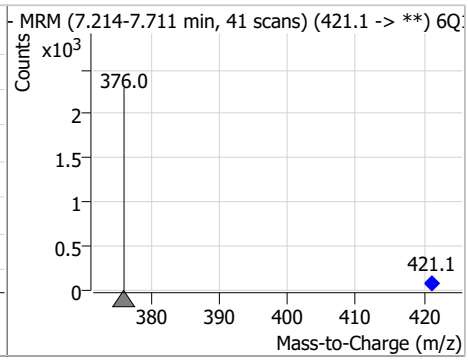




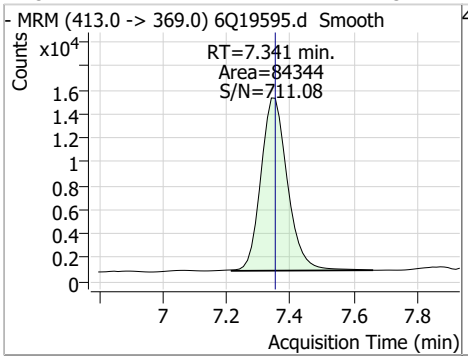
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.75	7.34	-0.01	68955				

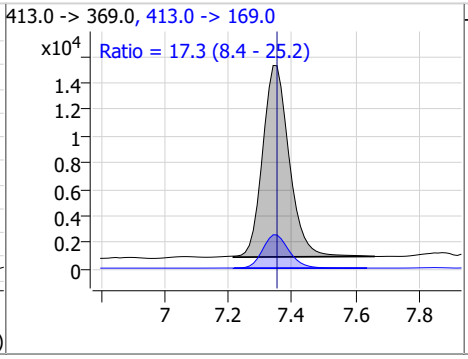


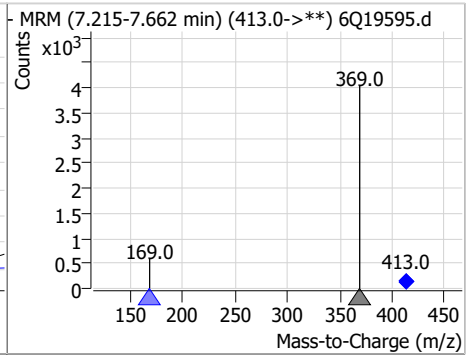




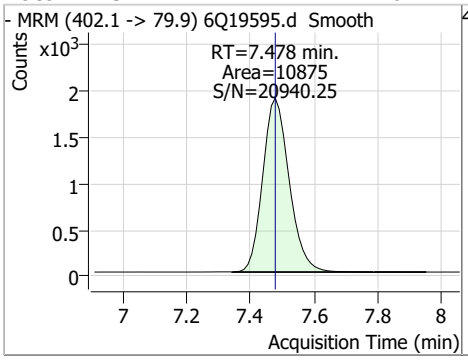
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.23	7.34	-0.01	84344	413.0 -> 169.0	17.3	8.4	25.2

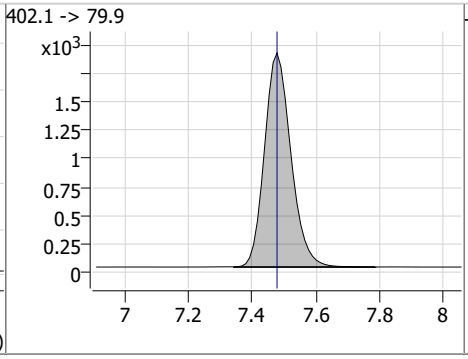


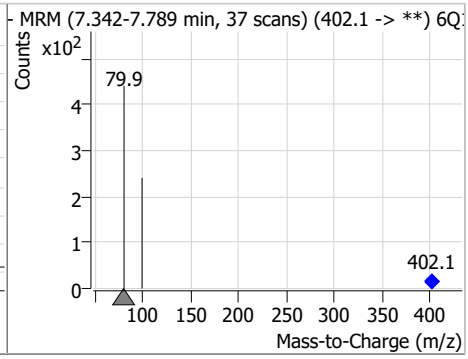




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.78	7.48	0.00	10875				

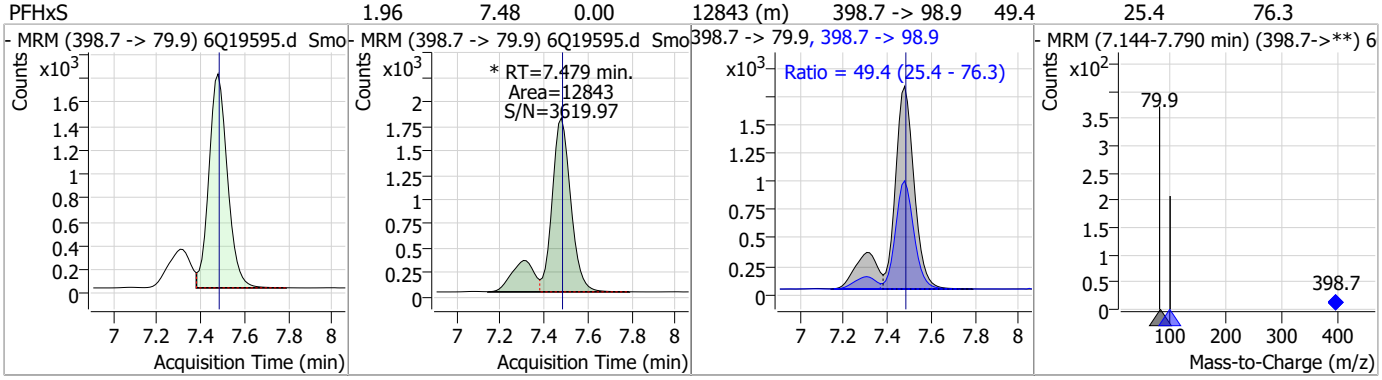




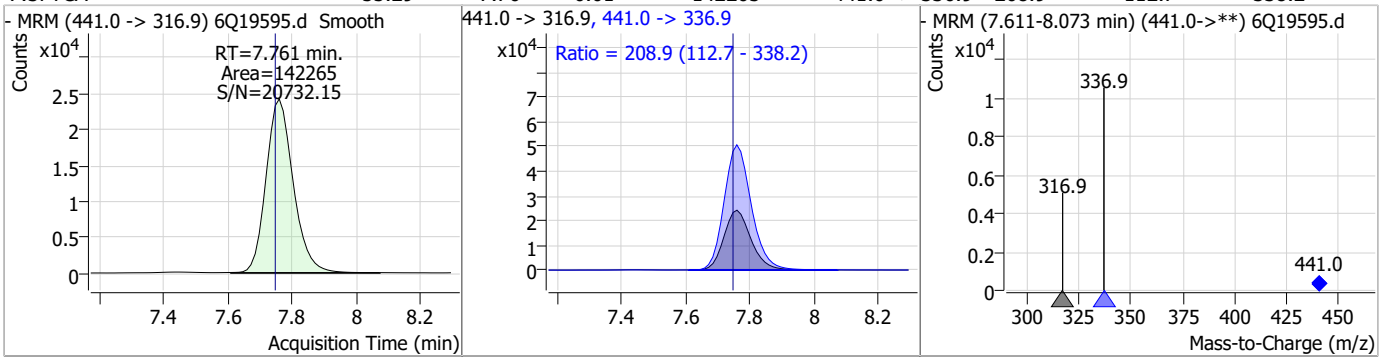


Perfluorinated Compounds by LC/MS/MS

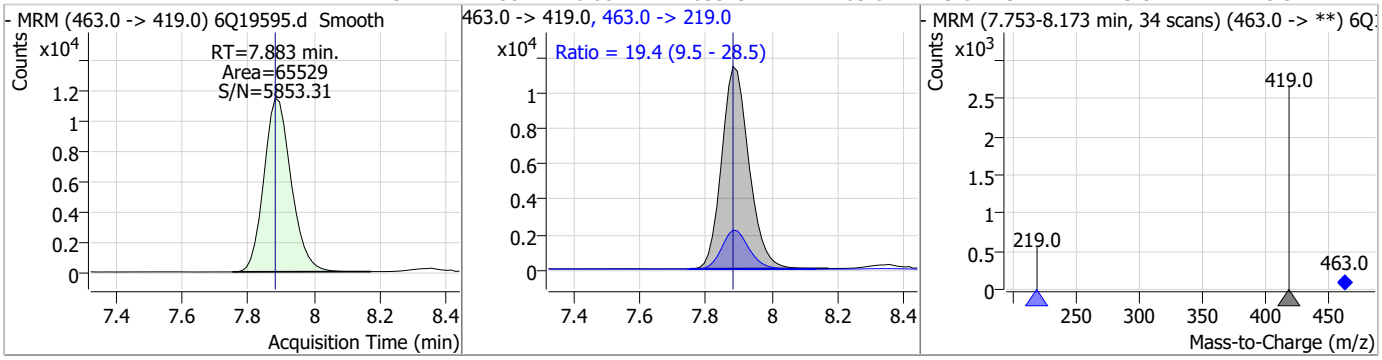
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.96	7.48	0.00	12843 (m)	398.7 -> 98.9	49.4	25.4	76.3



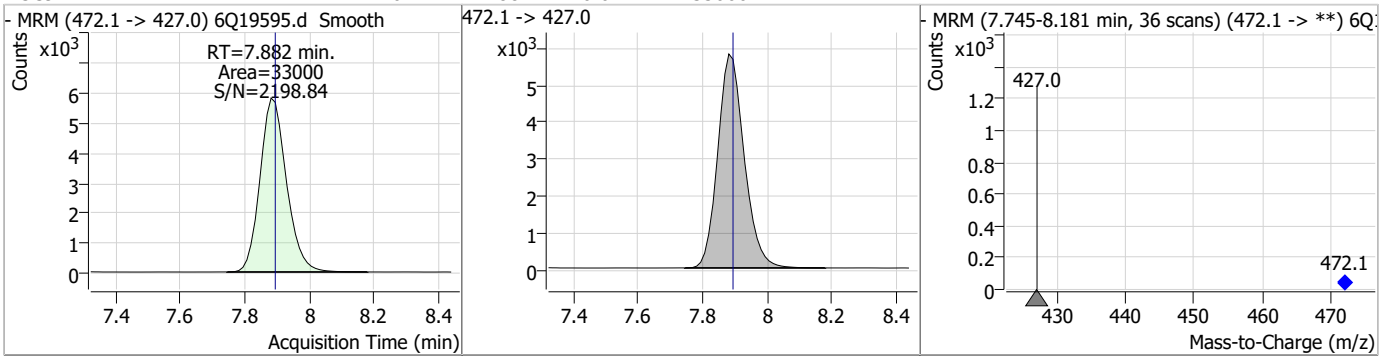
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	55.29	7.76	0.01	142265	441.0 -> 336.9	208.9	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.15	7.88	0.00	65529	463.0 -> 219.0	19.4	9.5	28.5

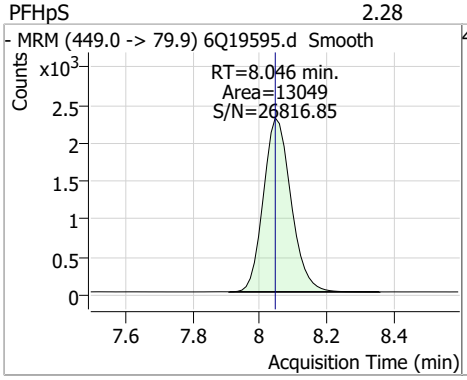


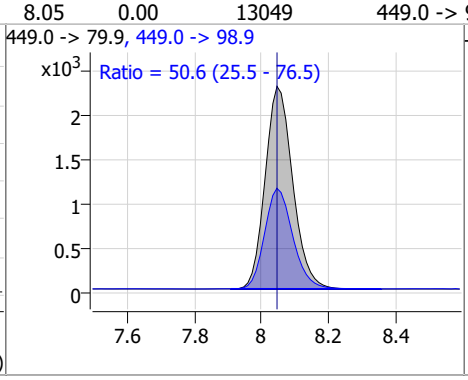
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.40	7.88	-0.01	33000				

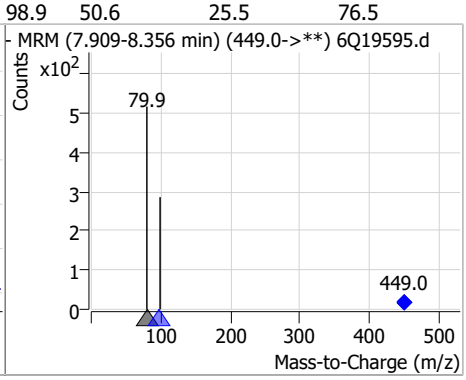


Perfluorinated Compounds by LC/MS/MS

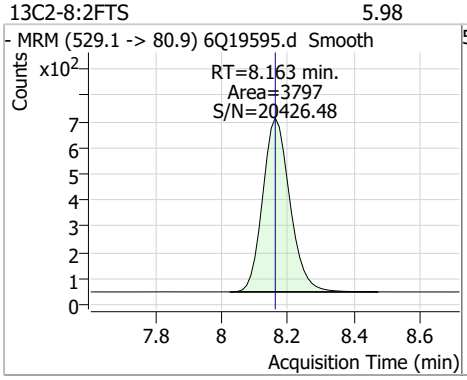
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.28	8.05	0.00	13049	449.0 -> 98.9	50.6	25.5	76.5

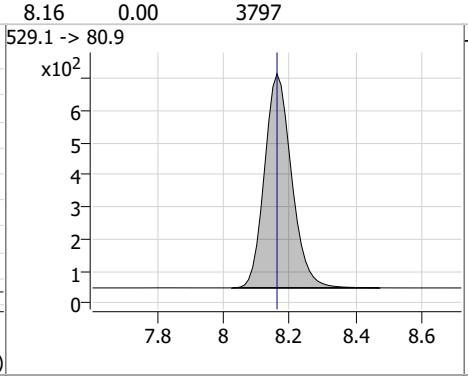


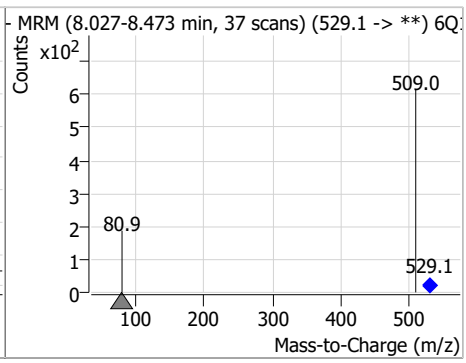




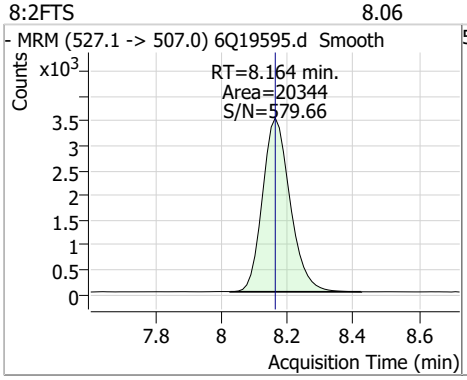
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.98	8.16	0.00	3797				

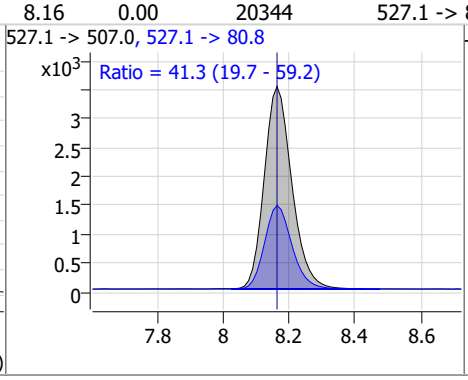


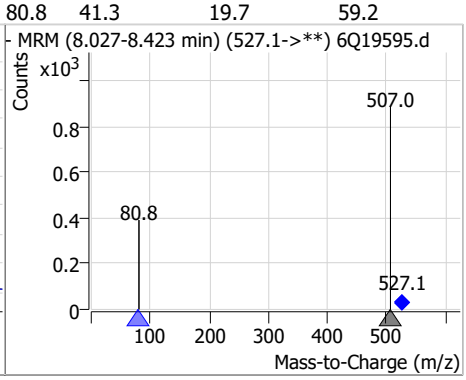




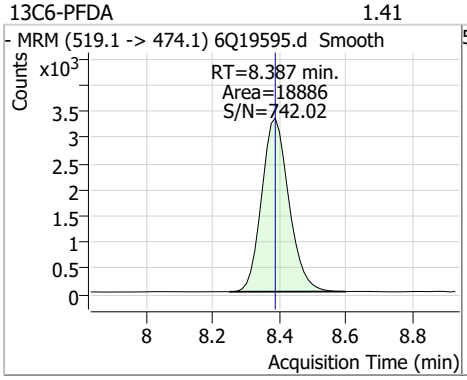
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	8.06	8.16	0.00	20344	527.1 -> 80.8	41.3	19.7	59.2

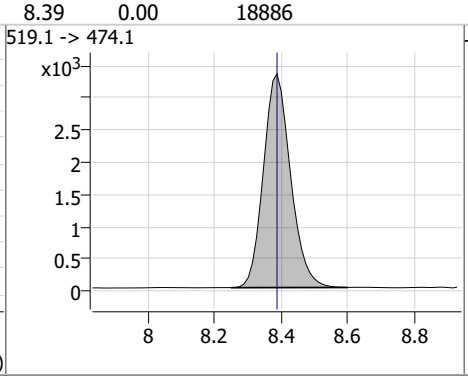


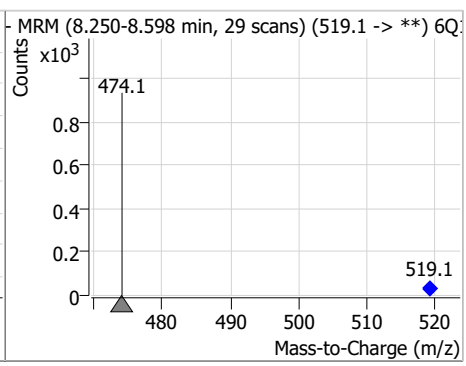




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.41	8.39	0.00	18886				

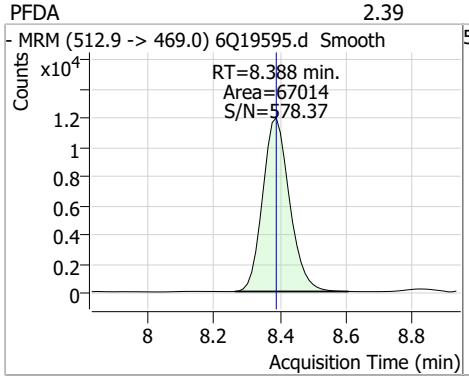


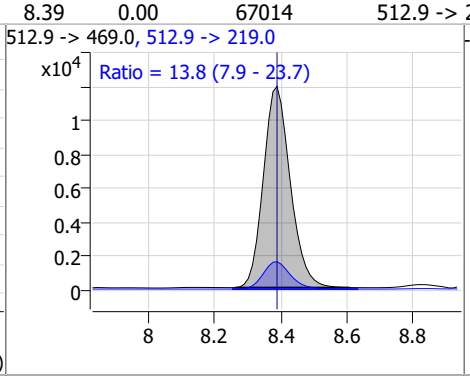


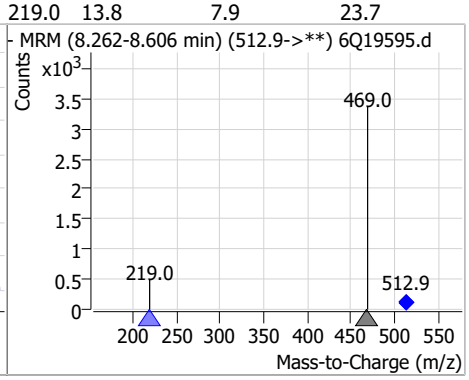


Perfluorinated Compounds by LC/MS/MS

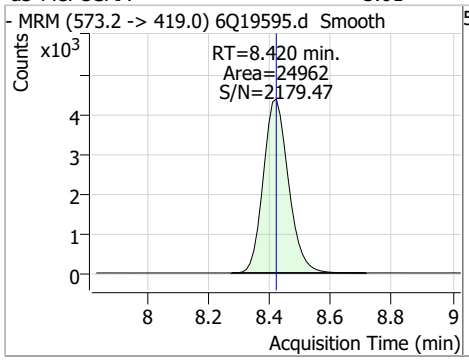
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.39	8.39	0.00	67014	512.9 -> 219.0	13.8	7.9	23.7

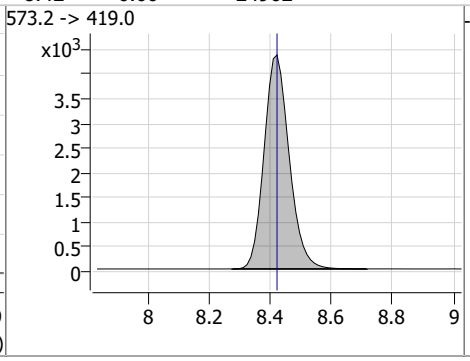


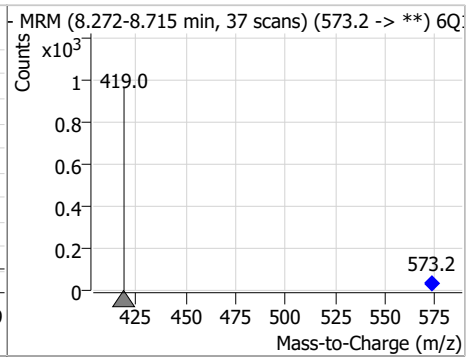




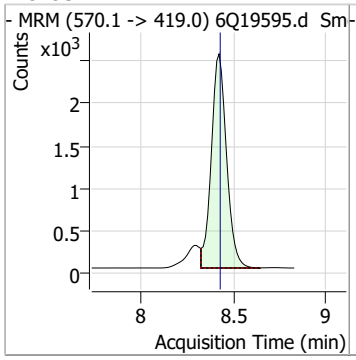
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.01	8.42	0.00	24962				

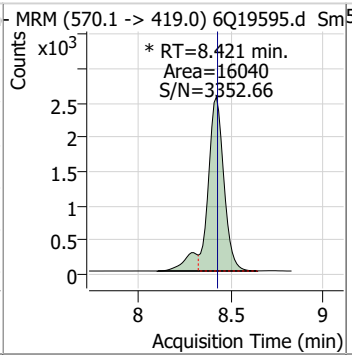


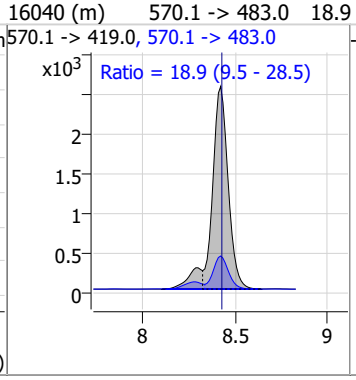


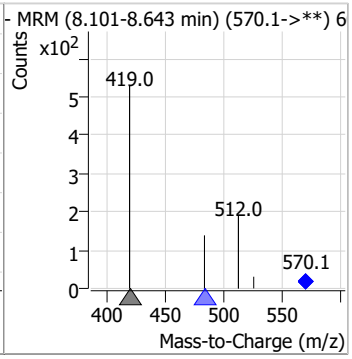


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.48	8.42	0.00	16040 (m)	570.1 -> 483.0	18.9	9.5	28.5

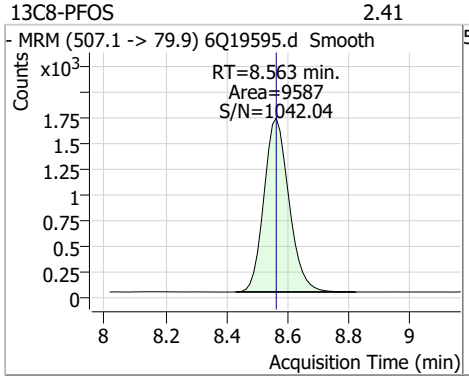


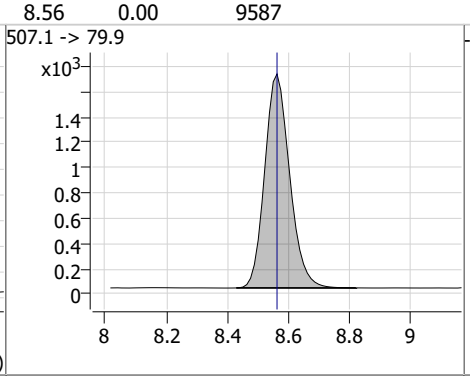


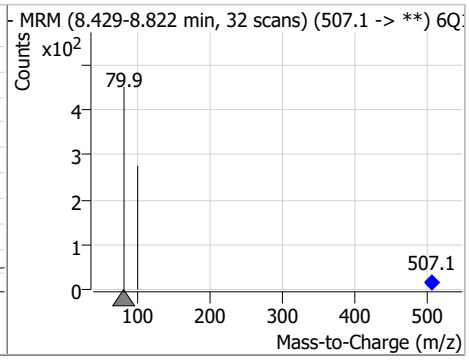




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.41	8.56	0.00	9587				

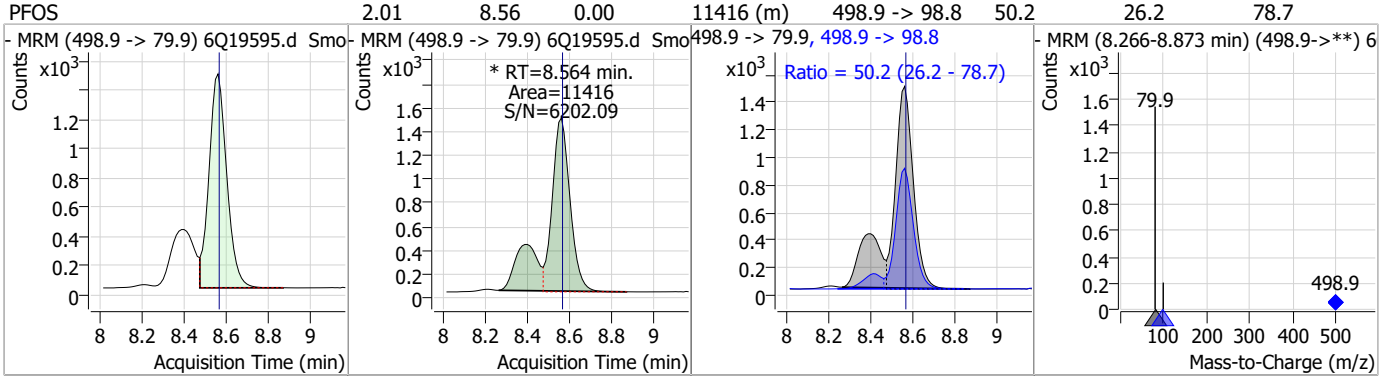




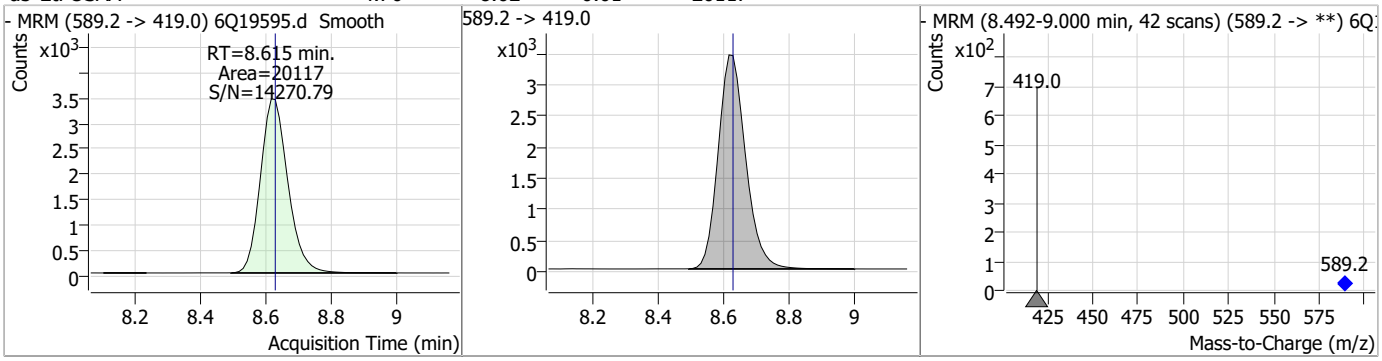


Perfluorinated Compounds by LC/MS/MS

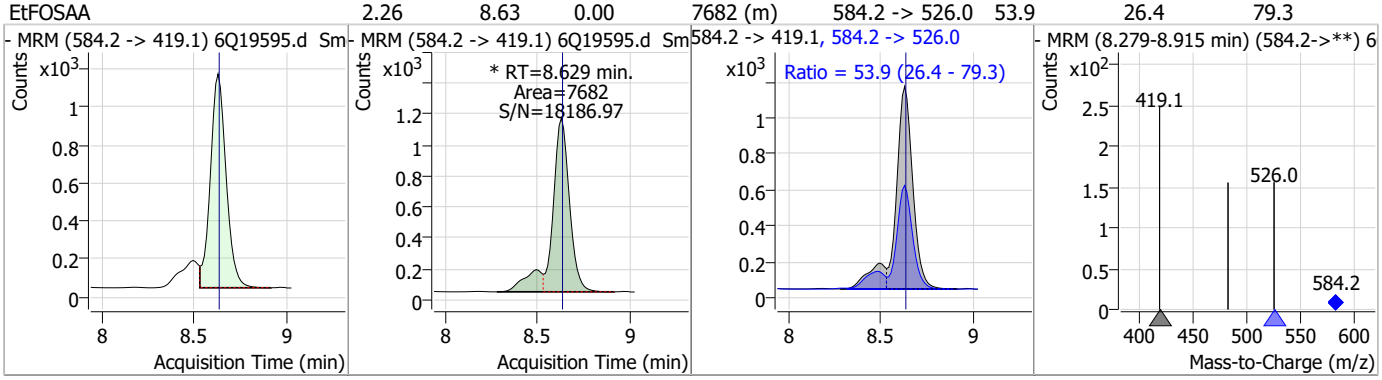
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.01	8.56	0.00	11416 (m)	498.9 -> 98.8	50.2	26.2	78.7



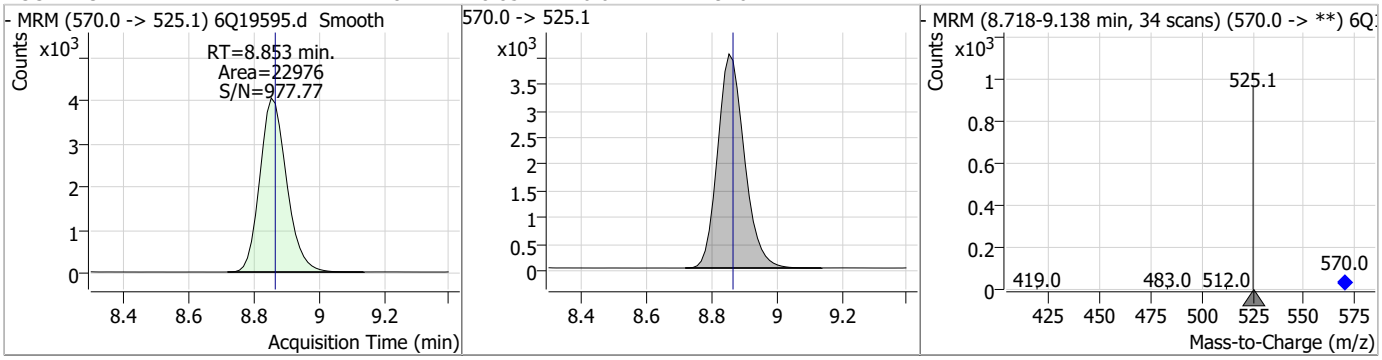
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.76	8.62	-0.01	20117				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.26	8.63	0.00	7682 (m)	584.2 -> 526.0	53.9	26.4	79.3

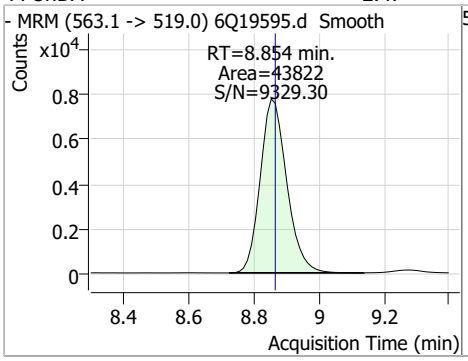


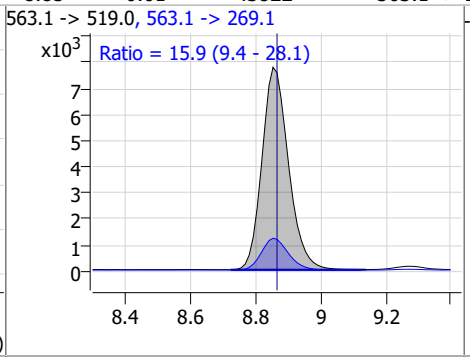
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.28	8.85	-0.01	22976				

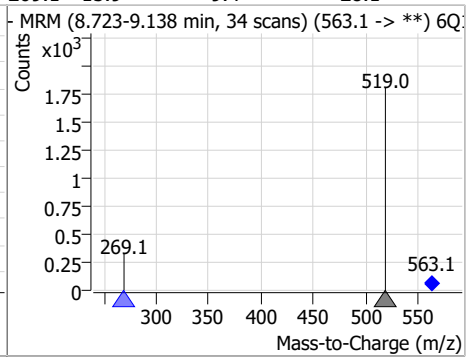


Perfluorinated Compounds by LC/MS/MS

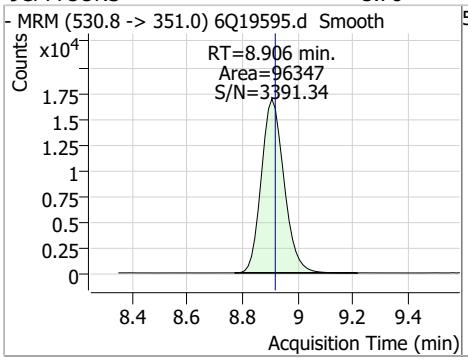
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.47	8.85	-0.01	43822	563.1 -> 269.1	15.9	9.4	28.1

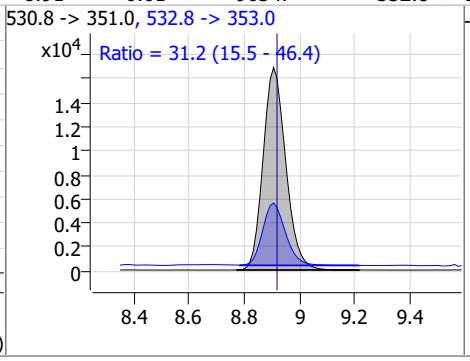


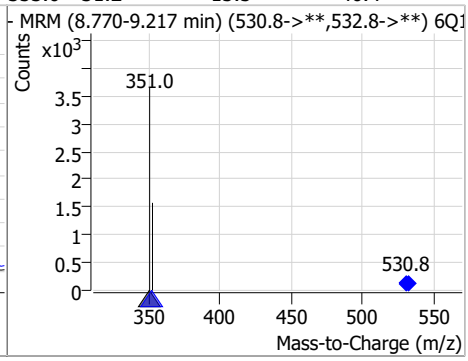




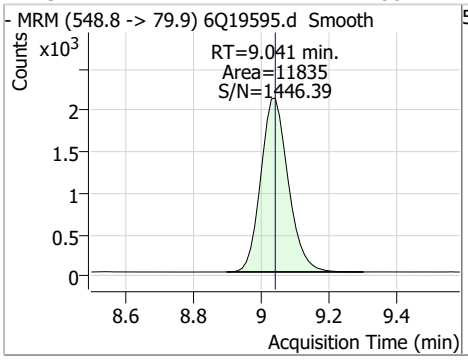
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	3.78	8.91	-0.01	96347	532.8 -> 353.0	31.2	15.5	46.4

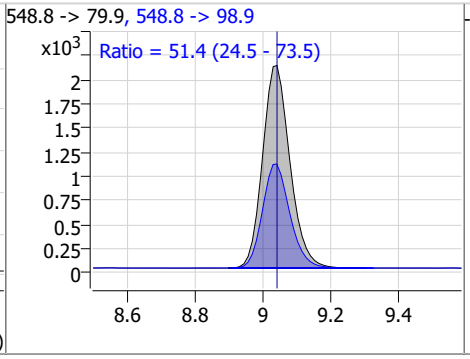


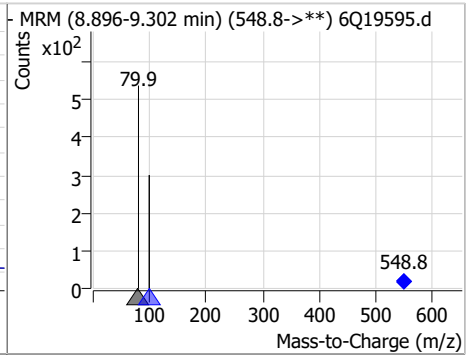




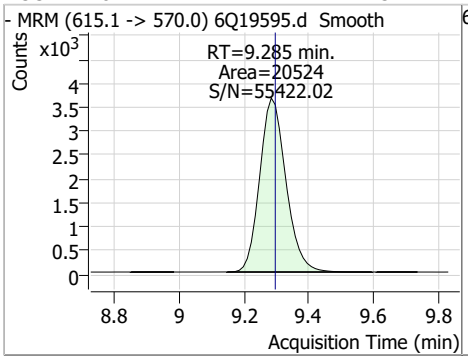
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.38	9.04	0.00	11835	548.8 -> 98.9	51.4	24.5	73.5

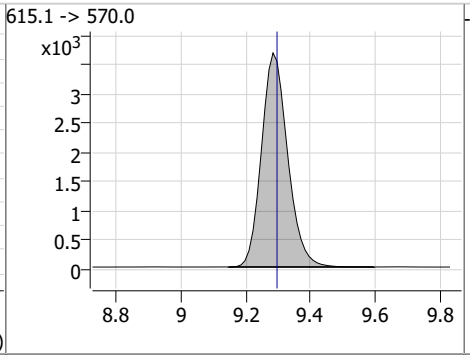


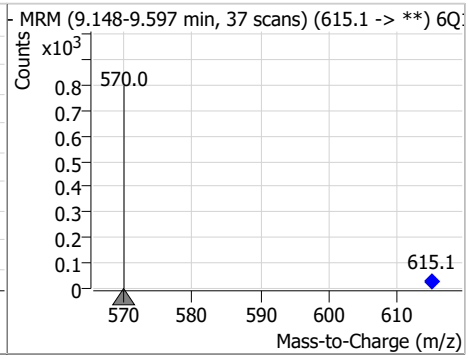




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.31	9.28	-0.01	20524				

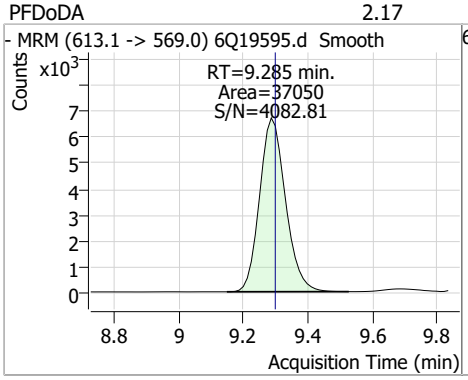


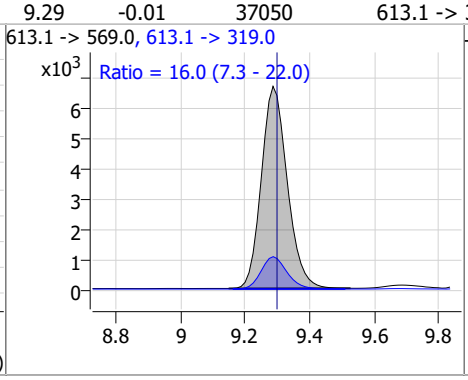


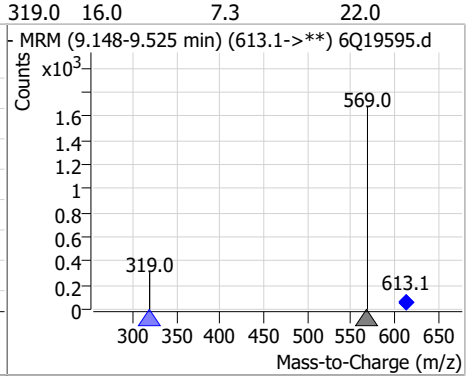


Perfluorinated Compounds by LC/MS/MS

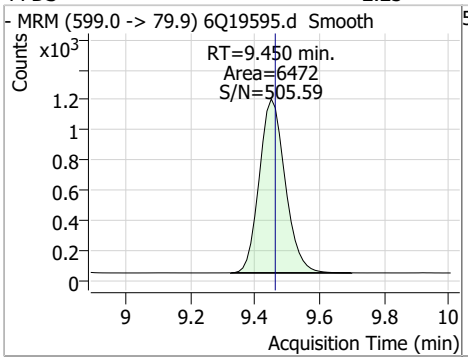
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.17	9.29	-0.01	37050	613.1 -> 319.0	16.0	7.3	22.0

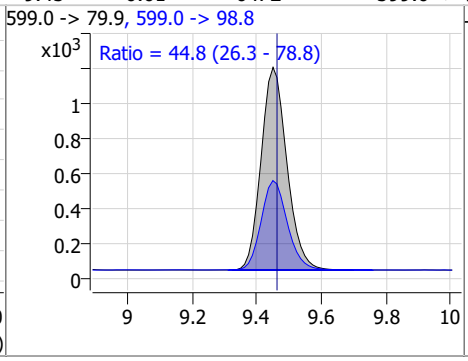


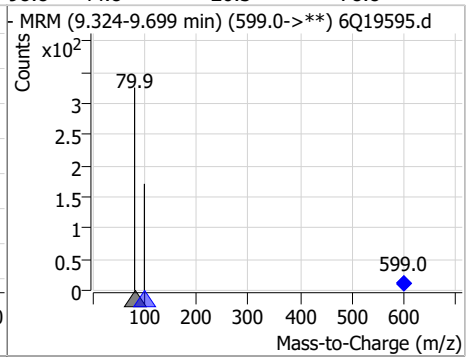




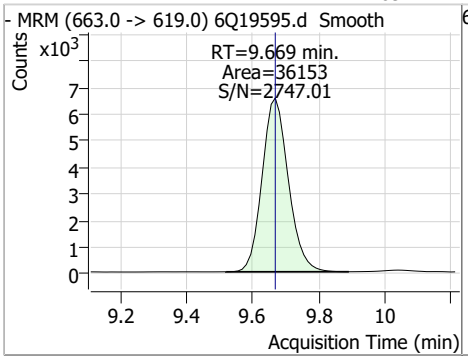
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.23	9.45	-0.01	6472	599.0 -> 98.8	44.8	26.3	78.8

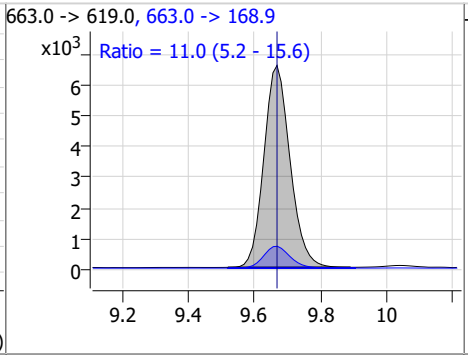


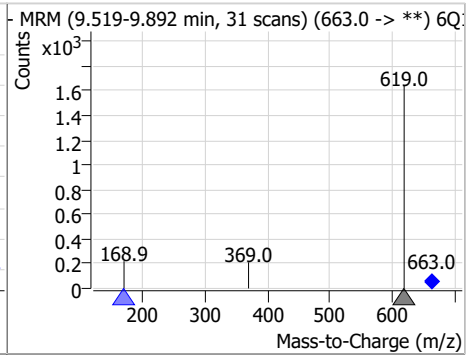




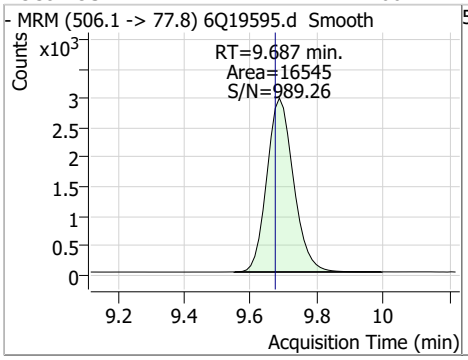
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.09	9.67	0.00	36153	663.0 -> 168.9	11.0	5.2	15.6

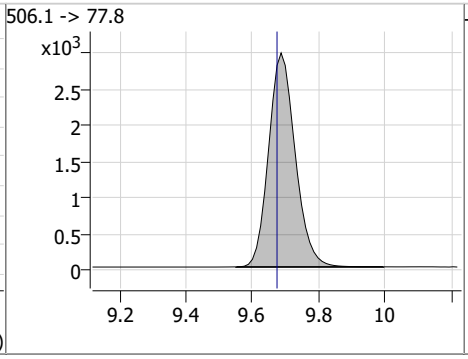


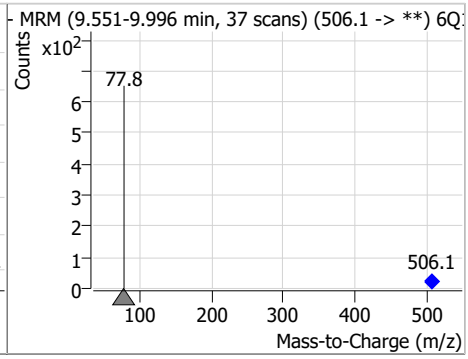




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.66	9.69	0.01	16545				

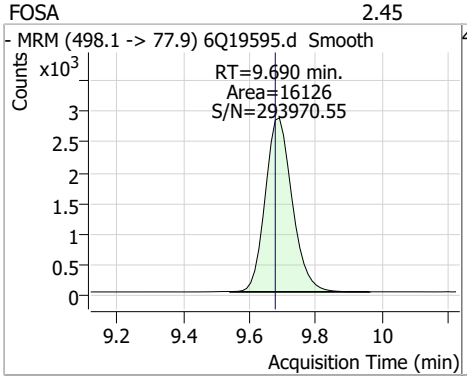


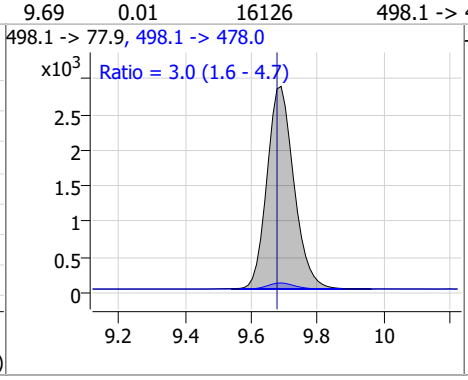


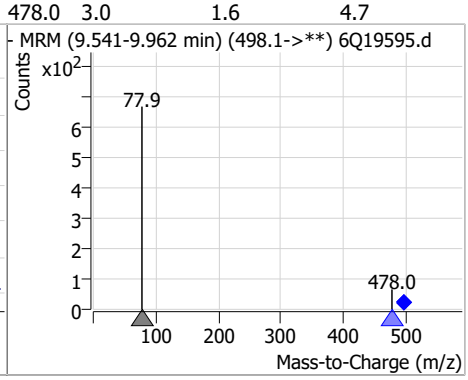


Perfluorinated Compounds by LC/MS/MS

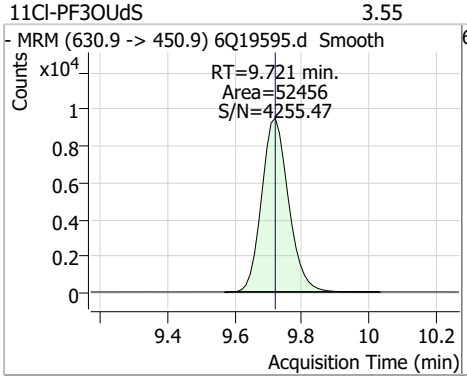
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.45	9.69	0.01	16126	498.1 -> 478.0	3.0	1.6	4.7

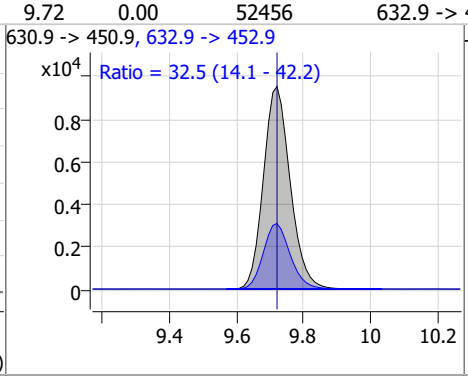


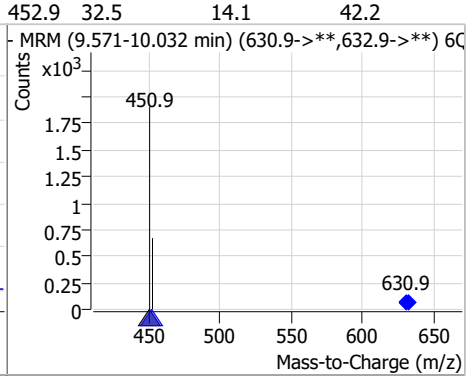




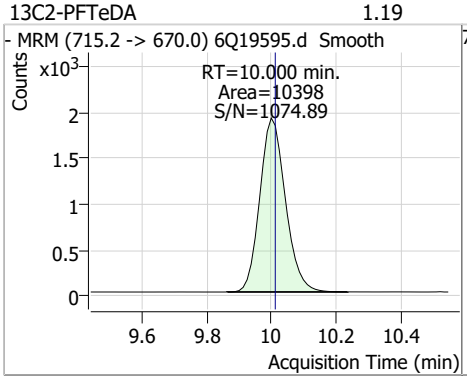
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	3.55	9.72	0.00	52456	632.9 -> 452.9	32.5	14.1	42.2

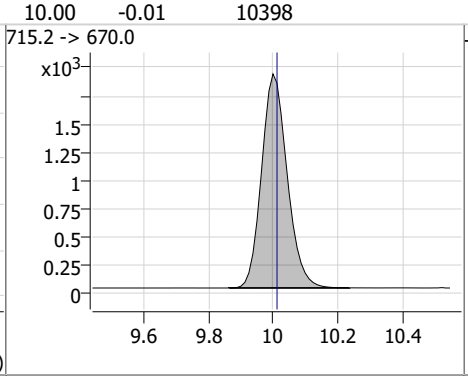


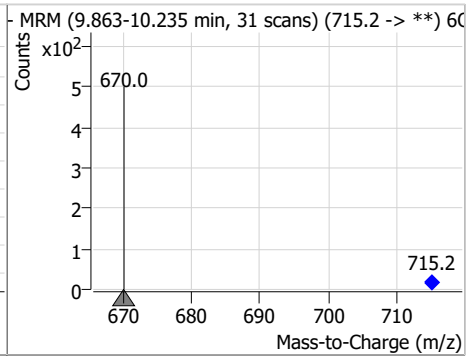




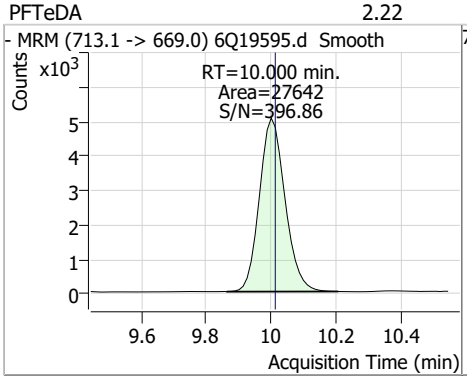
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.19	10.00	-0.01	10398				

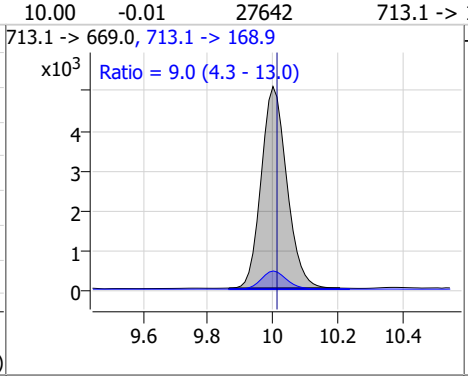


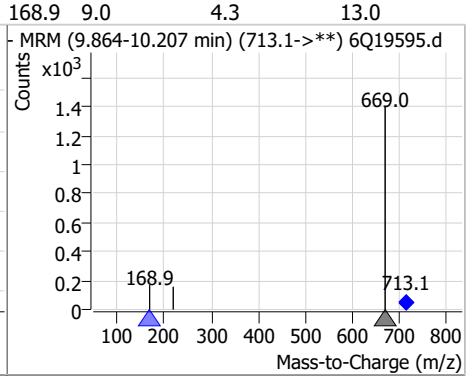




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.22	10.00	-0.01	27642	713.1 -> 168.9	9.0	4.3	13.0

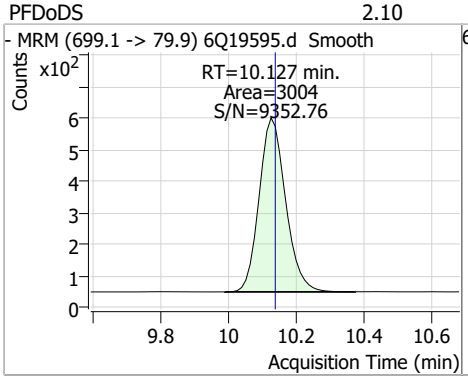


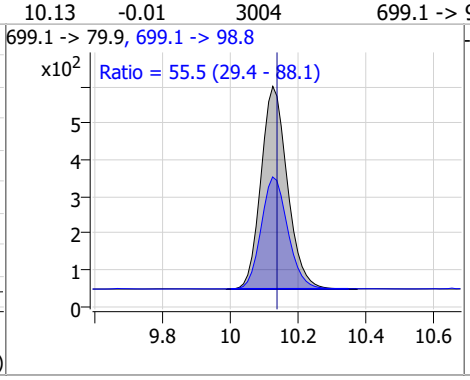


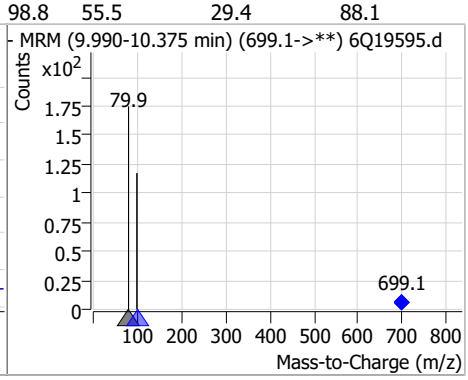


Perfluorinated Compounds by LC/MS/MS

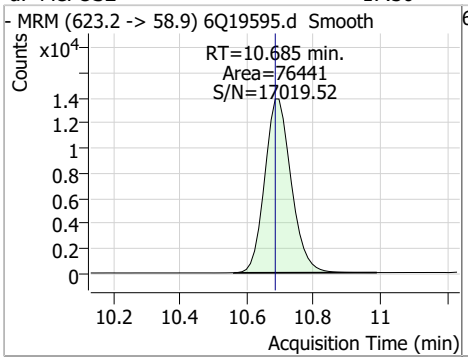
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.10	10.13	-0.01	3004	699.1 -> 98.8	55.5	29.4	88.1

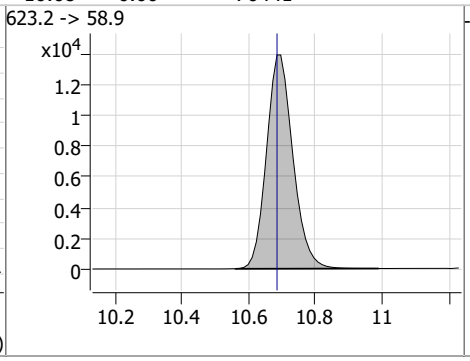


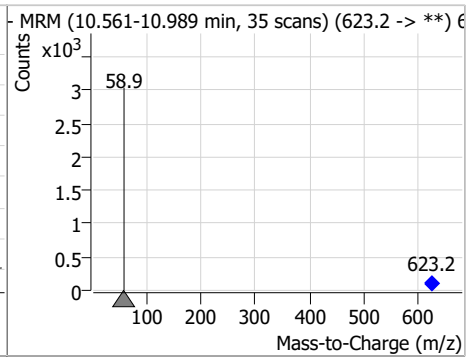




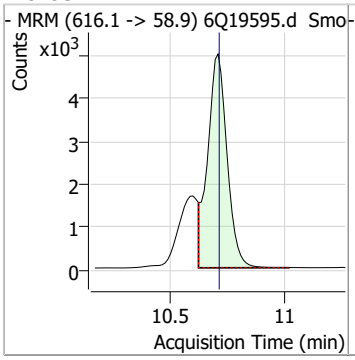
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	17.30	10.68	0.00	76441				

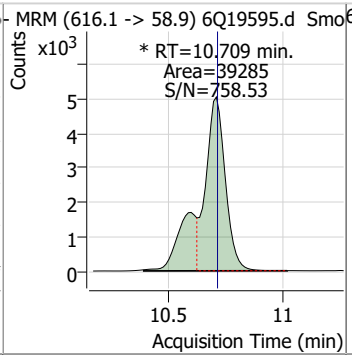


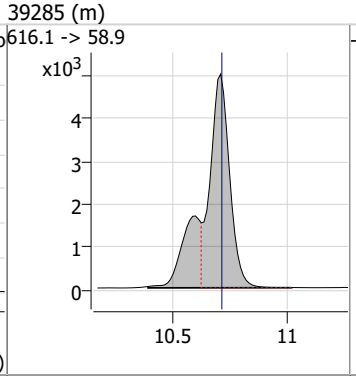


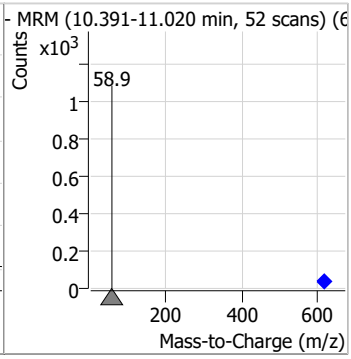


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	11.86	10.71	0.00	39285 (m)				

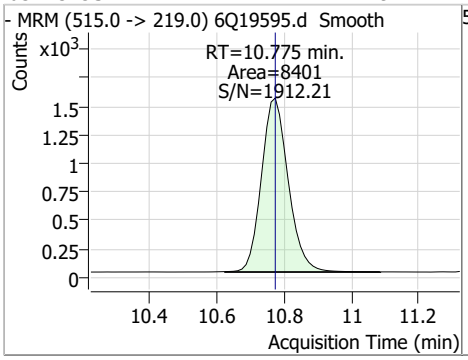


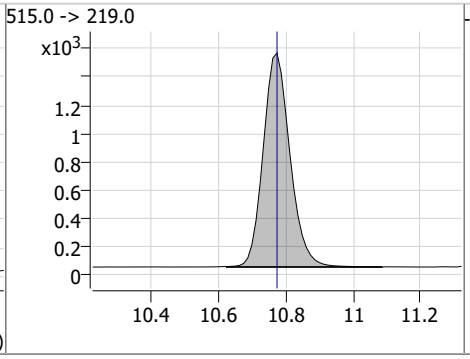


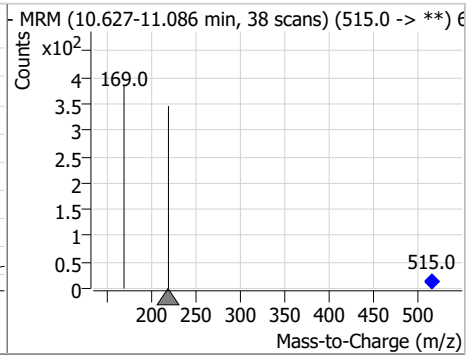




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.94	10.78	0.00	8401				

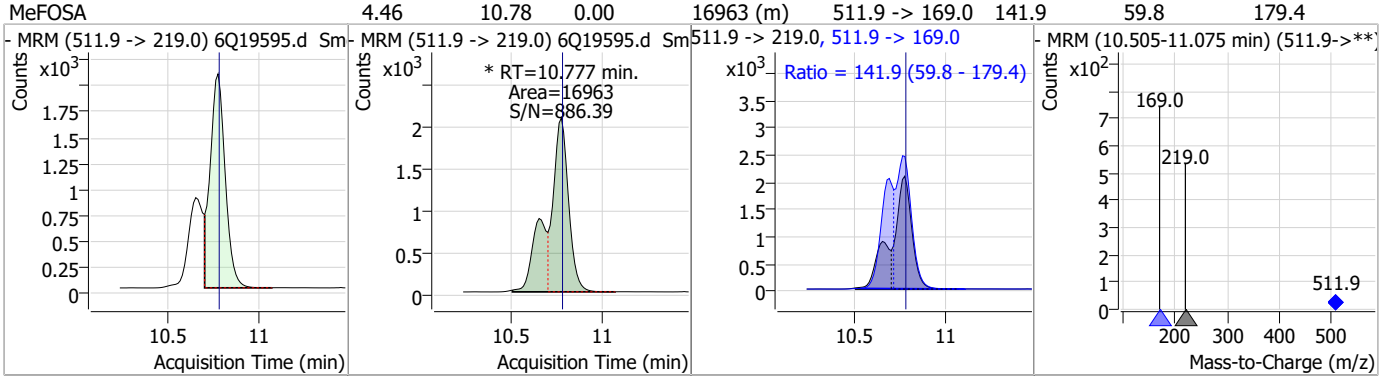




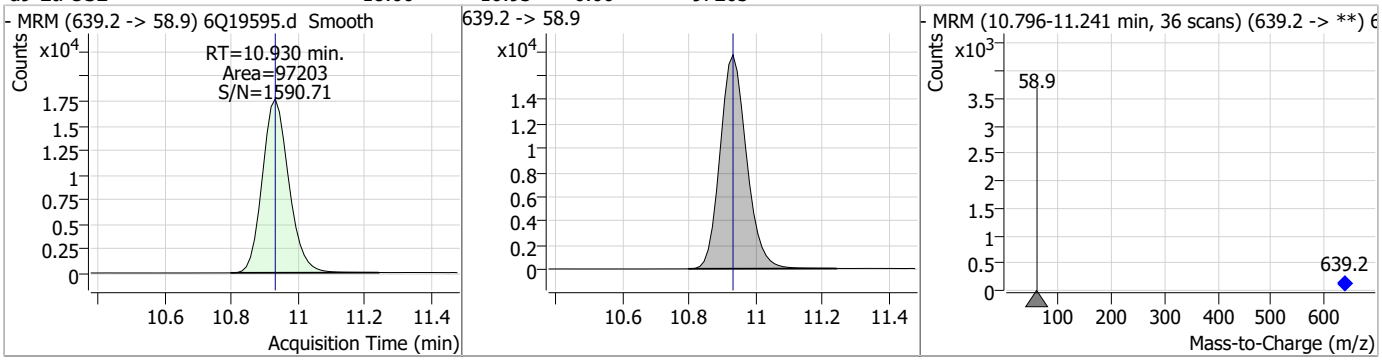


Perfluorinated Compounds by LC/MS/MS

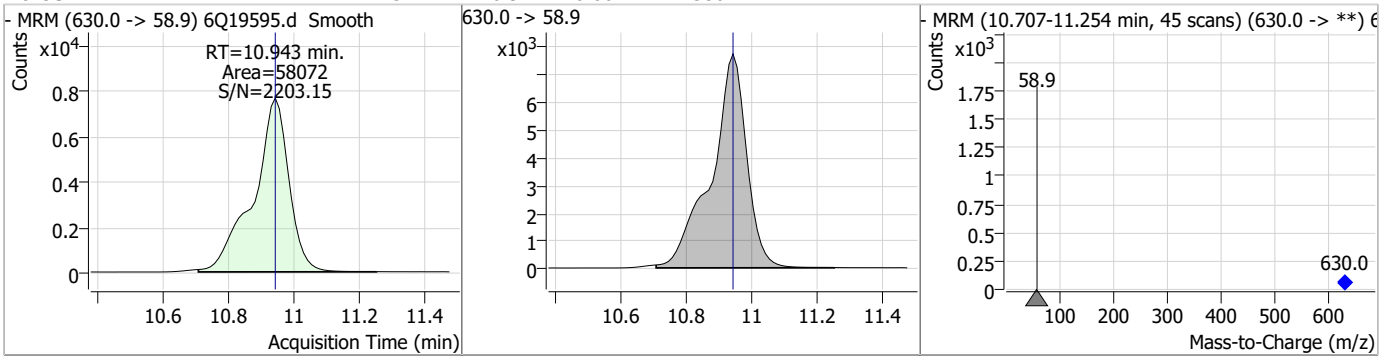
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.46	10.78	0.00	16963 (m)	511.9 -> 169.0	141.9	59.8	179.4



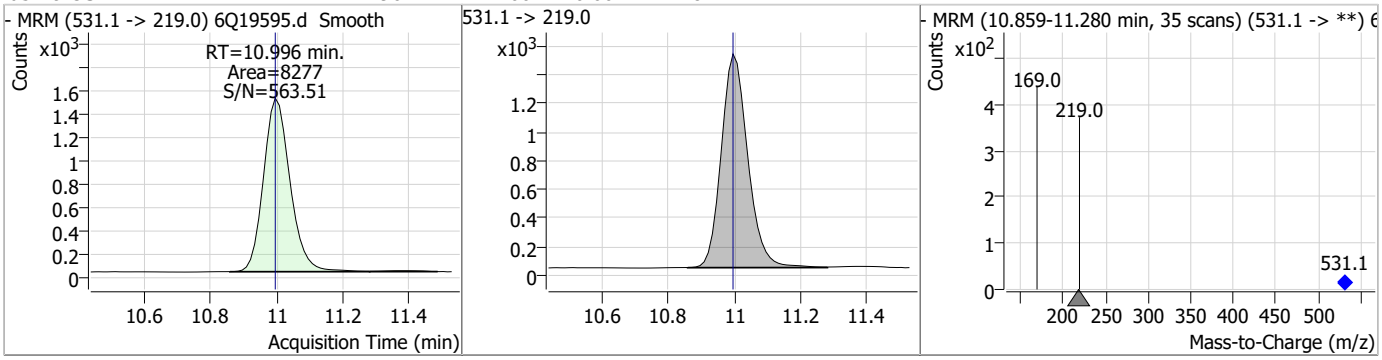
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	18.66	10.93	0.00	97203				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	11.54	10.94	0.00	58072				

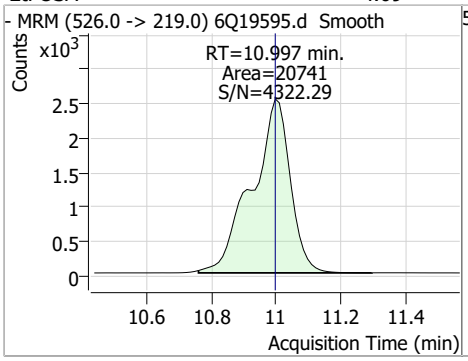


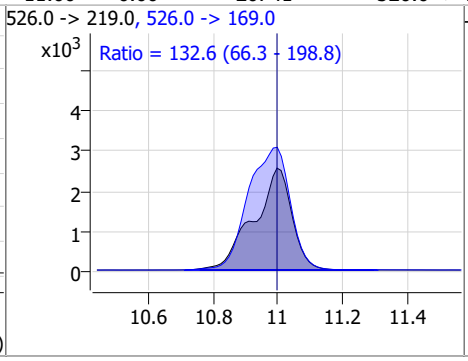
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.96	11.00	0.00	8277				

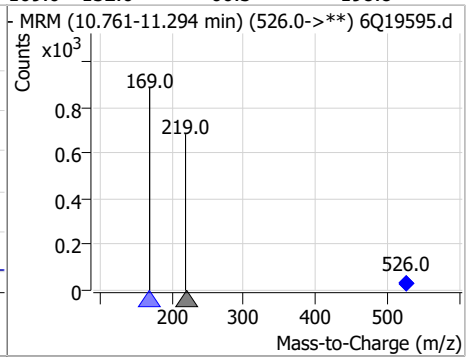


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.69	11.00	0.00	20741	526.0 -> 169.0	132.6	66.3	198.8







Manual Integration Approval Summary

Sample Number: OP97385-BS
Lab FileID: 6Q19595.D
Injection Time: 06/20/23 08:32
Method: EPA DRAFT 1633
Analyst approved: 06/20/23 14:08 Martha Valls
Supervisor approved: 06/20/23 17:48 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Norman Farmer 06/20/23 17:48

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19596.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 8:46:55 AM
Sample Name : op97385-llbs:3
Vial : P2-D6
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97385,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	142613	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	46384	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	46423	2.50	µg/L	0.000
M4-PFHpA	6.720	367.1 -> 322.0	44036	2.50	µg/L	0.012
M8-PFOA	7.352	421.1 -> 376.0	73400	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	33439	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	19006	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	23801	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	20618	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	9527	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	18996	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	18388	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11038	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	10785	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3083	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4243	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4251	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	24489	5.00	µg/L	0.000
M3-HFPO-DA	6.181	286.9 -> 168.9	32891	10.00	µg/L	0.012
M5-EtFOSAA	8.628	589.2 -> 419.0	21182	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	71001	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	105105	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	8438	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	8193	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	14608	2.50	µg/L	0.000
13C3-PFBA	3.101	216.0 -> 172.0	59769	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	7951	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	75829	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	24505	1.25	µg/L	0.000
13C5-PFNA	7.895	468.0 -> 423.0	43484	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	46952	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3083	6.46	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 129.2%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4243	5.89	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.8%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4251	6.27	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 125.5%		
13C2-PFDoDA	9.285	615.1 -> 570.0	20618	1.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.7%		
13C2-PFTeDA	10.000	715.2 -> 670.0	9527	1.04	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 83.4%		
13C3-PFBS	5.746	302.1 -> 79.9	18388	2.78	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.1%		
13C3-PFHxS	7.478	402.1 -> 79.9	11038	2.64	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.7%		
13C4-PFBA	3.097	216.8 -> 171.9	142613	10.17 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.7%		
13C4-PFHpA	6.720	367.1 -> 322.0	44036	2.43 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%		
13C5-PFHxA	5.792	318.0 -> 273.0	46423	2.40 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.8%		
13C5-PFPeA	4.560	268.3 -> 223.0	46384	5.22 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.5%		
13C6-PFDA	8.387	519.1 -> 474.1	19006	1.35 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.1%		
13C7-PFUnDA	8.853	570.0 -> 525.1	23801	1.26 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.1%		
13C8-FOSA	9.687	506.1 -> 77.8	18996	1.72 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 68.7%		
13C8-PFOA	7.352	421.1 -> 376.0	73400	2.59 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.6%		
13C8-PFOS	8.563	507.1 -> 79.9	10785	2.45 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.8%		
13C9-PFNA	7.895	472.1 -> 427.0	33439	1.26 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.1%		
d3-MeFOSAA	8.420	573.2 -> 419.0	24489	4.43 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.6%		
13C3-HFPO-DA	6.181	286.9 -> 168.9	32891	10.14 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.4%		
d3-MeFOSA	10.775	515.0 -> 219.0	8193	1.70 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 68.2%		
d5-EtFOSAA	8.628	589.2 -> 419.0	21182	4.52 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.3%		
d7-MeFOSE	10.696	623.2 -> 58.9	71001	14.49 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 57.9%		
d9-EtFOSE	10.930	639.2 -> 58.9	105105	18.19 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 72.8%		
d5-EtFOSA	10.996	531.1 -> 219.0	8438	1.80 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 71.9%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	12349	2.30 µg/L		95
		327.1 -> 80.9	4986			
6:2FTS	7.113	427.1 -> 407.0	13672	2.71 µg/L		99
		427.1 -> 80.9	4513			
8:2FTS	8.164	527.1 -> 507.0	6516	2.31 µg/L		95
		527.1 -> 80.8	2788			
EtFOSAA	8.629	584.2 -> 419.1	2394	0.67 µg/L	m	91
		584.2 -> 526.0	1120			
FOSA	9.690	498.1 -> 77.9	4960	0.66 µg/L		96
		498.1 -> 478.0	213			
MeFOSAA	8.421	570.1 -> 419.0	4263	0.67 µg/L	m	95
		570.1 -> 483.0	711			
PFBA	3.106	212.8 -> 168.9	15473	2.69 µg/L		100
PFBS	5.747	298.7 -> 79.9	4668	0.57 µg/L		97
		298.7 -> 98.8	1858			
PFDA	8.388	512.9 -> 469.0	20735	0.73 µg/L		93
		512.9 -> 219.0	2645			
PFDoDA	9.285	613.1 -> 569.0	10783	0.63 µg/L		96
		613.1 -> 319.0	1730			
PFDS	9.450	599.0 -> 79.9	1961	0.60 µg/L		89

Perfluorinated Compounds by LC/MS/MS

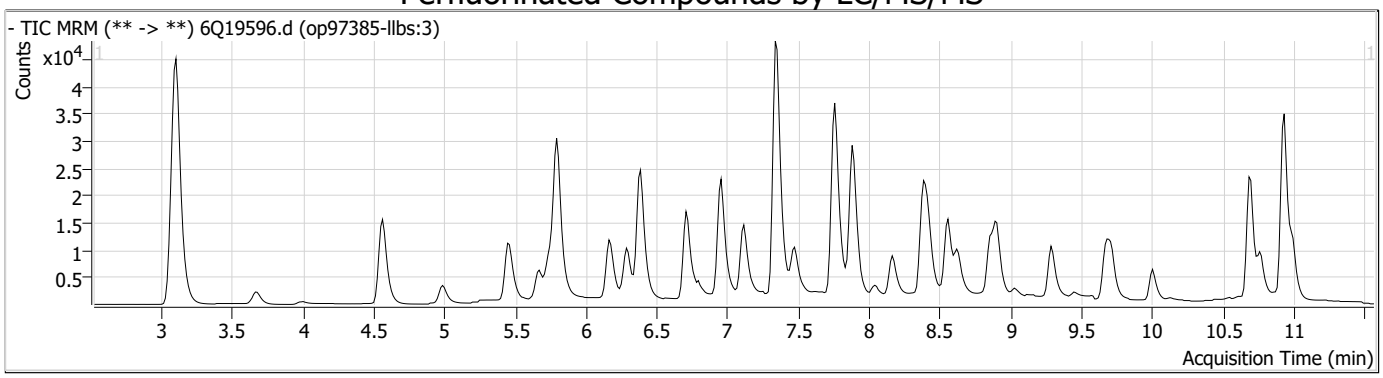
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	874				
PFHpA	6.720	363.1 -> 319.0	15521	0.66	µg/L		100
		363.1 -> 169.0	2344				
PFHpS	8.046	449.0 -> 79.9	4183	0.65	µg/L		92
		449.0 -> 98.9	1893				
PFHxA	5.795	313.0 -> 269.0	13709	0.73	µg/L		100
		313.0 -> 118.9	711				
PFHxS	7.479	398.7 -> 79.9	3904	0.59	µg/L	m	96
		398.7 -> 98.9	1869				
PFNA	7.896	463.0 -> 419.0	18390	0.59	µg/L		99
		463.0 -> 219.0	3556				
PFNS	9.041	548.8 -> 79.9	3238	0.58	µg/L		99
		548.8 -> 98.9	1611				
PFOA	7.353	413.0 -> 369.0	24765	0.61	µg/L		100
		413.0 -> 169.0	4145				
PFOS	8.564	498.9 -> 79.9	3584	0.56	µg/L	m	99
		498.9 -> 98.8	1848				
PFPeA	4.563	263.0 -> 219.0	18046	1.32	µg/L		100
PFPeS	6.785	349.1 -> 79.9	4055	0.66	µg/L		93
		349.1 -> 98.9	1759				
PFTeDA	10.000	713.1 -> 669.0	8557	0.75	µg/L		98
		713.1 -> 168.9	675				
PFTrDA	9.669	663.0 -> 619.0	10804	0.62	µg/L		99
		663.0 -> 168.9	1182				
PFUnDA	8.866	563.1 -> 519.0	13070	0.71	µg/L		93
		563.1 -> 269.1	2032				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	17097	1.14	µg/L		100
		632.9 -> 452.9	4862				
9Cl-PF3ONS	8.906	530.8 -> 351.0	28603	1.11	µg/L		97
		532.8 -> 353.0	8432				
ADONA	6.959	376.9 -> 250.9	62671	1.18	µg/L		98
		376.9 -> 84.8	17598				
HFPO-DA	6.182	284.9 -> 168.9	4583	1.33	µg/L		96
		284.9 -> 184.9	600				
3:3FTCA	3.983	241.0 -> 177.0	1814	1.96	µg/L		97
		241.0 -> 117.0	264				
5:3FTCA	6.386	341.0 -> 237.1	55920	15.02	µg/L		99
		341.0 -> 217.0	41385				
7:3FTCA	7.761	441.0 -> 316.9	40733	16.18	µg/L		93
		441.0 -> 336.9	96637				
EtFOSA	10.997	526.0 -> 219.0	6071	1.35	µg/L		100
		526.0 -> 169.0	8068				
EtFOSE	10.943	630.0 -> 58.9	19043	3.50	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	4853	1.31	µg/L	m	77
		511.9 -> 169.0	7030				
MeFOSE	10.709	616.1 -> 58.9	11169	3.63	µg/L		100
PFDoDS	10.127	699.1 -> 79.9	951	0.59	µg/L		81
		699.1 -> 98.8	426				
NFDHA	5.673	295.0 -> 201.0	3241	1.35	µg/L		100
		295.0 -> 84.9	872				
PFMBA	4.988	279.0 -> 85.1	13035	1.34	µg/L		100
PFMPA	3.680	229.0 -> 84.9	10358	1.36	µg/L		100
PFEESA	6.301	314.8 -> 134.9	31036	1.23	µg/L		99
		314.8 -> 82.9	1174				

 # = Qualifier out of range, m = manually integrated, + = Area summed

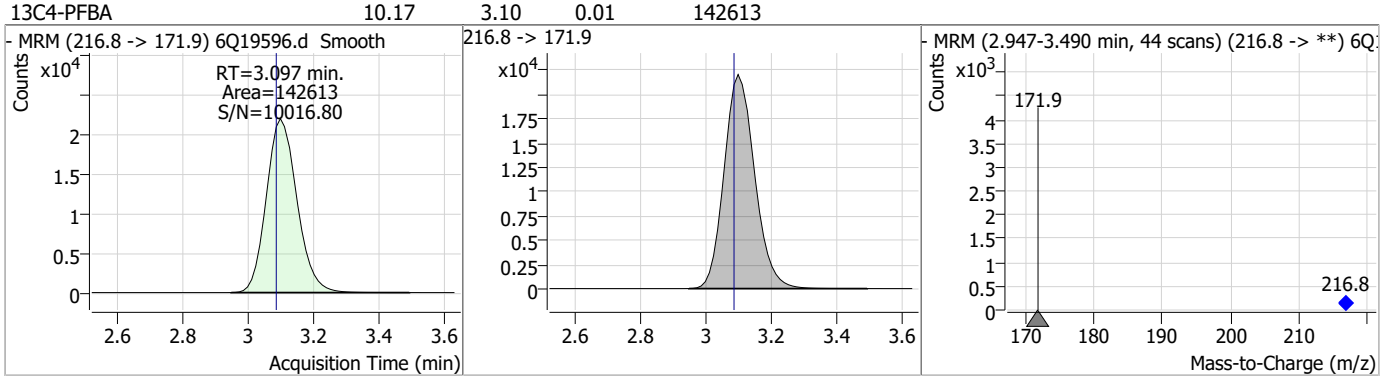
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

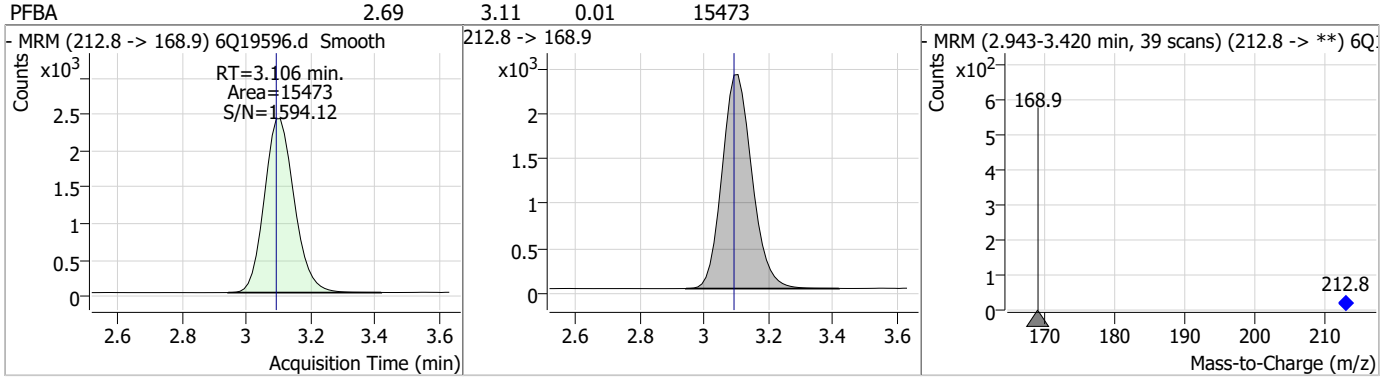
Perfluorinated Compounds by LC/MS/MS



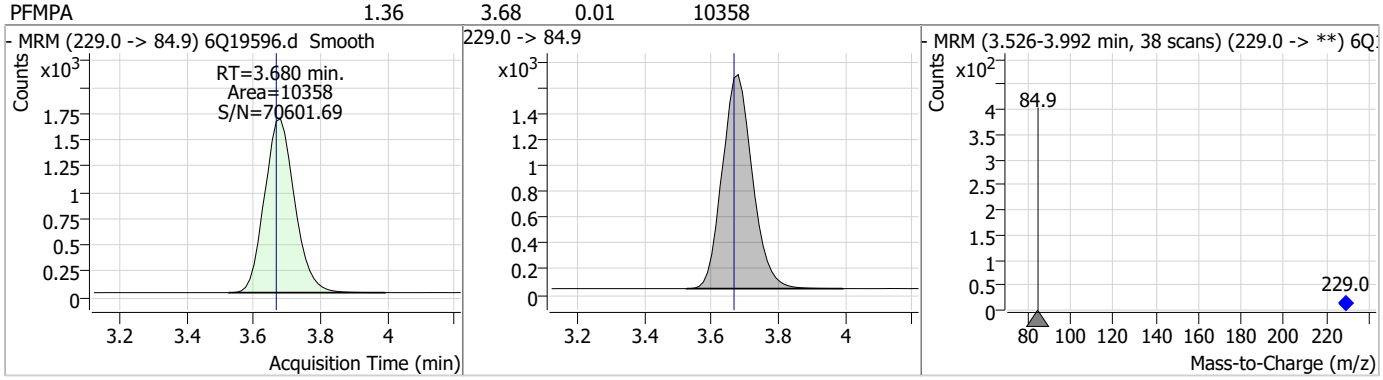
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.17	3.10	0.01	142613				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	2.69	3.11	0.01	15473				

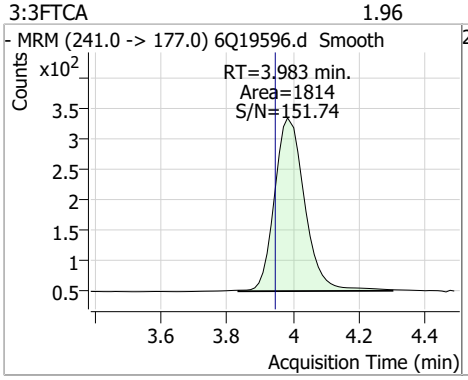


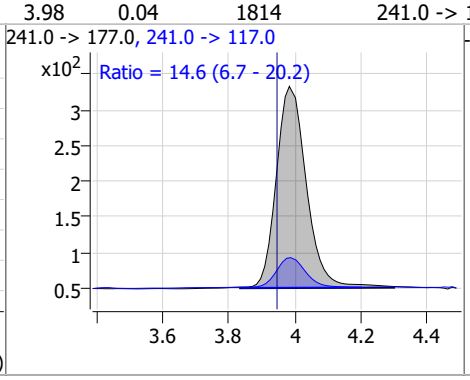
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	1.36	3.68	0.01	10358				

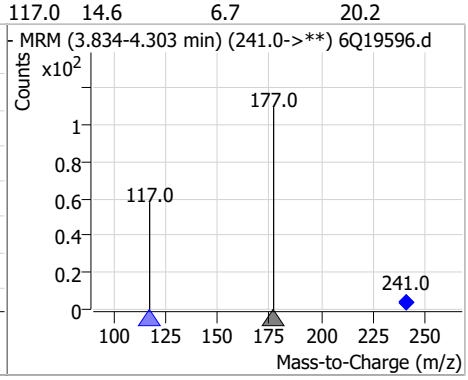


Perfluorinated Compounds by LC/MS/MS

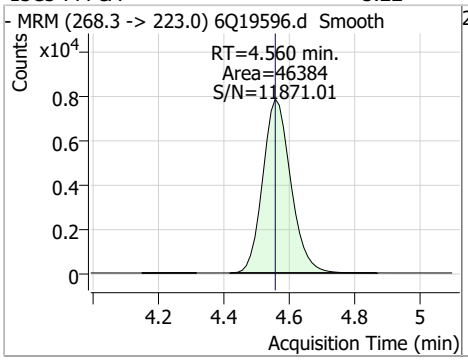
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.96	3.98	0.04	1814	241.0 -> 117.0	14.6	6.7	20.2

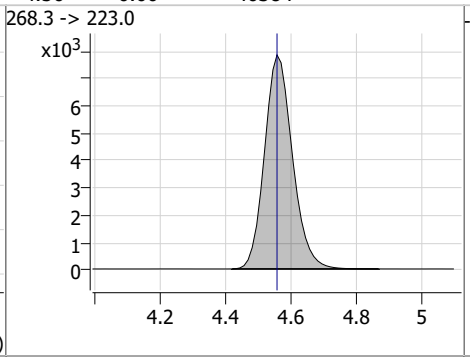


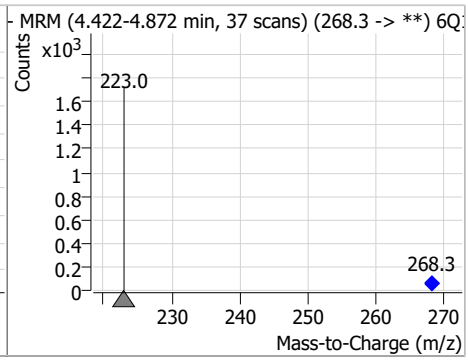




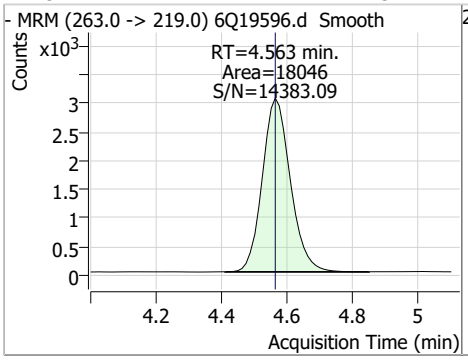
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.22	4.56	0.00	46384				

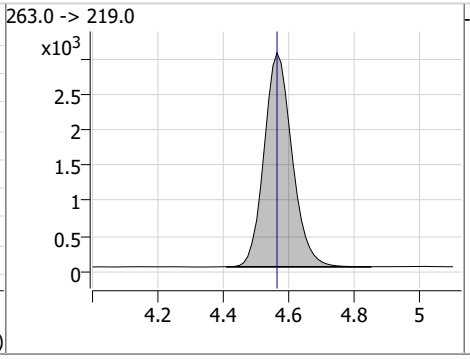


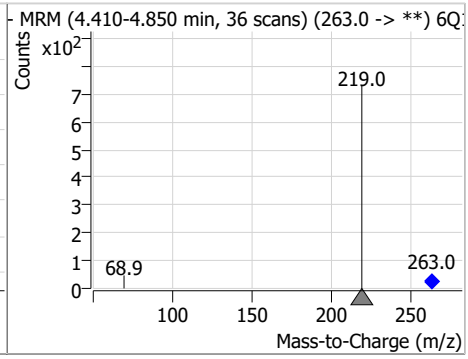




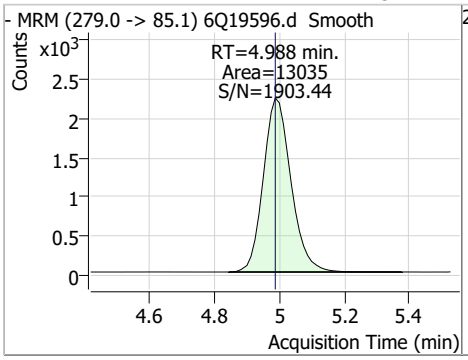
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	1.32	4.56	0.00	18046				

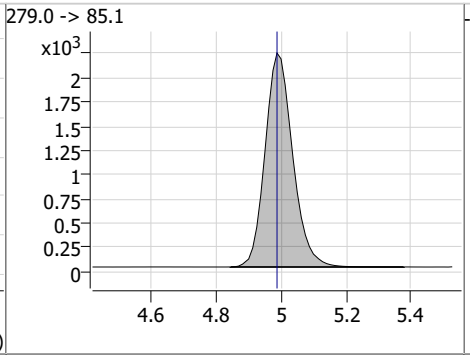


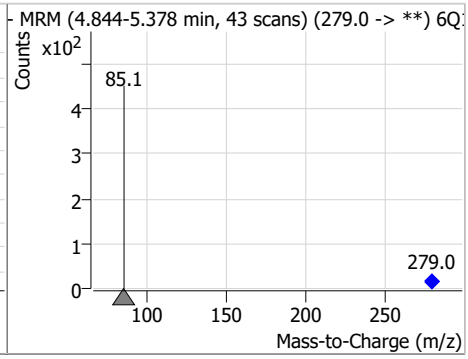




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	1.34	4.99	0.00	13035				

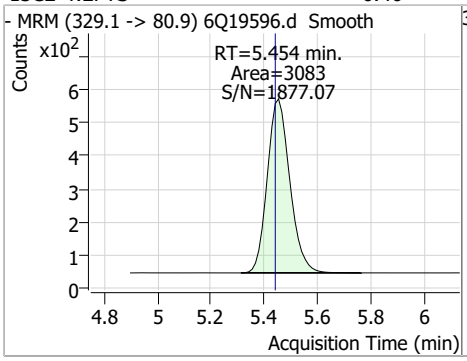


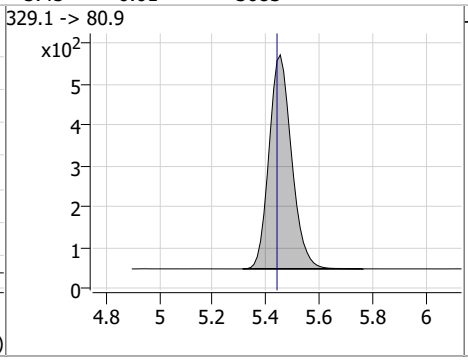


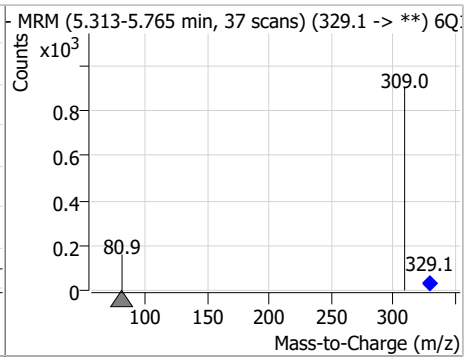


Perfluorinated Compounds by LC/MS/MS

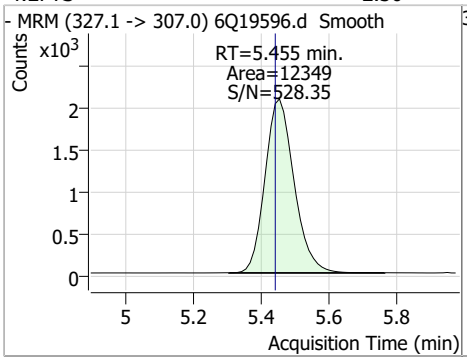
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.46	5.45	0.01	3083				

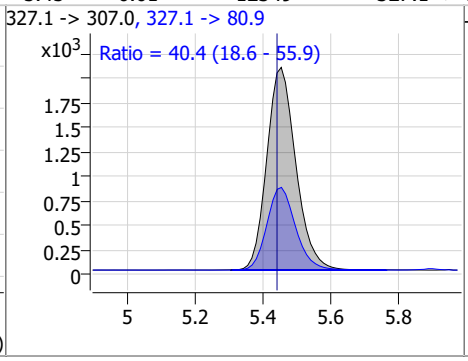


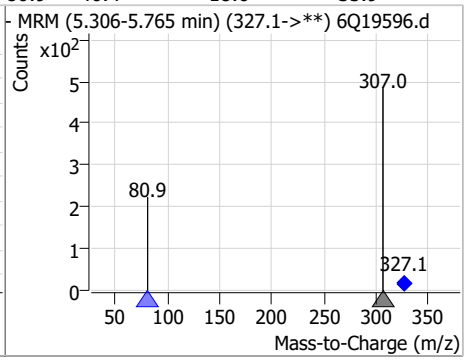




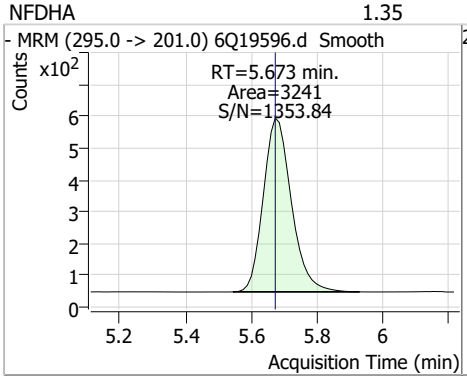
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	2.30	5.45	0.01	12349	327.1 -> 80.9	40.4	18.6	55.9

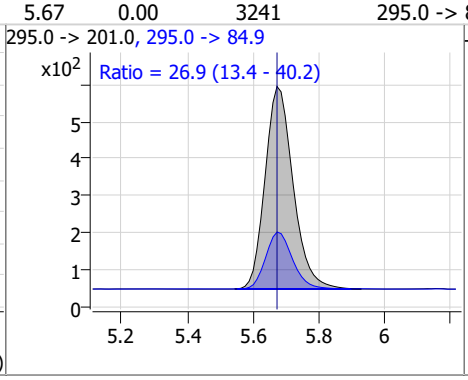


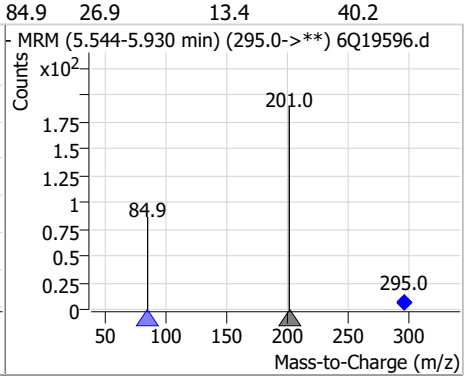




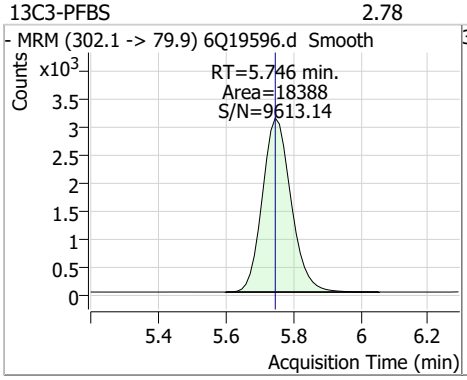
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	1.35	5.67	0.00	3241	295.0 -> 84.9	26.9	13.4	40.2

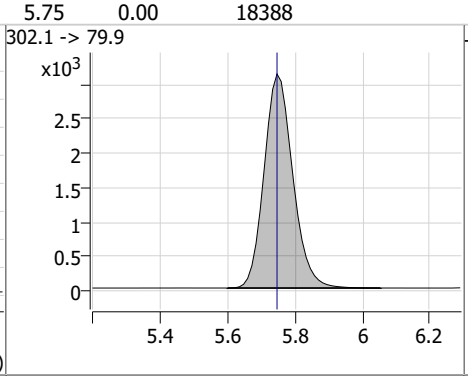


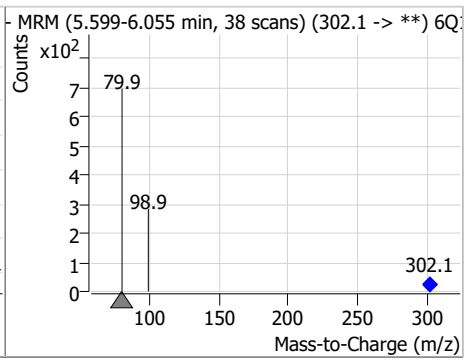




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.78	5.75	0.00	18388				

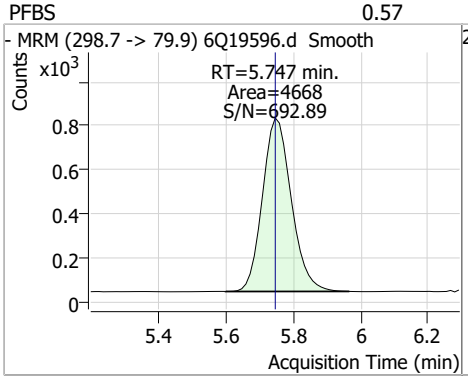


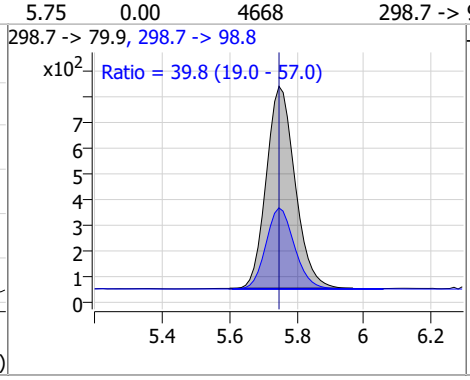


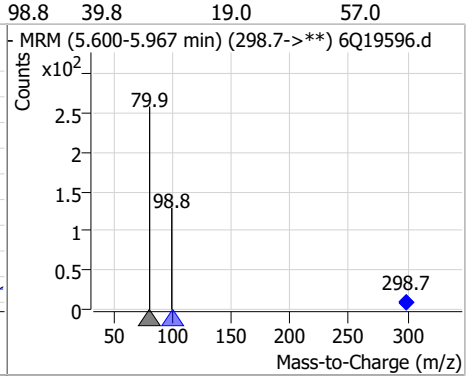


Perfluorinated Compounds by LC/MS/MS

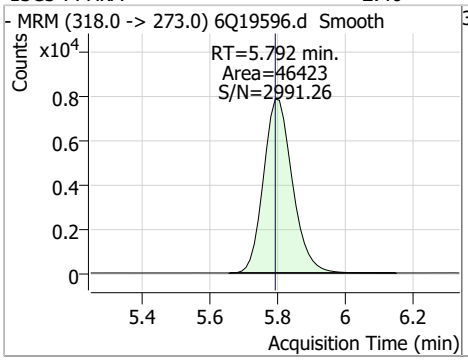
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.57	5.75	0.00	4668	298.7 -> 98.8	39.8	19.0	57.0

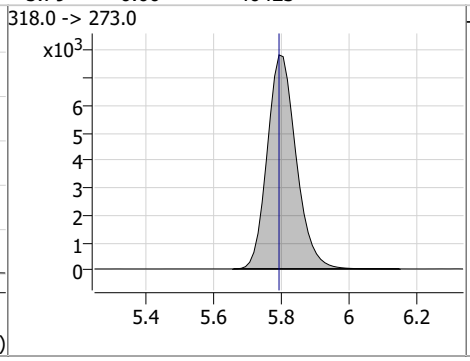


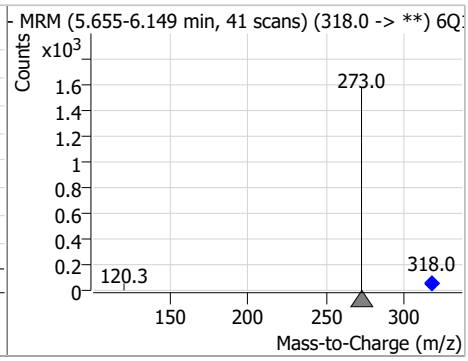




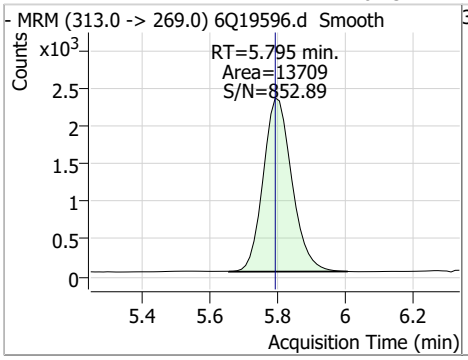
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.40	5.79	0.00	46423				

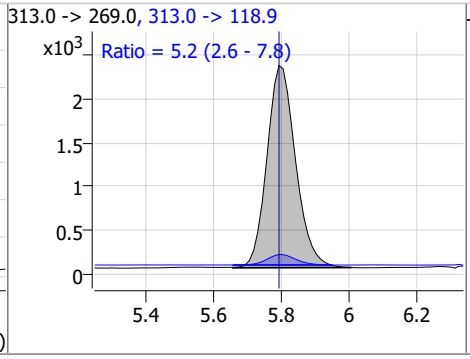


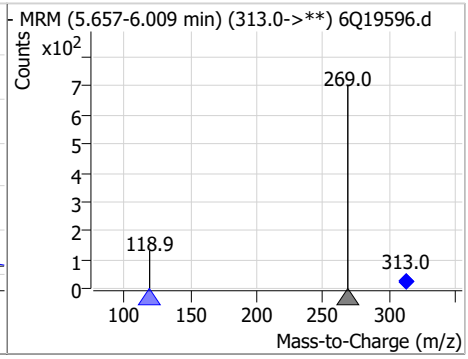




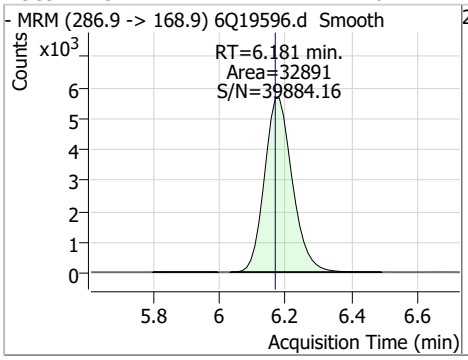
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.73	5.79	0.00	13709	313.0 -> 118.9	5.2	2.6	7.8

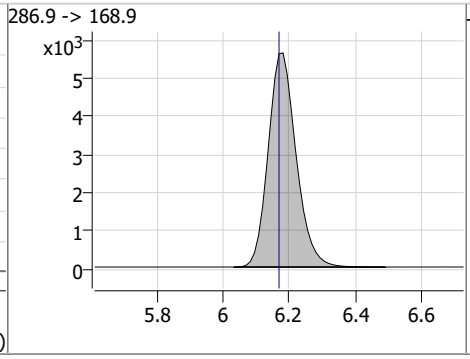


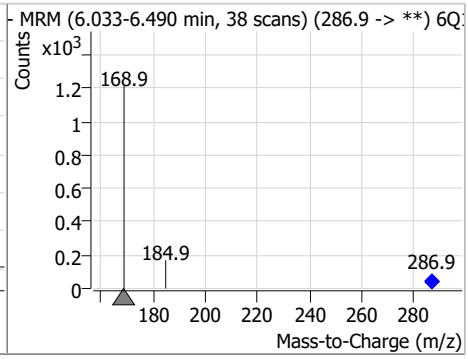




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.14	6.18	0.01	32891				

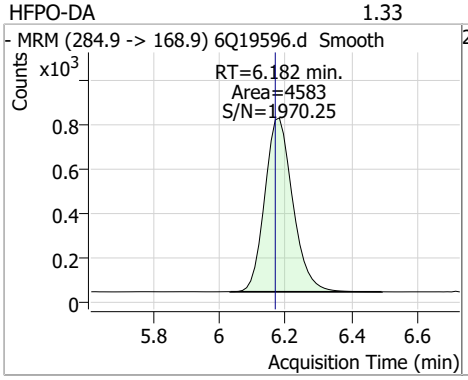


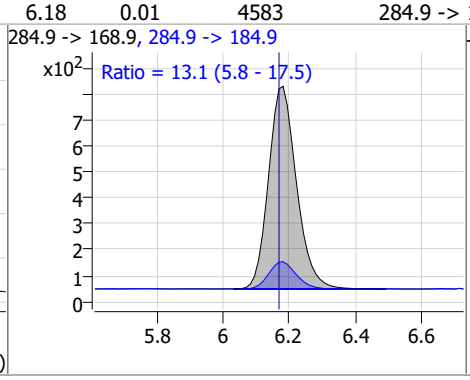


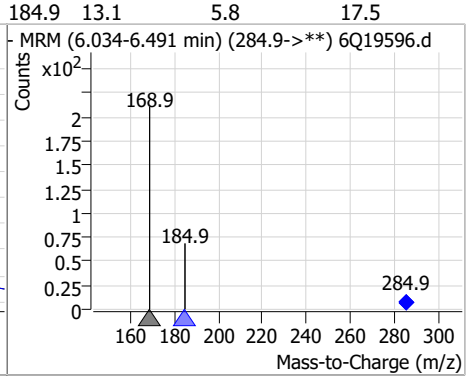


Perfluorinated Compounds by LC/MS/MS

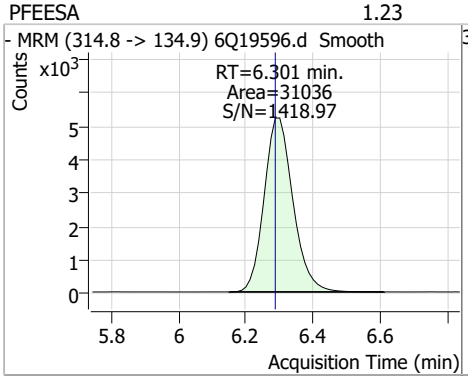
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	1.33	6.18	0.01	4583	284.9 -> 184.9	13.1	5.8	17.5

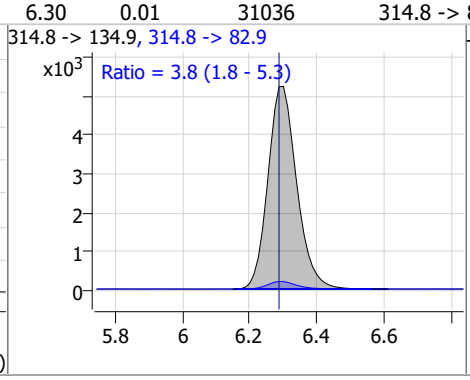


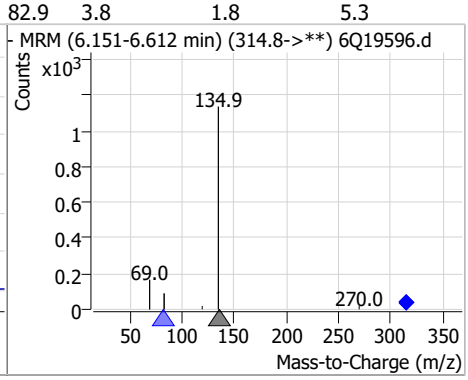




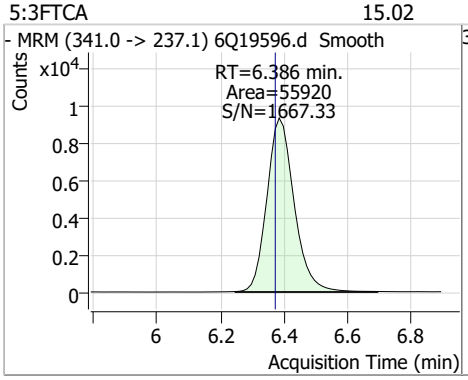
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	1.23	6.30	0.01	31036	314.8 -> 82.9	3.8	1.8	5.3

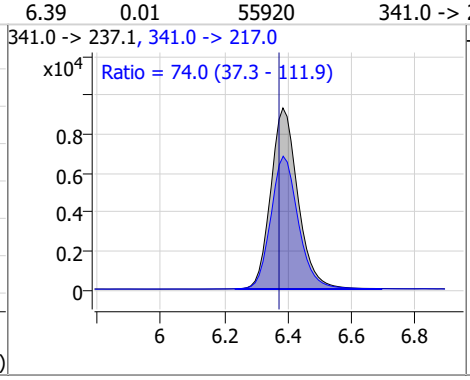


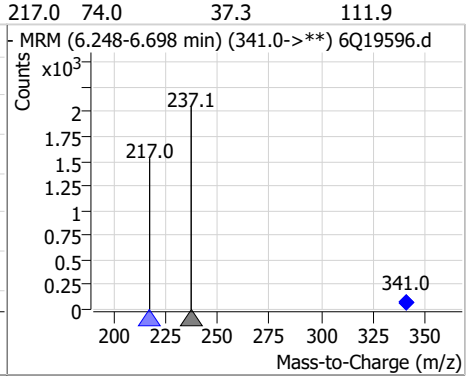




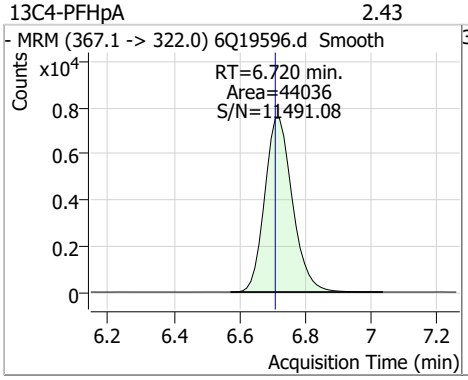
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	15.02	6.39	0.01	55920	341.0 -> 217.0	74.0	37.3	111.9

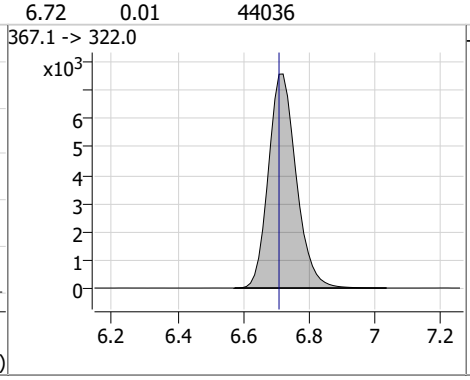


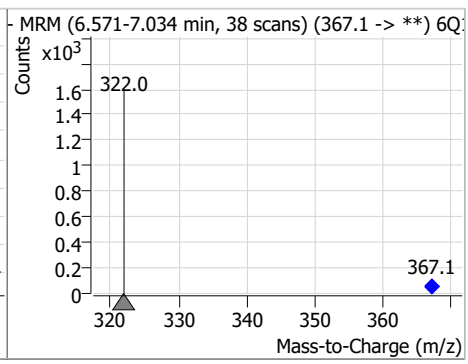




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.43	6.72	0.01	44036				

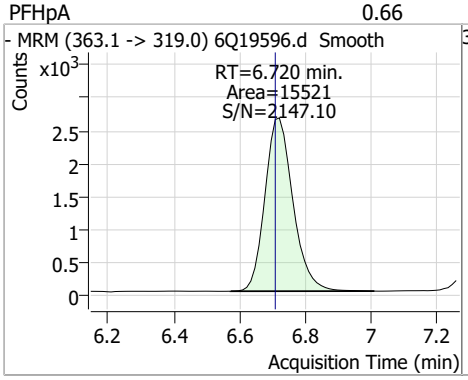


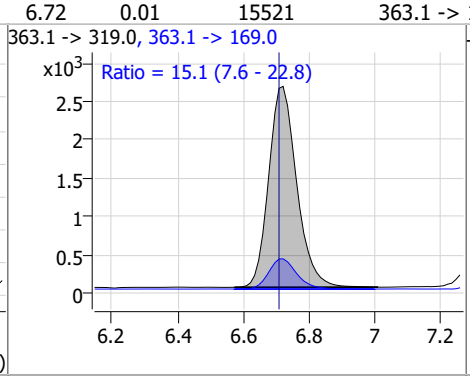


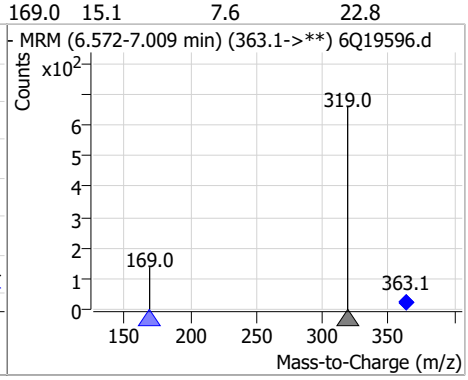


Perfluorinated Compounds by LC/MS/MS

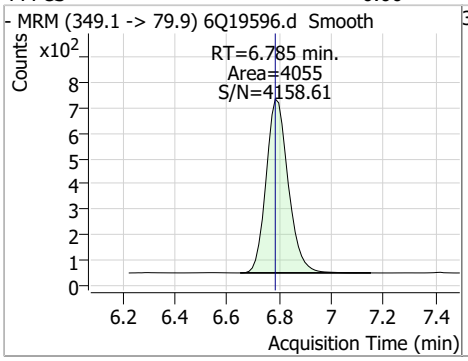
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.66	6.72	0.01	15521	363.1 -> 169.0	15.1	7.6	22.8

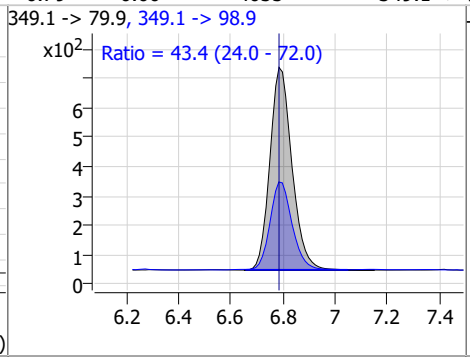


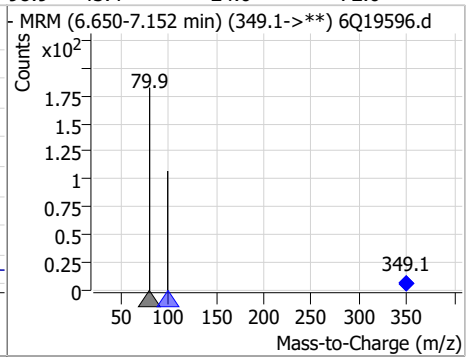




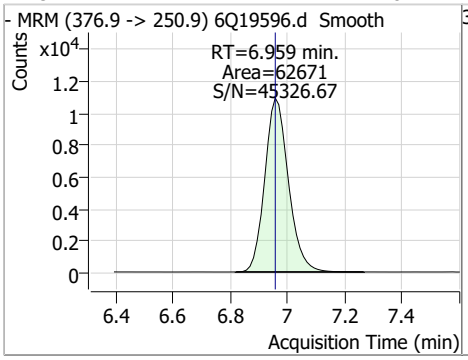
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.66	6.79	0.00	4055	349.1 -> 98.9	43.4	24.0	72.0

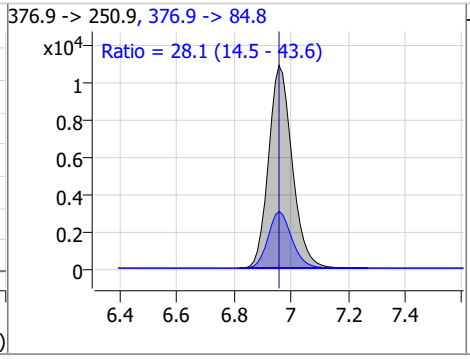


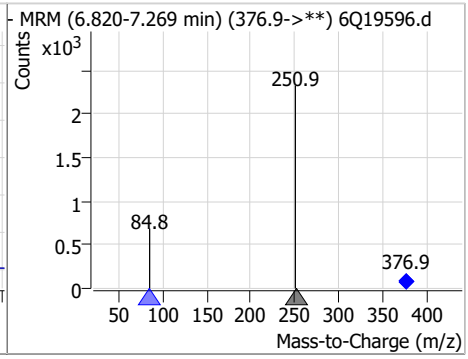




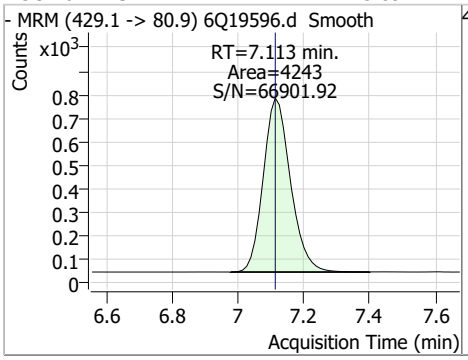
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	1.18	6.96	0.00	62671	376.9 -> 84.8	28.1	14.5	43.6

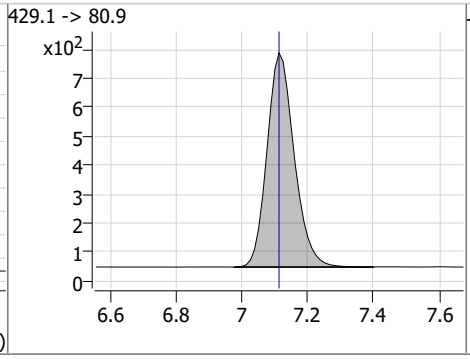


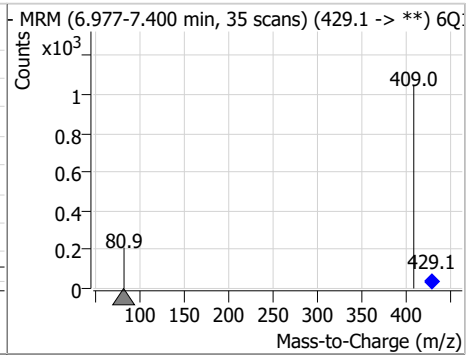




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.89	7.11	0.00	4243				

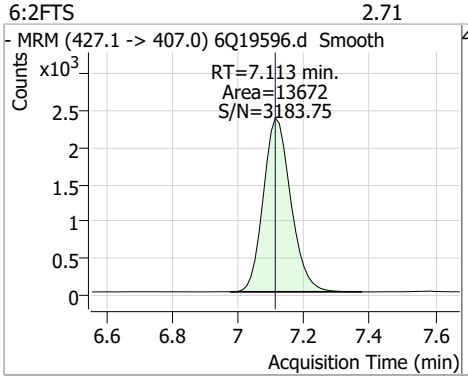


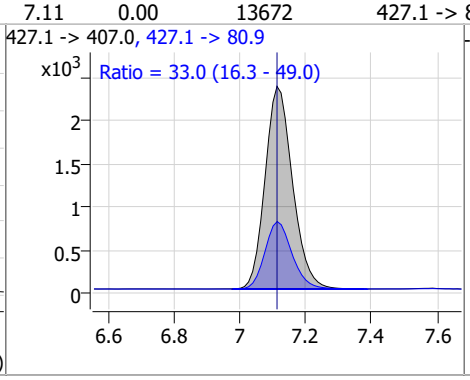


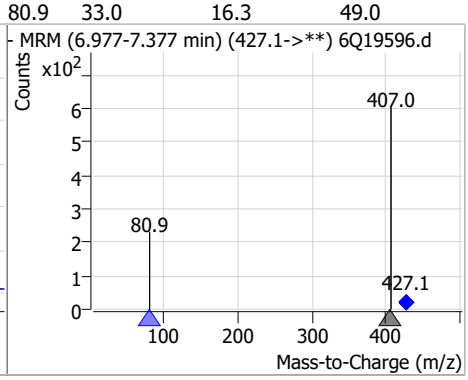


Perfluorinated Compounds by LC/MS/MS

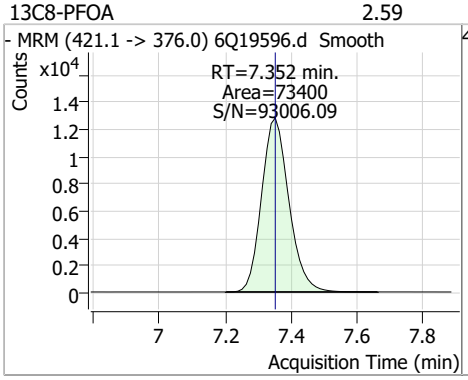
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	2.71	7.11	0.00	13672	427.1 -> 80.9	33.0	16.3	49.0

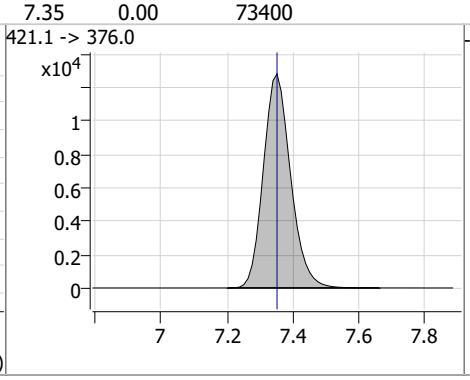


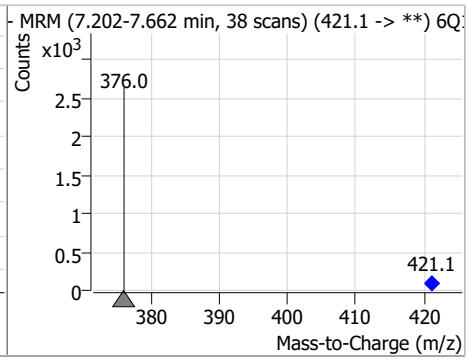




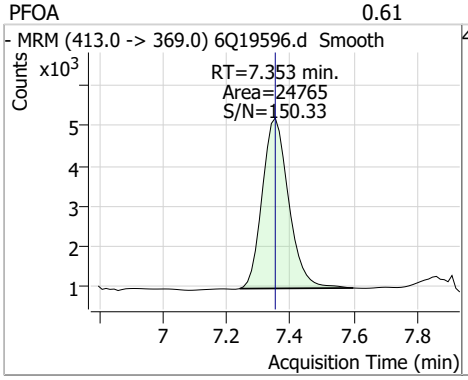
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.59	7.35	0.00	73400				

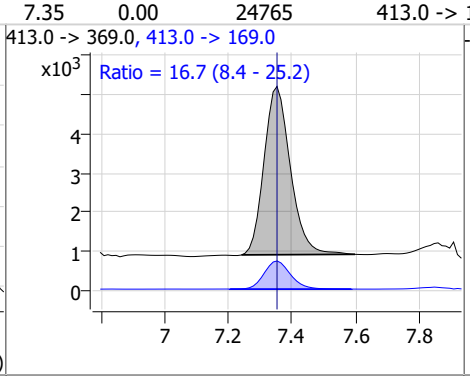


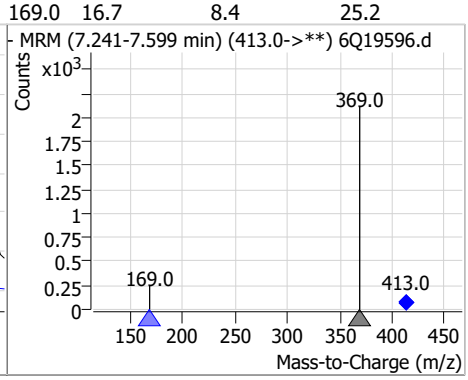




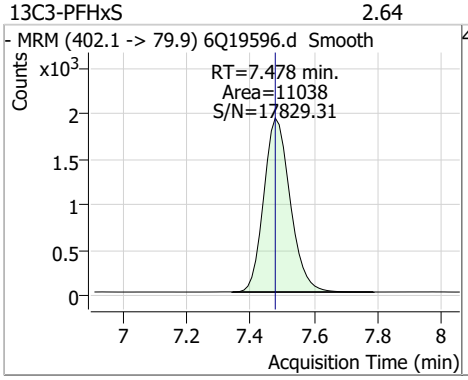
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.61	7.35	0.00	24765	413.0 -> 169.0	16.7	8.4	25.2

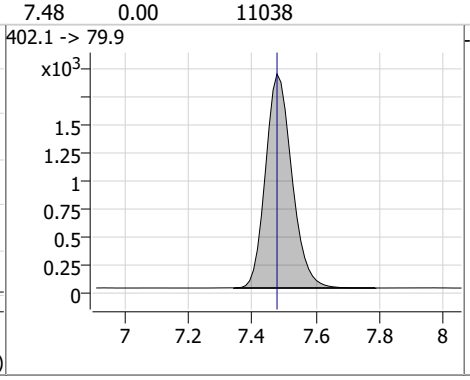


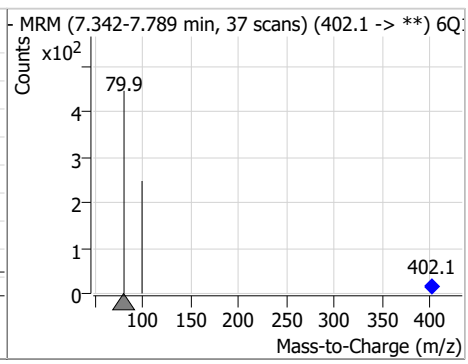




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.64	7.48	0.00	11038				

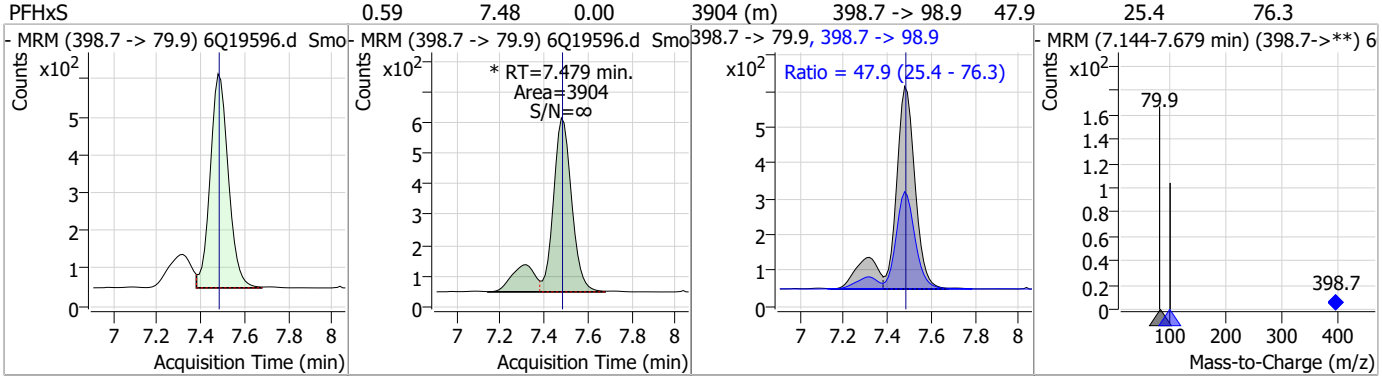




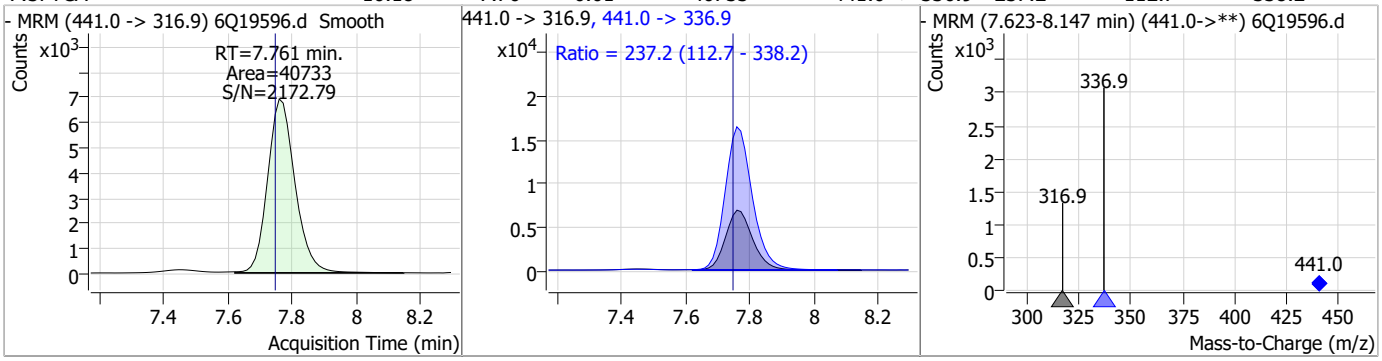


Perfluorinated Compounds by LC/MS/MS

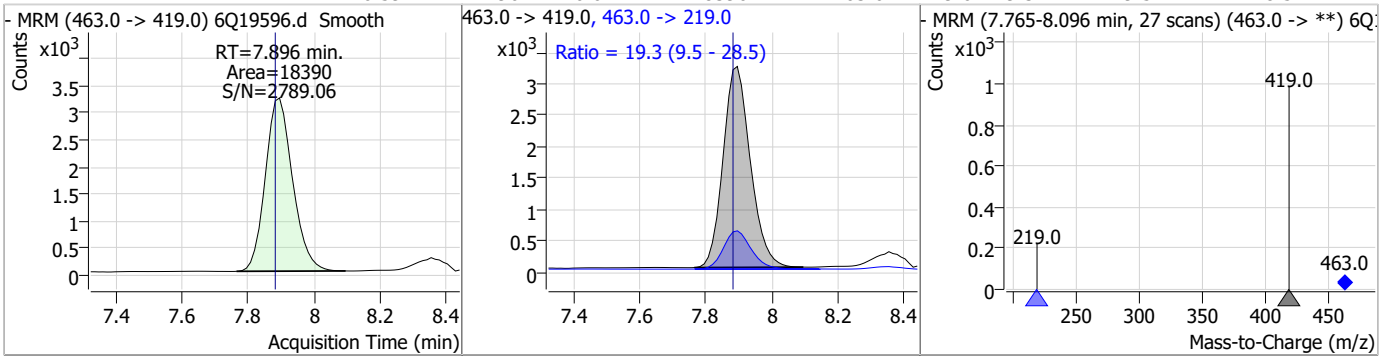
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.59	7.48	0.00	3904 (m)	398.7 -> 98.9	47.9	25.4	76.3



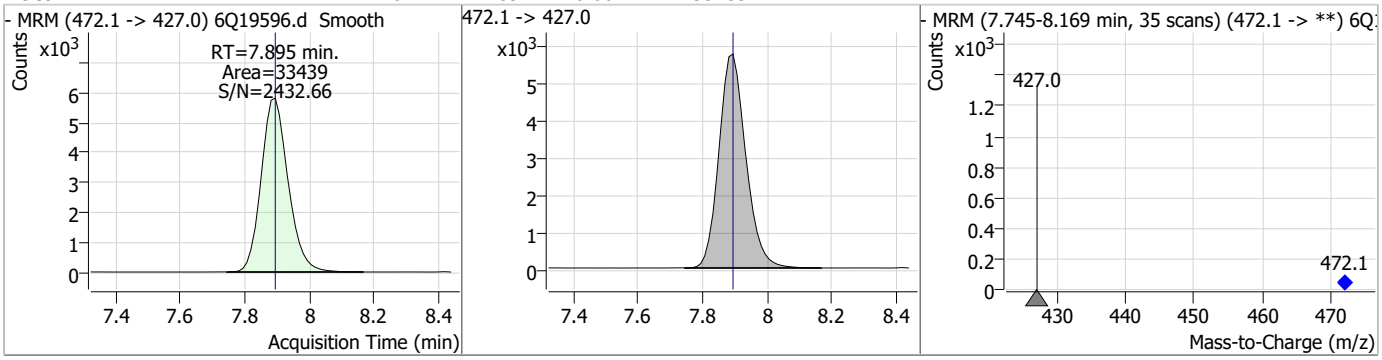
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	16.18	7.76	0.01	40733	441.0 -> 336.9	237.2	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.59	7.90	0.01	18390	463.0 -> 219.0	19.3	9.5	28.5

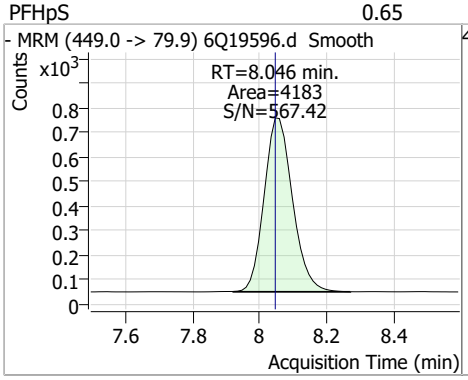


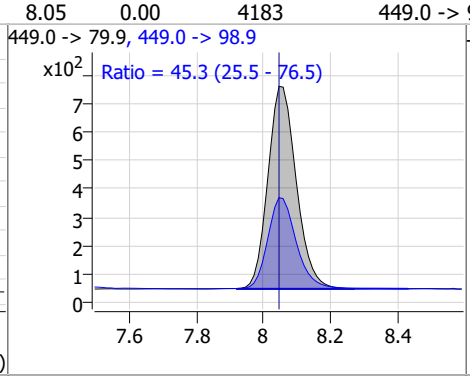
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.26	7.89	0.00	33439				

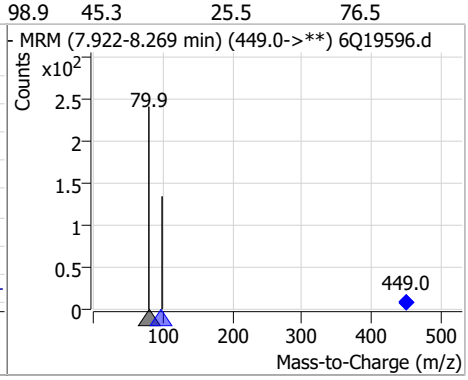


Perfluorinated Compounds by LC/MS/MS

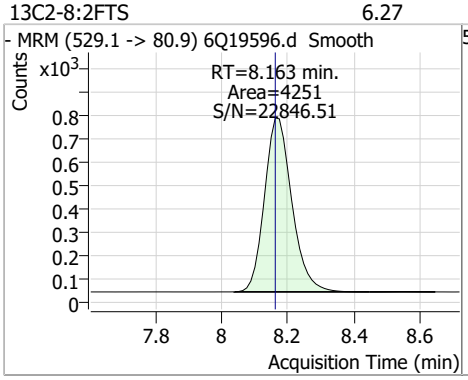
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.65	8.05	0.00	4183	449.0 -> 98.9	45.3	25.5	76.5

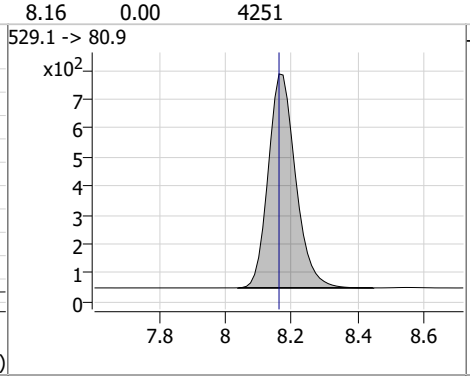


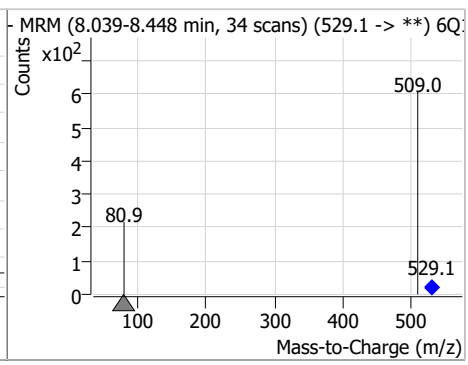




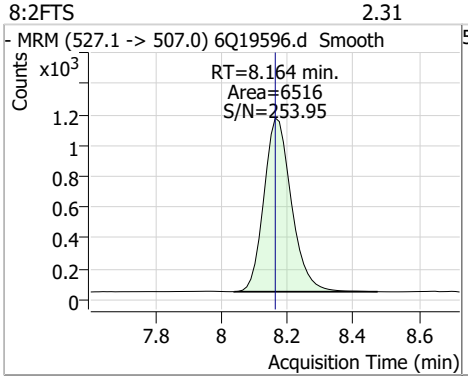
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	6.27	8.16	0.00	4251				

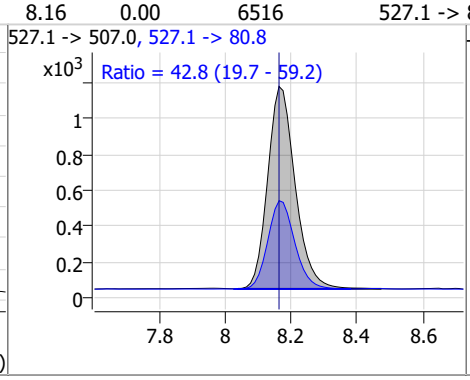


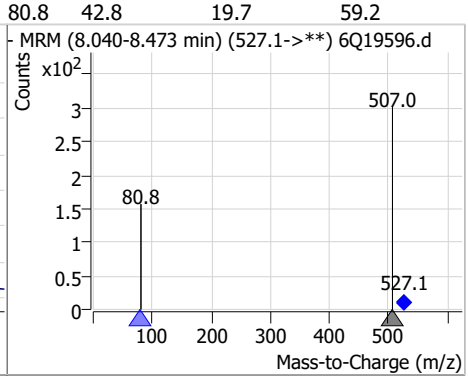




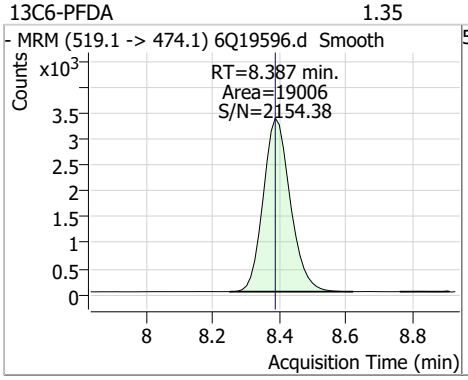
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	2.31	8.16	0.00	6516	527.1 -> 80.8	42.8	19.7	59.2

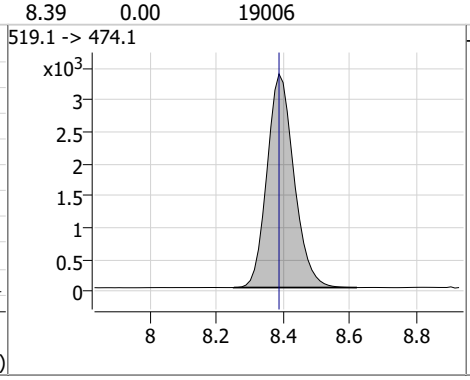


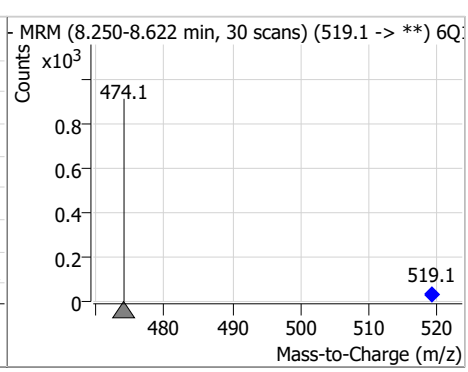




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.35	8.39	0.00	19006				

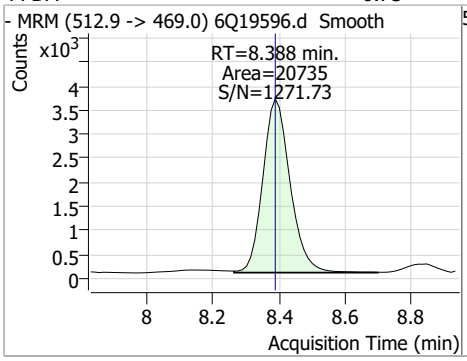


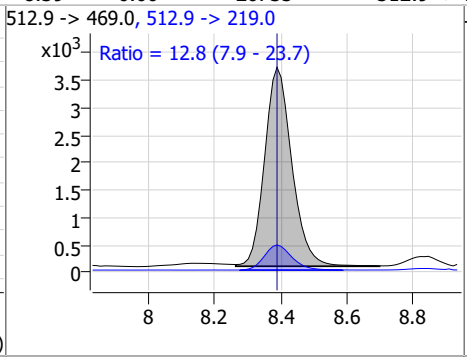


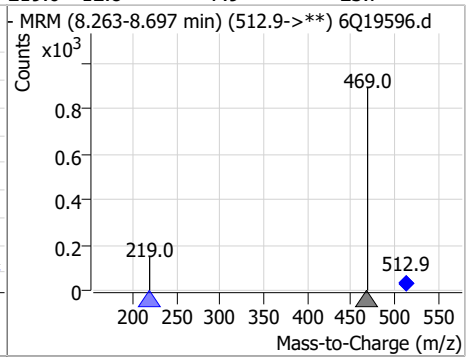


Perfluorinated Compounds by LC/MS/MS

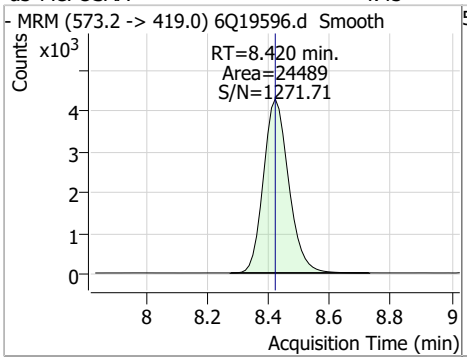
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.73	8.39	0.00	20735	512.9 -> 219.0	12.8	7.9	23.7

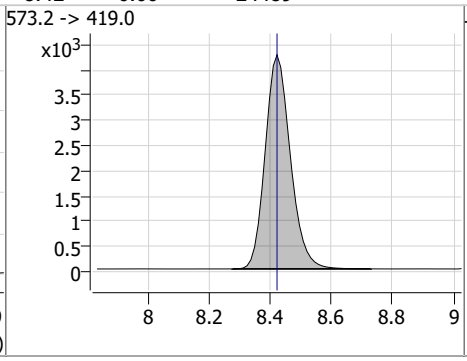


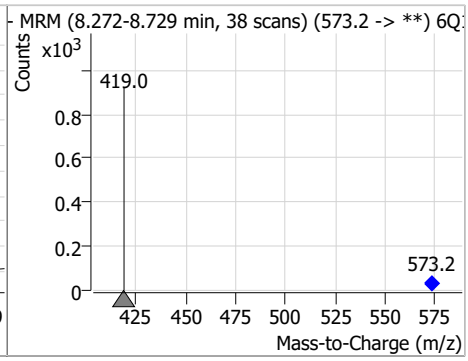




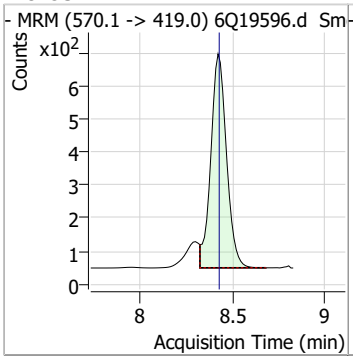
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.43	8.42	0.00	24489				

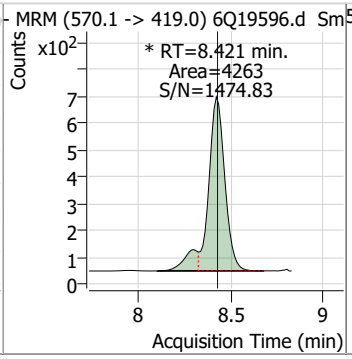


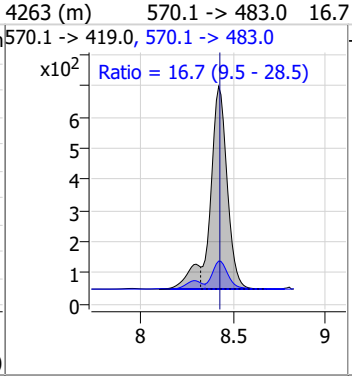


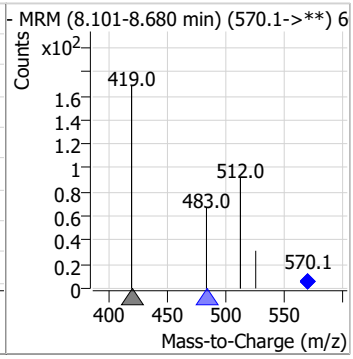


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.67	8.42	0.00	4263 (m)	570.1 -> 483.0	16.7	9.5	28.5

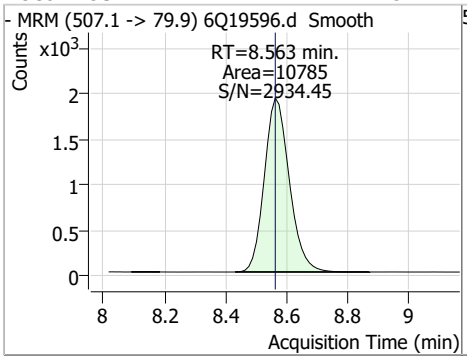


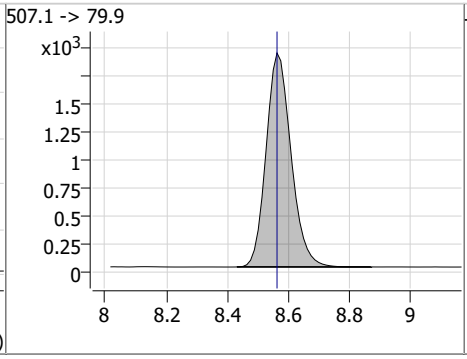


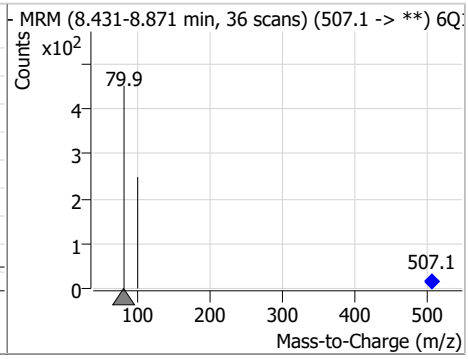




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.45	8.56	0.00	10785				

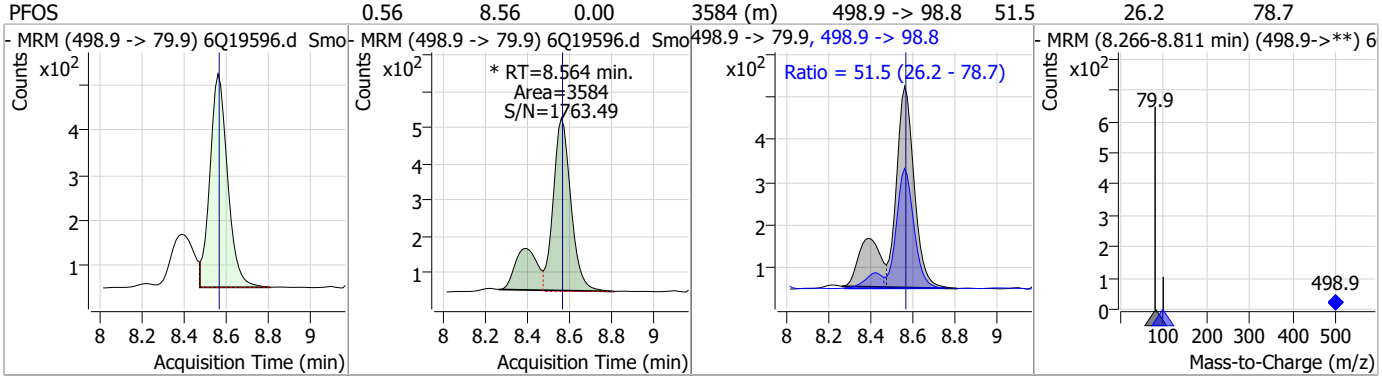




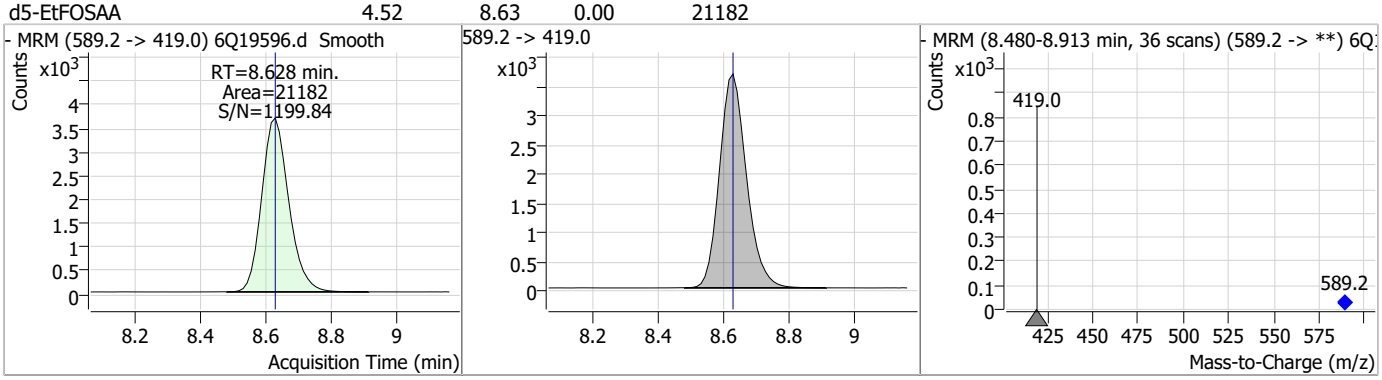


Perfluorinated Compounds by LC/MS/MS

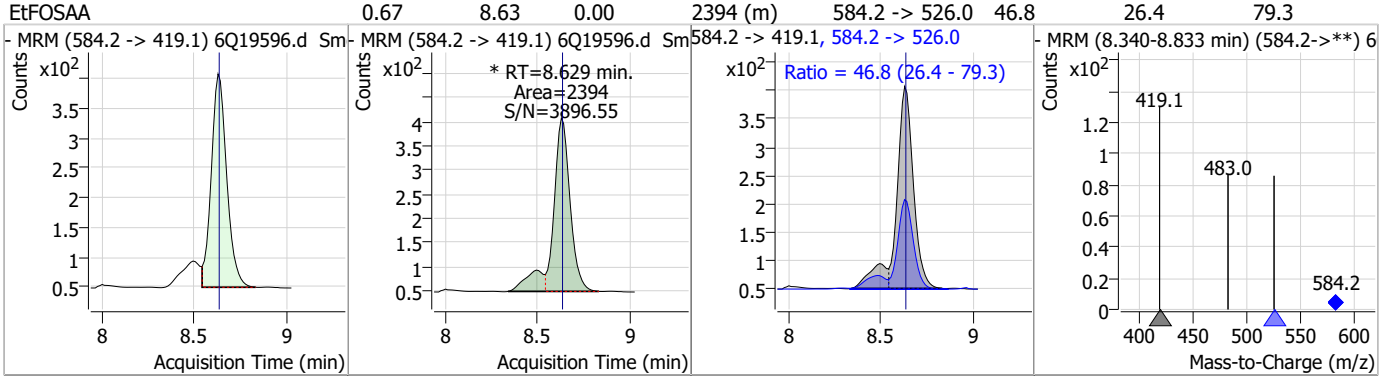
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.56	8.56	0.00	3584 (m)	498.9 -> 98.8	51.5	26.2	78.7



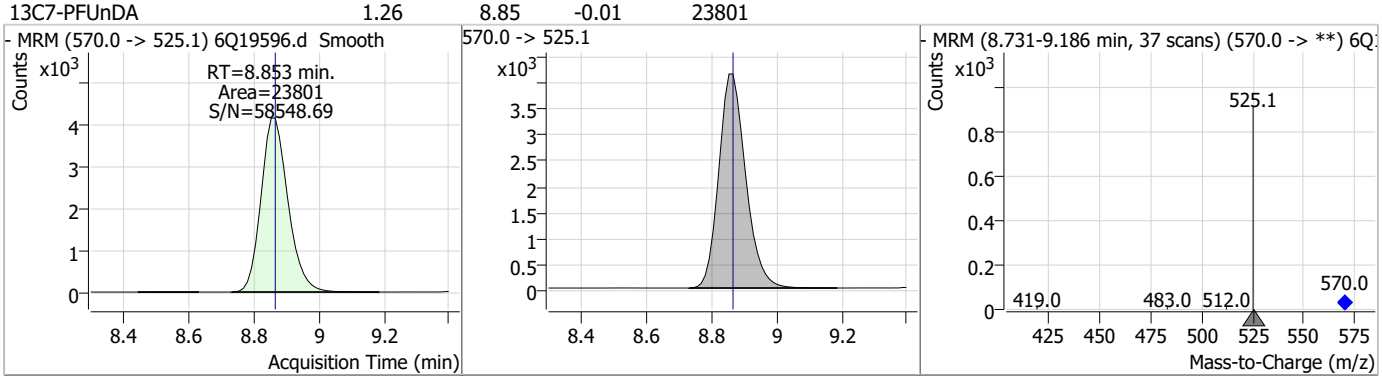
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.52	8.63	0.00	21182				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.67	8.63	0.00	2394 (m)	584.2 -> 526.0	46.8	26.4	79.3

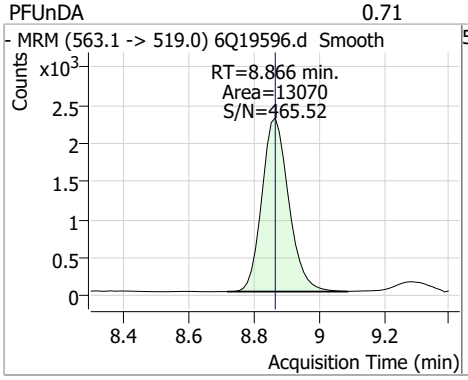


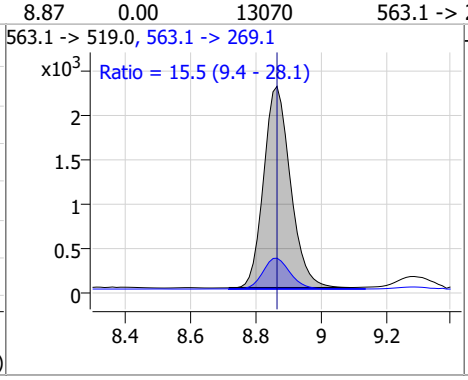
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.26	8.85	-0.01	23801				

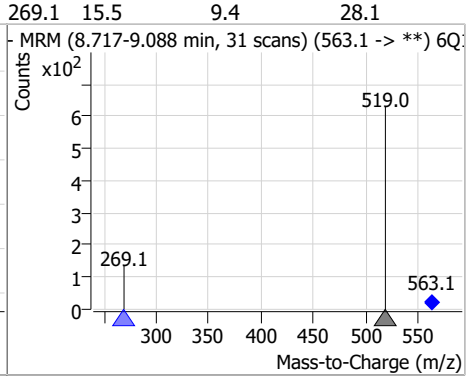


Perfluorinated Compounds by LC/MS/MS

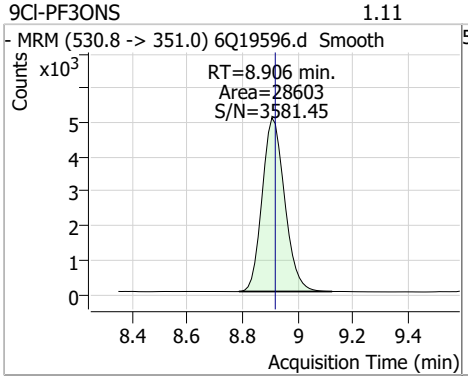
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.71	8.87	0.00	13070	563.1 -> 269.1	15.5	9.4	28.1

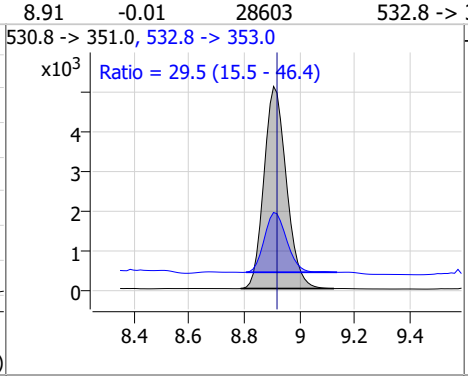


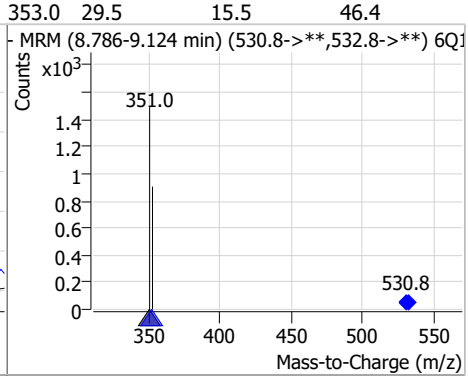




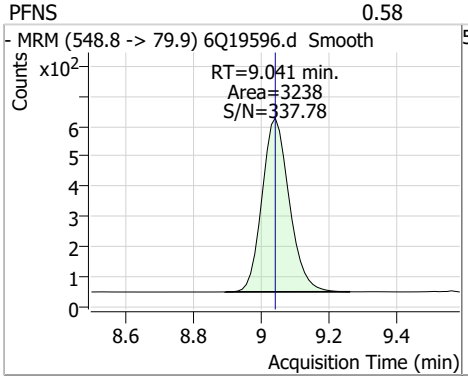
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	1.11	8.91	-0.01	28603	532.8 -> 353.0	29.5	15.5	46.4

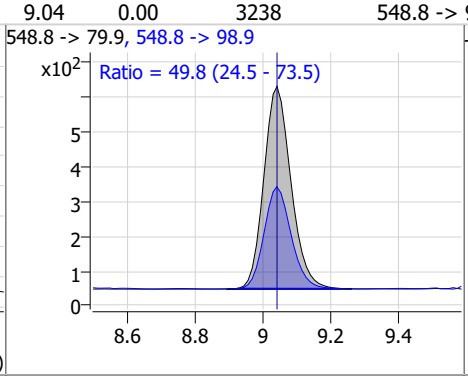


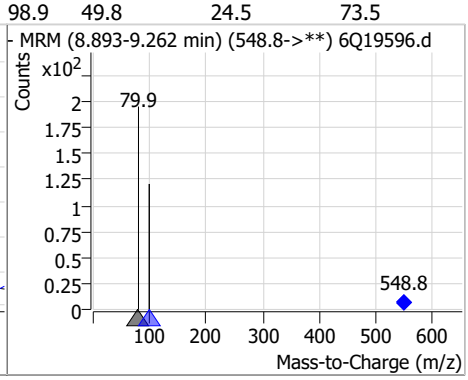




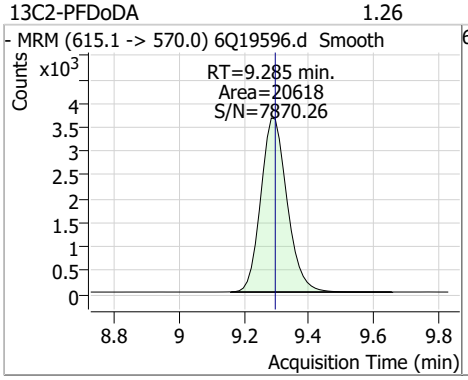
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.58	9.04	0.00	3238	548.8 -> 98.9	49.8	24.5	73.5

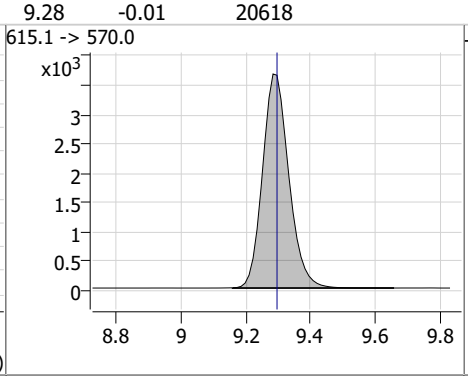


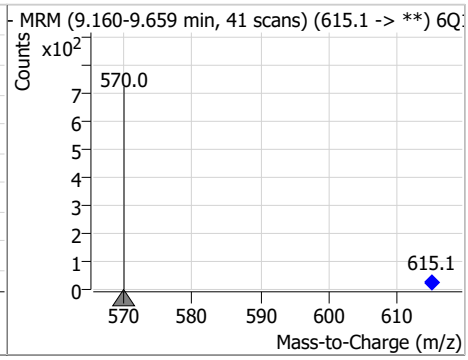




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.26	9.28	-0.01	20618				

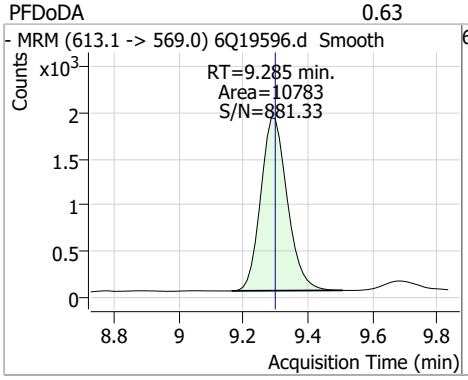


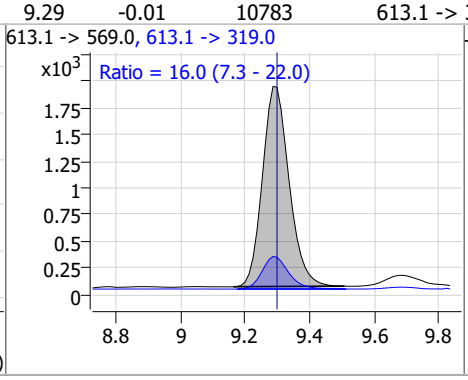


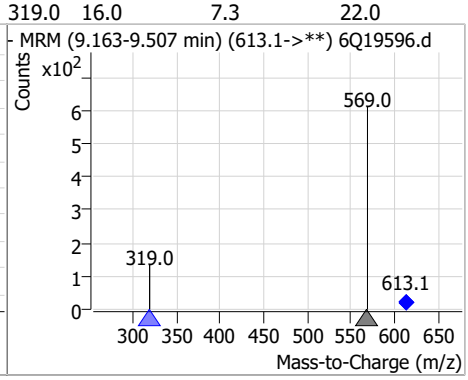


Perfluorinated Compounds by LC/MS/MS

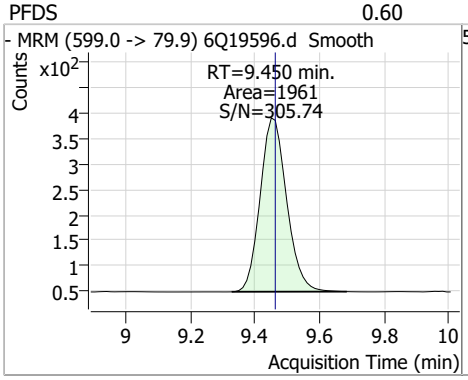
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.63	9.29	-0.01	10783	613.1 -> 319.0	16.0	7.3	22.0

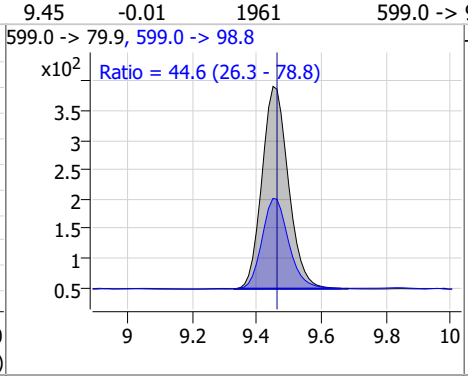


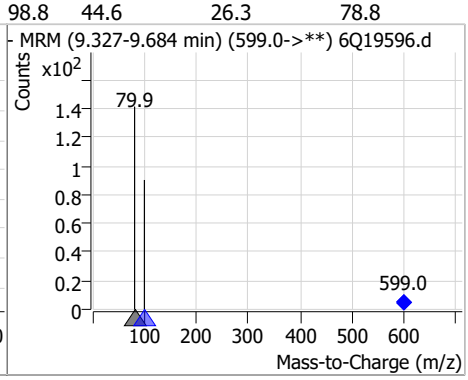




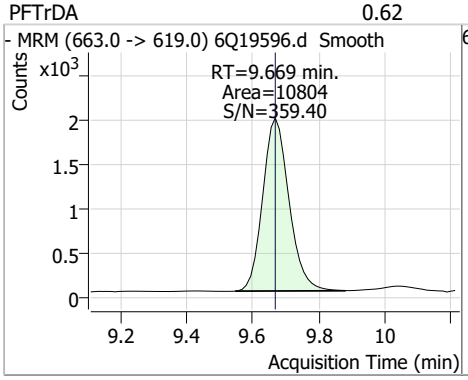
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.60	9.45	-0.01	1961	599.0 -> 98.8	44.6	26.3	78.8

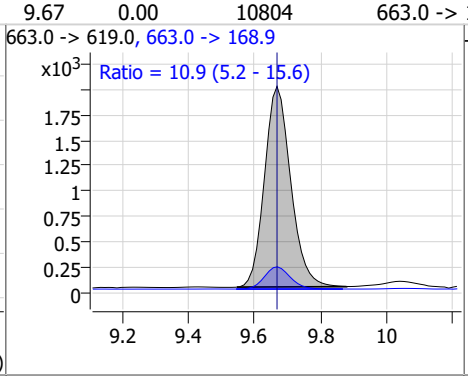


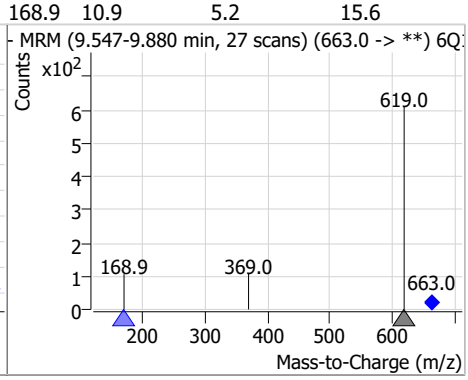




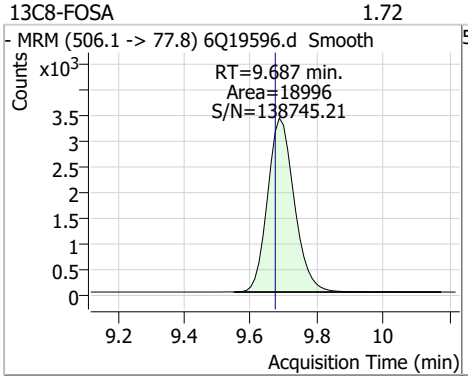
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.62	9.67	0.00	10804	663.0 -> 168.9	10.9	5.2	15.6

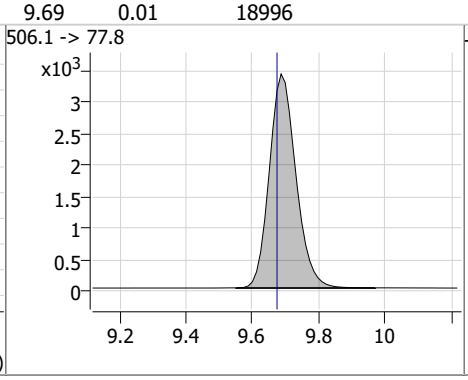


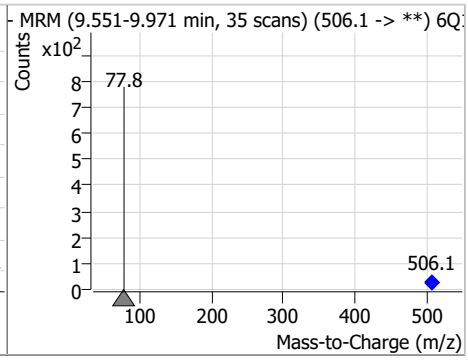




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.72	9.69	0.01	18996				

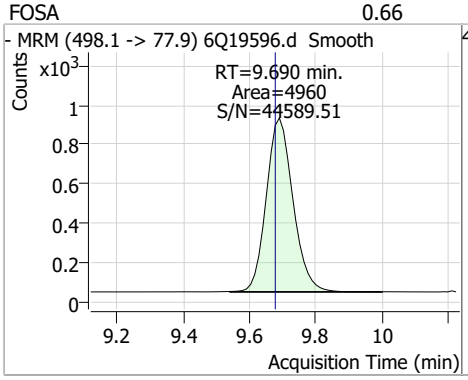


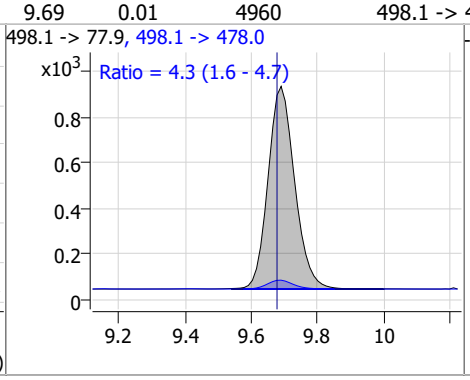


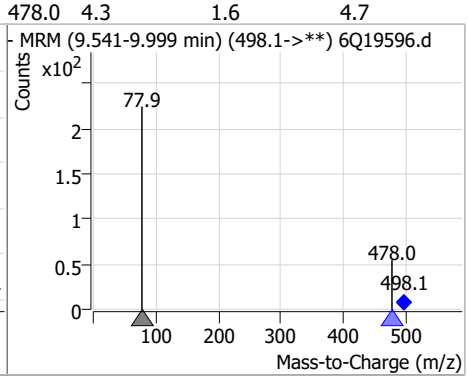


Perfluorinated Compounds by LC/MS/MS

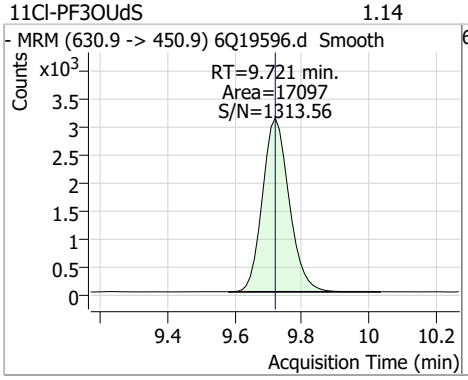
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.66	9.69	0.01	4960	498.1 -> 478.0	4.3	1.6	4.7

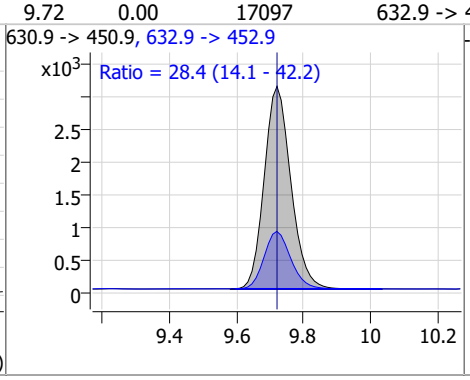


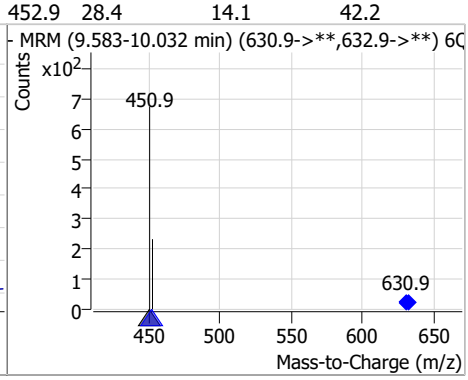




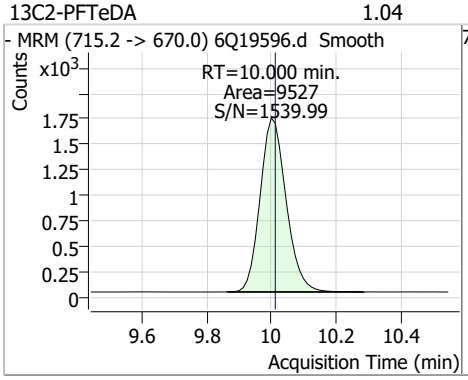
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	1.14	9.72	0.00	17097	632.9 -> 452.9	28.4	14.1	42.2

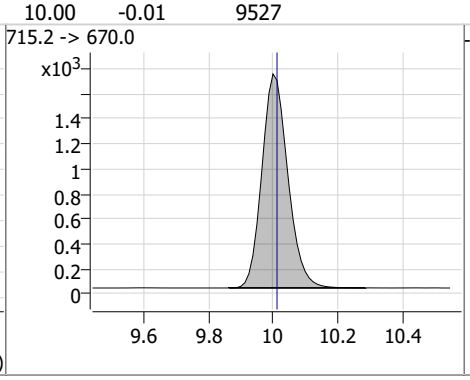


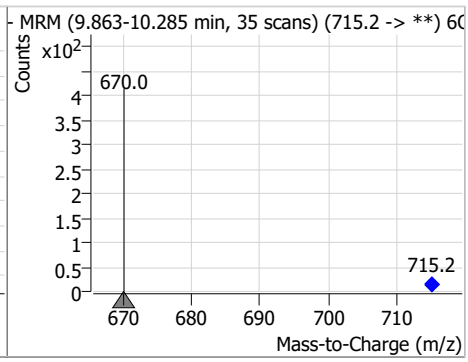




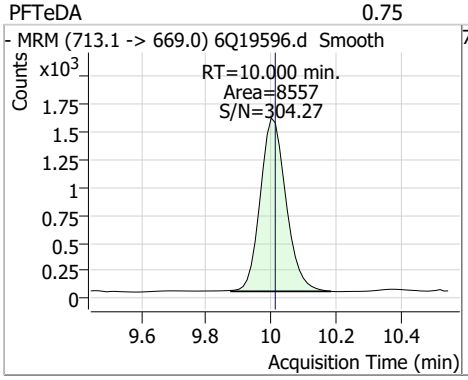
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.04	10.00	-0.01	9527				

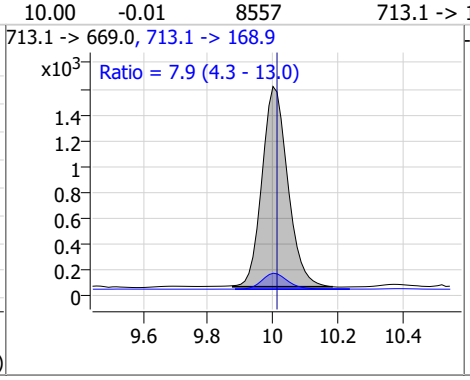


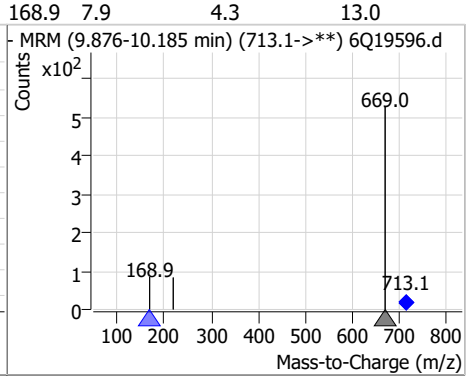




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.75	10.00	-0.01	8557	713.1 -> 168.9	7.9	4.3	13.0

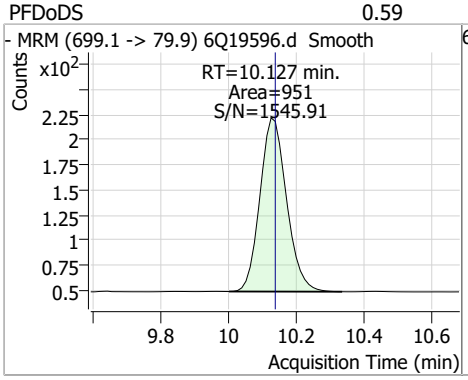


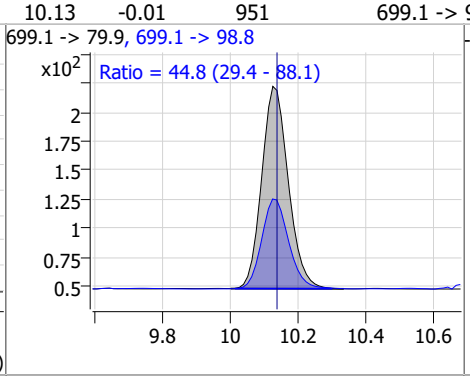


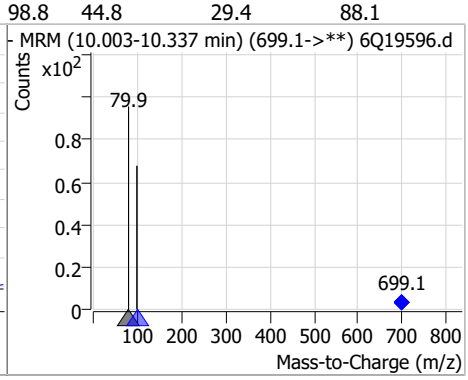


Perfluorinated Compounds by LC/MS/MS

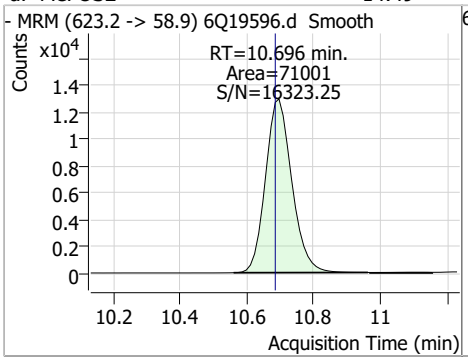
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.59	10.13	-0.01	951	699.1 -> 98.8	44.8	29.4	88.1

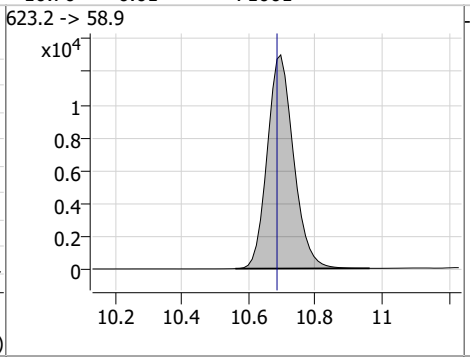


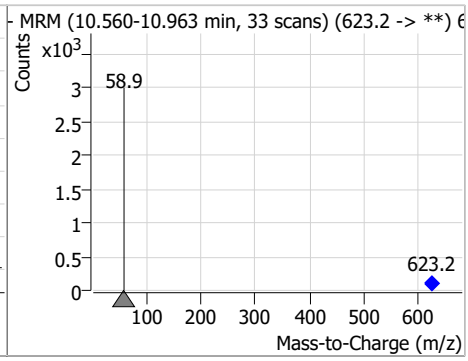




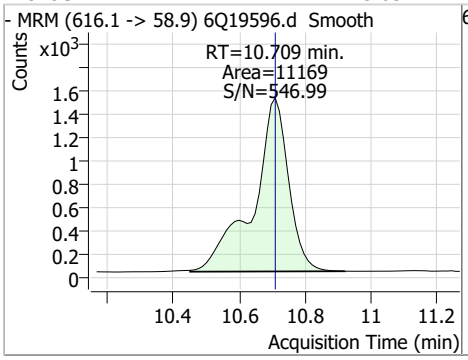
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	14.49	10.70	0.01	71001				

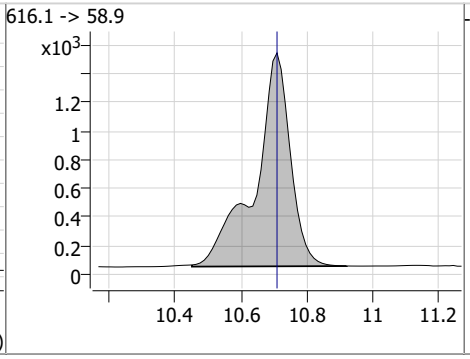


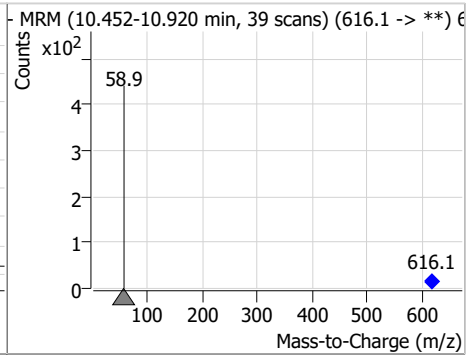




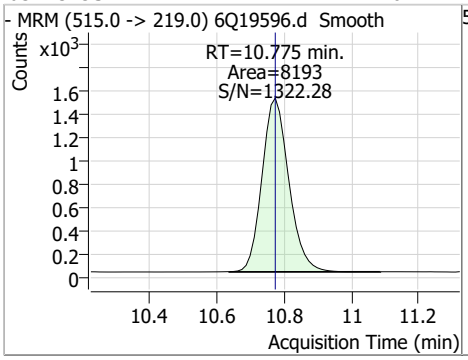
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	3.63	10.71	0.00	11169				

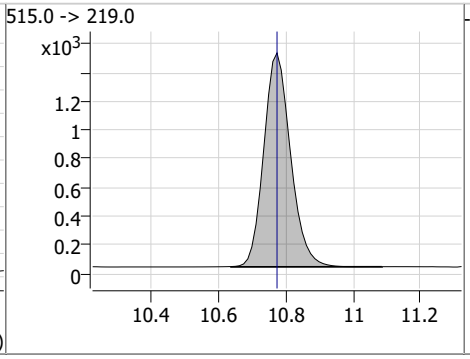


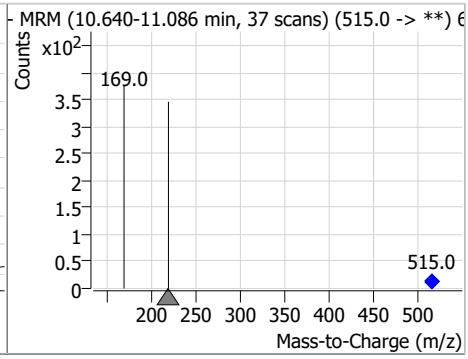




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.70	10.78	0.00	8193				

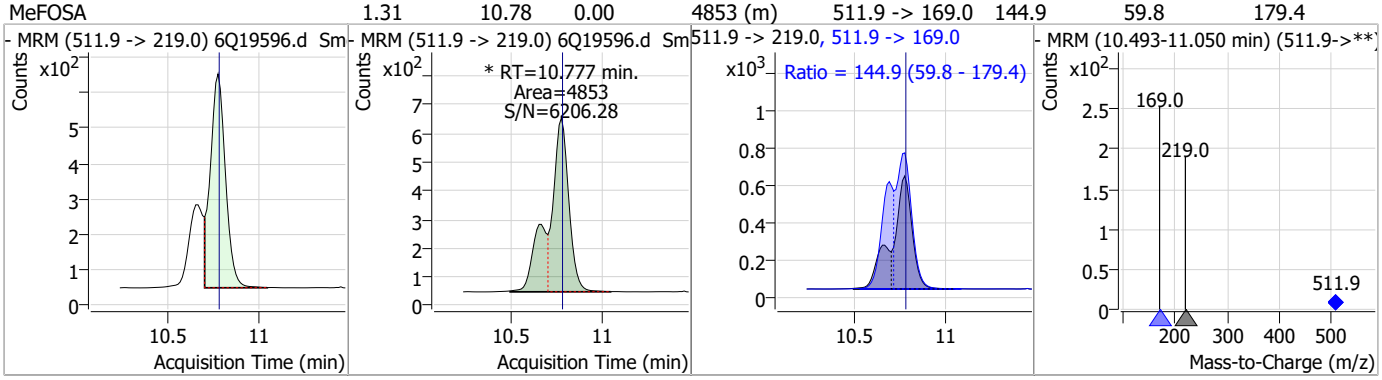




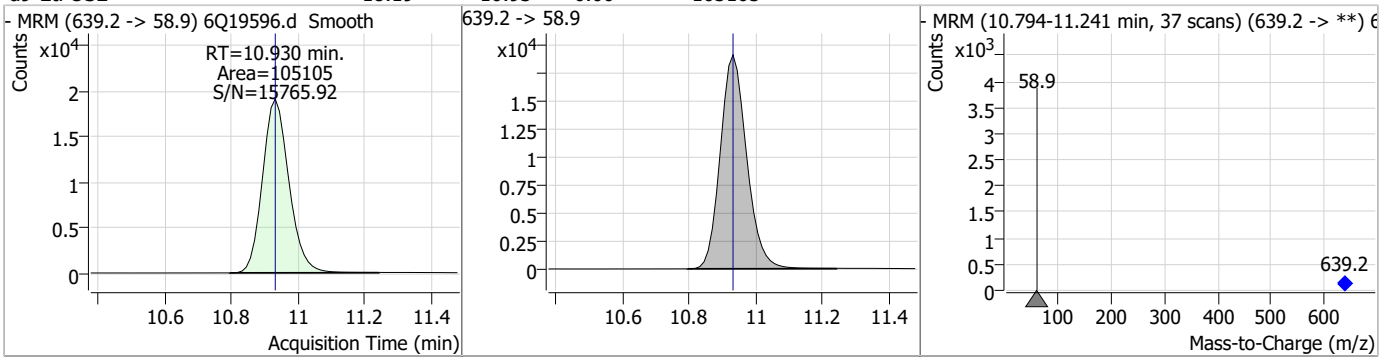


Perfluorinated Compounds by LC/MS/MS

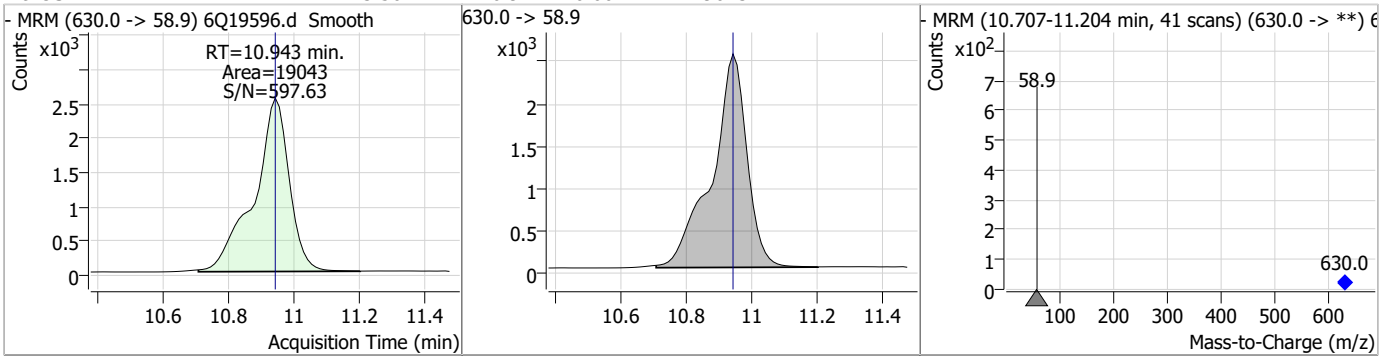
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	1.31	10.78	0.00	4853 (m)	511.9 -> 169.0	144.9	59.8	179.4



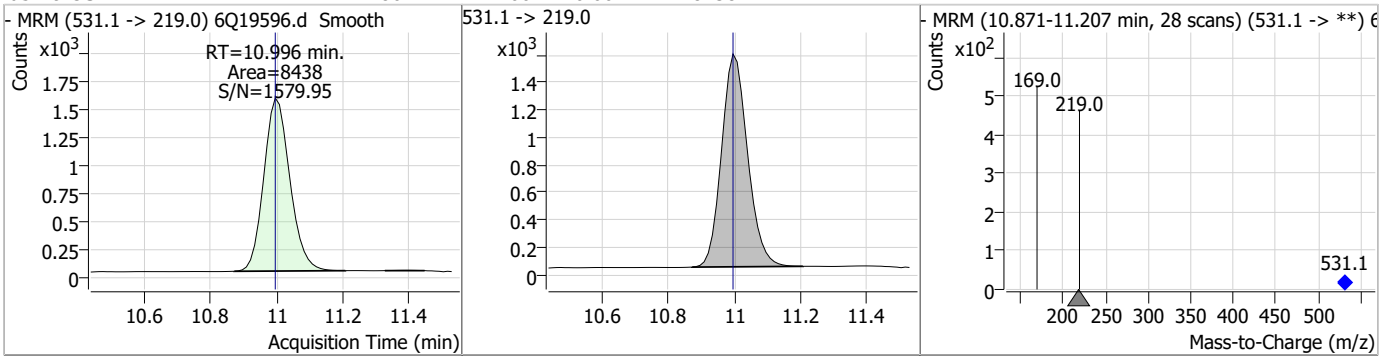
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	18.19	10.93	0.00	105105				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	3.50	10.94	0.00	19043				

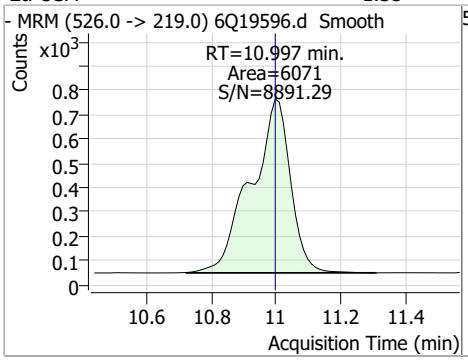


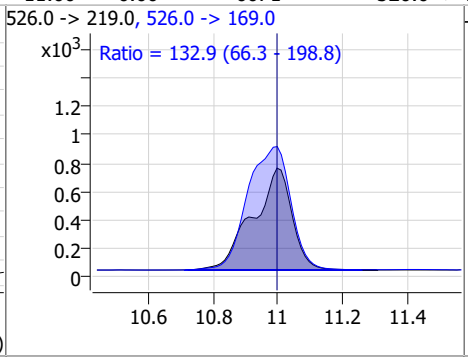
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.80	11.00	0.00	8438				

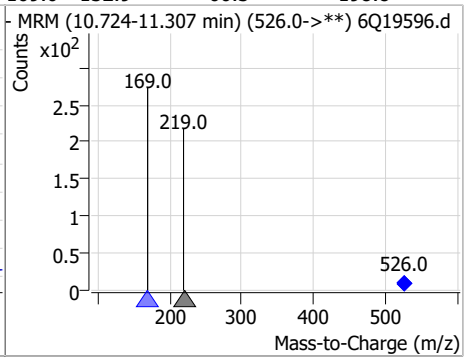


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	1.35	11.00	0.00	6071	526.0 -> 169.0	132.9	66.3	198.8







Manual Integration Approval Summary

Sample Number:	OP97385-LLBS	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19596.D	**Analyst approved:**	06/20/23 14:08 Martha Valls
Injection Time:	06/20/23 08:46	**Supervisor approved:**	06/20/23 17:48 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:58

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19367.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 7:54:28 PM
Sample Name : op97325-ms
Vial : P4-C3
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97325,S6Q289,540,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	114141	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	49299	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	52648	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	50002	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	82021	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	37664	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	22423	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	28817	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	25003	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	12475	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	24351	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	20556	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12853	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	10878	2.50	µg/L	0.012
M2-4:2FTS	5.454	329.1 -> 80.9	3035	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4111	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	3919	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	29921	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35195	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	24426	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	91407	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	121184	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	10189	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	9908	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	13993	2.50	µg/L	0.012
13C3-PFBA	3.101	216.0 -> 172.0	57268	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	7739	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	75139	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	26734	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	43697	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	46292	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3035	6.54	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 130.7%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4111	5.86	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.2%		
13C2-8:2FTS	8.175	529.1 -> 80.9	3919	5.94	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.8%		
13C2-PFDoDA	9.297	615.1 -> 570.0	25003	1.40	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 111.9%		
13C2-PFTeDA	10.012	715.2 -> 670.0	12475	1.25	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C3-PFBS	5.746	302.1 -> 79.9	20556	3.19	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 127.6%		
13C3-PFHxS	7.478	402.1 -> 79.9	12853	3.16	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 126.4%		
13C4-PFBA	3.097	216.8 -> 171.9	114141	8.50 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 85.0%		
13C4-PFHpA	6.707	367.1 -> 322.0	50002	2.80 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.9%		
13C5-PFHxA	5.792	318.0 -> 273.0	52648	2.76 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.2%		
13C5-PFPeA	4.560	268.3 -> 223.0	49299	5.63 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.6%		
13C6-PFDA	8.400	519.1 -> 474.1	22423	1.46 µg/L		0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 116.9%		
13C7-PFUnDA	8.866	570.0 -> 525.1	28817	1.40 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.1%		
13C8-FOSA	9.687	506.1 -> 77.8	24351	2.30 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.9%		
13C8-PFOA	7.352	421.1 -> 376.0	82021	2.92 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 116.8%		
13C8-PFOS	8.575	507.1 -> 79.9	10878	2.57 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C9-PFNA	7.895	472.1 -> 427.0	37664	1.42 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.3%		
d3-MeFOSAA	8.420	573.2 -> 419.0	29921	5.65 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.0%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	35195	11.01 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 110.1%		
d3-MeFOSA	10.775	515.0 -> 219.0	9908	2.15 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.1%		
d5-EtFOSAA	8.628	589.2 -> 419.0	24426	5.44 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.7%		
d7-MeFOSE	10.696	623.2 -> 58.9	91407	19.47 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 77.9%		
d9-EtFOSE	10.930	639.2 -> 58.9	121184	21.89 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 87.6%		
d5-EtFOSA	10.996	531.1 -> 219.0	10189	2.27 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.7%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	44626	8.45 µg/L		100
		327.1 -> 80.9	16598			
6:2FTS	7.113	427.1 -> 407.0	41152	8.41 µg/L		94
		427.1 -> 80.9	14826			
8:2FTS	8.176	527.1 -> 507.0	23214	8.91 µg/L		92
		527.1 -> 80.8	10280			
EtFOSAA	8.641	584.2 -> 419.1	9651	2.33 µg/L	m	97
		584.2 -> 526.0	4879			
FOSA	9.677	498.1 -> 77.9	21489	2.22 µg/L		100
		498.1 -> 478.0	636			
MeFOSAA	8.433	570.1 -> 419.0	16868	2.17 µg/L	m	95
		570.1 -> 483.0	3585			
PFBA	3.093	212.8 -> 168.9	42539	9.25 µg/L		100
PFBS	5.747	298.7 -> 79.9	17842	1.94 µg/L		96
		298.7 -> 98.8	6350			
PFDA	8.400	512.9 -> 469.0	74023	2.22 µg/L		99
		512.9 -> 219.0	11309			
PFDoDA	9.298	613.1 -> 569.0	46106	2.22 µg/L		100
		613.1 -> 319.0	6660			
PFDS	9.462	599.0 -> 79.9	7012	2.13 µg/L		97

Perfluorinated Compounds by LC/MS/MS

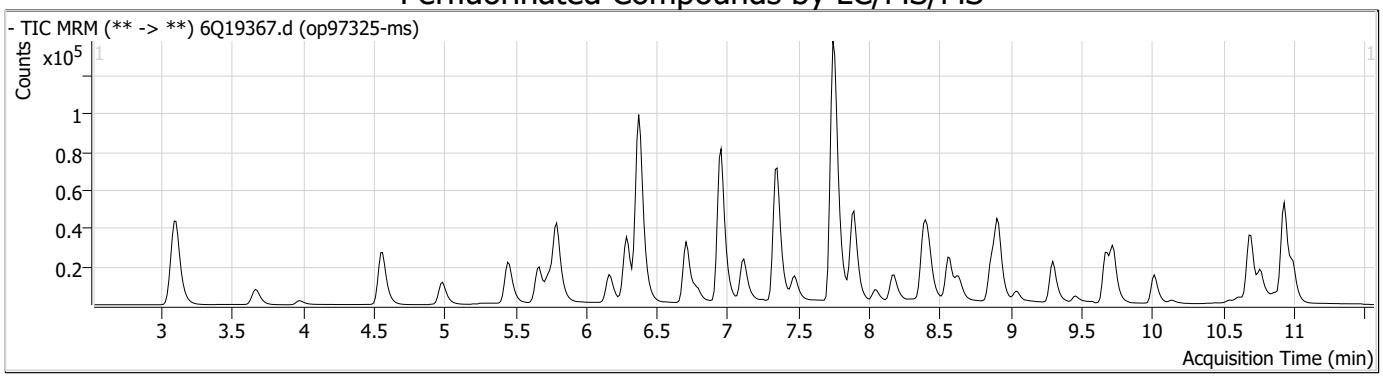
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3515				
PFHpA	6.708	363.1 -> 319.0	60778	2.28	µg/L		97
		363.1 -> 169.0	10084				
PFHpS	8.059	449.0 -> 79.9	15396	2.37	µg/L		91
		449.0 -> 98.9	6874				
PFHxA	5.795	313.0 -> 269.0	47736	2.25	µg/L		98
		313.0 -> 118.9	2727				
PFHxS	7.479	398.7 -> 79.9	15473	2.00	µg/L	m	92
		398.7 -> 98.9	7025				
PFNA	7.896	463.0 -> 419.0	76015	2.18	µg/L		97
		463.0 -> 219.0	13344				
PFNS	9.053	548.8 -> 79.9	12786	2.27	µg/L		97
		548.8 -> 98.9	6488				
PFOA	7.353	413.0 -> 369.0	95987	2.13	µg/L		96
		413.0 -> 169.0	17640				
PFOS	8.576	498.9 -> 79.9	14008	2.17	µg/L	m	97
		498.9 -> 98.8	7100				
PFPeA	4.563	263.0 -> 219.0	66109	4.54	µg/L		100
PFPeS	6.785	349.1 -> 79.9	14316	1.99	µg/L		98
		349.1 -> 98.9	6725				
PFTeDA	10.013	713.1 -> 669.0	34260	2.29	µg/L		99
		713.1 -> 168.9	2833				
PFTrDA	9.681	663.0 -> 619.0	41689	1.98	µg/L		96
		663.0 -> 168.9	4978				
PFUnDA	8.866	563.1 -> 519.0	48374	2.17	µg/L		93
		563.1 -> 269.1	7593				
11Cl-PF3OUdS	9.733	630.9 -> 450.9	63910	3.99	µg/L		98
		632.9 -> 452.9	18824				
9Cl-PF3ONS	8.918	530.8 -> 351.0	103647	3.75	µg/L		92
		532.8 -> 353.0	36850				
ADONA	6.959	376.9 -> 250.9	237475	4.17	µg/L		99
		376.9 -> 84.8	67778				
HFPO-DA	6.182	284.9 -> 168.9	16478	4.47	µg/L		99
		284.9 -> 184.9	1845				
3:3FTCA	3.971	241.0 -> 177.0	8100	8.23	µg/L		100
		241.0 -> 117.0	1106				
5:3FTCA	6.374	341.0 -> 237.1	229305	54.30	µg/L		96
		341.0 -> 217.0	163277				
7:3FTCA	7.761	441.0 -> 316.9	172165	60.29	µg/L		96
		441.0 -> 336.9	376543				
EtFOSA	10.997	526.0 -> 219.0	24967	4.59	µg/L		98
		526.0 -> 169.0	32459				
EtFOSE	10.943	630.0 -> 58.9	76141	12.14	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	19715	4.39	µg/L	m	80
		511.9 -> 169.0	28052				
MeFOSE	10.709	616.1 -> 58.9	47365	11.96	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	3324	2.05	µg/L		89
		699.1 -> 98.8	1688				
NFDHA	5.673	295.0 -> 201.0	11923	4.39	µg/L		98
		295.0 -> 84.9	3337				
PFMBA	4.988	279.0 -> 85.1	46496	4.48	µg/L		100
PFMPA	3.667	229.0 -> 84.9	35669	4.39	µg/L		100
PFEESA	6.288	314.8 -> 134.9	118221	4.12	µg/L		99
		314.8 -> 82.9	3870				

 # = Qualifier out of range, m = manually integrated, + = Area summed

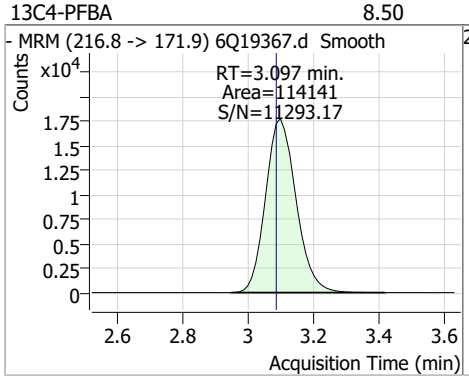
Perfluorinated Compounds by LC/MS/MS

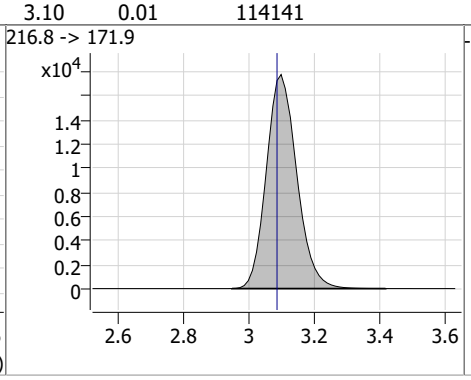
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

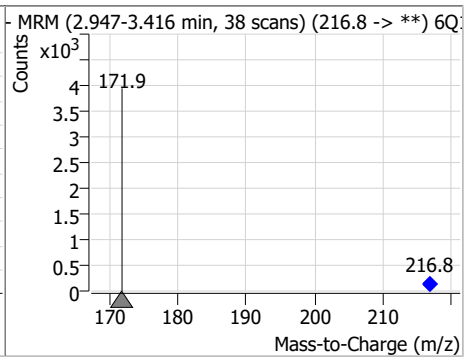
Perfluorinated Compounds by LC/MS/MS



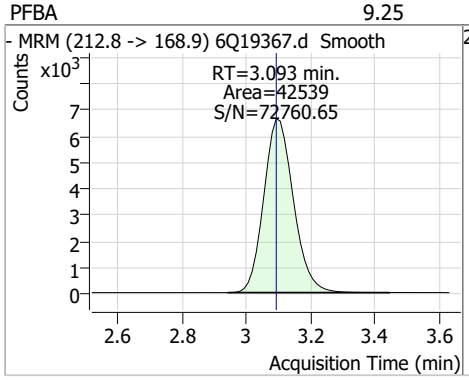
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	8.50	3.10	0.01	114141				

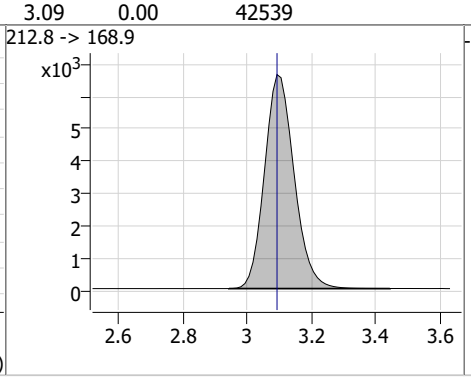


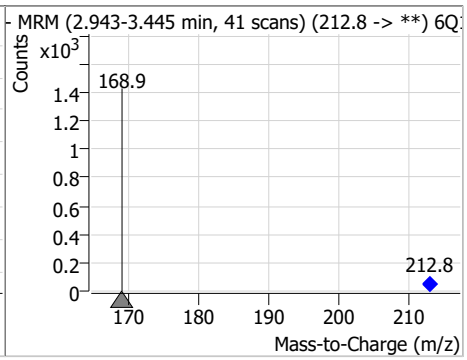




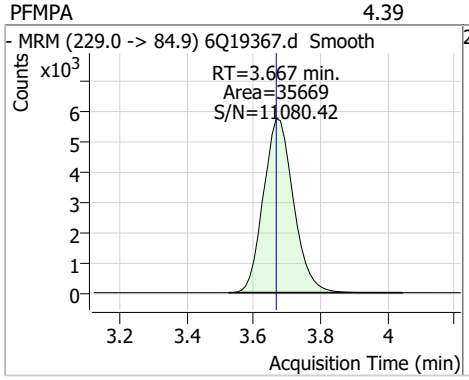
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.25	3.09	0.00	42539				

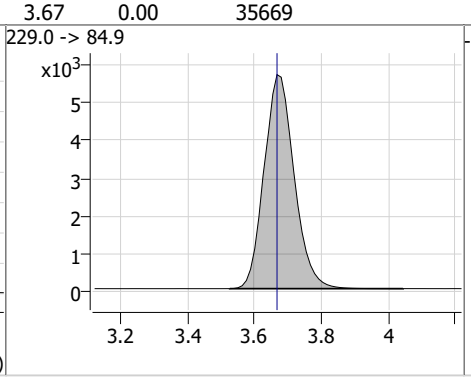


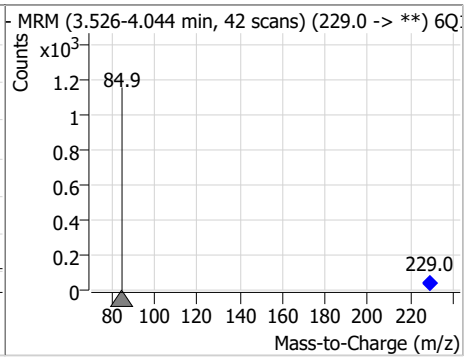




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.39	3.67	0.00	35669				

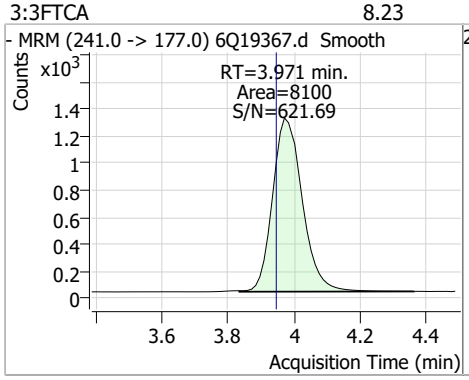


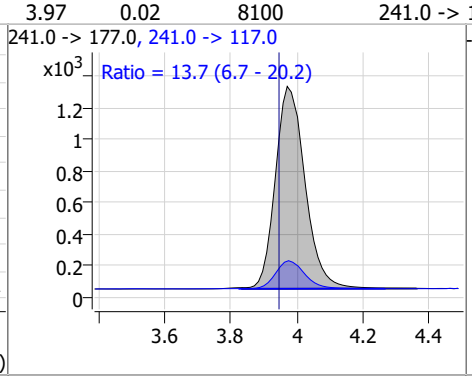


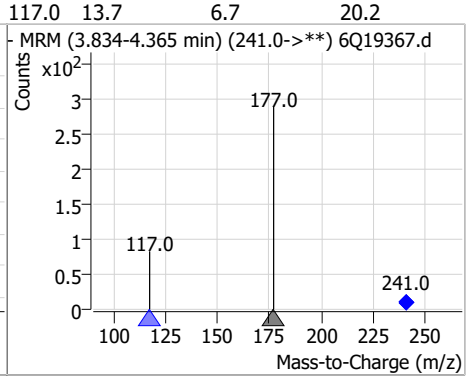


Perfluorinated Compounds by LC/MS/MS

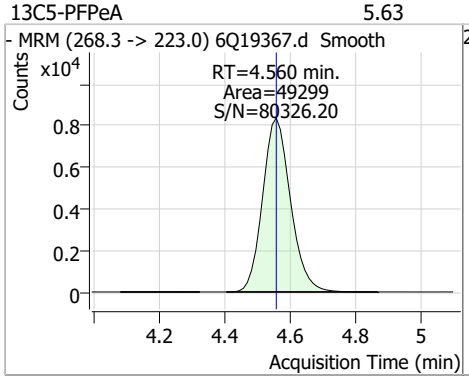
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	8.23	3.97	0.02	8100	241.0 -> 117.0	13.7	6.7	20.2

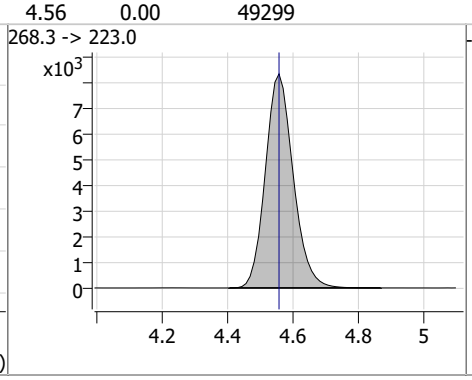


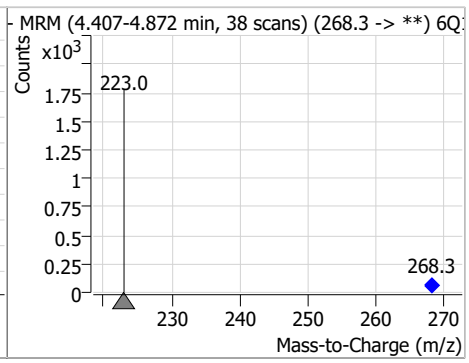




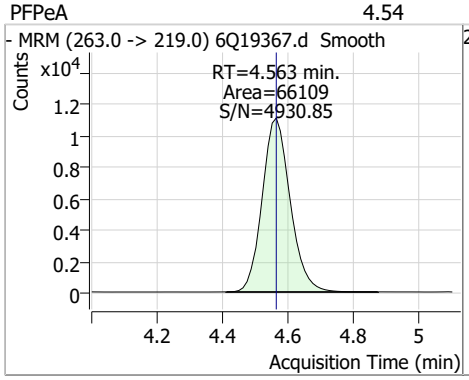
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.63	4.56	0.00	49299				

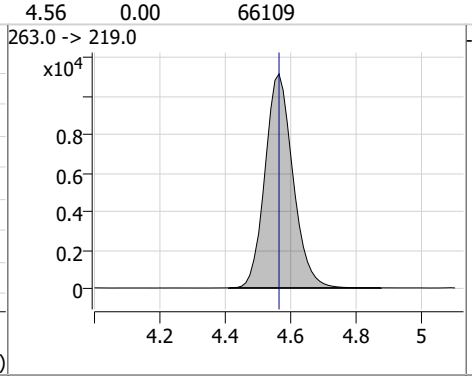


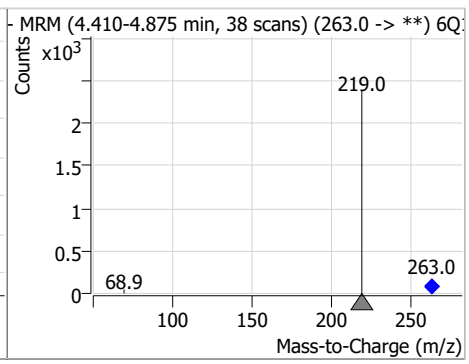




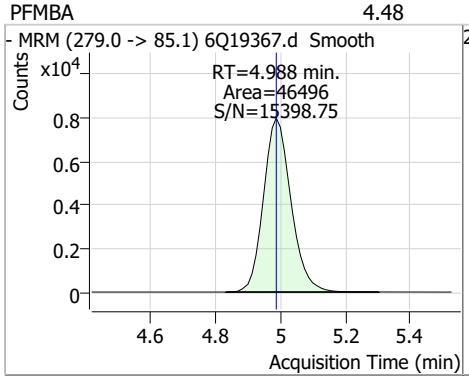
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.54	4.56	0.00	66109				

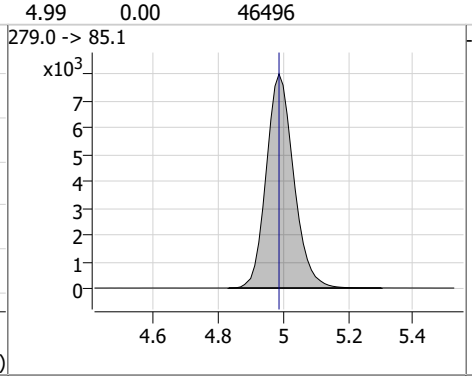


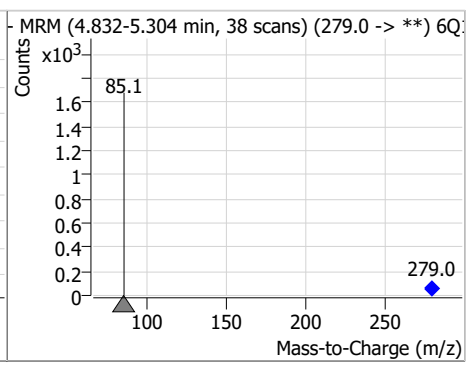




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.48	4.99	0.00	46496				

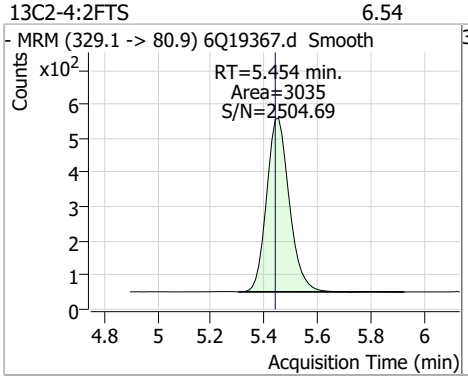


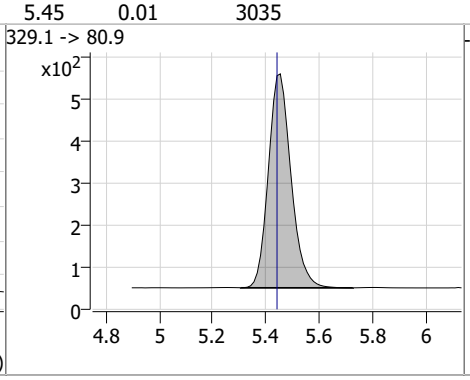


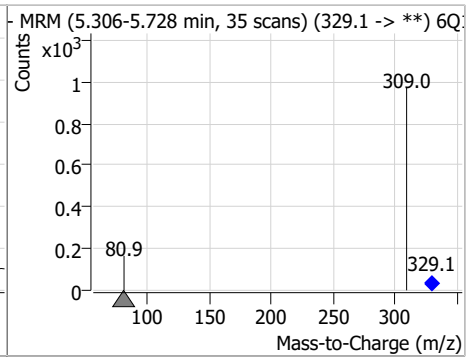


Perfluorinated Compounds by LC/MS/MS

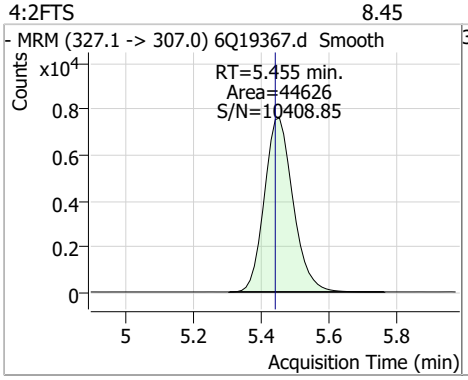
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.54	5.45	0.01	3035				

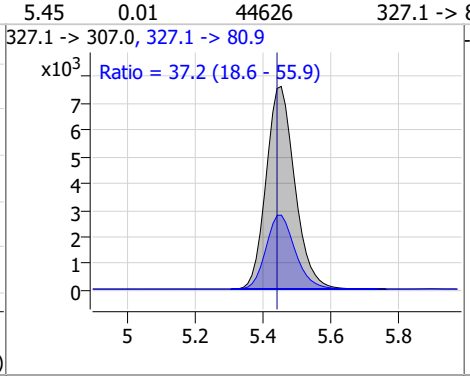


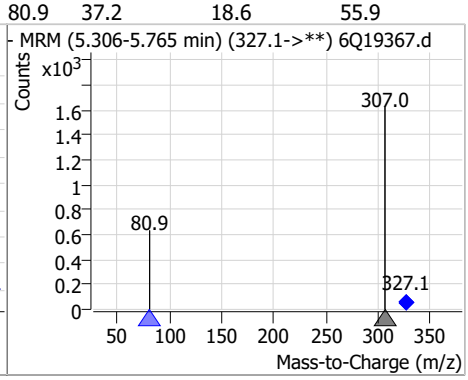




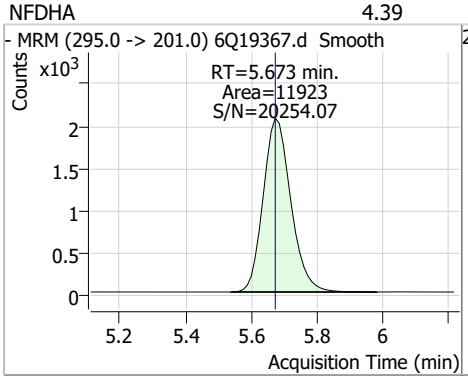
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	8.45	5.45	0.01	44626	327.1 -> 80.9	37.2	18.6	55.9

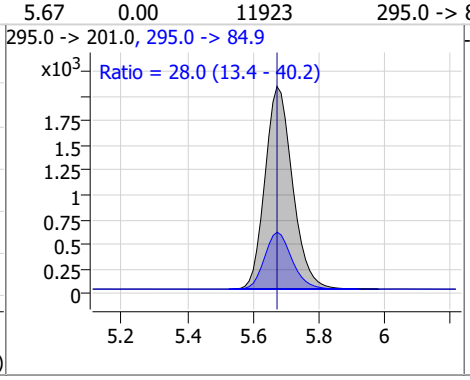


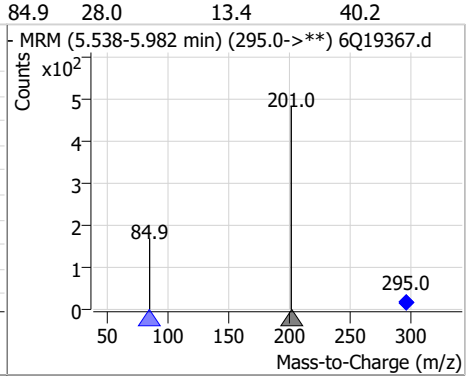




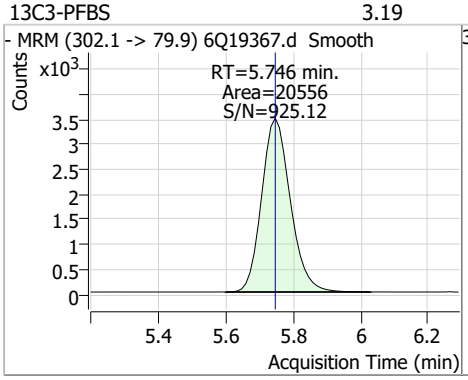
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.39	5.67	0.00	11923	295.0 -> 84.9	28.0	13.4	40.2

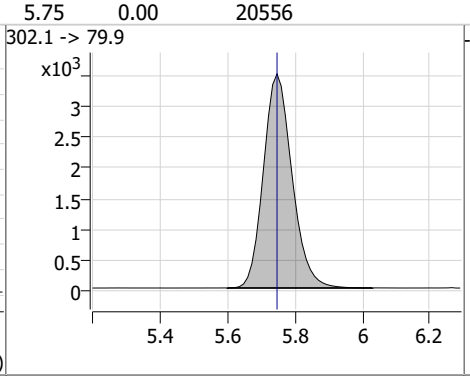


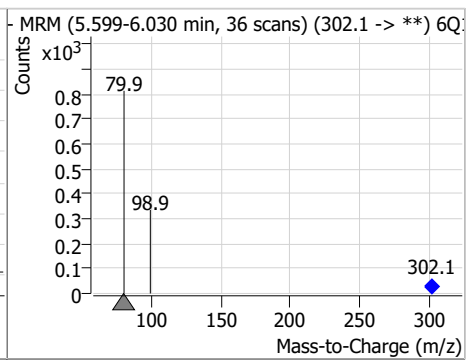




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.19	5.75	0.00	20556				

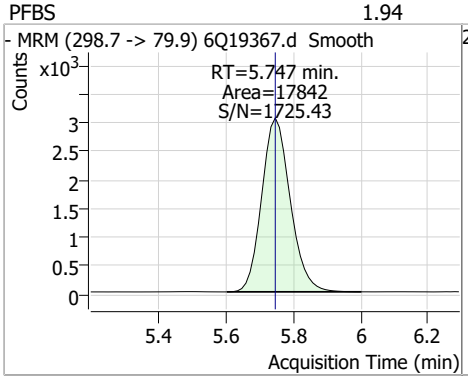


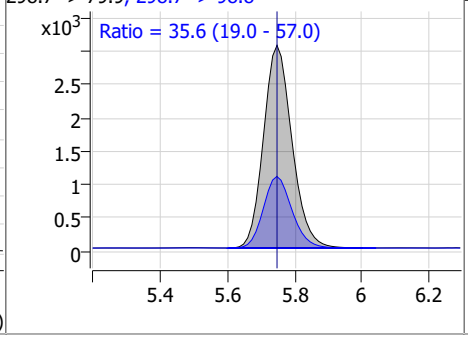


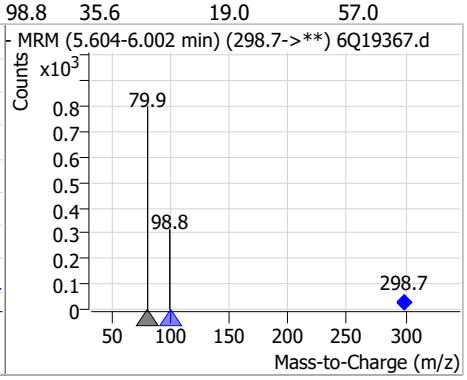


Perfluorinated Compounds by LC/MS/MS

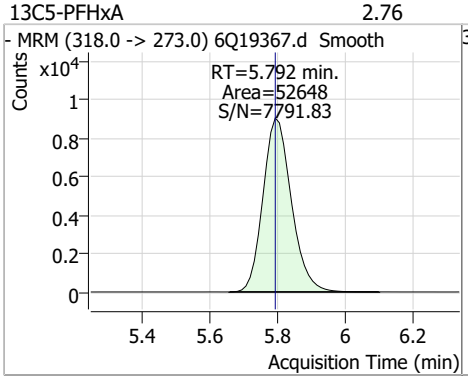
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.94	5.75	0.00	17842	298.7 -> 98.8	35.6	19.0	57.0

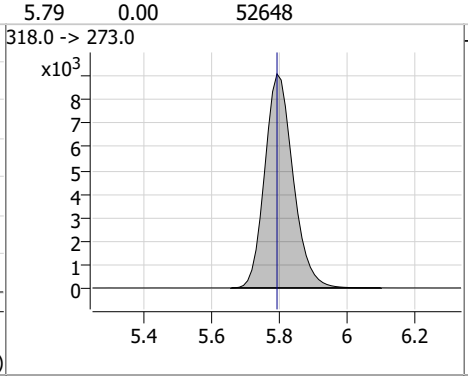


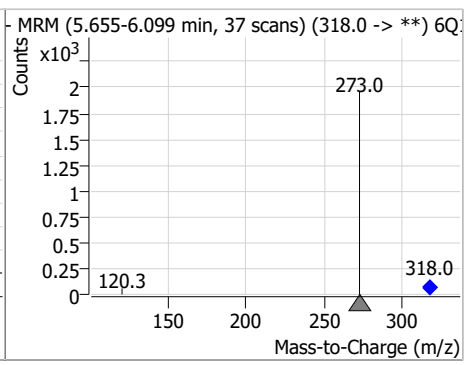




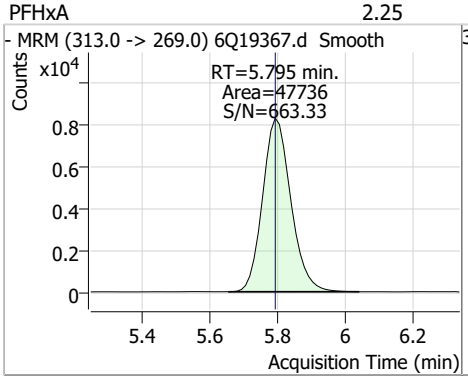
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.76	5.79	0.00	52648				

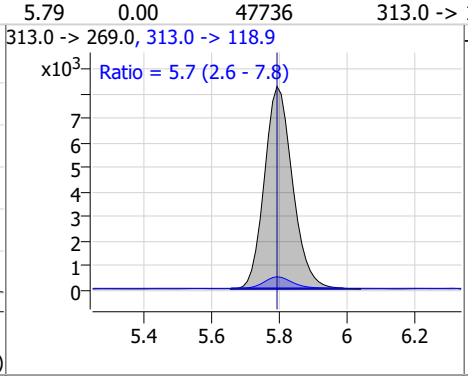


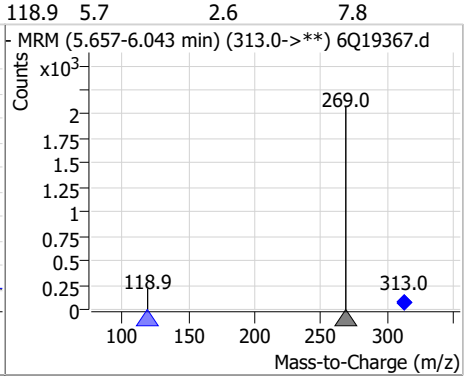




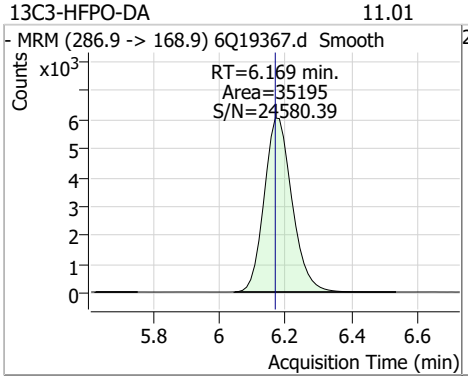
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.25	5.79	0.00	47736	313.0 -> 118.9	5.7	2.6	7.8

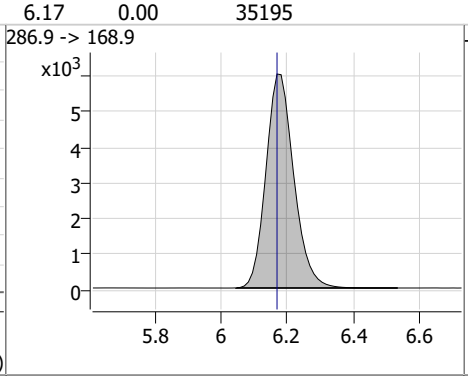


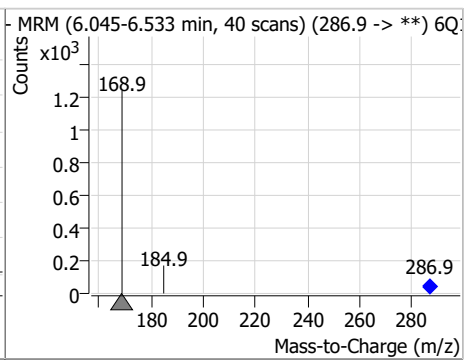




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.01	6.17	0.00	35195				

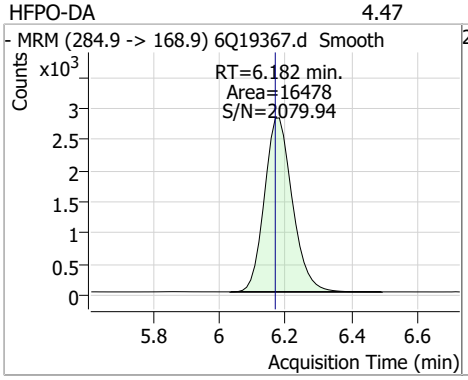


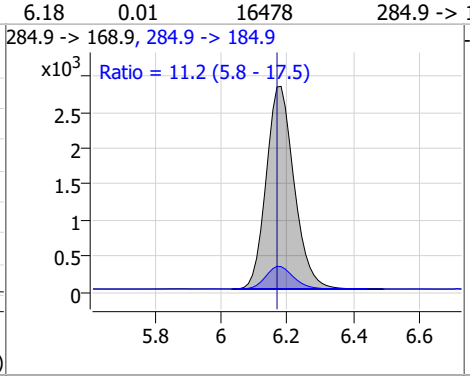


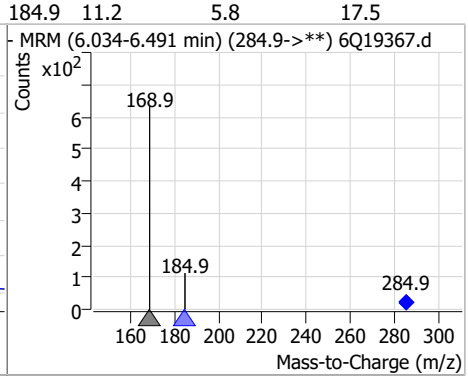


Perfluorinated Compounds by LC/MS/MS

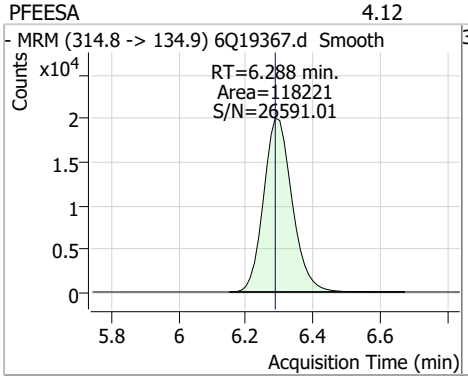
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.47	6.18	0.01	16478	284.9 -> 184.9	11.2	5.8	17.5

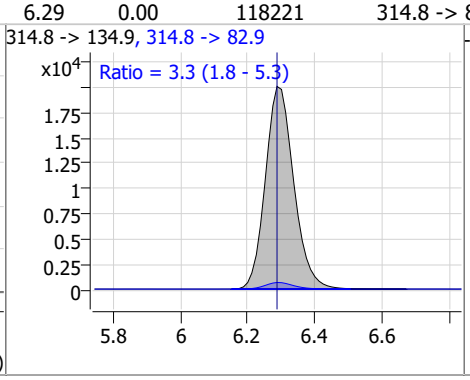


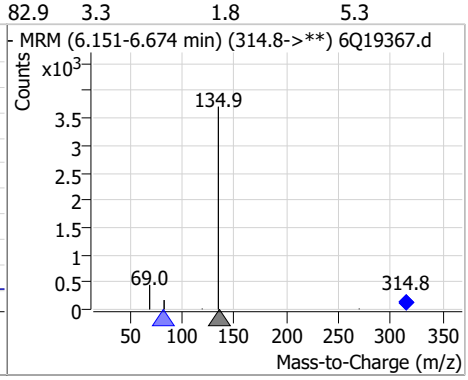




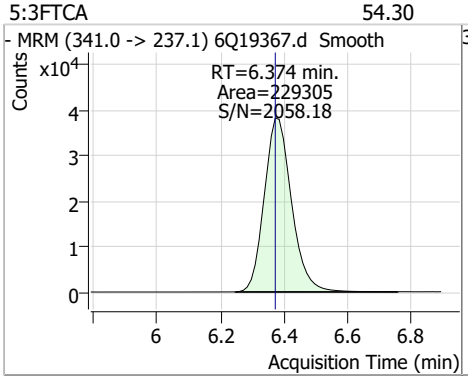
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.12	6.29	0.00	118221	314.8 -> 82.9	3.3	1.8	5.3

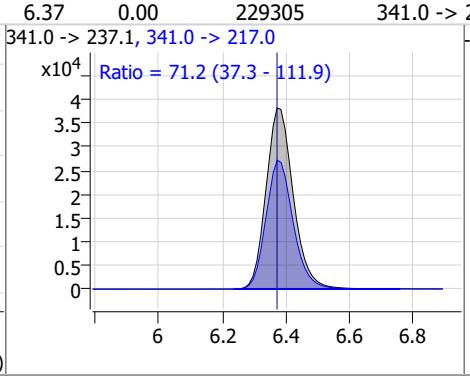


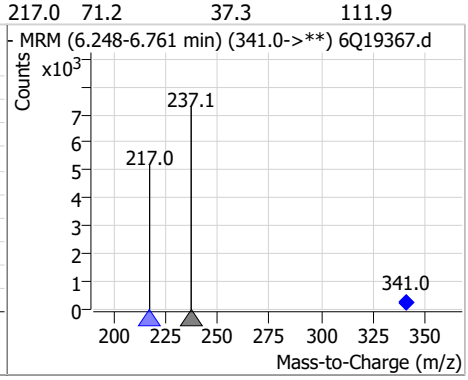




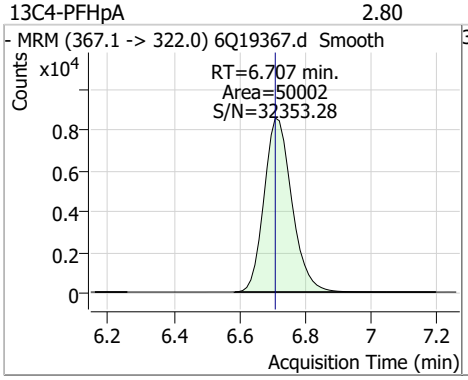
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	54.30	6.37	0.00	229305	341.0 -> 217.0	71.2	37.3	111.9

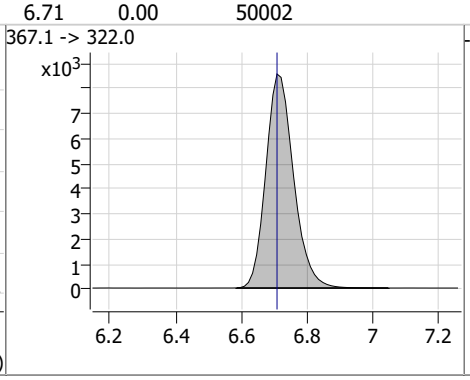


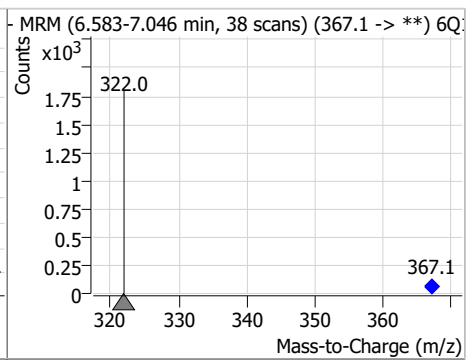




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.80	6.71	0.00	50002				

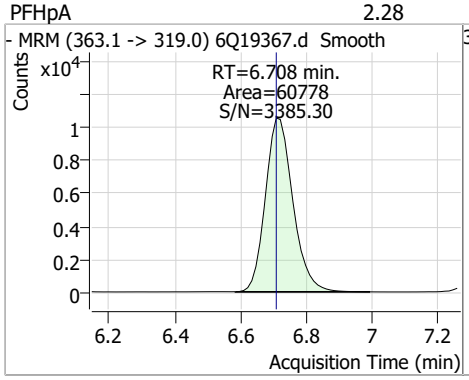


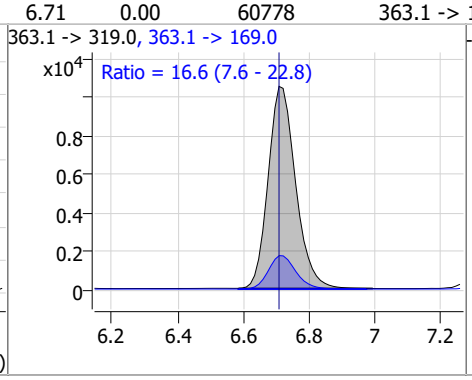


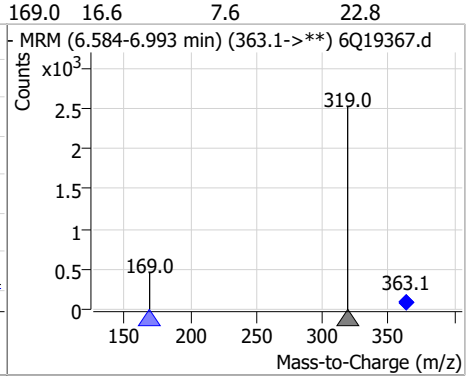


Perfluorinated Compounds by LC/MS/MS

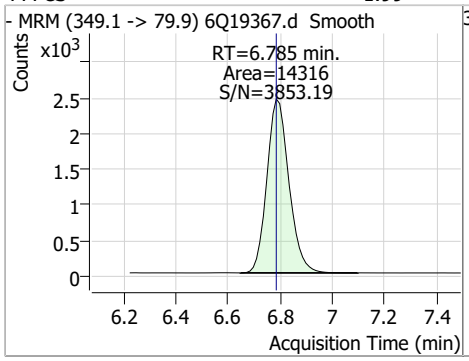
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.28	6.71	0.00	60778	363.1 -> 169.0	16.6	7.6	22.8

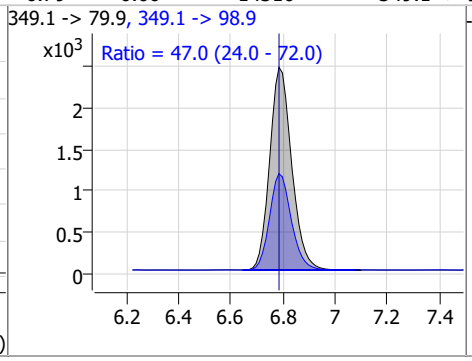


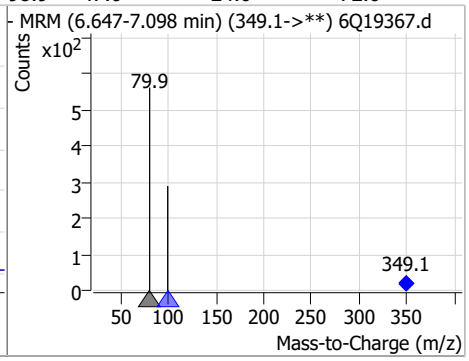




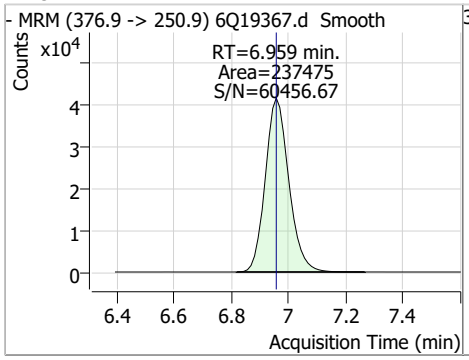
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.99	6.79	0.00	14316	349.1 -> 98.9	47.0	24.0	72.0

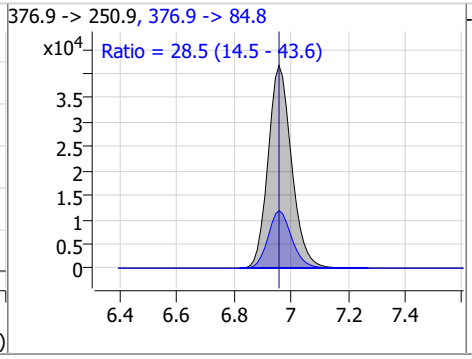


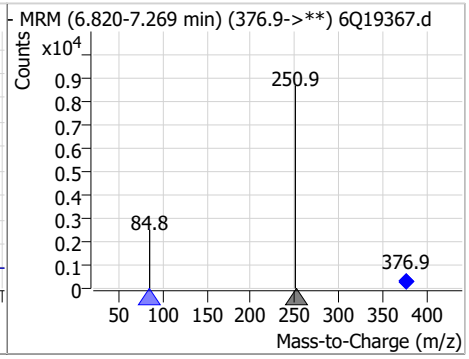




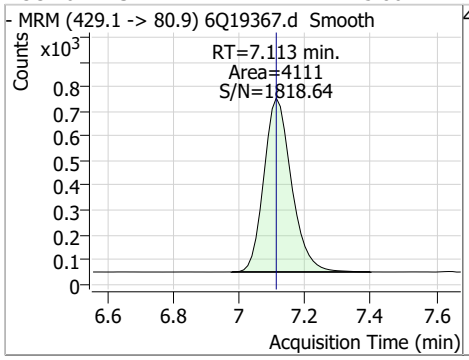
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.17	6.96	0.00	237475	376.9 -> 84.8	28.5	14.5	43.6

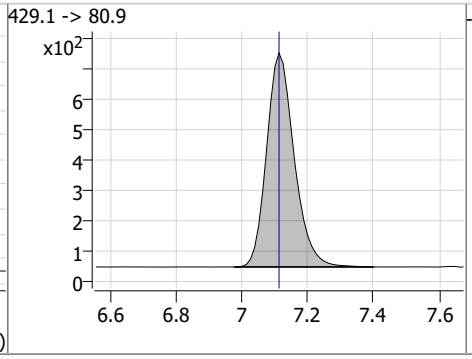


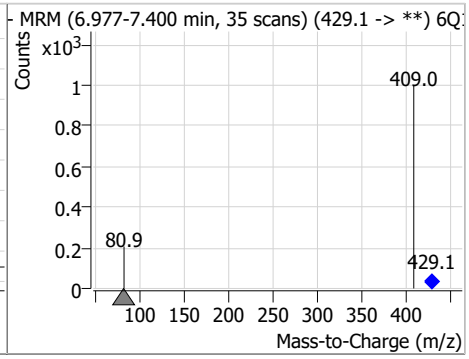




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.86	7.11	0.00	4111				

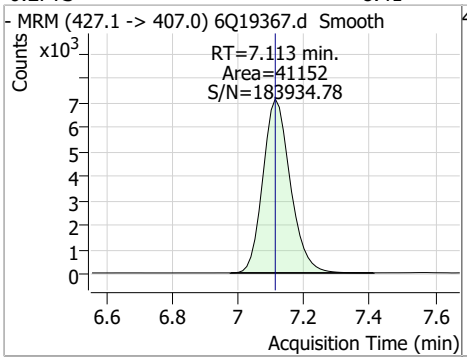


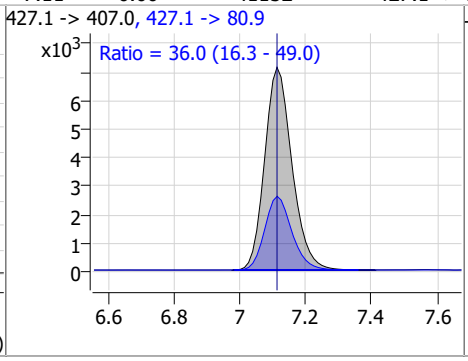


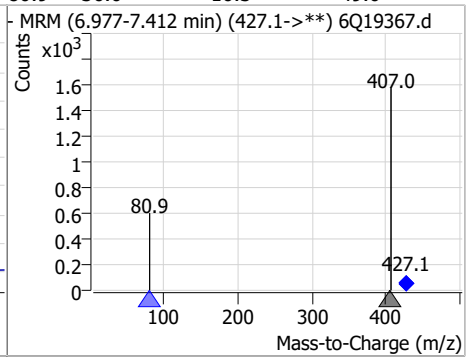


Perfluorinated Compounds by LC/MS/MS

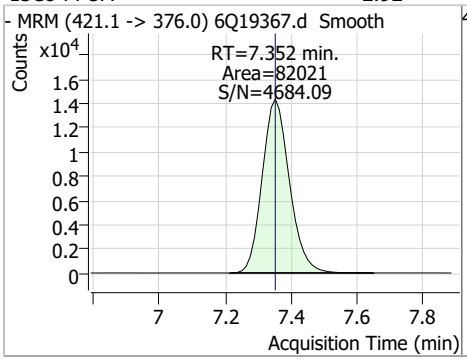
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	8.41	7.11	0.00	41152	427.1 -> 80.9	36.0	16.3	49.0

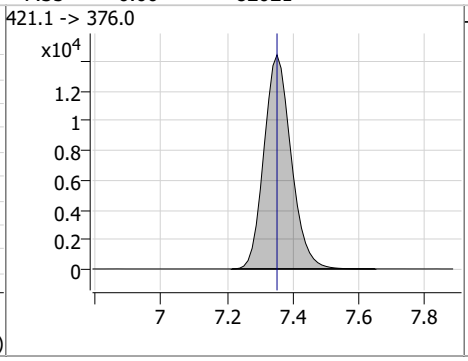


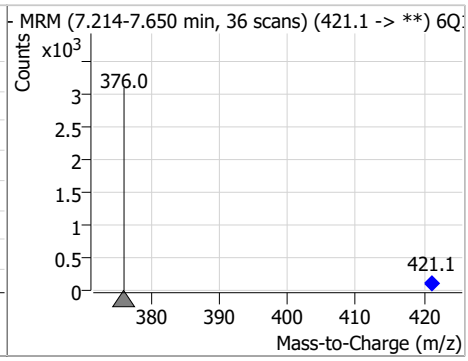




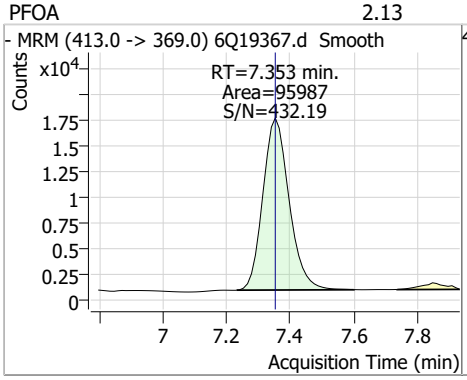
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.92	7.35	0.00	82021				

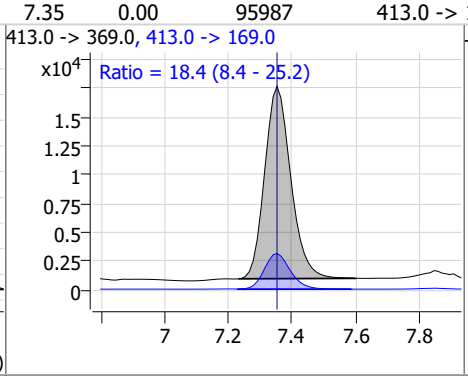


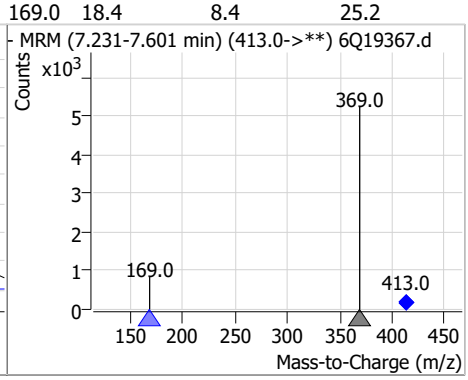




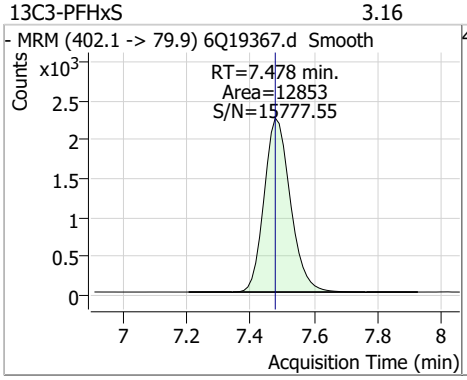
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.13	7.35	0.00	95987	413.0 -> 169.0	18.4	8.4	25.2

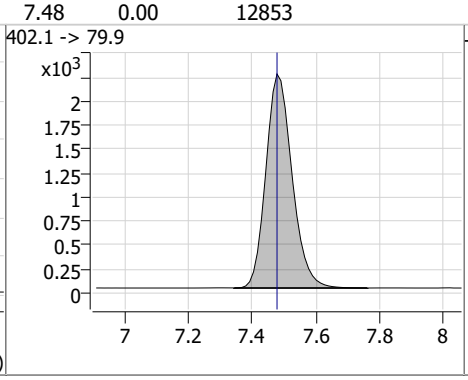


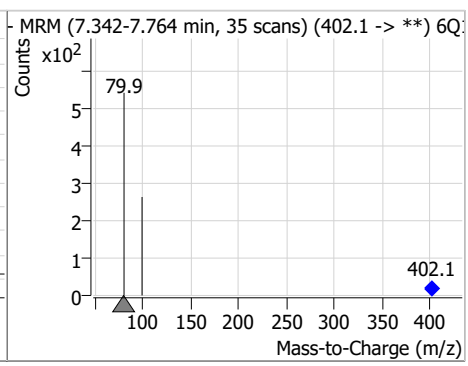




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.16	7.48	0.00	12853				

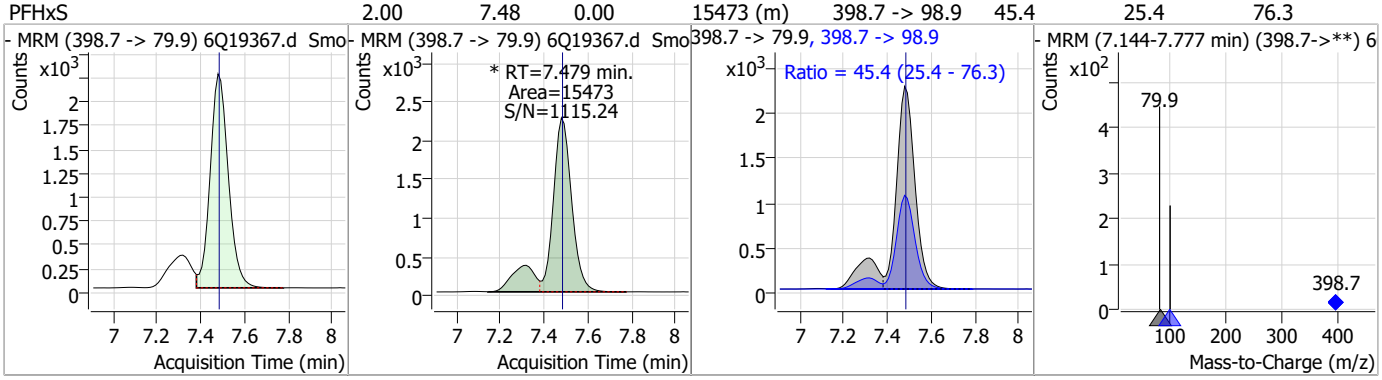




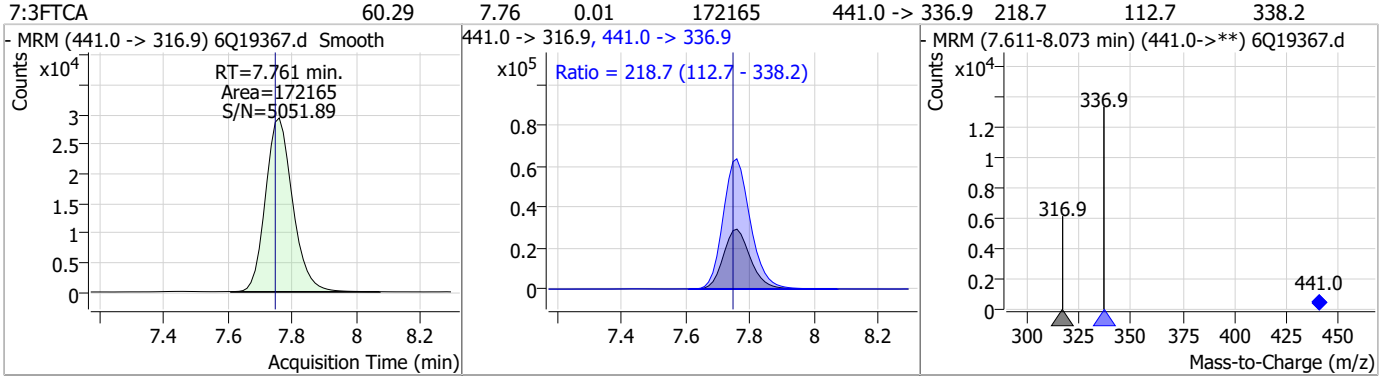


Perfluorinated Compounds by LC/MS/MS

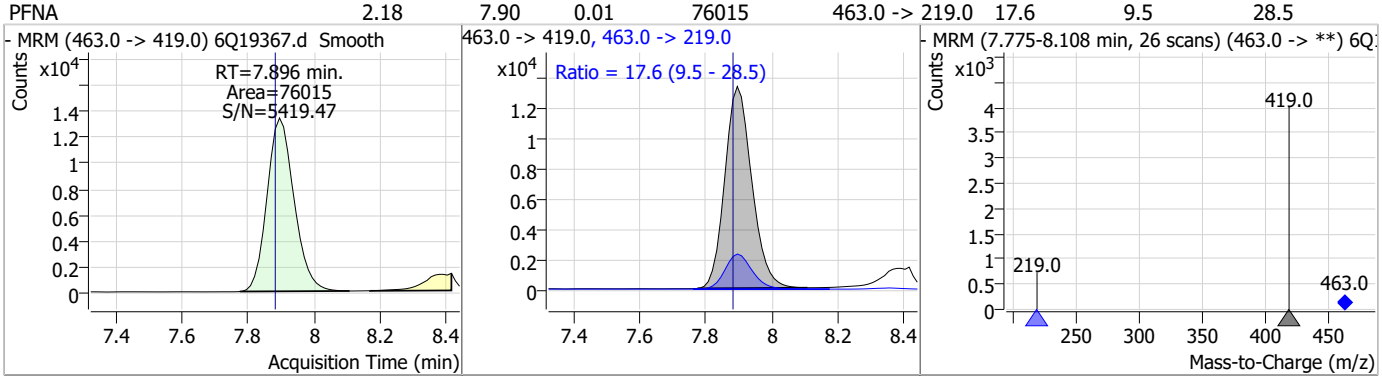
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.00	7.48	0.00	15473 (m)	398.7 -> 98.9	45.4	25.4	76.3



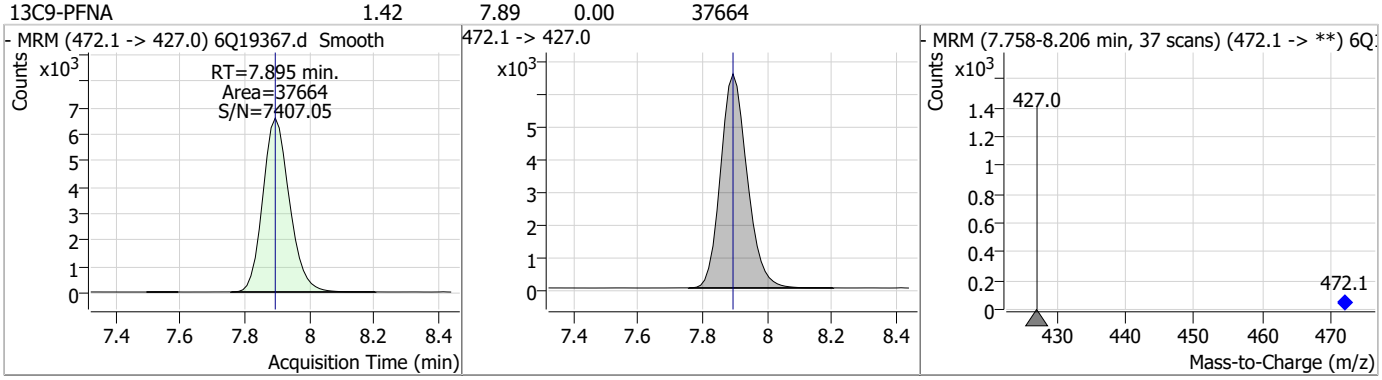
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	60.29	7.76	0.01	172165	441.0 -> 336.9	218.7	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.18	7.90	0.01	76015	463.0 -> 219.0	17.6	9.5	28.5

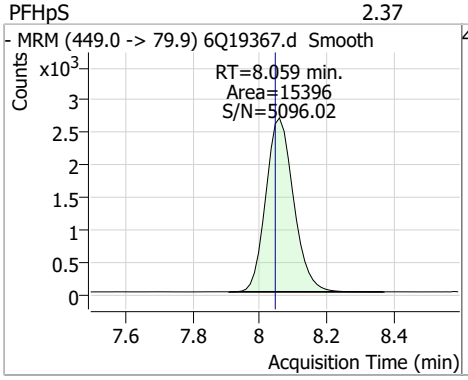


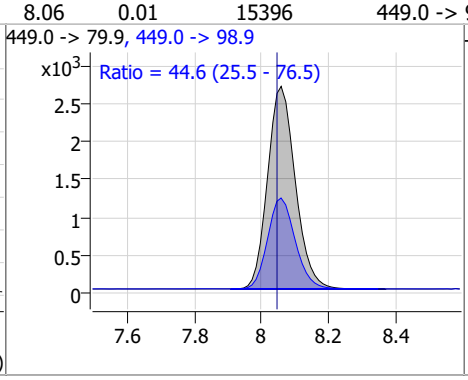
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.42	7.89	0.00	37664				

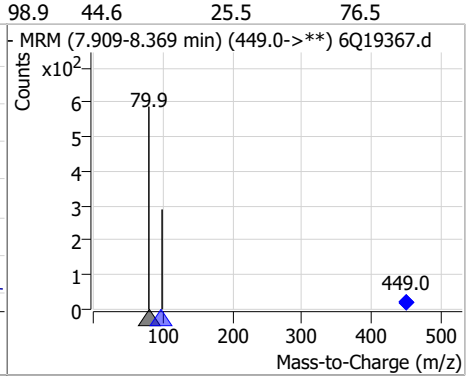


Perfluorinated Compounds by LC/MS/MS

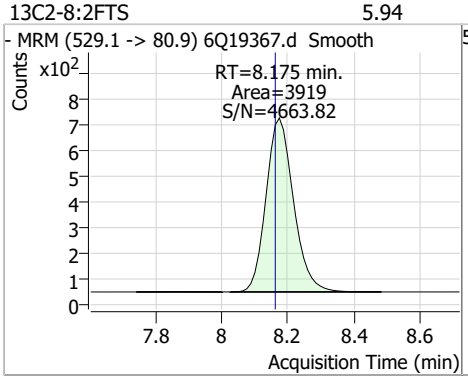
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.37	8.06	0.01	15396	449.0 -> 98.9	44.6	25.5	76.5

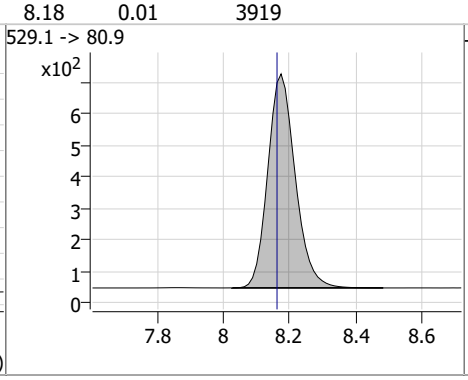


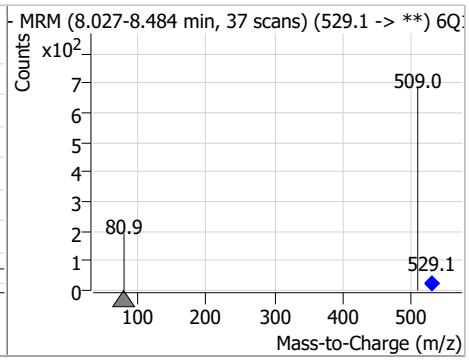




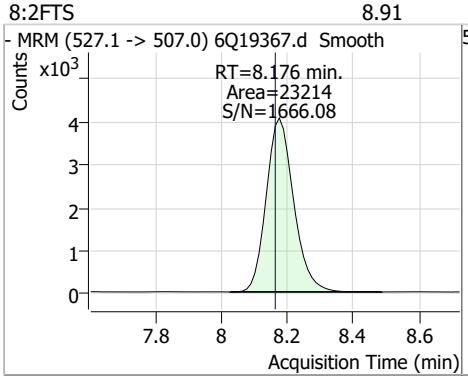
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.94	8.18	0.01	3919				

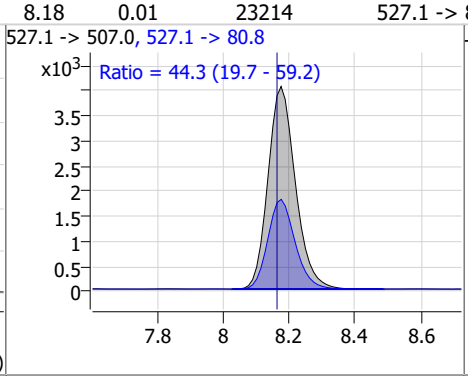


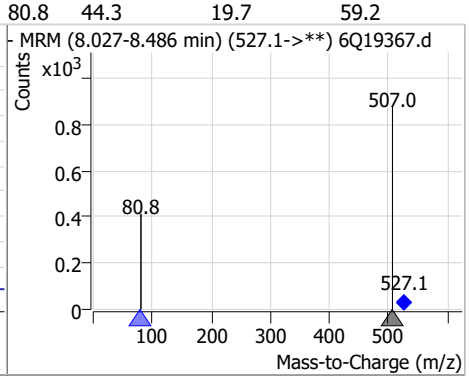




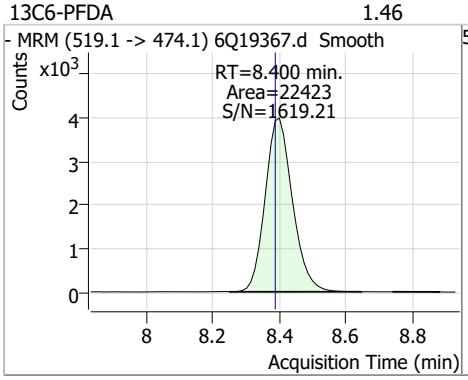
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	8.91	8.18	0.01	23214	527.1 -> 80.8	44.3	19.7	59.2

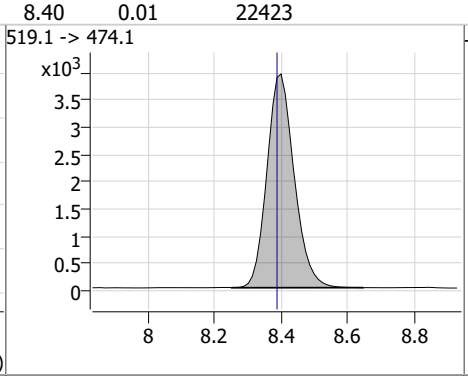


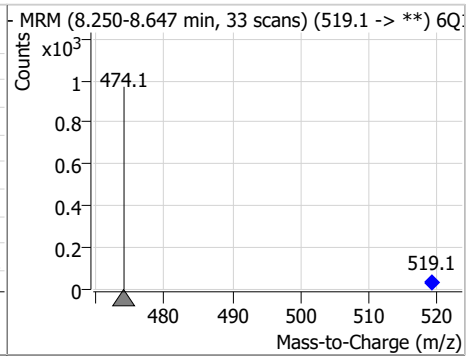




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.46	8.40	0.01	22423				

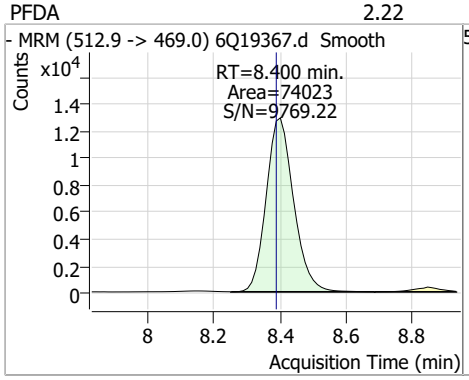


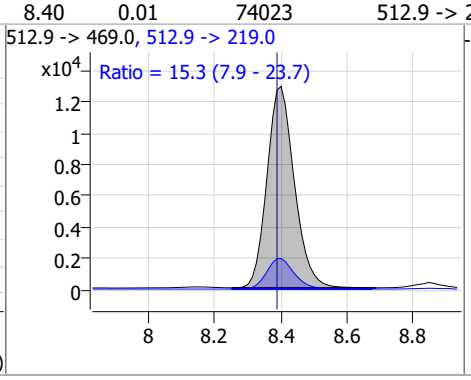


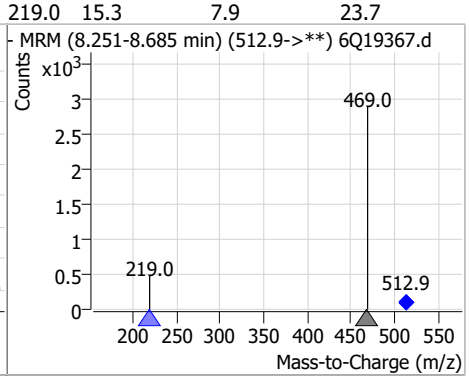


Perfluorinated Compounds by LC/MS/MS

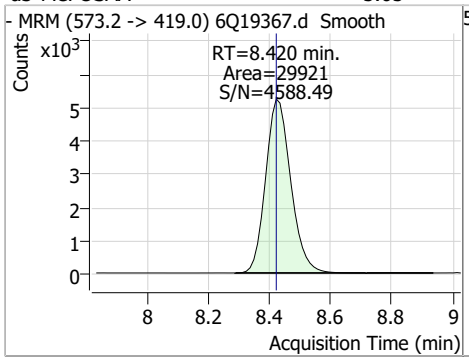
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.22	8.40	0.01	74023	512.9 -> 219.0	15.3	7.9	23.7

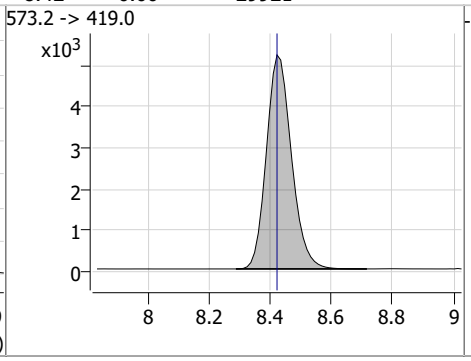


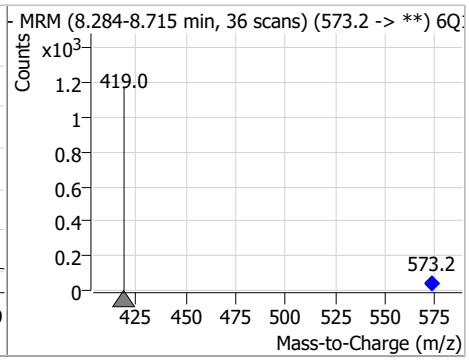




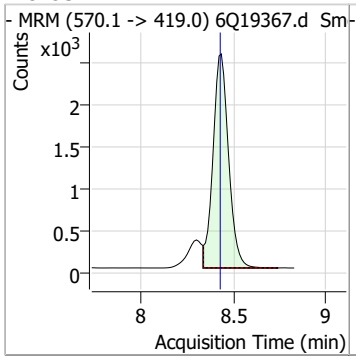
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.65	8.42	0.00	29921				

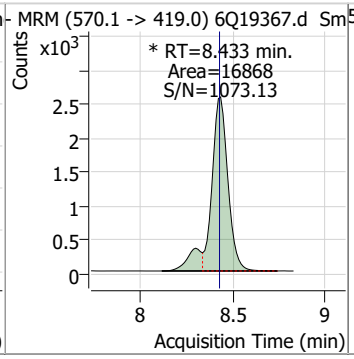


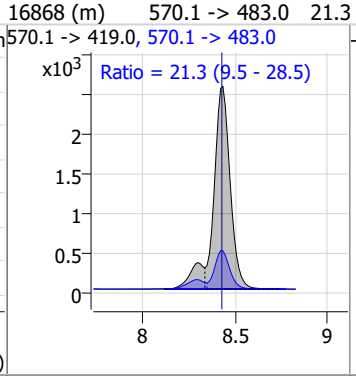


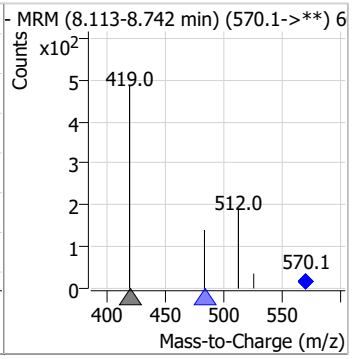


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.17	8.43	0.01	16868 (m)	570.1 -> 483.0	21.3	9.5	28.5

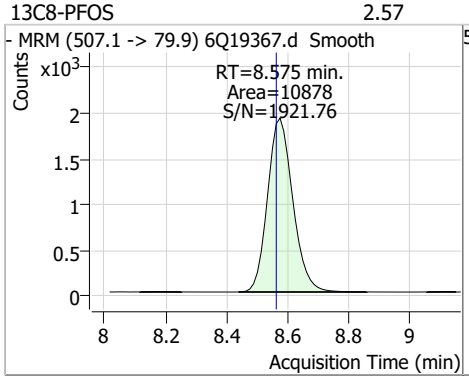


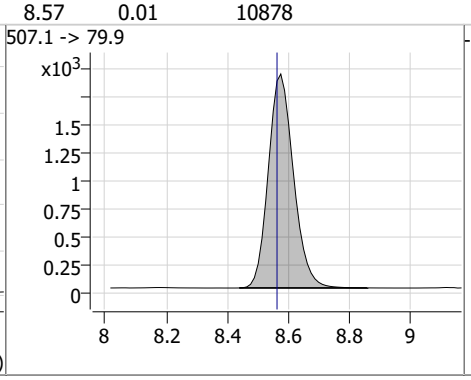


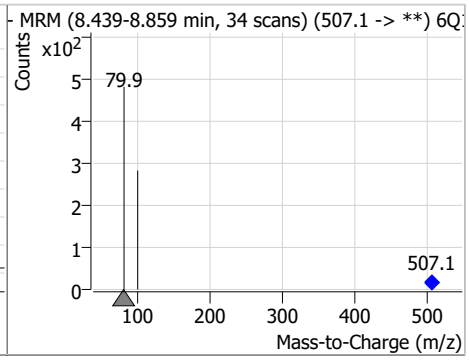




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.57	8.57	0.01	10878				

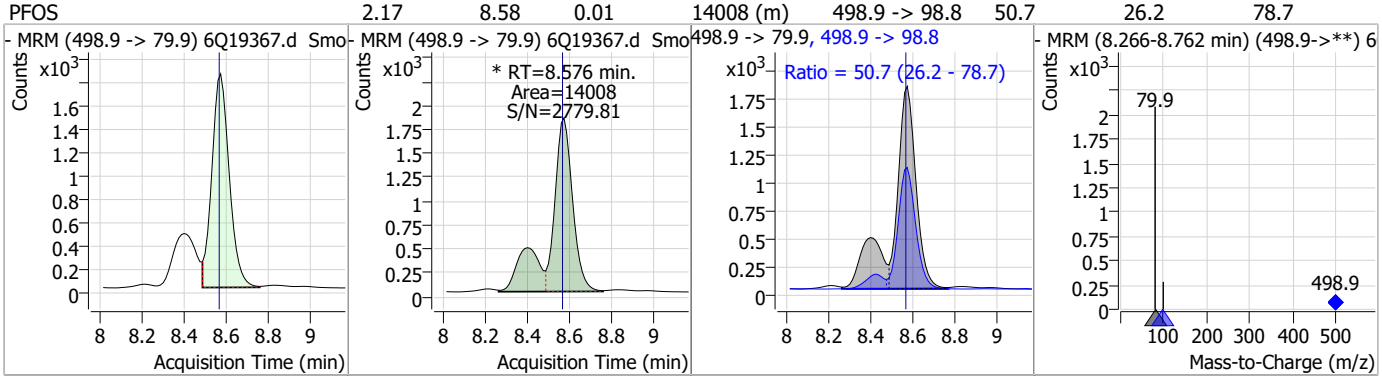




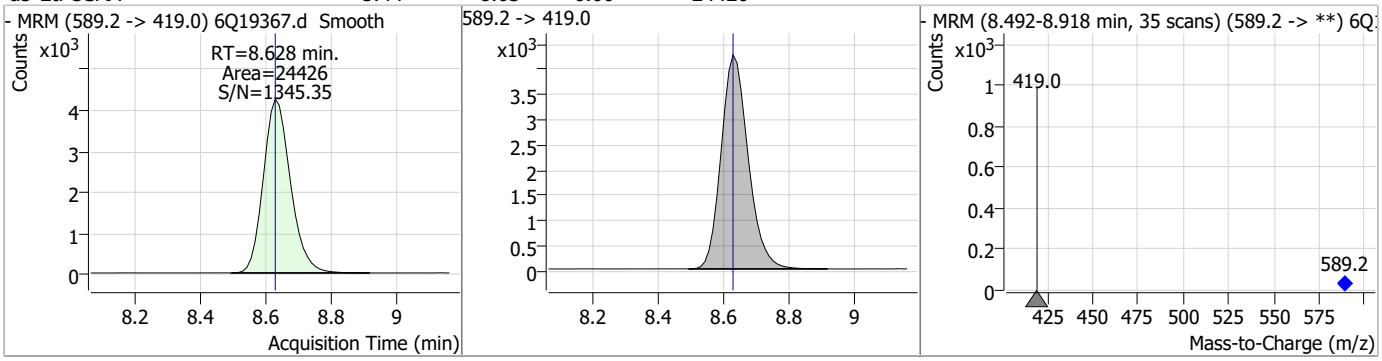


Perfluorinated Compounds by LC/MS/MS

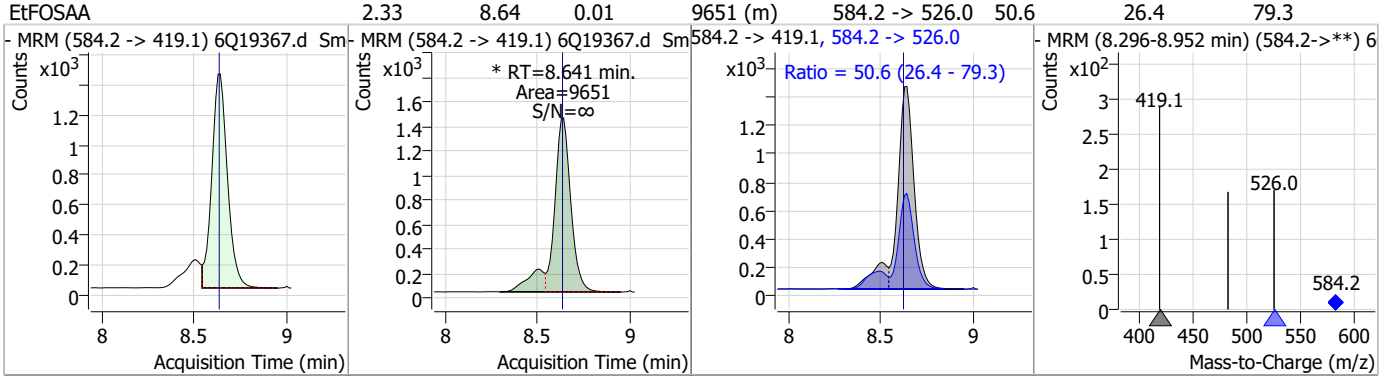
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.17	8.58	0.01	14008 (m)	498.9 -> 98.8	50.7	26.2	78.7



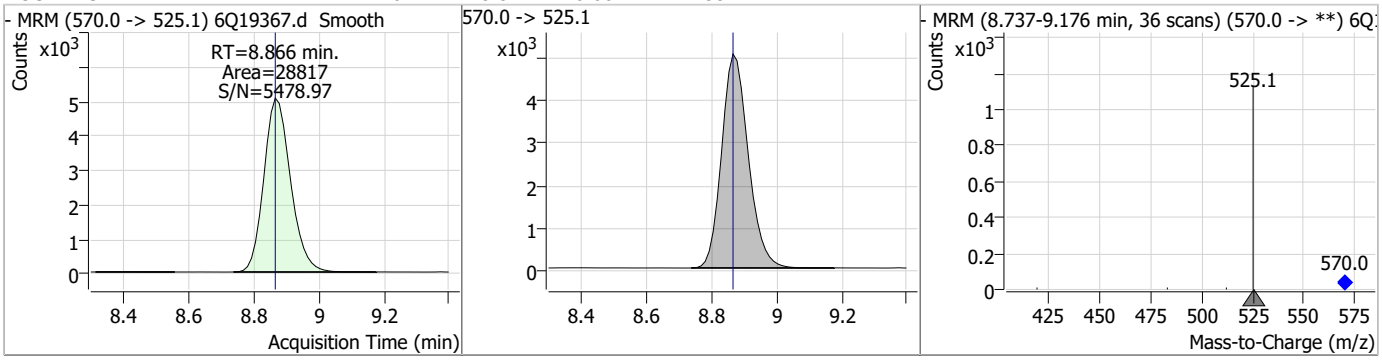
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.44	8.63	0.00	24426				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.33	8.64	0.01	9651 (m)	584.2 -> 526.0	50.6	26.4	79.3

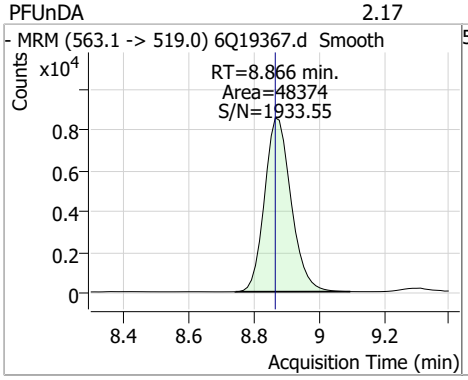


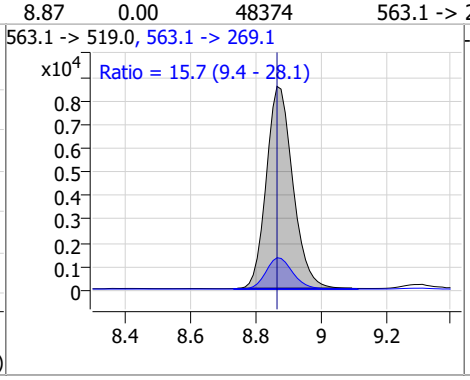
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.40	8.87	0.00	28817				

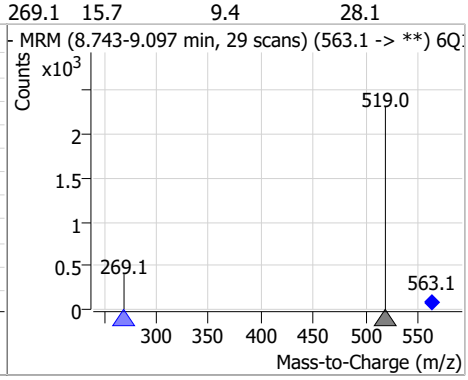


Perfluorinated Compounds by LC/MS/MS

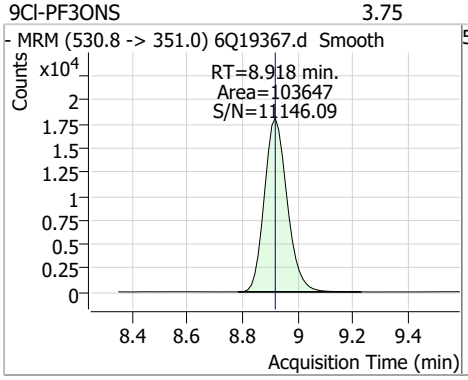
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.17	8.87	0.00	48374	563.1 -> 269.1	15.7	9.4	28.1

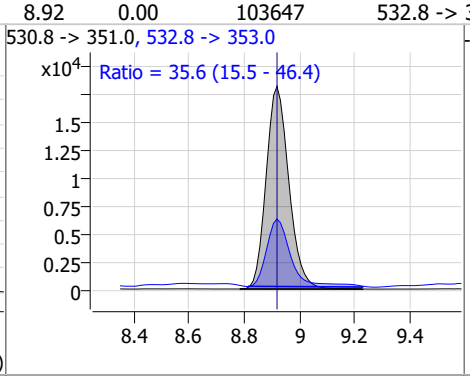


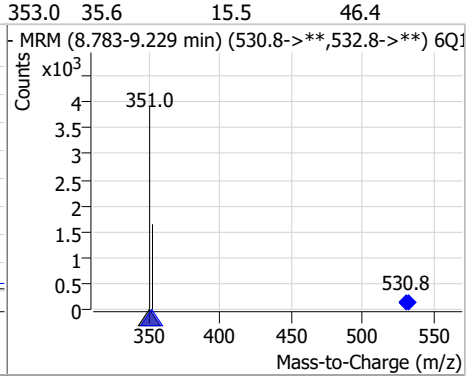




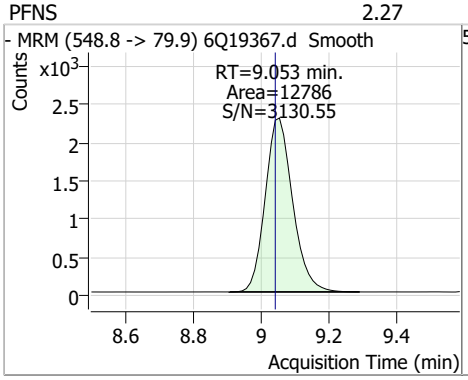
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	3.75	8.92	0.00	103647	532.8 -> 353.0	35.6	15.5	46.4

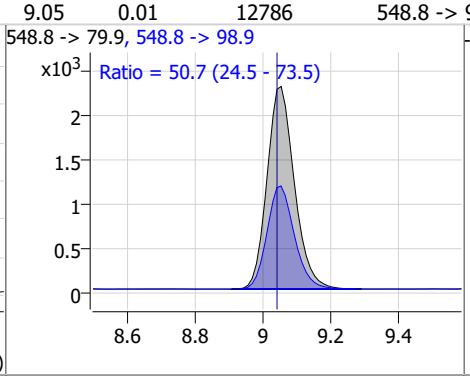


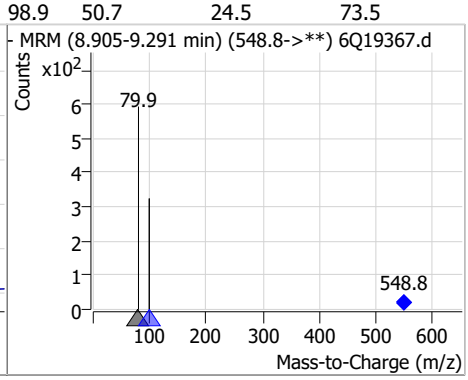




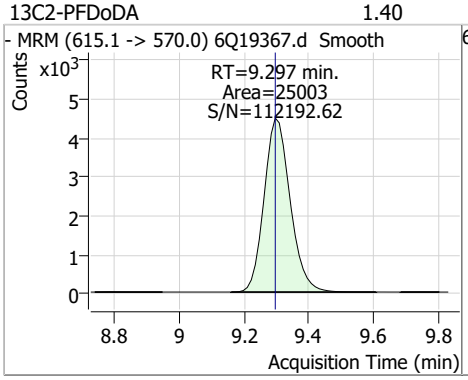
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.27	9.05	0.01	12786	548.8 -> 98.9	50.7	24.5	73.5

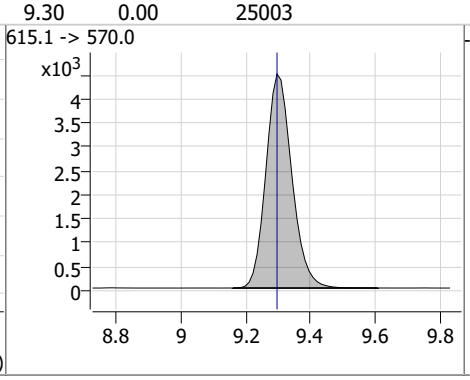


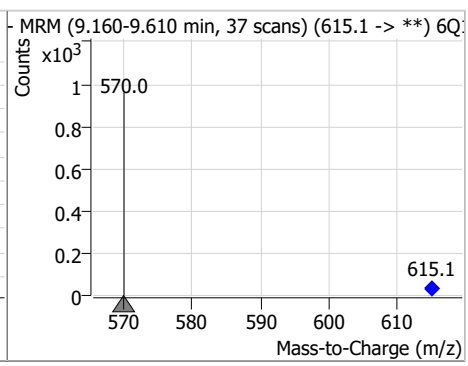




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.40	9.30	0.00	25003				

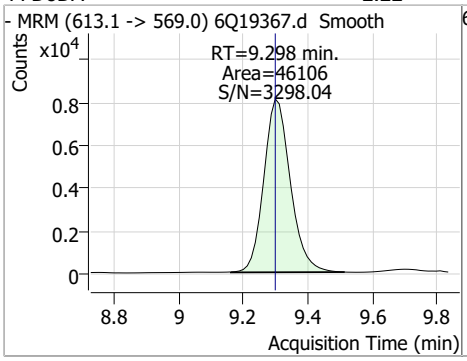


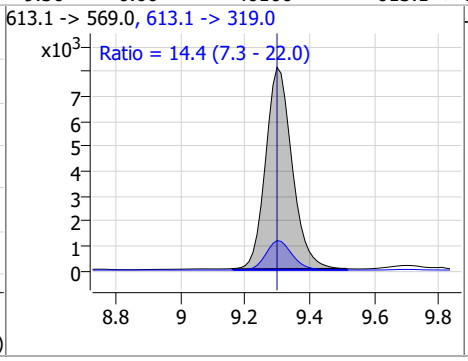


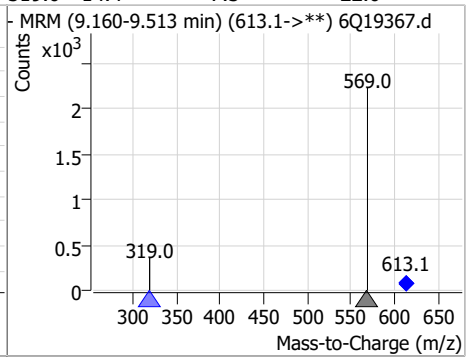


Perfluorinated Compounds by LC/MS/MS

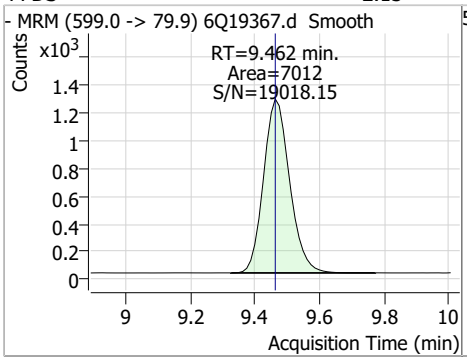
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.22	9.30	0.00	46106	613.1 -> 319.0	14.4	7.3	22.0

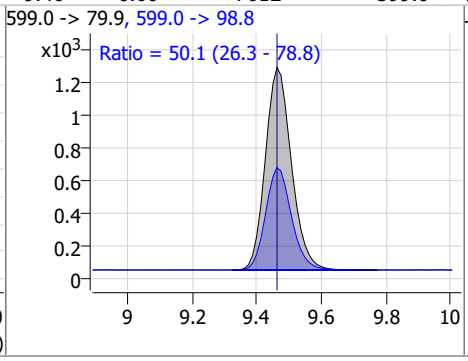


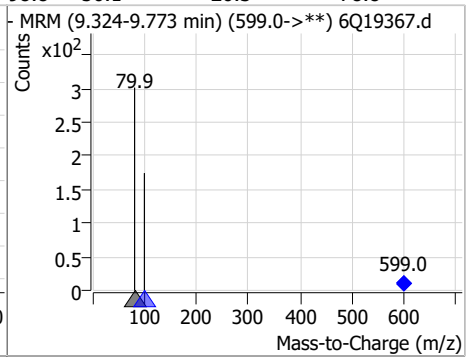




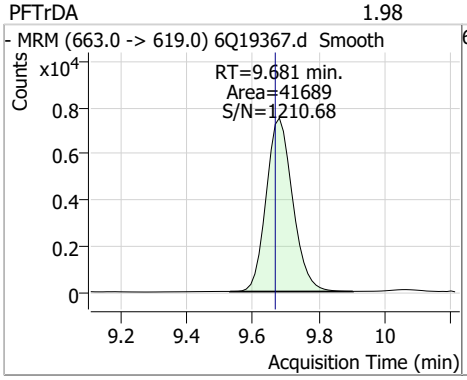
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.13	9.46	0.00	7012	599.0 -> 98.8	50.1	26.3	78.8

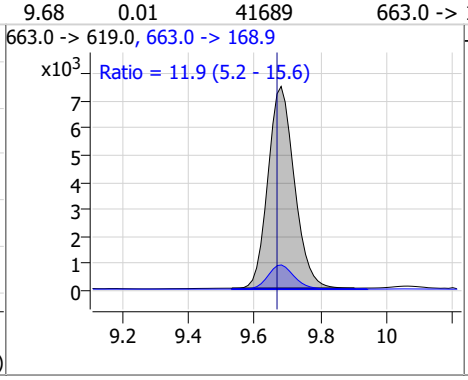


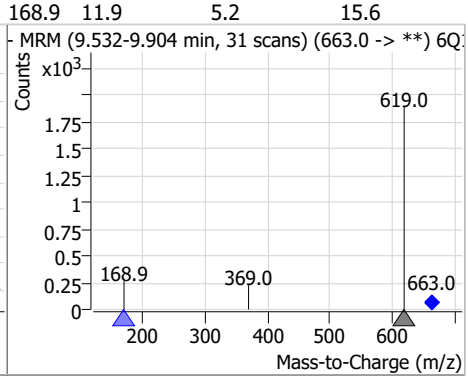




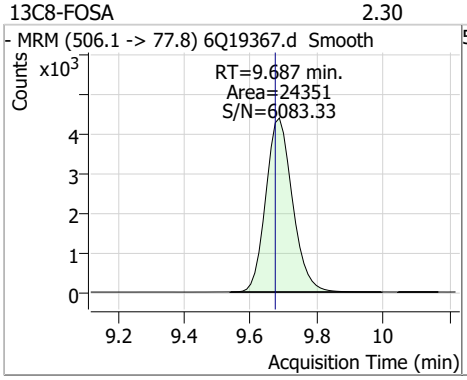
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	1.98	9.68	0.01	41689	663.0 -> 168.9	11.9	5.2	15.6

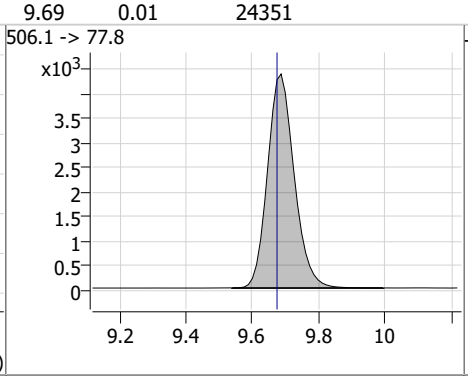


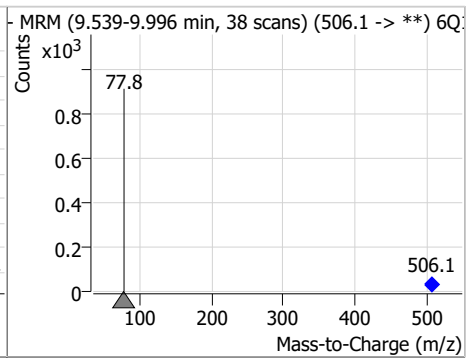




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.30	9.69	0.01	24351				

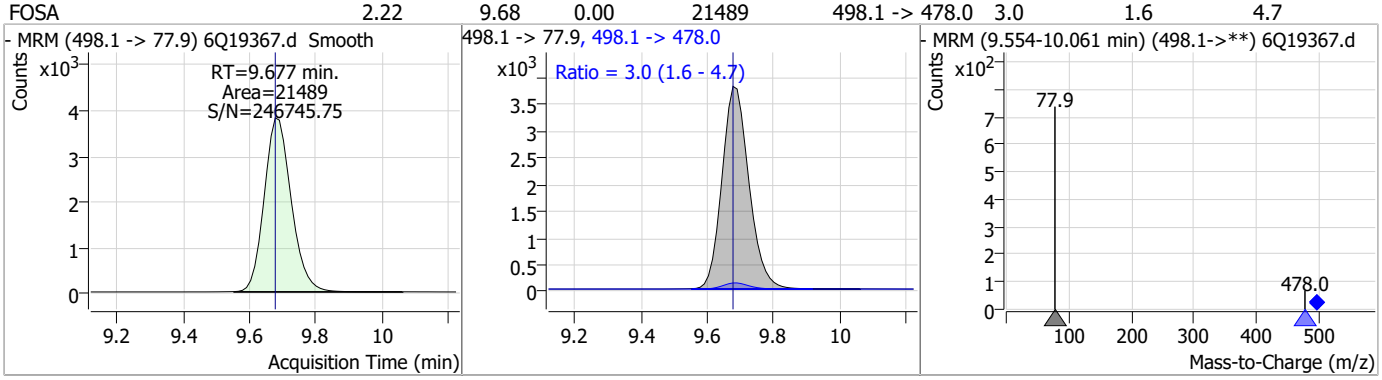




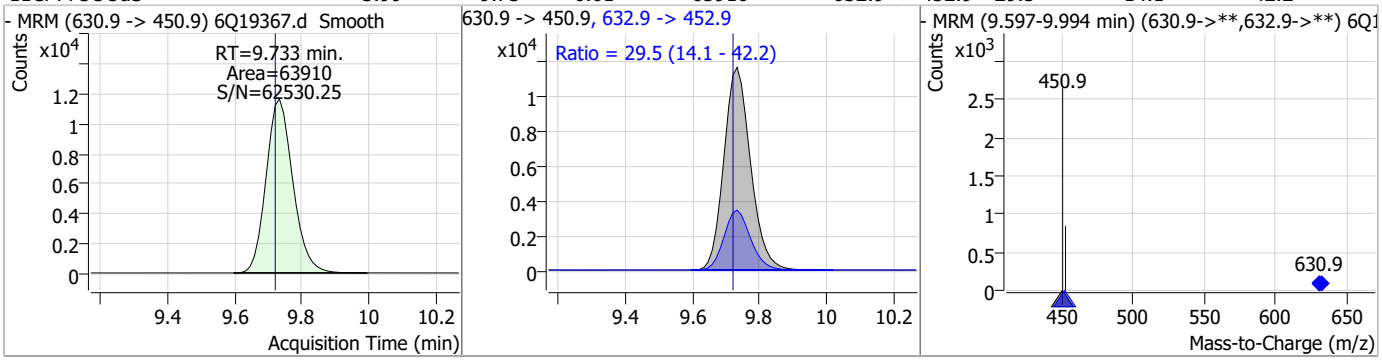


Perfluorinated Compounds by LC/MS/MS

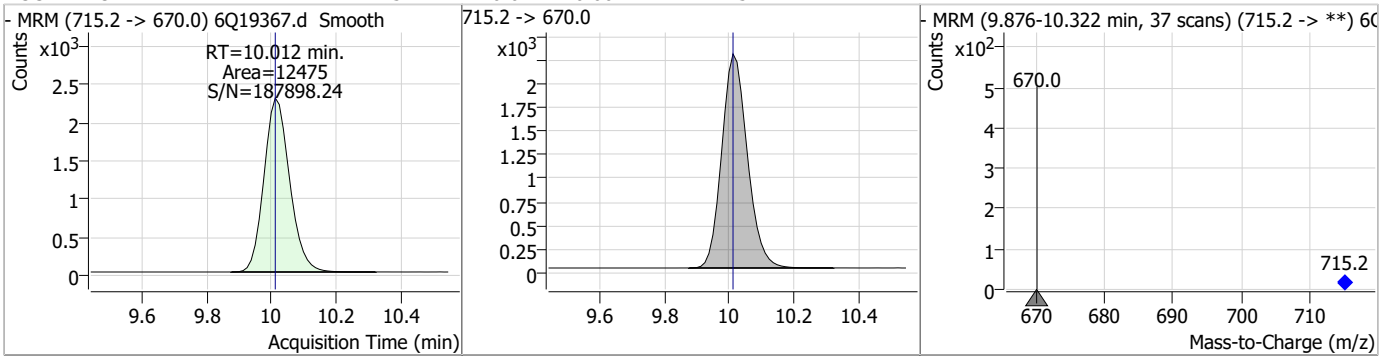
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.22	9.68	0.00	21489	498.1 -> 478.0	3.0	1.6	4.7



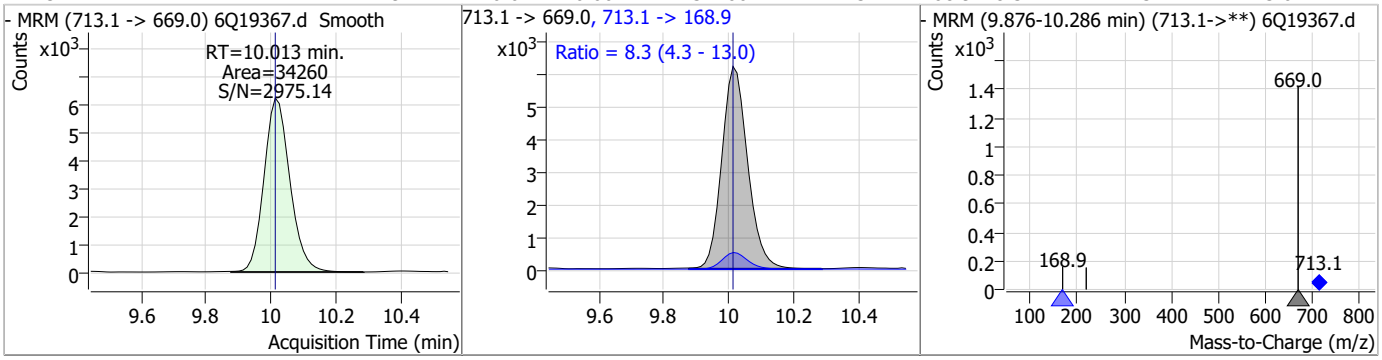
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	3.99	9.73	0.01	63910	632.9 -> 452.9	29.5	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.25	10.01	0.00	12475				

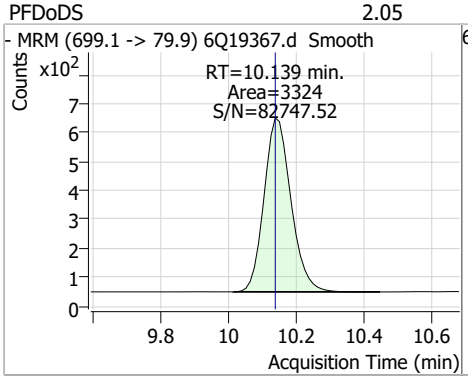


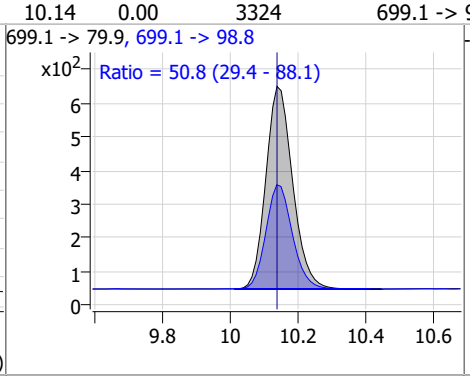
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.29	10.01	0.00	34260	713.1 -> 168.9	8.3	4.3	13.0

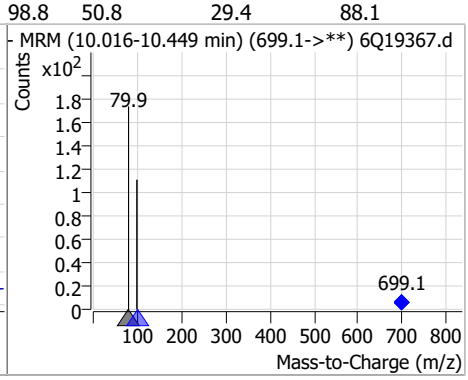


Perfluorinated Compounds by LC/MS/MS

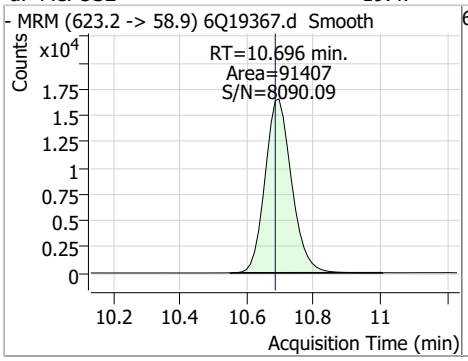
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.05	10.14	0.00	3324	699.1 -> 98.8	50.8	29.4	88.1

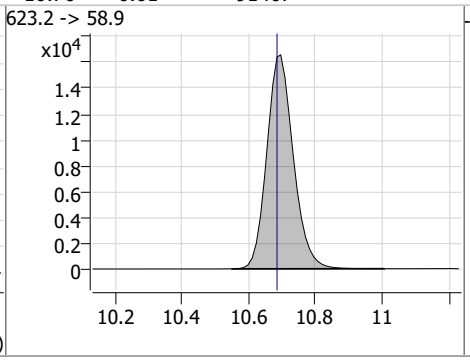


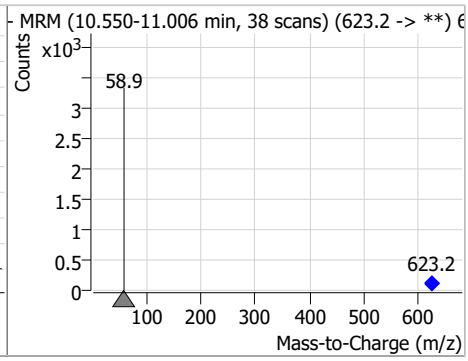




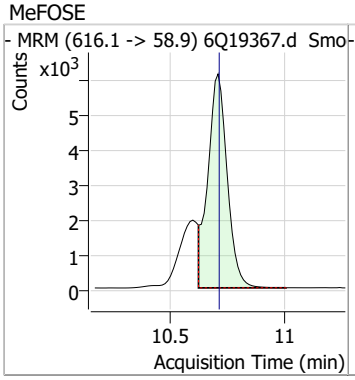
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	19.47	10.70	0.01	91407				

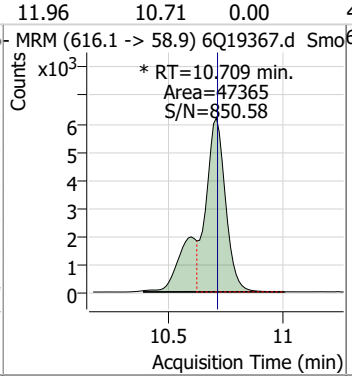


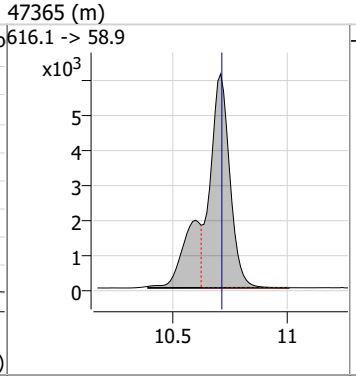


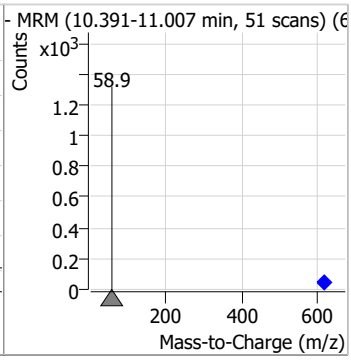


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	11.96	10.71	0.00	47365 (m)				

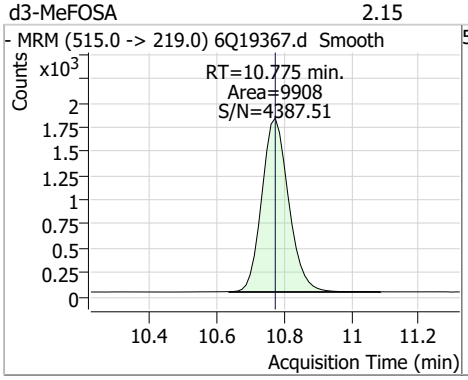


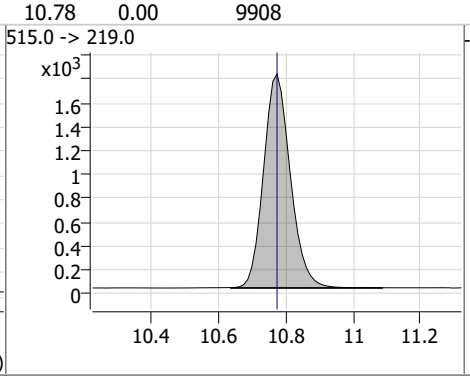


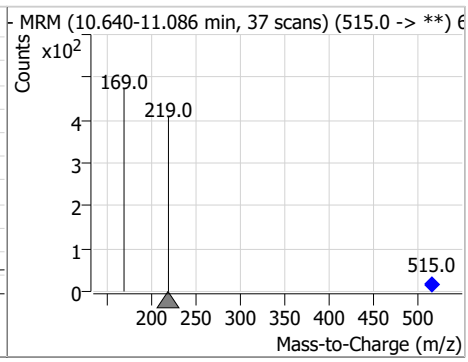




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.15	10.78	0.00	9908				

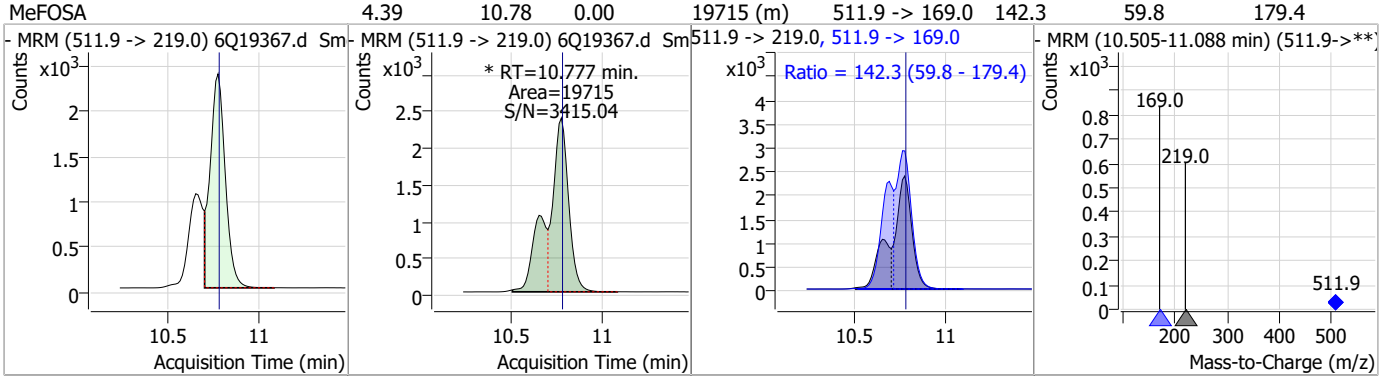




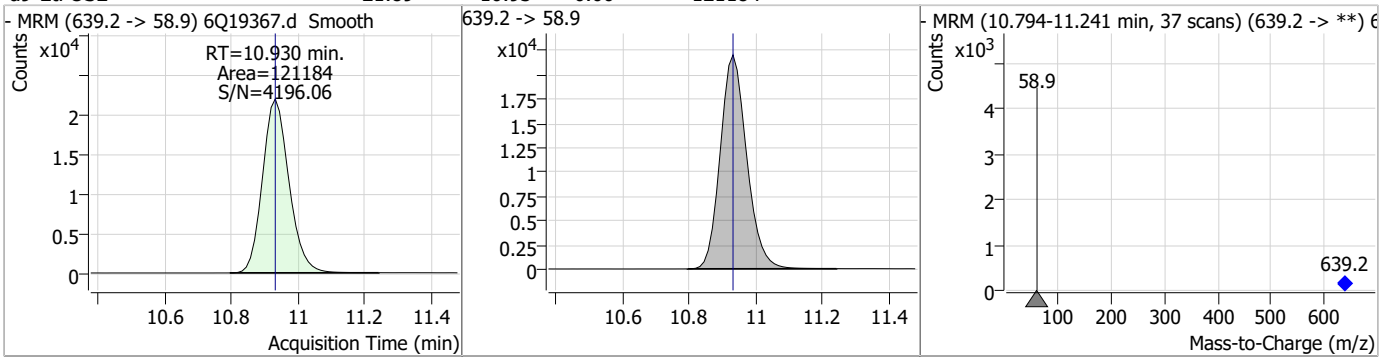


Perfluorinated Compounds by LC/MS/MS

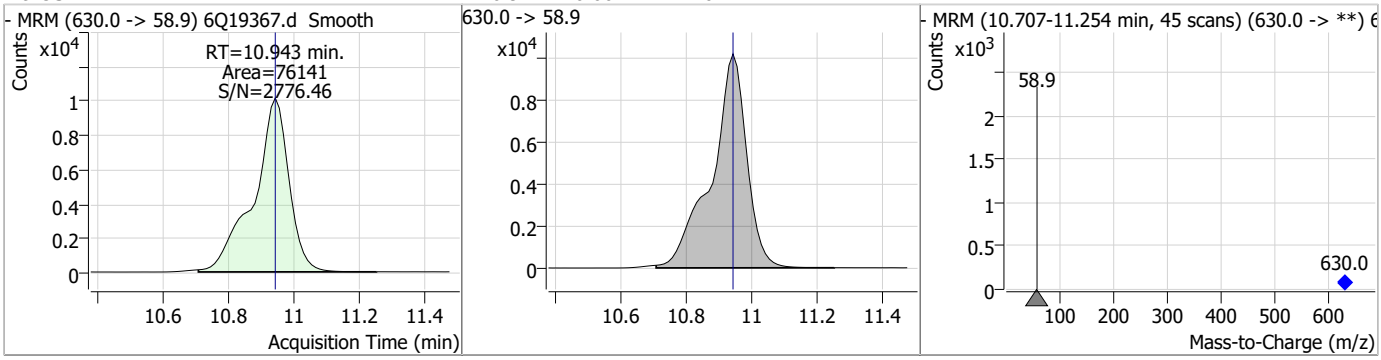
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.39	10.78	0.00	19715 (m)	511.9 -> 169.0	142.3	59.8	179.4



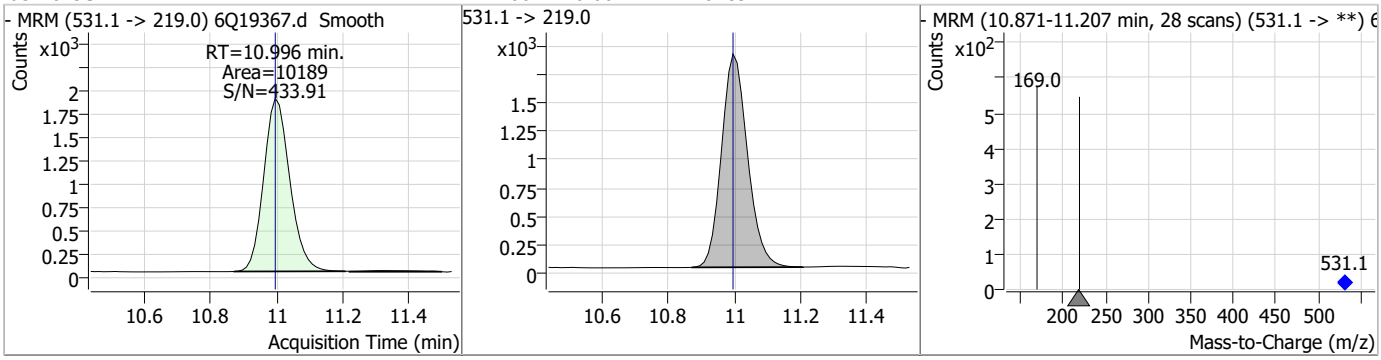
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	21.89	10.93	0.00	121184				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.14	10.94	0.00	76141				

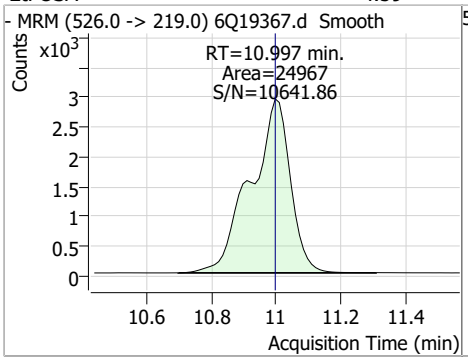


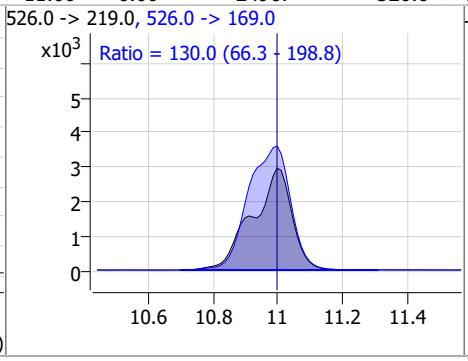
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.27	11.00	0.00	10189				

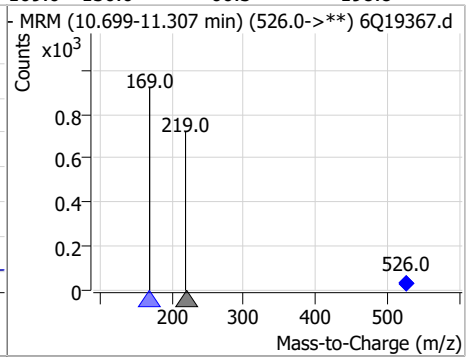


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.59	11.00	0.00	24967	526.0 -> 169.0	130.0	66.3	198.8







Manual Integration Approval Summary

Sample Number:	OP97325-MS	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19367.D	**Analyst approved:**	06/15/23 10:13 Martha Valls
Injection Time:	06/14/23 19:54	**Supervisor approved:**	06/15/23 10:58 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.43	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.58	Split peak
EtFOSAA	2991-50-6		8.64	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/21/23 16:21

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19606.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 11:12:04 AM
Sample Name : op97385-ms
Vial : P2-E5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97385,S6Q292,60,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	140026	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	45711	5.00	µg/L	0.000
M5-PFHxA	5.804	318.0 -> 273.0	47332	2.50	µg/L	0.012
M4-PFHpA	6.707	367.1 -> 322.0	40751	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	67826	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	31362	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	17012	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	23156	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	18160	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	7920	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	18686	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	18704	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	10552	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	10043	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	2705	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	3792	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3673	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	24120	5.00	µg/L	0.000
M3-HFPO-DA	6.181	286.9 -> 168.9	32096	10.00	µg/L	0.012
M5-EtFOSAA	8.628	589.2 -> 419.0	19622	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	67226	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	104164	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	9348	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	8848	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	13190	2.50	µg/L	0.000
13C3-PFBA	3.101	216.0 -> 172.0	55129	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	7622	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	67727	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	25984	1.25	µg/L	0.000
13C5-PFNA	7.895	468.0 -> 423.0	37731	1.25	µg/L	0.013
13C2-PFHxA	5.805	315.1 -> 270.0	42017	2.50	µg/L	0.012
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	2705	5.91	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.3%		
13C2-6:2FTS	7.113	429.1 -> 80.9	3792	5.49	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.8%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3673	5.65	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.1%		
13C2-PFDoDA	9.285	615.1 -> 570.0	18160	1.05	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 83.6%		
13C2-PFTeDA	10.000	715.2 -> 670.0	7920	0.82	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 65.3%		
13C3-PFBS	5.746	302.1 -> 79.9	18704	2.95	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 117.9%		
13C3-PFHxS	7.478	402.1 -> 79.9	10552	2.63	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.4%		
13C4-PFBA	3.097	216.8 -> 171.9	140026	10.83 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.3%		
13C4-PFHpA	6.707	367.1 -> 322.0	40751	2.51 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C5-PFHxA	5.804	318.0 -> 273.0	47332	2.73 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.2%		
13C5-PFPeA	4.560	268.3 -> 223.0	45711	5.75 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.0%		
13C6-PFDA	8.387	519.1 -> 474.1	17012	1.14 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.3%		
13C7-PFUnDA	8.853	570.0 -> 525.1	23156	1.16 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.7%		
13C8-FOSA	9.687	506.1 -> 77.8	18686	1.87 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 74.8%		
13C8-PFOA	7.352	421.1 -> 376.0	67826	2.68 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.2%		
13C8-PFOS	8.563	507.1 -> 79.9	10043	2.52 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C9-PFNA	7.895	472.1 -> 427.0	31362	1.37 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.2%		
d3-MeFOSAA	8.420	573.2 -> 419.0	24120	4.83 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.7%		
13C3-HFPO-DA	6.181	286.9 -> 168.9	32096	11.06 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 110.6%		
d3-MeFOSA	10.775	515.0 -> 219.0	8848	2.04 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 81.5%		
d5-EtFOSAA	8.628	589.2 -> 419.0	19622	4.63 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.6%		
d7-MeFOSE	10.696	623.2 -> 58.9	67226	15.19 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 60.8%		
d9-EtFOSE	10.930	639.2 -> 58.9	104164	19.96 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 79.9%		
d5-EtFOSA	10.996	531.1 -> 219.0	9348	2.21 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.2%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	42074	8.94 µg/L		98
		327.1 -> 80.9	16107			
6:2FTS	7.113	427.1 -> 407.0	42115	9.33 µg/L		97
		427.1 -> 80.9	14498			
8:2FTS	8.164	527.1 -> 507.0	18801	7.70 µg/L		96
		527.1 -> 80.8	7861			
EtFOSAA	8.629	584.2 -> 419.1	7878	2.37 µg/L	m	95
		584.2 -> 526.0	3880			
FOSA	9.690	498.1 -> 77.9	18038	2.43 µg/L		99
		498.1 -> 478.0	518			
MeFOSAA	8.421	570.1 -> 419.0	14271	2.28 µg/L	m	99
		570.1 -> 483.0	2745			
PFBA	3.106	212.8 -> 168.9	52387	9.28 µg/L		100
PFBS	5.747	298.7 -> 79.9	15413	1.85 µg/L		97
		298.7 -> 98.8	5542			
PFDA	8.388	512.9 -> 469.0	59581	2.35 µg/L		98
		512.9 -> 219.0	9854			
PFDoDA	9.285	613.1 -> 569.0	33015	2.19 µg/L		96
		613.1 -> 319.0	5324			
PFDS	9.450	599.0 -> 79.9	5314	1.75 µg/L		97

Perfluorinated Compounds by LC/MS/MS

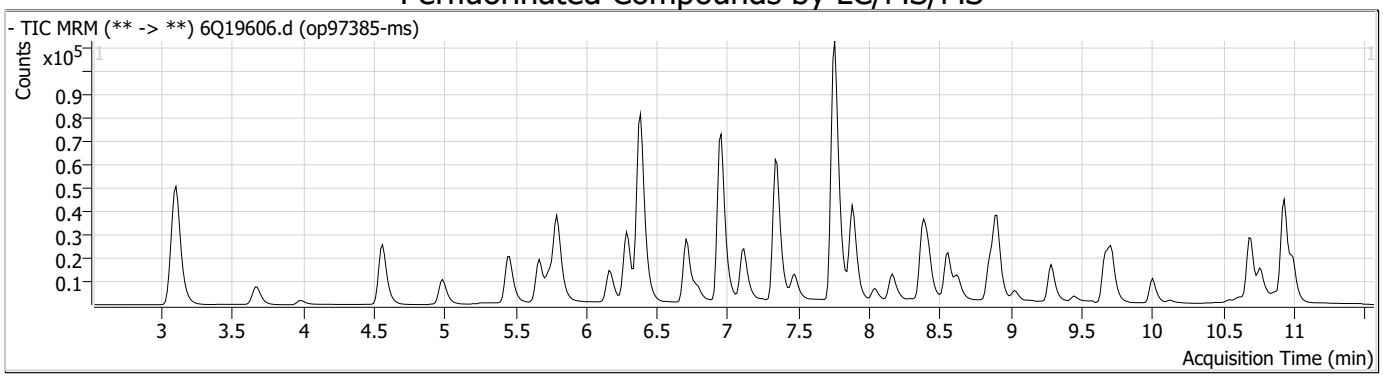
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	2668				
PFHpA	6.720	363.1 -> 319.0	53687	2.47	µg/L		100
		363.1 -> 169.0	8243				
PFHpS	8.046	449.0 -> 79.9	12305	2.05	µg/L		98
		449.0 -> 98.9	6135				
PFHxA	5.795	313.0 -> 269.0	42217	2.21	µg/L		99
		313.0 -> 118.9	2384				
PFHxS	7.479	398.7 -> 79.9	12413	1.95	µg/L	m	100
		398.7 -> 98.9	6350				
PFNA	7.896	463.0 -> 419.0	61351	2.12	µg/L		100
		463.0 -> 219.0	11698				
PFNS	9.041	548.8 -> 79.9	10302	1.98	µg/L		100
		548.8 -> 98.9	5064				
PFOA	7.353	413.0 -> 369.0	80298	2.16	µg/L	m	95
		413.0 -> 169.0	15054				
PFOS	8.564	498.9 -> 79.9	12433	2.09	µg/L	m	96
		498.9 -> 98.8	6181				
PFPeA	4.563	263.0 -> 219.0	60846	4.51	µg/L		100
PFPeS	6.785	349.1 -> 79.9	13272	2.24	µg/L		97
		349.1 -> 98.9	6069				
PFTeDA	10.000	713.1 -> 669.0	23939	2.52	µg/L		98
		713.1 -> 168.9	2241				
PFTrDA	9.669	663.0 -> 619.0	33409	2.18	µg/L		100
		663.0 -> 168.9	3489				
PFUnDA	8.854	563.1 -> 519.0	38698	2.16	µg/L		97
		563.1 -> 269.1	6688				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	45431	3.11	µg/L		94
		632.9 -> 452.9	14254				
9Cl-PF3ONS	8.906	530.8 -> 351.0	92276	3.66	µg/L		98
		532.8 -> 353.0	27659				
ADONA	6.959	376.9 -> 250.9	219157	4.22	µg/L		96
		376.9 -> 84.8	58573				
HFPO-DA	6.182	284.9 -> 168.9	15190	4.52	µg/L		98
		284.9 -> 184.9	1909				
3:3FTCA	3.983	241.0 -> 177.0	6813	7.46	µg/L		96
		241.0 -> 117.0	1043				
5:3FTCA	6.386	341.0 -> 237.1	190419	50.15	µg/L		97
		341.0 -> 217.0	137891				
7:3FTCA	7.761	441.0 -> 316.9	128160	49.92	µg/L		88
		441.0 -> 336.9	314553				
EtFOSA	10.997	526.0 -> 219.0	21619	4.33	µg/L		97
		526.0 -> 169.0	27872				
EtFOSE	10.943	630.0 -> 58.9	62241	11.55	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	16627	4.15	µg/L	m	77
		511.9 -> 169.0	24184				
MeFOSE	10.709	616.1 -> 58.9	37698	12.94	µg/L	m	100
PFDoDS	10.127	699.1 -> 79.9	2459	1.64	µg/L		88
		699.1 -> 98.8	1225				
NFDHA	5.673	295.0 -> 201.0	10651	4.37	µg/L		96
		295.0 -> 84.9	3080				
PFMBA	4.988	279.0 -> 85.1	42910	4.46	µg/L		100
PFMPA	3.680	229.0 -> 84.9	34750	4.62	µg/L		100
PFEESA	6.288	314.8 -> 134.9	104011	4.03	µg/L		100
		314.8 -> 82.9	3771				

 # = Qualifier out of range, m = manually integrated, + = Area summed

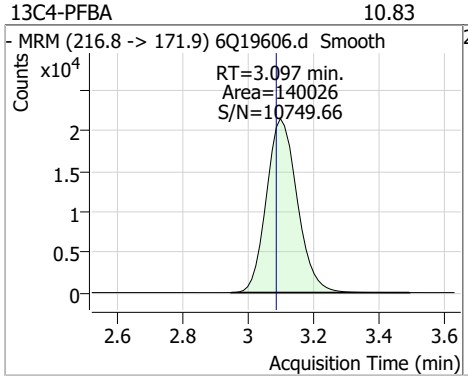
Perfluorinated Compounds by LC/MS/MS

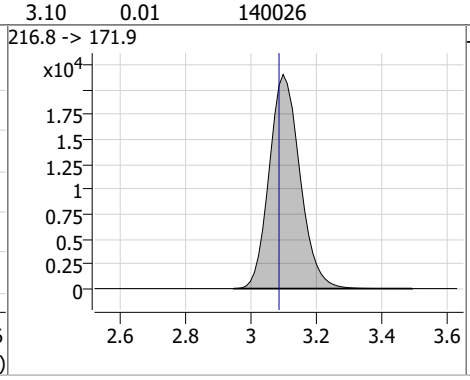
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

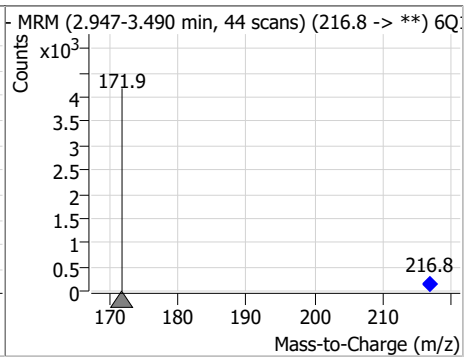
Perfluorinated Compounds by LC/MS/MS



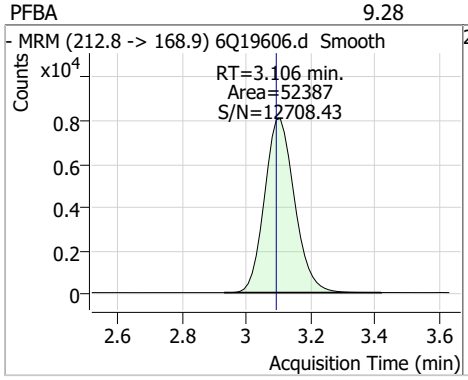
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.83	3.10	0.01	140026				

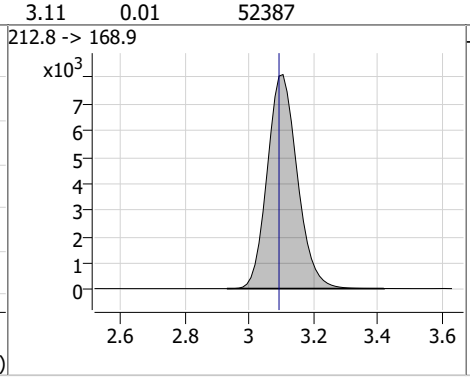


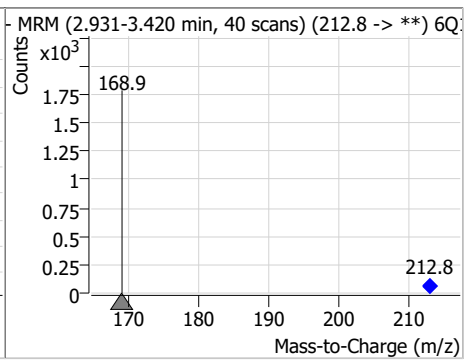




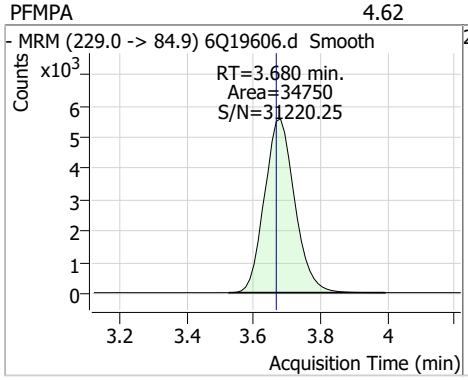
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.28	3.11	0.01	52387				

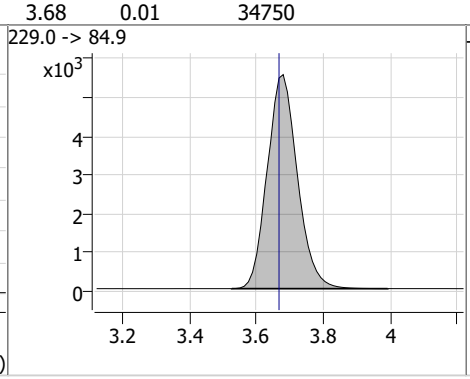


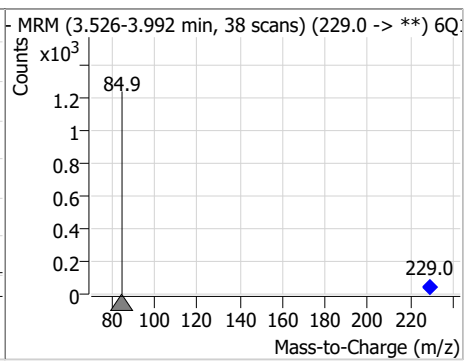




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.62	3.68	0.01	34750				

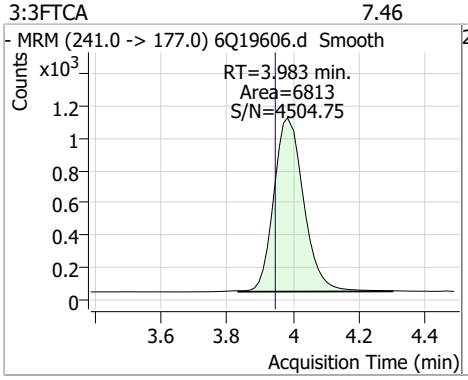


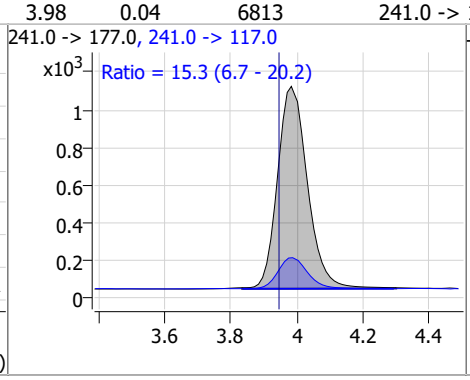


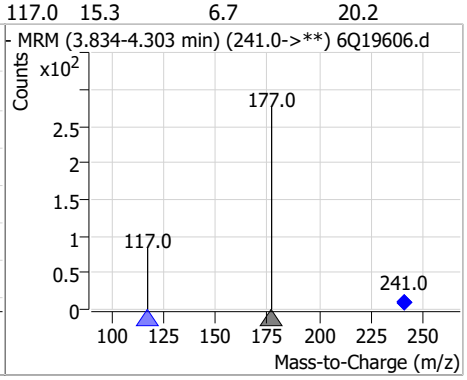


Perfluorinated Compounds by LC/MS/MS

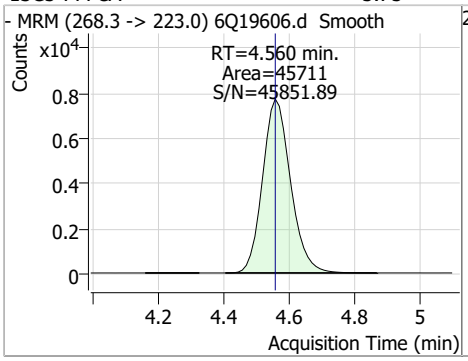
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	7.46	3.98	0.04	6813	241.0 -> 117.0	15.3	6.7	20.2

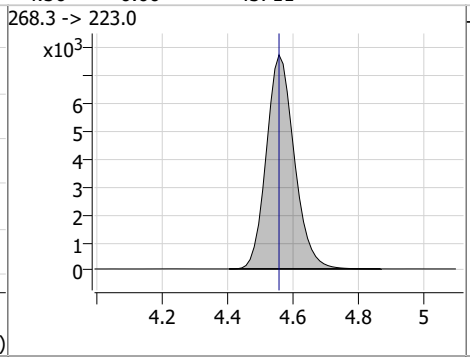


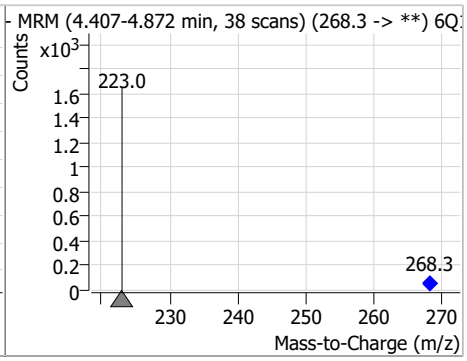




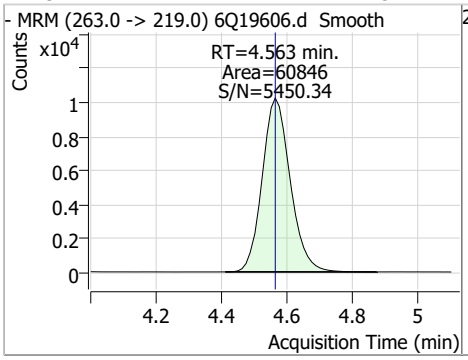
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.75	4.56	0.00	45711				

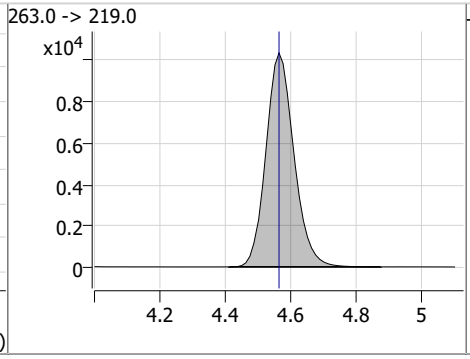


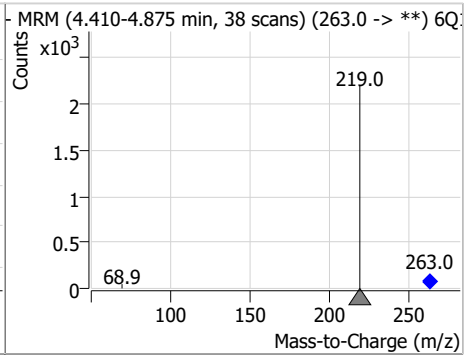




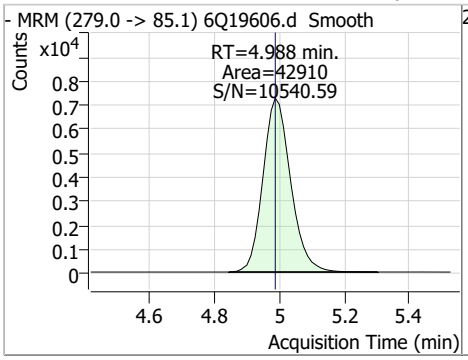
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.51	4.56	0.00	60846				

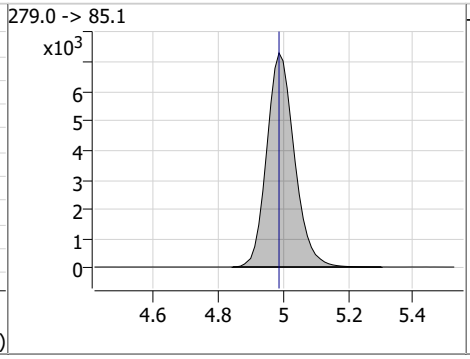


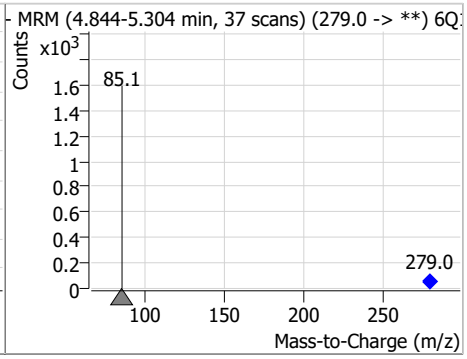




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.46	4.99	0.00	42910				

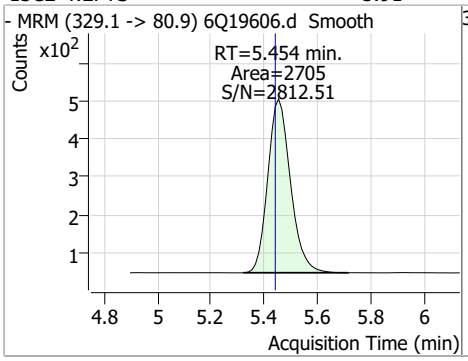


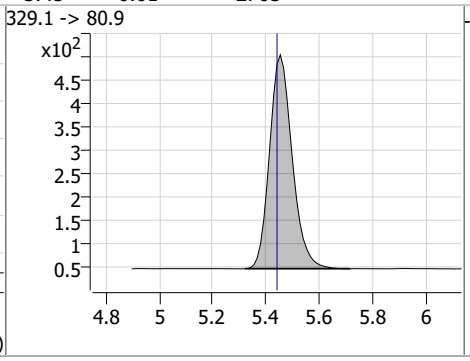


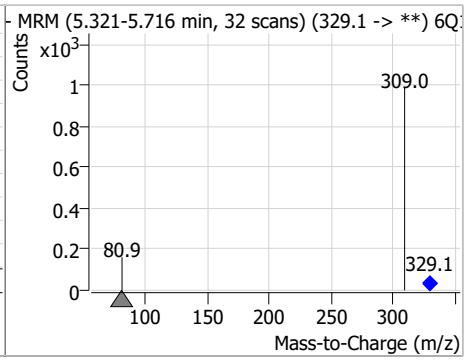


Perfluorinated Compounds by LC/MS/MS

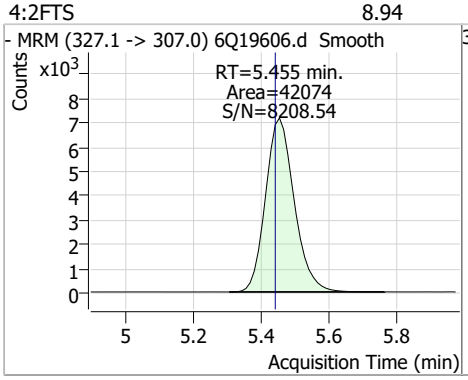
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.91	5.45	0.01	2705				

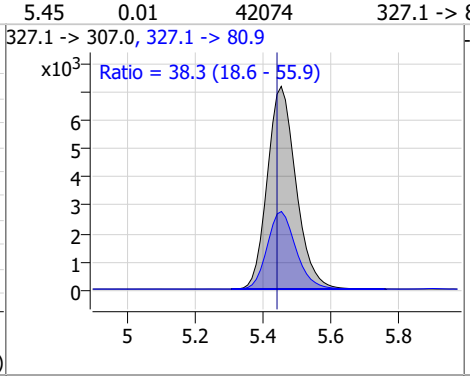


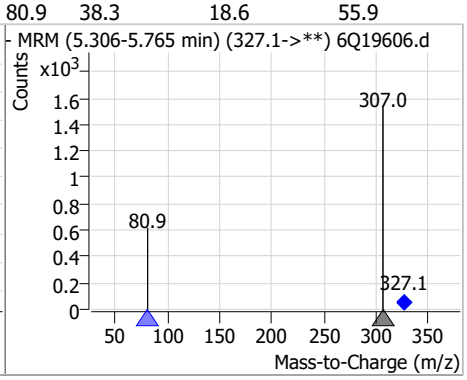




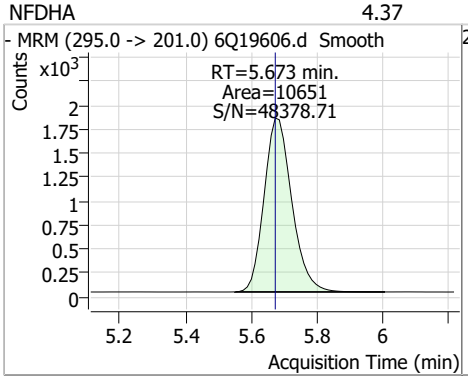
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	8.94	5.45	0.01	42074	327.1 -> 80.9	38.3	18.6	55.9

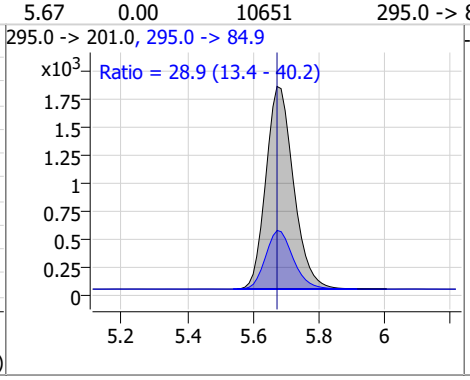


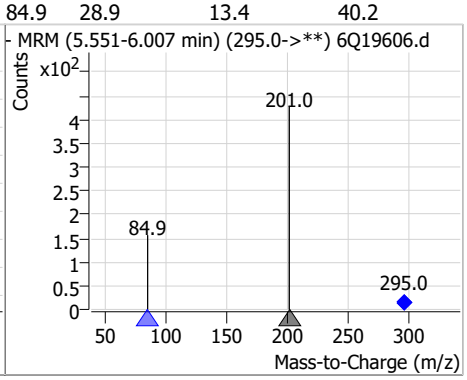




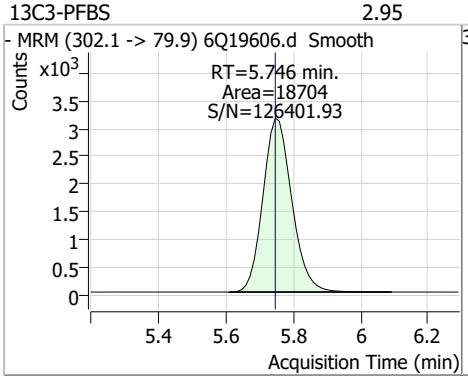
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.37	5.67	0.00	10651	295.0 -> 84.9	28.9	13.4	40.2

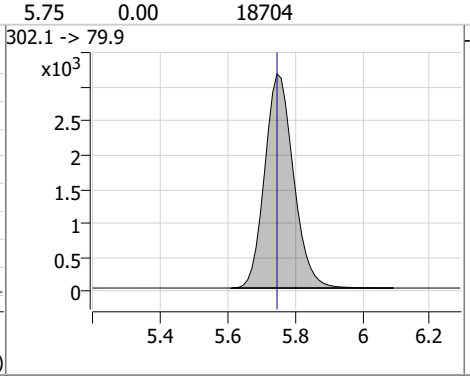


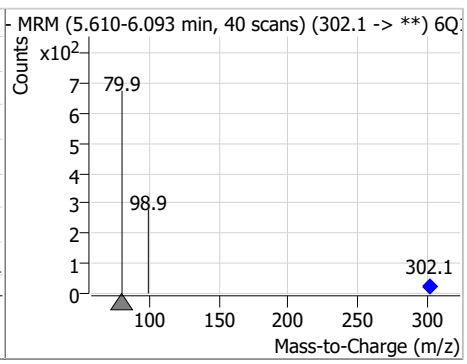




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.95	5.75	0.00	18704				

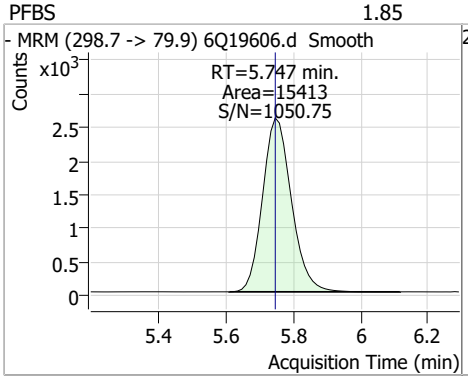


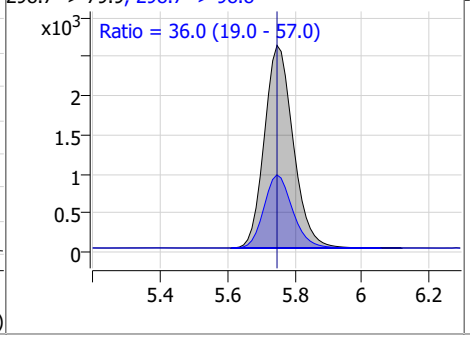


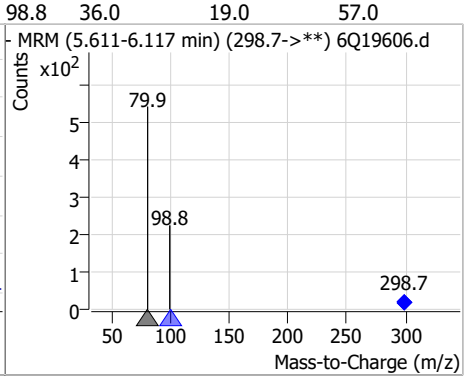


Perfluorinated Compounds by LC/MS/MS

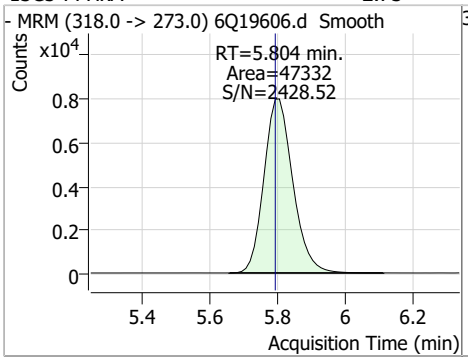
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.85	5.75	0.00	15413	298.7 -> 98.8	36.0	19.0	57.0

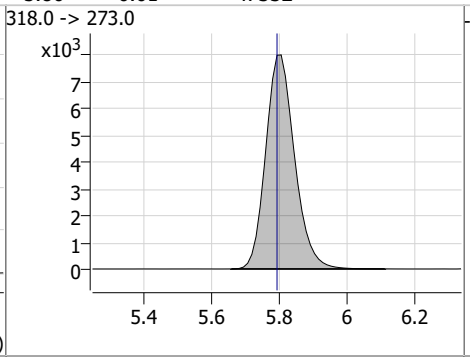


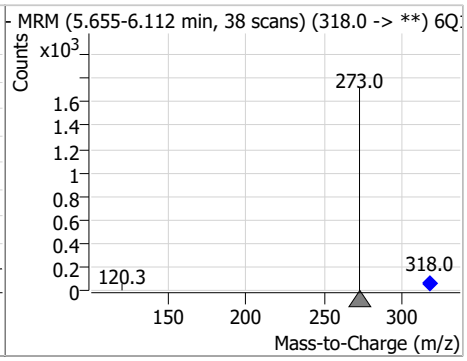




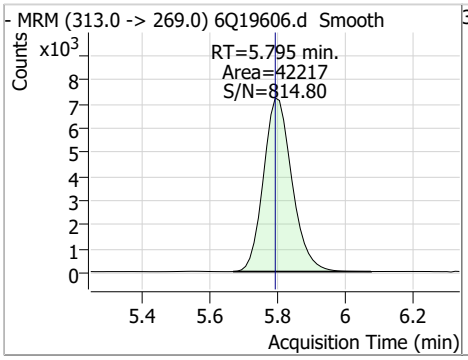
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.73	5.80	0.01	47332				

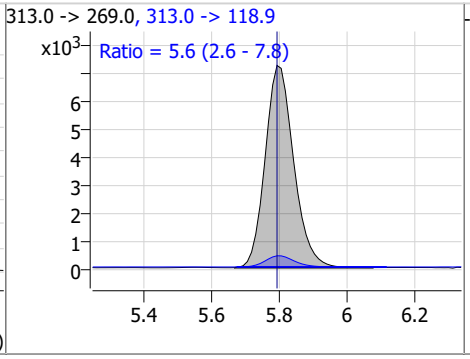


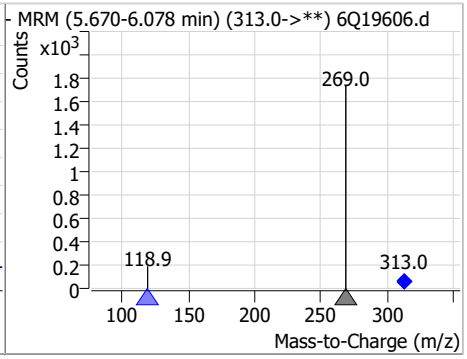




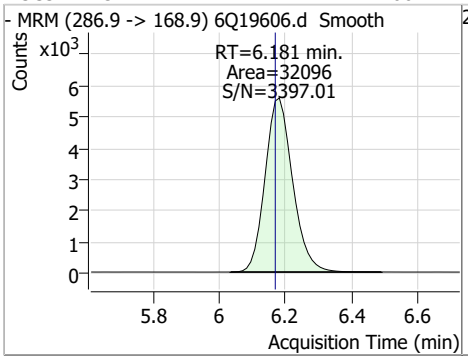
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.21	5.79	0.00	42217	313.0 -> 118.9	5.6	2.6	7.8

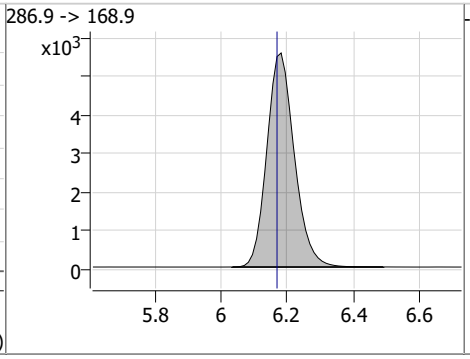


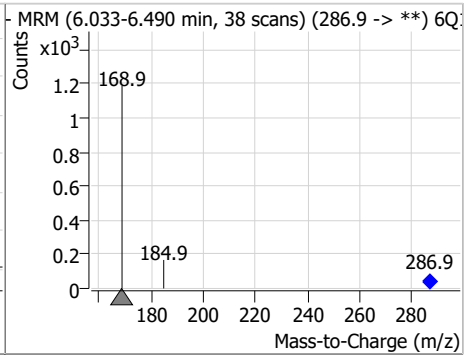




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.06	6.18	0.01	32096				

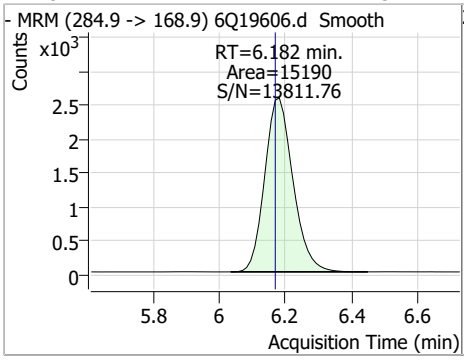


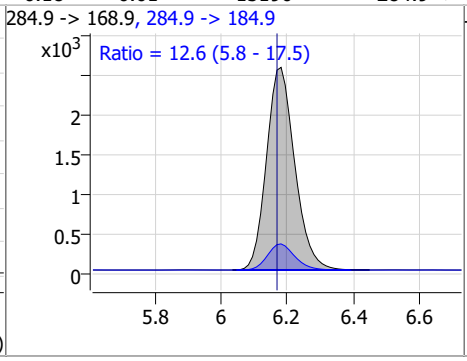


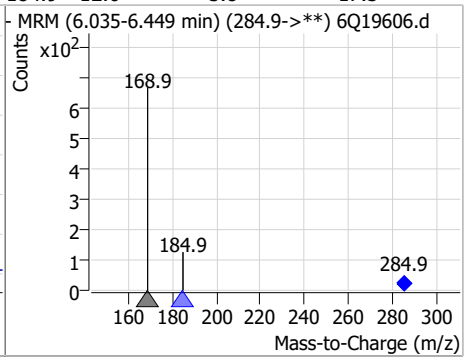


Perfluorinated Compounds by LC/MS/MS

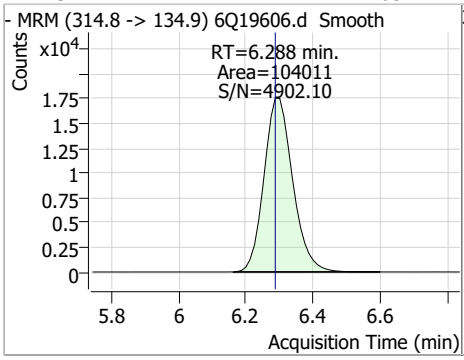
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.52	6.18	0.01	15190	284.9 -> 184.9	12.6	5.8	17.5

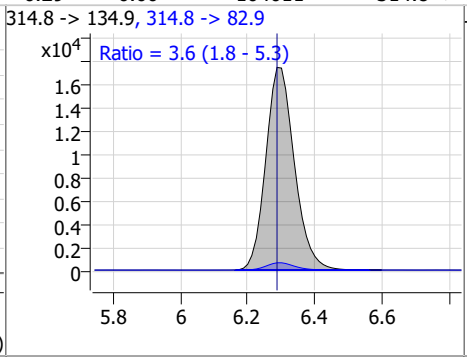


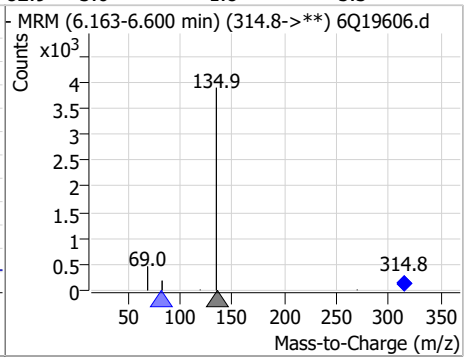




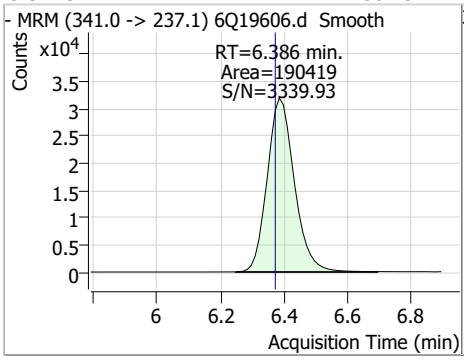
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.03	6.29	0.00	104011	314.8 -> 82.9	3.6	1.8	5.3

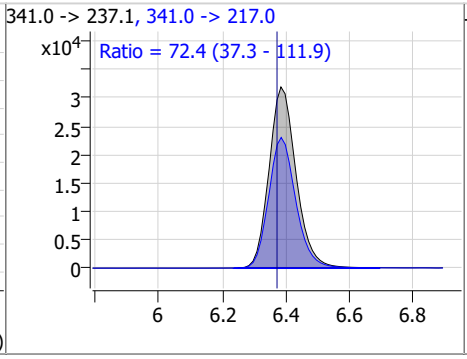


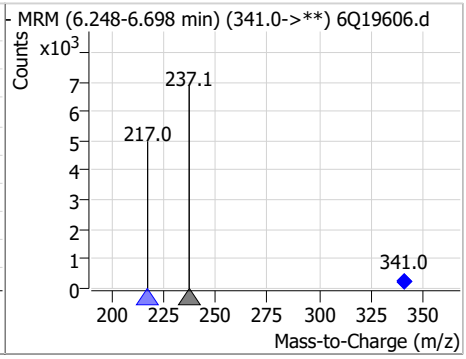




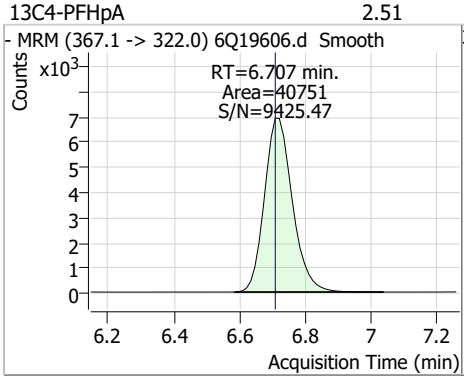
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	50.15	6.39	0.01	190419	341.0 -> 217.0	72.4	37.3	111.9

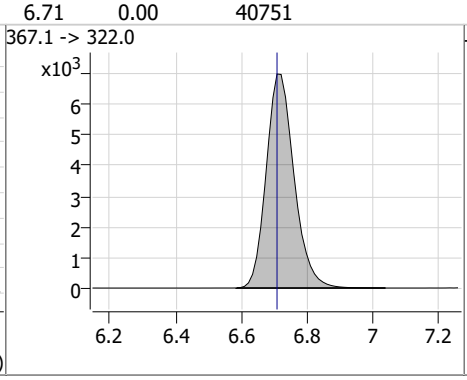


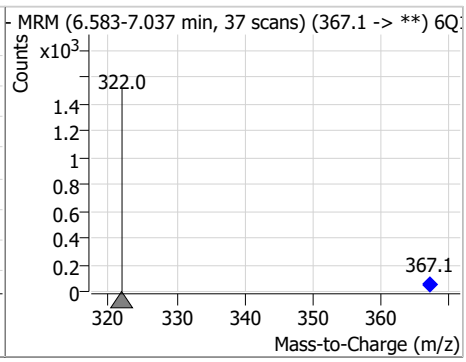




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.51	6.71	0.00	40751				

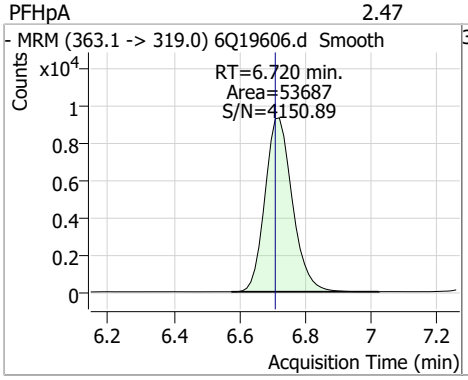


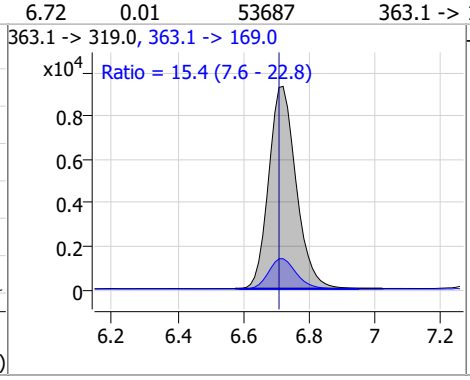


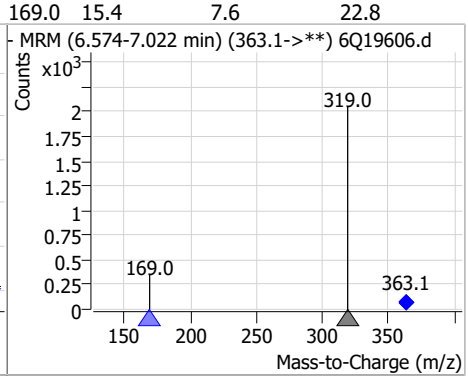


Perfluorinated Compounds by LC/MS/MS

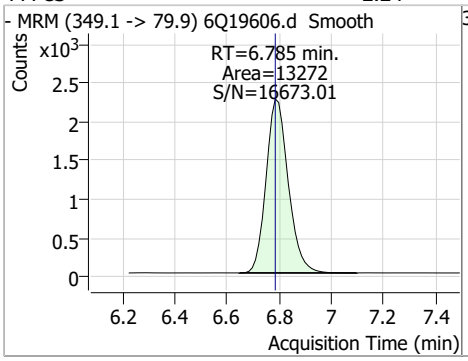
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.47	6.72	0.01	53687	363.1 -> 169.0	15.4	7.6	22.8

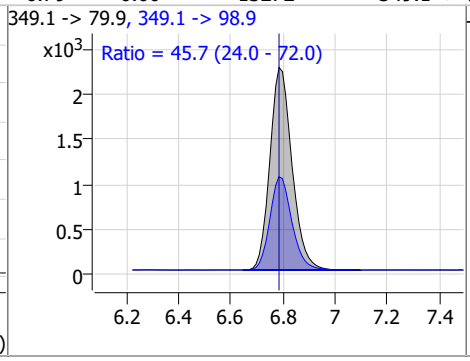


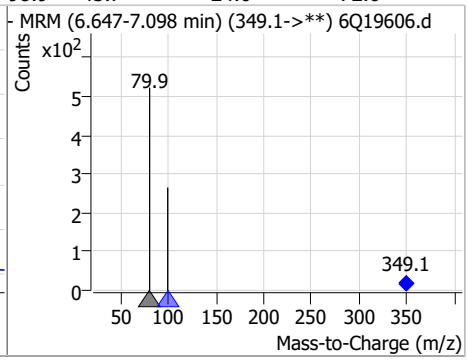




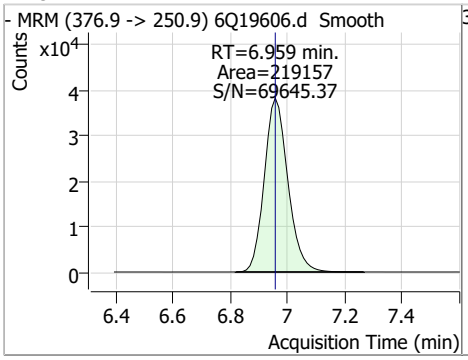
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.24	6.79	0.00	13272	349.1 -> 98.9	45.7	24.0	72.0

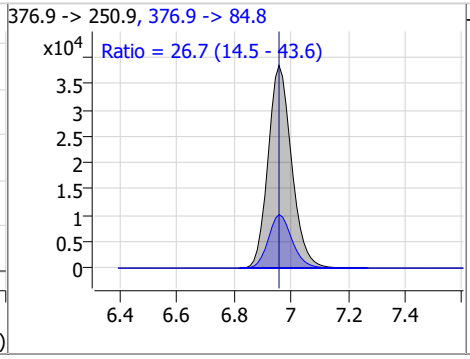


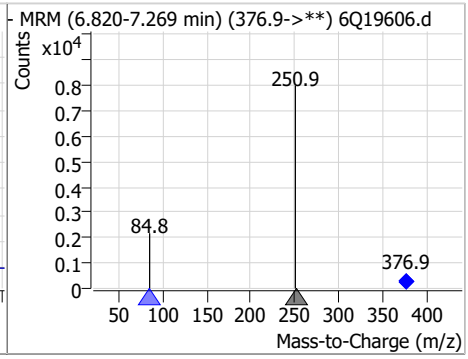




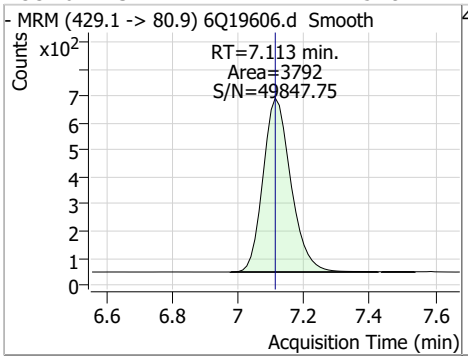
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.22	6.96	0.00	219157	376.9 -> 84.8	26.7	14.5	43.6

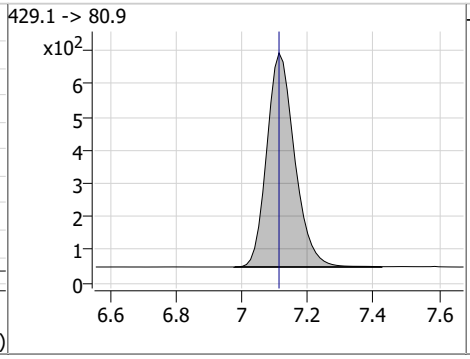


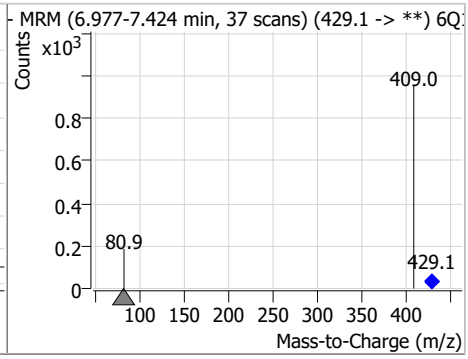




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.49	7.11	0.00	3792				

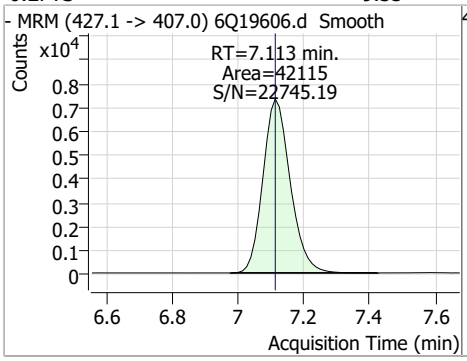


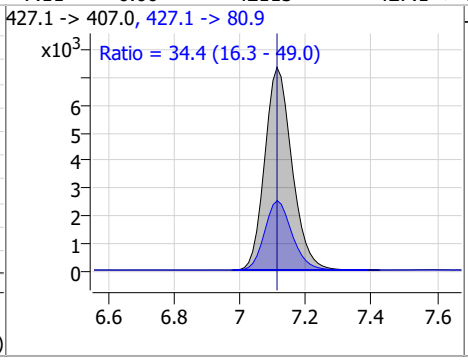


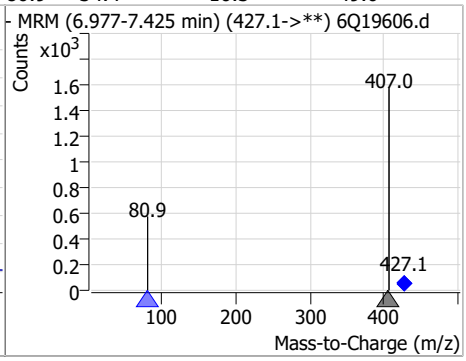


Perfluorinated Compounds by LC/MS/MS

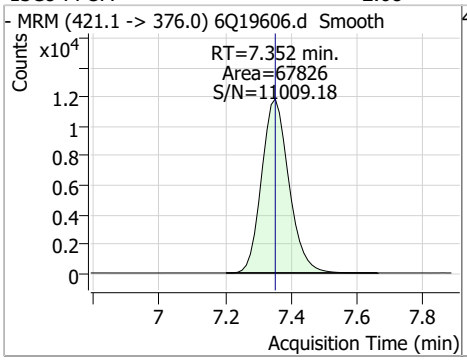
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.33	7.11	0.00	42115	427.1 -> 80.9	34.4	16.3	49.0

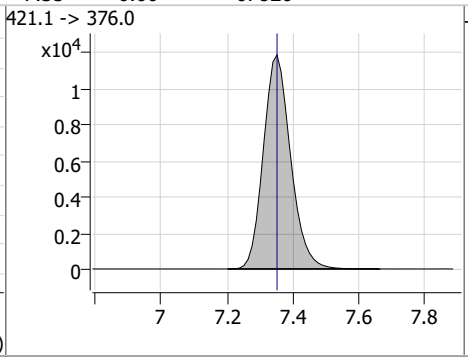


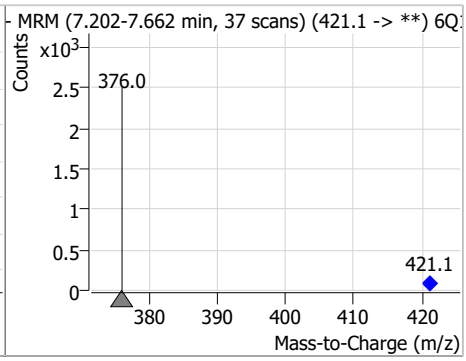




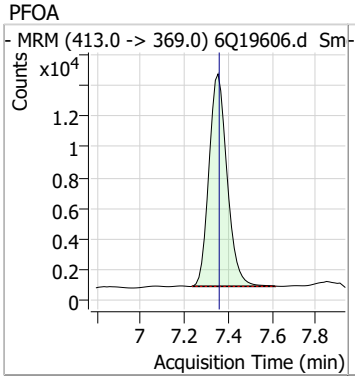
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.68	7.35	0.00	67826				

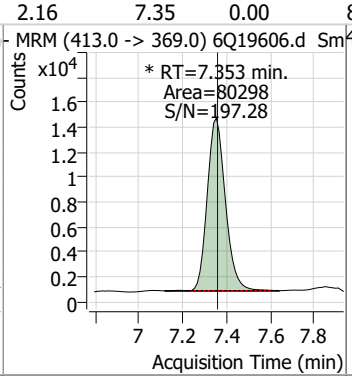


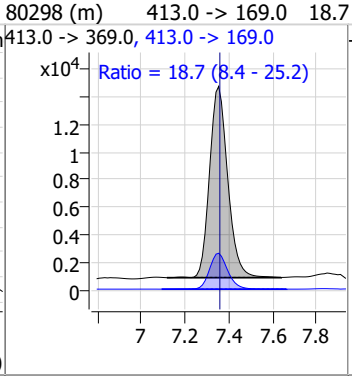


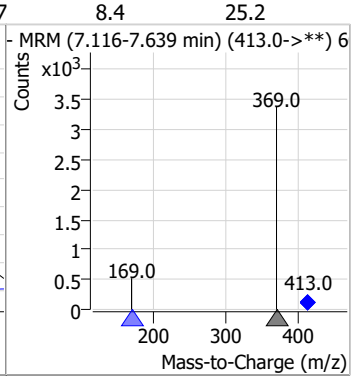


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.16	7.35	0.00	80298 (m)	413.0 -> 169.0	18.7	8.4	25.2

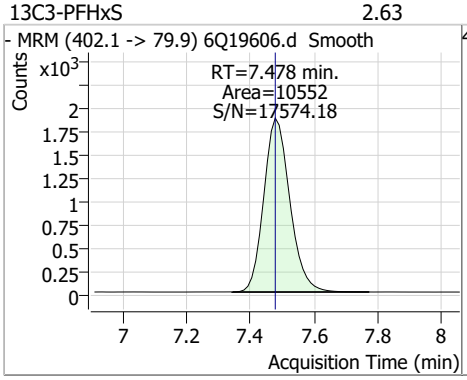


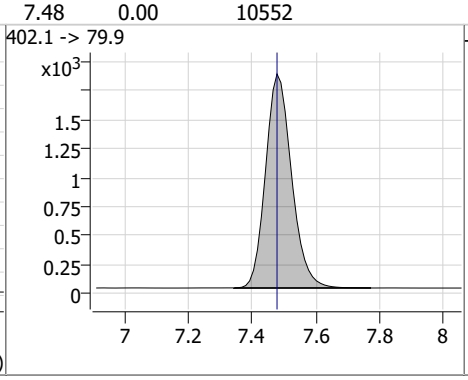


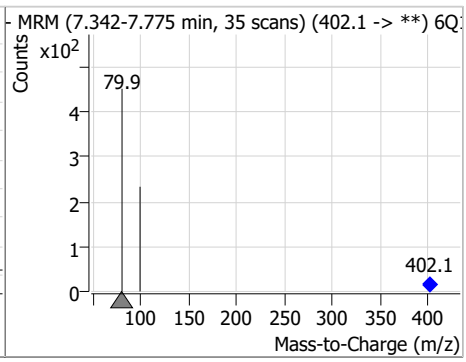




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.63	7.48	0.00	10552				

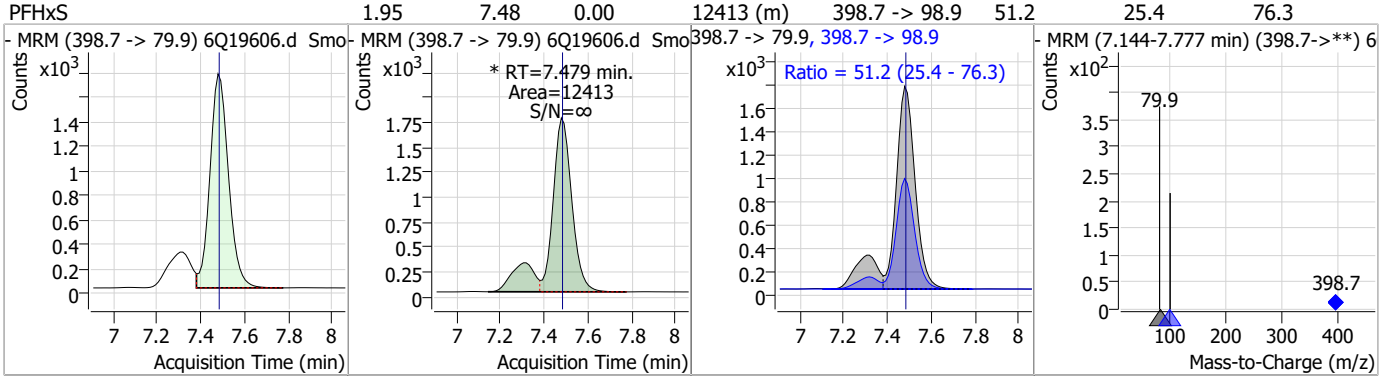




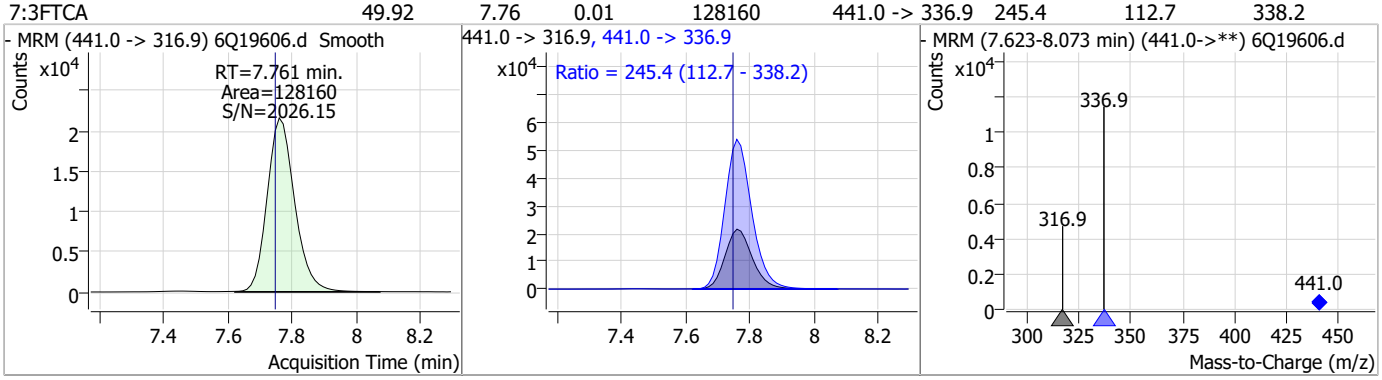


Perfluorinated Compounds by LC/MS/MS

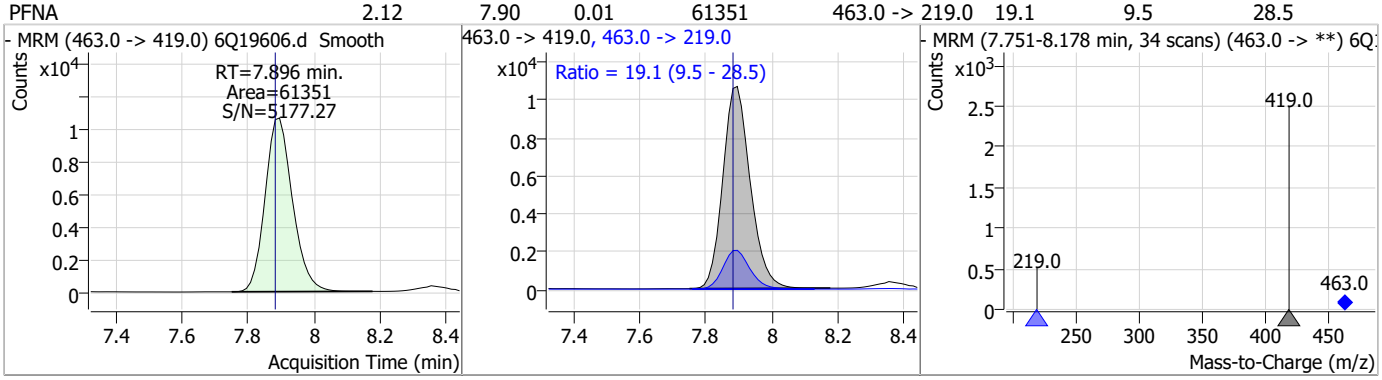
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.95	7.48	0.00	12413 (m)	398.7 -> 98.9	51.2	25.4	76.3



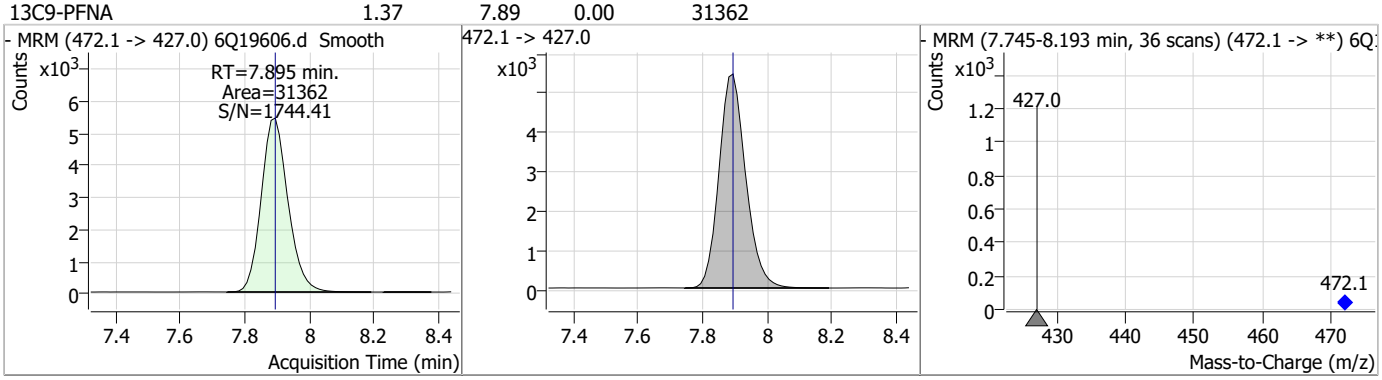
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	49.92	7.76	0.01	128160	441.0 -> 336.9	245.4	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.12	7.90	0.01	61351	463.0 -> 219.0	19.1	9.5	28.5

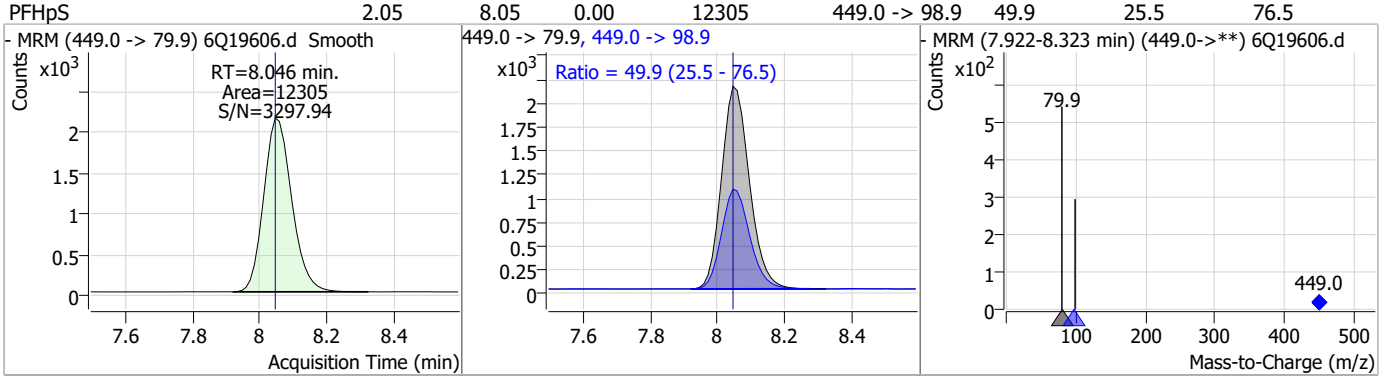


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.37	7.89	0.00	31362				

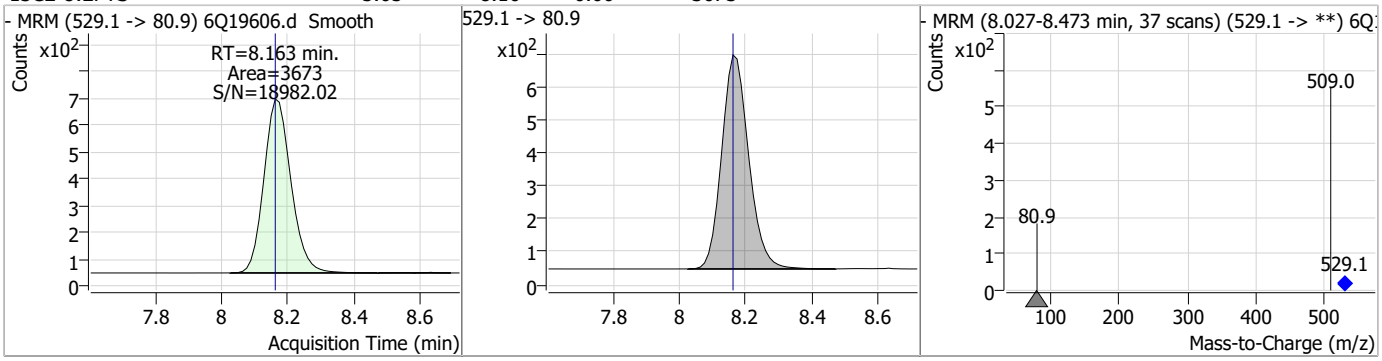


Perfluorinated Compounds by LC/MS/MS

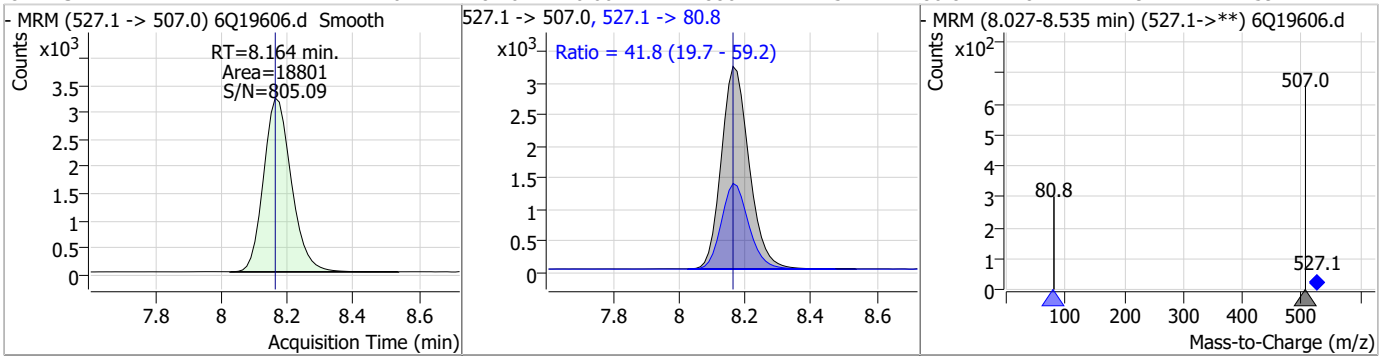
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.05	8.05	0.00	12305	449.0 -> 98.9	49.9	25.5	76.5



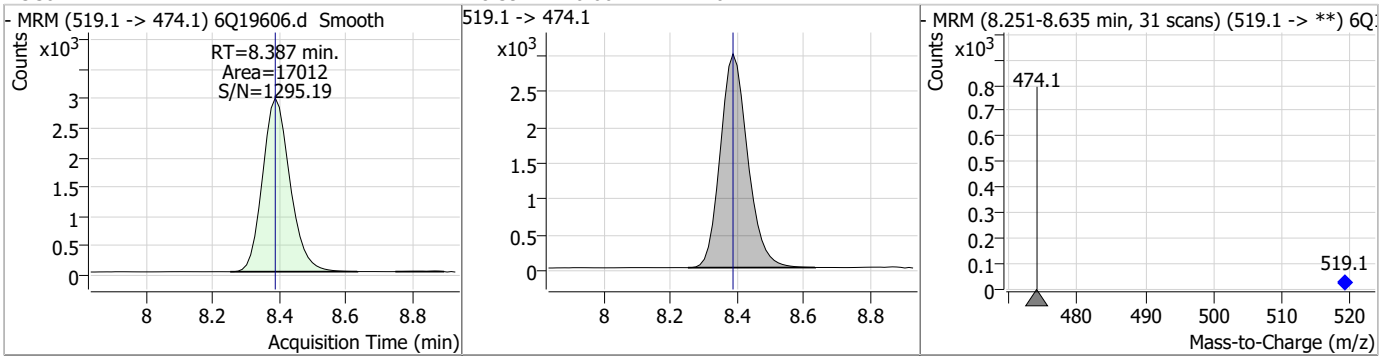
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.65	8.16	0.00	3673				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	7.70	8.16	0.00	18801	527.1 -> 80.8	41.8	19.7	59.2

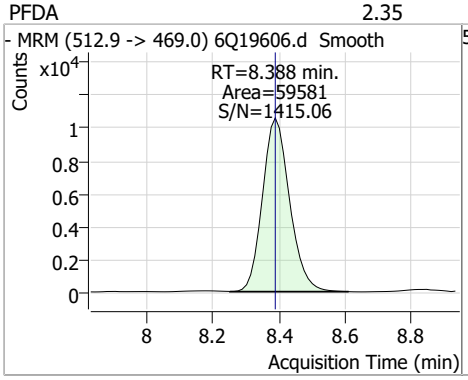


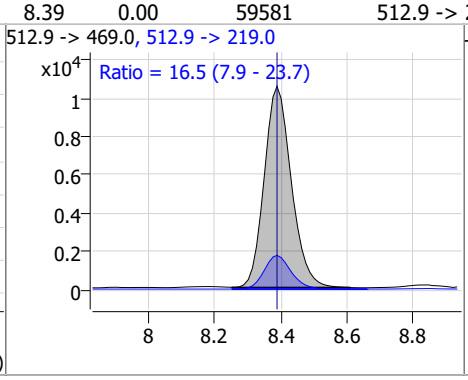
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.14	8.39	0.00	17012				

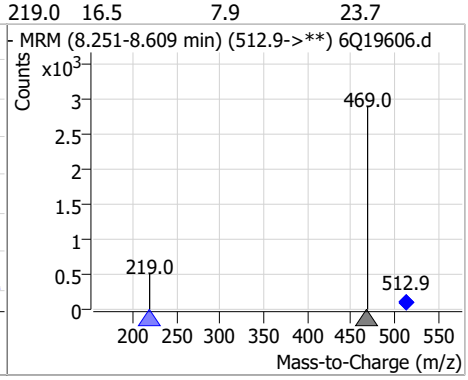


Perfluorinated Compounds by LC/MS/MS

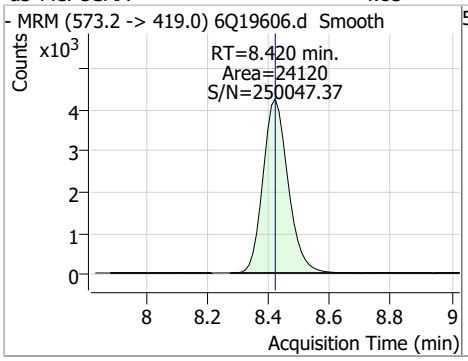
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.35	8.39	0.00	59581	512.9 -> 219.0	16.5	7.9	23.7

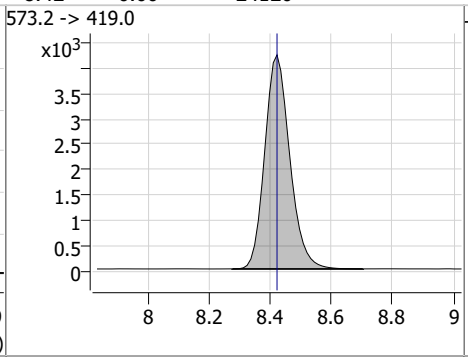


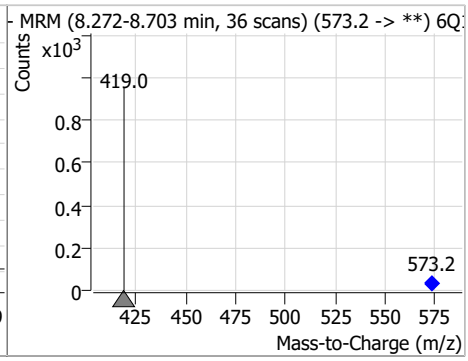




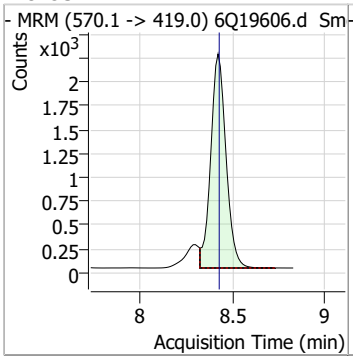
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.83	8.42	0.00	24120				

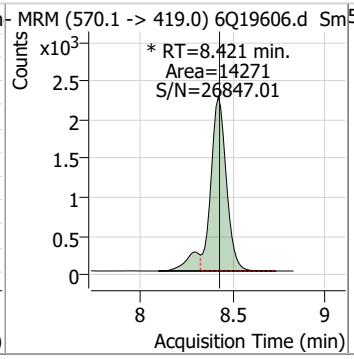


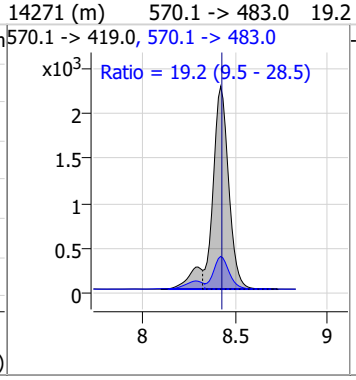


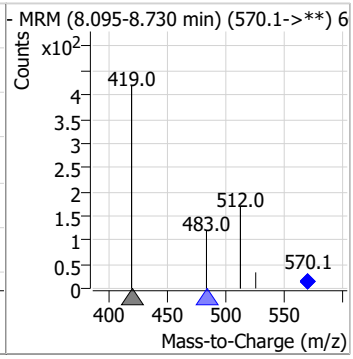


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.28	8.42	0.00	14271 (m)	570.1 -> 483.0	19.2	9.5	28.5

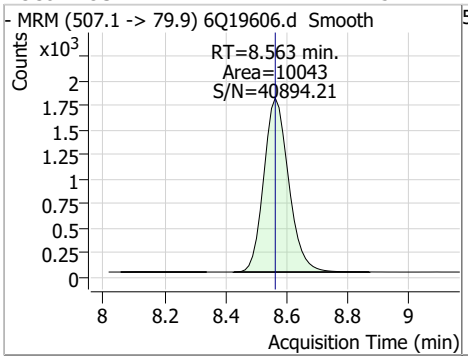


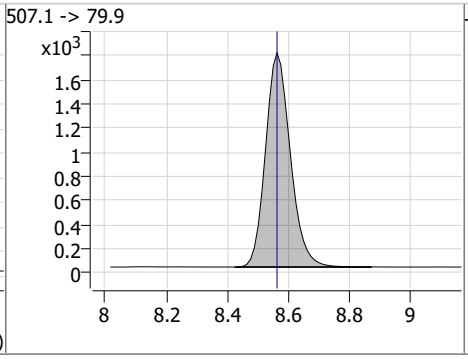


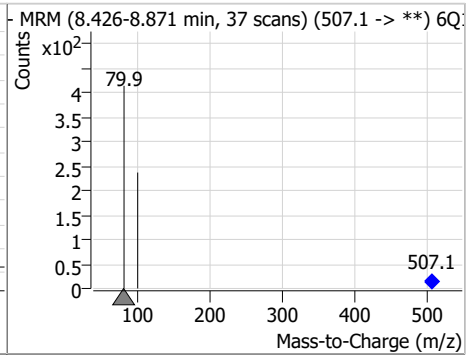




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.52	8.56	0.00	10043				

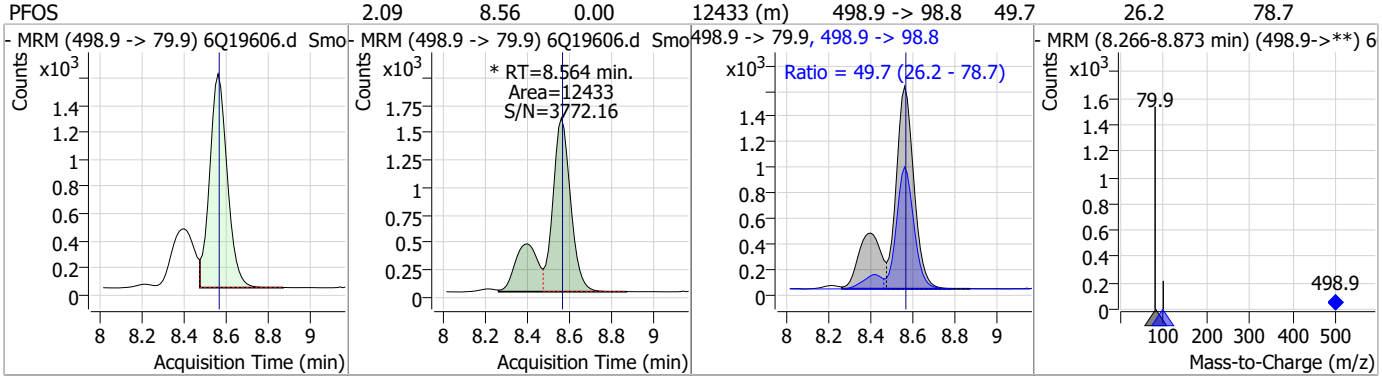




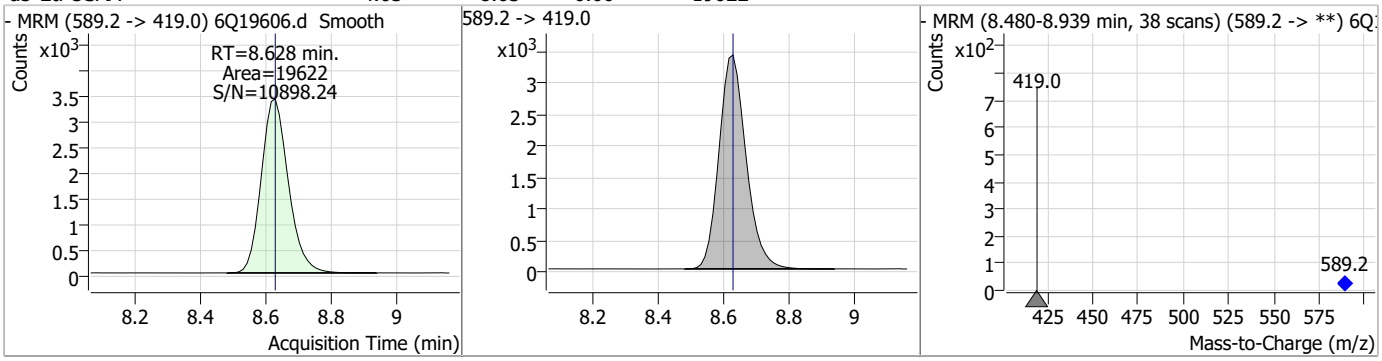


Perfluorinated Compounds by LC/MS/MS

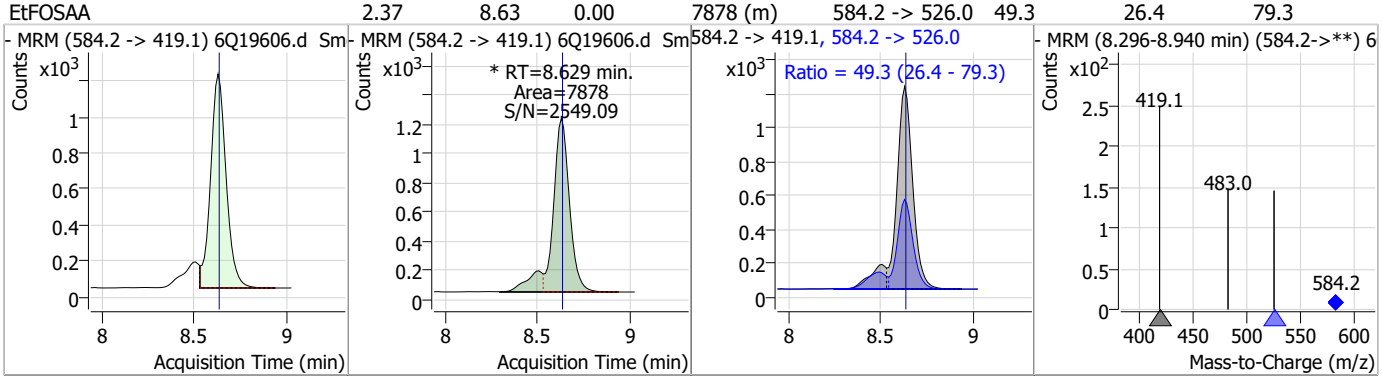
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.09	8.56	0.00	12433 (m)	498.9 -> 98.8	49.7	26.2	78.7



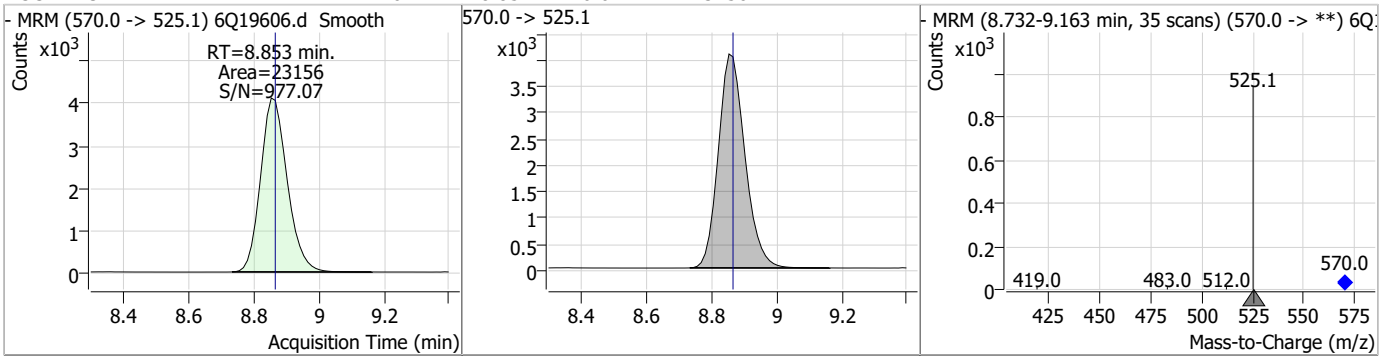
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.63	8.63	0.00	19622				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.37	8.63	0.00	7878 (m)	584.2 -> 526.0	49.3	26.4	79.3

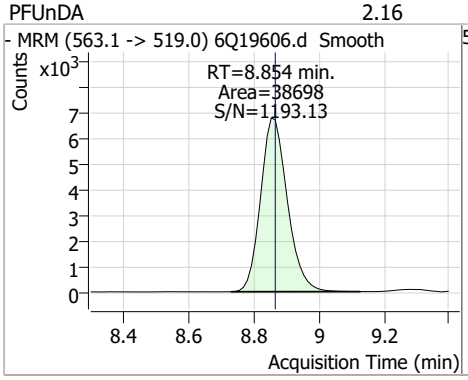


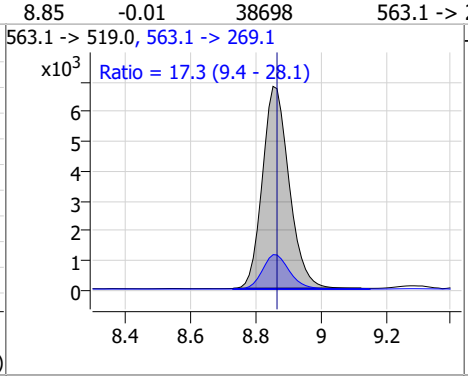
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.16	8.85	-0.01	23156				

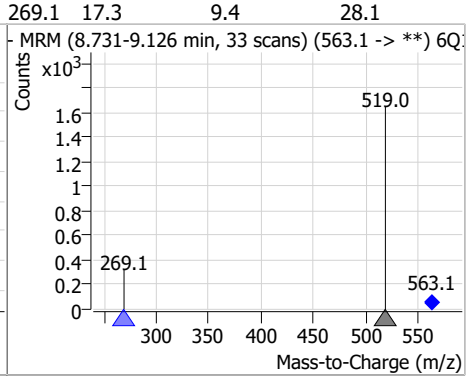


Perfluorinated Compounds by LC/MS/MS

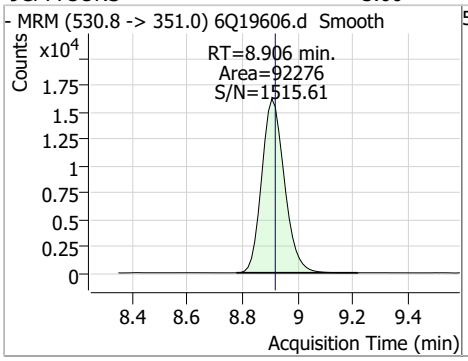
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.16	8.85	-0.01	38698	563.1 -> 269.1	17.3	9.4	28.1

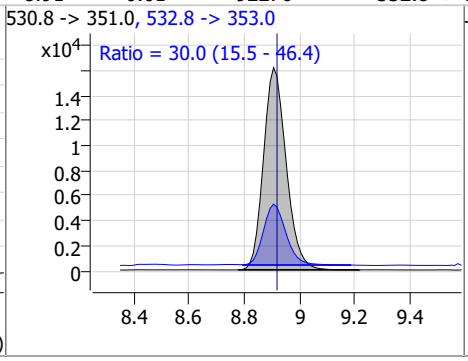


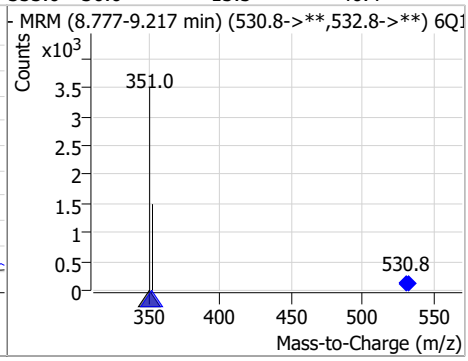




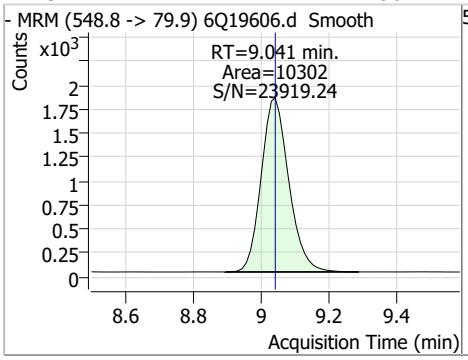
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	3.66	8.91	-0.01	92276	532.8 -> 353.0	30.0	15.5	46.4

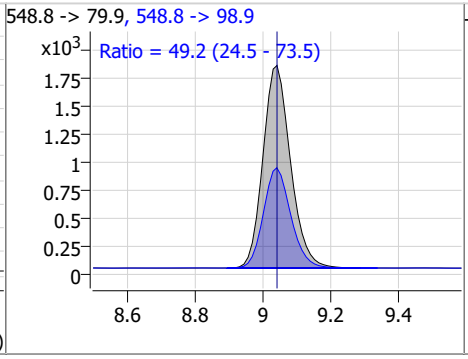


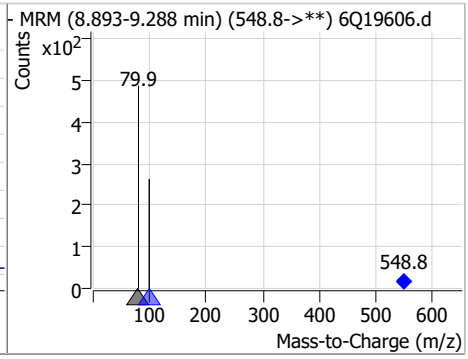




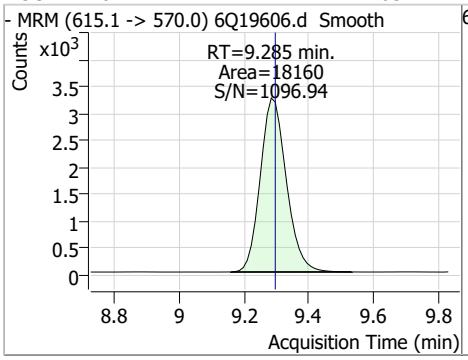
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	1.98	9.04	0.00	10302	548.8 -> 98.9	49.2	24.5	73.5

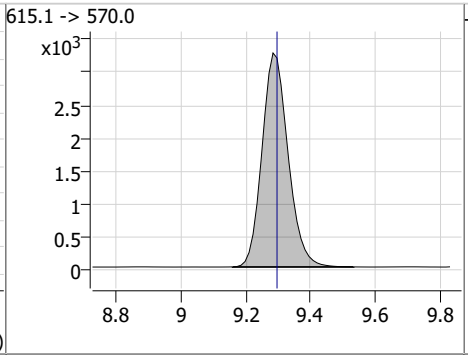


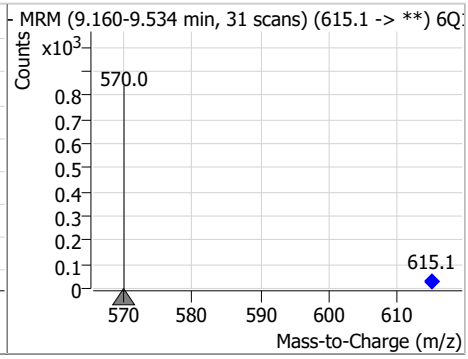




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.05	9.28	-0.01	18160				

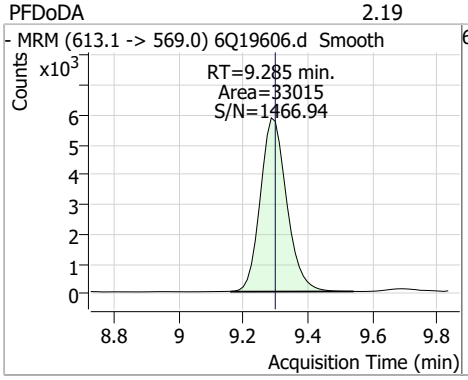


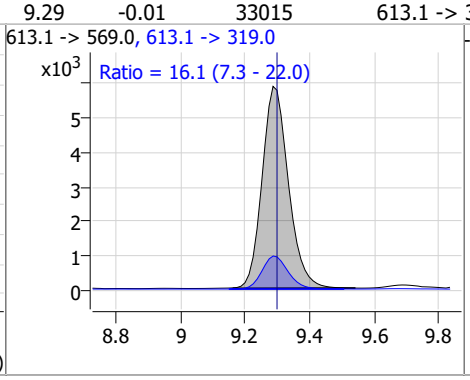


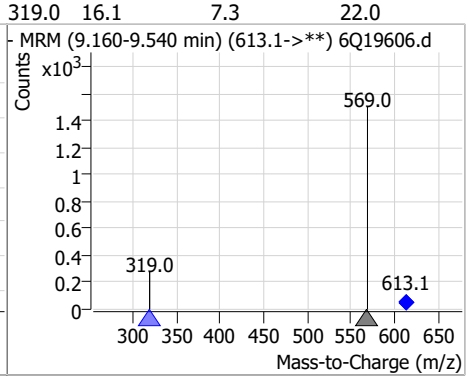


Perfluorinated Compounds by LC/MS/MS

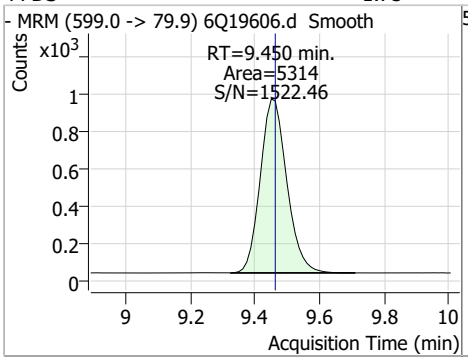
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.19	9.29	-0.01	33015	613.1 -> 319.0	16.1	7.3	22.0

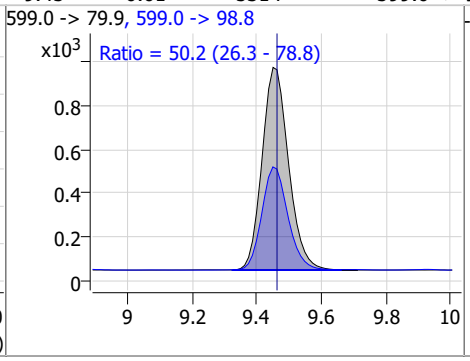


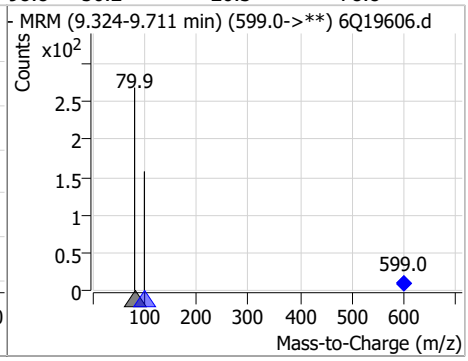




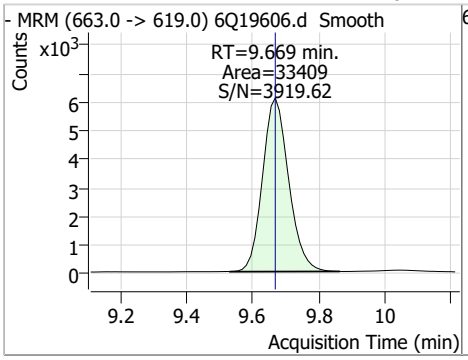
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	1.75	9.45	-0.01	5314	599.0 -> 98.8	50.2	26.3	78.8

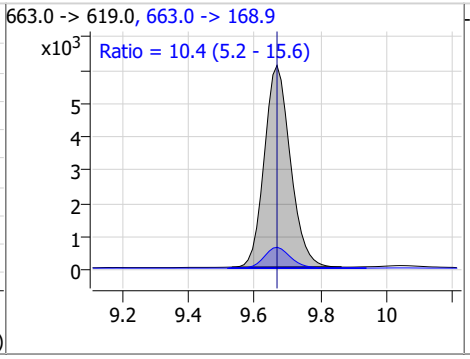


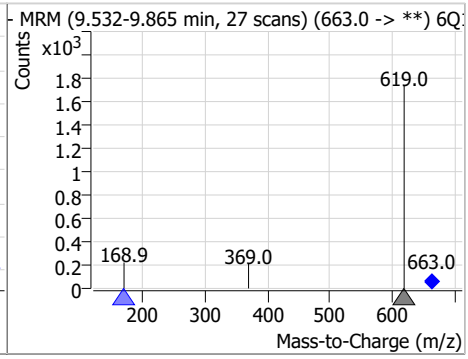




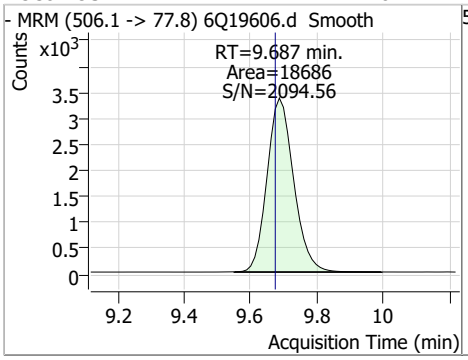
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.18	9.67	0.00	33409	663.0 -> 168.9	10.4	5.2	15.6

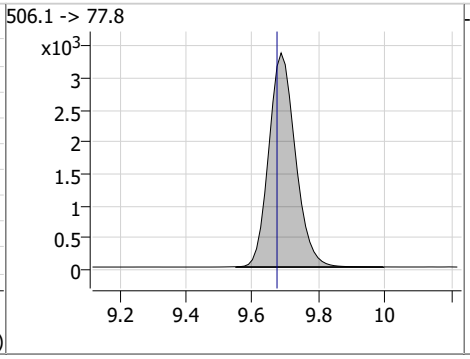


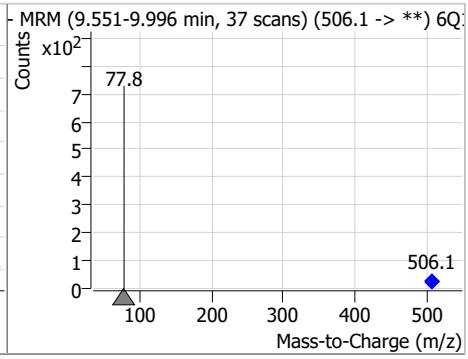




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.87	9.69	0.01	18686				

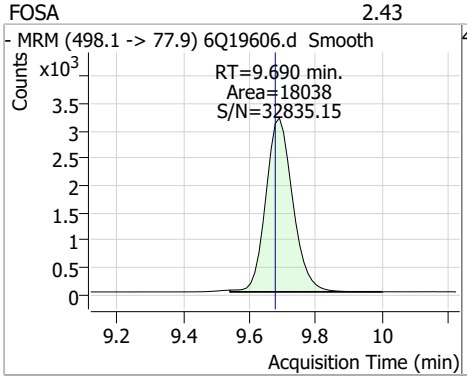


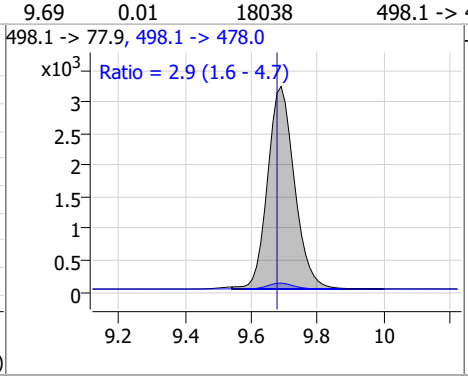


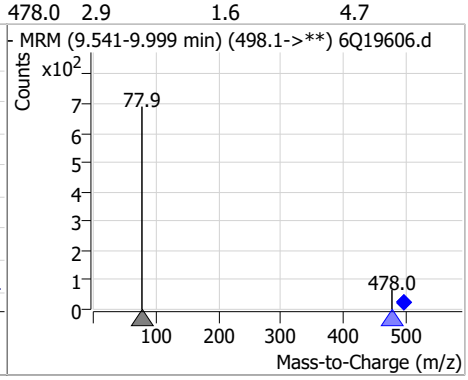


Perfluorinated Compounds by LC/MS/MS

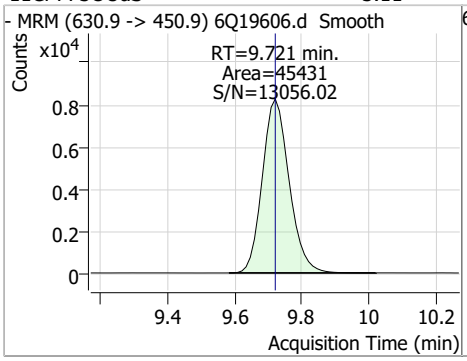
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.43	9.69	0.01	18038	498.1 -> 478.0	2.9	1.6	4.7

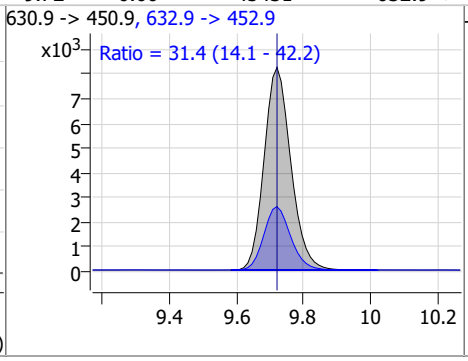


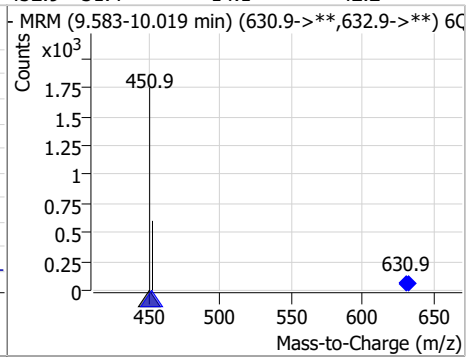




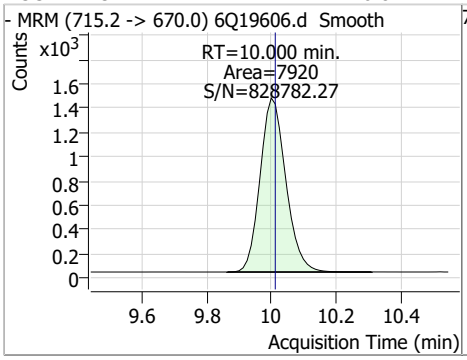
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	3.11	9.72	0.00	45431	632.9 -> 452.9	31.4	14.1	42.2

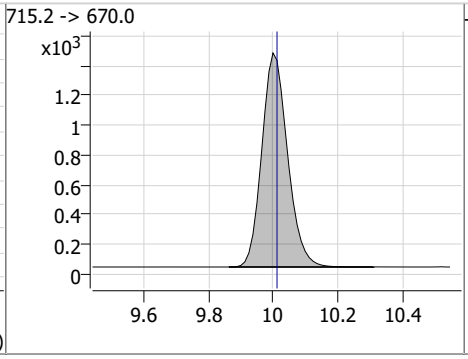


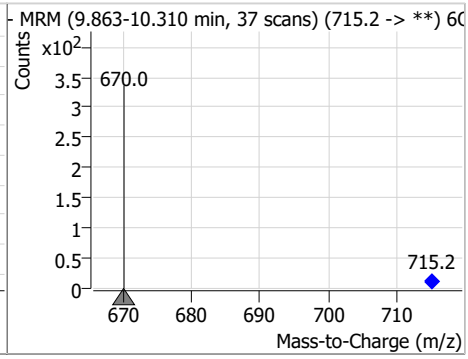




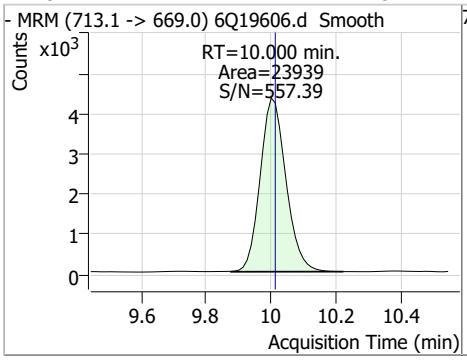
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.82	10.00	-0.01	7920				

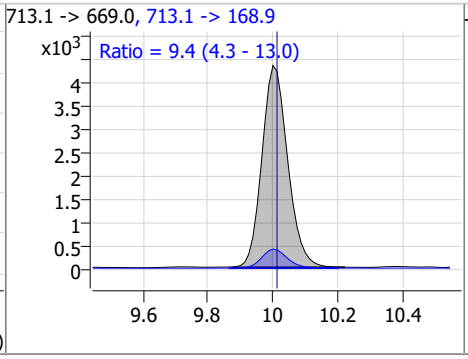


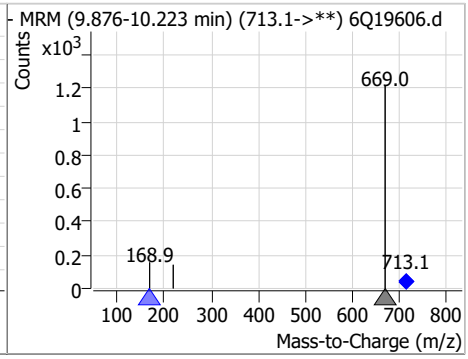




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.52	10.00	-0.01	23939	713.1 -> 168.9	9.4	4.3	13.0

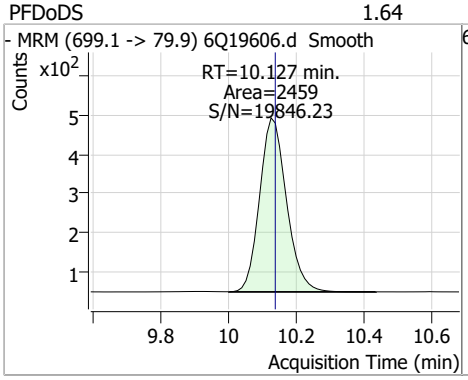


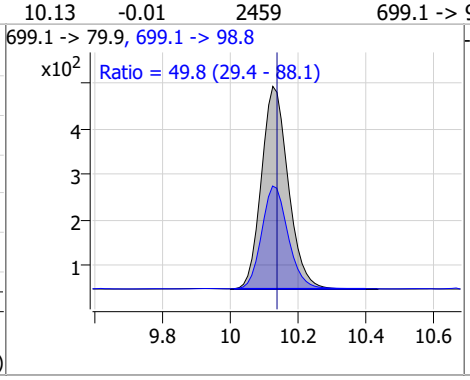


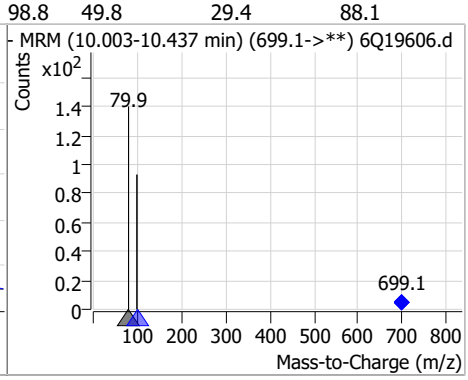


Perfluorinated Compounds by LC/MS/MS

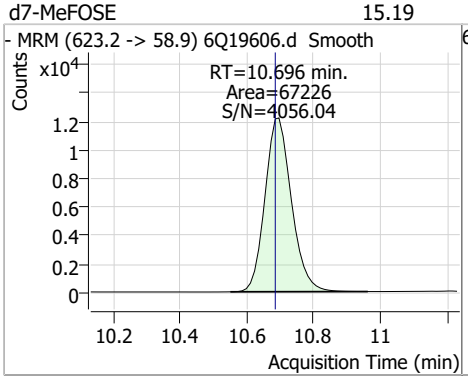
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	1.64	10.13	-0.01	2459	699.1 -> 98.8	49.8	29.4	88.1

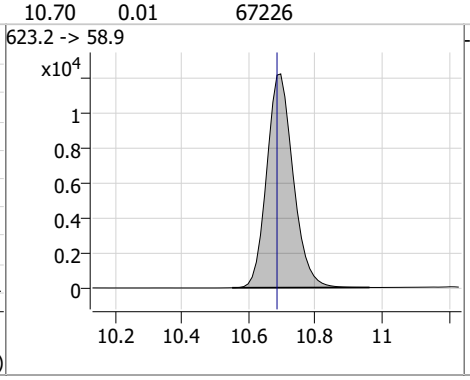


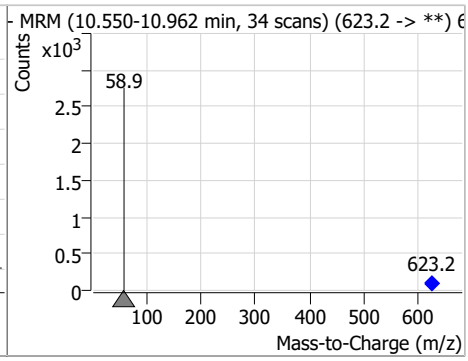




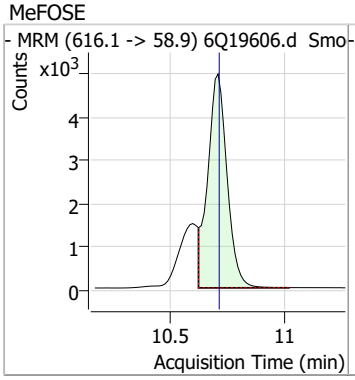
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	15.19	10.70	0.01	67226				

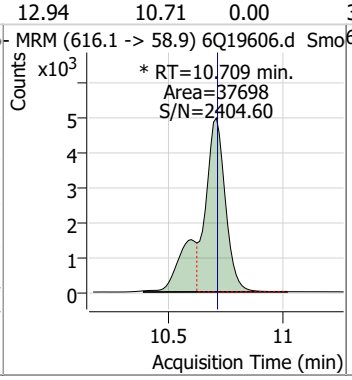


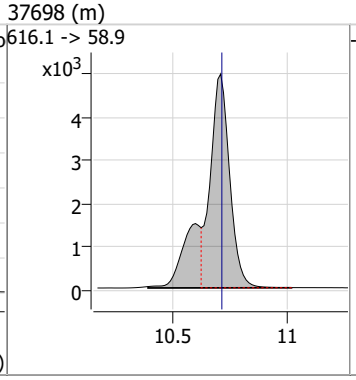


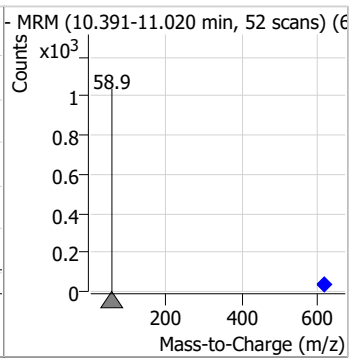


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.94	10.71	0.00	37698 (m)				

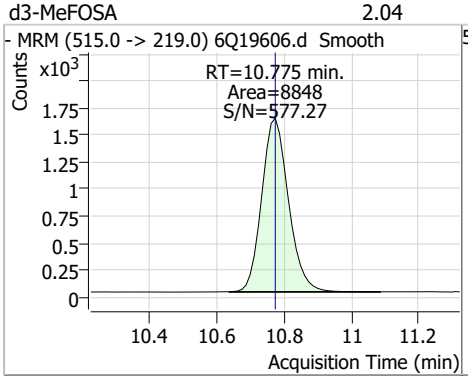


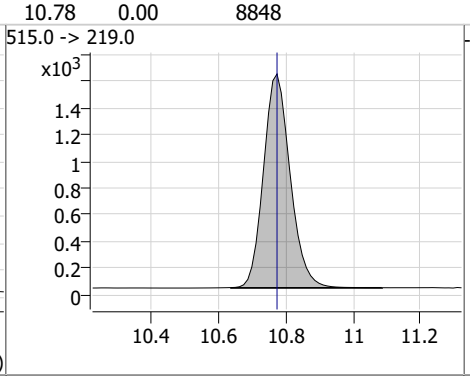


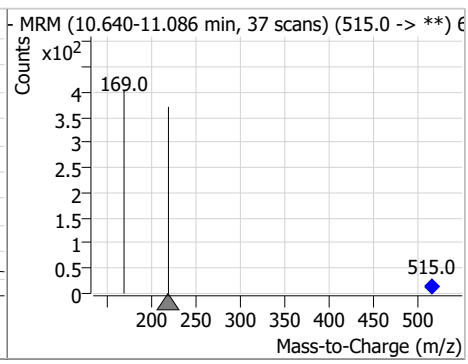




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.04	10.78	0.00	8848				

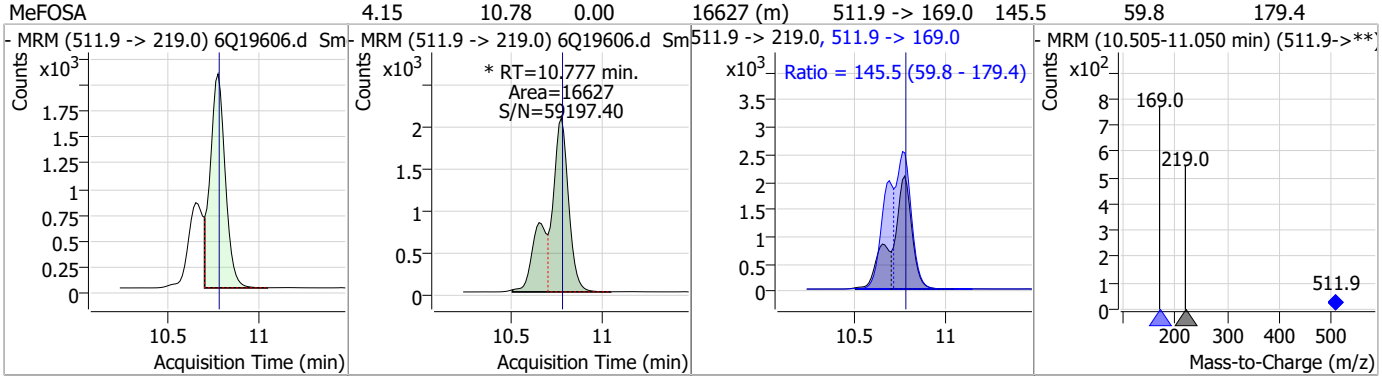




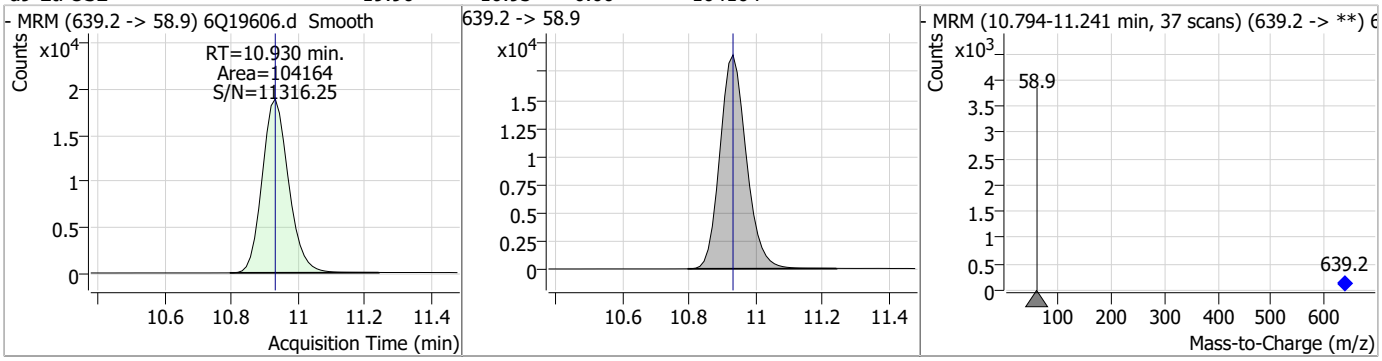


Perfluorinated Compounds by LC/MS/MS

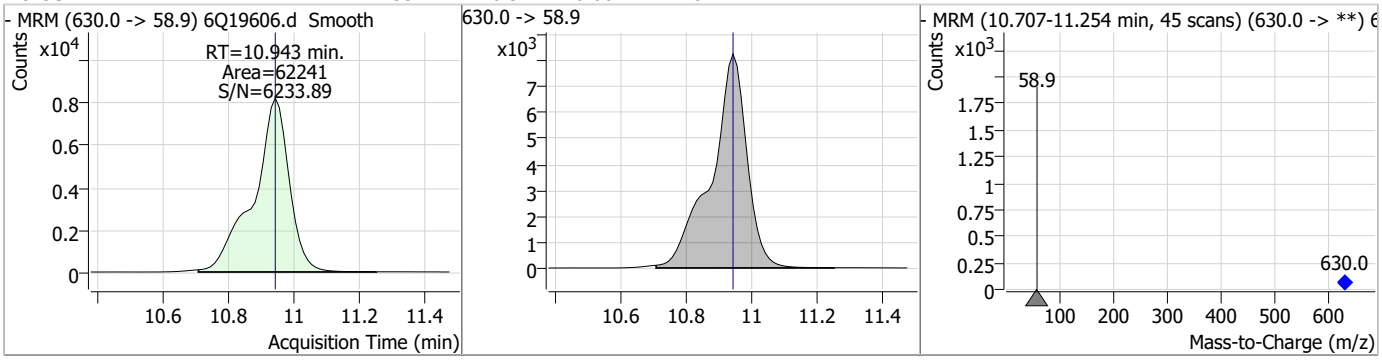
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.15	10.78	0.00	16627 (m)	511.9 -> 169.0	145.5	59.8	179.4



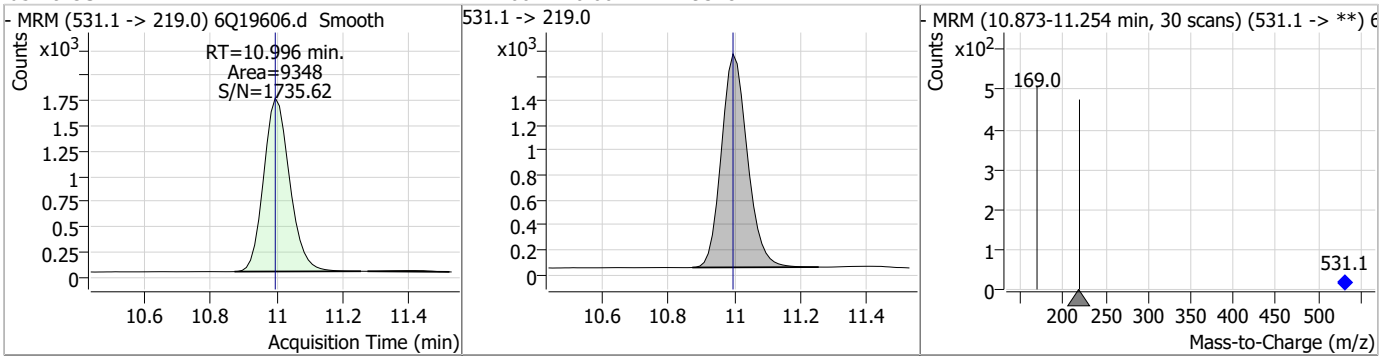
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	19.96	10.93	0.00	104164				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	11.55	10.94	0.00	62241				

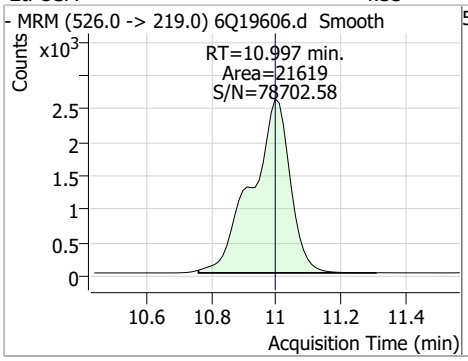


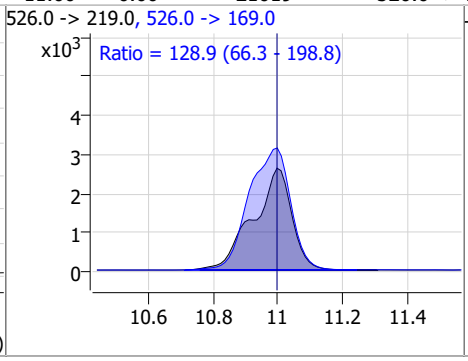
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.21	11.00	0.00	9348				

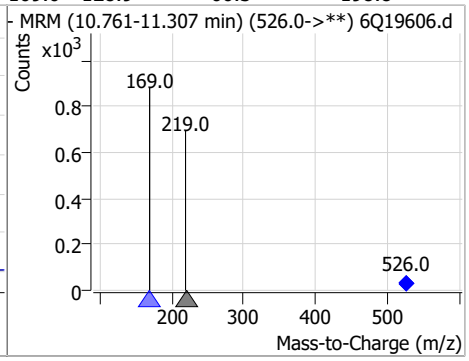


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.33	11.00	0.00	21619	526.0 -> 169.0	128.9	66.3	198.8







7.4.2

7

Manual Integration Approval Summary

Sample Number: OP97385-MS
Lab FileID: 6Q19606.D
Injection Time: 06/20/23 11:12
Method: EPA DRAFT 1633
Analyst approved: 06/21/23 14:01 Martha Valls
Supervisor approved: 06/21/23 16:21 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.35	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:58

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19369.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 8:22:24 PM
Sample Name : op97325-dup
Vial : P4-C5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97325,S6Q289,560,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	61031	10.00	µg/L	0.000
M5-PFPeA	4.548	268.3 -> 223.0	49252	5.00	µg/L	-0.012
M5-PFHxA	5.792	318.0 -> 273.0	59006	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	54470	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	78772	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	38274	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	20828	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	26250	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	19973	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	9628	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	24292	2.50	µg/L	0.012
M3-PFBS	5.733	302.1 -> 79.9	20168	2.50	µg/L	-0.013
M3-PFHxS	7.478	402.1 -> 79.9	12212	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	11140	2.50	µg/L	0.012
M2-4:2FTS	5.442	329.1 -> 80.9	2686	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	3634	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	3703	5.00	µg/L	0.012
M3-MeFOSAA	8.432	573.2 -> 419.0	27347	5.00	µg/L	0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	34348	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	20846	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	84624	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	112965	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	9233	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	9283	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	14338	2.50	µg/L	0.012
13C3-PFBA	3.089	216.0 -> 172.0	49805	5.00	µg/L	0.000
18O2-PFHxS	7.490	403.0 -> 83.9	8504	2.50	µg/L	0.012
13C4-PFOA	7.352	417.1 -> 372.0	78413	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	26588	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	41301	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	44391	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	2686	5.26	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.3%		
13C2-6:2FTS	7.113	429.1 -> 80.9	3634	4.72	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.3%		
13C2-8:2FTS	8.175	529.1 -> 80.9	3703	5.11	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C2-PFDoDA	9.297	615.1 -> 570.0	19973	1.12	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 89.9%		
13C2-PFTeDA	10.012	715.2 -> 670.0	9628	0.97	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 77.6%		
13C3-PFBS	5.733	302.1 -> 79.9	20168	2.85	µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.0%		
13C3-PFHxS	7.478	402.1 -> 79.9	12212	2.73	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.3%		
13C4-PFBA	3.085	216.8 -> 171.9	61031	5.22 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 52.2%		
13C4-PFHpA	6.707	367.1 -> 322.0	54470	3.18 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 127.1%		
13C5-PFHxA	5.792	318.0 -> 273.0	59006	3.22 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 128.8%		
13C5-PFPeA	4.548	268.3 -> 223.0	49252	5.87 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.3%		
13C6-PFDA	8.400	519.1 -> 474.1	20828	1.37 µg/L		0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.2%		
13C7-PFUnDA	8.866	570.0 -> 525.1	26250	1.28 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.7%		
13C8-FOSA	9.687	506.1 -> 77.8	24292	2.24 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.5%		
13C8-PFOA	7.352	421.1 -> 376.0	78772	2.69 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.5%		
13C8-PFOS	8.575	507.1 -> 79.9	11140	2.57 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%		
13C9-PFNA	7.895	472.1 -> 427.0	38274	1.52 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 121.8%		
d3-MeFOSAA	8.432	573.2 -> 419.0	27347	5.04 µg/L		0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	34348	11.20 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 112.0%		
d3-MeFOSA	10.775	515.0 -> 219.0	9283	1.97 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.7%		
d5-EtFOSAA	8.628	589.2 -> 419.0	20846	4.53 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.5%		
d7-MeFOSE	10.696	623.2 -> 58.9	84624	17.59 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 70.4%		
d9-EtFOSE	10.930	639.2 -> 58.9	112965	19.92 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 79.7%		
d5-EtFOSA	10.996	531.1 -> 219.0	9233	2.00 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 80.2%		
Target Compounds						QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.		
		327.1 -> 80.9				
6:2FTS	7.113	427.1 -> 407.0	1267	0.29 µg/L		97
		427.1 -> 80.9	394			
8:2FTS	-	527.1 -> 507.0	-	N.D.		
		527.1 -> 80.8				
EtFOSAA	-	584.2 -> 419.1	-	N.D.		
		584.2 -> 526.0				
FOSA	-	498.1 -> 77.9	-	N.D.		
		498.1 -> 478.0				
MeFOSAA	-	570.1 -> 419.0	-	N.D.		
		570.1 -> 483.0				
PFBA	3.018	212.8 -> 168.9	3779	1.54 µg/L	m	100
PFBS	5.747	298.7 -> 79.9	515	0.06 µg/L		99
		298.7 -> 98.8	198			
PFDA	8.845	512.9 -> 469.0	0	µg/L	m	1
		512.9 -> 219.0	0			
PFDoDA	9.697	613.1 -> 569.0	0	µg/L	m	1
		613.1 -> 319.0	0			
PFDS	-	599.0 -> 79.9	-	N.D.		

Perfluorinated Compounds by LC/MS/MS

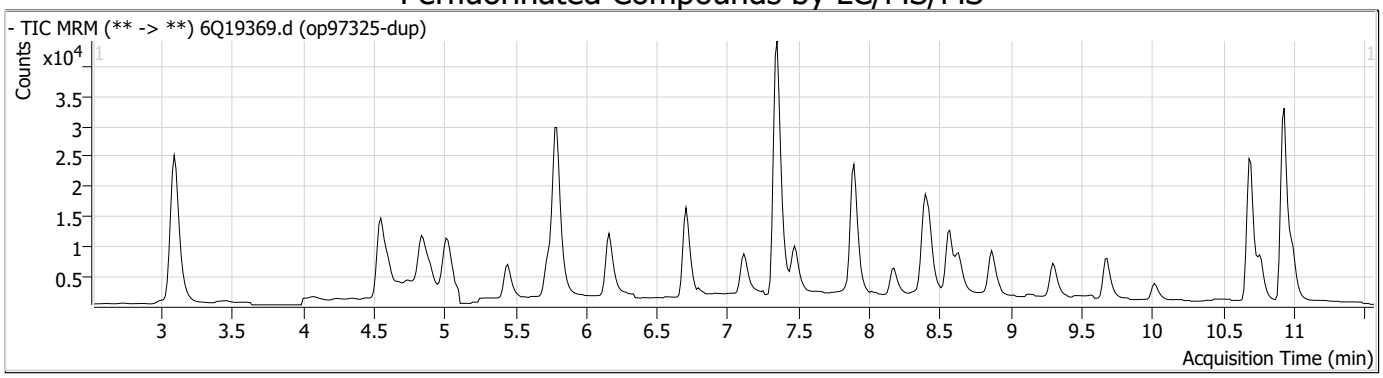
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	6.720	363.1 -> 319.0	2013	0.07	µg/L		87
		363.1 -> 169.0	418				
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	5.795	313.0 -> 269.0	3941	0.17	µg/L		97
		313.0 -> 118.9	245				
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	7.896	463.0 -> 419.0	906	0.03	µg/L	m	97
		463.0 -> 219.0	185				
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	7.353	413.0 -> 369.0	4695	0.11	µg/L	m	99
		413.0 -> 169.0	772				
PFOS	-	498.9 -> 79.9	-	N.D.			
		498.9 -> 98.8					
PFPeA	4.613	263.0 -> 219.0	29480	2.03	µg/L		100
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	-	563.1 -> 519.0	-	N.D.			
		563.1 -> 269.1					
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

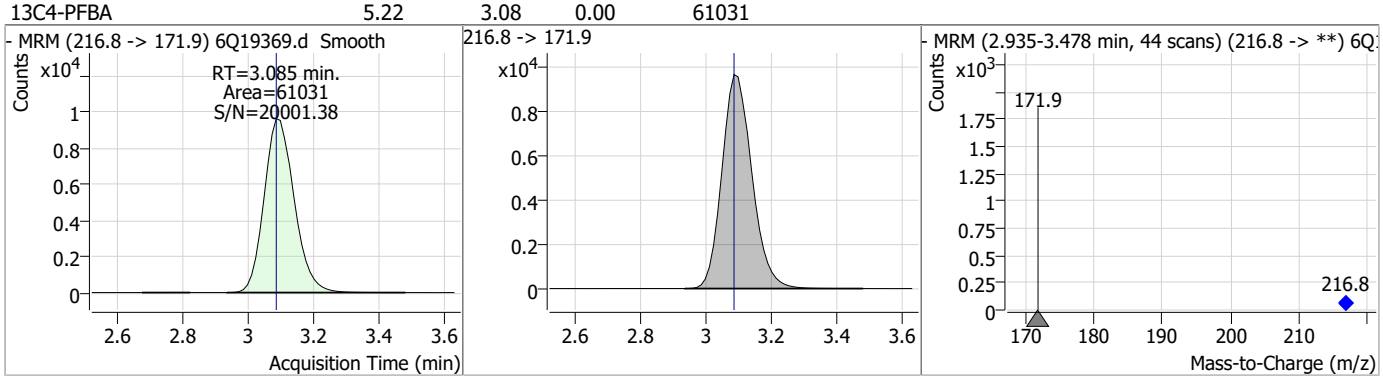
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

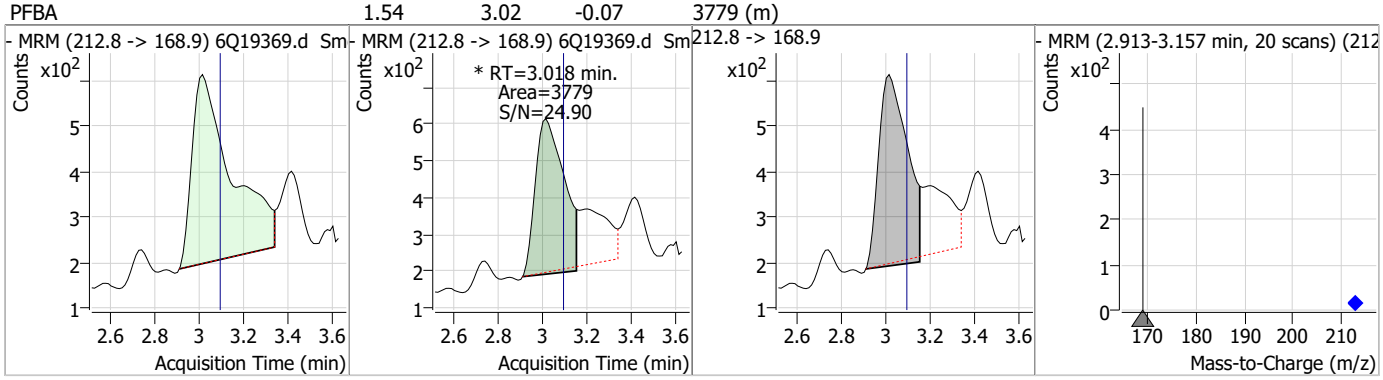
Perfluorinated Compounds by LC/MS/MS



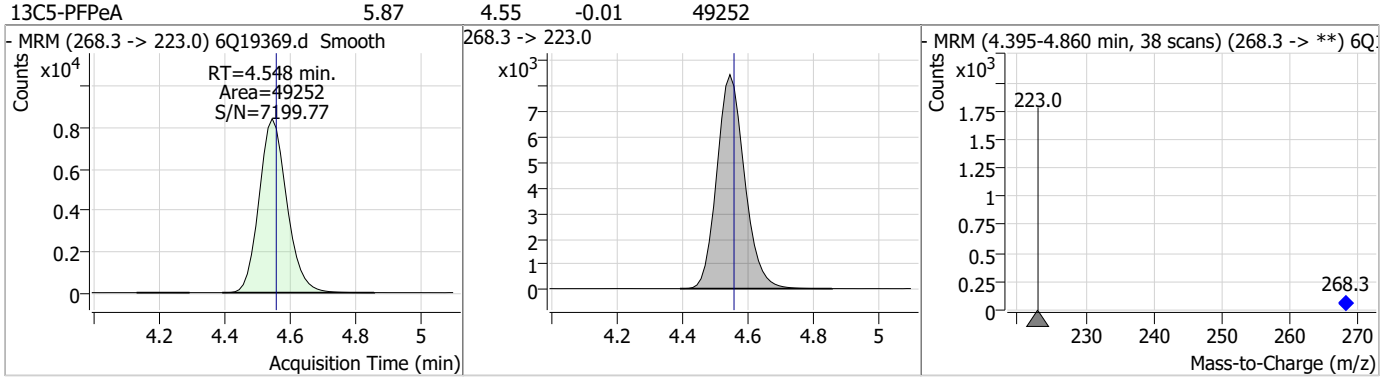
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	5.22	3.08	0.00	61031				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	1.54	3.02	-0.07	3779 (m)				

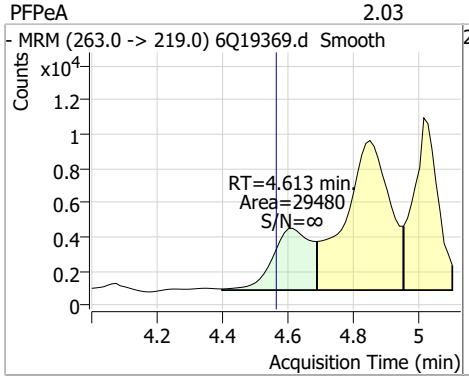


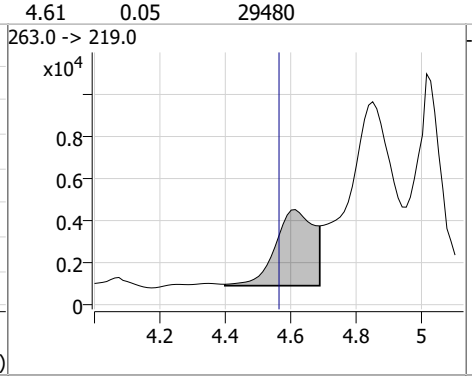
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.87	4.55	-0.01	49252				

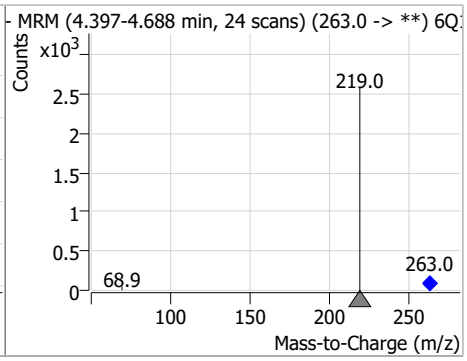


Perfluorinated Compounds by LC/MS/MS

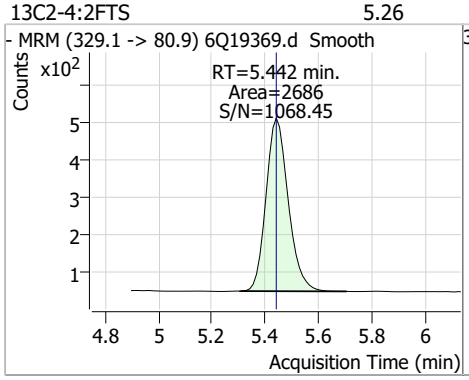
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	2.03	4.61	0.05	29480				

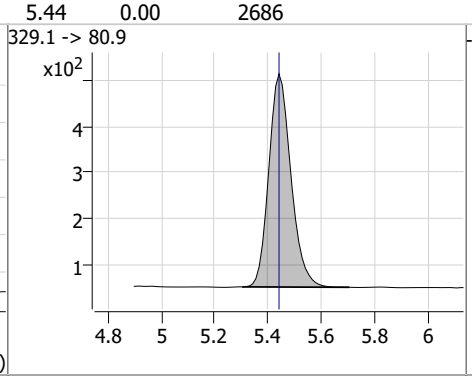


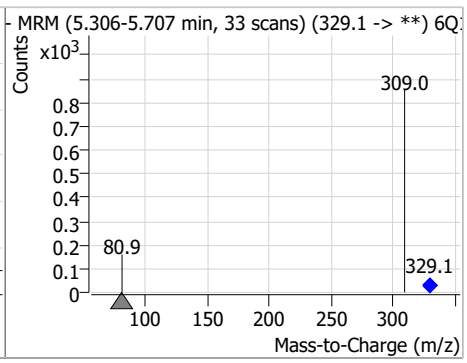




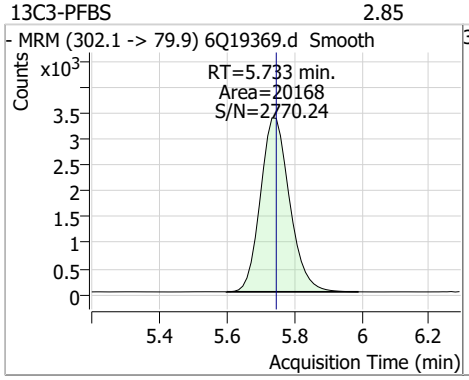
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.26	5.44	0.00	2686				

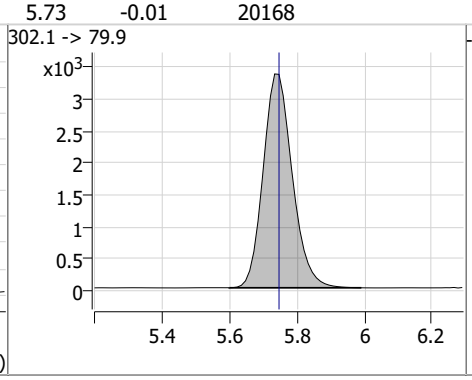


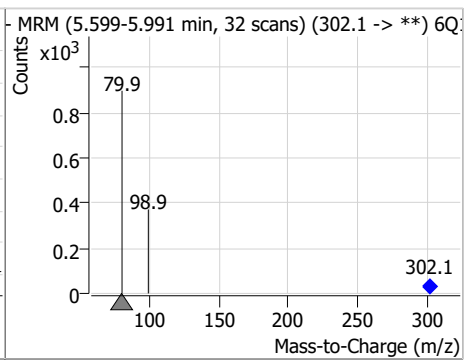




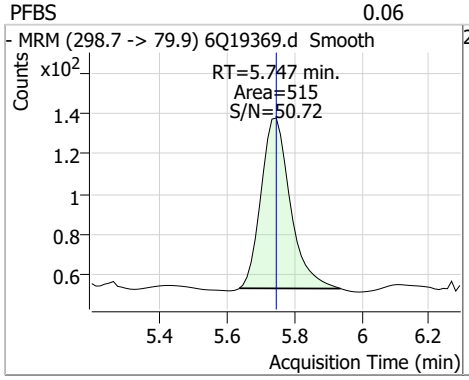
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.85	5.73	-0.01	20168				

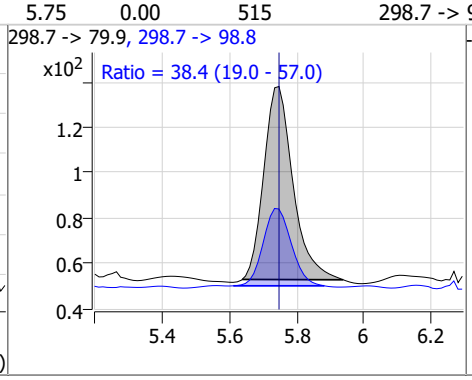


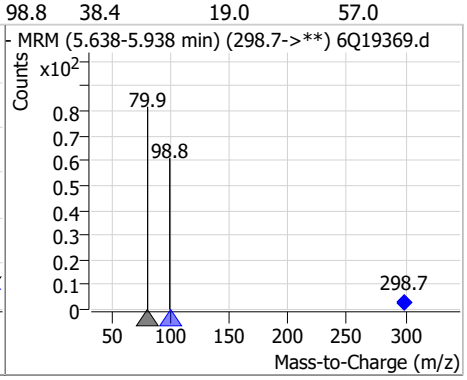




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.06	5.75	0.00	515	298.7 -> 98.8	38.4	19.0	57.0

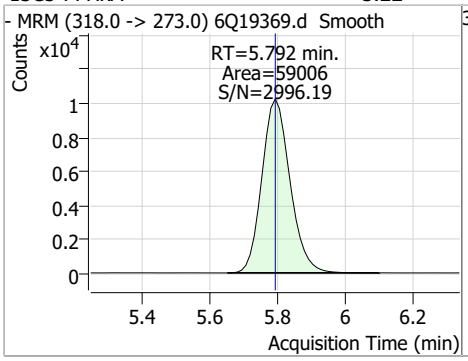


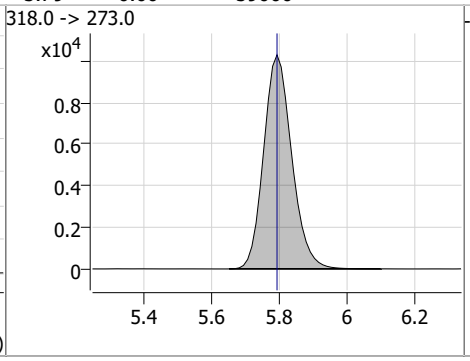


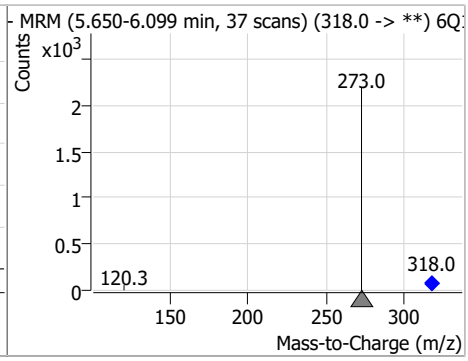


Perfluorinated Compounds by LC/MS/MS

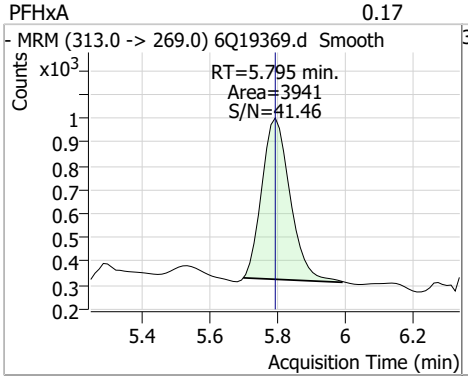
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.22	5.79	0.00	59006				

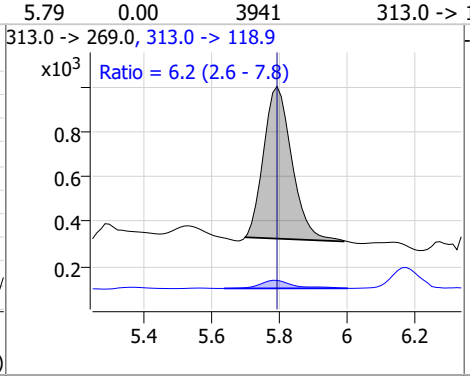


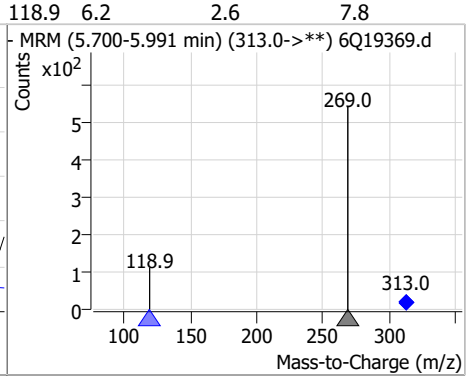




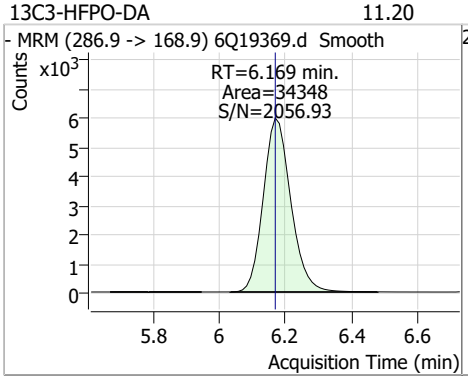
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.17	5.79	0.00	3941	313.0 -> 118.9	6.2	2.6	7.8

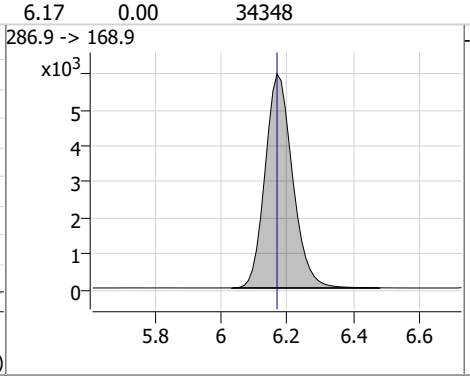


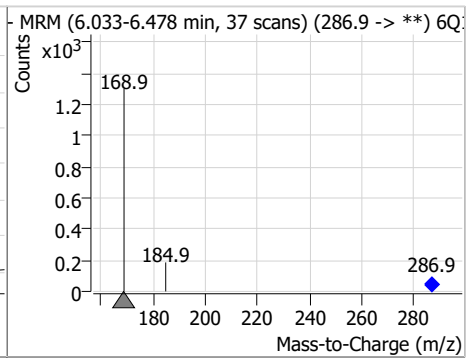




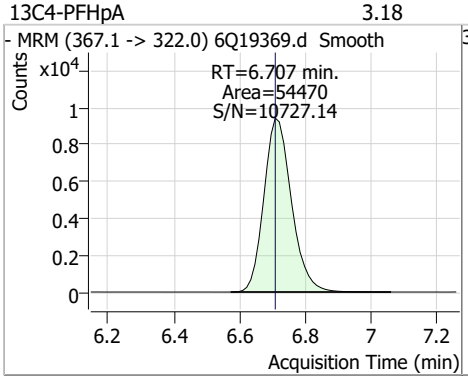
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.20	6.17	0.00	34348				

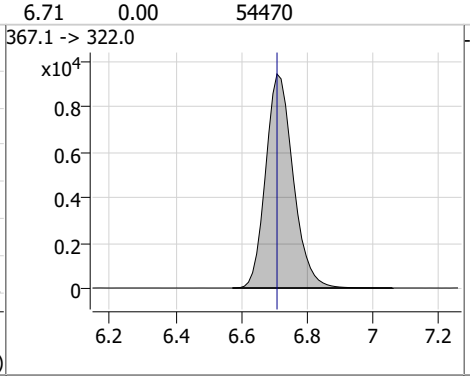


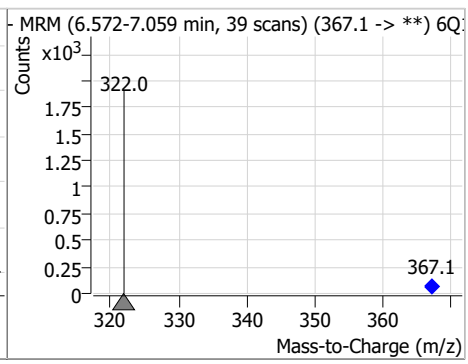




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.18	6.71	0.00	54470				

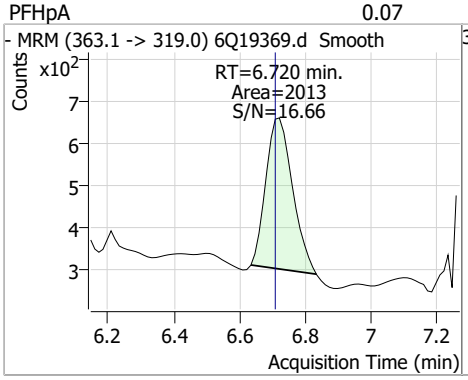


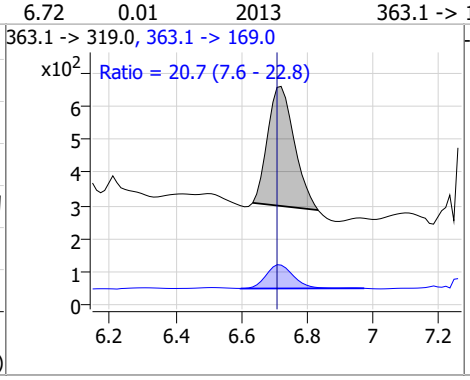


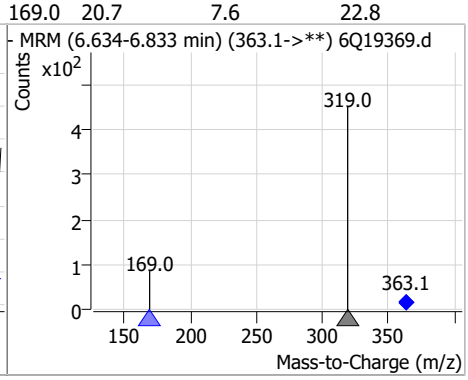


Perfluorinated Compounds by LC/MS/MS

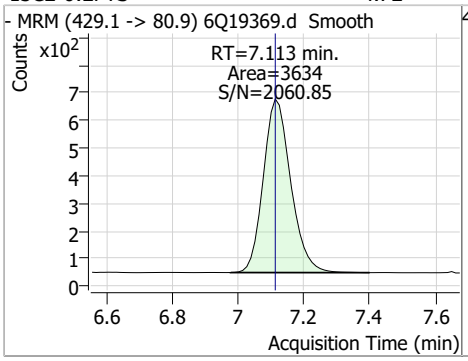
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.07	6.72	0.01	2013	363.1 -> 169.0	20.7	7.6	22.8

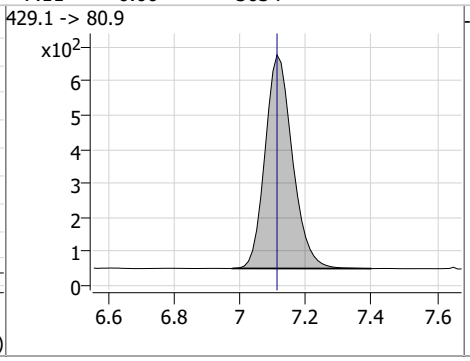


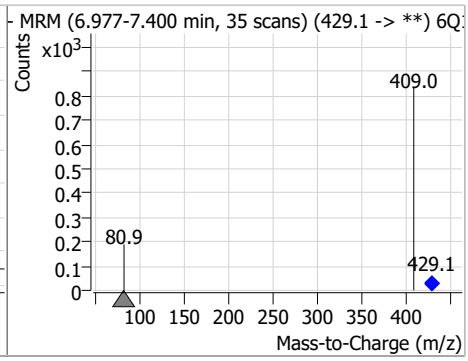




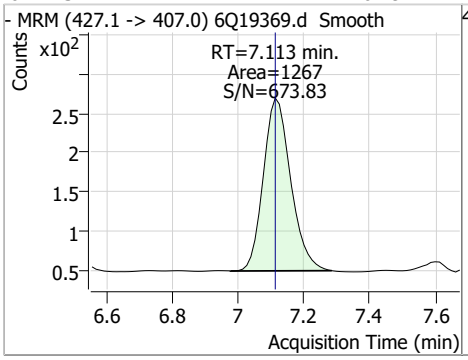
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.72	7.11	0.00	3634				

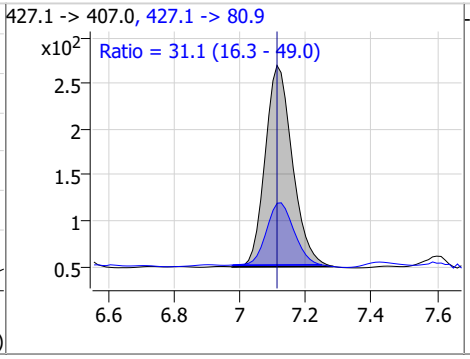


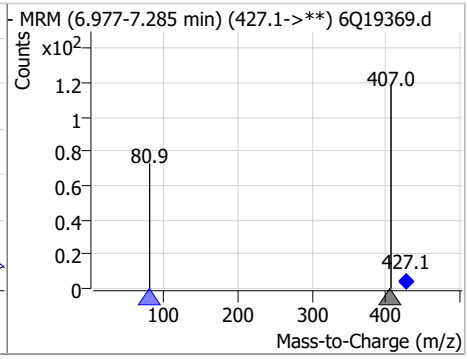




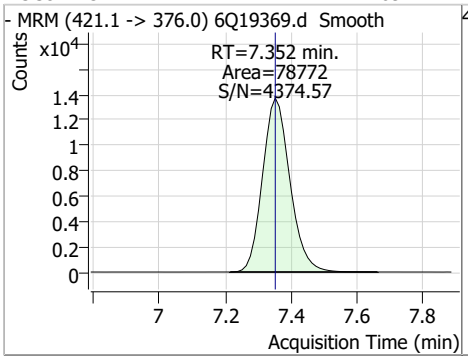
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.29	7.11	0.00	1267	427.1 -> 80.9	31.1	16.3	49.0

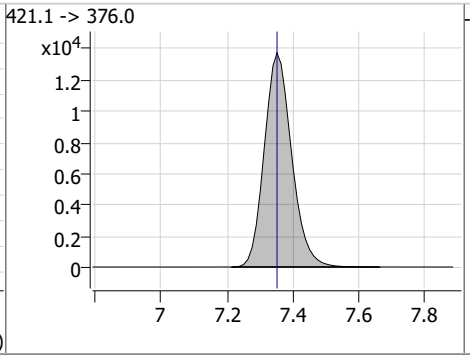


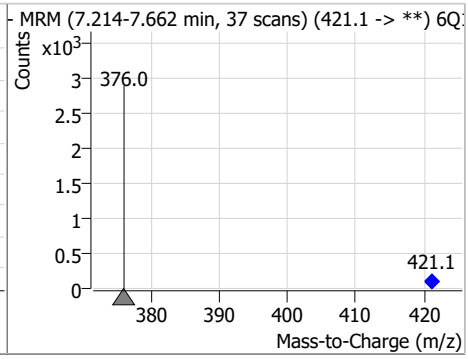




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.69	7.35	0.00	78772				

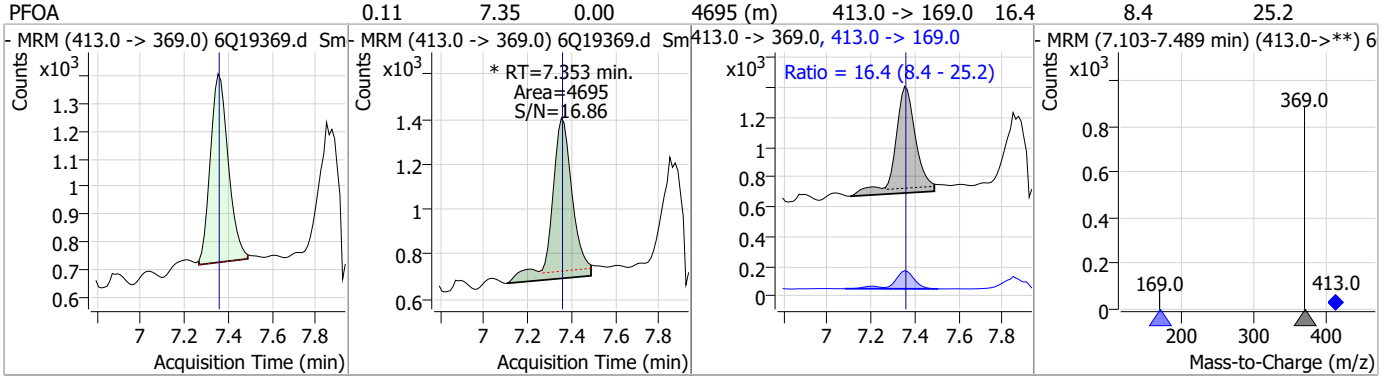




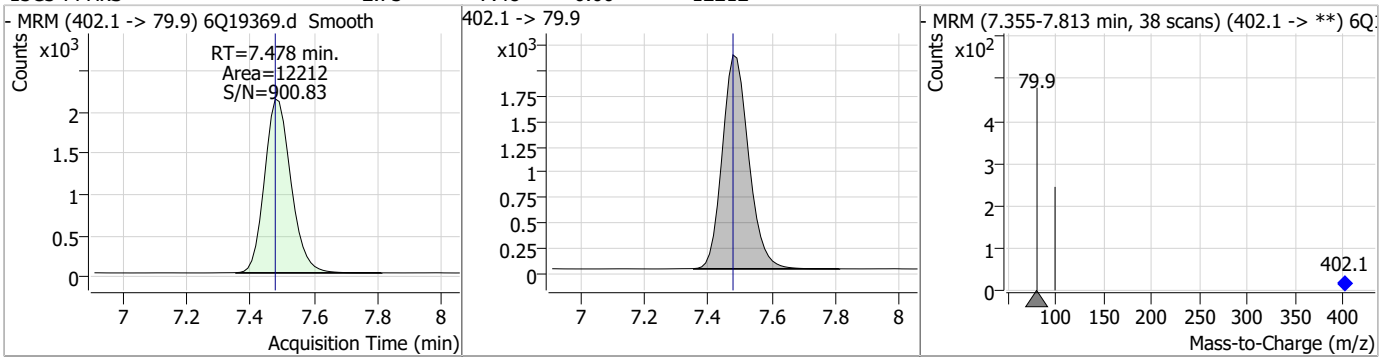


Perfluorinated Compounds by LC/MS/MS

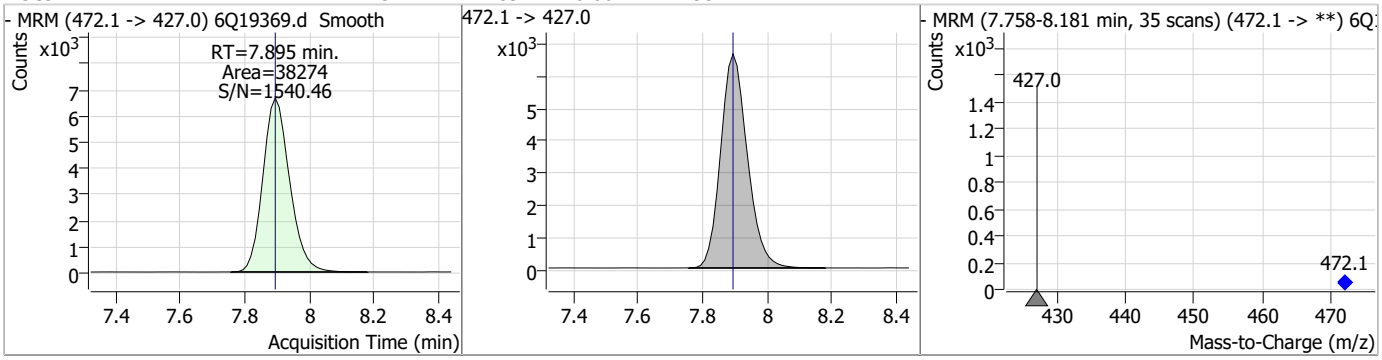
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.11	7.35	0.00	4695 (m)	413.0 -> 169.0	16.4	8.4	25.2



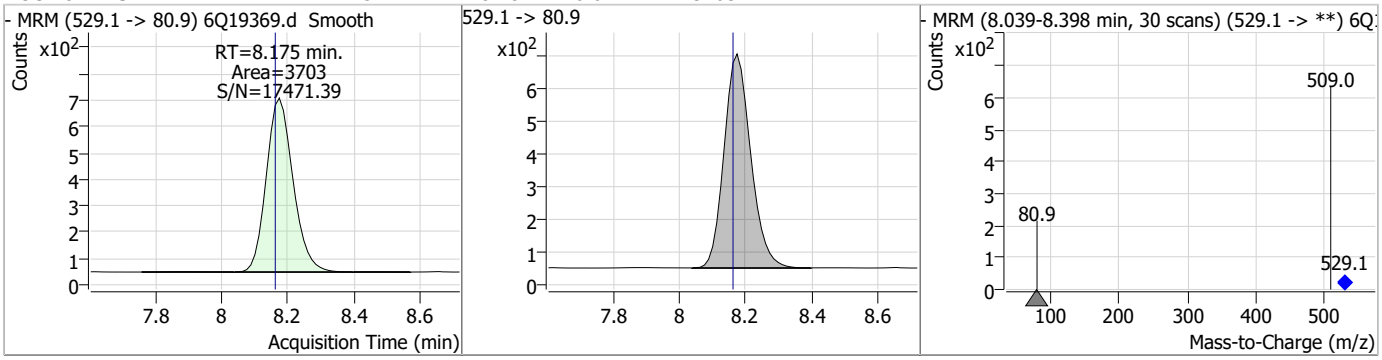
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.73	7.48	0.00	12212				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.52	7.89	0.00	38274				

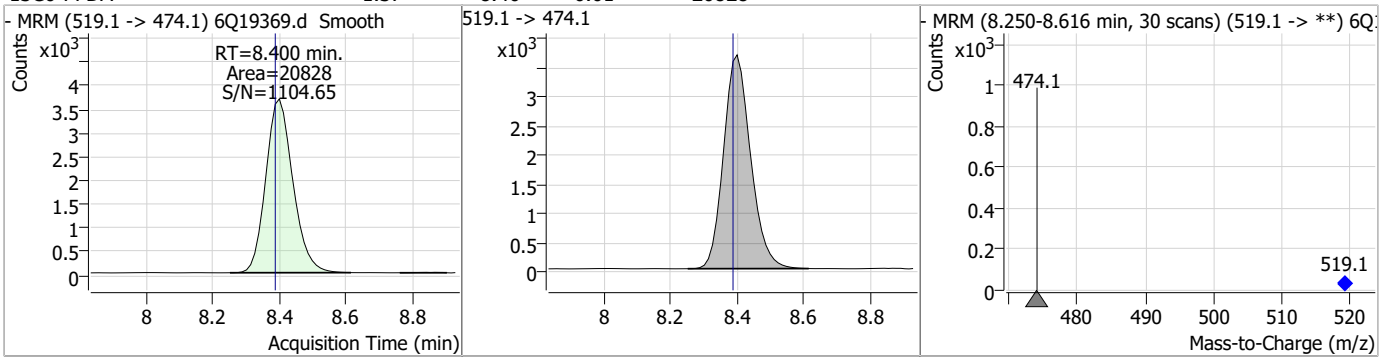


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.11	8.18	0.01	3703				

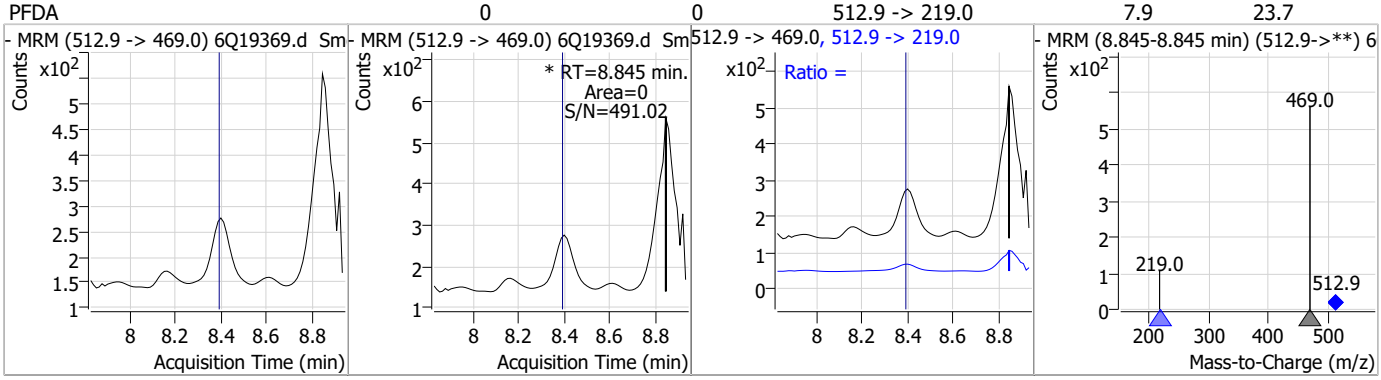


Perfluorinated Compounds by LC/MS/MS

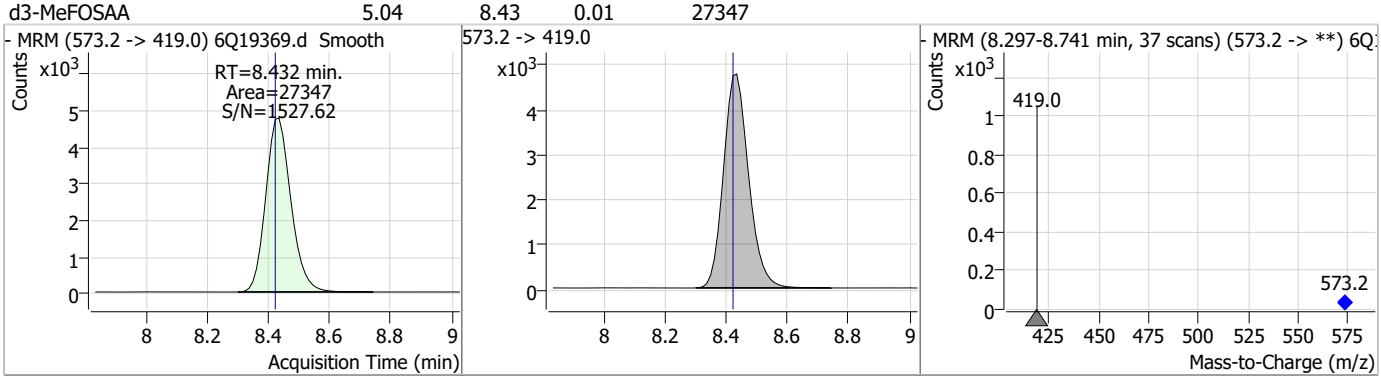
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.37	8.40	0.01	20828				



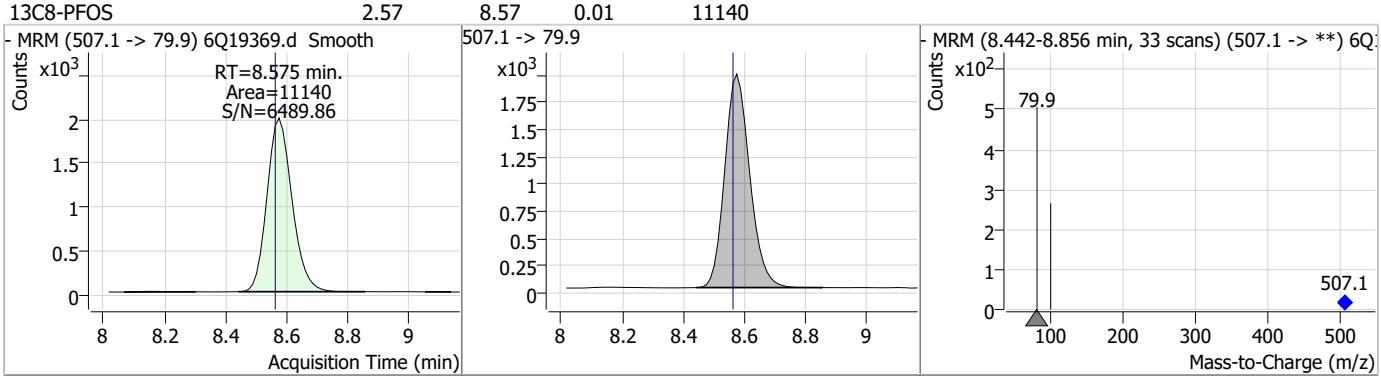
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA		0		0	512.9 -> 219.0		7.9	23.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.04	8.43	0.01	27347				

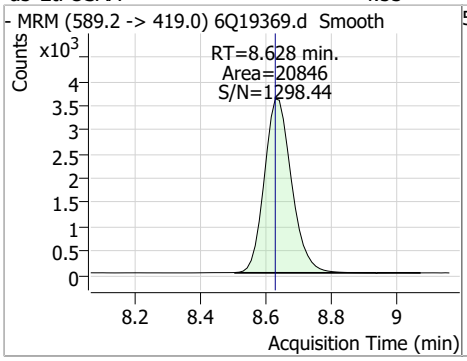


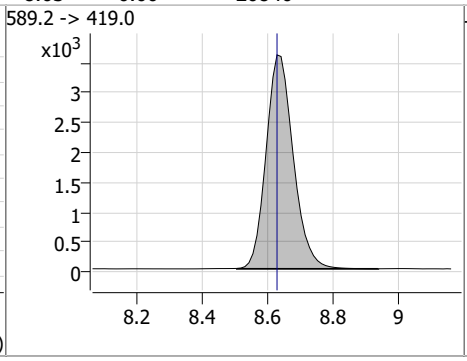
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.57	8.57	0.01	11140				

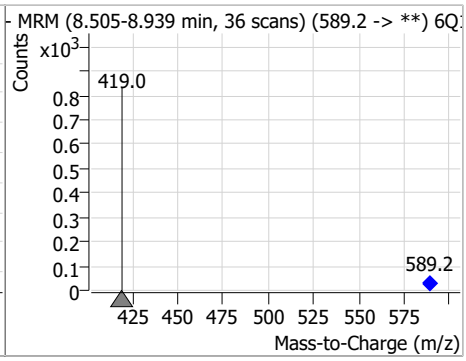


Perfluorinated Compounds by LC/MS/MS

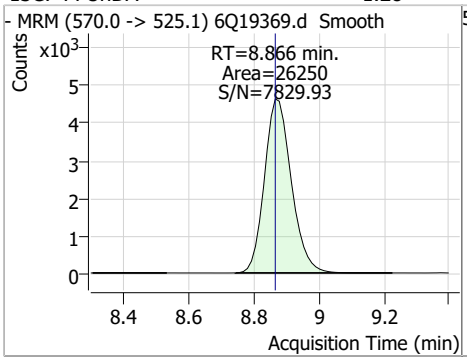
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.53	8.63	0.00	20846				

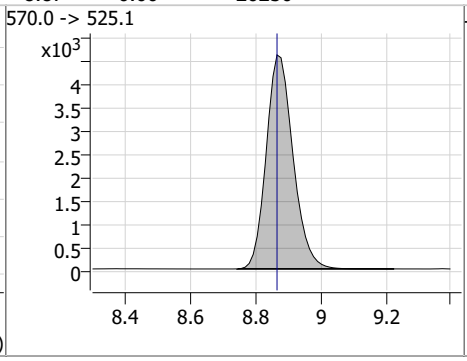


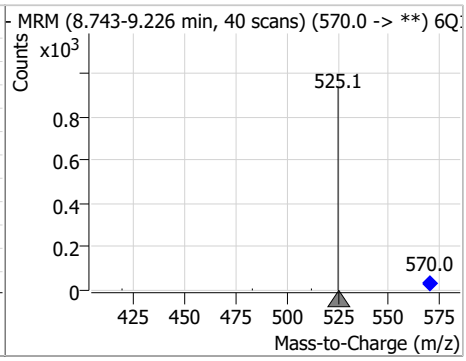




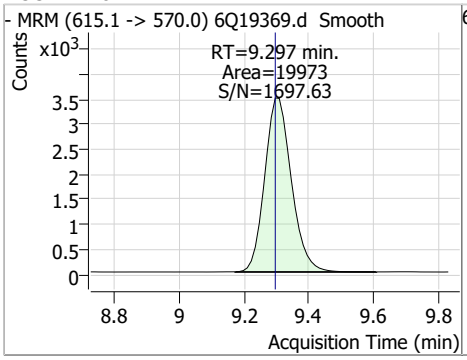
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.28	8.87	0.00	26250				

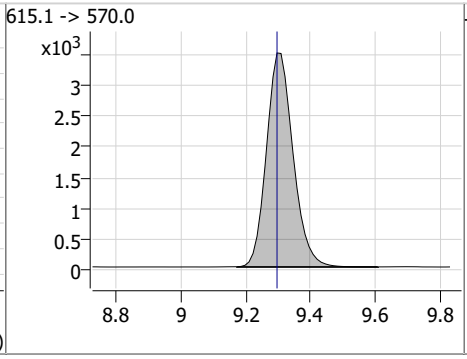


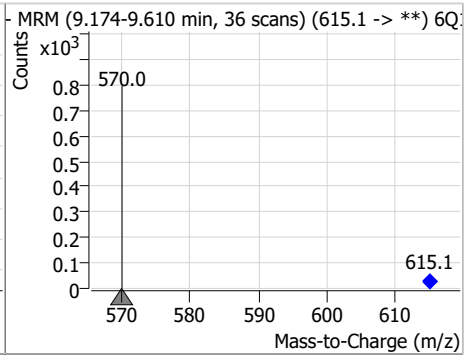




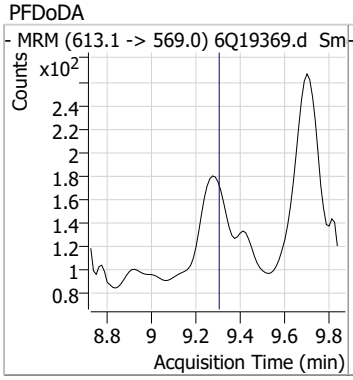
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.12	9.30	0.00	19973				

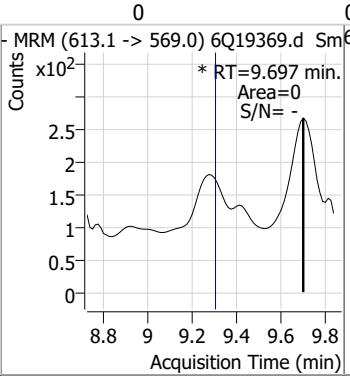


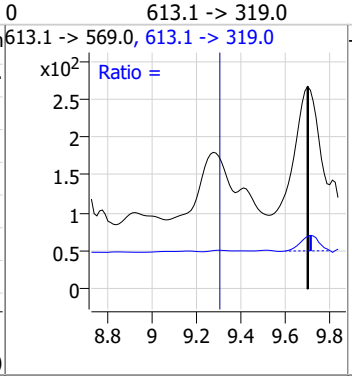


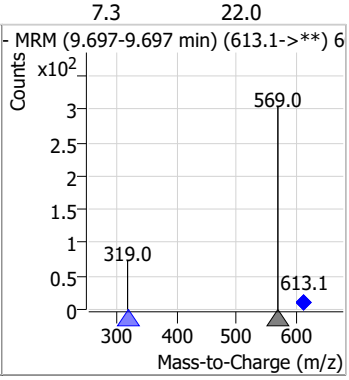


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA		0		0	613.1 -> 319.0		7.3	22.0



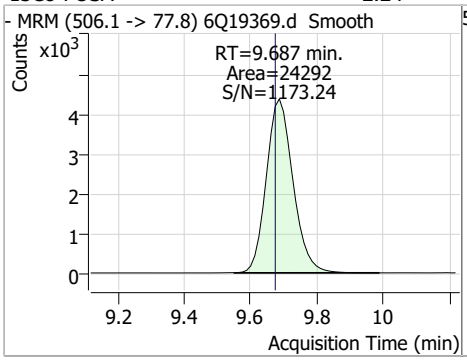


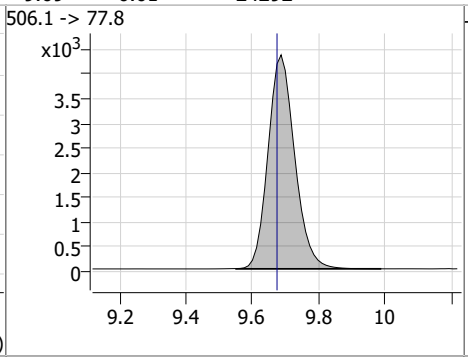


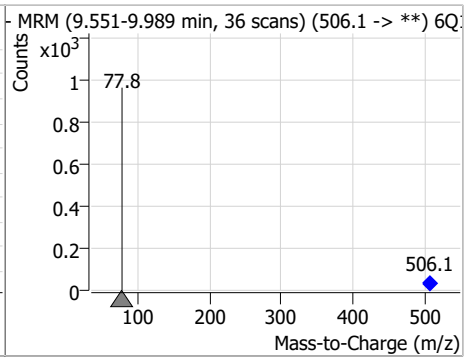


Perfluorinated Compounds by LC/MS/MS

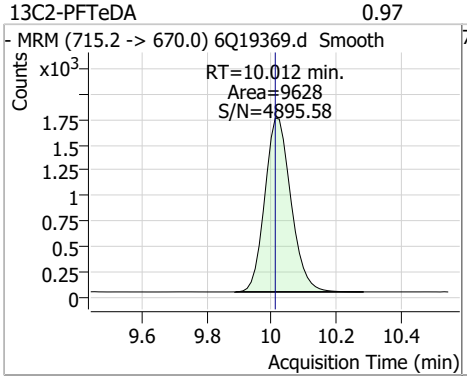
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.24	9.69	0.01	24292				

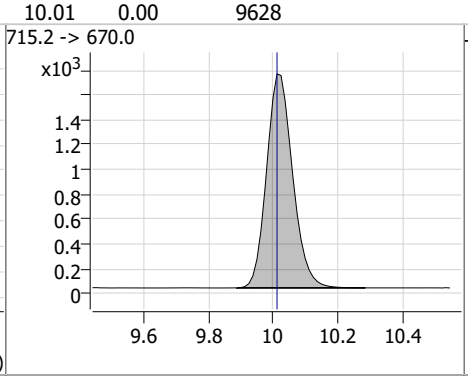


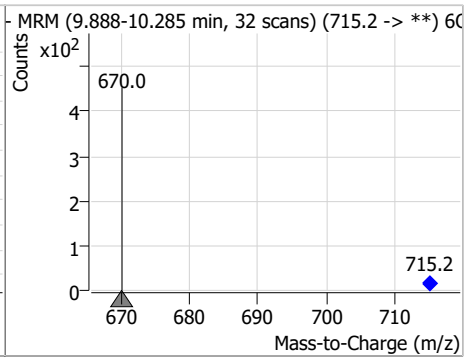




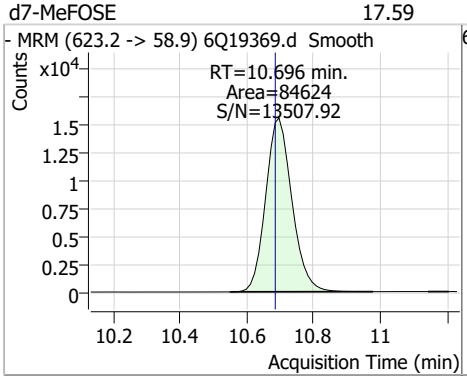
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.97	10.01	0.00	9628				

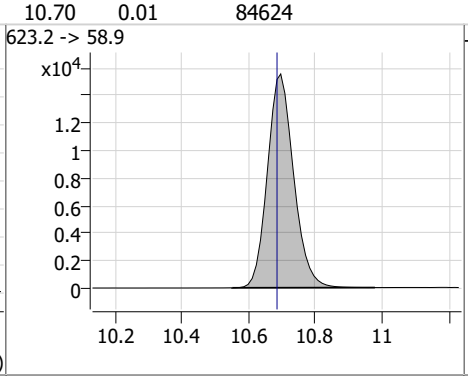


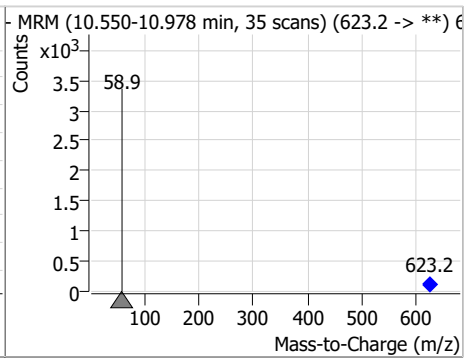




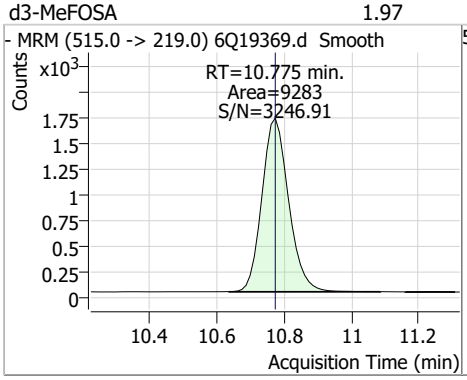
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	17.59	10.70	0.01	84624				

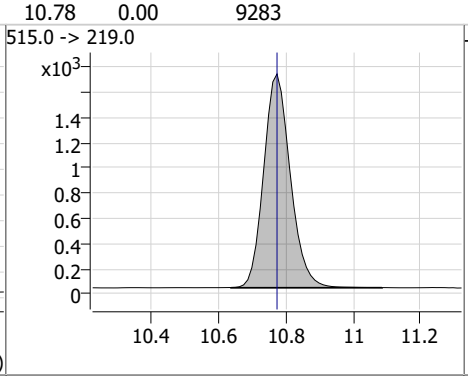


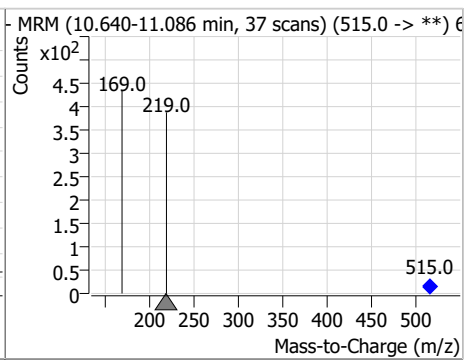




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.97	10.78	0.00	9283				

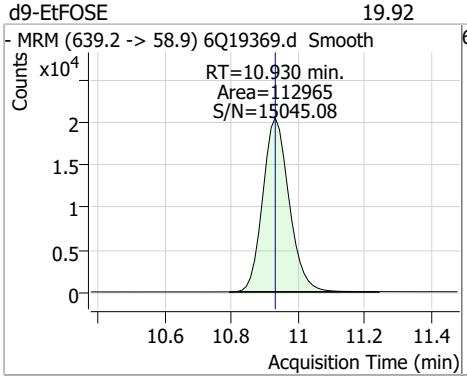


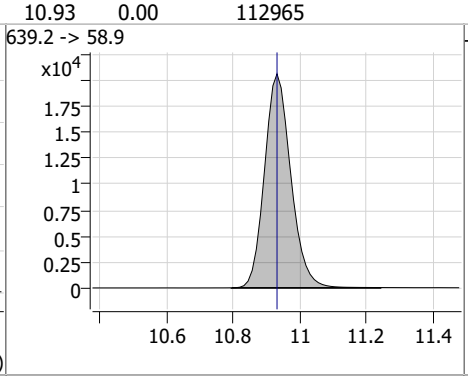


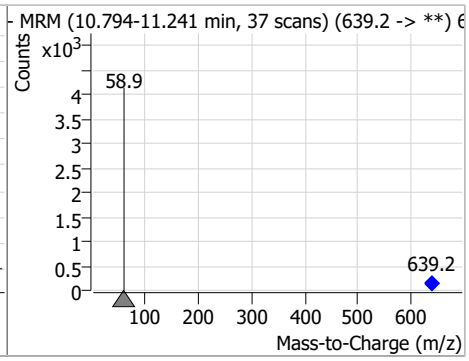


Perfluorinated Compounds by LC/MS/MS

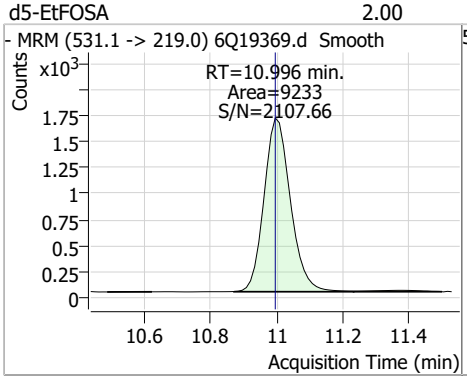
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	19.92	10.93	0.00	112965				

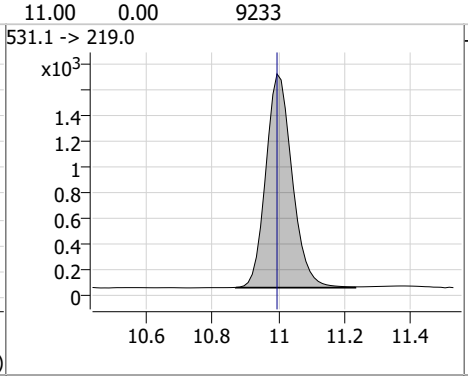


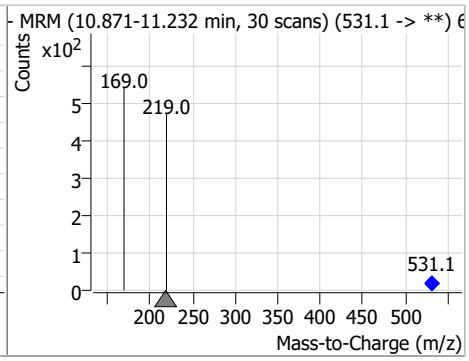




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.00	11.00	0.00	9233				







Manual Integration Approval Summary

Sample Number:	OP97325-DUP	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19369.D	**Analyst approved:**	06/15/23 10:13 Martha Valls
Injection Time:	06/14/23 20:22	**Supervisor approved:**	06/15/23 10:58 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanoic acid	375-22-4		3.02	Poor instrument integration
Perfluorooctanoic acid	335-67-1		7.35	Split peak
Perfluorononanoic acid	375-95-1		7.90	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/21/23 16:21

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19608.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 11:40:01 AM
Sample Name : op97385-dup
Vial : P2-E7
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97385,S6Q292,60,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	145732	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	47299	5.00	µg/L	0.000
M5-PFHxA	5.804	318.0 -> 273.0	47522	2.50	µg/L	0.012
M4-PFHpA	6.707	367.1 -> 322.0	42530	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	70453	2.50	µg/L	0.000
M9-PFNA	7.882	472.1 -> 427.0	31090	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	17549	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	22944	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	17492	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	7835	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	18586	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	18252	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12100	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	10060	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3077	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4450	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3538	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	24764	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35064	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	19342	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	71712	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	104378	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	8905	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	8535	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	13234	2.50	µg/L	0.000
13C3-PFBA	3.101	216.0 -> 172.0	55350	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	7917	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	71000	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	24051	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	37499	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	41773	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3077	6.48	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 129.5%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4450	6.20	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 124.1%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3538	5.24	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.9%		
13C2-PFDoDA	9.285	615.1 -> 570.0	17492	1.09	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 87.0%		
13C2-PFTeDA	10.000	715.2 -> 670.0	7835	0.87	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 69.8%		
13C3-PFBS	5.746	302.1 -> 79.9	18252	2.77	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.8%		
13C3-PFHxS	7.478	402.1 -> 79.9	12100	2.91	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 116.3%	
13C4-PFBA	3.097	216.8 -> 171.9	145732	11.22 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 112.2%	
13C4-PFHpA	6.707	367.1 -> 322.0	42530	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.5%	
13C5-PFHxA	5.804	318.0 -> 273.0	47522	2.76 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.3%	
13C5-PFPeA	4.560	268.3 -> 223.0	47299	5.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.7%	
13C6-PFDA	8.387	519.1 -> 474.1	17549	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C7-PFUnDA	8.853	570.0 -> 525.1	22944	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C8-FOSA	9.687	506.1 -> 77.8	18586	1.85 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 74.2%	
13C8-PFOA	7.352	421.1 -> 376.0	70453	2.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C8-PFOS	8.563	507.1 -> 79.9	10060	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C9-PFNA	7.882	472.1 -> 427.0	31090	1.36 µg/L	-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.0%	
d3-MeFOSAA	8.420	573.2 -> 419.0	24764	4.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C3-HFPO-DA	6.169	286.9 -> 168.9	35064	12.16 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 121.6%	
d3-MeFOSA	10.775	515.0 -> 219.0	8535	1.96 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.4%	
d5-EtFOSAA	8.628	589.2 -> 419.0	19342	4.55 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.0%	
d7-MeFOSE	10.696	623.2 -> 58.9	71712	16.15 µg/L	0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 64.6%	
d9-EtFOSE	10.930	639.2 -> 58.9	104378	19.94 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 79.8%	
d5-EtFOSA	10.996	531.1 -> 219.0	8905	2.09 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.8%	

Target Compounds					QValue
4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9 298.7 -> 98.8	-	N.D.	
PFDA	-	512.9 -> 469.0 512.9 -> 219.0	-	N.D.	
PFDoDA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

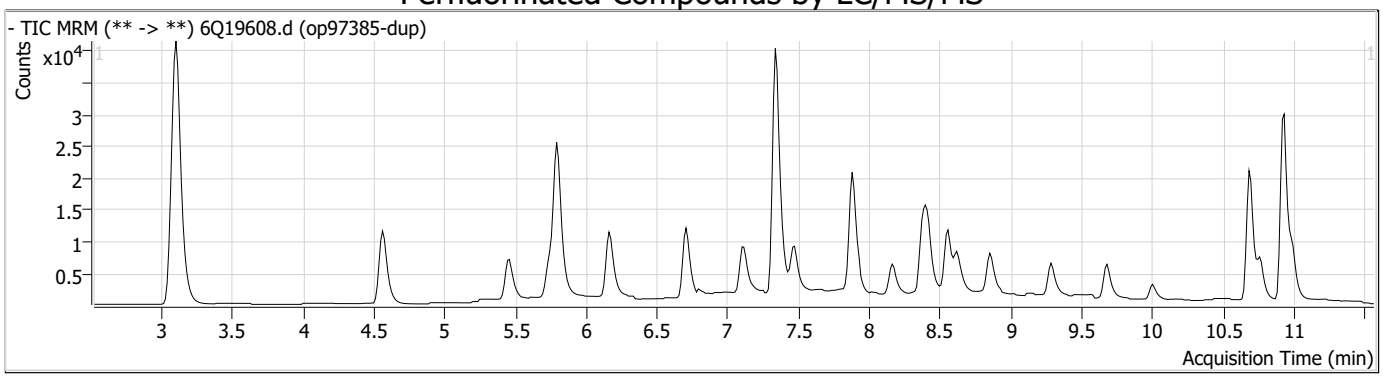
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	-	413.0 -> 369.0	-	N.D.			
		413.0 -> 169.0					
PFOS	8.564	498.9 -> 79.9	463	0.08	µg/L	m	91
		498.9 -> 98.8	214				
PFPeA	-	263.0 -> 219.0	-	N.D.			
PFPeS	-	349.1 -> 79.9	-	N.D.			
		349.1 -> 98.9					
PFTeDA	-	713.1 -> 669.0	-	N.D.			
		713.1 -> 168.9					
PFTrDA	-	663.0 -> 619.0	-	N.D.			
		663.0 -> 168.9					
PFUnDA	-	563.1 -> 519.0	-	N.D.			
		563.1 -> 269.1					
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.			
		632.9 -> 452.9					
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.			
		532.8 -> 353.0					
ADONA	-	376.9 -> 250.9	-	N.D.			
		376.9 -> 84.8					
HFPO-DA	-	284.9 -> 168.9	-	N.D.			
		284.9 -> 184.9					
3:3FTCA	-	241.0 -> 177.0	-	N.D.			
		241.0 -> 117.0					
5:3FTCA	-	341.0 -> 237.1	-	N.D.			
		341.0 -> 217.0					
7:3FTCA	-	441.0 -> 316.9	-	N.D.			
		441.0 -> 336.9					
EtFOSA	-	526.0 -> 219.0	-	N.D.			
		526.0 -> 169.0					
EtFOSE	-	630.0 -> 58.9	-	N.D.			
MeFOSA	-	511.9 -> 219.0	-	N.D.			
		511.9 -> 169.0					
MeFOSE	-	616.1 -> 58.9	-	N.D.			
PFDoDS	-	699.1 -> 79.9	-	N.D.			
		699.1 -> 98.8					
NFDHA	-	295.0 -> 201.0	-	N.D.			
		295.0 -> 84.9					
PFMBA	-	279.0 -> 85.1	-	N.D.			
PFMPA	-	229.0 -> 84.9	-	N.D.			
PFEESA	-	314.8 -> 134.9	-	N.D.			
		314.8 -> 82.9					

 # = Qualifier out of range, m = manually integrated, + = Area summed

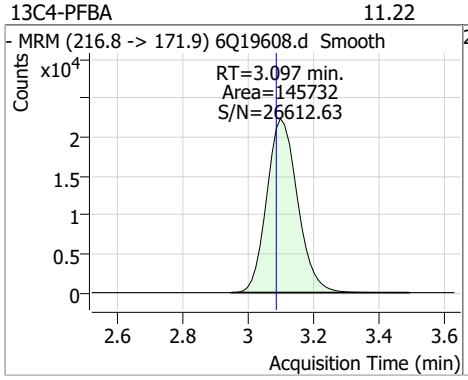
Perfluorinated Compounds by LC/MS/MS

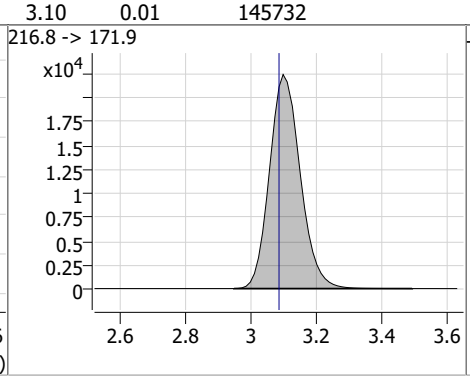
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

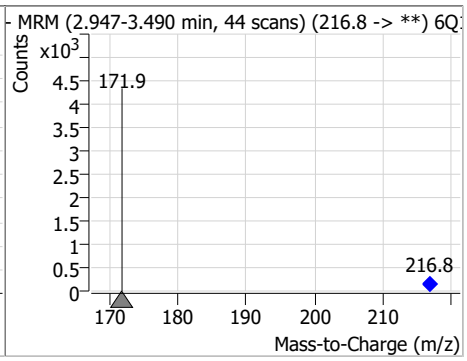
Perfluorinated Compounds by LC/MS/MS



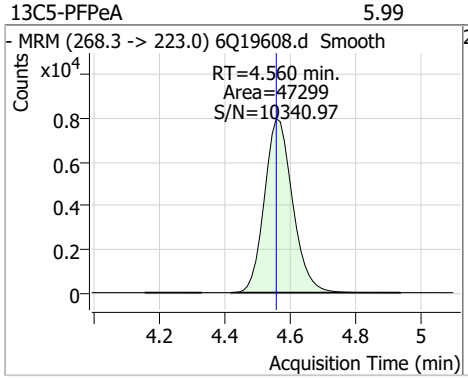
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	11.22	3.10	0.01	145732				

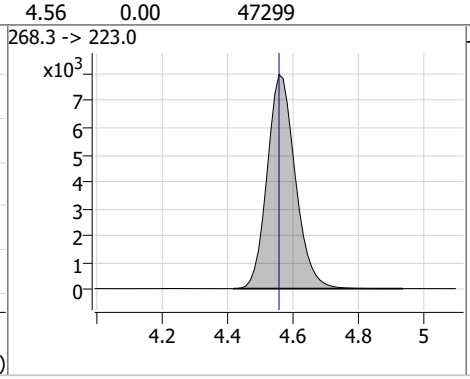


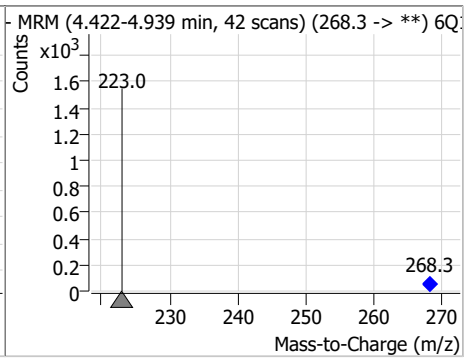




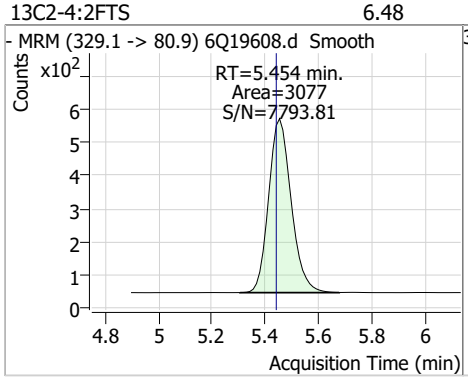
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.99	4.56	0.00	47299				

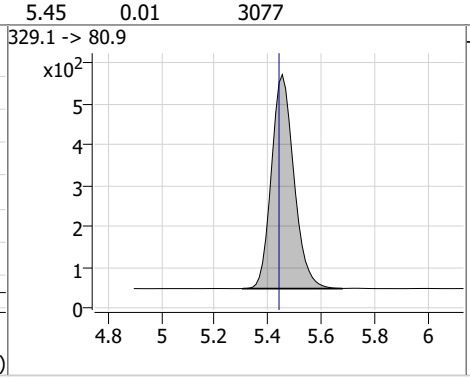


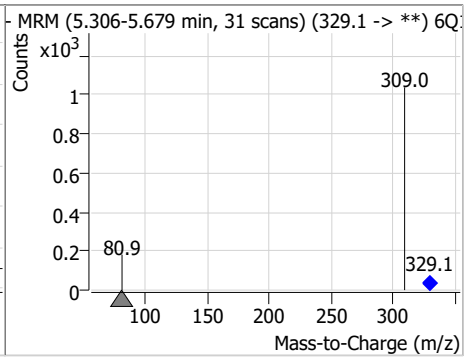




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.48	5.45	0.01	3077				

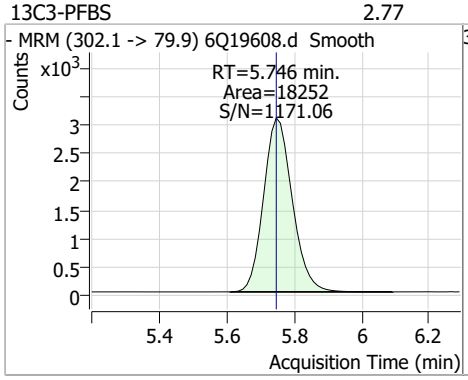


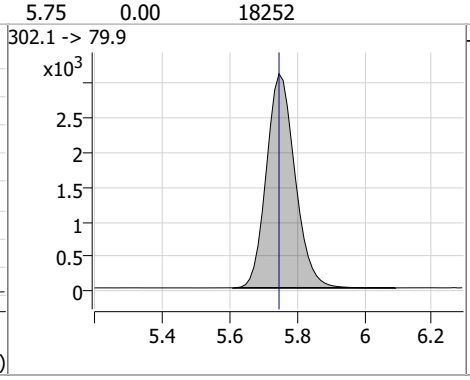


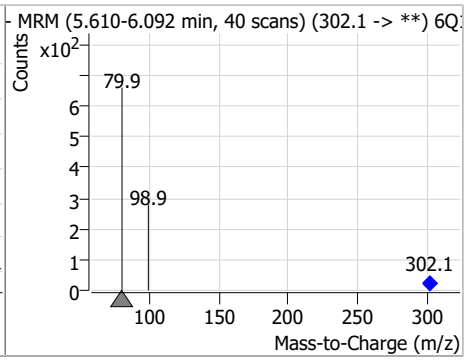


Perfluorinated Compounds by LC/MS/MS

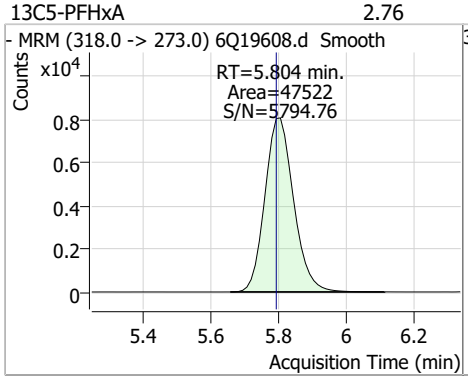
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.77	5.75	0.00	18252				

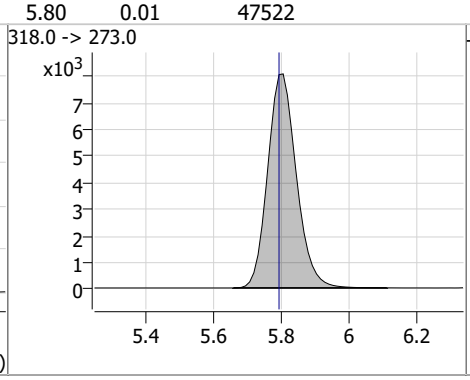


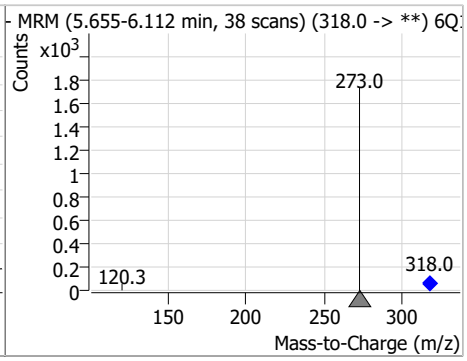




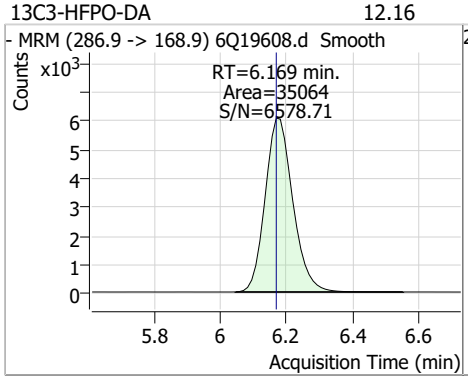
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.76	5.80	0.01	47522				

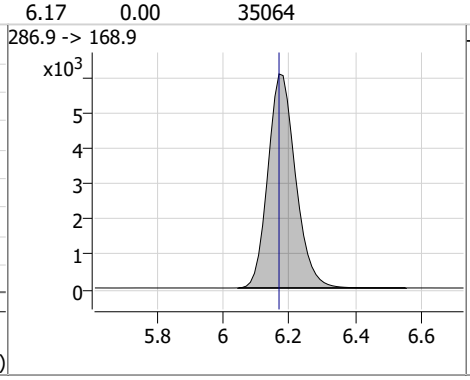


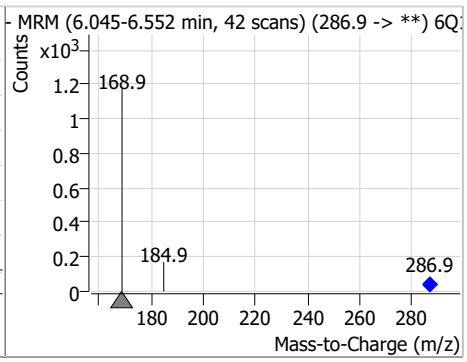




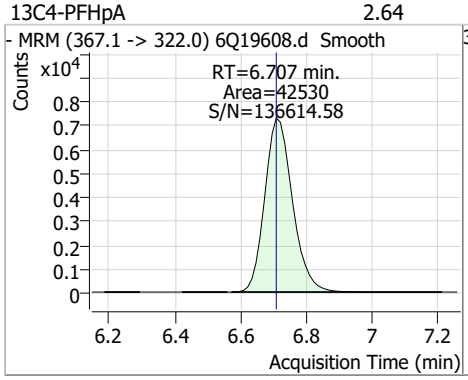
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	12.16	6.17	0.00	35064				

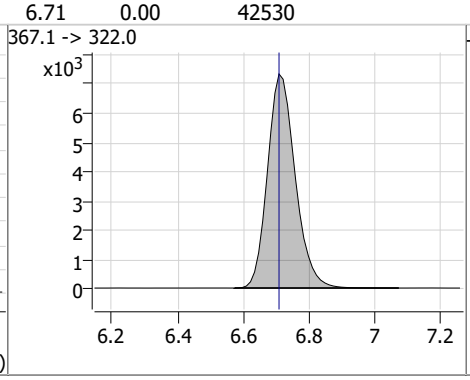


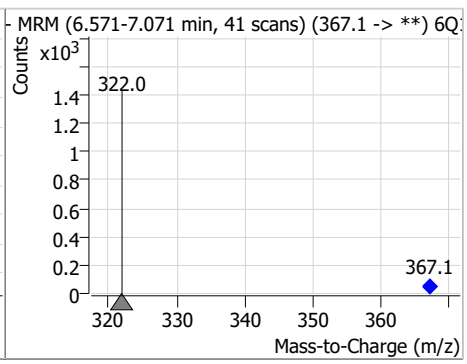




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.64	6.71	0.00	42530				

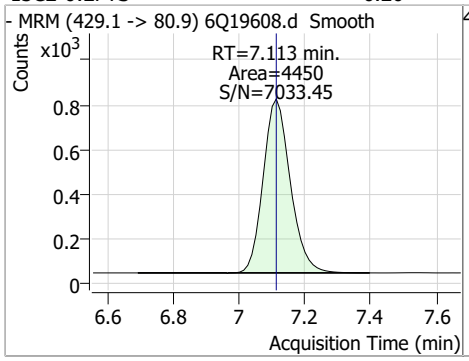


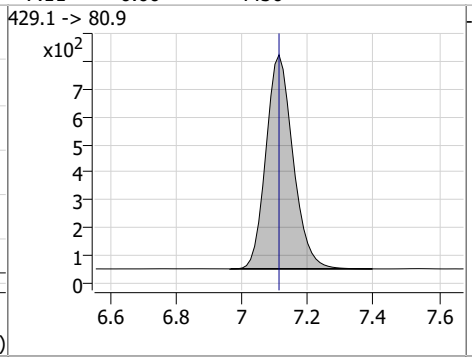


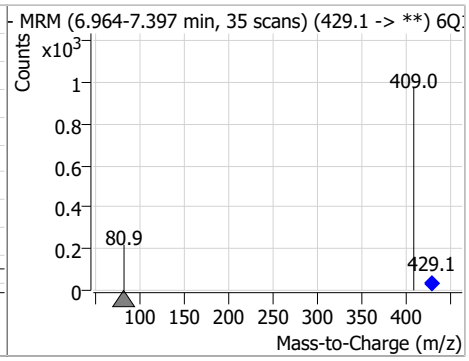


Perfluorinated Compounds by LC/MS/MS

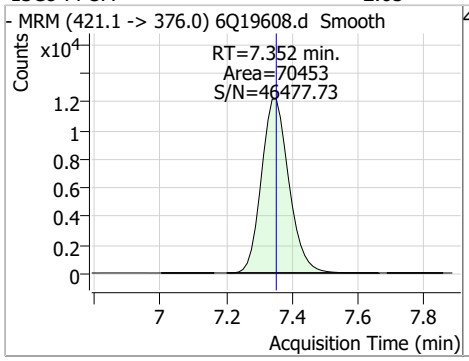
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.20	7.11	0.00	4450				

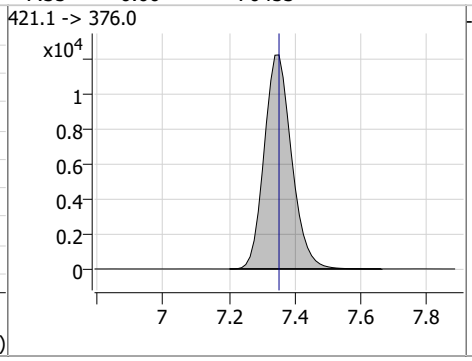


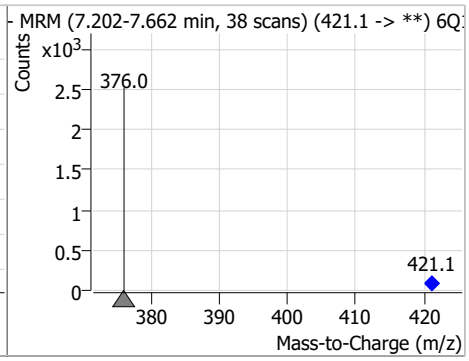




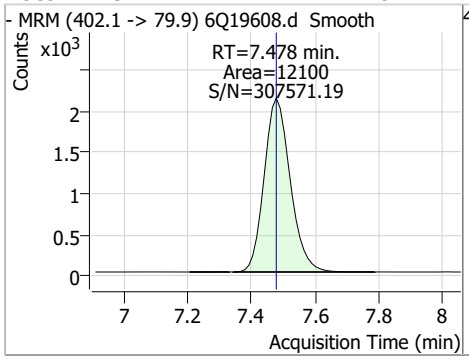
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.65	7.35	0.00	70453				

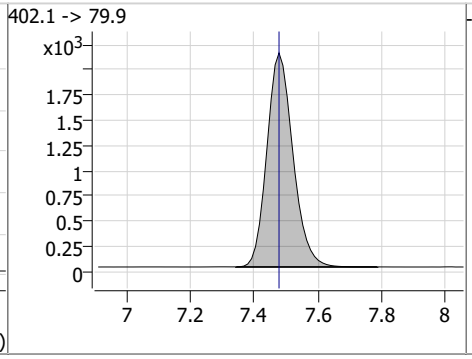


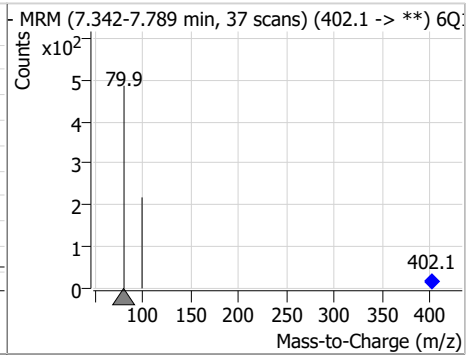




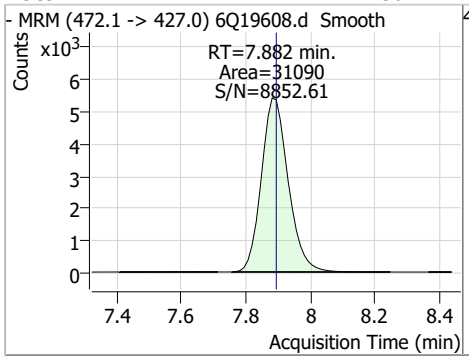
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.91	7.48	0.00	12100				

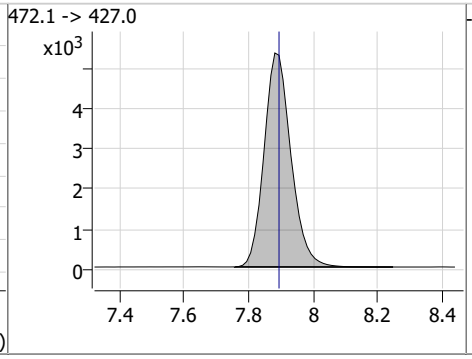


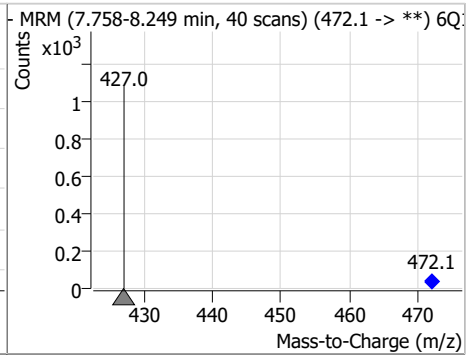




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.36	7.88	-0.01	31090				

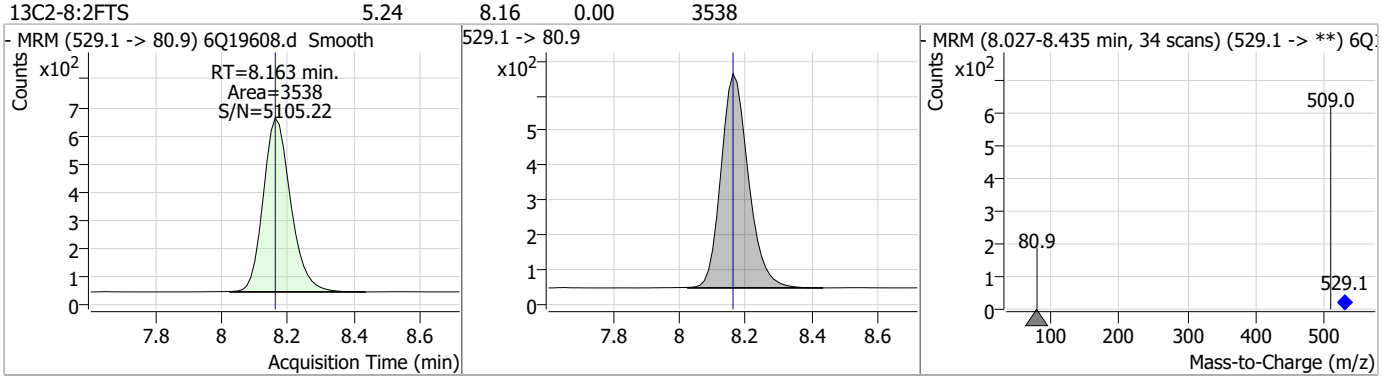




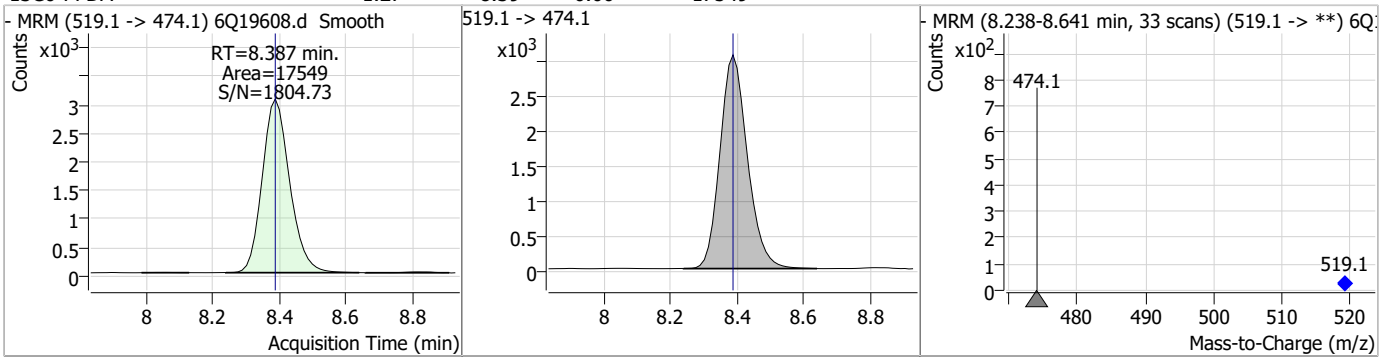


Perfluorinated Compounds by LC/MS/MS

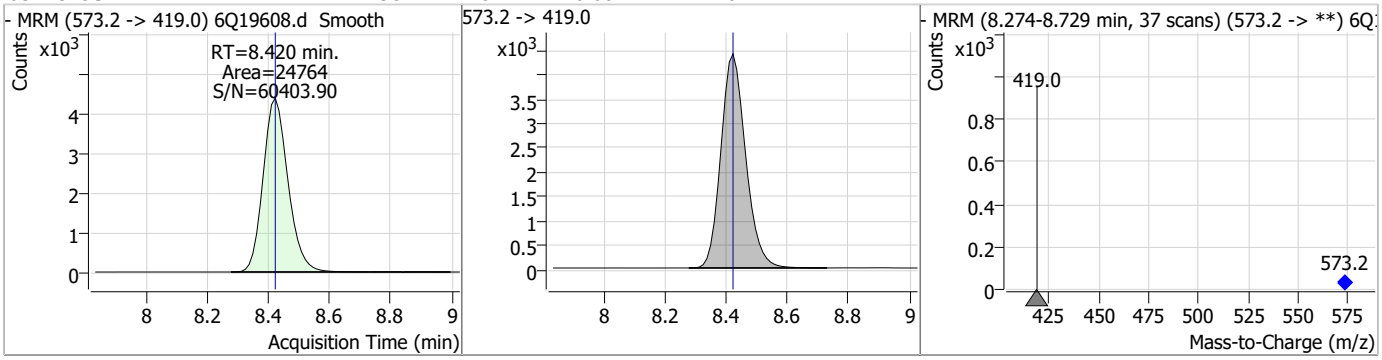
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.24	8.16	0.00	3538				



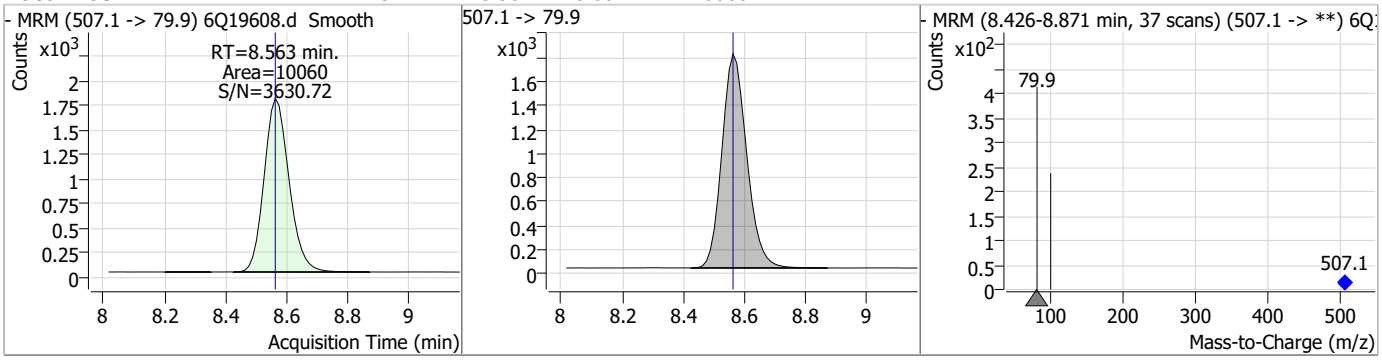
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.27	8.39	0.00	17549				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.95	8.42	0.00	24764				

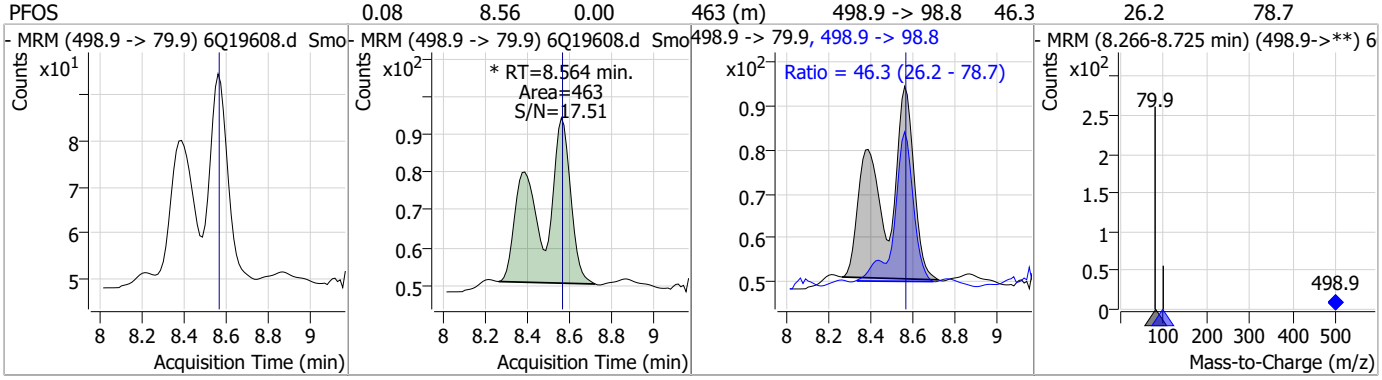


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.52	8.56	0.00	10060				

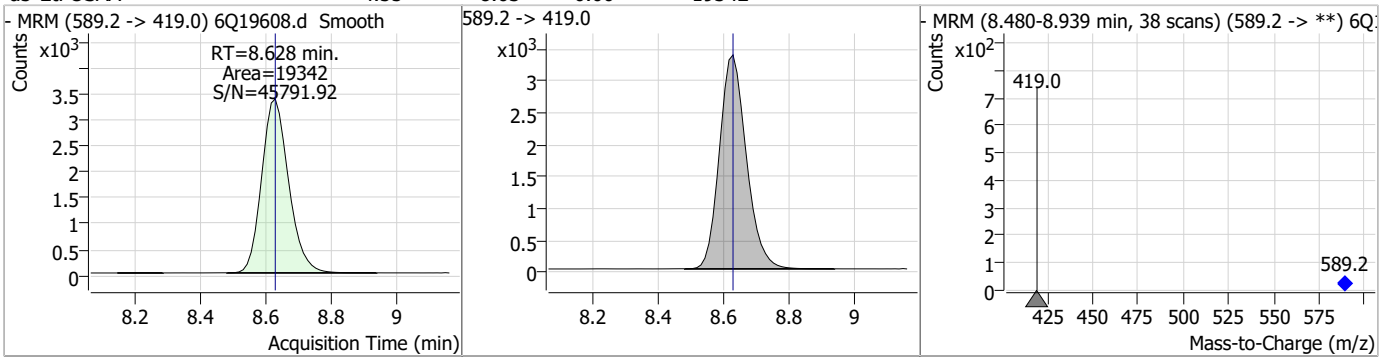


Perfluorinated Compounds by LC/MS/MS

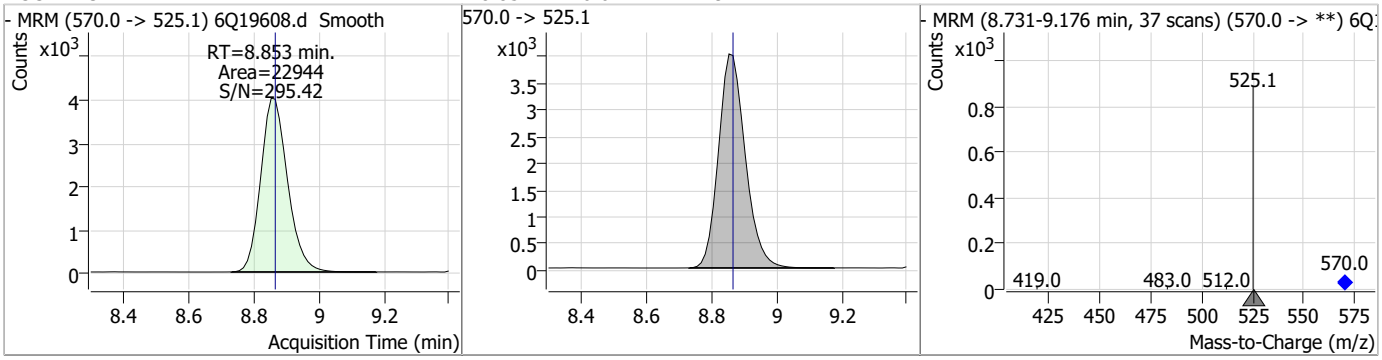
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.08	8.56	0.00	463 (m)	498.9 -> 98.8	46.3	26.2	78.7



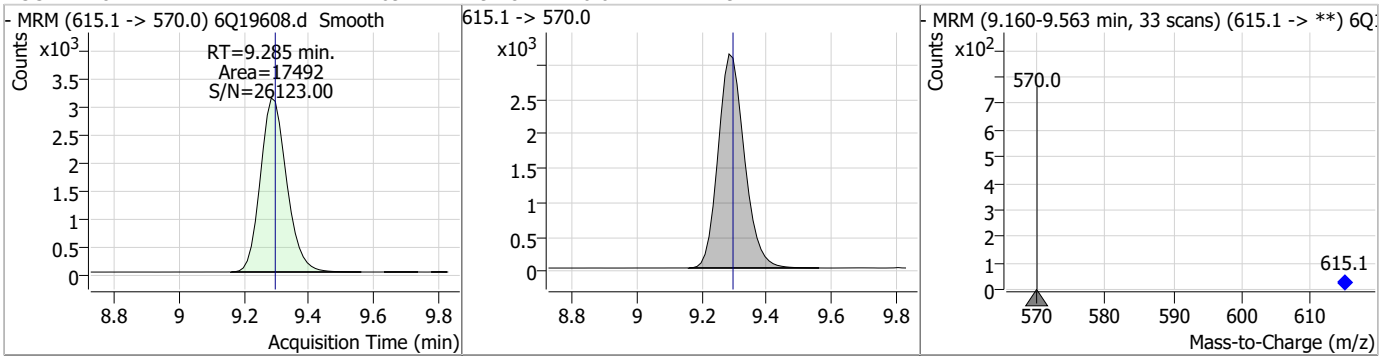
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.55	8.63	0.00	19342				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.24	8.85	-0.01	22944				

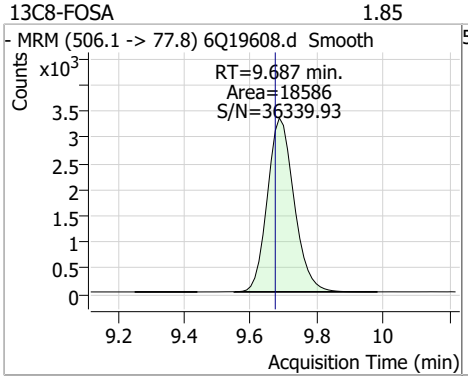


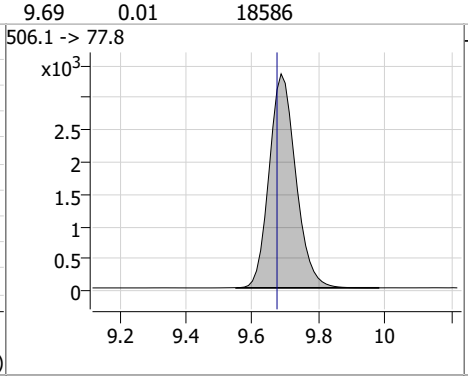
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.09	9.28	-0.01	17492				

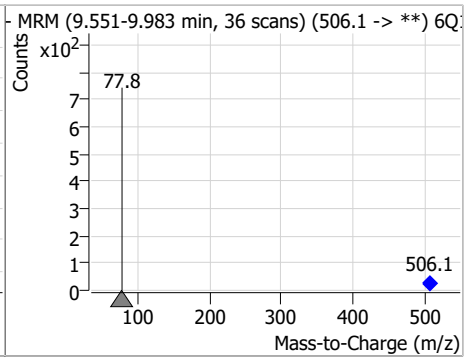


Perfluorinated Compounds by LC/MS/MS

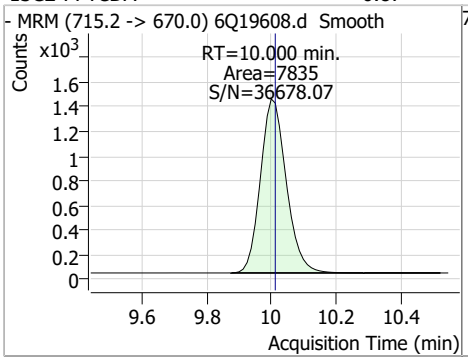
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.85	9.69	0.01	18586				

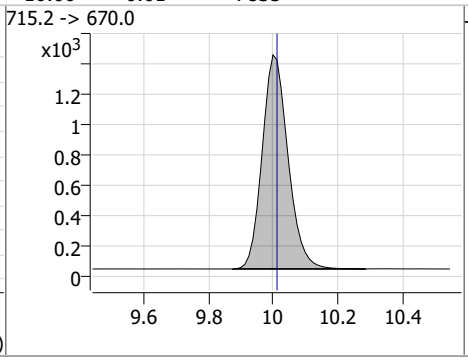


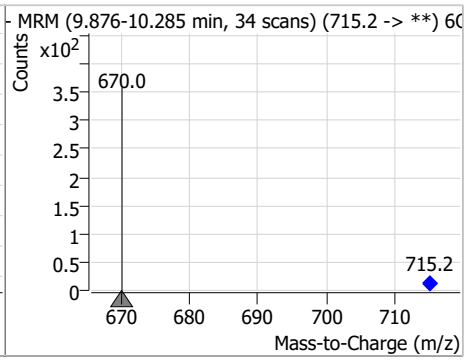




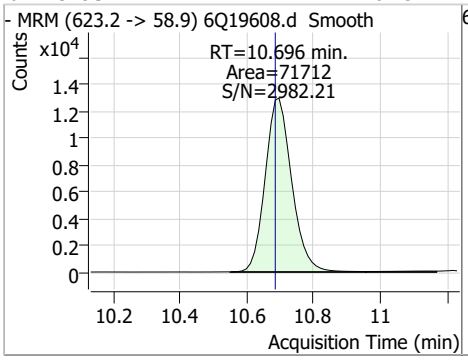
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.87	10.00	-0.01	7835				

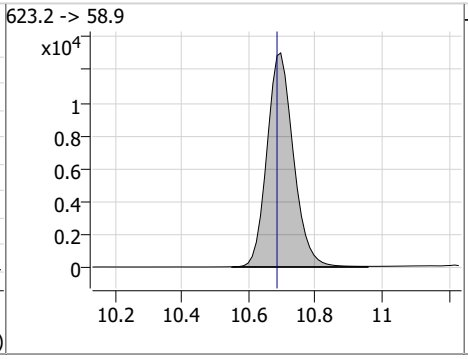


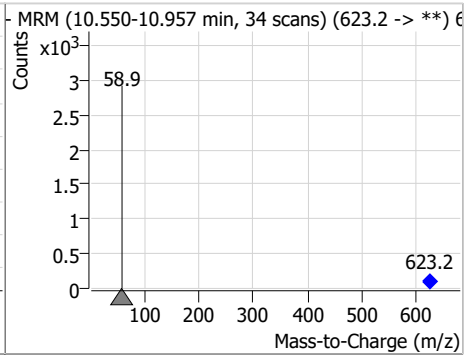




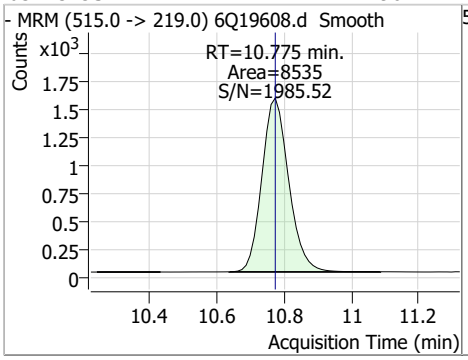
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	16.15	10.70	0.01	71712				

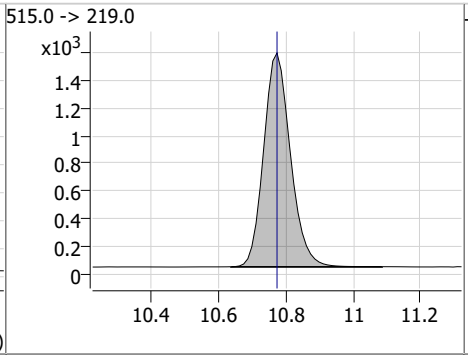


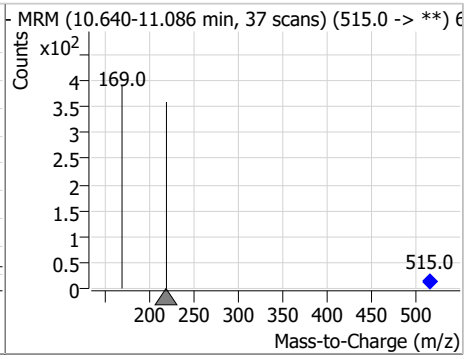




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.96	10.78	0.00	8535				

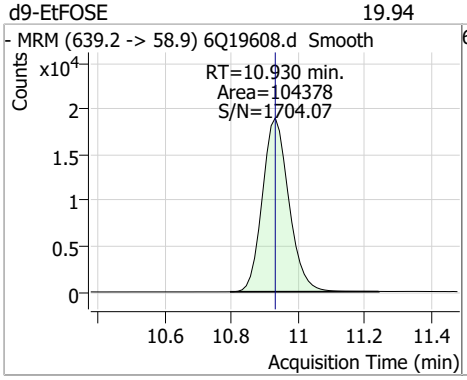


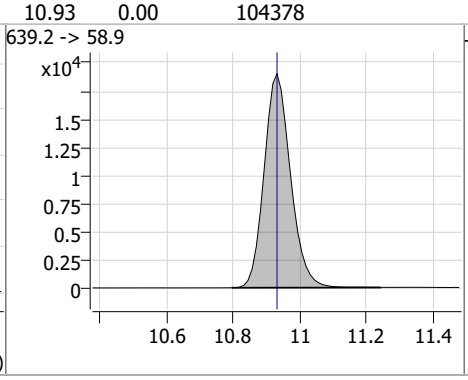


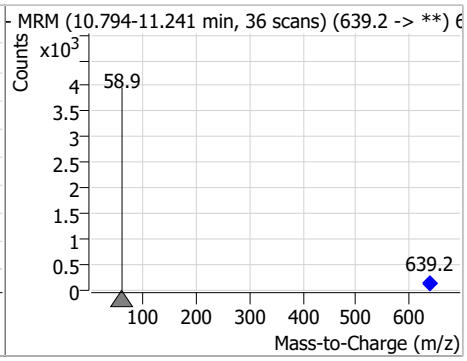


Perfluorinated Compounds by LC/MS/MS

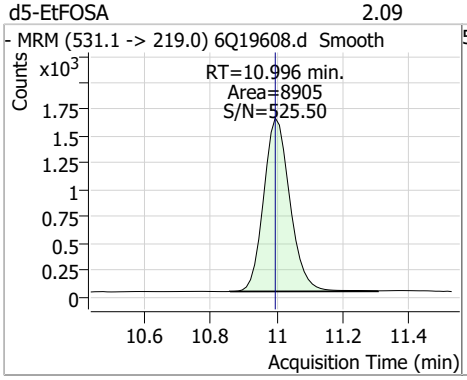
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	19.94	10.93	0.00	104378				

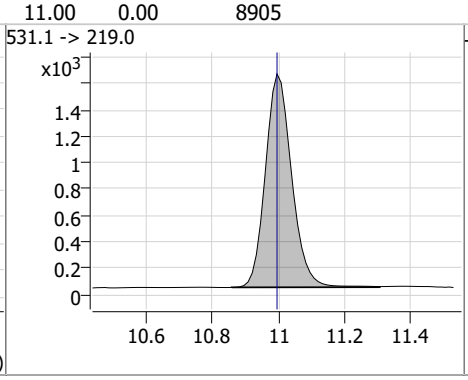


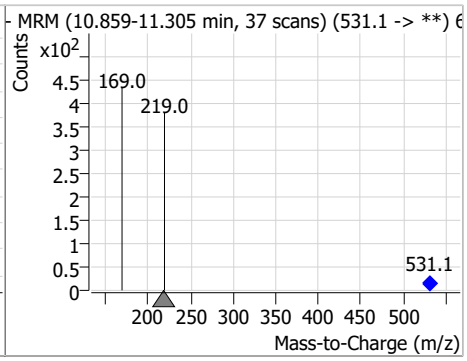




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.09	11.00	0.00	8905				







Manual Integration Approval Summary

Sample Number:	OP97385-DUP	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19608.D	**Analyst approved:**	06/21/23 14:01 Martha Valls
Injection Time:	06/20/23 11:40	**Supervisor approved:**	06/21/23 16:21 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.56	Missed peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

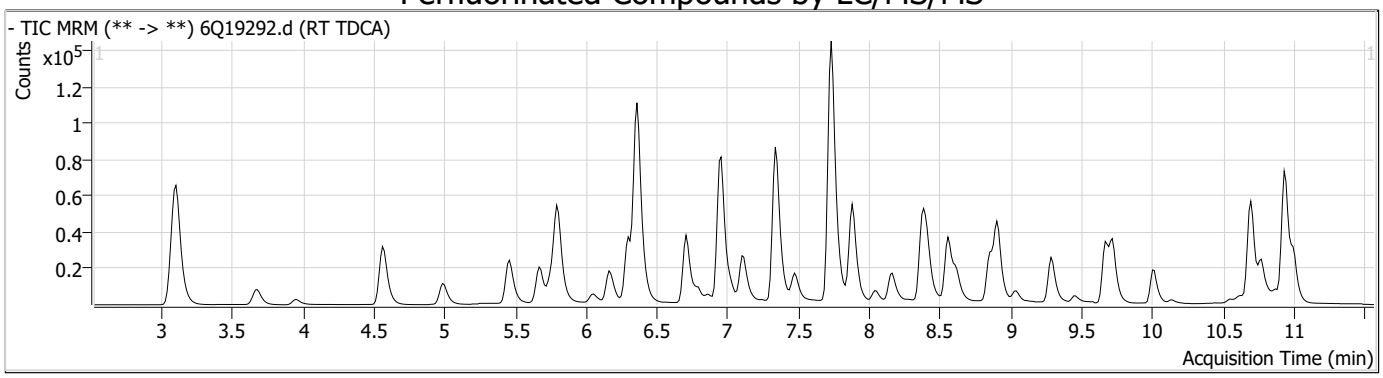
Data File : 6Q19292.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 10:53:54 AM
Sample Name : RT TDCA
Vial : P1-B3
DA Method File : TDCA.quantmethod.xml
Batch Name : s6q288 TDCA.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Internal Standards							
M8-PFOS	8.563	507.1 -> 79.9	19065	2.50	µg/L		-0.008
13C4-PFOS	8.563	502.8 -> 79.9	25866	2.50	µg/L		-0.008
System Monitoring Compounds							
13C8-PFOS	8.563	507.1 -> 79.9	19065	1.87	µg/L		-0.008
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 74.8%			
Target Compounds							QValue
PFOS	8.564	498.9 -> 79.9	19847	3.05	µg/L	m	90
		498.9 -> 98.8	9422				
TCDCA	6.863	498.9 -> 79.9	4583	5.21	ng/ml		100
TDCA	7.012	498.9 -> 79.9	5917	7.43	ng/ml		100
TUDCA	6.048	498.9 -> 79.9	6912	4.09	ng/ml		100

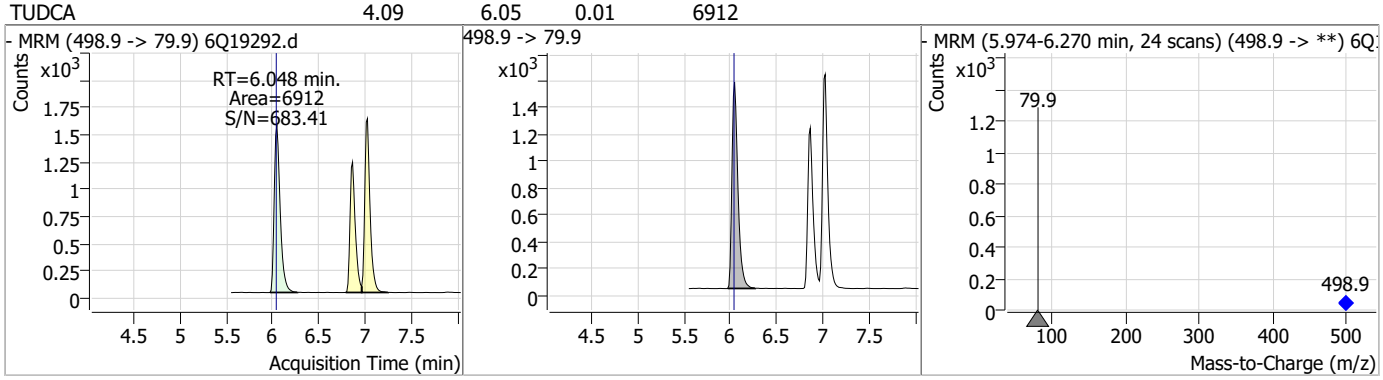
 # = Qualifier out of range, m = manually integrated, + = Area summed

7.6.1
7

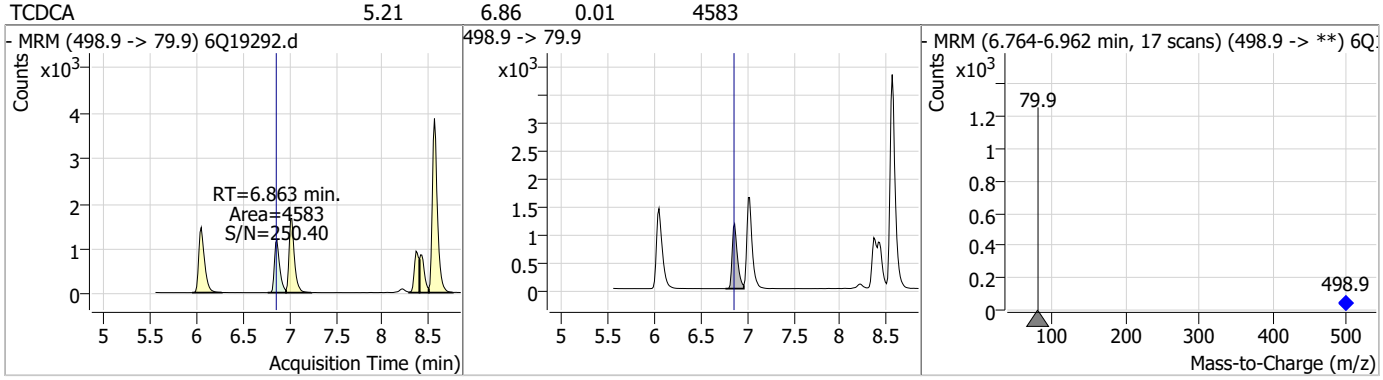
Perfluorinated Compounds by LC/MS/MS



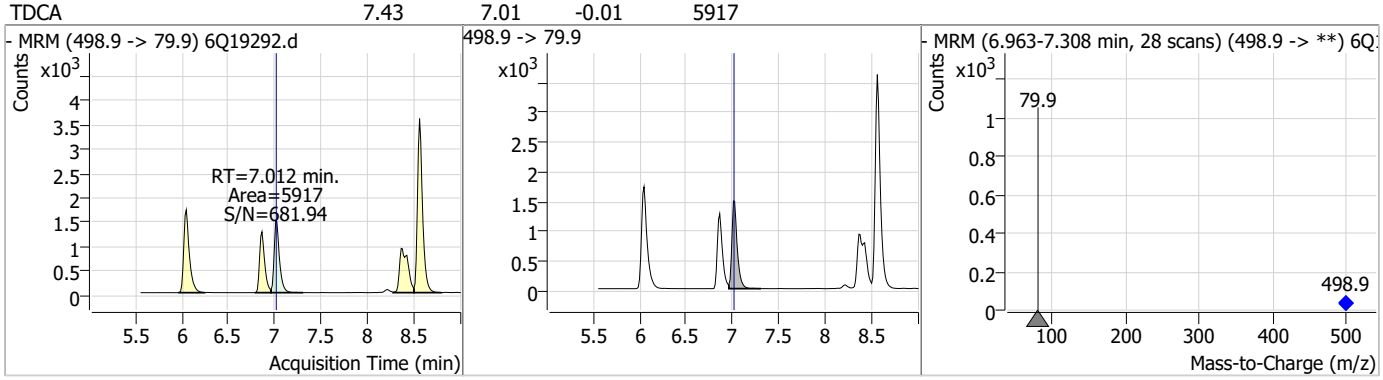
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TUDCA	4.09	6.05	0.01	6912				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TCDCA	5.21	6.86	0.01	4583				

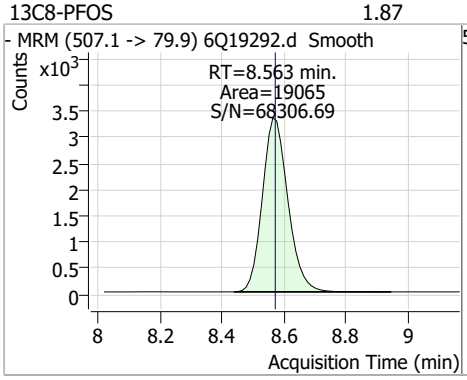


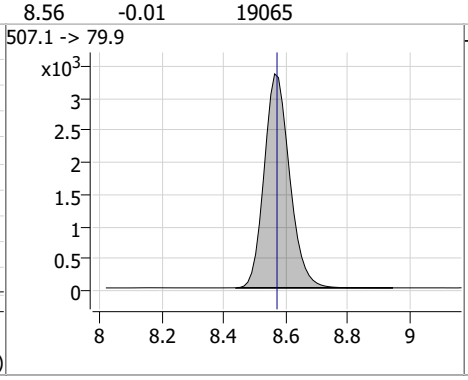
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TDCA	7.43	7.01	-0.01	5917				

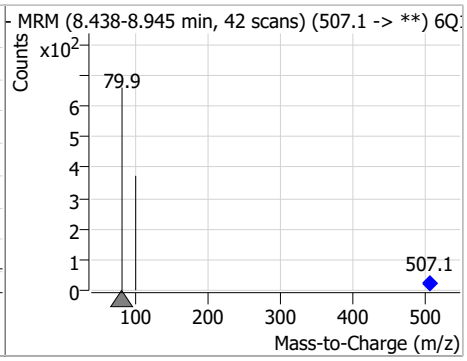


Perfluorinated Compounds by LC/MS/MS

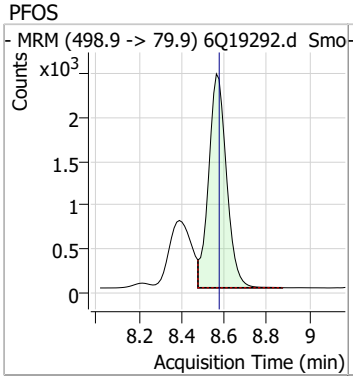
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.87	8.56	-0.01	19065				

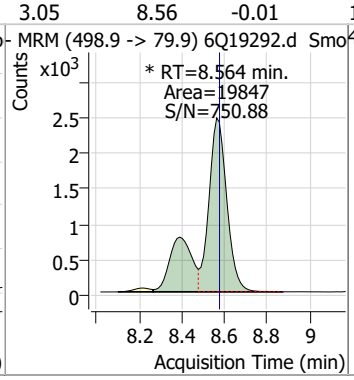


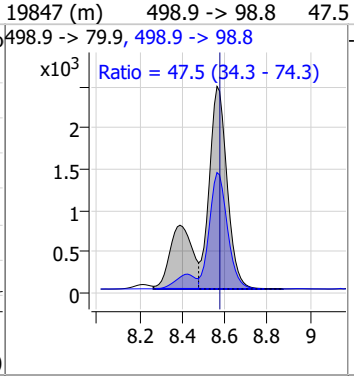


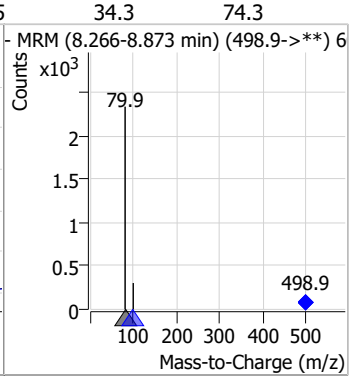


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	3.05	8.56	-0.01	19847 (m)	498.9 -> 98.8	47.5	34.3	74.3









Manual Integration Approval Summary

Sample Number:	S6Q288-RT	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19292.D	**Analyst approved:**	06/14/23 10:15 Martha Valls
Injection Time:	06/13/23 10:53	**Supervisor approved:**	06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 12:01

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19293.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 11:07:53 AM
Sample Name : RT BR-LN
Vial : P1-B4
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	185293	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	61252	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	69071	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	66329	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	96149	2.50	µg/L	0.000
M9-PFNA	7.882	472.1 -> 427.0	47253	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	27583	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	37107	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	33611	1.25	µg/L	-0.012
M2-PFTeDA	10.012	715.2 -> 670.0	17751	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	34932	2.50	µg/L	0.000
M3-PFBS	5.759	302.1 -> 79.9	24899	2.50	µg/L	0.012
M3-PFHxS	7.478	402.1 -> 79.9	15648	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	14742	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3213	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4891	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4461	5.00	µg/L	0.000
M3-MeFOSAA	8.407	573.2 -> 419.0	36760	5.00	µg/L	-0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	46243	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	34638	5.00	µg/L	-0.012
M7-MeFOSE	10.696	623.2 -> 58.9	135953	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	173253	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	14218	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	14630	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	18232	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	77152	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	10970	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	99695	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	37538	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	54617	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	63398	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3213	4.88	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.6%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4891	4.92	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.4%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4461	4.77	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.4%		
13C2-PFDoDA	9.285	615.1 -> 570.0	33611	1.34	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.1%		
13C2-PFTeDA	10.012	715.2 -> 670.0	17751	1.27	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C3-PFBS	5.759	302.1 -> 79.9	24899	2.73	µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.1%		
13C3-PFHxS	7.478	402.1 -> 79.9	15648	2.71	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.6%		
13C4-PFBA	3.097	216.8 -> 171.9	185293	10.24 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C4-PFHpA	6.707	367.1 -> 322.0	66329	2.71 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.4%		
13C5-PFHxA	5.792	318.0 -> 273.0	69071	2.64 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.6%		
13C5-PFPeA	4.560	268.3 -> 223.0	61252	5.11 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C6-PFDA	8.387	519.1 -> 474.1	27583	1.28 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C7-PFUnDA	8.853	570.0 -> 525.1	37107	1.29 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C8-FOSA	9.674	506.1 -> 77.8	34932	2.53 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%		
13C8-PFOA	7.352	421.1 -> 376.0	96149	2.58 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C8-PFOS	8.563	507.1 -> 79.9	14742	2.68 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.1%		
13C9-PFNA	7.882	472.1 -> 427.0	47253	1.42 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.7%		
d3-MeFOSAA	8.407	573.2 -> 419.0	36760	5.33 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.6%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	46243	10.56 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.6%		
d3-MeFOSA	10.775	515.0 -> 219.0	14630	2.44 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.5%		
d5-EtFOSAA	8.615	589.2 -> 419.0	34638	5.92 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.3%		
d7-MeFOSE	10.696	623.2 -> 58.9	135953	22.22 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 88.9%		
d9-EtFOSE	10.930	639.2 -> 58.9	173253	24.02 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.1%		
d5-EtFOSA	10.996	531.1 -> 219.0	14218	2.43 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	193103	34.56 µg/L		98
		327.1 -> 80.9	74475			
6:2FTS	7.113	427.1 -> 407.0	205303	35.25 µg/L		100
		427.1 -> 80.9	67497			
8:2FTS	8.164	527.1 -> 507.0	112480	37.94 µg/L		100
		527.1 -> 80.8	44228			
EtFOSAA	8.617	584.2 -> 419.1	49823	8.49 µg/L	m	96
		584.2 -> 526.0	24871			
FOSA	9.677	498.1 -> 77.9	328157	23.64 µg/L	m	100
		498.1 -> 478.0	10244			
MeFOSAA	8.408	570.1 -> 419.0	80679	8.47 µg/L	m	91
		570.1 -> 483.0	18542			
PFBA	3.093	212.8 -> 168.9	281074	37.64 µg/L		100
PFBS	5.760	298.7 -> 79.9	93983	8.45 µg/L		96
		298.7 -> 98.8	33226			
PFDA	8.388	512.9 -> 469.0	409766	9.99 µg/L		96
		512.9 -> 219.0	57516			
PFDoDA	9.285	613.1 -> 569.0	266390	9.55 µg/L		100
		613.1 -> 319.0	38981			
PFDS	9.462	599.0 -> 79.9	40683	9.13 µg/L		92

Perfluorinated Compounds by LC/MS/MS

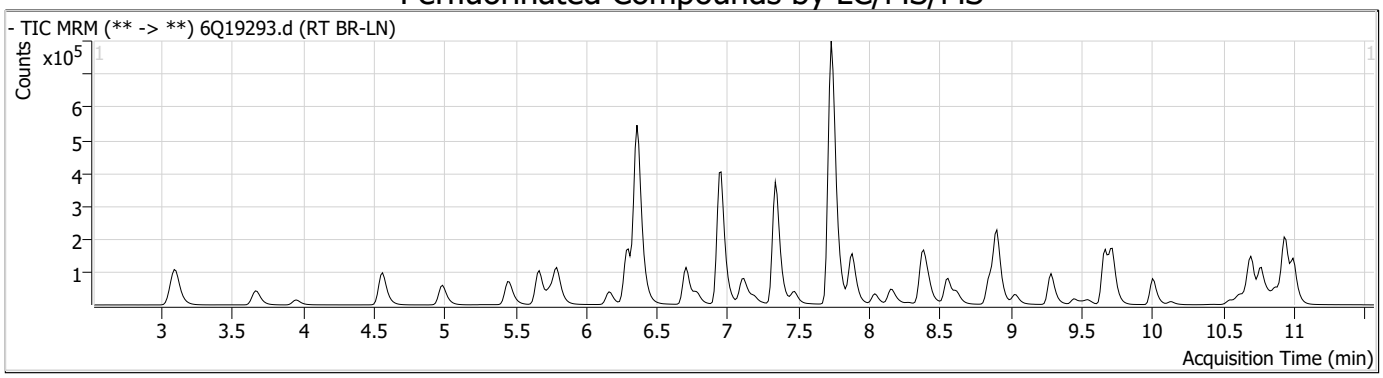
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	19080				
PFHpA	6.708	363.1 -> 319.0	311337	8.79	µg/L		97
		363.1 -> 169.0	51020				
PFHpS	8.046	449.0 -> 79.9	77815	8.83	µg/L		99
		449.0 -> 98.9	39050				
PFHxA	5.795	313.0 -> 269.0	249268	8.94	µg/L		100
		313.0 -> 118.9	12924				
PFHxS	7.479	398.7 -> 79.9	78334	8.31	µg/L	m	97
		398.7 -> 98.9	38425				
PFNA	7.883	463.0 -> 419.0	754914	17.28	µg/L	m	94
		463.0 -> 219.0	163205				
PFNS	9.041	548.8 -> 79.9	71310	9.32	µg/L		98
		548.8 -> 98.9	34115				
PFOA	7.353	413.0 -> 369.0	1099471	20.82	µg/L	m	98
		413.0 -> 169.0	192638				
PFOS	8.564	498.9 -> 79.9	71194	8.14	µg/L	m	98
		498.9 -> 98.8	36208				
PFPeA	4.563	263.0 -> 219.0	347327	19.21	µg/L		100
PFPeS	6.785	349.1 -> 79.9	77571	8.85	µg/L		95
		349.1 -> 98.9	34788				
PFTeDA	10.013	713.1 -> 669.0	224325	10.55	µg/L		97
		713.1 -> 168.9	16977				
PFTrDA	9.669	663.0 -> 619.0	248160	8.76	µg/L		100
		663.0 -> 168.9	25955				
PFUnDA	8.854	563.1 -> 519.0	255137	8.91	µg/L		95
		563.1 -> 269.1	42425				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	371119	17.62	µg/L		97
		632.9 -> 452.9	111349				
9Cl-PF3ONS	8.906	530.8 -> 351.0	592461	16.33	µg/L		100
		532.8 -> 353.0	183556				
ADONA	6.959	376.9 -> 250.9	1232661	16.47	µg/L		99
		376.9 -> 84.8	364795				
HFPO-DA	6.169	284.9 -> 168.9	91765	18.96	µg/L		99
		284.9 -> 184.9	10993				
3:3FTCA	3.946	241.0 -> 177.0	59127	48.33	µg/L		98
		241.0 -> 117.0	7625				
5:3FTCA	6.361	341.0 -> 237.1	1262996	227.95	µg/L		94
		341.0 -> 217.0	879710				
7:3FTCA	7.736	441.0 -> 316.9	825347	220.31	µg/L		94
		441.0 -> 336.9	1935354				
EtFOSA	10.997	526.0 -> 219.0	271639	35.77	µg/L		98
		526.0 -> 169.0	354354				
EtFOSE	10.943	630.0 -> 58.9	599797	66.89	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	223788	33.78	µg/L	m	79
		511.9 -> 169.0	319476				
MeFOSE	10.709	616.1 -> 58.9	409896	69.57	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	19441	8.85	µg/L		95
		699.1 -> 98.8	10640				
NFDHA	5.673	295.0 -> 201.0	69279	19.46	µg/L		97
		295.0 -> 84.9	17622				
PFMBA	4.988	279.0 -> 85.1	245794	19.07	µg/L		100
PFMPA	3.680	229.0 -> 84.9	195801	19.42	µg/L		100
PFEESA	6.301	314.8 -> 134.9	601591	15.97	µg/L		99
		314.8 -> 82.9	23181				

 # = Qualifier out of range, m = manually integrated, + = Area summed

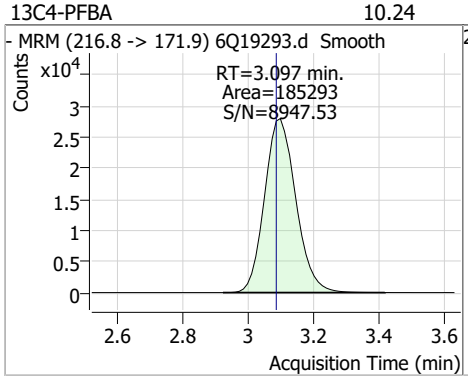
Perfluorinated Compounds by LC/MS/MS

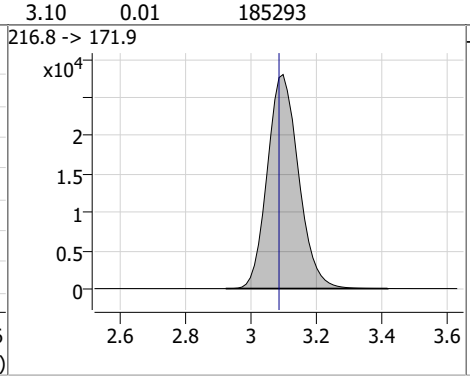
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

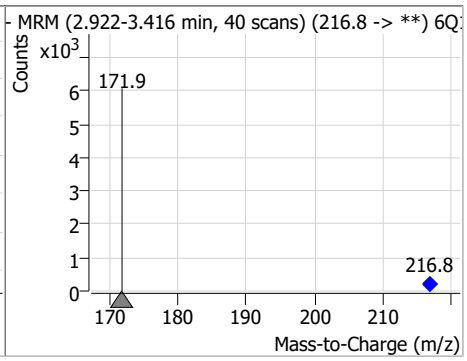
Perfluorinated Compounds by LC/MS/MS



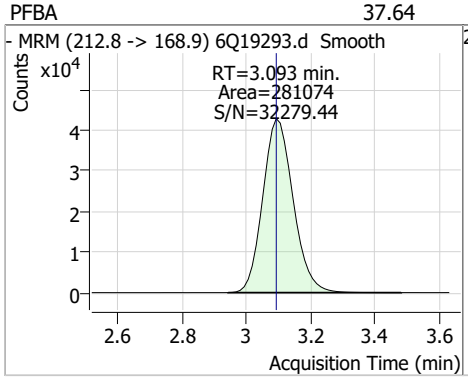
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.24	3.10	0.01	185293				

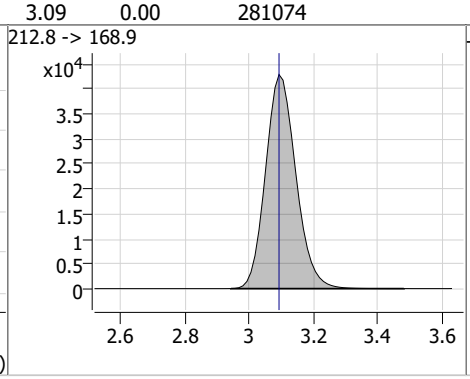


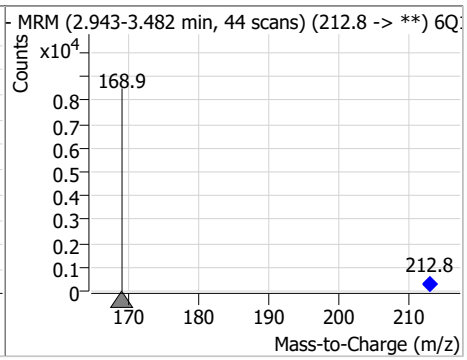




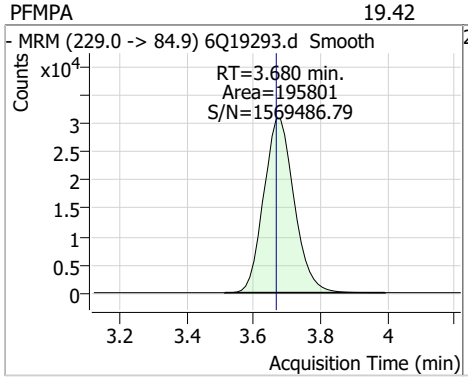
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	37.64	3.09	0.00	281074				

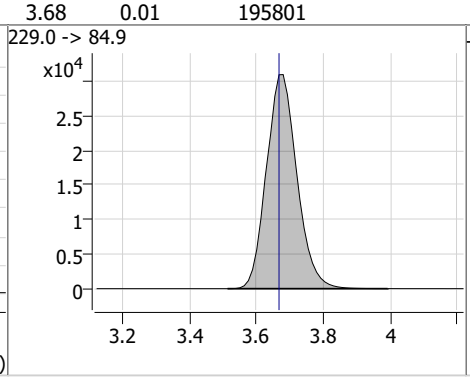


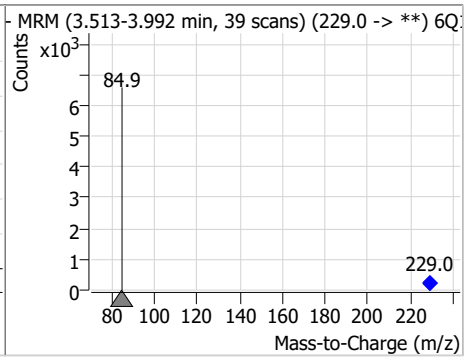




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	19.42	3.68	0.01	195801				

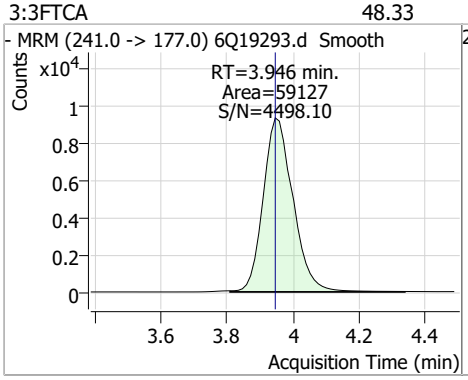


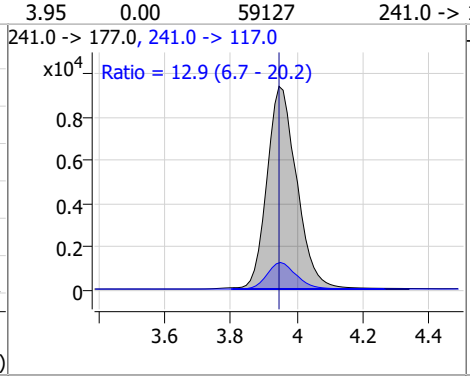


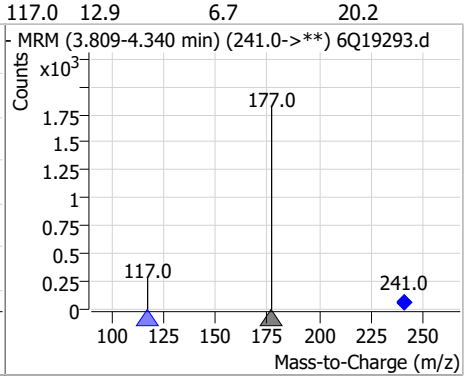


Perfluorinated Compounds by LC/MS/MS

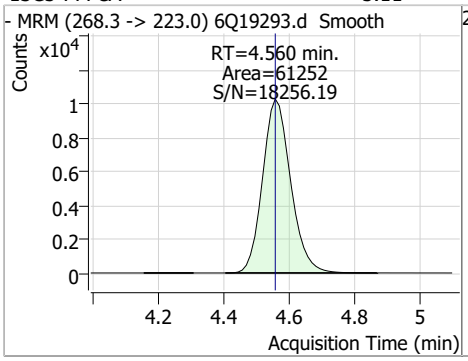
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	48.33	3.95	0.00	59127	241.0 -> 117.0	12.9	6.7	20.2

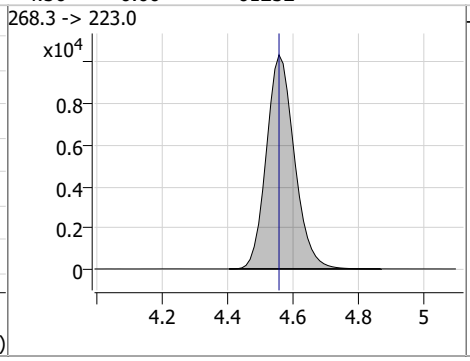


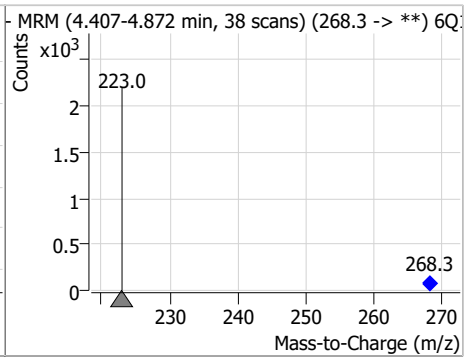




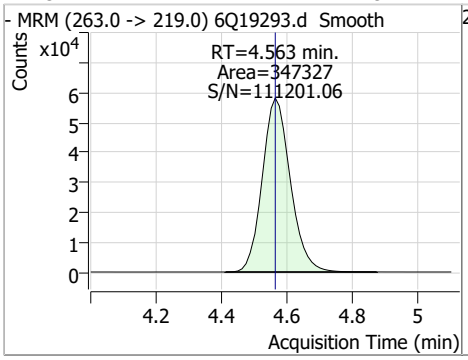
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.11	4.56	0.00	61252				

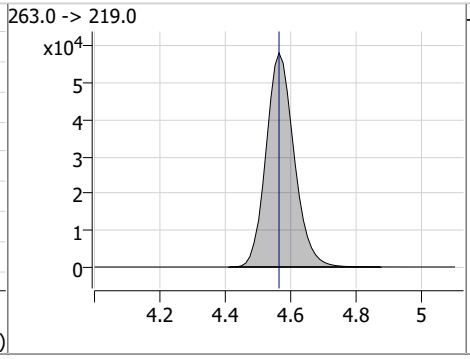


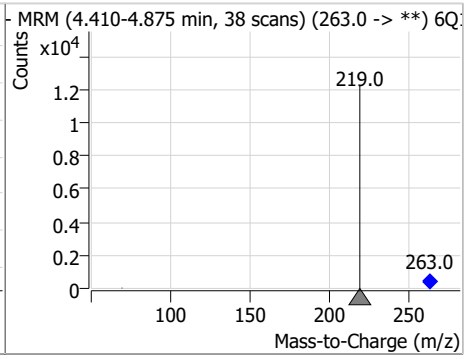




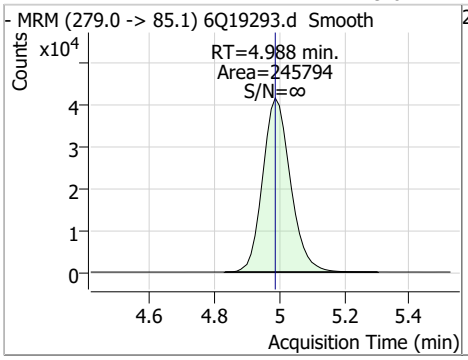
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.21	4.56	0.00	347327				

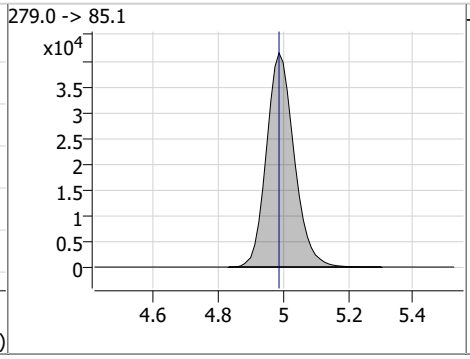


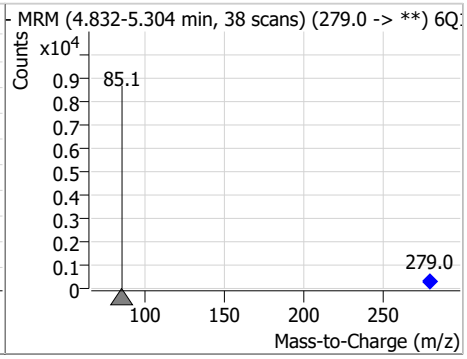




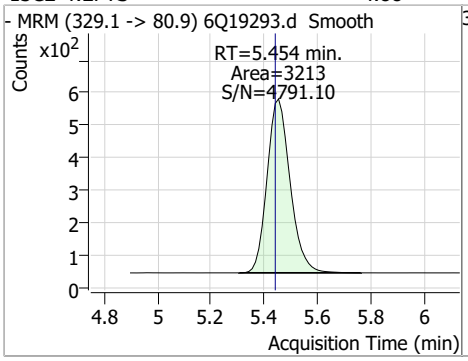
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	19.07	4.99	0.00	245794				

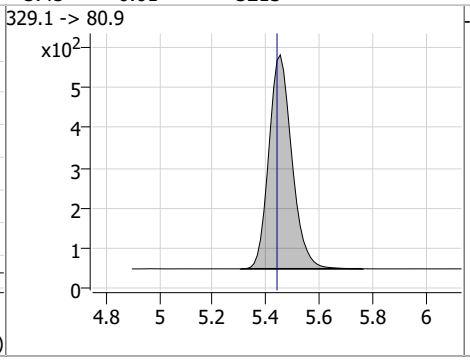


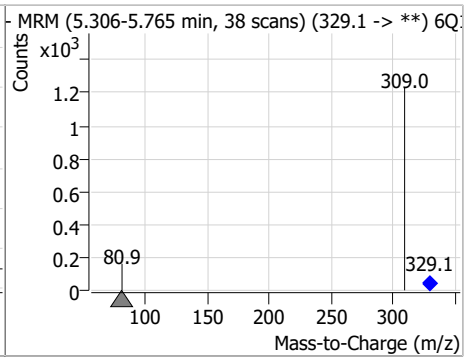




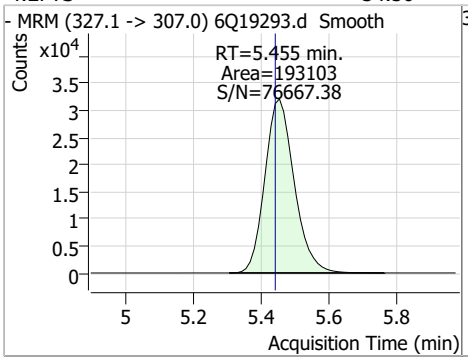
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.88	5.45	0.01	3213				

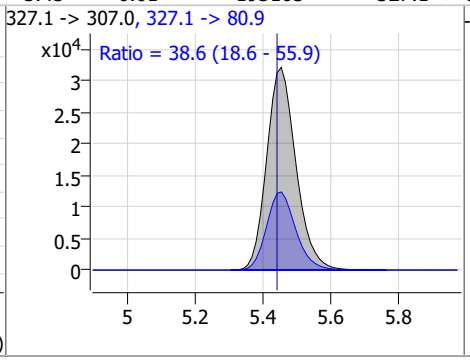


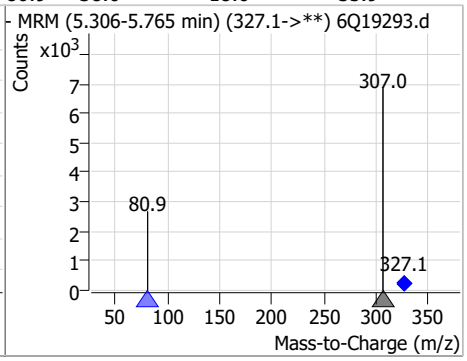




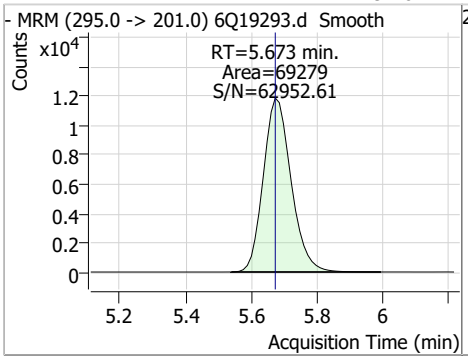
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	34.56	5.45	0.01	193103	327.1 -> 80.9	38.6	18.6	55.9

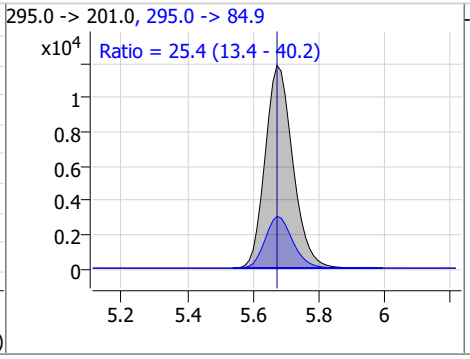


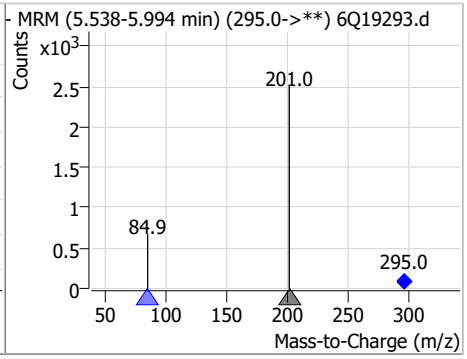




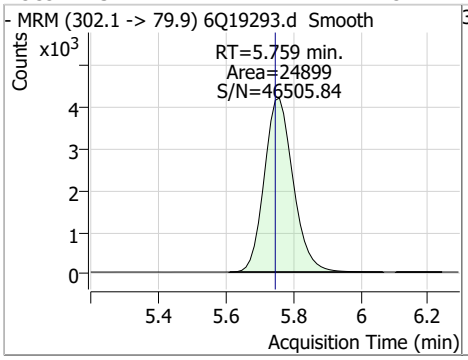
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	19.46	5.67	0.00	69279	295.0 -> 84.9	25.4	13.4	40.2

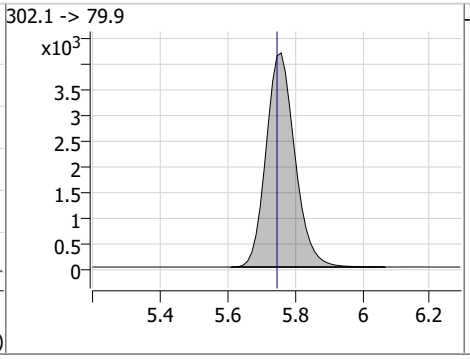


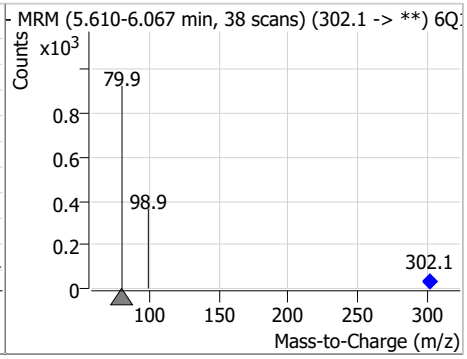




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.73	5.76	0.01	24899				

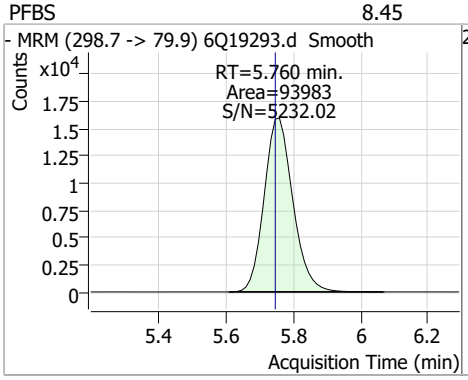


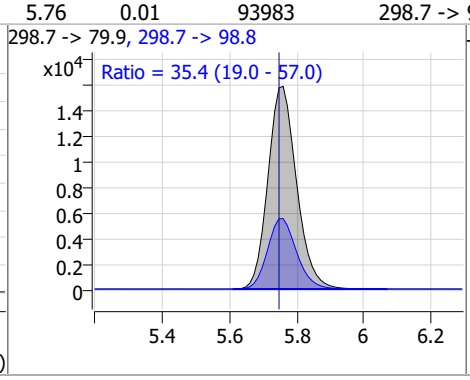


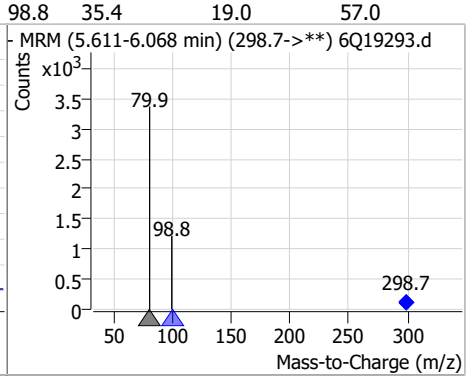


Perfluorinated Compounds by LC/MS/MS

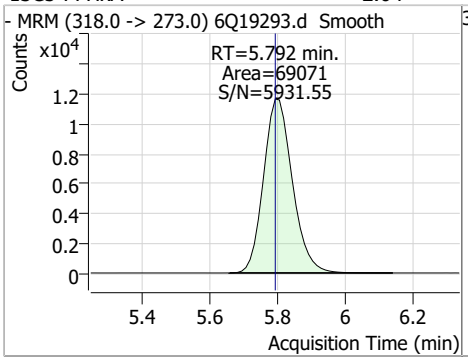
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	8.45	5.76	0.01	93983	298.7 -> 98.8	35.4	19.0	57.0

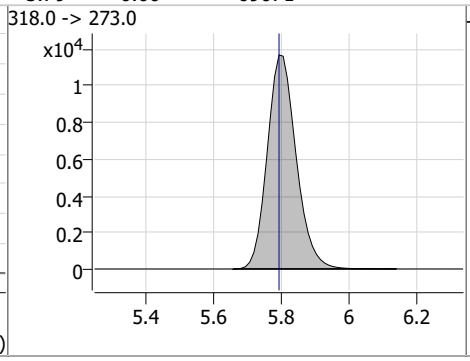


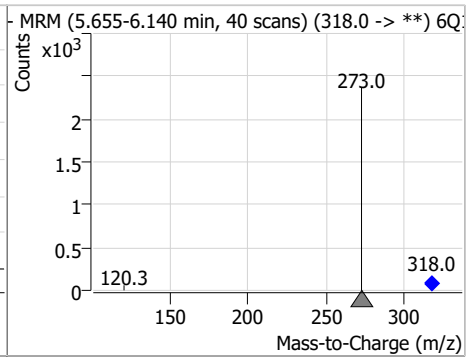




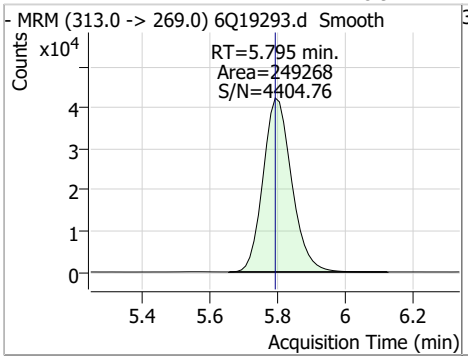
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.64	5.79	0.00	69071				

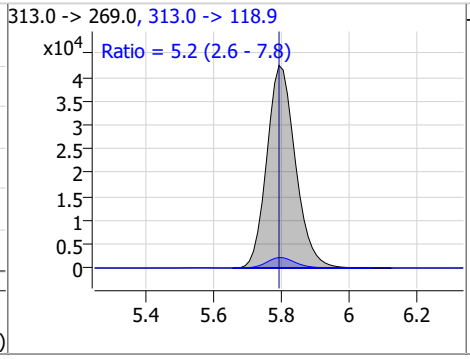


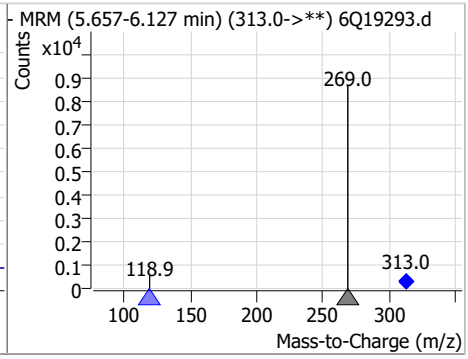




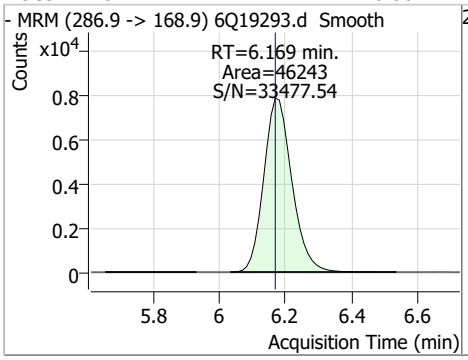
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	8.94	5.79	0.00	249268	313.0 -> 118.9	5.2	2.6	7.8

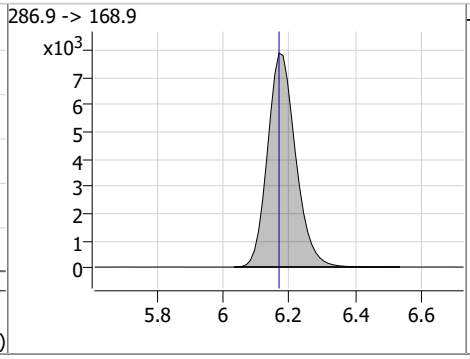


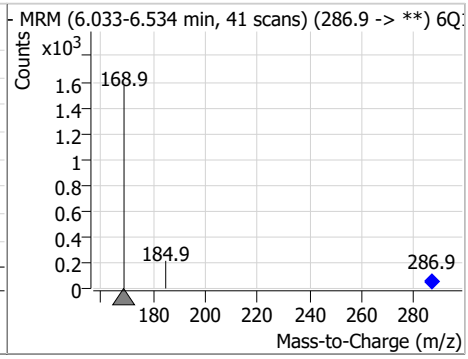




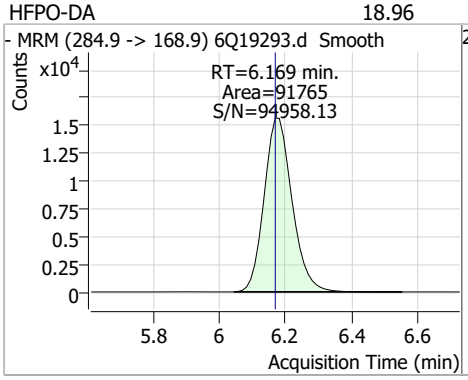
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.56	6.17	0.00	46243				

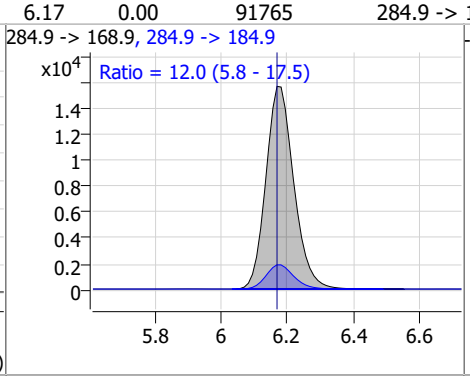


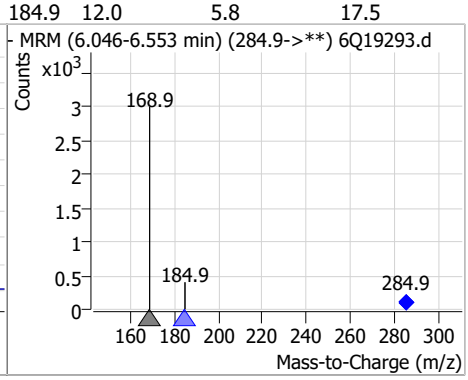




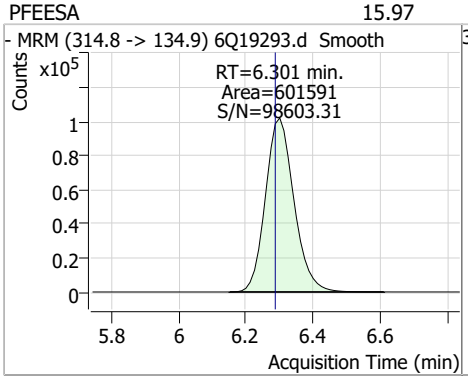
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	18.96	6.17	0.00	91765	284.9 -> 184.9	12.0	5.8	17.5

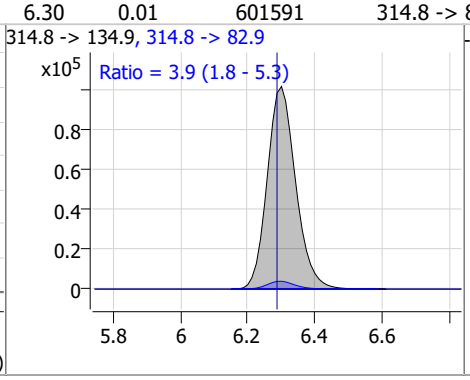


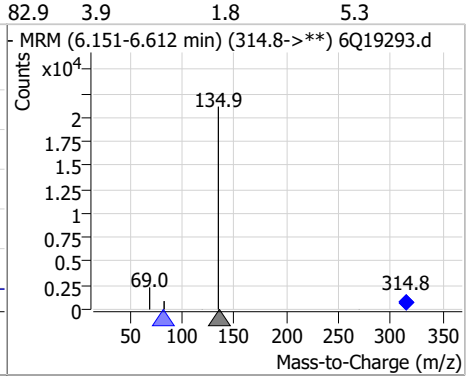




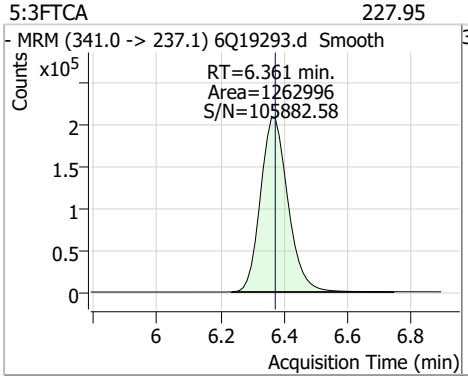
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	15.97	6.30	0.01	601591	314.8 -> 82.9	3.9	1.8	5.3

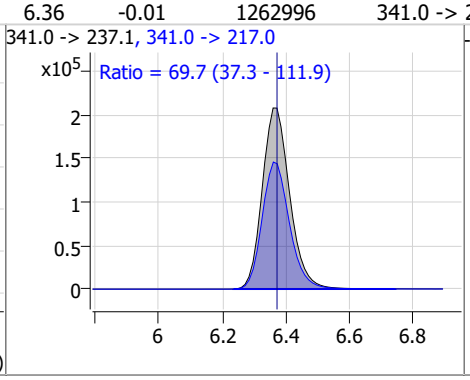


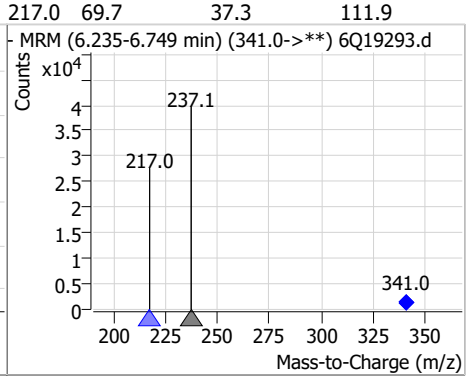




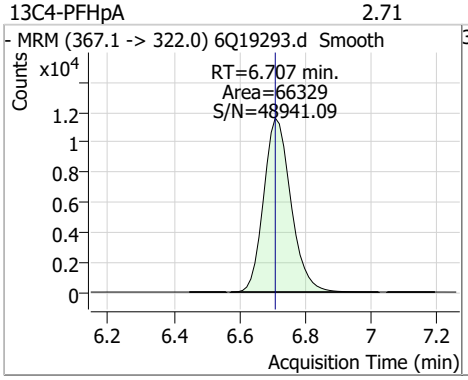
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	227.95	6.36	-0.01	1262996	341.0 -> 217.0	69.7	37.3	111.9

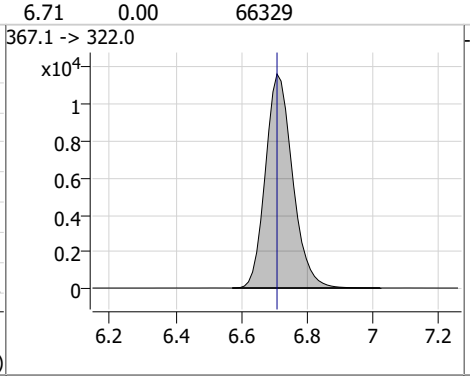


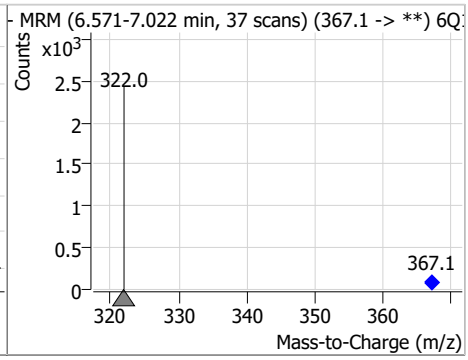




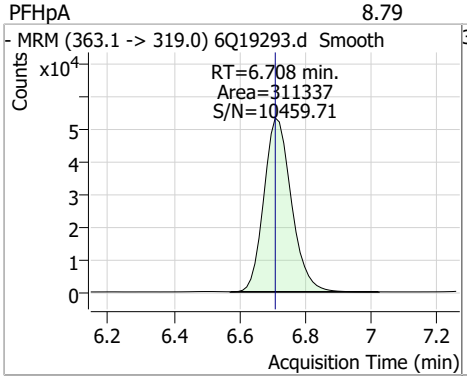
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.71	6.71	0.00	66329				

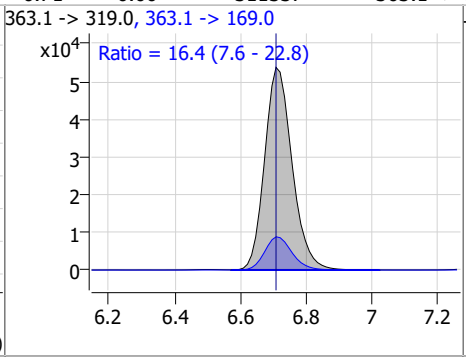


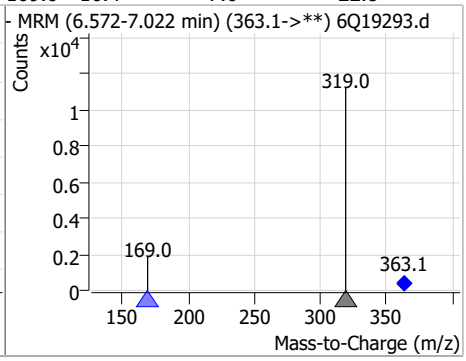




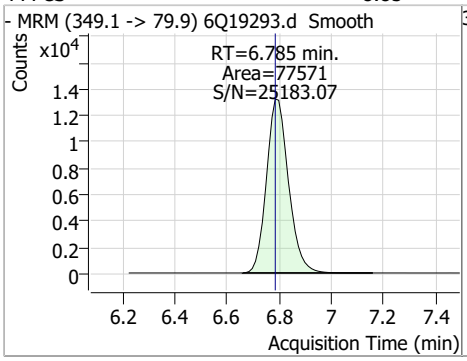
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	8.79	6.71	0.00	311337	363.1 -> 169.0	16.4	7.6	22.8

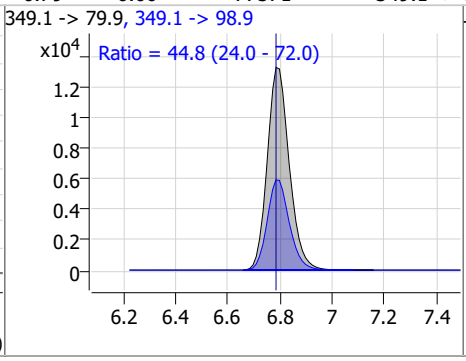


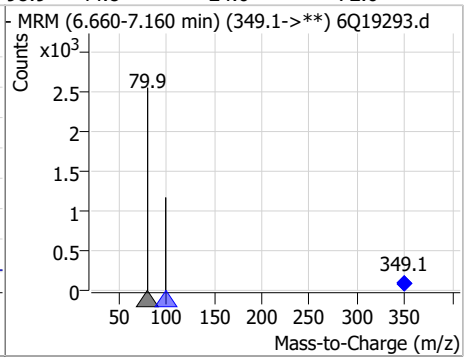




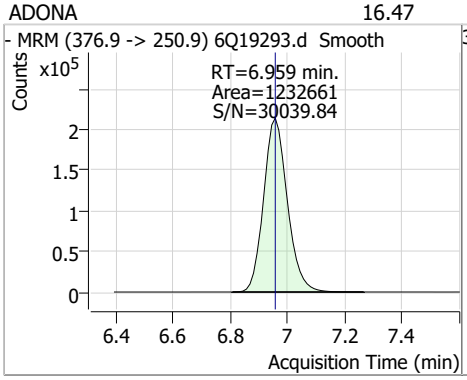
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	8.85	6.79	0.00	77571	349.1 -> 98.9	44.8	24.0	72.0

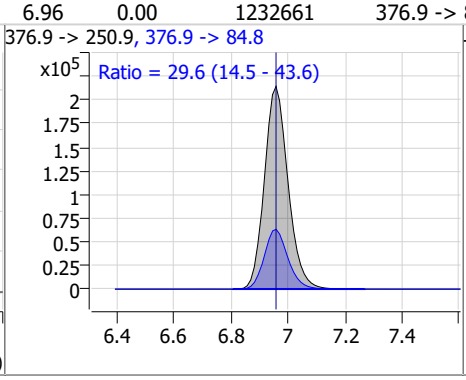


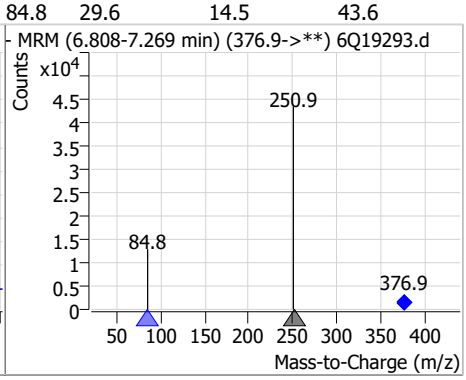




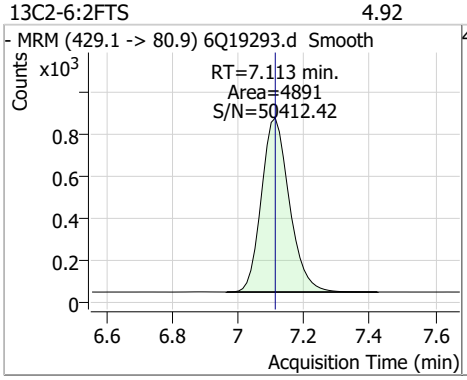
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	16.47	6.96	0.00	1232661	376.9 -> 84.8	29.6	14.5	43.6

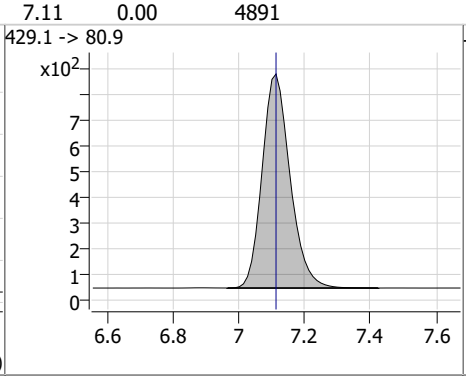


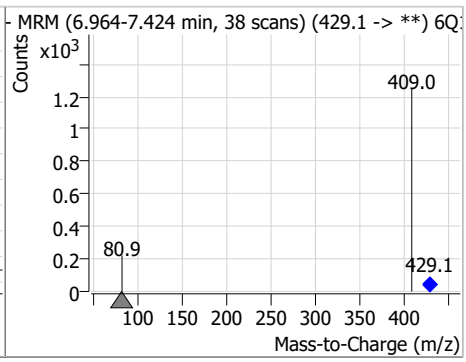




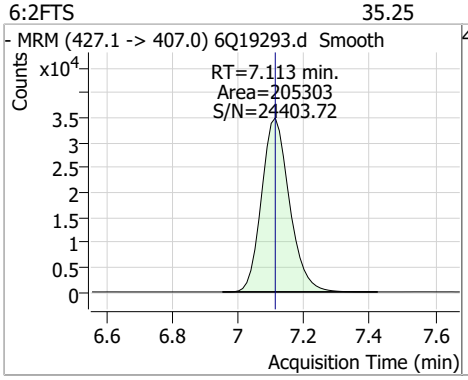
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.92	7.11	0.00	4891				

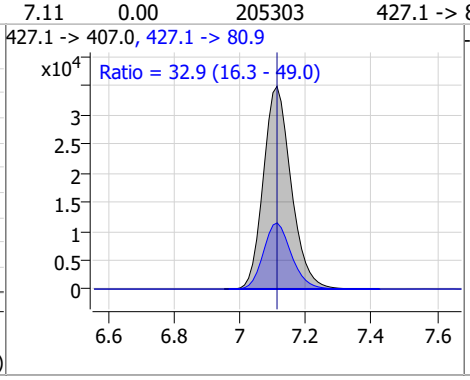


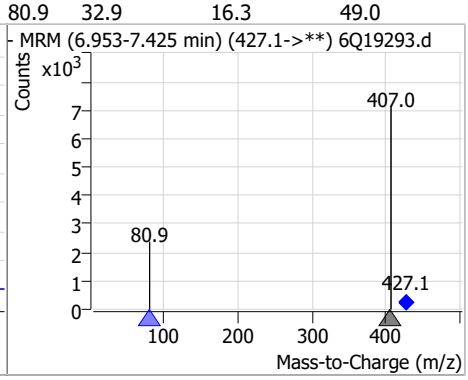




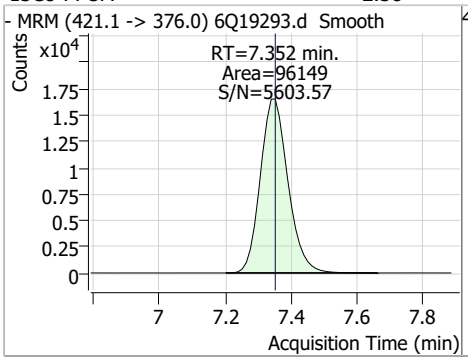
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	35.25	7.11	0.00	205303	427.1 -> 80.9	32.9	16.3	49.0

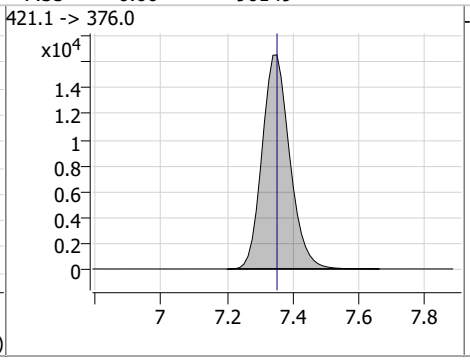


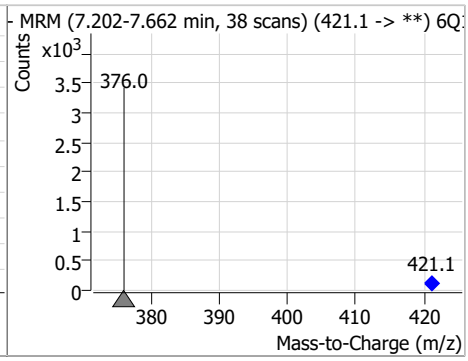




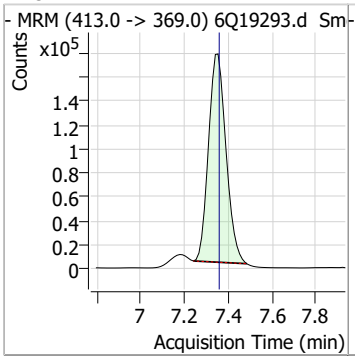
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.58	7.35	0.00	96149				

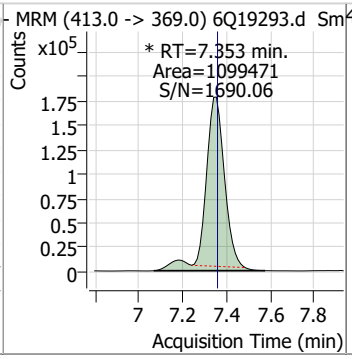


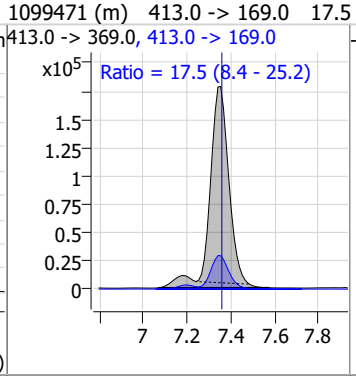


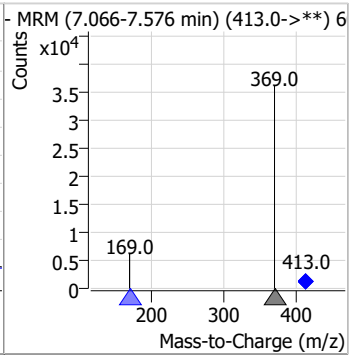


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	20.82	7.35	0.00	1099471 (m)	413.0 -> 169.0	17.5	8.4	25.2

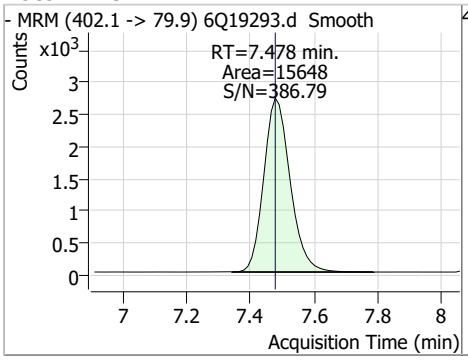


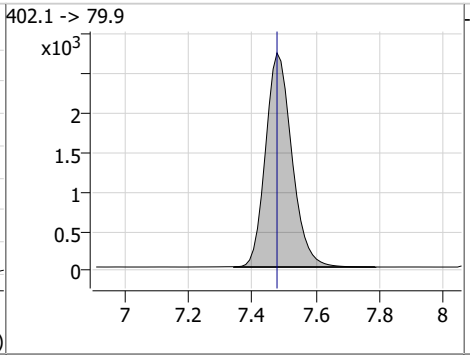


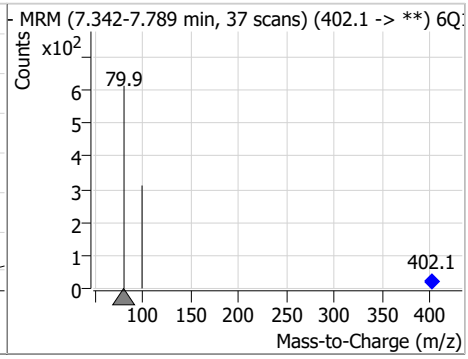




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.71	7.48	0.00	15648				

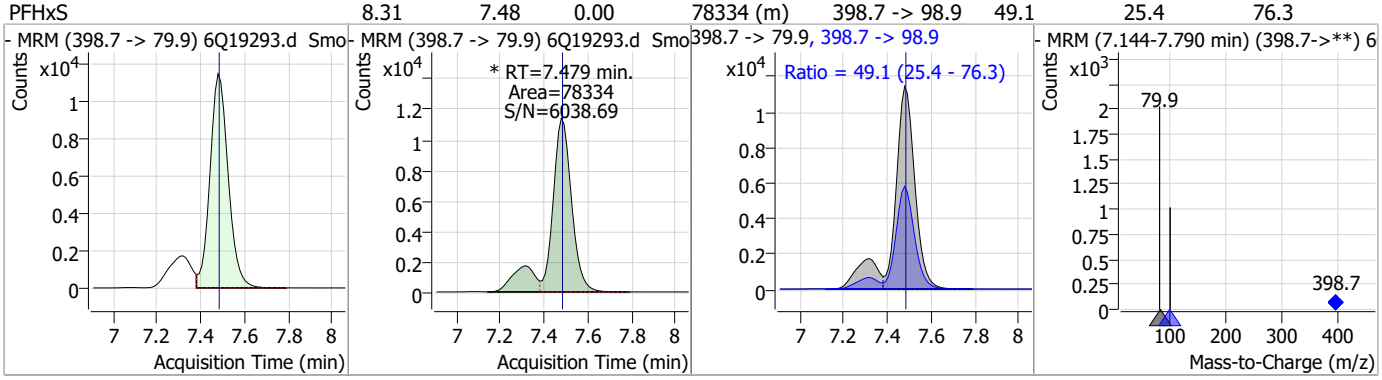




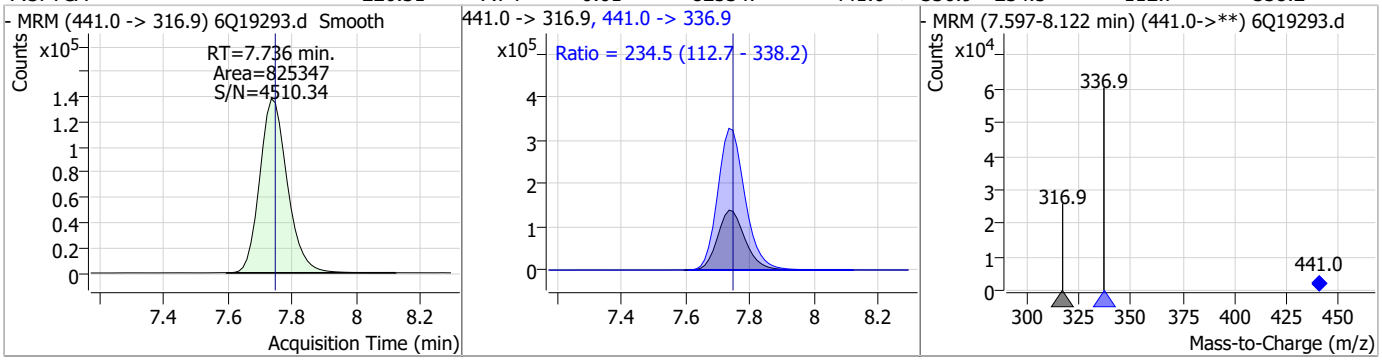


Perfluorinated Compounds by LC/MS/MS

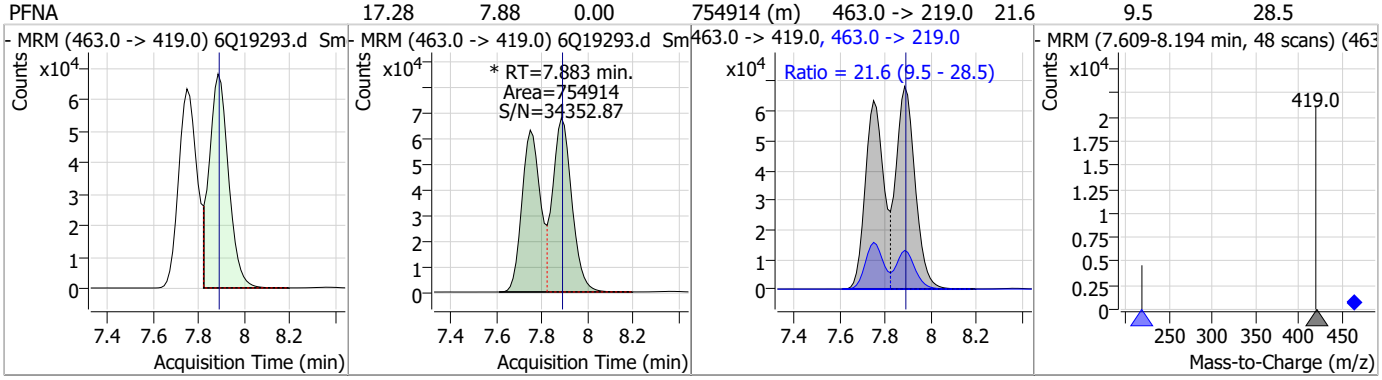
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	8.31	7.48	0.00	78334 (m)	398.7 -> 98.9	49.1	25.4	76.3



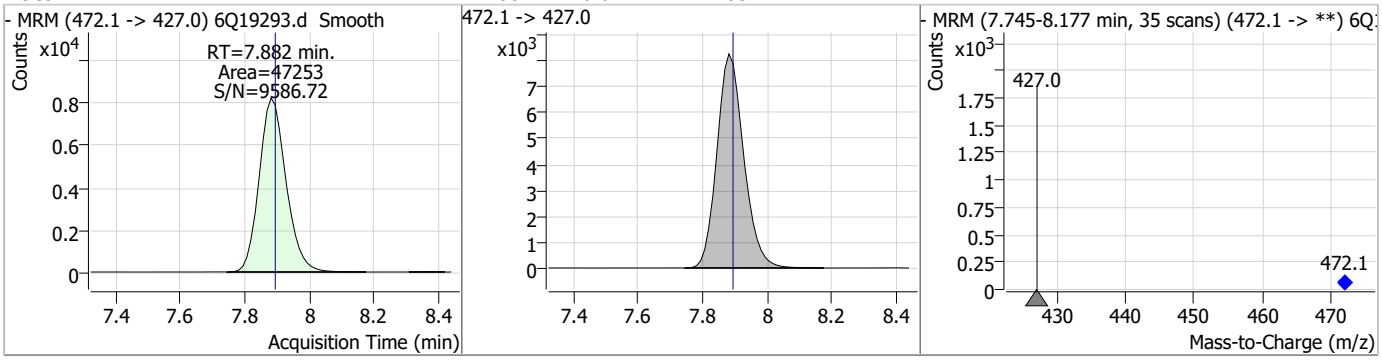
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	220.31	7.74	-0.01	825347	441.0 -> 336.9	234.5	112.7	338.2



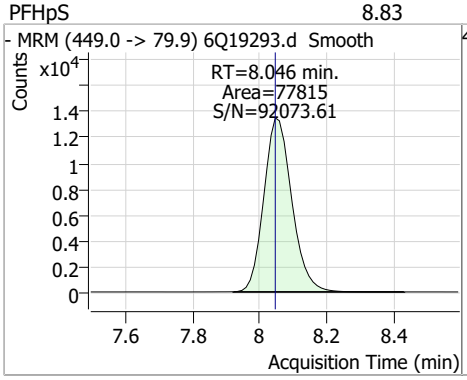
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	17.28	7.88	0.00	754914 (m)	463.0 -> 219.0	21.6	9.5	28.5

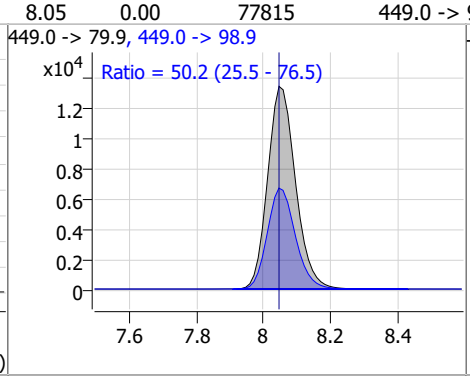


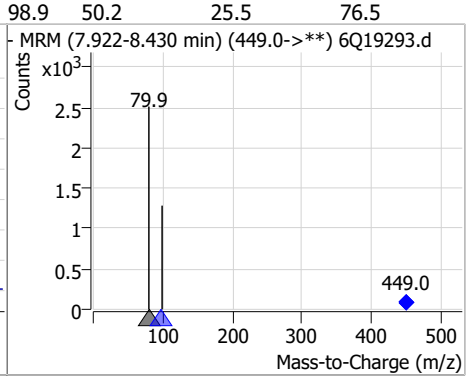
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.42	7.88	-0.01	47253				



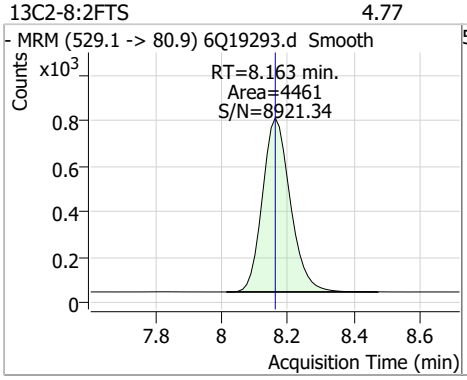
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	8.83	8.05	0.00	77815	449.0 -> 98.9	50.2	25.5	76.5

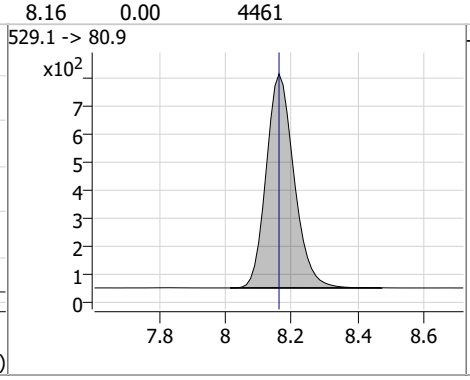


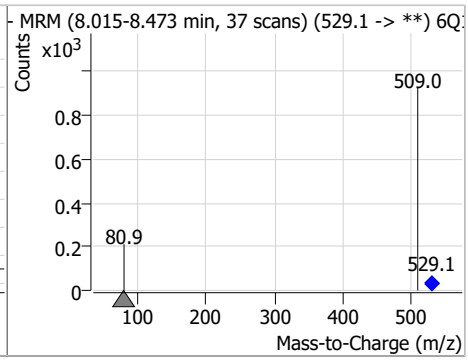




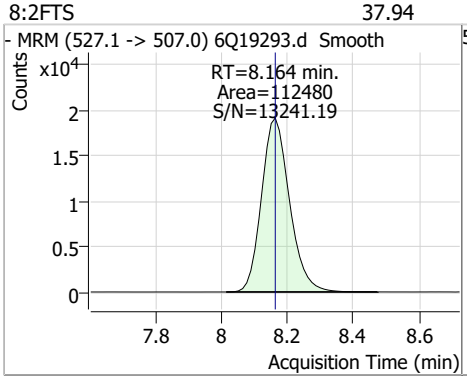
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.77	8.16	0.00	4461				

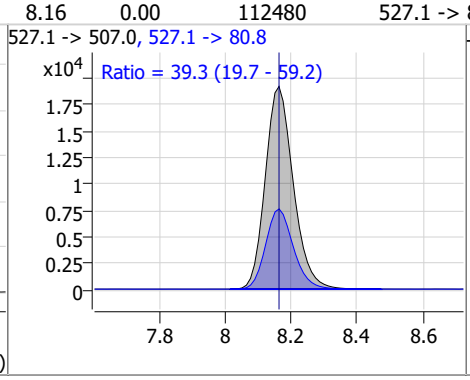


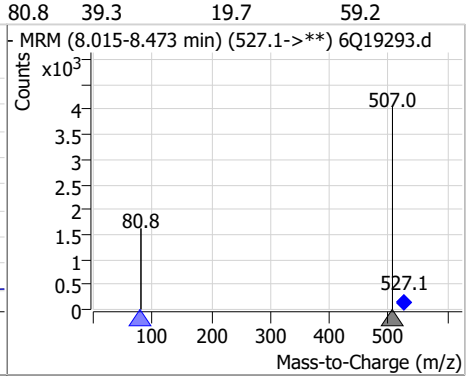




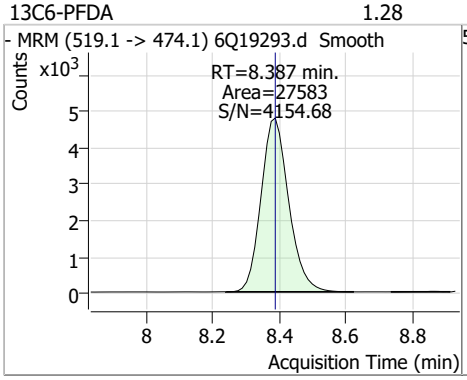
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	37.94	8.16	0.00	112480	527.1 -> 80.8	39.3	19.7	59.2

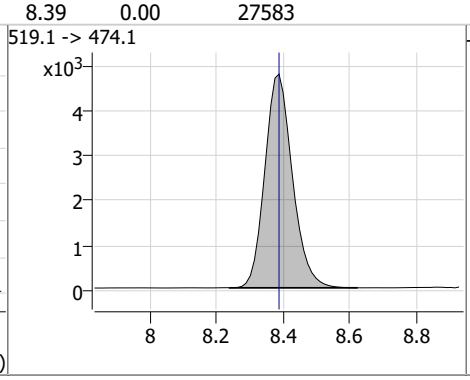


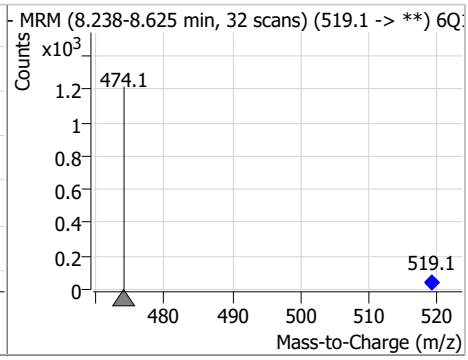




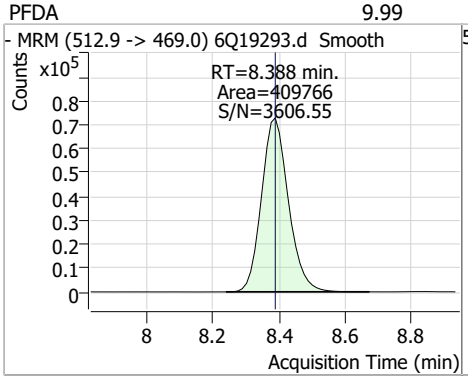
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.28	8.39	0.00	27583				

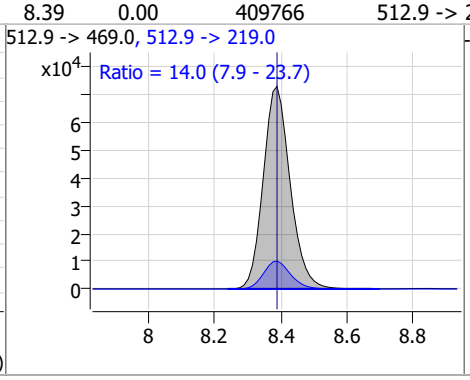


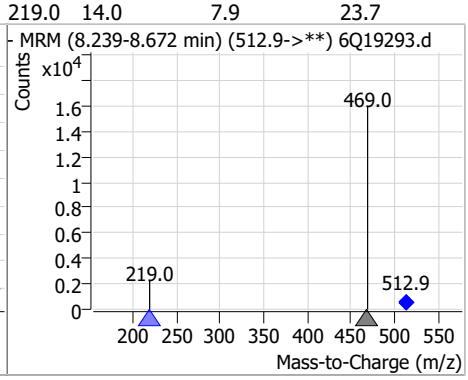




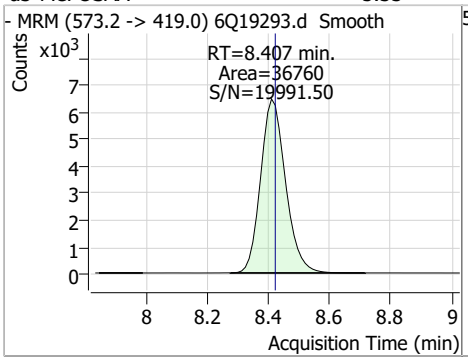
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	9.99	8.39	0.00	409766	512.9 -> 219.0	14.0	7.9	23.7

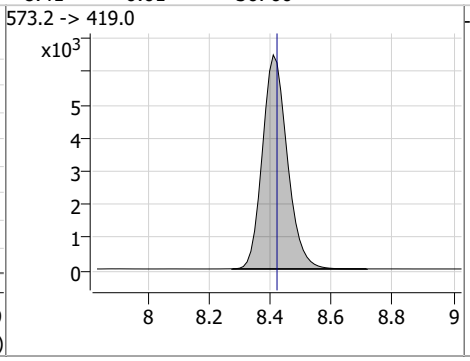


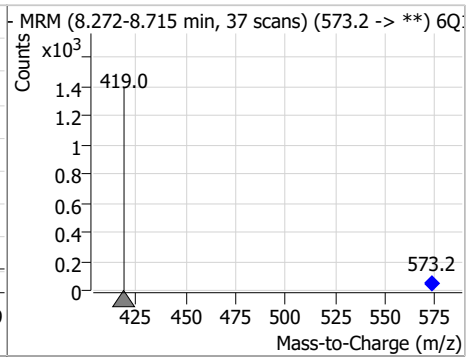




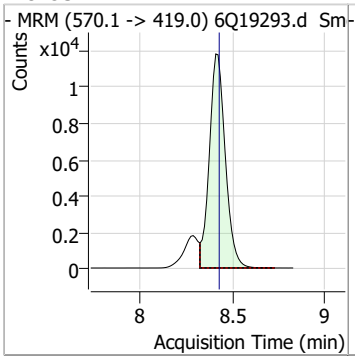
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.33	8.41	-0.01	36760				

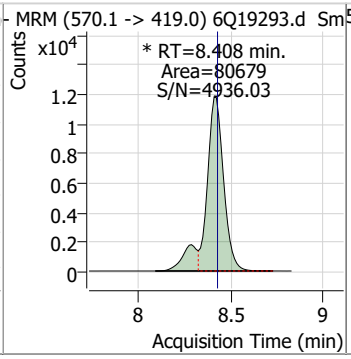


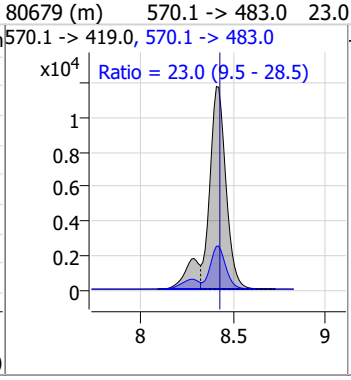


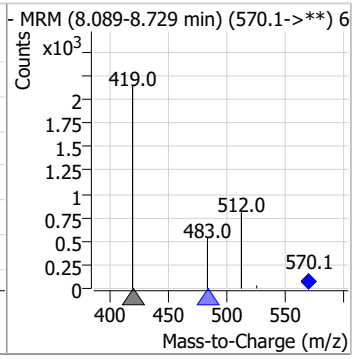


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	8.47	8.41	-0.01	80679 (m)	570.1 -> 483.0	23.0	9.5	28.5

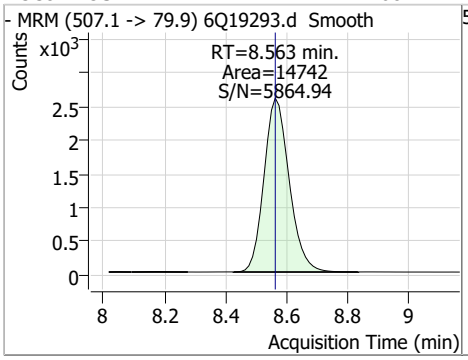


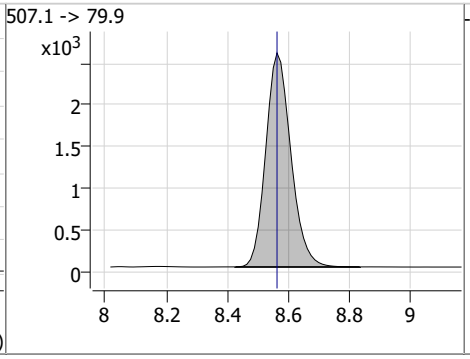


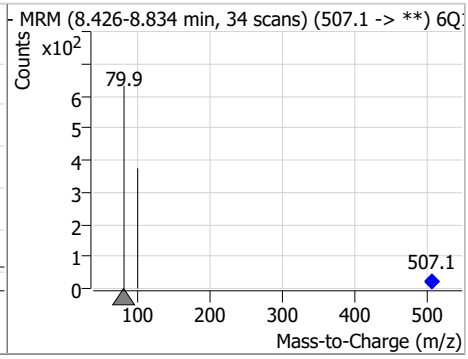




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.68	8.56	0.00	14742				

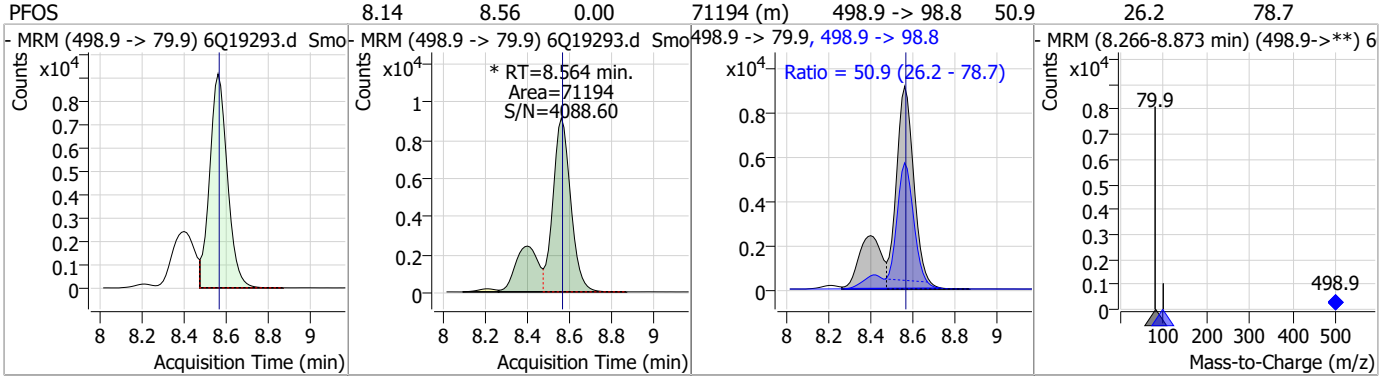




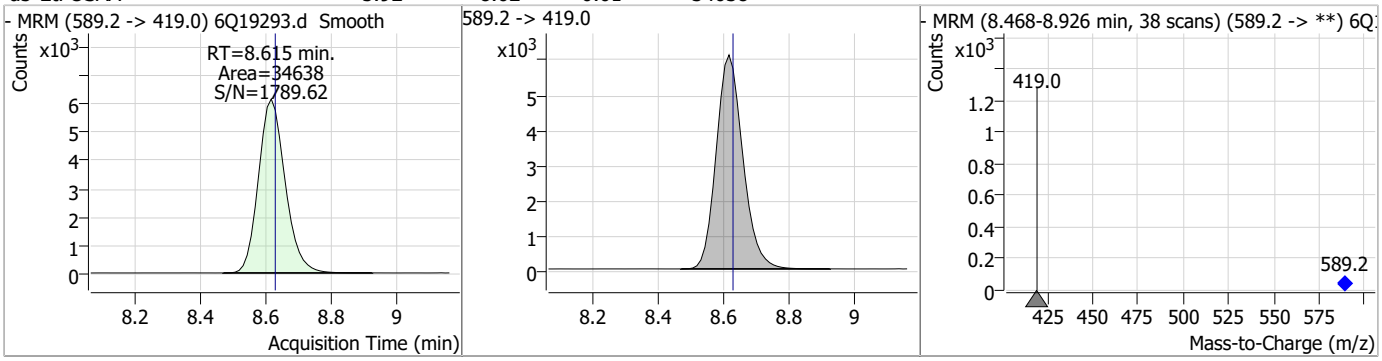


Perfluorinated Compounds by LC/MS/MS

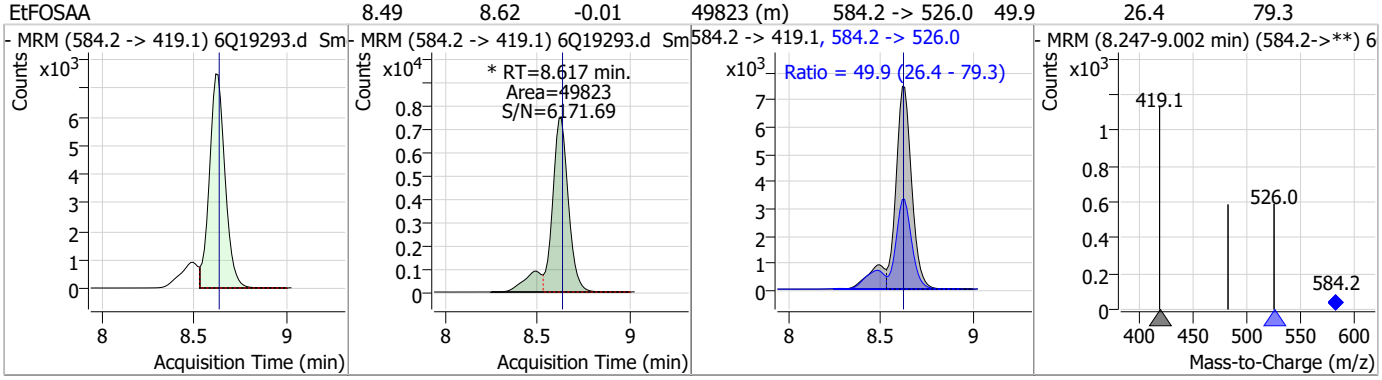
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	8.14	8.56	0.00	71194 (m)	498.9 -> 98.8	50.9	26.2	78.7



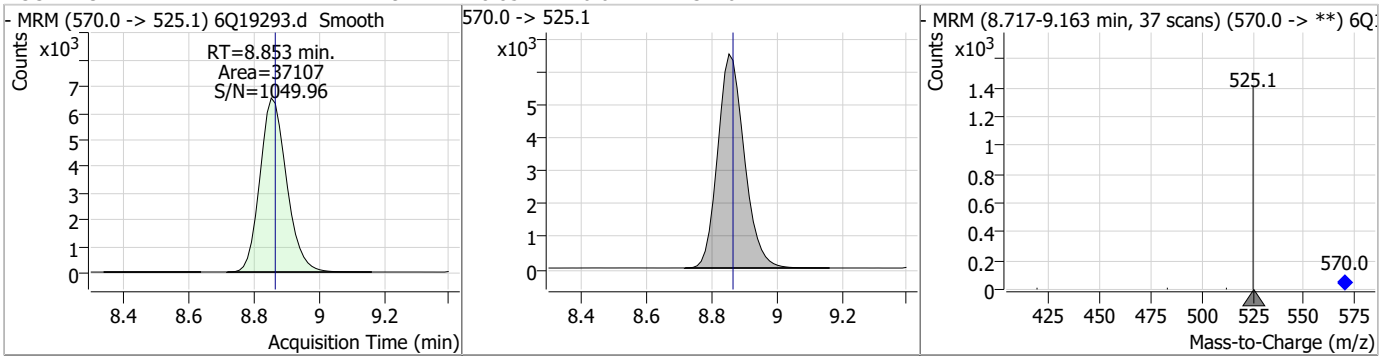
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.92	8.62	-0.01	34638				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	8.49	8.62	-0.01	49823 (m)	584.2 -> 526.0	49.9	26.4	79.3

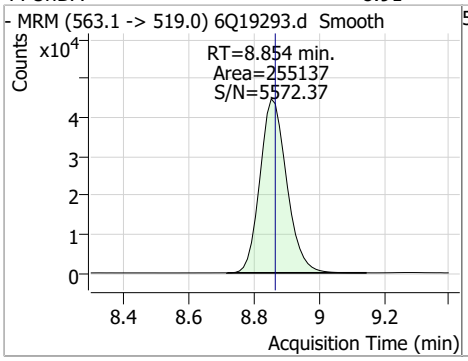


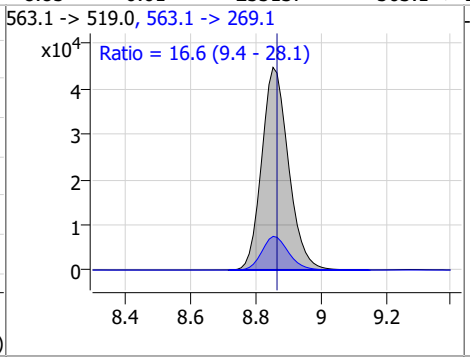
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.29	8.85	-0.01	37107				

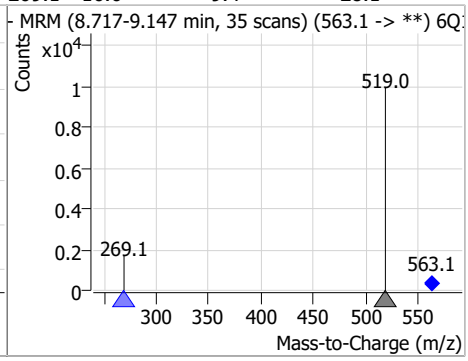


Perfluorinated Compounds by LC/MS/MS

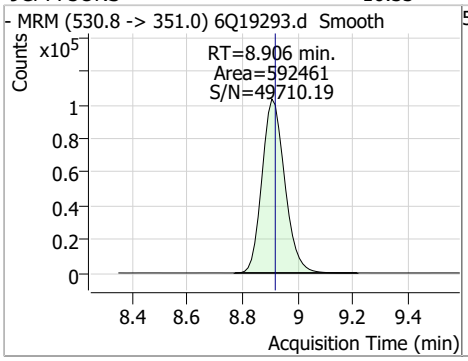
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	8.91	8.85	-0.01	255137	563.1 -> 269.1	16.6	9.4	28.1

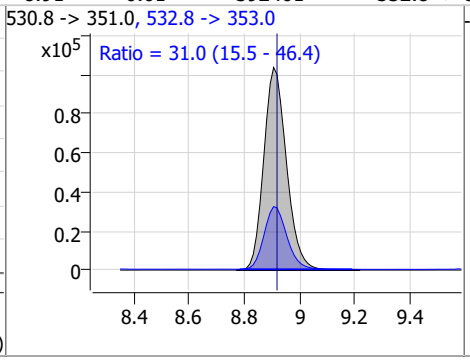


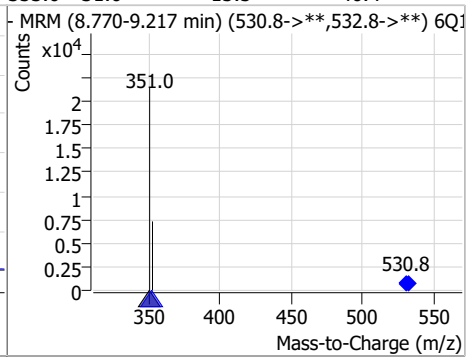




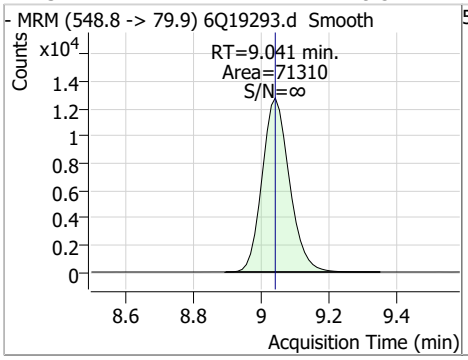
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	16.33	8.91	-0.01	592461	532.8 -> 353.0	31.0	15.5	46.4

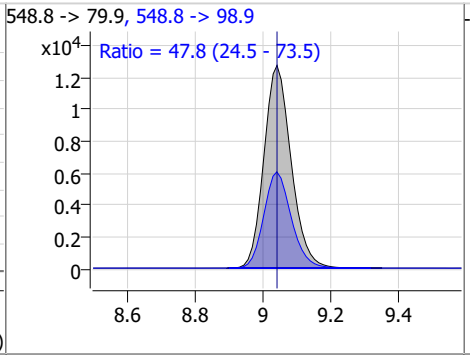


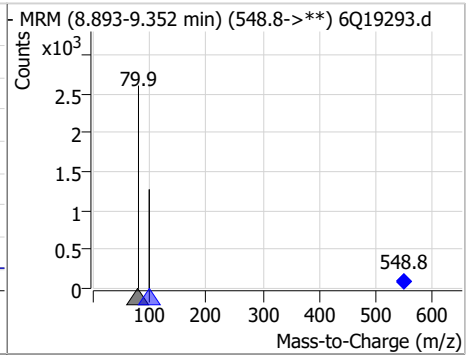




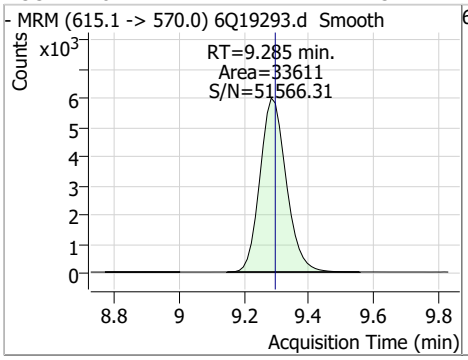
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	9.32	9.04	0.00	71310	548.8 -> 98.9	47.8	24.5	73.5

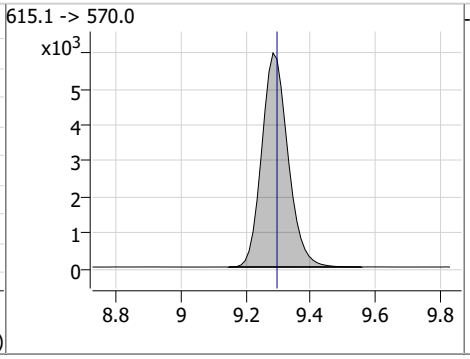


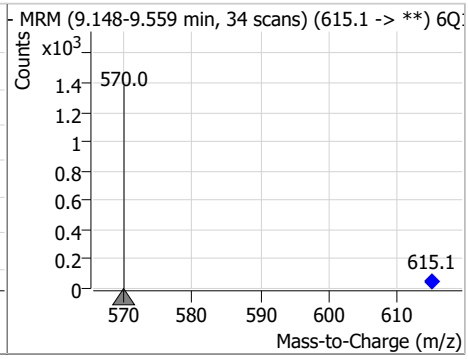




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.34	9.28	-0.01	33611				

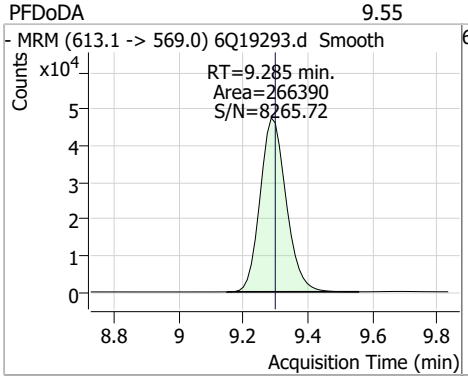


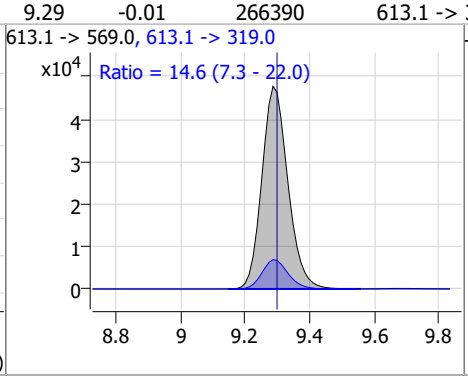


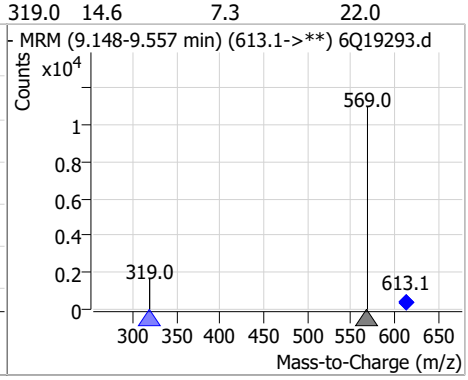


Perfluorinated Compounds by LC/MS/MS

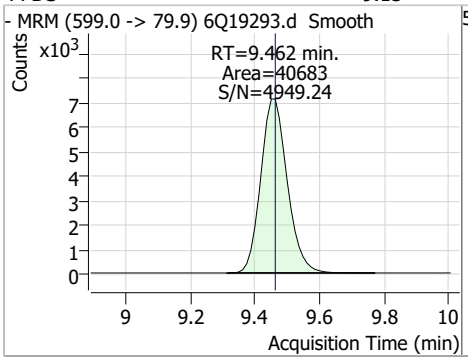
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	9.55	9.29	-0.01	266390	613.1 -> 319.0	14.6	7.3	22.0

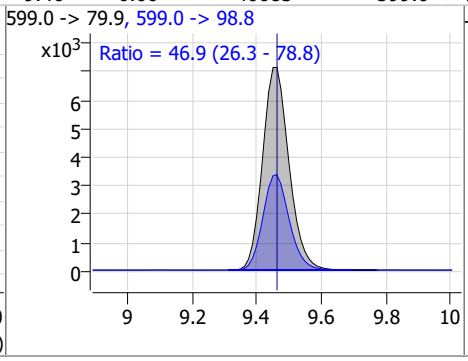


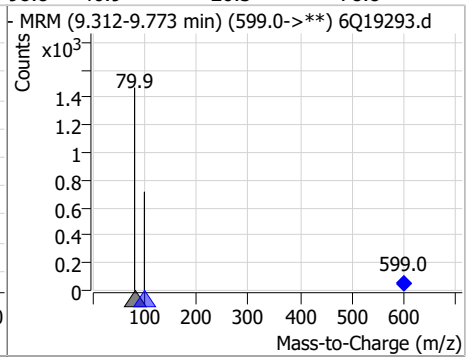




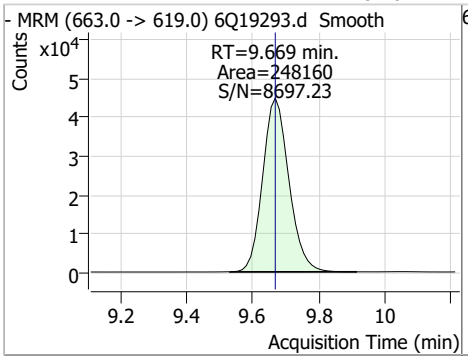
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	9.13	9.46	0.00	40683	599.0 -> 98.8	46.9	26.3	78.8

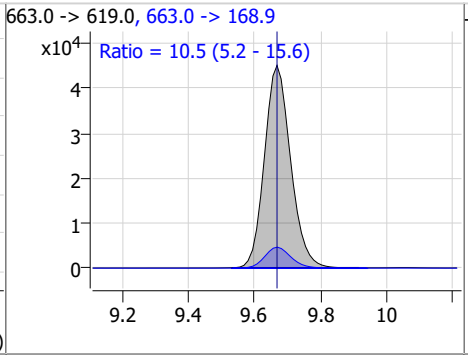


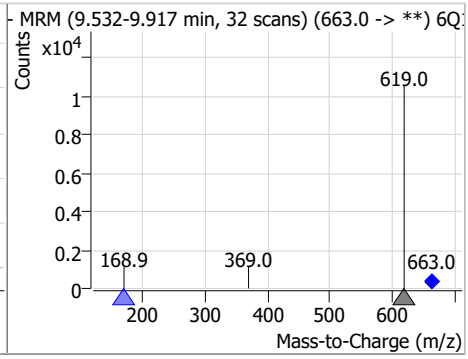




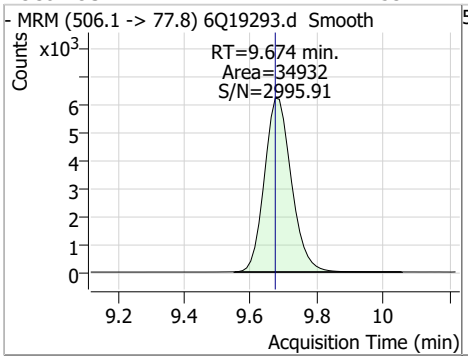
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	8.76	9.67	0.00	248160	663.0 -> 168.9	10.5	5.2	15.6

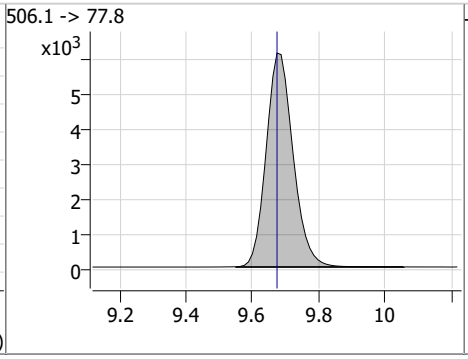


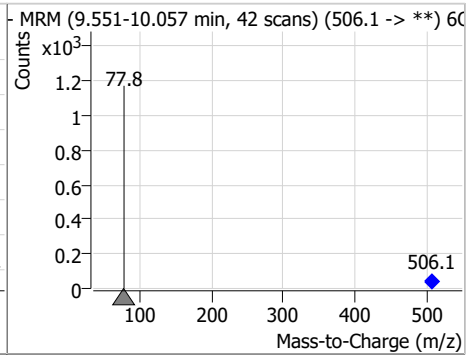




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.53	9.67	0.00	34932				

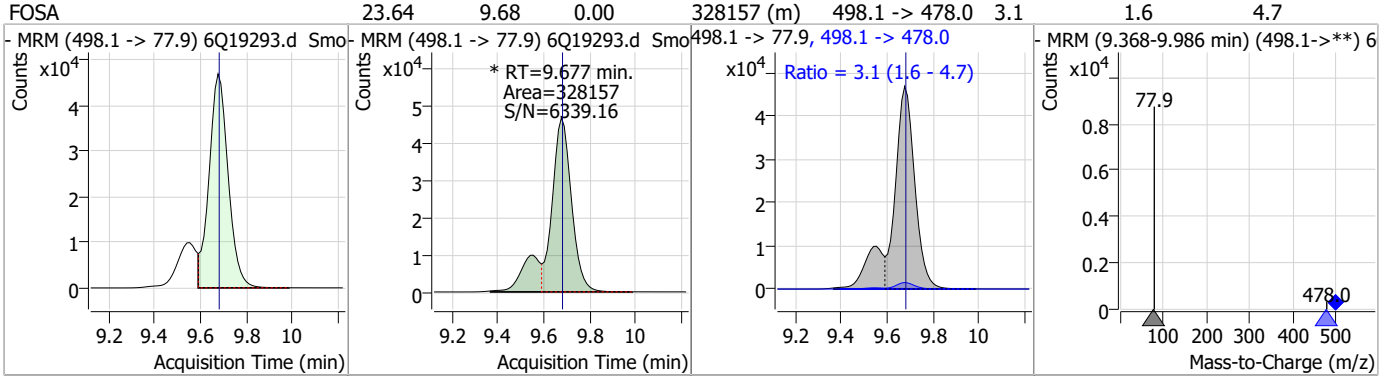




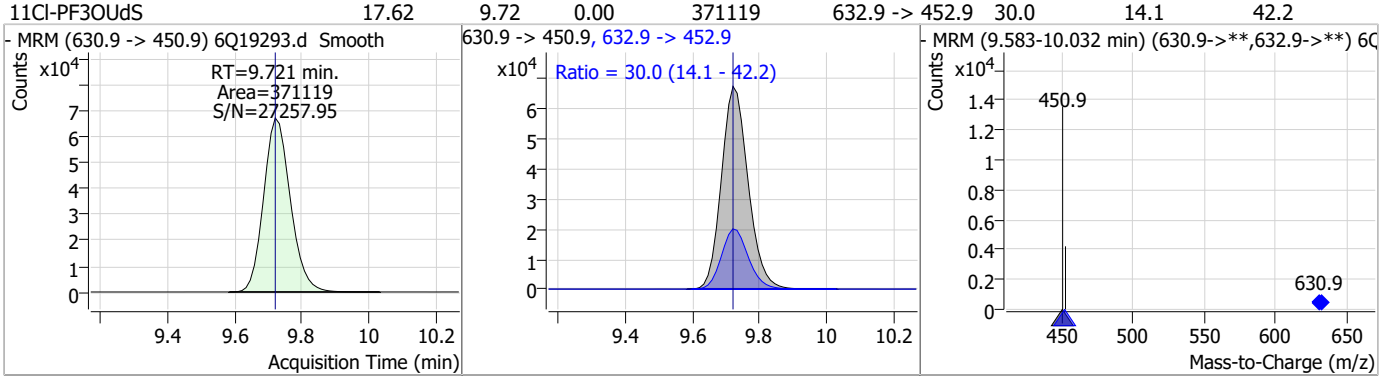


Perfluorinated Compounds by LC/MS/MS

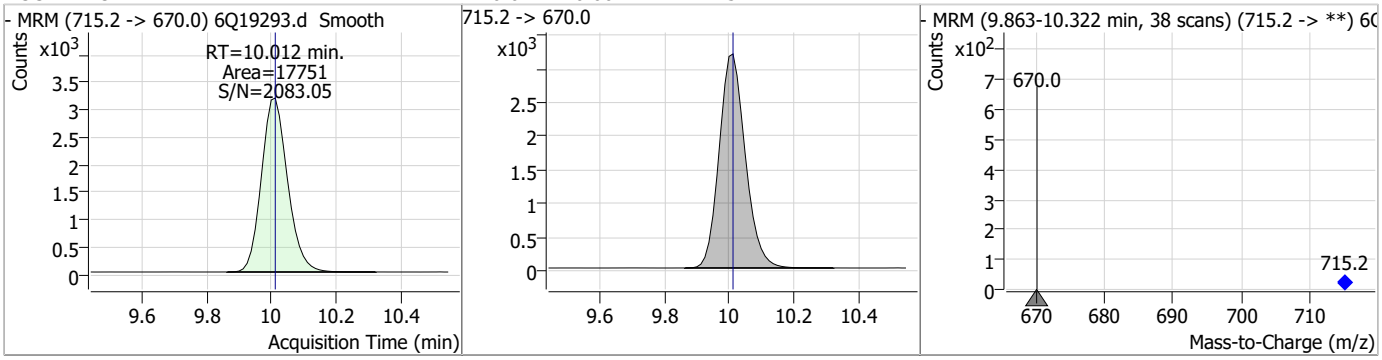
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	23.64	9.68	0.00	328157 (m)	498.1 -> 478.0	3.1	1.6	4.7



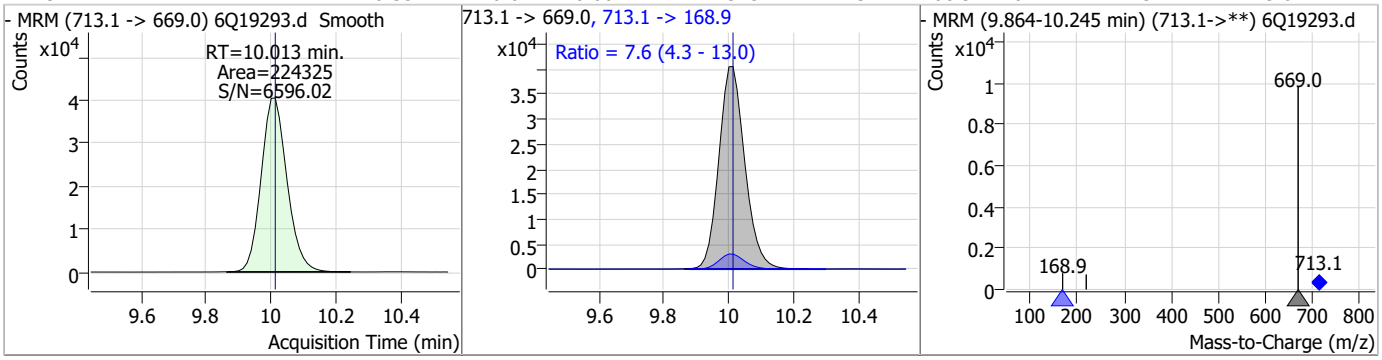
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	17.62	9.72	0.00	371119	632.9 -> 452.9	30.0	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.27	10.01	0.00	17751				

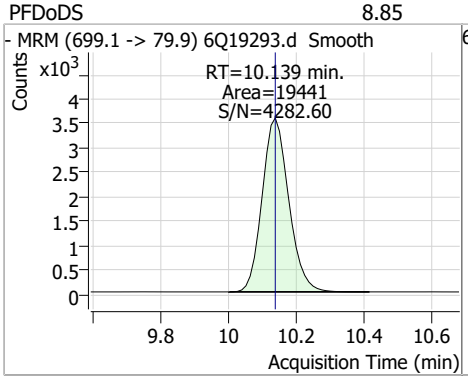


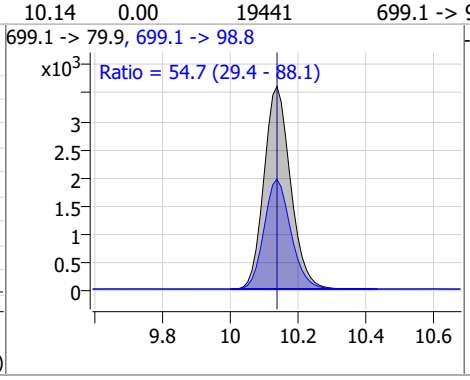
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	10.55	10.01	0.00	224325	713.1 -> 168.9	7.6	4.3	13.0

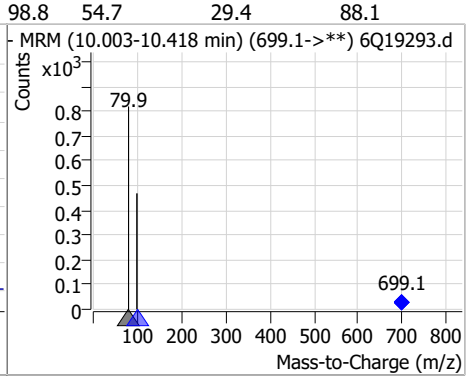


Perfluorinated Compounds by LC/MS/MS

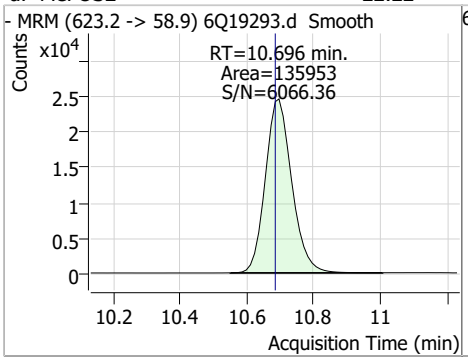
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	8.85	10.14	0.00	19441	699.1 -> 98.8	54.7	29.4	88.1

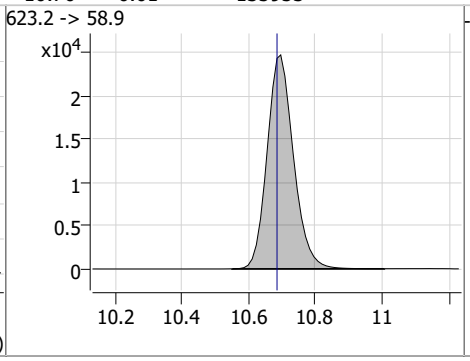


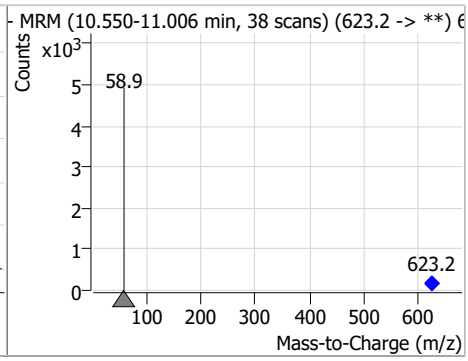




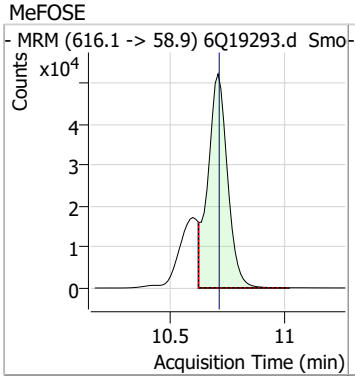
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	22.22	10.70	0.01	135953				

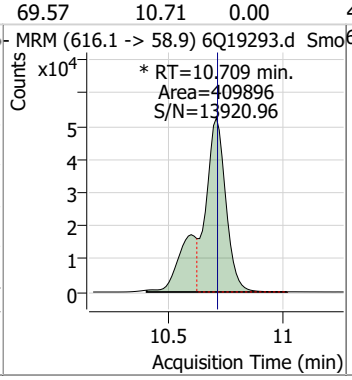


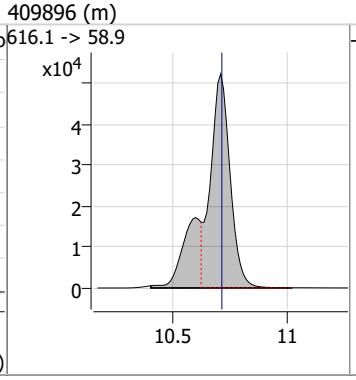


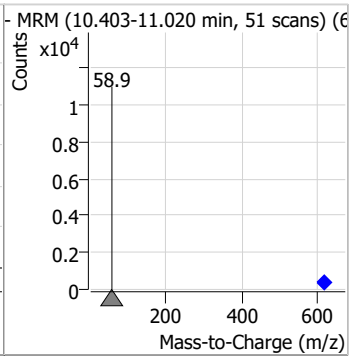


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	69.57	10.71	0.00	409896 (m)				

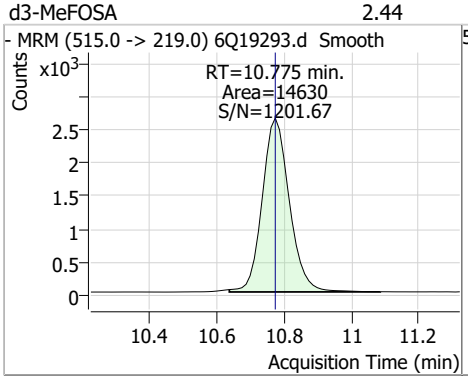


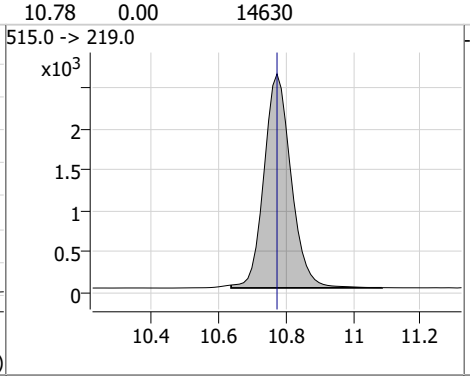


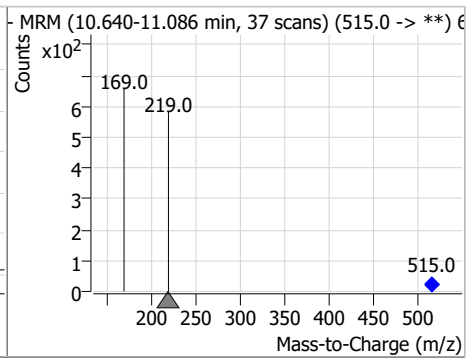




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.44	10.78	0.00	14630				

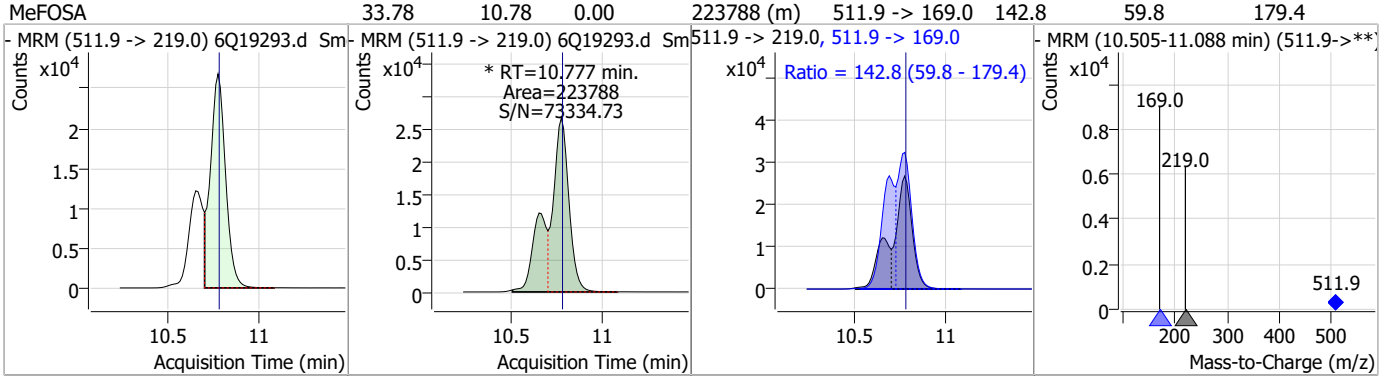




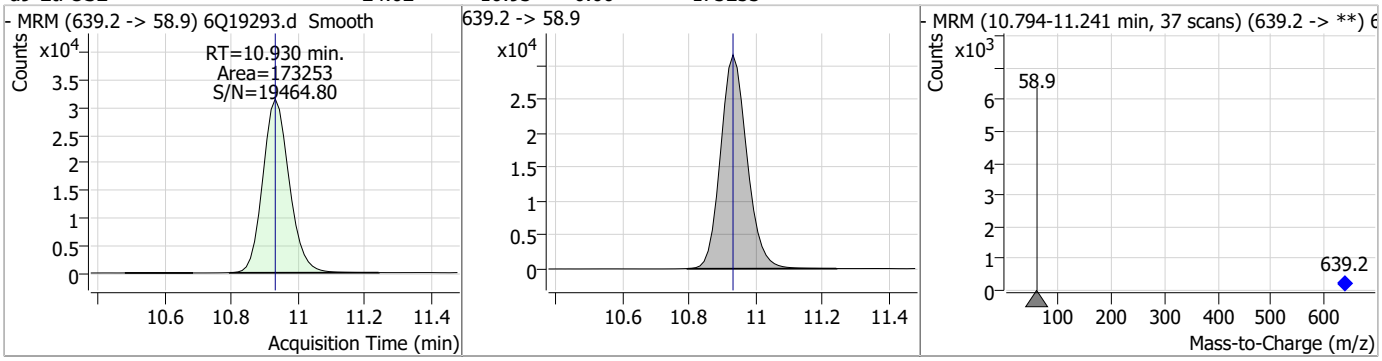


Perfluorinated Compounds by LC/MS/MS

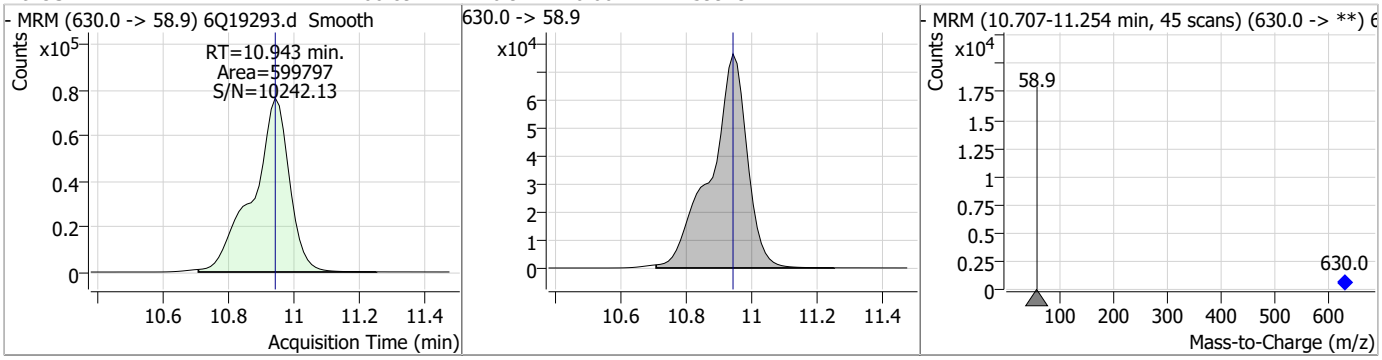
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	33.78	10.78	0.00	223788 (m)	511.9 -> 169.0	142.8	59.8	179.4



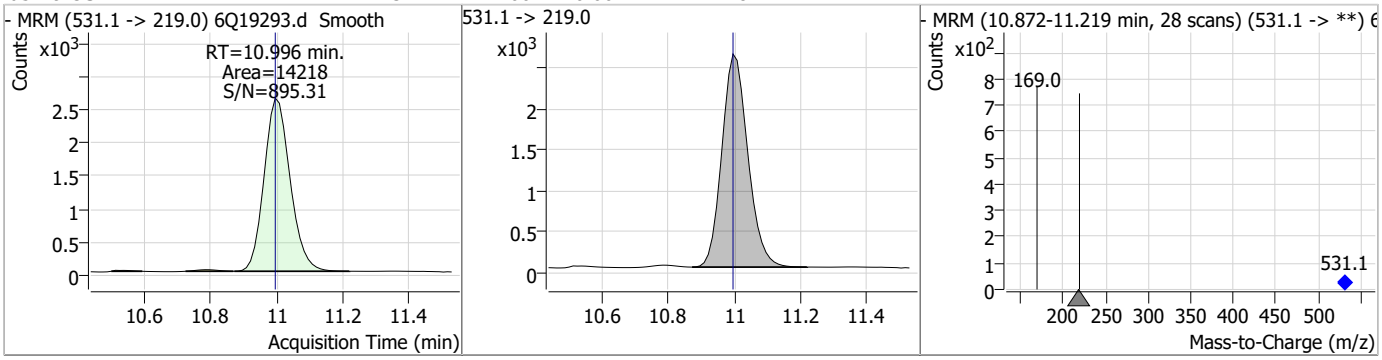
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.02	10.93	0.00	173253				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	66.89	10.94	0.00	599797				

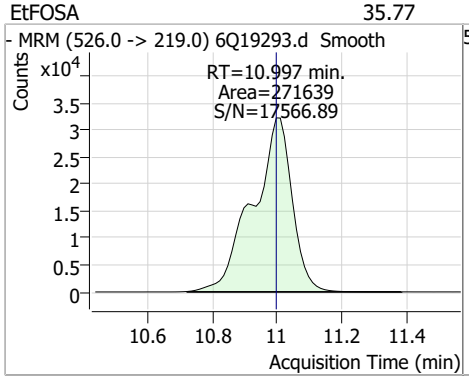


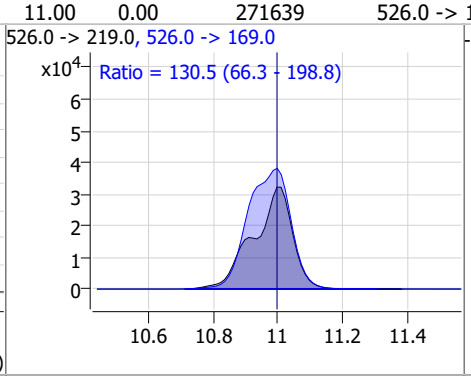
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.43	11.00	0.00	14218				

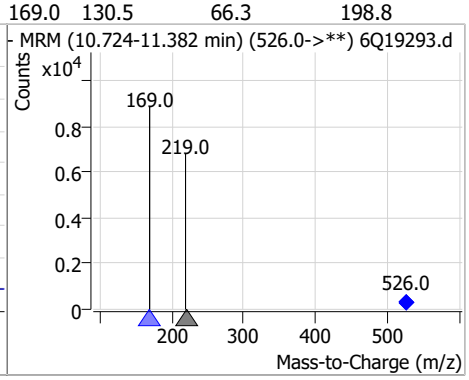


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	35.77	11.00	0.00	271639	526.0 -> 169.0	130.5	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q288-RT
Lab FileID: 6Q19293.D
Injection Time: 06/13/23 11:07
Method: EPA DRAFT 1633
Analyst approved: 06/14/23 11:49 Martha Valls
Supervisor approved: 06/14/23 12:01 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.35	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
Perfluorononanoic acid	375-95-1		7.88	Split peak
MeFOSAA	2355-31-9		8.41	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.62	Split peak
PFOSA	754-91-6		9.68	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:54

Perfluorinated Compounds by LC/MS/MS

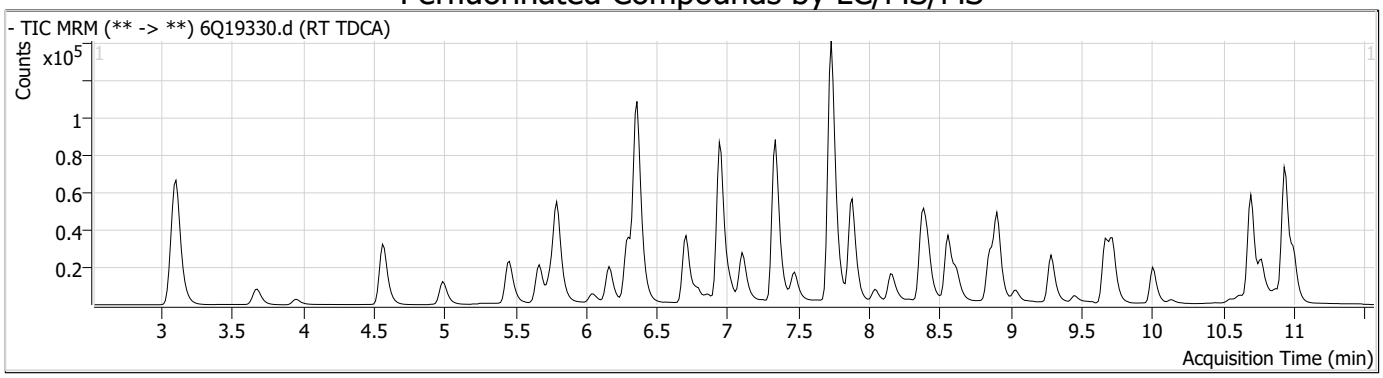
Data File : 6Q19330.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 10:42:38 AM
Sample Name : RT TDCA
Vial : P1-B3
DA Method File : TDCA.quantmethod.xml
Batch Name : s6q289 TDCA.batch.bin
Sample Information : OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Internal Standards							
M8-PFOS	8.563	507.1 -> 79.9	20515	2.50	µg/L		-0.008
13C4-PFOS	8.563	502.8 -> 79.9	25064	2.50	µg/L		-0.008
System Monitoring Compounds							
13C8-PFOS	8.563	507.1 -> 79.9	20515	2.08	µg/L		-0.008
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.0%			
Target Compounds							QValue
PFOS	8.564	498.9 -> 79.9	19136	2.73	µg/L	m	91
		498.9 -> 98.8	9202				
TCDCA	6.851	498.9 -> 79.9	4789	5.06	ng/ml		100
TDCA	7.012	498.9 -> 79.9	6356	7.41	ng/ml		100
TUDCA	6.035	498.9 -> 79.9	6932	3.81	ng/ml		100

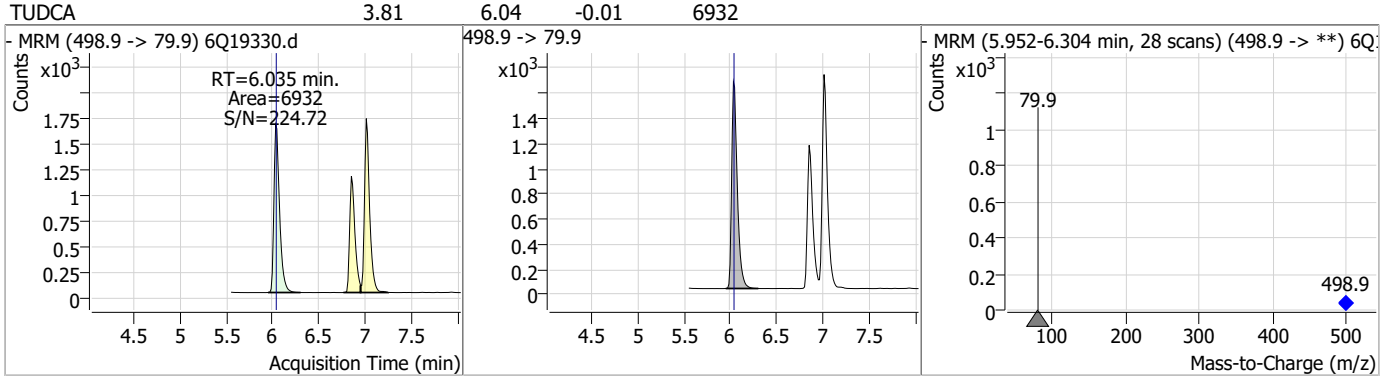
 # = Qualifier out of range, m = manually integrated, + = Area summed

7.9.3
7

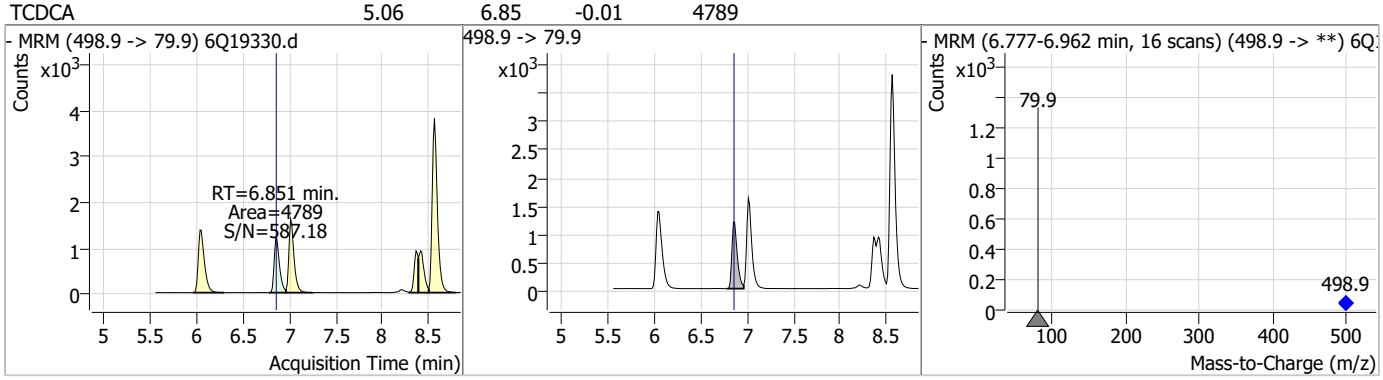
Perfluorinated Compounds by LC/MS/MS



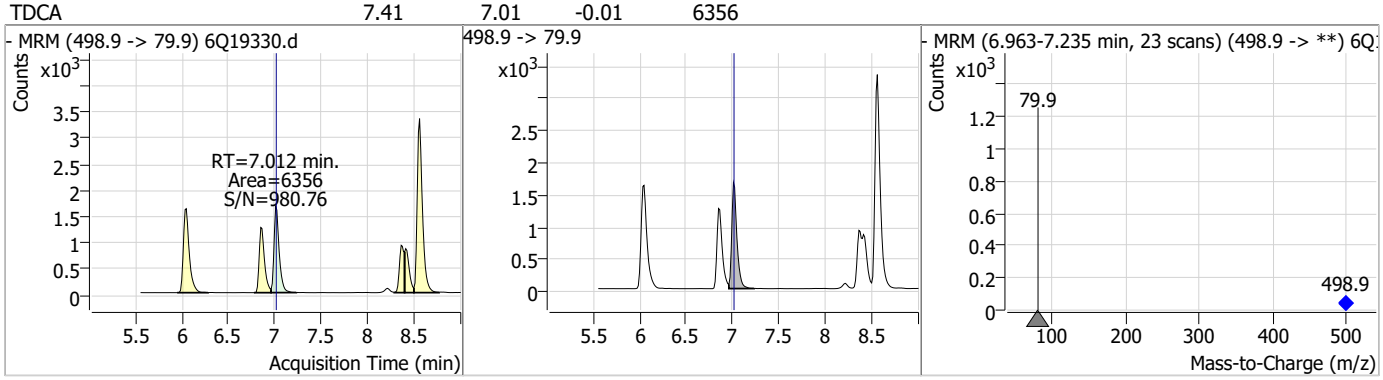
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TUDCA	3.81	6.04	-0.01	6932				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TCDCA	5.06	6.85	-0.01	4789				

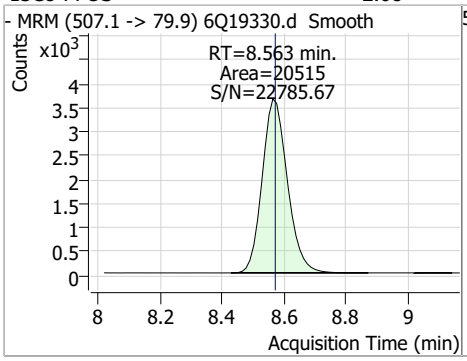


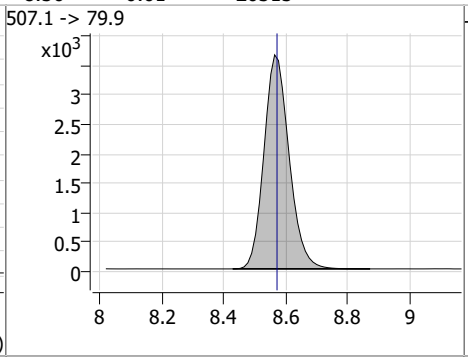
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TDCA	7.41	7.01	-0.01	6356				

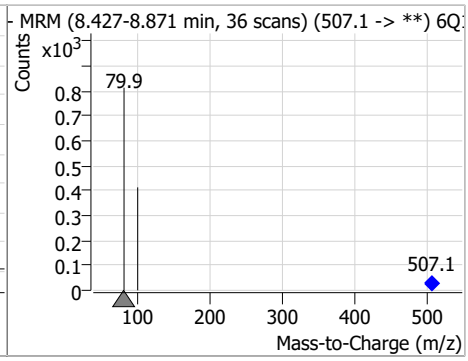


Perfluorinated Compounds by LC/MS/MS

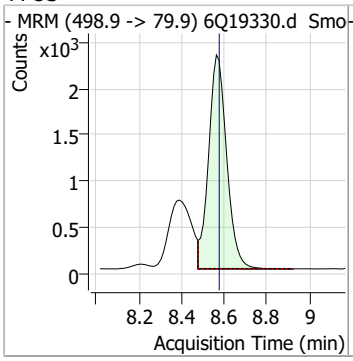
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.08	8.56	-0.01	20515				

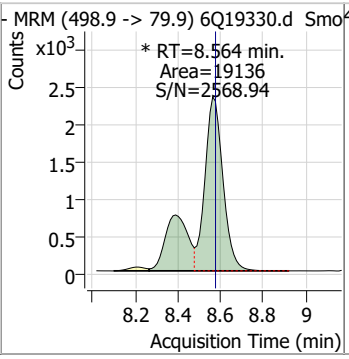


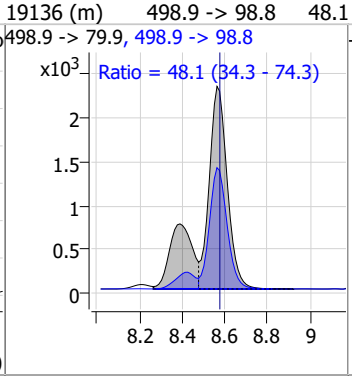


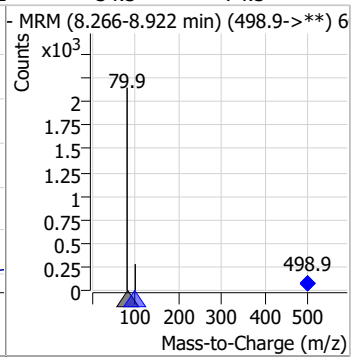


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.73	8.56	-0.01	19136 (m)	498.9 -> 98.8	48.1	34.3	74.3









Manual Integration Approval Summary

Sample Number:	S6Q289-RT	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19330.D	**Analyst approved:**	06/15/23 10:05 Martha Valls
Injection Time:	06/14/23 10:42	**Supervisor approved:**	06/15/23 10:54 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:54

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19331.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 10:56:37 AM
Sample Name : RT BR-LN
Vial : P1-B4
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	187334	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	62598	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	67309	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	62103	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	95630	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	47447	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	27727	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	37598	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	31625	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	17644	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	34456	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	25209	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	15130	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	15533	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3470	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4760	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4482	5.00	µg/L	0.000
M3-MeFOSAA	8.407	573.2 -> 419.0	35397	5.00	µg/L	-0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	48420	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	28790	5.00	µg/L	-0.012
M7-MeFOSE	10.696	623.2 -> 58.9	137675	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	169018	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	13802	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	13894	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	18983	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	78168	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	11529	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	107515	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	36769	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	55377	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	65887	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3470	5.02	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4760	4.56	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.1%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4482	4.56	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.2%		
13C2-PFDoDA	9.285	615.1 -> 570.0	31625	1.29	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.9%		
13C2-PFTeDA	10.000	715.2 -> 670.0	17644	1.29	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.9%		
13C3-PFBS	5.746	302.1 -> 79.9	25209	2.63	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.1%		
13C3-PFHxS	7.478	402.1 -> 79.9	15130	2.50	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C4-PFBA	3.097	216.8 -> 171.9	187334	10.22 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C4-PFHpA	6.707	367.1 -> 322.0	62103	2.44 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.7%		
13C5-PFHxA	5.792	318.0 -> 273.0	67309	2.48 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%		
13C5-PFPeA	4.560	268.3 -> 223.0	62598	5.02 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C6-PFDA	8.387	519.1 -> 474.1	27727	1.31 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.1%		
13C7-PFUnDA	8.853	570.0 -> 525.1	37598	1.33 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.4%		
13C8-FOSA	9.687	506.1 -> 77.8	34456	2.40 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%		
13C8-PFOA	7.339	421.1 -> 376.0	95630	2.38 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.2%		
13C8-PFOS	8.563	507.1 -> 79.9	15533	2.71 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.4%		
13C9-PFNA	7.882	472.1 -> 427.0	47447	1.41 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.6%		
d3-MeFOSAA	8.407	573.2 -> 419.0	35397	4.93 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	48420	10.64 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.4%		
d3-MeFOSA	10.775	515.0 -> 219.0	13894	2.22 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.0%		
d5-EtFOSAA	8.615	589.2 -> 419.0	28790	4.72 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.4%		
d7-MeFOSE	10.696	623.2 -> 58.9	137675	21.61 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 86.5%		
d9-EtFOSE	10.930	639.2 -> 58.9	169018	22.51 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.0%		
d5-EtFOSA	10.996	531.1 -> 219.0	13802	2.26 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.5%		
Target Compounds						**QValue**
4:2FTS	5.455	327.1 -> 307.0	191453	31.73 µg/L		96
		327.1 -> 80.9	75830			
6:2FTS	7.113	427.1 -> 407.0	205113	36.18 µg/L		100
		427.1 -> 80.9	66837			
8:2FTS	8.164	527.1 -> 507.0	111038	37.28 µg/L		99
		527.1 -> 80.8	44677			
EtFOSAA	8.629	584.2 -> 419.1	50929	10.45 µg/L	m	97
		584.2 -> 526.0	25998			
FOSA	9.677	498.1 -> 77.9	330933	24.17 µg/L	m	99
		498.1 -> 478.0	10853			
MeFOSAA	8.408	570.1 -> 419.0	93410	10.18 µg/L	m	97
		570.1 -> 483.0	16627			
PFBA	3.093	212.8 -> 168.9	285005	37.76 µg/L		100
PFBS	5.747	298.7 -> 79.9	94782	8.42 µg/L		99
		298.7 -> 98.8	35671			
PFDA	8.388	512.9 -> 469.0	425503	10.32 µg/L		95
		512.9 -> 219.0	58215			
PFDoDA	9.285	613.1 -> 569.0	265475	10.11 µg/L		99
		613.1 -> 319.0	37460			
PFDS	9.462	599.0 -> 79.9	40913	8.71 µg/L		99

Perfluorinated Compounds by LC/MS/MS

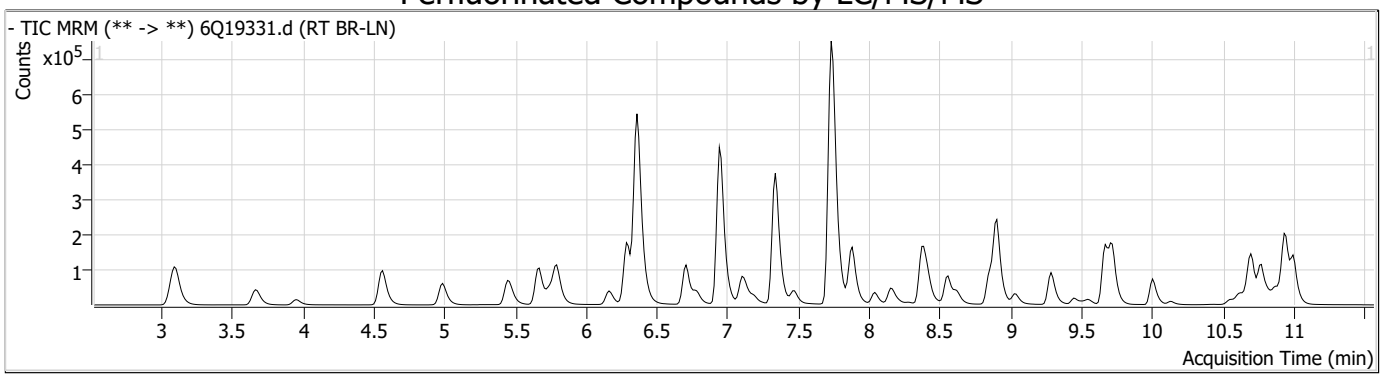
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	21169				
PFHpA	6.708	363.1 -> 319.0	317536	9.58	µg/L		97
		363.1 -> 169.0	51878				
PFHpS	8.046	449.0 -> 79.9	80073	8.63	µg/L		100
		449.0 -> 98.9	40868				
PFHxA	5.795	313.0 -> 269.0	251360	9.25	µg/L		99
		313.0 -> 118.9	13516				
PFHxS	7.479	398.7 -> 79.9	81018	8.89	µg/L	m	93
		398.7 -> 98.9	37407				
PFNA	7.883	463.0 -> 419.0	803348	18.31	µg/L	m	97
		463.0 -> 219.0	162047				
PFNS	9.041	548.8 -> 79.9	67999	8.44	µg/L		88
		548.8 -> 98.9	38705				
PFOA	7.341	413.0 -> 369.0	1117422	21.27	µg/L	m	97
		413.0 -> 169.0	201386				
PFOS	8.564	498.9 -> 79.9	76497	8.30	µg/L	m	95
		498.9 -> 98.8	37194				
PFPeA	4.563	263.0 -> 219.0	350511	18.96	µg/L		100
PFPeS	6.785	349.1 -> 79.9	78157	9.22	µg/L		98
		349.1 -> 98.9	36324				
PFTeDA	10.000	713.1 -> 669.0	203610	9.63	µg/L		100
		713.1 -> 168.9	17551				
PFTrDA	9.669	663.0 -> 619.0	250956	9.41	µg/L		98
		663.0 -> 168.9	27885				
PFUnDA	8.854	563.1 -> 519.0	273221	9.41	µg/L		99
		563.1 -> 269.1	49542				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	375406	17.03	µg/L		96
		632.9 -> 452.9	112885				
9Cl-PF3ONS	8.906	530.8 -> 351.0	636778	16.76	µg/L		94
		532.8 -> 353.0	175591				
ADONA	6.959	376.9 -> 250.9	1383398	17.66	µg/L		92
		376.9 -> 84.8	341448				
HFPO-DA	6.169	284.9 -> 168.9	91515	18.06	µg/L		99
		284.9 -> 184.9	10522				
3:3FTCA	3.946	241.0 -> 177.0	58977	47.17	µg/L		99
		241.0 -> 117.0	7650				
5:3FTCA	6.361	341.0 -> 237.1	1234484	228.64	µg/L		99
		341.0 -> 217.0	909709				
7:3FTCA	7.736	441.0 -> 316.9	833851	228.41	µg/L		93
		441.0 -> 336.9	1782425				
EtFOSA	10.997	526.0 -> 219.0	264652	35.90	µg/L		95
		526.0 -> 169.0	368047				
EtFOSE	10.943	630.0 -> 58.9	589248	67.36	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	224509	35.68	µg/L	m	79
		511.9 -> 169.0	321188				
MeFOSE	10.709	616.1 -> 58.9	407531	68.30	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	19565	8.45	µg/L		97
		699.1 -> 98.8	11010				
NFDHA	5.673	295.0 -> 201.0	71300	20.55	µg/L		96
		295.0 -> 84.9	17729				
PFMBA	4.988	279.0 -> 85.1	251246	19.07	µg/L		100
PFMPA	3.667	229.0 -> 84.9	198442	19.25	µg/L		100
PFEESA	6.301	314.8 -> 134.9	625603	17.04	µg/L		100
		314.8 -> 82.9	22602				

 # = Qualifier out of range, m = manually integrated, + = Area summed

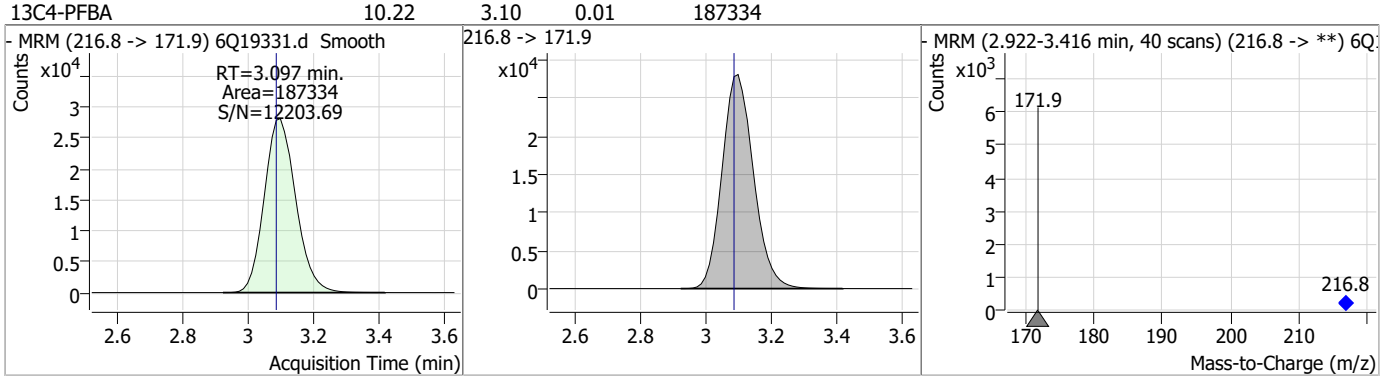
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

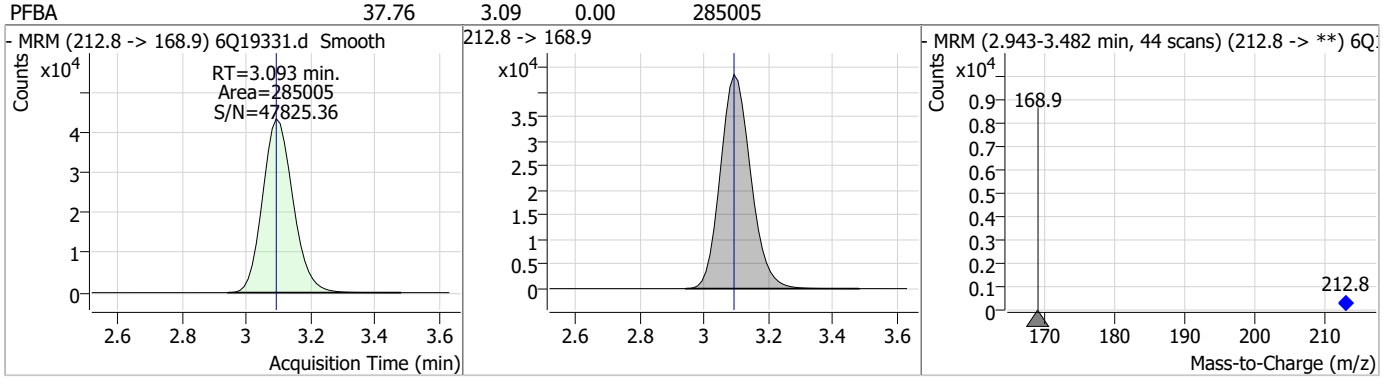
Perfluorinated Compounds by LC/MS/MS



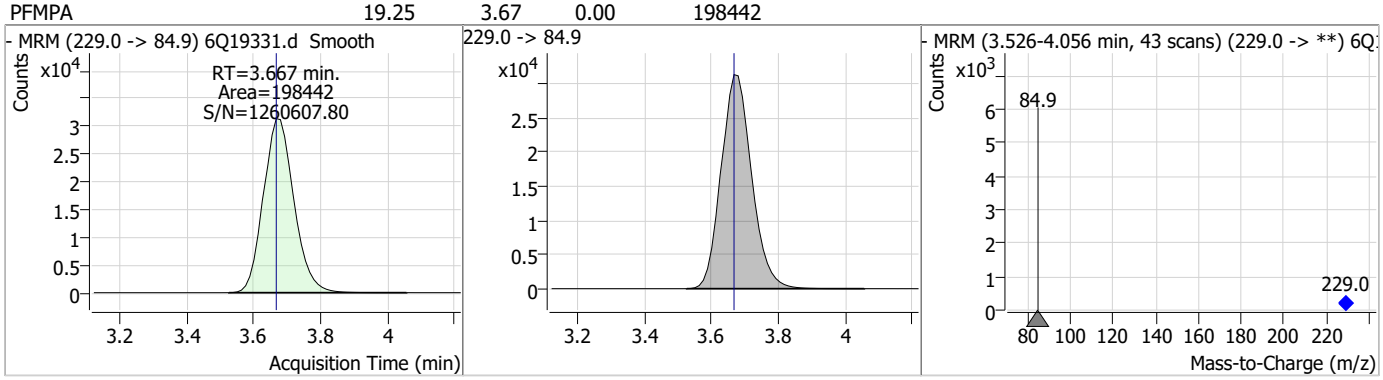
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.22	3.10	0.01	187334				



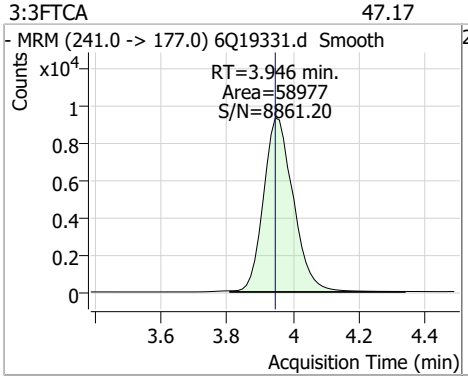
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	37.76	3.09	0.00	285005				

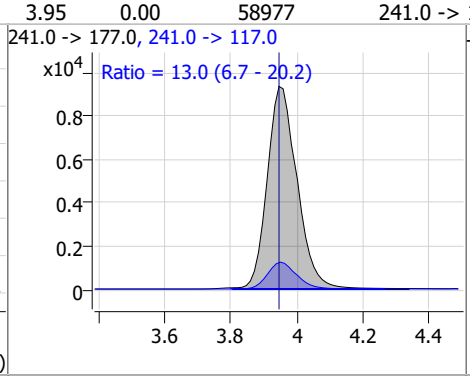


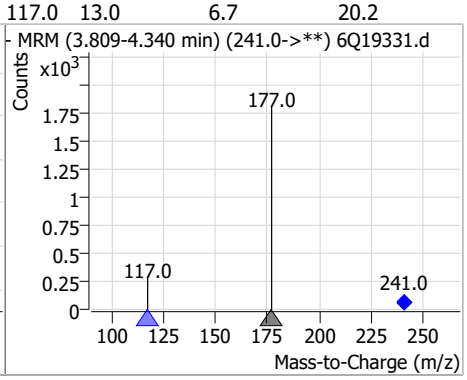
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	19.25	3.67	0.00	198442				



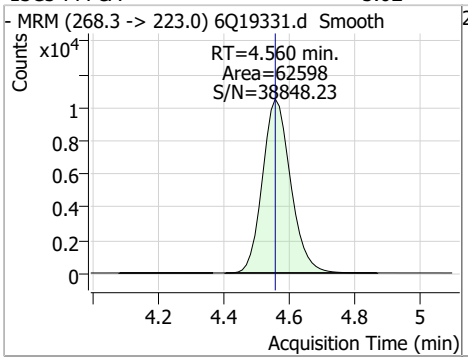
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	47.17	3.95	0.00	58977	241.0 -> 117.0	13.0	6.7	20.2

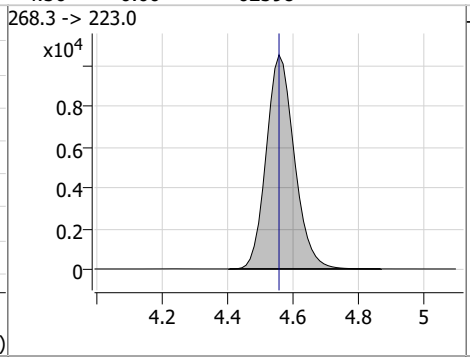


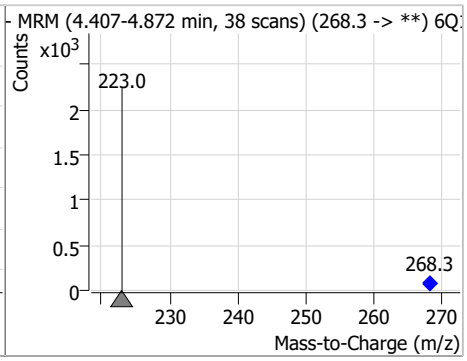




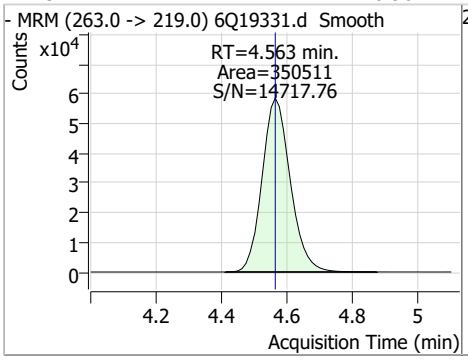
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.02	4.56	0.00	62598				

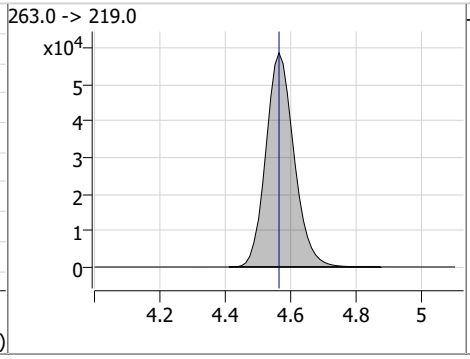


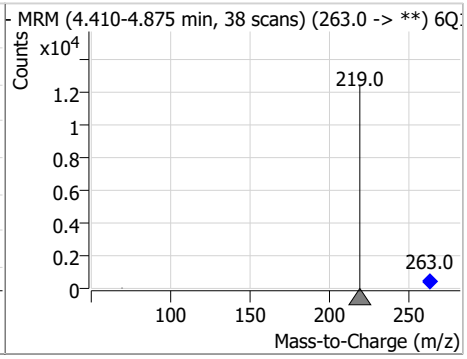




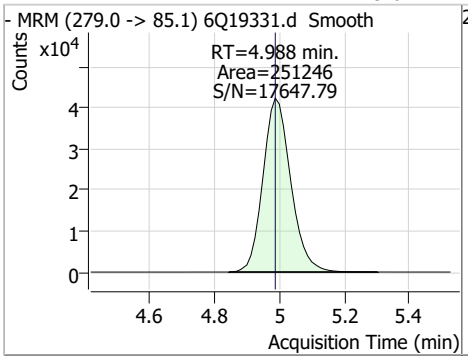
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	18.96	4.56	0.00	350511				

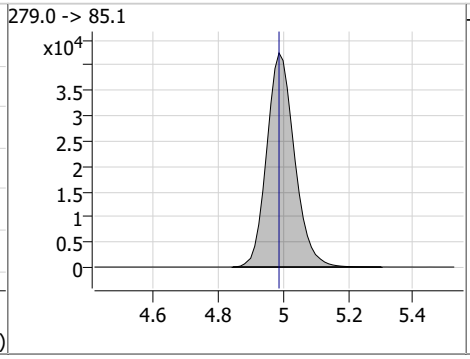


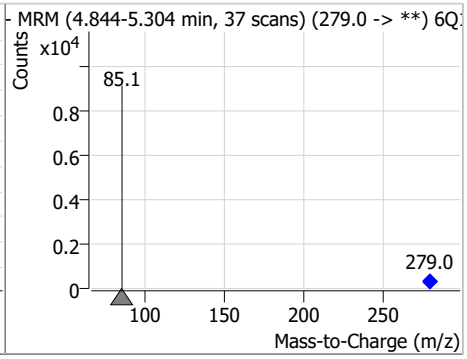




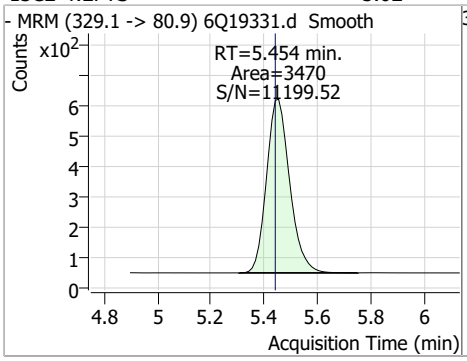
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	19.07	4.99	0.00	251246				

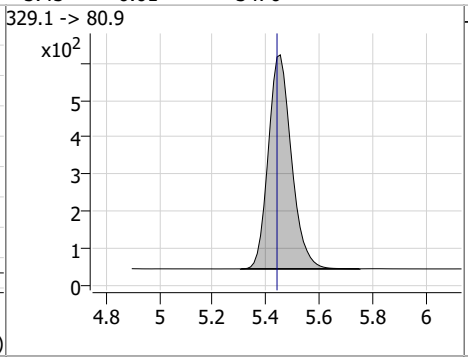


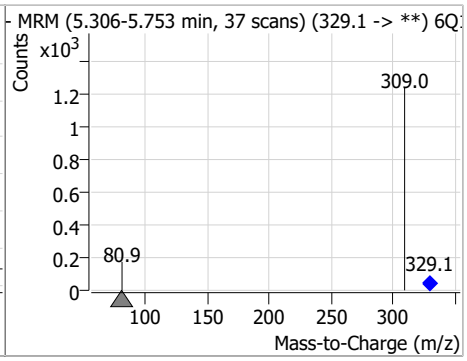




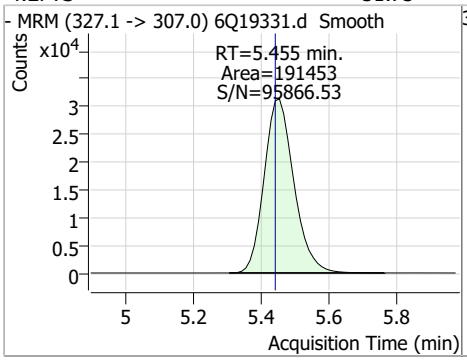
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.02	5.45	0.01	3470				

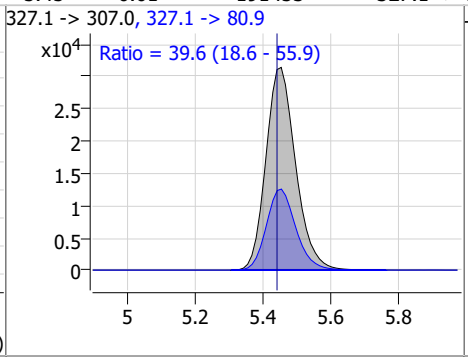


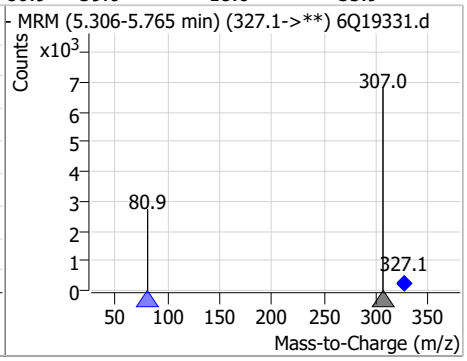




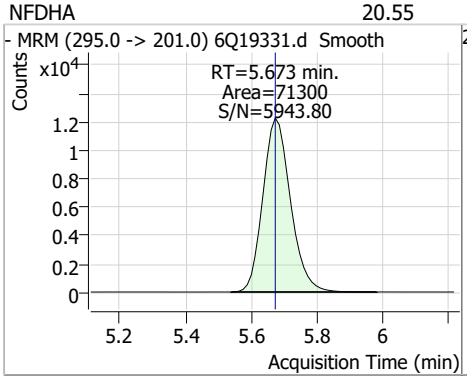
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	31.73	5.45	0.01	191453	327.1 -> 80.9	39.6	18.6	55.9

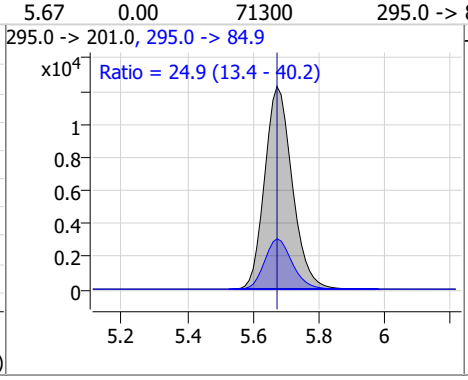


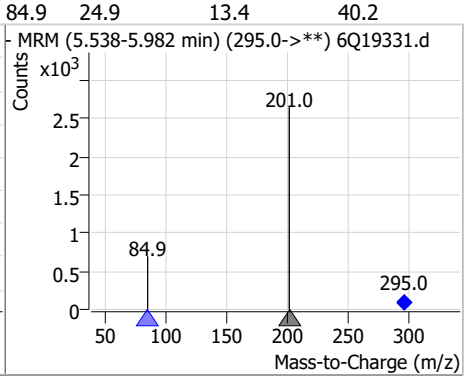




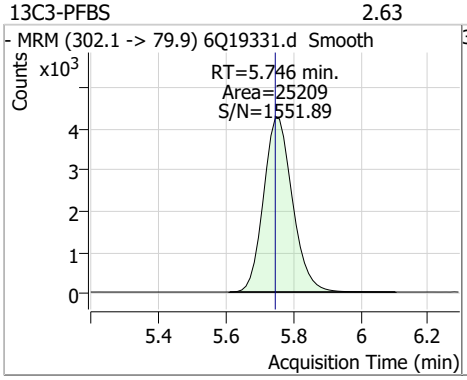
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	20.55	5.67	0.00	71300	295.0 -> 84.9	24.9	13.4	40.2

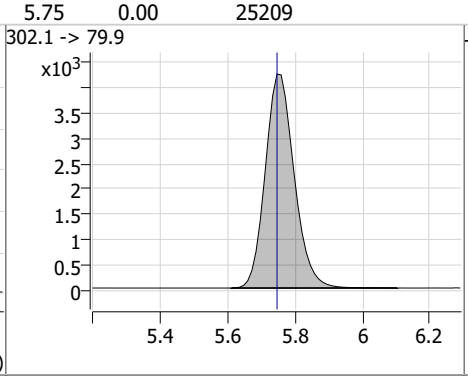


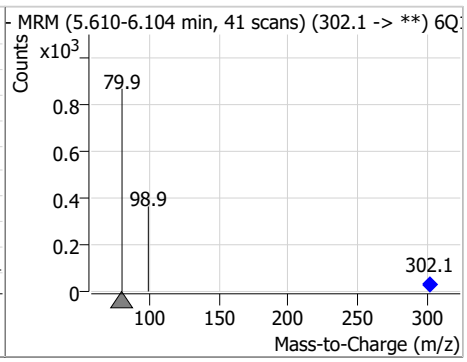




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.63	5.75	0.00	25209				

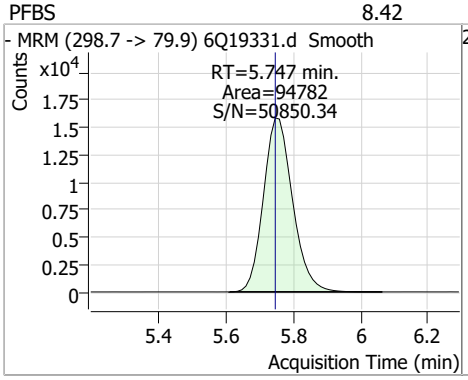


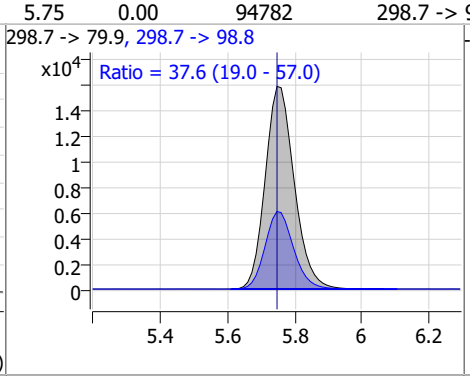


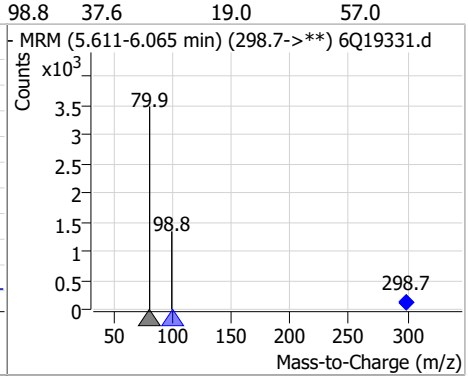


Perfluorinated Compounds by LC/MS/MS

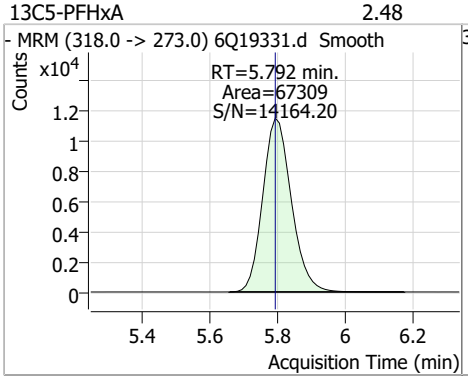
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	8.42	5.75	0.00	94782	298.7 -> 98.8	37.6	19.0	57.0

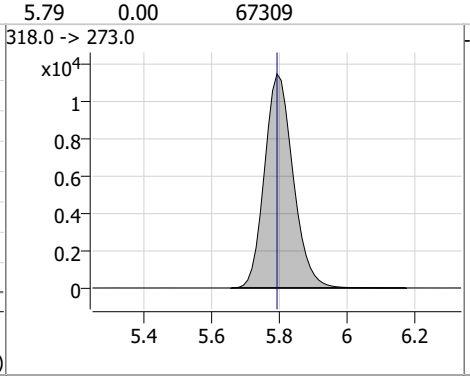


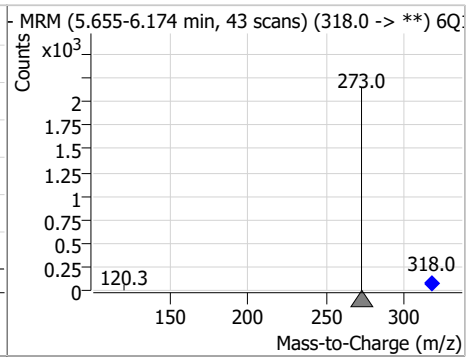




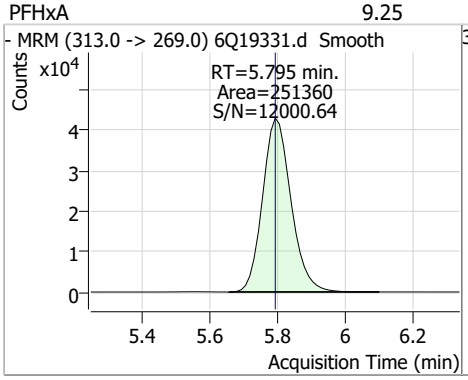
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.48	5.79	0.00	67309				

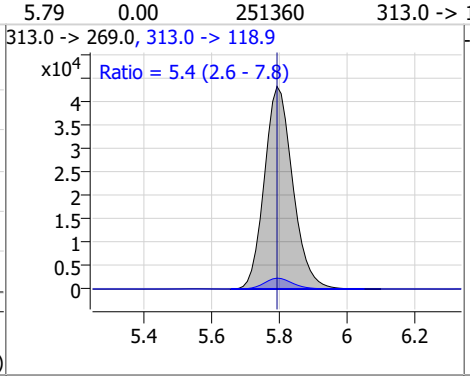


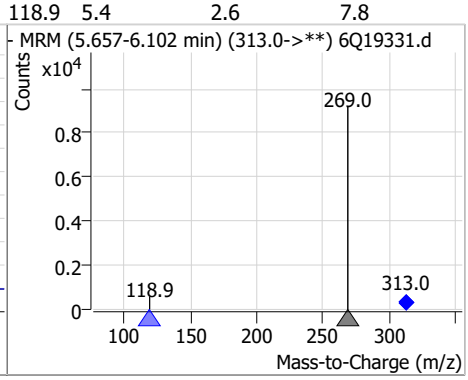




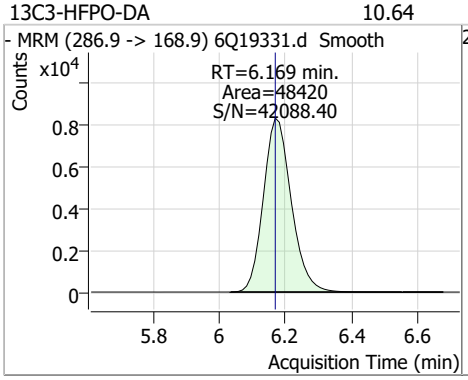
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	9.25	5.79	0.00	251360	313.0 -> 118.9	5.4	2.6	7.8

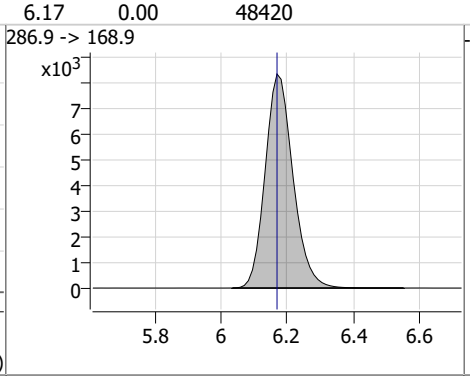


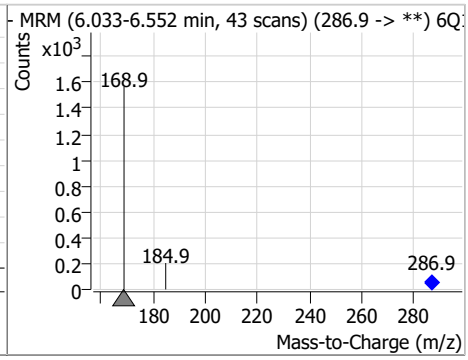




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.64	6.17	0.00	48420				

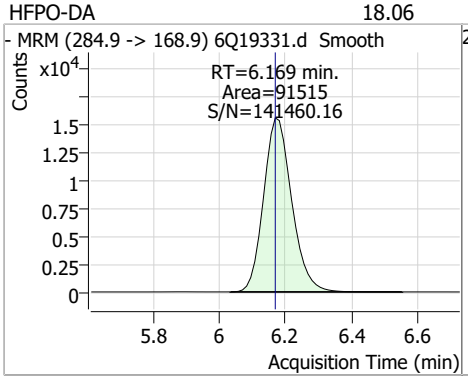


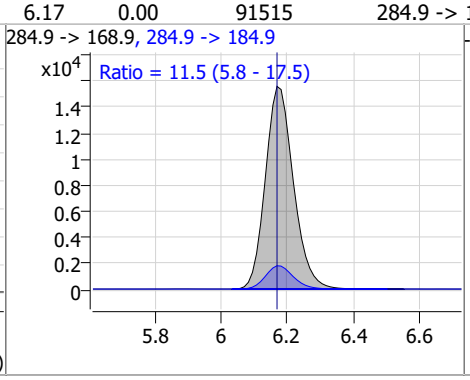


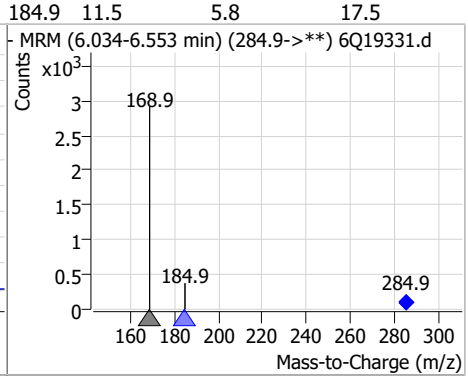


Perfluorinated Compounds by LC/MS/MS

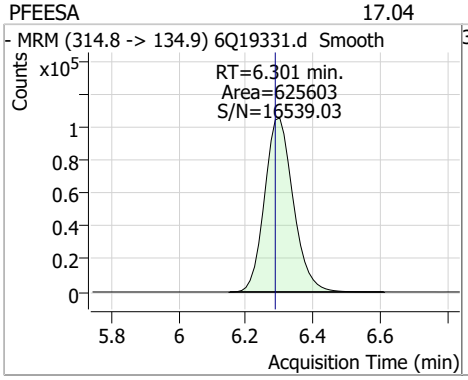
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	18.06	6.17	0.00	91515	284.9 -> 184.9	11.5	5.8	17.5

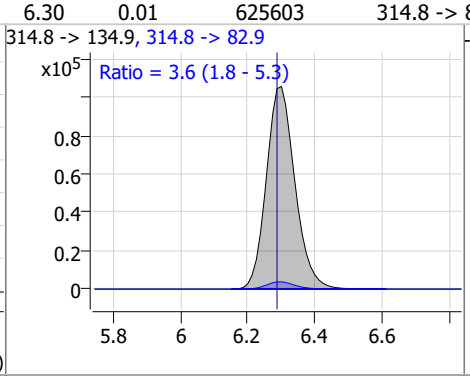


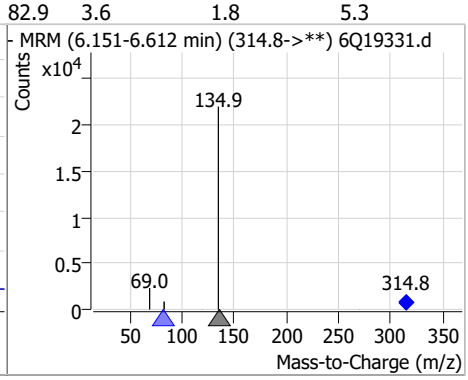




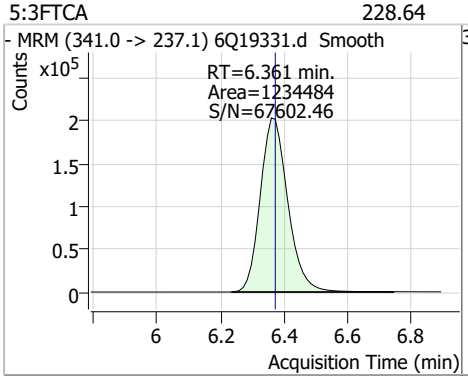
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	17.04	6.30	0.01	625603	314.8 -> 82.9	3.6	1.8	5.3

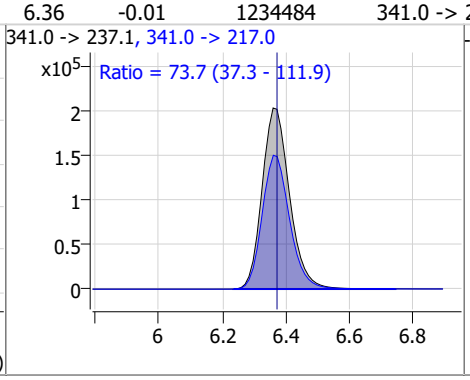


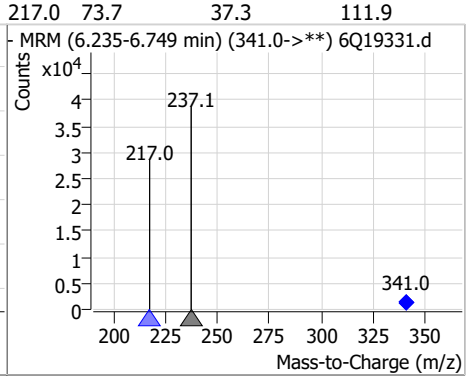




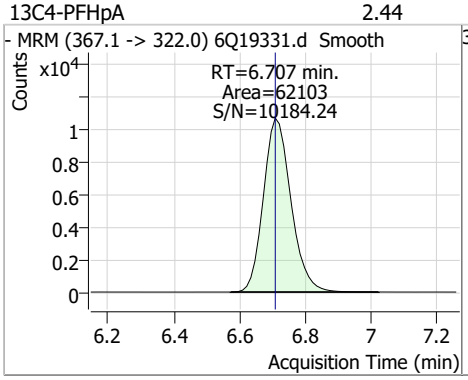
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	228.64	6.36	-0.01	1234484	341.0 -> 217.0	73.7	37.3	111.9

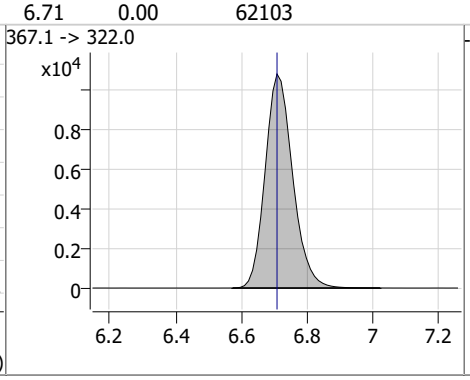


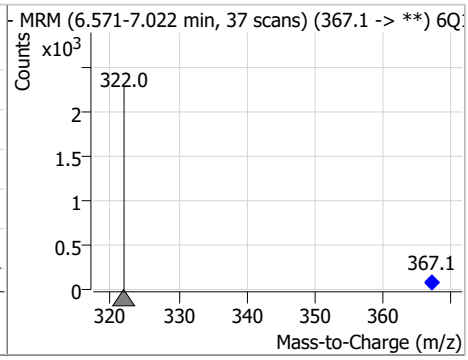




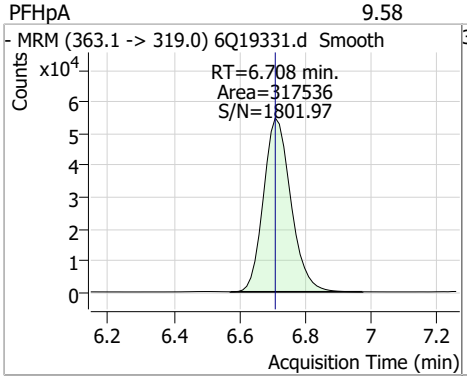
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.44	6.71	0.00	62103				

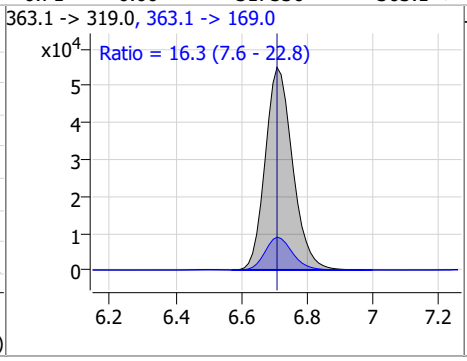


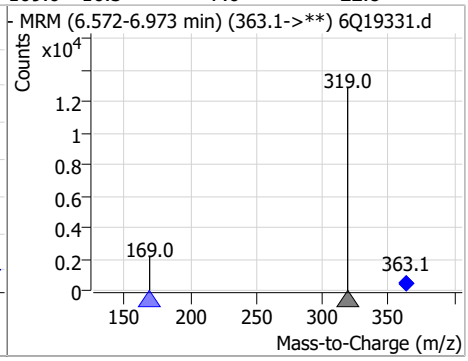




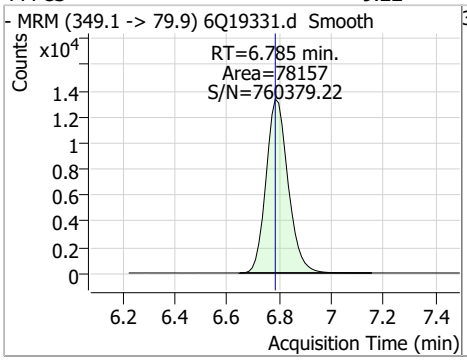
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	9.58	6.71	0.00	317536	363.1 -> 169.0	16.3	7.6	22.8

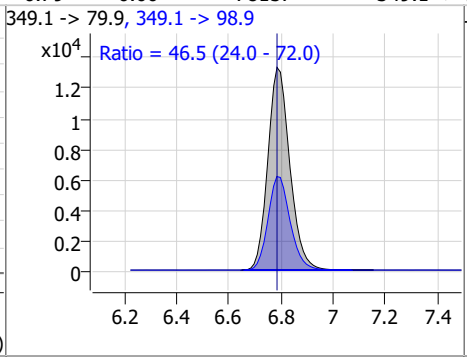


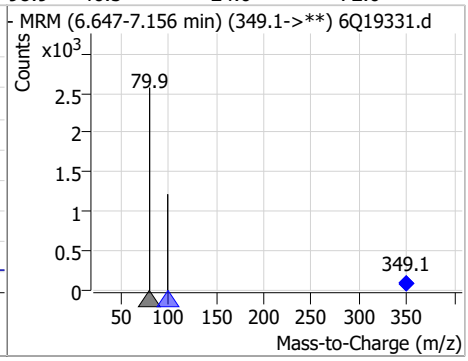




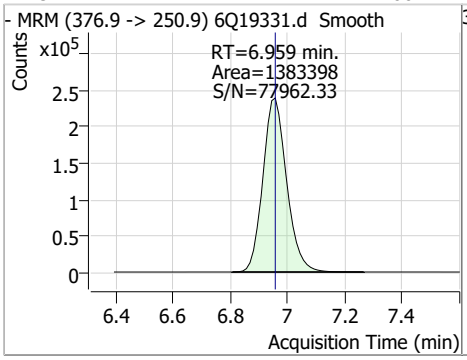
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	9.22	6.79	0.00	78157	349.1 -> 98.9	46.5	24.0	72.0

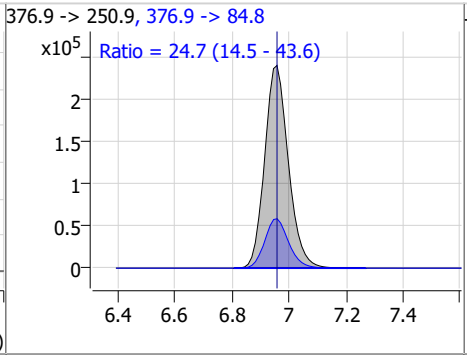


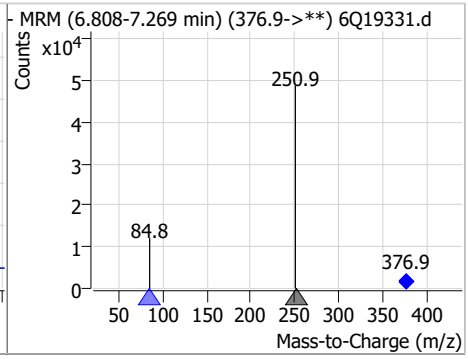




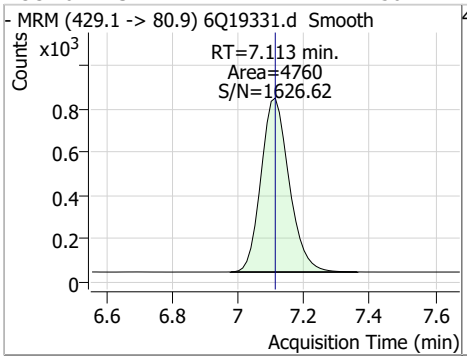
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	17.66	6.96	0.00	1383398	376.9 -> 84.8	24.7	14.5	43.6

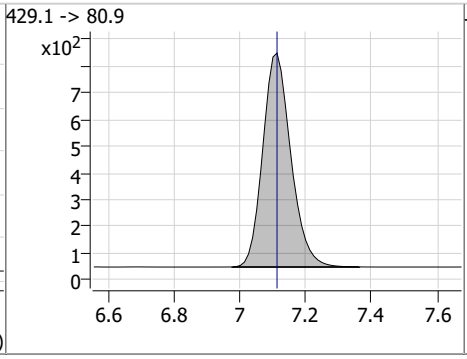


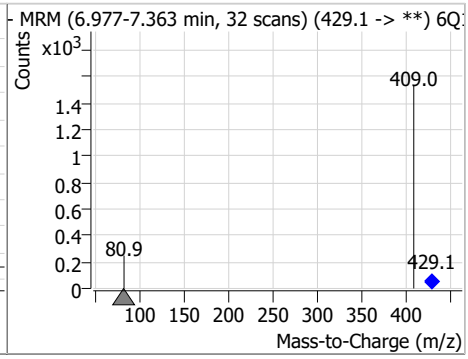




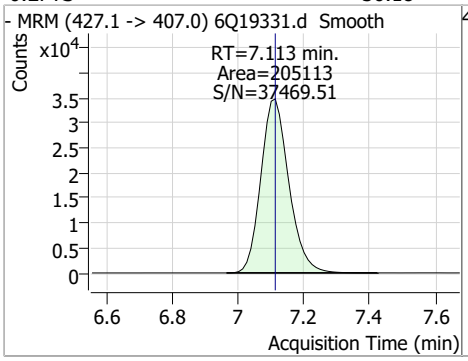
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.56	7.11	0.00	4760				

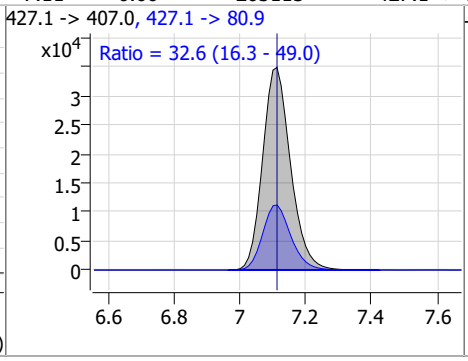


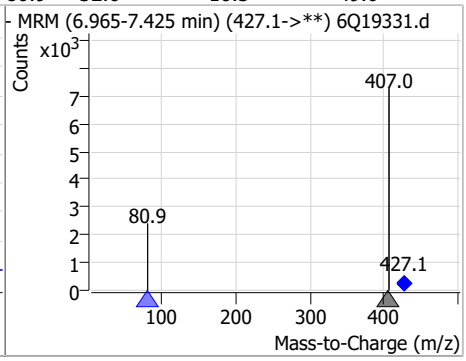




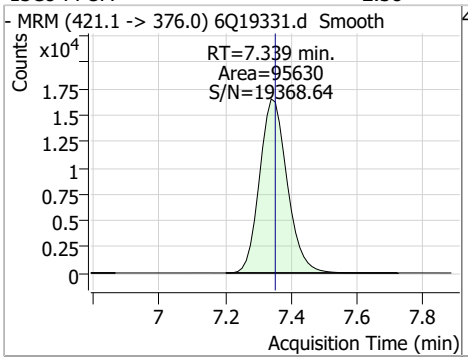
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	36.18	7.11	0.00	205113	427.1 -> 80.9	32.6	16.3	49.0

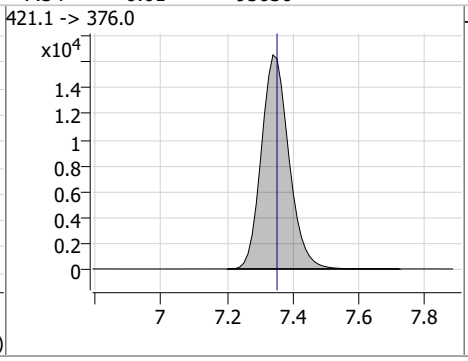


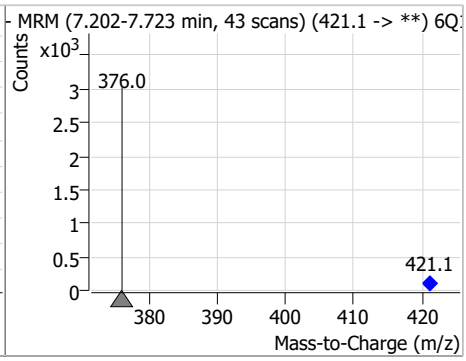




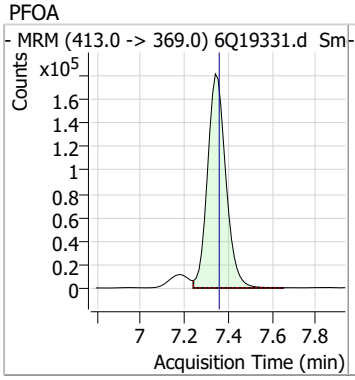
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.38	7.34	-0.01	95630				

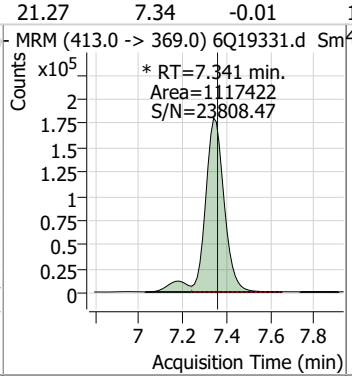


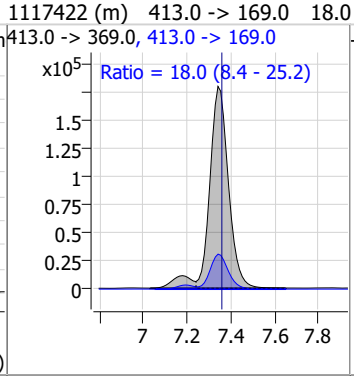


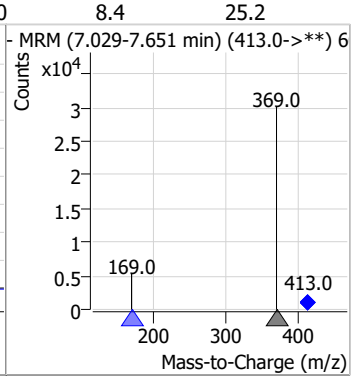


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	21.27	7.34	-0.01	1117422 (m)	413.0 -> 169.0	18.0	8.4	25.2

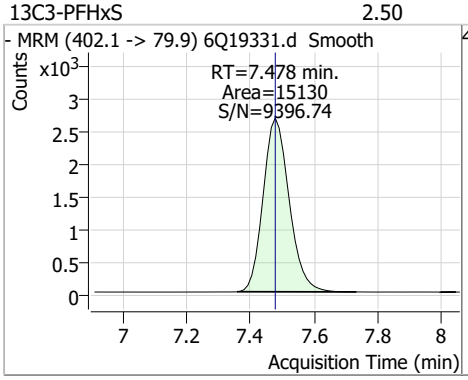


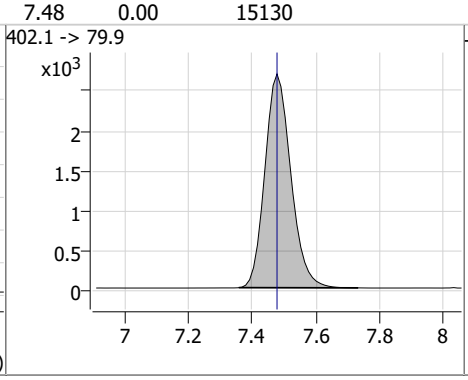


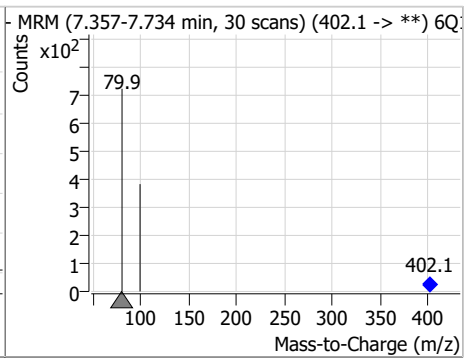




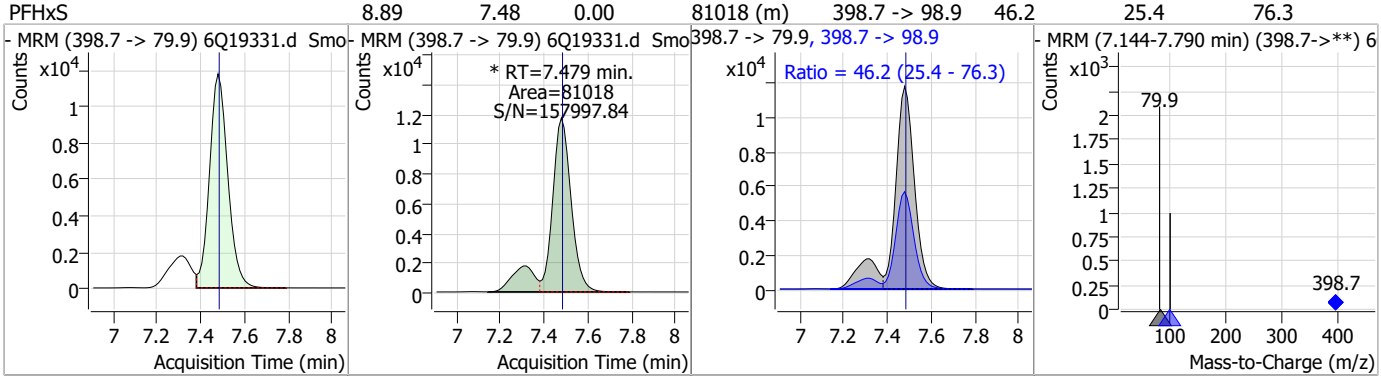
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.50	7.48	0.00	15130				



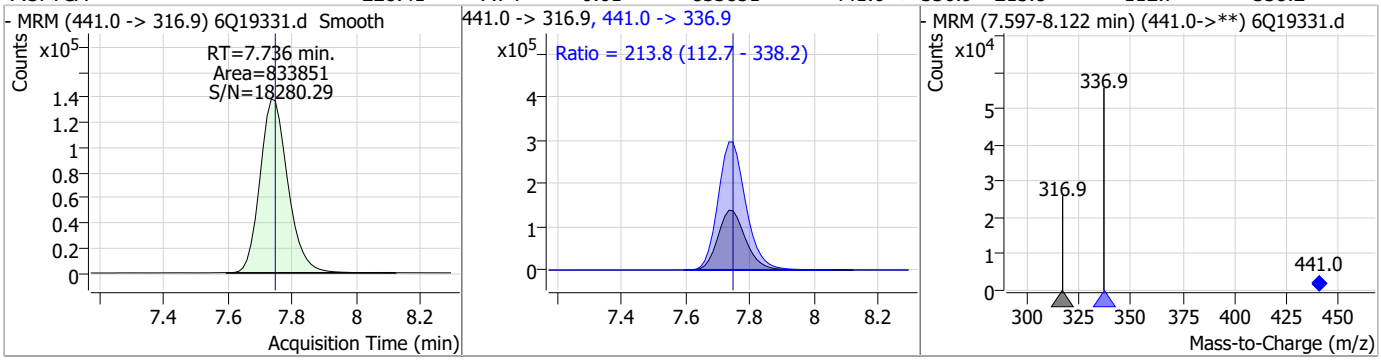




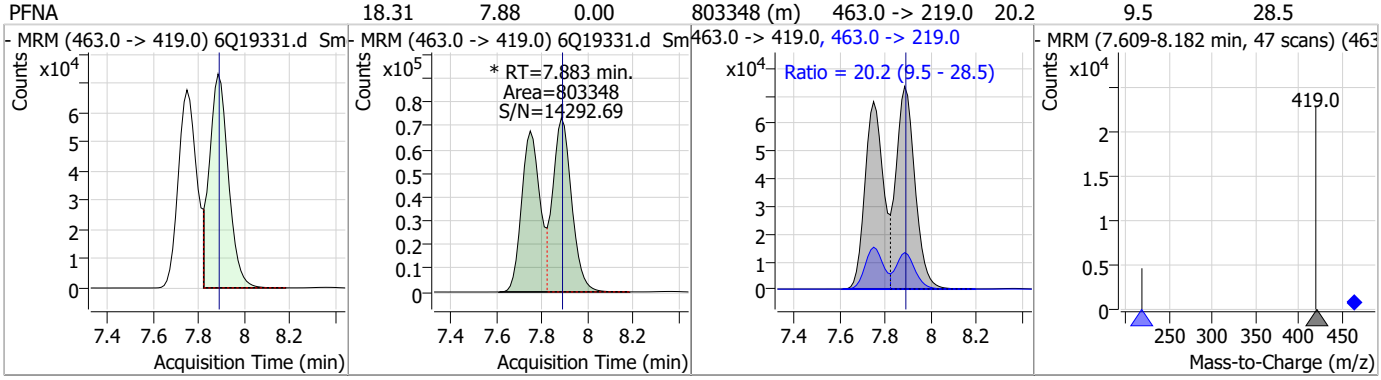
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	8.89	7.48	0.00	81018 (m)	398.7 -> 98.9	46.2	25.4	76.3



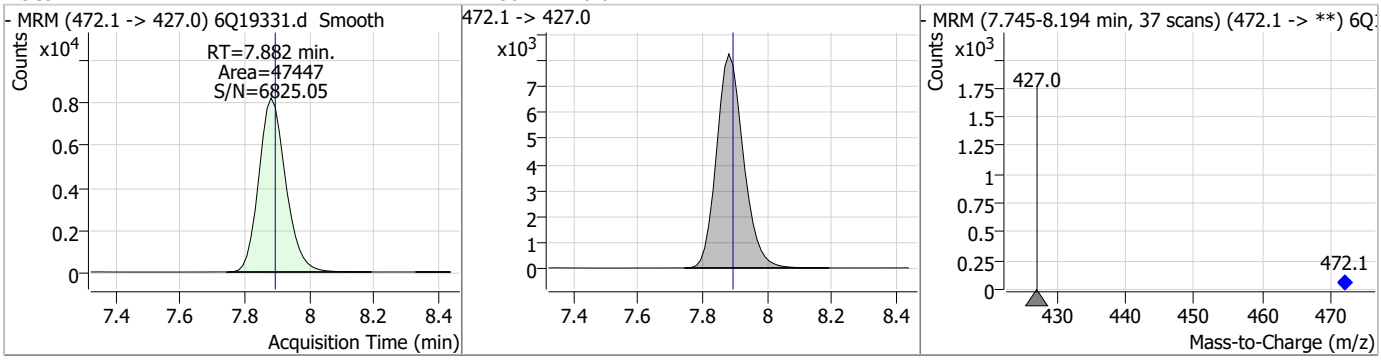
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	228.41	7.74	-0.01	833851	441.0 -> 336.9	213.8	112.7	338.2



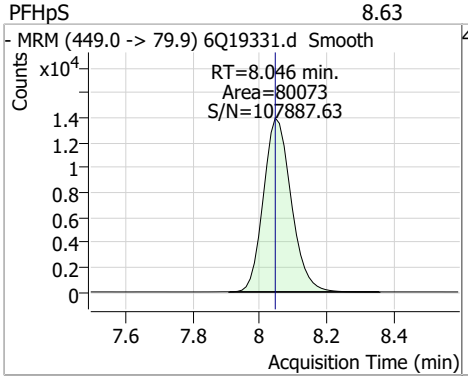
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	18.31	7.88	0.00	803348 (m)	463.0 -> 219.0	20.2	9.5	28.5

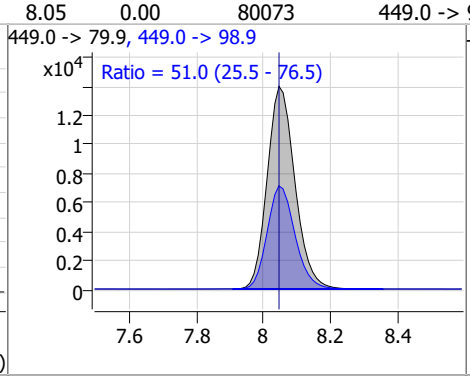


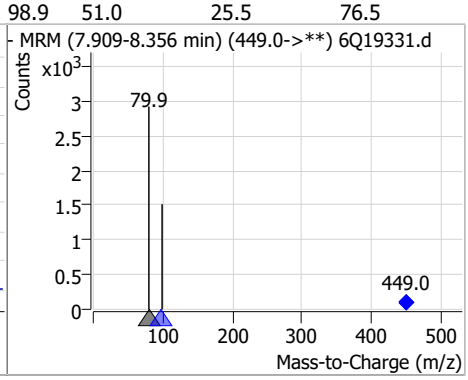
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.41	7.88	-0.01	47447				



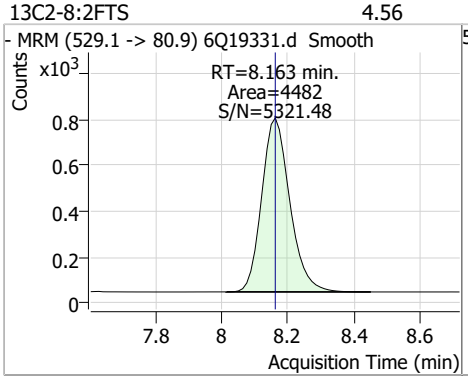
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	8.63	8.05	0.00	80073	449.0 -> 98.9	51.0	25.5	76.5

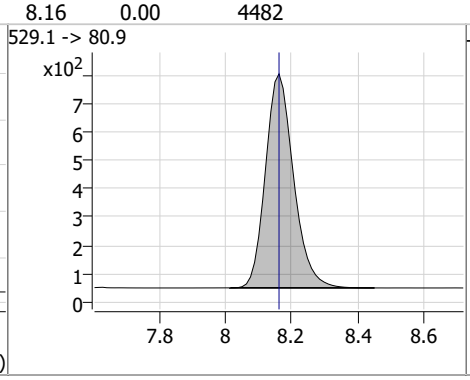


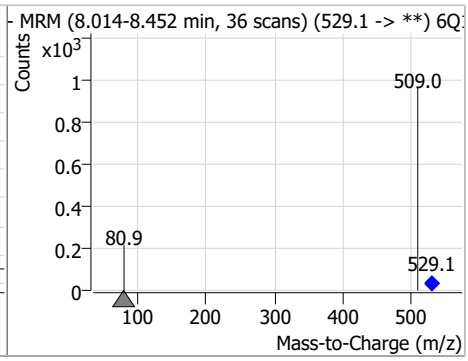




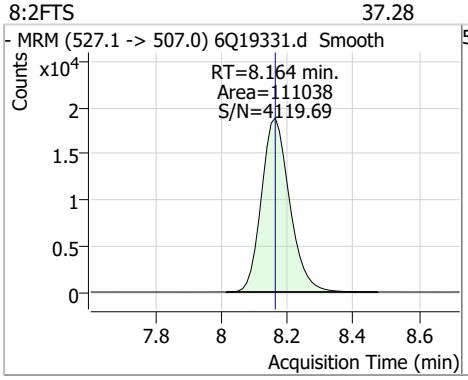
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.56	8.16	0.00	4482				

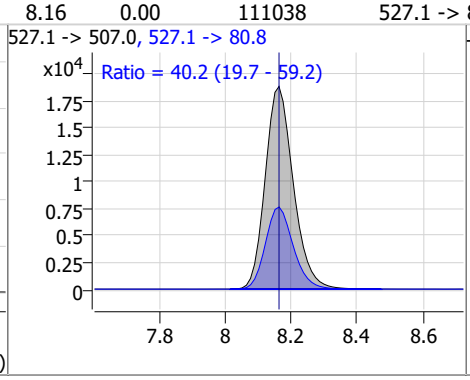


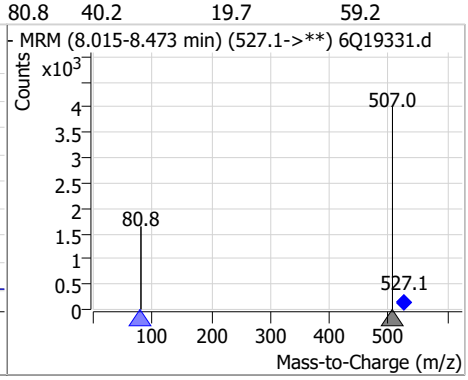




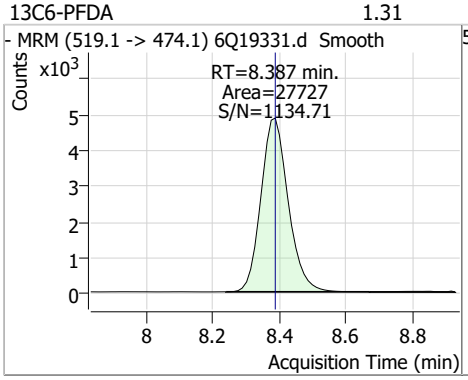
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	37.28	8.16	0.00	111038	527.1 -> 80.8	40.2	19.7	59.2

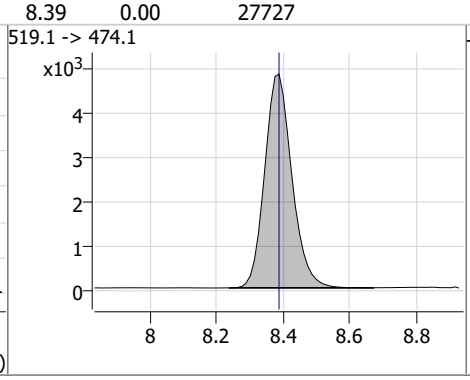


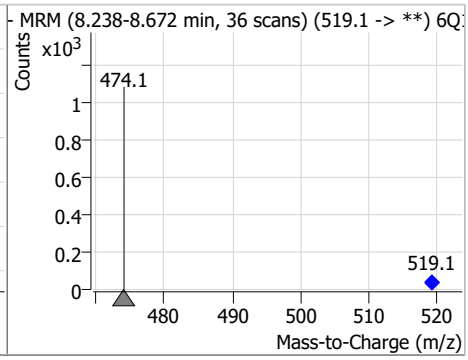




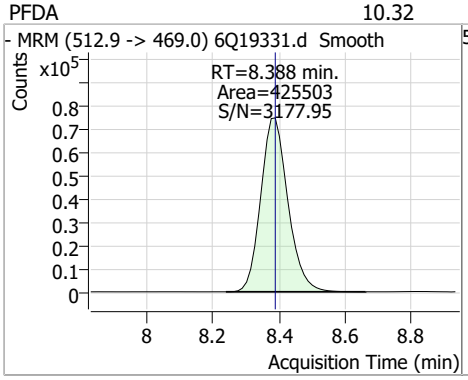
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.31	8.39	0.00	27727				

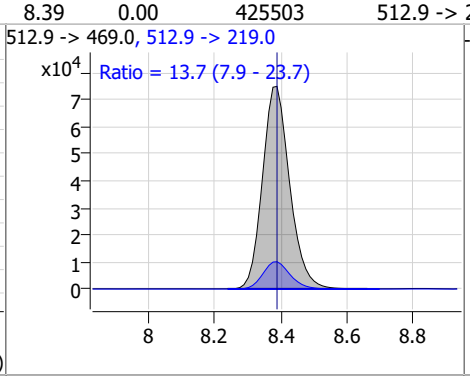


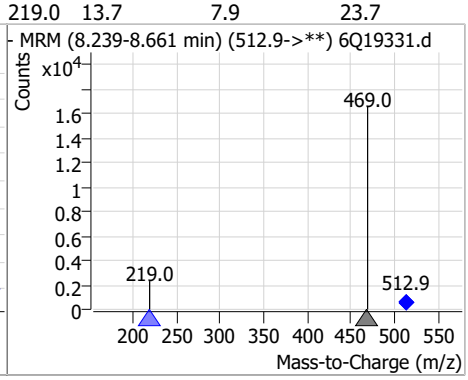




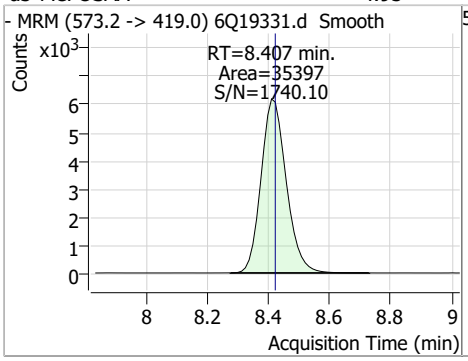
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	10.32	8.39	0.00	425503	512.9 -> 219.0	13.7	7.9	23.7

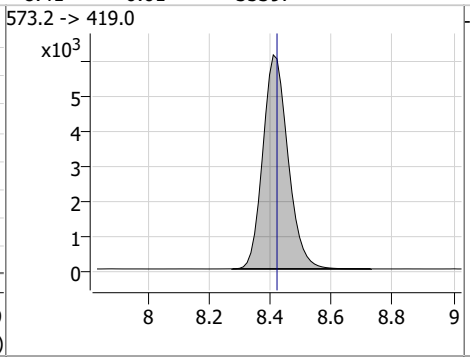


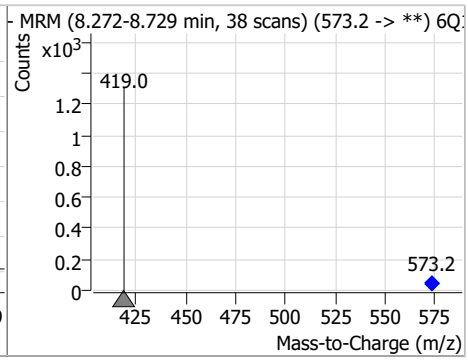




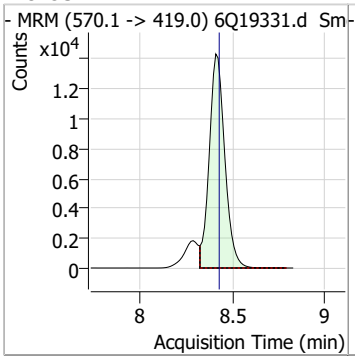
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.93	8.41	-0.01	35397				

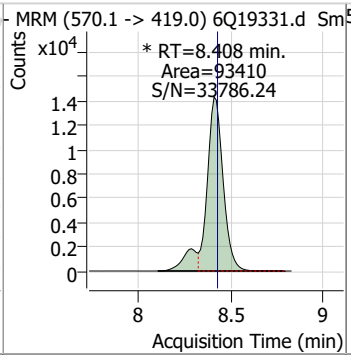


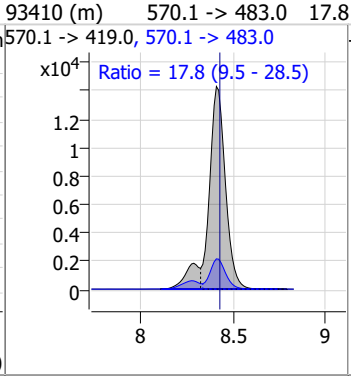


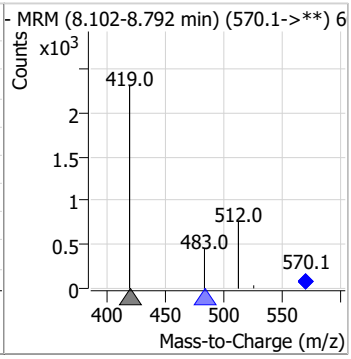


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	10.18	8.41	-0.01	93410 (m)	570.1 -> 483.0	17.8	9.5	28.5

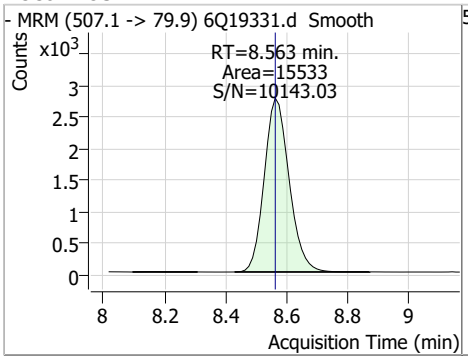


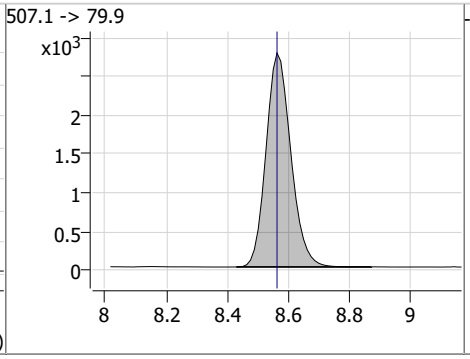


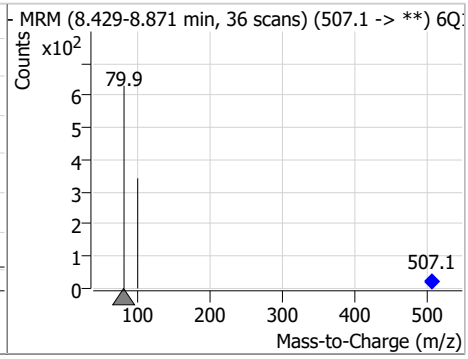




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.71	8.56	0.00	15533				

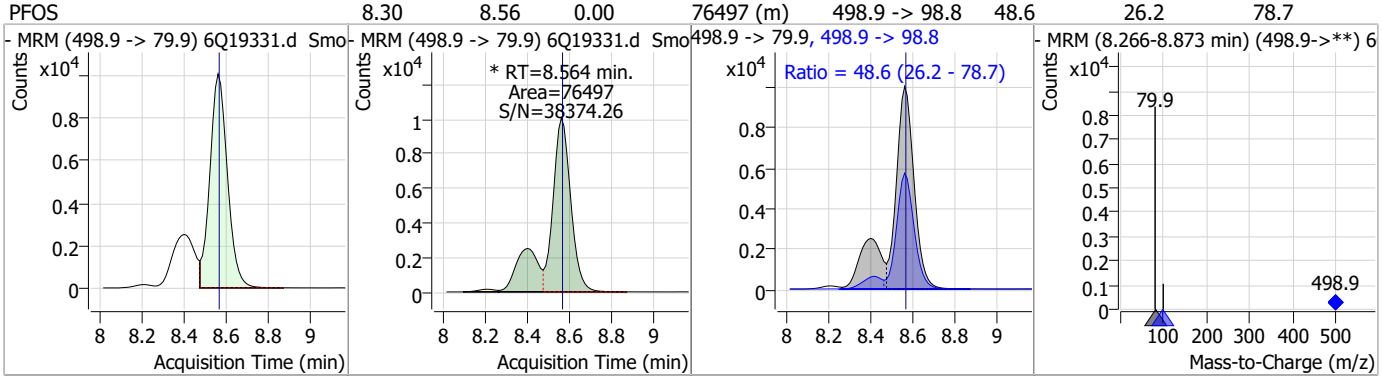




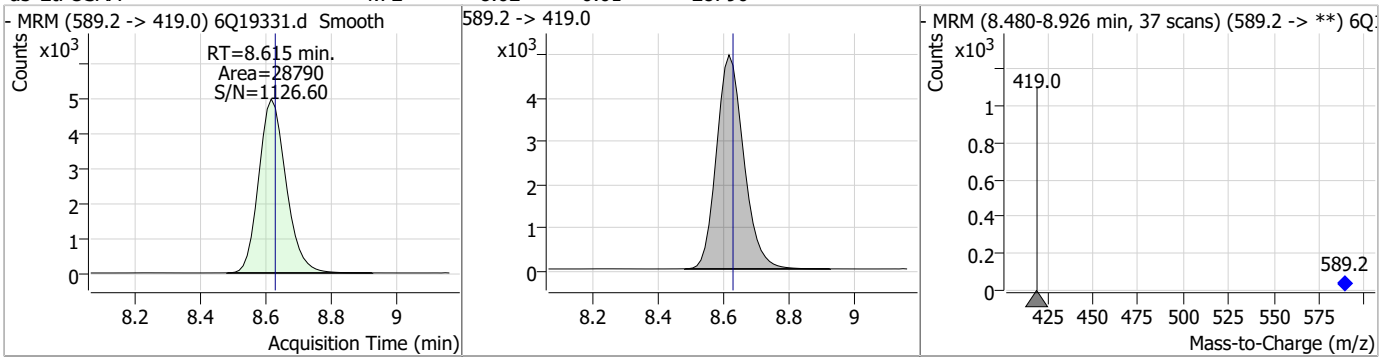


Perfluorinated Compounds by LC/MS/MS

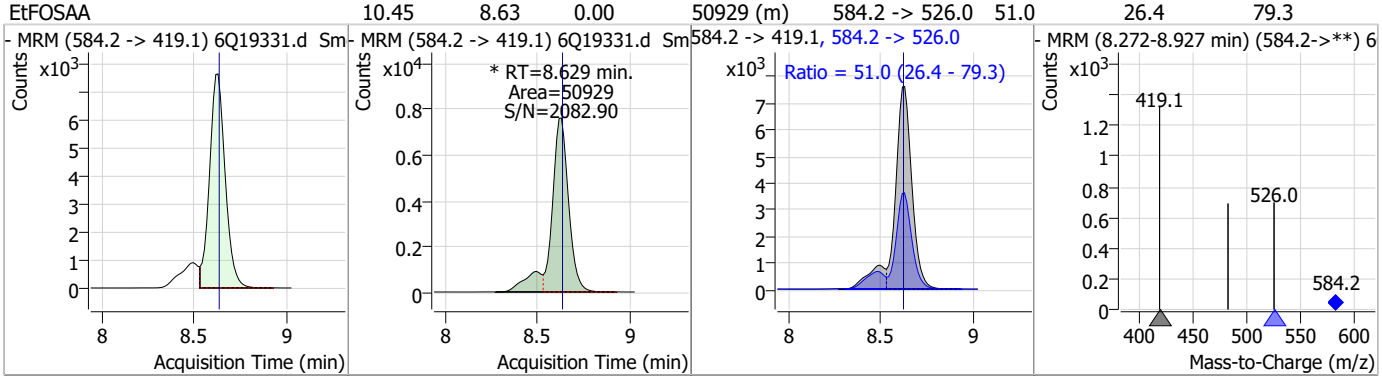
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	8.30	8.56	0.00	76497 (m)	498.9 -> 98.8	48.6	26.2	78.7



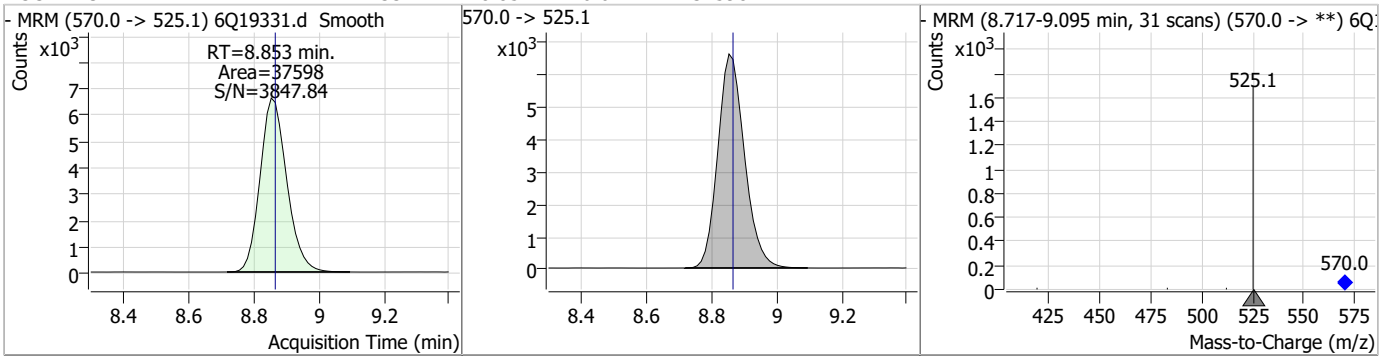
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.72	8.62	-0.01	28790				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	10.45	8.63	0.00	50929 (m)	584.2 -> 526.0	51.0	26.4	79.3

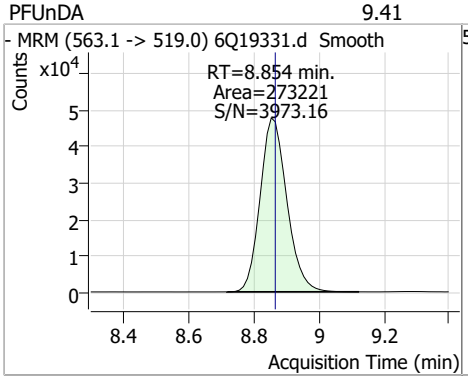


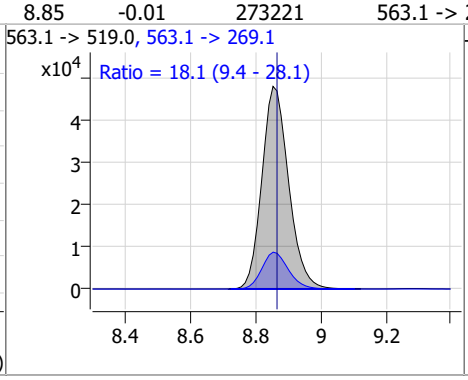
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.33	8.85	-0.01	37598				

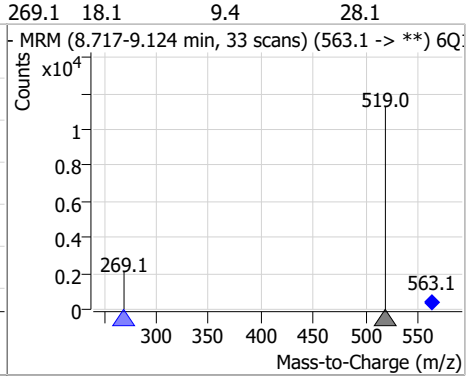


Perfluorinated Compounds by LC/MS/MS

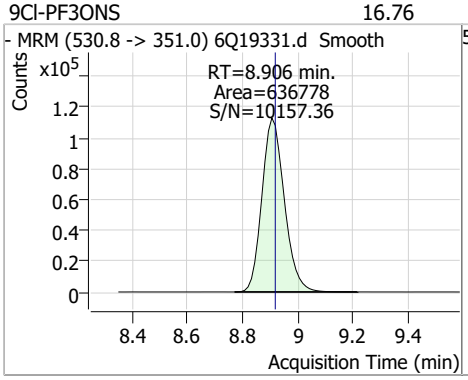
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	9.41	8.85	-0.01	273221	563.1 -> 269.1	18.1	9.4	28.1

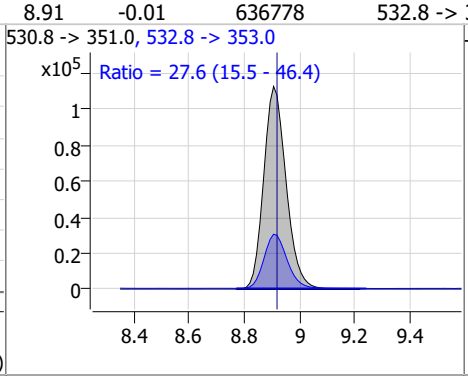


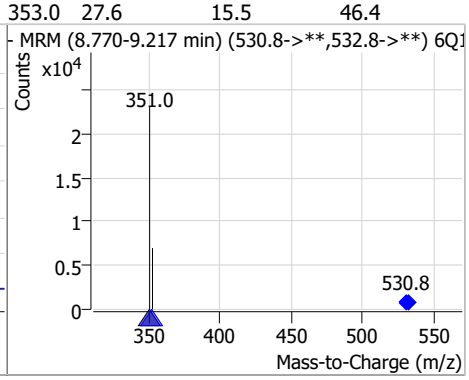




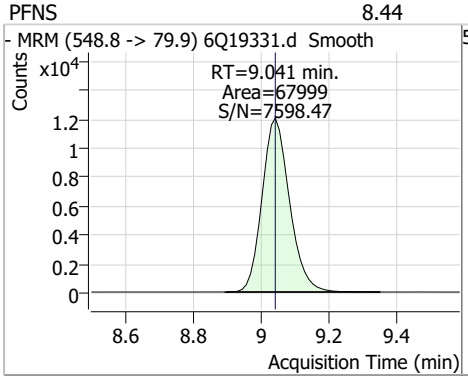
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	16.76	8.91	-0.01	636778	532.8 -> 353.0	27.6	15.5	46.4

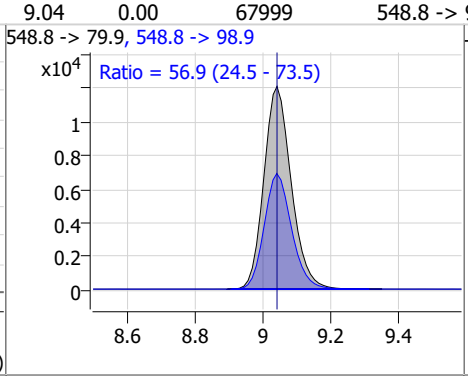


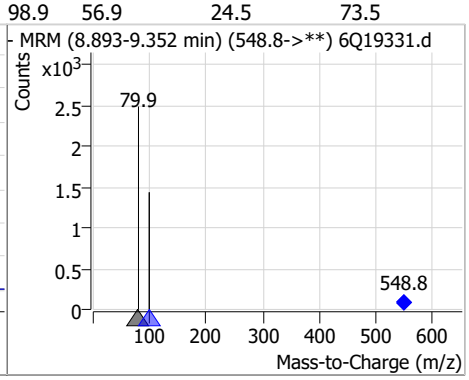




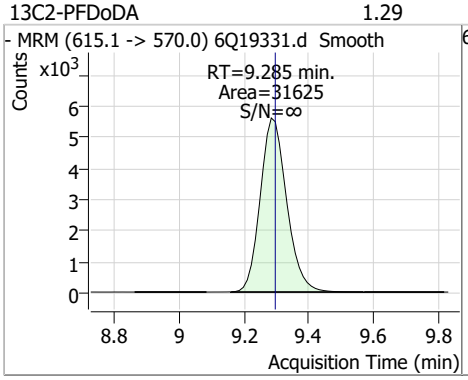
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	8.44	9.04	0.00	67999	548.8 -> 98.9	56.9	24.5	73.5

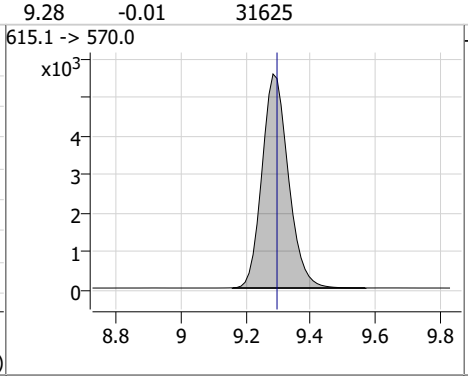


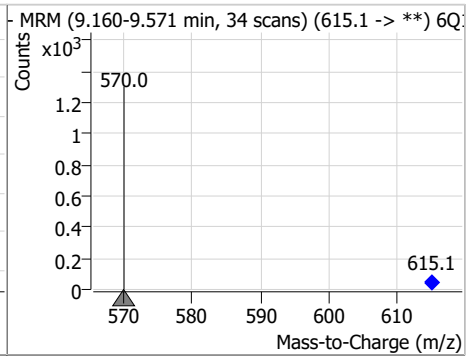




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.29	9.28	-0.01	31625				

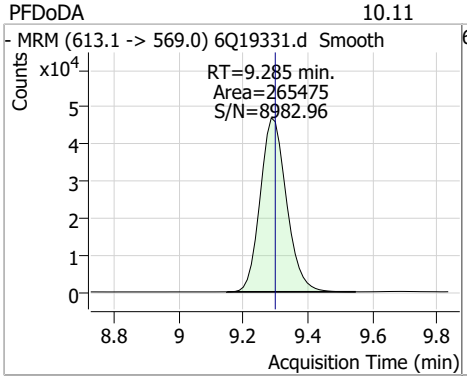


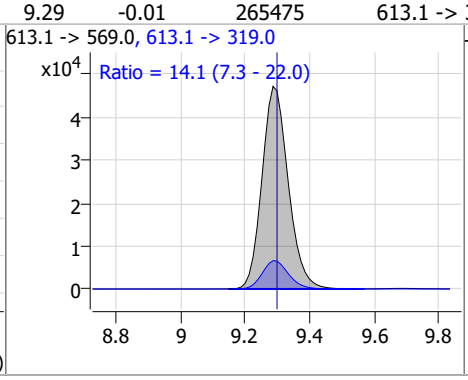


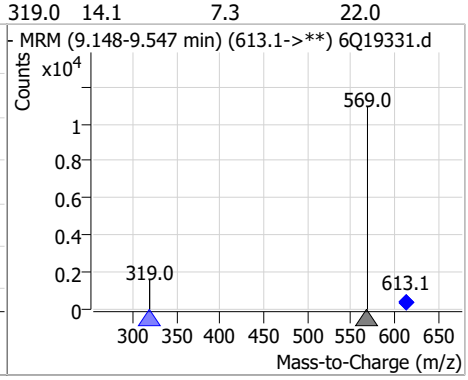


Perfluorinated Compounds by LC/MS/MS

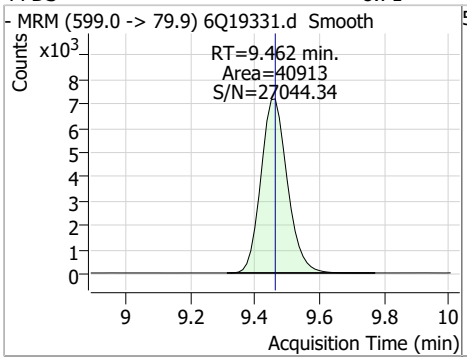
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	10.11	9.29	-0.01	265475	613.1 -> 319.0	14.1	7.3	22.0

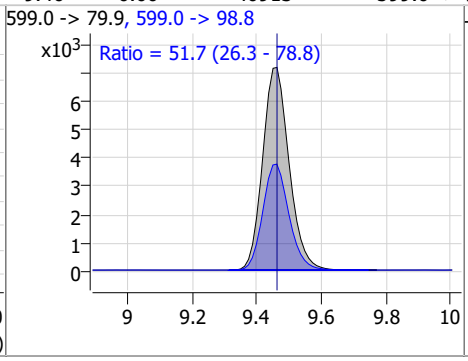


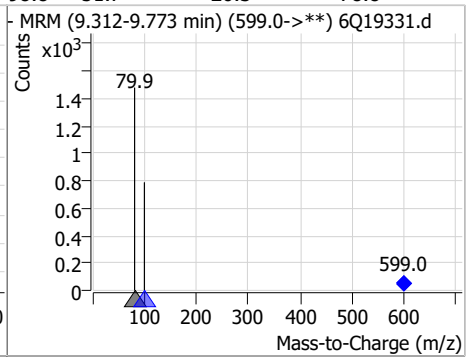




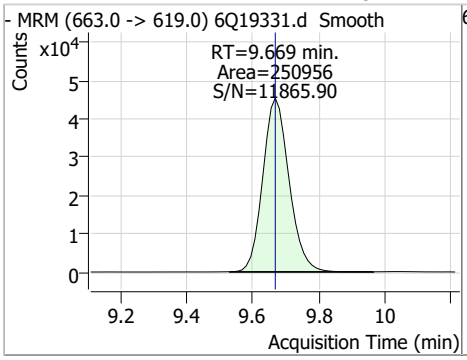
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	8.71	9.46	0.00	40913	599.0 -> 98.8	51.7	26.3	78.8

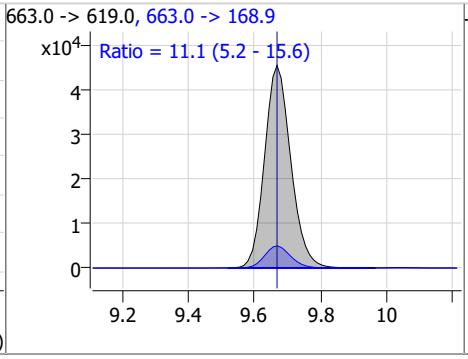


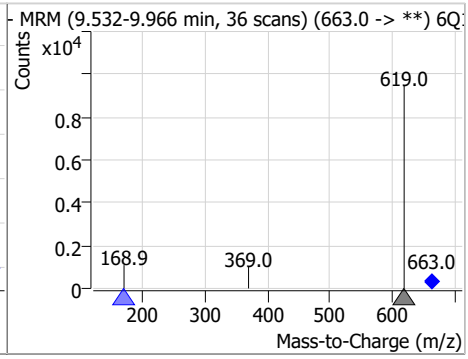




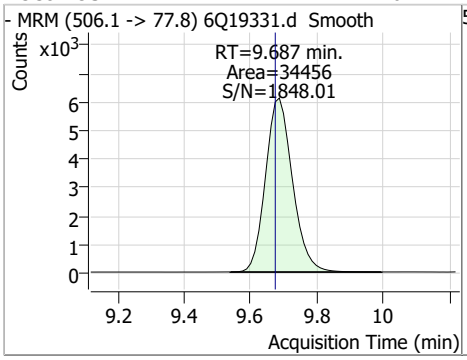
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	9.41	9.67	0.00	250956	663.0 -> 168.9	11.1	5.2	15.6

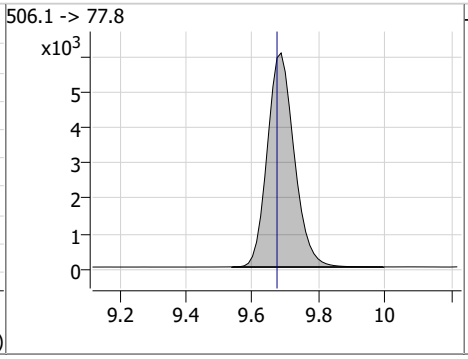


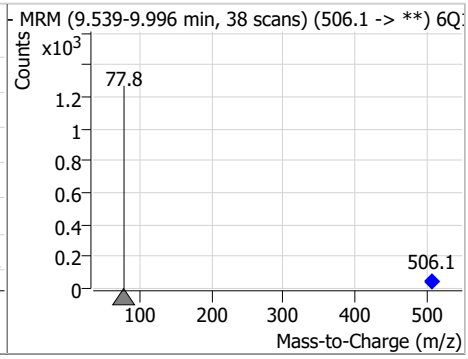




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.40	9.69	0.01	34456				

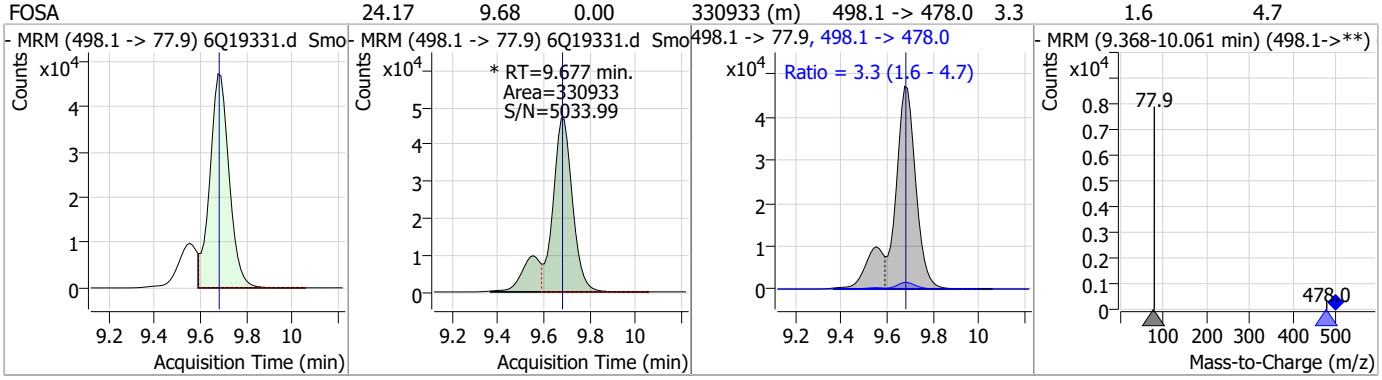




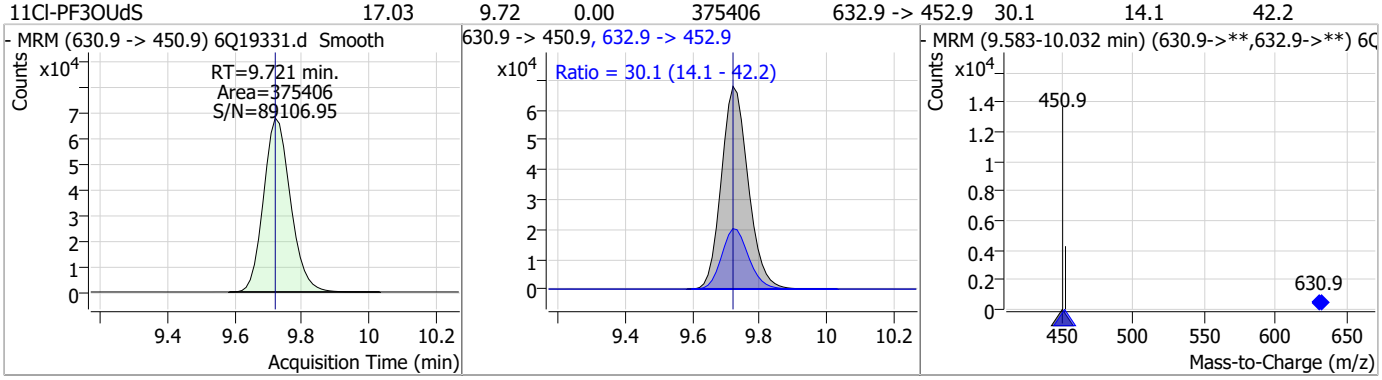


Perfluorinated Compounds by LC/MS/MS

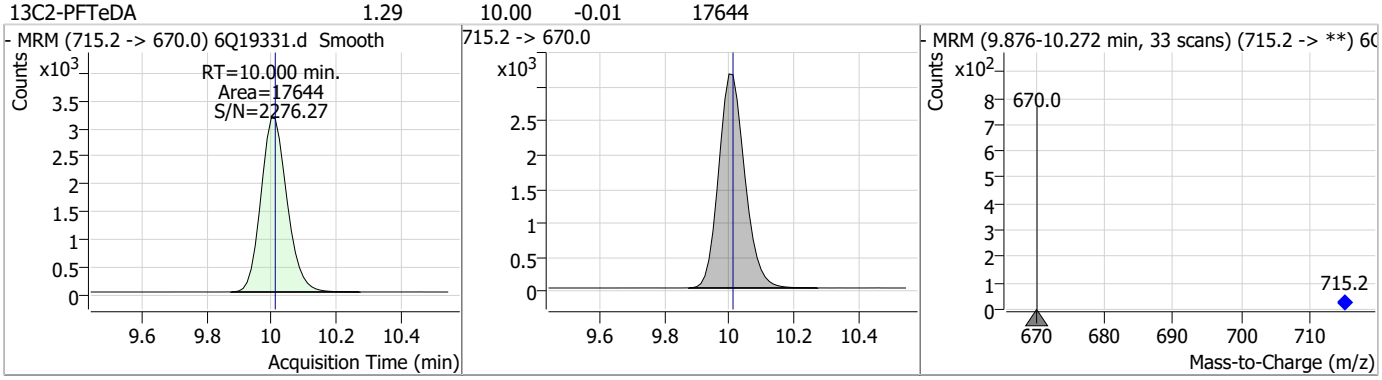
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	24.17	9.68	0.00	330933 (m)	498.1 -> 478.0	3.3	1.6	4.7



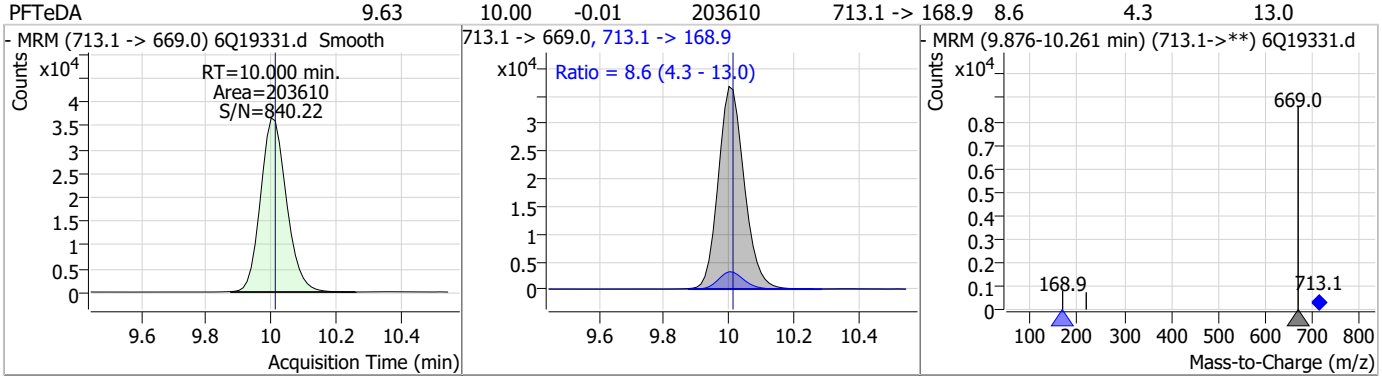
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	17.03	9.72	0.00	375406	632.9 -> 452.9	30.1	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.29	10.00	-0.01	17644				

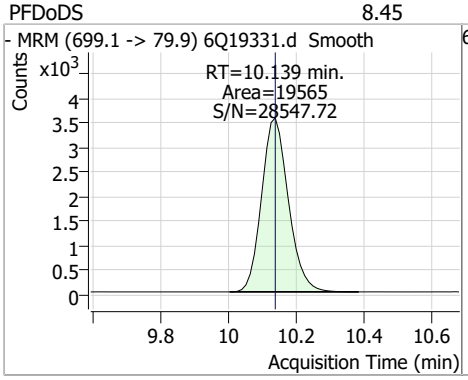


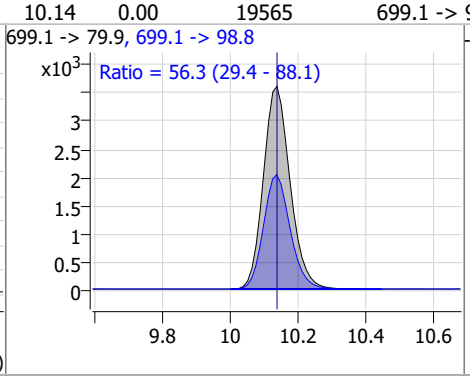
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	9.63	10.00	-0.01	203610	713.1 -> 168.9	8.6	4.3	13.0

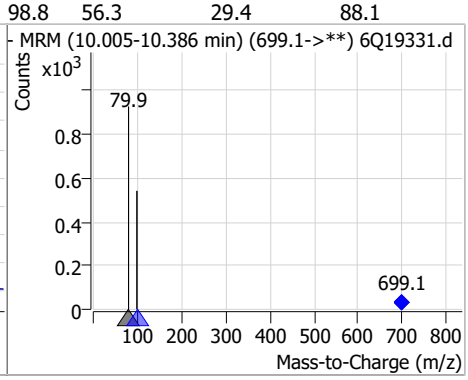


Perfluorinated Compounds by LC/MS/MS

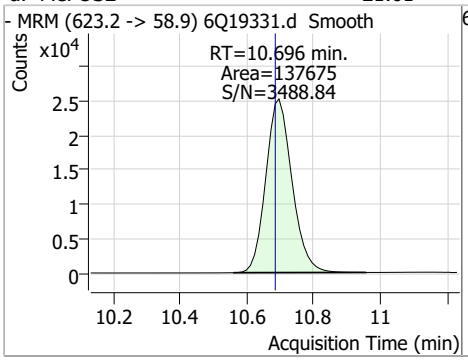
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	8.45	10.14	0.00	19565	699.1 -> 98.8	56.3	29.4	88.1

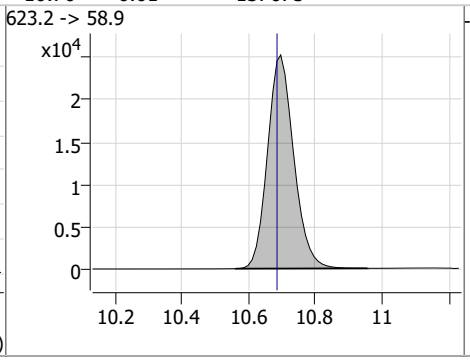


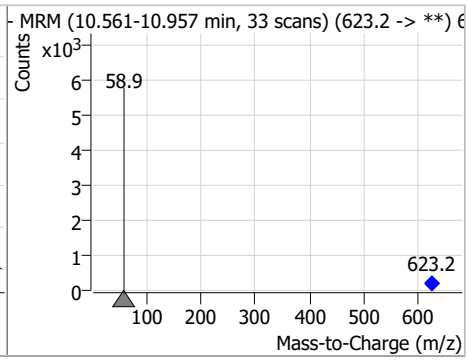




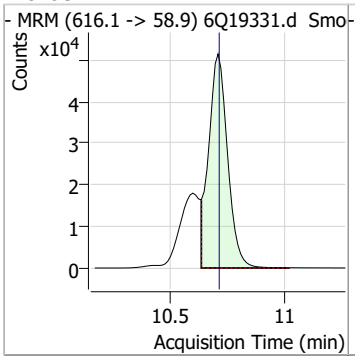
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	21.61	10.70	0.01	137675				

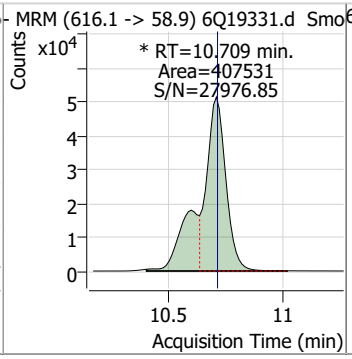


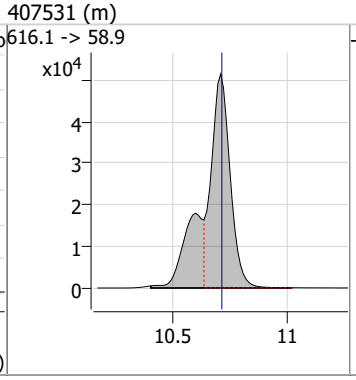


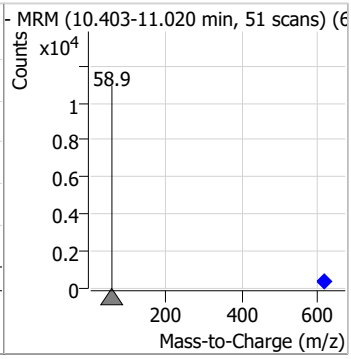


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	68.30	10.71	0.00	407531 (m)				

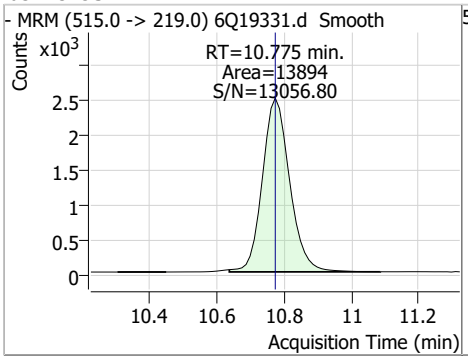


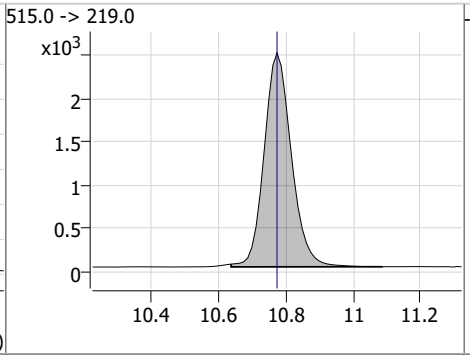


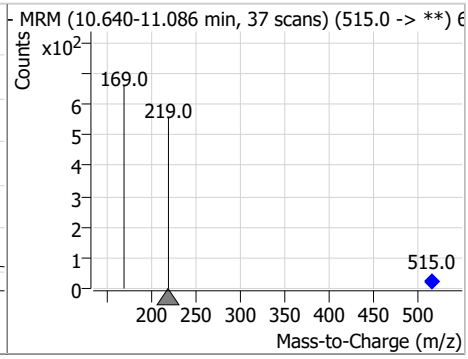




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.22	10.78	0.00	13894				

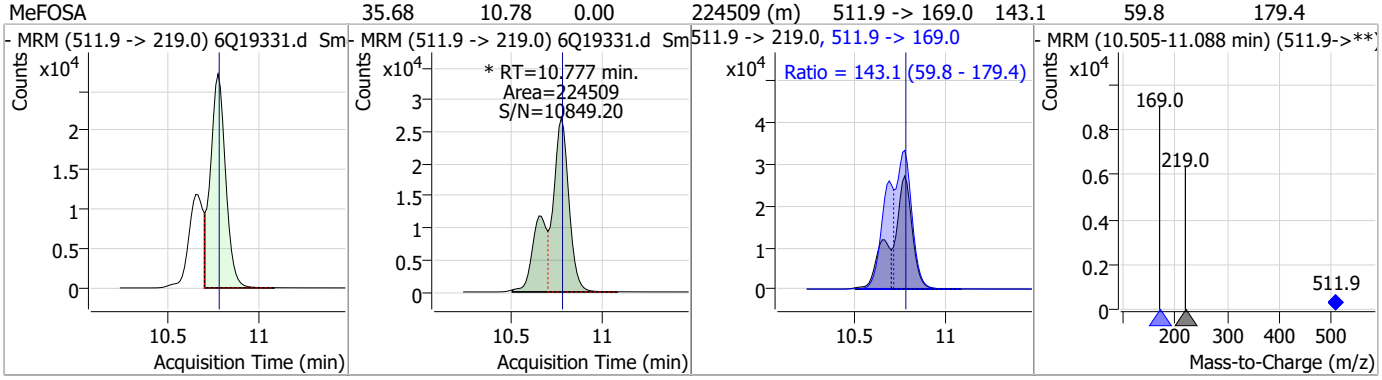




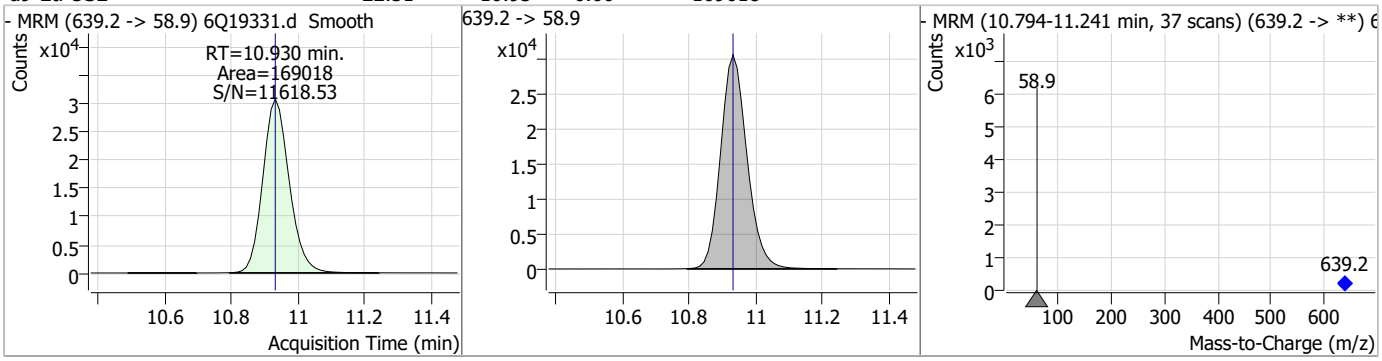


Perfluorinated Compounds by LC/MS/MS

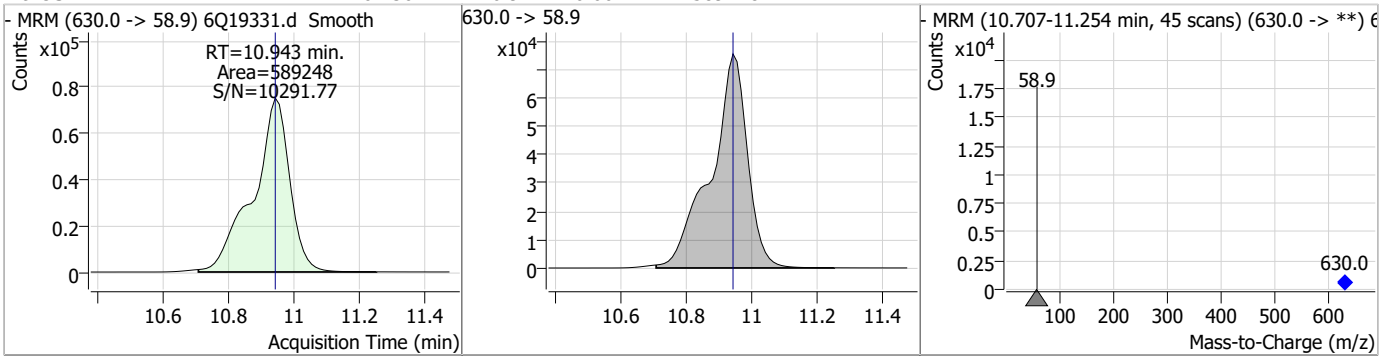
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	35.68	10.78	0.00	224509 (m)	511.9 -> 169.0	143.1	59.8	179.4



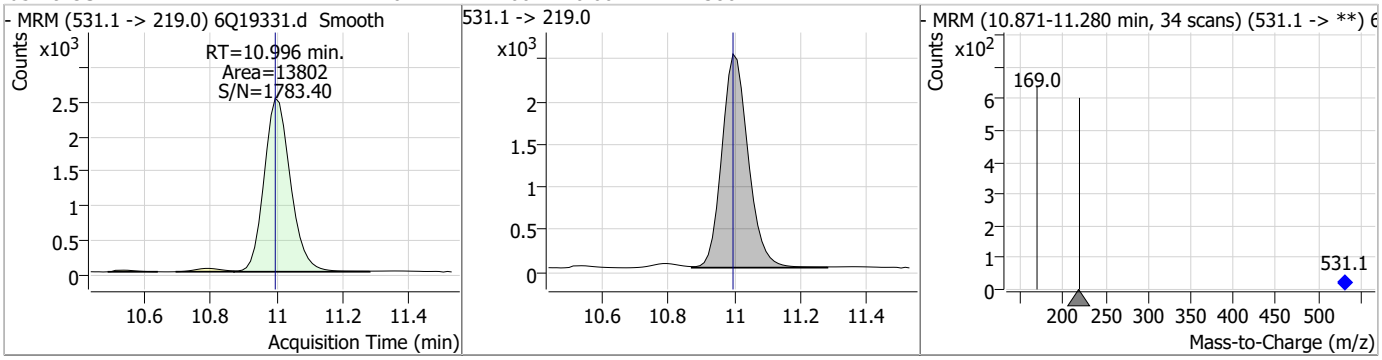
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.51	10.93	0.00	169018				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	67.36	10.94	0.00	589248				

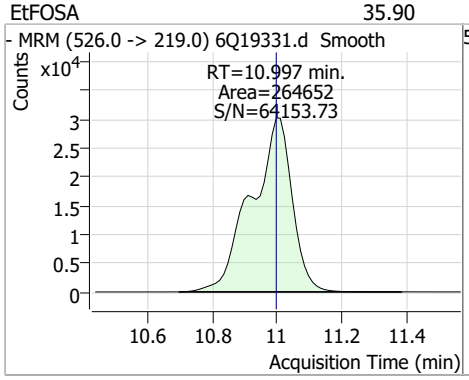


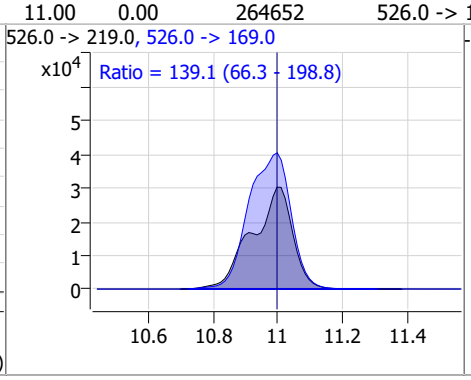
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.26	11.00	0.00	13802				

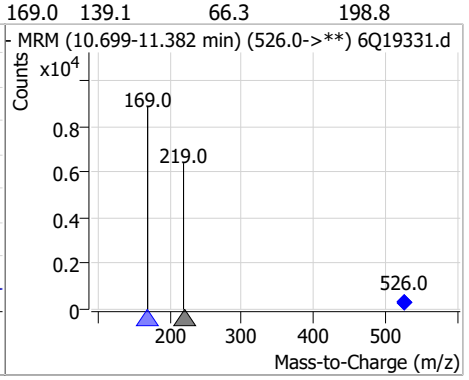


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	35.90	11.00	0.00	264652	526.0 -> 169.0	139.1	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q289-RT
Lab FileID: 6Q19331.D
Injection Time: 06/14/23 10:56
Method: EPA DRAFT 1633
Analyst approved: 06/15/23 10:05 Martha Valls
Supervisor approved: 06/15/23 10:54 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.34	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
Perfluorononanoic acid	375-95-1		7.88	Split peak
MeFOSAA	2355-31-9		8.41	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
PFOSA	754-91-6		9.68	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/20/23 16:40

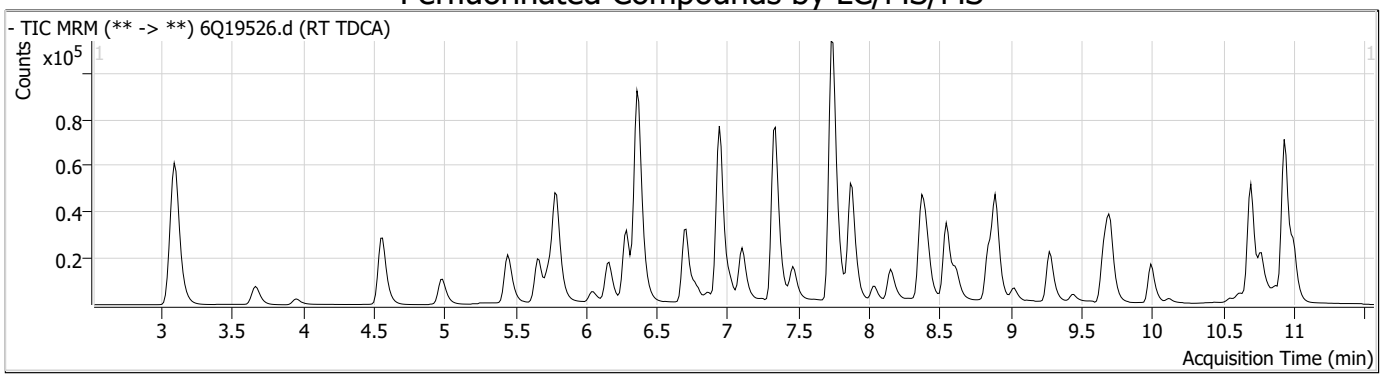
Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q19526.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	6/19/2023 1:28:29 PM
Sample Name	:	RT TDCA
Vial	:	P1-B3
DA Method File	:	TDCA.quantmethod.xml
Batch Name	:	s6q292 TDCA.batch.bin
Sample Information	:	OP97325,S6Q292,500,,,5.0,1,water

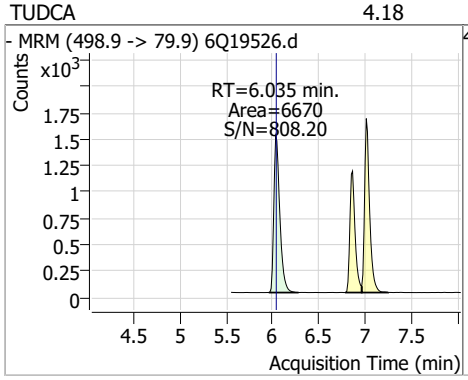
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Internal Standards							
M8-PFOS	8.550	507.1 -> 79.9	18006	2.50	µg/L		-0.020
13C4-PFOS	8.551	502.8 -> 79.9	24371	2.50	µg/L		-0.020
System Monitoring Compounds							
13C8-PFOS	8.550	507.1 -> 79.9	18006	1.87	µg/L		-0.020
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.0%			
Target Compounds							QValue
PFOS	8.552	498.9 -> 79.9	18890	3.07	µg/L	m	90
		498.9 -> 98.8	8907				
TCDCA	6.863	498.9 -> 79.9	4439	5.34	ng/ml		100
TDCA	7.012	498.9 -> 79.9	5975	7.94	ng/ml		100
TUDCA	6.035	498.9 -> 79.9	6670	4.18	ng/ml		100

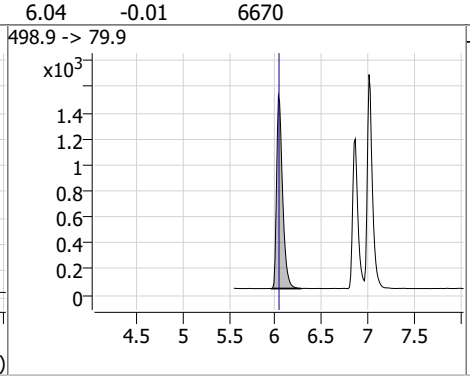
 # = Qualifier out of range, m = manually integrated, + = Area summed

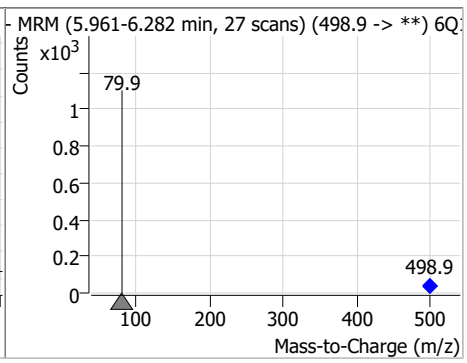
Perfluorinated Compounds by LC/MS/MS



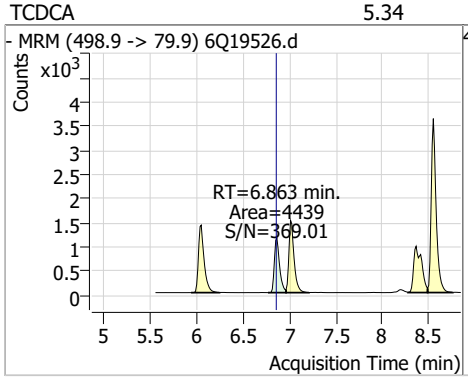
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TUDCA	4.18	6.04	-0.01	6670				

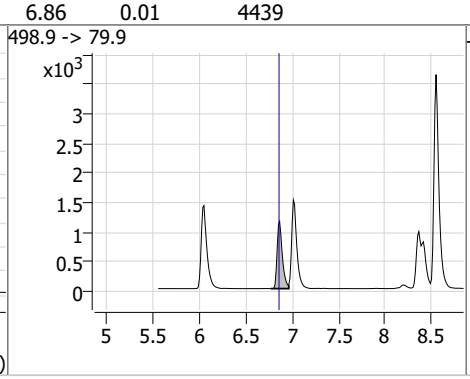


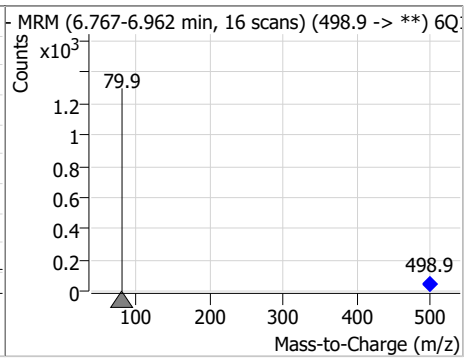




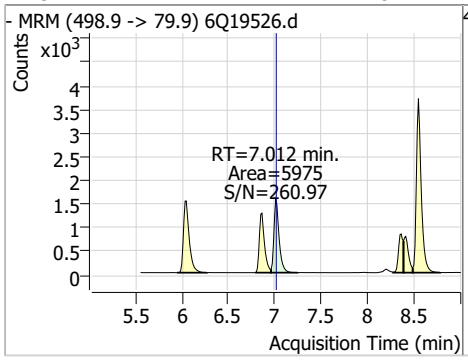
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TCDCA	5.34	6.86	0.01	4439				

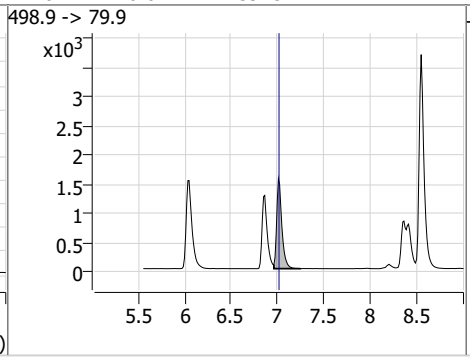


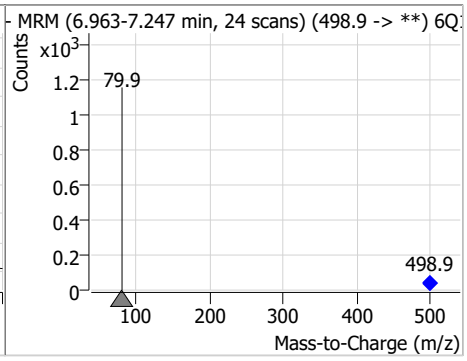




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TDCA	7.94	7.01	-0.01	5975				

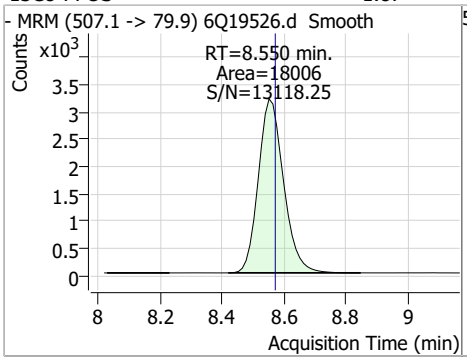


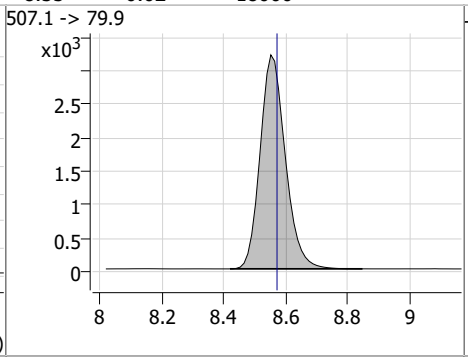


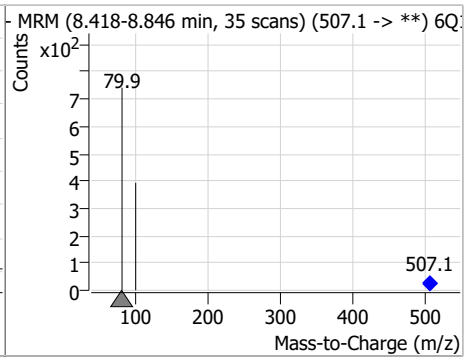


Perfluorinated Compounds by LC/MS/MS

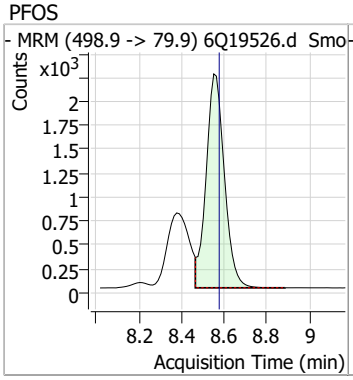
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.87	8.55	-0.02	18006				

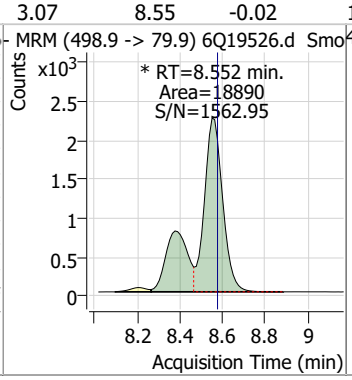


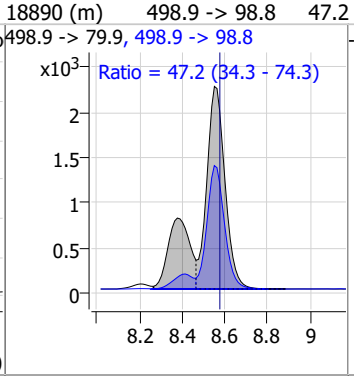


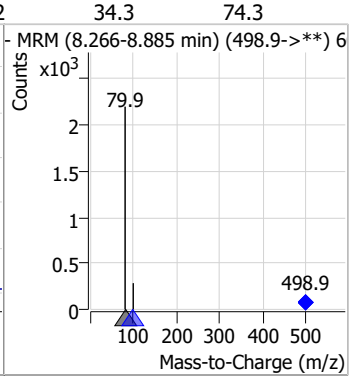


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	3.07	8.55	-0.02	18890 (m)	498.9 -> 98.8	47.2	34.3	74.3









Manual Integration Approval Summary

Sample Number:	S6Q292-RT	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19526.D	**Analyst approved:**	06/20/23 14:08 Martha Valls
Injection Time:	06/19/23 13:28	**Supervisor approved:**	06/20/23 16:40 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.55	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/20/23 16:40

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19527.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/19/2023 1:42:27 PM
Sample Name : RT BR-LN
Vial : P1-B4
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	164585	10.00	µg/L	0.000
M5-PFPeA	4.548	268.3 -> 223.0	54571	5.00	µg/L	-0.012
M5-PFHxA	5.792	318.0 -> 273.0	60506	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	56435	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	87210	2.50	µg/L	-0.012
M9-PFNA	7.870	472.1 -> 427.0	43590	1.25	µg/L	-0.025
M6-PFDA	8.375	519.1 -> 474.1	26515	1.25	µg/L	-0.012
M7-PFUnDA	8.853	570.0 -> 525.1	34669	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	28560	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	17071	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	30874	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	22940	2.50	µg/L	0.000
M3-PFHxS	7.466	402.1 -> 79.9	14276	2.50	µg/L	-0.012
M8-PFOS	8.550	507.1 -> 79.9	13825	2.50	µg/L	-0.012
M2-4:2FTS	5.442	329.1 -> 80.9	2937	5.00	µg/L	0.000
M2-6:2FTS	7.100	429.1 -> 80.9	4316	5.00	µg/L	-0.012
M2-8:2FTS	8.150	529.1 -> 80.9	4048	5.00	µg/L	-0.012
M3-MeFOSAA	8.407	573.2 -> 419.0	30340	5.00	µg/L	-0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	41471	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	27821	5.00	µg/L	-0.012
M7-MeFOSE	10.696	623.2 -> 58.9	116285	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	152292	25.00	µg/L	0.000
M5-EtFOSA	11.008	531.1 -> 219.0	12124	2.50	µg/L	0.012
M3-MeFOSA	10.775	515.0 -> 219.0	13257	2.50	µg/L	0.000
13C4-PFOS	8.551	502.8 -> 79.9	18381	2.50	µg/L	-0.012
13C3-PFBA	3.089	216.0 -> 172.0	68644	5.00	µg/L	0.000
18O2-PFHxS	7.465	403.0 -> 83.9	9910	2.50	µg/L	-0.012
13C4-PFOA	7.340	417.1 -> 372.0	90818	2.50	µg/L	-0.012
13C2-PFDA	8.375	515.1 -> 470.1	33115	1.25	µg/L	-0.012
13C5-PFNA	7.870	468.0 -> 423.0	51101	1.25	µg/L	-0.012
13C2-PFHxA	5.792	315.1 -> 270.0	56053	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	2937	4.94	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.8%		
13C2-6:2FTS	7.100	429.1 -> 80.9	4316	4.81	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.1%		
13C2-8:2FTS	8.150	529.1 -> 80.9	4048	4.79	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.9%		
13C2-PFDoDA	9.285	615.1 -> 570.0	28560	1.29	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C2-PFTeDA	10.000	715.2 -> 670.0	17071	1.38	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.5%		
13C3-PFBS	5.746	302.1 -> 79.9	22940	2.78	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.2%		
13C3-PFHxS	7.466	402.1 -> 79.9	14276	2.74	µg/L	-0.012

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.6%		
13C4-PFBA	3.085	216.8 -> 171.9	164585	10.22 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C4-PFHpA	6.707	367.1 -> 322.0	56435	2.61 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%		
13C5-PFHxA	5.792	318.0 -> 273.0	60506	2.62 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.6%		
13C5-PFPeA	4.548	268.3 -> 223.0	54571	5.15 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.9%		
13C6-PFDA	8.375	519.1 -> 474.1	26515	1.40 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 111.6%		
13C7-PFUnDA	8.853	570.0 -> 525.1	34669	1.36 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.9%		
13C8-FOSA	9.687	506.1 -> 77.8	30874	2.22 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.7%		
13C8-PFOA	7.339	421.1 -> 376.0	87210	2.57 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.7%		
13C8-PFOS	8.550	507.1 -> 79.9	13825	2.49 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%		
13C9-PFNA	7.870	472.1 -> 427.0	43590	1.40 µg/L		-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.1%		
d3-MeFOSAA	8.407	573.2 -> 419.0	30340	4.36 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 87.3%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	41471	10.71 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 107.1%		
d3-MeFOSA	10.775	515.0 -> 219.0	13257	2.19 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.7%		
d5-EtFOSAA	8.615	589.2 -> 419.0	27821	4.71 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.3%		
d7-MeFOSE	10.696	623.2 -> 58.9	116285	18.85 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 75.4%		
d9-EtFOSE	10.930	639.2 -> 58.9	152292	20.95 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 83.8%		
d5-EtFOSA	11.008	531.1 -> 219.0	12124	2.05 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.1%		
Target Compounds						**QValue**
4:2FTS	5.443	327.1 -> 307.0	186679	36.56 µg/L		95
		327.1 -> 80.9	64579			
6:2FTS	7.101	427.1 -> 407.0	185626	36.12 µg/L		97
		427.1 -> 80.9	57783			
8:2FTS	8.151	527.1 -> 507.0	93890	34.90 µg/L		99
		527.1 -> 80.8	37754			
EtFOSAA	8.617	584.2 -> 419.1	41588	8.83 µg/L	m	97
		584.2 -> 526.0	21098			
FOSA	9.690	498.1 -> 77.9	305707	24.92 µg/L	m	99
		498.1 -> 478.0	8781			
MeFOSAA	8.408	570.1 -> 419.0	74513	9.47 µg/L	m	98
		570.1 -> 483.0	14897			
PFBA	3.093	212.8 -> 168.9	252327	38.05 µg/L		100
PFBS	5.747	298.7 -> 79.9	84155	8.21 µg/L		99
		298.7 -> 98.8	31615			
PFDA	8.376	512.9 -> 469.0	344686	8.74 µg/L		100
		512.9 -> 219.0	54899			
PFDoDA	9.285	613.1 -> 569.0	226085	9.54 µg/L		100
		613.1 -> 319.0	32794			
PFDS	9.450	599.0 -> 79.9	35963	8.60 µg/L		93

Perfluorinated Compounds by LC/MS/MS

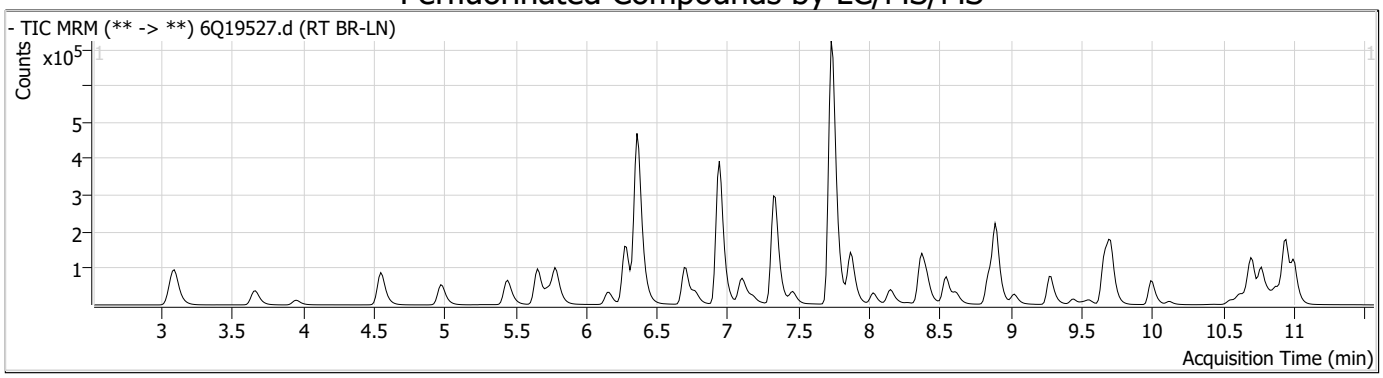
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	17149				
PFHpA	6.708	363.1 -> 319.0	292726	9.72	µg/L		99
		363.1 -> 169.0	46223				
PFHpS	8.034	449.0 -> 79.9	75432	9.13	µg/L		94
		449.0 -> 98.9	35475				
PFHxA	5.795	313.0 -> 269.0	226379	9.27	µg/L		100
		313.0 -> 118.9	11861				
PFHxS	7.467	398.7 -> 79.9	71070	8.27	µg/L	m	95
		398.7 -> 98.9	33544				
PFNA	7.746	463.0 -> 419.0	754446	18.72	µg/L	m	100
		463.0 -> 219.0	141771				
PFNS	9.029	548.8 -> 79.9	64323	8.97	µg/L		100
		548.8 -> 98.9	31654				
PFOA	7.341	413.0 -> 369.0	907551	18.95	µg/L	m	94
		413.0 -> 169.0	177659				
PFOS	8.552	498.9 -> 79.9	69092	8.42	µg/L	m	94
		498.9 -> 98.8	33157				
PFPeA	4.551	263.0 -> 219.0	312421	19.39	µg/L		100
PFPeS	6.785	349.1 -> 79.9	72514	9.07	µg/L		93
		349.1 -> 98.9	31161				
PFTeDA	10.000	713.1 -> 669.0	187666	9.17	µg/L		100
		713.1 -> 168.9	16013				
PFTrDA	9.656	663.0 -> 619.0	224107	9.31	µg/L		100
		663.0 -> 168.9	23446				
PFUnDA	8.854	563.1 -> 519.0	245017	9.15	µg/L		94
		563.1 -> 269.1	39451				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	324936	17.21	µg/L		91
		632.9 -> 452.9	106411				
9Cl-PF3ONS	8.906	530.8 -> 351.0	565173	17.37	µg/L		98
		532.8 -> 353.0	167492				
ADONA	6.946	376.9 -> 250.9	1194999	17.81	µg/L		95
		376.9 -> 84.8	313276				
HFPO-DA	6.169	284.9 -> 168.9	81453	18.77	µg/L		98
		284.9 -> 184.9	10109				
3:3FTCA	3.946	241.0 -> 177.0	49852	45.74	µg/L		100
		241.0 -> 117.0	6681				
5:3FTCA	6.374	341.0 -> 237.1	1072890	221.05	µg/L		99
		341.0 -> 217.0	787921				
7:3FTCA	7.748	441.0 -> 316.9	735355	224.08	µg/L		98
		441.0 -> 336.9	1635305				
EtFOSA	11.010	526.0 -> 219.0	245687	37.94	µg/L	m	96
		526.0 -> 169.0	313032				
EtFOSE	10.943	630.0 -> 58.9	540159	68.53	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	200778	33.45	µg/L	m	78
		511.9 -> 169.0	289557				
MeFOSE	10.709	616.1 -> 58.9	370013	73.42	µg/L	m	100
PFDoDS	10.127	699.1 -> 79.9	18737	9.09	µg/L		92
		699.1 -> 98.8	9846				
NFDHA	5.673	295.0 -> 201.0	59362	19.03	µg/L		100
		295.0 -> 84.9	15996				
PFMBA	4.988	279.0 -> 85.1	228257	19.88	µg/L		100
PFMPA	3.667	229.0 -> 84.9	176927	19.69	µg/L		100
PFEESA	6.288	314.8 -> 134.9	567304	17.19	µg/L		100
		314.8 -> 82.9	20651				

 # = Qualifier out of range, m = manually integrated, + = Area summed

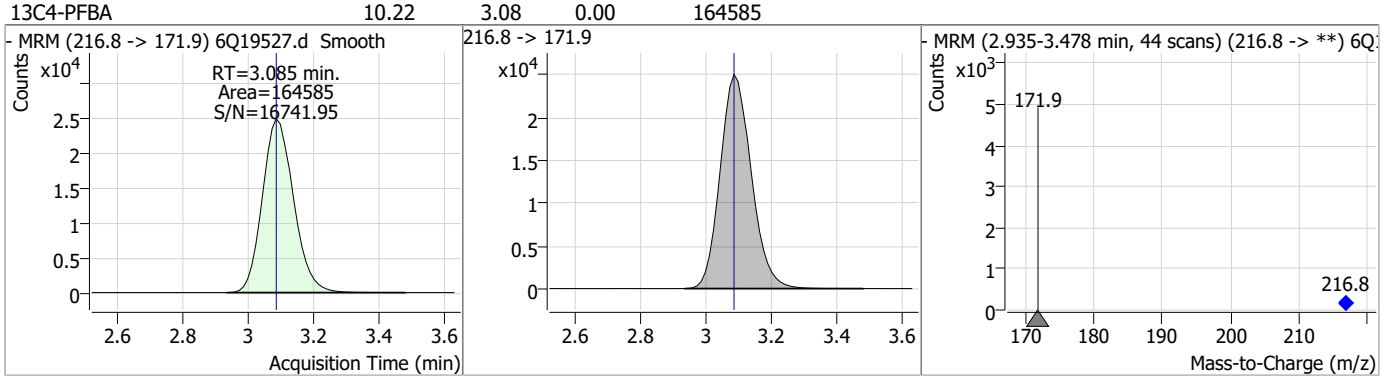
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

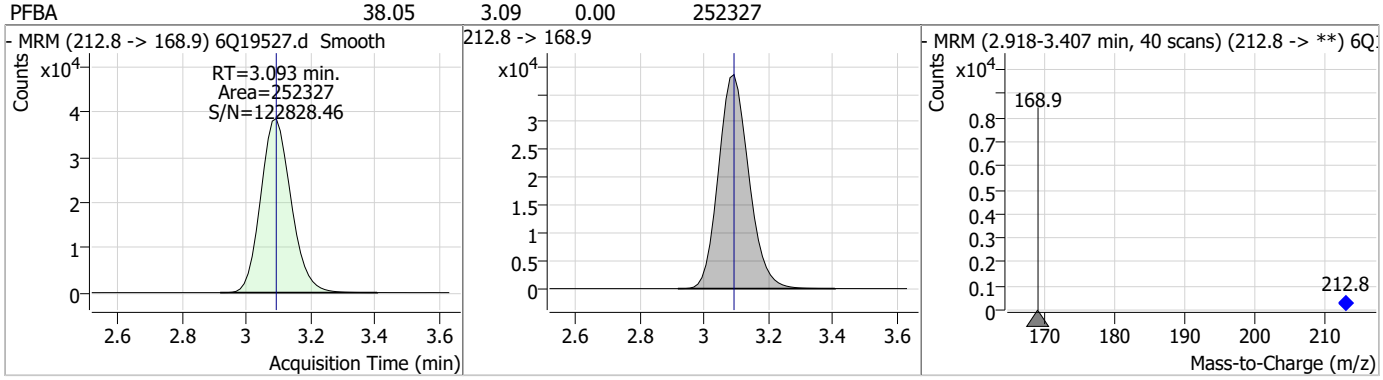
Perfluorinated Compounds by LC/MS/MS



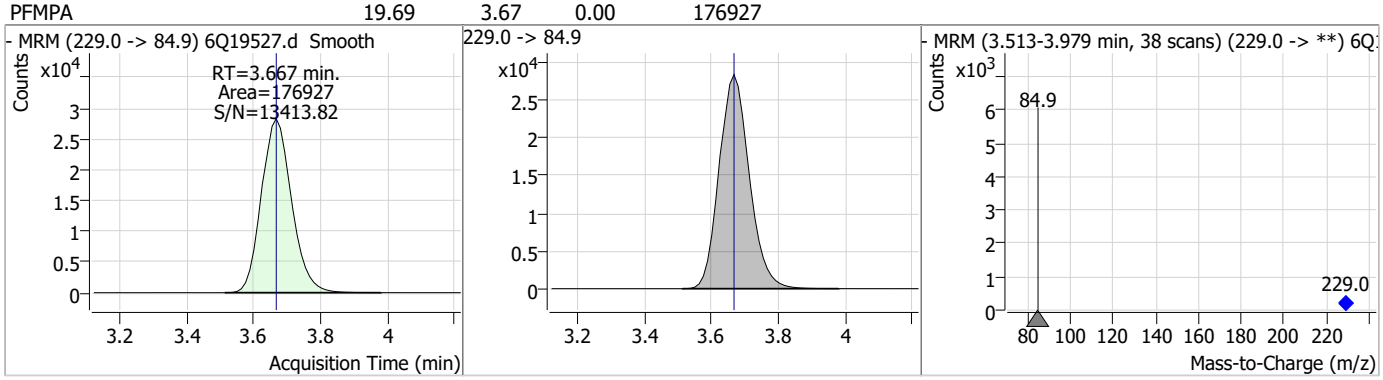
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.22	3.08	0.00	164585				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	38.05	3.09	0.00	252327				

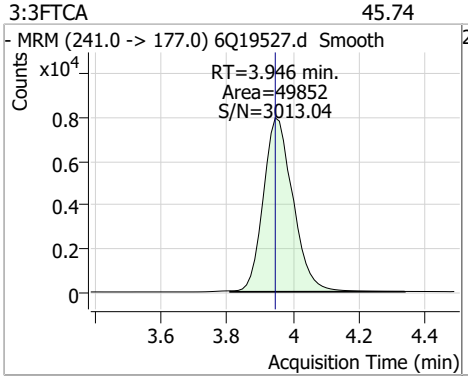


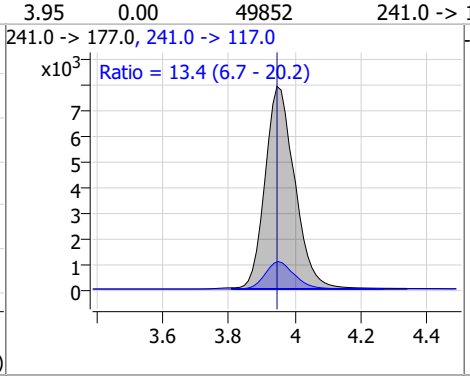
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	19.69	3.67	0.00	176927				

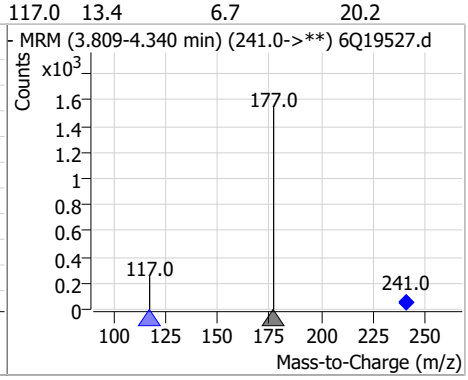


Perfluorinated Compounds by LC/MS/MS

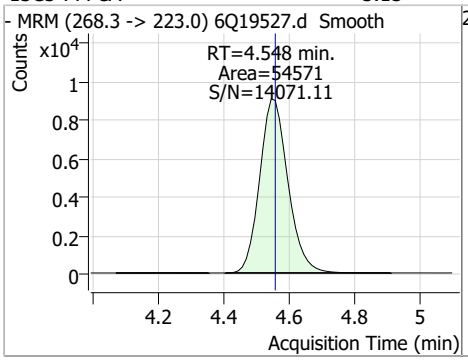
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	45.74	3.95	0.00	49852	241.0 -> 117.0	13.4	6.7	20.2

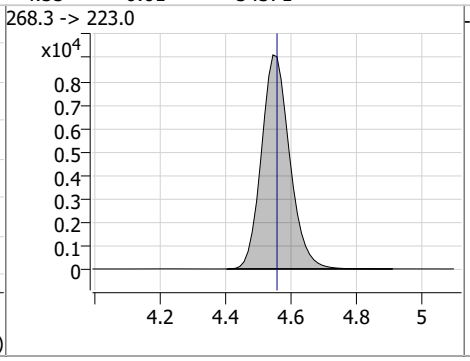


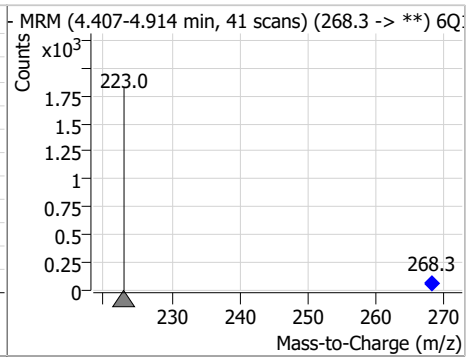




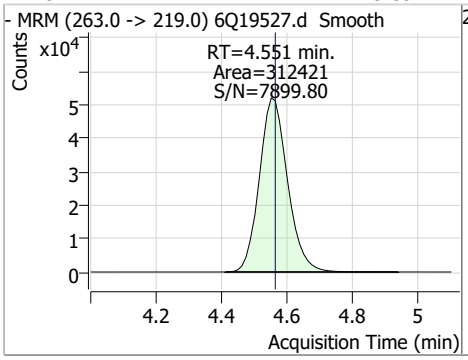
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.15	4.55	-0.01	54571				

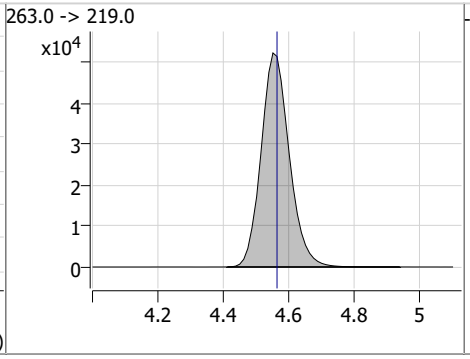


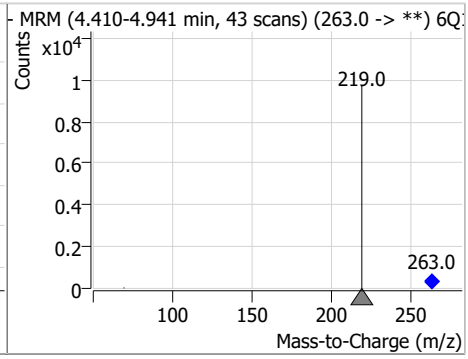




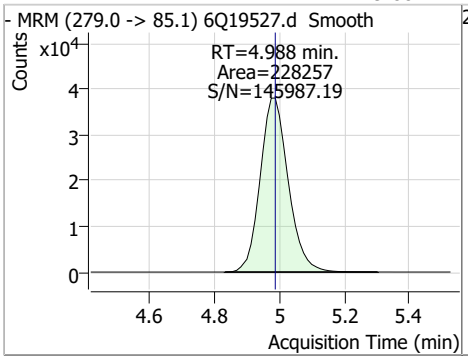
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.39	4.55	-0.01	312421				

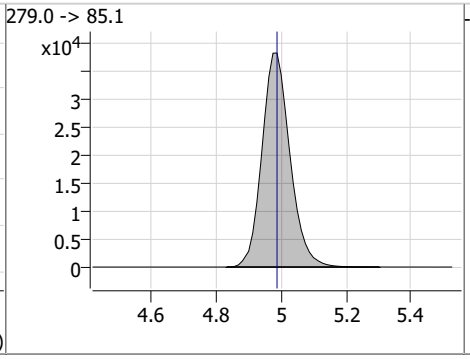


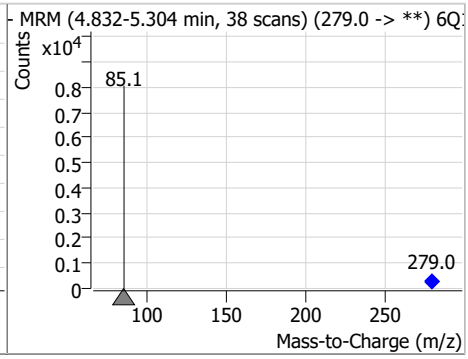




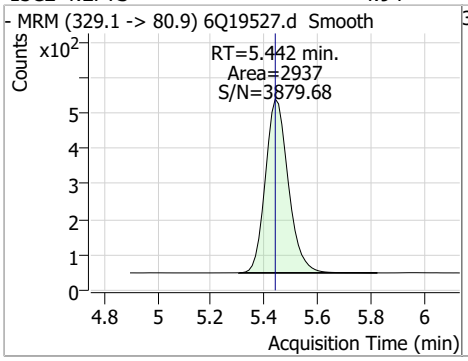
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	19.88	4.99	0.00	228257				

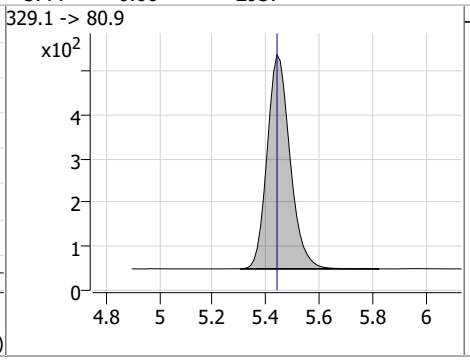


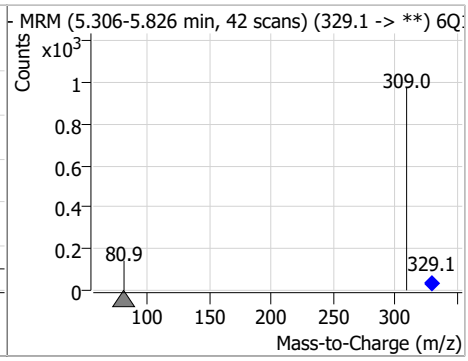




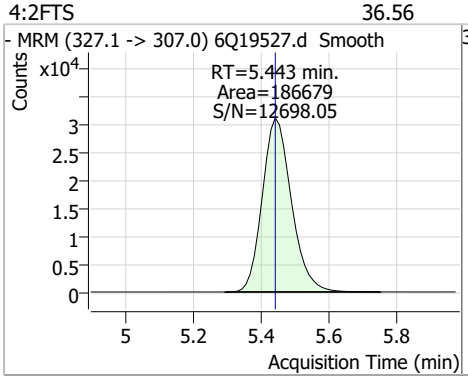
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.94	5.44	0.00	2937				

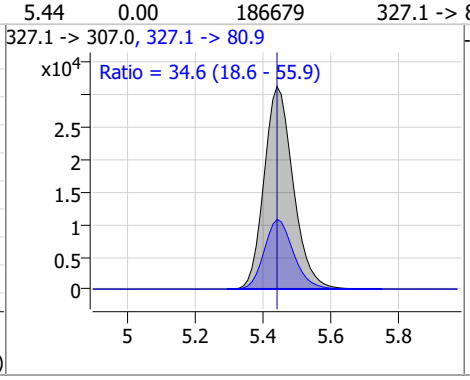


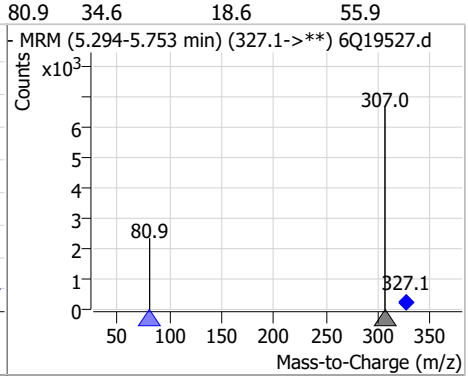




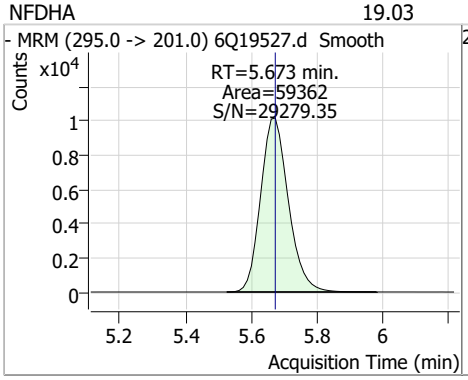
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	36.56	5.44	0.00	186679	327.1 -> 80.9	34.6	18.6	55.9

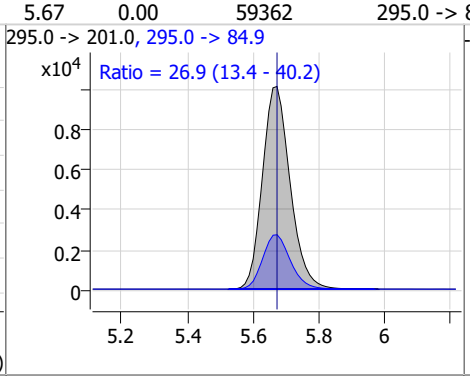


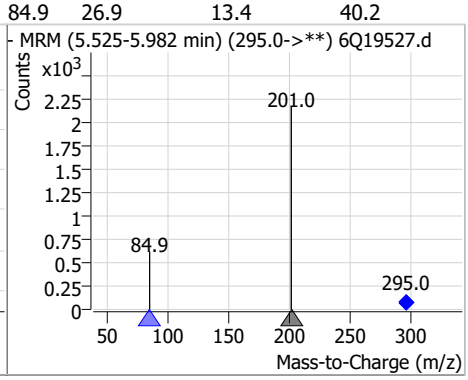




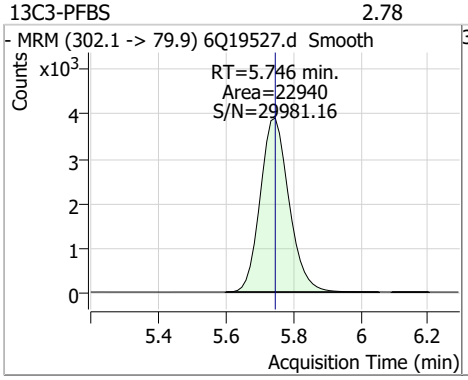
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	19.03	5.67	0.00	59362	295.0 -> 84.9	26.9	13.4	40.2

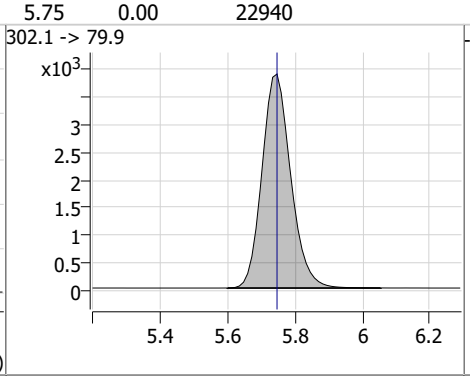


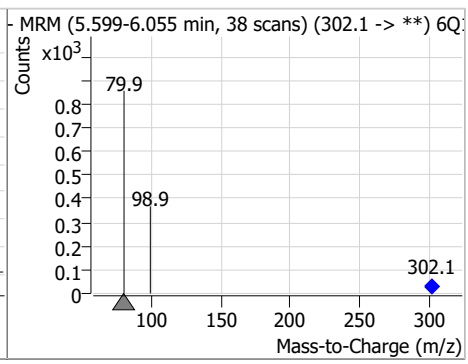




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.78	5.75	0.00	22940				

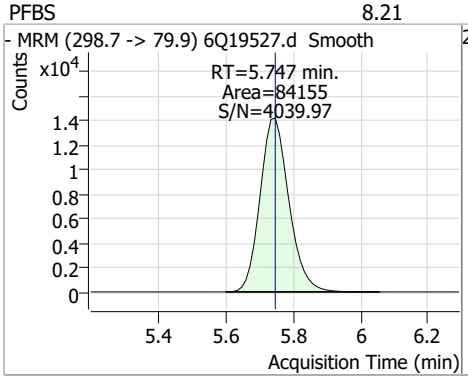


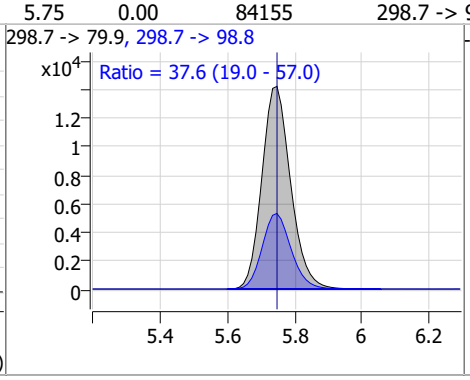


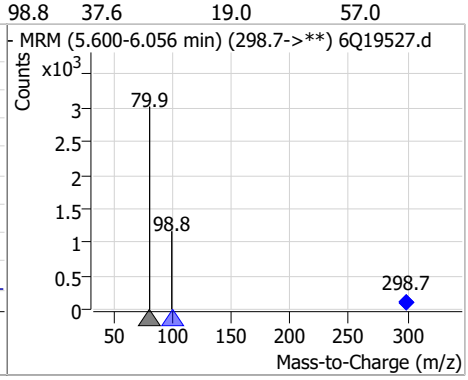


Perfluorinated Compounds by LC/MS/MS

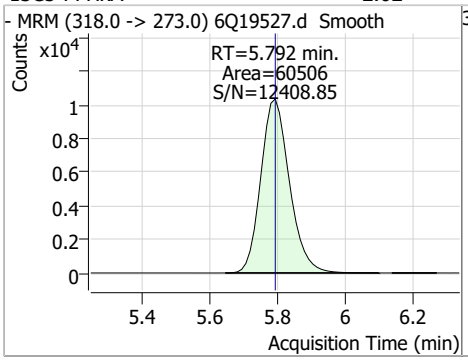
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	8.21	5.75	0.00	84155	298.7 -> 98.8	37.6	19.0	57.0

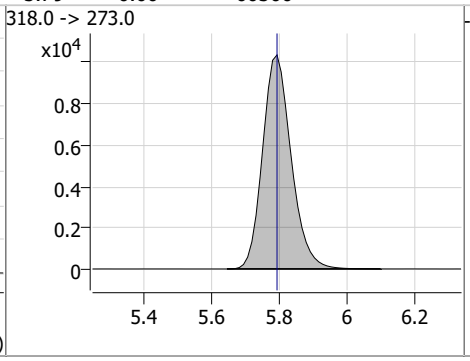


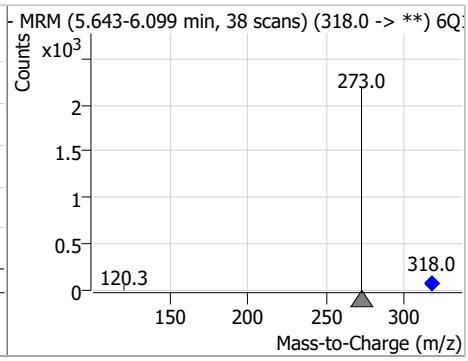




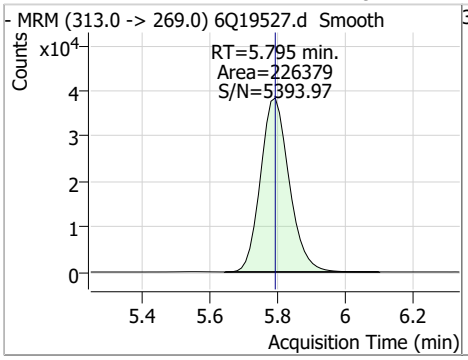
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.62	5.79	0.00	60506				

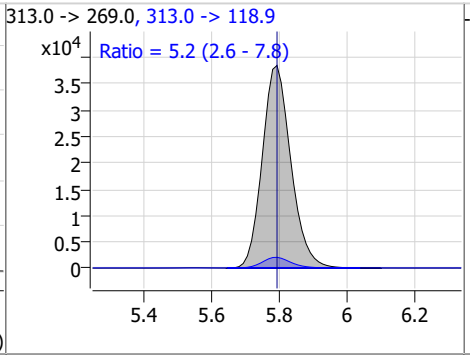


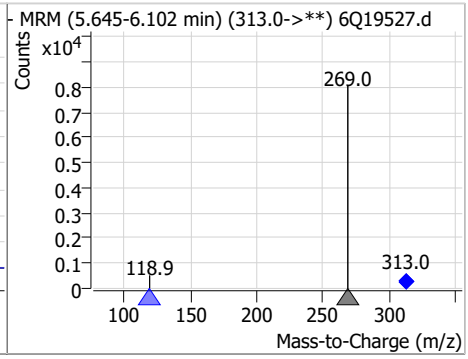




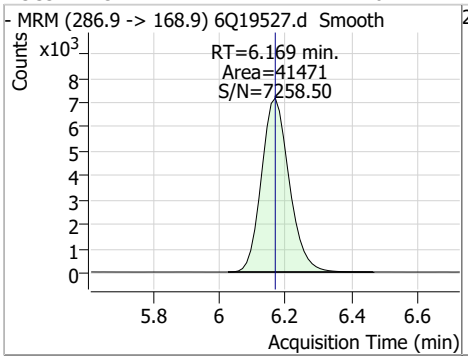
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	9.27	5.79	0.00	226379	313.0 -> 118.9	5.2	2.6	7.8

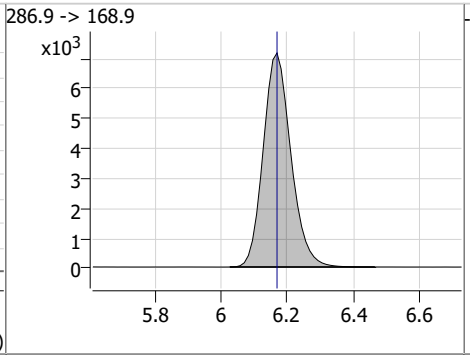


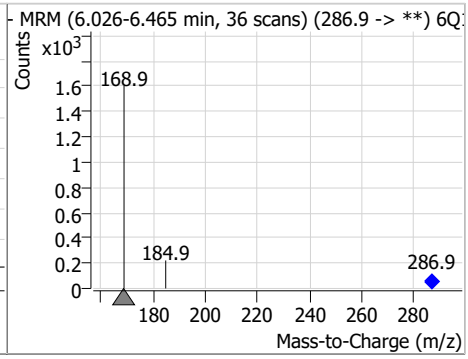




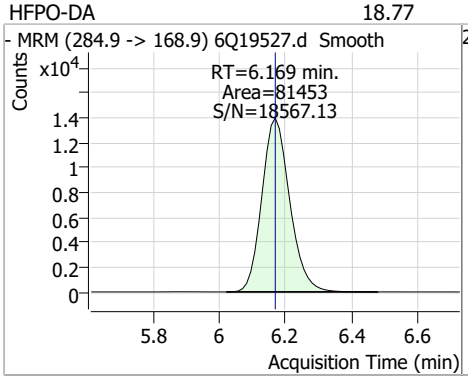
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.71	6.17	0.00	41471				

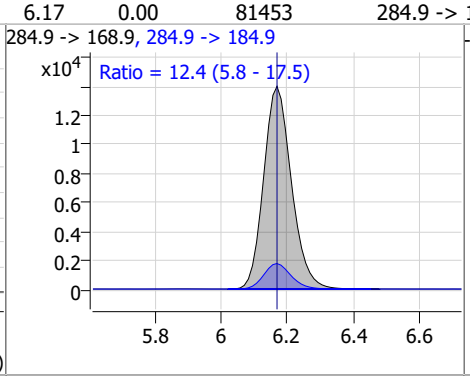


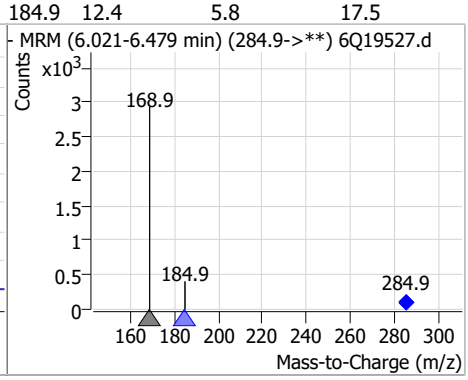




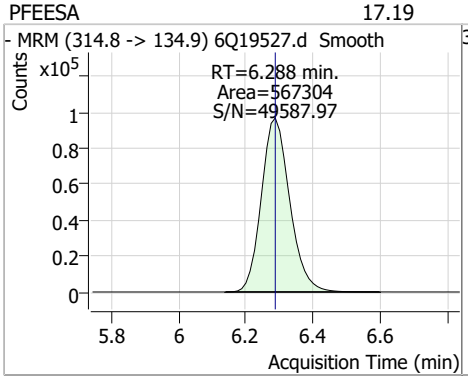
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	18.77	6.17	0.00	81453	284.9 -> 184.9	12.4	5.8	17.5

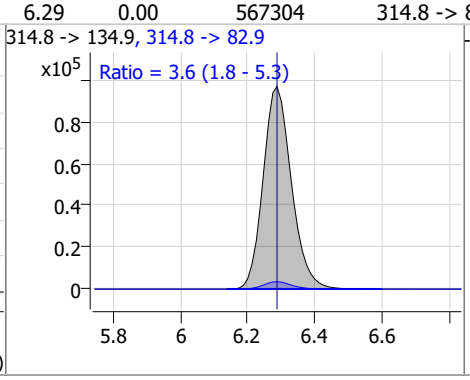


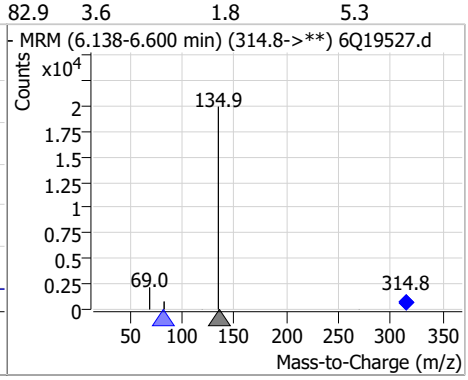




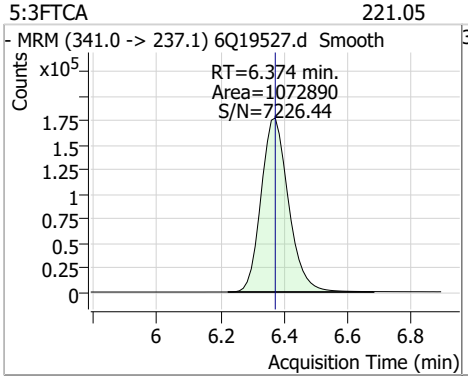
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	17.19	6.29	0.00	567304	314.8 -> 82.9	3.6	1.8	5.3

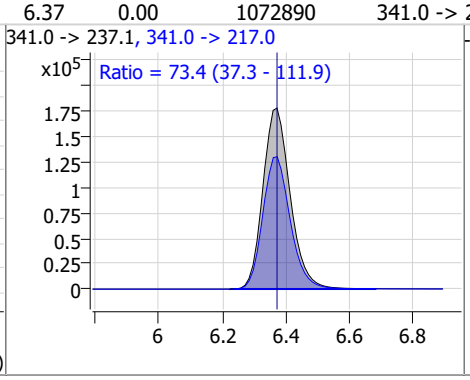


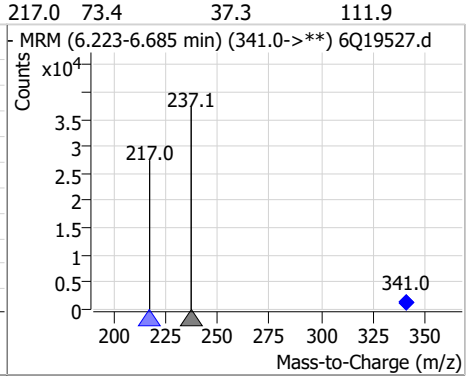




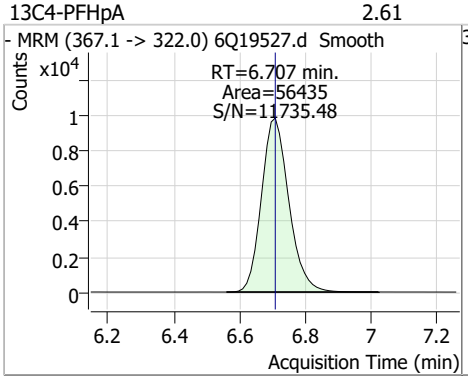
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	221.05	6.37	0.00	1072890	341.0 -> 217.0	73.4	37.3	111.9

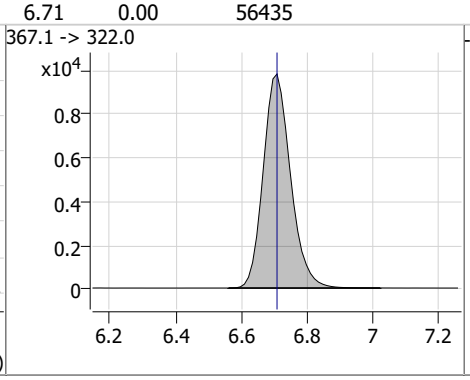


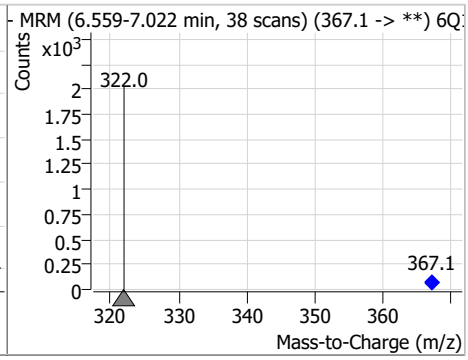




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.61	6.71	0.00	56435				

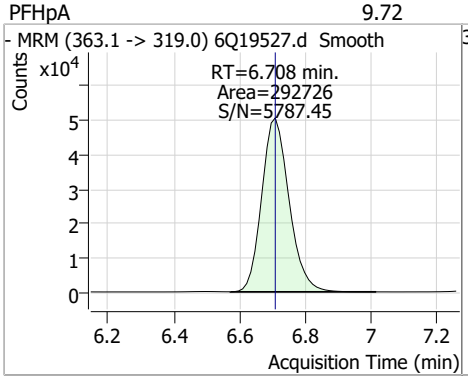


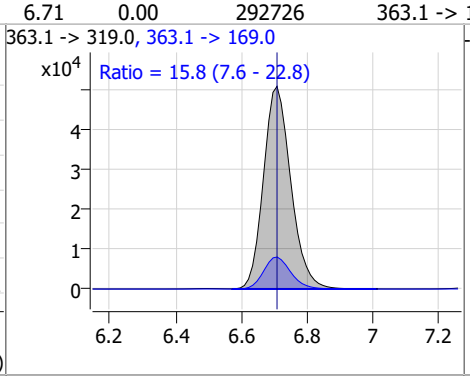


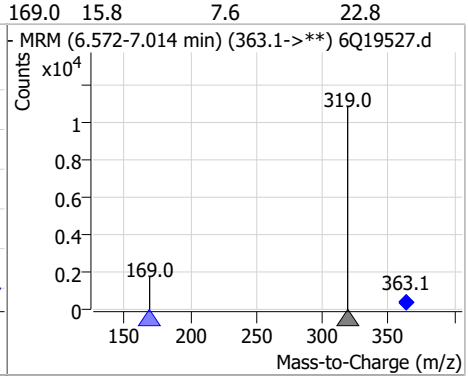


Perfluorinated Compounds by LC/MS/MS

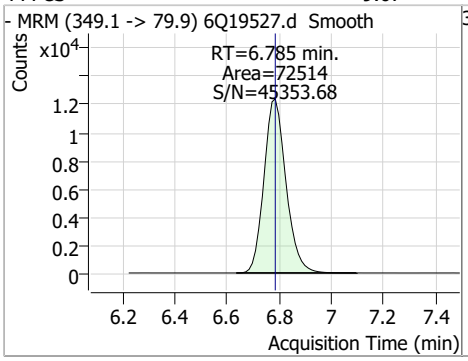
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	9.72	6.71	0.00	292726	363.1 -> 169.0	15.8	7.6	22.8

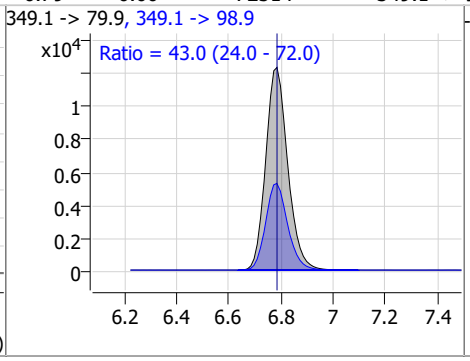


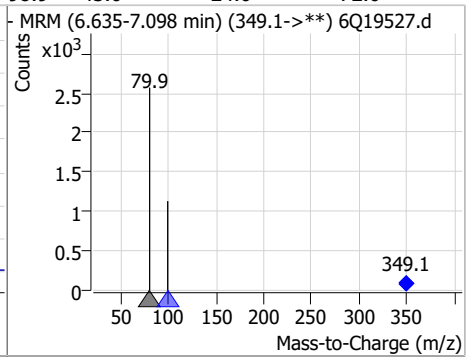




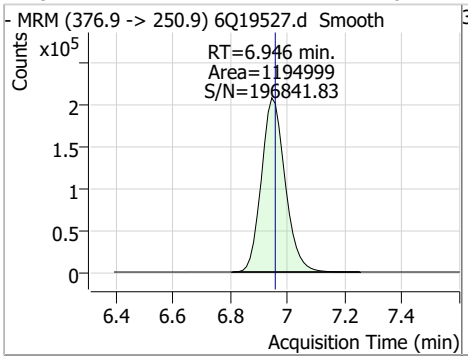
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	9.07	6.79	0.00	72514	349.1 -> 98.9	43.0	24.0	72.0

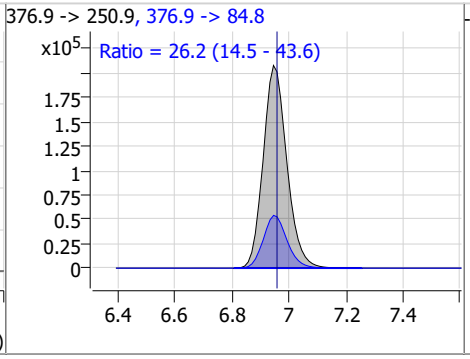


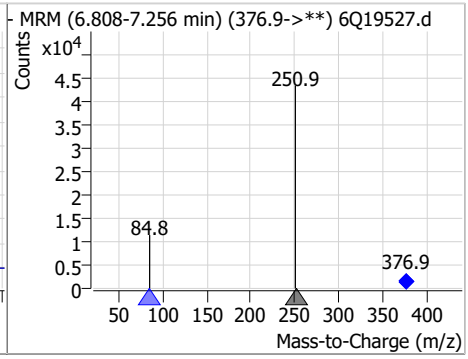




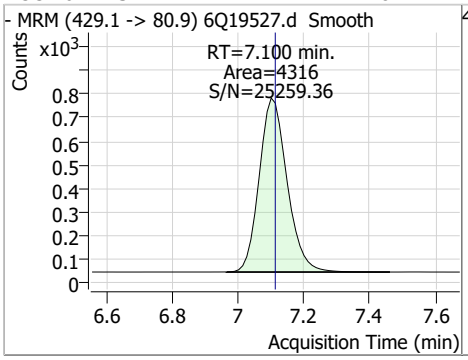
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	17.81	6.95	-0.01	1194999	376.9 -> 84.8	26.2	14.5	43.6

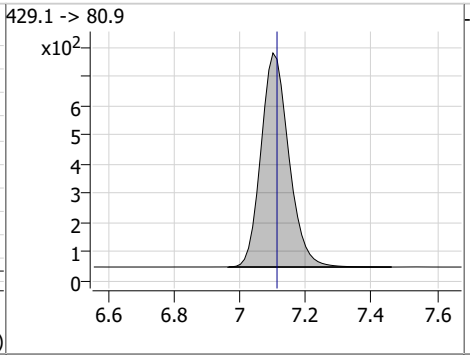


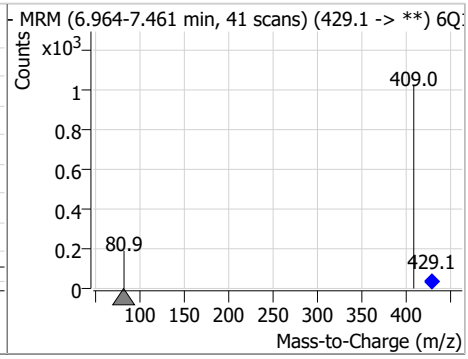




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.81	7.10	-0.01	4316				

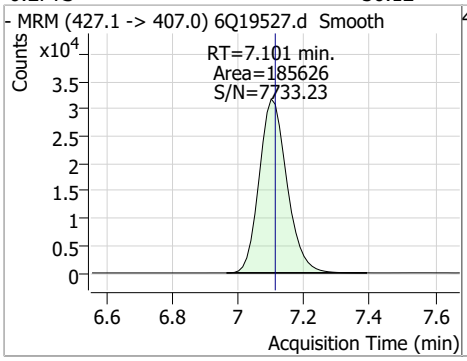


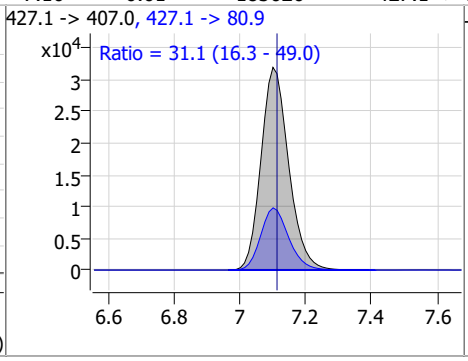


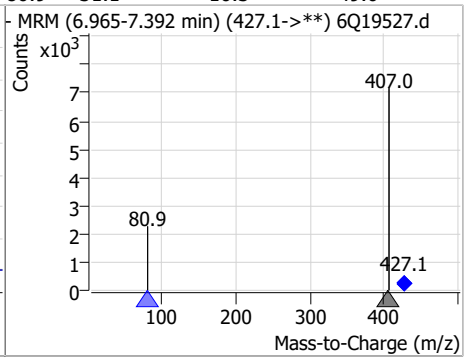


Perfluorinated Compounds by LC/MS/MS

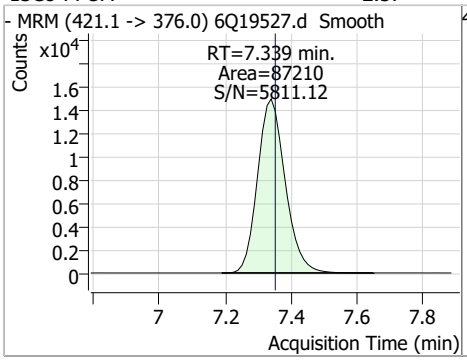
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	36.12	7.10	-0.01	185626	427.1 -> 80.9	31.1	16.3	49.0

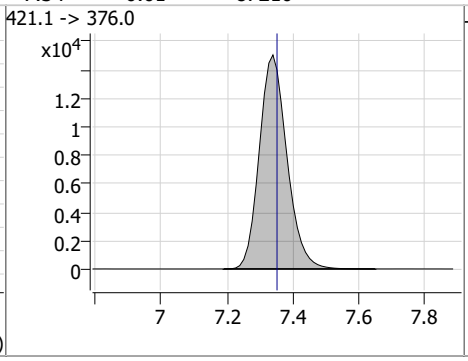


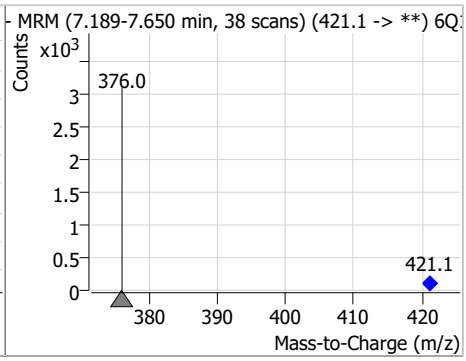




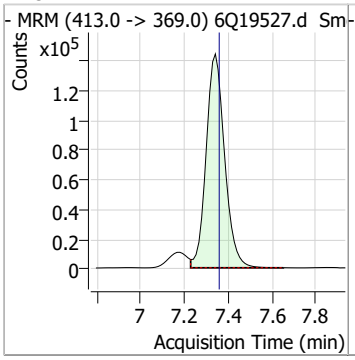
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.57	7.34	-0.01	87210				

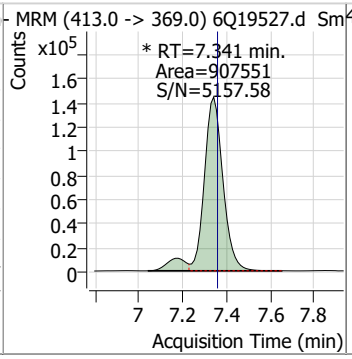


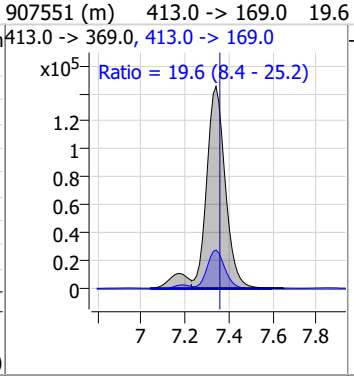


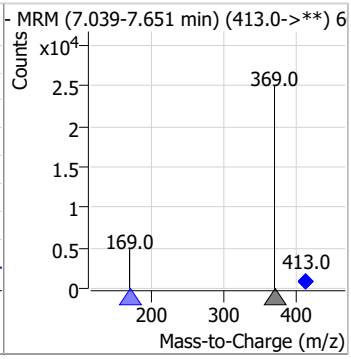


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	18.95	7.34	-0.01	907551 (m)	413.0 -> 169.0	19.6	8.4	25.2

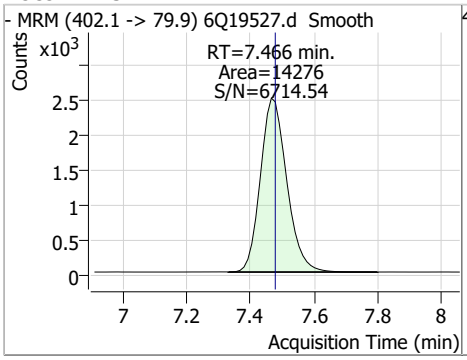


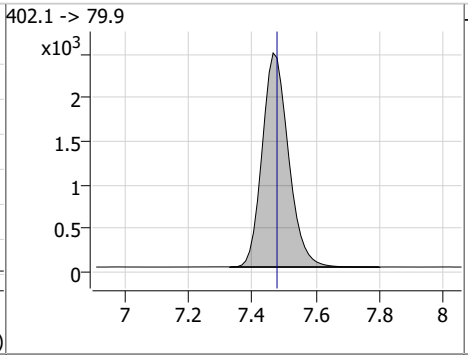


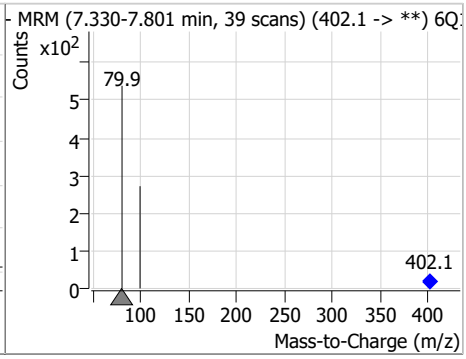




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.74	7.47	-0.01	14276				

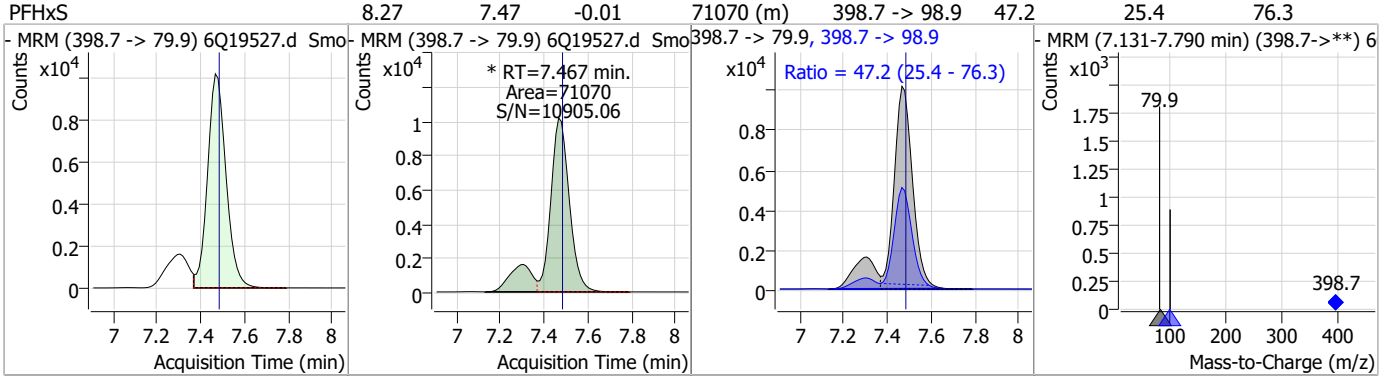




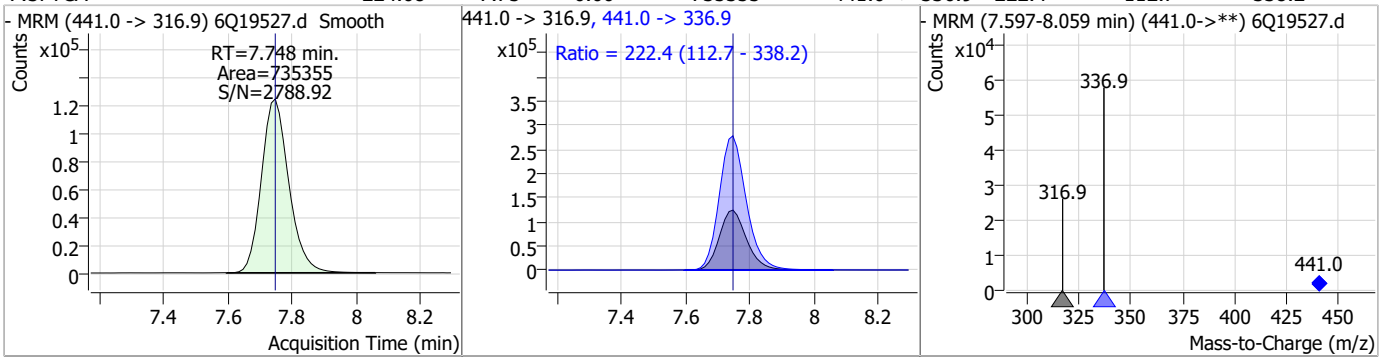


Perfluorinated Compounds by LC/MS/MS

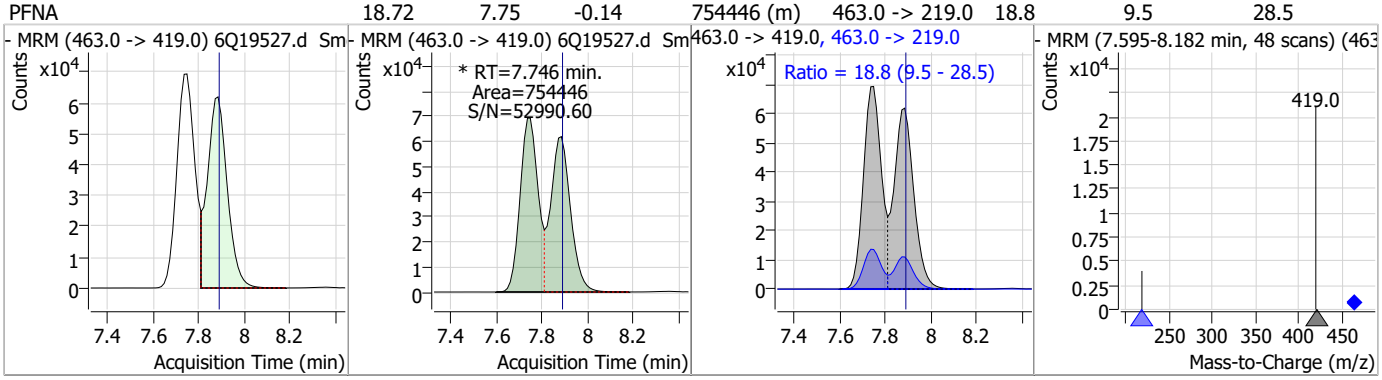
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	8.27	7.47	-0.01	71070 (m)	398.7 -> 98.9	47.2	25.4	76.3



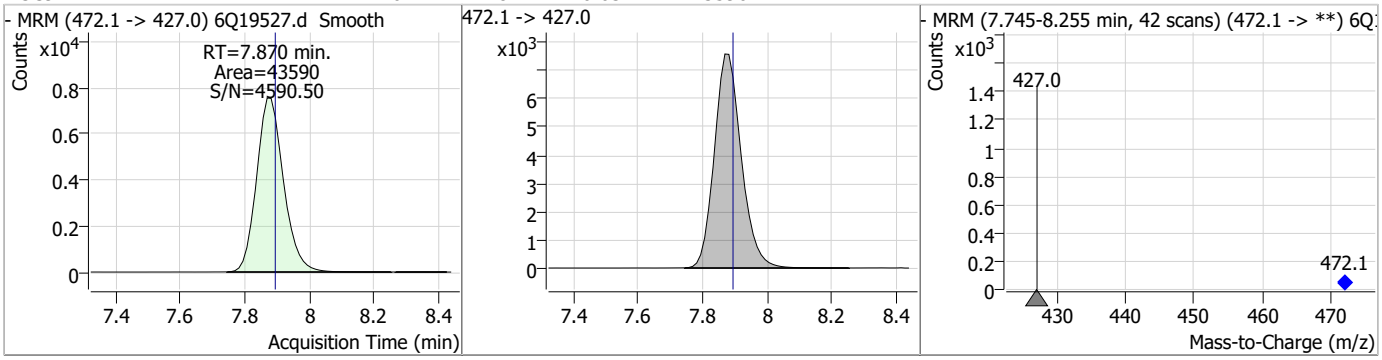
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	224.08	7.75	0.00	735355	441.0 -> 336.9	222.4	112.7	338.2



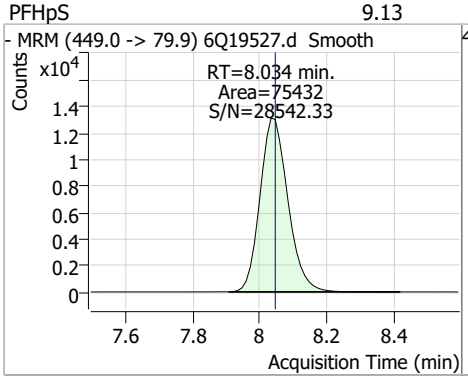
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	18.72	7.75	-0.14	754446 (m)	463.0 -> 219.0	18.8	9.5	28.5

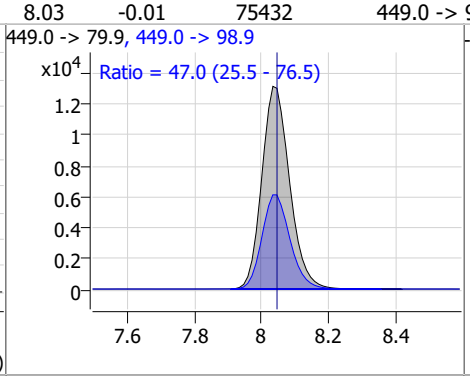


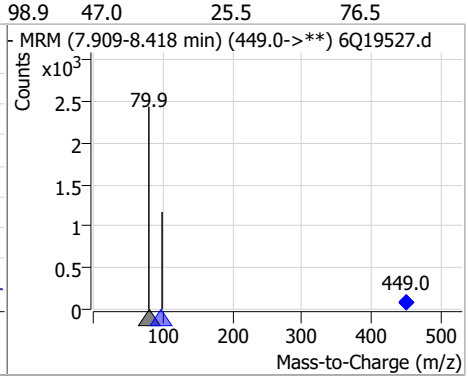
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.40	7.87	-0.03	43590				



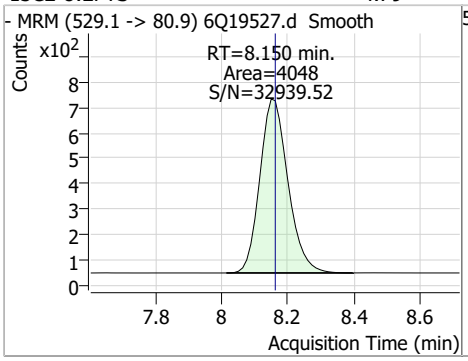
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	9.13	8.03	-0.01	75432	449.0 -> 98.9	47.0	25.5	76.5

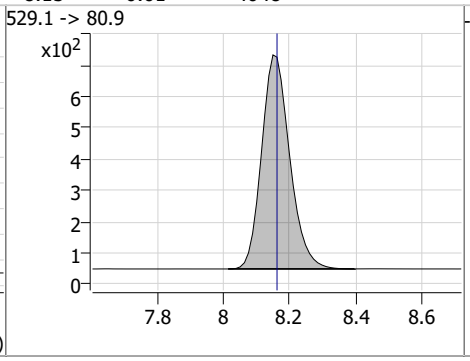


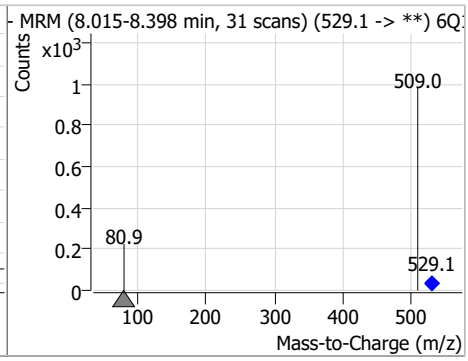




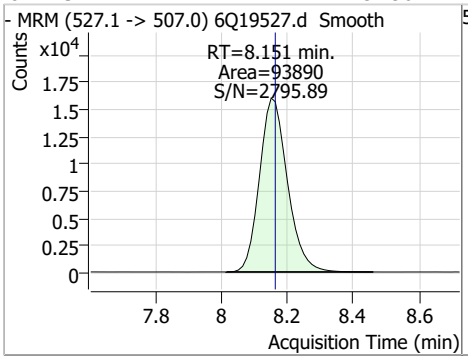
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.79	8.15	-0.01	4048				

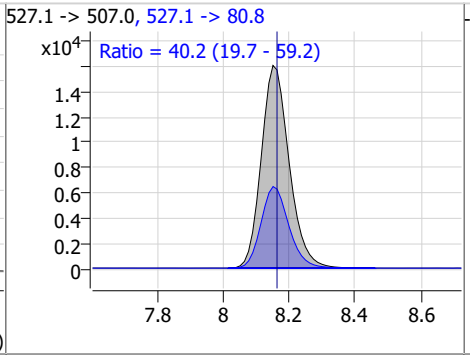


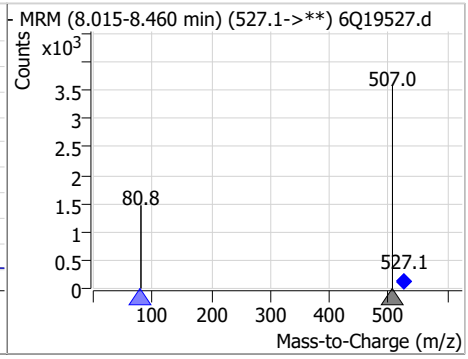




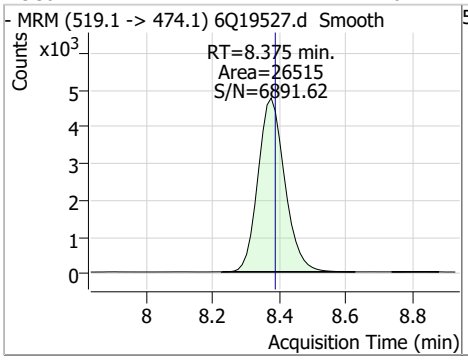
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	34.90	8.15	-0.01	93890	527.1 -> 80.8	40.2	19.7	59.2

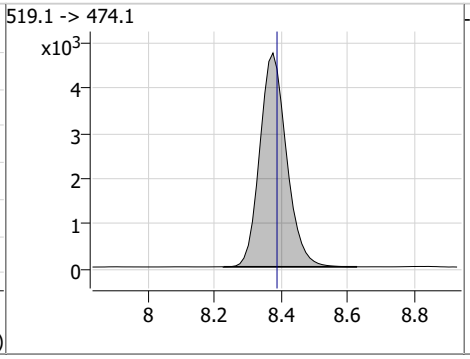


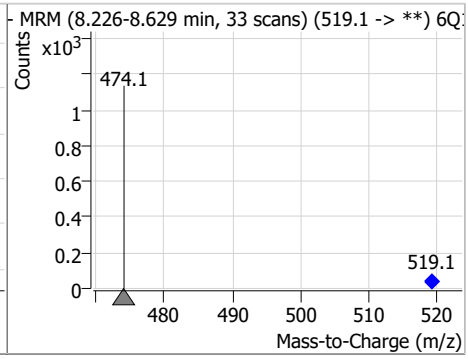




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.40	8.37	-0.01	26515				

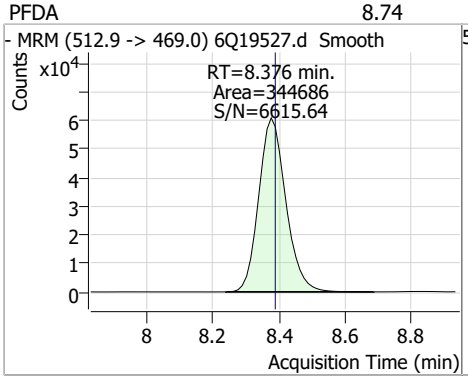


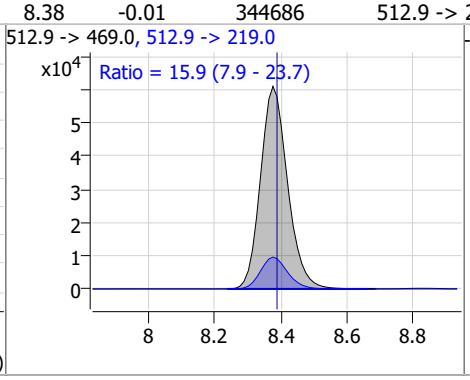


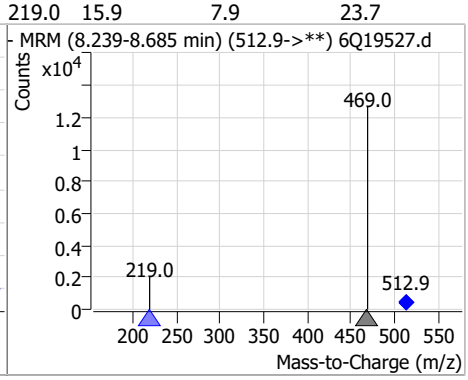


Perfluorinated Compounds by LC/MS/MS

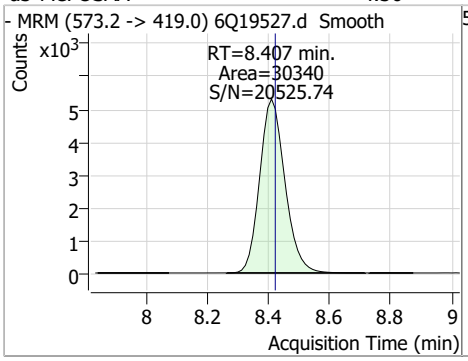
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	8.74	8.38	-0.01	344686	512.9 -> 219.0	15.9	7.9	23.7

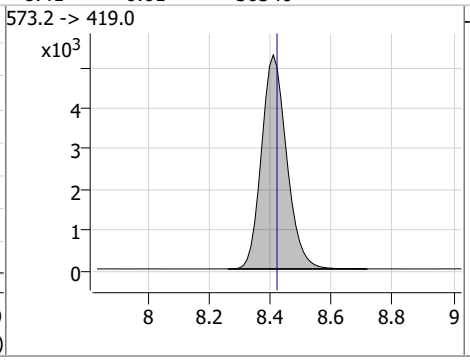


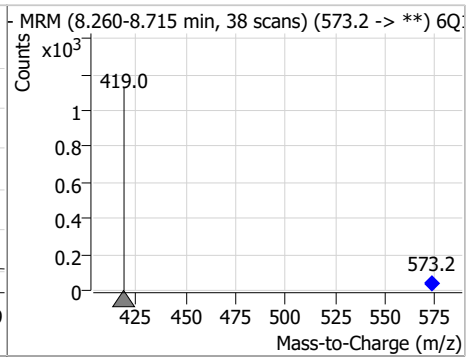




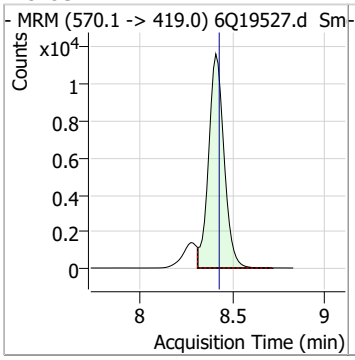
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.36	8.41	-0.01	30340				

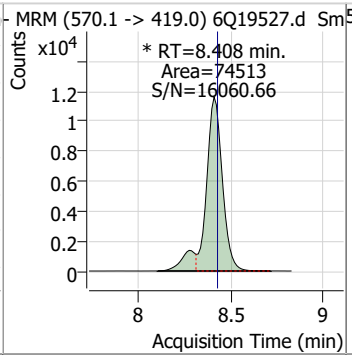


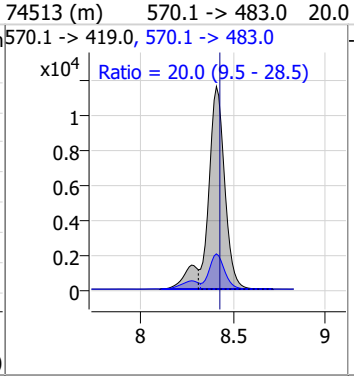


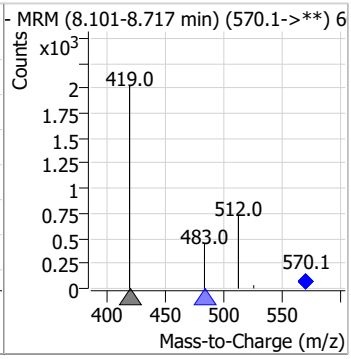


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	9.47	8.41	-0.01	74513 (m)	570.1 -> 483.0	20.0	9.5	28.5

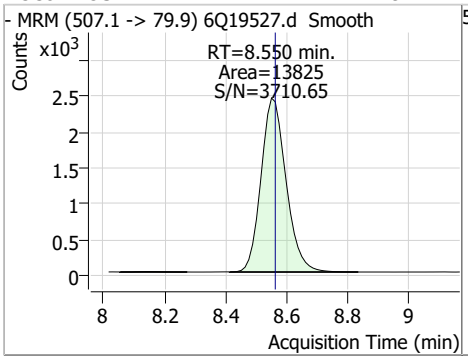


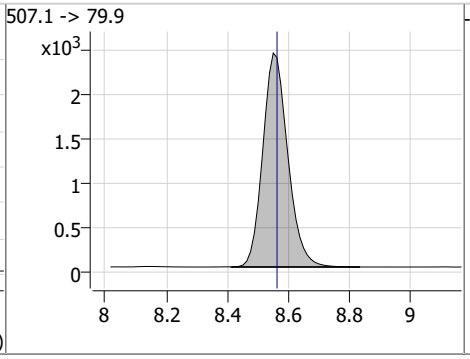


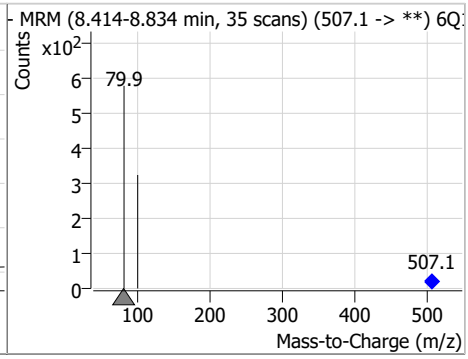




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.49	8.55	-0.01	13825				

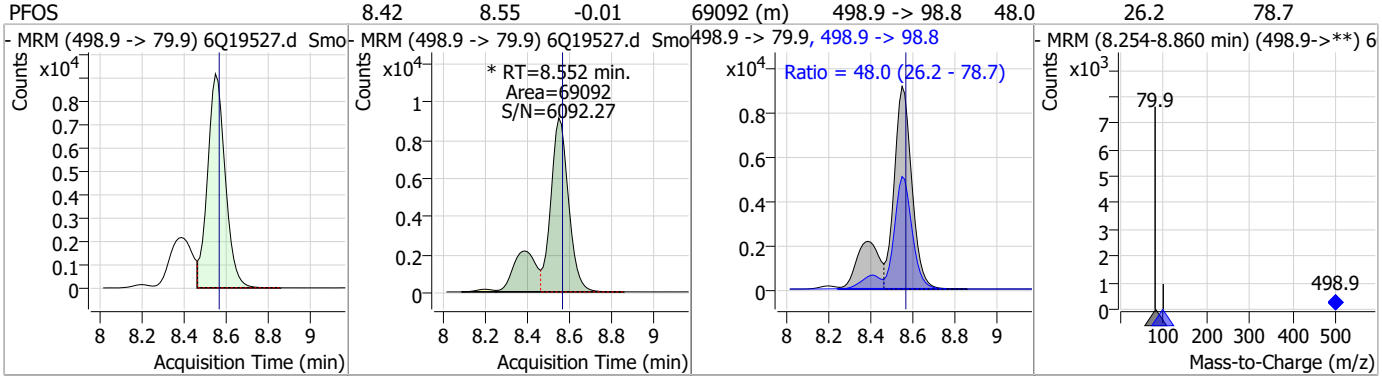




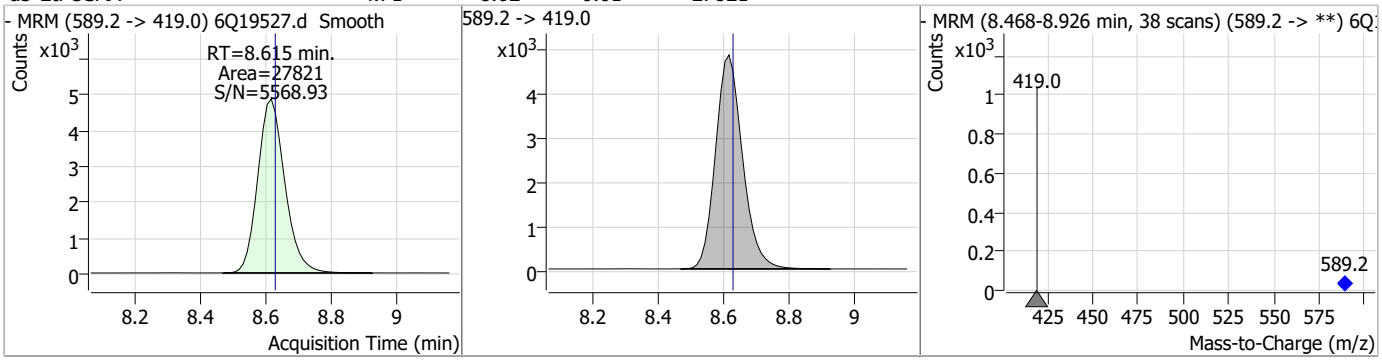


Perfluorinated Compounds by LC/MS/MS

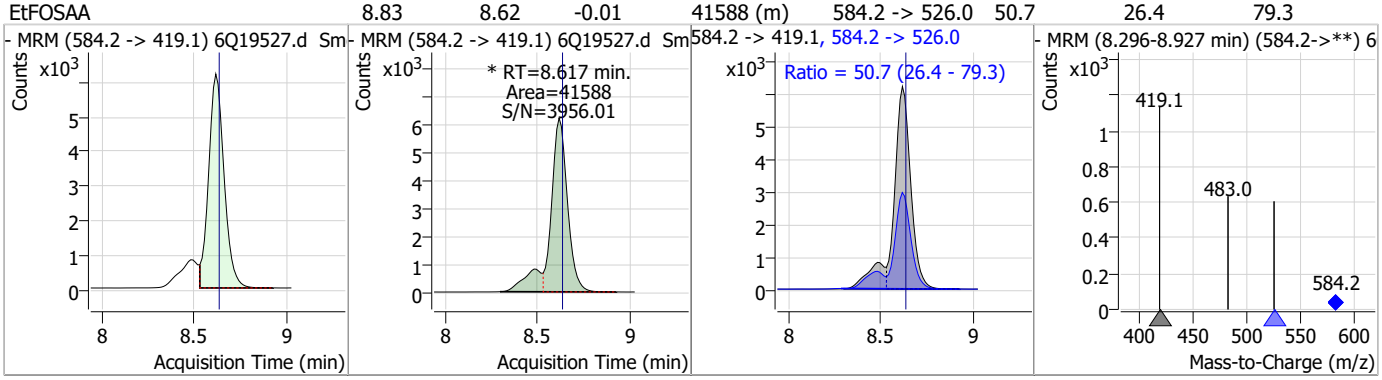
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	8.42	8.55	-0.01	69092 (m)	498.9 -> 98.8	48.0	26.2	78.7



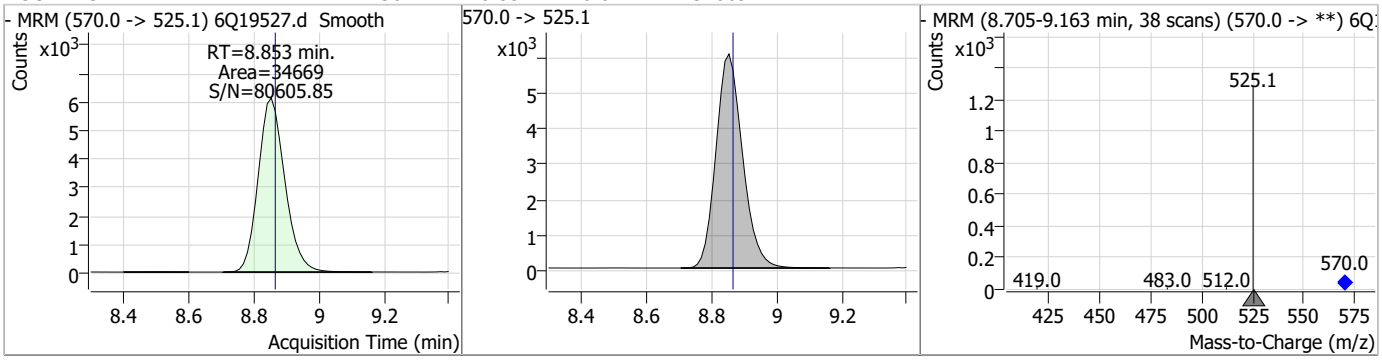
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.71	8.62	-0.01	27821				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	8.83	8.62	-0.01	41588 (m)	584.2 -> 526.0	50.7	26.4	79.3

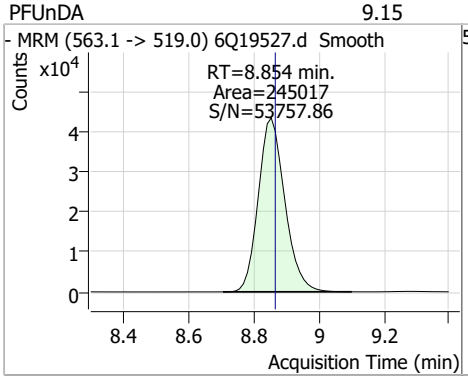


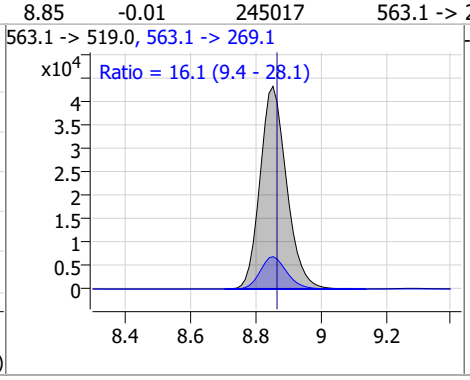
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.36	8.85	-0.01	34669				

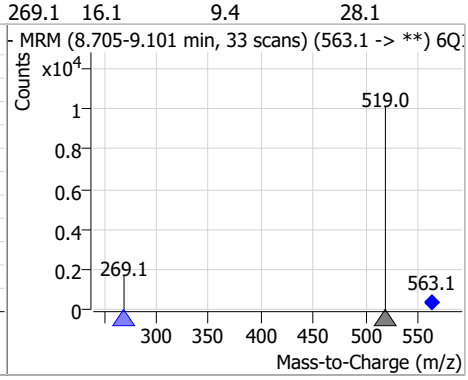


Perfluorinated Compounds by LC/MS/MS

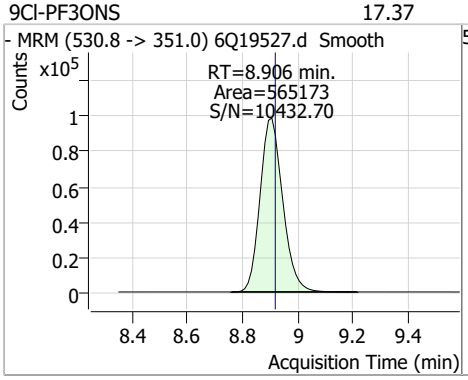
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	9.15	8.85	-0.01	245017	563.1 -> 269.1	16.1	9.4	28.1

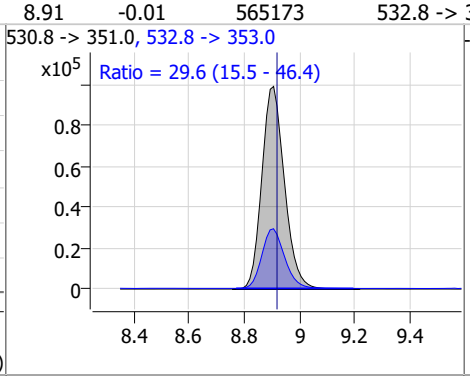


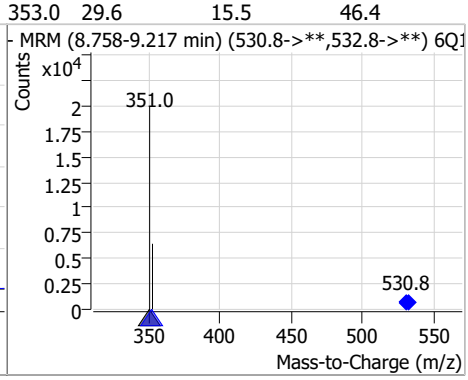




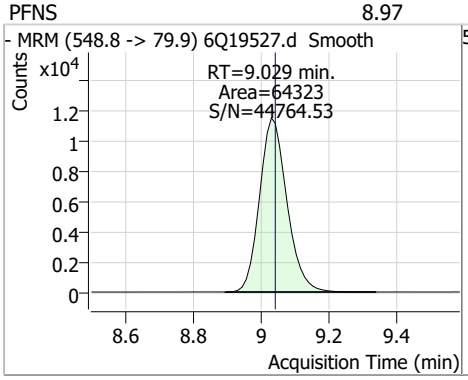
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	17.37	8.91	-0.01	565173	532.8 -> 353.0	29.6	15.5	46.4

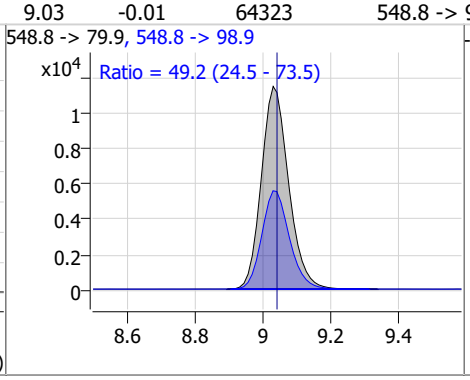


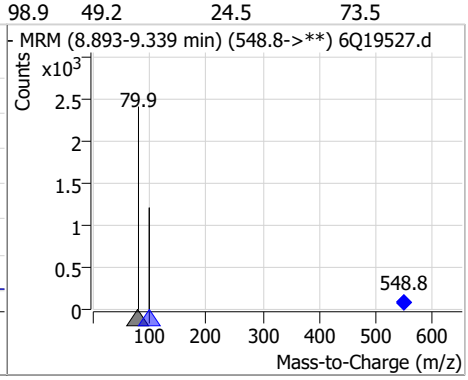




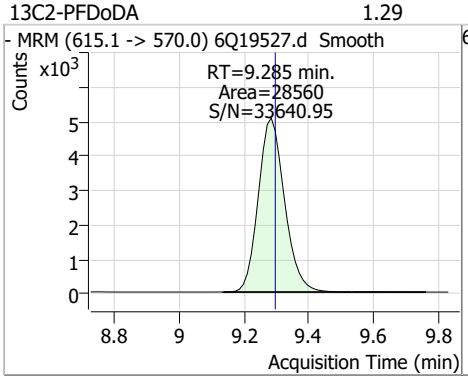
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	8.97	9.03	-0.01	64323	548.8 -> 98.9	49.2	24.5	73.5

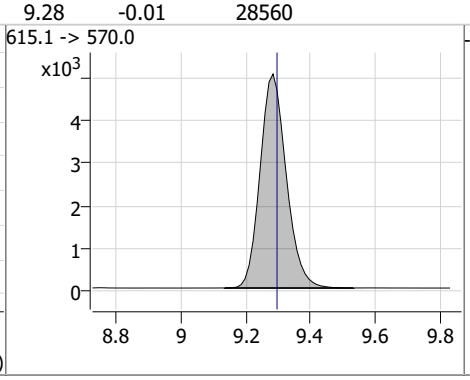


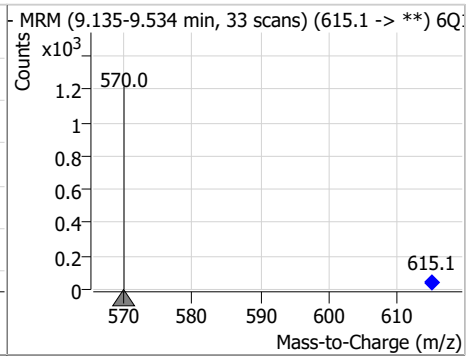




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.29	9.28	-0.01	28560				

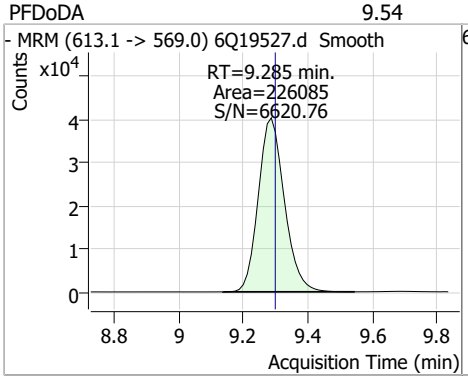


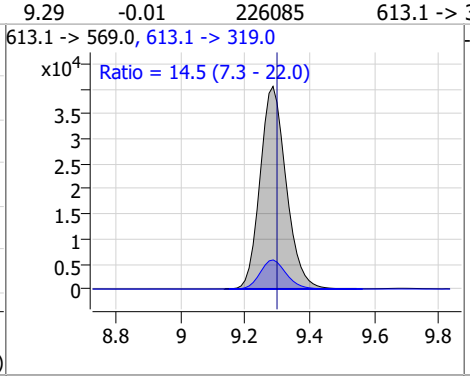


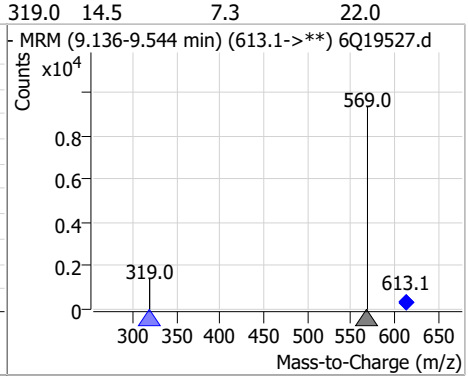


Perfluorinated Compounds by LC/MS/MS

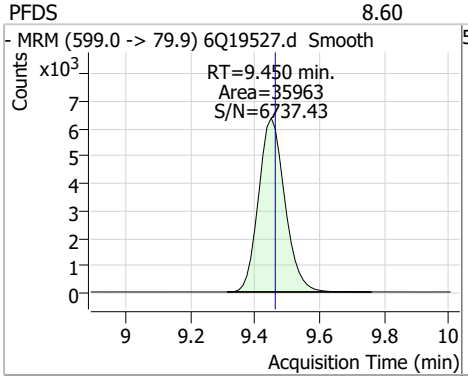
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	9.54	9.29	-0.01	226085	613.1 -> 319.0	14.5	7.3	22.0

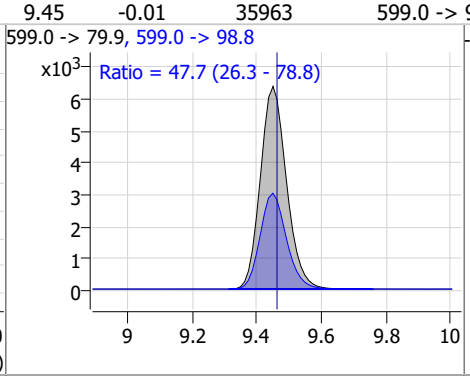


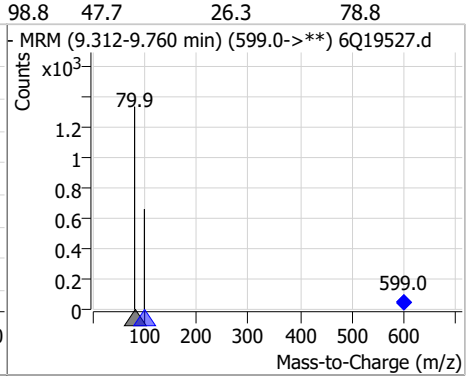




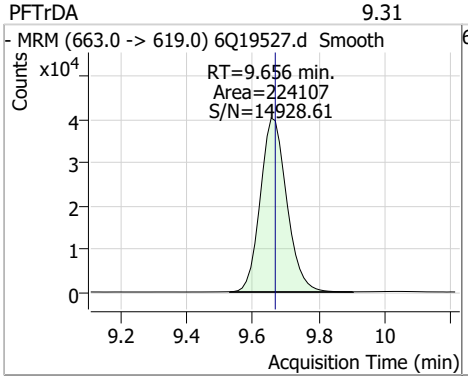
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	8.60	9.45	-0.01	35963	599.0 -> 98.8	47.7	26.3	78.8

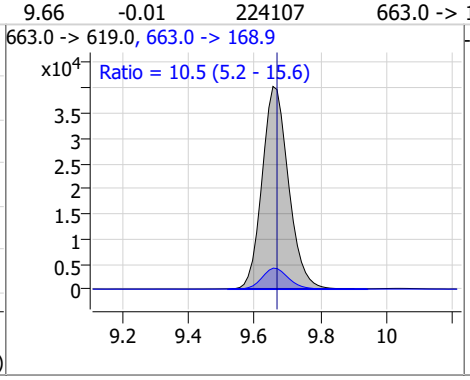


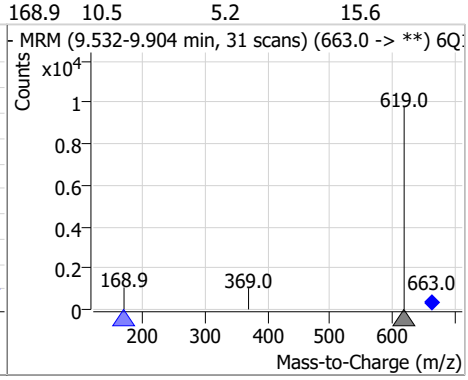




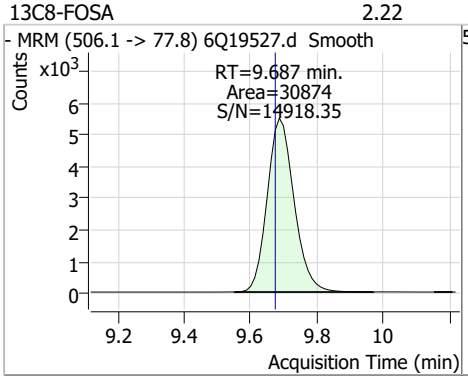
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	9.31	9.66	-0.01	224107	663.0 -> 168.9	10.5	5.2	15.6

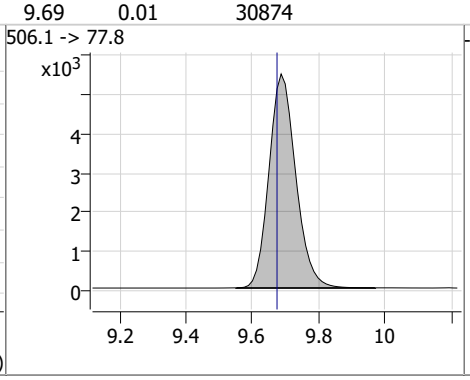


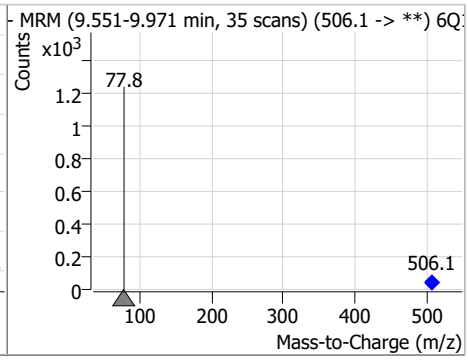




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.22	9.69	0.01	30874				

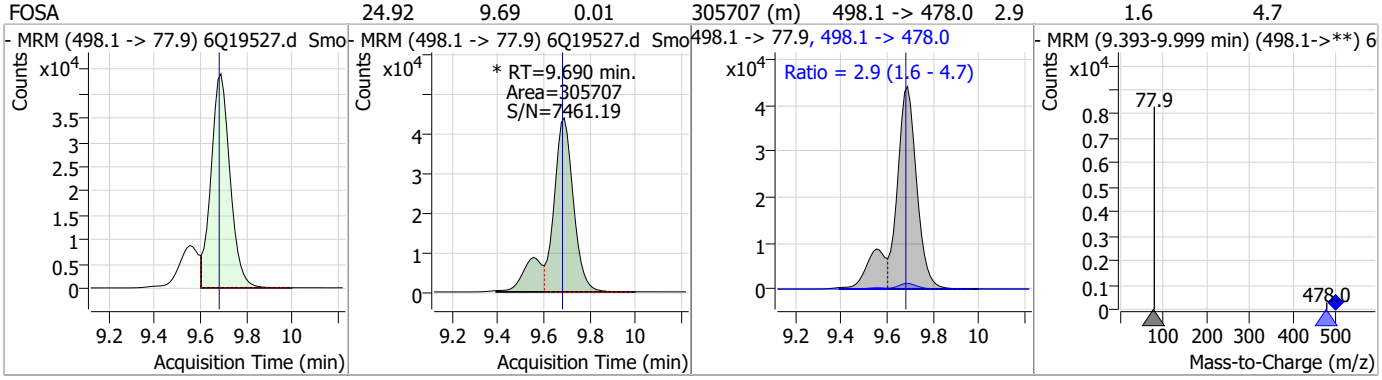




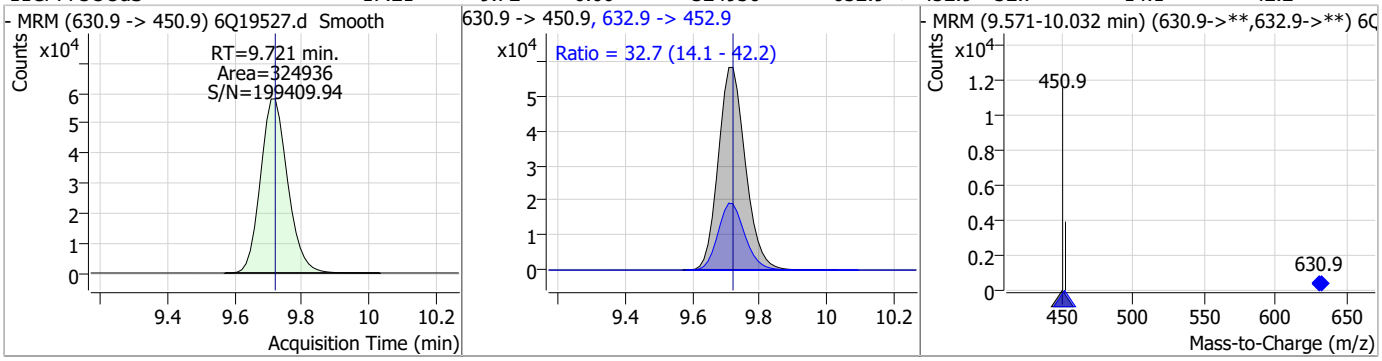


Perfluorinated Compounds by LC/MS/MS

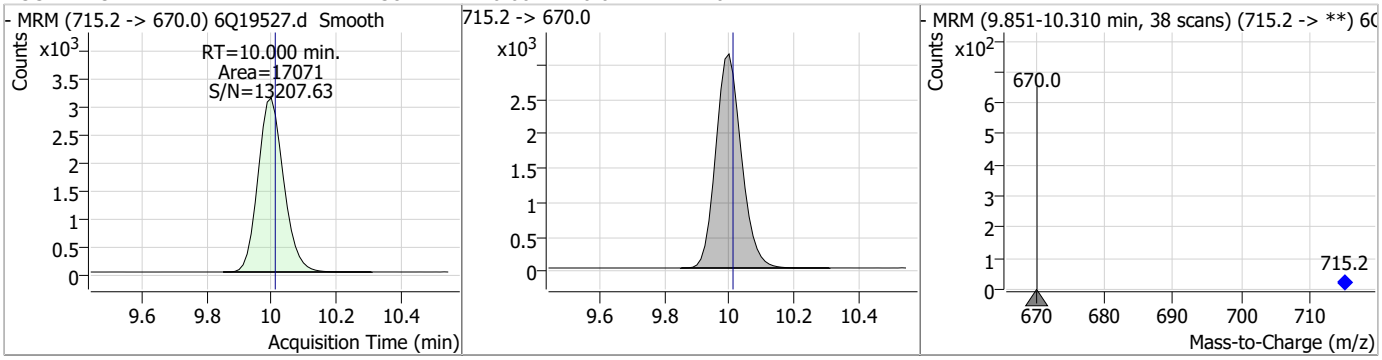
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	24.92	9.69	0.01	305707 (m)	498.1 -> 478.0	2.9	1.6	4.7



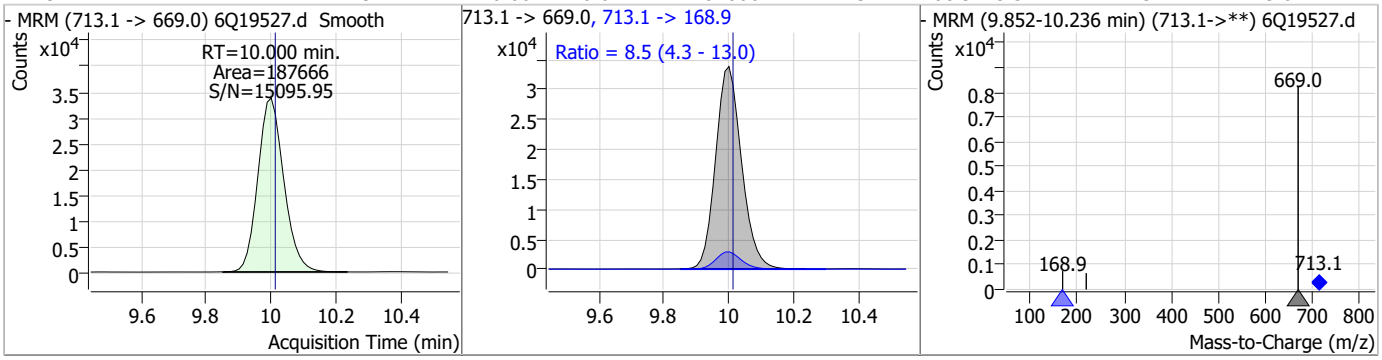
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	17.21	9.72	0.00	324936	632.9 -> 452.9	32.7	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.38	10.00	-0.01	17071				

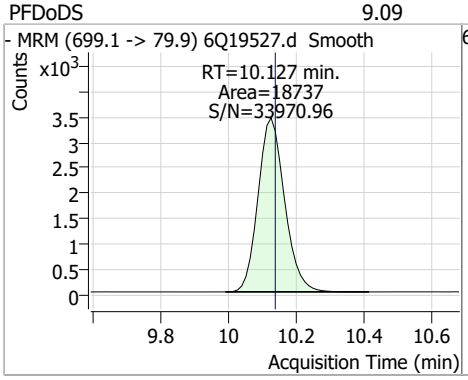


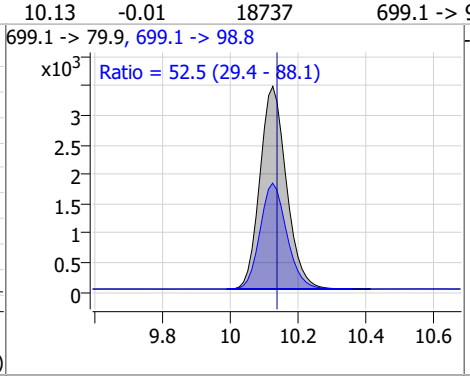
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	9.17	10.00	-0.01	187666	713.1 -> 168.9	8.5	4.3	13.0

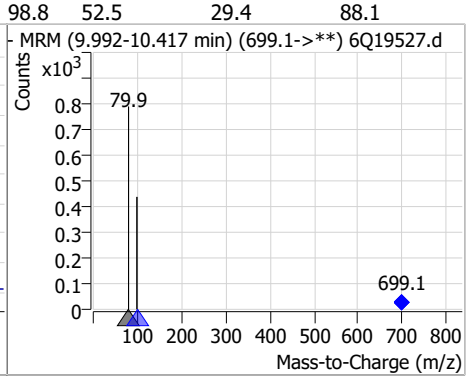


Perfluorinated Compounds by LC/MS/MS

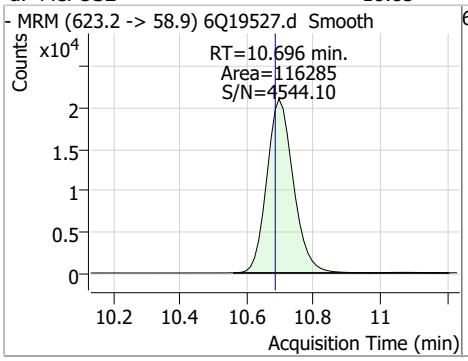
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	9.09	10.13	-0.01	18737	699.1 -> 98.8	52.5	29.4	88.1

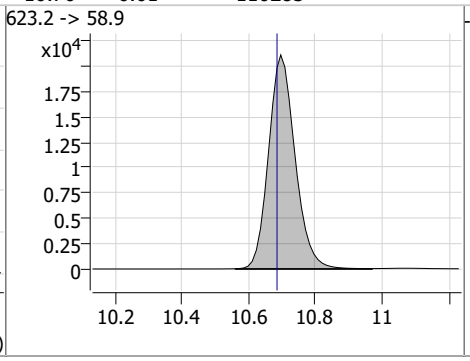


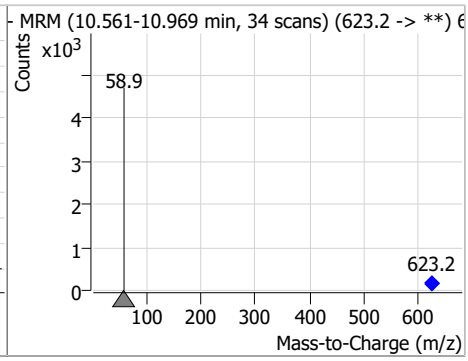




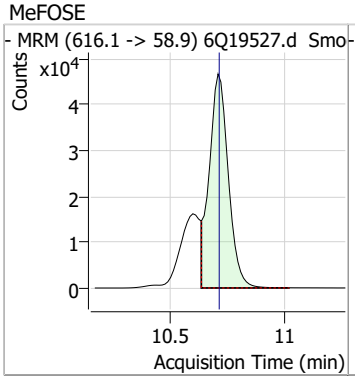
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	18.85	10.70	0.01	116285				

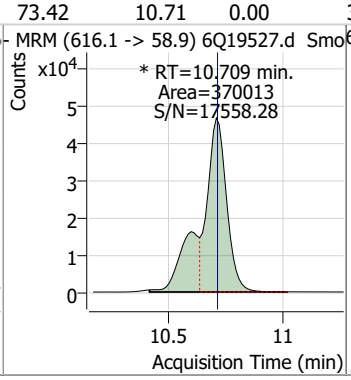


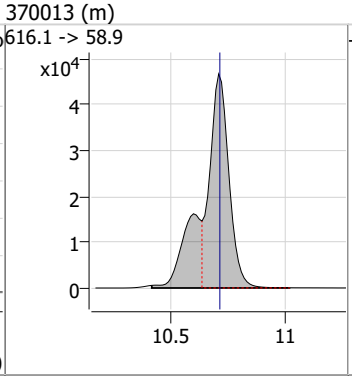


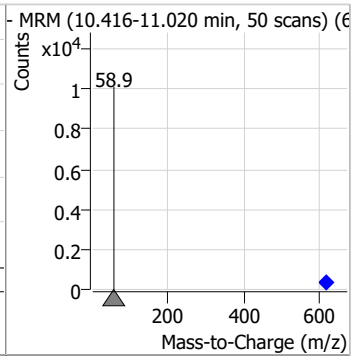


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	73.42	10.71	0.00	370013 (m)				

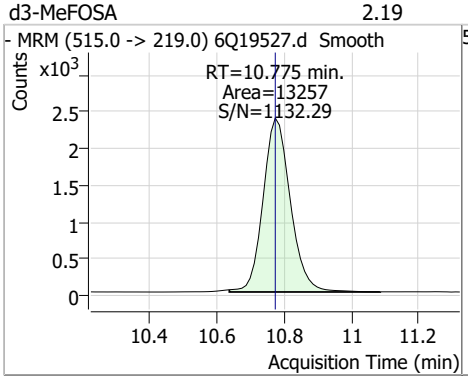


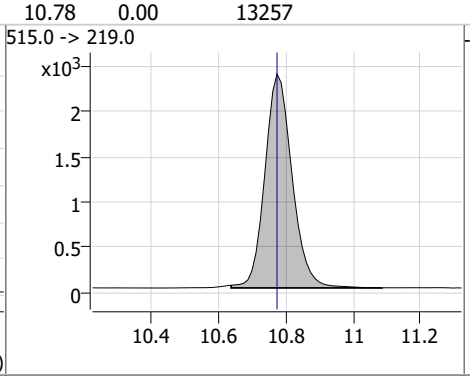


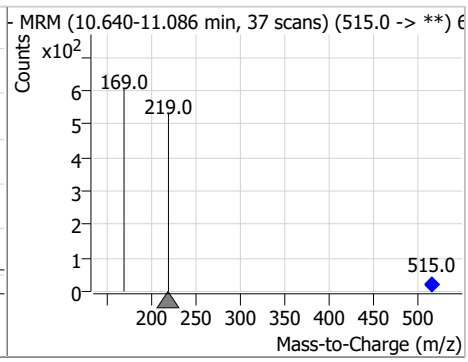




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.19	10.78	0.00	13257				

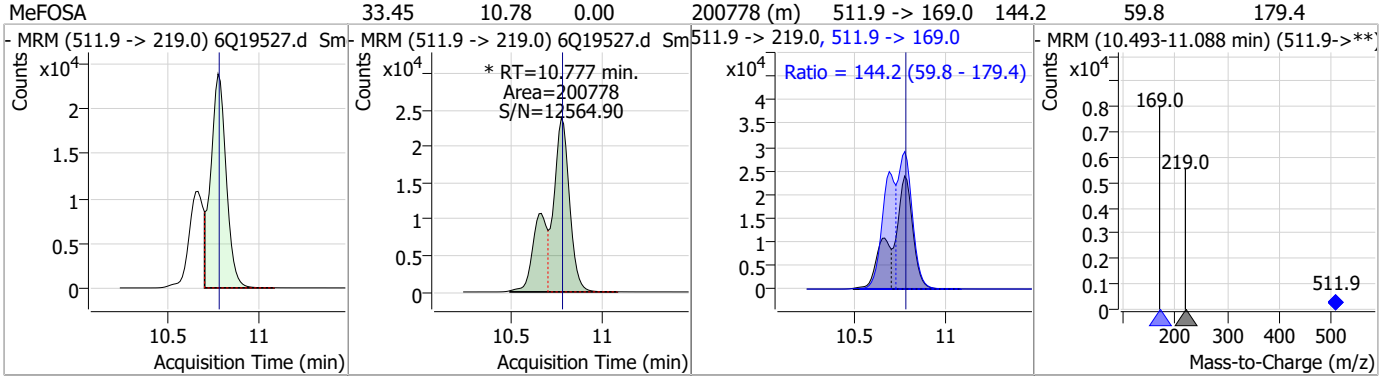




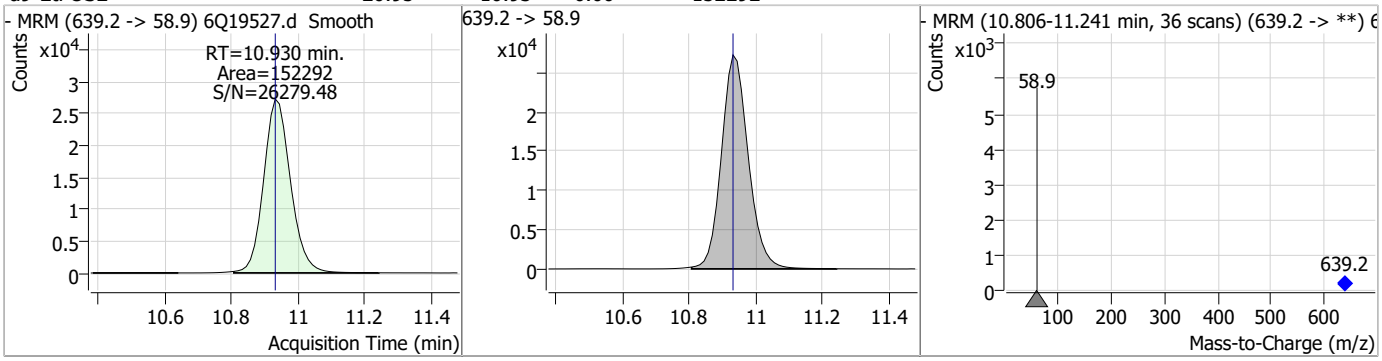


Perfluorinated Compounds by LC/MS/MS

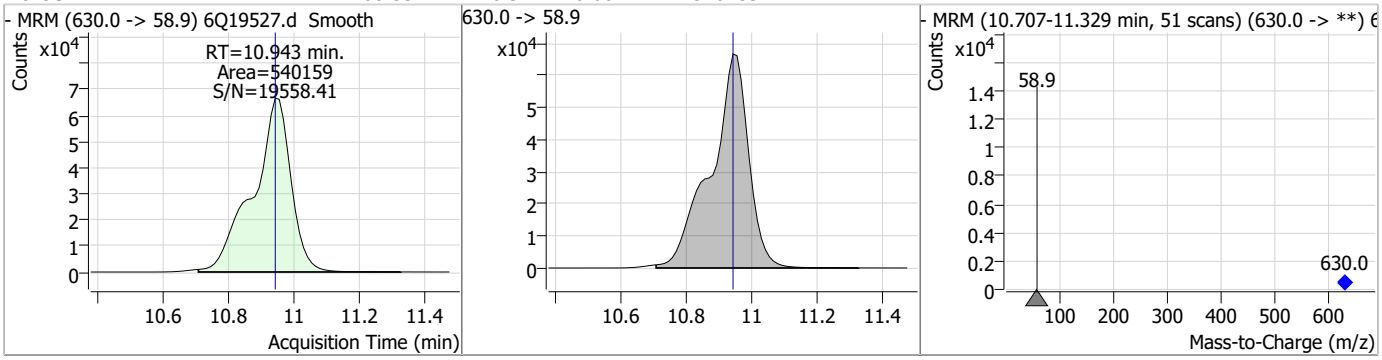
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	33.45	10.78	0.00	200778 (m)	511.9 -> 169.0	144.2	59.8	179.4



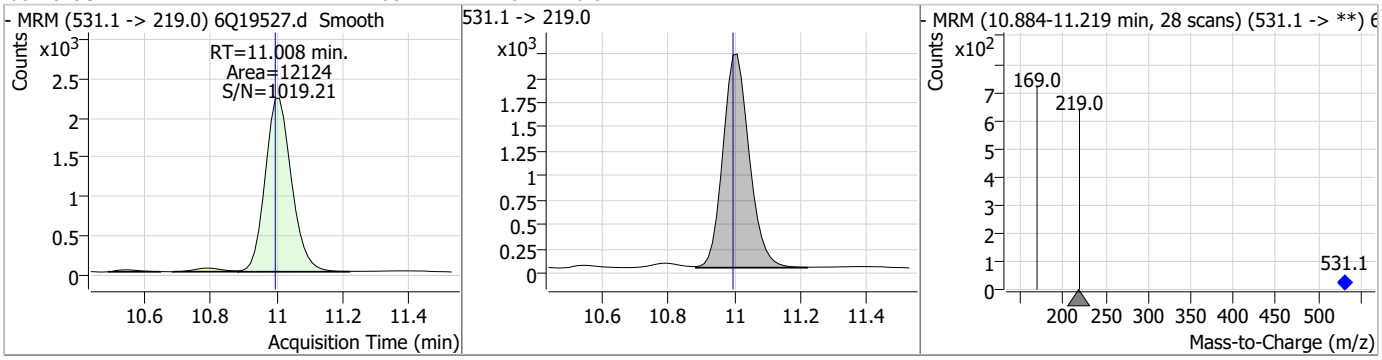
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	20.95	10.93	0.00	152292				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	68.53	10.94	0.00	540159				

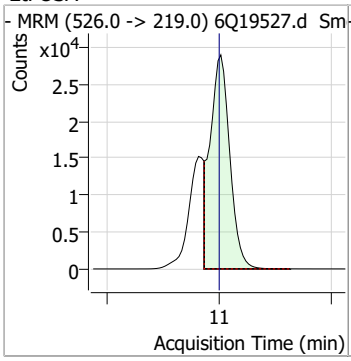


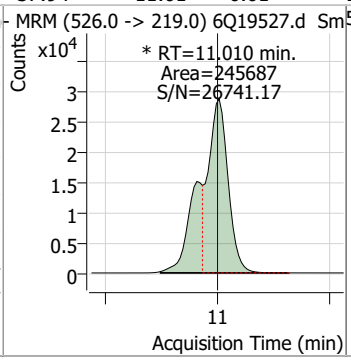
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.05	11.01	0.01	12124				

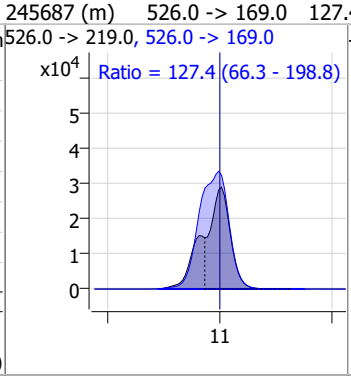


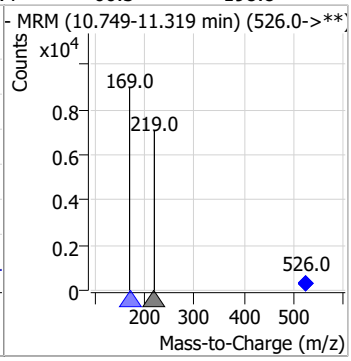
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	37.94	11.01	0.01	245687 (m)	526.0 -> 169.0	127.4	66.3	198.8









Manual Integration Approval Summary

Sample Number: S6Q292-RT
Lab FileID: 6Q19527.D
Injection Time: 06/19/23 13:42
Method: EPA DRAFT 1633
Analyst approved: 06/20/23 14:08 Martha Valls
Supervisor approved: 06/20/23 16:40 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.34	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.47	Split peak
Perfluorononanoic acid	375-95-1		7.75	Split peak
MeFOSAA	2355-31-9		8.41	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.55	Split peak
EtFOSAA	2991-50-6		8.62	Split peak
PFOSA	754-91-6		9.69	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak
EtFOSA	4151-50-2		11.01	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/21/23 16:17

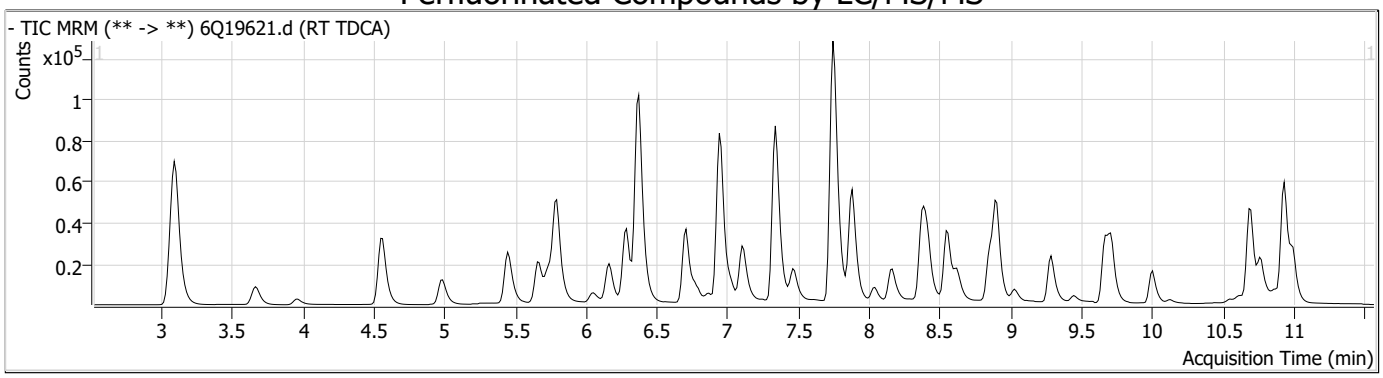
Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19621.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 2:42:09 PM
Sample Name : RT TDCA
Vial : P1-B3
DA Method File : TDCA.quantmethod.xml
Batch Name : s6q292 TDCA.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

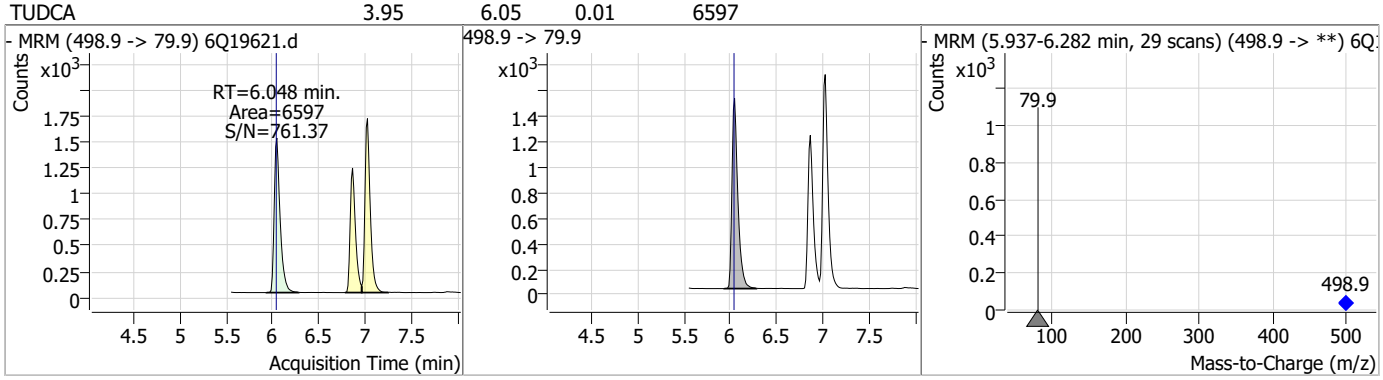
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Internal Standards							
M8-PFOS	8.563	507.1 -> 79.9	18812	2.50	µg/L		-0.008
13C4-PFOS	8.563	502.8 -> 79.9	25437	2.50	µg/L		-0.008
System Monitoring Compounds							
13C8-PFOS	8.563	507.1 -> 79.9	18812	1.88	µg/L		-0.008
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.0%			
Target Compounds							QValue
PFOS	8.564	498.9 -> 79.9	18625	2.90	µg/L	m	93
		498.9 -> 98.8	9237				
TCDCA	6.863	498.9 -> 79.9	5289	6.09	ng/ml		100
TDCA	7.025	498.9 -> 79.9	6481	8.24	ng/ml		100
TUDCA	6.048	498.9 -> 79.9	6597	3.95	ng/ml		100

 # = Qualifier out of range, m = manually integrated, + = Area summed

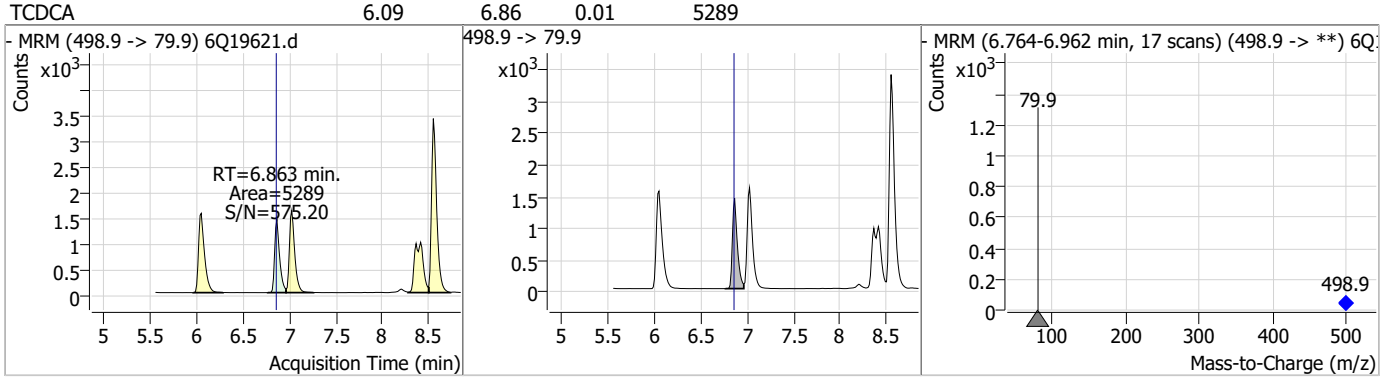
Perfluorinated Compounds by LC/MS/MS



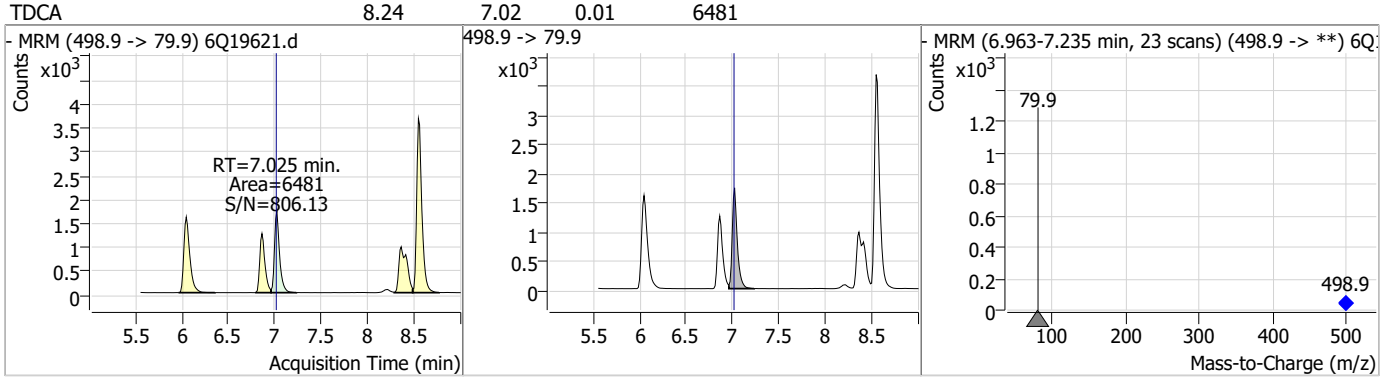
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TUDCA	3.95	6.05	0.01	6597				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TCDCA	6.09	6.86	0.01	5289				

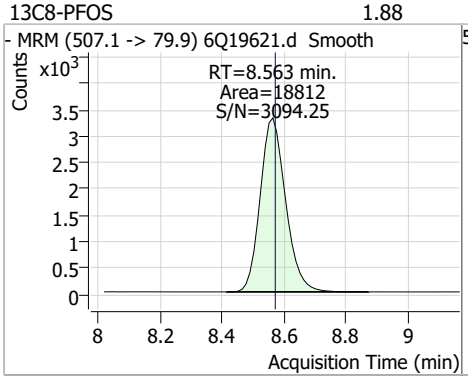


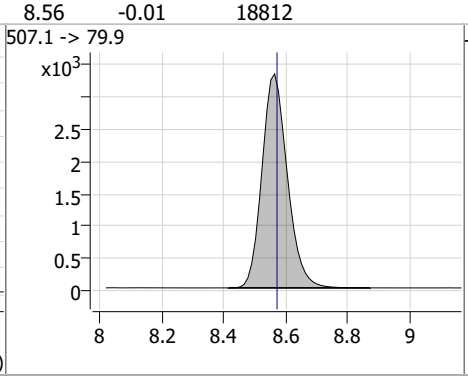
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TDCA	8.24	7.02	0.01	6481				

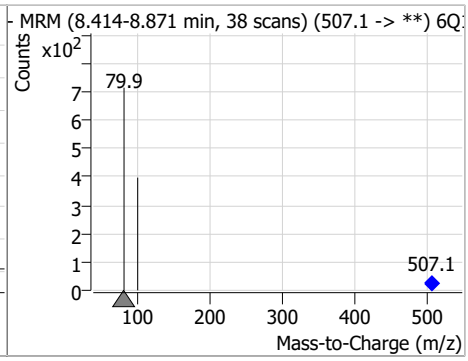


Perfluorinated Compounds by LC/MS/MS

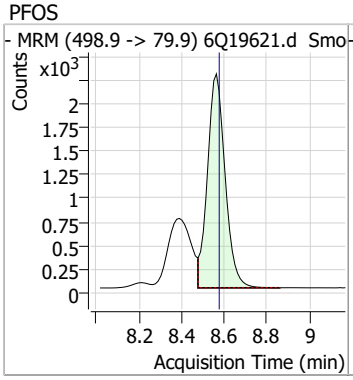
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.88	8.56	-0.01	18812				

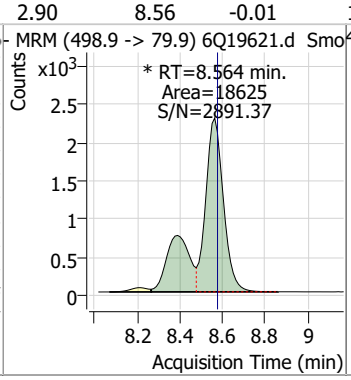


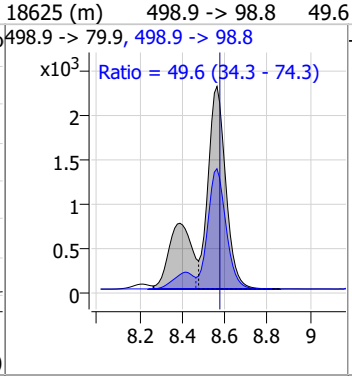


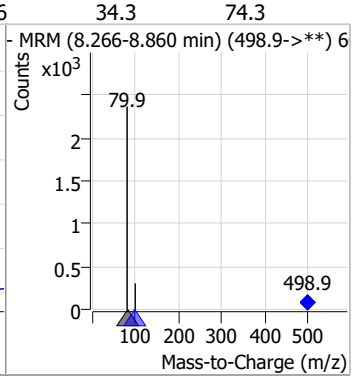


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.90	8.56	-0.01	18625 (m)	498.9 -> 98.8	49.6	34.3	74.3









Manual Integration Approval Summary

Sample Number:	S6Q292-RT	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19621.D	**Analyst approved:**	06/21/23 13:43 Martha Valls
Injection Time:	06/20/23 14:42	**Supervisor approved:**	06/21/23 16:17 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/21/23 16:17

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19622.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 2:56:07 PM
Sample Name : RT BR-LN
Vial : P1-B4
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	185990	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	61600	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	59501	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	58810	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	94001	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	43714	1.25	µg/L	-0.013
M6-PFDA	8.375	519.1 -> 474.1	26623	1.25	µg/L	-0.012
M7-PFUnDA	8.853	570.0 -> 525.1	35106	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	28627	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	14437	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	32799	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	25962	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	15859	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	14498	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3190	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4660	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4300	5.00	µg/L	0.000
M3-MeFOSAA	8.407	573.2 -> 419.0	33959	5.00	µg/L	-0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	47607	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	27625	5.00	µg/L	-0.012
M7-MeFOSE	10.696	623.2 -> 58.9	115509	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	145680	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12035	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	13655	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	18926	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	77288	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	10929	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	99595	2.50	µg/L	-0.012
13C2-PFDA	8.375	515.1 -> 470.1	37211	1.25	µg/L	-0.012
13C5-PFNA	7.882	468.0 -> 423.0	52693	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	61363	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3190	4.86	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.3%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4660	4.70	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.1%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4300	4.62	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.3%		
13C2-PFDoDA	9.285	615.1 -> 570.0	28627	1.15	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.1%		
13C2-PFTeDA	10.000	715.2 -> 670.0	14437	1.04	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 83.2%		
13C3-PFBS	5.746	302.1 -> 79.9	25962	2.85	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.1%		
13C3-PFHxS	7.478	402.1 -> 79.9	15859	2.76	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.5%		
13C4-PFBA	3.085	216.8 -> 171.9	185990	10.26 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.6%		
13C4-PFHpA	6.707	367.1 -> 322.0	58810	2.48 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C5-PFHxA	5.792	318.0 -> 273.0	59501	2.35 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.0%		
13C5-PFPeA	4.560	268.3 -> 223.0	61600	5.31 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.1%		
13C6-PFDA	8.375	519.1 -> 474.1	26623	1.25 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C7-PFUnDA	8.853	570.0 -> 525.1	35106	1.23 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C8-FOSA	9.687	506.1 -> 77.8	32799	2.29 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.5%		
13C8-PFOA	7.339	421.1 -> 376.0	94001	2.52 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%		
13C8-PFOS	8.563	507.1 -> 79.9	14498	2.54 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%		
13C9-PFNA	7.882	472.1 -> 427.0	43714	1.36 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.0%		
d3-MeFOSAA	8.407	573.2 -> 419.0	33959	4.74 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.8%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	47607	11.23 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 112.3%		
d3-MeFOSA	10.775	515.0 -> 219.0	13655	2.19 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.7%		
d5-EtFOSAA	8.615	589.2 -> 419.0	27625	4.55 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.9%		
d7-MeFOSE	10.696	623.2 -> 58.9	115509	18.19 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 72.8%		
d9-EtFOSE	10.930	639.2 -> 58.9	145680	19.46 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 77.8%		
d5-EtFOSA	10.996	531.1 -> 219.0	12035	1.98 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 79.2%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	205747	37.09 µg/L		100
		327.1 -> 80.9	77314			
6:2FTS	7.101	427.1 -> 407.0	197394	35.58 µg/L		98
		427.1 -> 80.9	67153			
8:2FTS	8.164	527.1 -> 507.0	103591	36.25 µg/L		99
		527.1 -> 80.8	40262			
EtFOSAA	8.629	584.2 -> 419.1	44903	9.60 µg/L	m	97
		584.2 -> 526.0	22717			
FOSA	9.677	498.1 -> 77.9	310989	23.87 µg/L	m	100
		498.1 -> 478.0	9410			
MeFOSAA	8.421	570.1 -> 419.0	76092	8.64 µg/L	m	94
		570.1 -> 483.0	16643			
PFBA	3.093	212.8 -> 168.9	289730	38.66 µg/L		100
PFBS	5.747	298.7 -> 79.9	91328	7.88 µg/L		98
		298.7 -> 98.8	33450			
PFDA	8.388	512.9 -> 469.0	366750	9.26 µg/L		97
		512.9 -> 219.0	53831			
PFDoDA	9.285	613.1 -> 569.0	215886	9.08 µg/L		98
		613.1 -> 319.0	32857			
PFDS	9.450	599.0 -> 79.9	36611	8.35 µg/L		94

Perfluorinated Compounds by LC/MS/MS

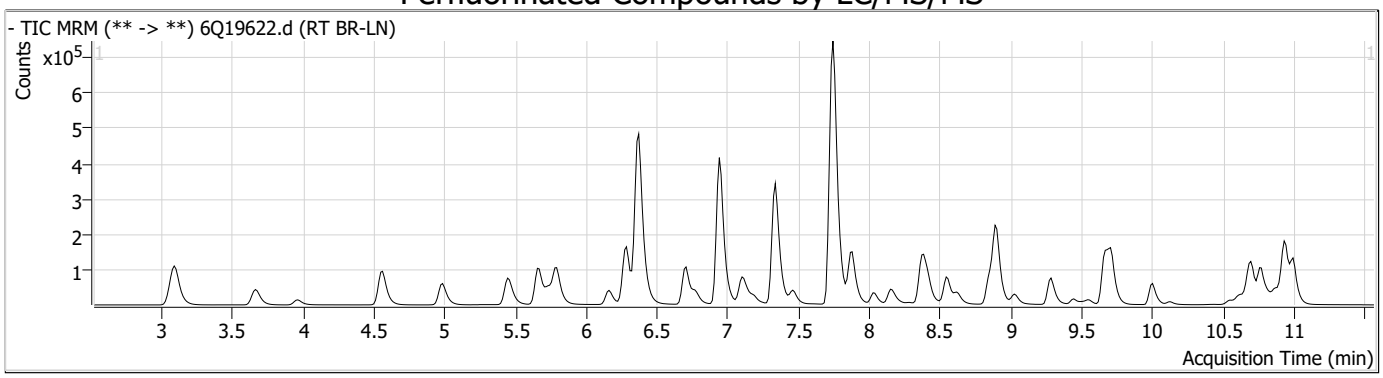
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	17807				
PFHpA	6.708	363.1 -> 319.0	303617	9.67	µg/L		98
		363.1 -> 169.0	48089				
PFHpS	8.046	449.0 -> 79.9	78624	9.07	µg/L		100
		449.0 -> 98.9	40266				
PFHxA	5.795	313.0 -> 269.0	245925	10.24	µg/L		100
		313.0 -> 118.9	12768				
PFHxS	7.467	398.7 -> 79.9	78640	8.23	µg/L	m	92
		398.7 -> 98.9	35800				
PFNA	7.746	463.0 -> 419.0	764329	18.91	µg/L	m	98
		463.0 -> 219.0	151595				
PFNS	9.041	548.8 -> 79.9	67128	8.93	µg/L		98
		548.8 -> 98.9	33591				
PFOA	7.341	413.0 -> 369.0	1022513	19.80	µg/L	m	98
		413.0 -> 169.0	182554				
PFOS	8.564	498.9 -> 79.9	70561	8.20	µg/L	m	96
		498.9 -> 98.8	35212				
PFPeA	4.563	263.0 -> 219.0	342425	18.83	µg/L		100
PFPeS	6.785	349.1 -> 79.9	75051	8.45	µg/L		95
		349.1 -> 98.9	33436				
PFTeDA	10.000	713.1 -> 669.0	170733	9.87	µg/L		100
		713.1 -> 168.9	14803				
PFTrDA	9.669	663.0 -> 619.0	216021	8.95	µg/L		99
		663.0 -> 168.9	21829				
PFUnDA	8.854	563.1 -> 519.0	238927	8.82	µg/L		99
		563.1 -> 269.1	43136				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	298398	13.76	µg/L		90
		632.9 -> 452.9	99295				
9Cl-PF3ONS	8.906	530.8 -> 351.0	572307	15.32	µg/L		99
		532.8 -> 353.0	179166				
ADONA	6.946	376.9 -> 250.9	1221377	15.86	µg/L		98
		376.9 -> 84.8	340916				
HFPO-DA	6.169	284.9 -> 168.9	92443	18.55	µg/L		100
		284.9 -> 184.9	10743				
3:3FTCA	3.958	241.0 -> 177.0	55643	45.23	µg/L		100
		241.0 -> 117.0	7533				
5:3FTCA	6.374	341.0 -> 237.1	1153127	241.60	µg/L		94
		341.0 -> 217.0	805247				
7:3FTCA	7.748	441.0 -> 316.9	770898	238.88	µg/L		98
		441.0 -> 336.9	1762707				
EtFOSA	10.997	526.0 -> 219.0	249009	38.73	µg/L		95
		526.0 -> 169.0	344237				
EtFOSE	10.943	630.0 -> 58.9	514980	68.31	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	213800	34.58	µg/L	m	84
		511.9 -> 169.0	293247				
MeFOSE	10.709	616.1 -> 58.9	338297	67.58	µg/L	m	100
PFDoDS	10.127	699.1 -> 79.9	17815	8.25	µg/L		92
		699.1 -> 98.8	9377				
NFDHA	5.673	295.0 -> 201.0	66049	21.53	µg/L		97
		295.0 -> 84.9	16770				
PFMBA	4.988	279.0 -> 85.1	247652	19.10	µg/L		100
PFMPA	3.667	229.0 -> 84.9	197864	19.51	µg/L		100
PFEESA	6.288	314.8 -> 134.9	580943	17.90	µg/L		100
		314.8 -> 82.9	20621				

 # = Qualifier out of range, m = manually integrated, + = Area summed

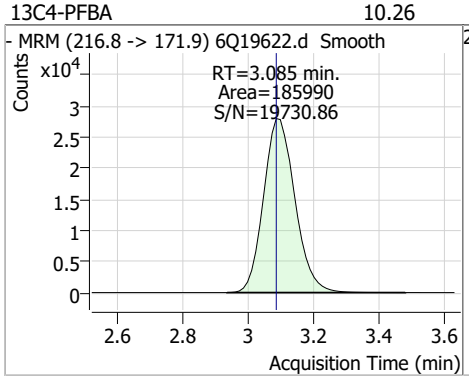
Perfluorinated Compounds by LC/MS/MS

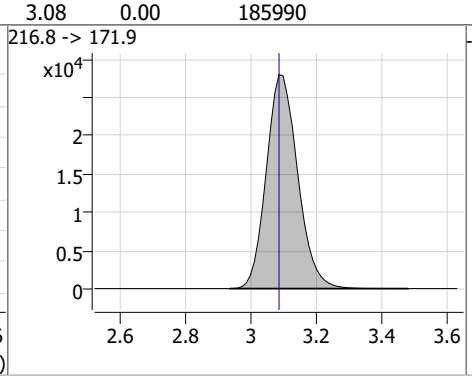
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

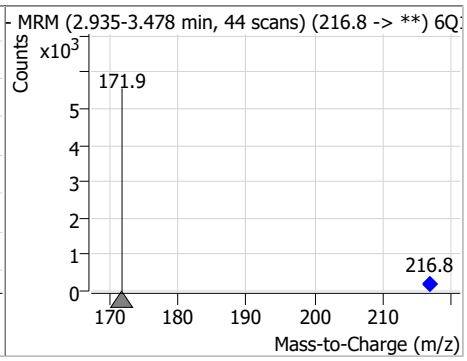
Perfluorinated Compounds by LC/MS/MS



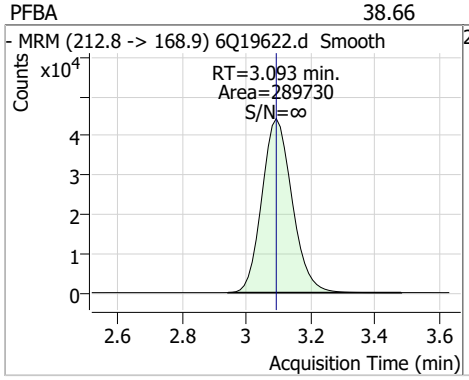
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.26	3.08	0.00	185990				

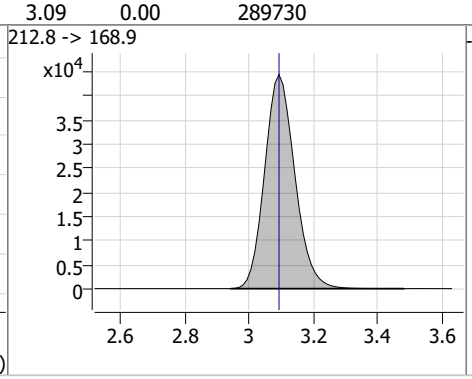


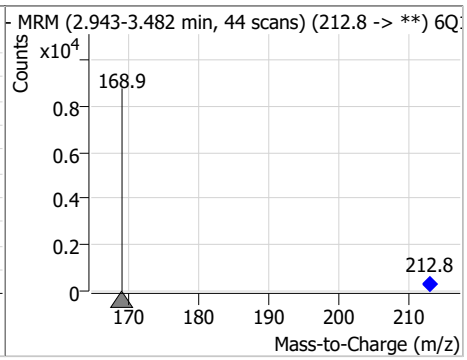




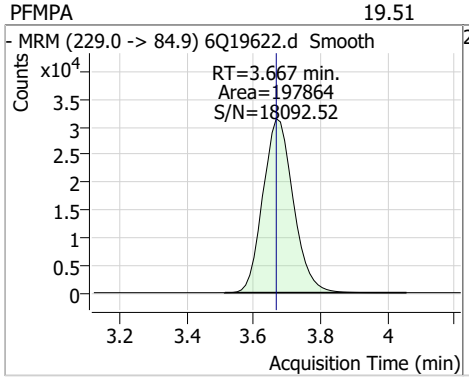
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	38.66	3.09	0.00	289730				

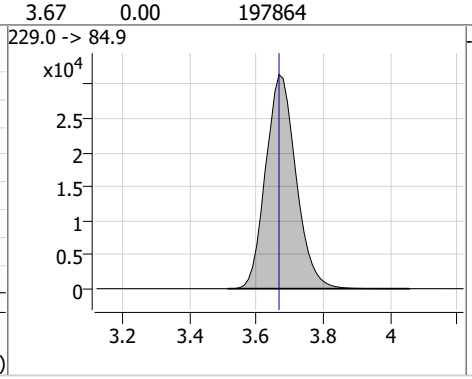


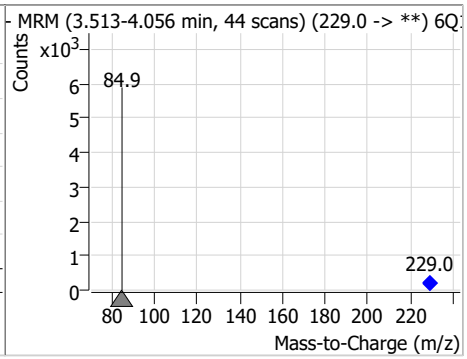




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	19.51	3.67	0.00	197864				

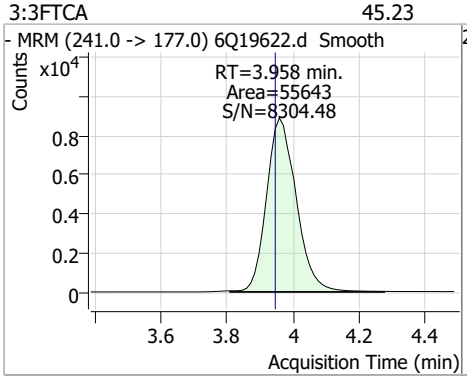


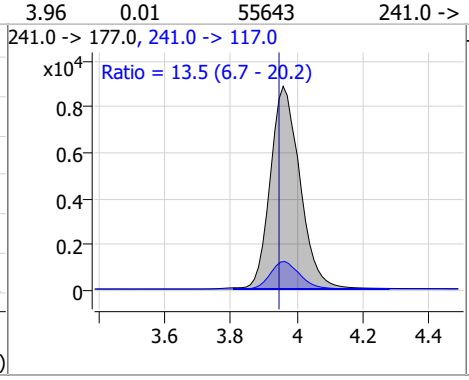


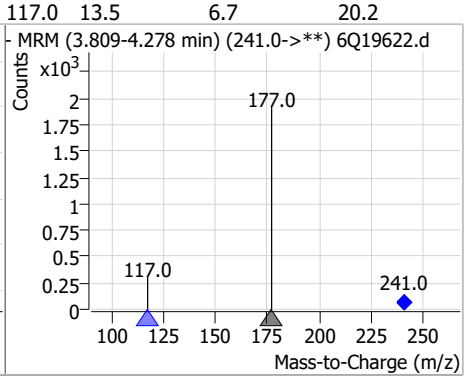


Perfluorinated Compounds by LC/MS/MS

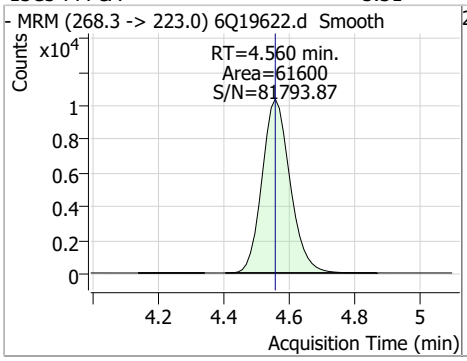
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	45.23	3.96	0.01	55643	241.0 -> 117.0	13.5	6.7	20.2

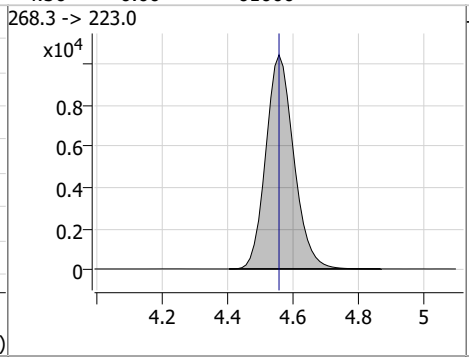


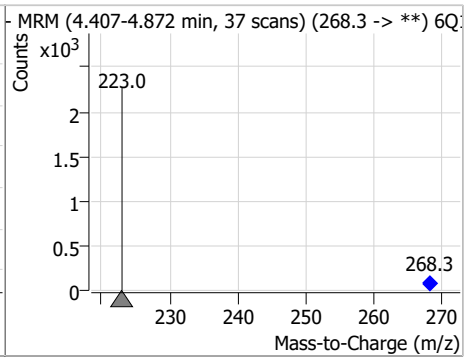




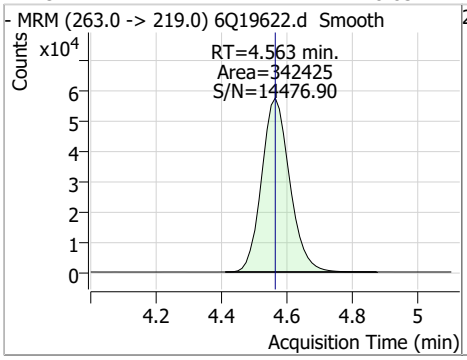
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.31	4.56	0.00	61600				

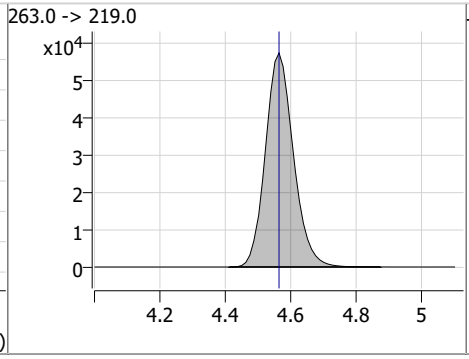


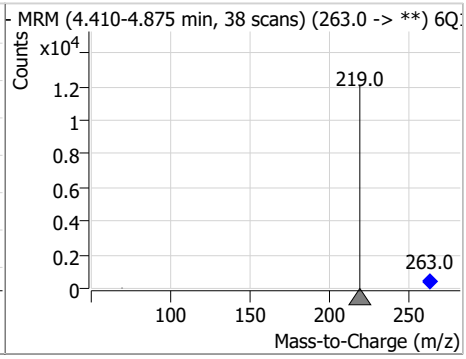




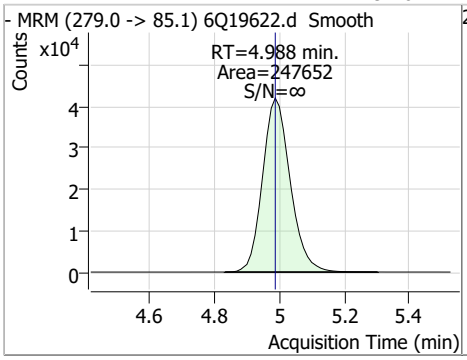
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	18.83	4.56	0.00	342425				

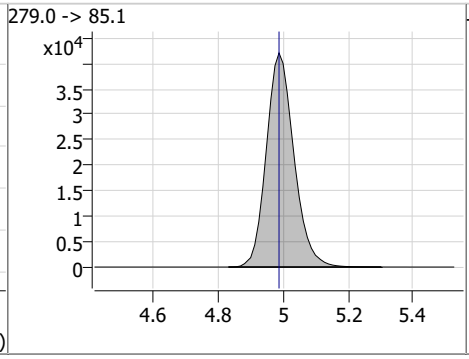


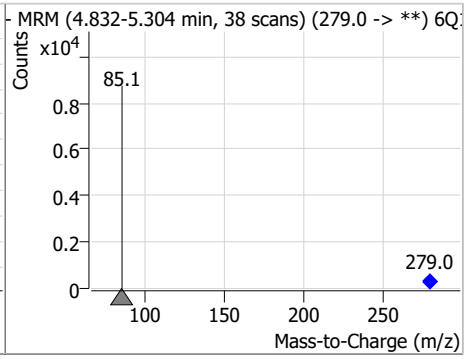




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	19.10	4.99	0.00	247652				

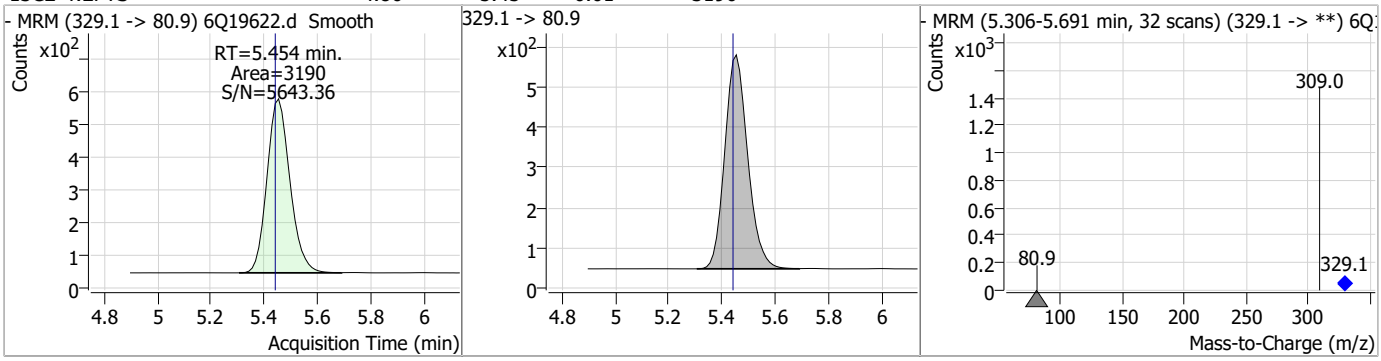




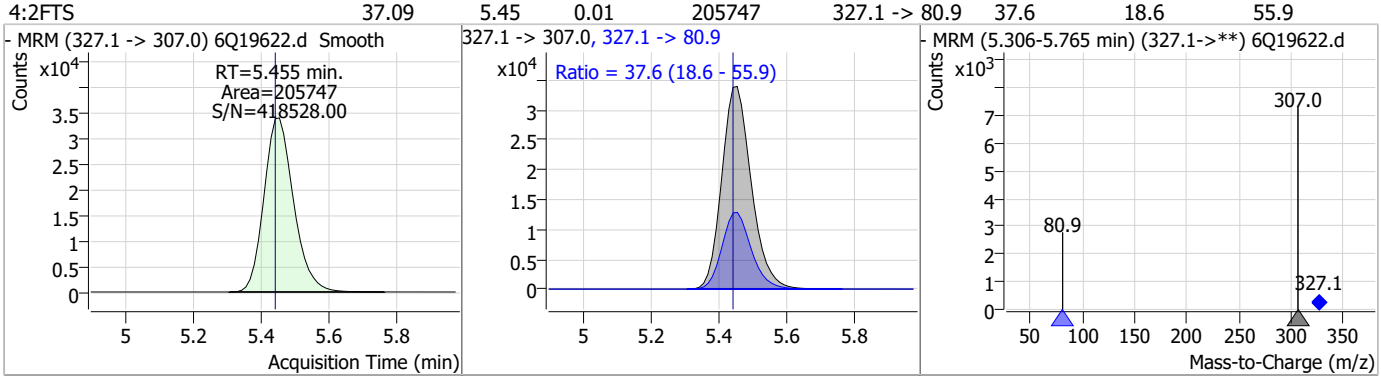


Perfluorinated Compounds by LC/MS/MS

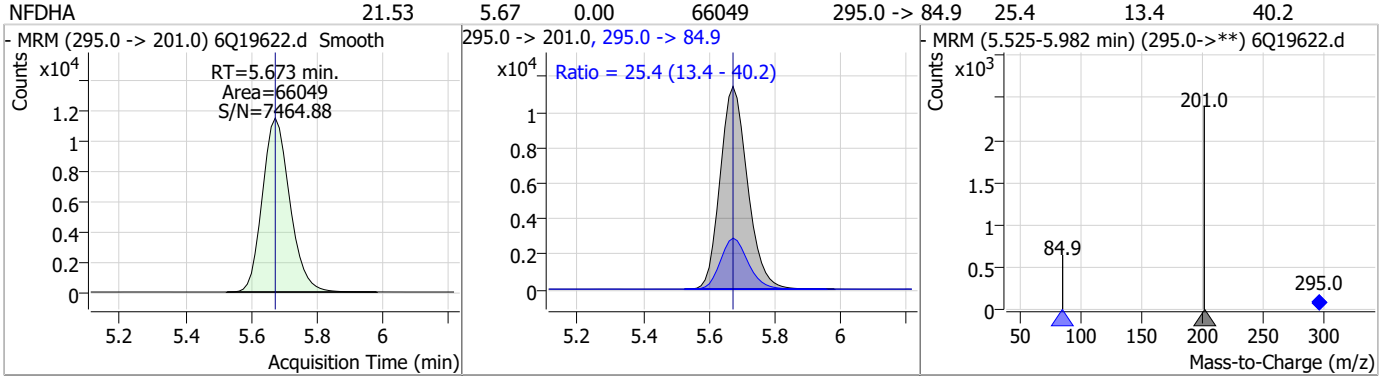
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.86	5.45	0.01	3190				



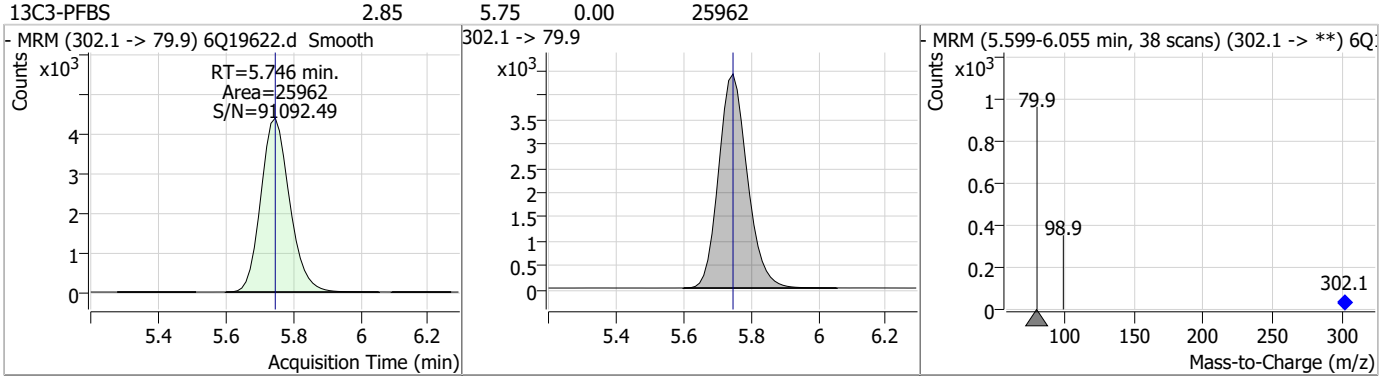
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	37.09	5.45	0.01	205747	327.1 -> 80.9	37.6	18.6	55.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	21.53	5.67	0.00	66049	295.0 -> 84.9	25.4	13.4	40.2

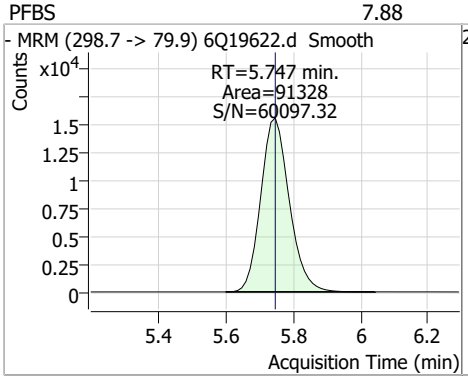


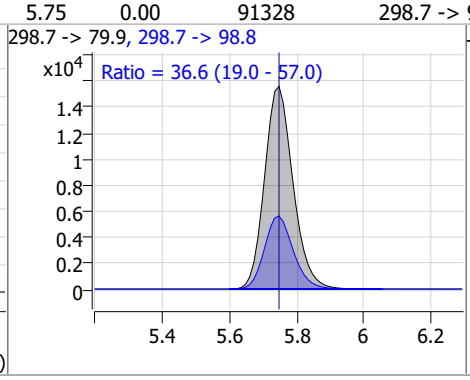
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.85	5.75	0.00	25962				

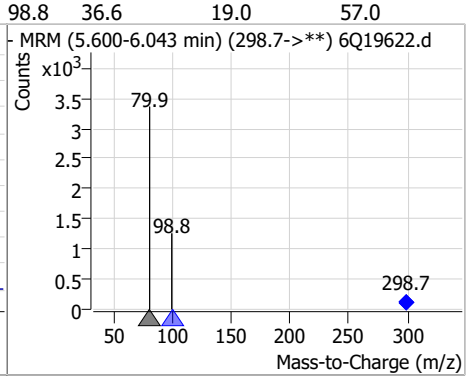


Perfluorinated Compounds by LC/MS/MS

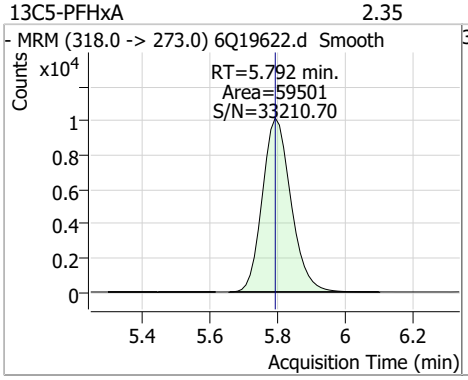
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	7.88	5.75	0.00	91328	298.7 -> 98.8	36.6	19.0	57.0

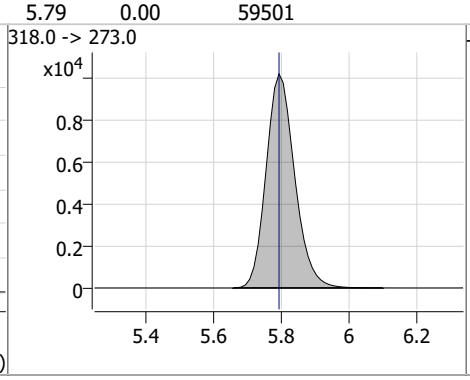


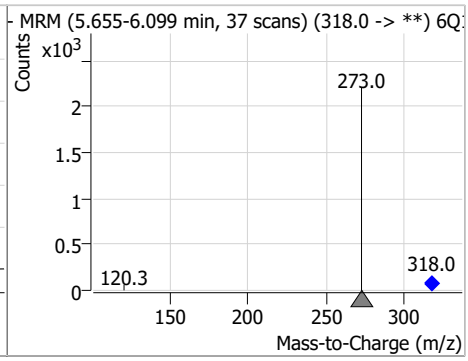




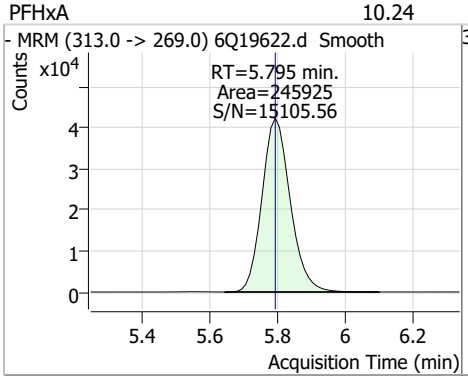
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.35	5.79	0.00	59501				

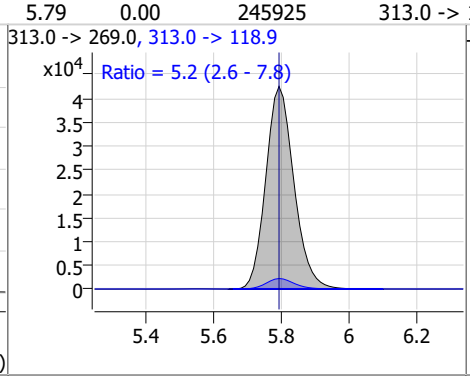


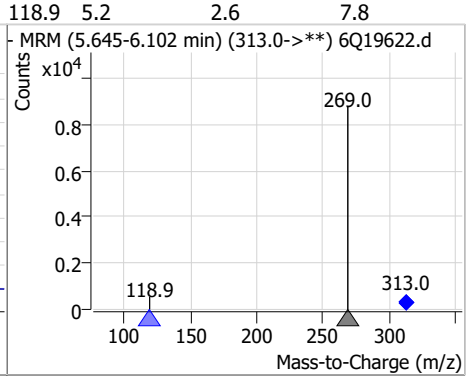




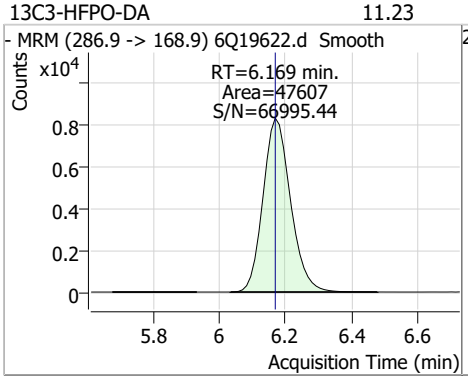
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	10.24	5.79	0.00	245925	313.0 -> 118.9	5.2	2.6	7.8

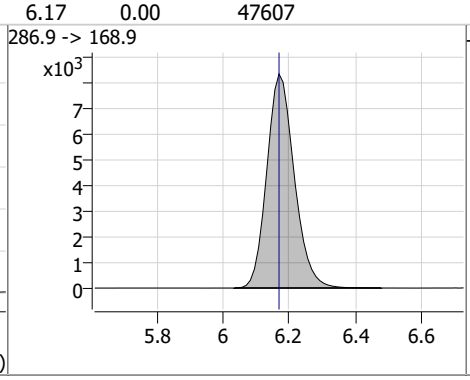


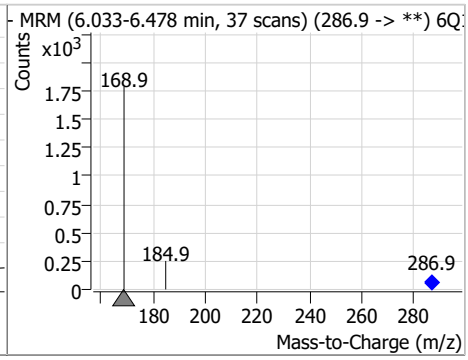




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.23	6.17	0.00	47607				

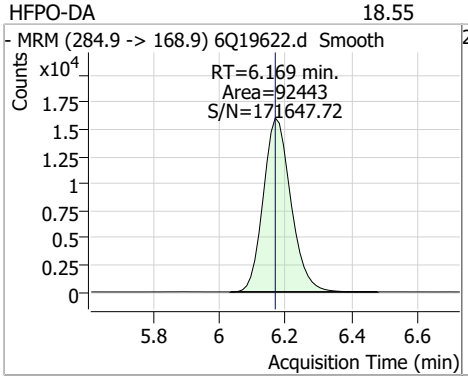


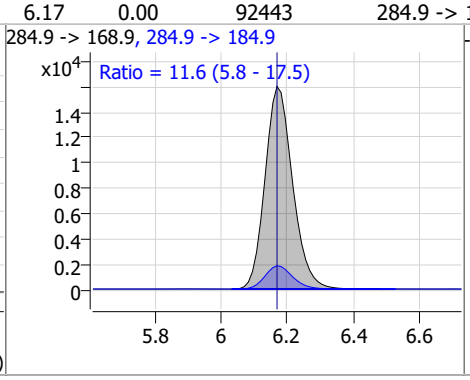


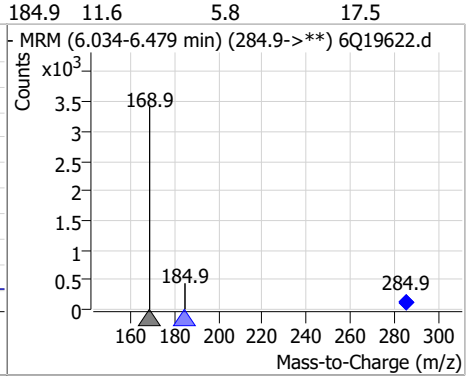


Perfluorinated Compounds by LC/MS/MS

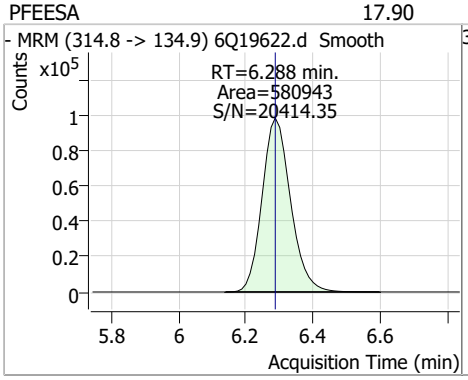
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	18.55	6.17	0.00	92443	284.9 -> 184.9	11.6	5.8	17.5

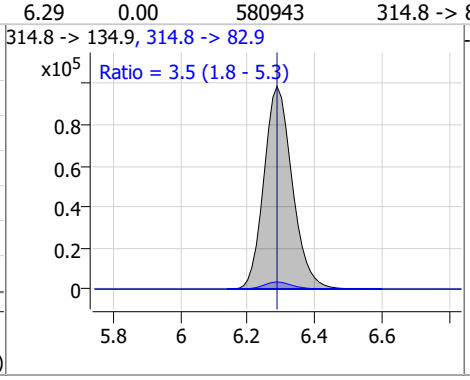


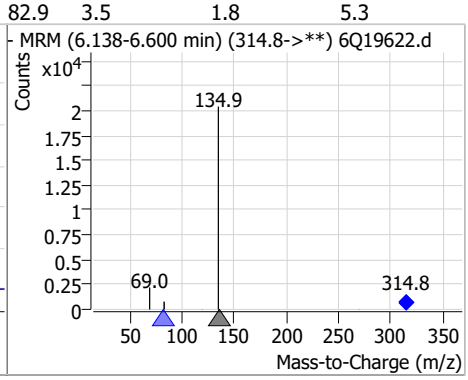




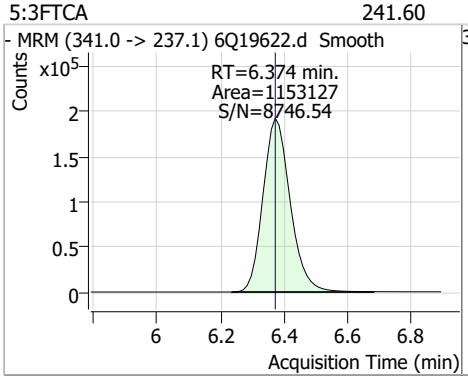
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	17.90	6.29	0.00	580943	314.8 -> 82.9	3.5	1.8	5.3

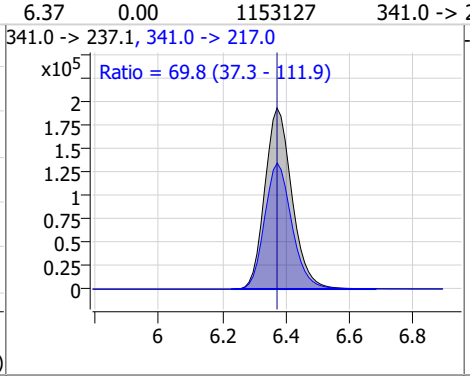


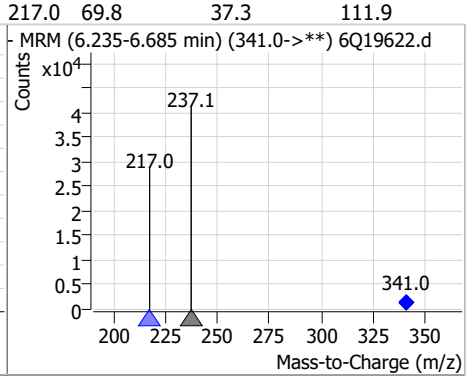




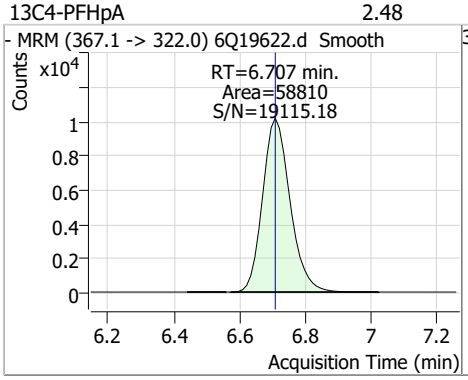
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	241.60	6.37	0.00	1153127	341.0 -> 217.0	69.8	37.3	111.9

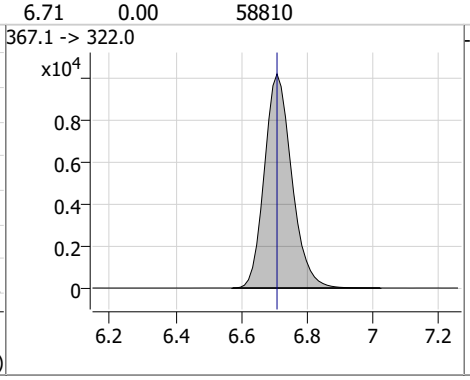


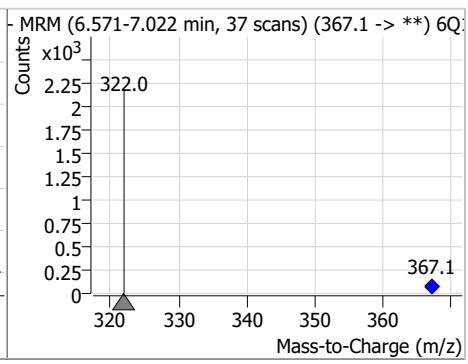




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.48	6.71	0.00	58810				

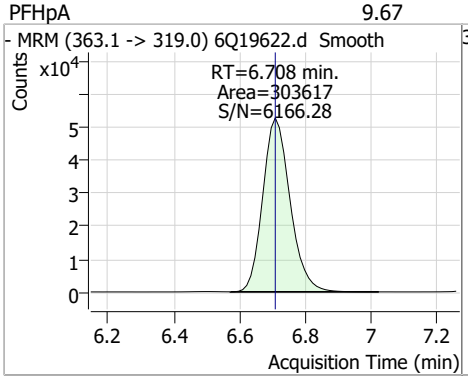


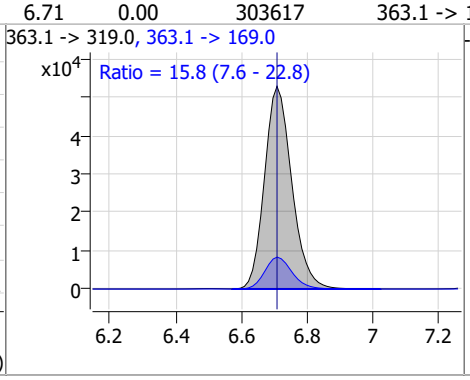


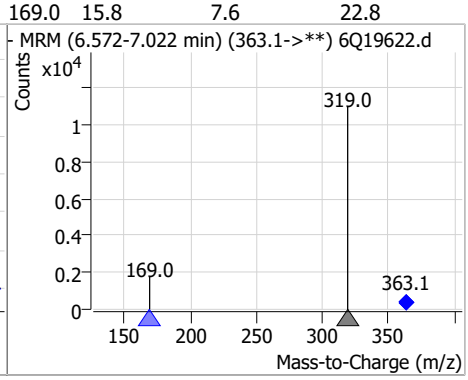


Perfluorinated Compounds by LC/MS/MS

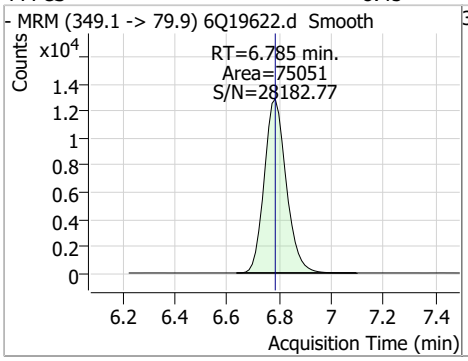
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	9.67	6.71	0.00	303617	363.1 -> 169.0	15.8	7.6	22.8

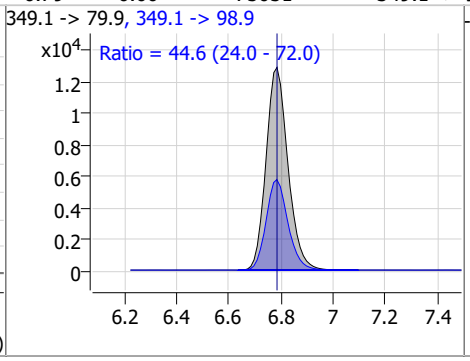


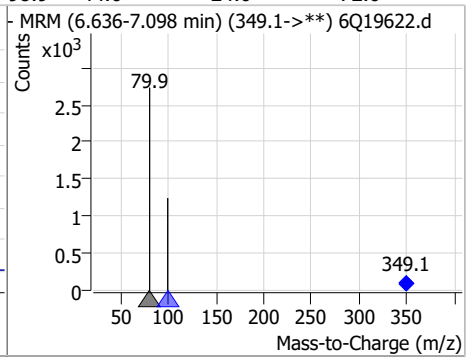




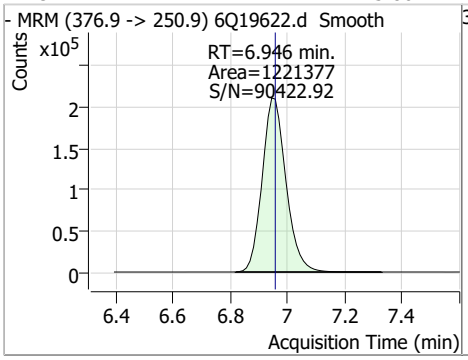
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	8.45	6.79	0.00	75051	349.1 -> 98.9	44.6	24.0	72.0

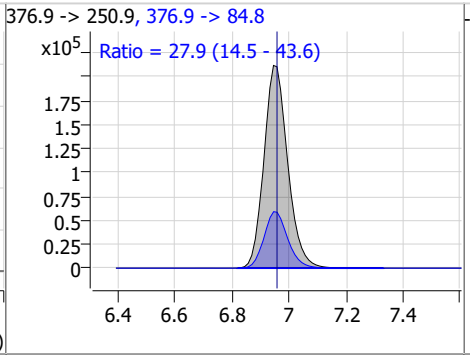


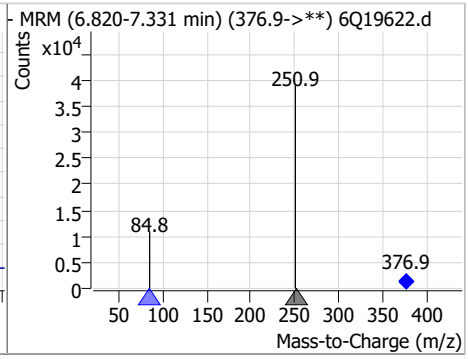




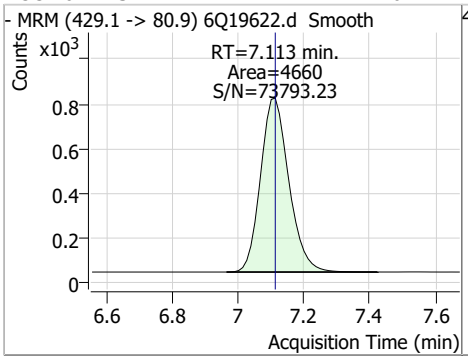
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	15.86	6.95	-0.01	1221377	376.9 -> 84.8	27.9	14.5	43.6

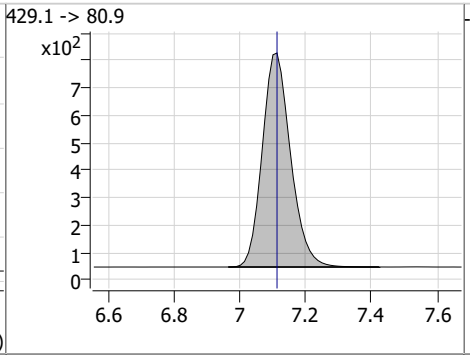


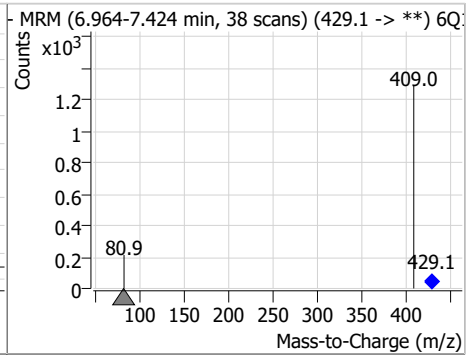




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.70	7.11	0.00	4660				

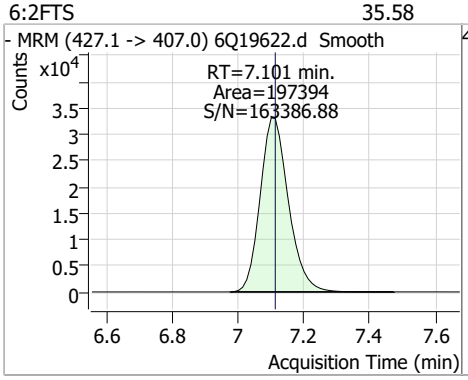


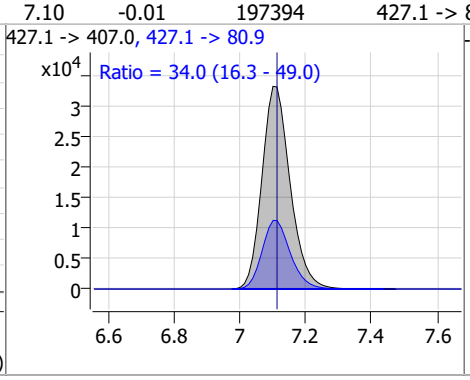


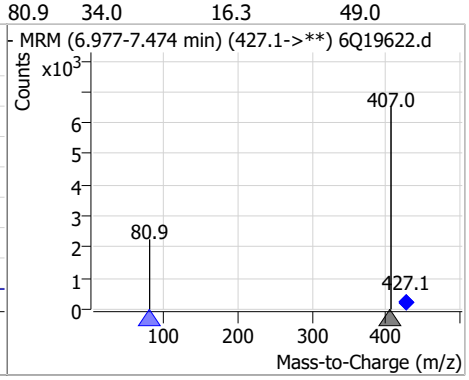


Perfluorinated Compounds by LC/MS/MS

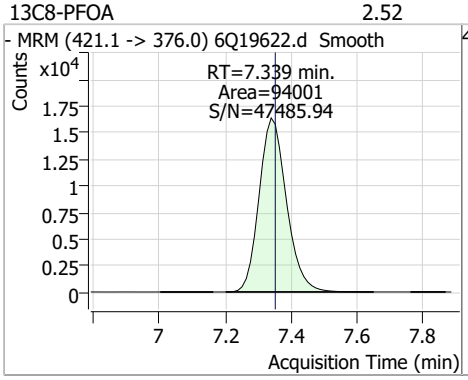
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	35.58	7.10	-0.01	197394	427.1 -> 80.9	34.0	16.3	49.0

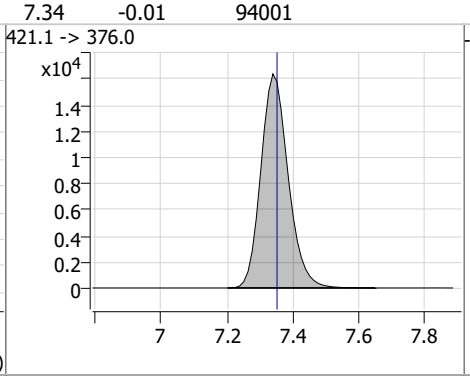


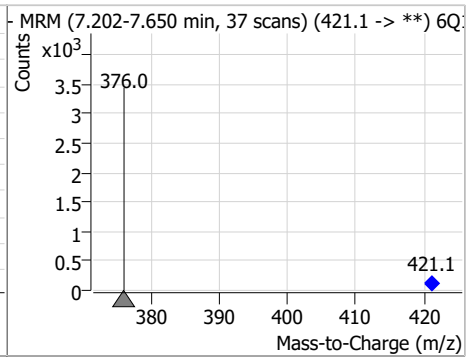




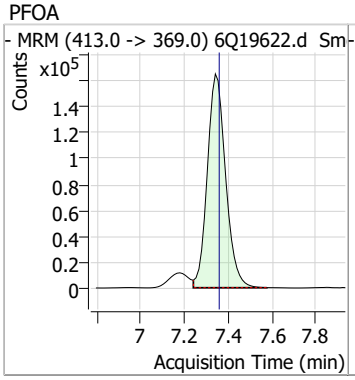
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.52	7.34	-0.01	94001				

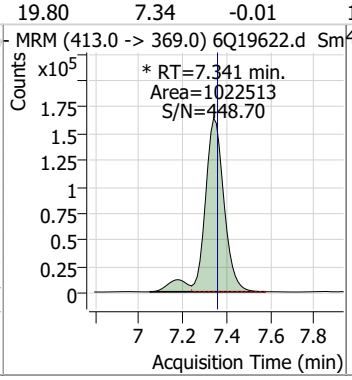


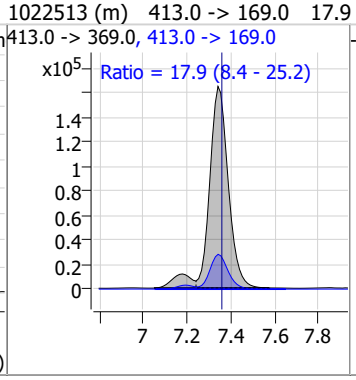


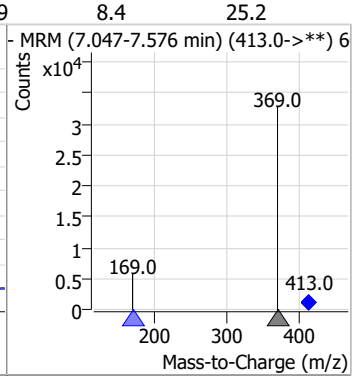


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	19.80	7.34	-0.01	1022513 (m)	413.0 -> 169.0	17.9	8.4	25.2

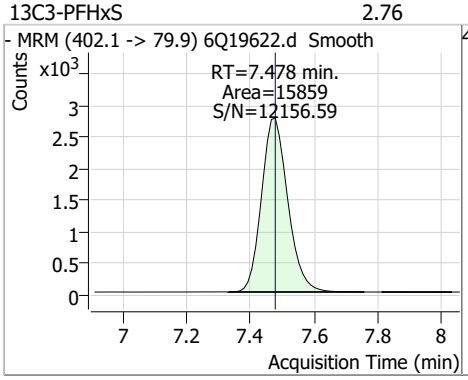


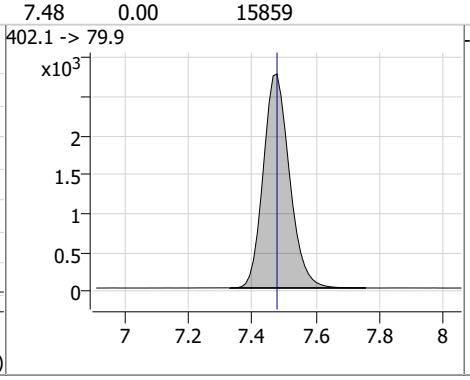


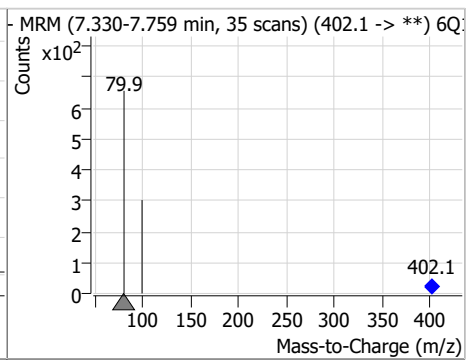




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.76	7.48	0.00	15859				

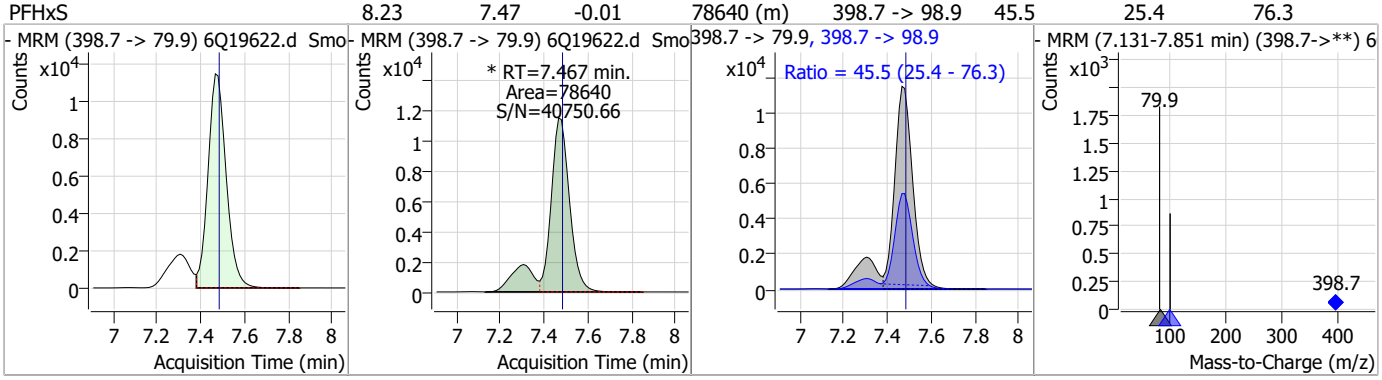




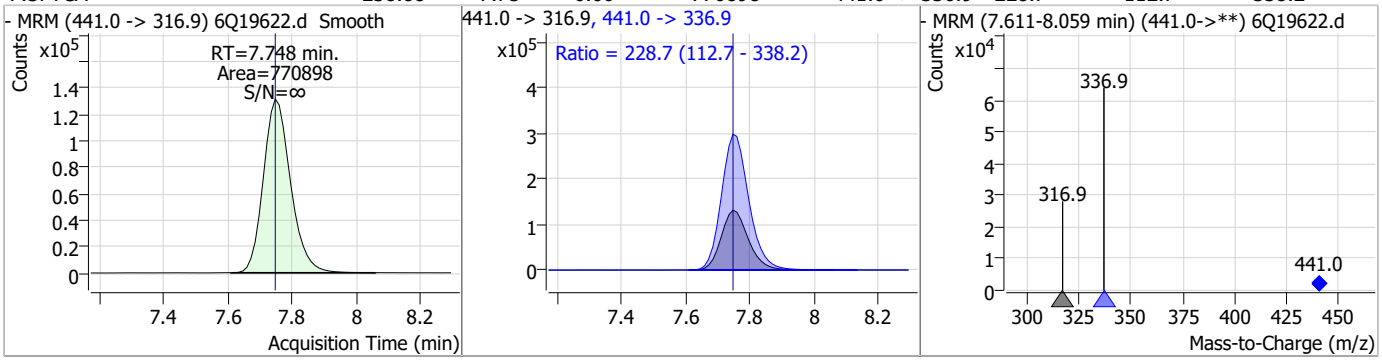


Perfluorinated Compounds by LC/MS/MS

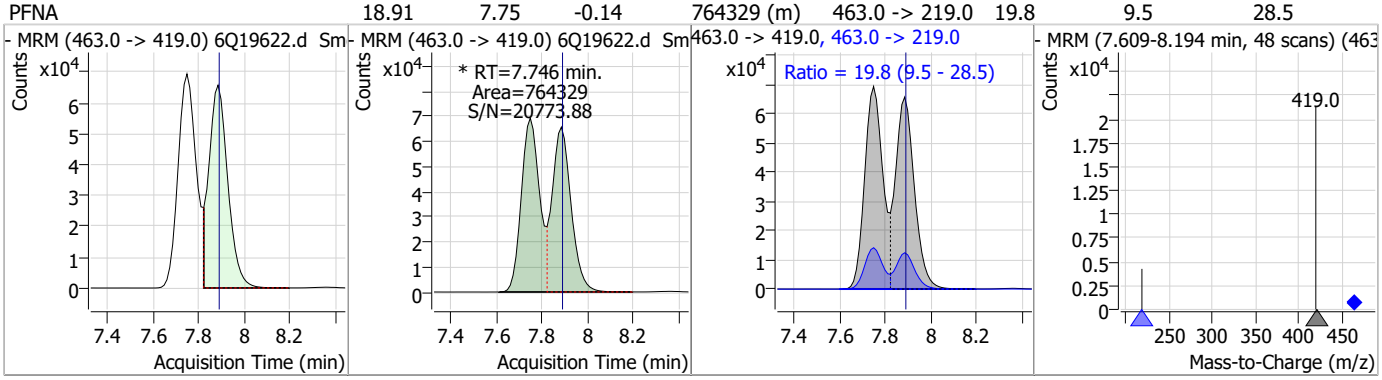
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	8.23	7.47	-0.01	78640 (m)	398.7 -> 98.9	45.5	25.4	76.3



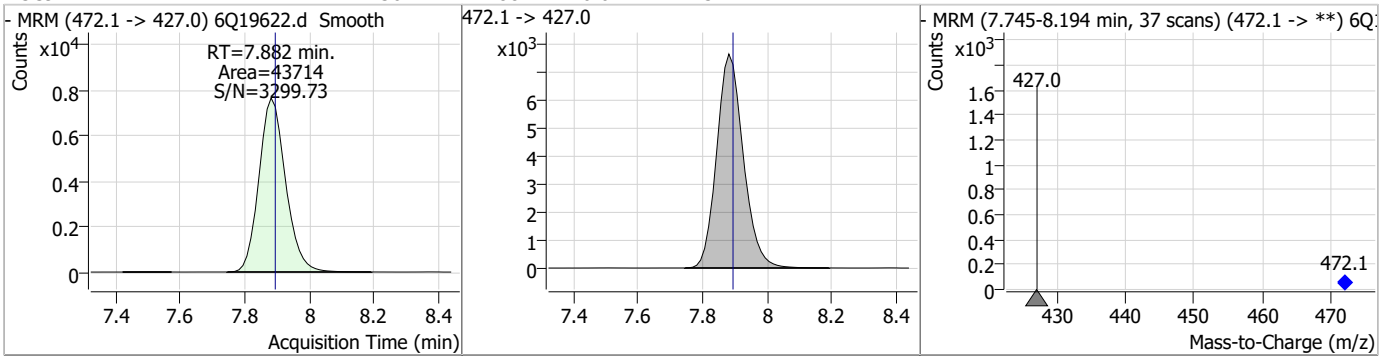
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	238.88	7.75	0.00	770898	441.0 -> 336.9	228.7	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	18.91	7.75	-0.14	764329 (m)	463.0 -> 219.0	19.8	9.5	28.5

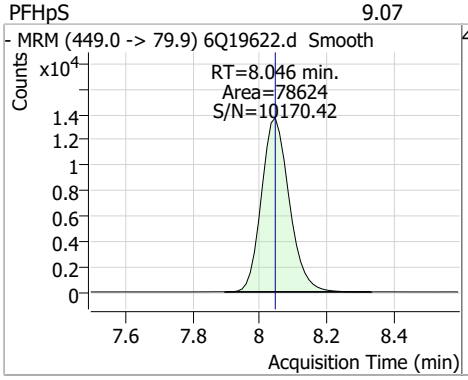


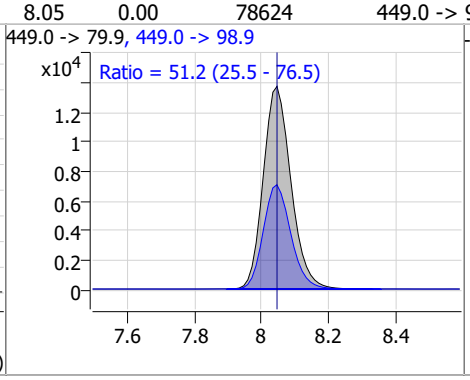
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.36	7.88	-0.01	43714				

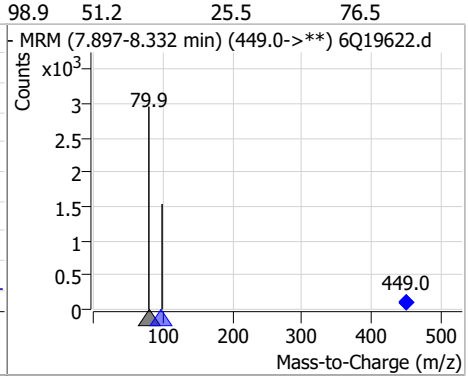


Perfluorinated Compounds by LC/MS/MS

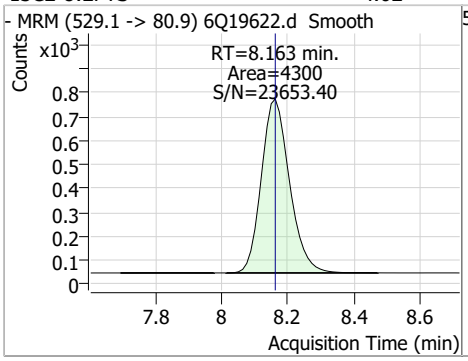
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	9.07	8.05	0.00	78624	449.0 -> 98.9	51.2	25.5	76.5

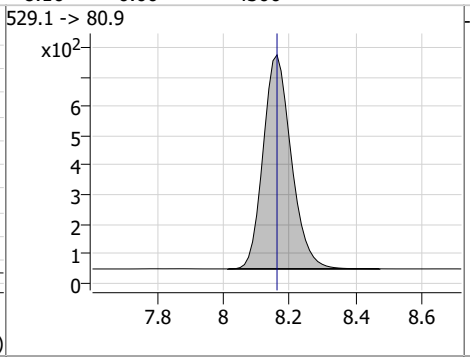


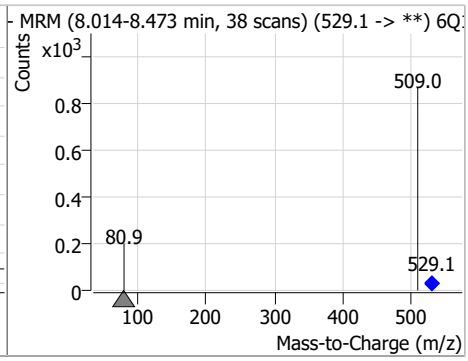




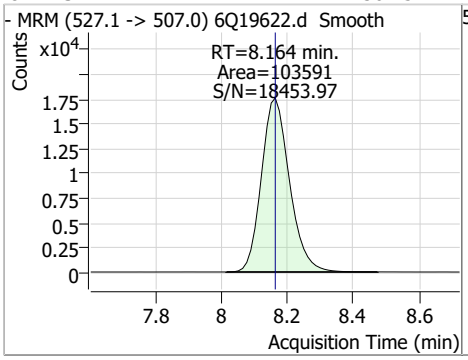
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.62	8.16	0.00	4300				

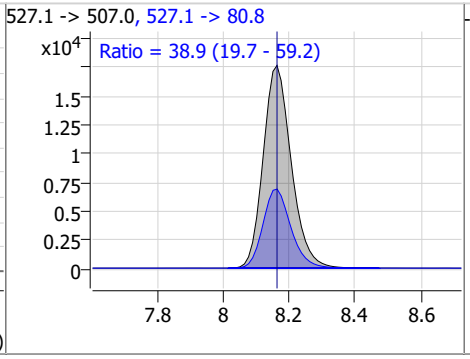


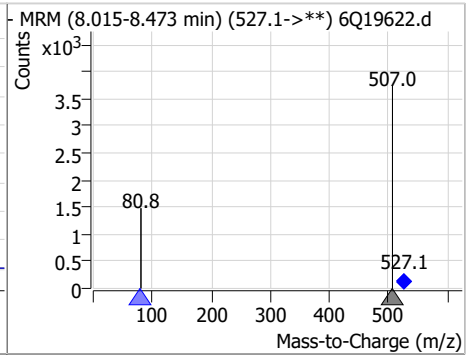




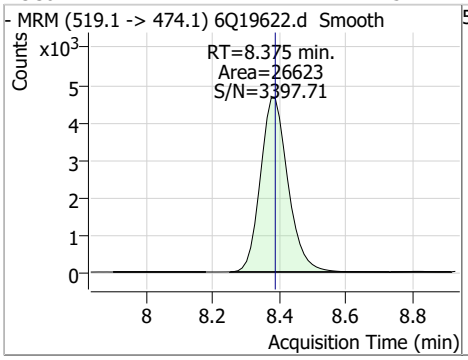
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	36.25	8.16	0.00	103591	527.1 -> 80.8	38.9	19.7	59.2

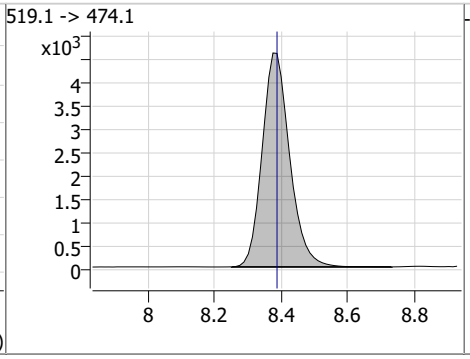


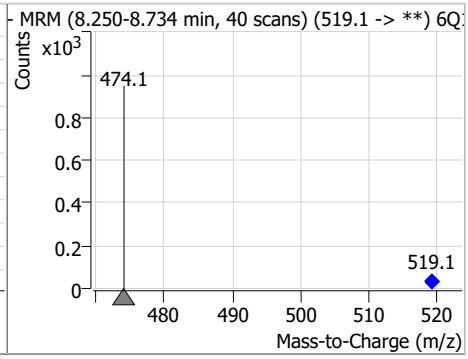




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.25	8.37	-0.01	26623				

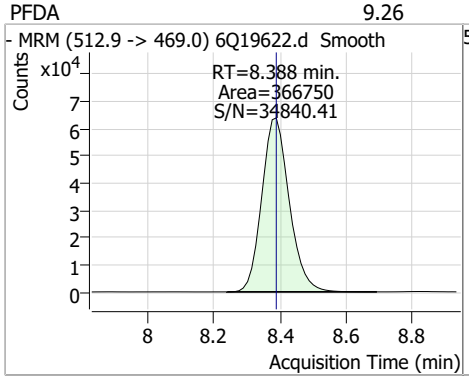


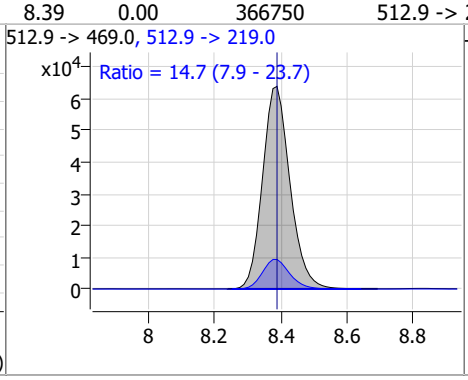


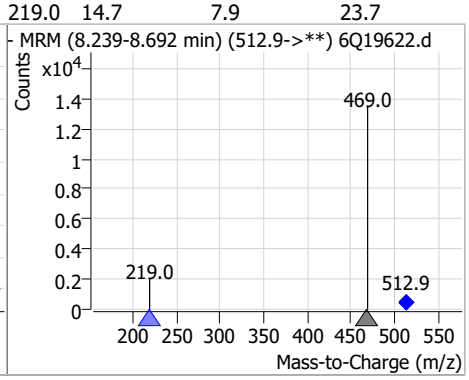


Perfluorinated Compounds by LC/MS/MS

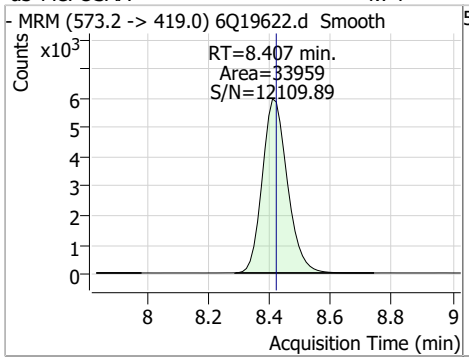
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	9.26	8.39	0.00	366750	512.9 -> 219.0	14.7	7.9	23.7

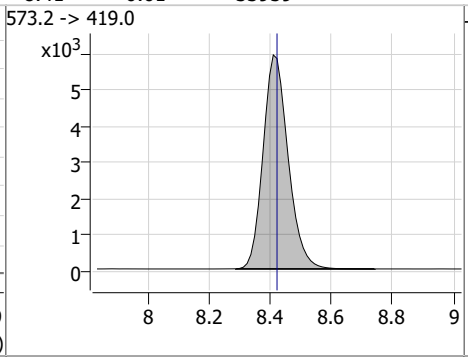


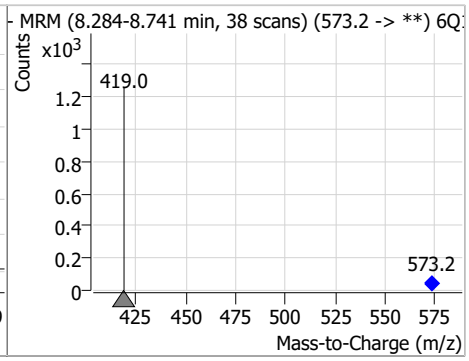




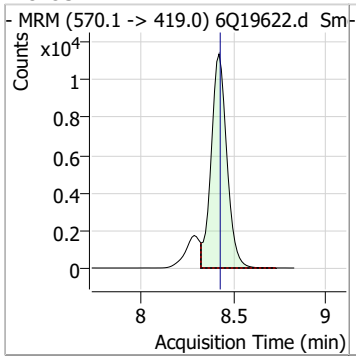
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.74	8.41	-0.01	33959				

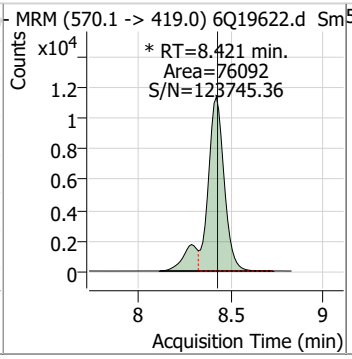


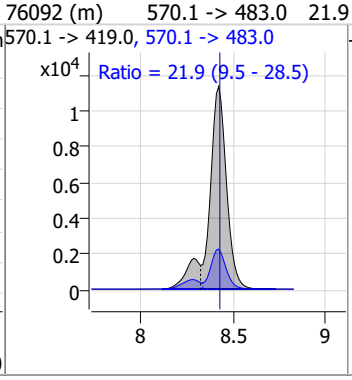


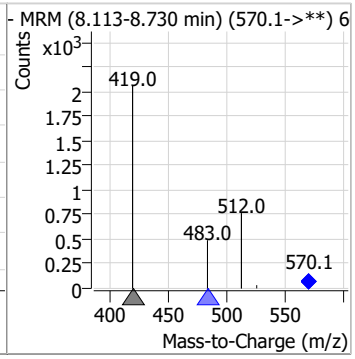


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	8.64	8.42	0.00	76092 (m)	570.1 -> 483.0	21.9	9.5	28.5

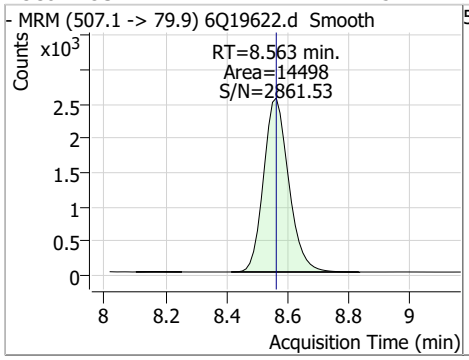


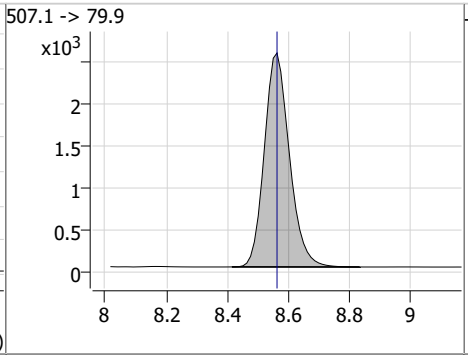


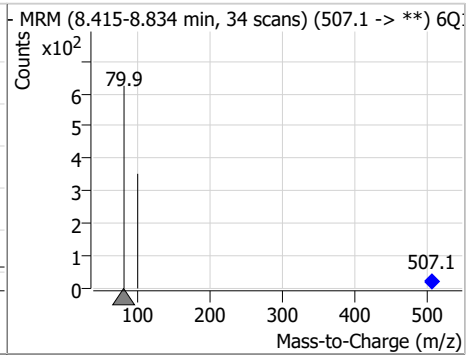




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.54	8.56	0.00	14498				

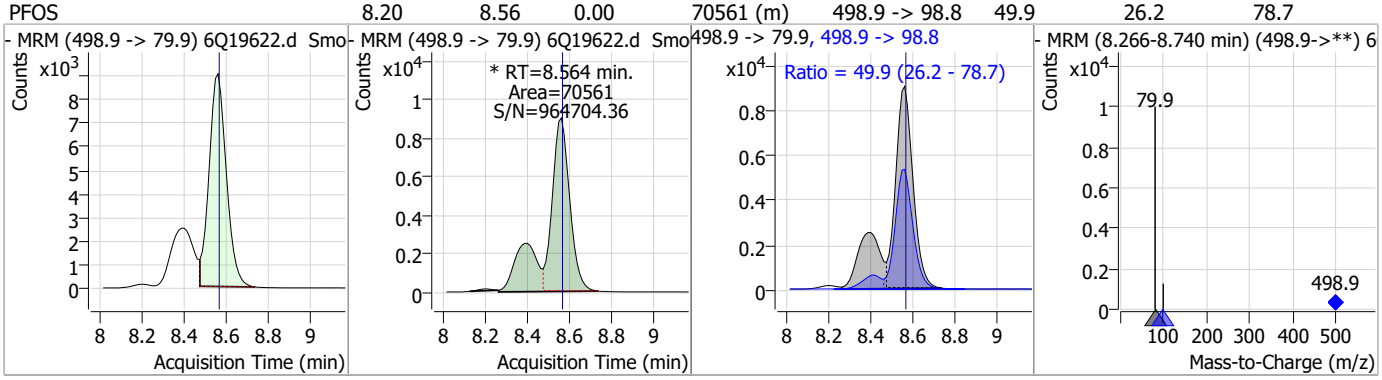




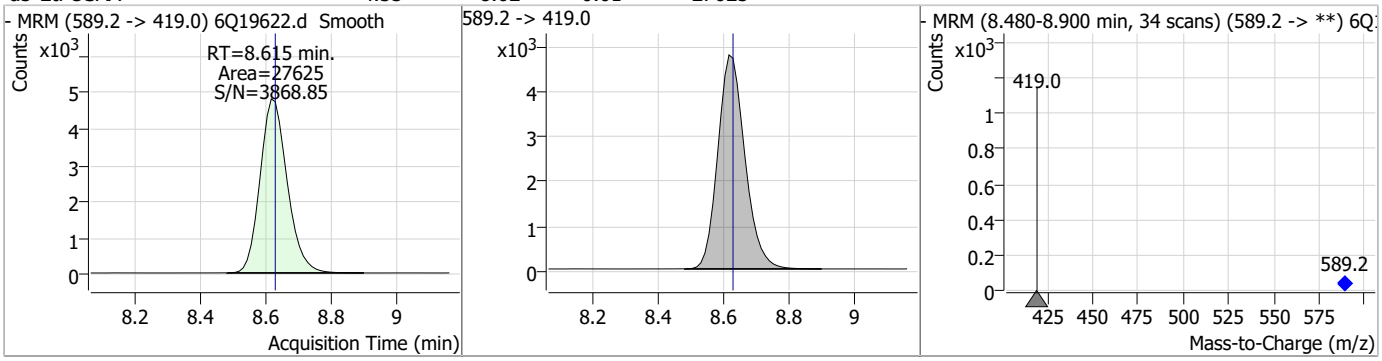


Perfluorinated Compounds by LC/MS/MS

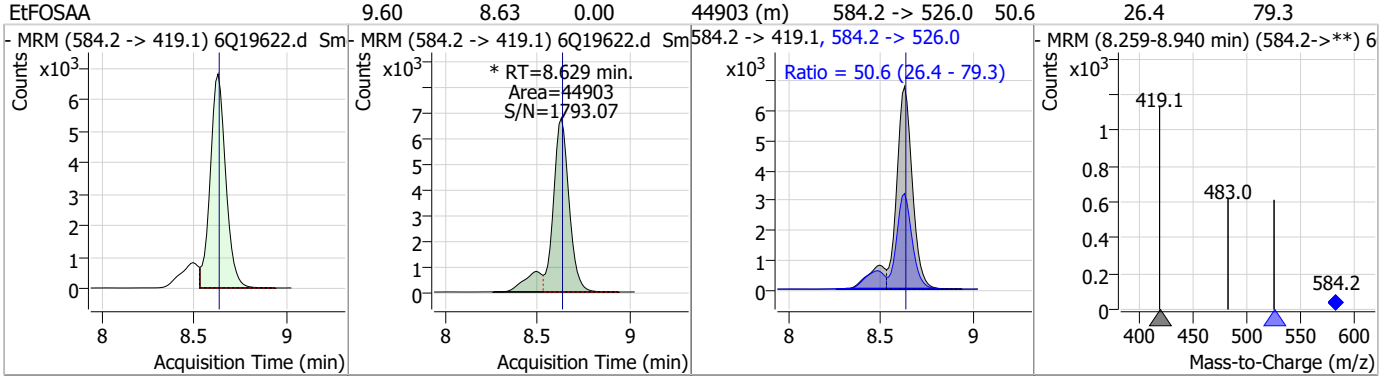
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	8.20	8.56	0.00	70561 (m)	498.9 -> 98.8	49.9	26.2	78.7



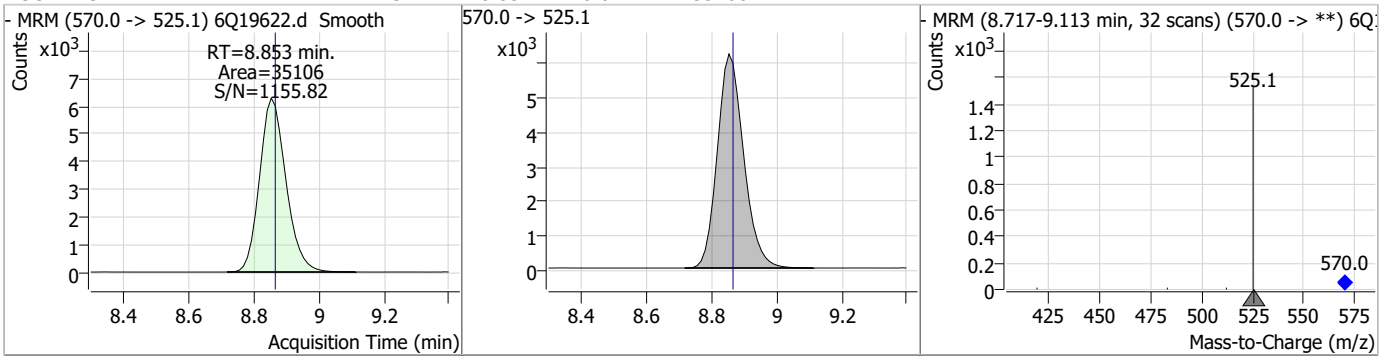
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.55	8.62	-0.01	27625				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	9.60	8.63	0.00	44903 (m)	584.2 -> 526.0	50.6	26.4	79.3

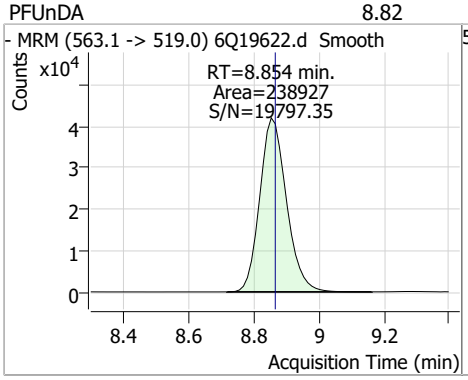


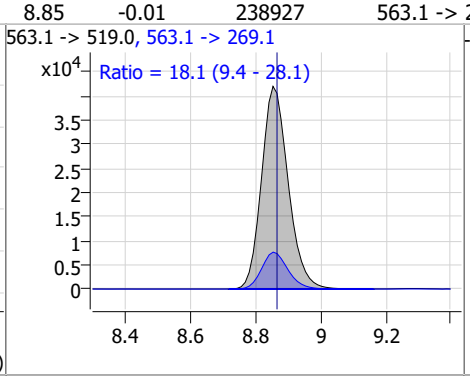
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.23	8.85	-0.01	35106				

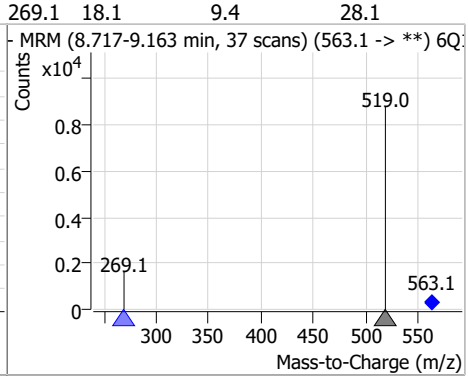


Perfluorinated Compounds by LC/MS/MS

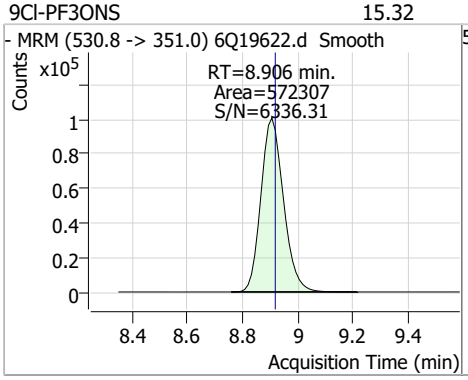
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	8.82	8.85	-0.01	238927	563.1 -> 269.1	18.1	9.4	28.1

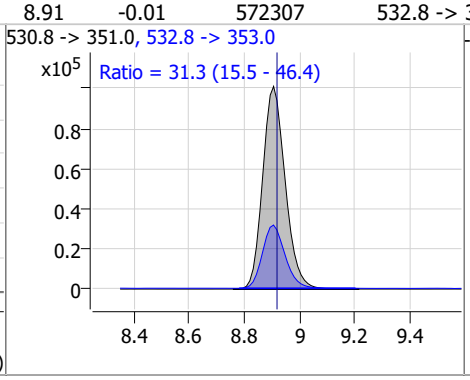


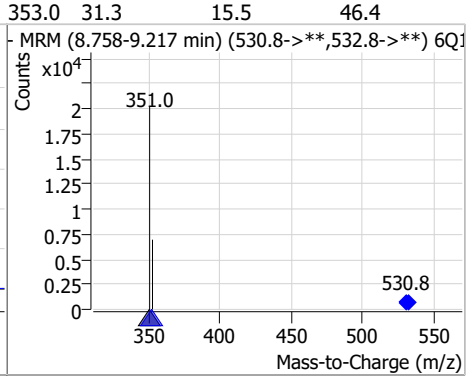




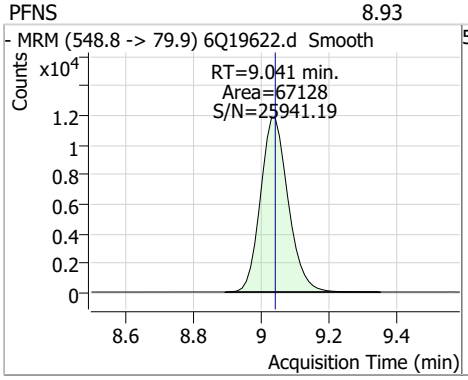
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	15.32	8.91	-0.01	572307	532.8 -> 353.0	31.3	15.5	46.4

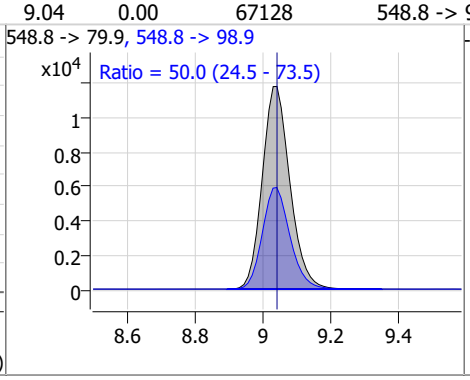


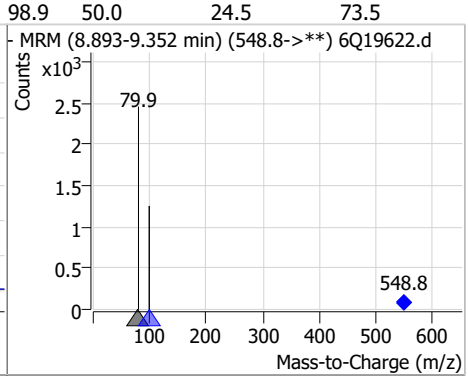




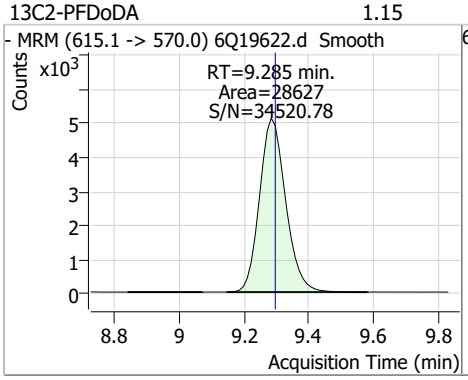
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	8.93	9.04	0.00	67128	548.8 -> 98.9	50.0	24.5	73.5

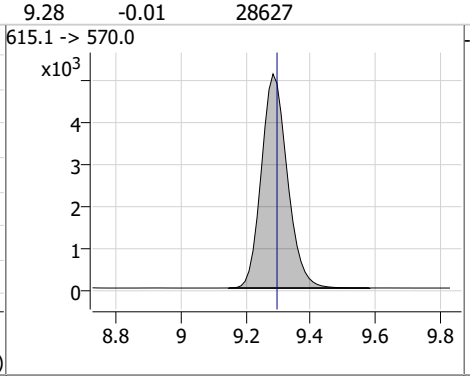


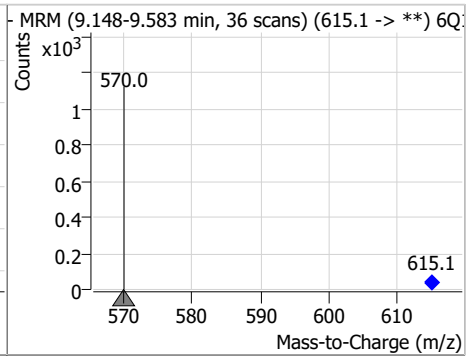




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.15	9.28	-0.01	28627				

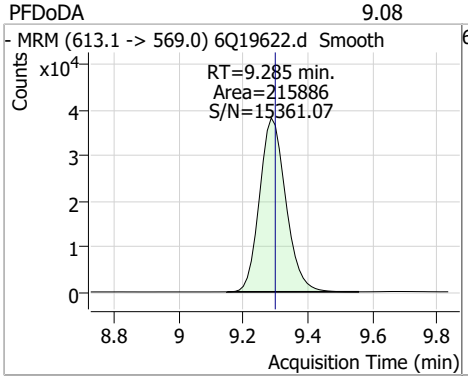


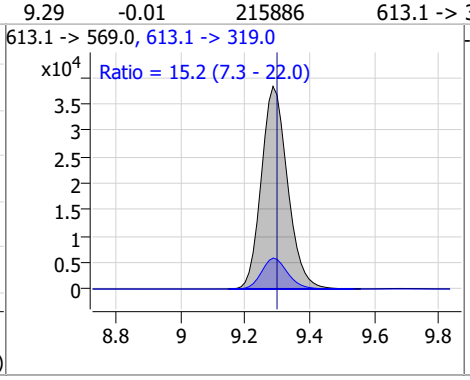


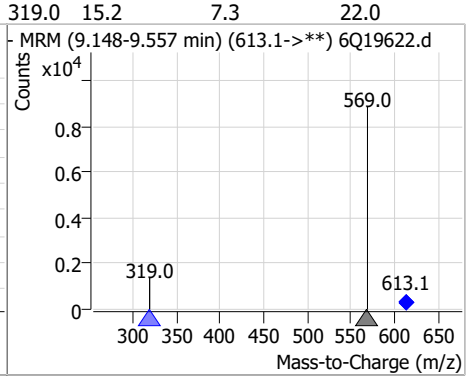


Perfluorinated Compounds by LC/MS/MS

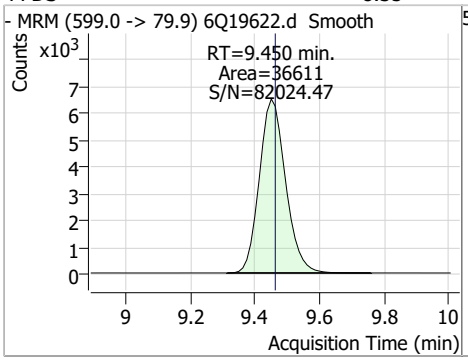
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	9.08	9.29	-0.01	215886	613.1 -> 319.0	15.2	7.3	22.0

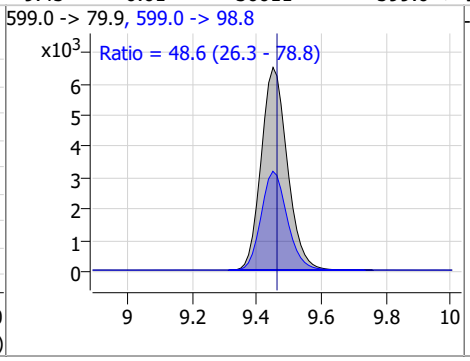


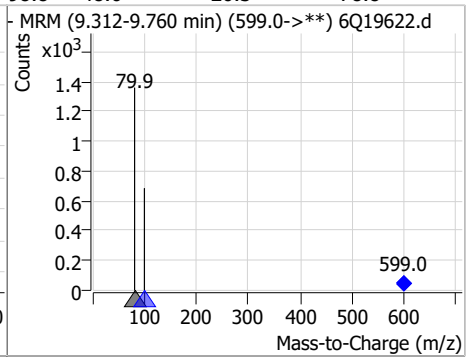




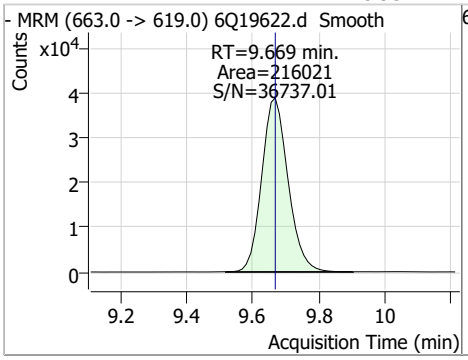
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	8.35	9.45	-0.01	36611	599.0 -> 98.8	48.6	26.3	78.8

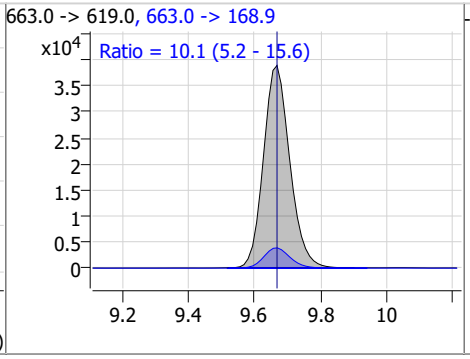


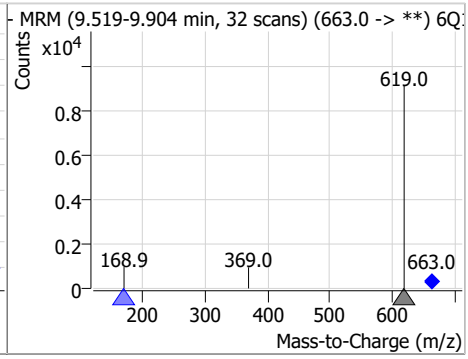




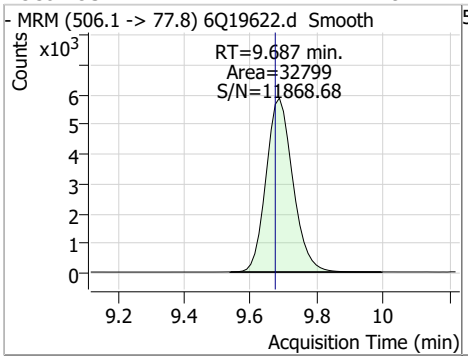
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	8.95	9.67	0.00	216021	663.0 -> 168.9	10.1	5.2	15.6

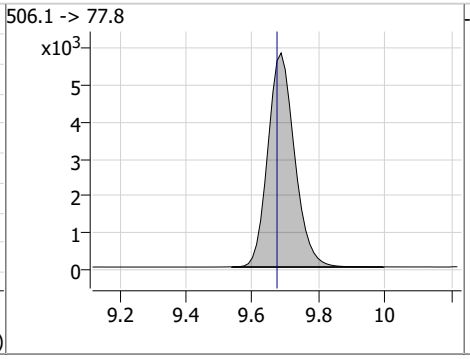


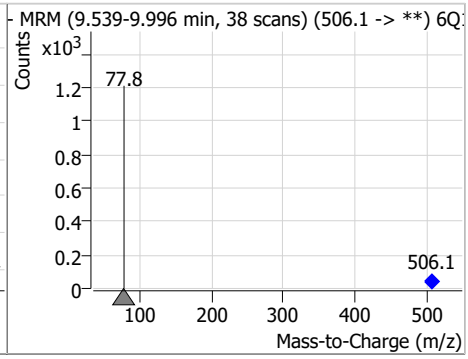




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.29	9.69	0.01	32799				

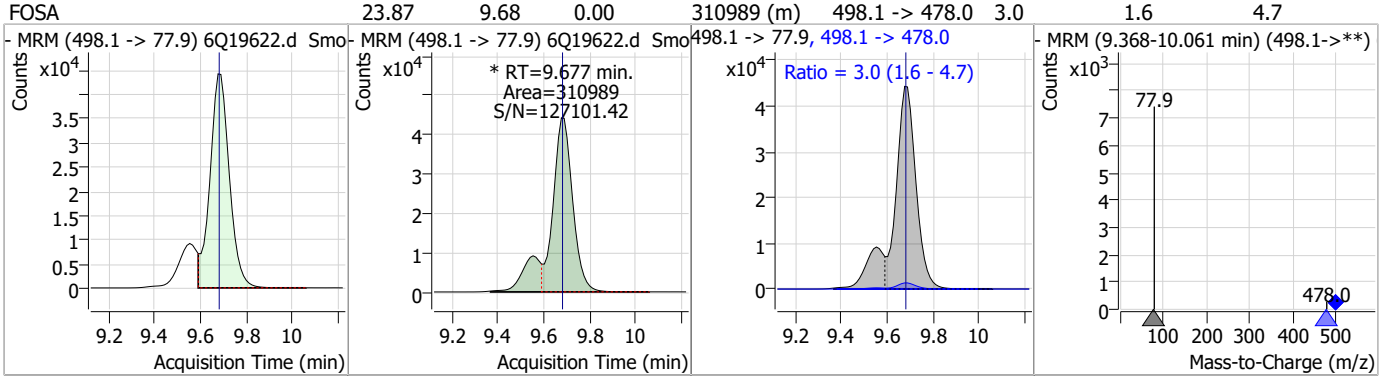




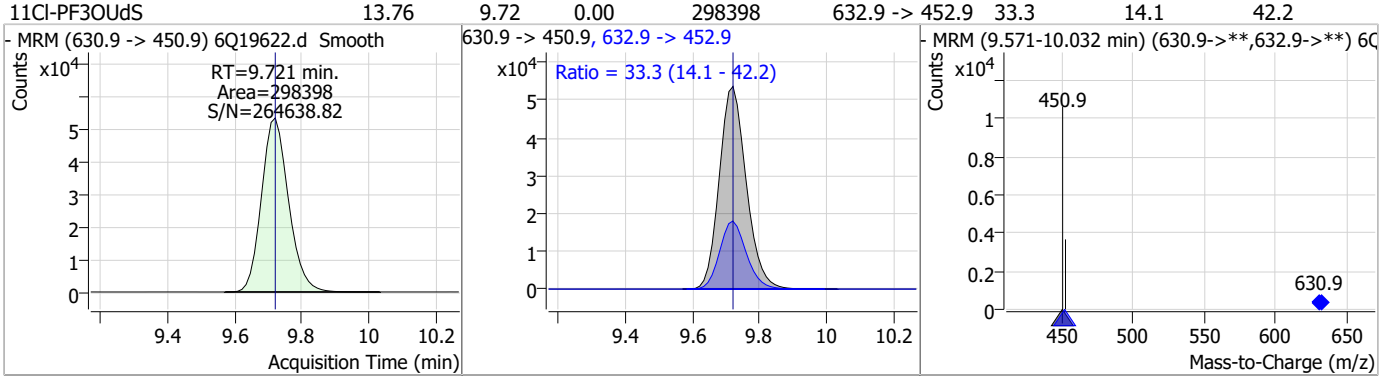


Perfluorinated Compounds by LC/MS/MS

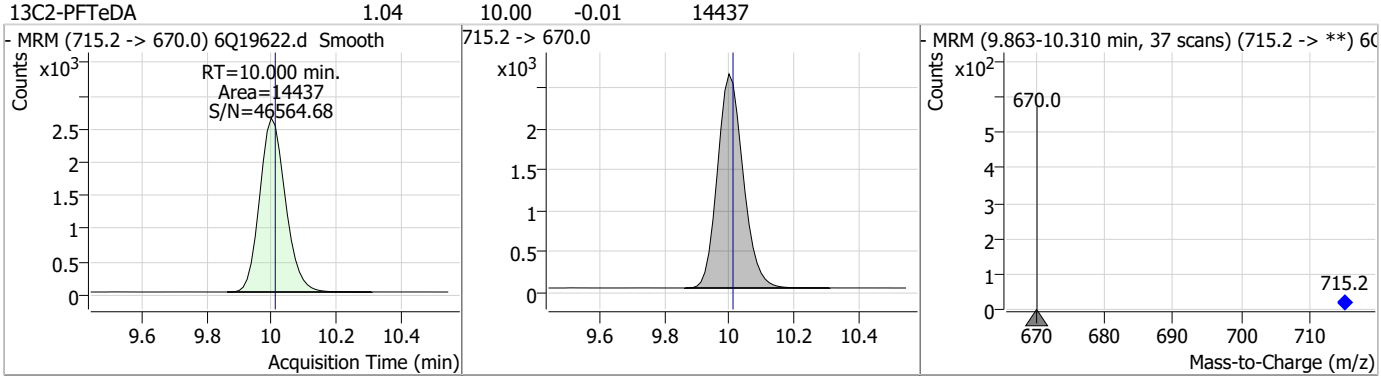
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	23.87	9.68	0.00	310989 (m)	498.1 -> 478.0	3.0	1.6	4.7



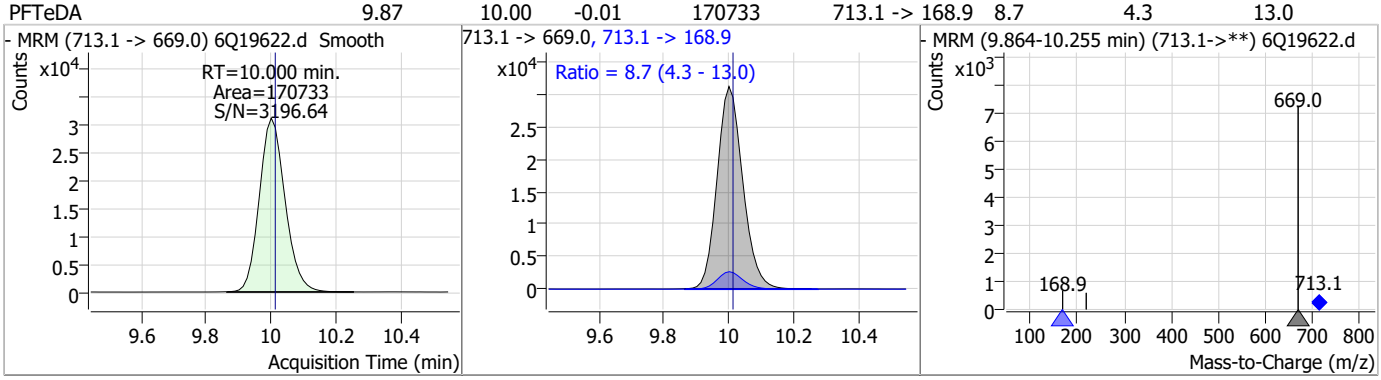
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	13.76	9.72	0.00	298398	632.9 -> 452.9	33.3	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.04	10.00	-0.01	14437				

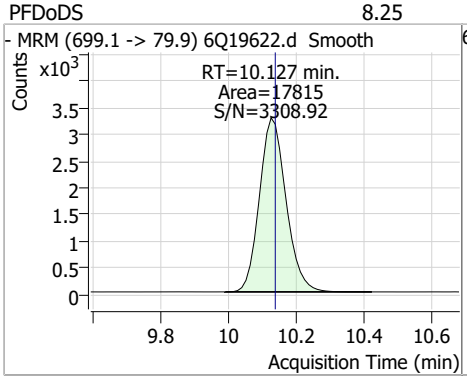


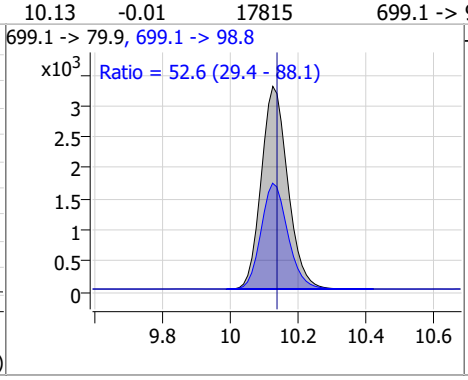
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	9.87	10.00	-0.01	170733	713.1 -> 168.9	8.7	4.3	13.0

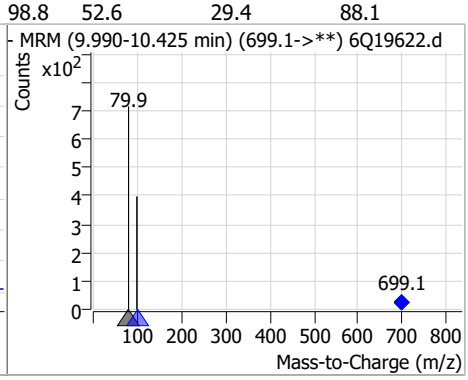


Perfluorinated Compounds by LC/MS/MS

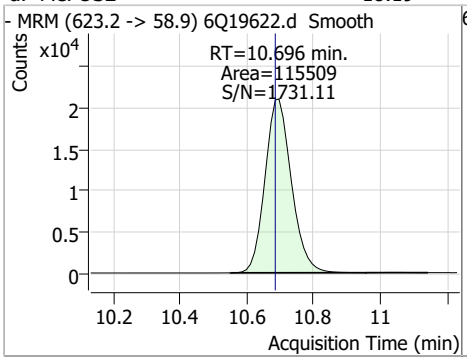
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	8.25	10.13	-0.01	17815	699.1 -> 98.8	52.6	29.4	88.1

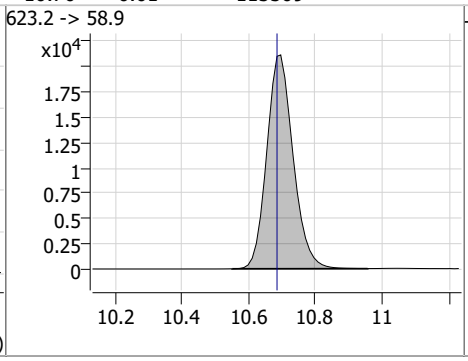


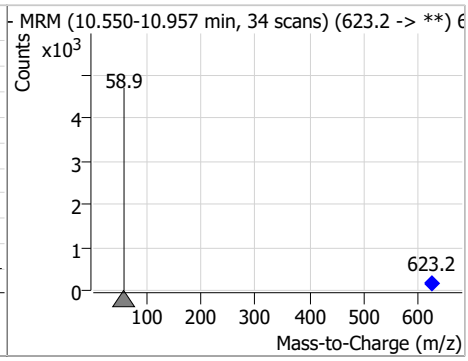




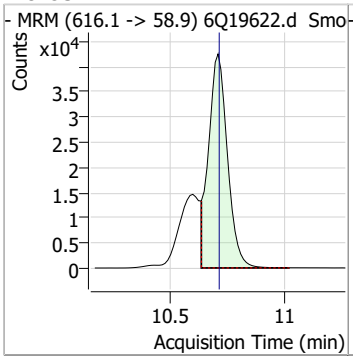
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	18.19	10.70	0.01	115509				

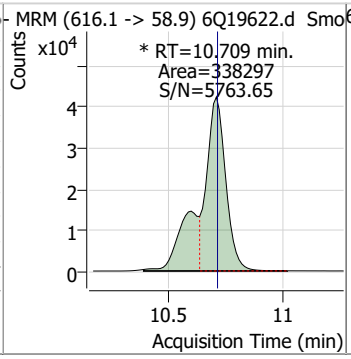


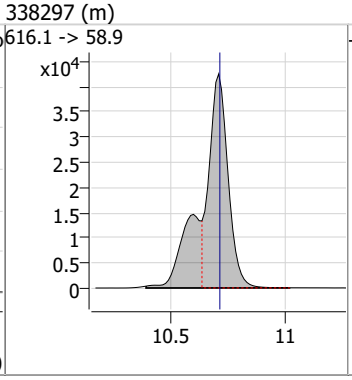


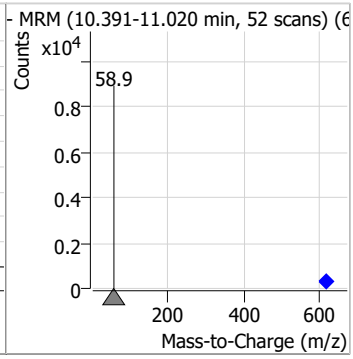


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	67.58	10.71	0.00	338297 (m)				

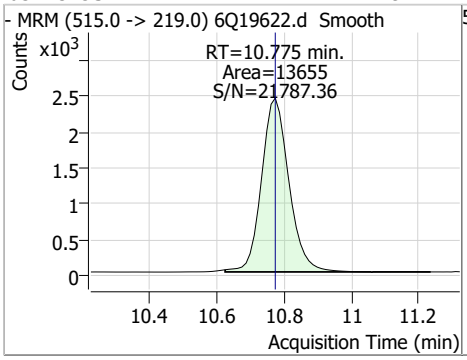


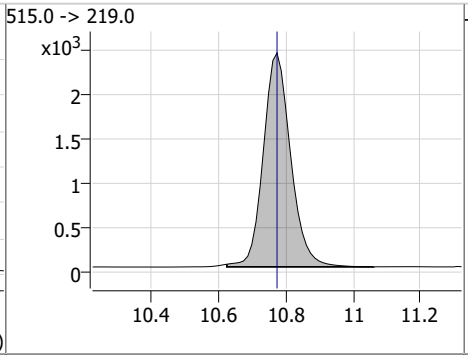


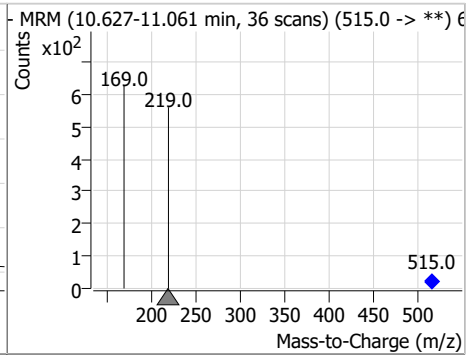




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.19	10.78	0.00	13655				

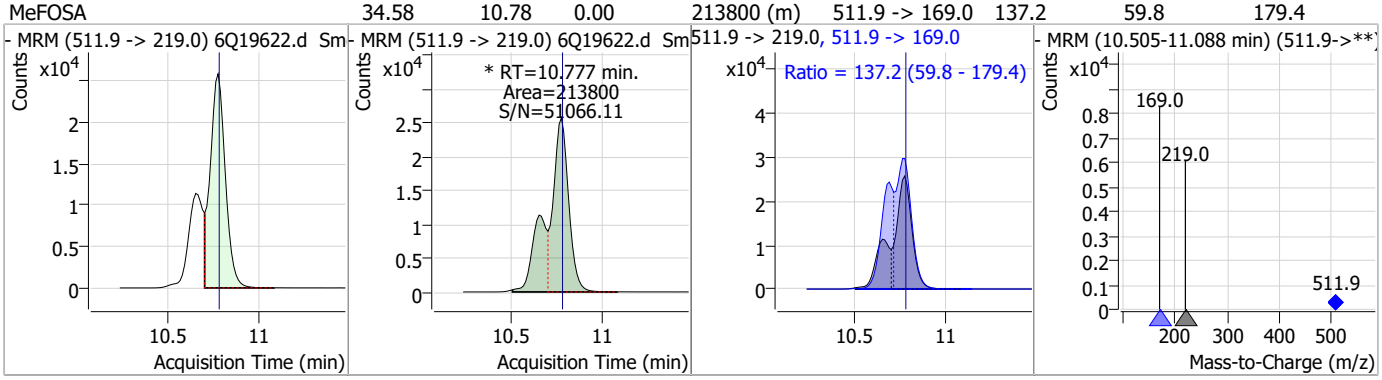




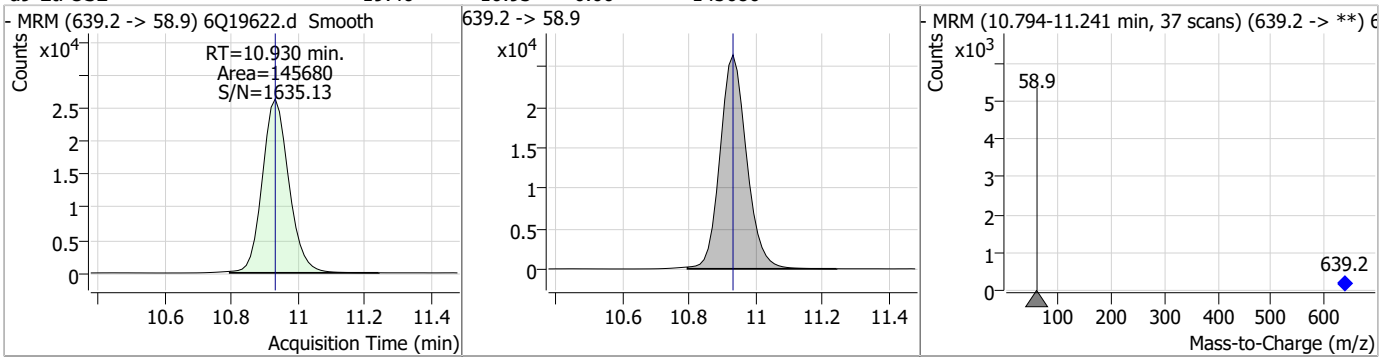


Perfluorinated Compounds by LC/MS/MS

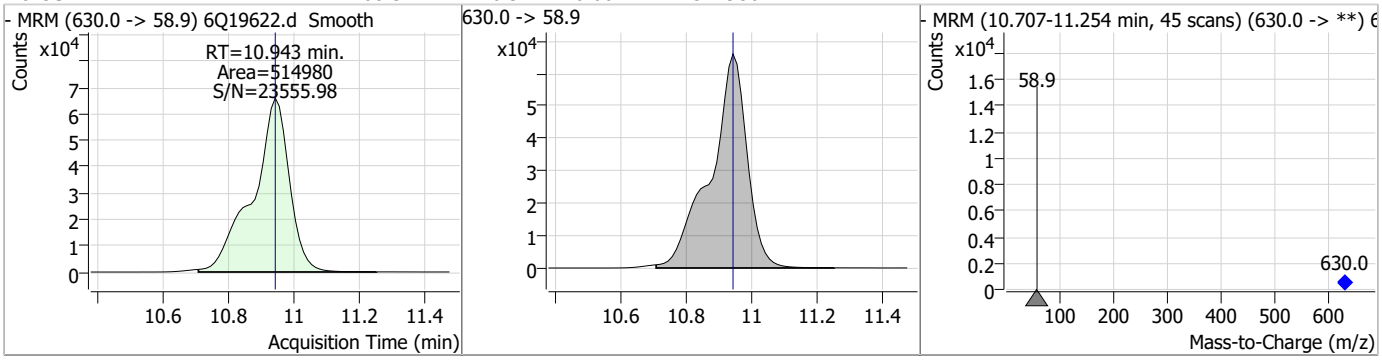
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	34.58	10.78	0.00	213800 (m)	511.9 -> 169.0	137.2	59.8	179.4



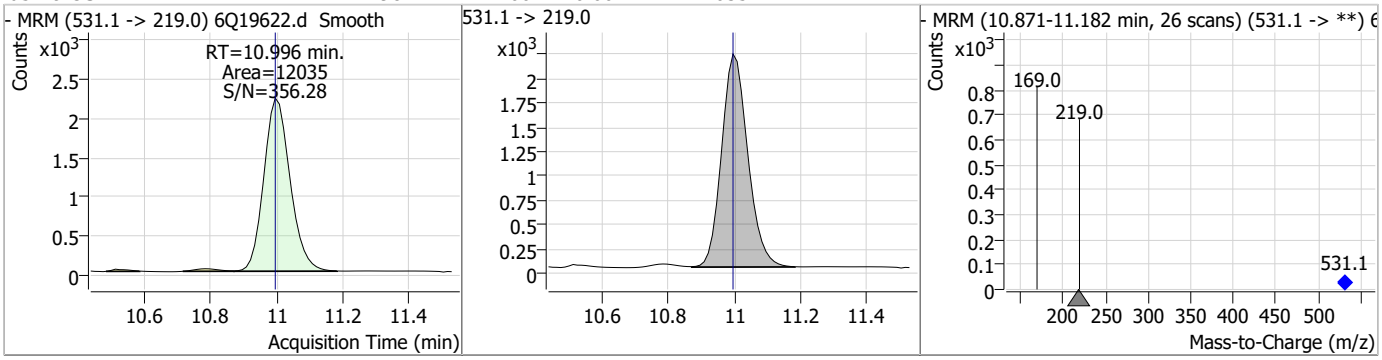
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	19.46	10.93	0.00	145680				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	68.31	10.94	0.00	514980				

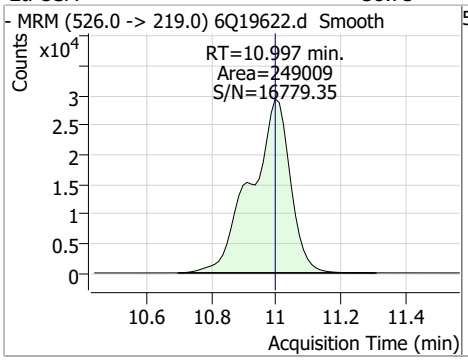


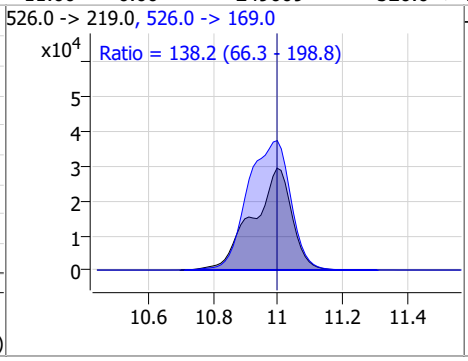
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.98	11.00	0.00	12035				

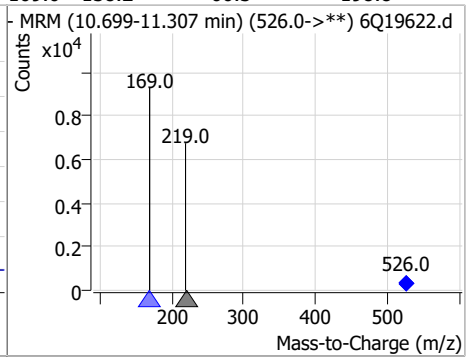


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	38.73	11.00	0.00	249009	526.0 -> 169.0	138.2	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q292-RT
Lab FileID: 6Q19622.D
Injection Time: 06/20/23 14:56
Method: EPA DRAFT 1633
Analyst approved: 06/21/23 13:43 Martha Valls
Supervisor approved: 06/21/23 16:17 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.34	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.47	Split peak
Perfluorononanoic acid	375-95-1		7.75	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
PFOSA	754-91-6		9.68	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

QQQ Check Tune Report

Agilent | Trusted Answers

Instrument Name	LCMS Q6
MS Model	G6495B
MS Instrument Serial	SG1752D103
Software_Firmware Version	10.1.67, FW: A.00.08.112
Tune Date & Time	12 June 2023 11:10:10
File Path	D:\MassHunter\Tune\QQQ\G6495B\atunes.TUNE.XML
Ion Source	AJS ESI
Ionization Mode	AJS ESI
Tuned Resolution	All
Vacuum Pressure	1.75E+0 [R] (Torr); 2.91E-5 [H] (Torr)

Source Parameters

Parameter	Negative
Gas Temp (°C)	220
Gas Flow (l/min)	14
Nebulizer (psi)	20
Capillary (V)	3000
Nozzle Voltage (V)	1500
Sheath Gas Temp (°C)	250
Sheath Gas Flow (l/min)	11

QQQ Check Tune Report

Agilent | Trusted Answers

Negative Results

Analyzer: MS1 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.94	-0.05	Pass	0.70	0.68	-0.02	Pass	505636
302.00	302.00	0.00	Pass	0.70	0.62	-0.08	Pass	1713538
601.98	601.91	-0.07	Pass	0.70	0.63	-0.07	Pass	2651543
1033.99	1033.84	-0.15	Pass	0.70	0.62	-0.08	Pass	1652200
1633.95	1633.75	-0.20	Pass	0.70	0.65	-0.05	Pass	1203916
2233.91	2233.49	-0.42	Adjust	0.70	0.72	0.02	Pass	450099

Analyzer: MS2 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.02	0.02	Pass	0.70	0.71	0.01	Pass	136298
112.99	112.97	-0.02	Pass	0.70	0.75	0.05	Pass	568475
302.00	301.95	-0.05	Pass	0.70	0.68	-0.02	Pass	1432404
601.98	601.92	-0.06	Pass	0.70	0.68	-0.02	Pass	1573782
1033.99	1033.86	-0.13	Pass	0.70	0.80	0.10	Pass	668021
1633.95	1633.75	-0.20	Pass	0.70	0.72	0.02	Pass	626213
2233.91	2233.65	-0.26	Pass	0.70	0.73	0.03	Pass	238662

Analyzer: MS1 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.93	-0.06	Pass	1.20	1.24	0.04	Pass	551558
302.00	301.92	-0.08	Pass	1.20	1.36	0.16	Pass	1926886
601.98	601.92	-0.06	Pass	1.20	1.47	0.27	Pass	3639494
1033.99	1033.80	-0.19	Pass	1.20	1.42	0.22	Pass	2675380
1633.95	1633.67	-0.28	Pass	1.20	1.43	0.23	Pass	1854895
2233.91	2233.61	-0.30	Pass	1.20	1.44	0.24	Pass	889574

Analyzer: MS2 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.00	0.00	Pass	1.20	1.06	-0.14	Pass	187295
112.99	112.95	-0.04	Pass	1.20	1.17	-0.03	Pass	689310
302.00	301.93	-0.07	Pass	1.20	1.10	-0.10	Pass	1593512
601.98	601.87	-0.11	Pass	1.20	1.35	0.15	Pass	2900281
1033.99	1033.80	-0.19	Pass	1.20	1.34	0.14	Pass	1283499
1633.95	1633.70	-0.25	Pass	1.20	1.34	0.14	Pass	1424585
2233.91	2233.57	-0.34	Pass	1.20	1.24	0.04	Pass	536341

Analyzer: MS1 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.89	-0.10	Pass	2.50	2.43	-0.07	Pass	635982
302.00	301.79	-0.21	Pass	2.50	2.58	0.08	Pass	2260761
601.98	601.84	-0.14	Pass	2.50	2.68	0.18	Pass	4333703
1033.99	1033.78	-0.21	Pass	2.50	2.53	0.03	Pass	3946646
1633.95	1633.60	-0.35	Pass	2.50	2.40	-0.10	Pass	3760339
2233.91	2233.47	-0.44	Pass	2.50	2.39	-0.11	Pass	2129248

Analyzer: MS2 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	68.94	-0.06	Pass	2.50	2.52	0.02	Pass	211683
112.99	112.90	-0.09	Pass	2.50	2.58	0.08	Pass	913590
302.00	301.94	-0.06	Pass	2.50	2.42	-0.08	Pass	3054825
601.98	601.90	-0.08	Pass	2.50	2.65	0.15	Pass	3596588
1033.99	1033.90	-0.09	Pass	2.50	2.77	0.27	Pass	2872723
1633.95	1633.61	-0.34	Pass	2.50	2.44	-0.06	Pass	3054172
2233.91	2233.67	-0.24	Pass	2.50	2.44	-0.06	Pass	1493945

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19295.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 11:35:49 AM
Sample Name : ic288-1
Vial : P1-A2
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	148066	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	48312	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	51360	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	48710	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	79165	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	35005	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	23124	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	30863	1.25	µg/L	-0.012
M2-PFDoDA	9.297	615.1 -> 570.0	25185	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	13765	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	30069	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	18260	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11997	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	12019	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3282	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4418	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4068	5.00	µg/L	0.000
M3-MeFOSAA	8.407	573.2 -> 419.0	29480	5.00	µg/L	-0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	33087	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	25062	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	127890	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	154865	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11648	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11529	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15078	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	63464	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9612	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	84092	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	31173	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	44099	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	52525	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3282	5.69	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.8%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4418	5.07	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4068	4.97	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C2-PFDoDA	9.297	615.1 -> 570.0	25185	1.21	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.7%		
13C2-PFTeDA	10.012	715.2 -> 670.0	13765	1.18	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.7%		
13C3-PFBS	5.746	302.1 -> 79.9	18260	2.28	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.3%		
13C3-PFHxS	7.478	402.1 -> 79.9	11997	2.38	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.0%		
13C4-PFBA	3.085	216.8 -> 171.9	148066	9.94 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.4%		
13C4-PFHpA	6.707	367.1 -> 322.0	48710	2.40 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.1%		
13C5-PFHxA	5.792	318.0 -> 273.0	51360	2.37 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.8%		
13C5-PFPeA	4.560	268.3 -> 223.0	48312	4.86 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.3%		
13C6-PFDA	8.387	519.1 -> 474.1	23124	1.29 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.4%		
13C7-PFUnDA	8.853	570.0 -> 525.1	30863	1.29 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C8-FOSA	9.674	506.1 -> 77.8	30069	2.63 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.3%		
13C8-PFOA	7.339	421.1 -> 376.0	79165	2.52 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%		
13C8-PFOS	8.563	507.1 -> 79.9	12019	2.64 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.6%		
13C9-PFNA	7.882	472.1 -> 427.0	35005	1.30 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.3%		
d3-MeFOSAA	8.407	573.2 -> 419.0	29480	5.17 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.4%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	33087	9.12 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 91.2%		
d3-MeFOSA	10.775	515.0 -> 219.0	11529	2.32 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.9%		
d5-EtFOSAA	8.615	589.2 -> 419.0	25062	5.18 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.5%		
d7-MeFOSE	10.685	623.2 -> 58.9	127890	25.28 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.1%		
d9-EtFOSE	10.930	639.2 -> 58.9	154865	25.96 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.9%		
d5-EtFOSA	10.996	531.1 -> 219.0	11648	2.40 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.2%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	5062	0.89 µg/L		96
		327.1 -> 80.9	1758			
6:2FTS	7.113	427.1 -> 407.0	4992	0.95 µg/L		95
		427.1 -> 80.9	1777			
8:2FTS	8.164	527.1 -> 507.0	2538	0.94 µg/L		99
		527.1 -> 80.8	1020			
EtFOSAA	8.629	584.2 -> 419.1	986	0.23 µg/L	m	88
		584.2 -> 526.0	604			
FOSA	9.677	498.1 -> 77.9	2663	0.22 µg/L		97
		498.1 -> 478.0	113			
MeFOSAA	8.421	570.1 -> 419.0	1706	0.22 µg/L	m	97
		570.1 -> 483.0	299			
PFBA	3.093	212.8 -> 168.9	5578	0.93 µg/L		100
PFBS	5.747	298.7 -> 79.9	1677	0.21 µg/L		96
		298.7 -> 98.8	676			
PFDA	8.388	512.9 -> 469.0	7735	0.22 µg/L		95
		512.9 -> 219.0	1045			
PFDoDA	9.285	613.1 -> 569.0	4894	0.23 µg/L		98
		613.1 -> 319.0	749			
PFDS	9.450	599.0 -> 79.9	807	0.22 µg/L		98

Perfluorinated Compounds by LC/MS/MS

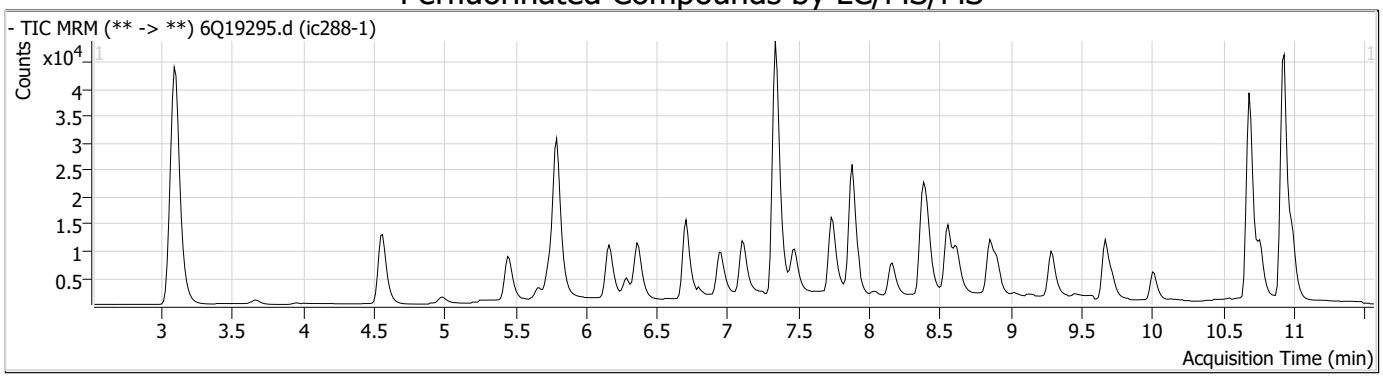
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	412				
PFHpA	6.708	363.1 -> 319.0	6417	0.25	µg/L		97
		363.1 -> 169.0	1043				
PFHpS	8.046	449.0 -> 79.9	1498	0.21	µg/L		89
		449.0 -> 98.9	646				
PFHxA	5.795	313.0 -> 269.0	5272	0.25	µg/L		97
		313.0 -> 118.9	329				
PFHxS	7.479	398.7 -> 79.9	1670	0.23	µg/L	m	90
		398.7 -> 98.9	729				
PFNA	7.883	463.0 -> 419.0	7692	0.24	µg/L		98
		463.0 -> 219.0	1406				
PFNS	9.041	548.8 -> 79.9	1362	0.22	µg/L		96
		548.8 -> 98.9	703				
PFOA	7.353	413.0 -> 369.0	10866	0.25	µg/L		97
		413.0 -> 169.0	1697				
PFOS	8.564	498.9 -> 79.9	1576	0.22	µg/L	m	95
		498.9 -> 98.8	772				
PFPeA	4.563	263.0 -> 219.0	6809	0.48	µg/L		100
PFPeS	6.785	349.1 -> 79.9	1535	0.23	µg/L		98
		349.1 -> 98.9	758				
PFTeDA	10.013	713.1 -> 669.0	3992	0.24	µg/L		100
		713.1 -> 168.9	349				
PFTrDA	9.669	663.0 -> 619.0	4947	0.23	µg/L		98
		663.0 -> 168.9	555				
PFUnDA	8.854	563.1 -> 519.0	5275	0.22	µg/L		93
		563.1 -> 269.1	828				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	6442	0.43	µg/L		87
		632.9 -> 452.9	2257				
9Cl-PF3ONS	8.906	530.8 -> 351.0	12317	0.47	µg/L		99
		532.8 -> 353.0	3724				
ADONA	6.959	376.9 -> 250.9	24260	0.45	µg/L		98
		376.9 -> 84.8	6853				
HFPO-DA	6.169	284.9 -> 168.9	1762	0.51	µg/L		97
		284.9 -> 184.9	228				
3:3FTCA	3.958	241.0 -> 177.0	1102	1.14	µg/L		99
		241.0 -> 117.0	146				
5:3FTCA	6.374	341.0 -> 237.1	25660	6.23	µg/L		96
		341.0 -> 217.0	18255				
7:3FTCA	7.748	441.0 -> 316.9	16545	5.94	µg/L		94
		441.0 -> 336.9	38793				
EtFOSA	10.997	526.0 -> 219.0	3074	0.49	µg/L		89
		526.0 -> 169.0	3668				
EtFOSE	10.943	630.0 -> 58.9	9139	1.14	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	2669	0.51	µg/L	m	87
		511.9 -> 169.0	3591				
MeFOSE	10.709	616.1 -> 58.9	6522	1.18	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	397	0.22	µg/L		98
		699.1 -> 98.8	228				
NFDHA	5.673	295.0 -> 201.0	1246	0.47	µg/L		98
		295.0 -> 84.9	348				
PFMBA	4.988	279.0 -> 85.1	4643	0.46	µg/L		100
PFMPA	3.667	229.0 -> 84.9	3706	0.47	µg/L		100
PFEESA	6.288	314.8 -> 134.9	11738	0.42	µg/L		99
		314.8 -> 82.9	378				

 # = Qualifier out of range, m = manually integrated, + = Area summed

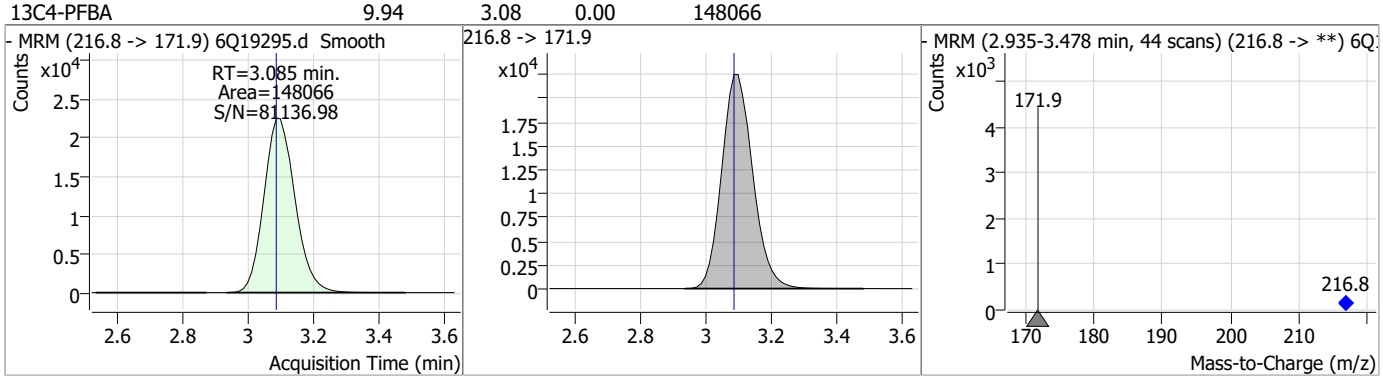
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

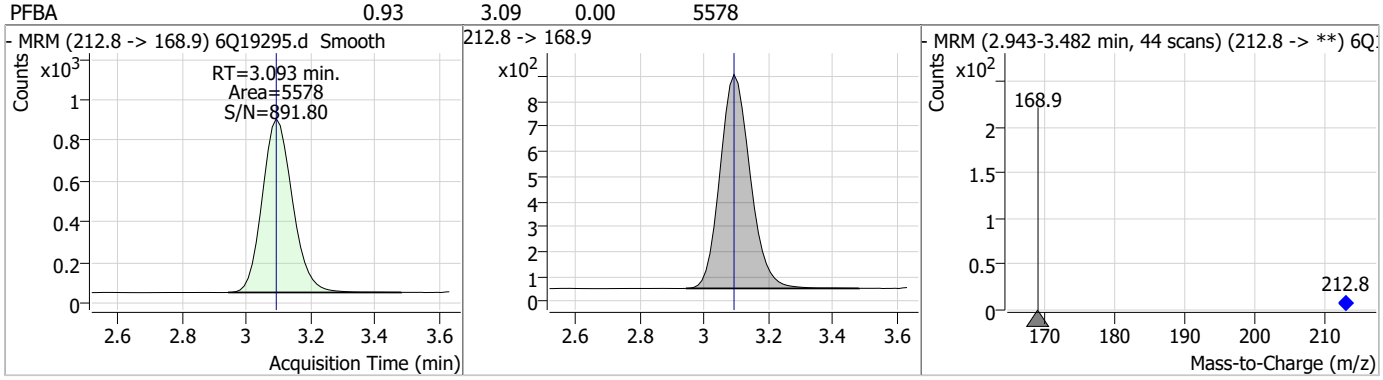
Perfluorinated Compounds by LC/MS/MS



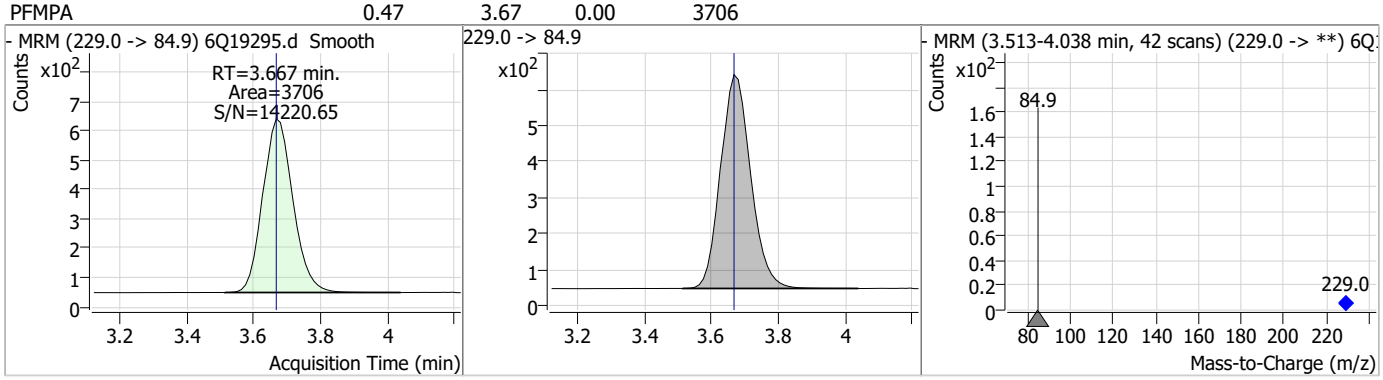
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.94	3.08	0.00	148066				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.93	3.09	0.00	5578				

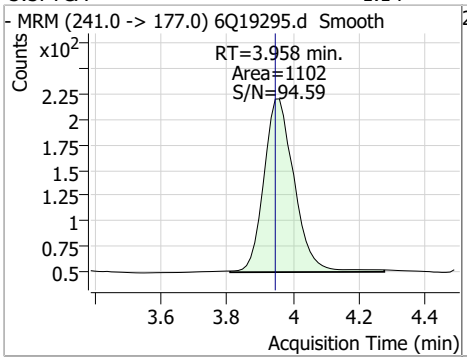


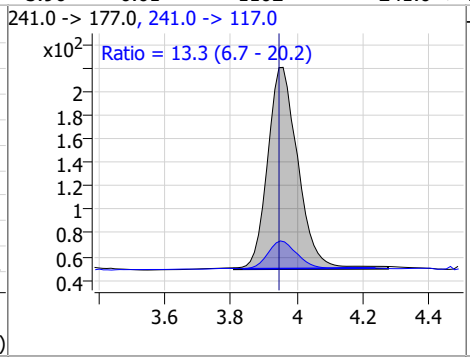
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	0.47	3.67	0.00	3706				

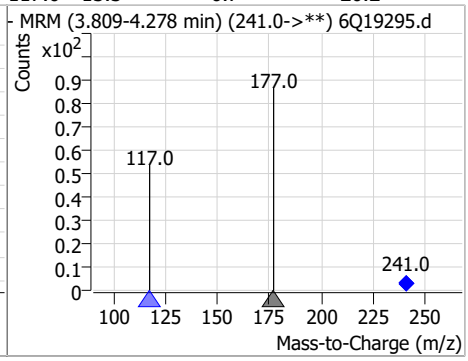


Perfluorinated Compounds by LC/MS/MS

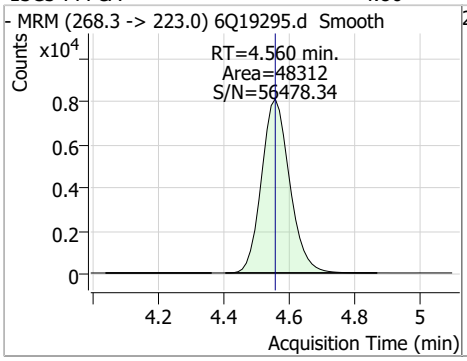
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.14	3.96	0.01	1102	241.0 -> 117.0	13.3	6.7	20.2

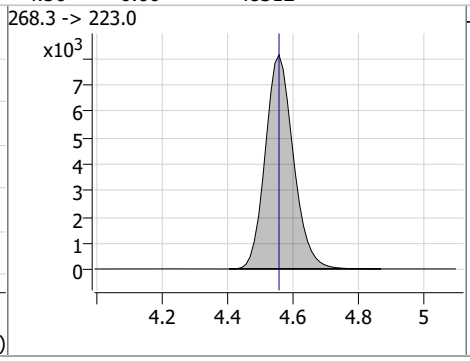


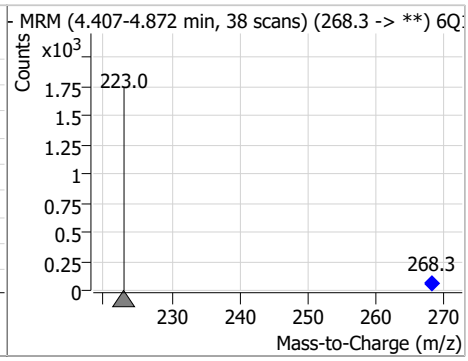




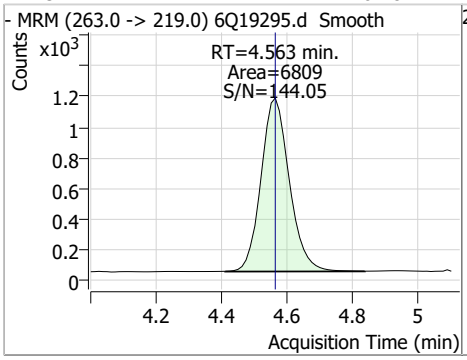
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.86	4.56	0.00	48312				

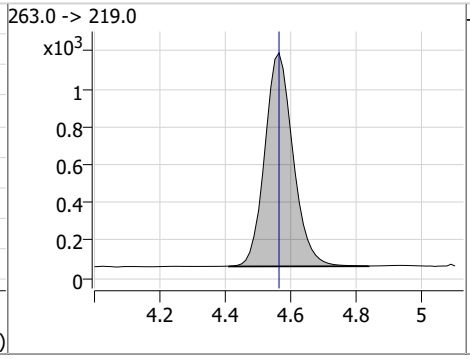


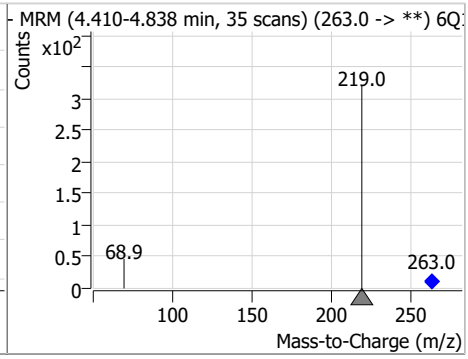




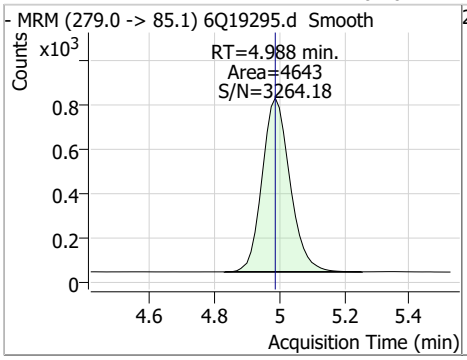
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.48	4.56	0.00	6809				

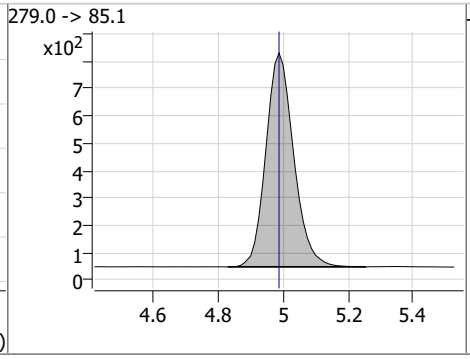


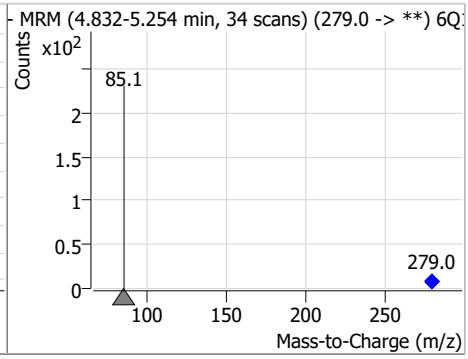




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.46	4.99	0.00	4643				

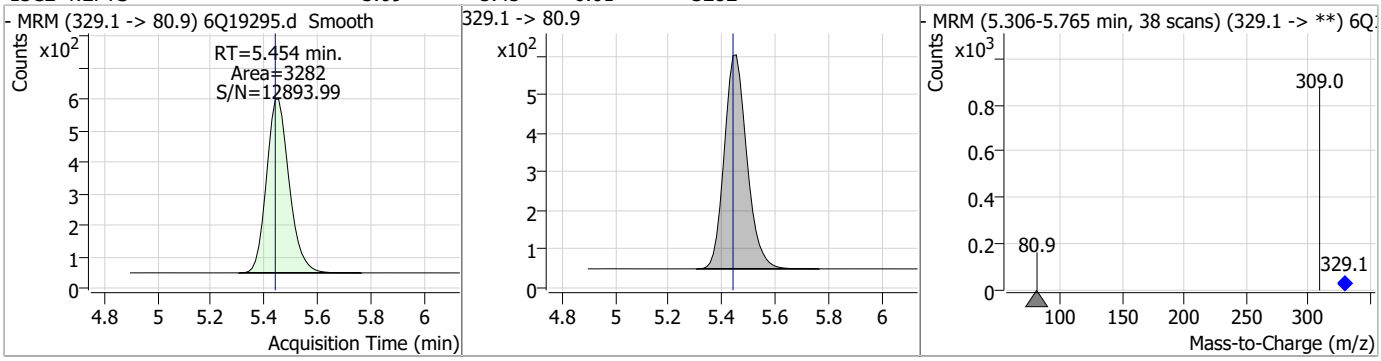




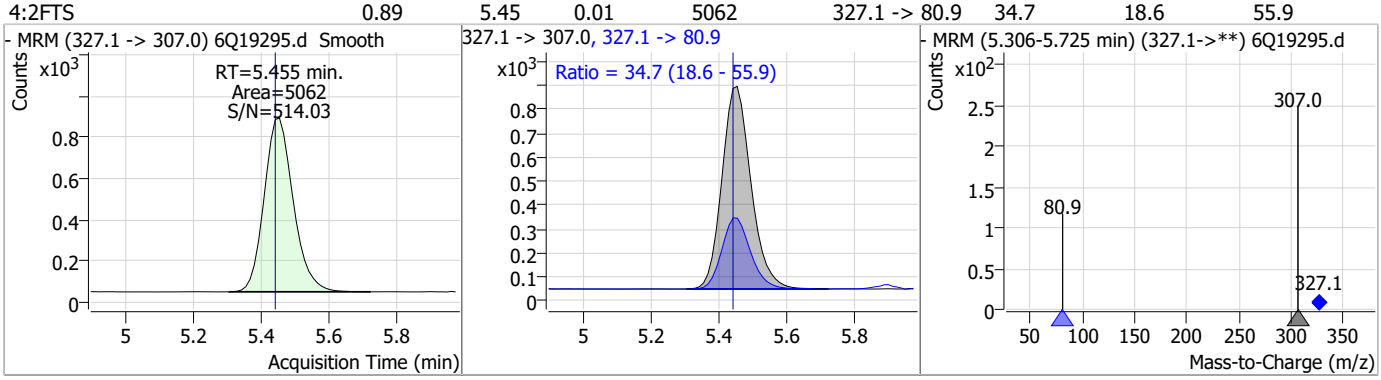


Perfluorinated Compounds by LC/MS/MS

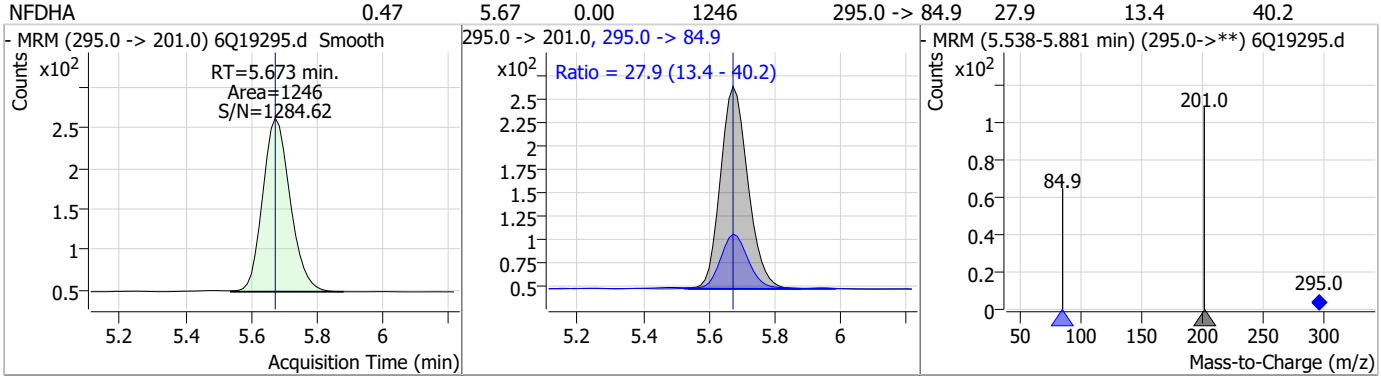
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.69	5.45	0.01	3282				



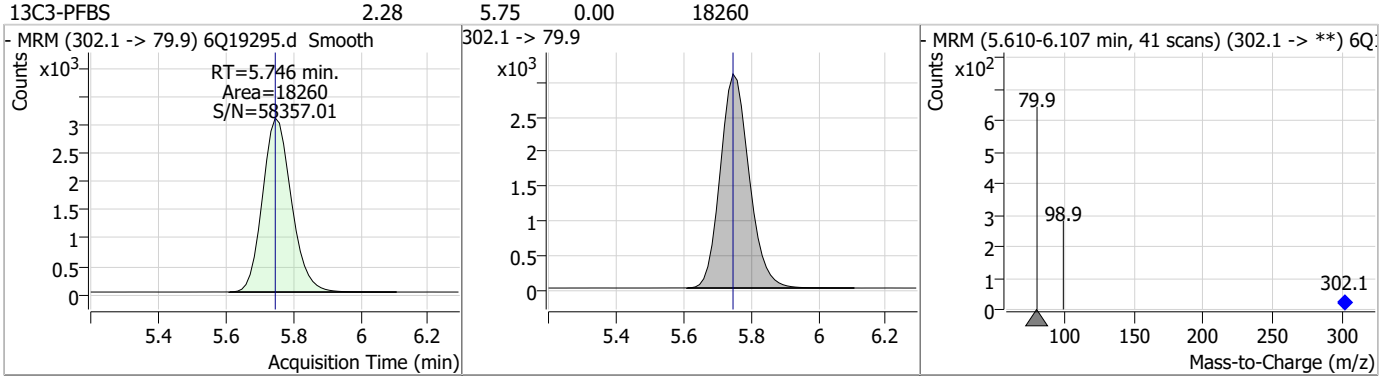
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	0.89	5.45	0.01	5062	327.1 -> 80.9	34.7	18.6	55.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	0.47	5.67	0.00	1246	295.0 -> 84.9	27.9	13.4	40.2

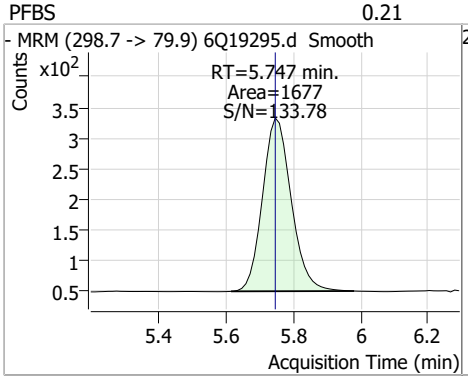


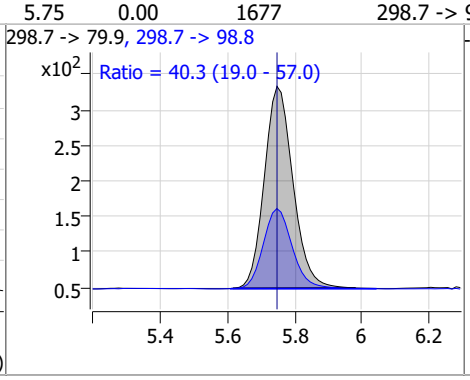
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.28	5.75	0.00	18260				

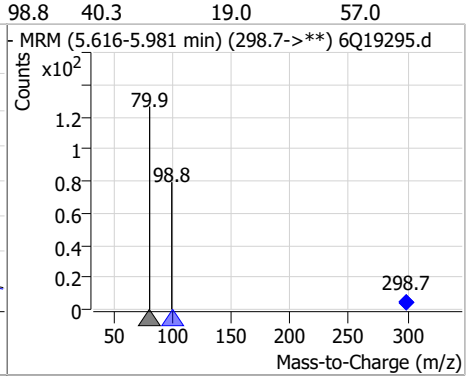


Perfluorinated Compounds by LC/MS/MS

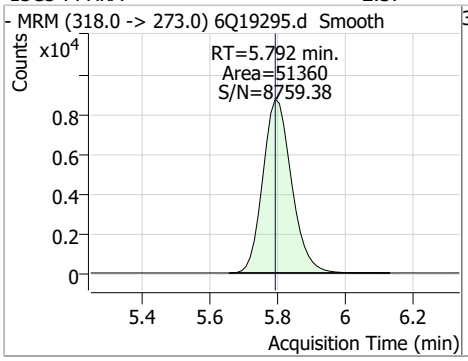
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.21	5.75	0.00	1677	298.7 -> 98.8	40.3	19.0	57.0

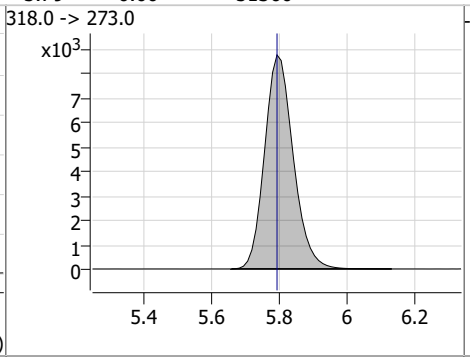


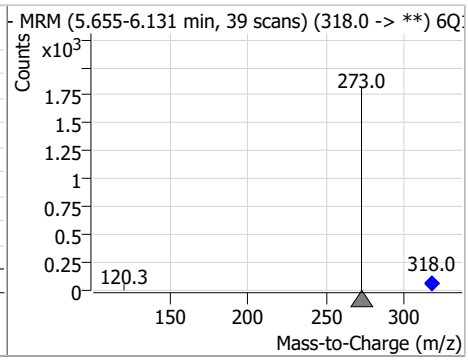




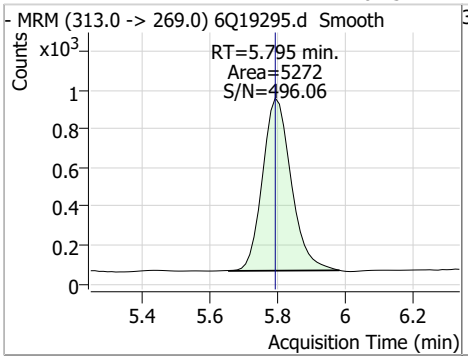
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.37	5.79	0.00	51360				

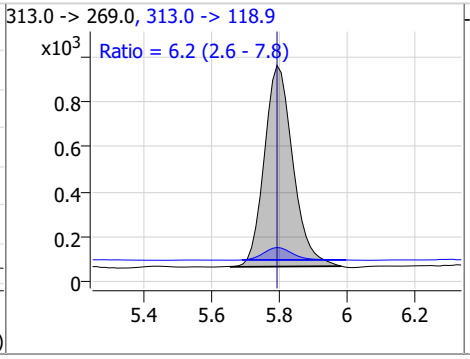


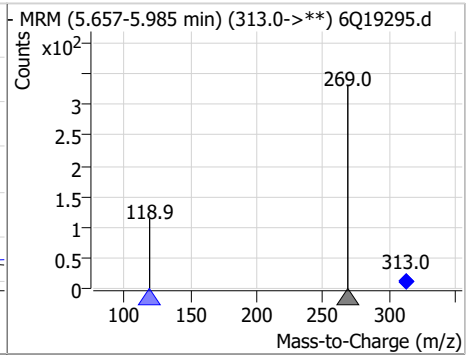




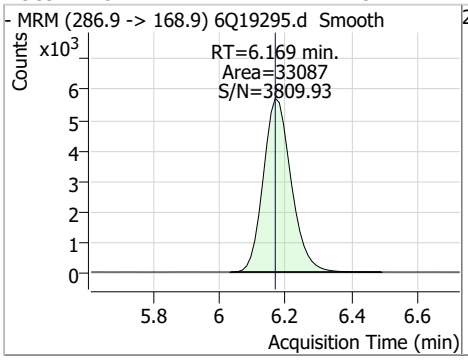
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.25	5.79	0.00	5272	313.0 -> 118.9	6.2	2.6	7.8

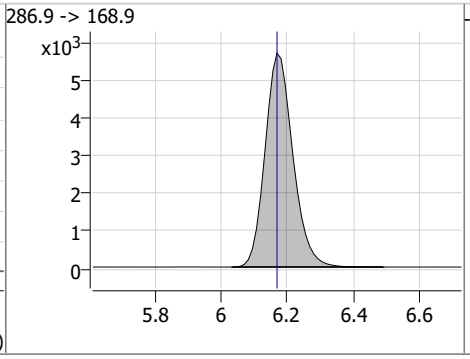


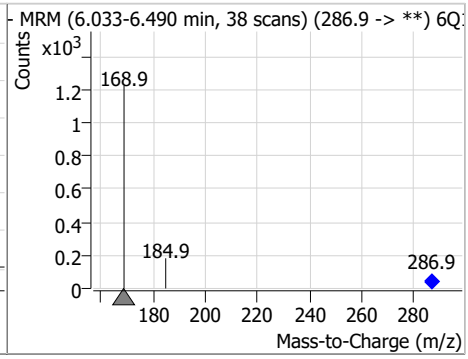




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.12	6.17	0.00	33087				

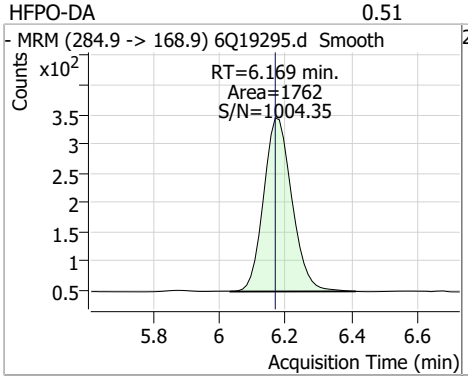


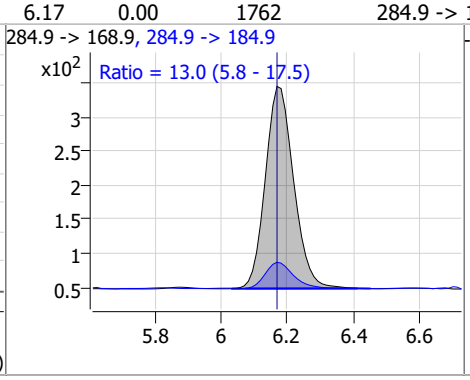


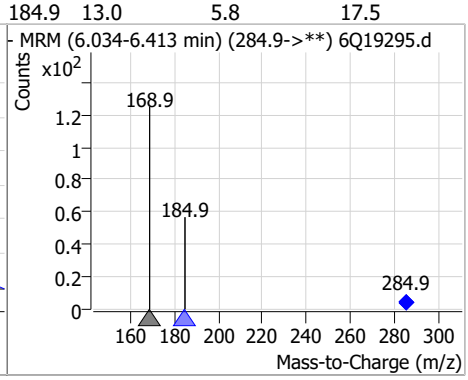


Perfluorinated Compounds by LC/MS/MS

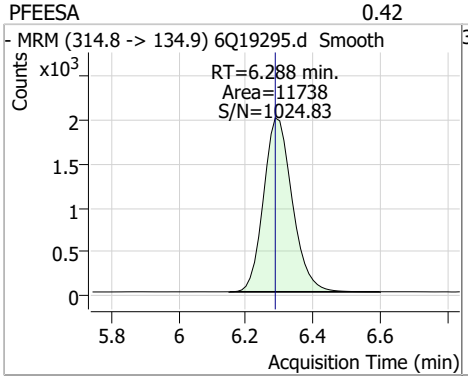
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.51	6.17	0.00	1762	284.9 -> 184.9	13.0	5.8	17.5

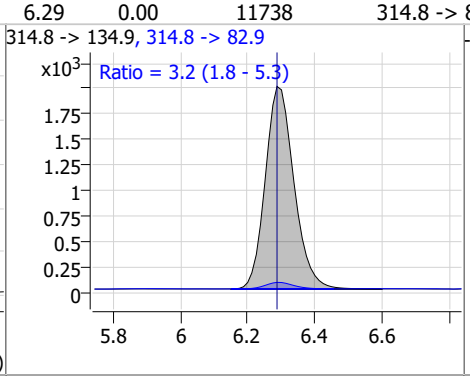


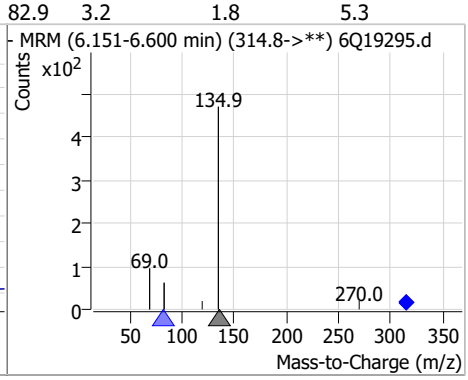




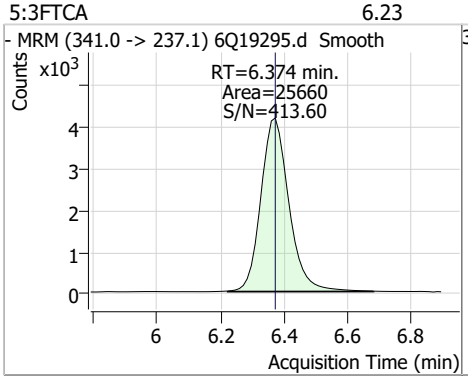
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.42	6.29	0.00	11738	314.8 -> 82.9	3.2	1.8	5.3

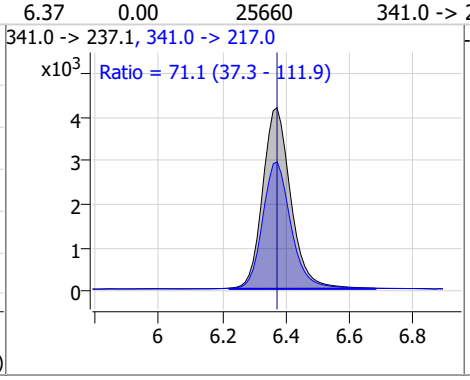


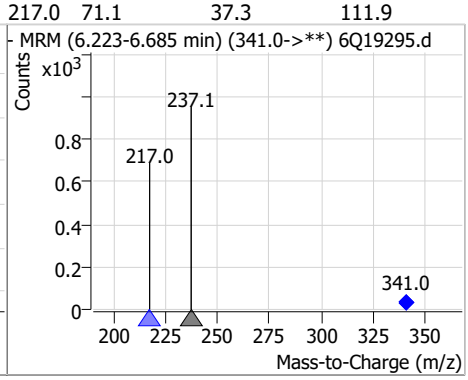




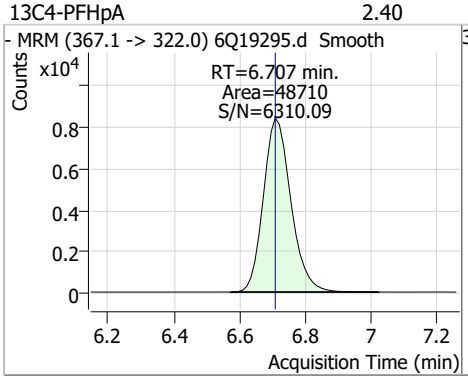
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	6.23	6.37	0.00	25660	341.0 -> 217.0	71.1	37.3	111.9

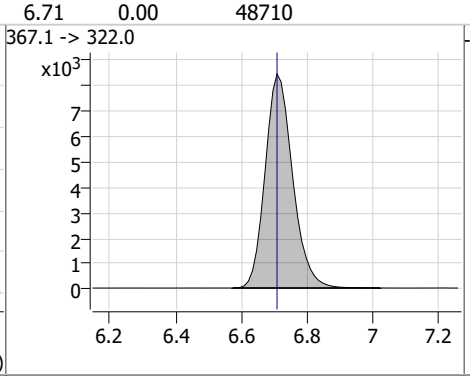


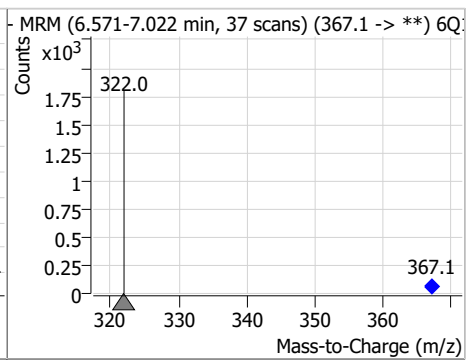




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.40	6.71	0.00	48710				

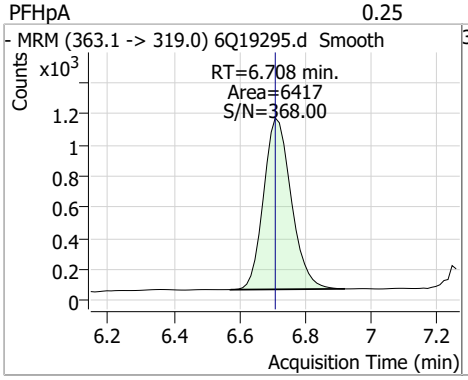


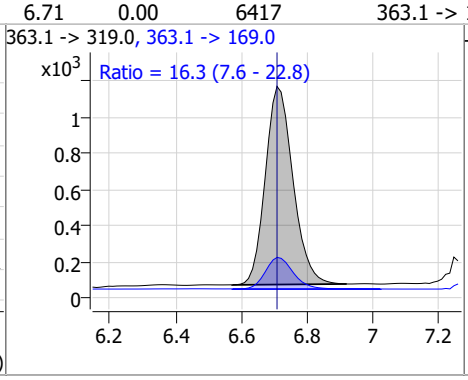


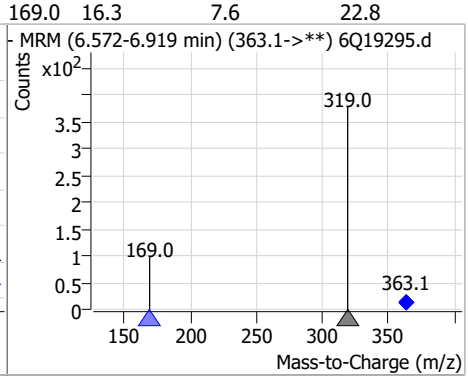


Perfluorinated Compounds by LC/MS/MS

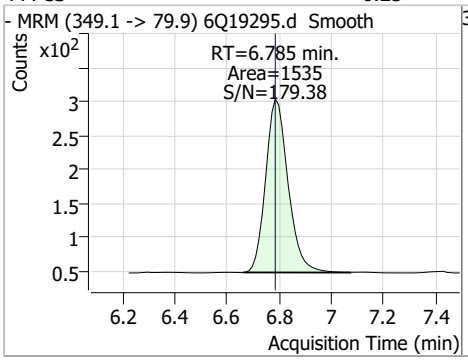
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.25	6.71	0.00	6417	363.1 -> 169.0	16.3	7.6	22.8

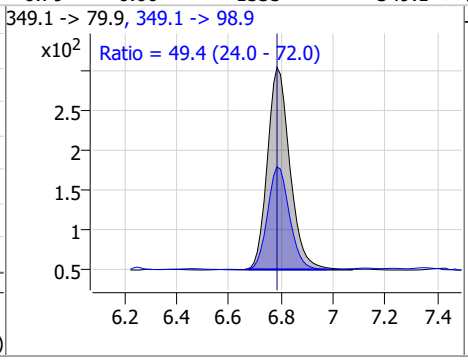


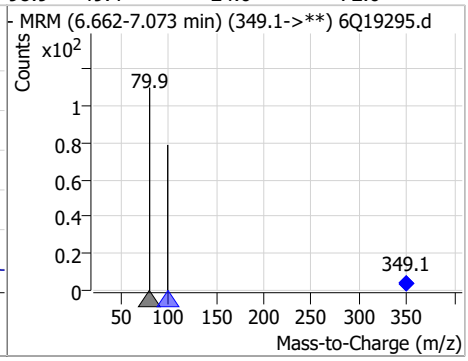




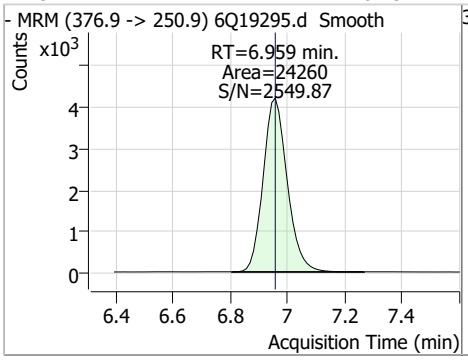
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.23	6.79	0.00	1535	349.1 -> 98.9	49.4	24.0	72.0

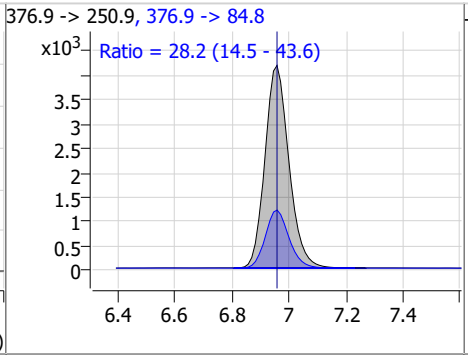


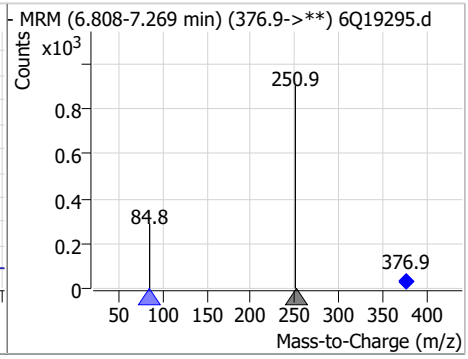




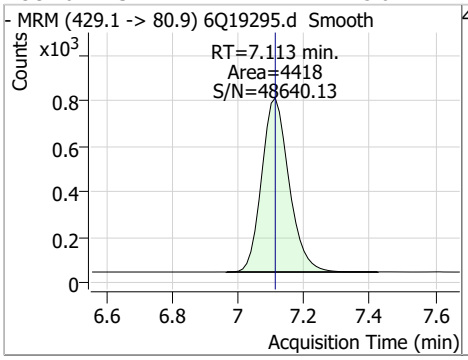
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.45	6.96	0.00	24260	376.9 -> 84.8	28.2	14.5	43.6

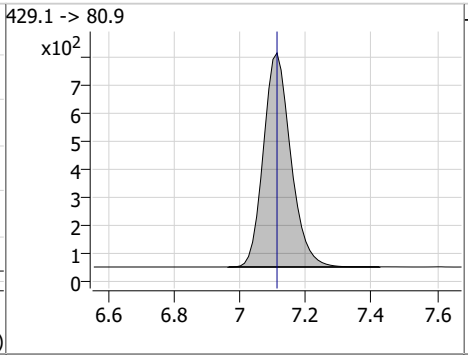


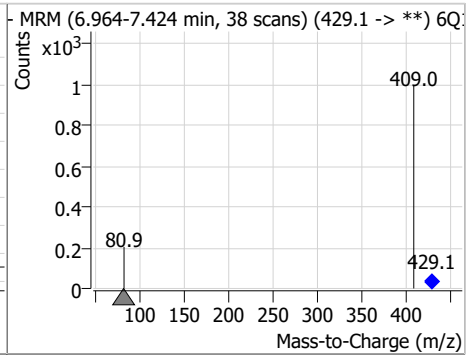




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.07	7.11	0.00	4418				

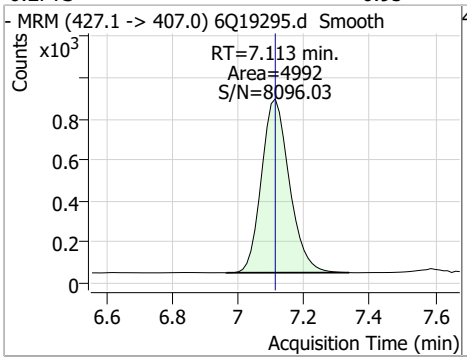


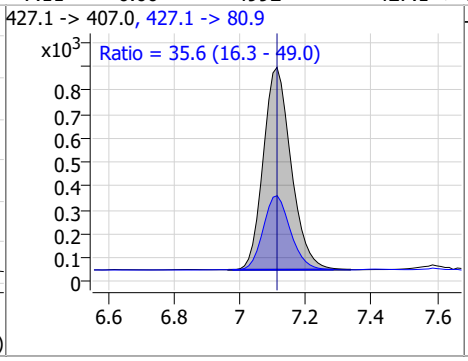


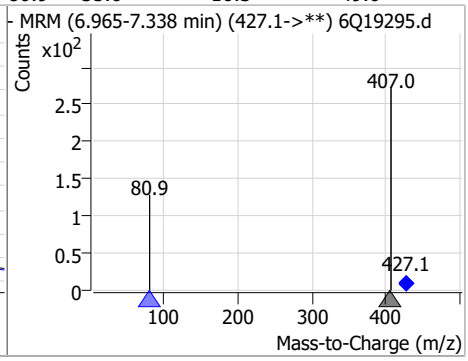


Perfluorinated Compounds by LC/MS/MS

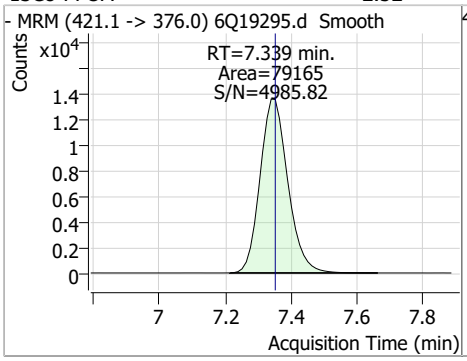
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.95	7.11	0.00	4992	427.1 -> 80.9	35.6	16.3	49.0

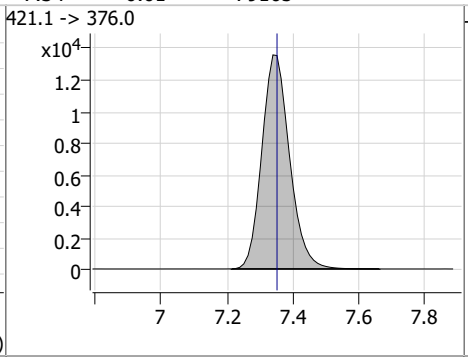


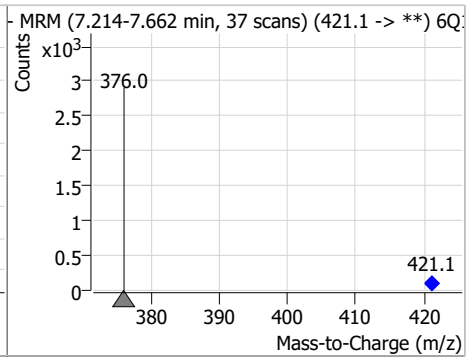




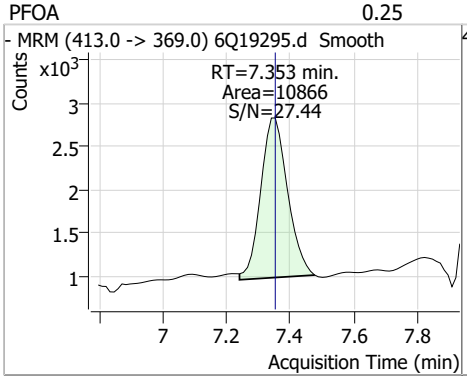
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.52	7.34	-0.01	79165				

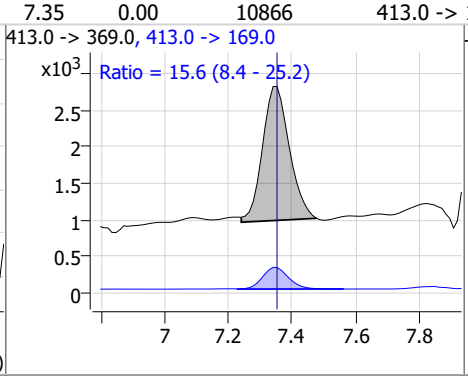


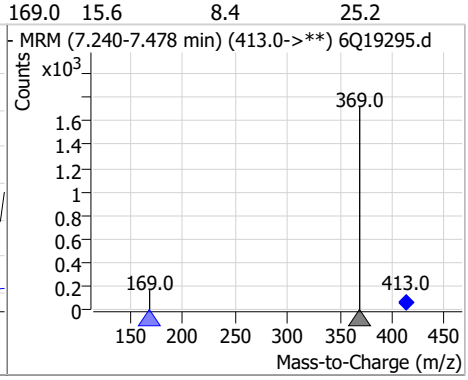




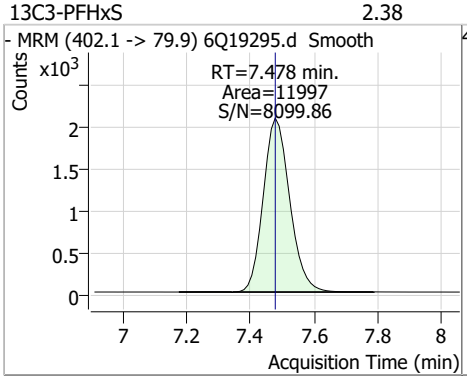
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.25	7.35	0.00	10866	413.0 -> 169.0	15.6	8.4	25.2

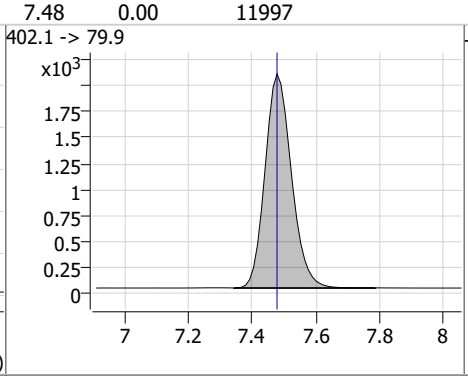


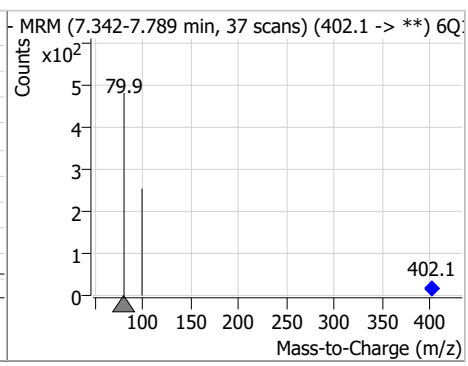




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.38	7.48	0.00	11997				

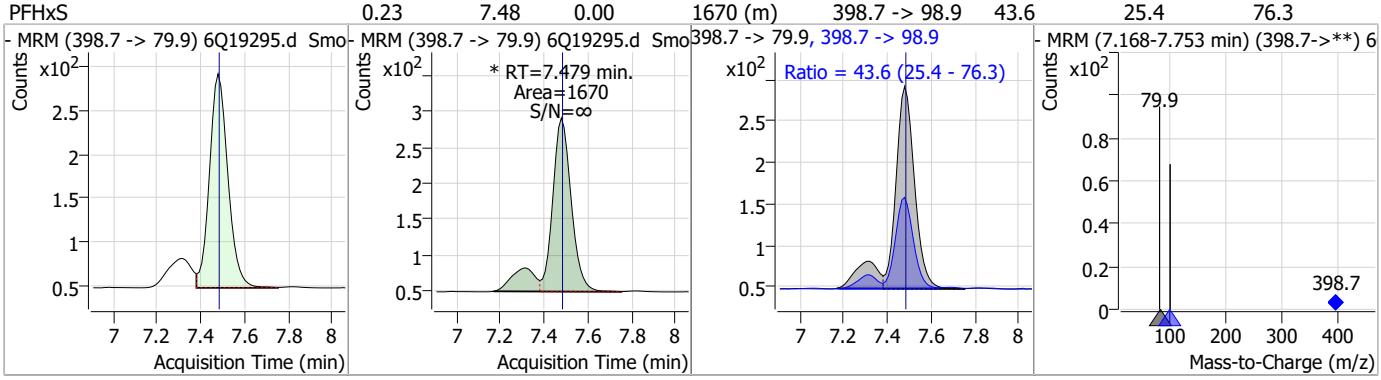




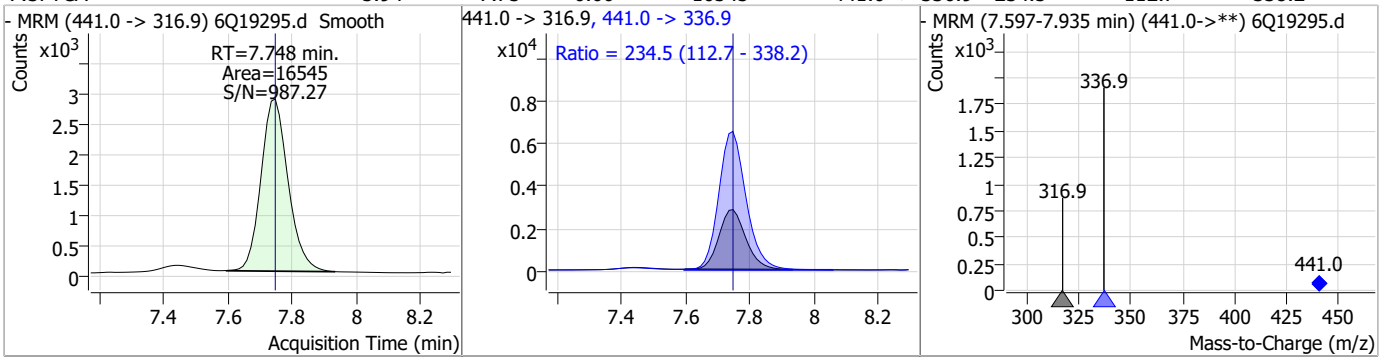


Perfluorinated Compounds by LC/MS/MS

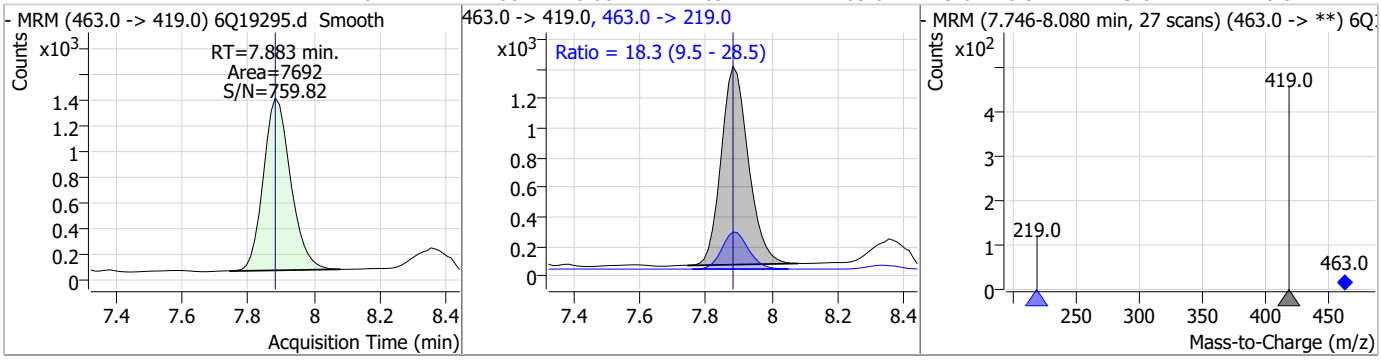
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.23	7.48	0.00	1670 (m)	398.7 -> 98.9	43.6	25.4	76.3



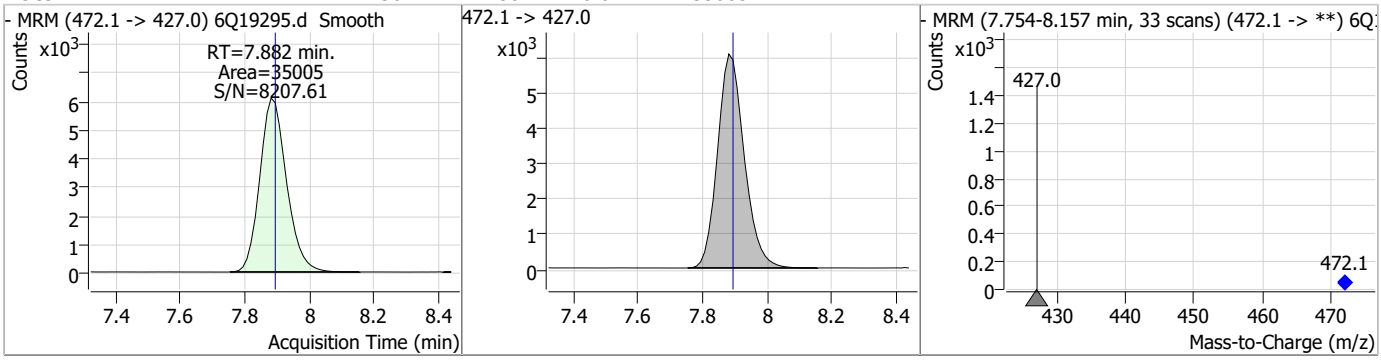
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	5.94	7.75	0.00	16545	441.0 -> 336.9	234.5	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.24	7.88	0.00	7692	463.0 -> 219.0	18.3	9.5	28.5

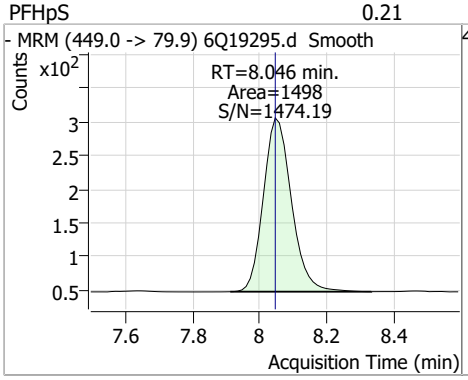


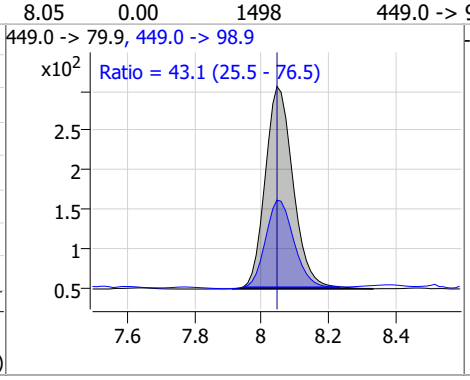
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.30	7.88	-0.01	35005				

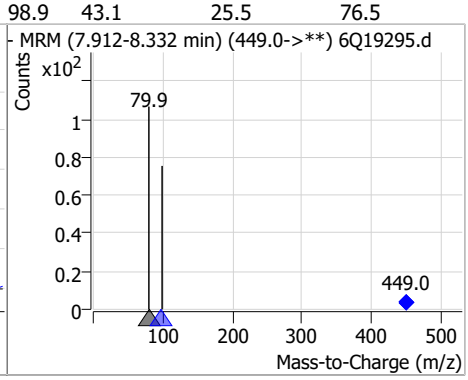


Perfluorinated Compounds by LC/MS/MS

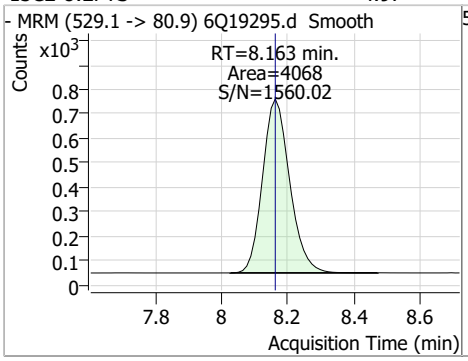
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.21	8.05	0.00	1498	449.0 -> 98.9	43.1	25.5	76.5

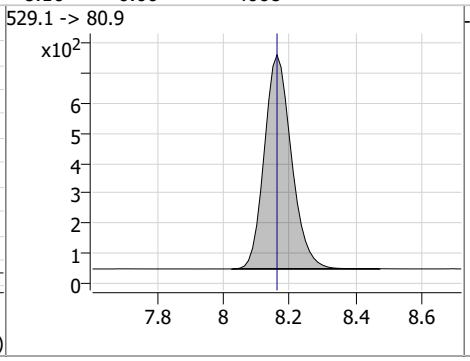


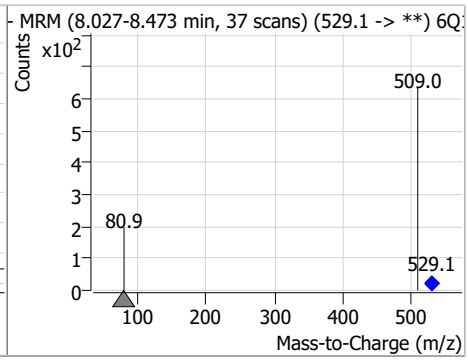




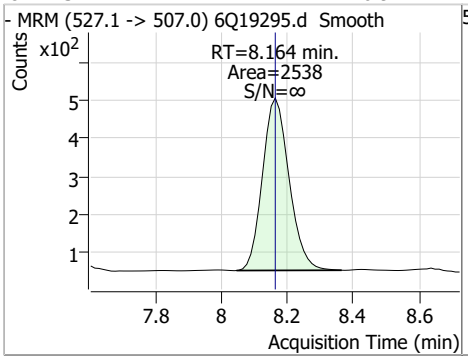
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.97	8.16	0.00	4068				

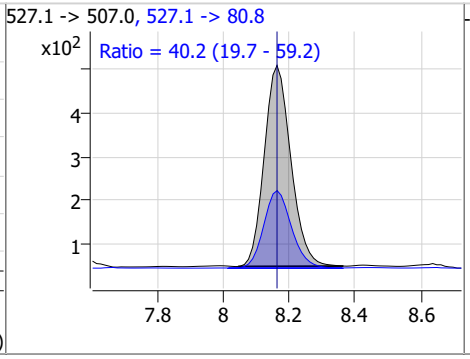


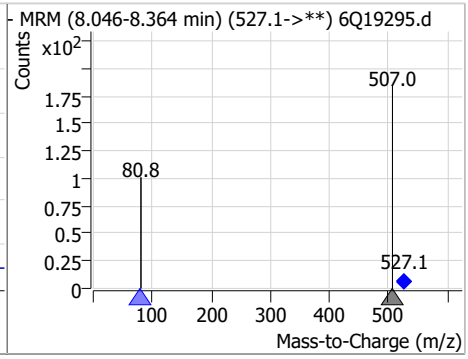




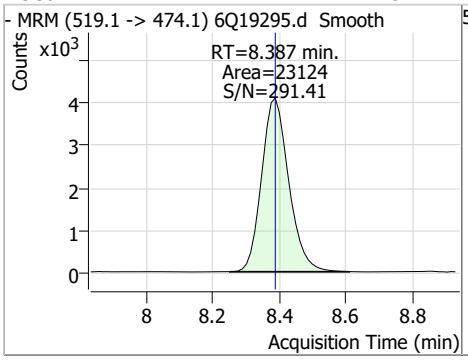
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.94	8.16	0.00	2538	527.1 -> 80.8	40.2	19.7	59.2

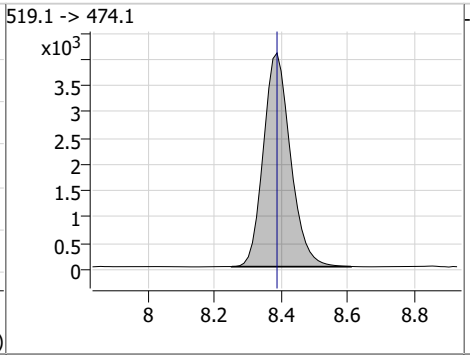


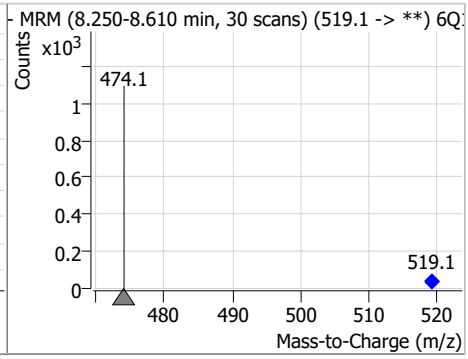




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.29	8.39	0.00	23124				

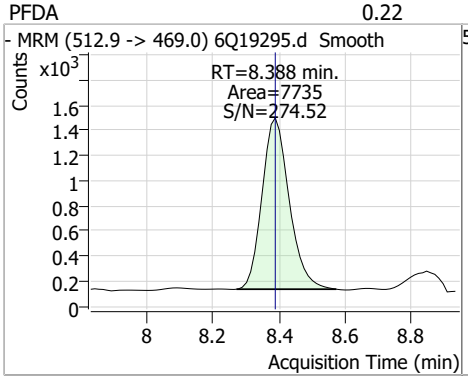


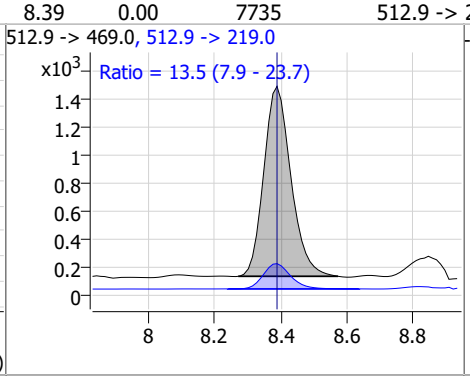


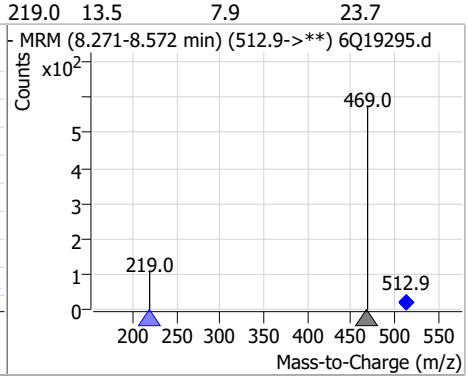


Perfluorinated Compounds by LC/MS/MS

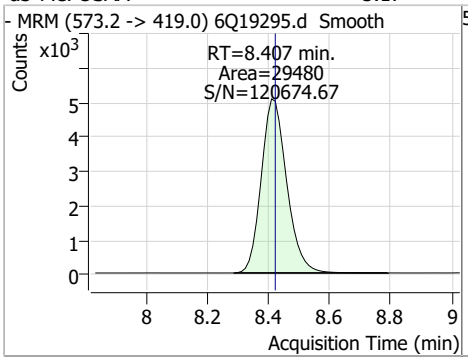
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.22	8.39	0.00	7735	512.9 -> 219.0	13.5	7.9	23.7

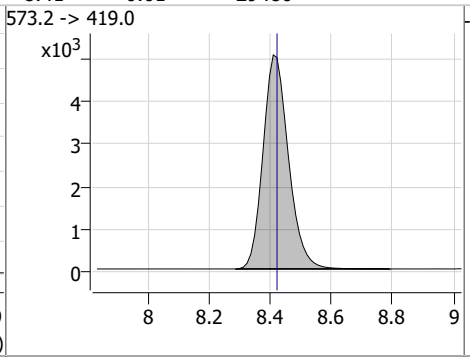


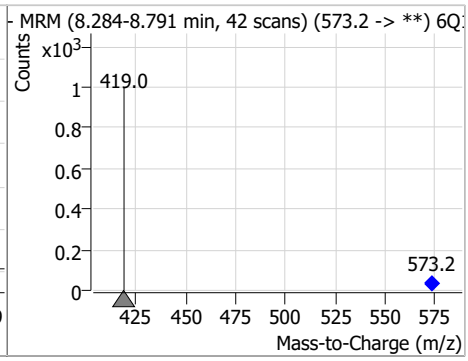




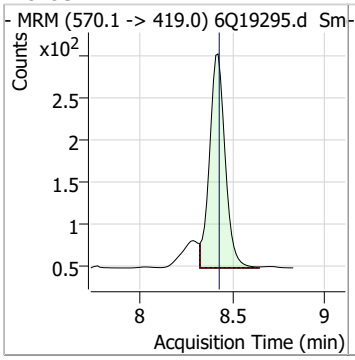
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.17	8.41	-0.01	29480				

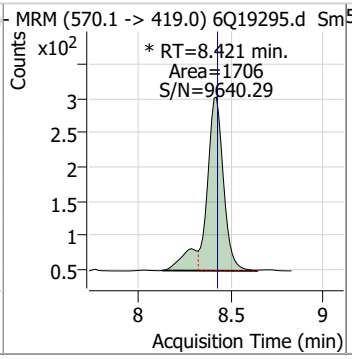


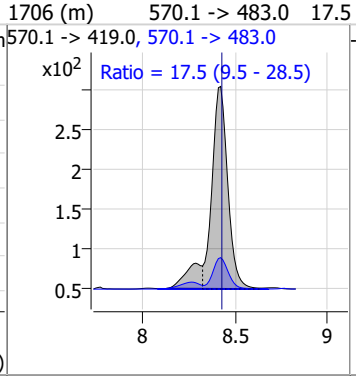


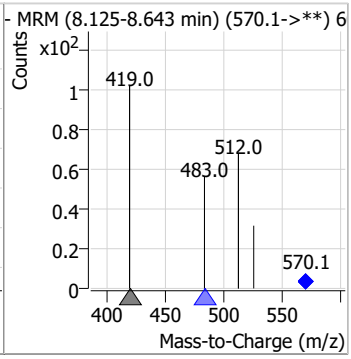


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.22	8.42	0.00	1706 (m)	570.1 -> 483.0	17.5	9.5	28.5

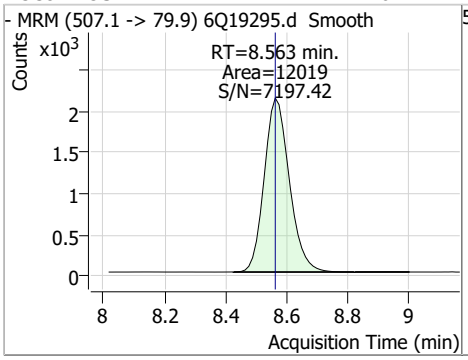


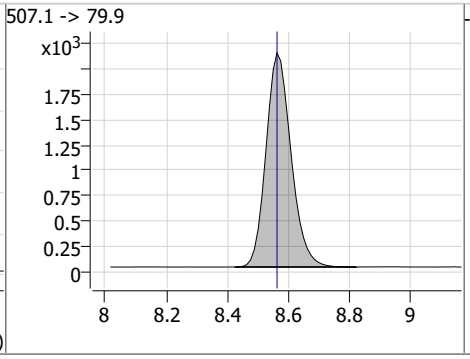


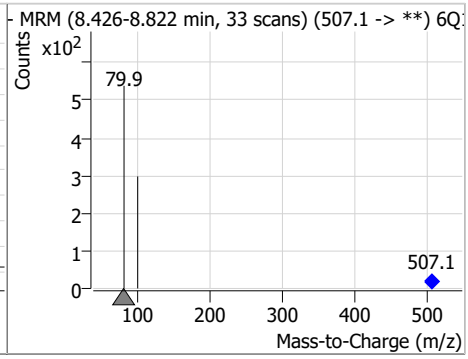




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.64	8.56	0.00	12019				

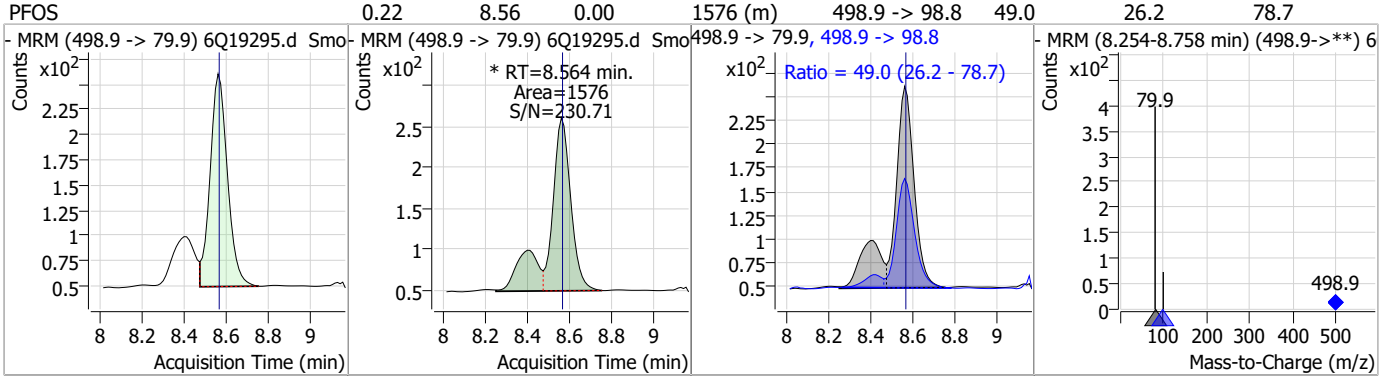




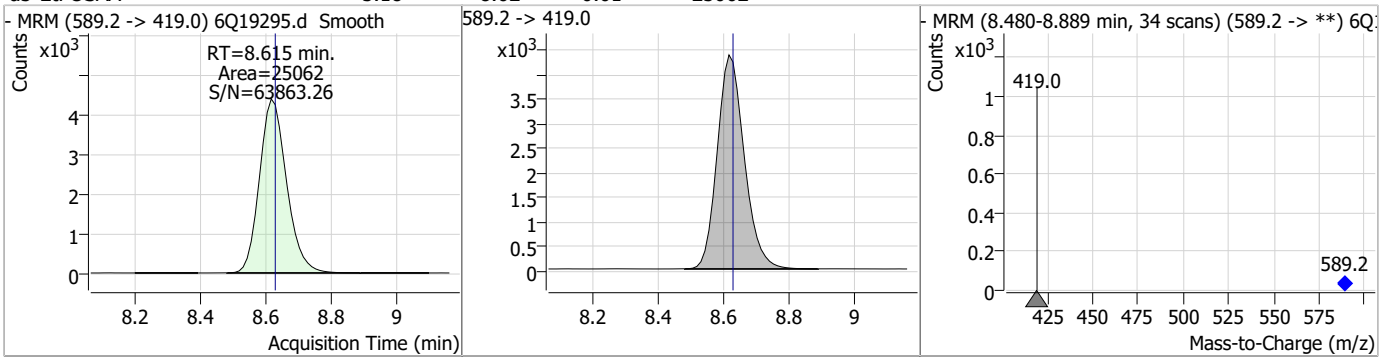


Perfluorinated Compounds by LC/MS/MS

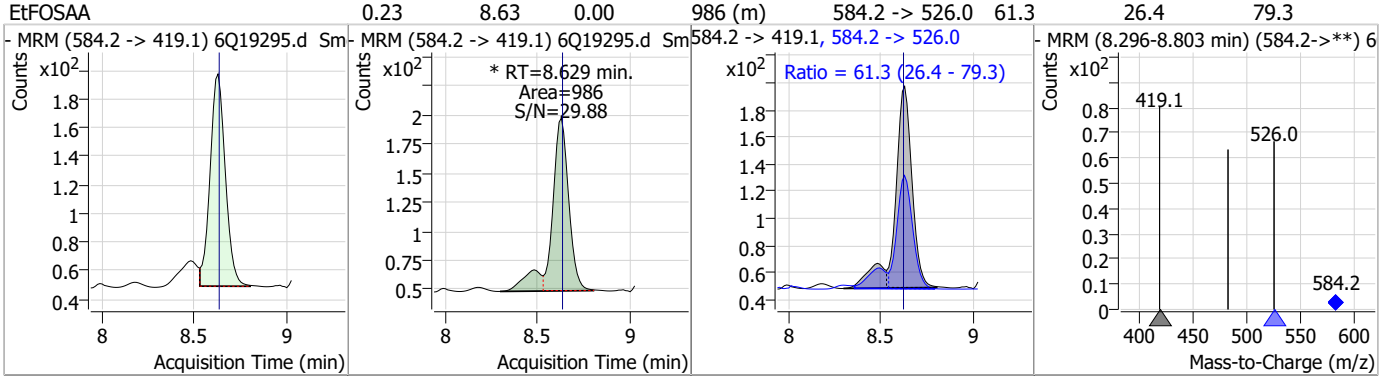
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.22	8.56	0.00	1576 (m)	498.9 -> 98.8	49.0	26.2	78.7



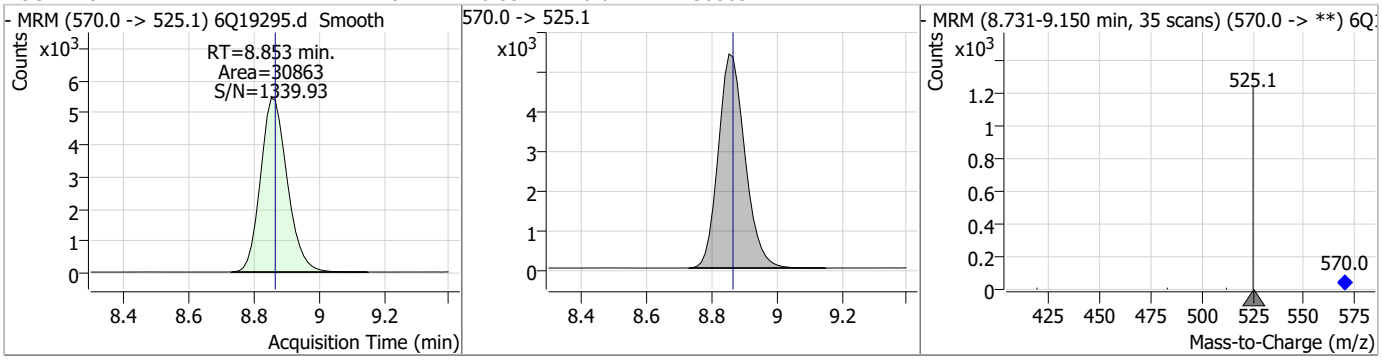
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.18	8.62	-0.01	25062				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.23	8.63	0.00	986 (m)	584.2 -> 526.0	61.3	26.4	79.3

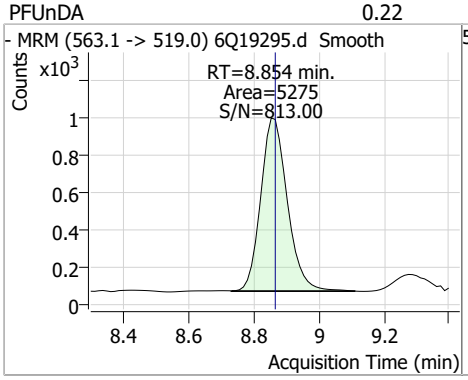


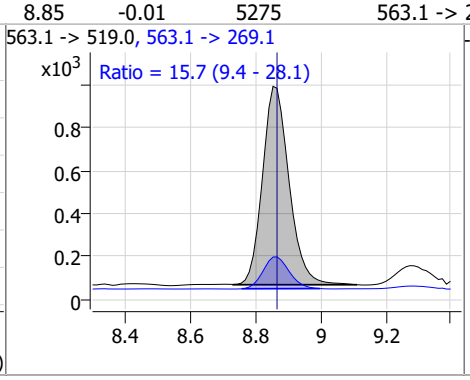
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.29	8.85	-0.01	30863				

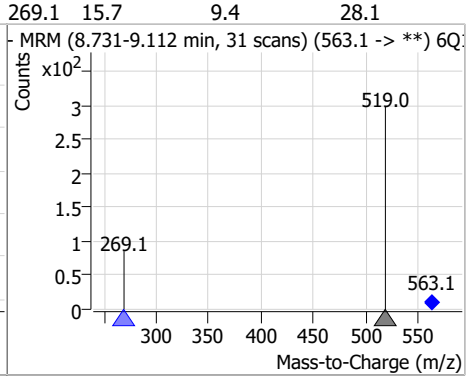


Perfluorinated Compounds by LC/MS/MS

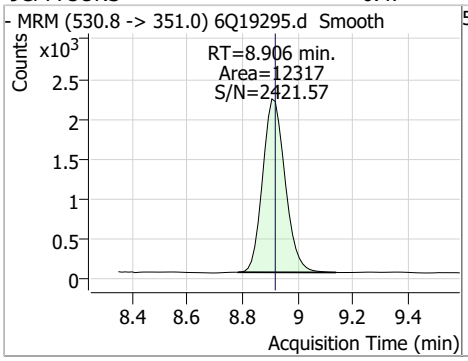
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.22	8.85	-0.01	5275	563.1 -> 269.1	15.7	9.4	28.1

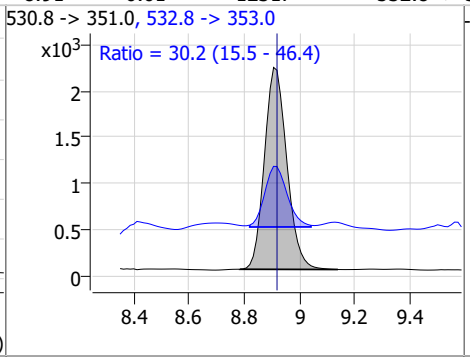


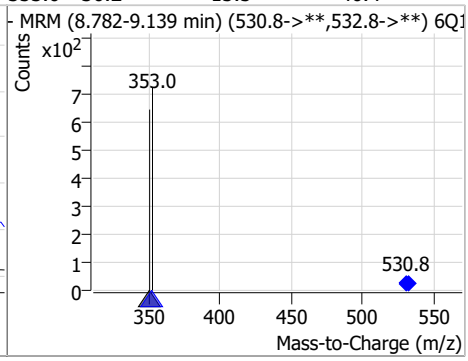




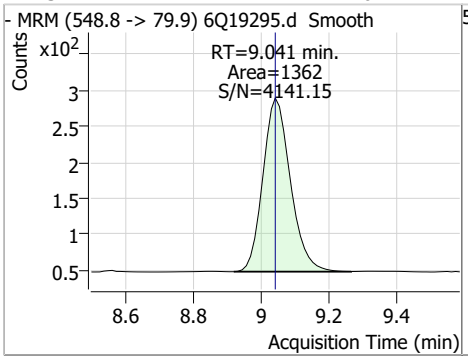
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.47	8.91	-0.01	12317	532.8 -> 353.0	30.2	15.5	46.4

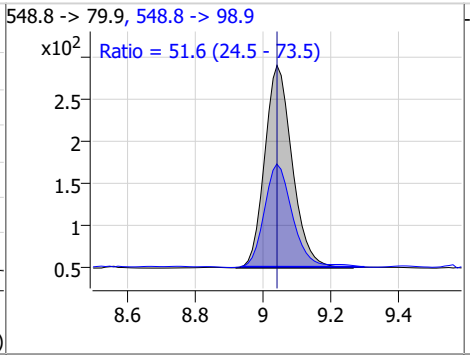


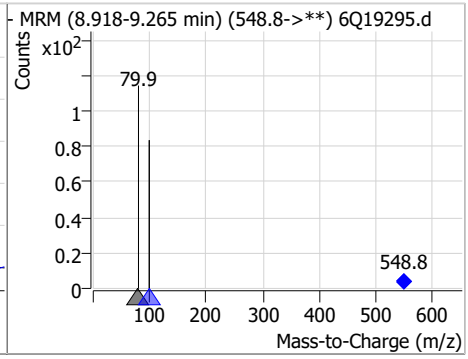




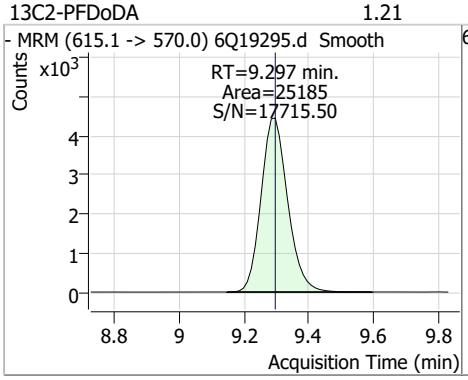
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.22	9.04	0.00	1362	548.8 -> 98.9	51.6	24.5	73.5

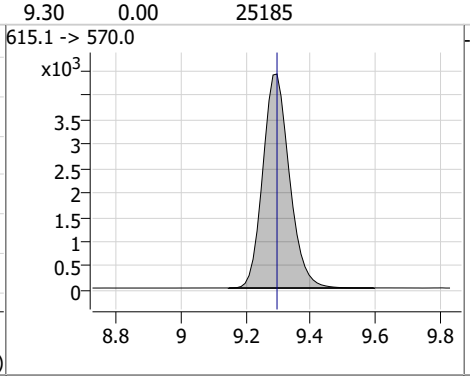


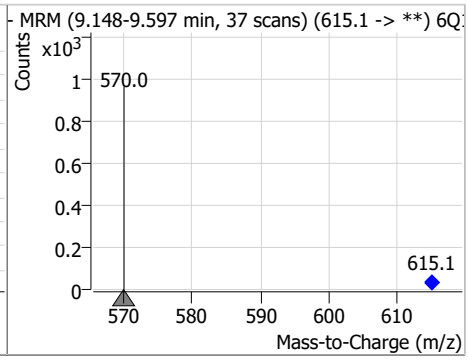




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.21	9.30	0.00	25185				

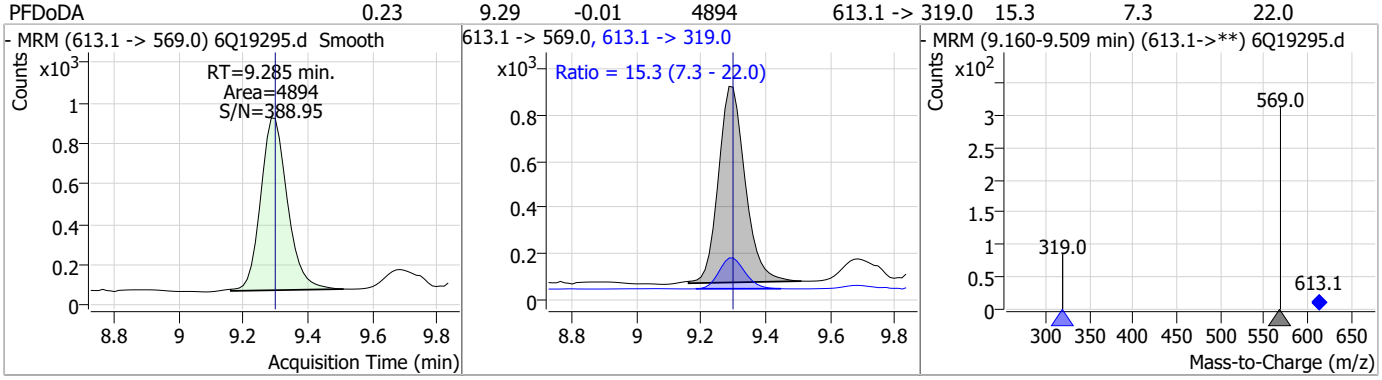




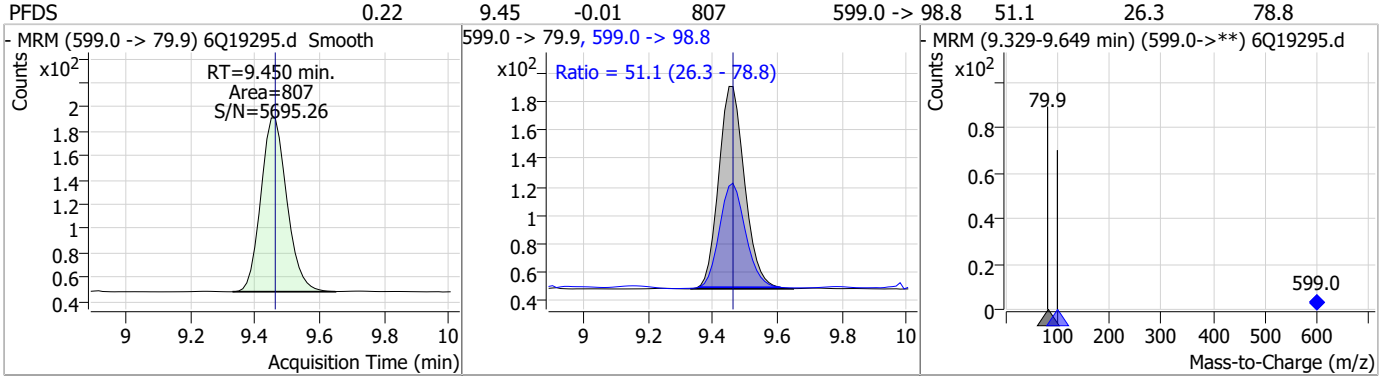


Perfluorinated Compounds by LC/MS/MS

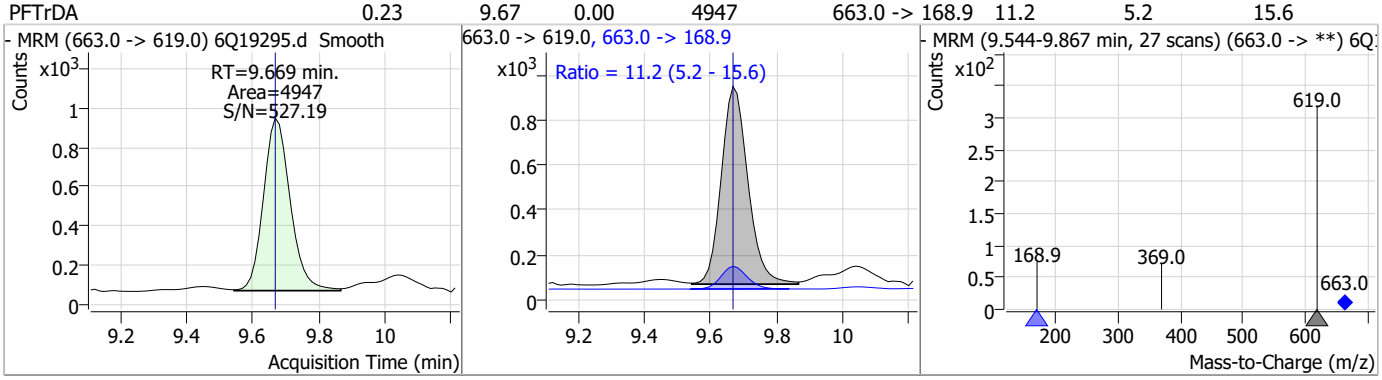
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.23	9.29	-0.01	4894	613.1 -> 319.0	15.3	7.3	22.0



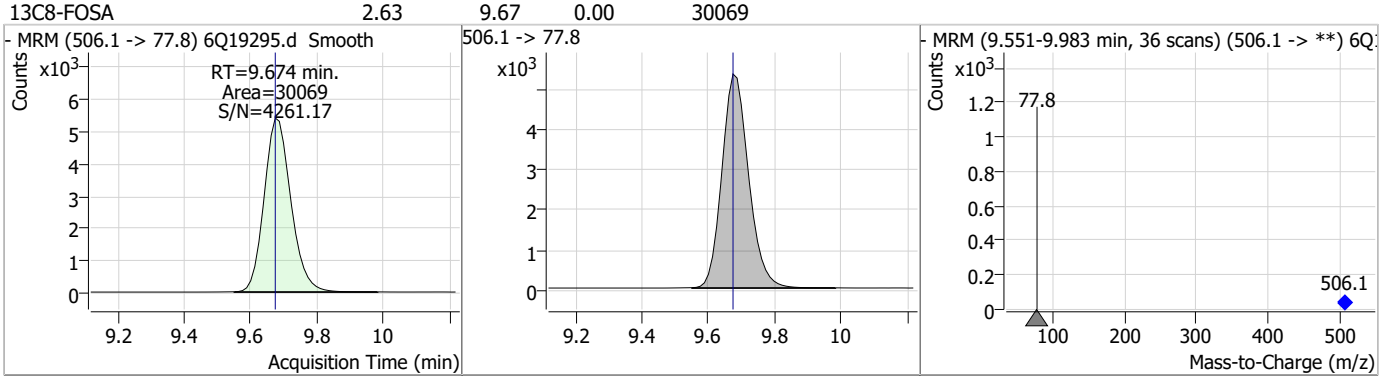
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.22	9.45	-0.01	807	599.0 -> 98.8	51.1	26.3	78.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.23	9.67	0.00	4947	663.0 -> 168.9	11.2	5.2	15.6

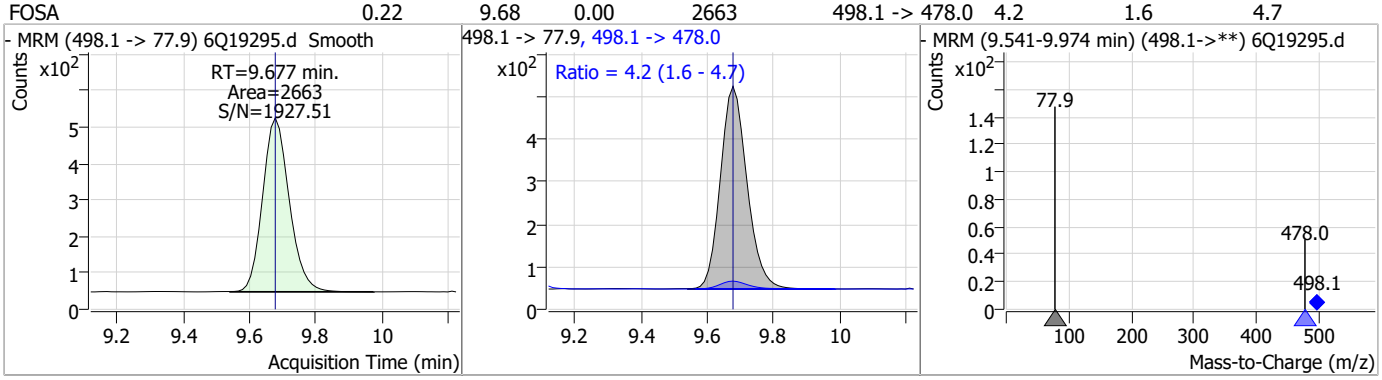


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.63	9.67	0.00	30069				

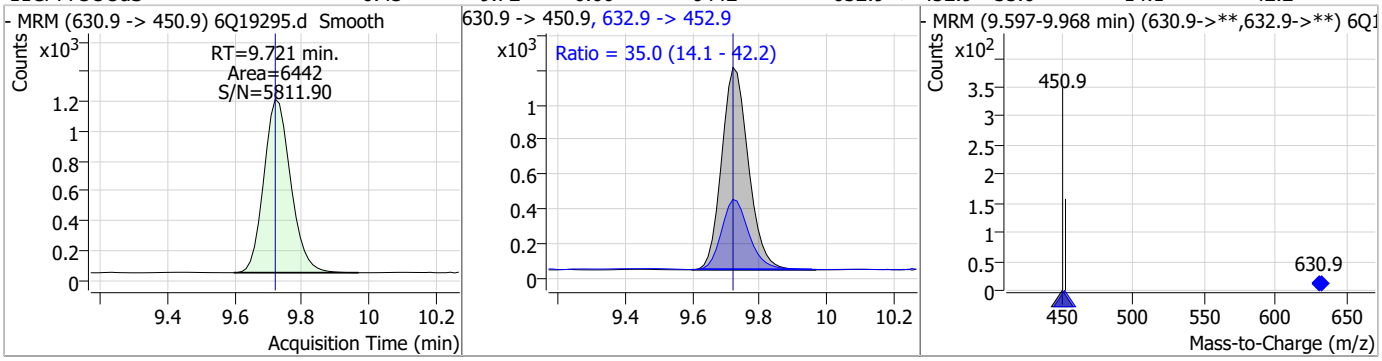


Perfluorinated Compounds by LC/MS/MS

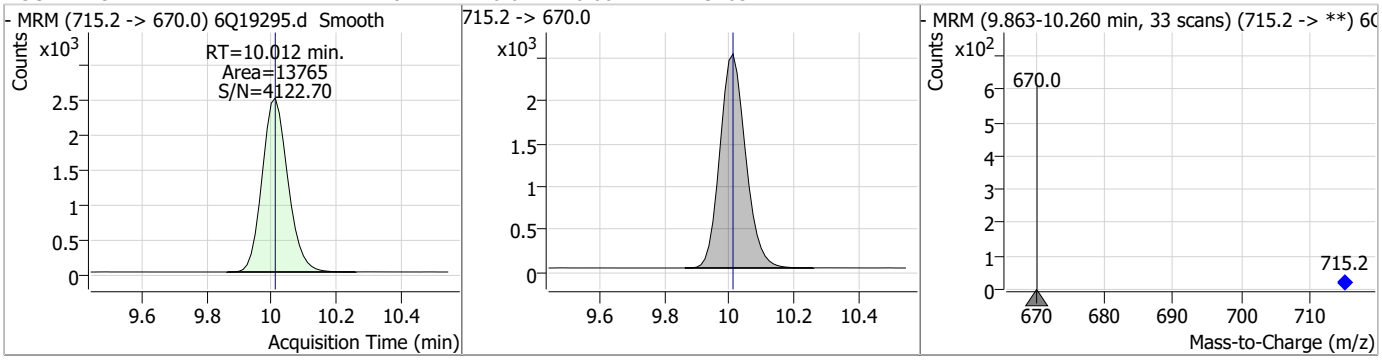
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.22	9.68	0.00	2663	498.1 -> 478.0	4.2	1.6	4.7



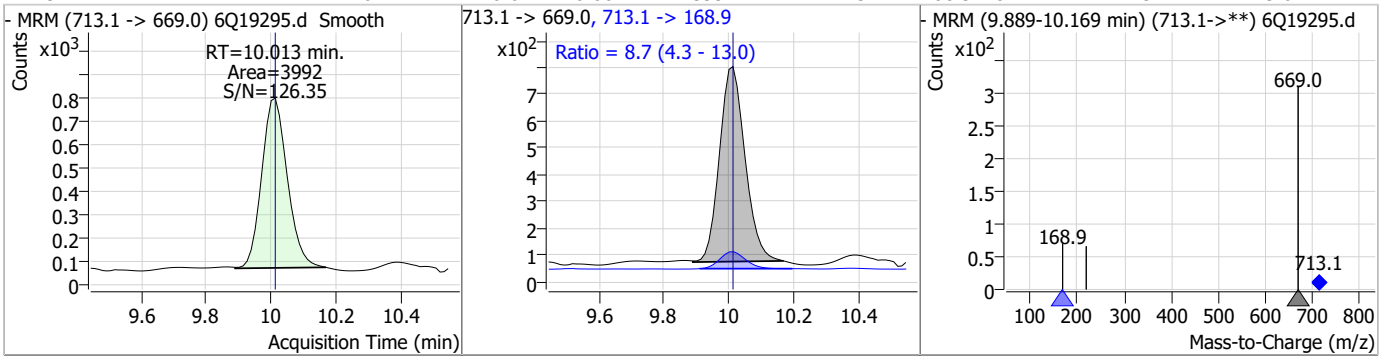
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.43	9.72	0.00	6442	632.9 -> 452.9	35.0	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.18	10.01	0.00	13765				

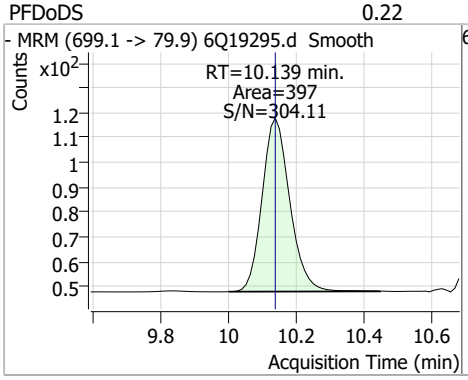


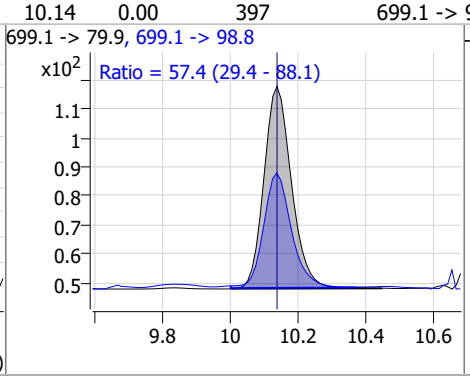
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.24	10.01	0.00	3992	713.1 -> 168.9	8.7	4.3	13.0

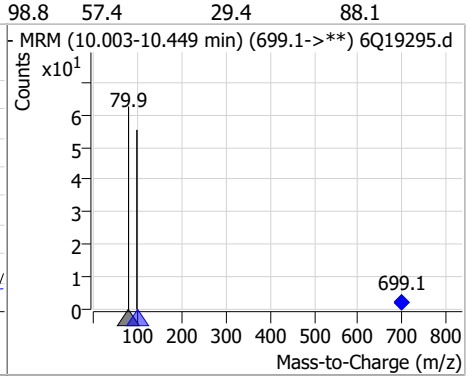


Perfluorinated Compounds by LC/MS/MS

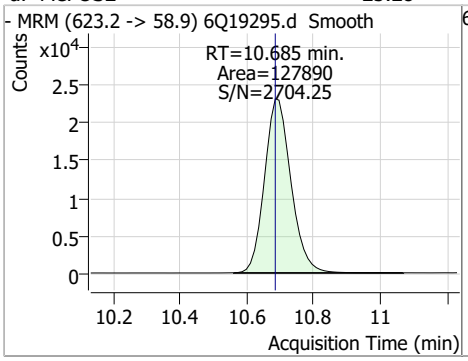
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.22	10.14	0.00	397	699.1 -> 98.8	57.4	29.4	88.1

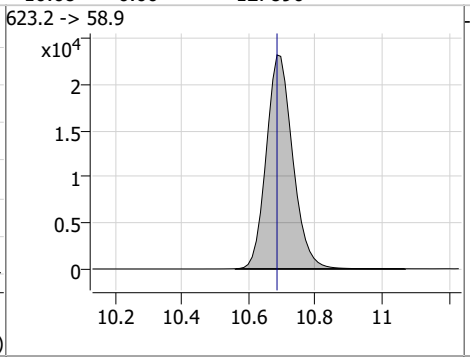


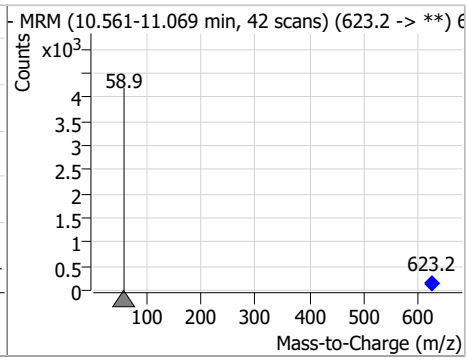




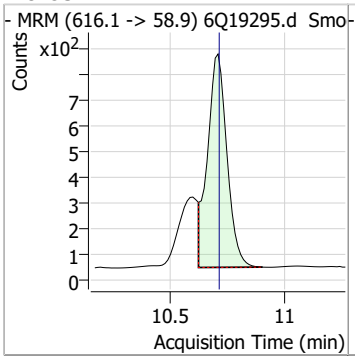
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.28	10.68	0.00	127890				

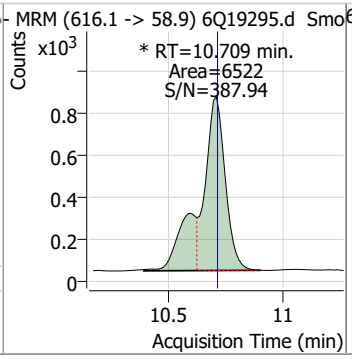


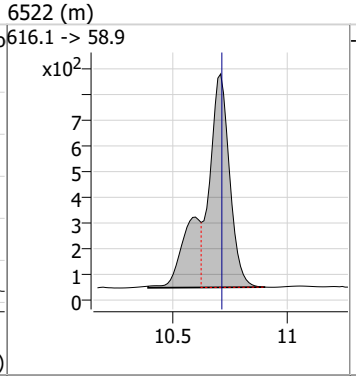


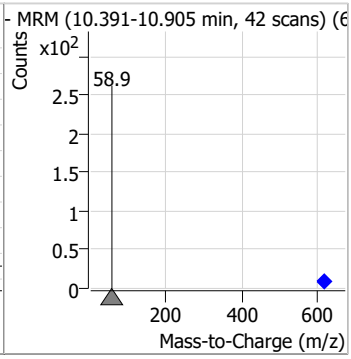


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	1.18	10.71	0.00	6522 (m)				

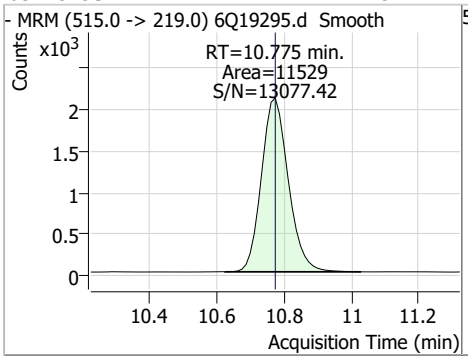


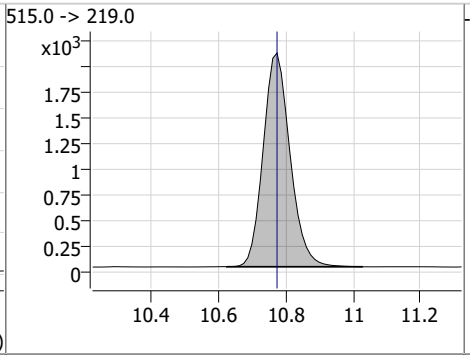


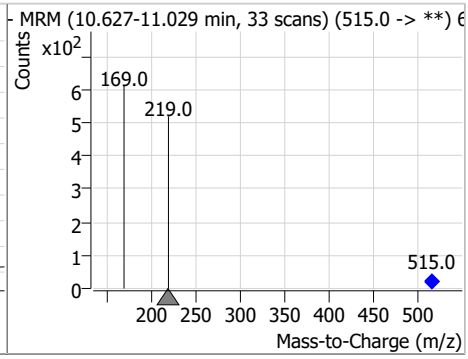




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.32	10.78	0.00	11529				

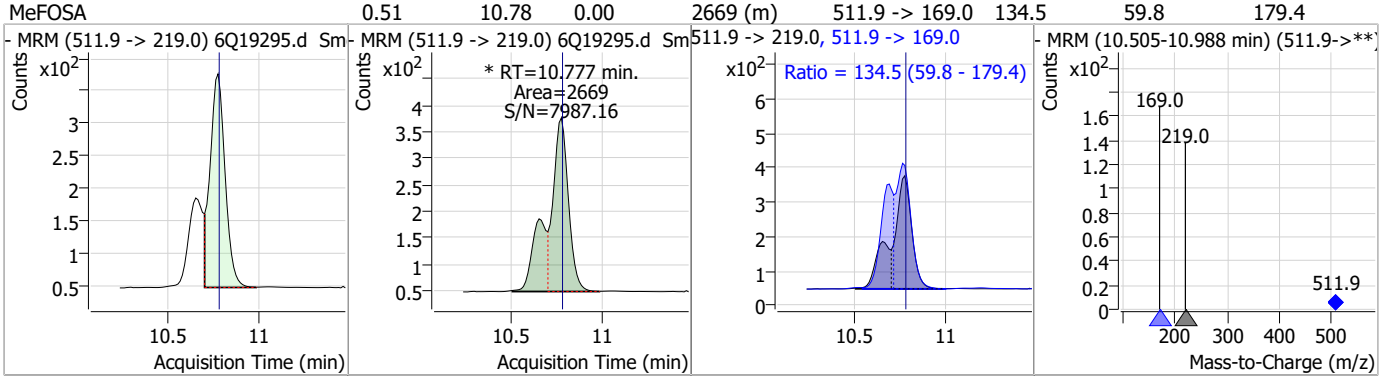




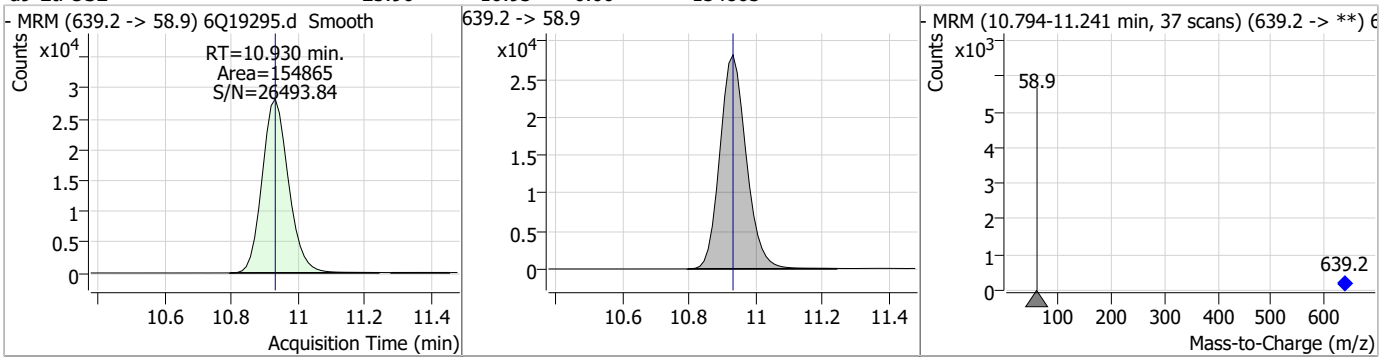


Perfluorinated Compounds by LC/MS/MS

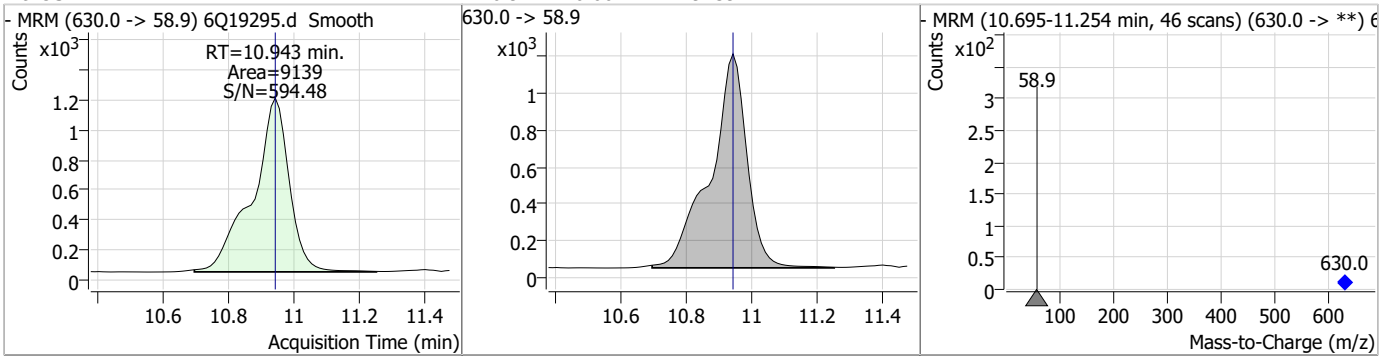
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.51	10.78	0.00	2669 (m)	511.9 -> 169.0	134.5	59.8	179.4



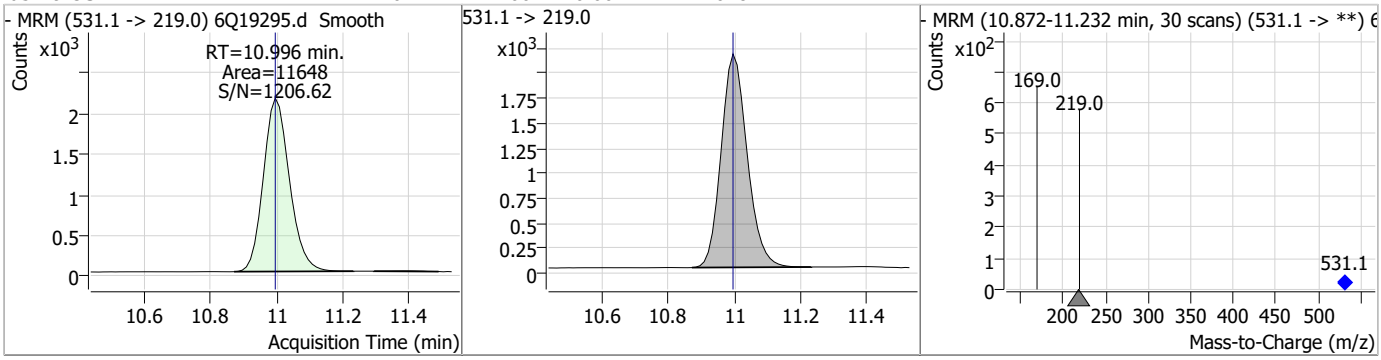
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.96	10.93	0.00	154865				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	1.14	10.94	0.00	9139				

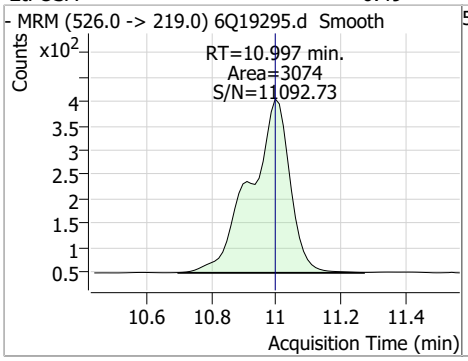


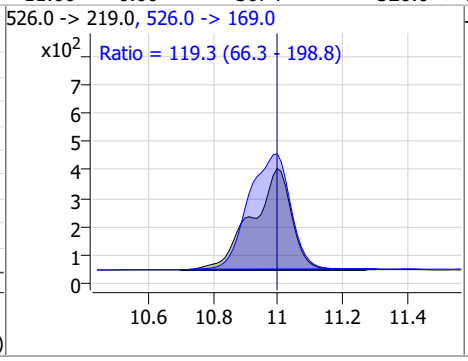
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.40	11.00	0.00	11648				

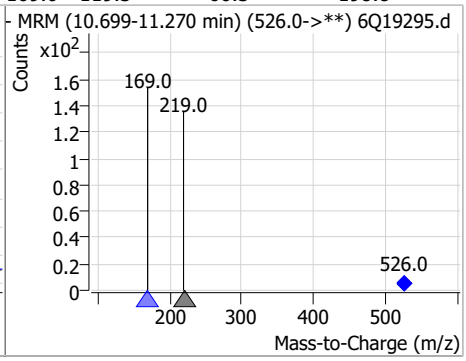


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.49	11.00	0.00	3074	526.0 -> 169.0	119.3	66.3	198.8







7.7.2

7

Manual Integration Approval Summary

Sample Number: S6Q288-IC288
Lab FileID: 6Q19295.D
Injection Time: 06/13/23 11:35
Method: EPA DRAFT 1633
Analyst approved: 06/14/23 10:15 Martha Valls
Supervisor approved: 06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19296.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 11:49:47 AM
Sample Name : ic288-2
Vial : P1-A3
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	148883	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	48353	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	51816	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	49001	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	75164	2.50	µg/L	0.000
M9-PFNA	7.882	472.1 -> 427.0	35952	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	20294	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	29995	1.25	µg/L	-0.012
M2-PFDoDA	9.297	615.1 -> 570.0	24147	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	14046	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	30446	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	19021	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12249	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11012	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3070	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4984	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4163	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	27158	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	34466	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	25303	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	131899	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	151329	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12369	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11987	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15160	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	62960	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9356	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	83872	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	31124	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	45459	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	50735	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3070	5.47	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.4%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4984	5.88	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.6%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4163	5.22	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.4%		
13C2-PFDoDA	9.297	615.1 -> 570.0	24147	1.16	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.8%		
13C2-PFTeDA	10.012	715.2 -> 670.0	14046	1.21	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.8%		
13C3-PFBS	5.746	302.1 -> 79.9	19021	2.44	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.7%		
13C3-PFHxS	7.478	402.1 -> 79.9	12249	2.49	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C4-PFBA	3.085	216.8 -> 171.9	148883	10.08 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C4-PFHpA	6.707	367.1 -> 322.0	49001	2.50 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C5-PFHxA	5.792	318.0 -> 273.0	51816	2.47 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%		
13C5-PFPeA	4.560	268.3 -> 223.0	48353	5.04 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C6-PFDA	8.387	519.1 -> 474.1	20294	1.14 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.9%		
13C7-PFUnDA	8.853	570.0 -> 525.1	29995	1.25 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C8-FOSA	9.674	506.1 -> 77.8	30446	2.65 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.1%		
13C8-PFOA	7.352	421.1 -> 376.0	75164	2.40 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%		
13C8-PFOS	8.563	507.1 -> 79.9	11012	2.41 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.2%		
13C9-PFNA	7.882	472.1 -> 427.0	35952	1.30 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.9%		
d3-MeFOSAA	8.420	573.2 -> 419.0	27158	4.73 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.7%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	34466	9.84 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.4%		
d3-MeFOSA	10.775	515.0 -> 219.0	11987	2.40 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.1%		
d5-EtFOSAA	8.615	589.2 -> 419.0	25303	5.20 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.9%		
d7-MeFOSE	10.685	623.2 -> 58.9	131899	25.93 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.7%		
d9-EtFOSE	10.930	639.2 -> 58.9	151329	25.23 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
d5-EtFOSA	10.996	531.1 -> 219.0	12369	2.54 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	8327	1.56 µg/L		99
		327.1 -> 80.9	3160			
6:2FTS	7.113	427.1 -> 407.0	8916	1.50 µg/L		97
		427.1 -> 80.9	3053			
8:2FTS	8.164	527.1 -> 507.0	4631	1.67 µg/L		96
		527.1 -> 80.8	1933			
EtFOSAA	8.629	584.2 -> 419.1	1685	0.39 µg/L	m	97
		584.2 -> 526.0	922			
FOSA	9.677	498.1 -> 77.9	4709	0.39 µg/L		99
		498.1 -> 478.0	127			
MeFOSAA	8.421	570.1 -> 419.0	3362	0.48 µg/L	m	95
		570.1 -> 483.0	713			
PFBA	3.093	212.8 -> 168.9	9659	1.61 µg/L		100
PFBS	5.747	298.7 -> 79.9	3155	0.37 µg/L		100
		298.7 -> 98.8	1190			
PFDA	8.388	512.9 -> 469.0	13569	0.45 µg/L		99
		512.9 -> 219.0	2191			
PFDoDA	9.298	613.1 -> 569.0	8698	0.43 µg/L		98
		613.1 -> 319.0	1328			
PFDS	9.462	599.0 -> 79.9	1356	0.41 µg/L		93

Perfluorinated Compounds by LC/MS/MS

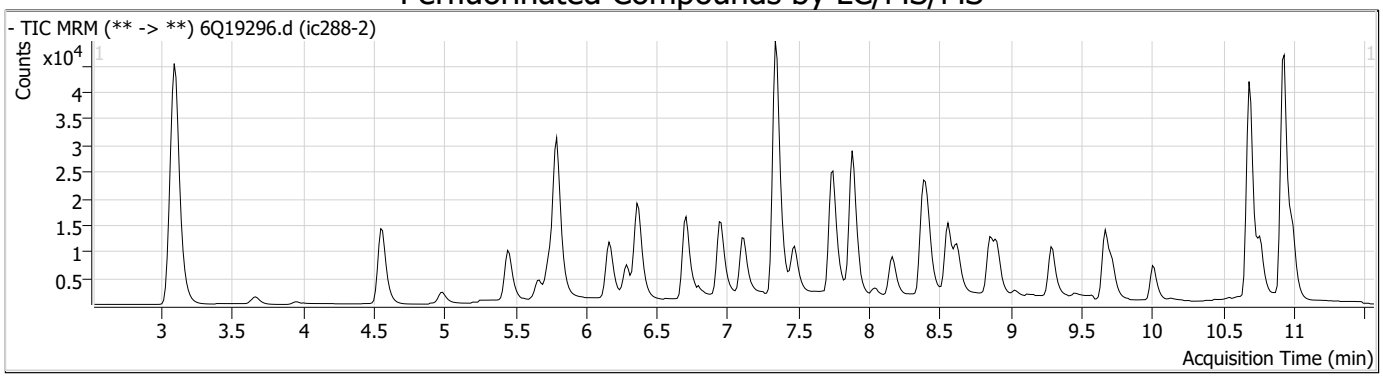
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	649				
PFHpA	6.708	363.1 -> 319.0	10761	0.41	µg/L		99
		363.1 -> 169.0	1699				
PFHpS	8.046	449.0 -> 79.9	2776	0.42	µg/L		96
		449.0 -> 98.9	1484				
PFHxA	5.795	313.0 -> 269.0	8139	0.39	µg/L		99
		313.0 -> 118.9	460				
PFHxS	7.479	398.7 -> 79.9	2890	0.39	µg/L	m	90
		398.7 -> 98.9	1275				
PFNA	7.896	463.0 -> 419.0	13911	0.42	µg/L		100
		463.0 -> 219.0	2624				
PFNS	9.041	548.8 -> 79.9	2419	0.42	µg/L		96
		548.8 -> 98.9	1250				
PFOA	7.341	413.0 -> 369.0	19180	0.46	µg/L		96
		413.0 -> 169.0	2859				
PFOS	8.564	498.9 -> 79.9	2651	0.41	µg/L	m	99
		498.9 -> 98.8	1374				
PFPeA	4.563	263.0 -> 219.0	11694	0.82	µg/L		100
PFPeS	6.785	349.1 -> 79.9	2478	0.36	µg/L		98
		349.1 -> 98.9	1224				
PFTeDA	10.013	713.1 -> 669.0	7291	0.43	µg/L		99
		713.1 -> 168.9	602				
PFTrDA	9.669	663.0 -> 619.0	8938	0.44	µg/L		97
		663.0 -> 168.9	1035				
PFUnDA	8.866	563.1 -> 519.0	8760	0.38	µg/L		97
		563.1 -> 269.1	1530				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	13037	0.83	µg/L		97
		632.9 -> 452.9	3502				
9Cl-PF3ONS	8.906	530.8 -> 351.0	20320	0.75	µg/L		86
		532.8 -> 353.0	4714				
ADONA	6.959	376.9 -> 250.9	43098	0.77	µg/L		96
		376.9 -> 84.8	11720				
HFPO-DA	6.169	284.9 -> 168.9	2852	0.79	µg/L		98
		284.9 -> 184.9	352				
3:3FTCA	3.946	241.0 -> 177.0	1996	2.07	µg/L		99
		241.0 -> 117.0	277				
5:3FTCA	6.374	341.0 -> 237.1	45342	10.91	µg/L		90
		341.0 -> 217.0	30154				
7:3FTCA	7.748	441.0 -> 316.9	30528	10.86	µg/L		91
		441.0 -> 336.9	64422				
EtFOSA	10.997	526.0 -> 219.0	5181	0.78	µg/L		98
		526.0 -> 169.0	7001				
EtFOSE	10.943	630.0 -> 58.9	15726	2.01	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	4469	0.82	µg/L	m	81
		511.9 -> 169.0	6291				
MeFOSE	10.709	616.1 -> 58.9	11608	2.03	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	694	0.42	µg/L		100
		699.1 -> 98.8	406				
NFDHA	5.673	295.0 -> 201.0	2374	0.89	µg/L		98
		295.0 -> 84.9	663				
PFMBA	4.988	279.0 -> 85.1	8456	0.83	µg/L		100
PFMPA	3.667	229.0 -> 84.9	6453	0.81	µg/L		100
PFEESA	6.288	314.8 -> 134.9	20621	0.73	µg/L		100
		314.8 -> 82.9	699				

 # = Qualifier out of range, m = manually integrated, + = Area summed

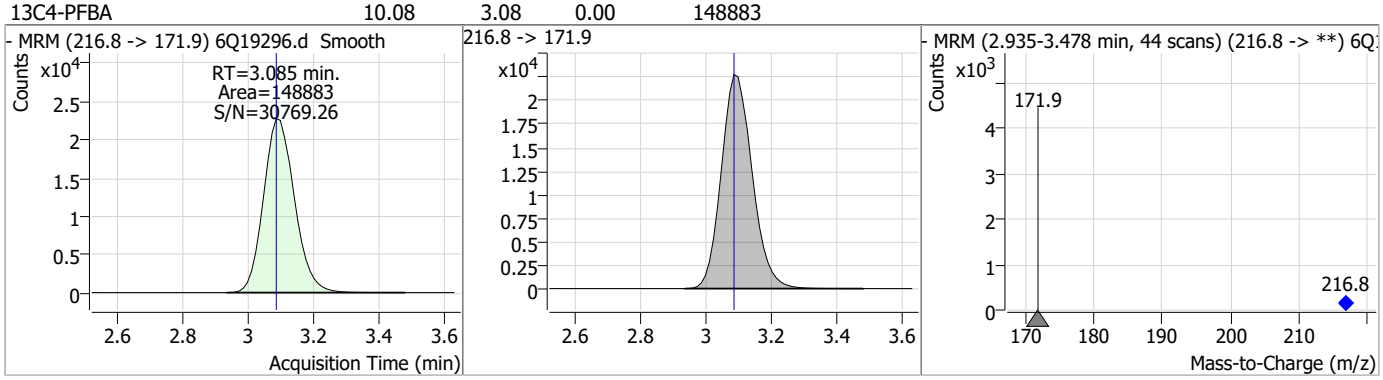
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

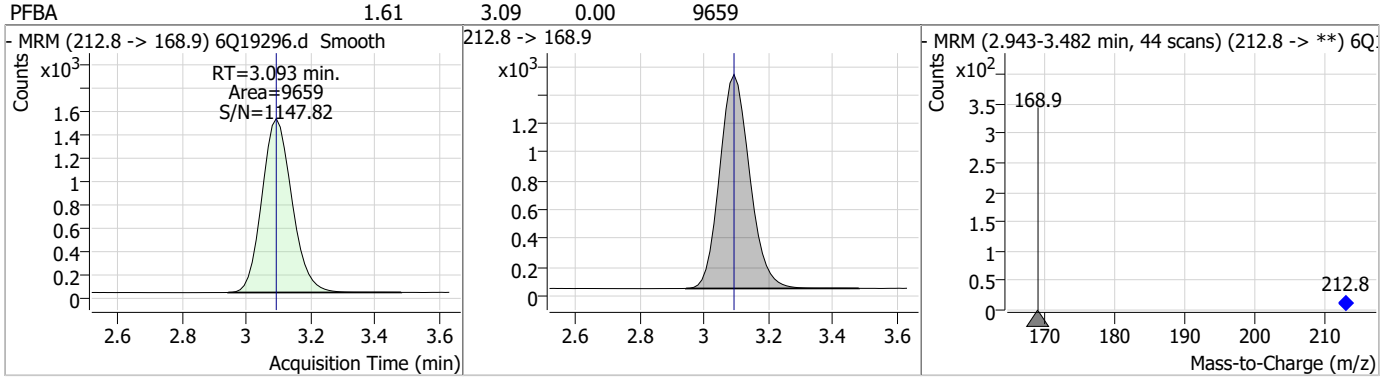
Perfluorinated Compounds by LC/MS/MS



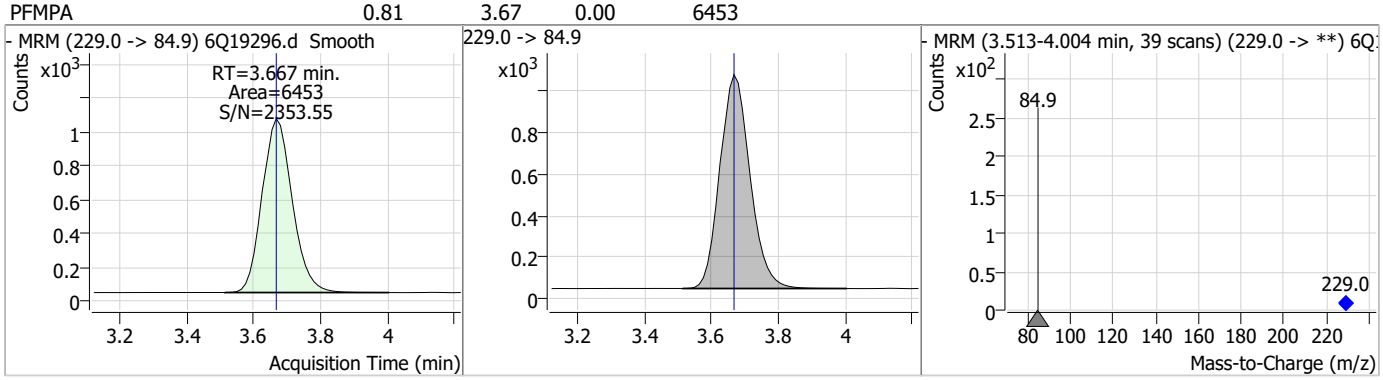
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.08	3.08	0.00	148883				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	1.61	3.09	0.00	9659				

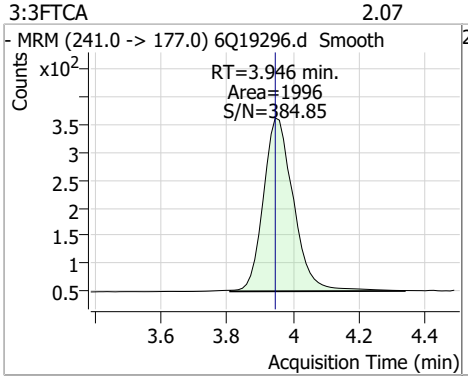


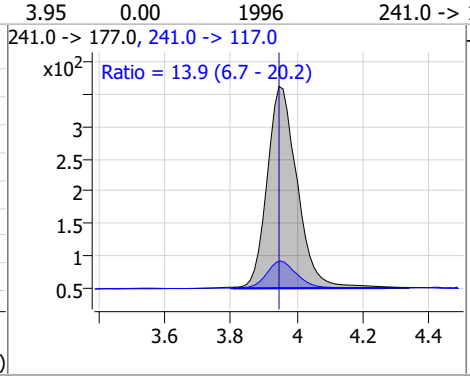
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	0.81	3.67	0.00	6453				

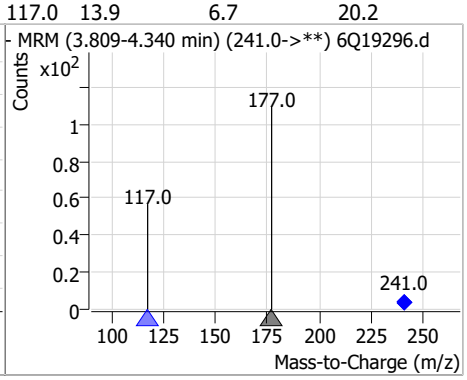


Perfluorinated Compounds by LC/MS/MS

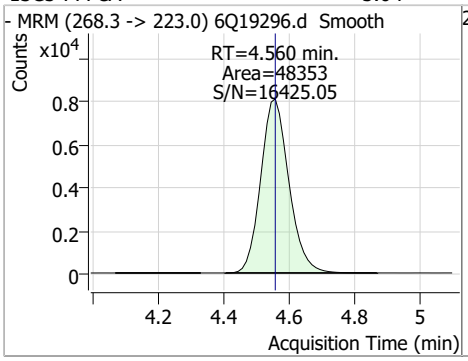
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	2.07	3.95	0.00	1996	241.0 -> 117.0	13.9	6.7	20.2

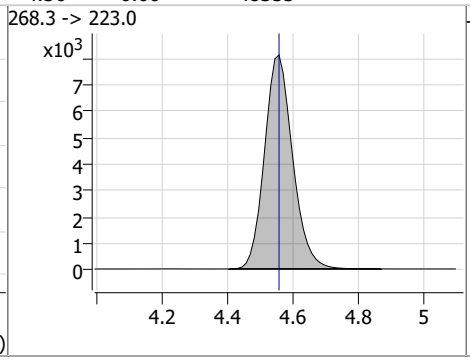


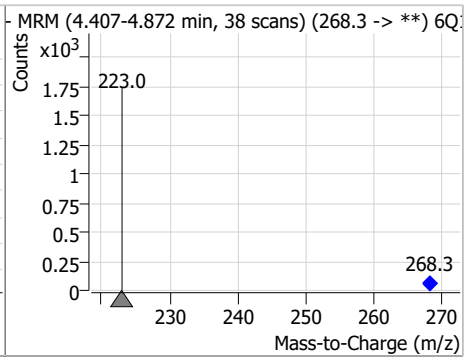




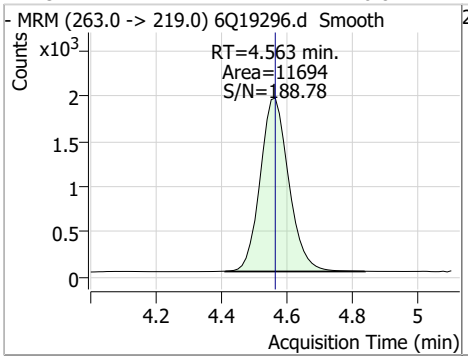
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.04	4.56	0.00	48353				

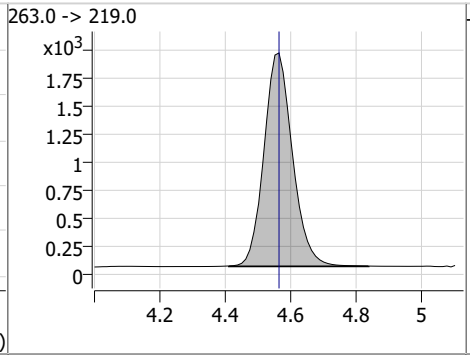


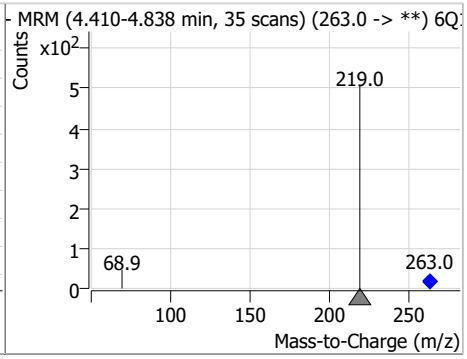




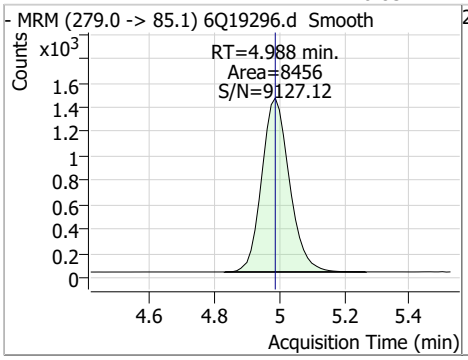
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.82	4.56	0.00	11694				

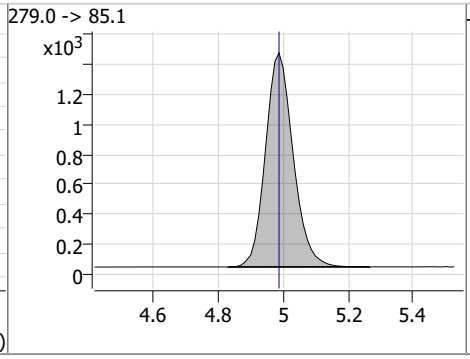


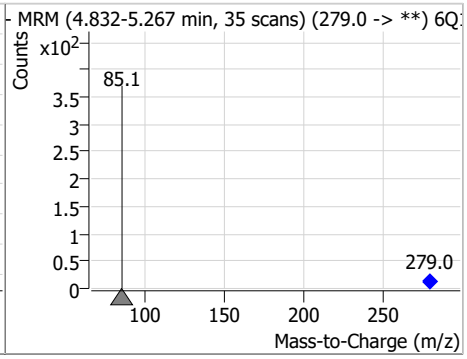




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.83	4.99	0.00	8456				

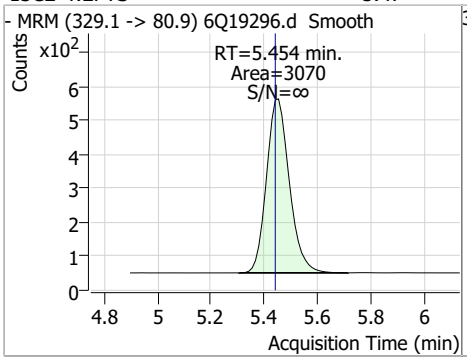


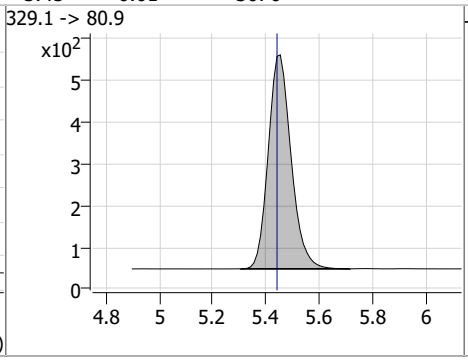


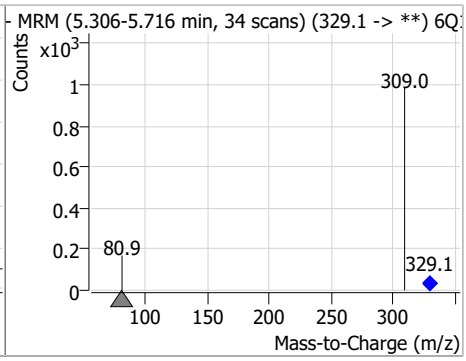


Perfluorinated Compounds by LC/MS/MS

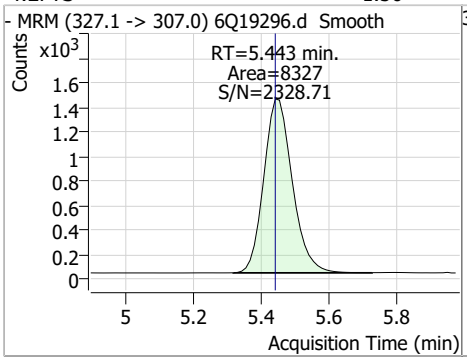
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.47	5.45	0.01	3070				

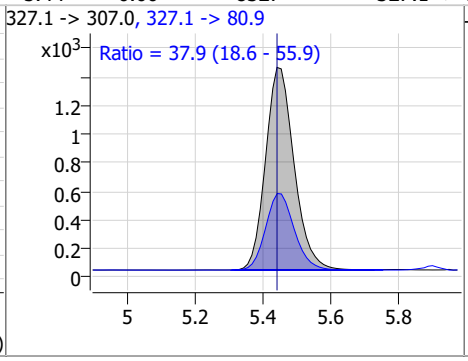


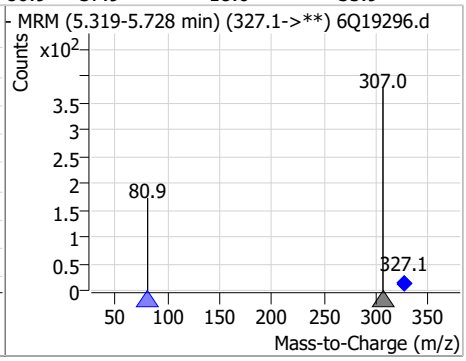




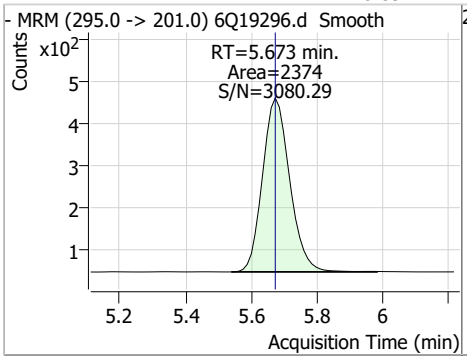
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	1.56	5.44	0.00	8327	327.1 -> 80.9	37.9	18.6	55.9

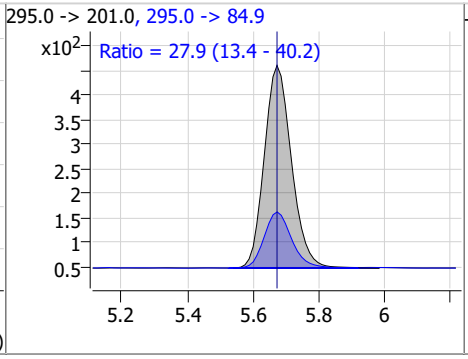


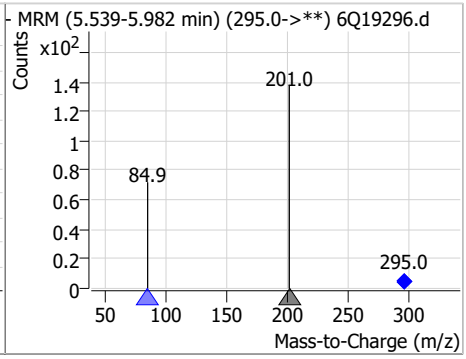




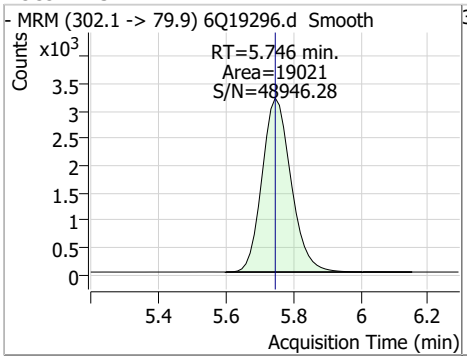
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	0.89	5.67	0.00	2374	295.0 -> 84.9	27.9	13.4	40.2

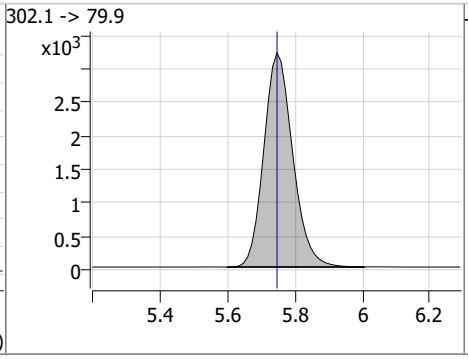


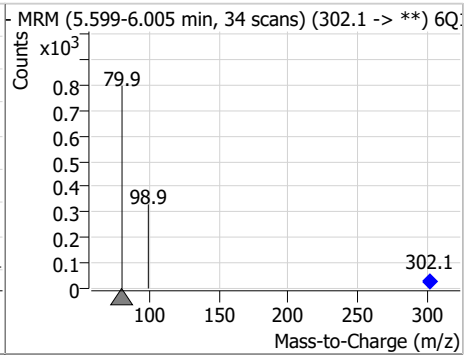




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.44	5.75	0.00	19021				

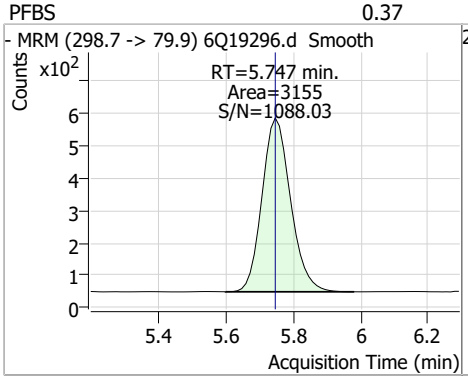


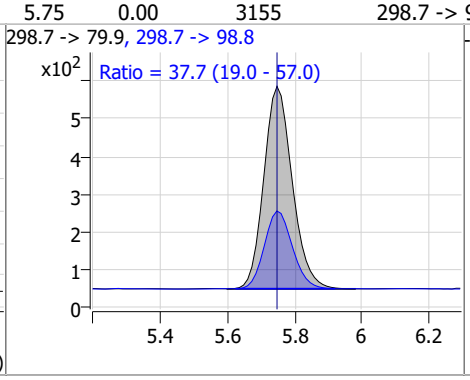


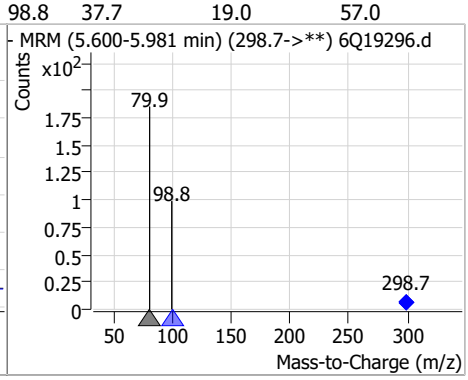


Perfluorinated Compounds by LC/MS/MS

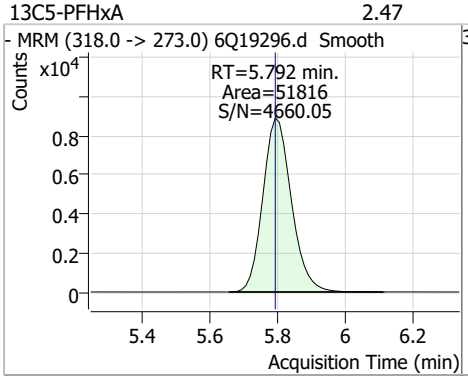
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.37	5.75	0.00	3155	298.7 -> 98.8	37.7	19.0	57.0

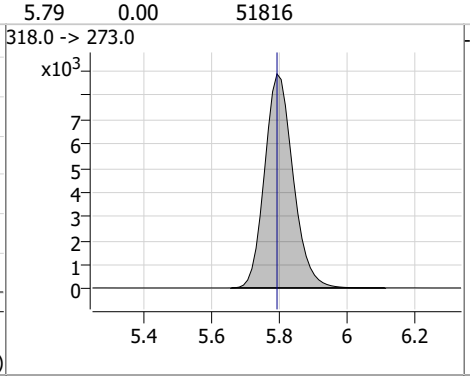


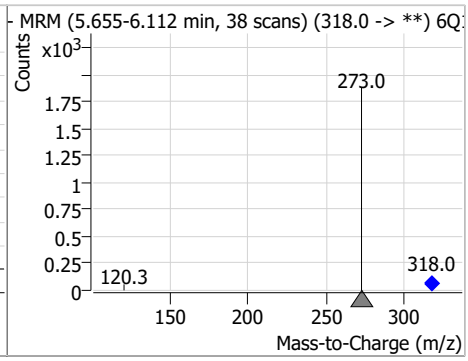




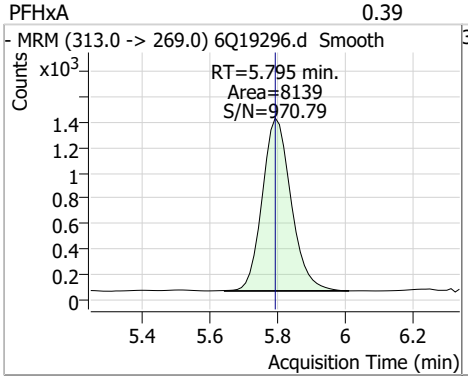
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.79	0.00	51816				

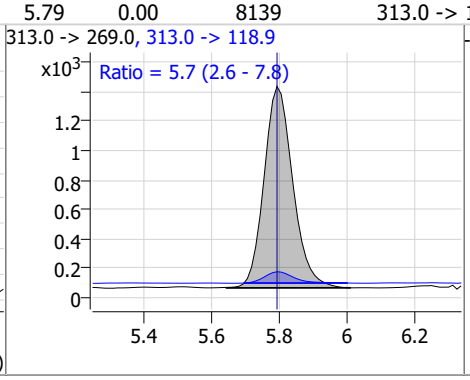


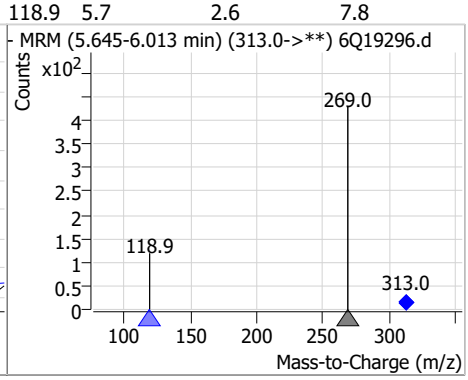




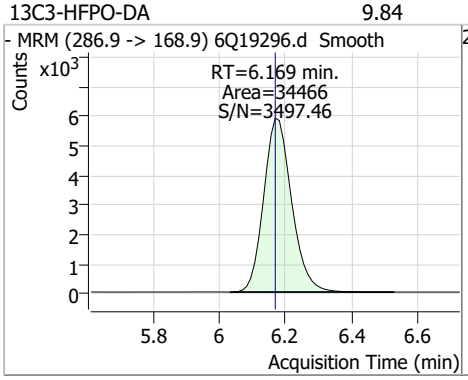
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.39	5.79	0.00	8139	313.0 -> 118.9	5.7	2.6	7.8

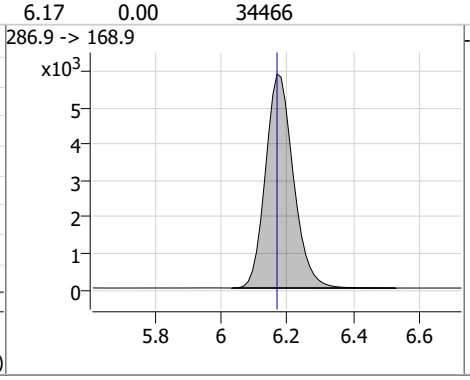


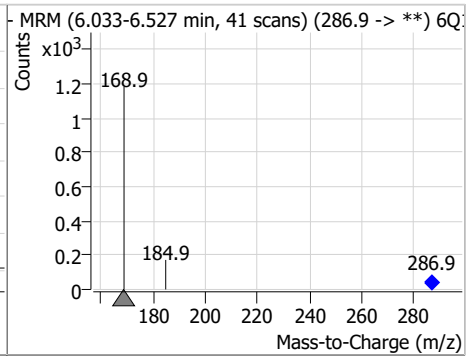




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.84	6.17	0.00	34466				

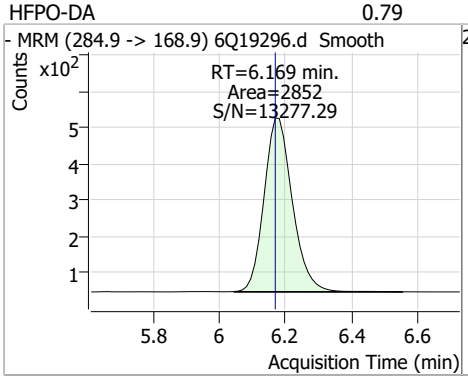


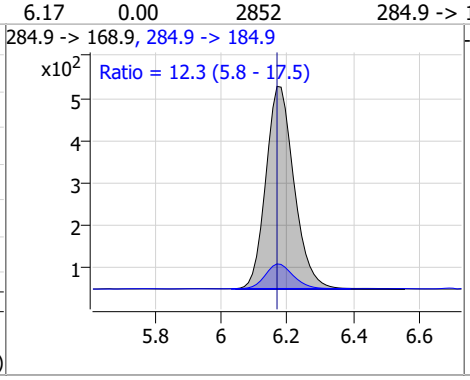


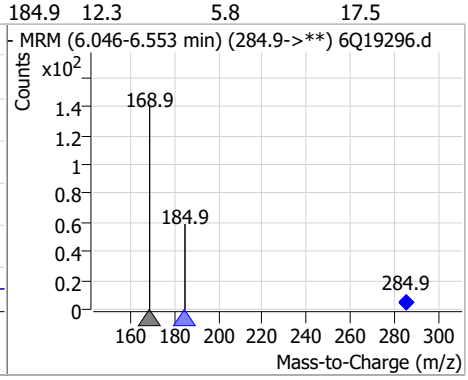


Perfluorinated Compounds by LC/MS/MS

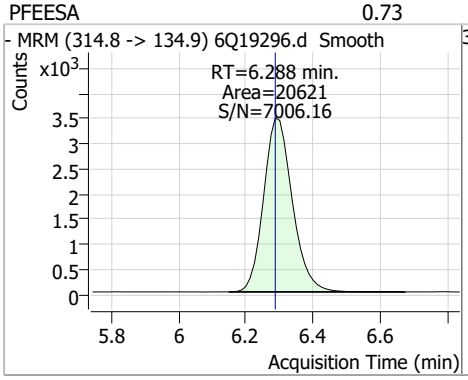
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.79	6.17	0.00	2852	284.9 -> 184.9	12.3	5.8	17.5

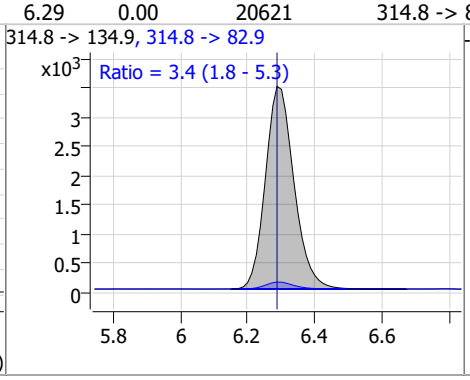


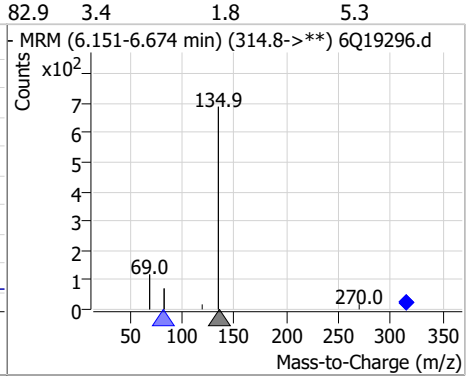




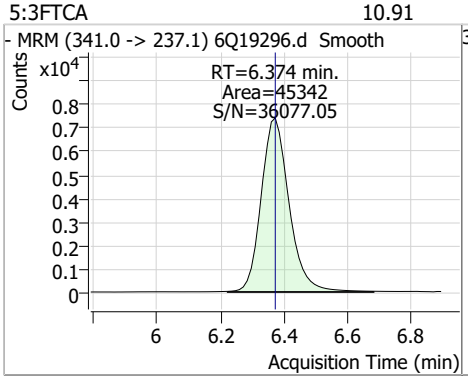
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.73	6.29	0.00	20621	314.8 -> 82.9	3.4	1.8	5.3

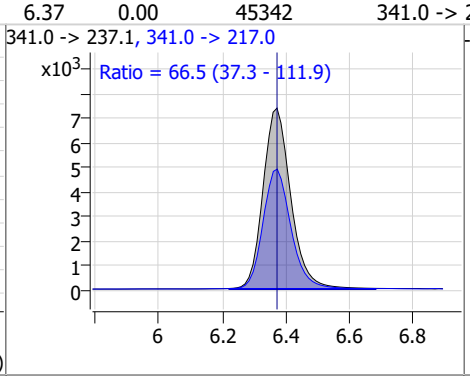


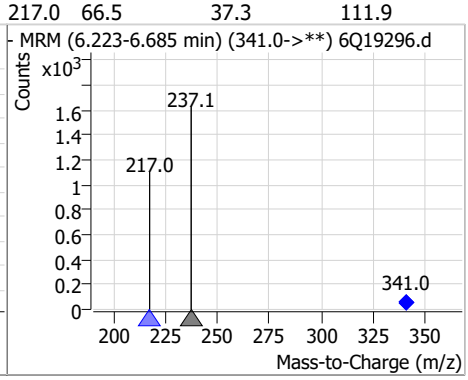




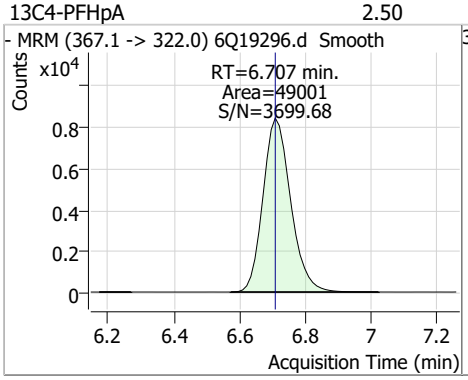
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	10.91	6.37	0.00	45342	341.0 -> 217.0	66.5	37.3	111.9

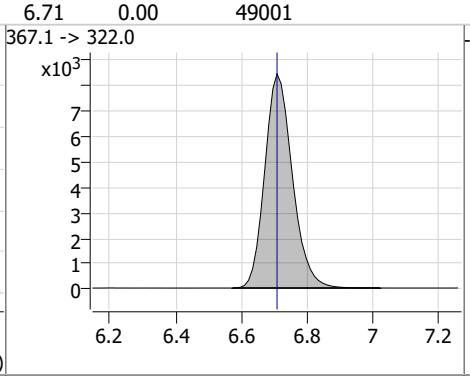


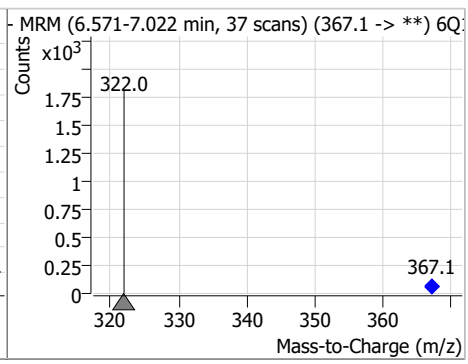




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.50	6.71	0.00	49001				

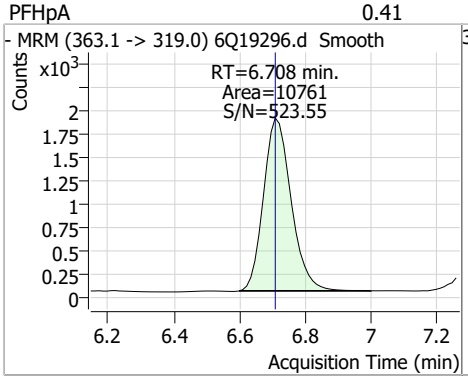


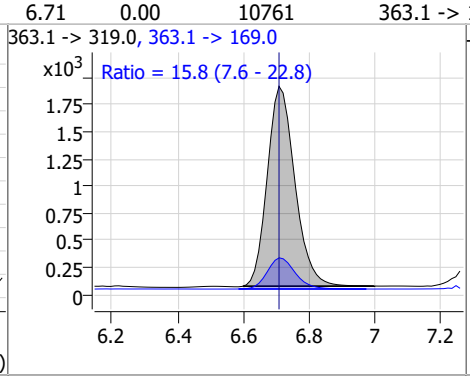


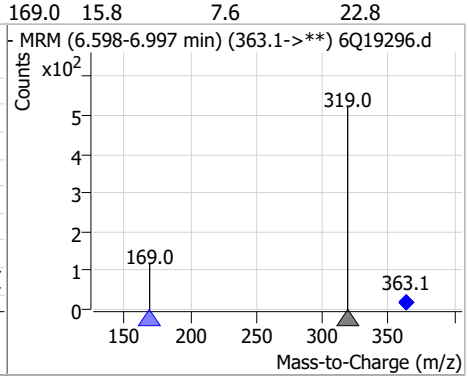


Perfluorinated Compounds by LC/MS/MS

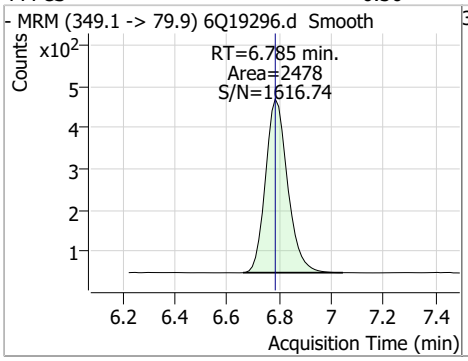
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.41	6.71	0.00	10761	363.1 -> 169.0	15.8	7.6	22.8

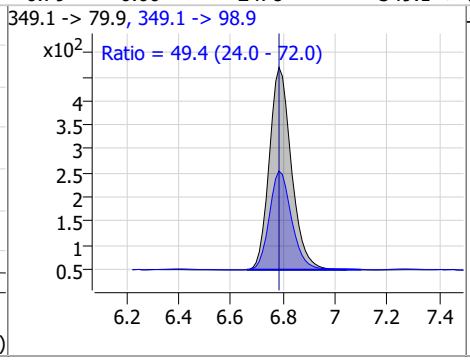


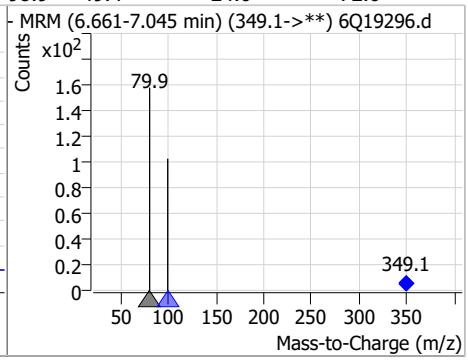




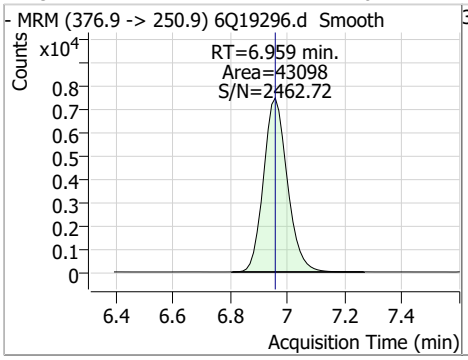
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.36	6.79	0.00	2478	349.1 -> 98.9	49.4	24.0	72.0

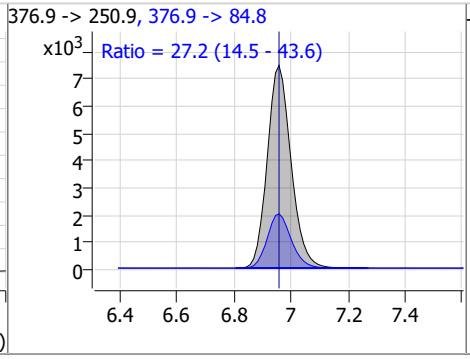


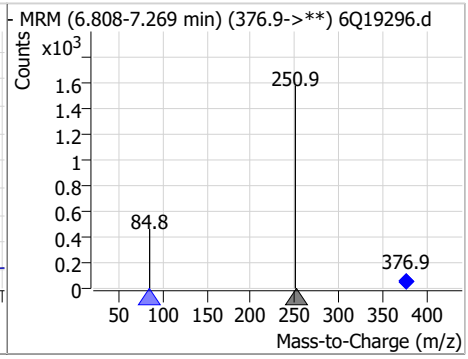




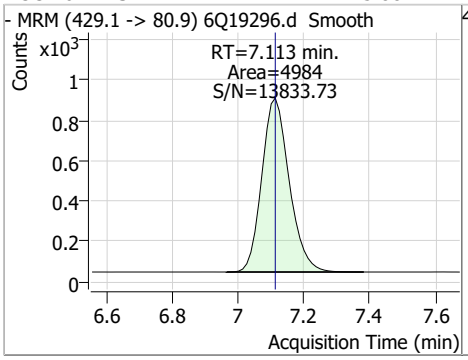
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.77	6.96	0.00	43098	376.9 -> 84.8	27.2	14.5	43.6

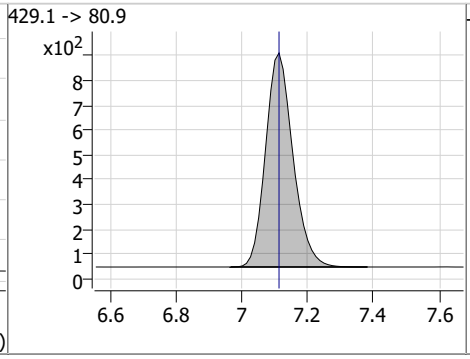


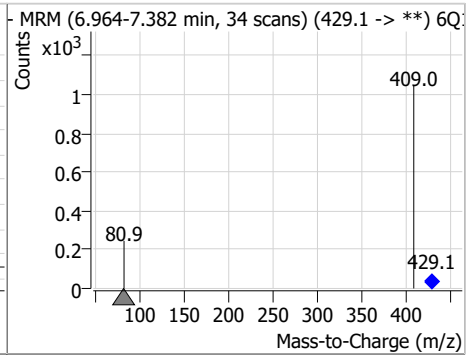




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.88	7.11	0.00	4984				

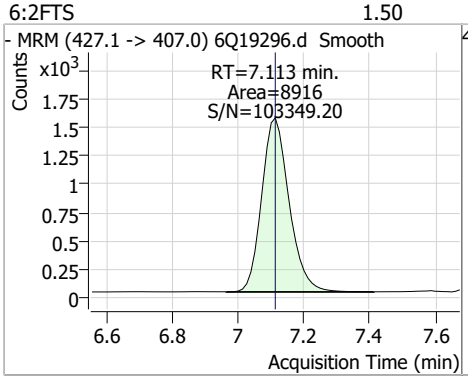


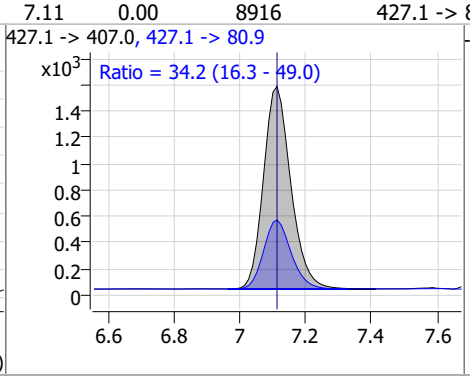


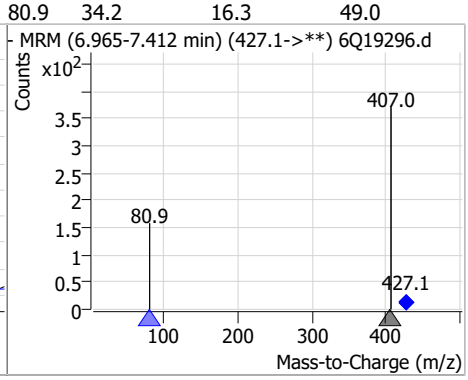


Perfluorinated Compounds by LC/MS/MS

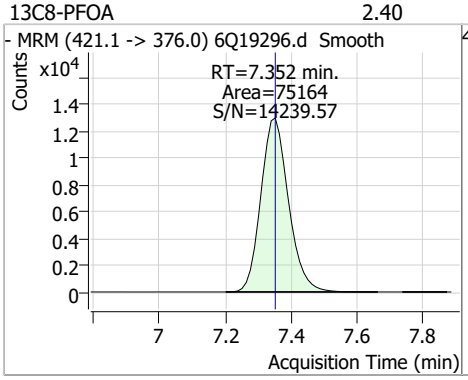
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	1.50	7.11	0.00	8916	427.1 -> 80.9	34.2	16.3	49.0

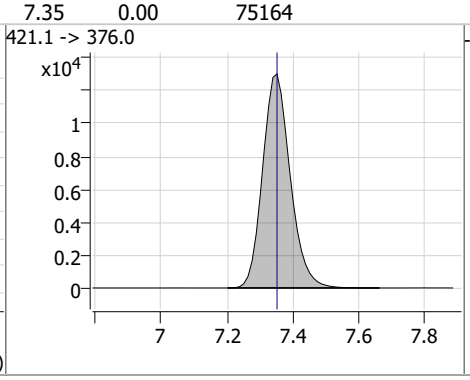


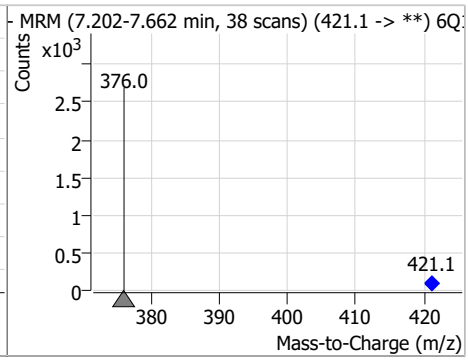




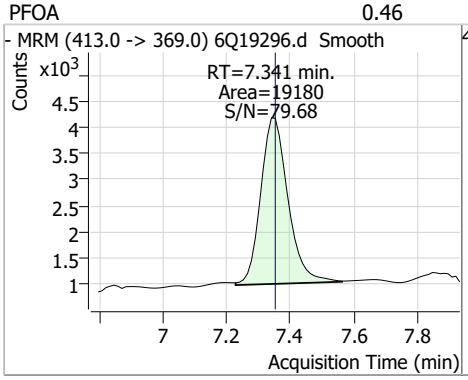
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.40	7.35	0.00	75164				

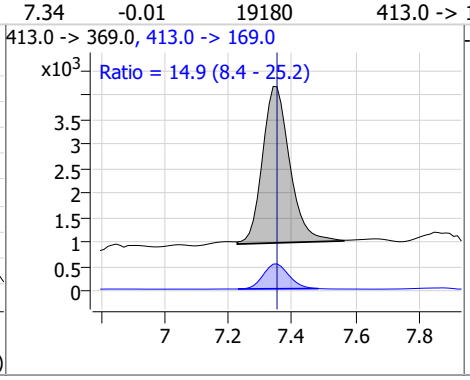


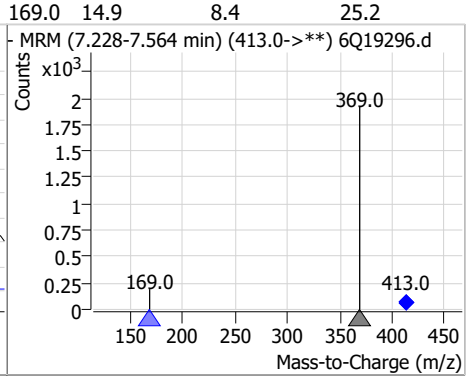




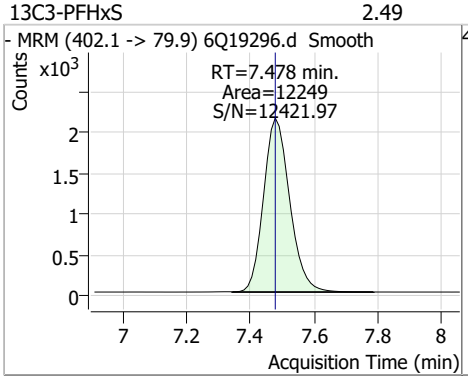
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.46	7.34	-0.01	19180	413.0 -> 169.0	14.9	8.4	25.2

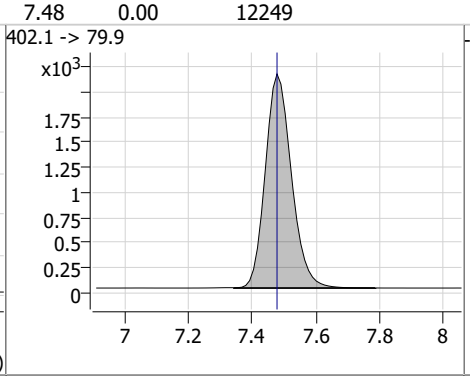


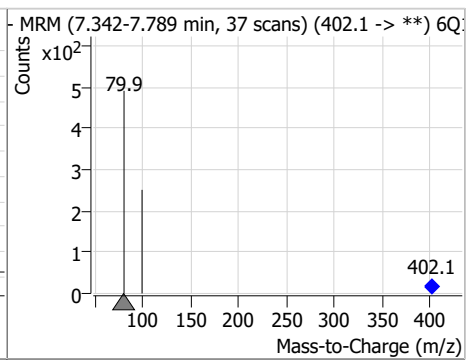




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.49	7.48	0.00	12249				

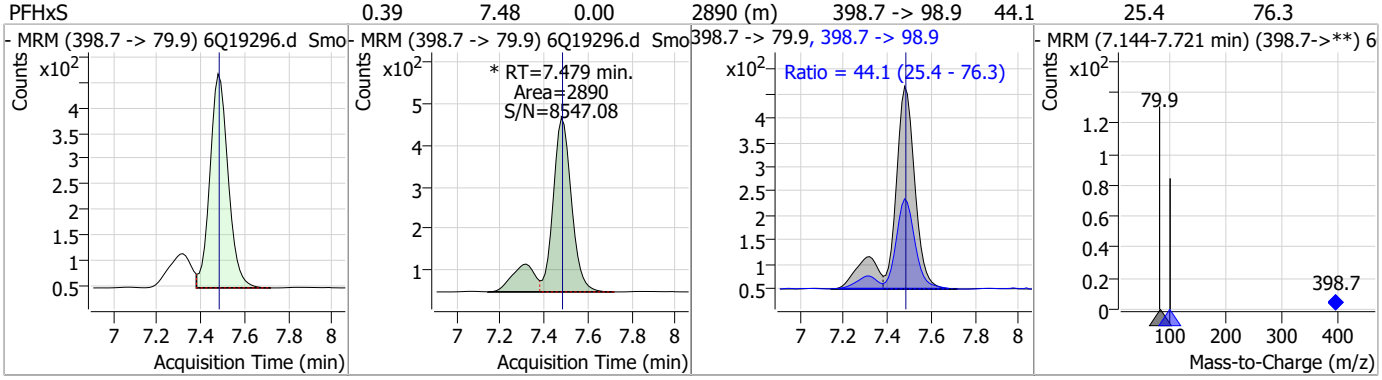




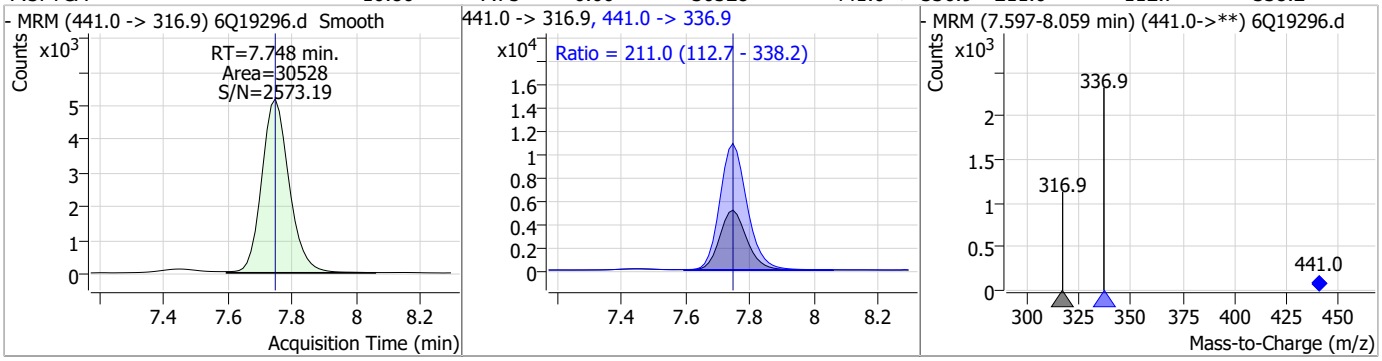


Perfluorinated Compounds by LC/MS/MS

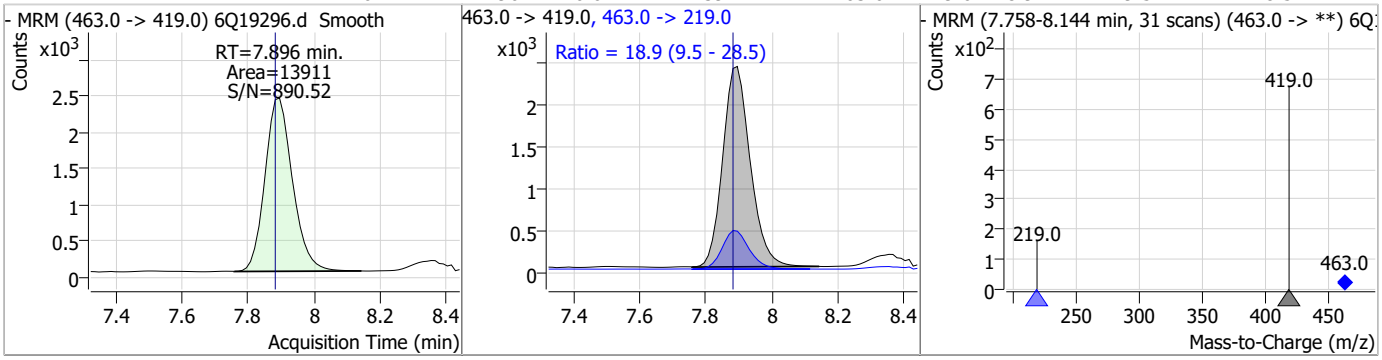
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.39	7.48	0.00	2890 (m)	398.7 -> 98.9	44.1	25.4	76.3



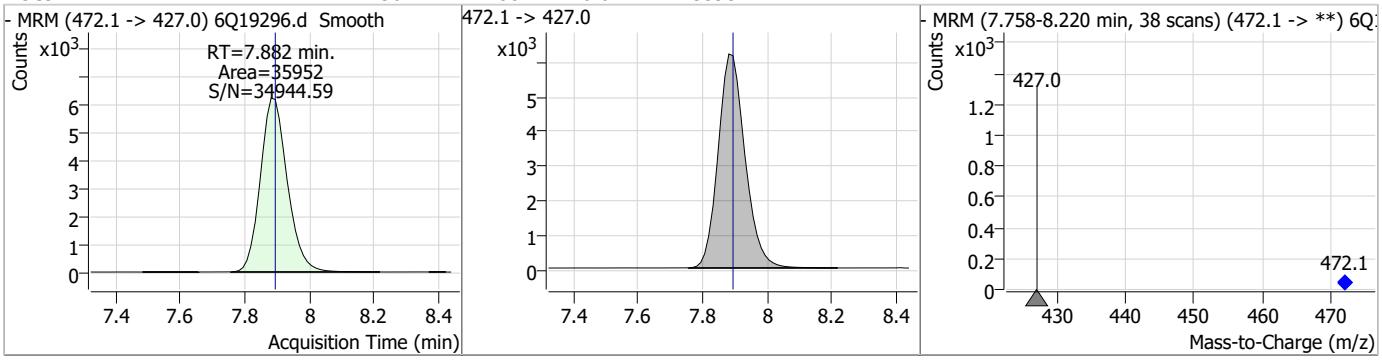
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	10.86	7.75	0.00	30528	441.0 -> 336.9	211.0	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.42	7.90	0.01	13911	463.0 -> 219.0	18.9	9.5	28.5

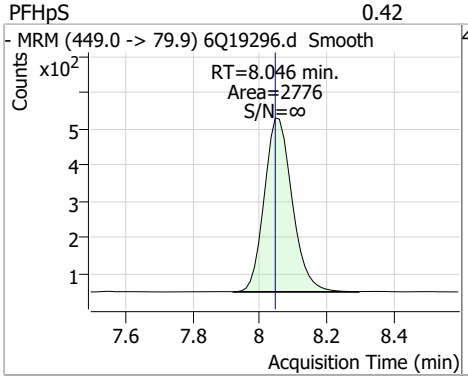


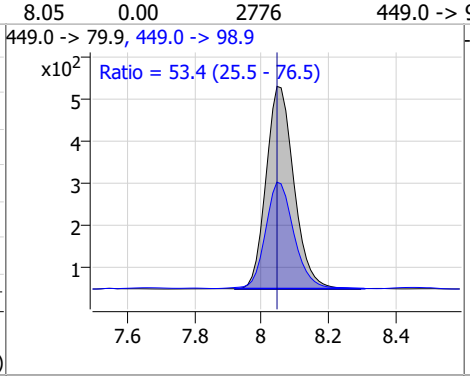
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.30	7.88	-0.01	35952				

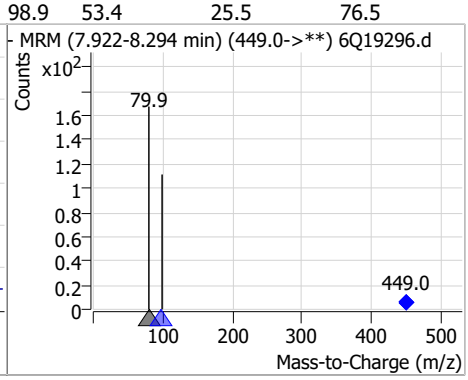


Perfluorinated Compounds by LC/MS/MS

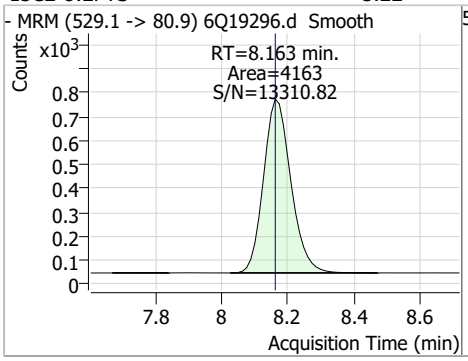
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.42	8.05	0.00	2776	449.0 -> 98.9	53.4	25.5	76.5

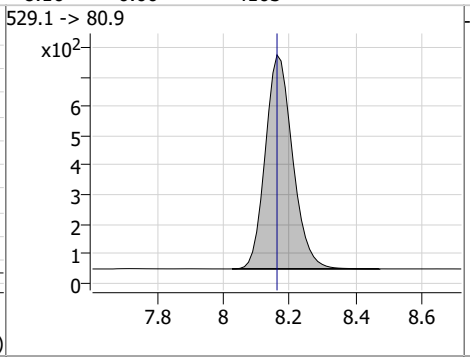


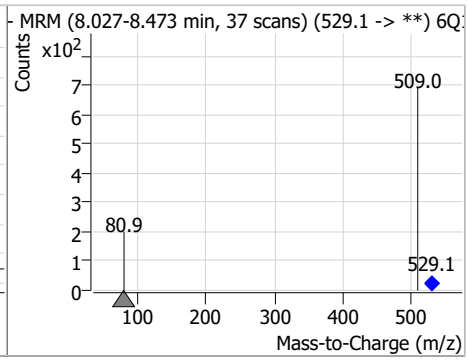




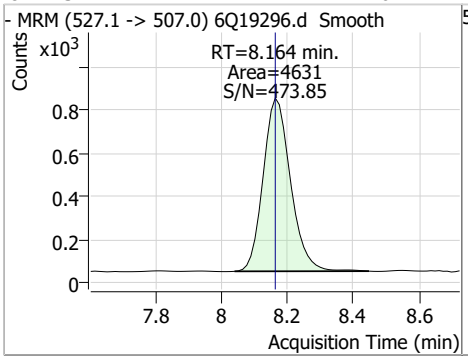
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.22	8.16	0.00	4163				

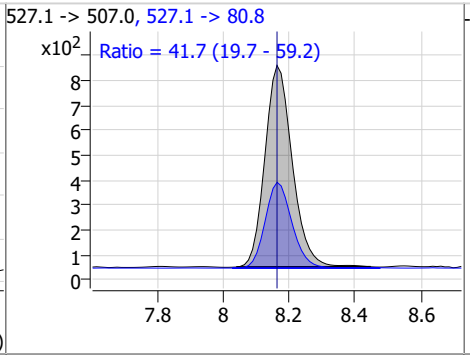


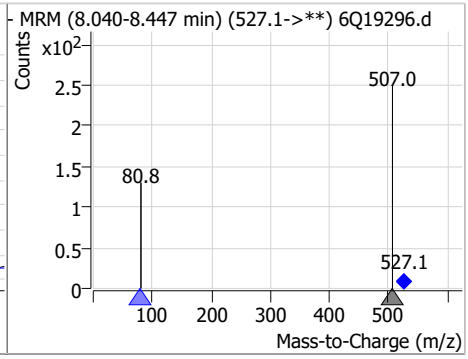




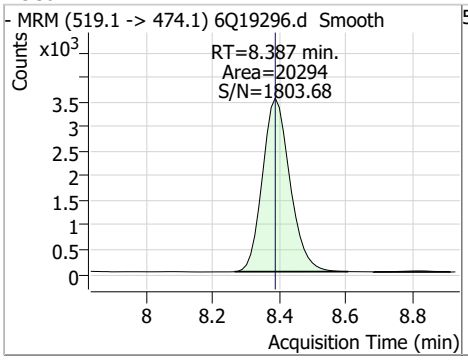
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	1.67	8.16	0.00	4631	527.1 -> 80.8	41.7	19.7	59.2

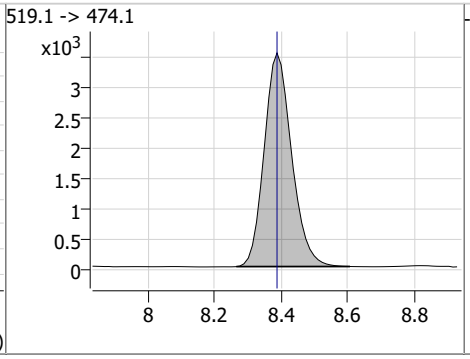


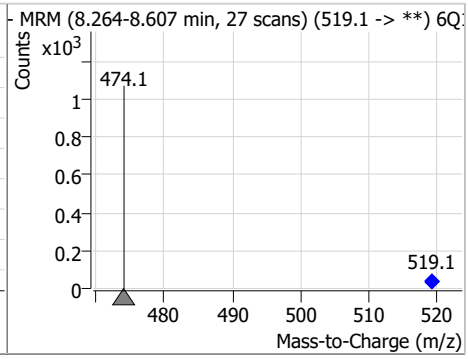




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.14	8.39	0.00	20294				

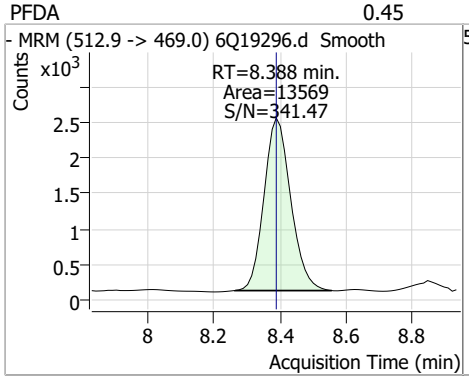


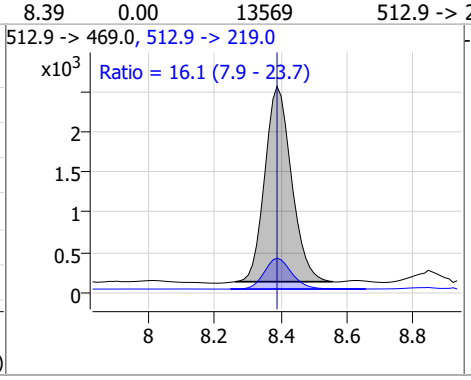


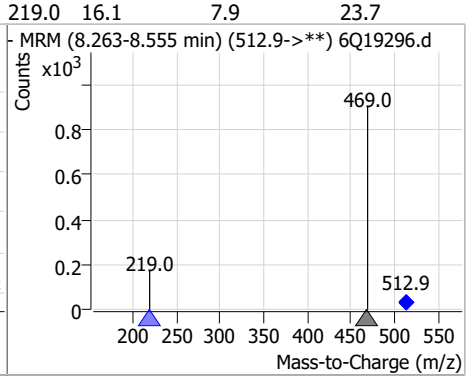


Perfluorinated Compounds by LC/MS/MS

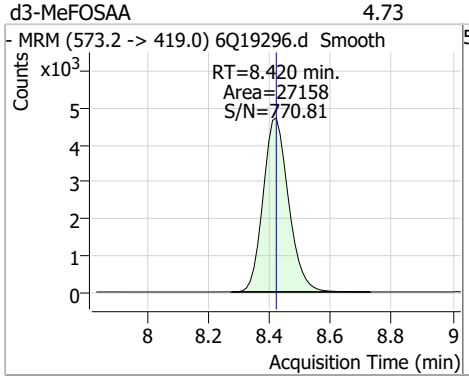
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.45	8.39	0.00	13569	512.9 -> 219.0	16.1	7.9	23.7

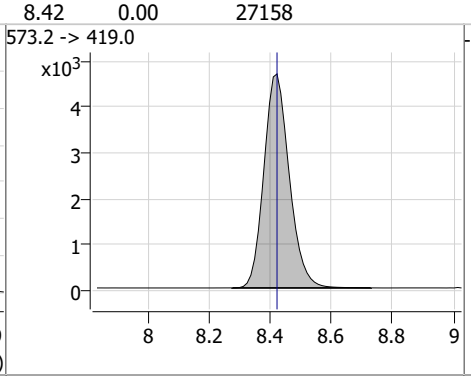


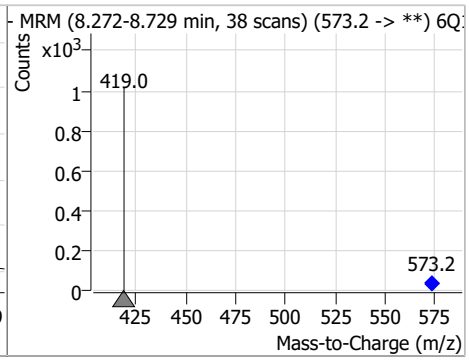




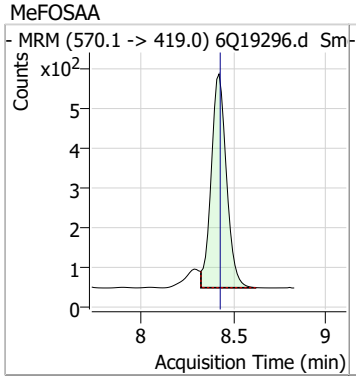
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.73	8.42	0.00	27158				

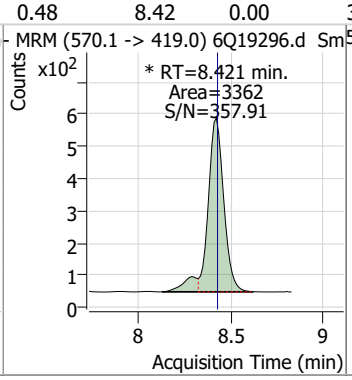


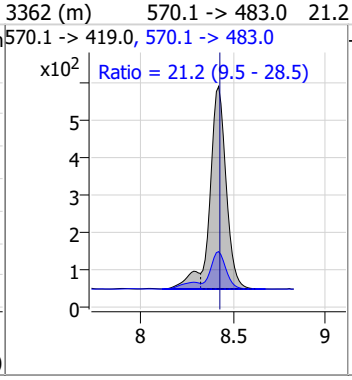


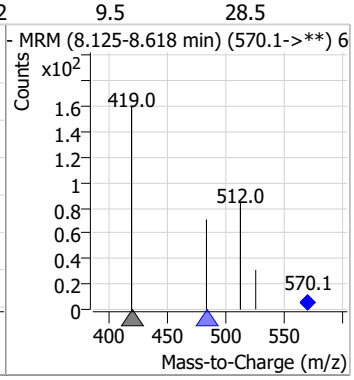


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.48	8.42	0.00	3362 (m)	570.1 -> 483.0	21.2	9.5	28.5

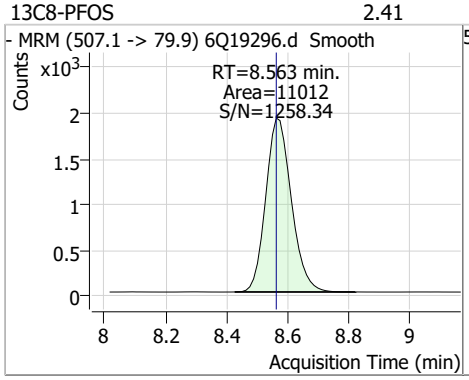


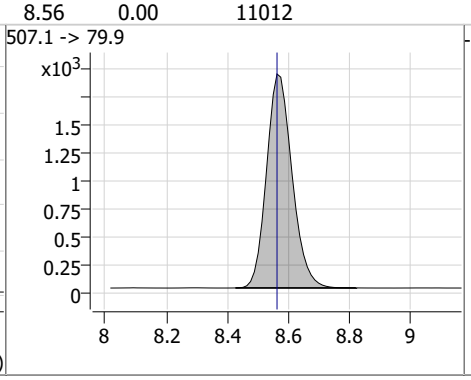


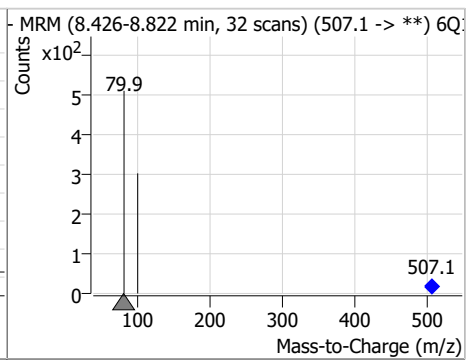




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.41	8.56	0.00	11012				

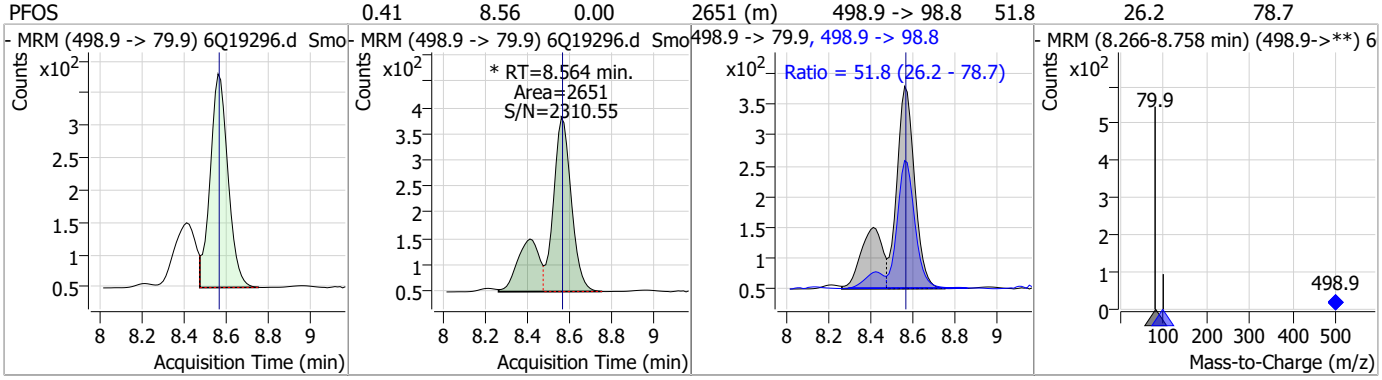




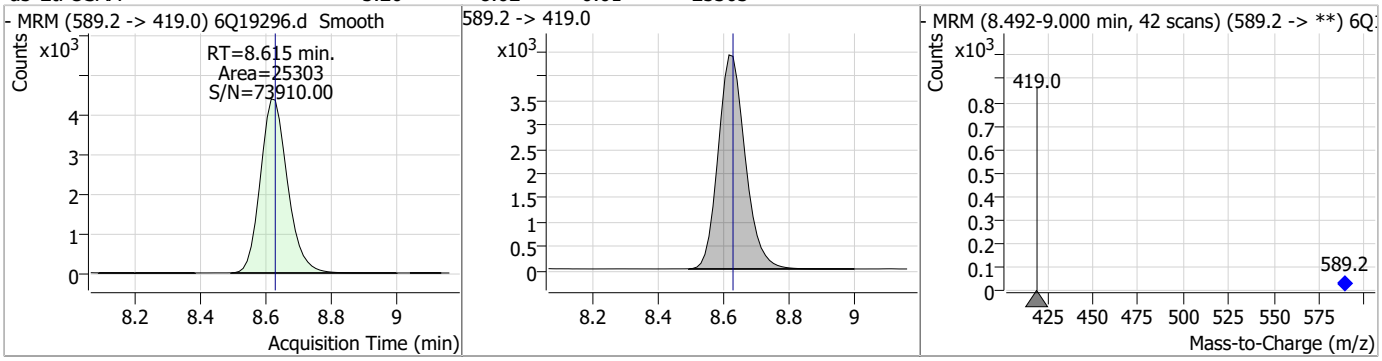


Perfluorinated Compounds by LC/MS/MS

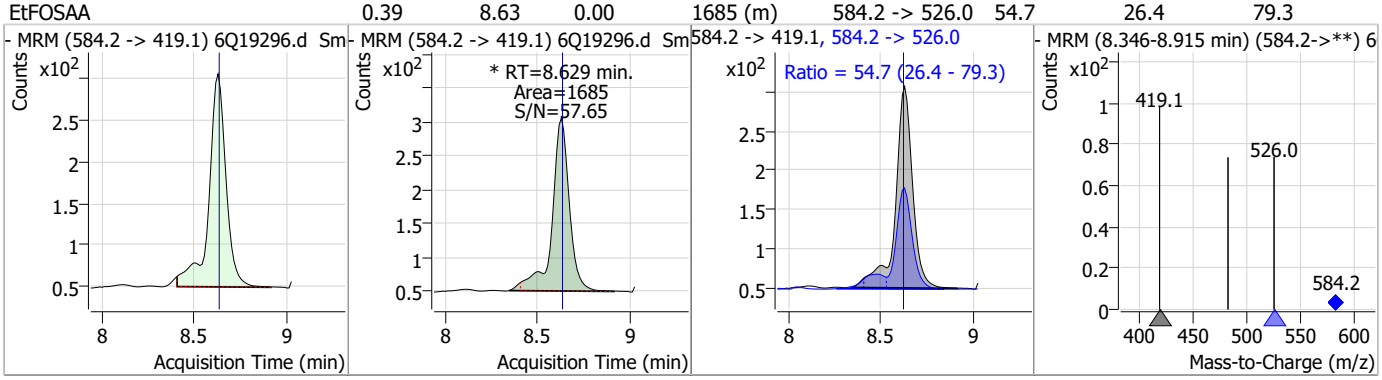
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.41	8.56	0.00	2651 (m)	498.9 -> 98.8	51.8	26.2	78.7



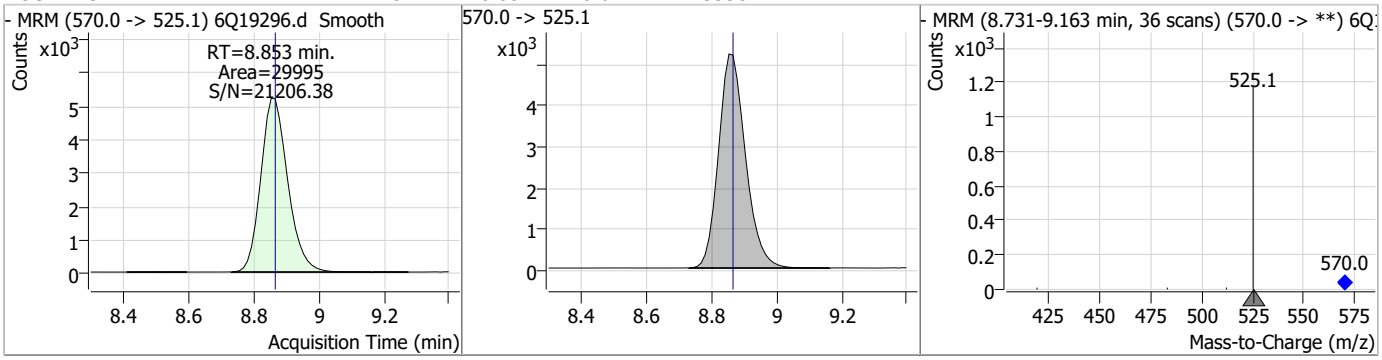
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.20	8.62	-0.01	25303				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.39	8.63	0.00	1685 (m)	584.2 -> 526.0	54.7	26.4	79.3

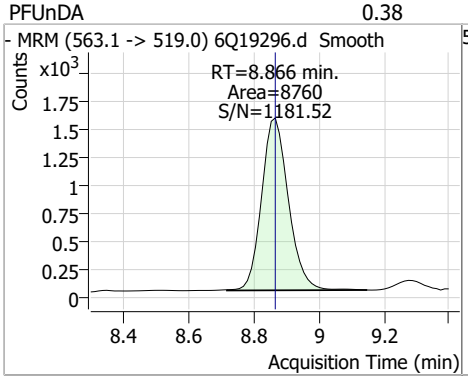


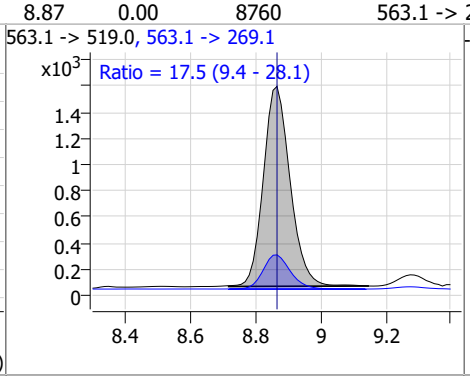
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.25	8.85	-0.01	29995				

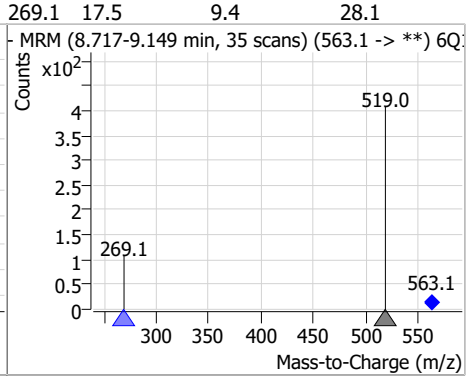


Perfluorinated Compounds by LC/MS/MS

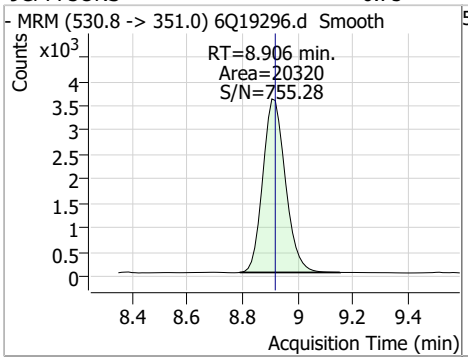
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.38	8.87	0.00	8760	563.1 -> 269.1	17.5	9.4	28.1

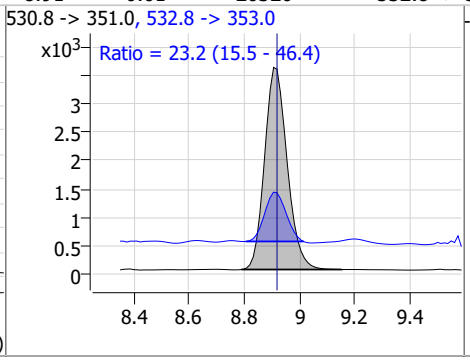


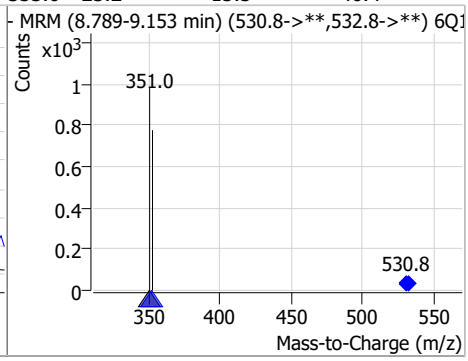




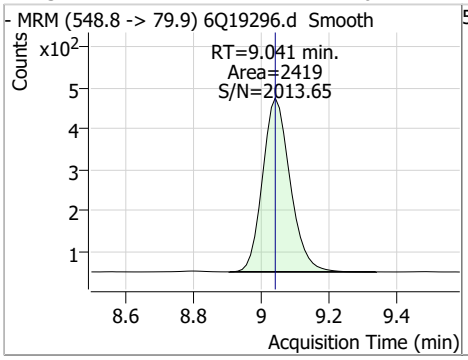
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.75	8.91	-0.01	20320	532.8 -> 353.0	23.2	15.5	46.4

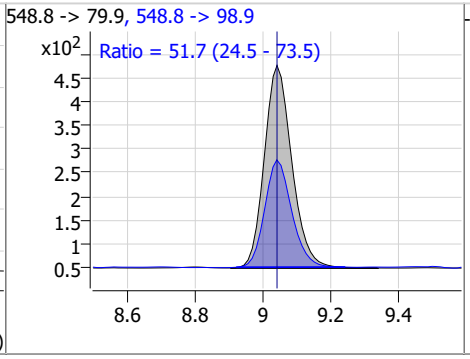


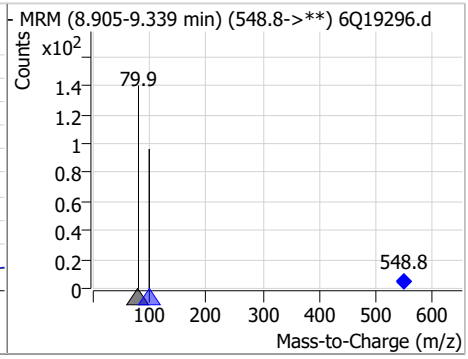




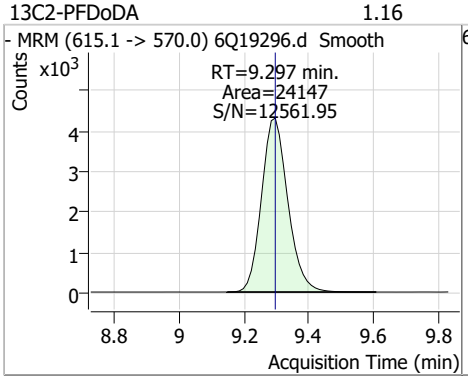
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.42	9.04	0.00	2419	548.8 -> 98.9	51.7	24.5	73.5

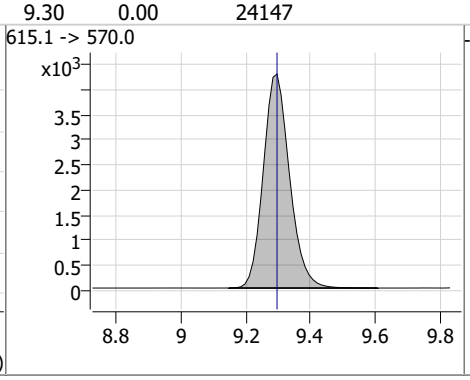


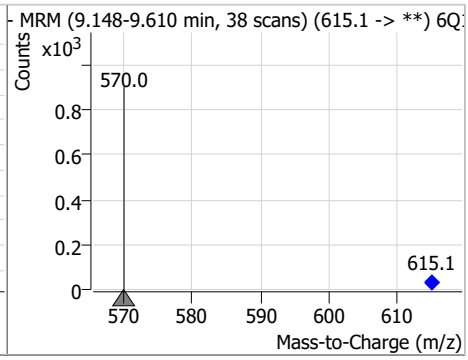




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.16	9.30	0.00	24147				

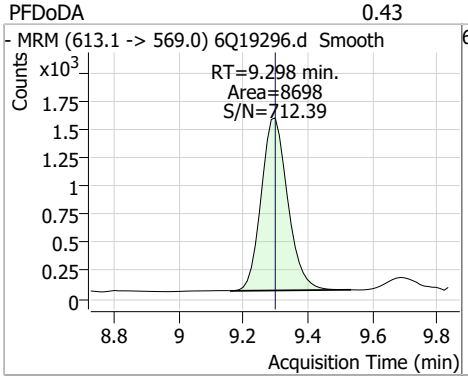


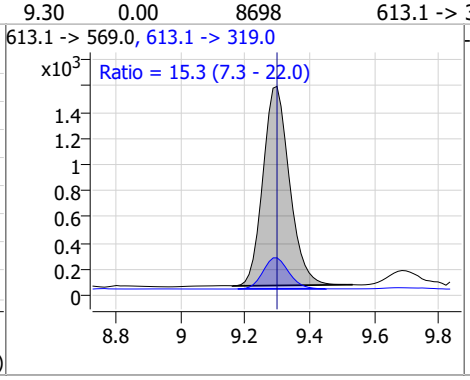


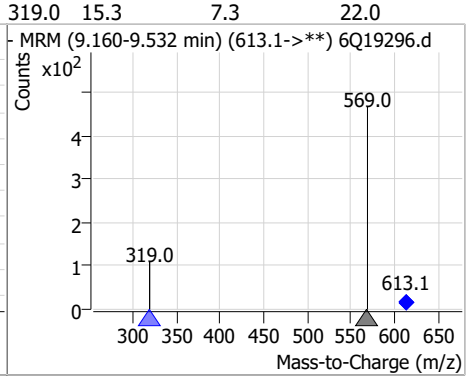


Perfluorinated Compounds by LC/MS/MS

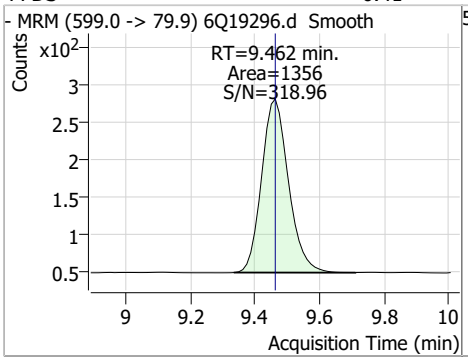
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.43	9.30	0.00	8698	613.1 -> 319.0	15.3	7.3	22.0

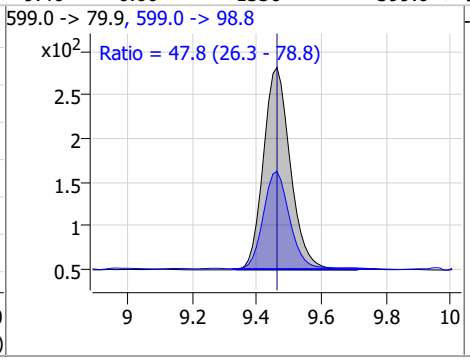


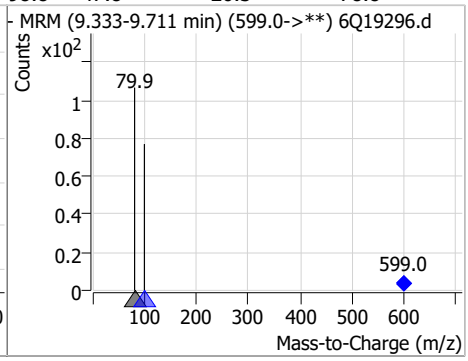




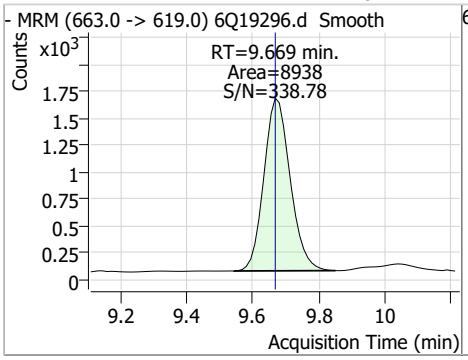
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.41	9.46	0.00	1356	599.0 -> 98.8	47.8	26.3	78.8

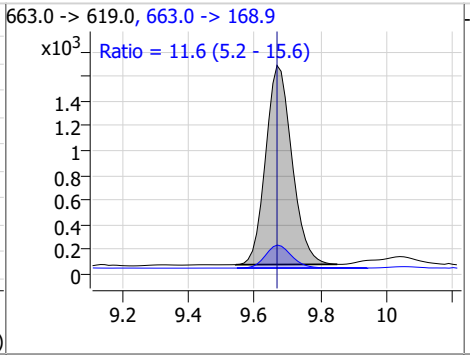


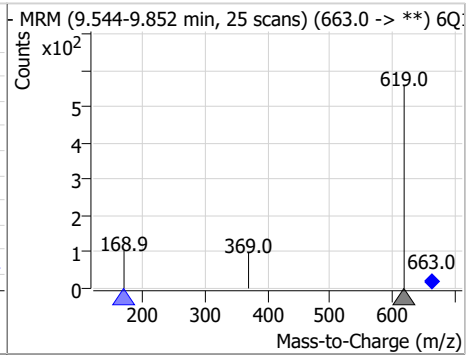




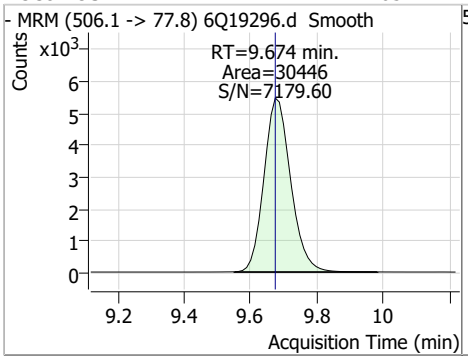
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.44	9.67	0.00	8938	663.0 -> 168.9	11.6	5.2	15.6

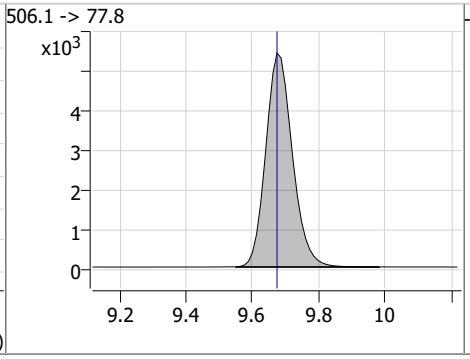


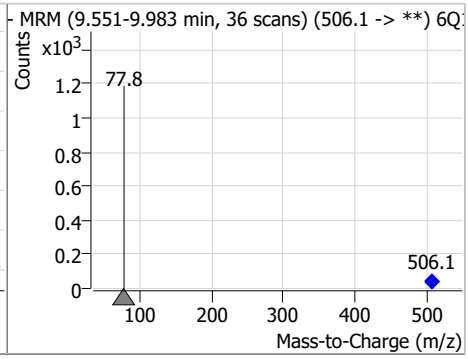




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.65	9.67	0.00	30446				

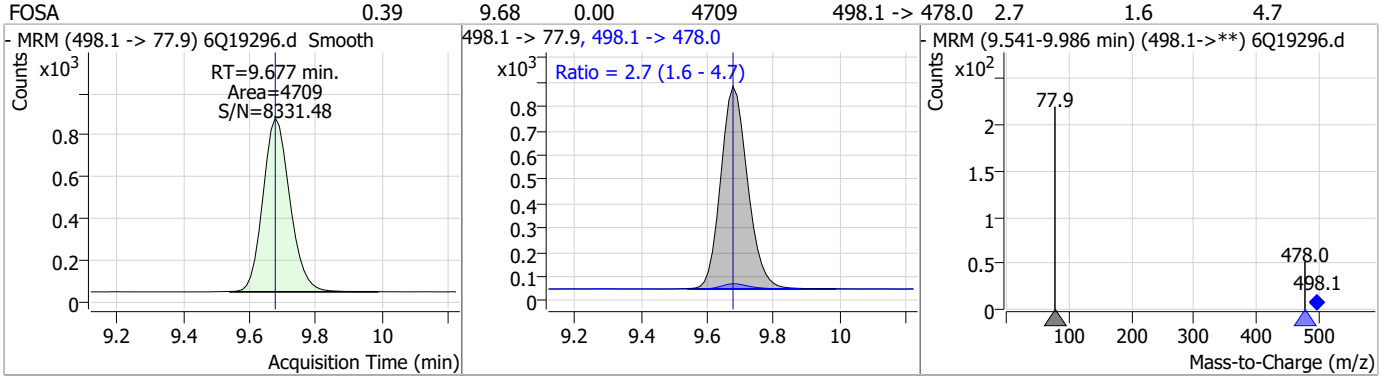




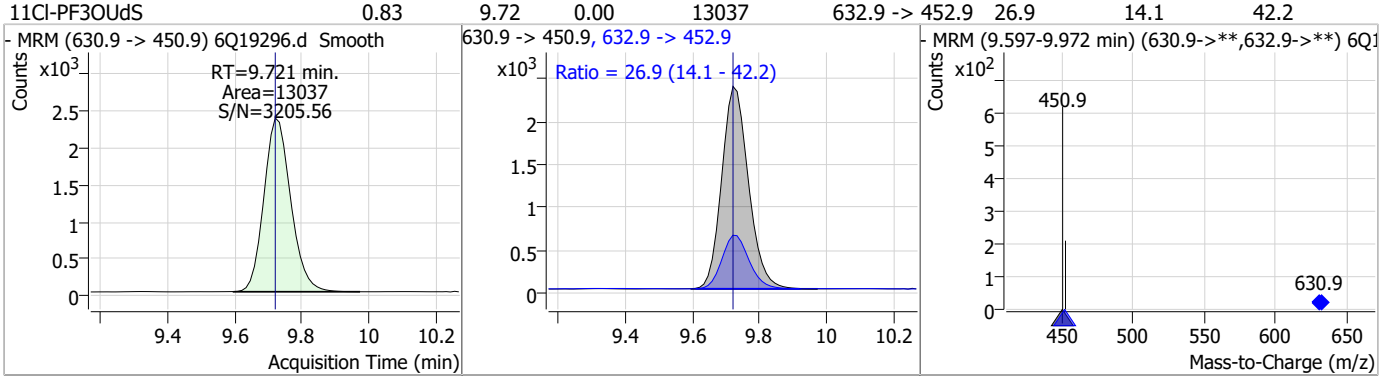


Perfluorinated Compounds by LC/MS/MS

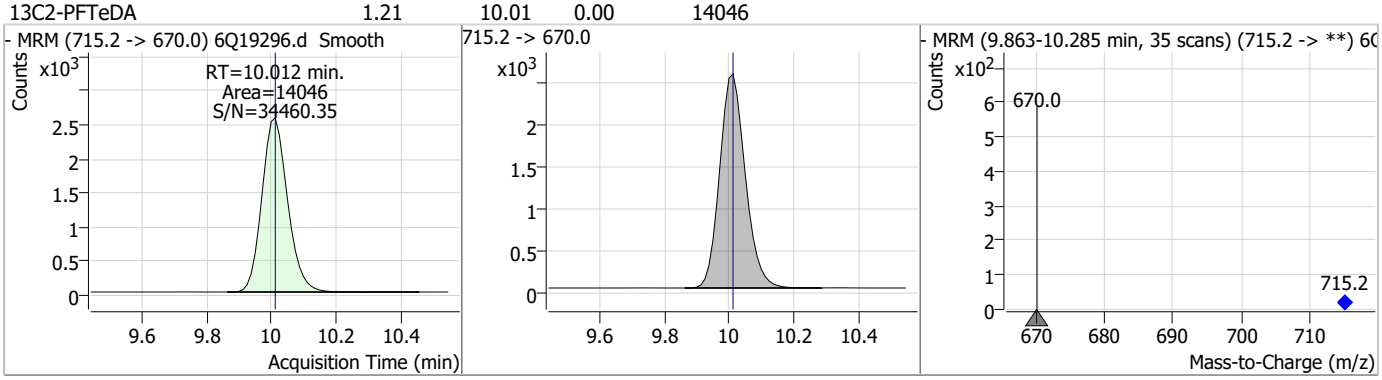
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.39	9.68	0.00	4709	498.1 -> 478.0	2.7	1.6	4.7



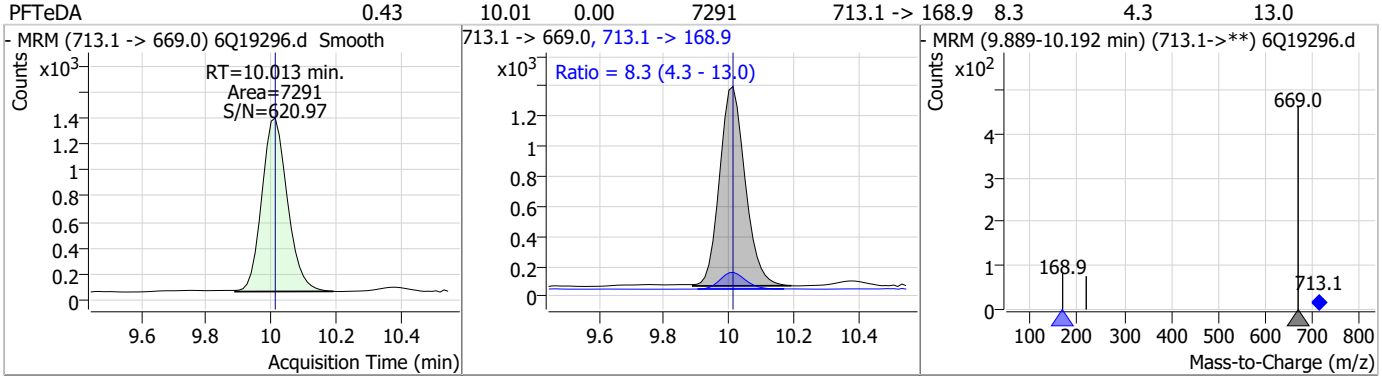
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.83	9.72	0.00	13037	632.9 -> 452.9	26.9	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.21	10.01	0.00	14046				

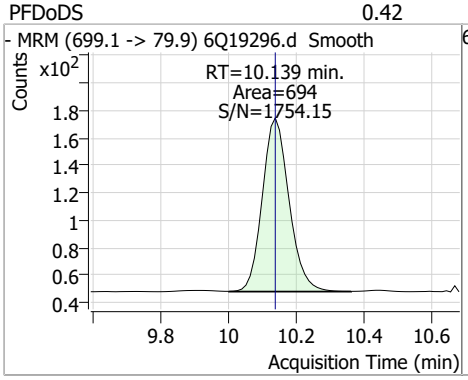


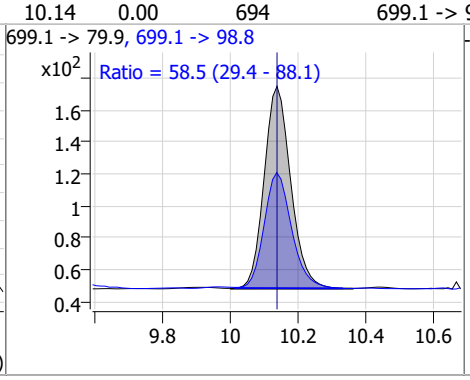
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.43	10.01	0.00	7291	713.1 -> 168.9	8.3	4.3	13.0

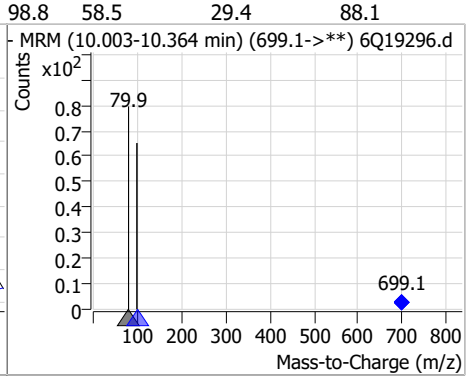


Perfluorinated Compounds by LC/MS/MS

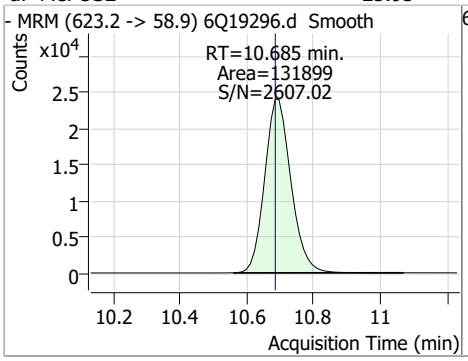
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.42	10.14	0.00	694	699.1 -> 98.8	58.5	29.4	88.1

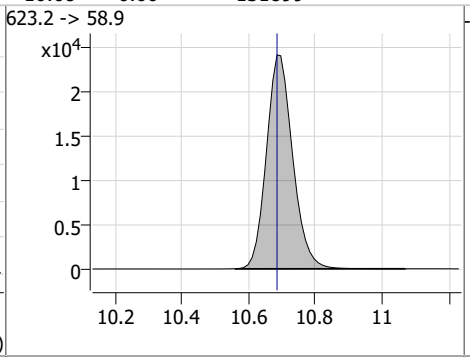


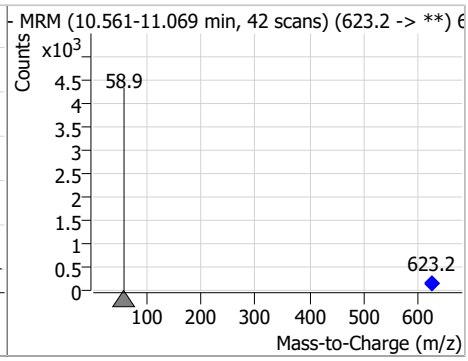




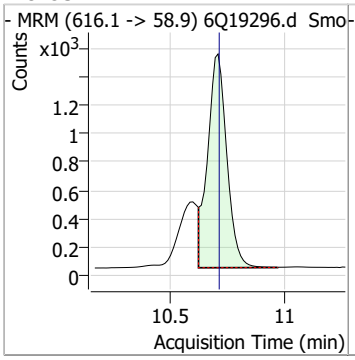
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.93	10.68	0.00	131899				

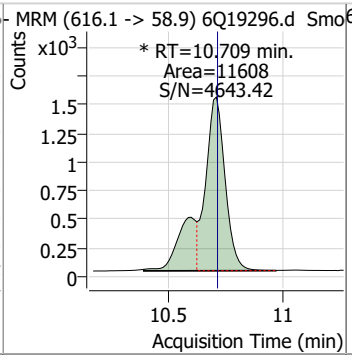


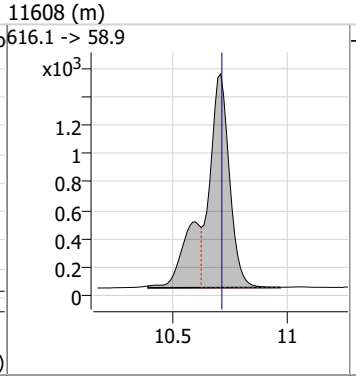


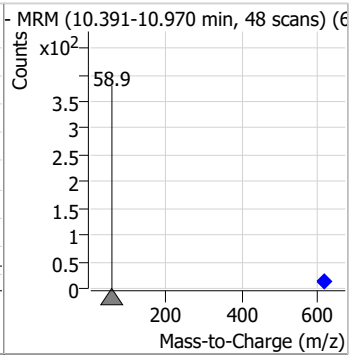


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	2.03	10.71	0.00	11608 (m)				

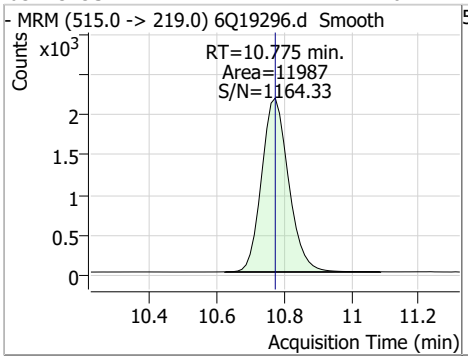


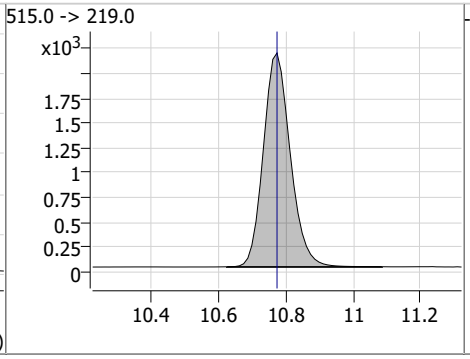


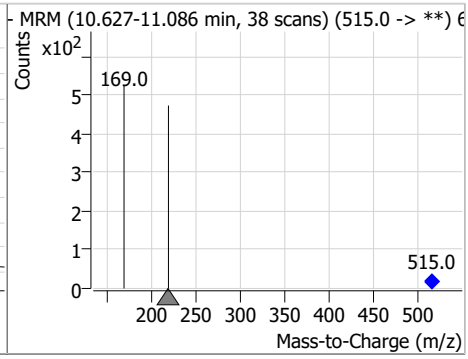




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.40	10.78	0.00	11987				

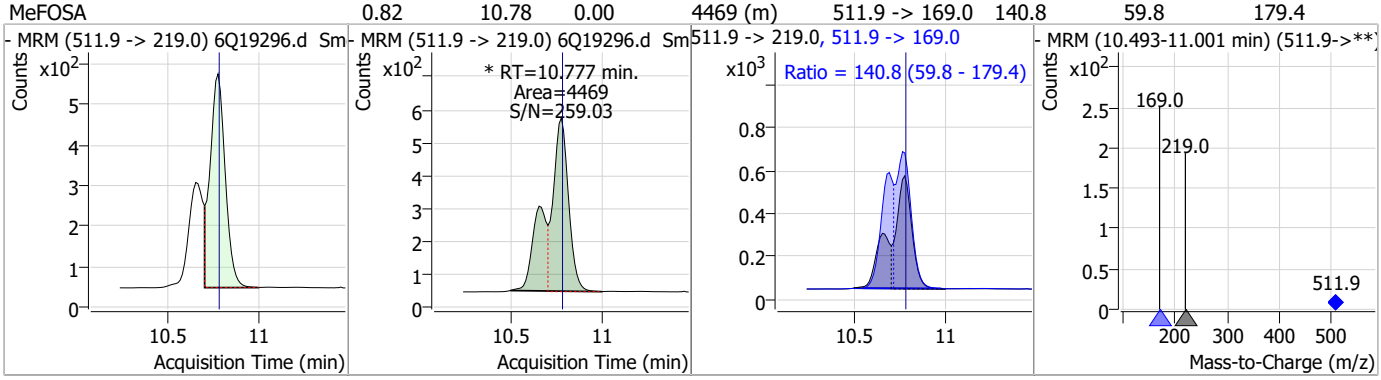




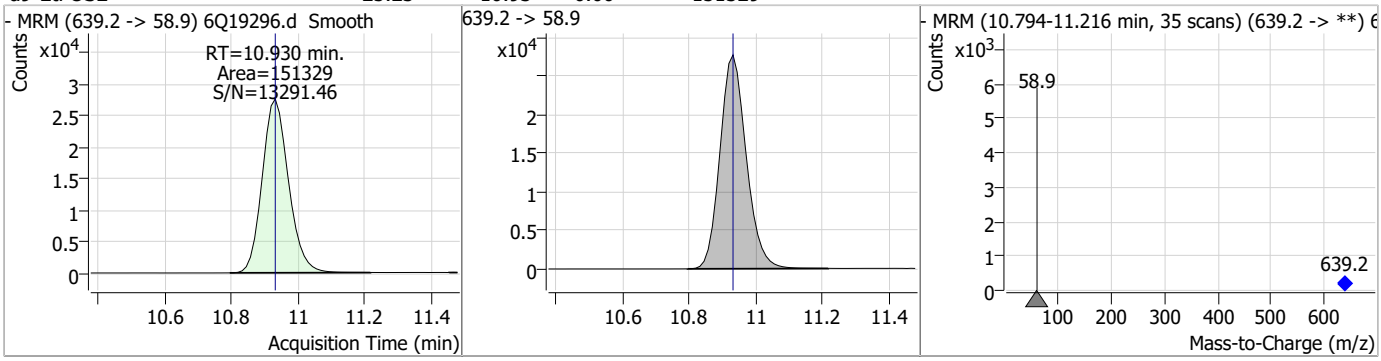


Perfluorinated Compounds by LC/MS/MS

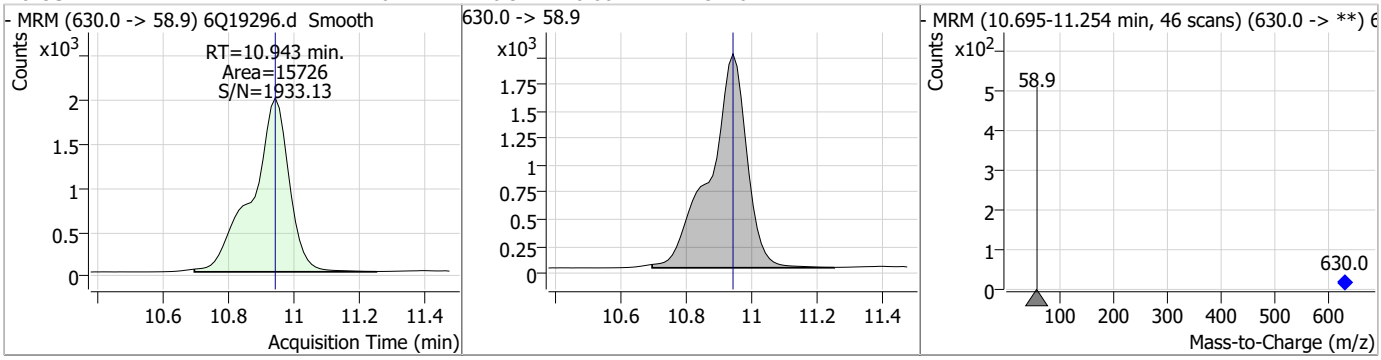
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.82	10.78	0.00	4469 (m)	511.9 -> 169.0	140.8	59.8	179.4



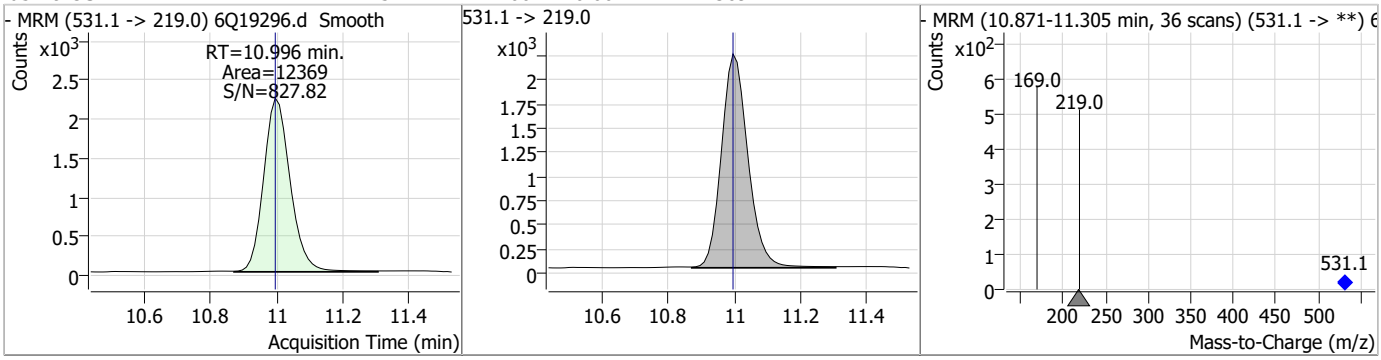
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.23	10.93	0.00	151329				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	2.01	10.94	0.00	15726				

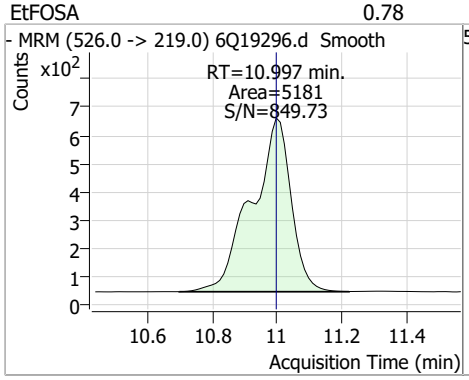


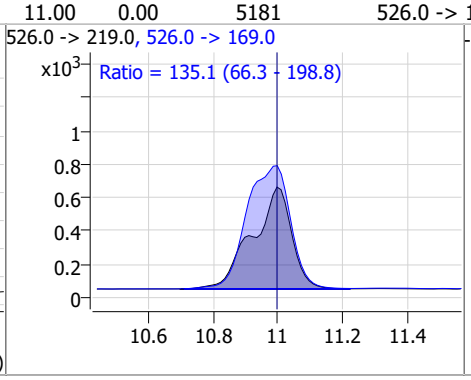
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.54	11.00	0.00	12369				

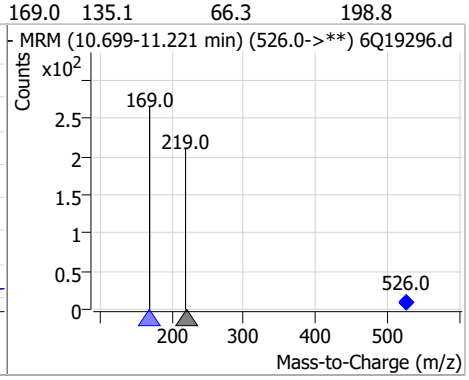


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.78	11.00	0.00	5181	526.0 -> 169.0	135.1	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q288-IC288
Lab FileID: 6Q19296.D
Injection Time: 06/13/23 11:49
Method: EPA DRAFT 1633
Analyst approved: 06/14/23 10:15 Martha Valls
Supervisor approved: 06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19297.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 12:03:47 PM
Sample Name : ic288-3
Vial : P1-A4
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	148237	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	48384	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	53004	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	47212	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	80359	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	36274	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	22493	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	27677	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	27220	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	14251	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	28490	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	19925	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12374	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11783	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3085	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4664	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4172	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	28484	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	34746	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	23067	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	129619	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	150458	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11977	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11764	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	16284	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	63353	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8838	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	86690	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	29778	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	46722	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	49724	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3085	5.82	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.3%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4664	5.82	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.5%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4172	5.54	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.8%		
13C2-PFDoDA	9.297	615.1 -> 570.0	27220	1.37	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.4%		
13C2-PFTeDA	10.012	715.2 -> 670.0	14251	1.28	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.6%		
13C3-PFBS	5.746	302.1 -> 79.9	19925	2.71	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.3%		
13C3-PFHxS	7.478	402.1 -> 79.9	12374	2.66	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.6%		
13C4-PFBA	3.097	216.8 -> 171.9	148237	9.97 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C4-PFHpA	6.707	367.1 -> 322.0	47212	2.46 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%		
13C5-PFHxA	5.792	318.0 -> 273.0	53004	2.58 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.3%		
13C5-PFPeA	4.560	268.3 -> 223.0	48384	5.14 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.9%		
13C6-PFDA	8.387	519.1 -> 474.1	22493	1.32 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.3%		
13C7-PFUnDA	8.866	570.0 -> 525.1	27677	1.21 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.7%		
13C8-FOSA	9.674	506.1 -> 77.8	28490	2.31 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.4%		
13C8-PFOA	7.352	421.1 -> 376.0	80359	2.48 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%		
13C8-PFOS	8.563	507.1 -> 79.9	11783	2.40 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%		
13C9-PFNA	7.895	472.1 -> 427.0	36274	1.28 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.0%		
d3-MeFOSAA	8.420	573.2 -> 419.0	28484	4.62 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.5%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	34746	10.12 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.2%		
d3-MeFOSA	10.775	515.0 -> 219.0	11764	2.20 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.8%		
d5-EtFOSAA	8.628	589.2 -> 419.0	23067	4.41 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.2%		
d7-MeFOSE	10.685	623.2 -> 58.9	129619	23.72 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.9%		
d9-EtFOSE	10.930	639.2 -> 58.9	150458	23.36 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 93.4%		
d5-EtFOSA	10.996	531.1 -> 219.0	11977	2.29 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.6%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	24913	4.64 µg/L		99
		327.1 -> 80.9	9211			
6:2FTS	7.113	427.1 -> 407.0	26523	4.78 µg/L		100
		427.1 -> 80.9	8655			
8:2FTS	8.164	527.1 -> 507.0	13488	4.86 µg/L		100
		527.1 -> 80.8	5304			
EtFOSAA	8.629	584.2 -> 419.1	4933	1.26 µg/L	m	89
		584.2 -> 526.0	3002			
FOSA	9.677	498.1 -> 77.9	14340	1.27 µg/L		100
		498.1 -> 478.0	446			
MeFOSAA	8.421	570.1 -> 419.0	9885	1.34 µg/L	m	98
		570.1 -> 483.0	1771			
PFBA	3.093	212.8 -> 168.9	29077	4.87 µg/L		100
PFBS	5.747	298.7 -> 79.9	9541	1.07 µg/L		98
		298.7 -> 98.8	3512			
PFDA	8.388	512.9 -> 469.0	37621	1.12 µg/L		99
		512.9 -> 219.0	5713			
PFDoDA	9.298	613.1 -> 569.0	25133	1.11 µg/L		95
		613.1 -> 319.0	4150			
PFDS	9.462	599.0 -> 79.9	4063	1.14 µg/L		98

Perfluorinated Compounds by LC/MS/MS

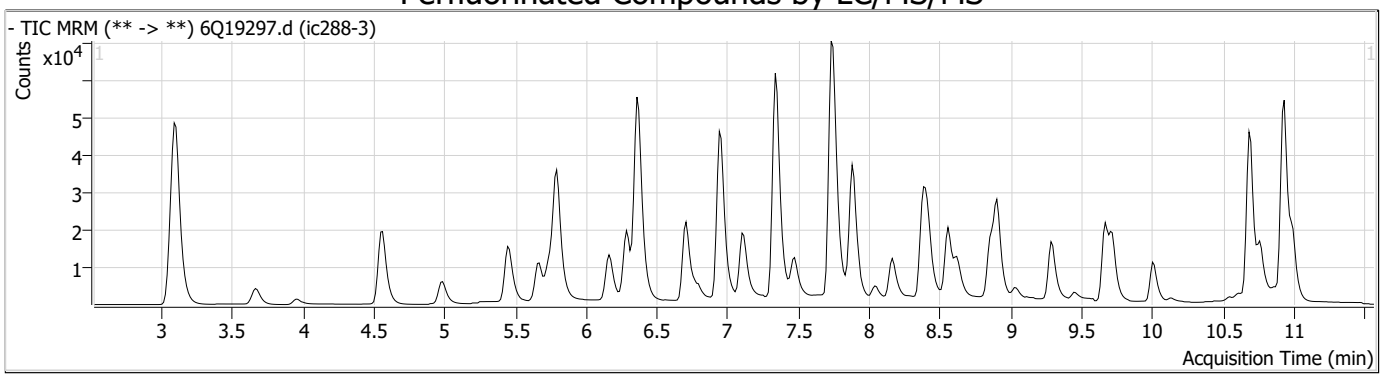
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	2082				
PFHpA	6.708	363.1 -> 319.0	30542	1.21	µg/L		96
		363.1 -> 169.0	5124				
PFHpS	8.059	449.0 -> 79.9	7522	1.07	µg/L		98
		449.0 -> 98.9	3950				
PFHxA	5.795	313.0 -> 269.0	25610	1.20	µg/L		99
		313.0 -> 118.9	1458				
PFHxS	7.479	398.7 -> 79.9	8194	1.10	µg/L	m	94
		398.7 -> 98.9	3812				
PFNA	7.896	463.0 -> 419.0	38023	1.13	µg/L		95
		463.0 -> 219.0	8002				
PFNS	9.041	548.8 -> 79.9	6746	1.10	µg/L		89
		548.8 -> 98.9	3809				
PFOA	7.353	413.0 -> 369.0	48600	1.10	µg/L		97
		413.0 -> 169.0	8738				
PFOS	8.564	498.9 -> 79.9	7806	1.12	µg/L	m	93
		498.9 -> 98.8	3709				
PFPeA	4.563	263.0 -> 219.0	34905	2.44	µg/L		100
PFPeS	6.785	349.1 -> 79.9	7959	1.15	µg/L		93
		349.1 -> 98.9	3437				
PFTeDA	10.013	713.1 -> 669.0	19563	1.15	µg/L		99
		713.1 -> 168.9	1778				
PFTrDA	9.669	663.0 -> 619.0	25811	1.13	µg/L		98
		663.0 -> 168.9	2539				
PFUnDA	8.866	563.1 -> 519.0	29397	1.38	µg/L		91
		563.1 -> 269.1	4304				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	37063	2.34	µg/L		94
		632.9 -> 452.9	11589				
9Cl-PF3ONS	8.906	530.8 -> 351.0	62324	2.29	µg/L		93
		532.8 -> 353.0	16866				
ADONA	6.959	376.9 -> 250.9	138179	2.46	µg/L		94
		376.9 -> 84.8	35988				
HFPO-DA	6.169	284.9 -> 168.9	8641	2.38	µg/L		98
		284.9 -> 184.9	1092				
3:3FTCA	3.958	241.0 -> 177.0	5763	5.96	µg/L		100
		241.0 -> 117.0	774				
5:3FTCA	6.374	341.0 -> 237.1	126491	29.75	µg/L		99
		341.0 -> 217.0	93688				
7:3FTCA	7.748	441.0 -> 316.9	85564	29.76	µg/L		96
		441.0 -> 336.9	198396				
EtFOSA	10.997	526.0 -> 219.0	15588	2.44	µg/L		96
		526.0 -> 169.0	21380				
EtFOSE	10.943	630.0 -> 58.9	48724	6.26	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	13107	2.46	µg/L	m	83
		511.9 -> 169.0	18116				
MeFOSE	10.709	616.1 -> 58.9	33894	6.03	µg/L		100
PFDoDS	10.139	699.1 -> 79.9	2060	1.17	µg/L		88
		699.1 -> 98.8	1020				
NFDHA	5.673	295.0 -> 201.0	6337	2.32	µg/L		99
		295.0 -> 84.9	1670				
PFMBA	4.988	279.0 -> 85.1	24615	2.42	µg/L		100
PFMPA	3.667	229.0 -> 84.9	19406	2.44	µg/L		100
PFEESA	6.288	314.8 -> 134.9	64227	2.22	µg/L		100
		314.8 -> 82.9	2172				

 # = Qualifier out of range, m = manually integrated, + = Area summed

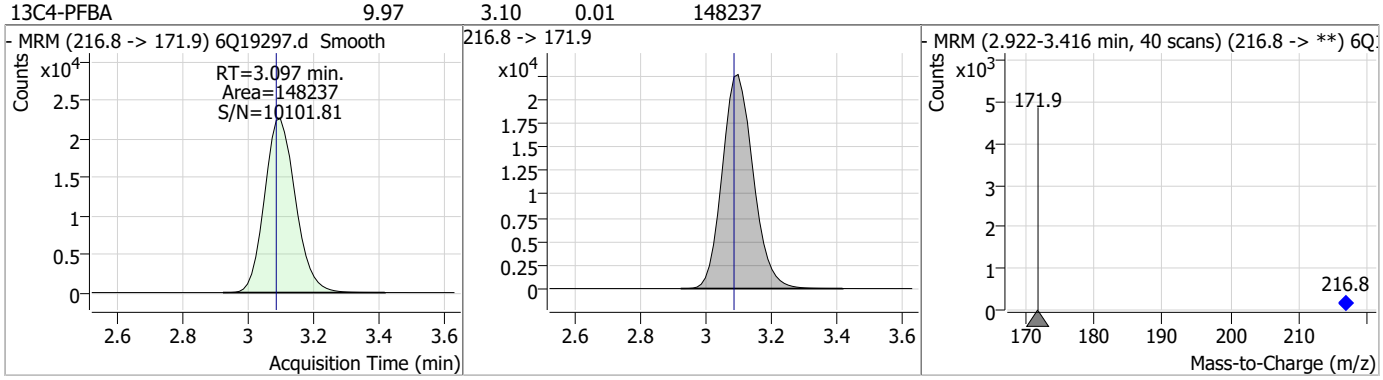
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

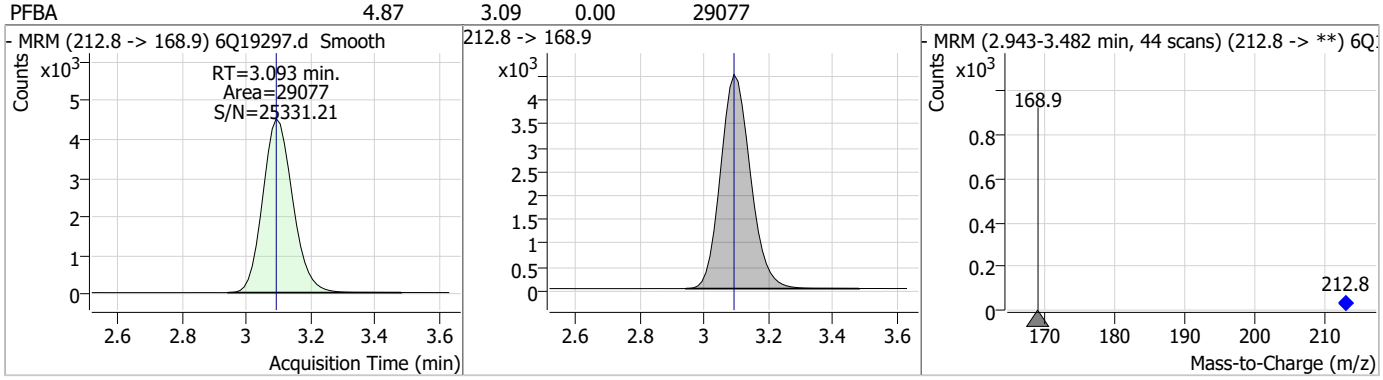
Perfluorinated Compounds by LC/MS/MS



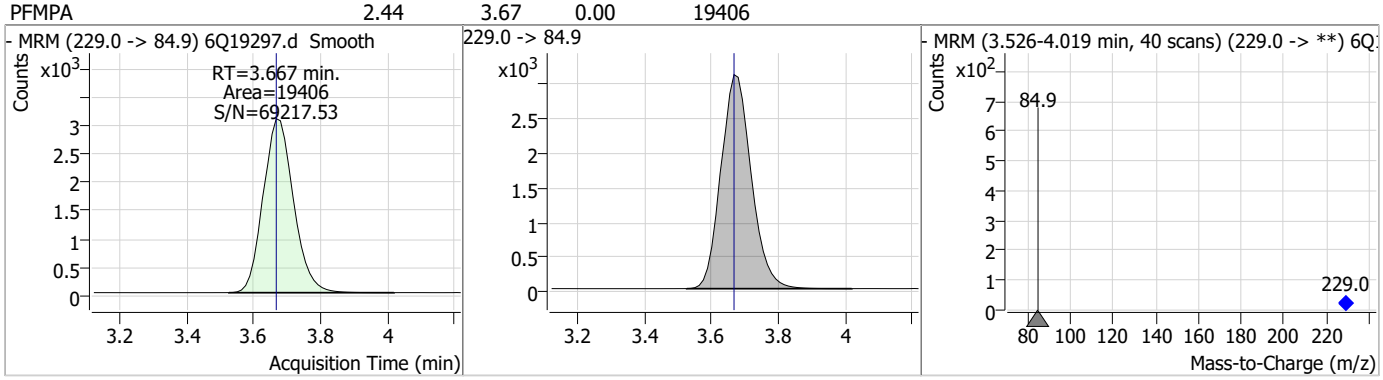
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.97	3.10	0.01	148237				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	4.87	3.09	0.00	29077				

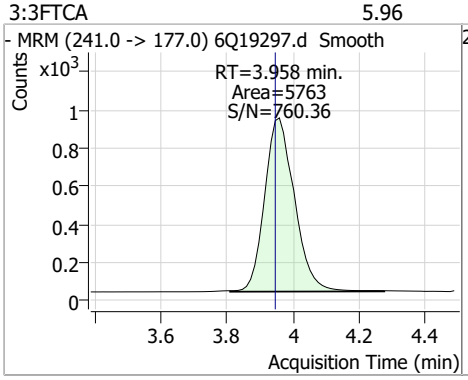


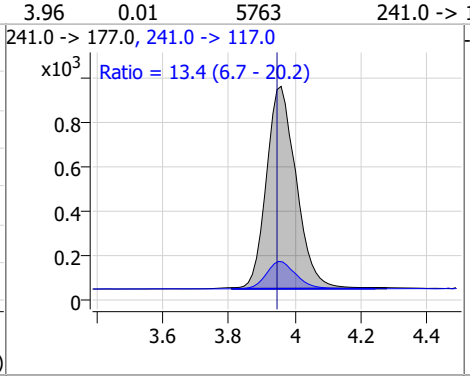
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	2.44	3.67	0.00	19406				

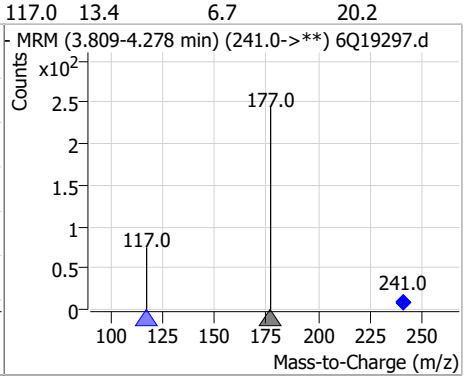


Perfluorinated Compounds by LC/MS/MS

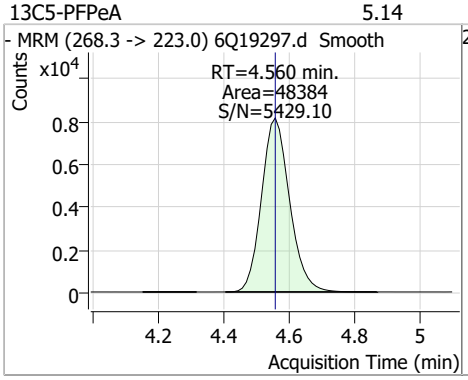
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	5.96	3.96	0.01	5763	241.0 -> 117.0	13.4	6.7	20.2

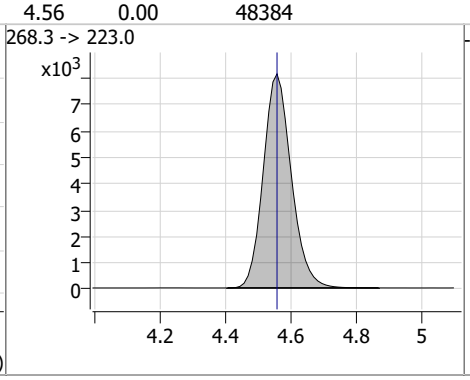


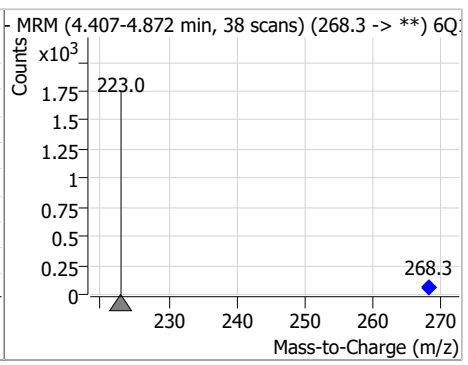




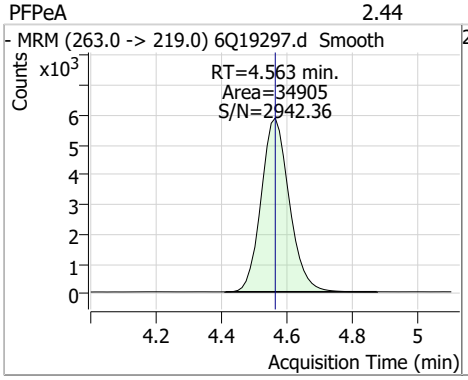
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.14	4.56	0.00	48384				

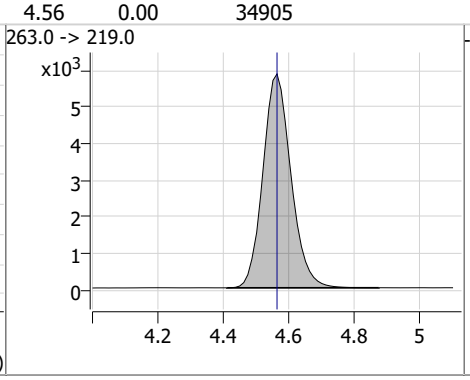


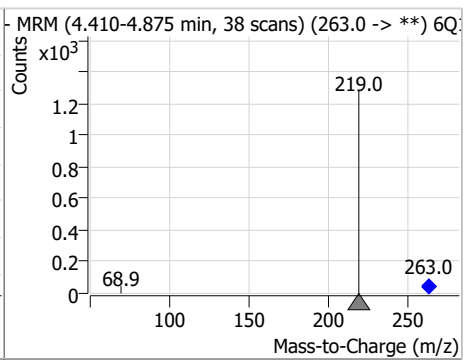




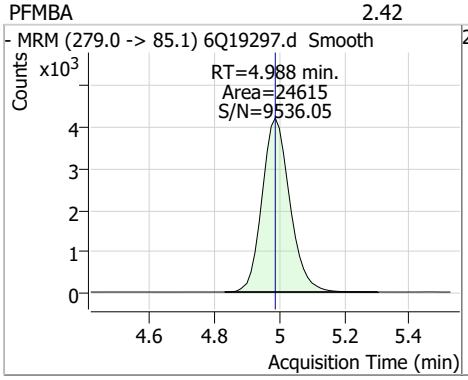
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	2.44	4.56	0.00	34905				

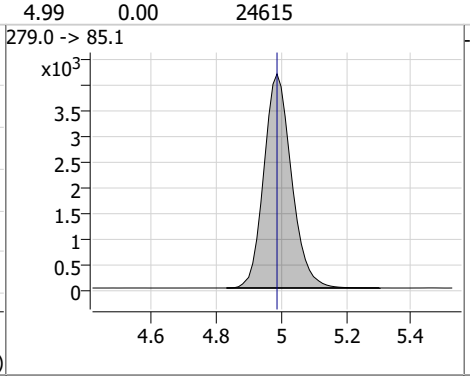


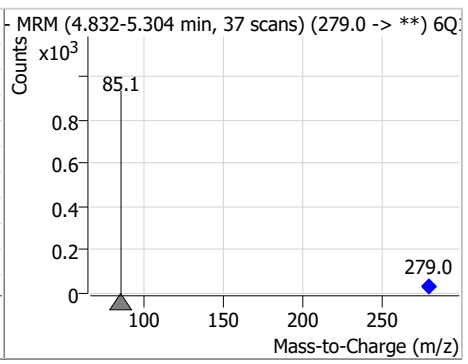




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	2.42	4.99	0.00	24615				

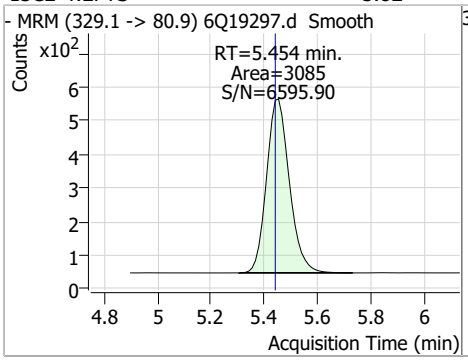


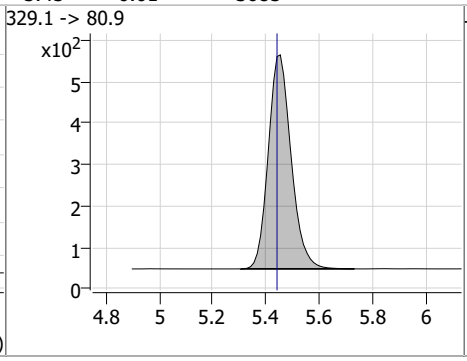


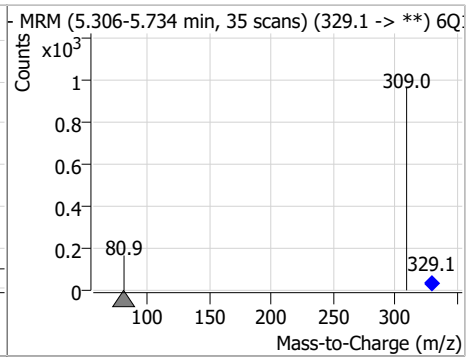


Perfluorinated Compounds by LC/MS/MS

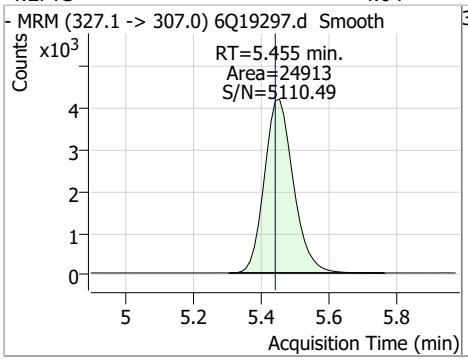
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.82	5.45	0.01	3085				

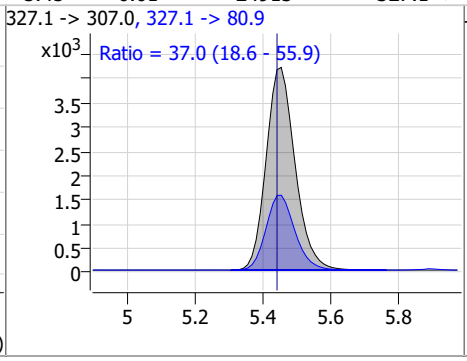


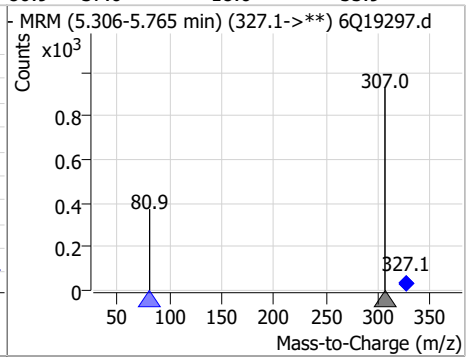




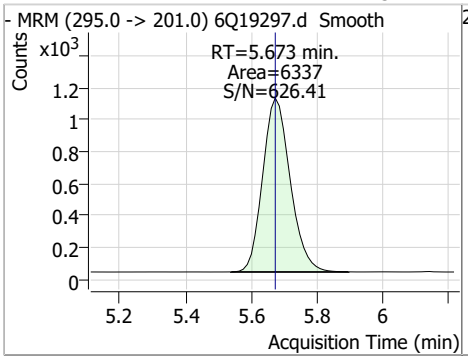
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	4.64	5.45	0.01	24913	327.1 -> 80.9	37.0	18.6	55.9

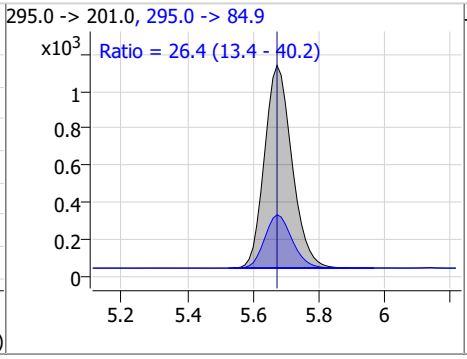


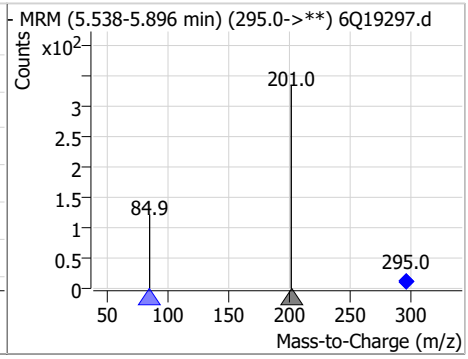




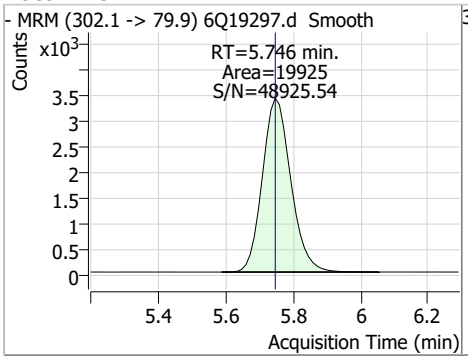
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	2.32	5.67	0.00	6337	295.0 -> 84.9	26.4	13.4	40.2

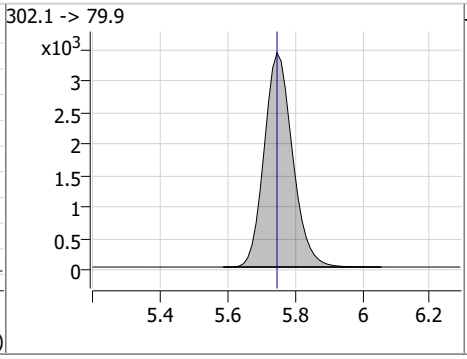


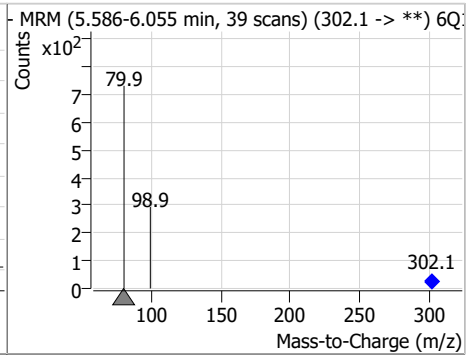




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.71	5.75	0.00	19925				

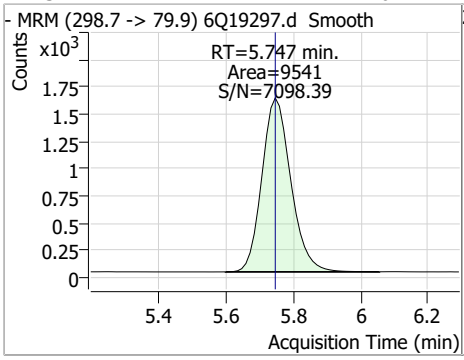


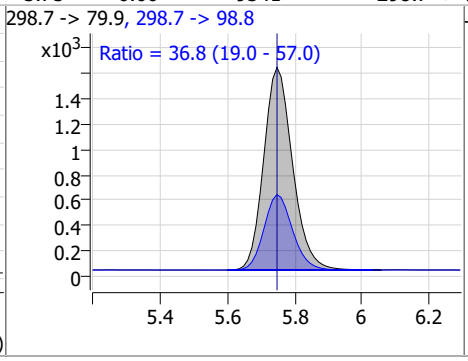


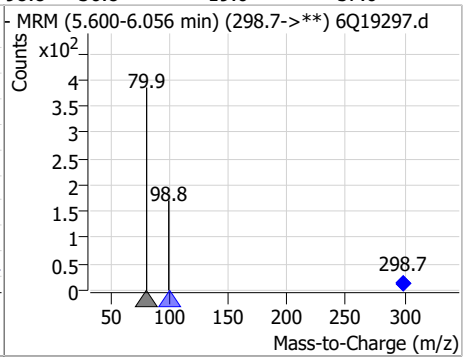


Perfluorinated Compounds by LC/MS/MS

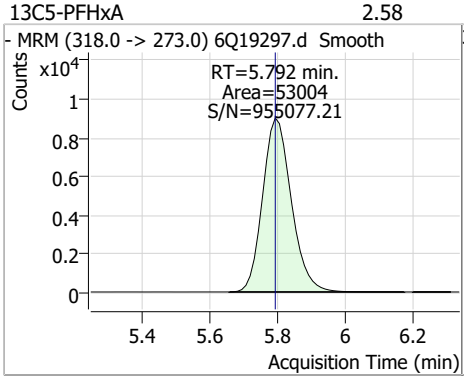
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.07	5.75	0.00	9541	298.7 -> 98.8	36.8	19.0	57.0

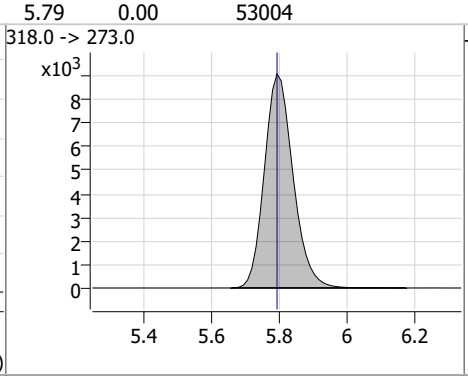


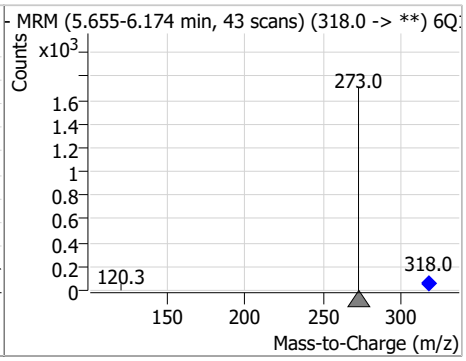




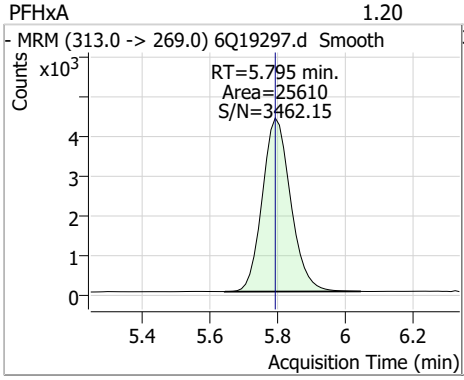
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.58	5.79	0.00	53004				

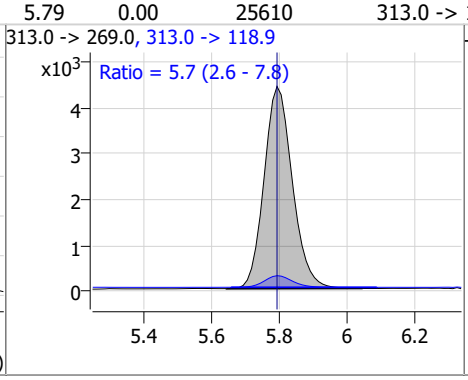


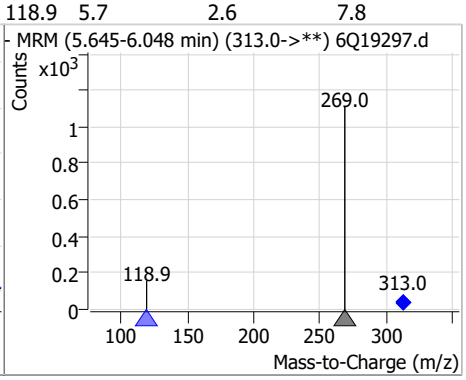




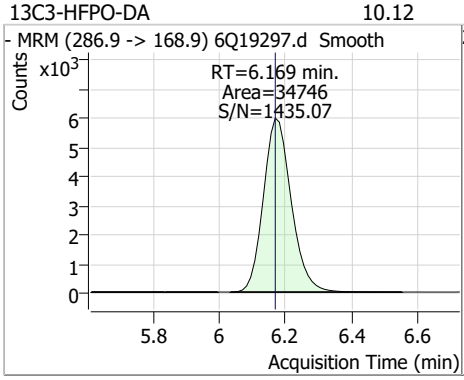
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	1.20	5.79	0.00	25610	313.0 -> 118.9	5.7	2.6	7.8

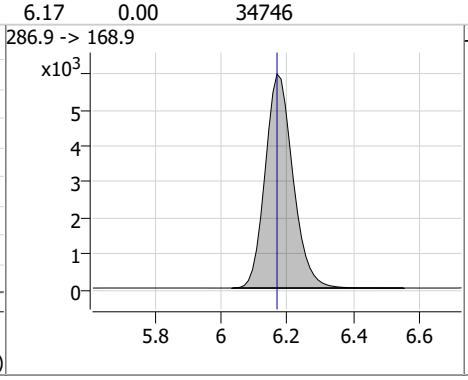


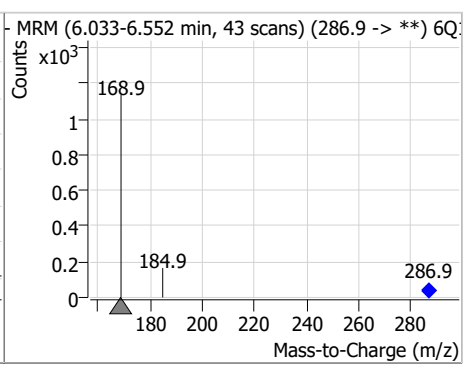




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.12	6.17	0.00	34746				

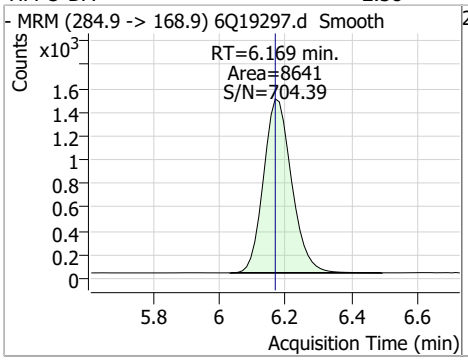


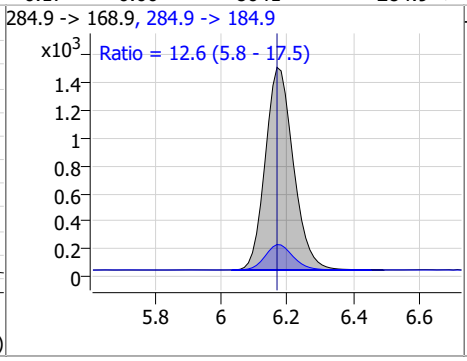


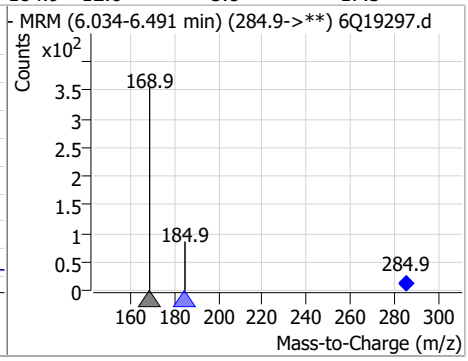


Perfluorinated Compounds by LC/MS/MS

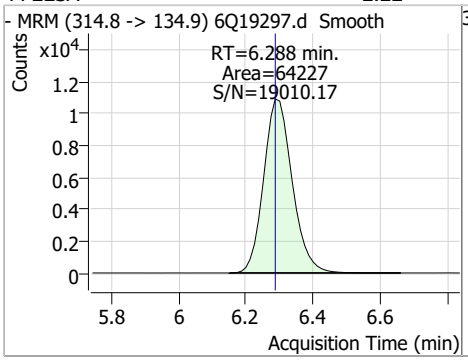
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	2.38	6.17	0.00	8641	284.9 -> 184.9	12.6	5.8	17.5

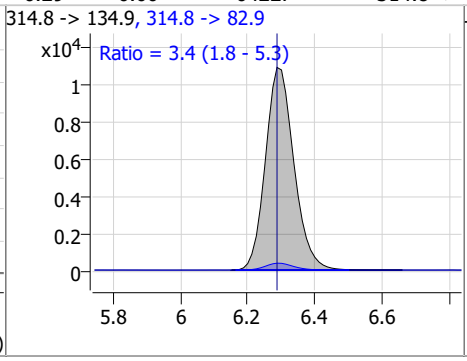


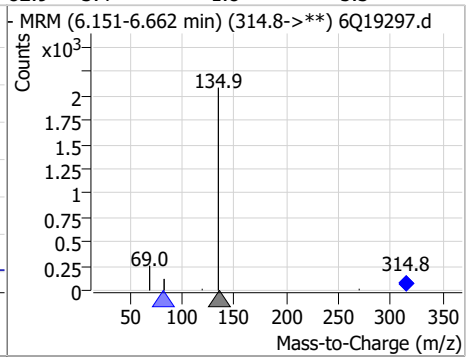




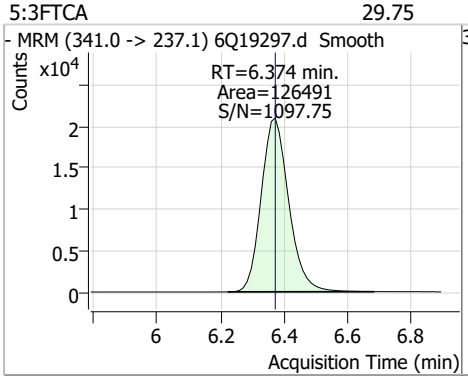
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	2.22	6.29	0.00	64227	314.8 -> 82.9	3.4	1.8	5.3

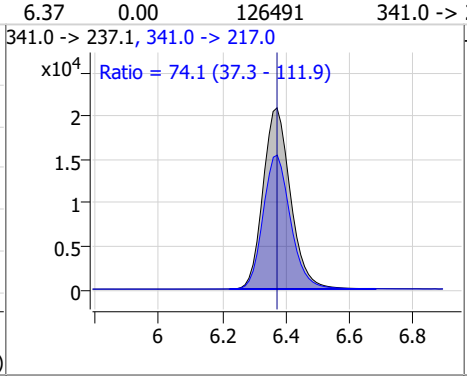


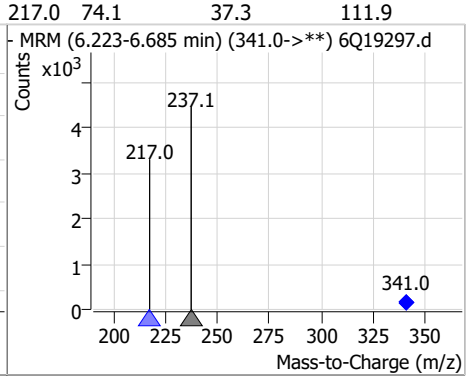




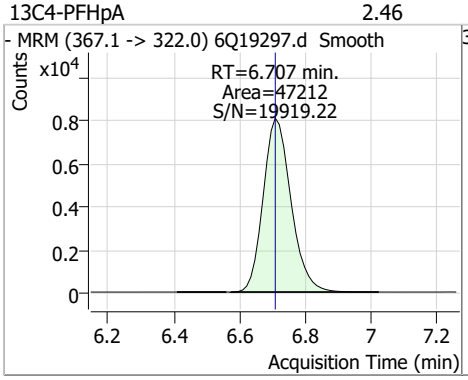
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	29.75	6.37	0.00	126491	341.0 -> 217.0	74.1	37.3	111.9

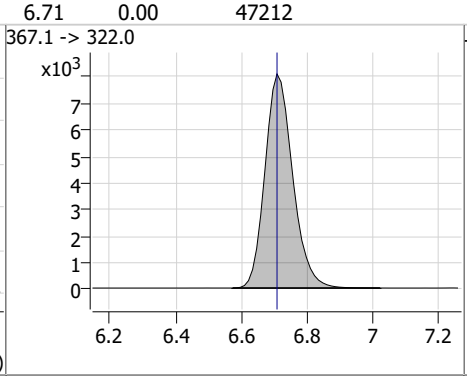


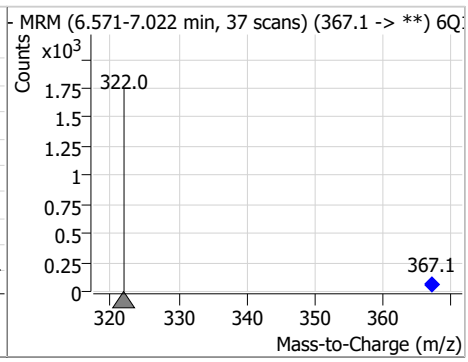




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.46	6.71	0.00	47212				

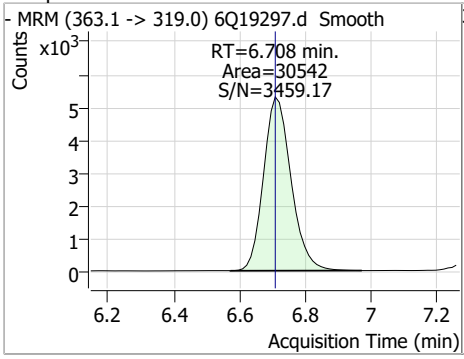


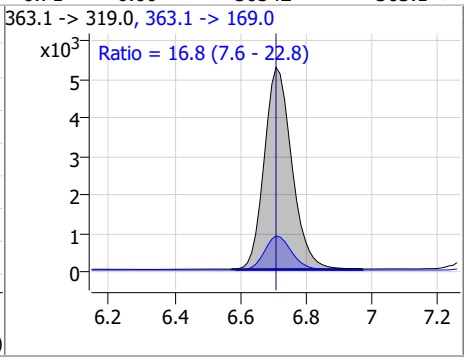


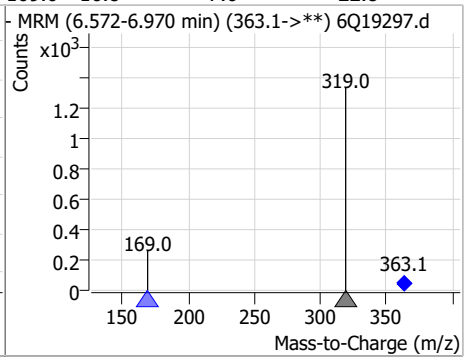


Perfluorinated Compounds by LC/MS/MS

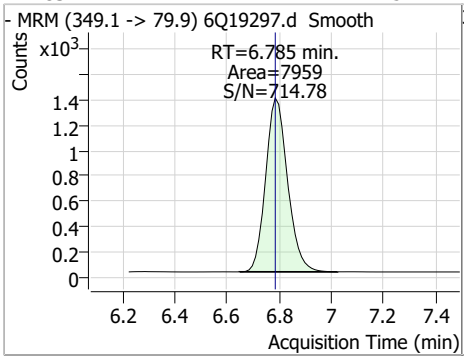
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.21	6.71	0.00	30542	363.1 -> 169.0	16.8	7.6	22.8

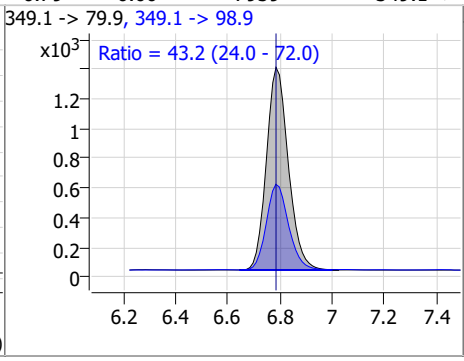


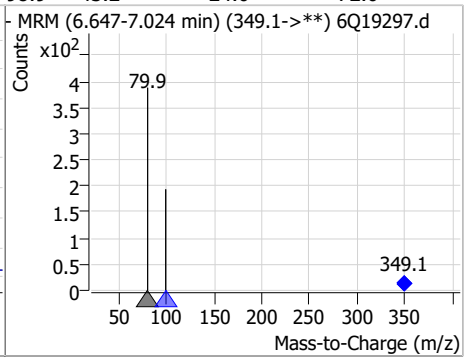




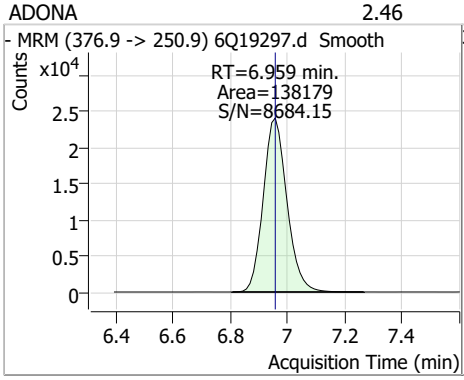
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.15	6.79	0.00	7959	349.1 -> 98.9	43.2	24.0	72.0

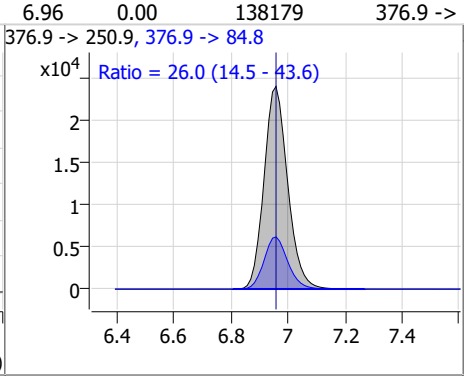


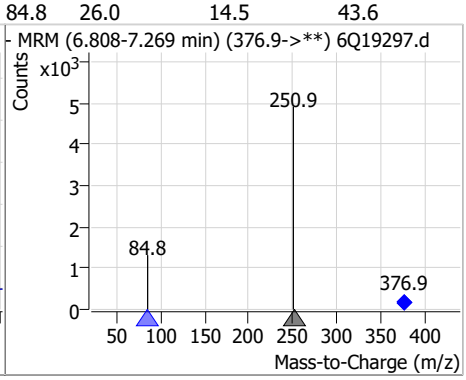




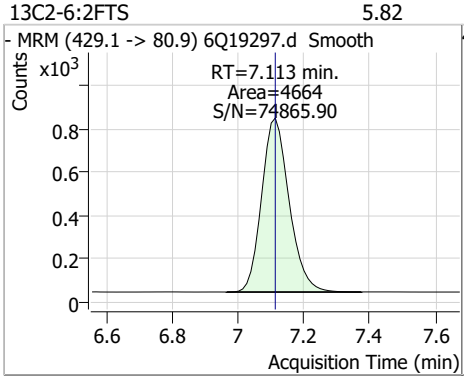
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	2.46	6.96	0.00	138179	376.9 -> 84.8	26.0	14.5	43.6

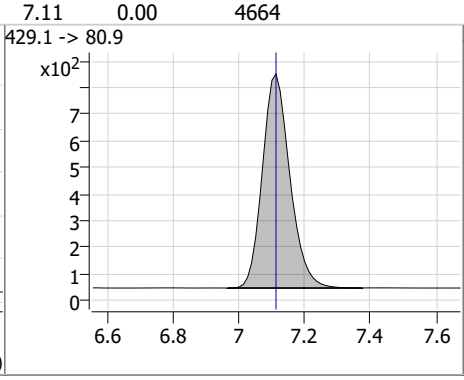


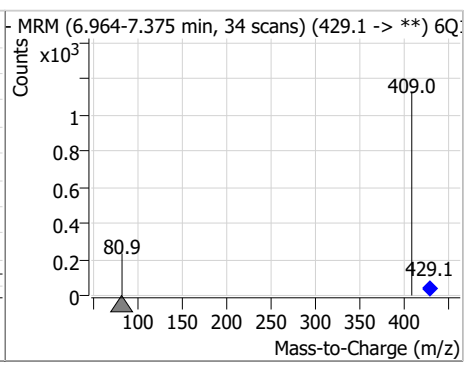




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.82	7.11	0.00	4664				

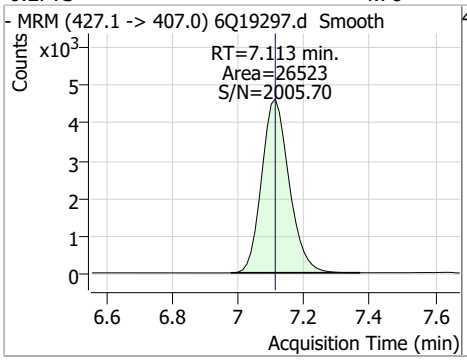


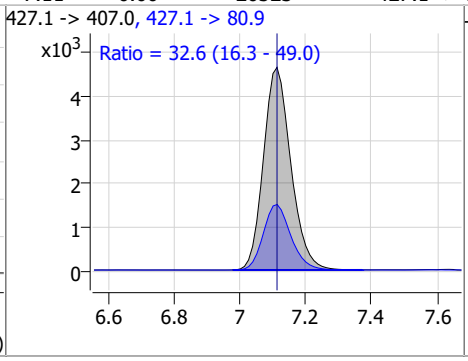


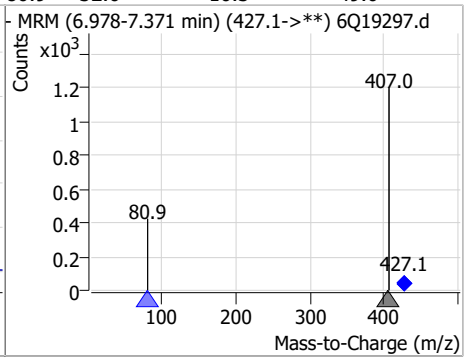


Perfluorinated Compounds by LC/MS/MS

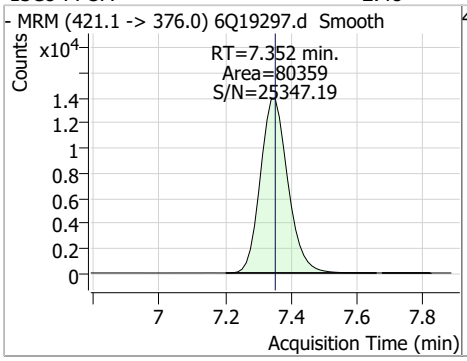
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	4.78	7.11	0.00	26523	427.1 -> 80.9	32.6	16.3	49.0

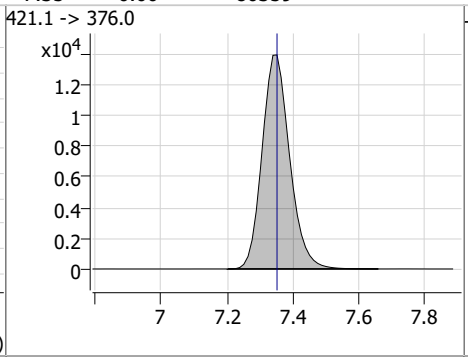


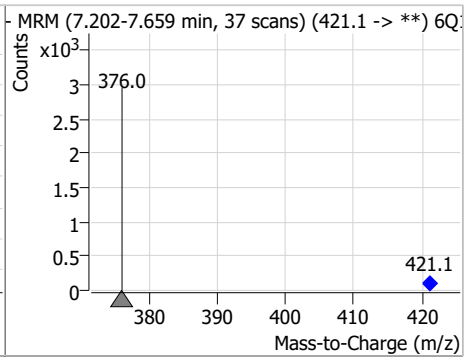




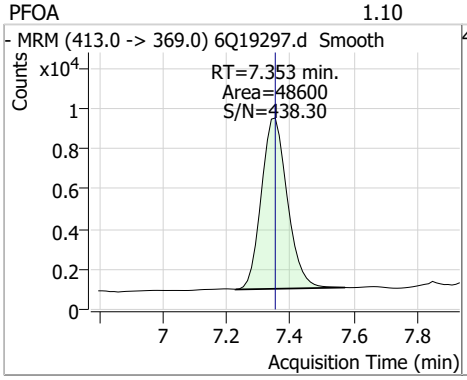
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.48	7.35	0.00	80359				

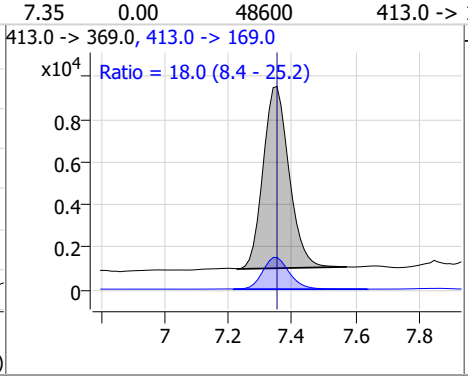


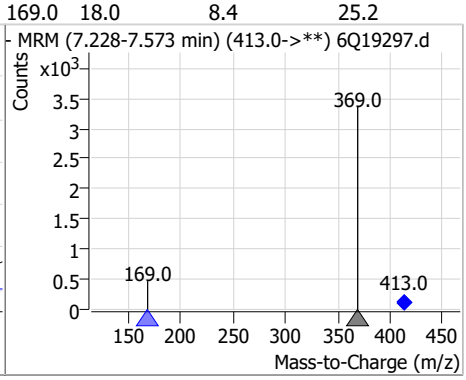




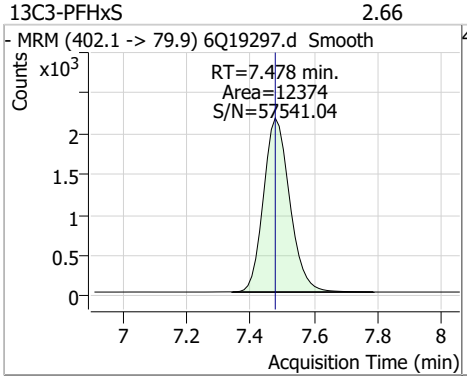
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	1.10	7.35	0.00	48600	413.0 -> 169.0	18.0	8.4	25.2

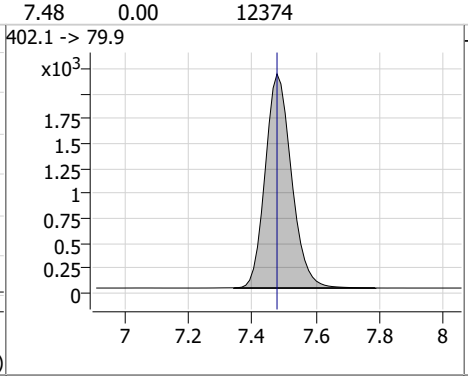


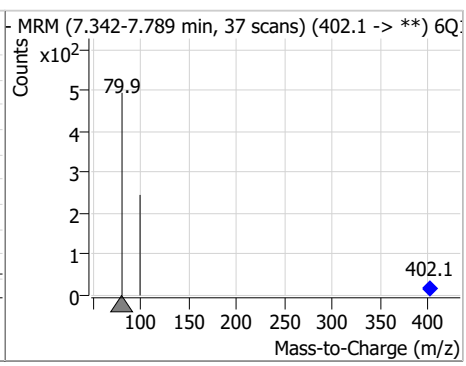




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.66	7.48	0.00	12374				

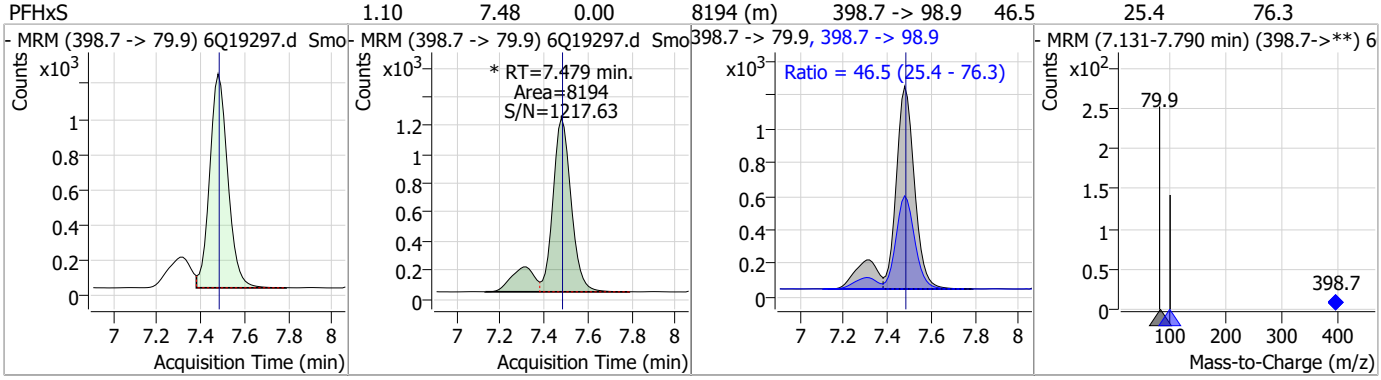




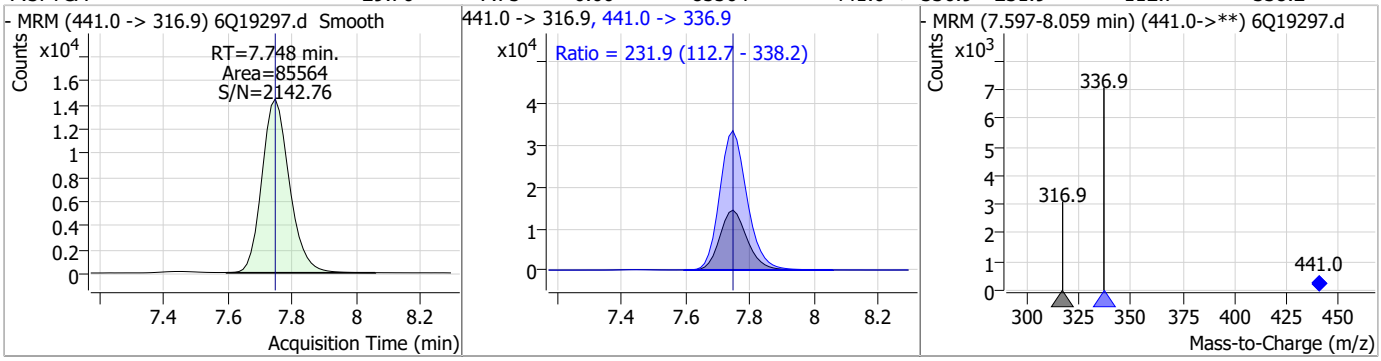


Perfluorinated Compounds by LC/MS/MS

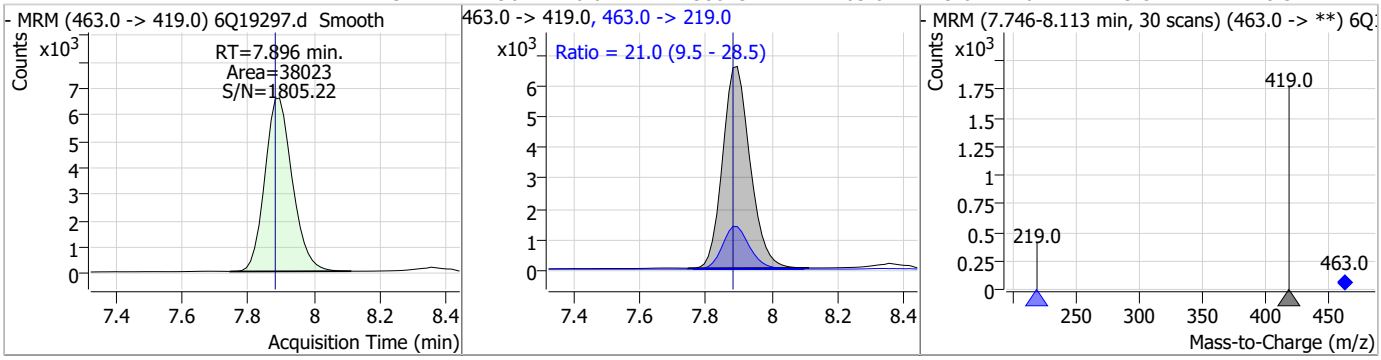
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.10	7.48	0.00	8194 (m)	398.7 -> 98.9	46.5	25.4	76.3



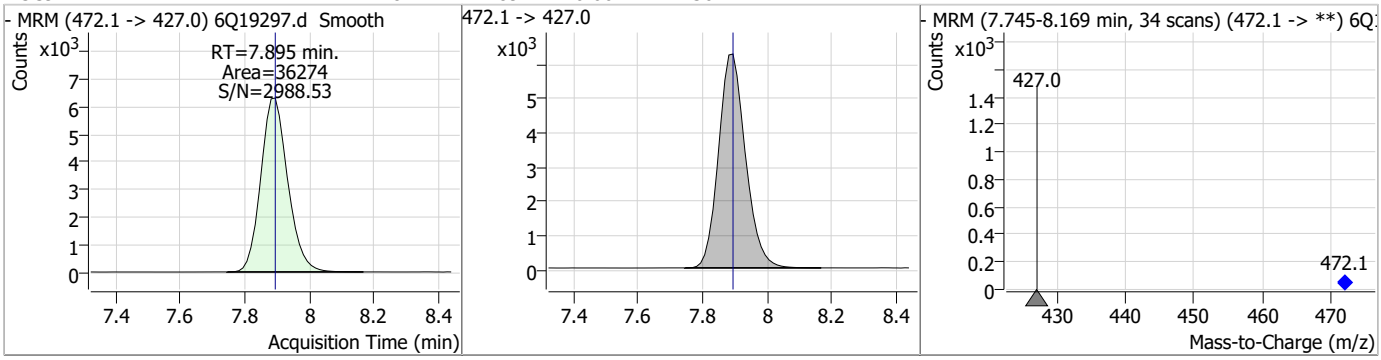
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	29.76	7.75	0.00	85564	441.0 -> 336.9	231.9	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	1.13	7.90	0.01	38023	463.0 -> 219.0	21.0	9.5	28.5

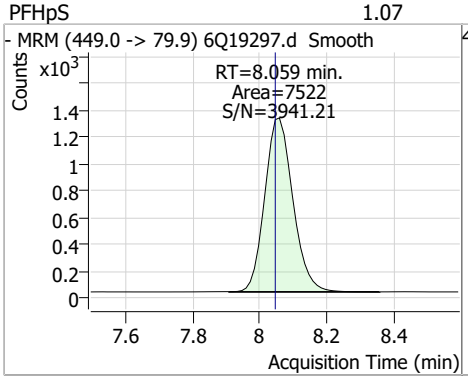


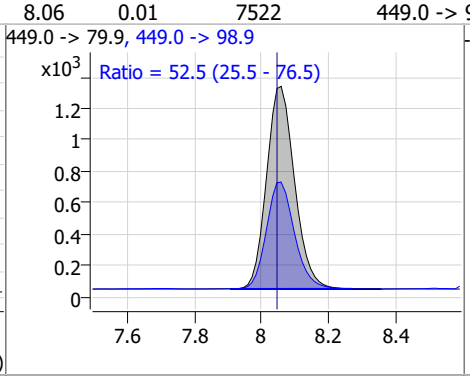
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.28	7.89	0.00	36274				

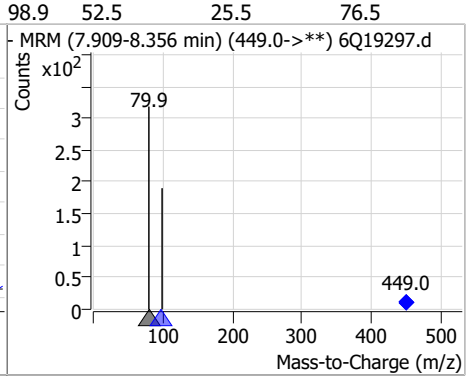


Perfluorinated Compounds by LC/MS/MS

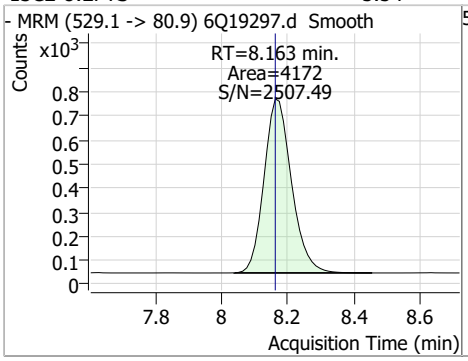
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	1.07	8.06	0.01	7522	449.0 -> 98.9	52.5	25.5	76.5

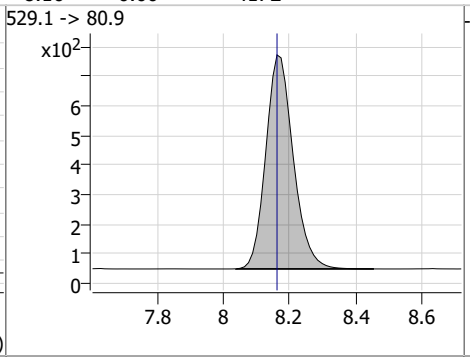


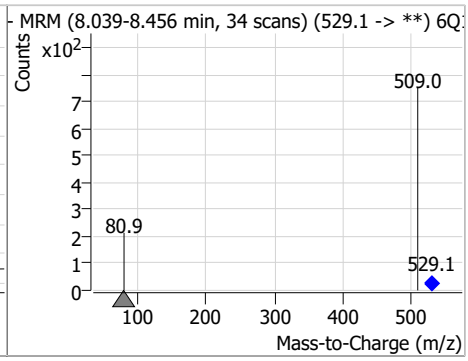




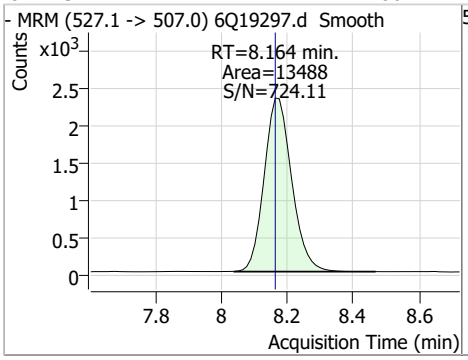
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.54	8.16	0.00	4172				

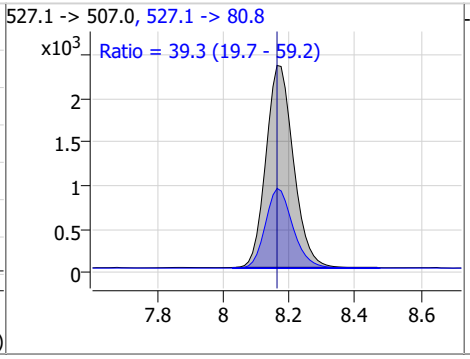


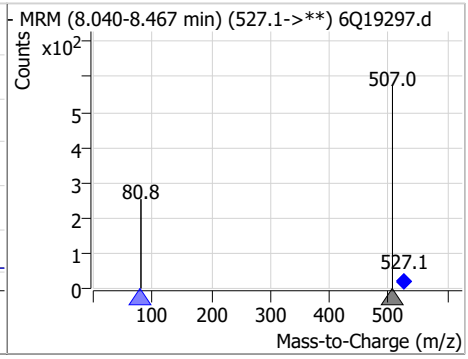




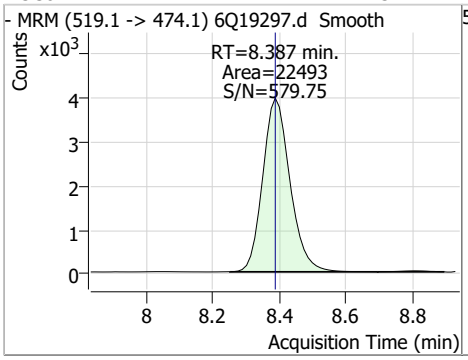
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	4.86	8.16	0.00	13488	527.1 -> 80.8	39.3	19.7	59.2

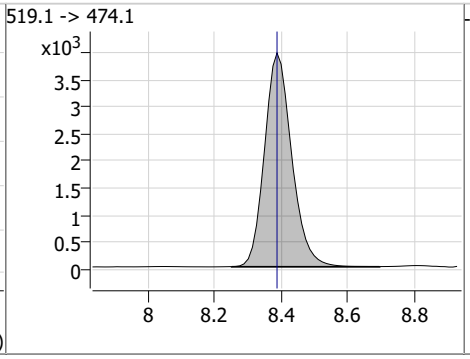


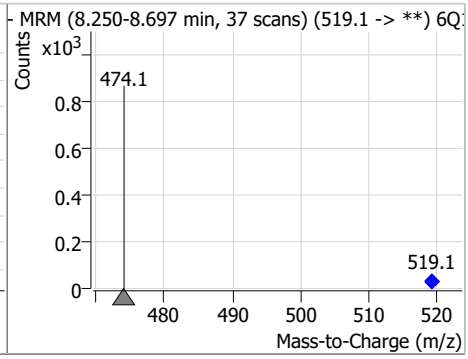




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.32	8.39	0.00	22493				

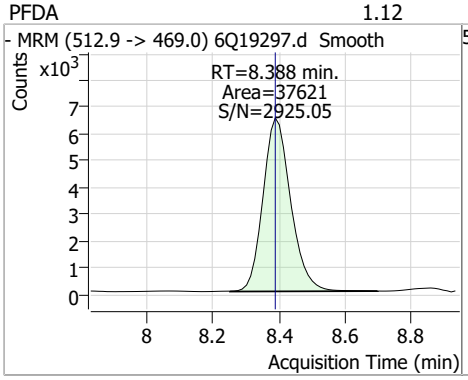


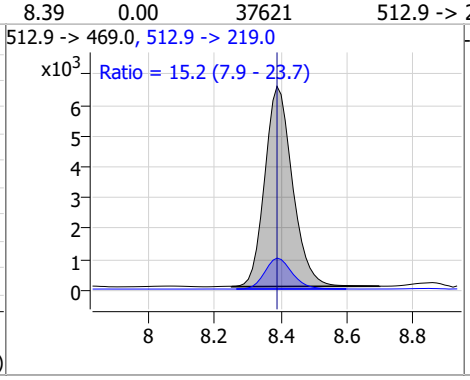


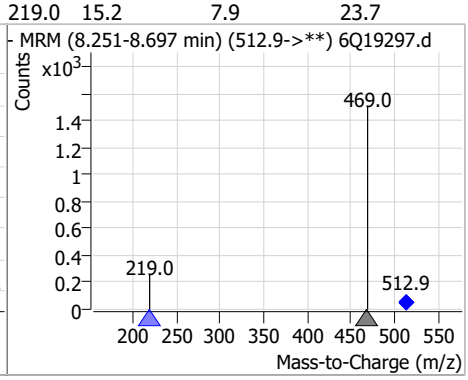


Perfluorinated Compounds by LC/MS/MS

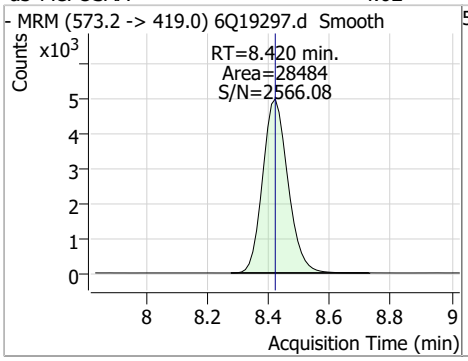
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	1.12	8.39	0.00	37621	512.9 -> 219.0	15.2	7.9	23.7

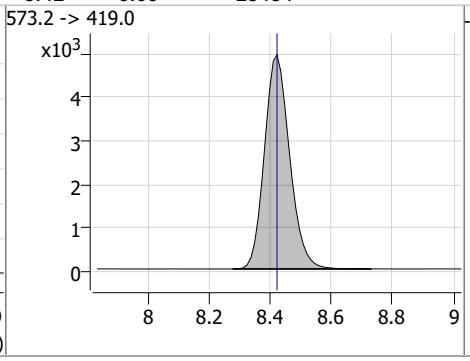


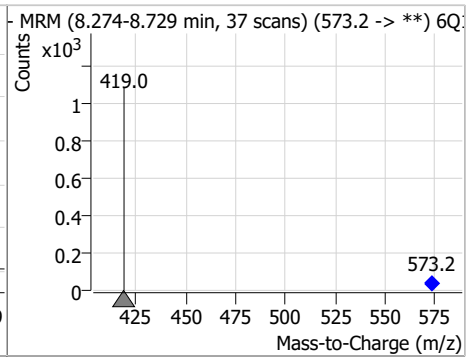




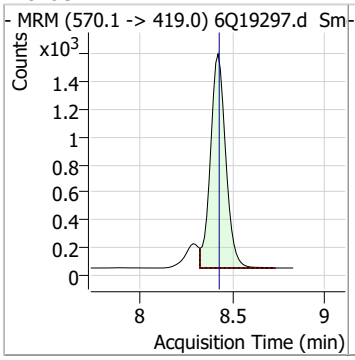
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.62	8.42	0.00	28484				

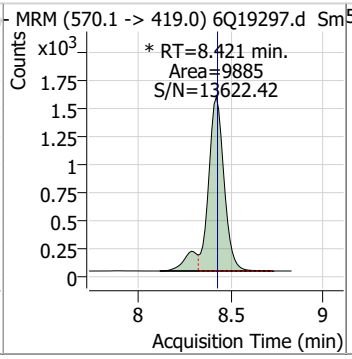


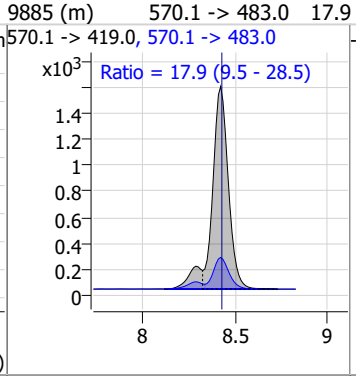


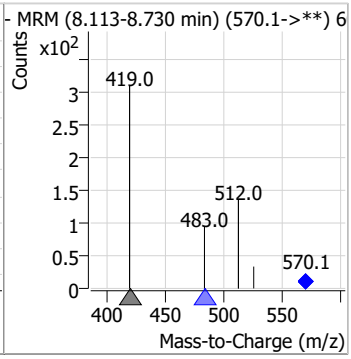


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	1.34	8.42	0.00	9885 (m)	570.1 -> 483.0	17.9	9.5	28.5

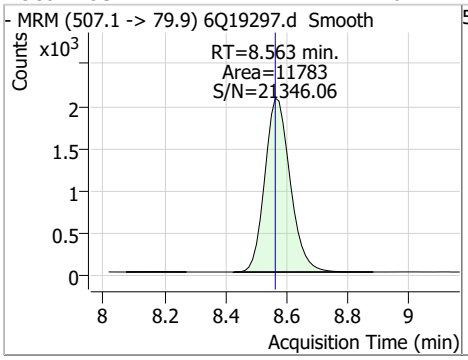


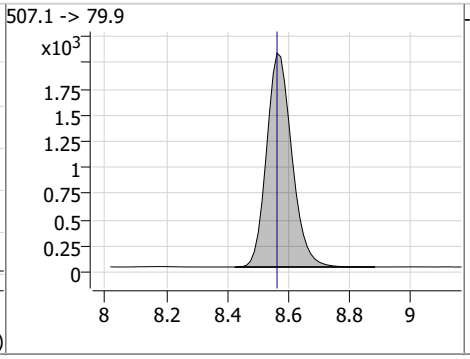


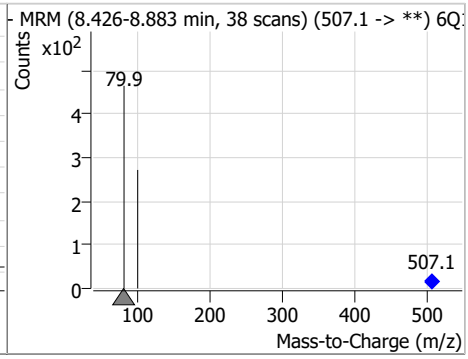




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.40	8.56	0.00	11783				

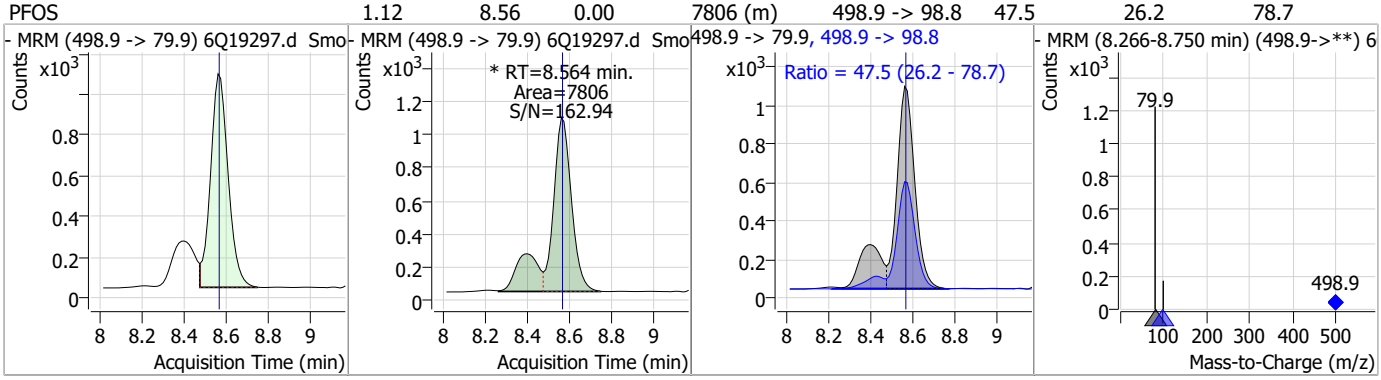




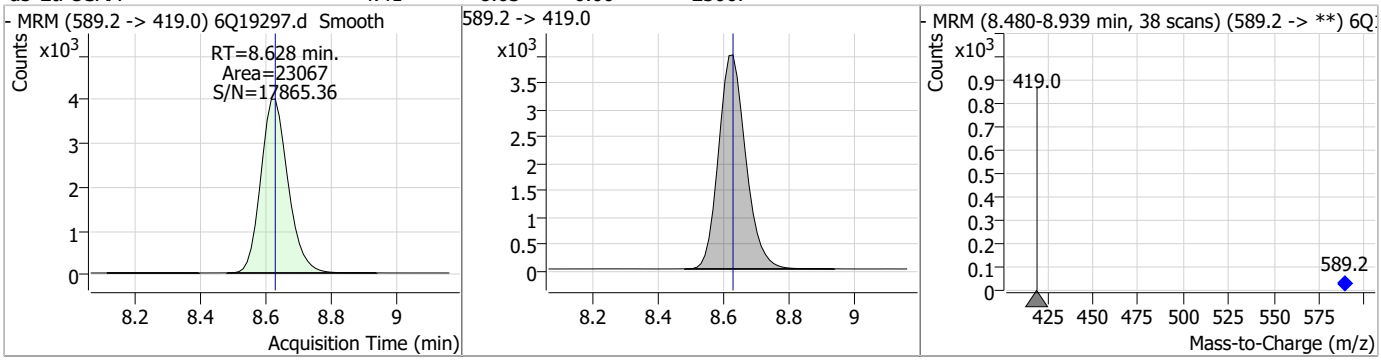


Perfluorinated Compounds by LC/MS/MS

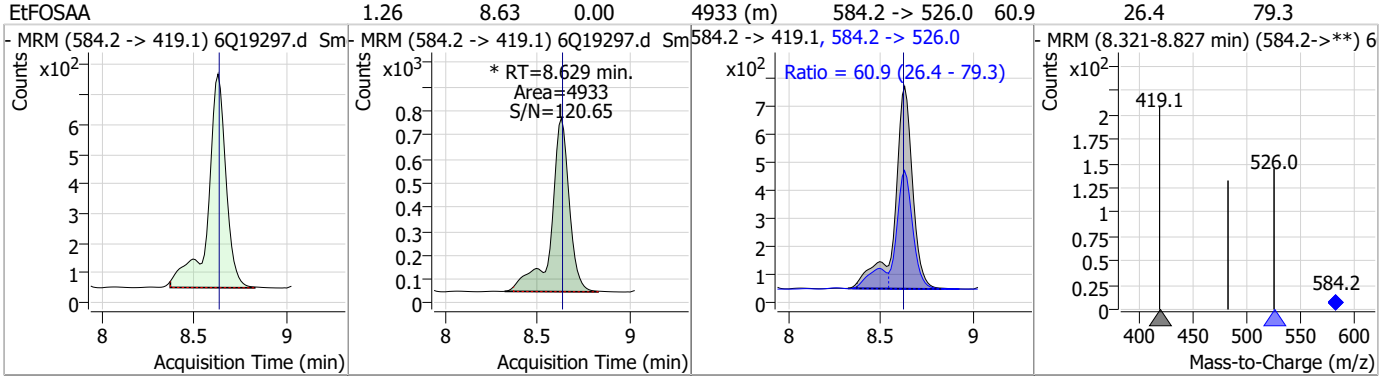
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.12	8.56	0.00	7806 (m)	498.9 -> 98.8	47.5	26.2	78.7



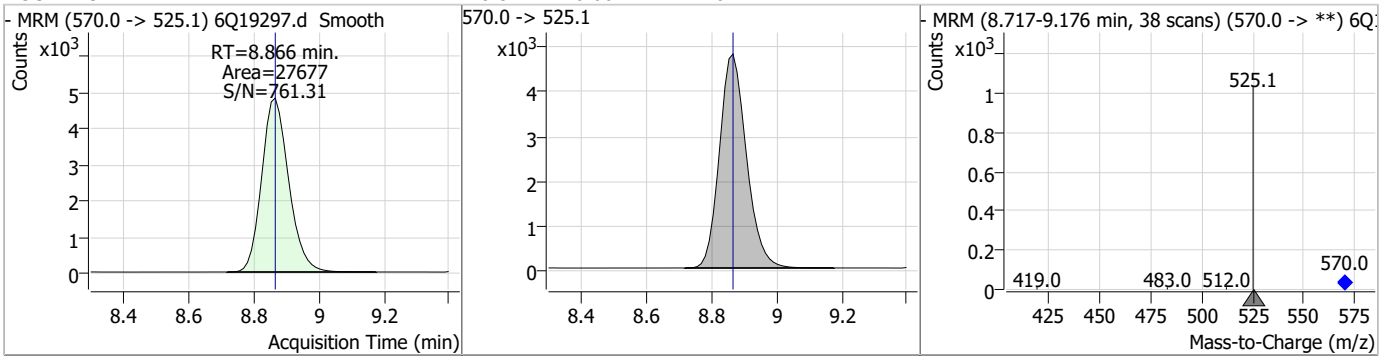
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.41	8.63	0.00	23067				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.26	8.63	0.00	4933 (m)	584.2 -> 526.0	60.9	26.4	79.3

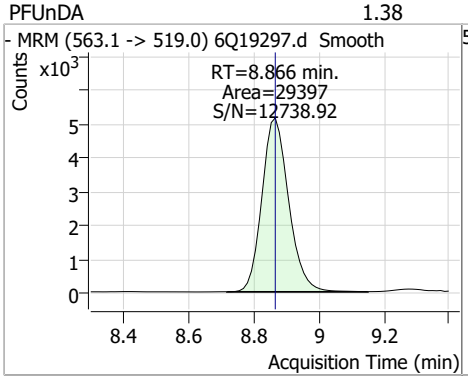


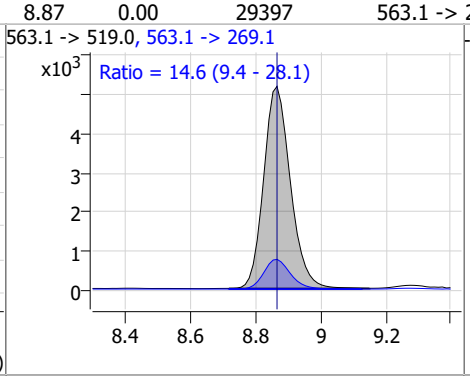
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.21	8.87	0.00	27677				

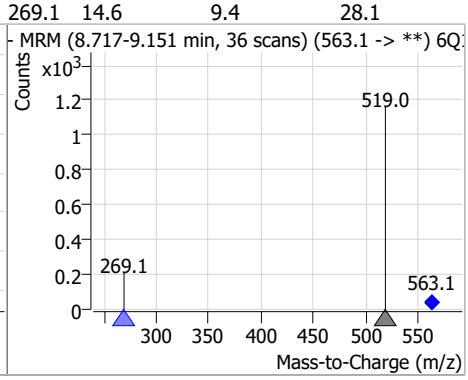


Perfluorinated Compounds by LC/MS/MS

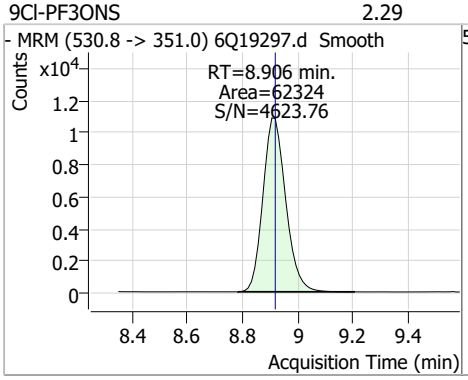
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	1.38	8.87	0.00	29397	563.1 -> 269.1	14.6	9.4	28.1

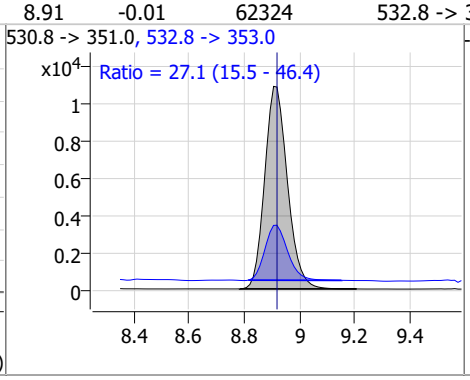


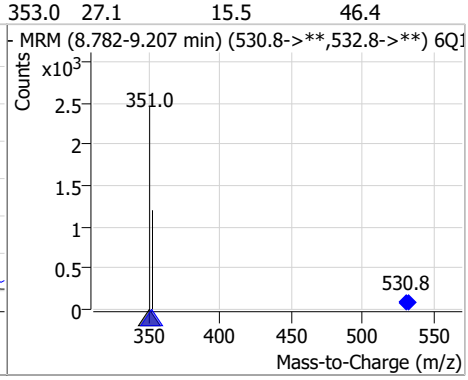




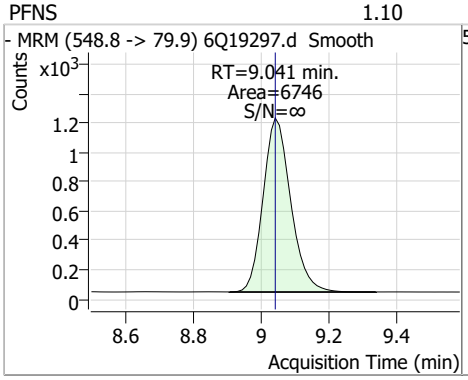
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	2.29	8.91	-0.01	62324	532.8 -> 353.0	27.1	15.5	46.4

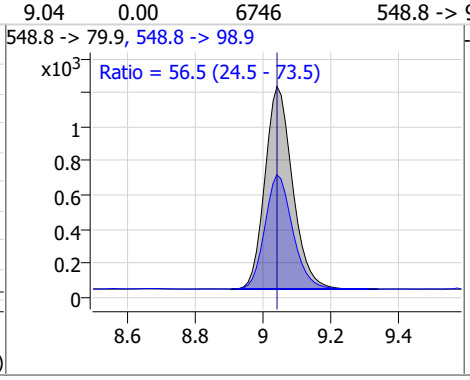


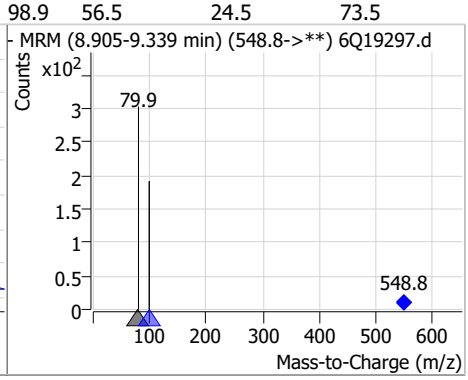




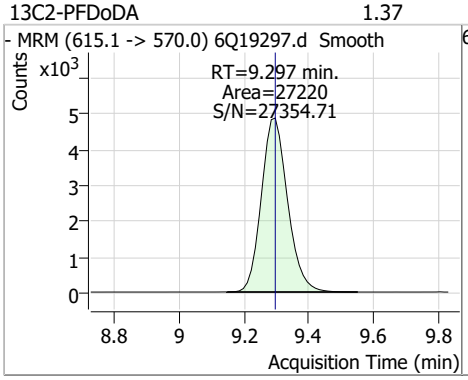
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	1.10	9.04	0.00	6746	548.8 -> 98.9	56.5	24.5	73.5

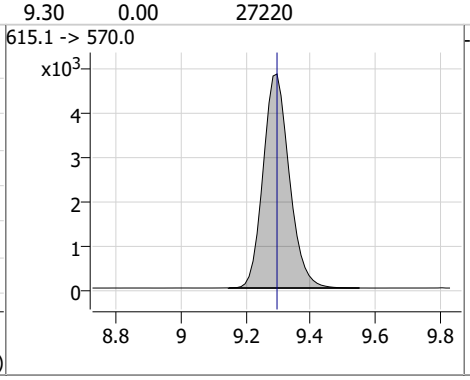


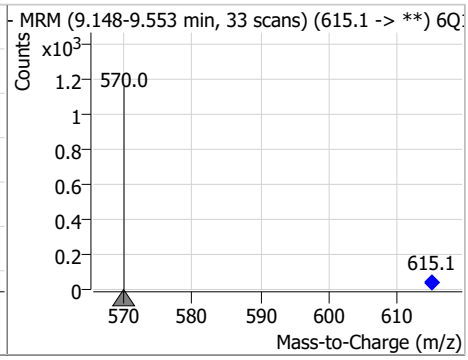




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.37	9.30	0.00	27220				

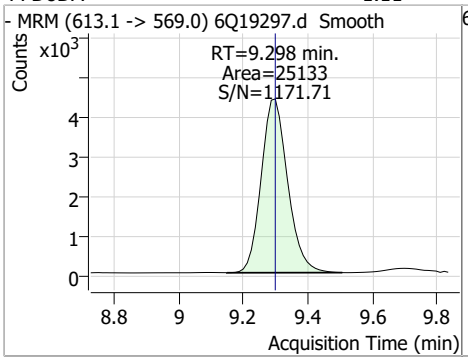


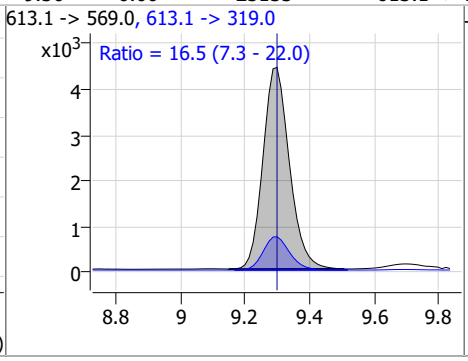


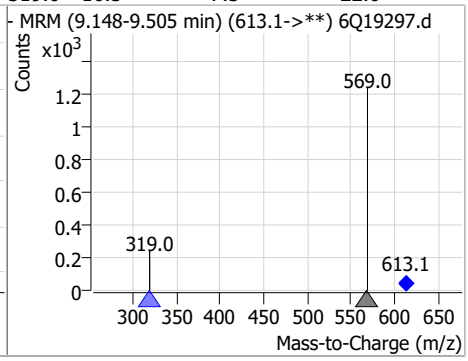


Perfluorinated Compounds by LC/MS/MS

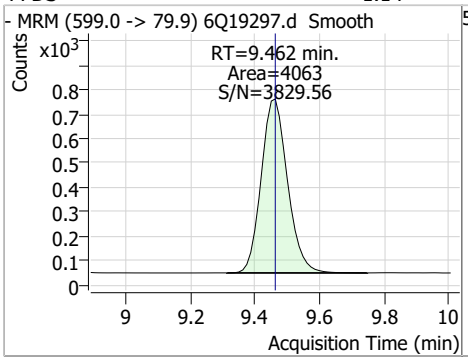
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	1.11	9.30	0.00	25133	613.1 -> 319.0	16.5	7.3	22.0

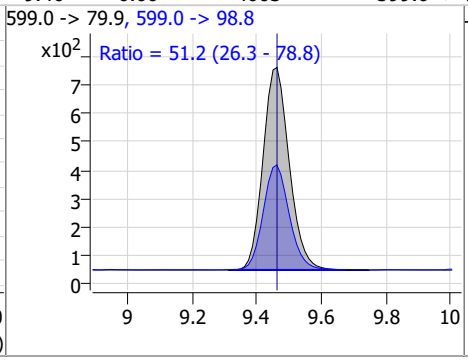


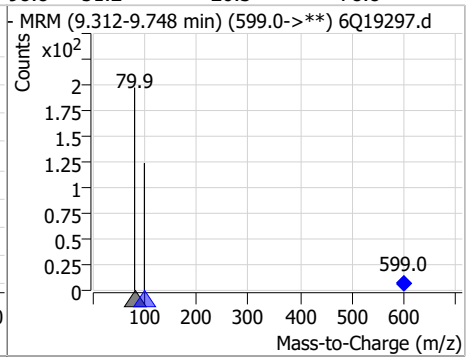




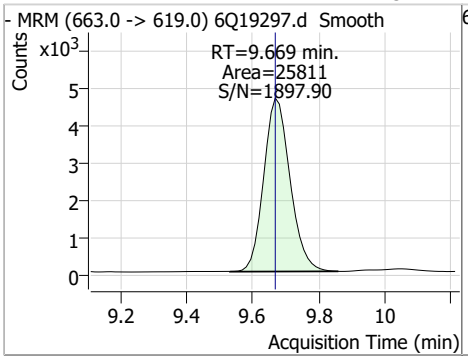
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	1.14	9.46	0.00	4063	599.0 -> 98.8	51.2	26.3	78.8

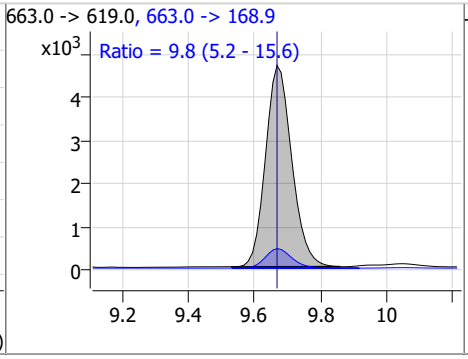


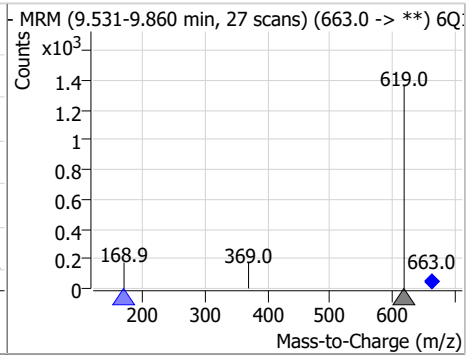




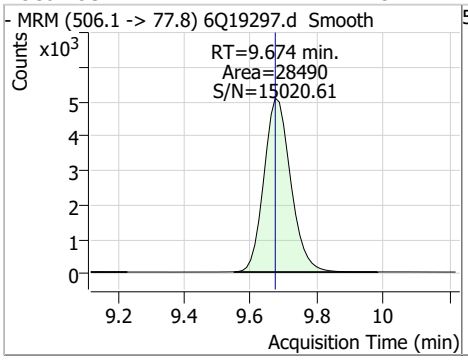
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	1.13	9.67	0.00	25811	663.0 -> 168.9	9.8	5.2	15.6

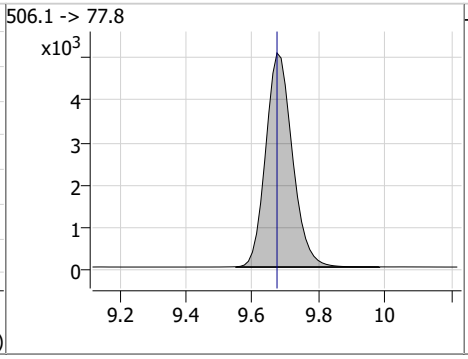


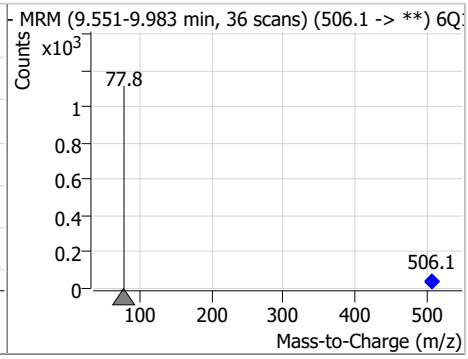




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.31	9.67	0.00	28490				

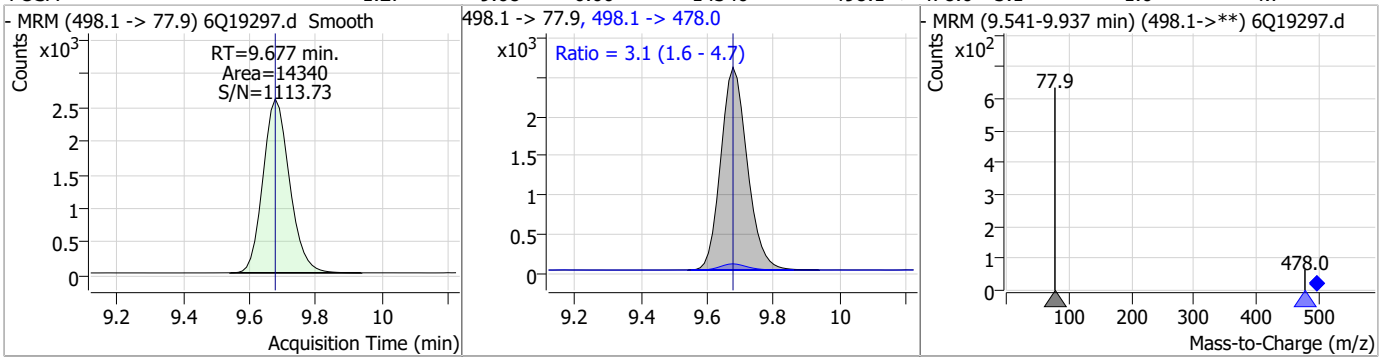




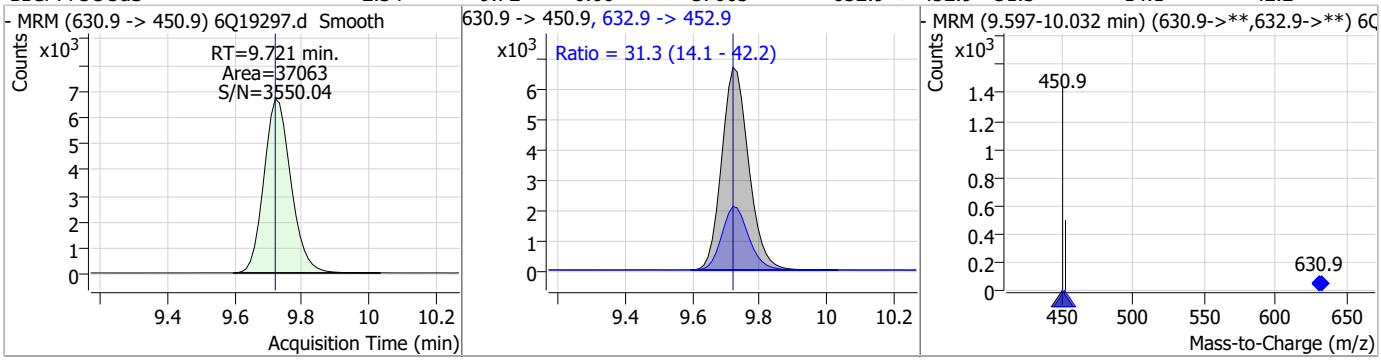


Perfluorinated Compounds by LC/MS/MS

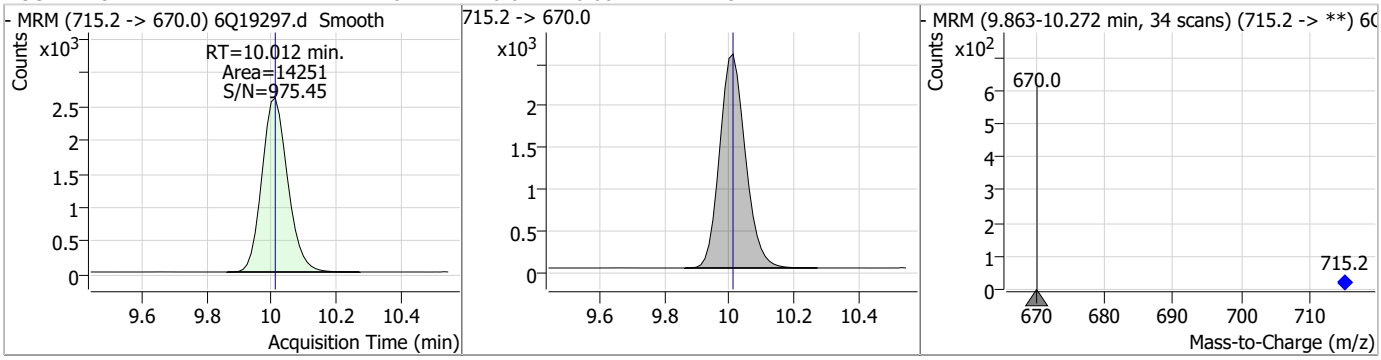
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	1.27	9.68	0.00	14340	498.1 -> 478.0	3.1	1.6	4.7



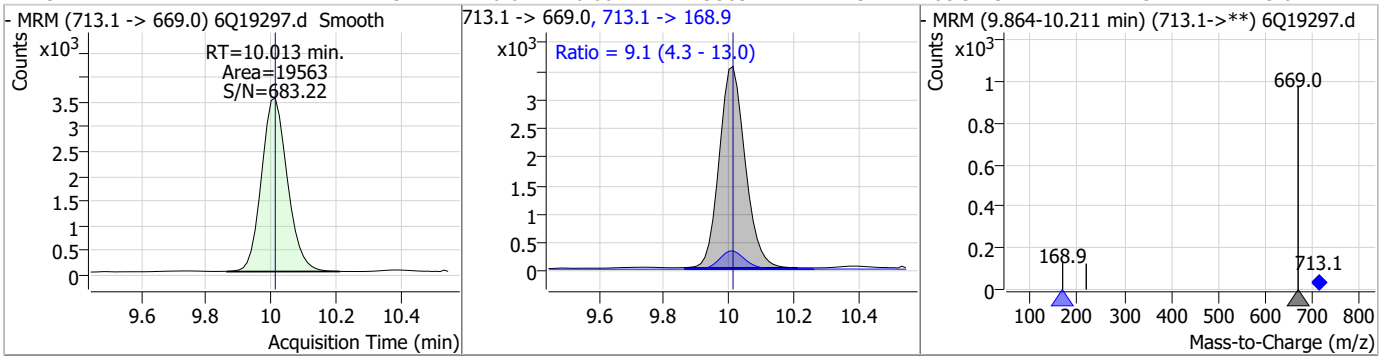
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	2.34	9.72	0.00	37063	632.9 -> 452.9	31.3	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.28	10.01	0.00	14251				

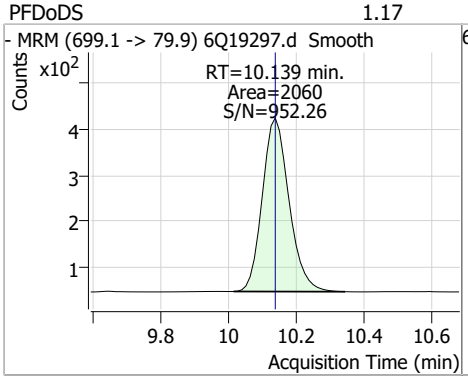


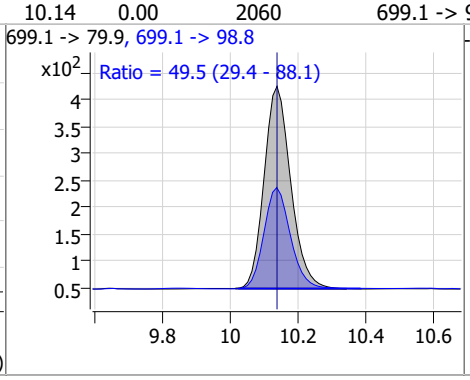
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	1.15	10.01	0.00	19563	713.1 -> 168.9	9.1	4.3	13.0

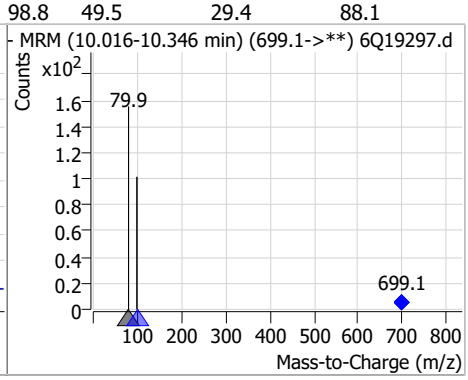


Perfluorinated Compounds by LC/MS/MS

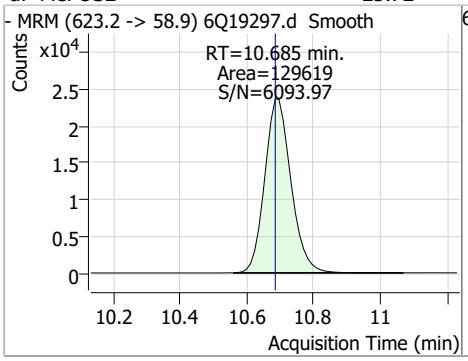
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	1.17	10.14	0.00	2060	699.1 -> 98.8	49.5	29.4	88.1

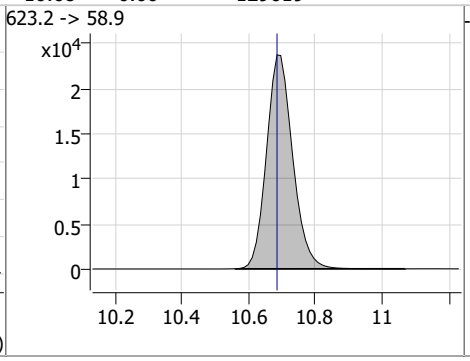


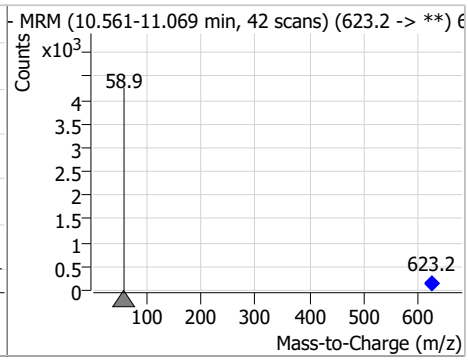




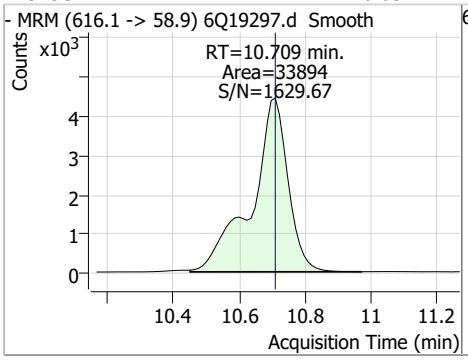
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.72	10.68	0.00	129619				

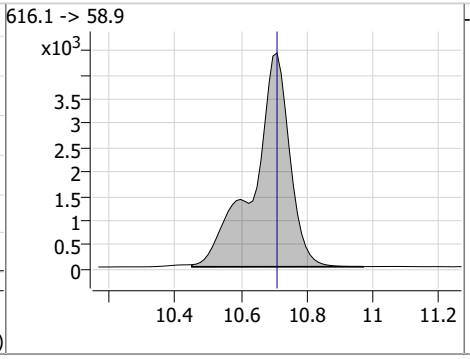


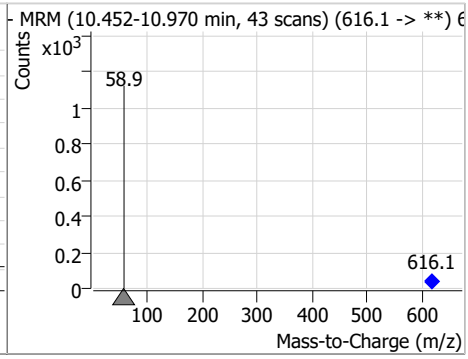




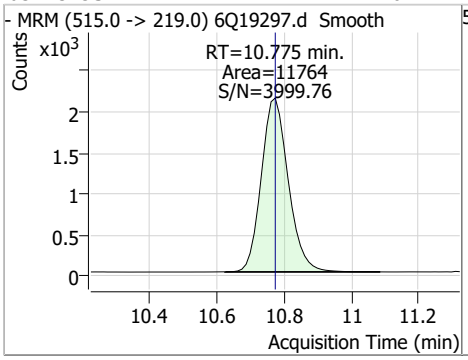
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	6.03	10.71	0.00	33894				

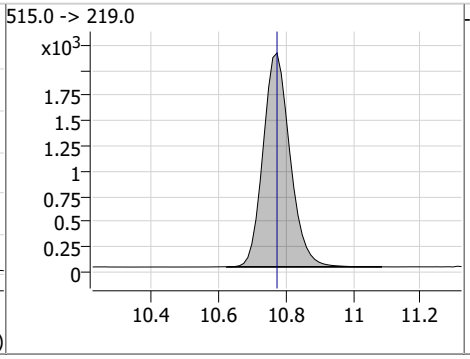


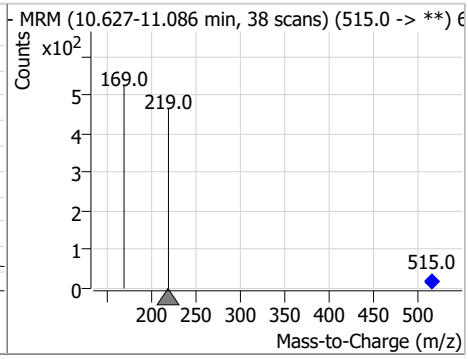




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.20	10.78	0.00	11764				

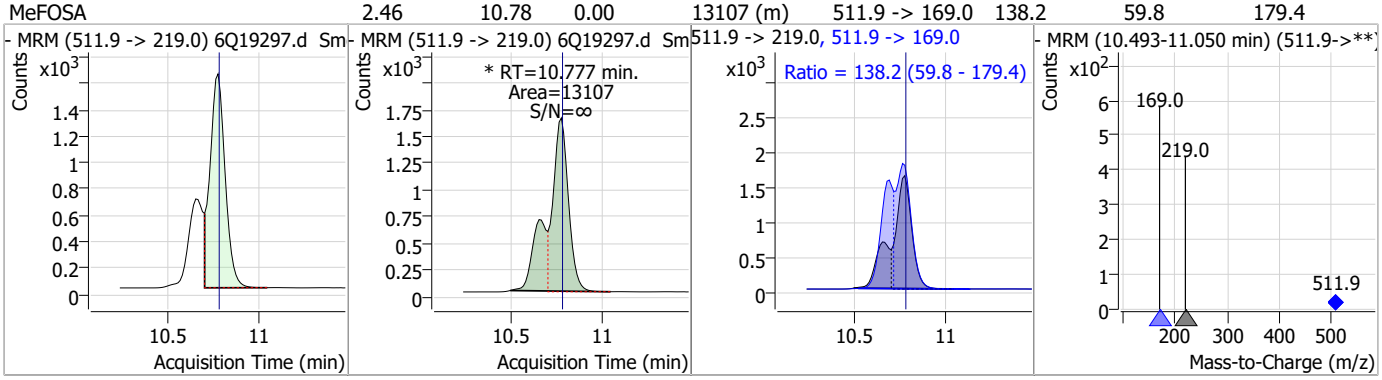




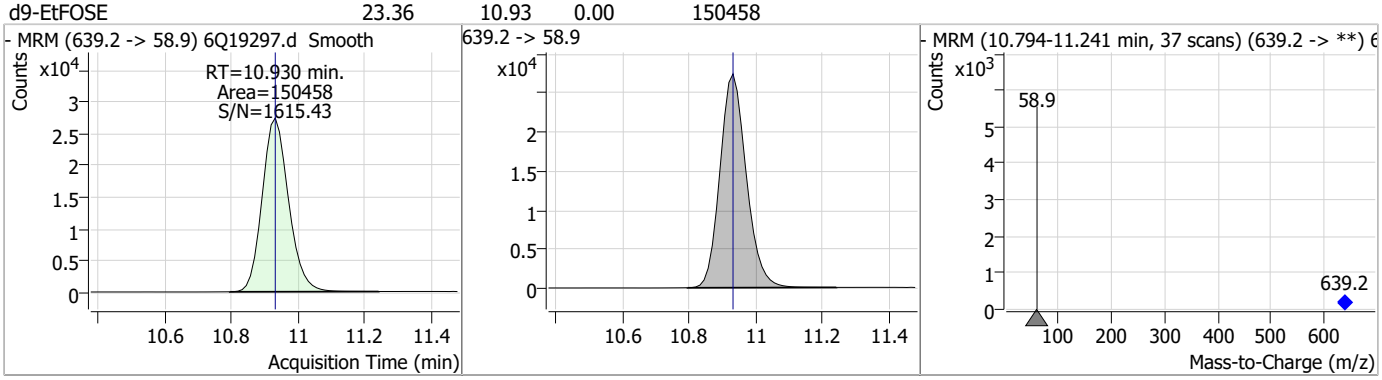


Perfluorinated Compounds by LC/MS/MS

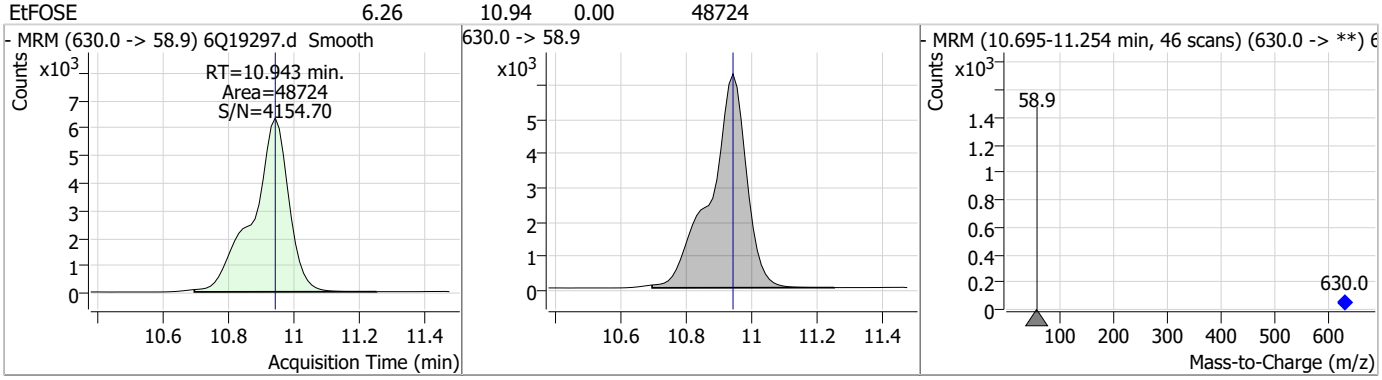
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	2.46	10.78	0.00	13107 (m)	511.9 -> 169.0	138.2	59.8	179.4



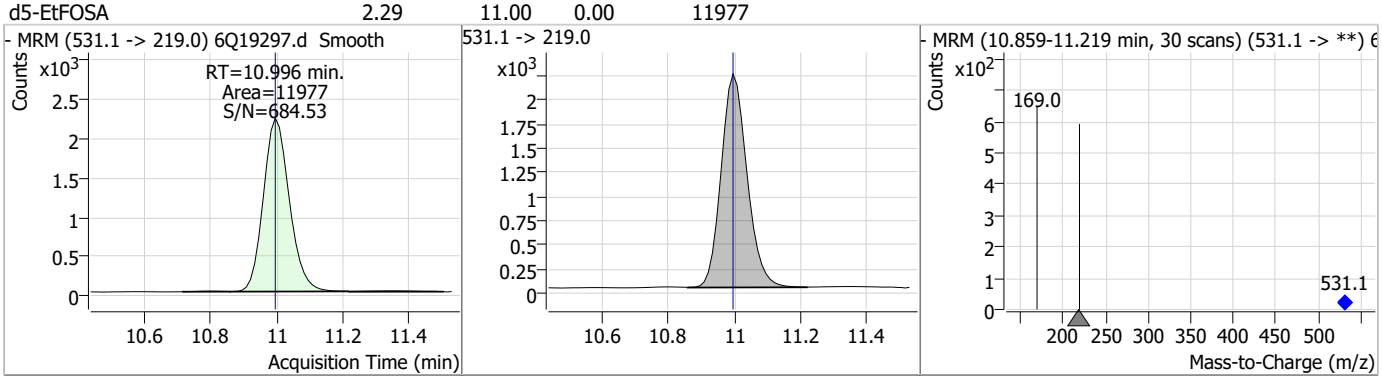
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.36	10.93	0.00	150458				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	6.26	10.94	0.00	48724				

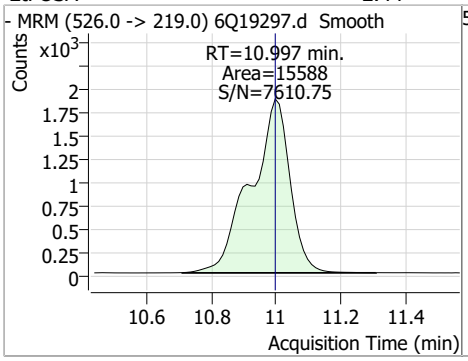


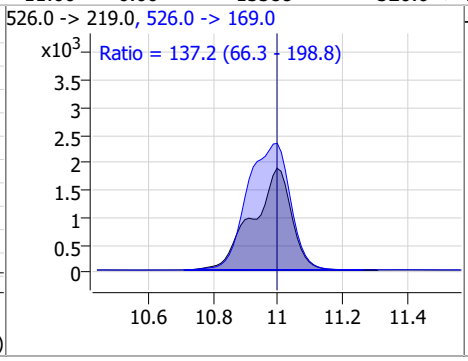
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.29	11.00	0.00	11977				

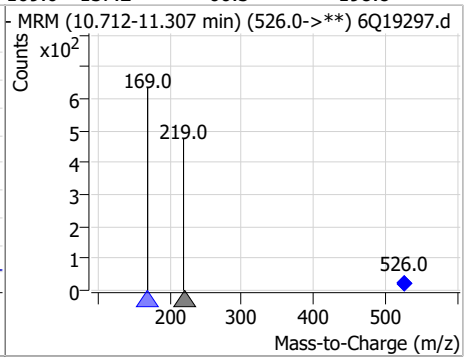


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	2.44	11.00	0.00	15588	526.0 -> 169.0	137.2	66.3	198.8







Manual Integration Approval Summary

Sample Number:	S6Q288-IC288	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19297.D	**Analyst approved:**	06/14/23 10:15 Martha Valls
Injection Time:	06/13/23 12:03	**Supervisor approved:**	06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19298.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 12:17:48 PM
Sample Name : icc288-4
Vial : P1-A5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	147686	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	48304	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	52173	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	48270	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	76706	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	35073	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	22130	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	27246	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	24326	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	14124	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	27523	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	18789	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11249	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11826	2.50	µg/L	0.000
M2-4:2FTS	5.442	329.1 -> 80.9	2969	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	4483	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4143	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	30773	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	33718	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	21099	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	128138	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	149155	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	13009	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12845	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15227	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	62478	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8585	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	80099	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	29485	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	47586	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	51574	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	2969	5.76	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.3%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4483	5.76	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.3%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4143	5.66	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.2%		
13C2-PFDoDA	9.297	615.1 -> 570.0	24326	1.23	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C2-PFTeDA	10.012	715.2 -> 670.0	14124	1.28	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.7%		
13C3-PFBS	5.746	302.1 -> 79.9	18789	2.63	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%		
13C3-PFHxS	7.478	402.1 -> 79.9	11249	2.49	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C4-PFBA	3.085	216.8 -> 171.9	147686	10.08 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C4-PFHpA	6.707	367.1 -> 322.0	48270	2.42 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C5-PFHxA	5.792	318.0 -> 273.0	52173	2.45 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.1%		
13C5-PFPeA	4.560	268.3 -> 223.0	48304	4.95 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.0%		
13C6-PFDA	8.387	519.1 -> 474.1	22130	1.31 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.6%		
13C7-PFUnDA	8.866	570.0 -> 525.1	27246	1.20 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.1%		
13C8-FOSA	9.674	506.1 -> 77.8	27523	2.39 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.5%		
13C8-PFOA	7.352	421.1 -> 376.0	76706	2.56 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%		
13C8-PFOS	8.563	507.1 -> 79.9	11826	2.57 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%		
13C9-PFNA	7.895	472.1 -> 427.0	35073	1.21 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.9%		
d3-MeFOSAA	8.420	573.2 -> 419.0	30773	5.34 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.8%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	33718	9.47 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 94.7%		
d3-MeFOSA	10.775	515.0 -> 219.0	12845	2.56 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%		
d5-EtFOSAA	8.628	589.2 -> 419.0	21099	4.31 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 86.3%		
d7-MeFOSE	10.685	623.2 -> 58.9	128138	25.08 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
d9-EtFOSE	10.930	639.2 -> 58.9	149155	24.76 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.0%		
d5-EtFOSA	10.996	531.1 -> 219.0	13009	2.66 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.4%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	46444	9.00 µg/L		100
		327.1 -> 80.9	17322			
6:2FTS	7.113	427.1 -> 407.0	50360	9.43 µg/L		100
		427.1 -> 80.9	16464			
8:2FTS	8.164	527.1 -> 507.0	25081	9.11 µg/L		100
		527.1 -> 80.8	9904			
EtFOSAA	8.629	584.2 -> 419.1	10056	2.81 µg/L	m	96
		584.2 -> 526.0	5636			
FOSA	9.677	498.1 -> 77.9	28684	2.62 µg/L		100
		498.1 -> 478.0	903			
MeFOSAA	8.421	570.1 -> 419.0	16815	2.11 µg/L	m	95
		570.1 -> 483.0	3577			
PFBA	3.093	212.8 -> 168.9	56930	9.57 µg/L		100
PFBS	5.747	298.7 -> 79.9	18398	2.19 µg/L		100
		298.7 -> 98.8	6995			
PFDA	8.388	512.9 -> 469.0	73702	2.24 µg/L		100
		512.9 -> 219.0	11646			
PFDoDA	9.298	613.1 -> 569.0	49948	2.47 µg/L		100
		613.1 -> 319.0	7313			
PFDS	9.462	599.0 -> 79.9	7694	2.15 µg/L		100

Perfluorinated Compounds by LC/MS/MS

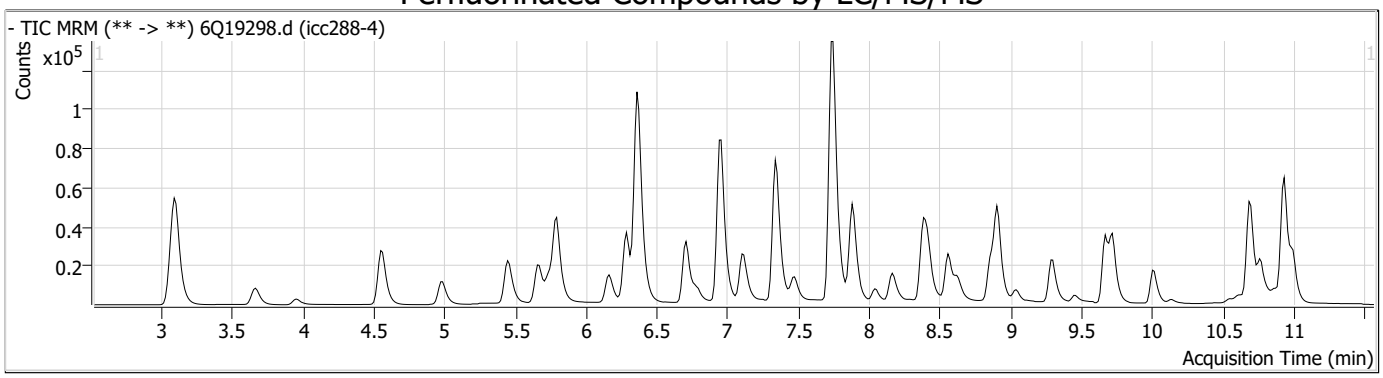
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	4043				
PFHpA	6.708	363.1 -> 319.0	62784	2.44	µg/L		100
		363.1 -> 169.0	9525				
PFHpS	8.046	449.0 -> 79.9	15260	2.16	µg/L		100
		449.0 -> 98.9	7786				
PFHxA	5.795	313.0 -> 269.0	50658	2.41	µg/L		100
		313.0 -> 118.9	2634				
PFHxS	7.479	398.7 -> 79.9	14902	2.20	µg/L	m	97
		398.7 -> 98.9	7243				
PFNA	7.883	463.0 -> 419.0	81575	2.52	µg/L		100
		463.0 -> 219.0	15502				
PFNS	9.041	548.8 -> 79.9	14162	2.31	µg/L		100
		548.8 -> 98.9	6938				
PFOA	7.353	413.0 -> 369.0	101986	2.42	µg/L		100
		413.0 -> 169.0	17132				
PFOS	8.564	498.9 -> 79.9	14913	2.13	µg/L	m	91
		498.9 -> 98.8	6923				
PFPeA	4.563	263.0 -> 219.0	67890	4.76	µg/L		100
PFPeS	6.785	349.1 -> 79.9	14782	2.35	µg/L		100
		349.1 -> 98.9	7095				
PFTeDA	10.013	713.1 -> 669.0	39832	2.35	µg/L		100
		713.1 -> 168.9	3439				
PFTrDA	9.669	663.0 -> 619.0	53081	2.59	µg/L		100
		663.0 -> 168.9	5537				
PFUnDA	8.866	563.1 -> 519.0	49768	2.37	µg/L		100
		563.1 -> 269.1	9310				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	76730	5.00	µg/L		100
		632.9 -> 452.9	21610				
9Cl-PF3ONS	8.918	530.8 -> 351.0	118658	4.49	µg/L		100
		532.8 -> 353.0	36684				
ADONA	6.959	376.9 -> 250.9	253535	4.65	µg/L		100
		376.9 -> 84.8	73690				
HFPO-DA	6.169	284.9 -> 168.9	16836	4.77	µg/L		100
		284.9 -> 184.9	1968				
3:3FTCA	3.946	241.0 -> 177.0	11315	11.73	µg/L		100
		241.0 -> 117.0	1525				
5:3FTCA	6.374	341.0 -> 237.1	245565	58.68	µg/L		100
		341.0 -> 217.0	183131				
7:3FTCA	7.748	441.0 -> 316.9	167768	59.29	µg/L		100
		441.0 -> 336.9	378221				
EtFOSA	10.997	526.0 -> 219.0	30806	4.43	µg/L		100
		526.0 -> 169.0	40834				
EtFOSE	10.943	630.0 -> 58.9	92932	12.04	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	26346	4.53	µg/L	m	81
		511.9 -> 169.0	36941				
MeFOSE	10.709	616.1 -> 58.9	65930	11.87	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	3916	2.22	µg/L		100
		699.1 -> 98.8	2299				
NFDHA	5.673	295.0 -> 201.0	12275	4.56	µg/L		100
		295.0 -> 84.9	3286				
PFMBA	4.988	279.0 -> 85.1	48526	4.77	µg/L		100
PFMPA	3.667	229.0 -> 84.9	37874	4.76	µg/L		100
PFEESA	6.288	314.8 -> 134.9	122567	4.31	µg/L		100
		314.8 -> 82.9	4351				

 # = Qualifier out of range, m = manually integrated, + = Area summed

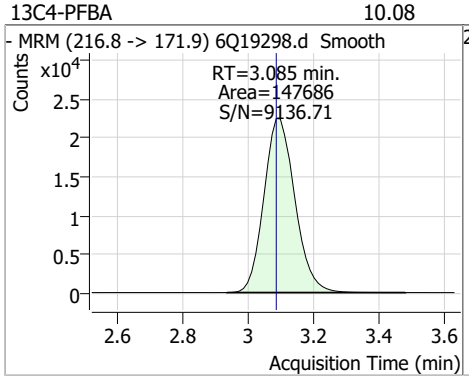
Perfluorinated Compounds by LC/MS/MS

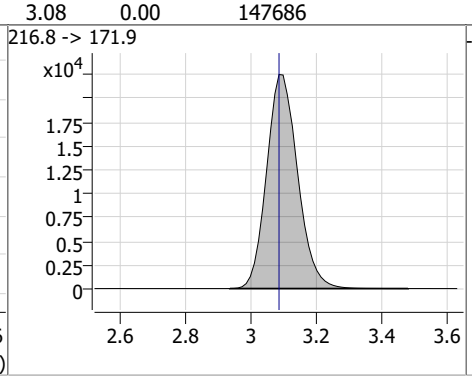
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

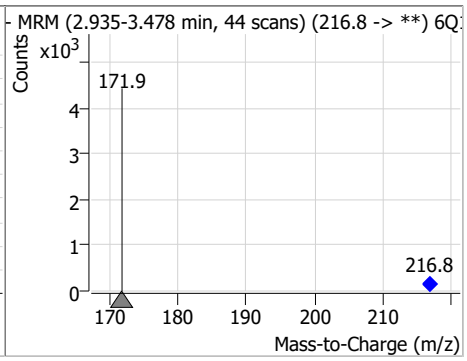
Perfluorinated Compounds by LC/MS/MS



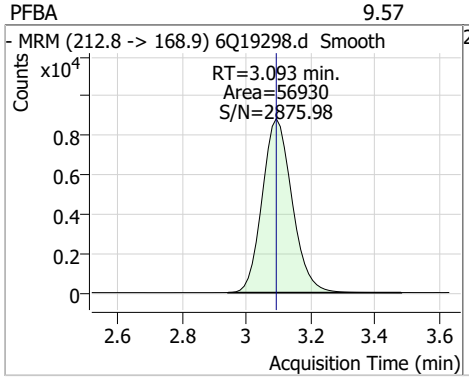
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.08	3.08	0.00	147686				

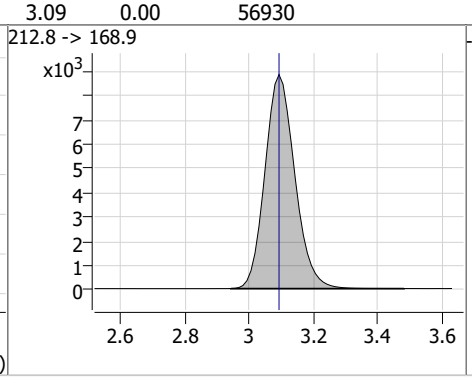


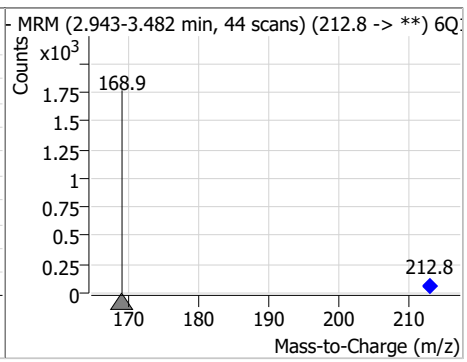




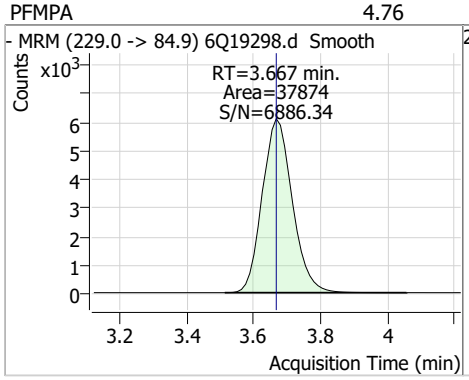
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.57	3.09	0.00	56930				

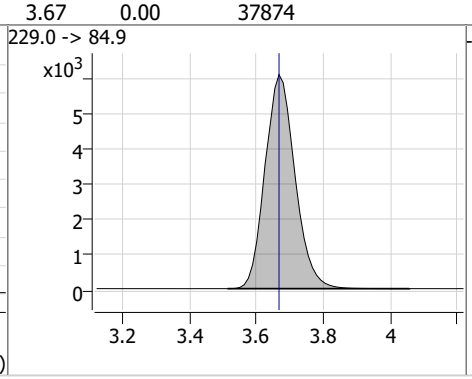


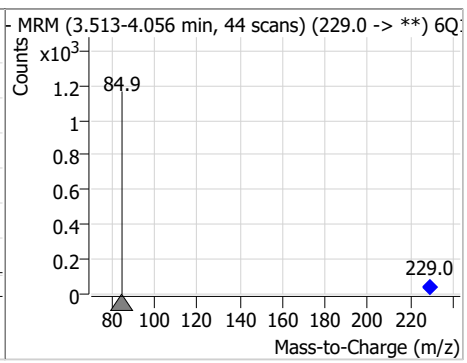




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.76	3.67	0.00	37874				

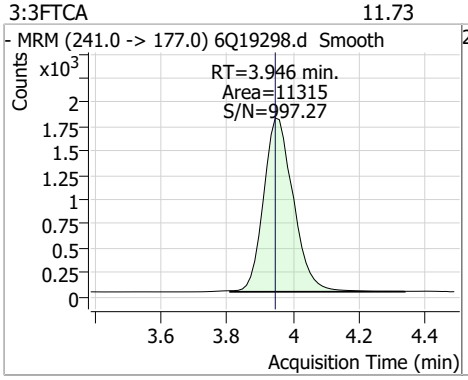


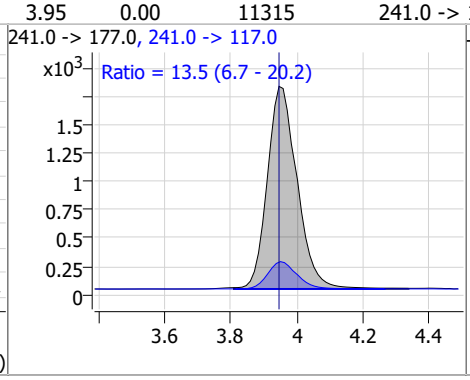


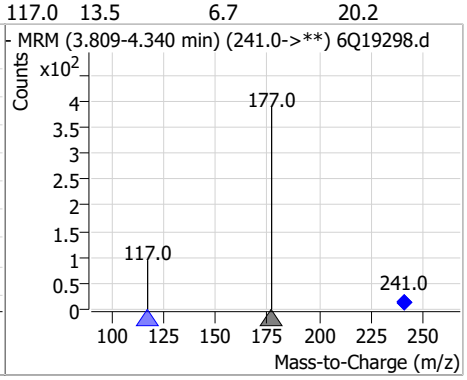


Perfluorinated Compounds by LC/MS/MS

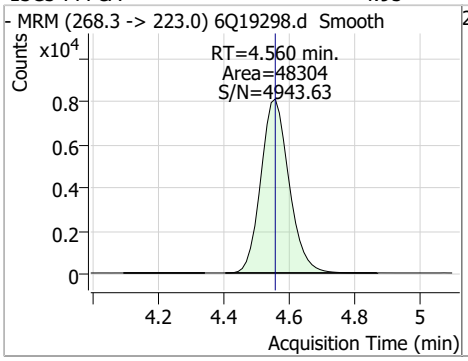
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.73	3.95	0.00	11315	241.0 -> 117.0	13.5	6.7	20.2

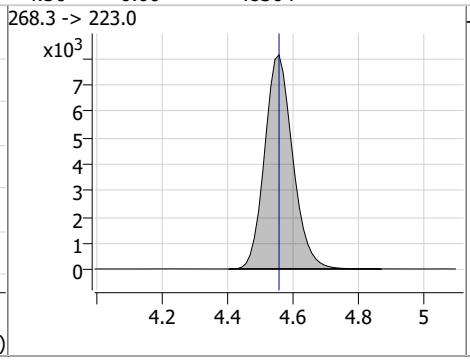


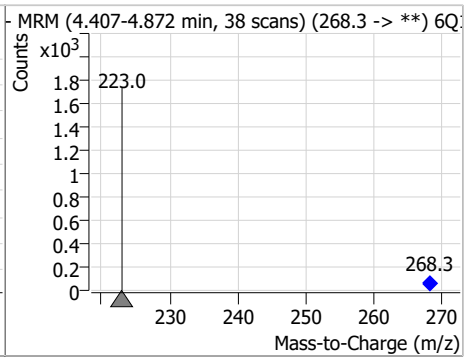




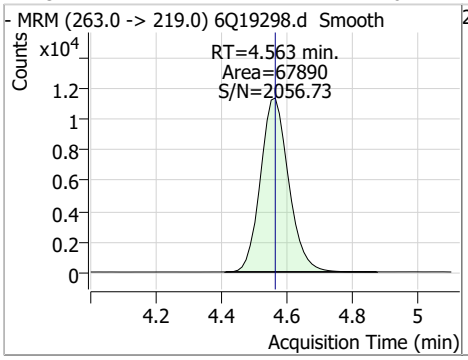
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.95	4.56	0.00	48304				

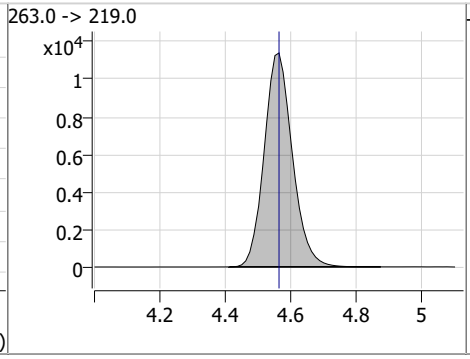


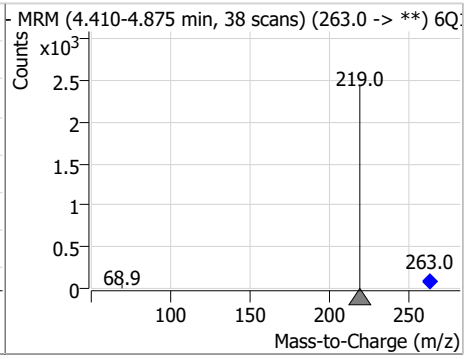




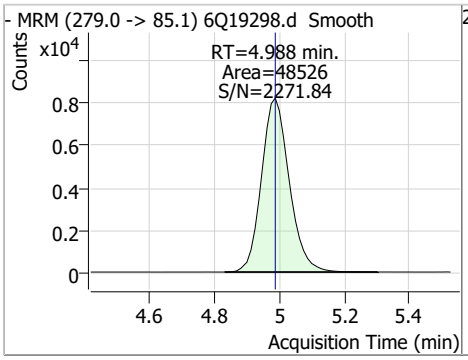
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.76	4.56	0.00	67890				

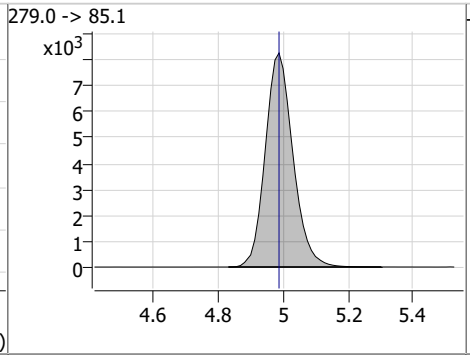


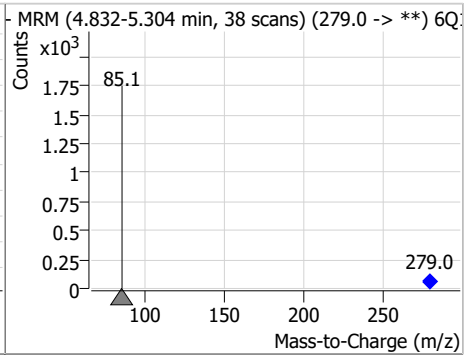




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.77	4.99	0.00	48526				

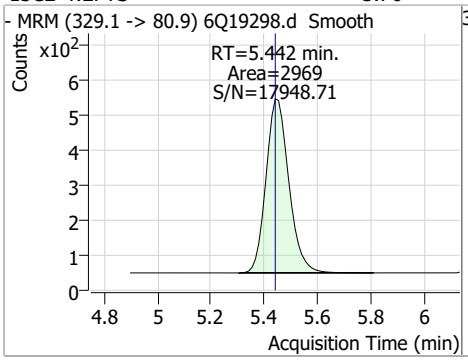


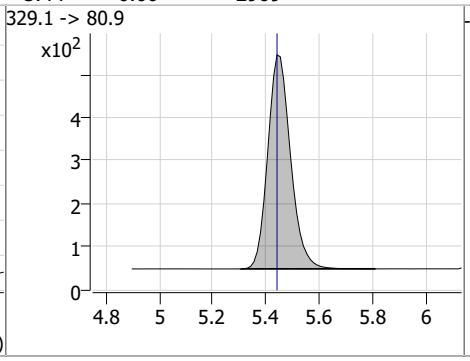


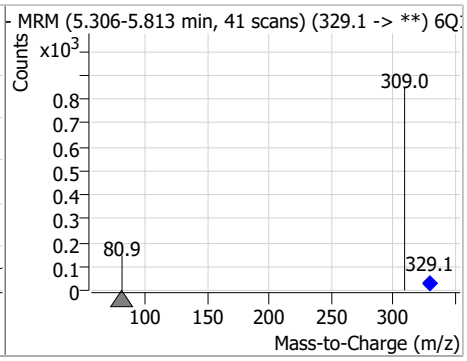


Perfluorinated Compounds by LC/MS/MS

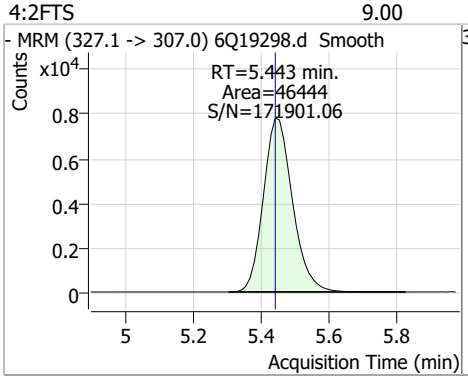
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.76	5.44	0.00	2969				

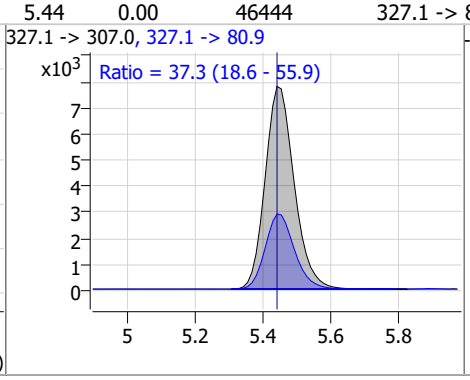


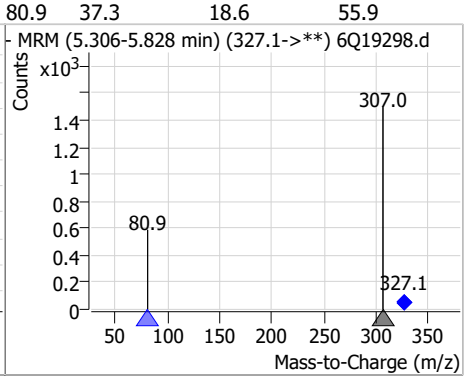




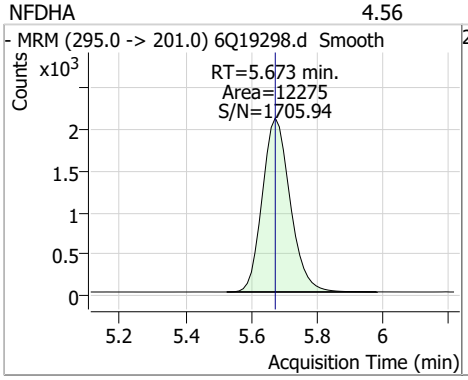
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.00	5.44	0.00	46444	327.1 -> 80.9	37.3	18.6	55.9

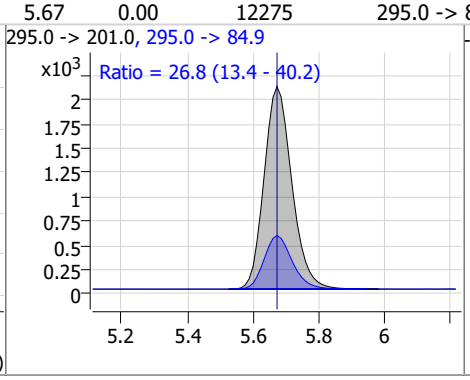


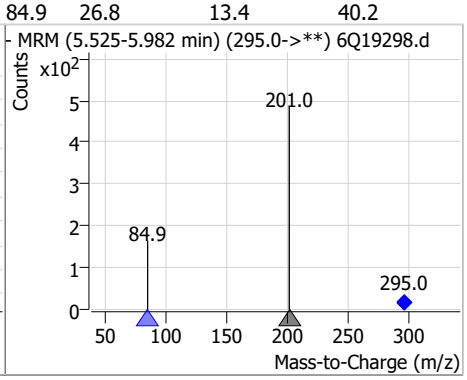




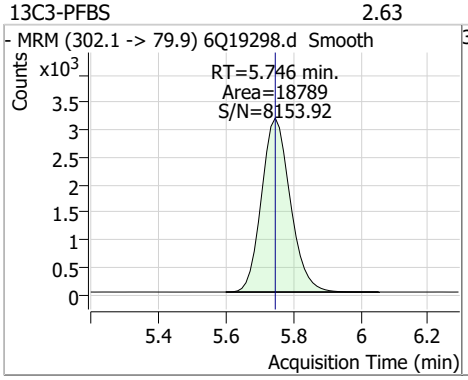
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.56	5.67	0.00	12275	295.0 -> 84.9	26.8	13.4	40.2

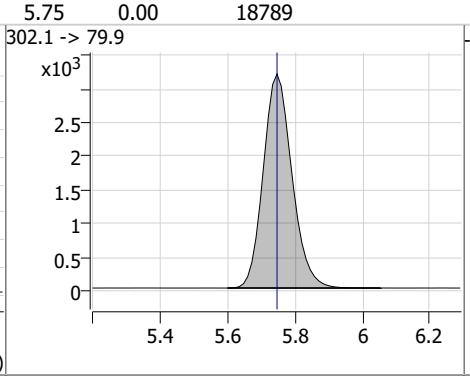


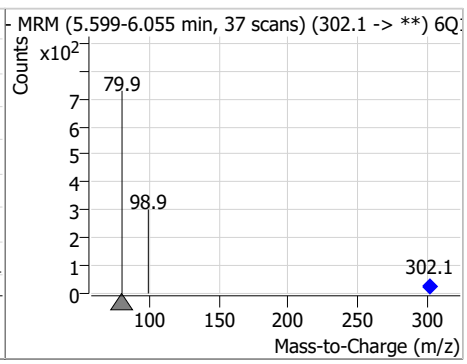




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.63	5.75	0.00	18789				

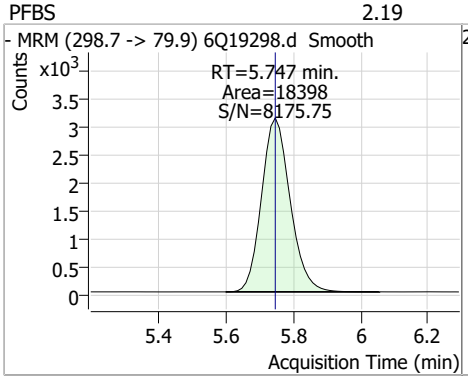


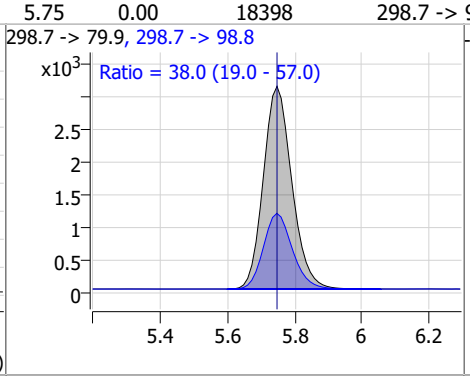


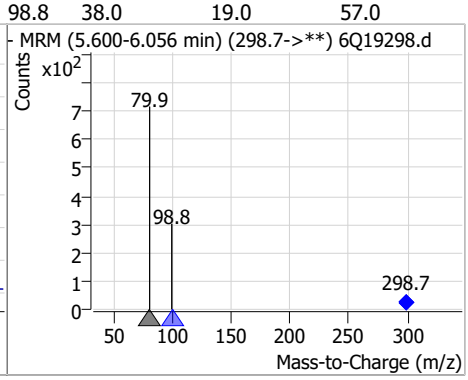


Perfluorinated Compounds by LC/MS/MS

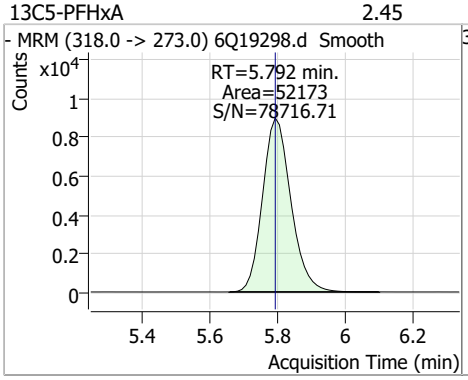
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.19	5.75	0.00	18398	298.7 -> 98.8	38.0	19.0	57.0

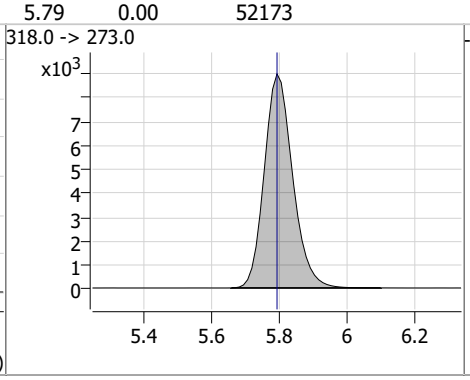


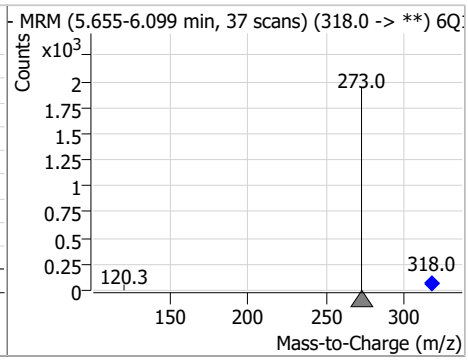




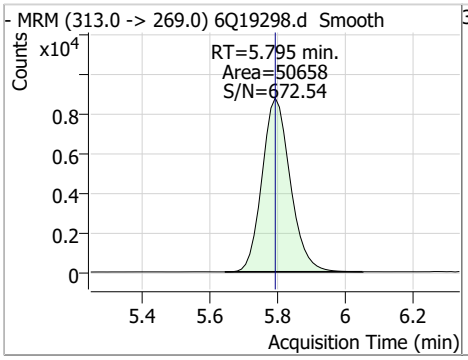
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.45	5.79	0.00	52173				

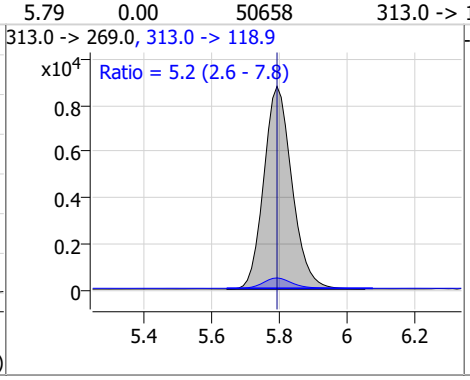


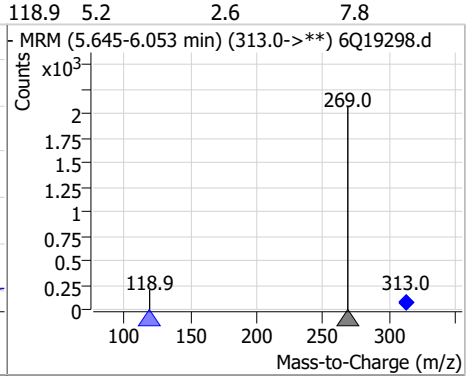




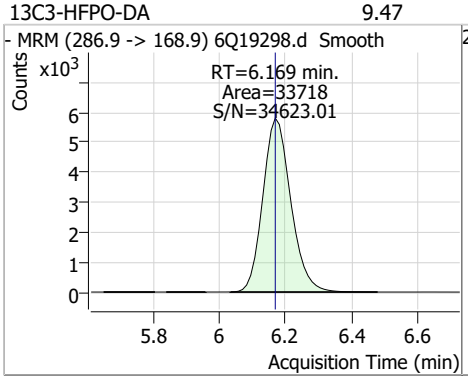
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.41	5.79	0.00	50658	313.0 -> 118.9	5.2	2.6	7.8

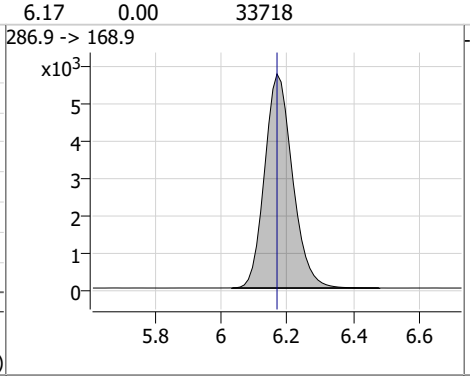


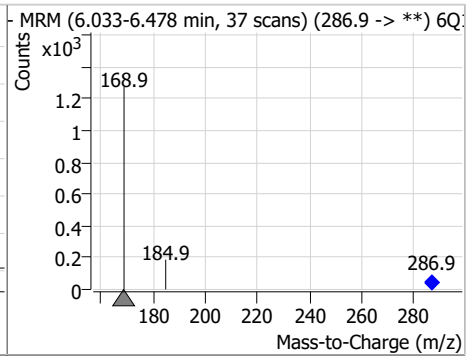




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.47	6.17	0.00	33718				

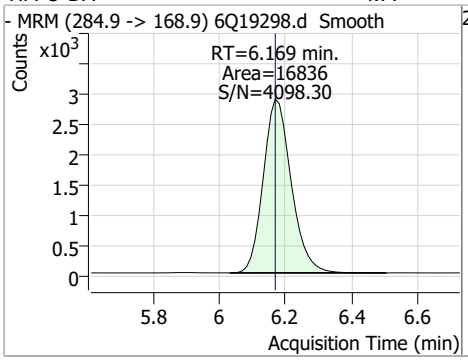


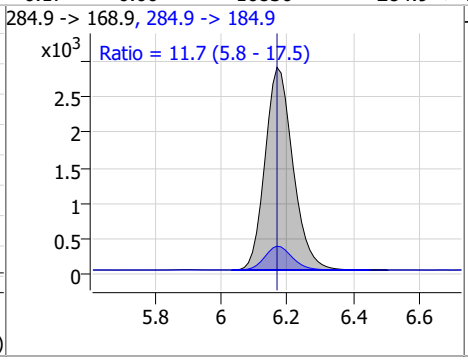


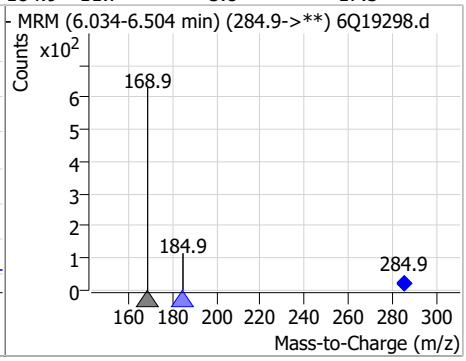


Perfluorinated Compounds by LC/MS/MS

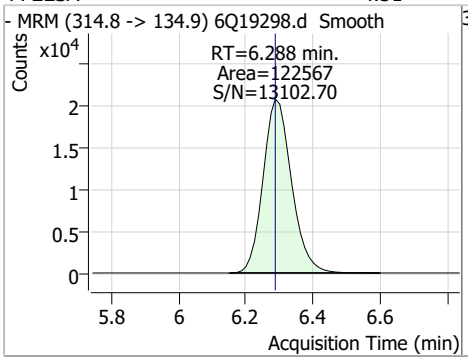
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.77	6.17	0.00	16836	284.9 -> 184.9	11.7	5.8	17.5

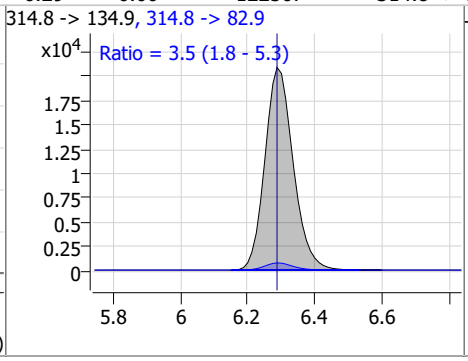


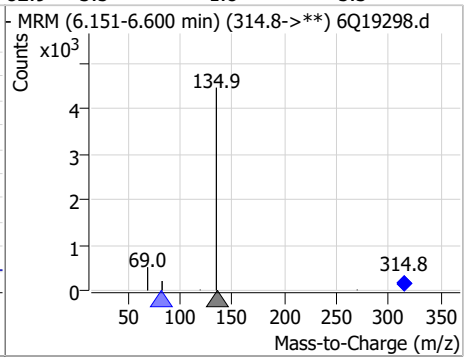




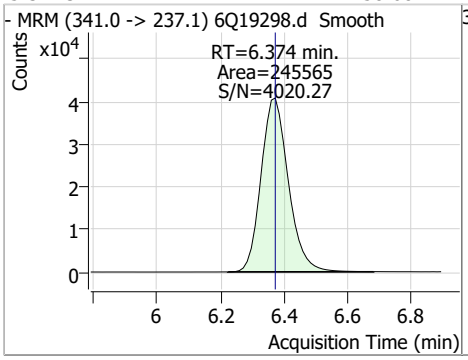
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.31	6.29	0.00	122567	314.8 -> 82.9	3.5	1.8	5.3

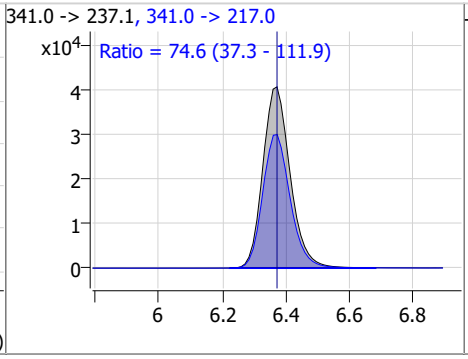


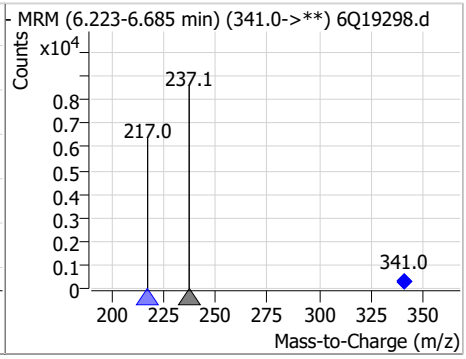




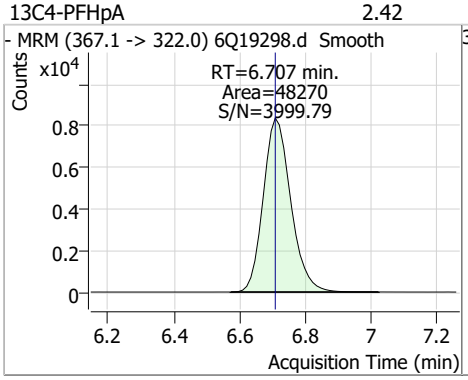
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	58.68	6.37	0.00	245565	341.0 -> 217.0	74.6	37.3	111.9

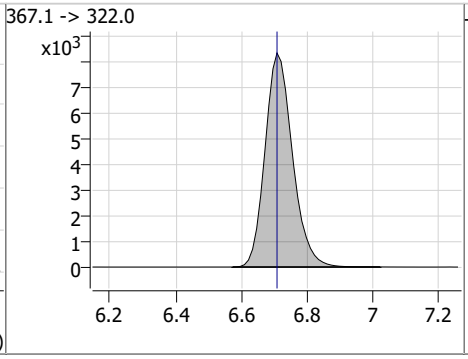


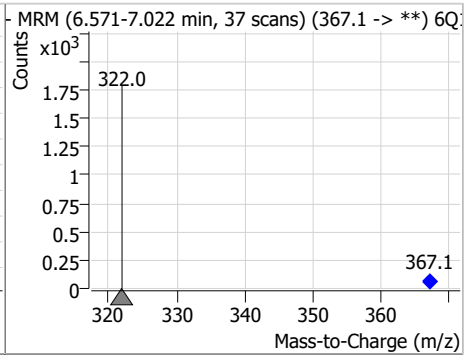




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.42	6.71	0.00	48270				

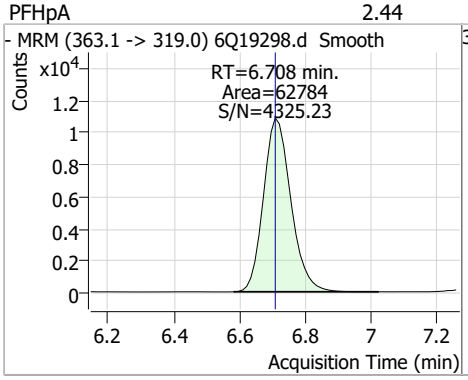


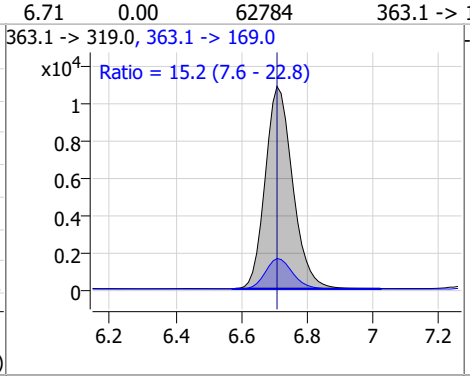


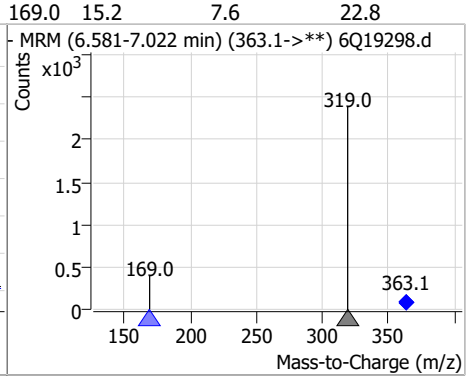


Perfluorinated Compounds by LC/MS/MS

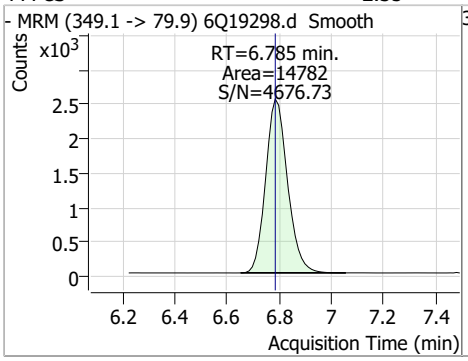
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.44	6.71	0.00	62784	363.1 -> 169.0	15.2	7.6	22.8

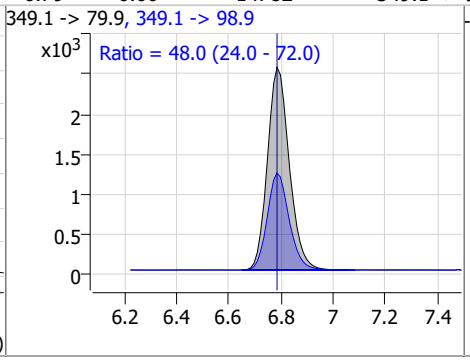


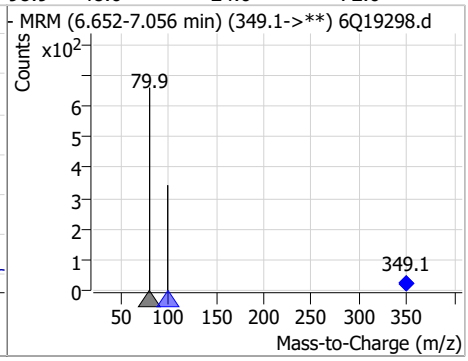




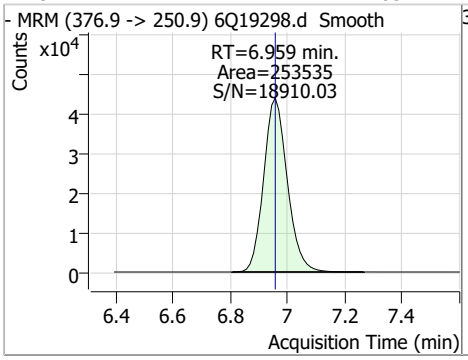
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.35	6.79	0.00	14782	349.1 -> 98.9	48.0	24.0	72.0

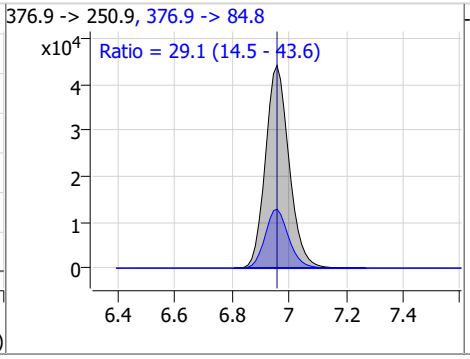


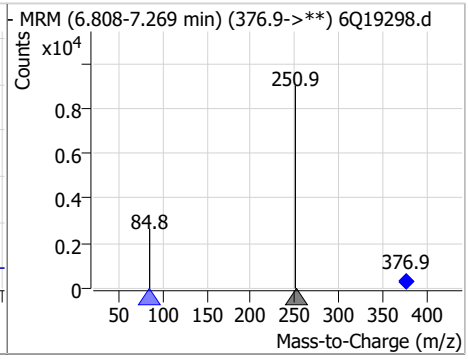




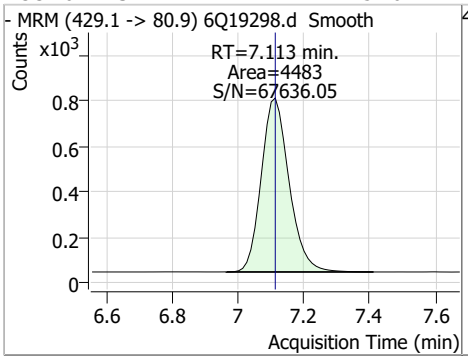
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.65	6.96	0.00	253535	376.9 -> 84.8	29.1	14.5	43.6

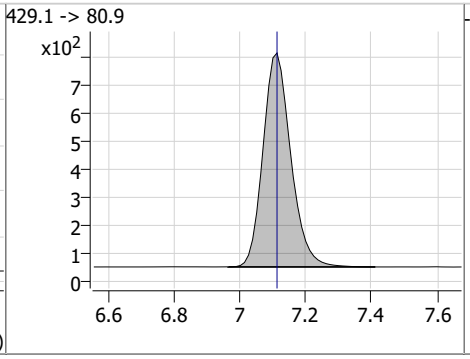


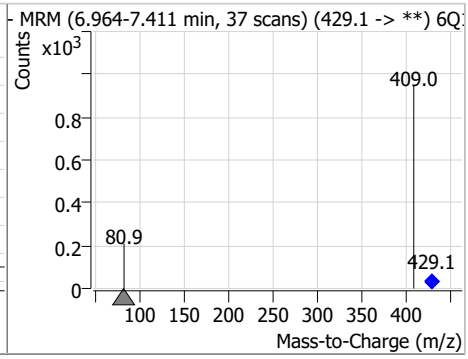




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.76	7.11	0.00	4483				

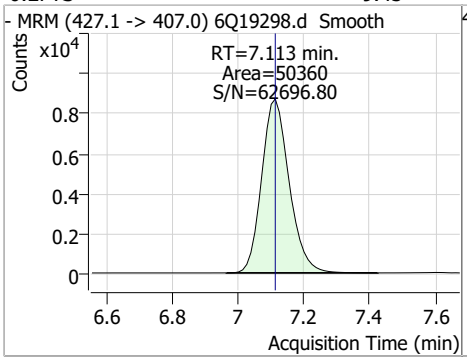


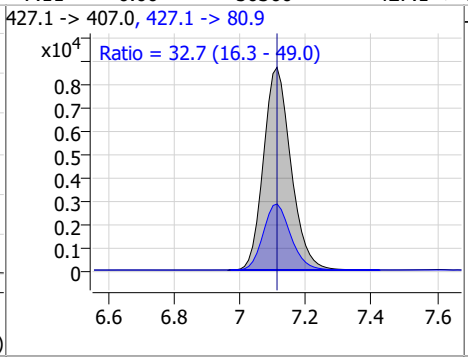


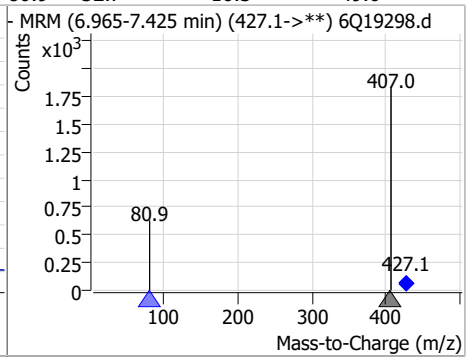


Perfluorinated Compounds by LC/MS/MS

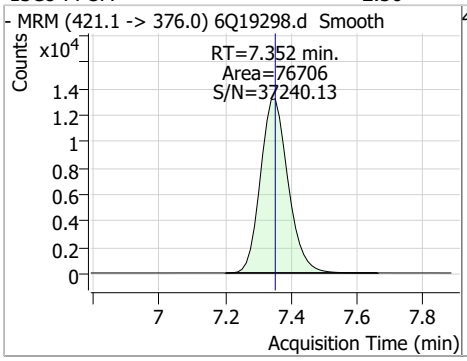
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.43	7.11	0.00	50360	427.1 -> 80.9	32.7	16.3	49.0

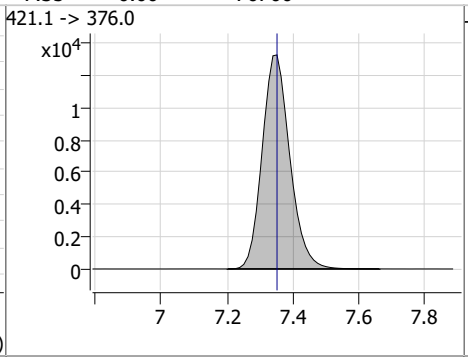


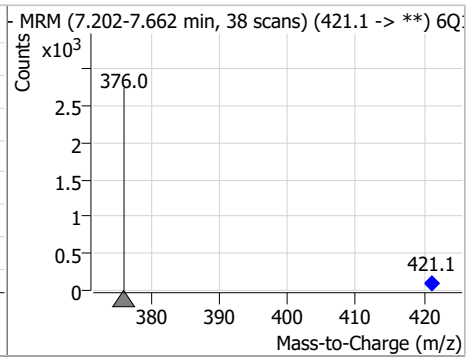




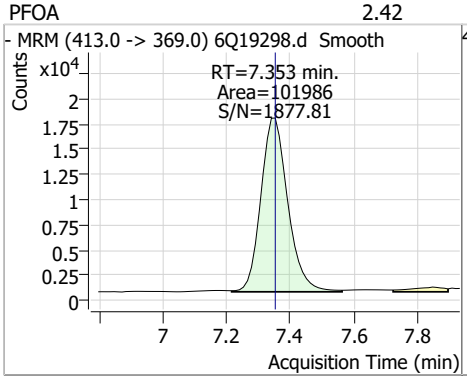
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.56	7.35	0.00	76706				

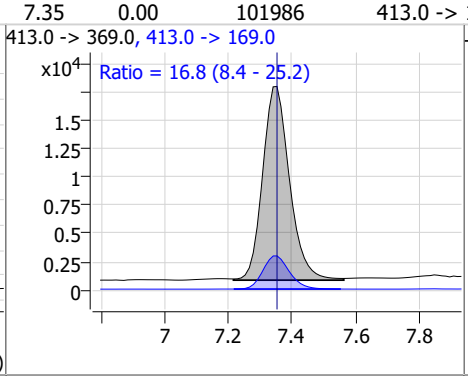


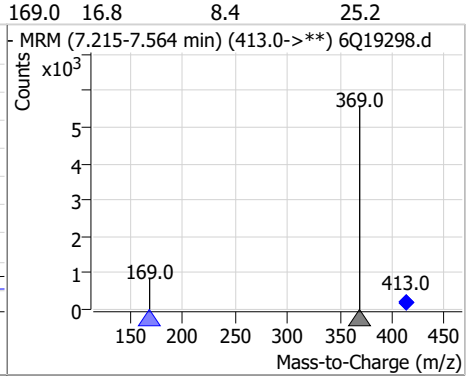




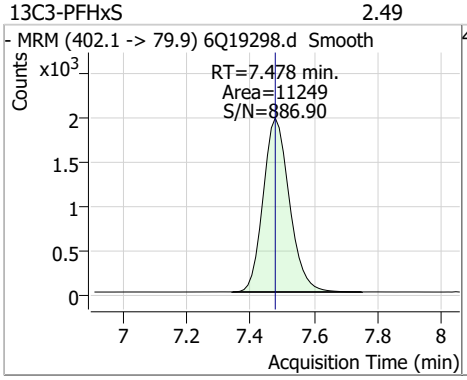
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.42	7.35	0.00	101986	413.0 -> 169.0	16.8	8.4	25.2

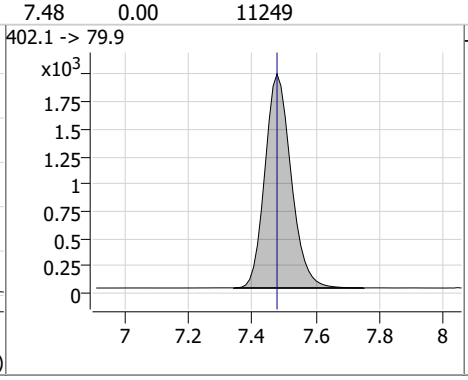


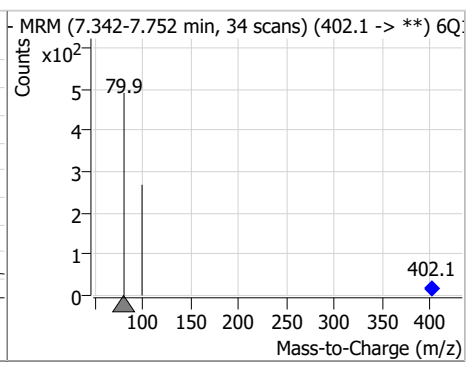




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.49	7.48	0.00	11249				

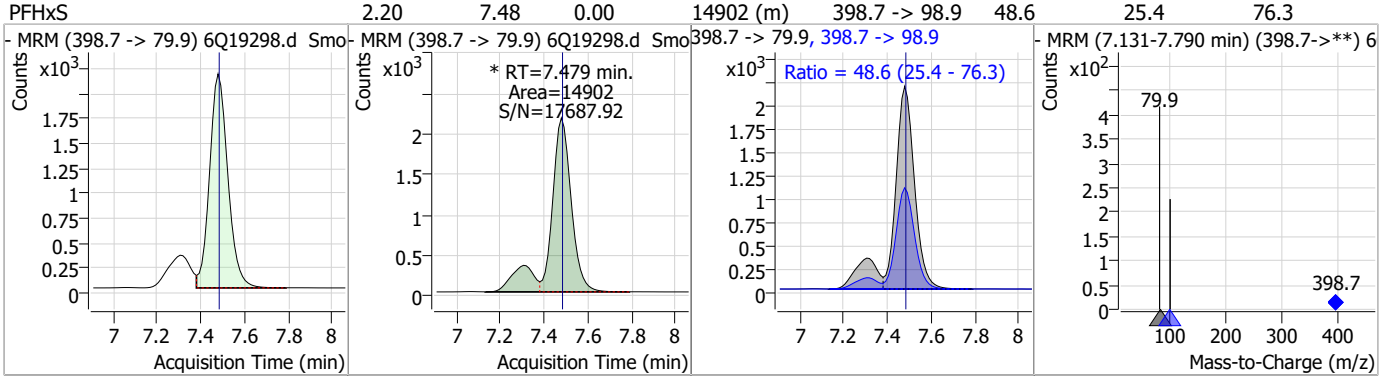




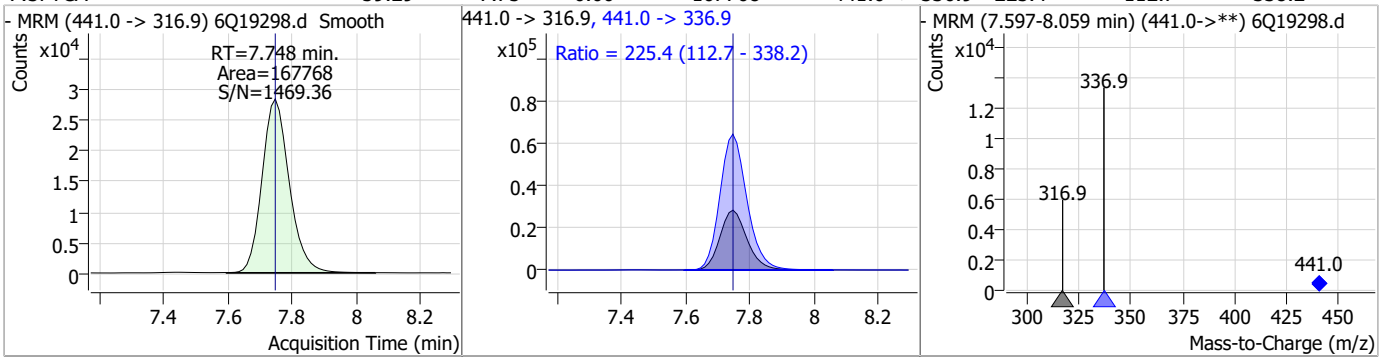


Perfluorinated Compounds by LC/MS/MS

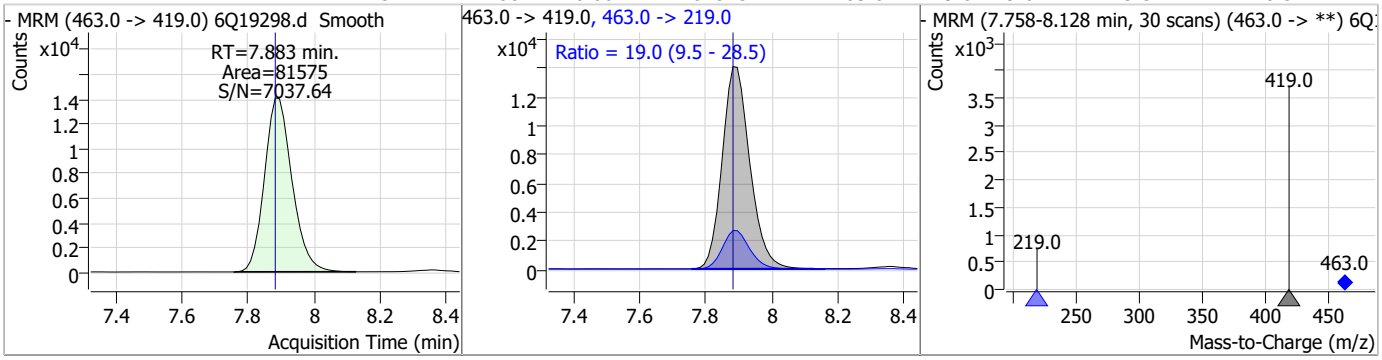
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.20	7.48	0.00	14902 (m)	398.7 -> 98.9	48.6	25.4	76.3



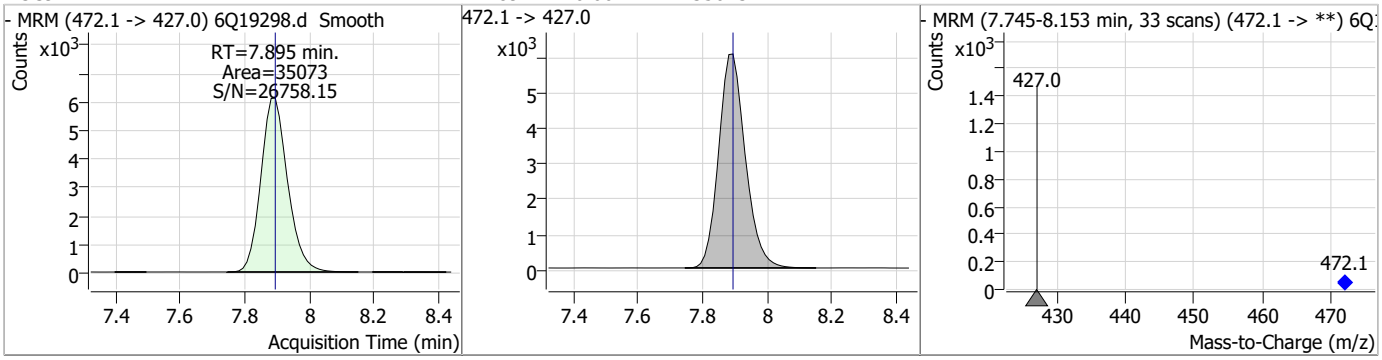
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	59.29	7.75	0.00	167768	441.0 -> 336.9	225.4	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.52	7.88	0.00	81575	463.0 -> 219.0	19.0	9.5	28.5

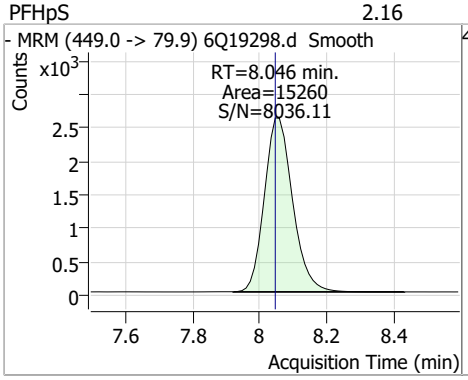


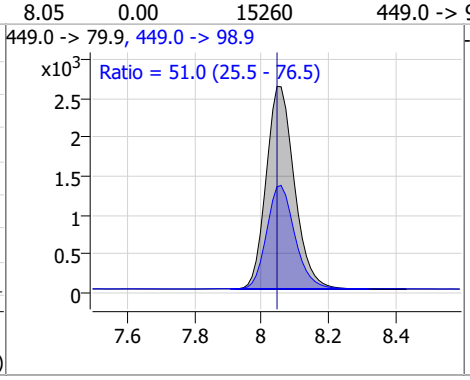
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.21	7.89	0.00	35073				

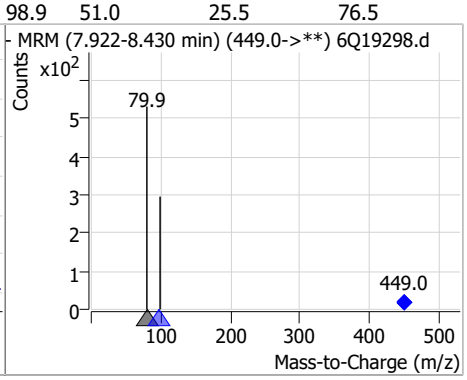


Perfluorinated Compounds by LC/MS/MS

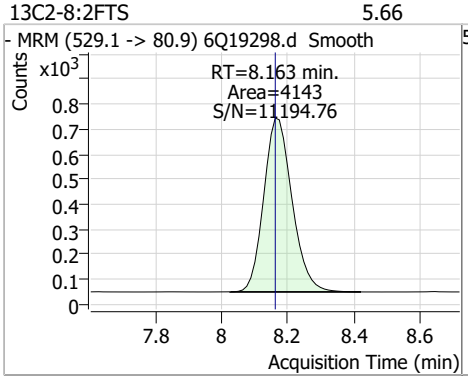
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.16	8.05	0.00	15260	449.0 -> 98.9	51.0	25.5	76.5

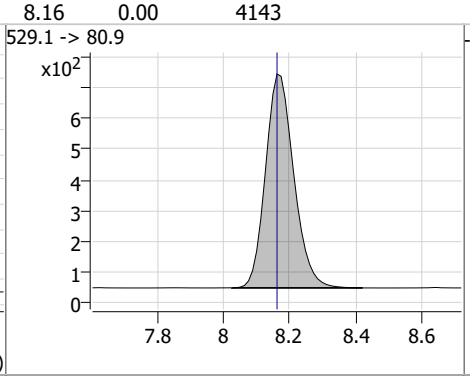


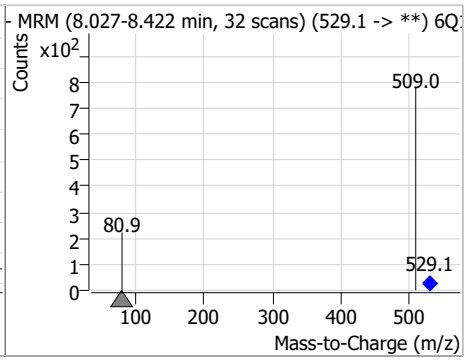




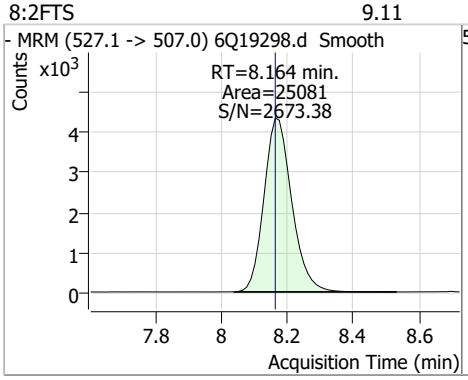
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.66	8.16	0.00	4143				

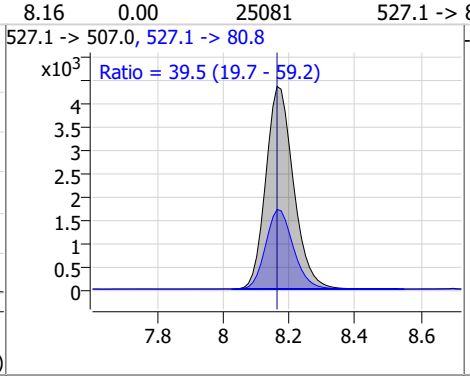


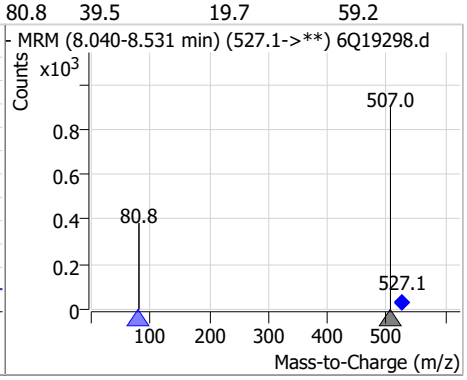




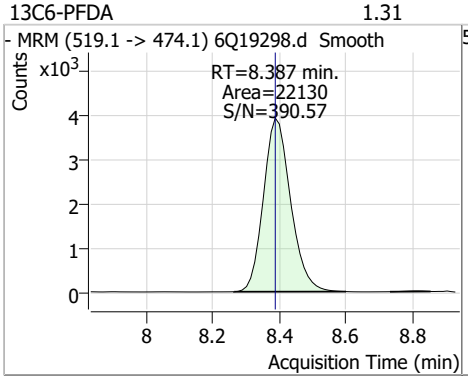
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.11	8.16	0.00	25081	527.1 -> 80.8	39.5	19.7	59.2

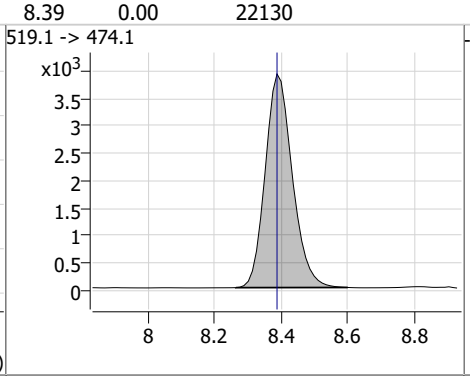


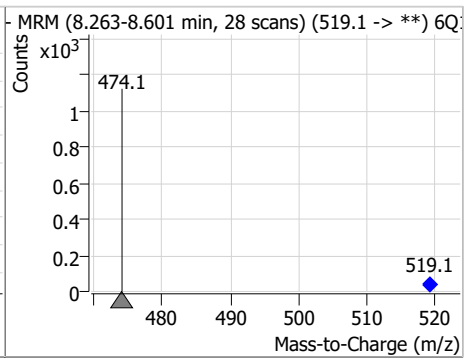




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.31	8.39	0.00	22130				

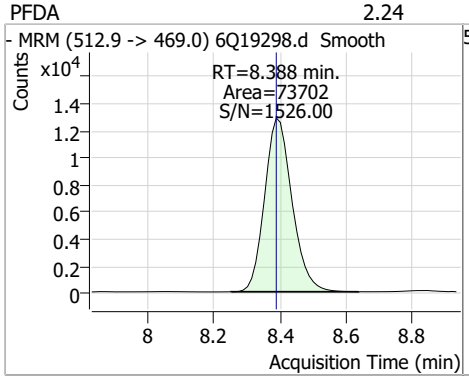


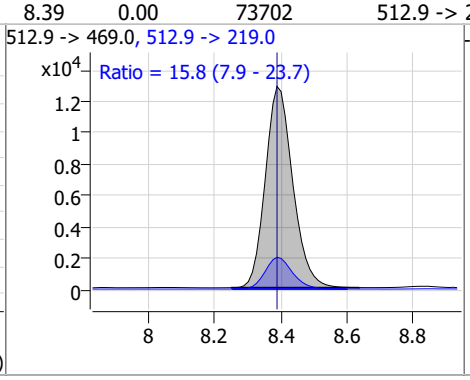


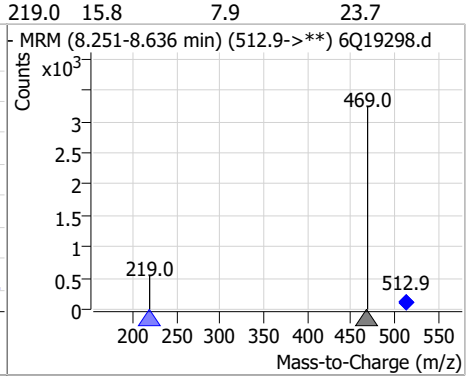


Perfluorinated Compounds by LC/MS/MS

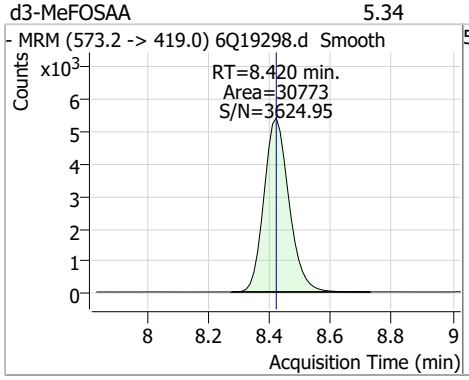
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.24	8.39	0.00	73702	512.9 -> 219.0	15.8	7.9	23.7

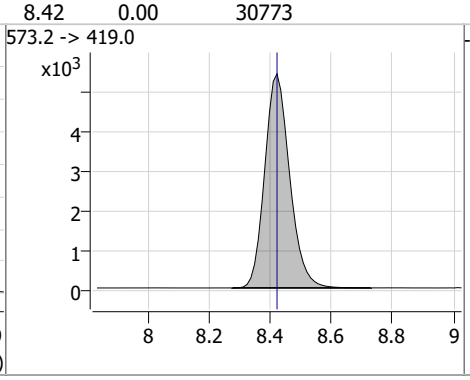


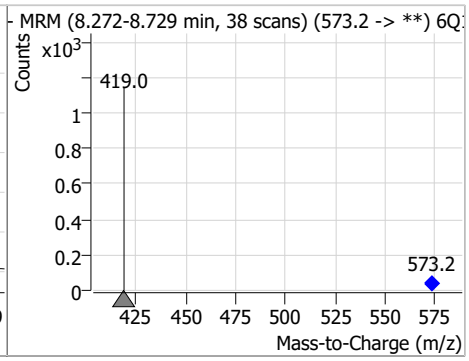




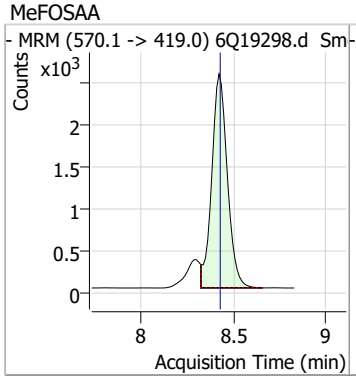
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.34	8.42	0.00	30773				

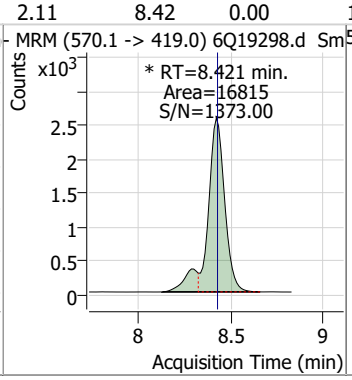


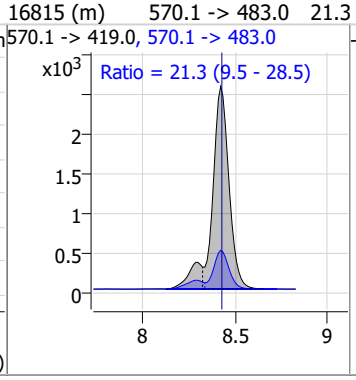


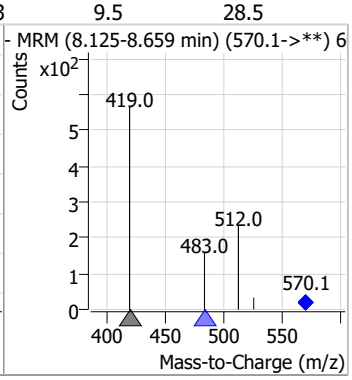


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.11	8.42	0.00	16815 (m)	570.1 -> 483.0	21.3	9.5	28.5

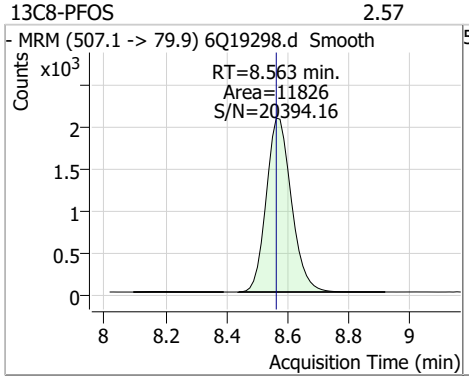


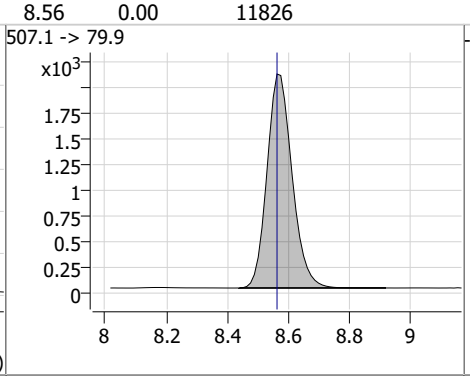


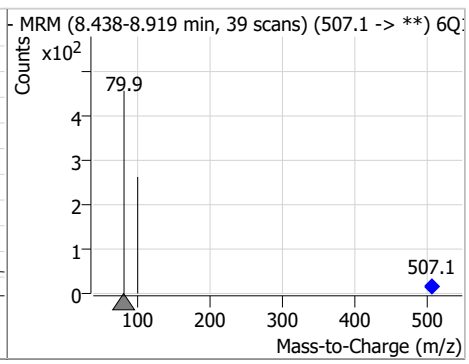




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.57	8.56	0.00	11826				

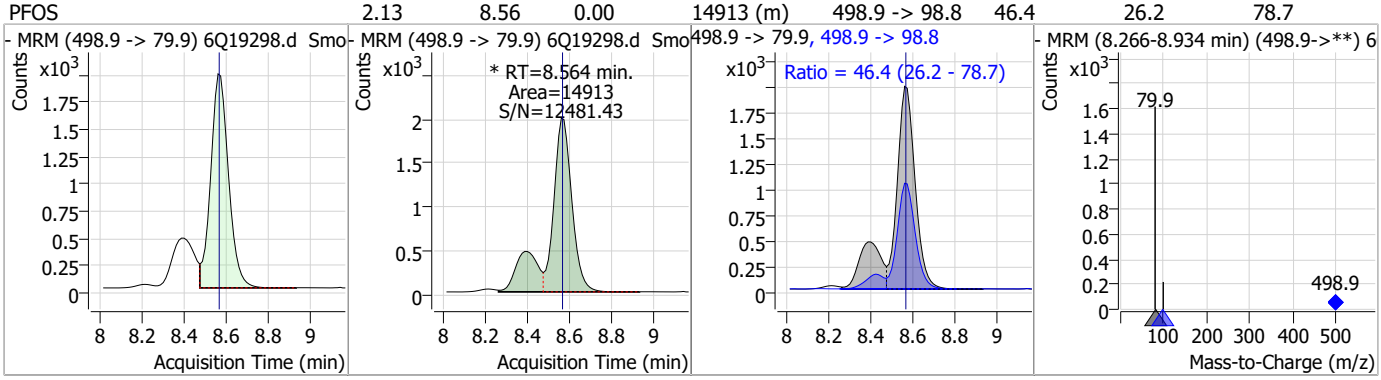




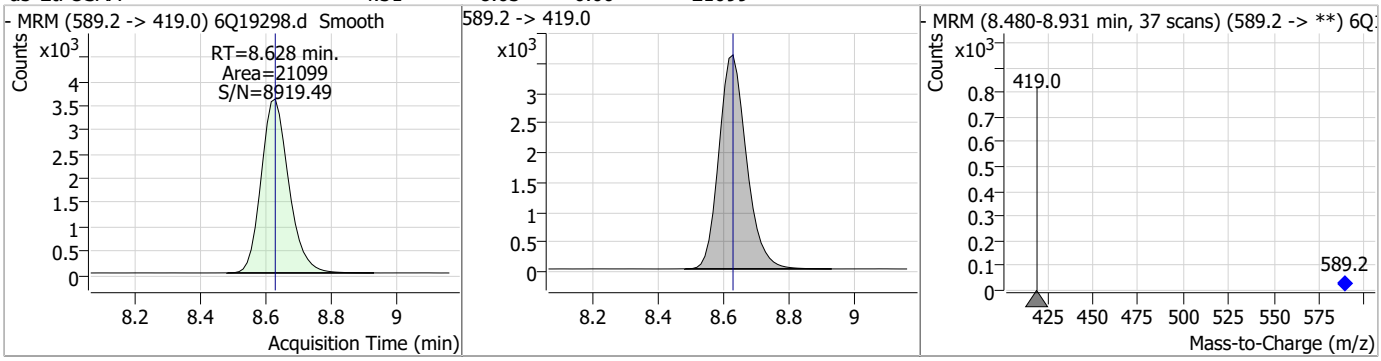


Perfluorinated Compounds by LC/MS/MS

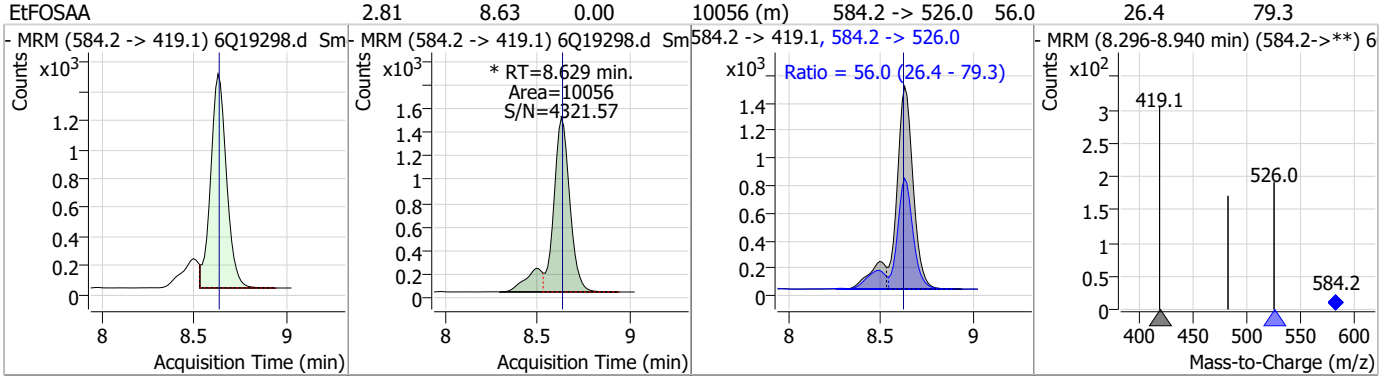
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.13	8.56	0.00	14913 (m)	498.9 -> 98.8	46.4	26.2	78.7



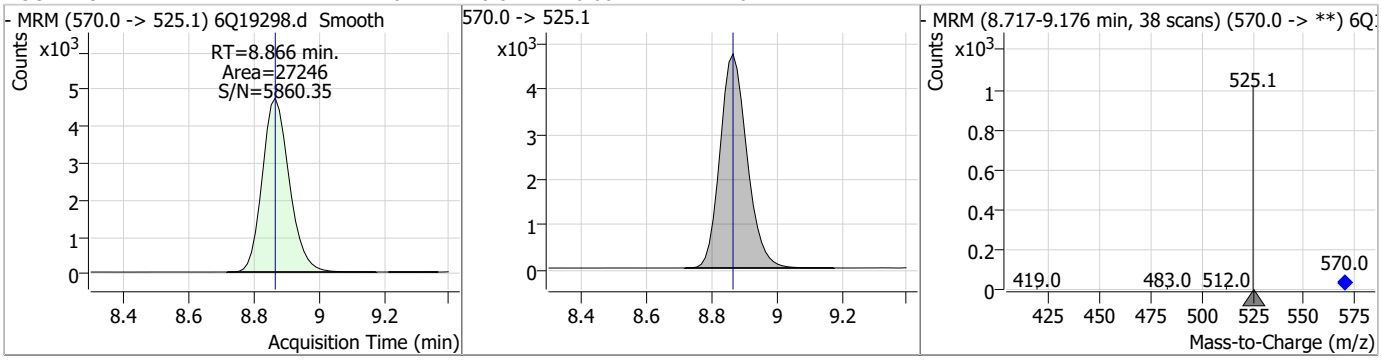
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.31	8.63	0.00	21099				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.81	8.63	0.00	10056 (m)	584.2 -> 526.0	56.0	26.4	79.3

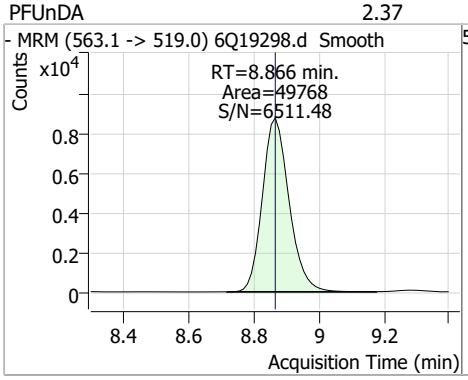


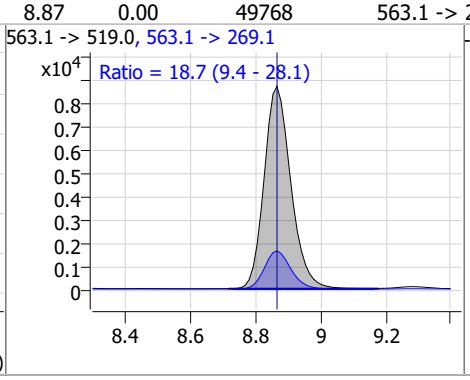
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.20	8.87	0.00	27246				

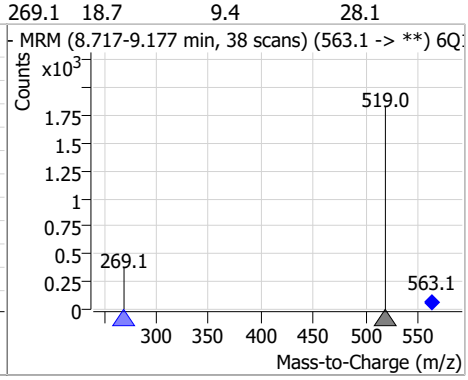


Perfluorinated Compounds by LC/MS/MS

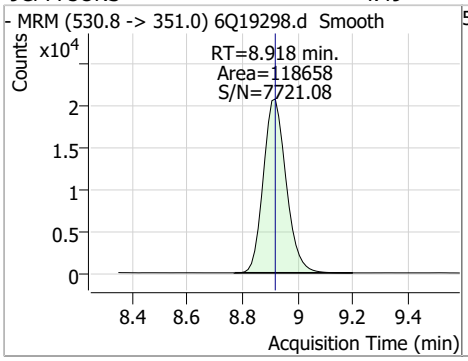
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.37	8.87	0.00	49768	563.1 -> 269.1	18.7	9.4	28.1

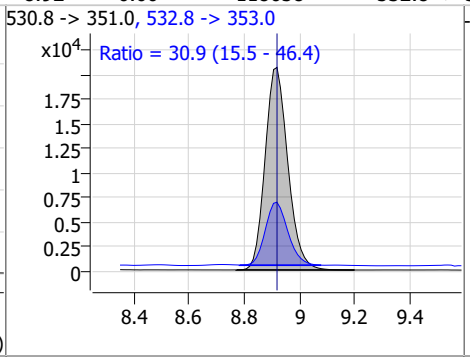


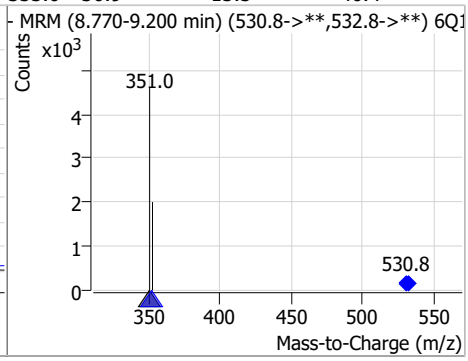




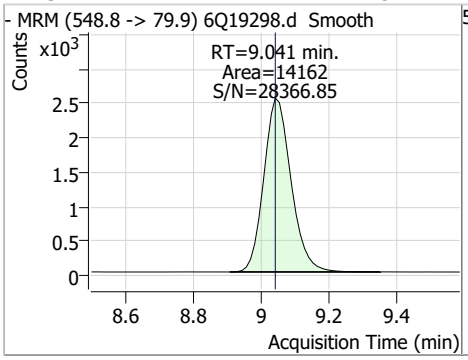
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.49	8.92	0.00	118658	532.8 -> 353.0	30.9	15.5	46.4

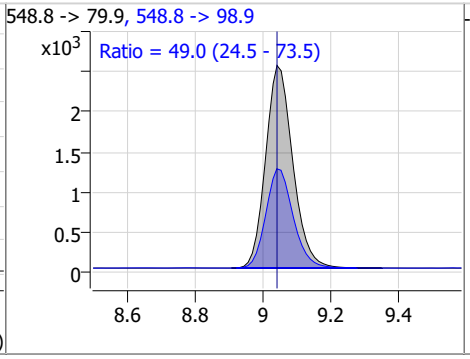


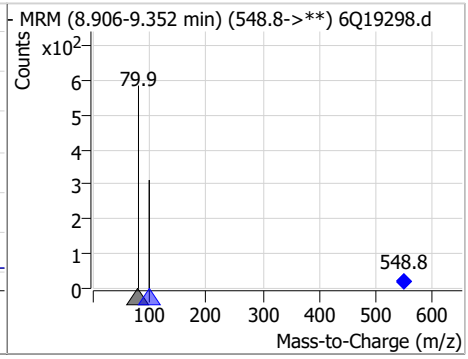




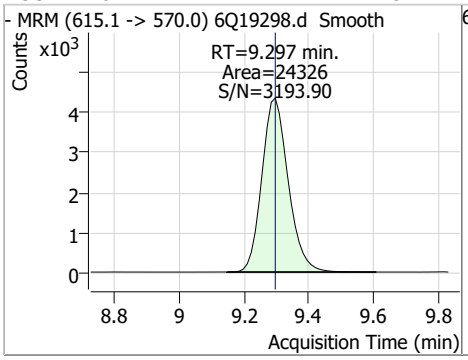
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.31	9.04	0.00	14162	548.8 -> 98.9	49.0	24.5	73.5

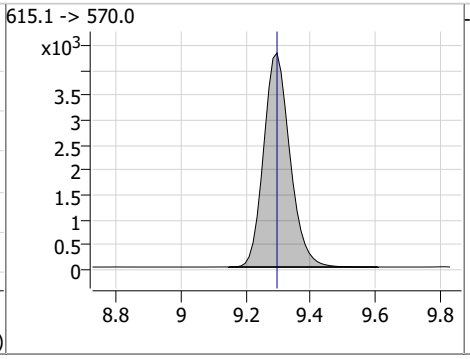


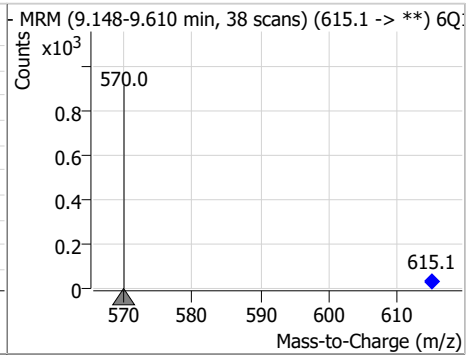




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.23	9.30	0.00	24326				

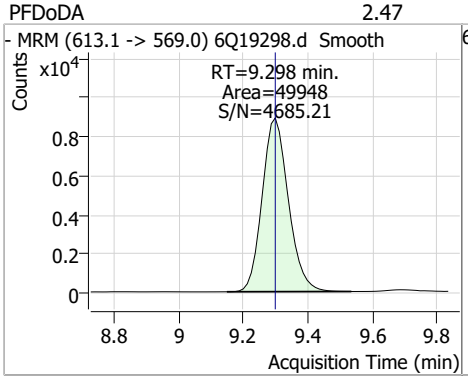


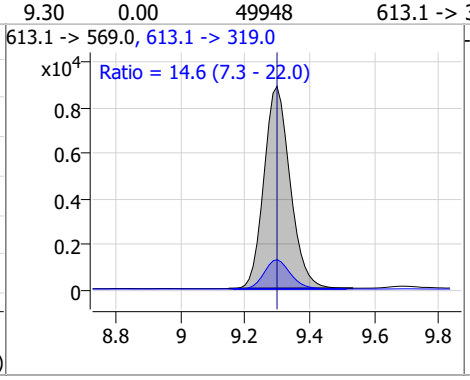


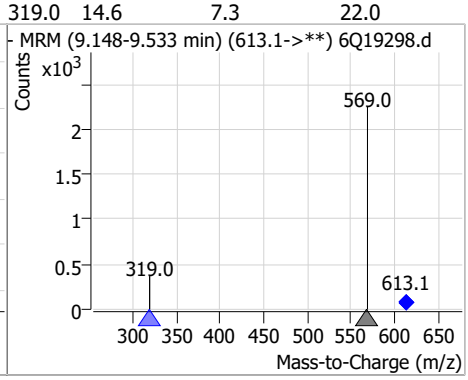


Perfluorinated Compounds by LC/MS/MS

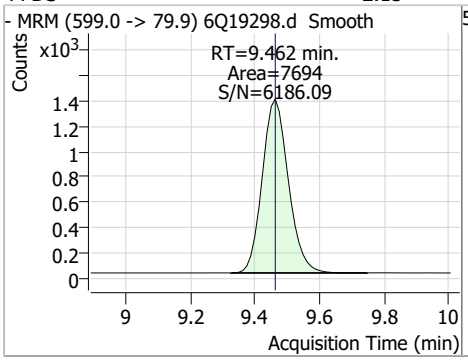
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.47	9.30	0.00	49948	613.1 -> 319.0	14.6	7.3	22.0

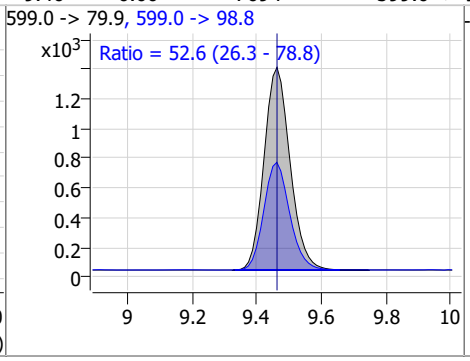


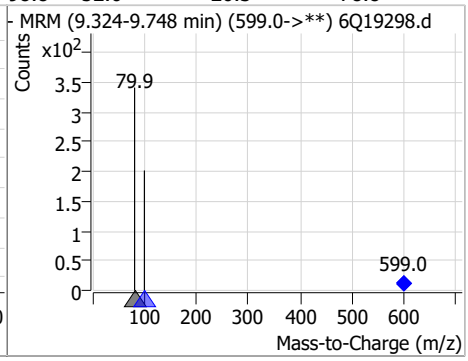




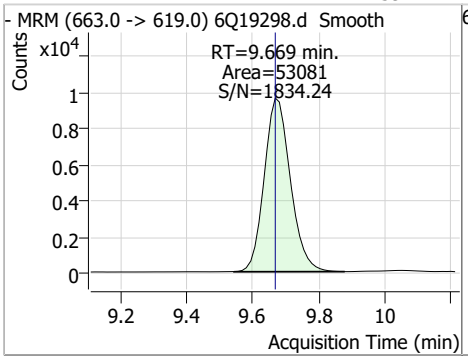
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.15	9.46	0.00	7694	599.0 -> 98.8	52.6	26.3	78.8

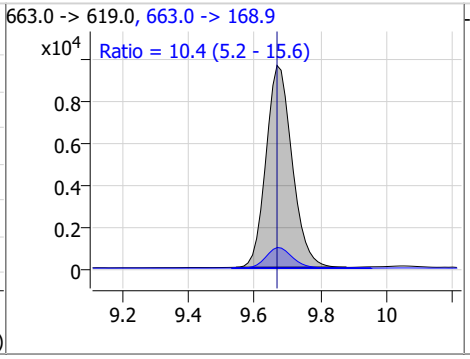


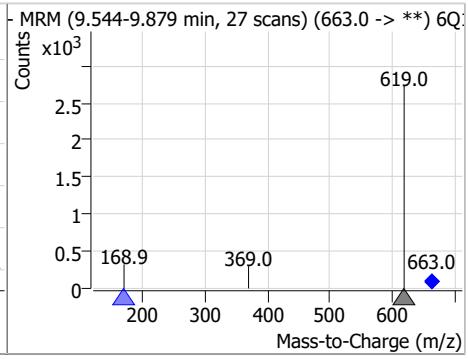




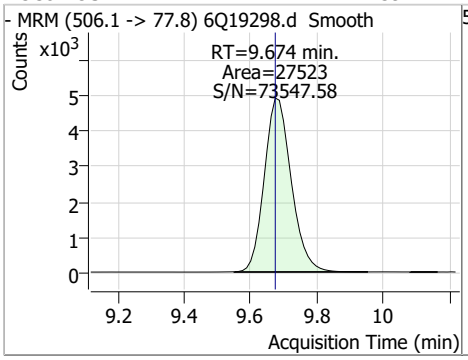
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.59	9.67	0.00	53081	663.0 -> 168.9	10.4	5.2	15.6

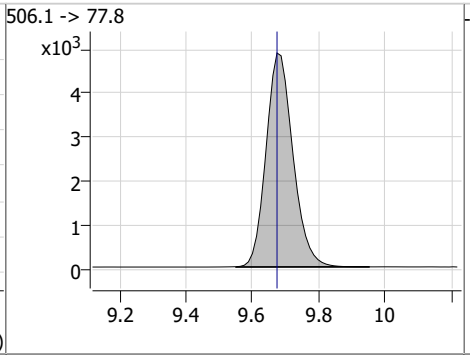


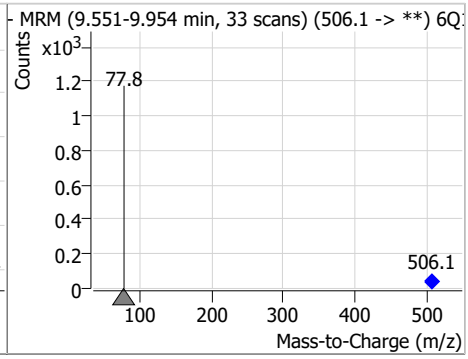




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.39	9.67	0.00	27523				

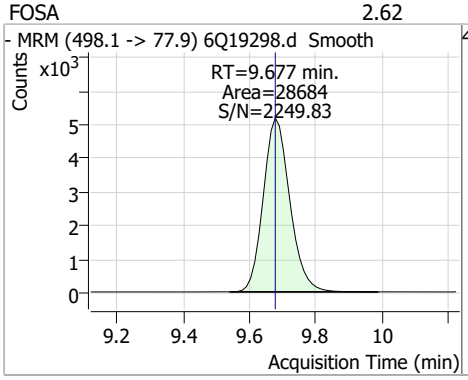


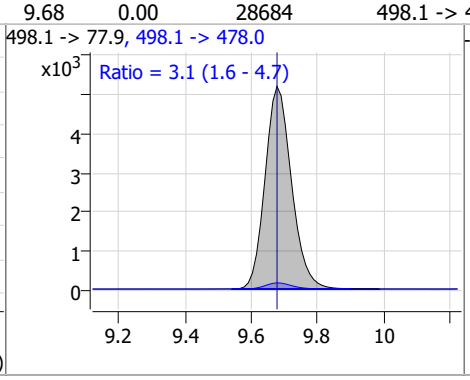


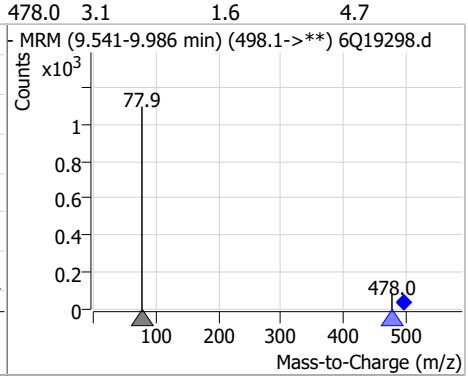


Perfluorinated Compounds by LC/MS/MS

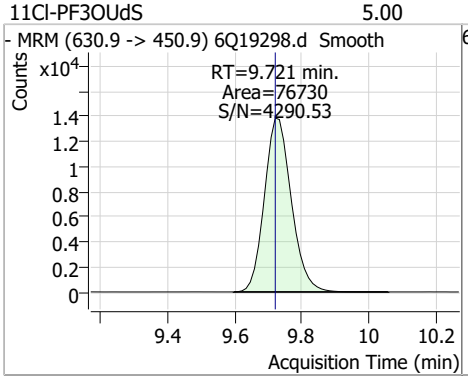
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.62	9.68	0.00	28684	498.1 -> 478.0	3.1	1.6	4.7

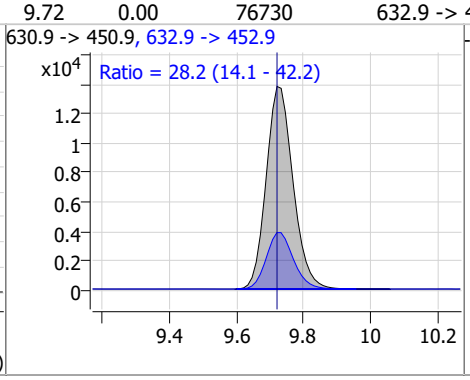


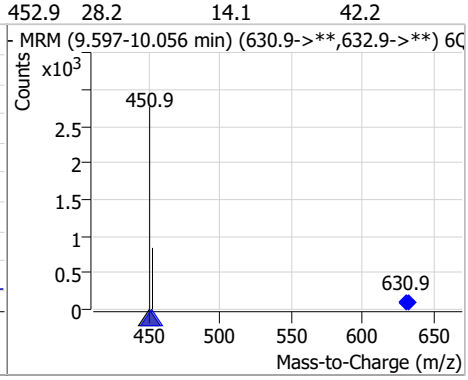




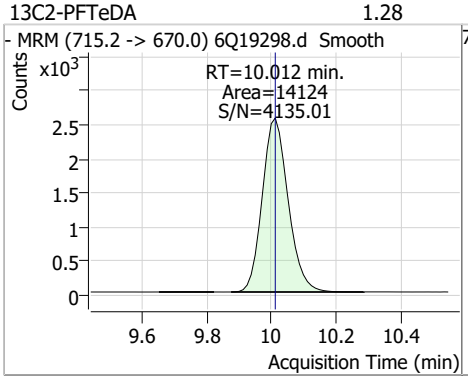
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	5.00	9.72	0.00	76730	632.9 -> 452.9	28.2	14.1	42.2

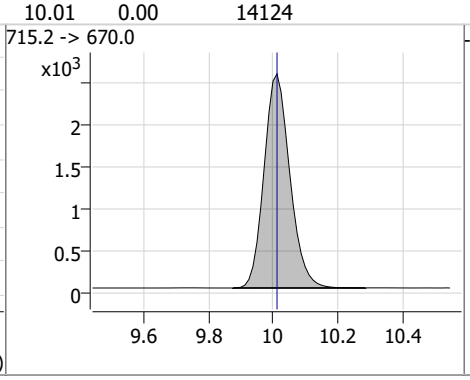


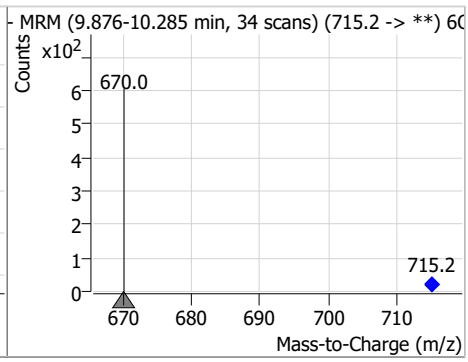




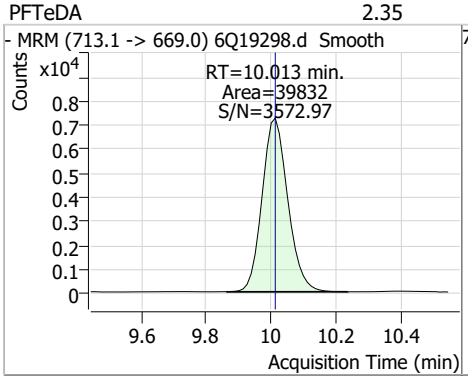
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.28	10.01	0.00	14124				

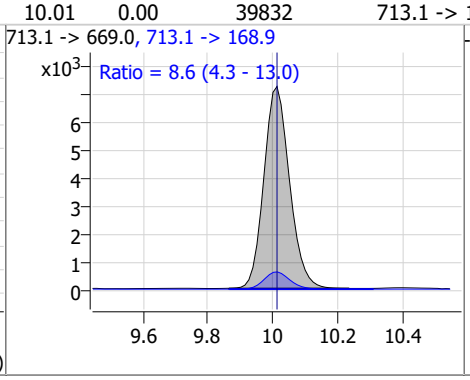


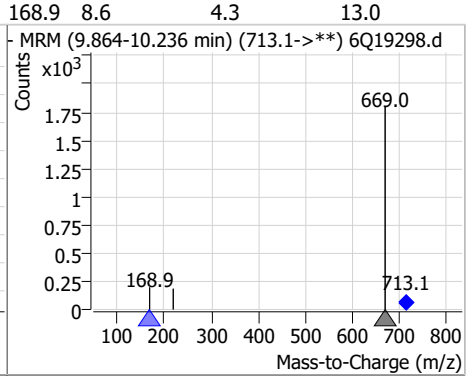




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.35	10.01	0.00	39832	713.1 -> 168.9	8.6	4.3	13.0

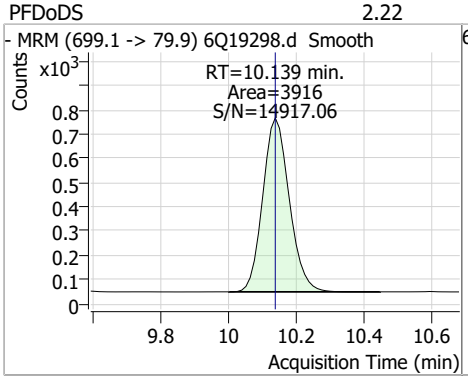


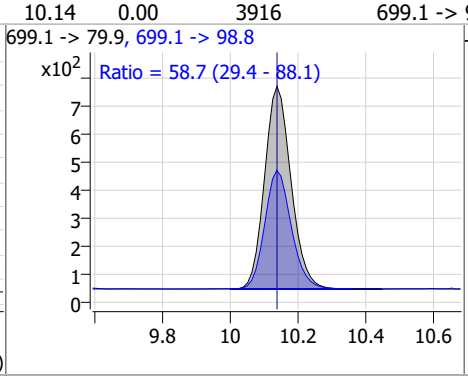


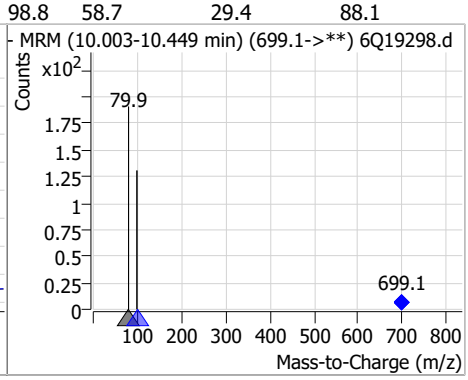


Perfluorinated Compounds by LC/MS/MS

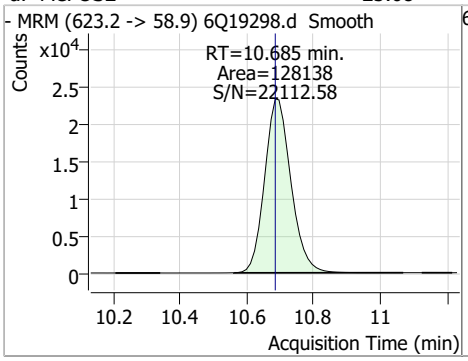
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.22	10.14	0.00	3916	699.1 -> 98.8	58.7	29.4	88.1

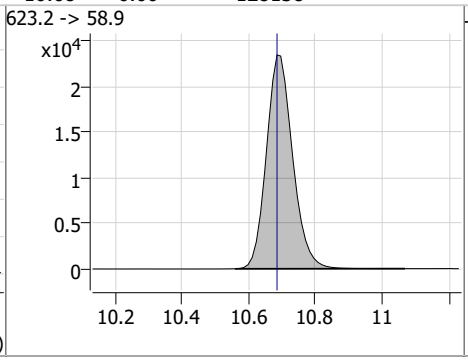


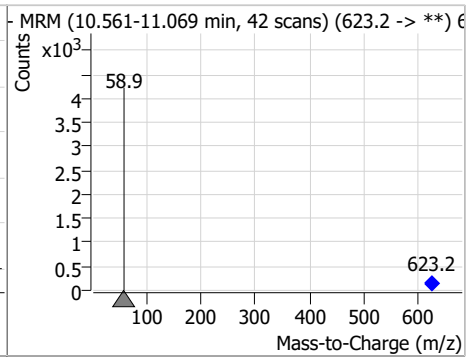




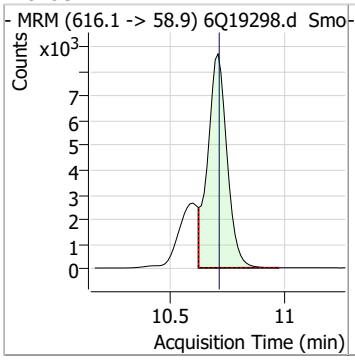
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.08	10.68	0.00	128138				

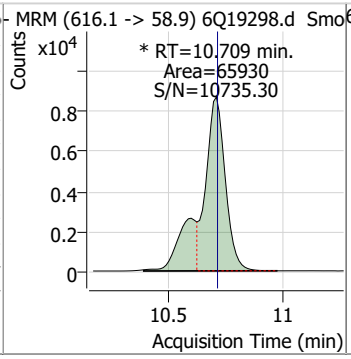


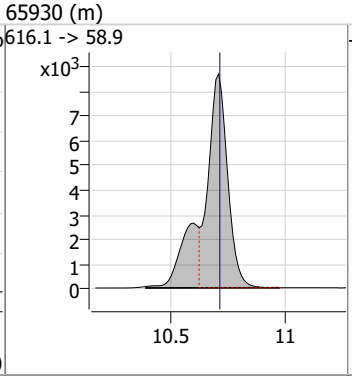


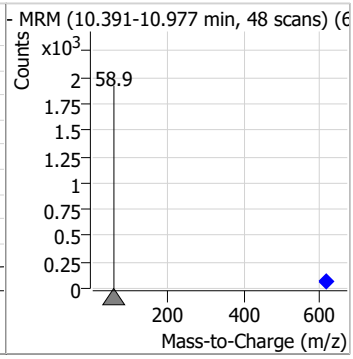


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	11.87	10.71	0.00	65930 (m)				

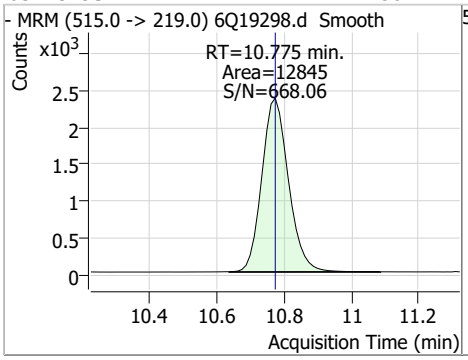


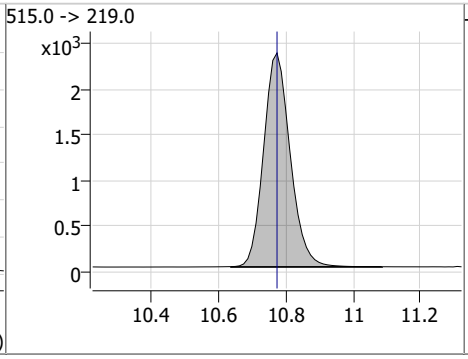


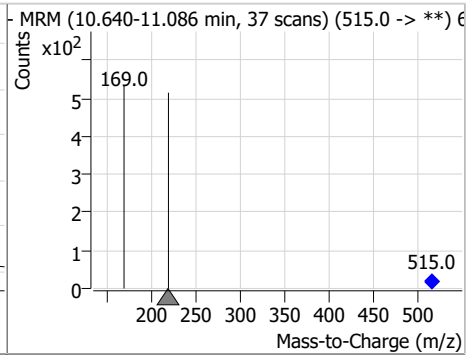




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.56	10.78	0.00	12845				

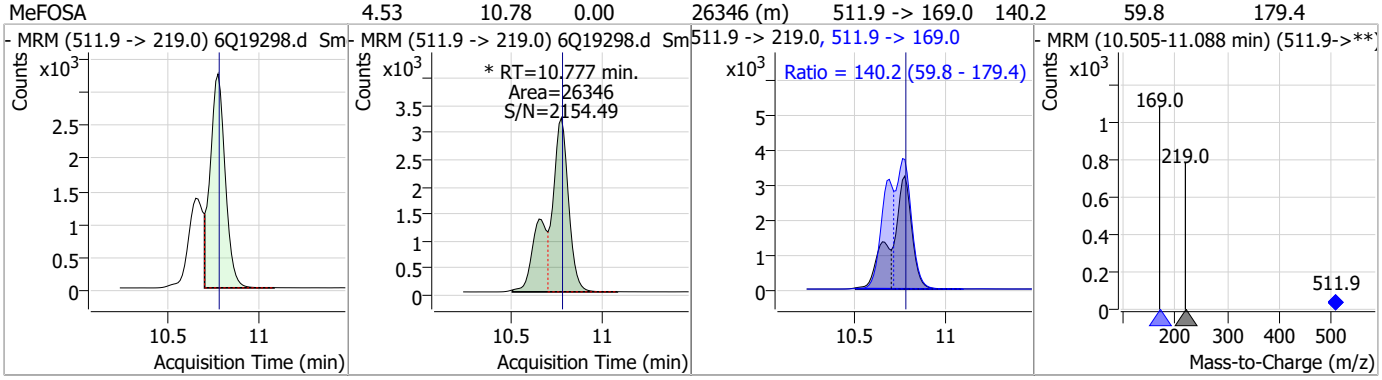




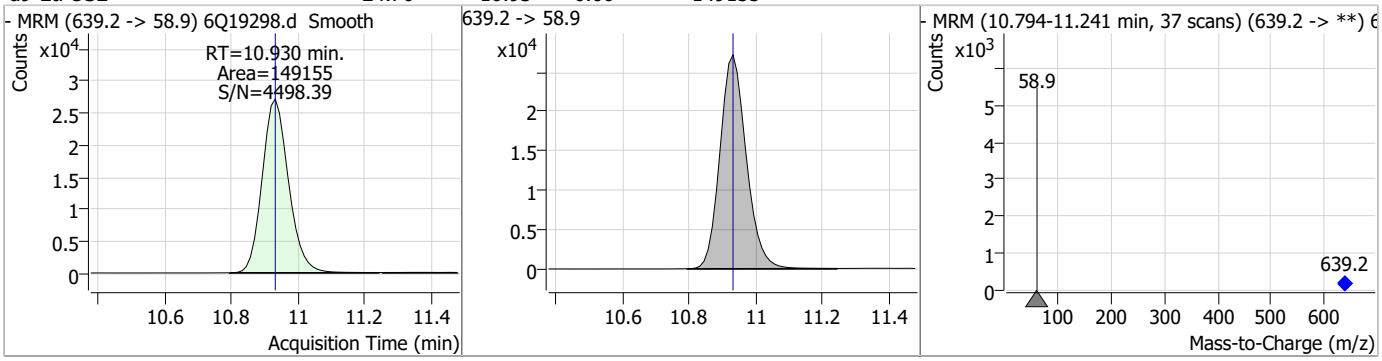


Perfluorinated Compounds by LC/MS/MS

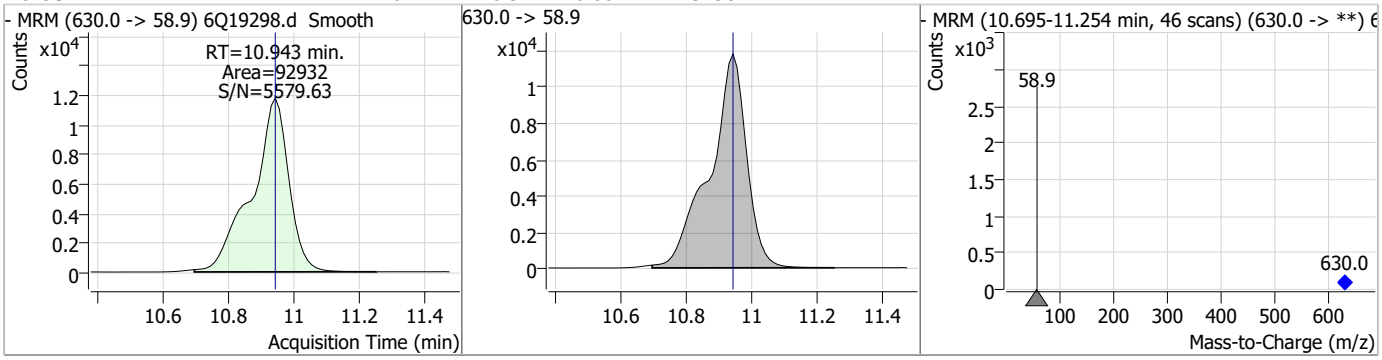
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.53	10.78	0.00	26346 (m)	511.9 -> 169.0	140.2	59.8	179.4



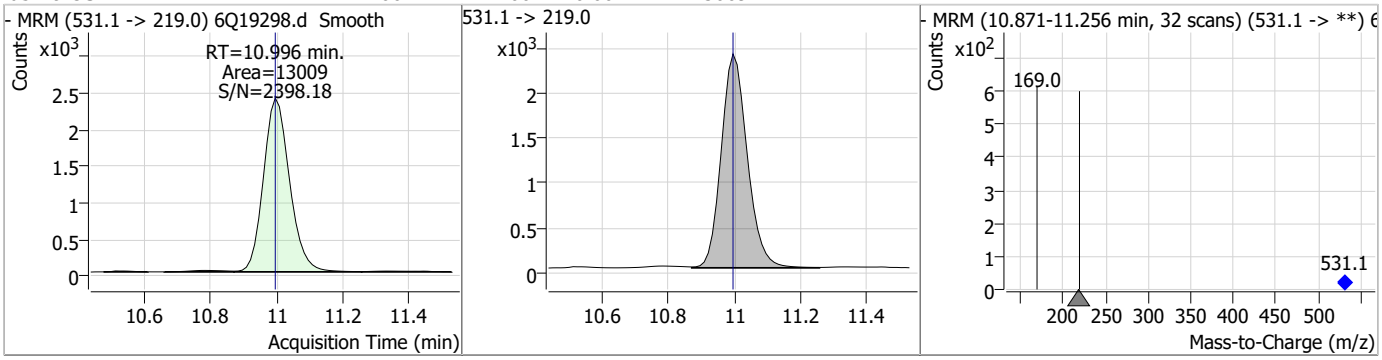
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.76	10.93	0.00	149155				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.04	10.94	0.00	92932				

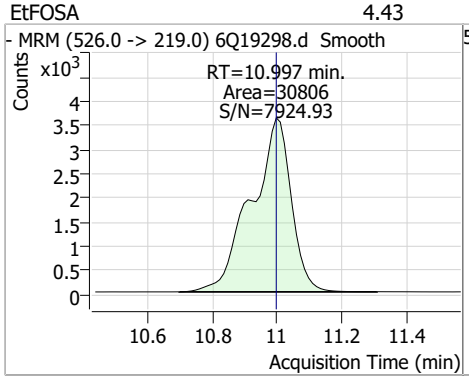


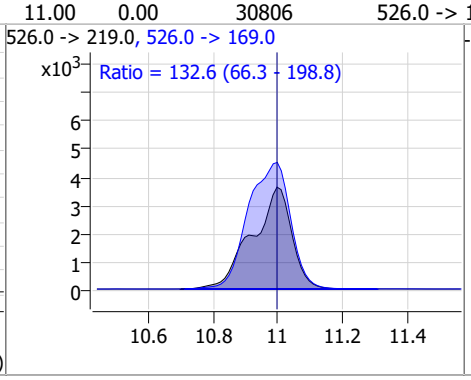
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.66	11.00	0.00	13009				

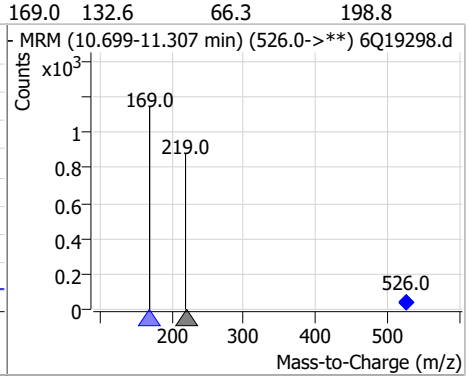


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.43	11.00	0.00	30806	526.0 -> 169.0	132.6	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q288-ICC288
Lab FileID: 6Q19298.D
Injection Time: 06/13/23 12:17
Method: EPA DRAFT 1633
Analyst approved: 06/14/23 10:15 Martha Valls
Supervisor approved: 06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19299.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 12:31:46 PM
Sample Name : ic288-5
Vial : P1-A6
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	147336	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	48024	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	51720	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	47267	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	79732	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	36394	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	20691	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	30841	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	24910	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	13753	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	29051	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	19727	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12115	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11065	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	2883	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4362	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4072	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	31521	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	34487	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	24278	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	126565	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	150866	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11628	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11622	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	14602	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	62518	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9344	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	82152	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	28834	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	49603	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	52539	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	2883	5.14	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4362	5.15	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4072	5.11	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C2-PFDoDA	9.297	615.1 -> 570.0	24910	1.29	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.4%		
13C2-PFTeDA	10.012	715.2 -> 670.0	13753	1.28	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C3-PFBS	5.746	302.1 -> 79.9	19727	2.54	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%		
13C3-PFHxS	7.478	402.1 -> 79.9	12115	2.47	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%			
13C4-PFBA	3.085	216.8 -> 171.9	147336	10.05	µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.5%			
13C4-PFHpA	6.707	367.1 -> 322.0	47267	2.33	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.2%			
13C5-PFHxA	5.792	318.0 -> 273.0	51720	2.39	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%			
13C5-PFPeA	4.560	268.3 -> 223.0	48024	4.83	µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.6%			
13C6-PFDA	8.387	519.1 -> 474.1	20691	1.25	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.0%			
13C7-PFUnDA	8.866	570.0 -> 525.1	30841	1.39	µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 111.3%			
13C8-FOSA	9.674	506.1 -> 77.8	29051	2.63	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.1%			
13C8-PFOA	7.339	421.1 -> 376.0	79732	2.60	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.8%			
13C8-PFOS	8.563	507.1 -> 79.9	11065	2.51	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%			
13C9-PFNA	7.882	472.1 -> 427.0	36394	1.21	µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.4%			
d3-MeFOSAA	8.420	573.2 -> 419.0	31521	5.71	µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.1%			
13C3-HFPO-DA	6.169	286.9 -> 168.9	34487	9.51	µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.1%			
d3-MeFOSA	10.775	515.0 -> 219.0	11622	2.42	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.7%			
d5-EtFOSAA	8.628	589.2 -> 419.0	24278	5.18	µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.5%			
d7-MeFOSE	10.685	623.2 -> 58.9	126565	25.83	µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.3%			
d9-EtFOSE	10.930	639.2 -> 58.9	150866	26.12	µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.5%			
d5-EtFOSA	10.996	531.1 -> 219.0	11628	2.48	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%			
Target Compounds							QValue
4:2FTS	5.455	327.1 -> 307.0	87794	17.51	µg/L		99
		327.1 -> 80.9	33141				
6:2FTS	7.113	427.1 -> 407.0	97119	18.70	µg/L		98
		427.1 -> 80.9	30546				
8:2FTS	8.164	527.1 -> 507.0	49383	18.25	µg/L		100
		527.1 -> 80.8	19460				
EtFOSAA	8.629	584.2 -> 419.1	18652	4.54	µg/L	m	93
		584.2 -> 526.0	10730				
FOSA	9.677	498.1 -> 77.9	50279	4.36	µg/L		99
		498.1 -> 478.0	1660				
MeFOSAA	8.421	570.1 -> 419.0	34557	4.23	µg/L	m	99
		570.1 -> 483.0	6734				
PFBA	3.093	212.8 -> 168.9	112932	19.02	µg/L		100
PFBS	5.747	298.7 -> 79.9	35978	4.08	µg/L		97
		298.7 -> 98.8	13117				
PFDA	8.388	512.9 -> 469.0	159557	5.18	µg/L		97
		512.9 -> 219.0	23261				
PFDoDA	9.298	613.1 -> 569.0	104442	5.05	µg/L		99
		613.1 -> 319.0	15661				
PFDS	9.462	599.0 -> 79.9	16082	4.81	µg/L		96

Perfluorinated Compounds by LC/MS/MS

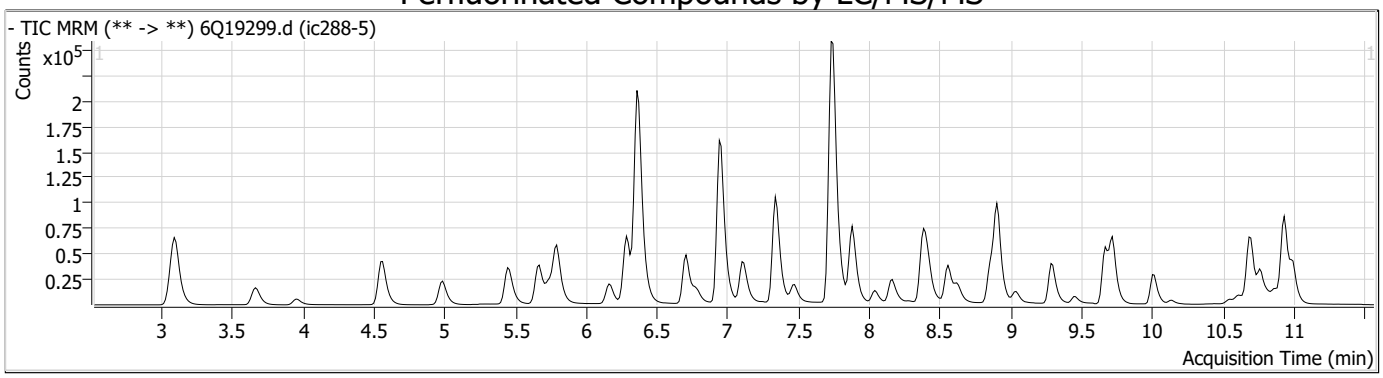
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	8020				
PFHpA	6.708	363.1 -> 319.0	115693	4.58	µg/L		94
		363.1 -> 169.0	20515				
PFHpS	8.046	449.0 -> 79.9	29684	4.49	µg/L		99
		449.0 -> 98.9	14970				
PFHxA	5.795	313.0 -> 269.0	97470	4.67	µg/L		99
		313.0 -> 118.9	5284				
PFHxS	7.479	398.7 -> 79.9	30421	4.17	µg/L	m	95
		398.7 -> 98.9	14507				
PFNA	7.883	463.0 -> 419.0	154194	4.58	µg/L		98
		463.0 -> 219.0	28147				
PFNS	9.041	548.8 -> 79.9	26987	4.70	µg/L		98
		548.8 -> 98.9	13651				
PFOA	7.353	413.0 -> 369.0	194053	4.43	µg/L		96
		413.0 -> 169.0	35708				
PFOS	8.564	498.9 -> 79.9	28088	4.28	µg/L	m	93
		498.9 -> 98.8	13451				
PFPeA	4.563	263.0 -> 219.0	133376	9.41	µg/L		100
PFPeS	6.785	349.1 -> 79.9	29748	4.38	µg/L		94
		349.1 -> 98.9	13030				
PFTeDA	10.013	713.1 -> 669.0	78134	4.74	µg/L		99
		713.1 -> 168.9	6975				
PFTrDA	9.669	663.0 -> 619.0	95750	4.56	µg/L		97
		663.0 -> 168.9	11096				
PFUnDA	8.866	563.1 -> 519.0	103611	4.35	µg/L		96
		563.1 -> 269.1	17297				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	143468	9.14	µg/L		92
		632.9 -> 452.9	46231				
9Cl-PF3ONS	8.906	530.8 -> 351.0	246224	9.10	µg/L		97
		532.8 -> 353.0	72548				
ADONA	6.959	376.9 -> 250.9	484374	8.68	µg/L		100
		376.9 -> 84.8	140675				
HFPO-DA	6.182	284.9 -> 168.9	34998	9.70	µg/L		99
		284.9 -> 184.9	4231				
3:3FTCA	3.958	241.0 -> 177.0	22087	23.03	µg/L		100
		241.0 -> 117.0	3007				
5:3FTCA	6.374	341.0 -> 237.1	487451	117.49	µg/L		97
		341.0 -> 217.0	349500				
7:3FTCA	7.748	441.0 -> 316.9	330335	117.76	µg/L		98
		441.0 -> 336.9	735022				
EtFOSA	10.997	526.0 -> 219.0	61301	9.87	µg/L		99
		526.0 -> 169.0	80731				
EtFOSE	10.943	630.0 -> 58.9	183243	23.47	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	50153	9.53	µg/L	m	75
		511.9 -> 169.0	73867				
MeFOSE	10.709	616.1 -> 58.9	131142	23.91	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	7989	4.84	µg/L		93
		699.1 -> 98.8	4263				
NFDHA	5.673	295.0 -> 201.0	25778	9.67	µg/L		96
		295.0 -> 84.9	6384				
PFMBA	4.988	279.0 -> 85.1	95425	9.44	µg/L		100
PFMPA	3.667	229.0 -> 84.9	75295	9.52	µg/L		100
PFEESA	6.288	314.8 -> 134.9	233834	8.29	µg/L		99
		314.8 -> 82.9	9045				

 # = Qualifier out of range, m = manually integrated, + = Area summed

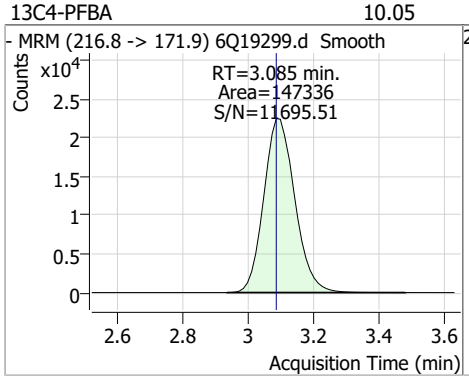
Perfluorinated Compounds by LC/MS/MS

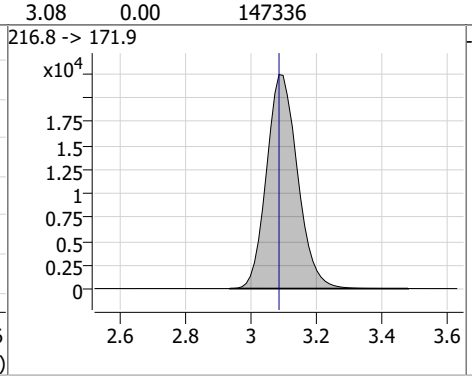
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

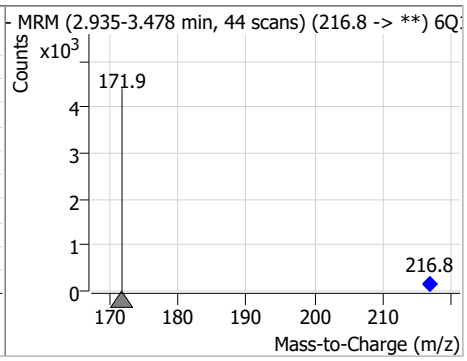
Perfluorinated Compounds by LC/MS/MS



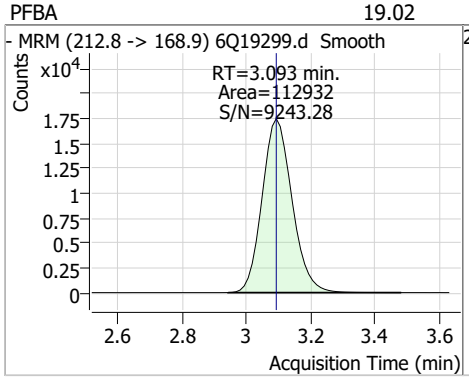
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.05	3.08	0.00	147336				

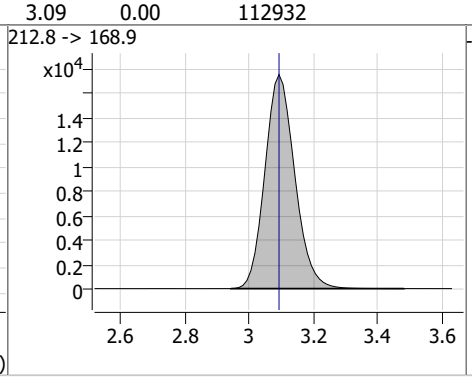


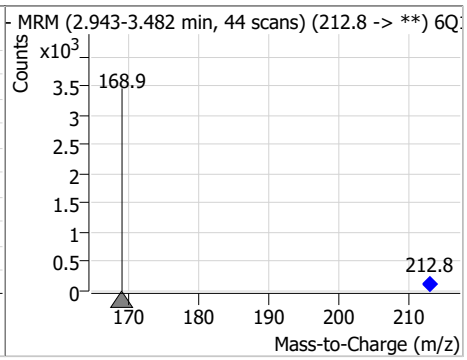




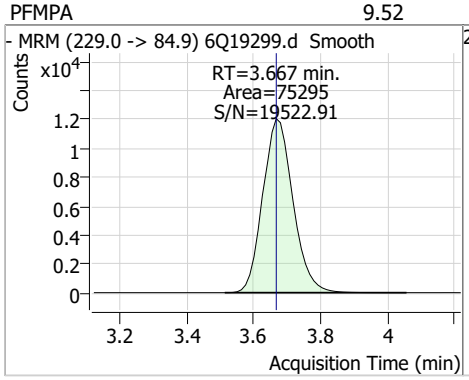
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	19.02	3.09	0.00	112932				

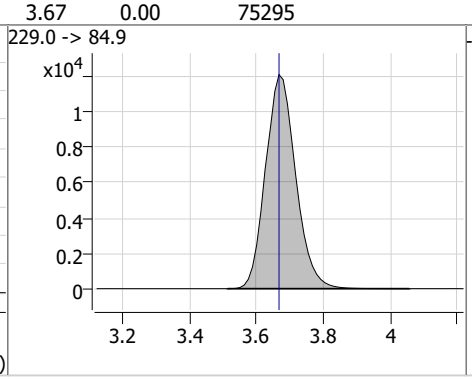


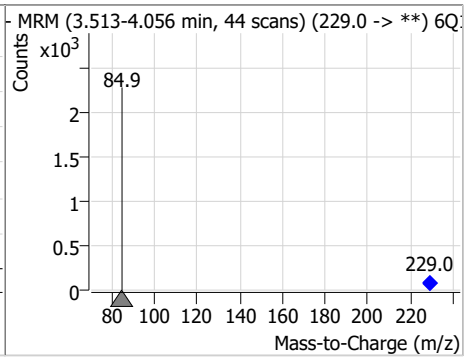




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	9.52	3.67	0.00	75295				

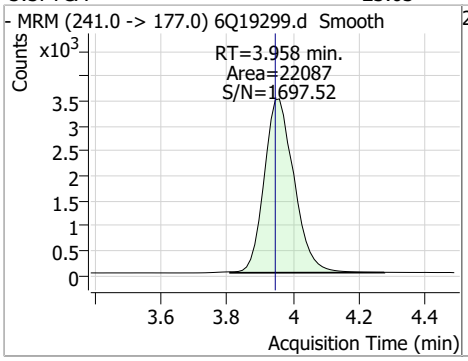


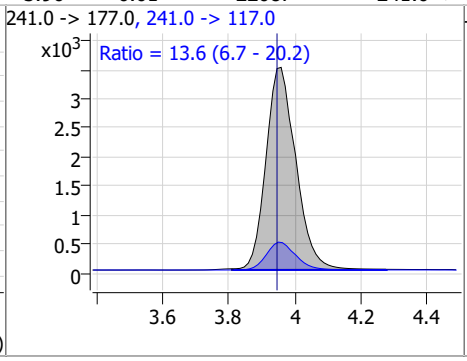


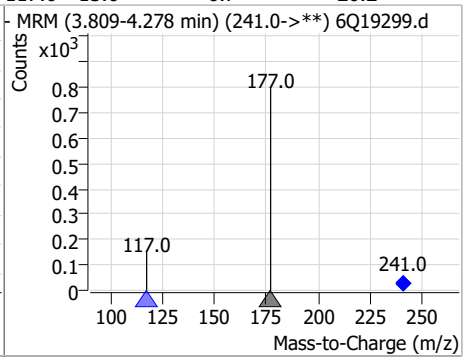


Perfluorinated Compounds by LC/MS/MS

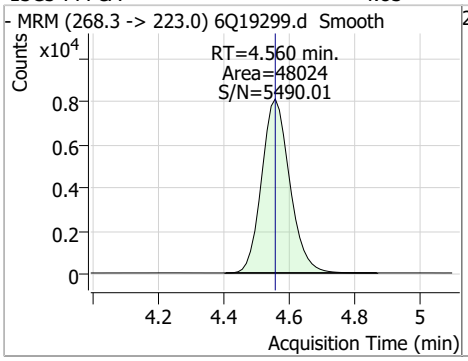
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	23.03	3.96	0.01	22087	241.0 -> 117.0	13.6	6.7	20.2

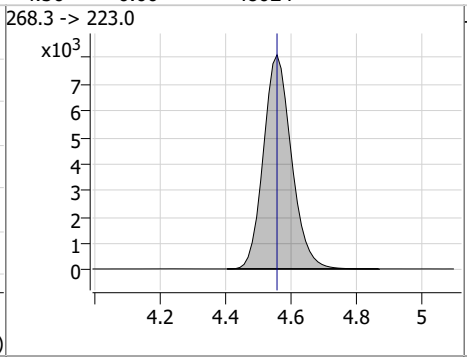


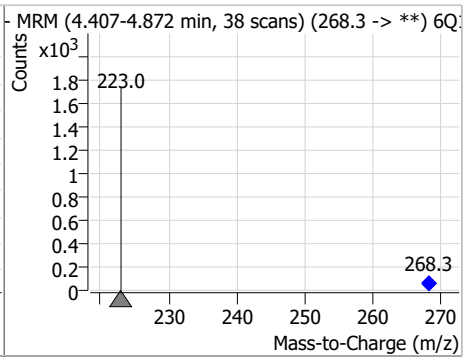




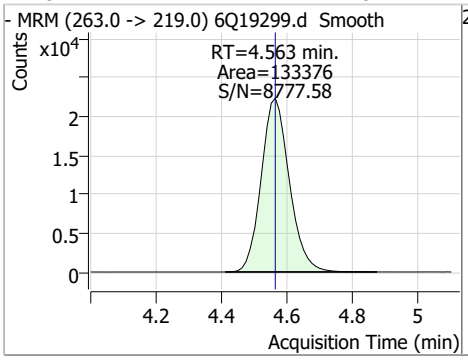
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.83	4.56	0.00	48024				

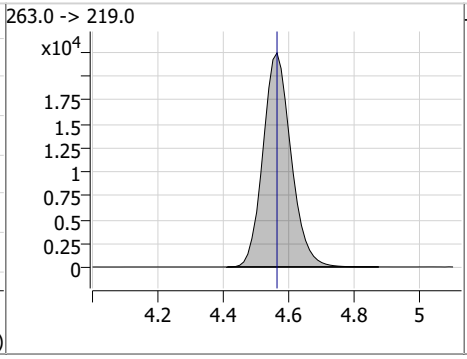


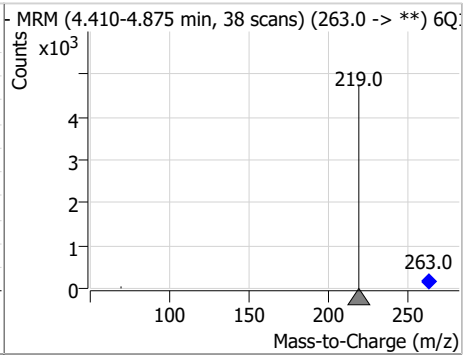




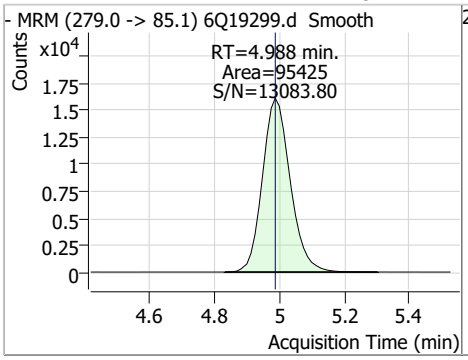
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	9.41	4.56	0.00	133376				

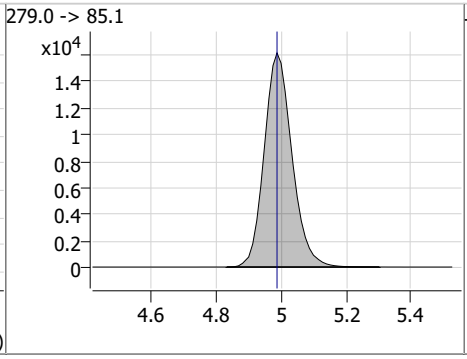


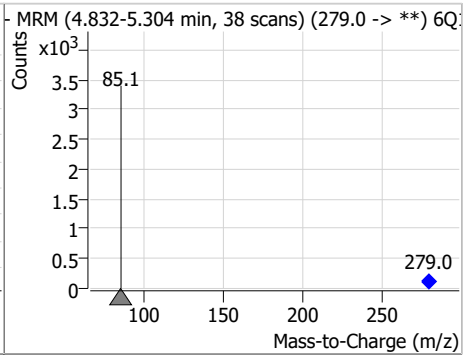




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	9.44	4.99	0.00	95425				

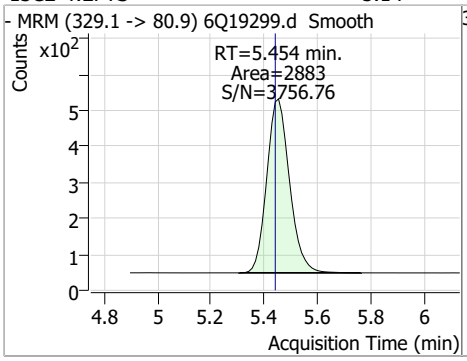


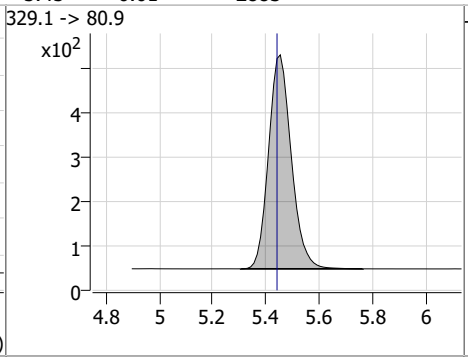


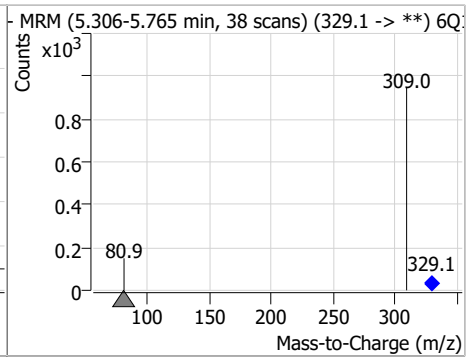


Perfluorinated Compounds by LC/MS/MS

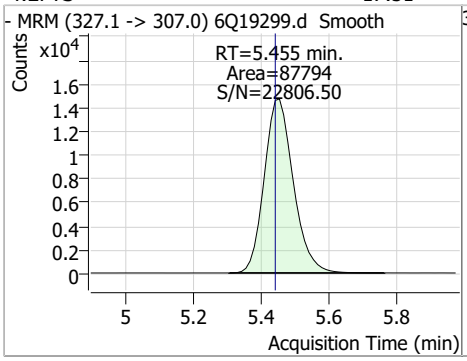
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.14	5.45	0.01	2883				

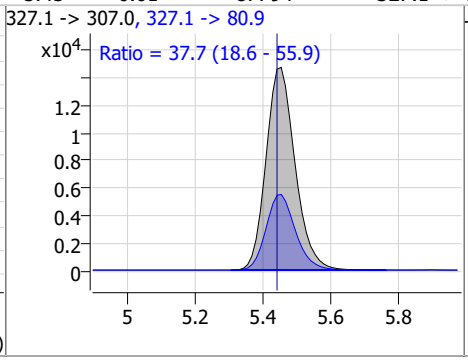


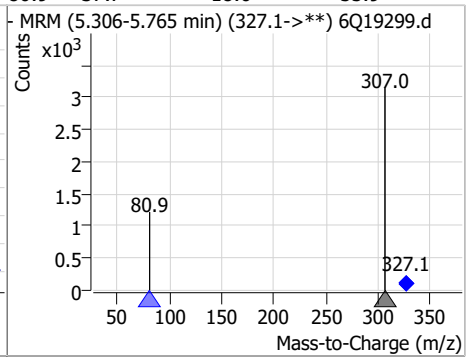




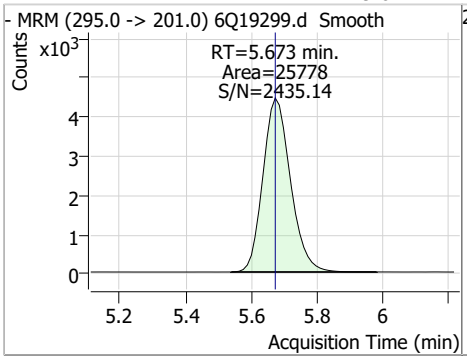
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	17.51	5.45	0.01	87794	327.1 -> 80.9	37.7	18.6	55.9

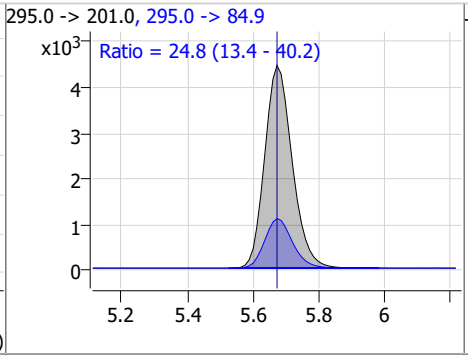


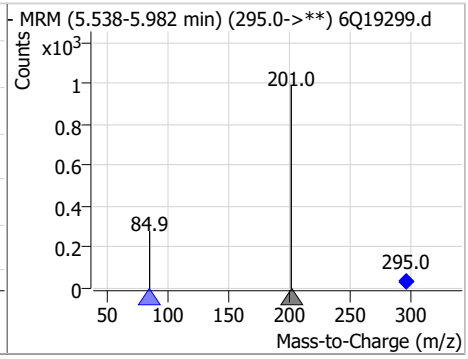




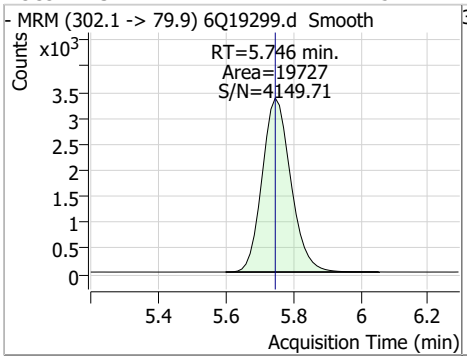
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	9.67	5.67	0.00	25778	295.0 -> 84.9	24.8	13.4	40.2

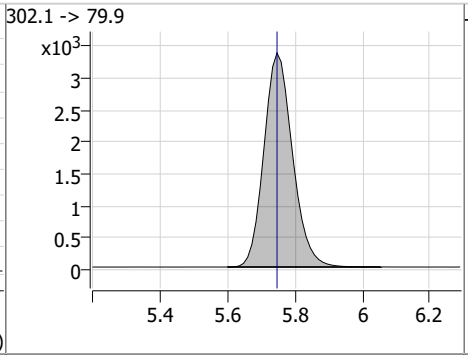


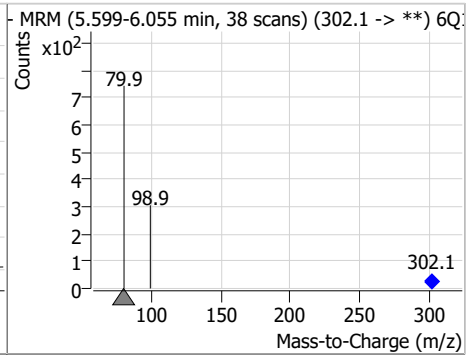




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.54	5.75	0.00	19727				

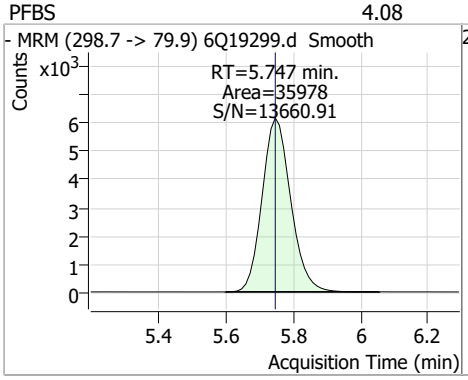


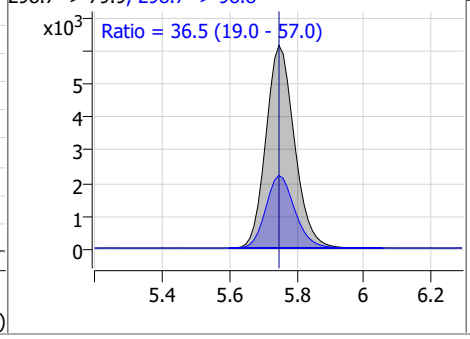


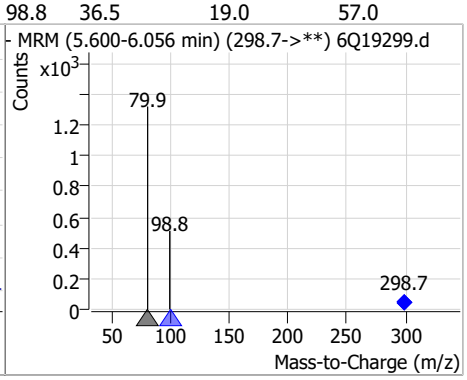


Perfluorinated Compounds by LC/MS/MS

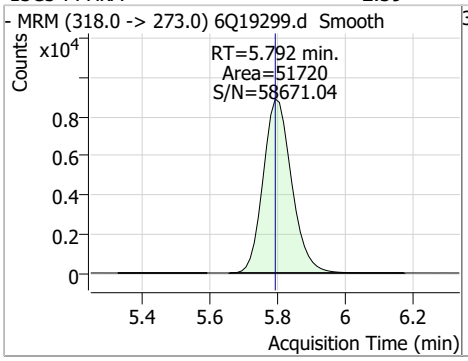
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	4.08	5.75	0.00	35978	298.7 -> 98.8	36.5	19.0	57.0

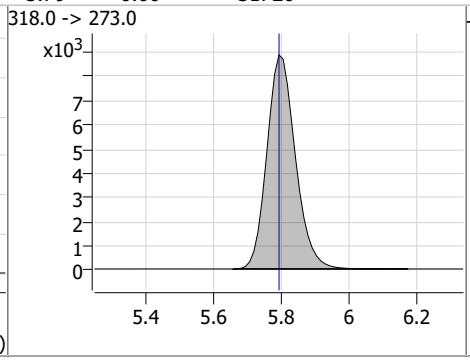


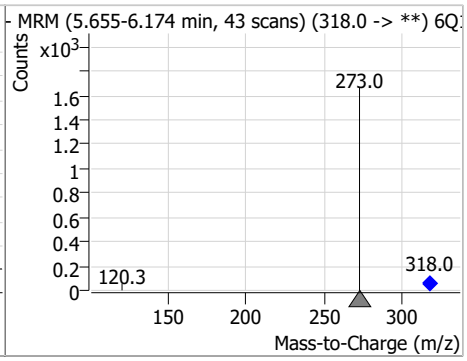




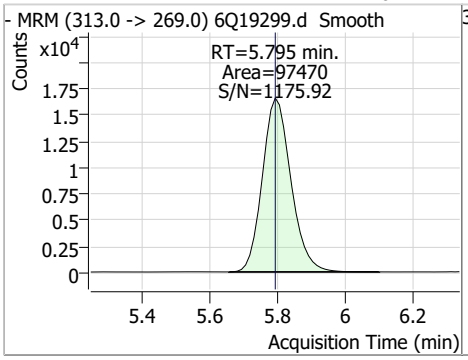
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.39	5.79	0.00	51720				

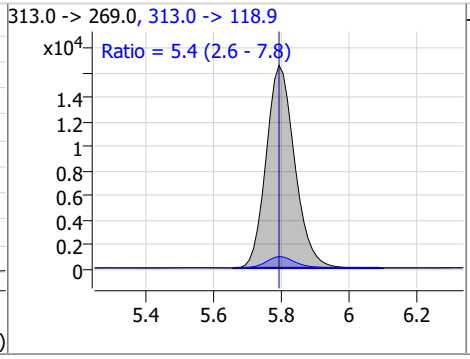


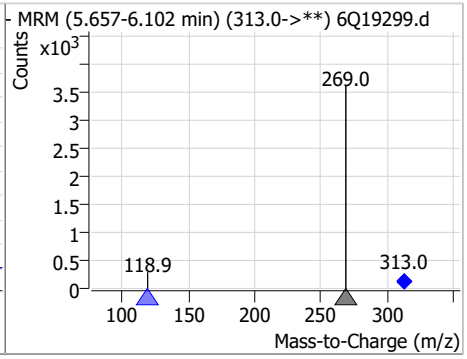




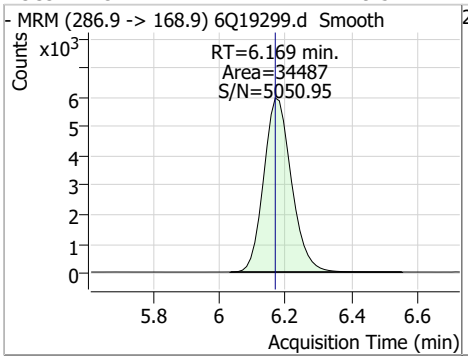
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	4.67	5.79	0.00	97470	313.0 -> 118.9	5.4	2.6	7.8

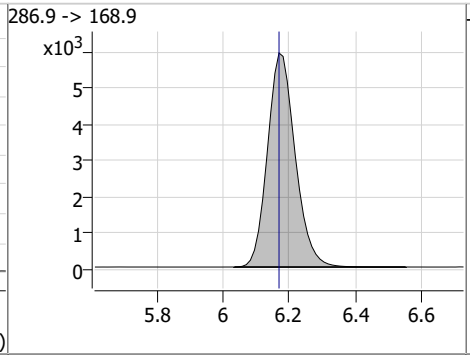


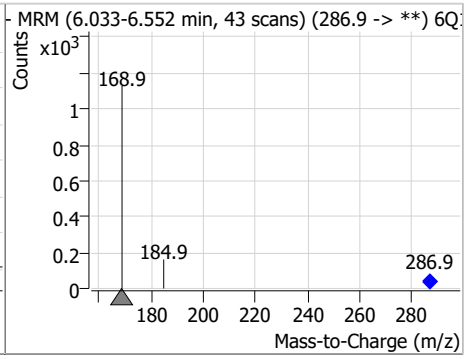




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.51	6.17	0.00	34487				

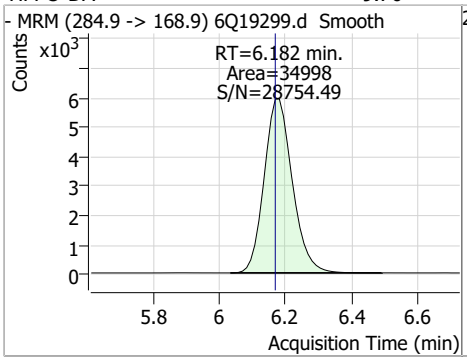


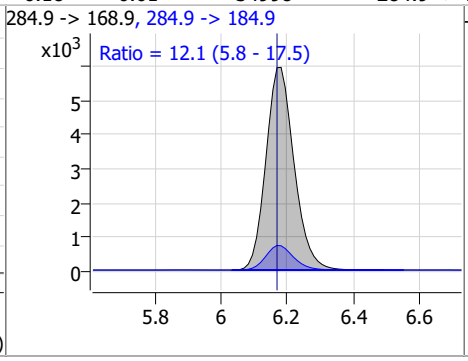


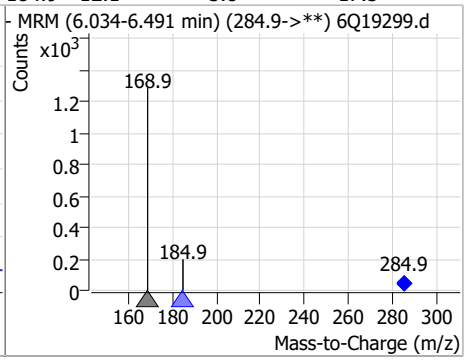


Perfluorinated Compounds by LC/MS/MS

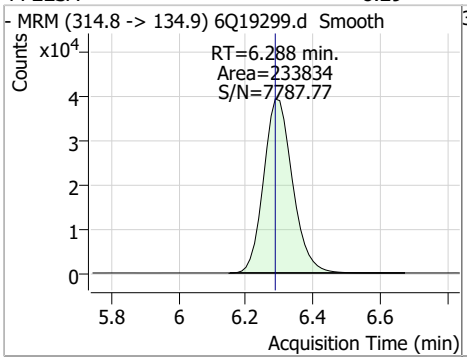
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	9.70	6.18	0.01	34998	284.9 -> 184.9	12.1	5.8	17.5

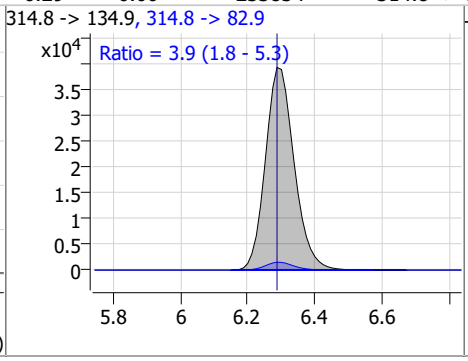


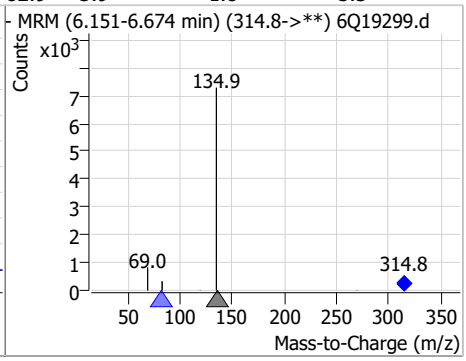




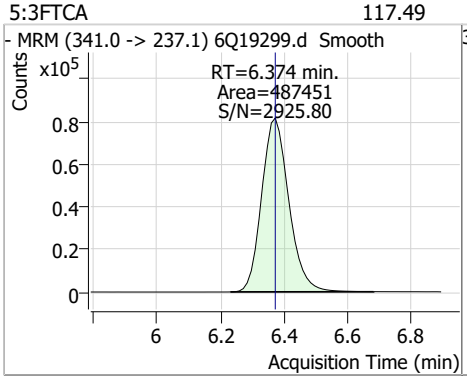
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	8.29	6.29	0.00	233834	314.8 -> 82.9	3.9	1.8	5.3

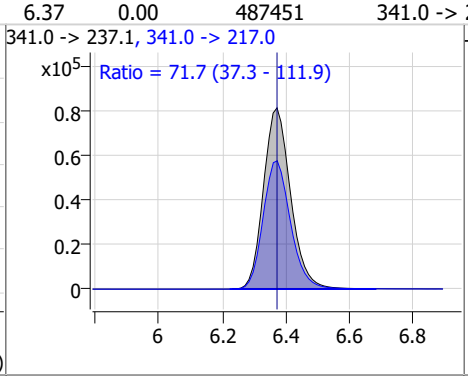


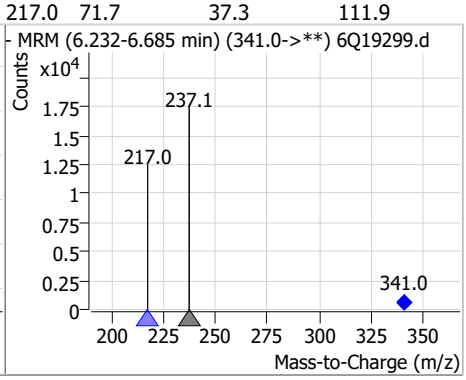




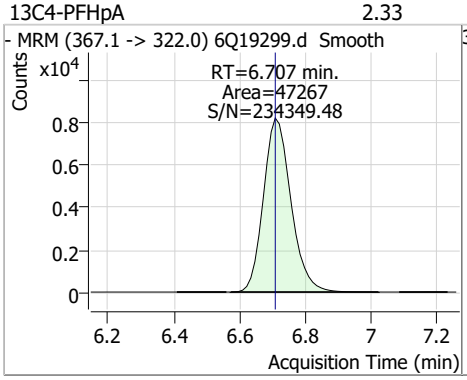
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	117.49	6.37	0.00	487451	341.0 -> 217.0	71.7	37.3	111.9

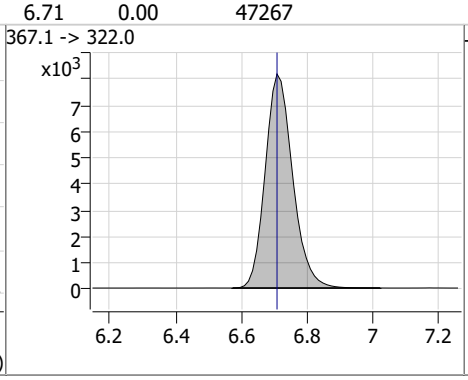


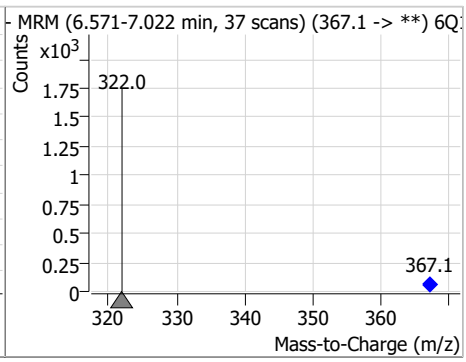




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.33	6.71	0.00	47267				

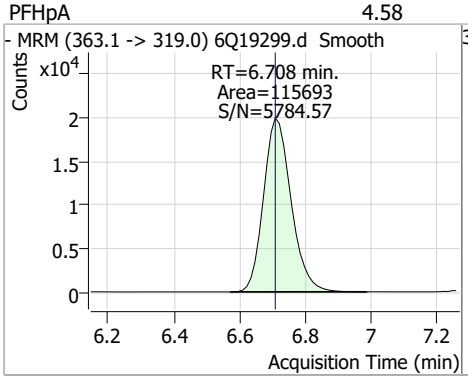


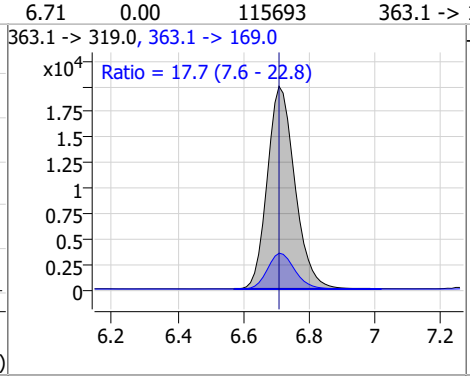


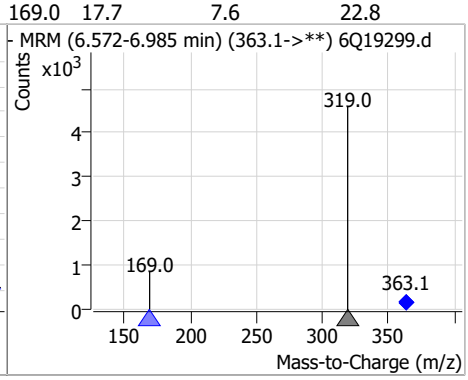


Perfluorinated Compounds by LC/MS/MS

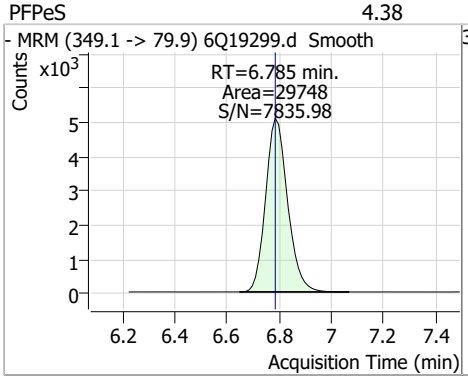
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	4.58	6.71	0.00	115693	363.1 -> 169.0	17.7	7.6	22.8

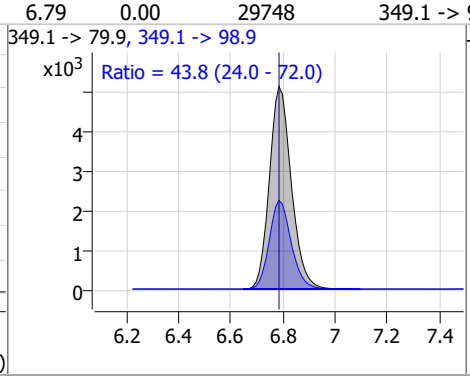


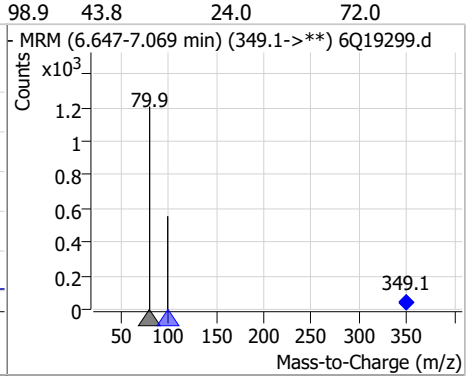




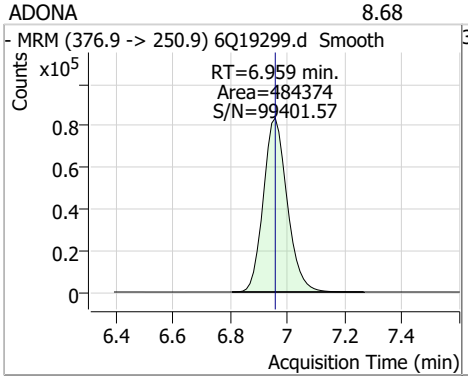
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	4.38	6.79	0.00	29748	349.1 -> 98.9	43.8	24.0	72.0

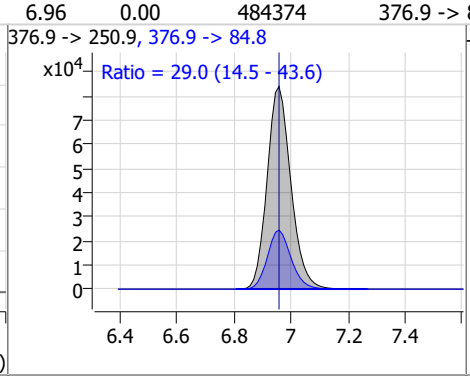


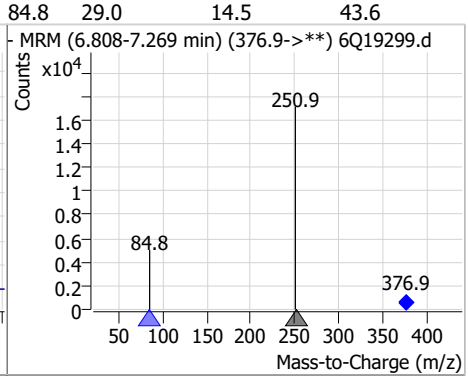




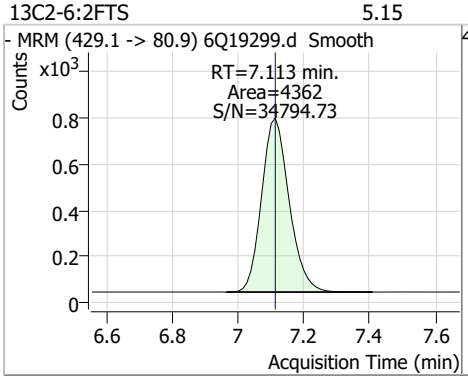
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	8.68	6.96	0.00	484374	376.9 -> 84.8	29.0	14.5	43.6

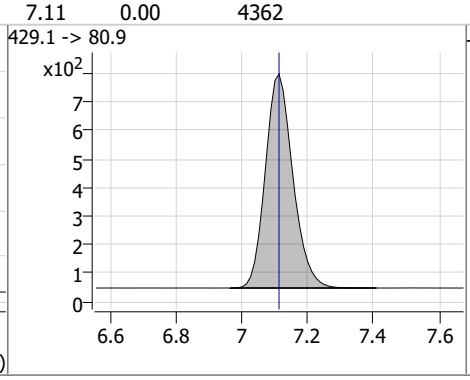


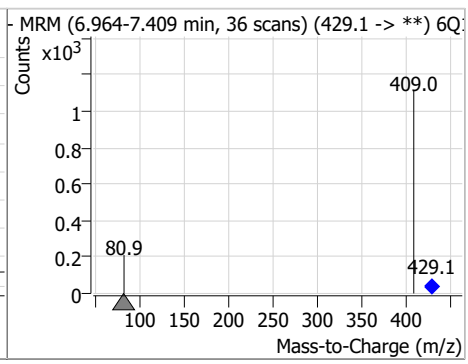




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.15	7.11	0.00	4362				

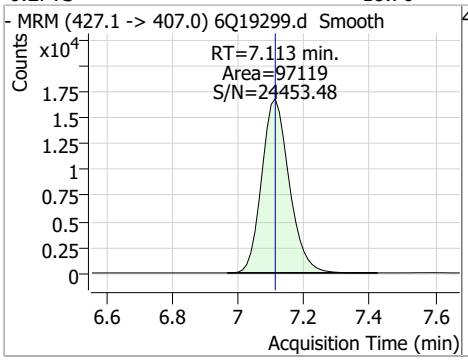


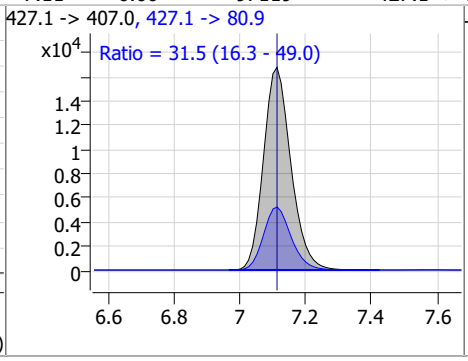


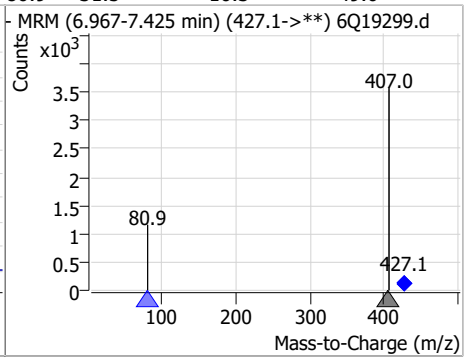


Perfluorinated Compounds by LC/MS/MS

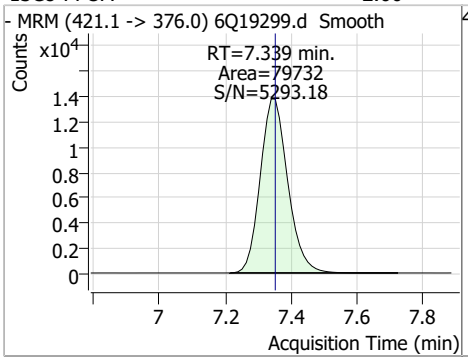
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	18.70	7.11	0.00	97119	427.1 -> 80.9	31.5	16.3	49.0

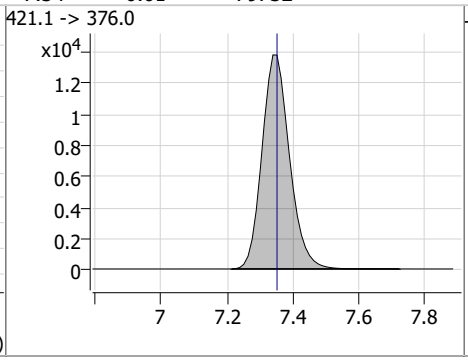


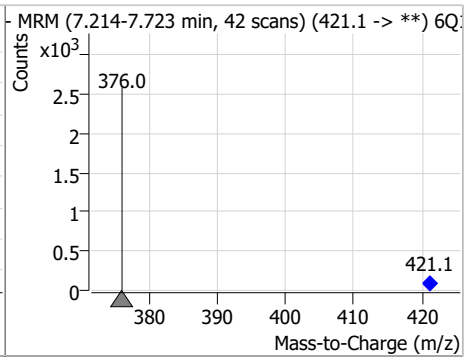




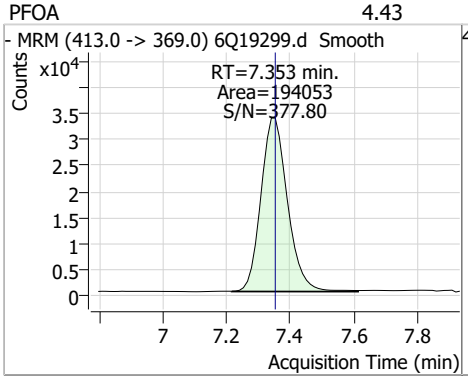
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.60	7.34	-0.01	79732				

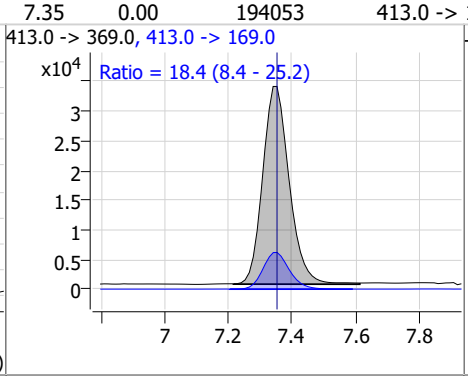


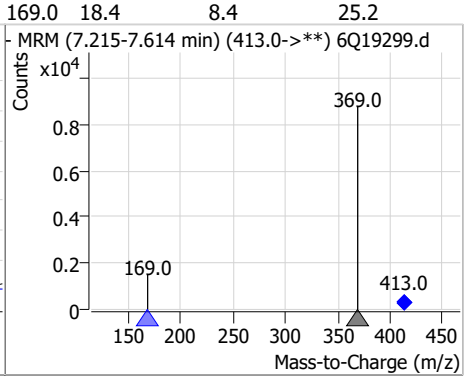




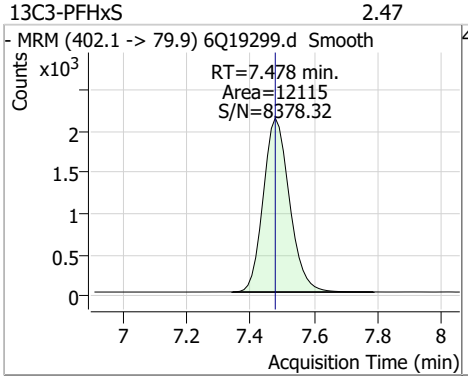
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	4.43	7.35	0.00	194053	413.0 -> 169.0	18.4	8.4	25.2

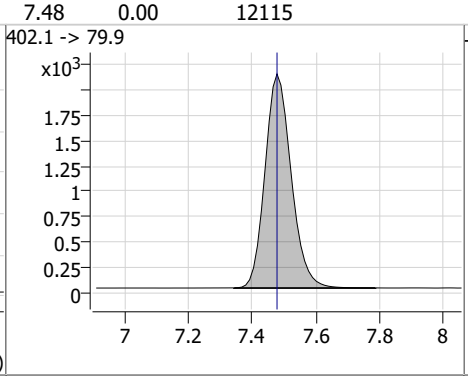


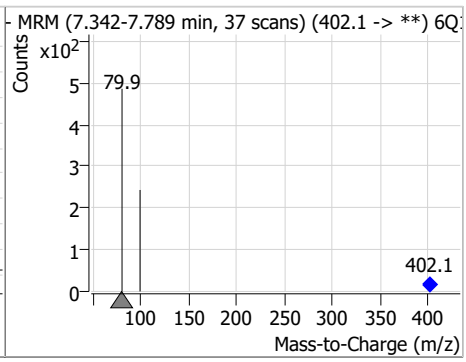




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.47	7.48	0.00	12115				

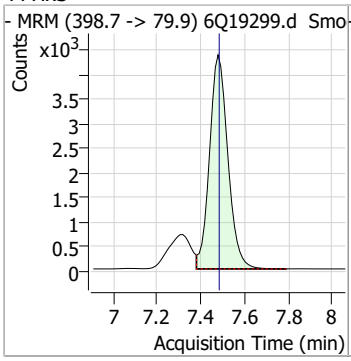


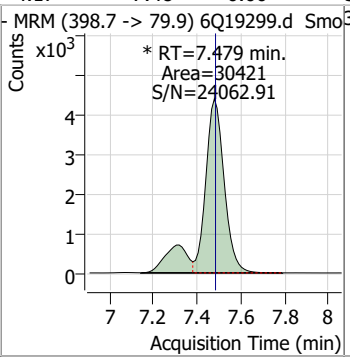


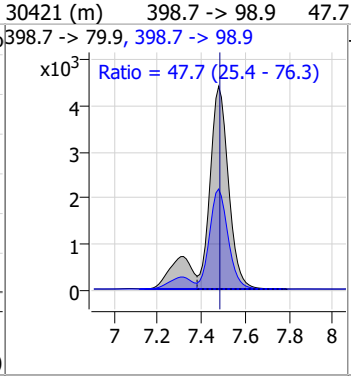


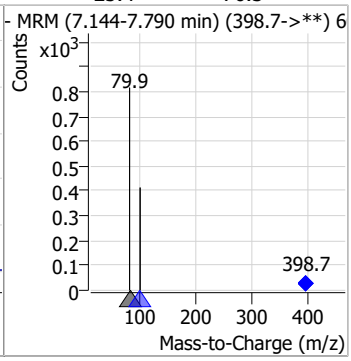
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	4.17	7.48	0.00	30421 (m)	398.7 -> 98.9	47.7	25.4	76.3

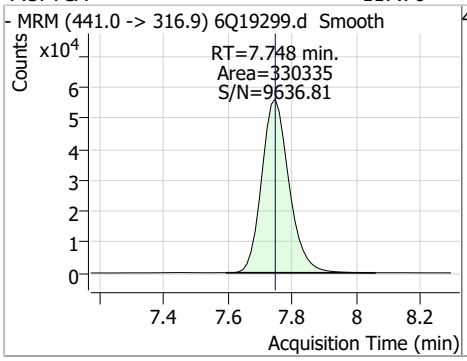


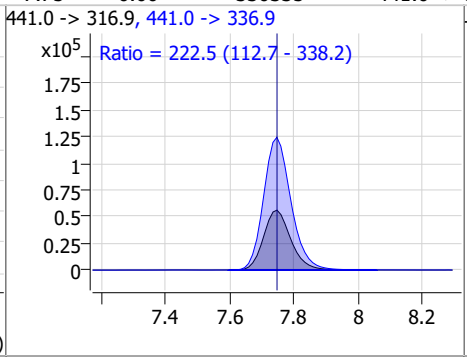


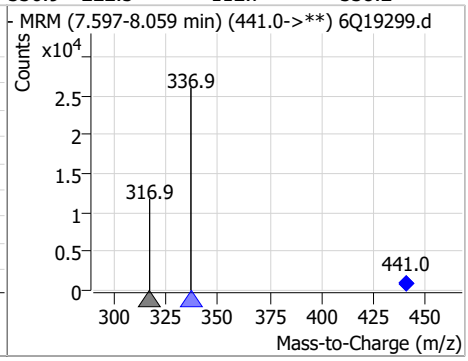




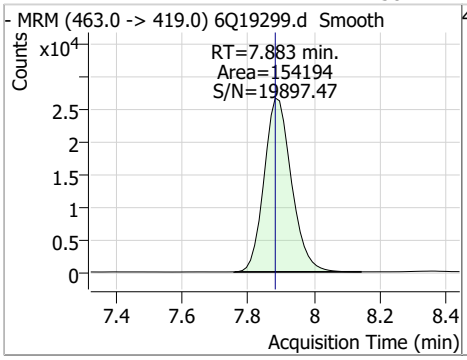
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	117.76	7.75	0.00	330335	441.0 -> 336.9	222.5	112.7	338.2

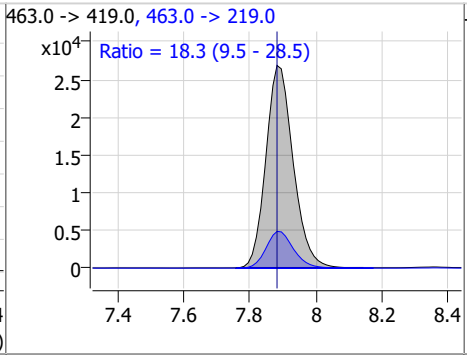


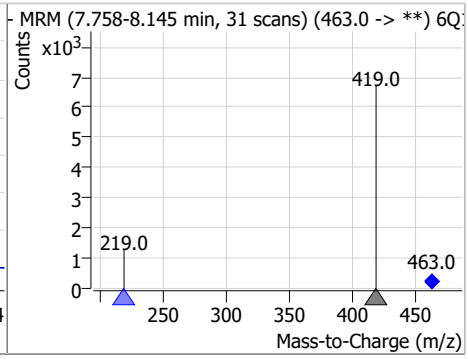




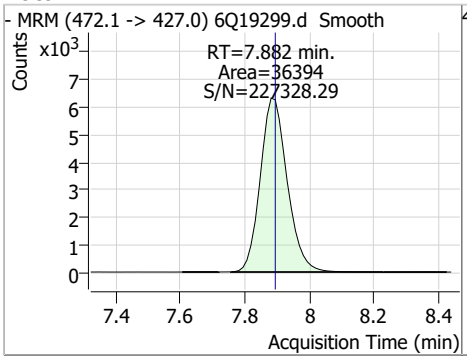
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	4.58	7.88	0.00	154194	463.0 -> 219.0	18.3	9.5	28.5

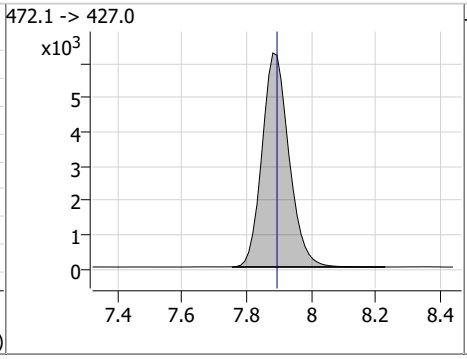


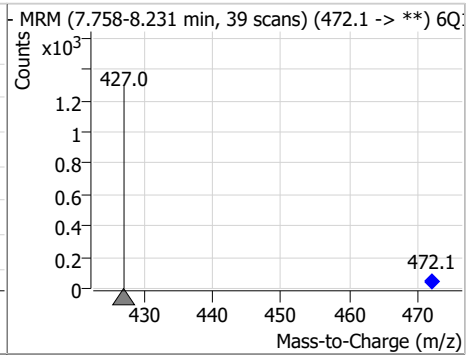




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.21	7.88	-0.01	36394				

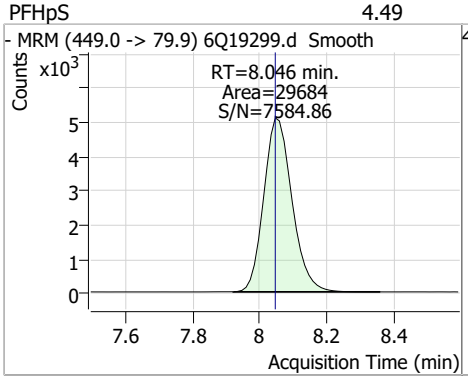


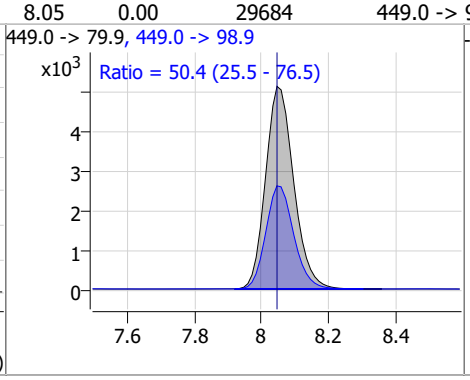


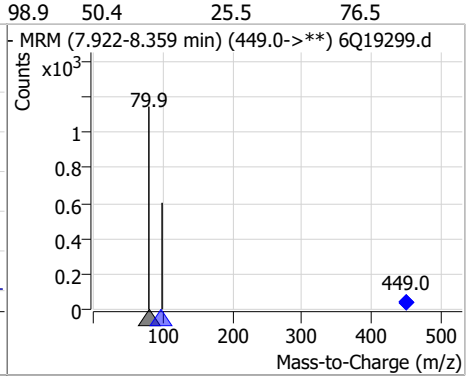


Perfluorinated Compounds by LC/MS/MS

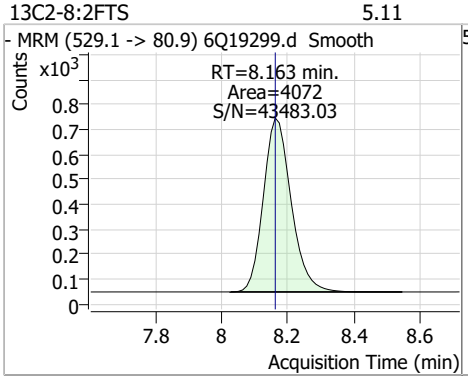
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	4.49	8.05	0.00	29684	449.0 -> 98.9	50.4	25.5	76.5

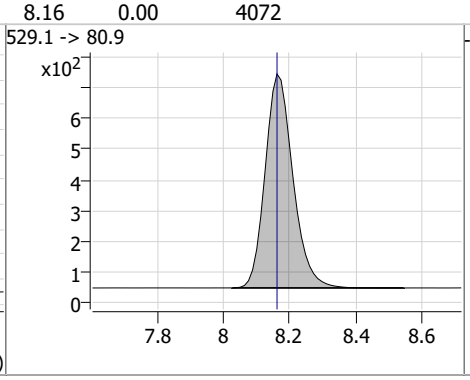


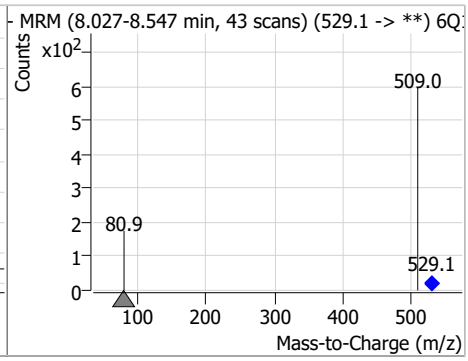




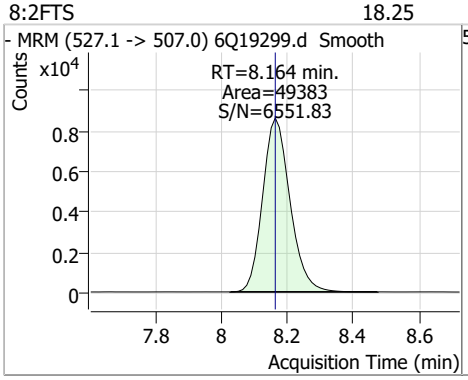
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.11	8.16	0.00	4072				

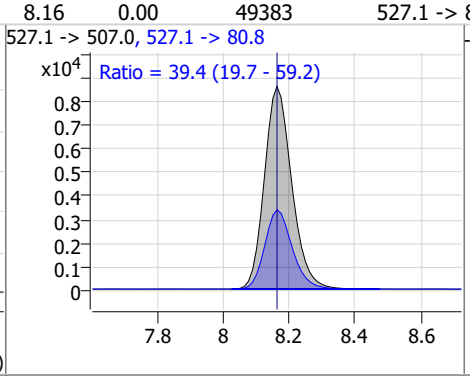


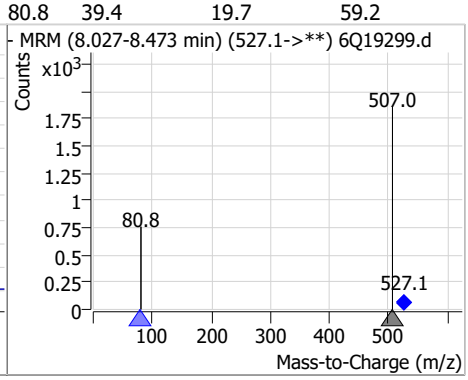




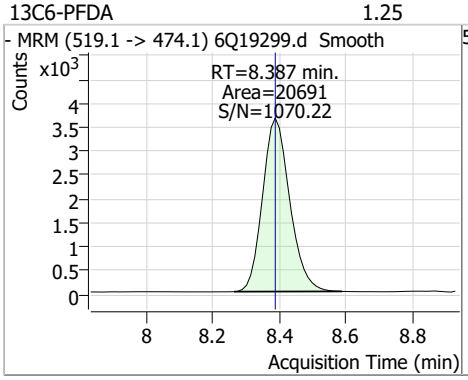
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	18.25	8.16	0.00	49383	527.1 -> 80.8	39.4	19.7	59.2

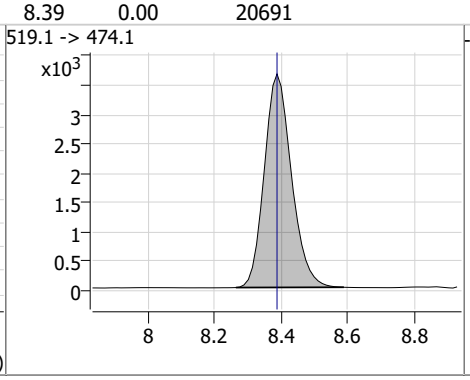


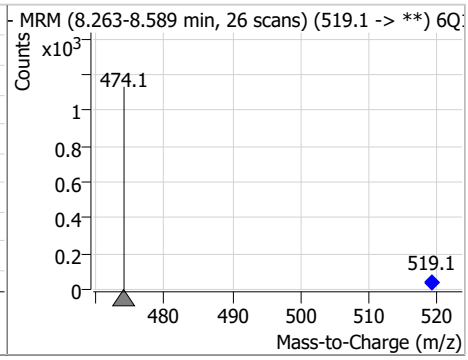




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.25	8.39	0.00	20691				

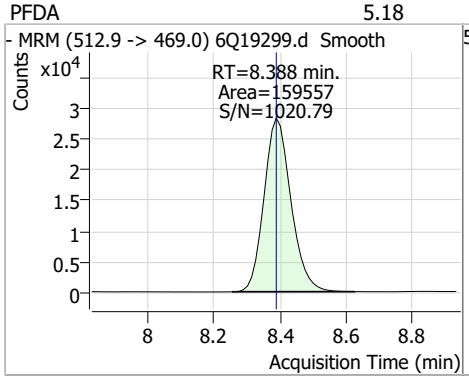


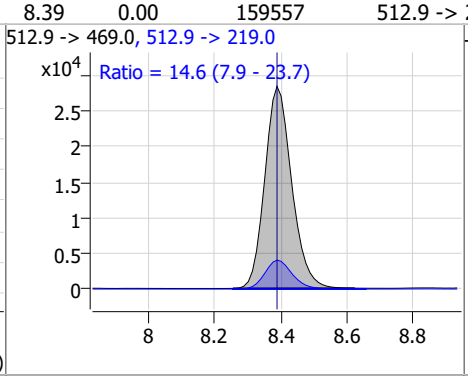


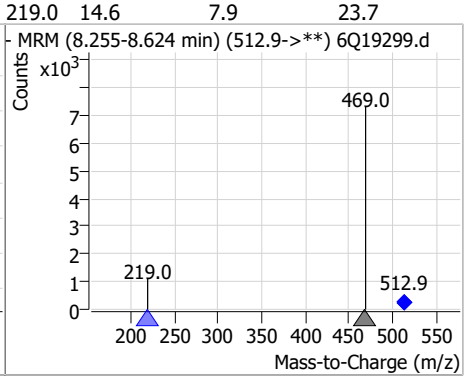


Perfluorinated Compounds by LC/MS/MS

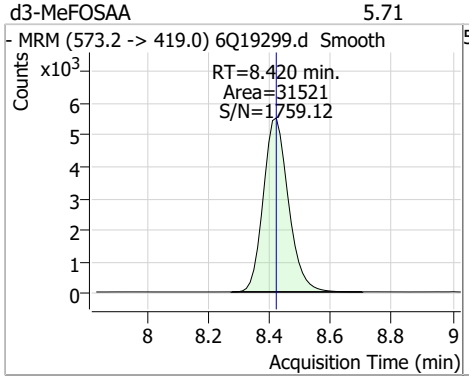
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	5.18	8.39	0.00	159557	512.9 -> 219.0	14.6	7.9	23.7

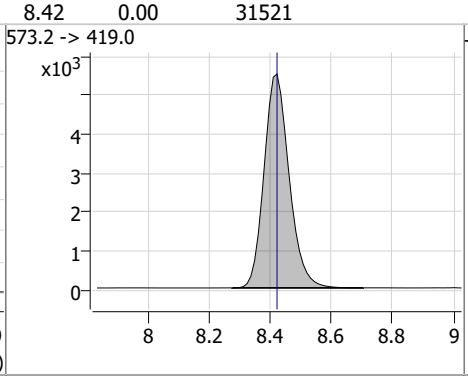


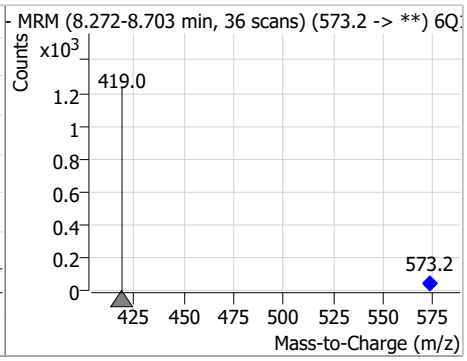




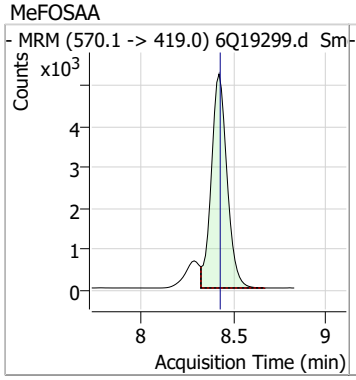
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.71	8.42	0.00	31521				

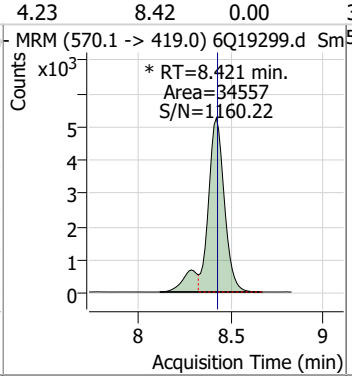


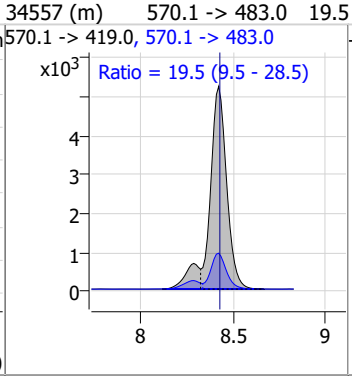


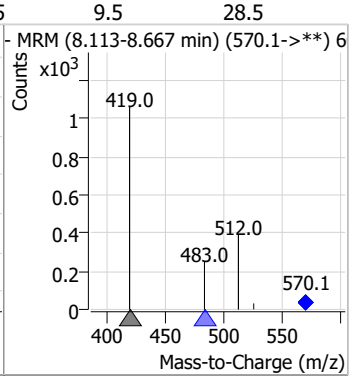


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	4.23	8.42	0.00	34557 (m)	570.1 -> 483.0	19.5	9.5	28.5

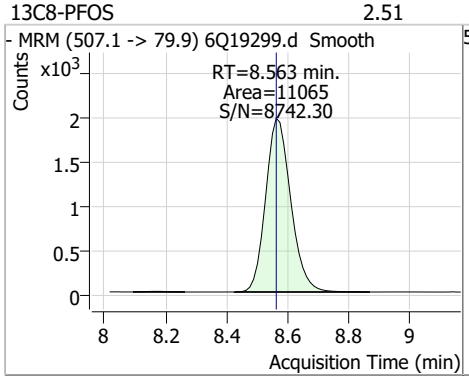


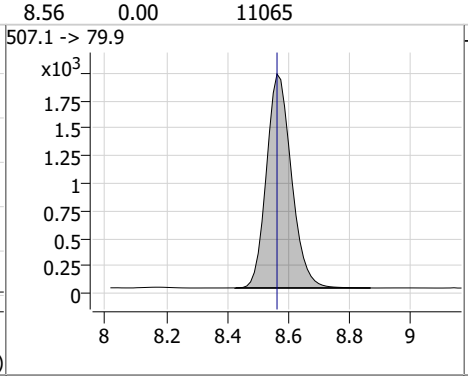


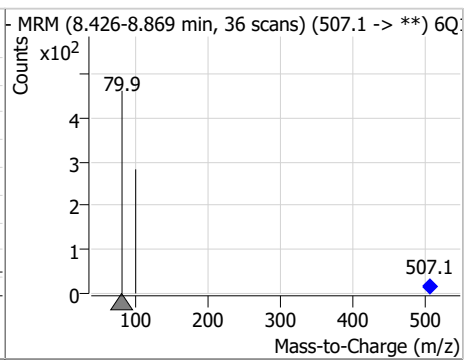




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.51	8.56	0.00	11065				

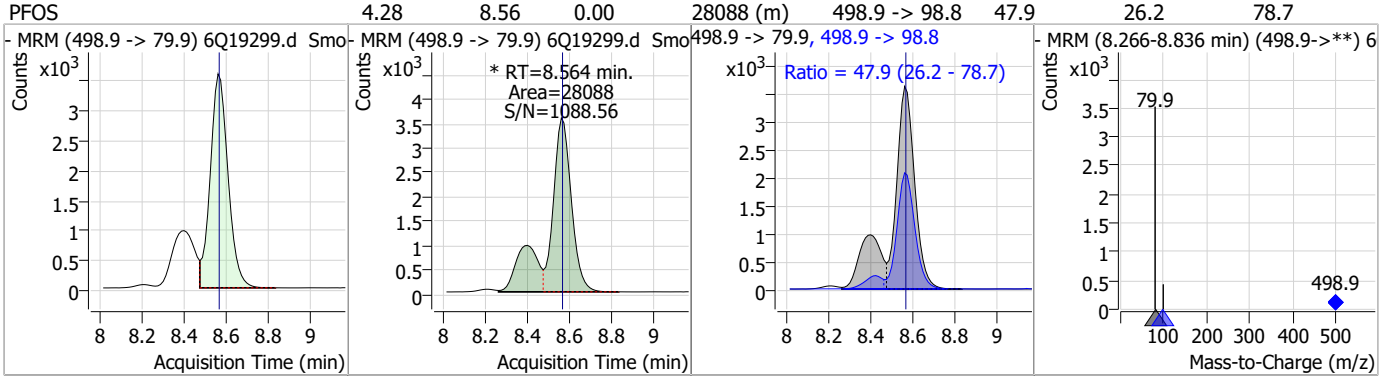




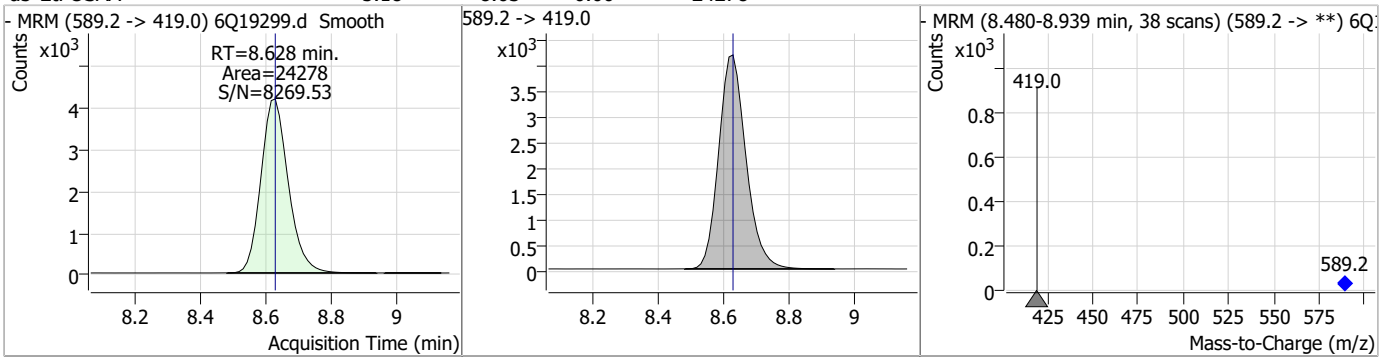


Perfluorinated Compounds by LC/MS/MS

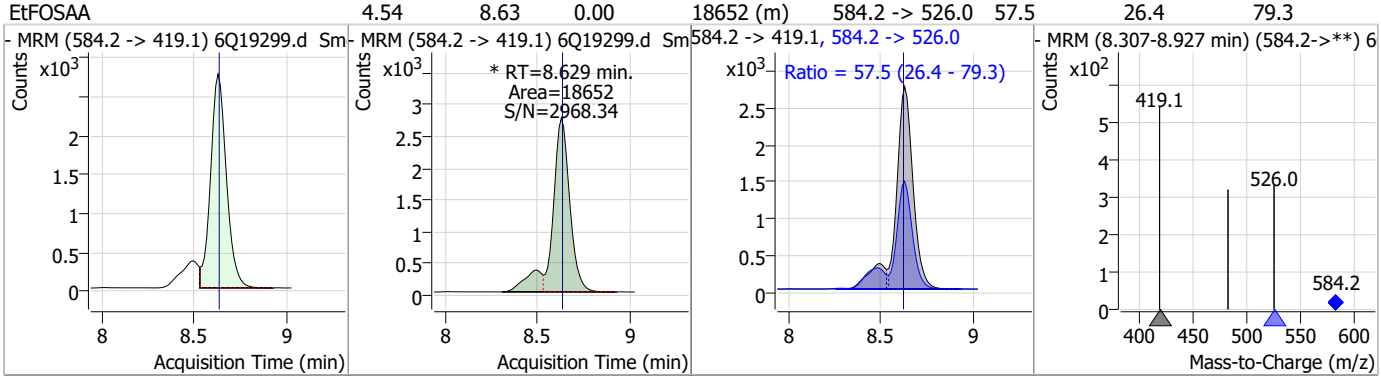
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	4.28	8.56	0.00	28088 (m)	498.9 -> 98.8	47.9	26.2	78.7



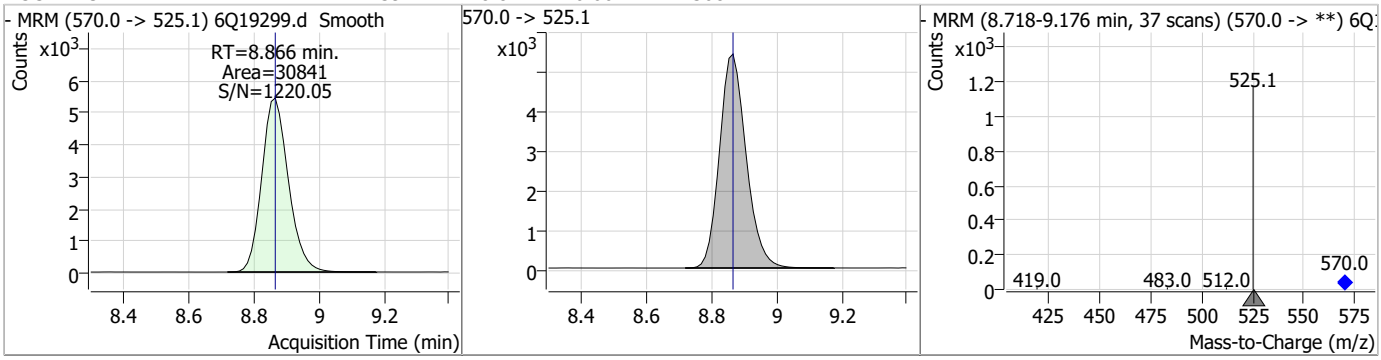
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.18	8.63	0.00	24278				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	4.54	8.63	0.00	18652 (m)	584.2 -> 526.0	57.5	26.4	79.3

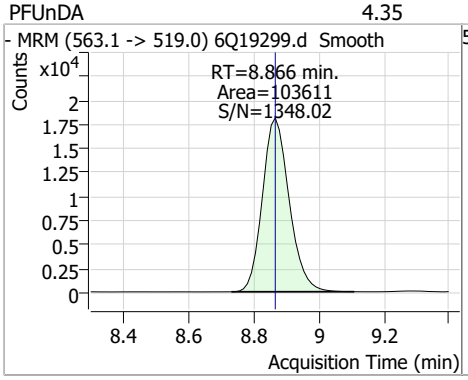


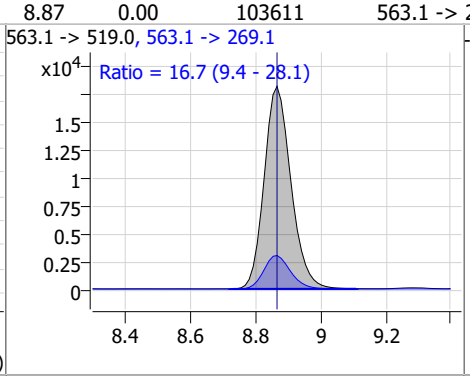
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.39	8.87	0.00	30841				

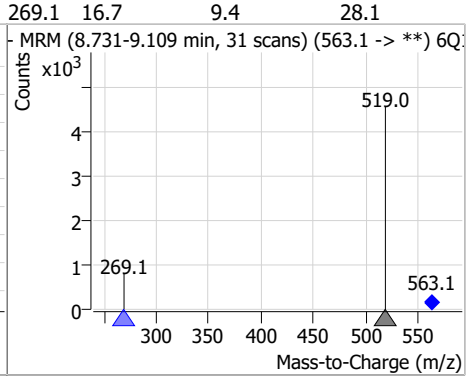


Perfluorinated Compounds by LC/MS/MS

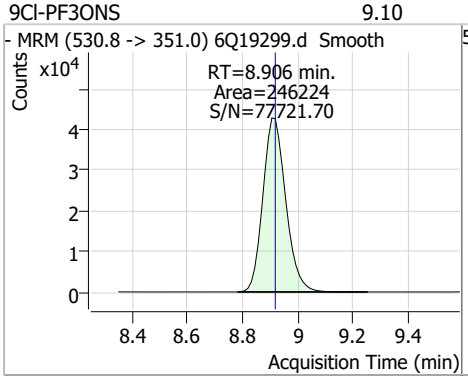
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	4.35	8.87	0.00	103611	563.1 -> 269.1	16.7	9.4	28.1

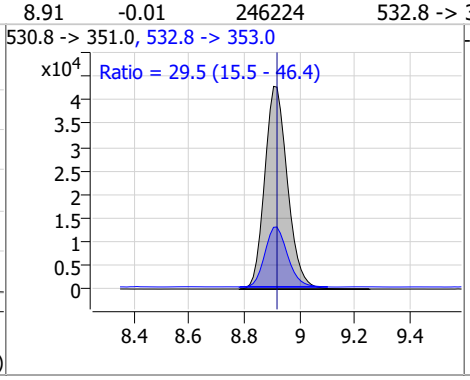


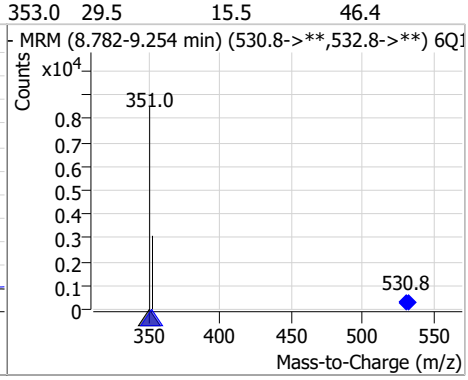




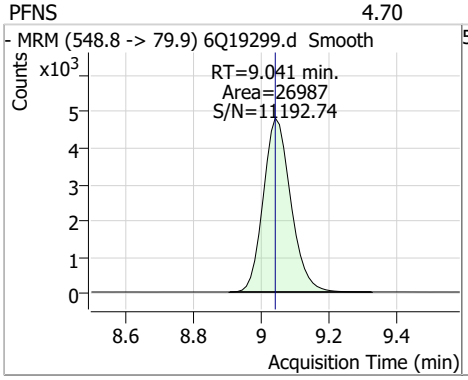
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	9.10	8.91	-0.01	246224	532.8 -> 353.0	29.5	15.5	46.4

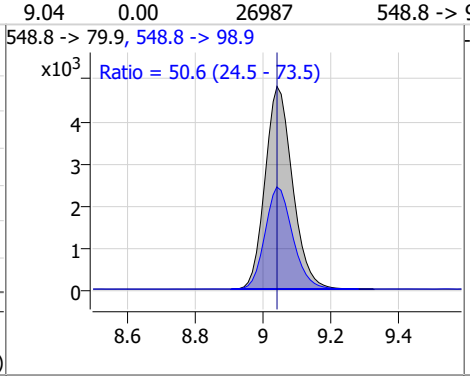


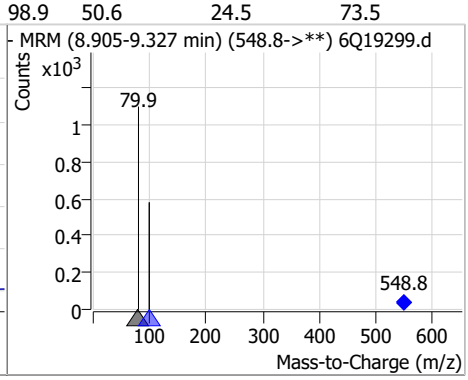




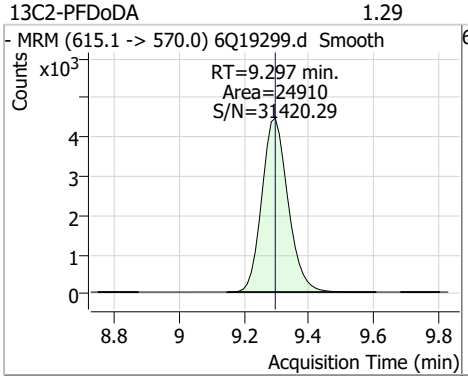
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	4.70	9.04	0.00	26987	548.8 -> 98.9	50.6	24.5	73.5

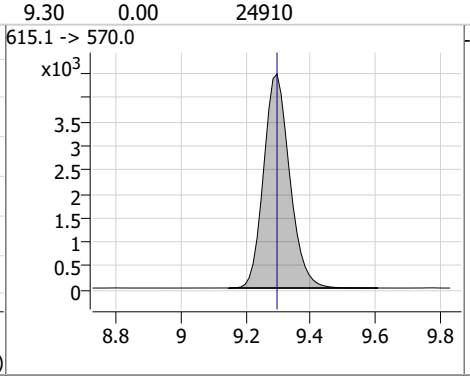


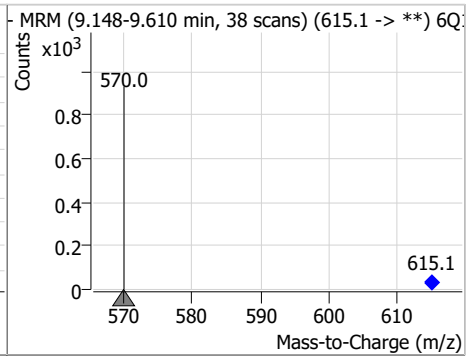




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.29	9.30	0.00	24910				

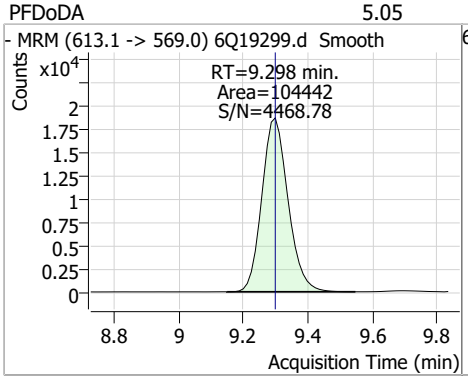


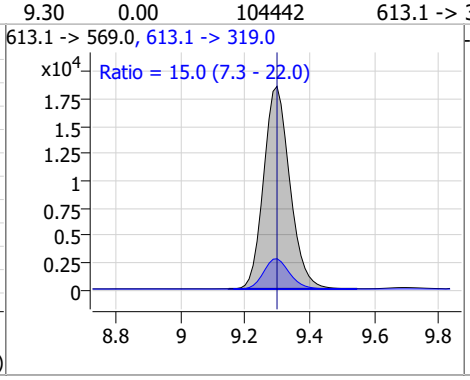


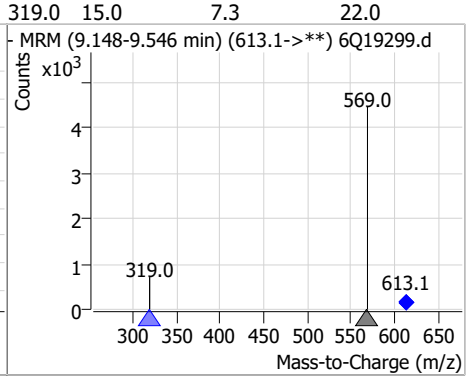


Perfluorinated Compounds by LC/MS/MS

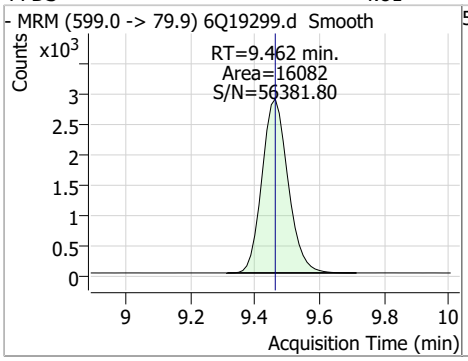
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	5.05	9.30	0.00	104442	613.1 -> 319.0	15.0	7.3	22.0

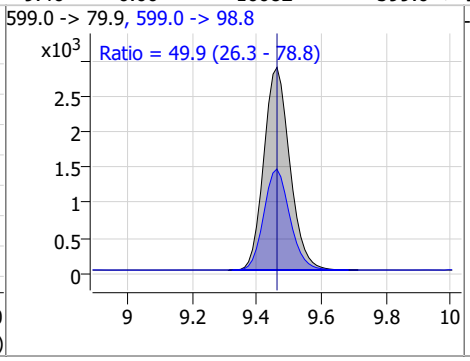


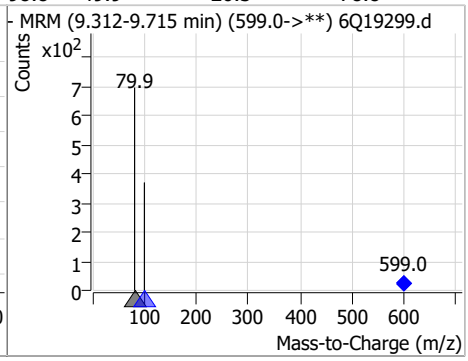




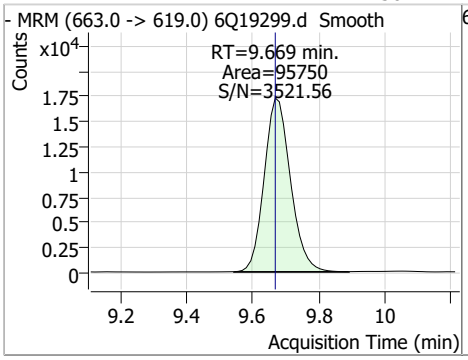
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	4.81	9.46	0.00	16082	599.0 -> 98.8	49.9	26.3	78.8

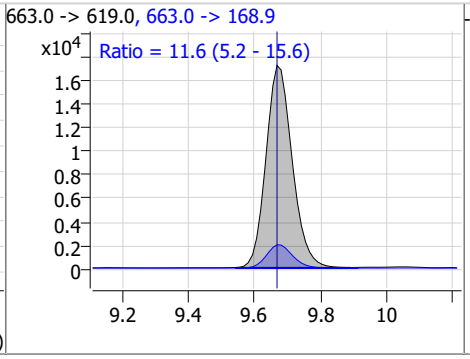


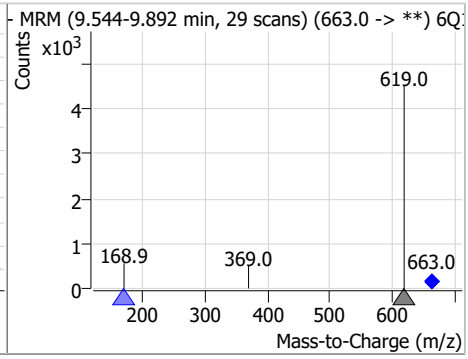




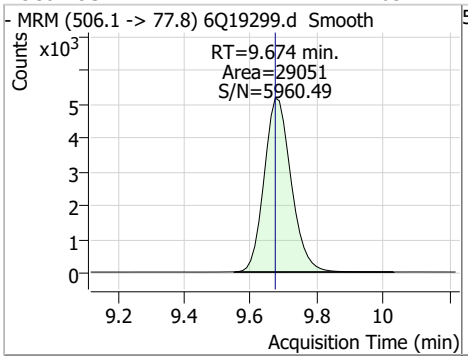
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	4.56	9.67	0.00	95750	663.0 -> 168.9	11.6	5.2	15.6

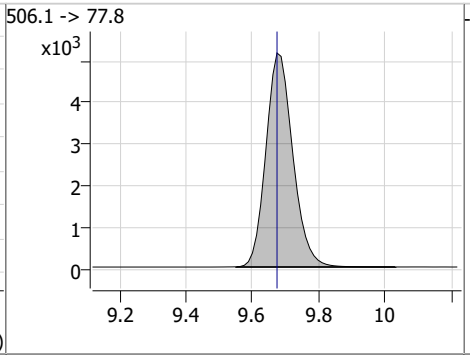


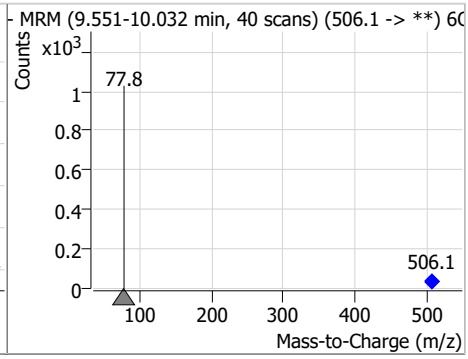




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.63	9.67	0.00	29051				

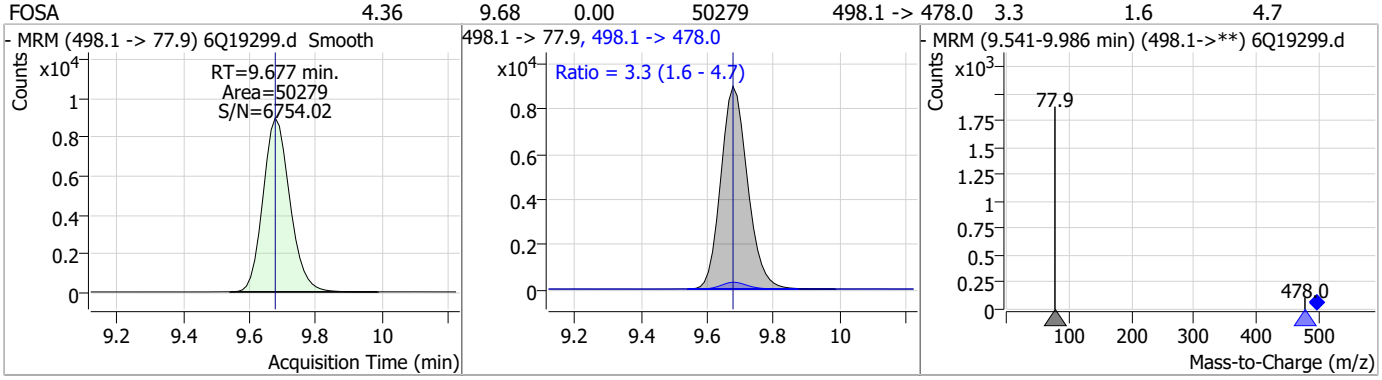




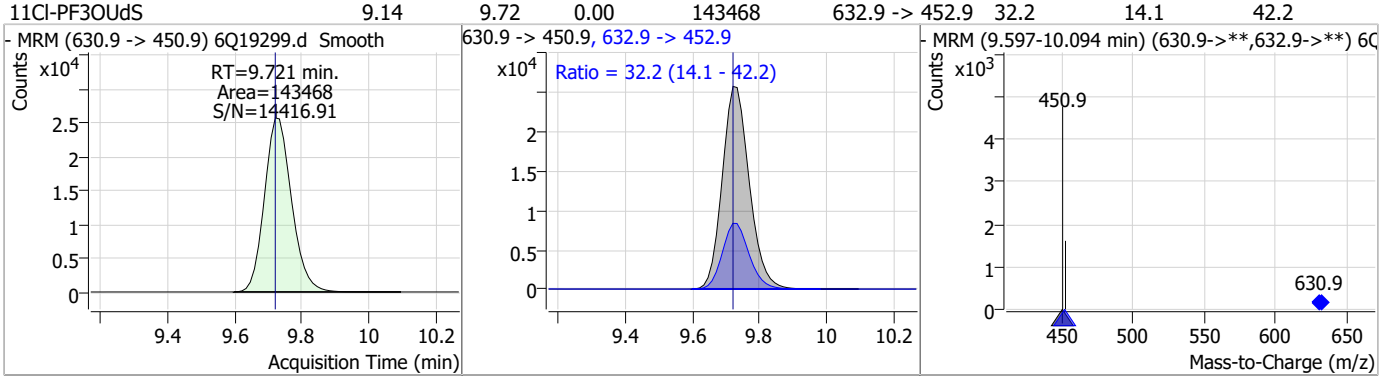


Perfluorinated Compounds by LC/MS/MS

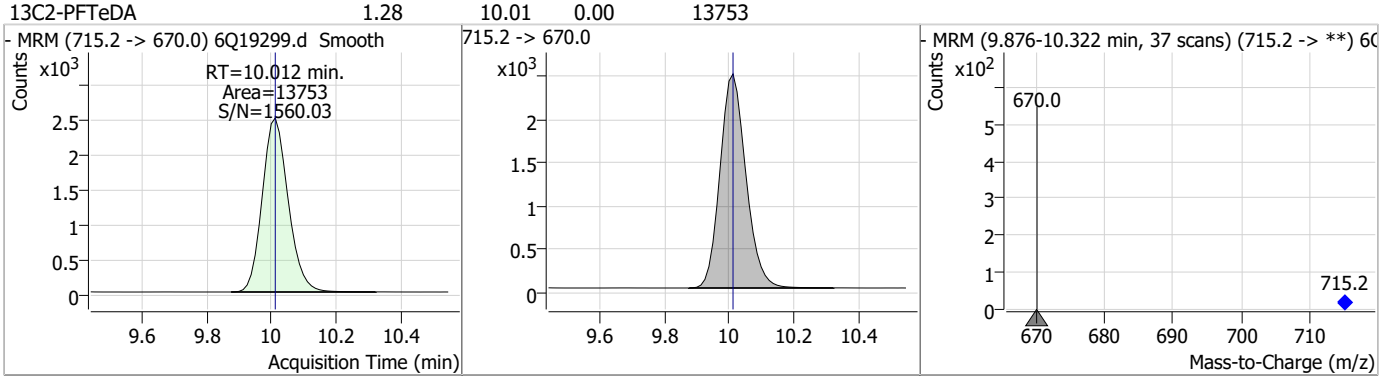
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	4.36	9.68	0.00	50279	498.1 -> 478.0	3.3	1.6	4.7



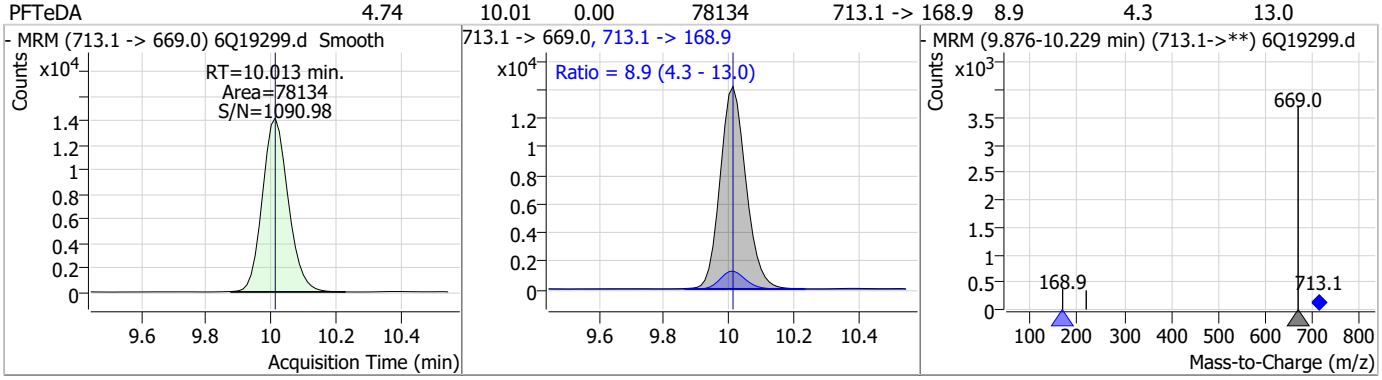
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	9.14	9.72	0.00	143468	632.9 -> 452.9	32.2	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.28	10.01	0.00	13753				

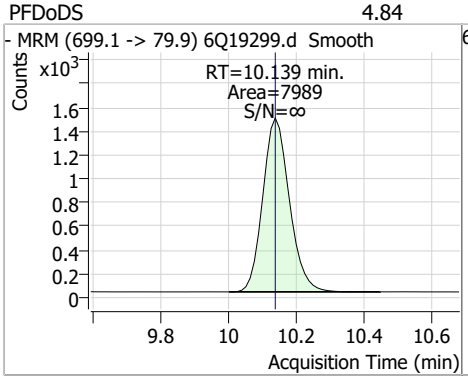


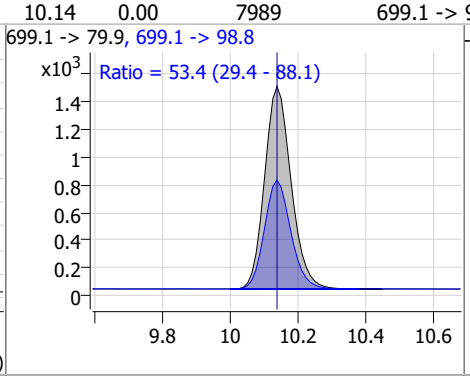
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	4.74	10.01	0.00	78134	713.1 -> 168.9	8.9	4.3	13.0

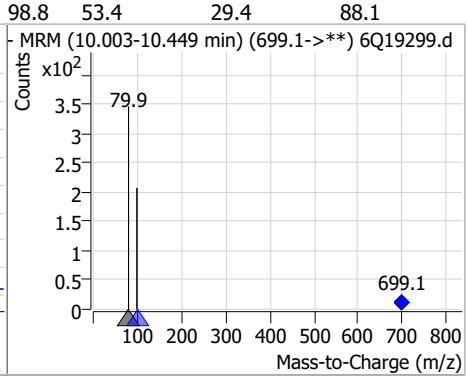


Perfluorinated Compounds by LC/MS/MS

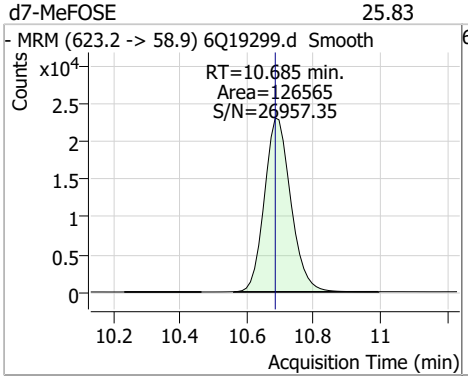
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	4.84	10.14	0.00	7989	699.1 -> 98.8	53.4	29.4	88.1

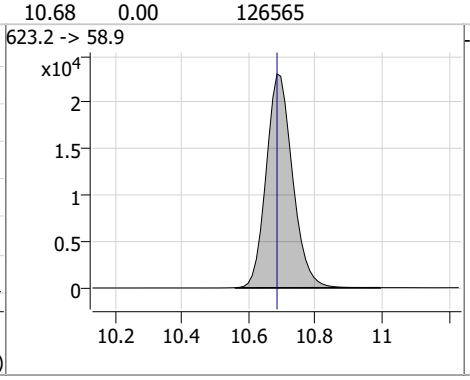


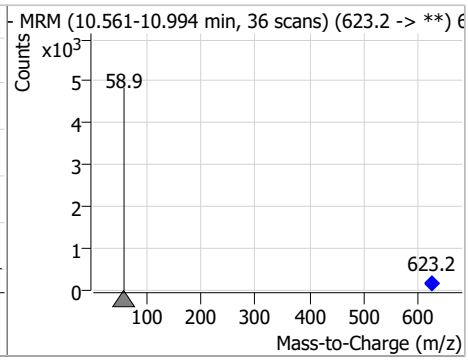




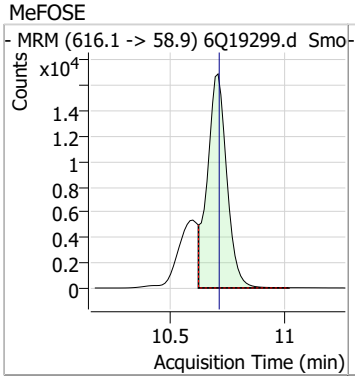
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.83	10.68	0.00	126565				

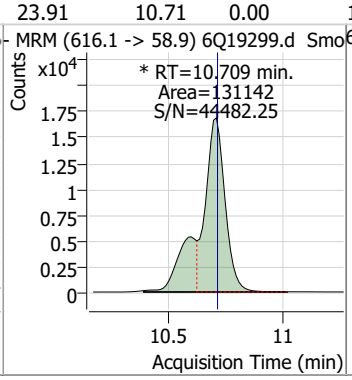


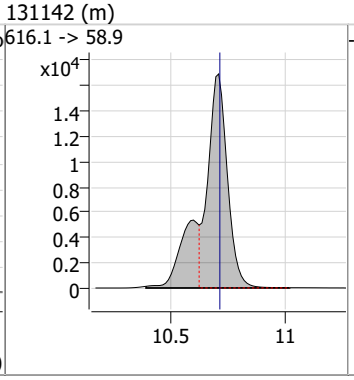


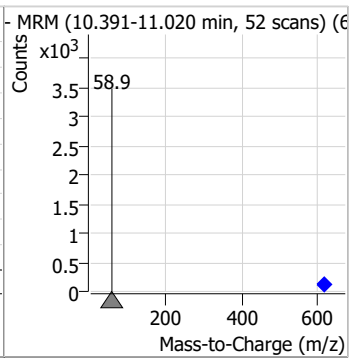


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	23.91	10.71	0.00	131142 (m)				

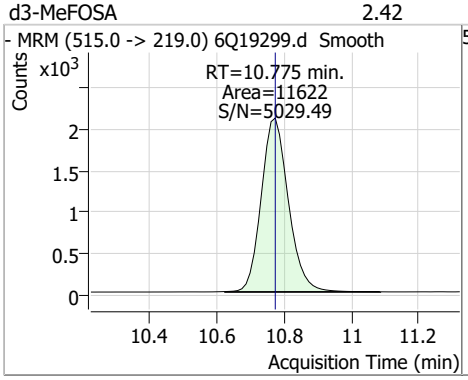


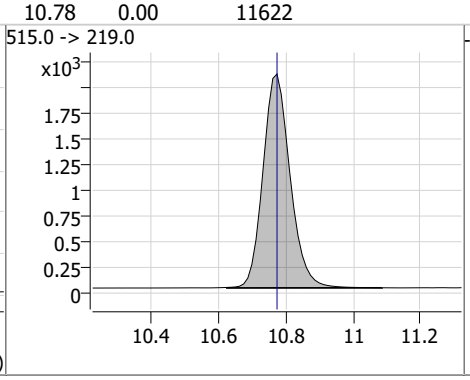


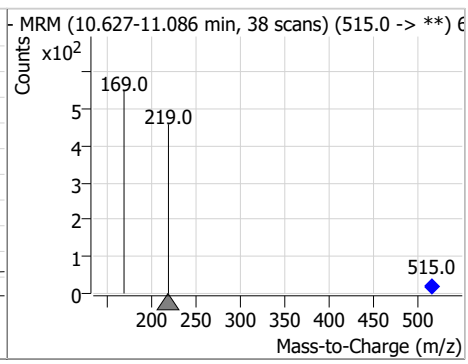




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.42	10.78	0.00	11622				

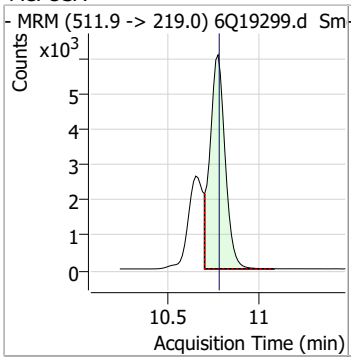


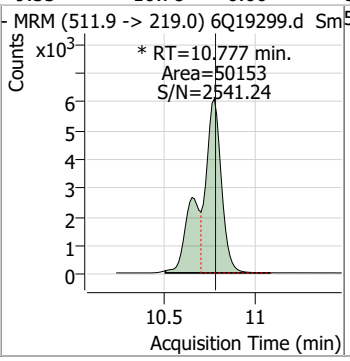


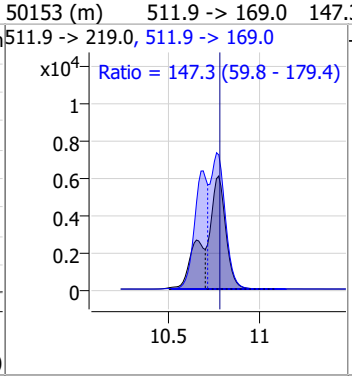


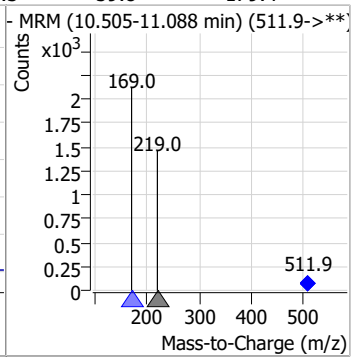
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	9.53	10.78	0.00	50153 (m)	511.9 -> 169.0	147.3	59.8	179.4

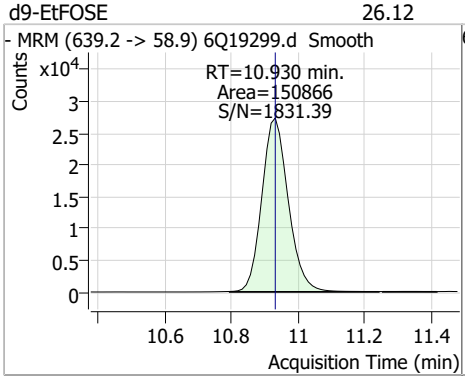


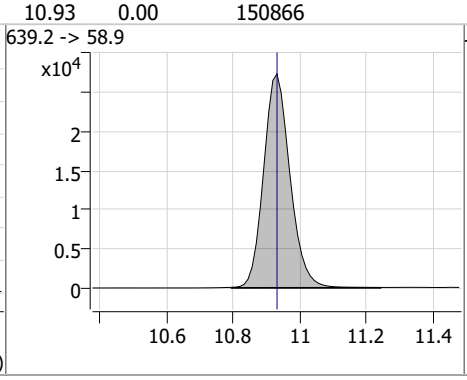


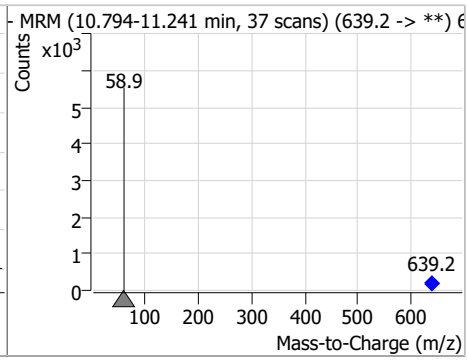




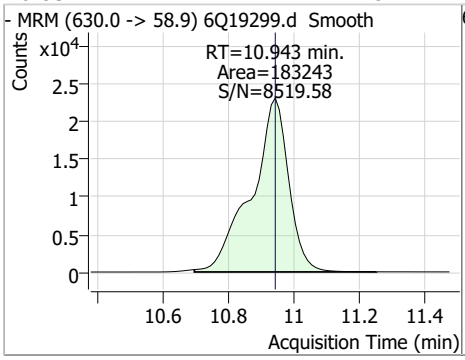
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.12	10.93	0.00	150866				

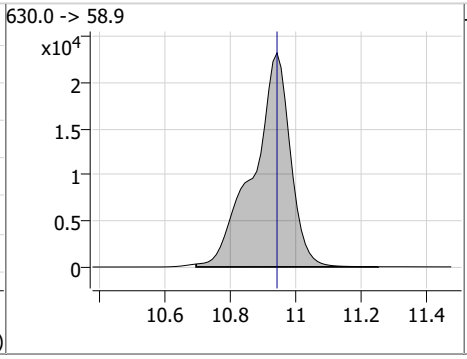


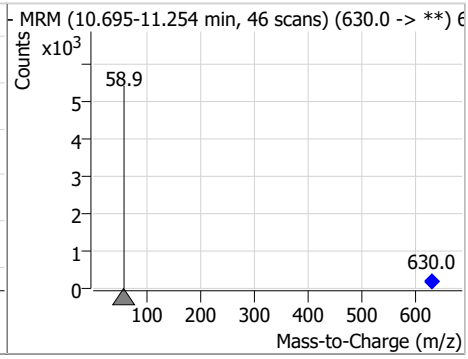




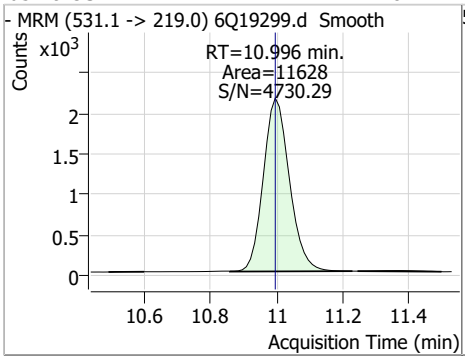
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	23.47	10.94	0.00	183243				

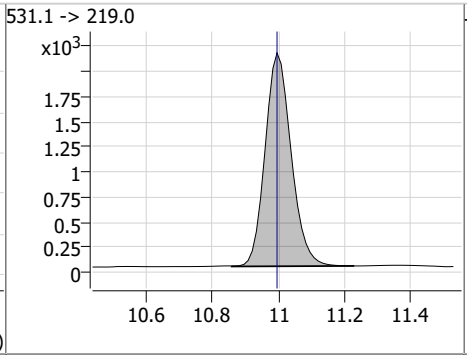


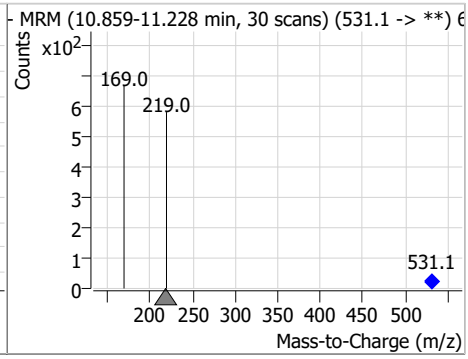




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.48	11.00	0.00	11628				

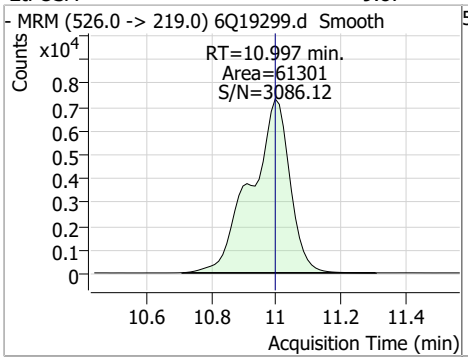


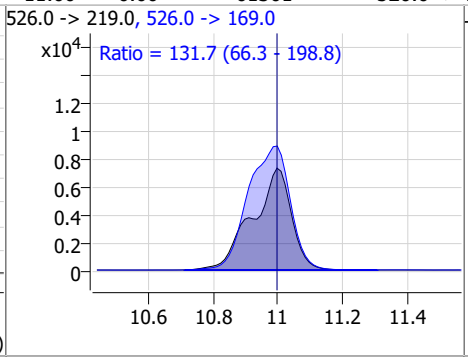


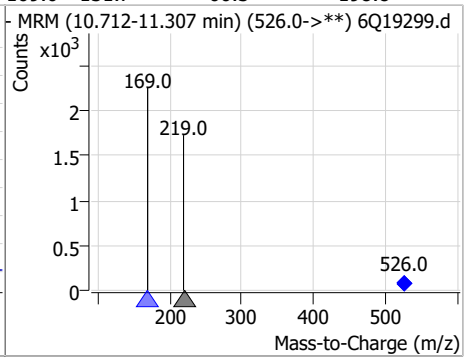


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	9.87	11.00	0.00	61301	526.0 -> 169.0	131.7	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q288-IC288
Lab FileID: 6Q19299.D
Injection Time: 06/13/23 12:31
Method: EPA DRAFT 1633
Analyst approved: 06/14/23 10:15 Martha Valls
Supervisor approved: 06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

6Q19300.D

Manual Integrations APPROVED (compounds with "m" flag)

Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19300.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 12:45:45 PM
Sample Name : ic288-6
Vial : P1-A7
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	137408	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	45517	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	49191	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	46741	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	69561	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	33653	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	21327	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	27066	1.25	µg/L	-0.012
M2-PFDoDA	9.297	615.1 -> 570.0	23236	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	13316	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	26037	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	18512	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11835	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	10816	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	2325	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	3542	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3697	5.00	µg/L	0.000
M3-MeFOSAA	8.407	573.2 -> 419.0	27464	5.00	µg/L	-0.012
M3-HFPO-DA	6.169	286.9 -> 168.9	32372	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	23843	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	123372	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	144908	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11831	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11956	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	14179	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	58838	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8334	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	80738	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	28907	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	44243	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	47050	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	2325	4.65	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.0%		
13C2-6:2FTS	7.113	429.1 -> 80.9	3542	4.69	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.8%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3697	5.21	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.1%		
13C2-PFDoDA	9.297	615.1 -> 570.0	23236	1.20	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.2%		
13C2-PFTeDA	10.012	715.2 -> 670.0	13316	1.23	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.8%		
13C3-PFBS	5.746	302.1 -> 79.9	18512	2.67	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.7%		
13C3-PFHxS	7.478	402.1 -> 79.9	11835	2.70	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.1%		
13C4-PFBA	3.085	216.8 -> 171.9	137408	9.95 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.5%		
13C4-PFHpA	6.707	367.1 -> 322.0	46741	2.57 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%		
13C5-PFHxA	5.792	318.0 -> 273.0	49191	2.53 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%		
13C5-PFPeA	4.560	268.3 -> 223.0	45517	5.11 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C6-PFDA	8.387	519.1 -> 474.1	21327	1.29 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C7-PFUnDA	8.853	570.0 -> 525.1	27066	1.22 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.4%		
13C8-FOSA	9.674	506.1 -> 77.8	26037	2.42 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C8-PFOA	7.339	421.1 -> 376.0	69561	2.30 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.2%		
13C8-PFOS	8.563	507.1 -> 79.9	10816	2.53 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%		
13C9-PFNA	7.882	472.1 -> 427.0	33653	1.25 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.0%		
d3-MeFOSAA	8.407	573.2 -> 419.0	27464	5.12 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	32372	9.96 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%		
d3-MeFOSA	10.775	515.0 -> 219.0	11956	2.56 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%		
d5-EtFOSAA	8.615	589.2 -> 419.0	23843	5.24 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.7%		
d7-MeFOSE	10.685	623.2 -> 58.9	123372	25.93 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.7%		
d9-EtFOSE	10.930	639.2 -> 58.9	144908	25.83 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.3%		
d5-EtFOSA	10.996	531.1 -> 219.0	11831	2.60 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.9%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	193625	47.89 µg/L		100
		327.1 -> 80.9	72011			
6:2FTS	7.101	427.1 -> 407.0	207940	49.30 µg/L		99
		427.1 -> 80.9	67370			
8:2FTS	8.164	527.1 -> 507.0	114249	46.50 µg/L		98
		527.1 -> 80.8	43847			
EtFOSAA	8.629	584.2 -> 419.1	45772	11.34 µg/L	m	98
		584.2 -> 526.0	24705			
FOSA	9.677	498.1 -> 77.9	140237	13.56 µg/L		99
		498.1 -> 478.0	3963			
MeFOSAA	8.408	570.1 -> 419.0	85849	12.06 µg/L	m	98
		570.1 -> 483.0	16992			
PFBA	3.093	212.8 -> 168.9	270482	48.85 µg/L		100
PFBS	5.747	298.7 -> 79.9	86784	10.50 µg/L		99
		298.7 -> 98.8	33731			
PFDA	8.388	512.9 -> 469.0	356587	11.24 µg/L		99
		512.9 -> 219.0	57714			
PFDoDA	9.298	613.1 -> 569.0	235249	12.20 µg/L		96
		613.1 -> 319.0	38632			
PFDS	9.462	599.0 -> 79.9	38887	11.89 µg/L		98

Perfluorinated Compounds by LC/MS/MS

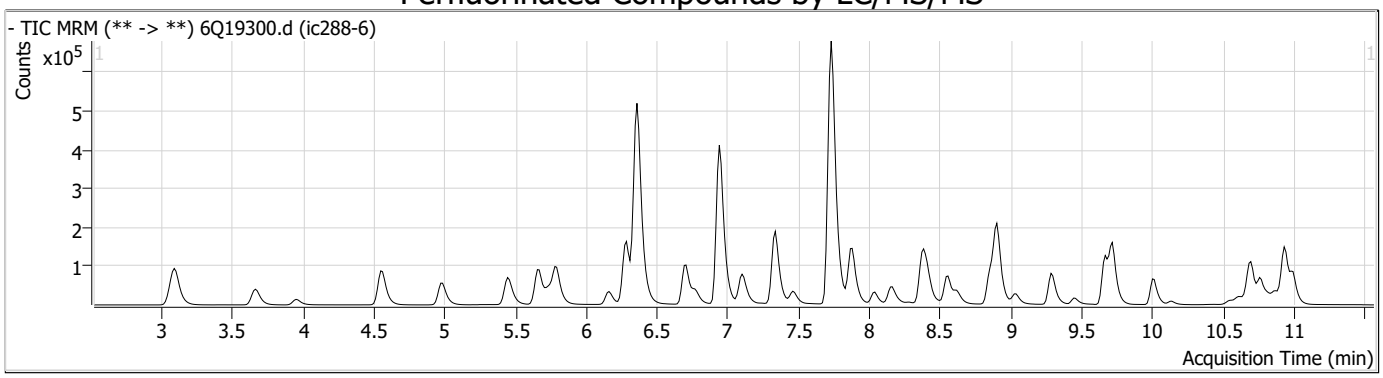
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	19879				
PFHpA	6.708	363.1 -> 319.0	306029	12.26	µg/L		98
		363.1 -> 169.0	49560				
PFHpS	8.046	449.0 -> 79.9	75920	11.75	µg/L		97
		449.0 -> 98.9	37093				
PFHxA	5.795	313.0 -> 269.0	238359	12.00	µg/L		99
		313.0 -> 118.9	13059				
PFHxS	7.479	398.7 -> 79.9	75065	10.53	µg/L	m	96
		398.7 -> 98.9	35967				
PFNA	7.883	463.0 -> 419.0	392208	12.61	µg/L		98
		463.0 -> 219.0	70174				
PFNS	9.041	548.8 -> 79.9	64523	11.50	µg/L		99
		548.8 -> 98.9	32029				
PFOA	7.341	413.0 -> 369.0	473355	12.39	µg/L		97
		413.0 -> 169.0	85830				
PFOS	8.564	498.9 -> 79.9	72468	11.29	µg/L	m	94
		498.9 -> 98.8	34857				
PFPeA	4.563	263.0 -> 219.0	327107	24.34	µg/L		100
PFPeS	6.785	349.1 -> 79.9	75157	11.33	µg/L		93
		349.1 -> 98.9	32745				
PFTeDA	10.013	713.1 -> 669.0	194186	12.17	µg/L		100
		713.1 -> 168.9	16422				
PFTrDA	9.669	663.0 -> 619.0	231955	11.84	µg/L		97
		663.0 -> 168.9	26562				
PFUnDA	8.866	563.1 -> 519.0	260800	12.48	µg/L		95
		563.1 -> 269.1	43403				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	352493	23.91	µg/L		94
		632.9 -> 452.9	111334				
9Cl-PF3ONS	8.906	530.8 -> 351.0	522868	20.59	µg/L		93
		532.8 -> 353.0	181561				
ADONA	6.946	376.9 -> 250.9	1242433	23.72	µg/L		98
		376.9 -> 84.8	347404				
HFPO-DA	6.169	284.9 -> 168.9	85692	25.29	µg/L		100
		284.9 -> 184.9	9990				
3:3FTCA	3.946	241.0 -> 177.0	55069	60.58	µg/L		99
		241.0 -> 117.0	7221				
5:3FTCA	6.361	341.0 -> 237.1	1201141	304.40	µg/L		96
		341.0 -> 217.0	858719				
7:3FTCA	7.736	441.0 -> 316.9	821667	307.98	µg/L		97
		441.0 -> 336.9	1891783				
EtFOSA	10.997	526.0 -> 219.0	150276	23.78	µg/L	m	96
		526.0 -> 169.0	192978				
EtFOSE	10.943	630.0 -> 58.9	448717	59.83	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	126519	23.37	µg/L	m	79
		511.9 -> 169.0	181020				
MeFOSE	10.709	616.1 -> 58.9	312563	58.46	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	19137	11.87	µg/L		91
		699.1 -> 98.8	9913				
NFDHA	5.673	295.0 -> 201.0	60037	23.67	µg/L		96
		295.0 -> 84.9	14899				
PFMBA	4.988	279.0 -> 85.1	235609	24.60	µg/L		100
PFMPA	3.667	229.0 -> 84.9	182840	24.40	µg/L		100
PFEESA	6.288	314.8 -> 134.9	570640	21.27	µg/L		99
		314.8 -> 82.9	21454				

 # = Qualifier out of range, m = manually integrated, + = Area summed

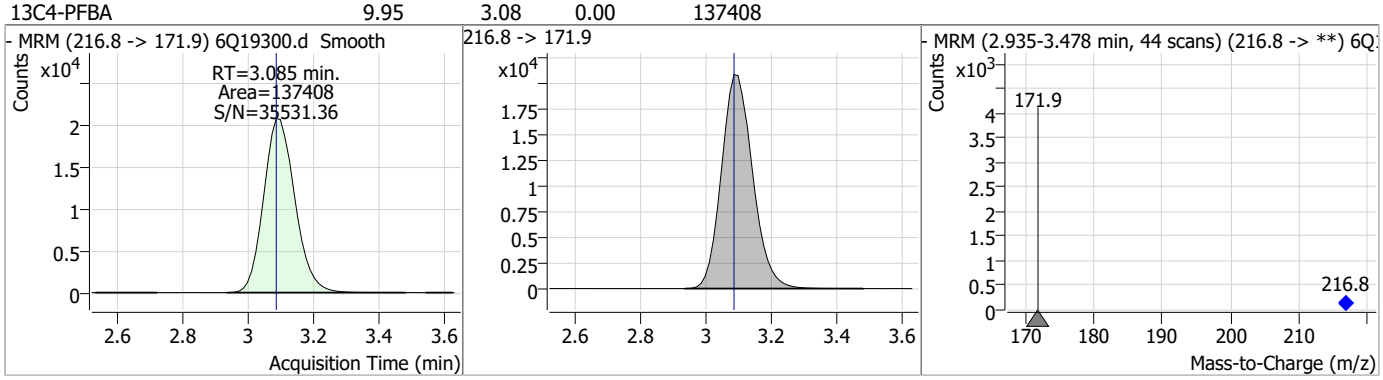
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

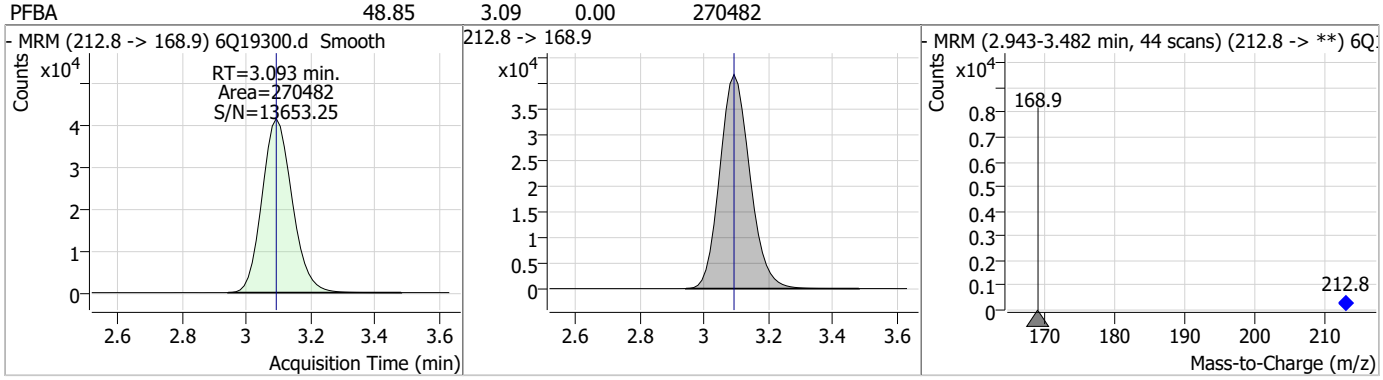
Perfluorinated Compounds by LC/MS/MS



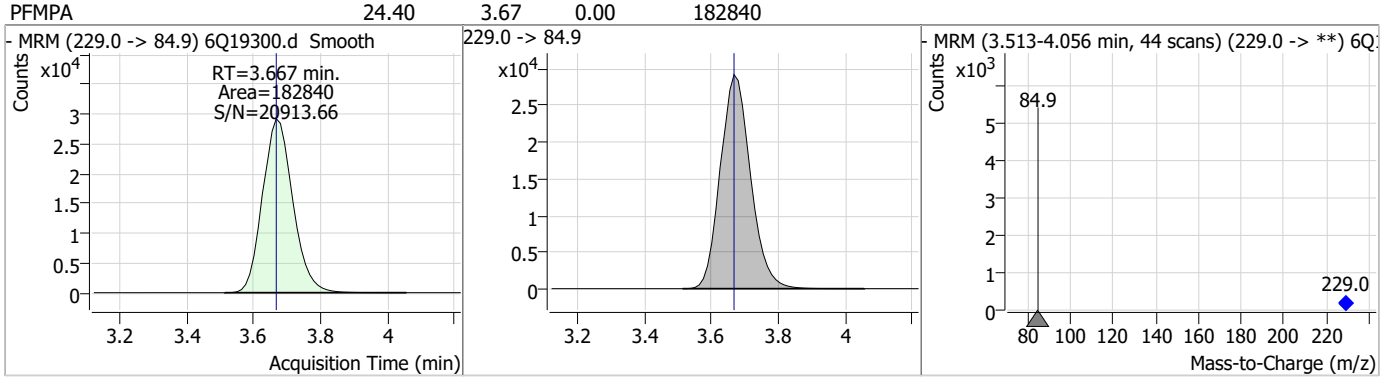
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.95	3.08	0.00	137408				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	48.85	3.09	0.00	270482				

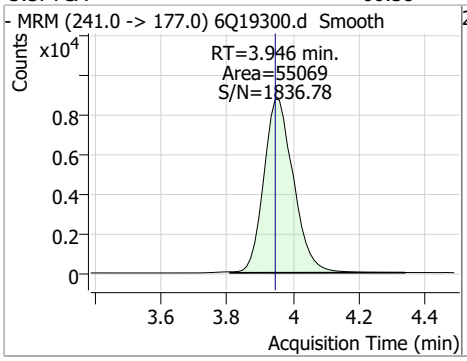


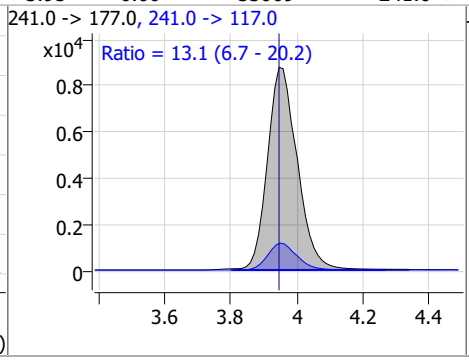
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	24.40	3.67	0.00	182840				

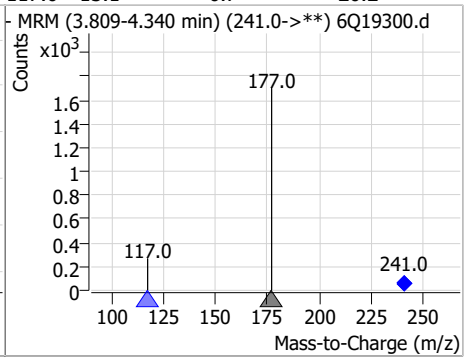


Perfluorinated Compounds by LC/MS/MS

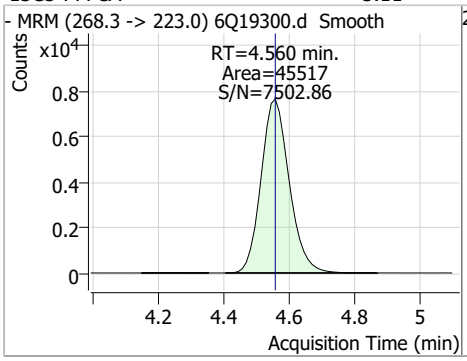
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	60.58	3.95	0.00	55069	241.0 -> 117.0	13.1	6.7	20.2

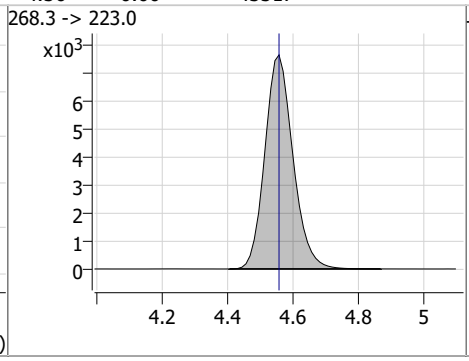


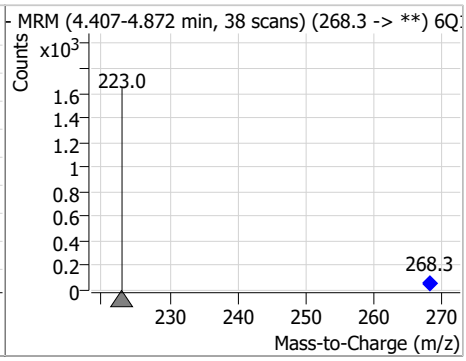




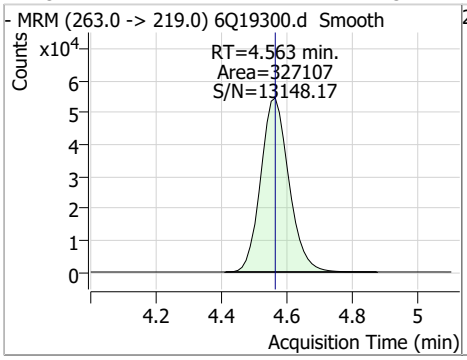
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.11	4.56	0.00	45517				

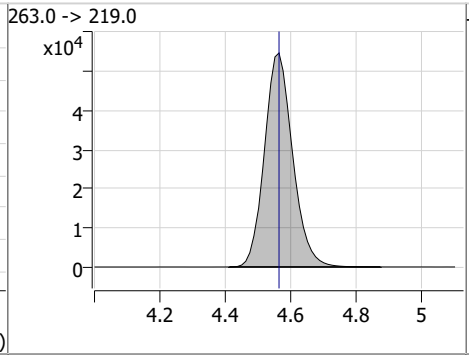


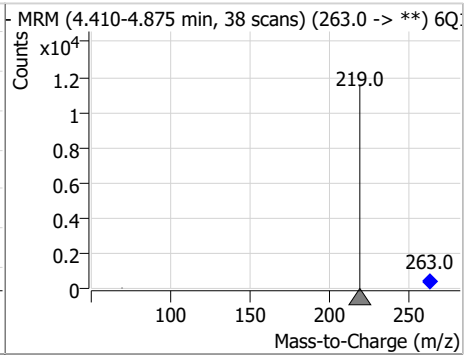




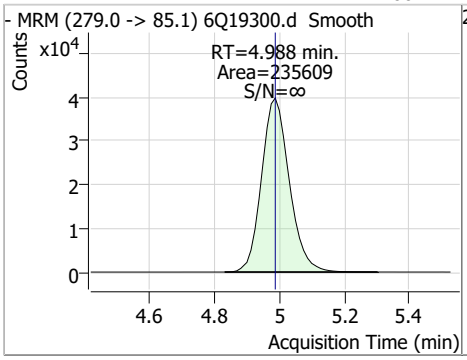
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	24.34	4.56	0.00	327107				

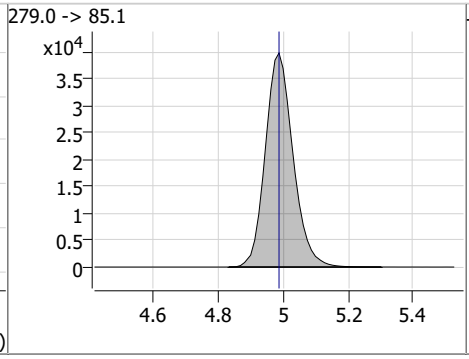


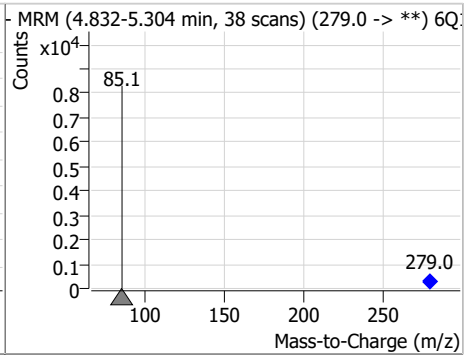




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	24.60	4.99	0.00	235609				

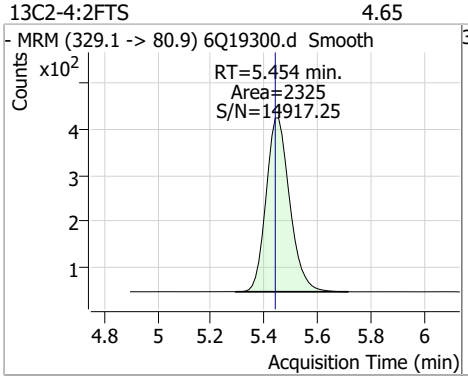


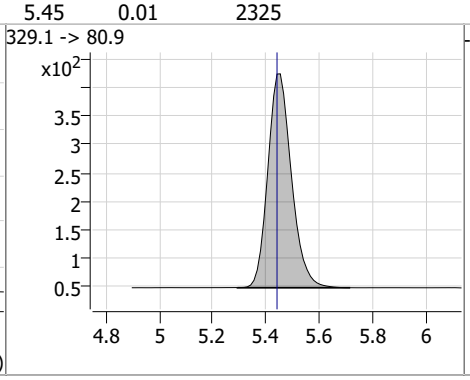


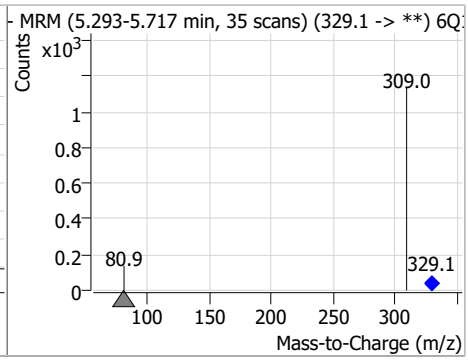


Perfluorinated Compounds by LC/MS/MS

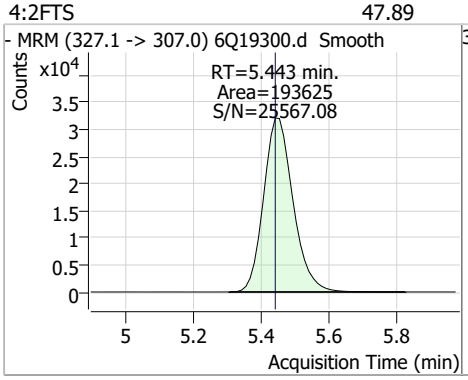
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.65	5.45	0.01	2325				

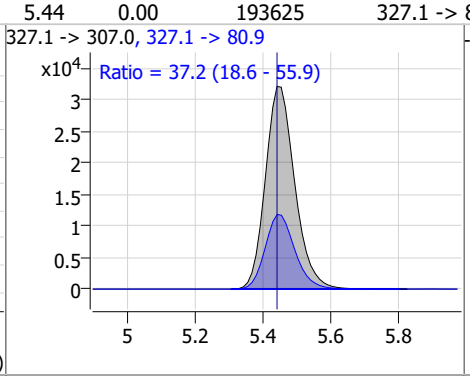


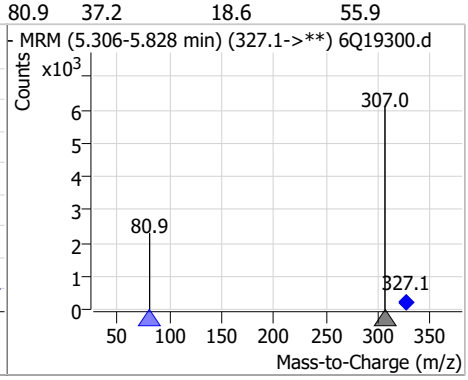




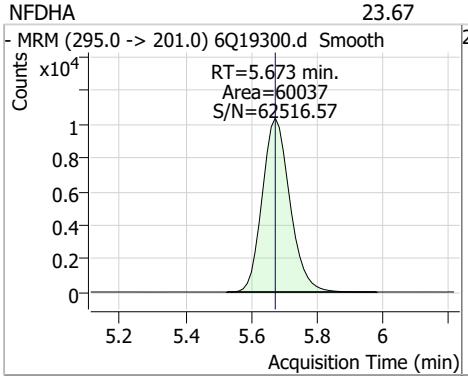
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	47.89	5.44	0.00	193625	327.1 -> 80.9	37.2	18.6	55.9

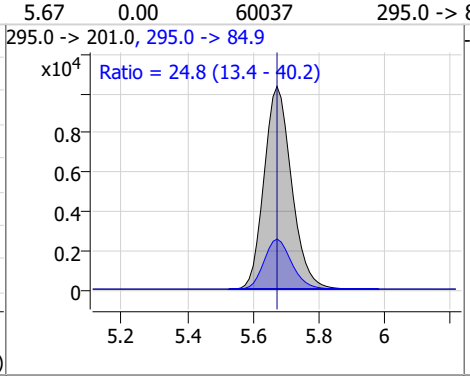


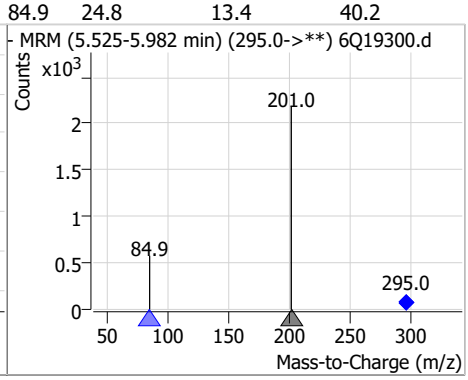




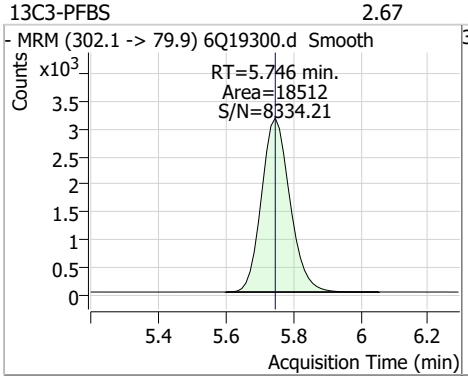
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	23.67	5.67	0.00	60037	295.0 -> 84.9	24.8	13.4	40.2

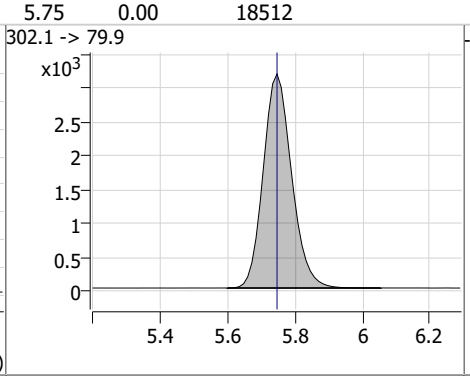


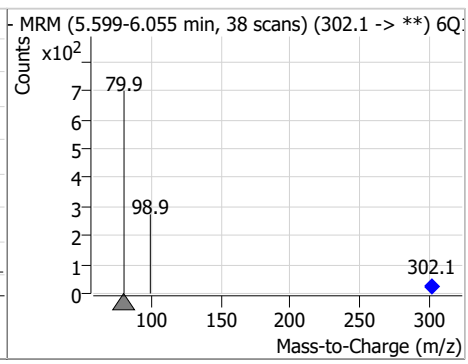




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.67	5.75	0.00	18512				

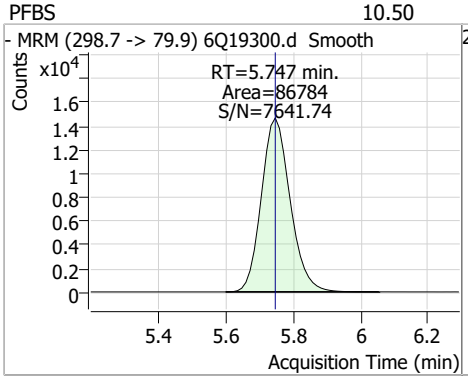


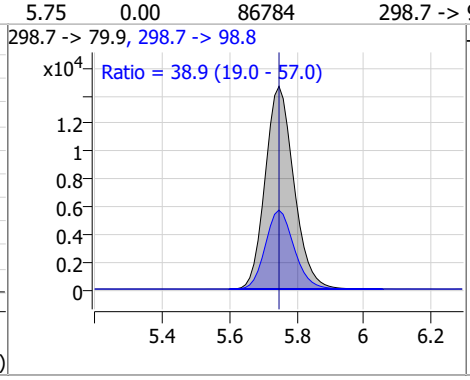


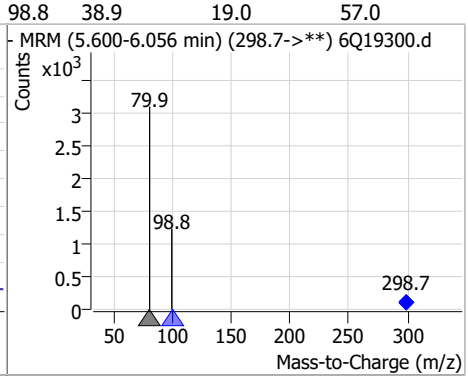


Perfluorinated Compounds by LC/MS/MS

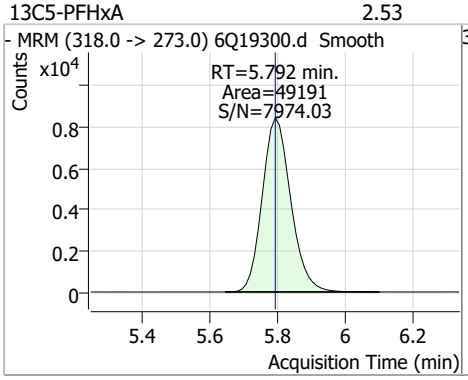
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	10.50	5.75	0.00	86784	298.7 -> 98.8	38.9	19.0	57.0

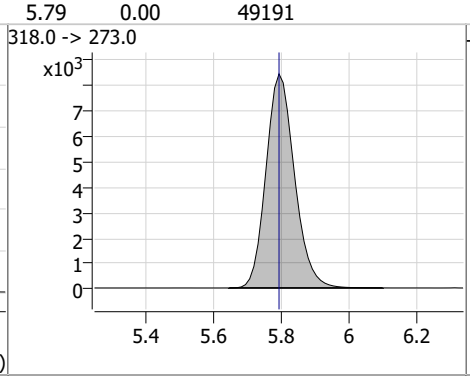


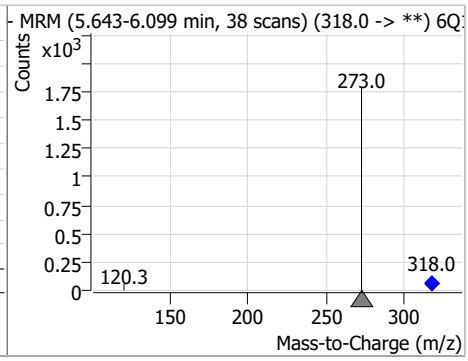




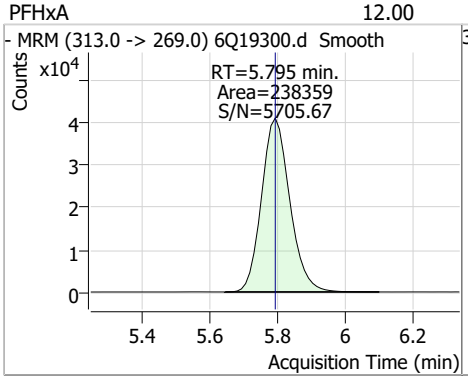
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.53	5.79	0.00	49191				

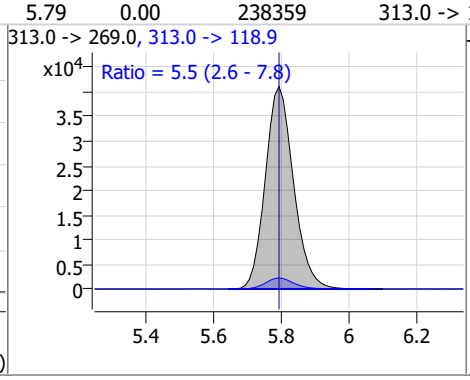


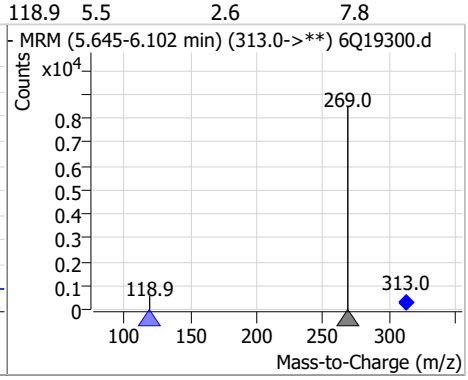




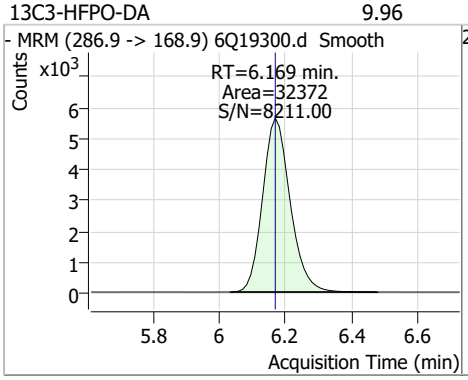
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	12.00	5.79	0.00	238359	313.0 -> 118.9	5.5	2.6	7.8

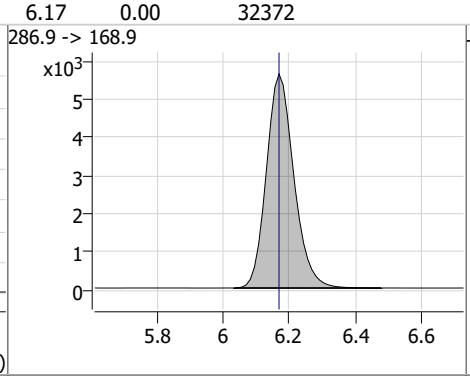


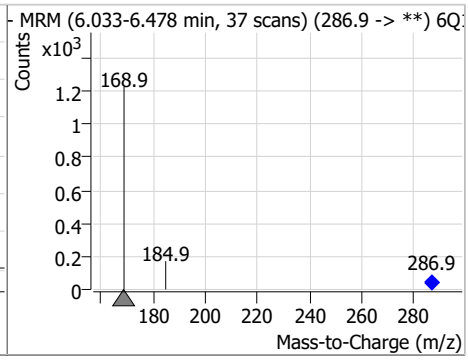




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.96	6.17	0.00	32372				

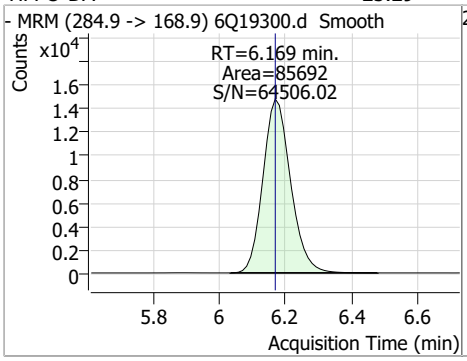


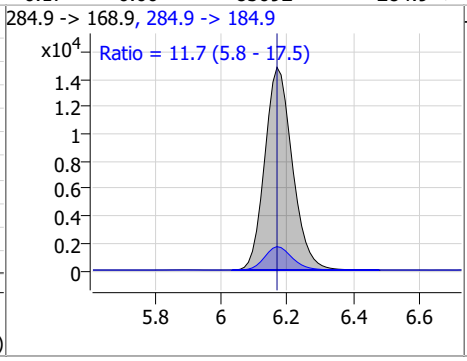


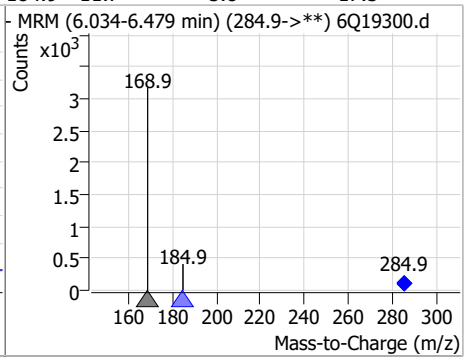


Perfluorinated Compounds by LC/MS/MS

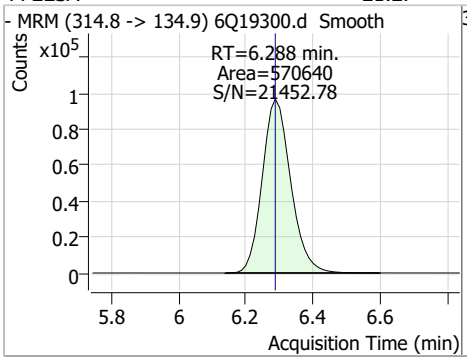
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	25.29	6.17	0.00	85692	284.9 -> 184.9	11.7	5.8	17.5

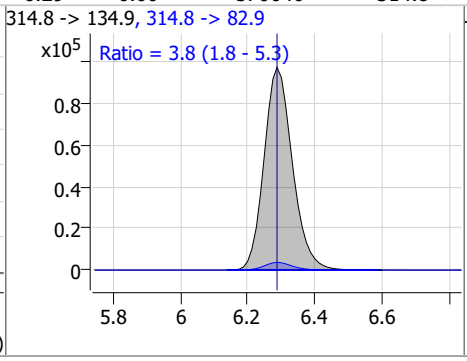


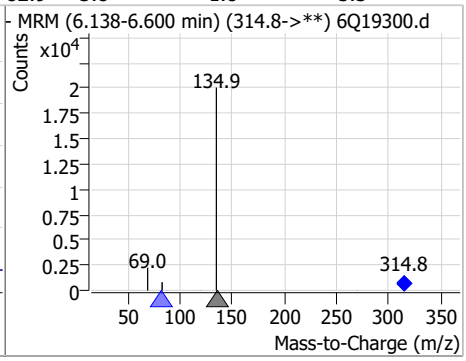




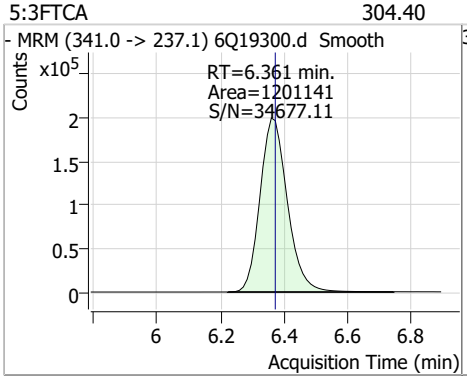
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	21.27	6.29	0.00	570640	314.8 -> 82.9	3.8	1.8	5.3

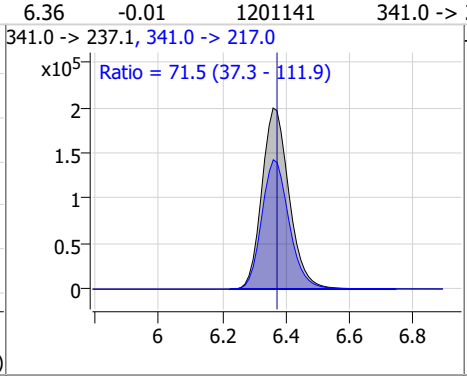


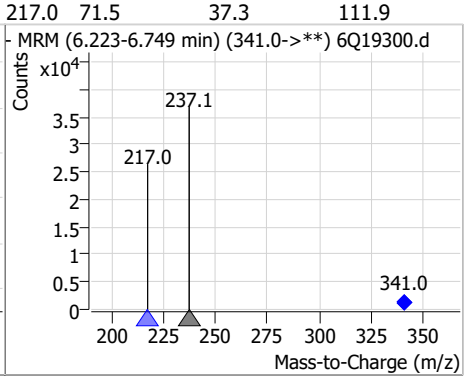




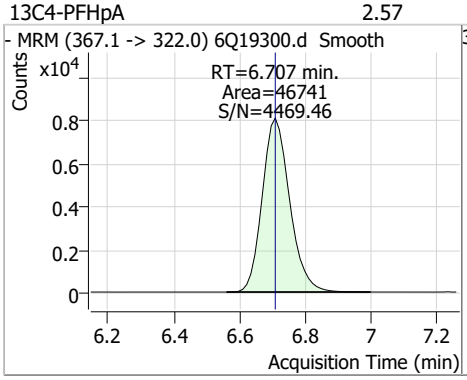
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	304.40	6.36	-0.01	1201141	341.0 -> 217.0	71.5	37.3	111.9

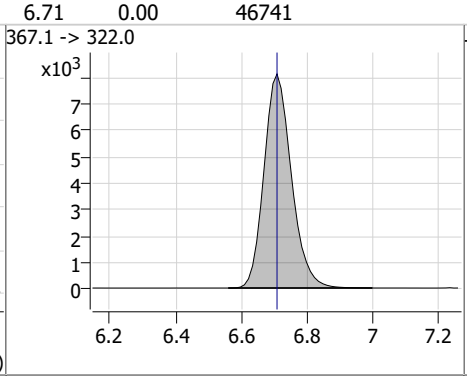


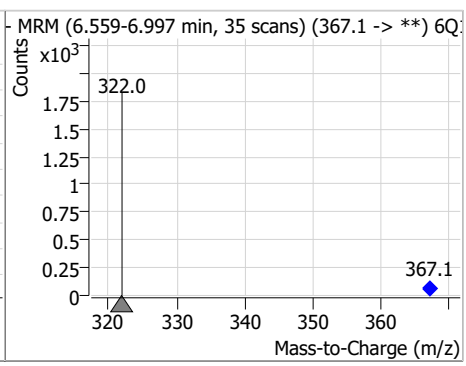




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.57	6.71	0.00	46741				

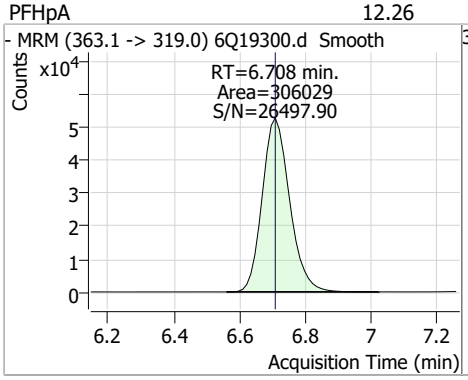


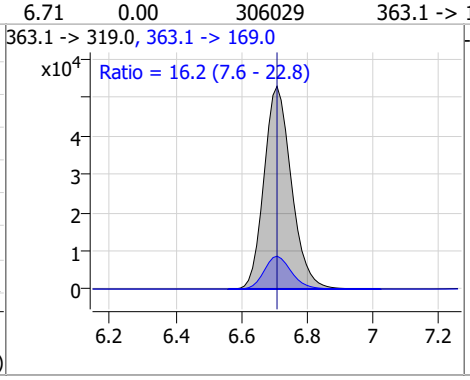


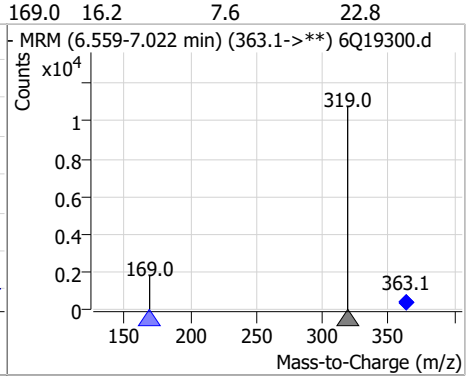


Perfluorinated Compounds by LC/MS/MS

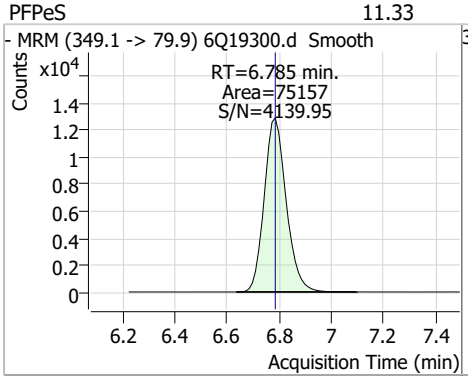
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	12.26	6.71	0.00	306029	363.1 -> 169.0	16.2	7.6	22.8

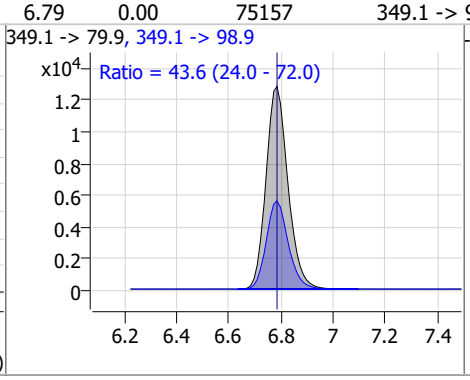


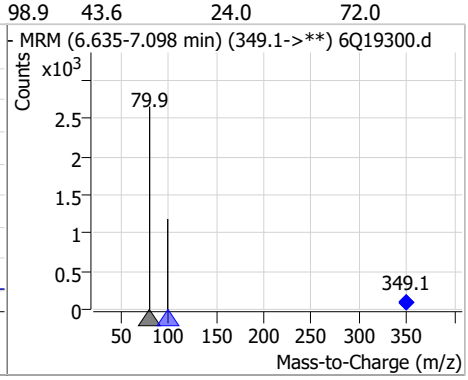




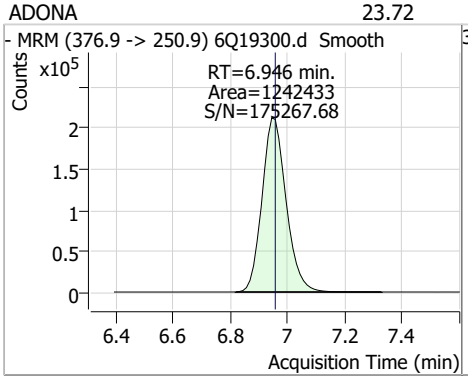
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	11.33	6.79	0.00	75157	349.1 -> 98.9	43.6	24.0	72.0

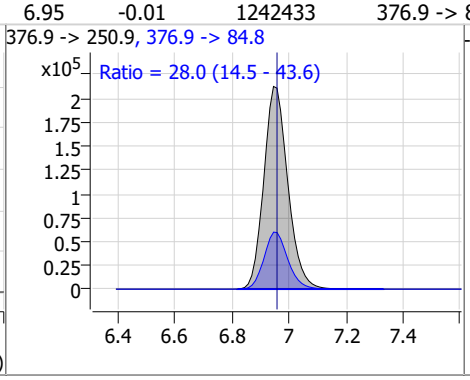


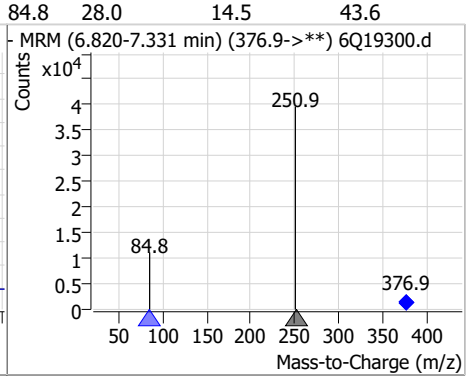




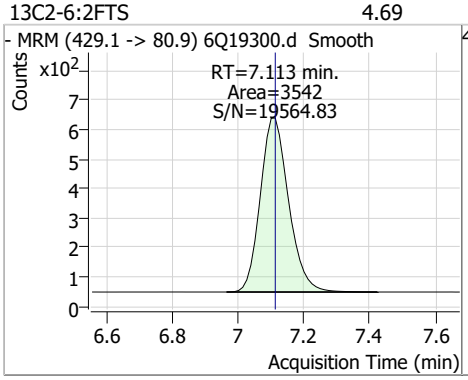
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	23.72	6.95	-0.01	1242433	376.9 -> 84.8	28.0	14.5	43.6

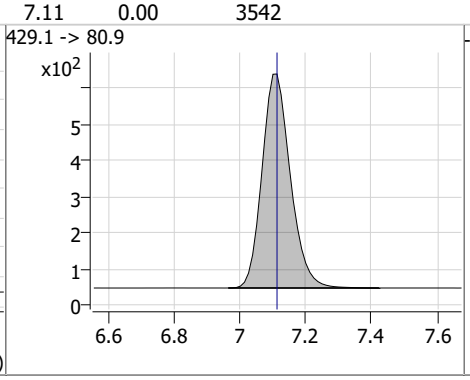


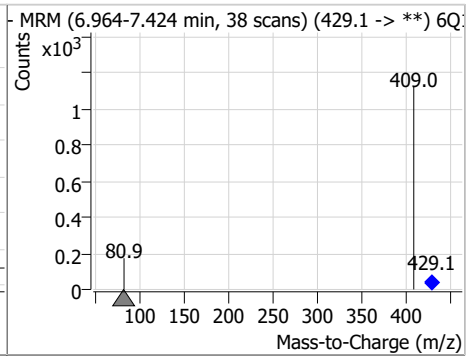




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.69	7.11	0.00	3542				

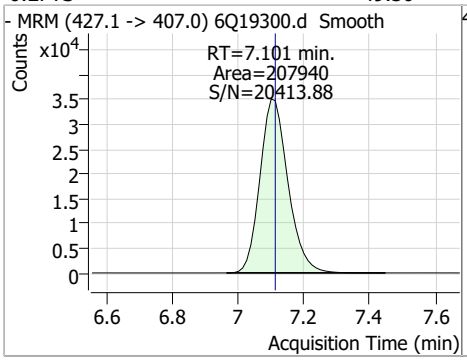


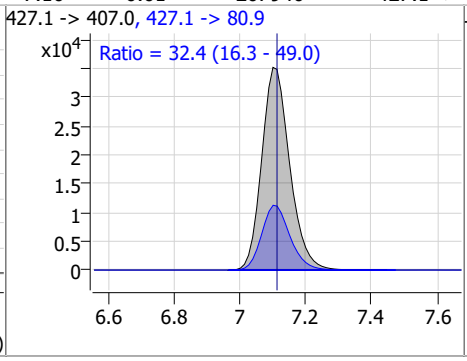


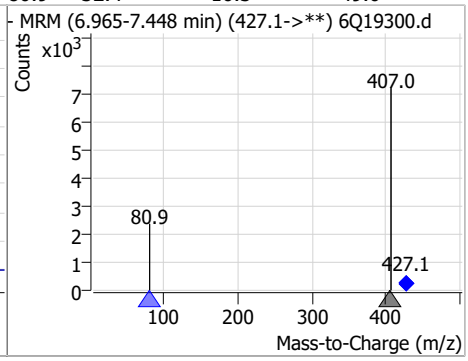


Perfluorinated Compounds by LC/MS/MS

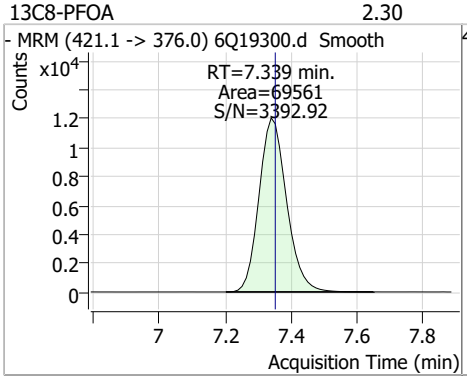
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	49.30	7.10	-0.01	207940	427.1 -> 80.9	32.4	16.3	49.0

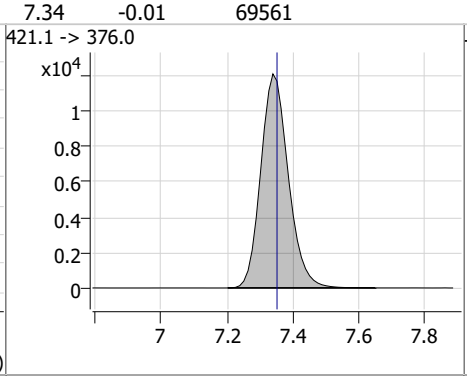


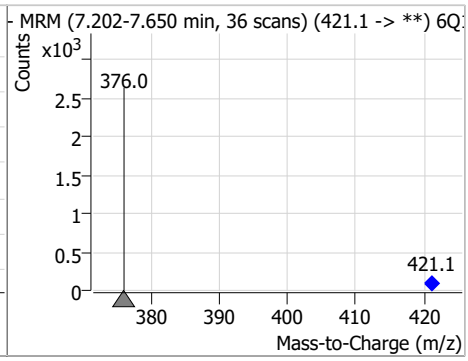




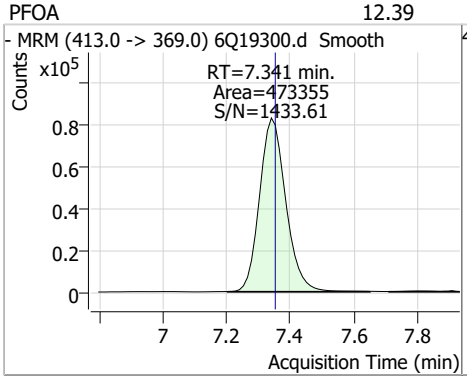
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.30	7.34	-0.01	69561				

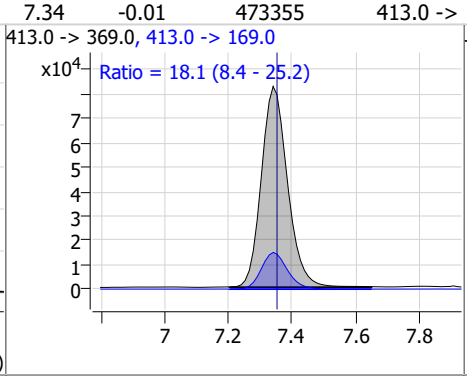


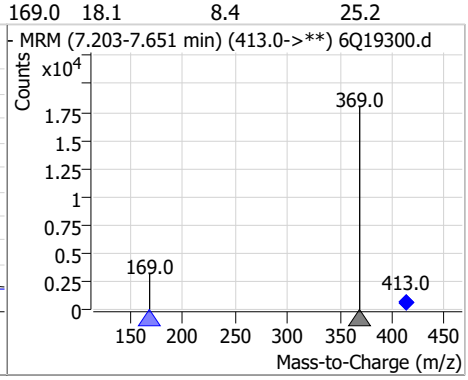




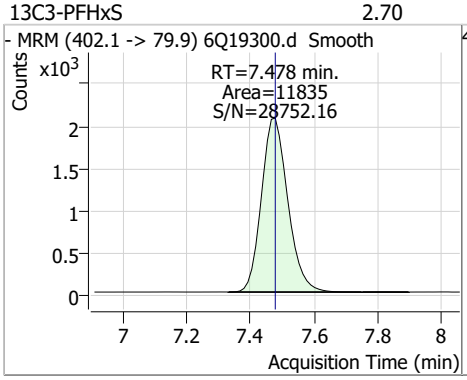
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	12.39	7.34	-0.01	473355	413.0 -> 169.0	18.1	8.4	25.2

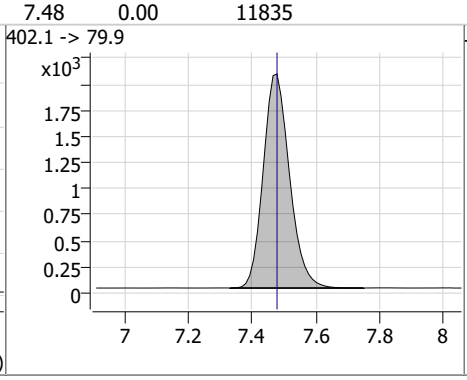


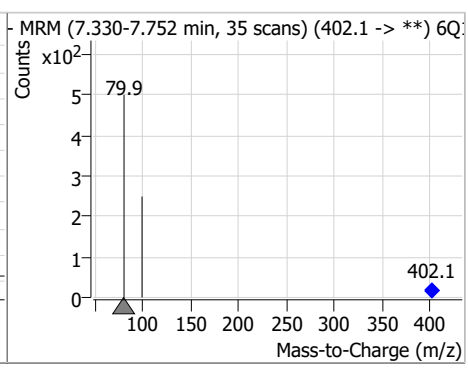




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.70	7.48	0.00	11835				

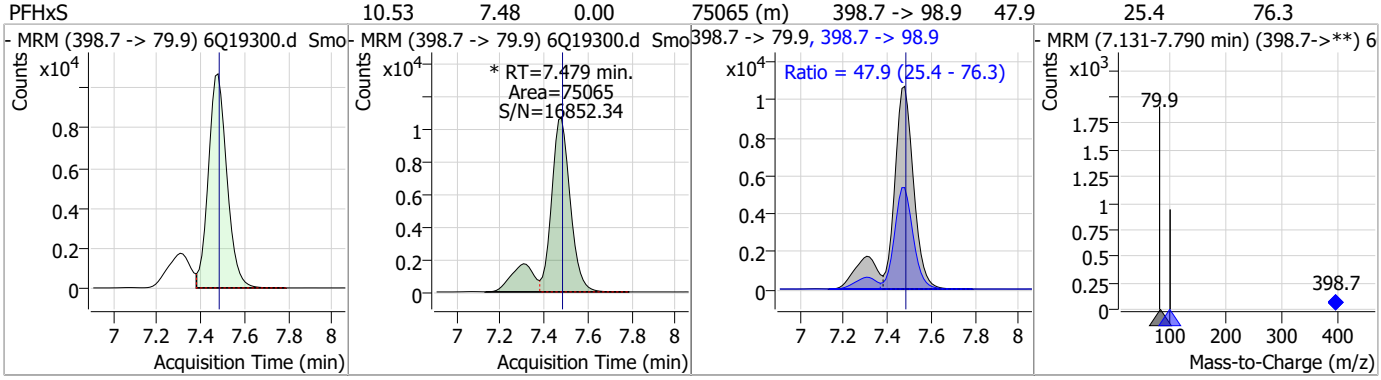




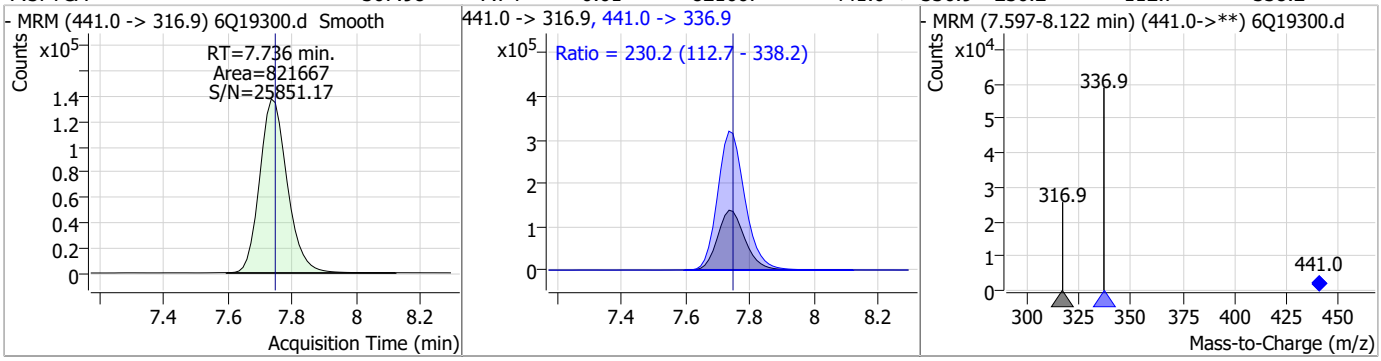


Perfluorinated Compounds by LC/MS/MS

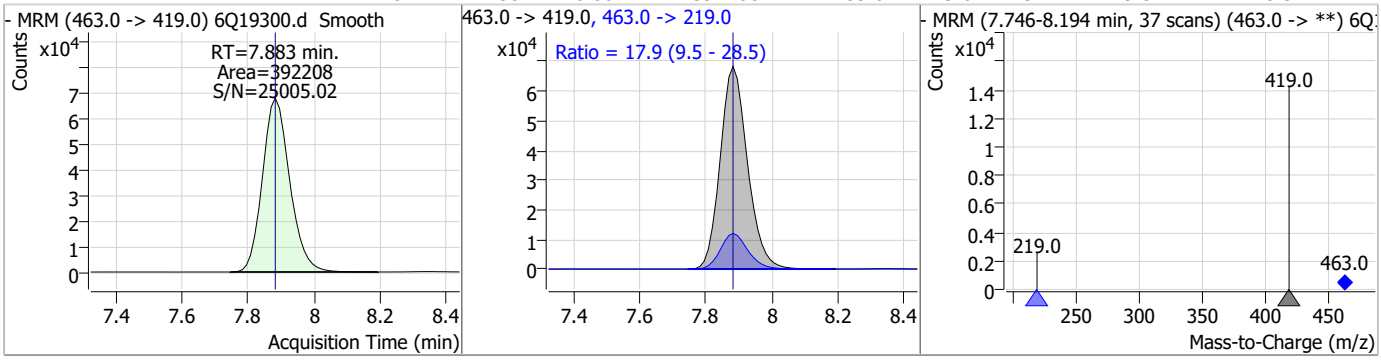
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	10.53	7.48	0.00	75065 (m)	398.7 -> 98.9	47.9	25.4	76.3



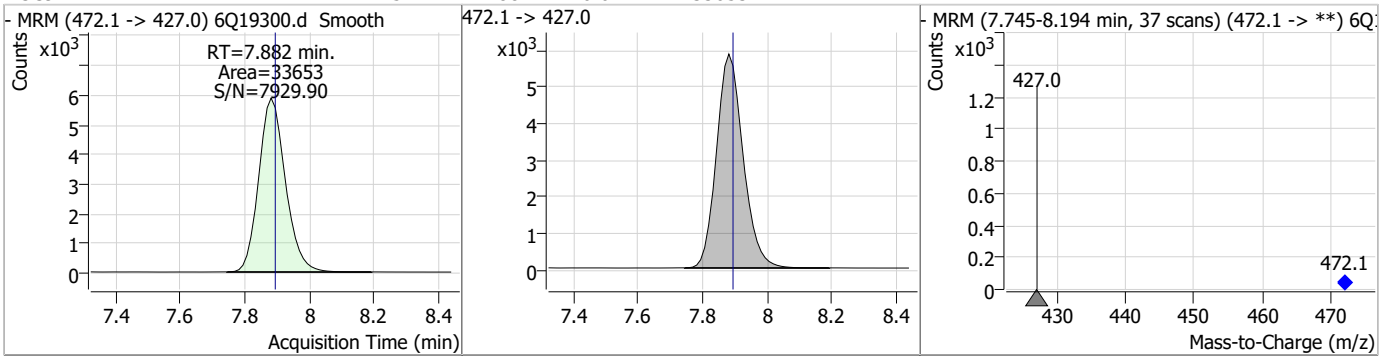
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	307.98	7.74	-0.01	821667	441.0 -> 336.9	230.2	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	12.61	7.88	0.00	392208	463.0 -> 219.0	17.9	9.5	28.5

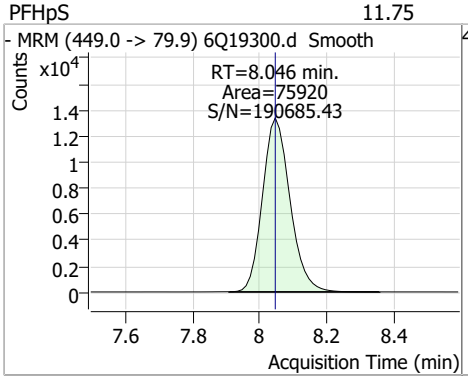


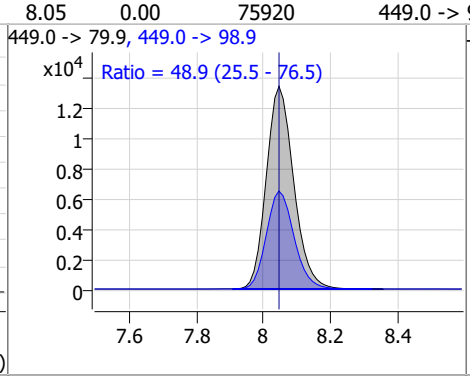
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.88	-0.01	33653				

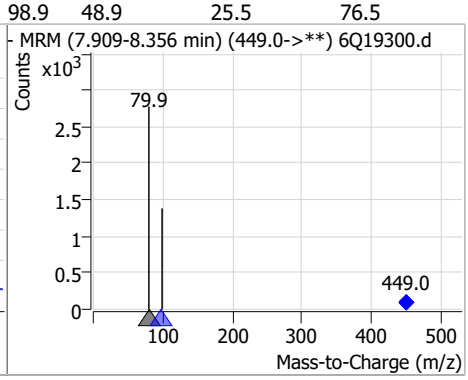


Perfluorinated Compounds by LC/MS/MS

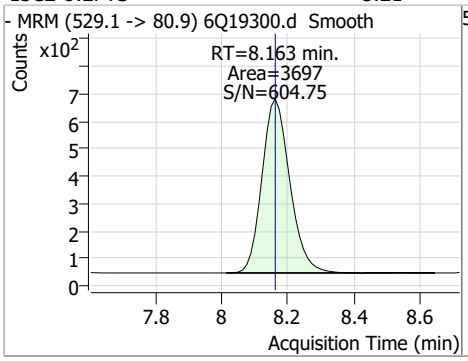
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	11.75	8.05	0.00	75920	449.0 -> 98.9	48.9	25.5	76.5

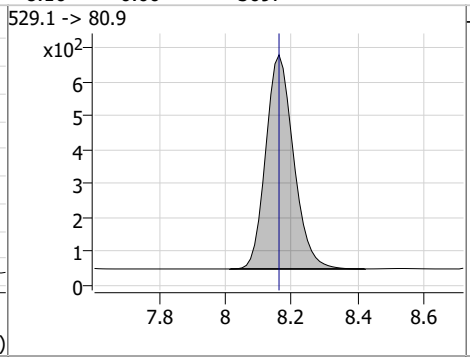


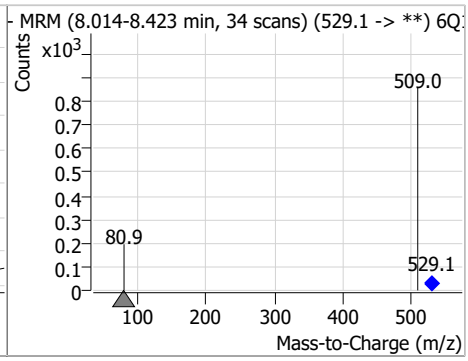




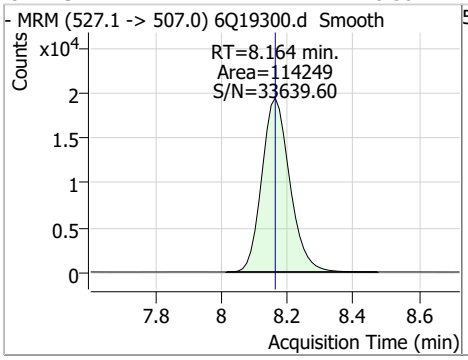
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.21	8.16	0.00	3697				

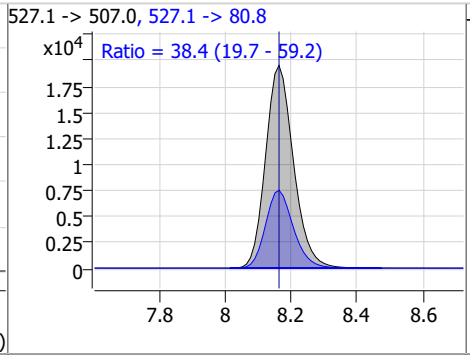


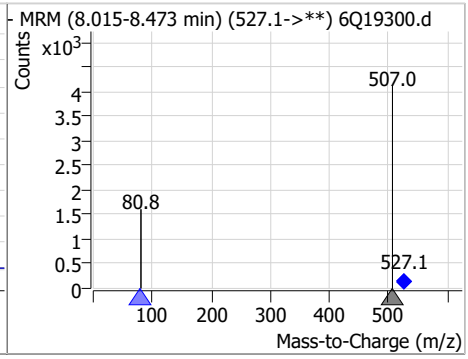




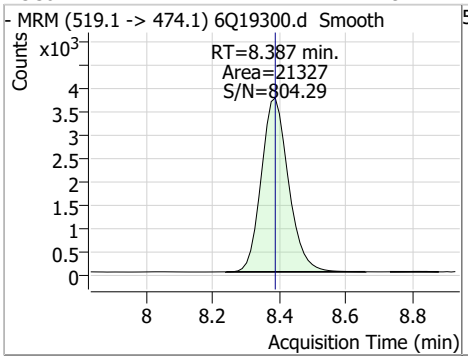
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	46.50	8.16	0.00	114249	527.1 -> 80.8	38.4	19.7	59.2

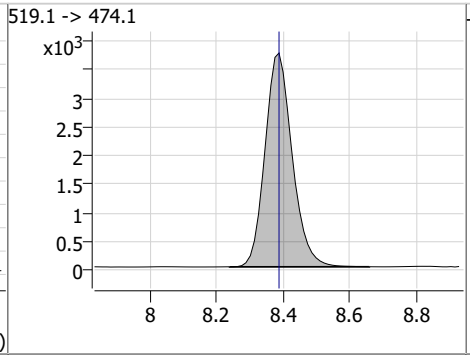


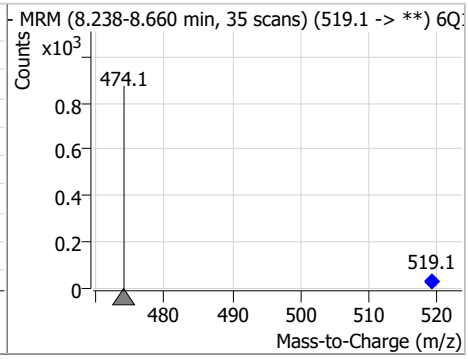




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.29	8.39	0.00	21327				

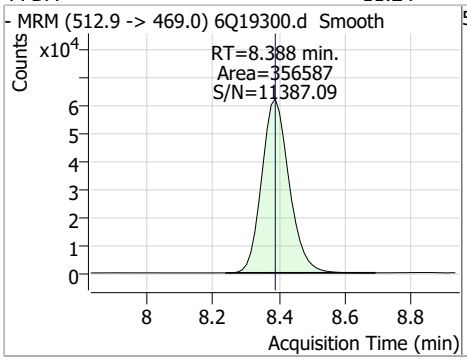


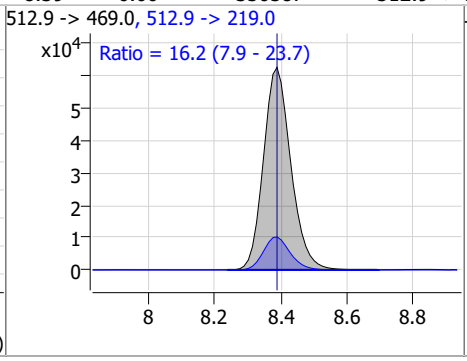


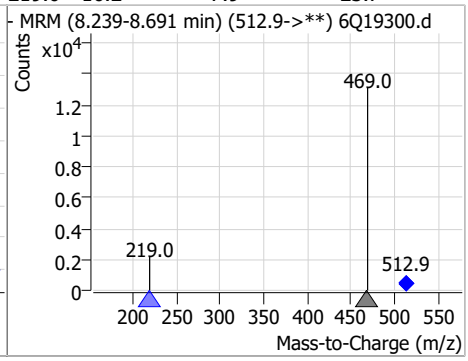


Perfluorinated Compounds by LC/MS/MS

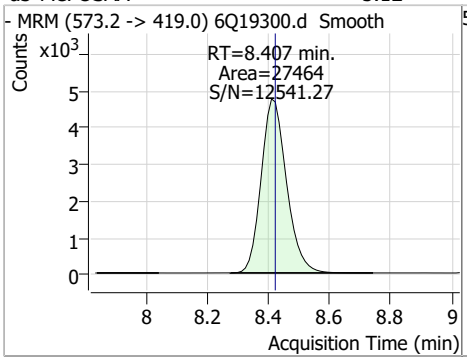
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	11.24	8.39	0.00	356587	512.9 -> 219.0	16.2	7.9	23.7

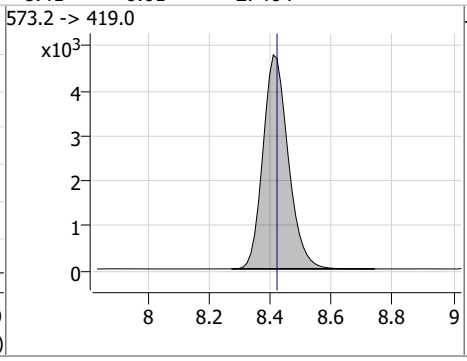


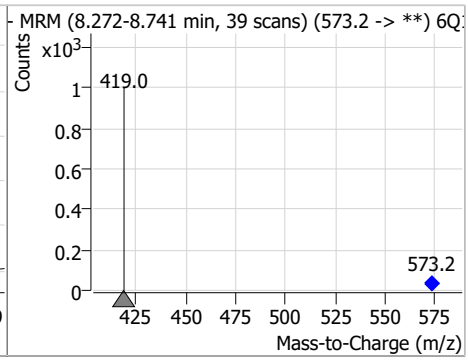




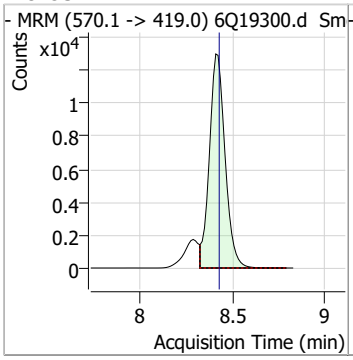
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.12	8.41	-0.01	27464				

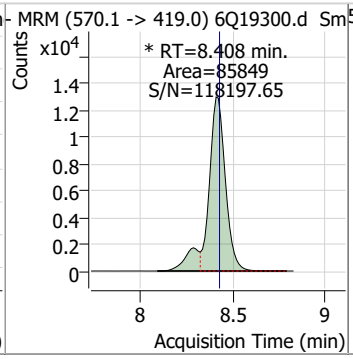


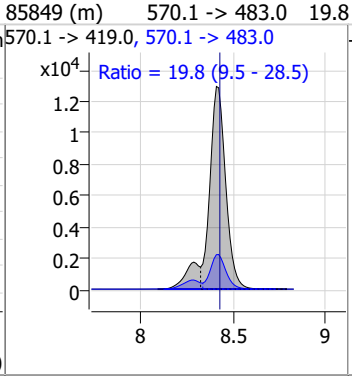


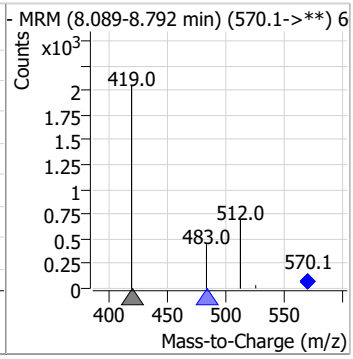


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	12.06	8.41	-0.01	85849 (m)	570.1 -> 483.0	19.8	9.5	28.5

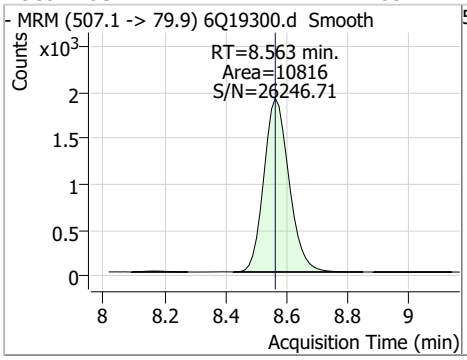


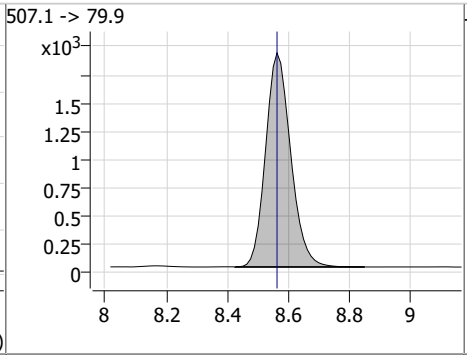


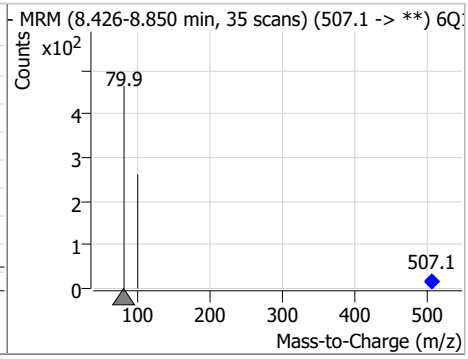




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.53	8.56	0.00	10816				

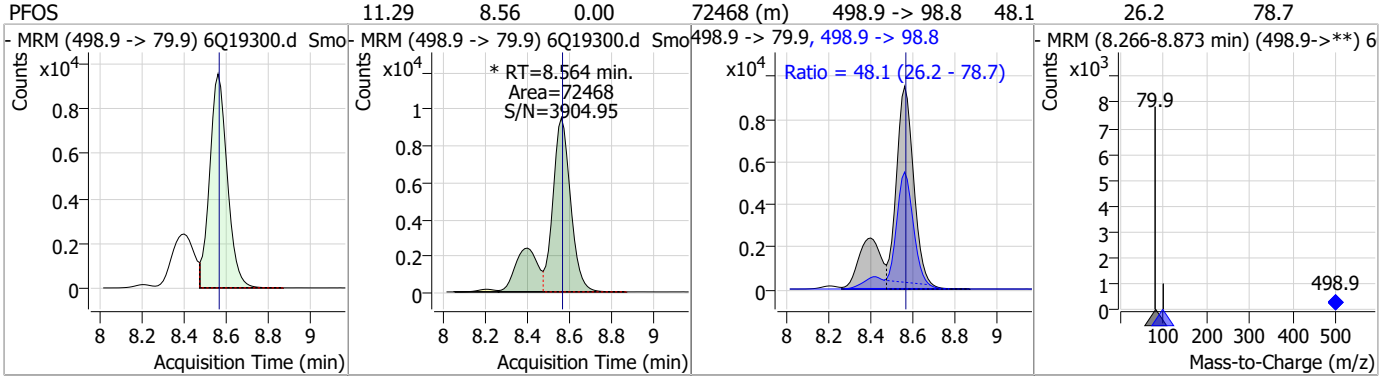




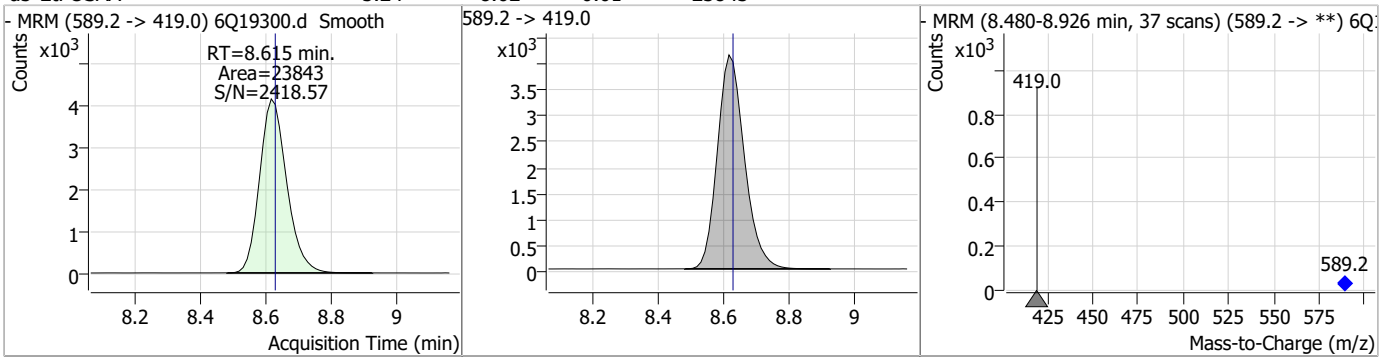


Perfluorinated Compounds by LC/MS/MS

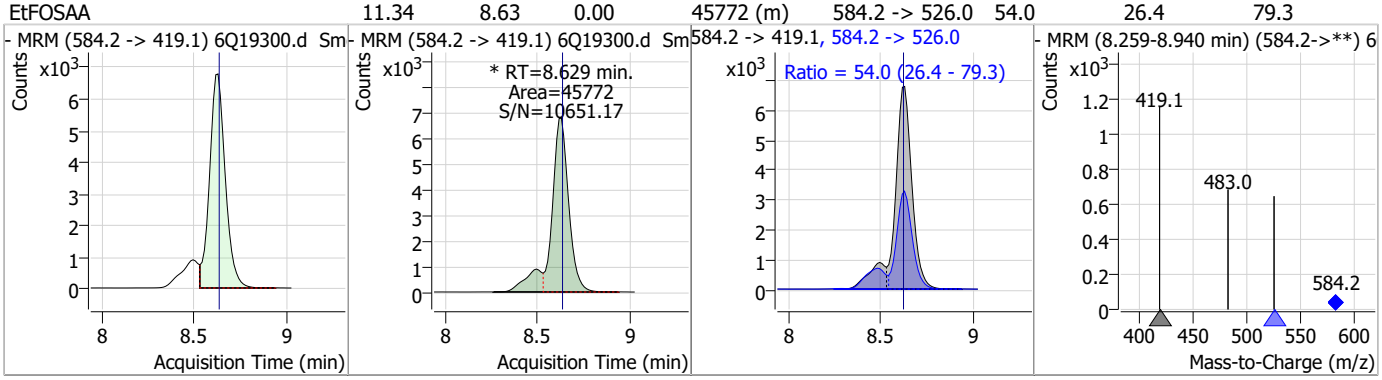
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	11.29	8.56	0.00	72468 (m)	498.9 -> 98.8	48.1	26.2	78.7



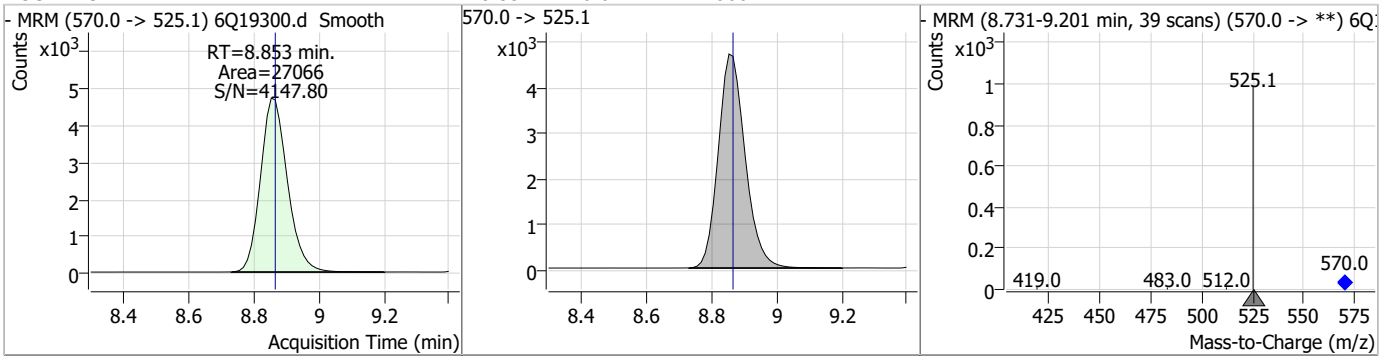
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.24	8.62	-0.01	23843				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	11.34	8.63	0.00	45772 (m)	584.2 -> 526.0	54.0	26.4	79.3

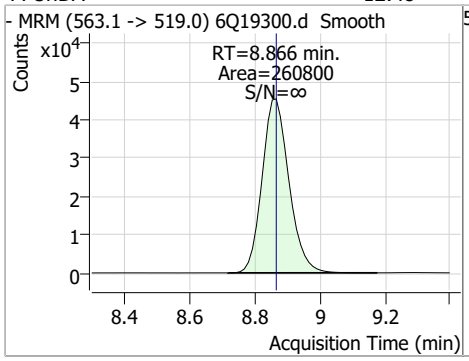


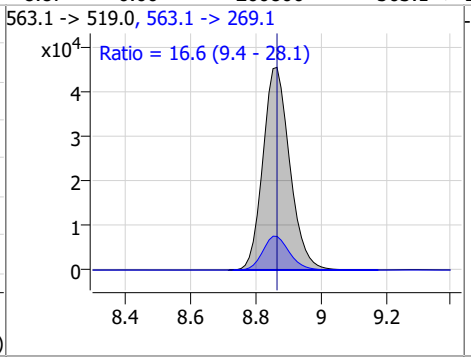
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.22	8.85	-0.01	27066				

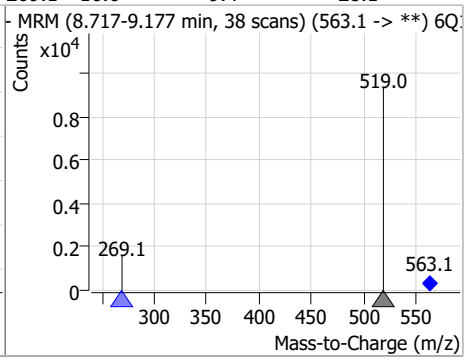


Perfluorinated Compounds by LC/MS/MS

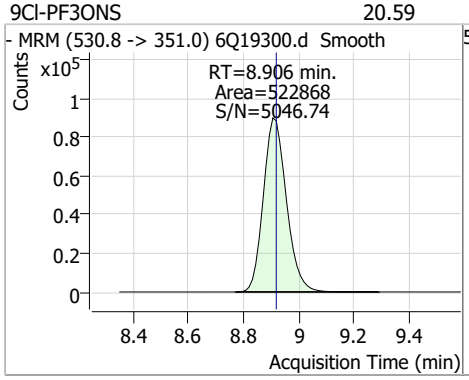
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	12.48	8.87	0.00	260800	563.1 -> 269.1	16.6	9.4	28.1

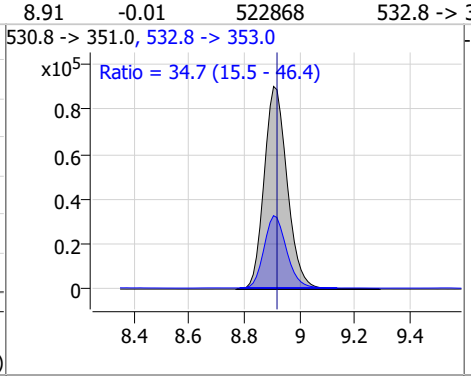


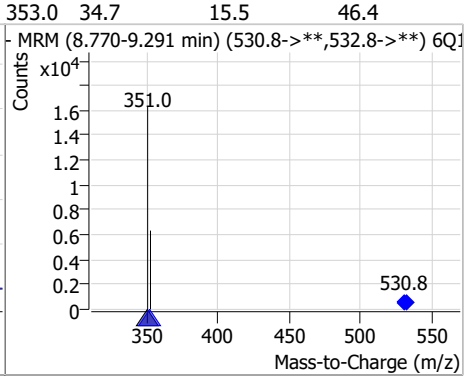




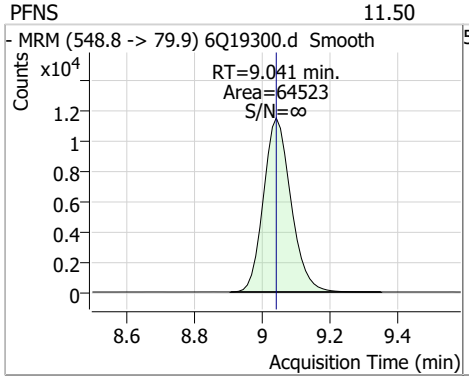
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	20.59	8.91	-0.01	522868	532.8 -> 353.0	34.7	15.5	46.4

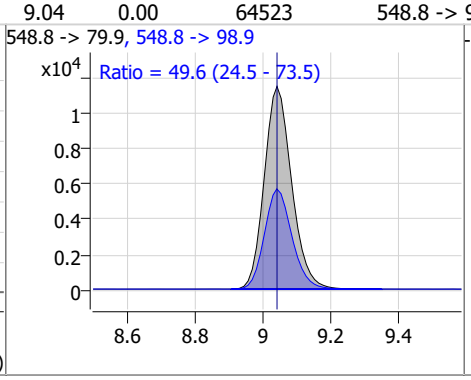


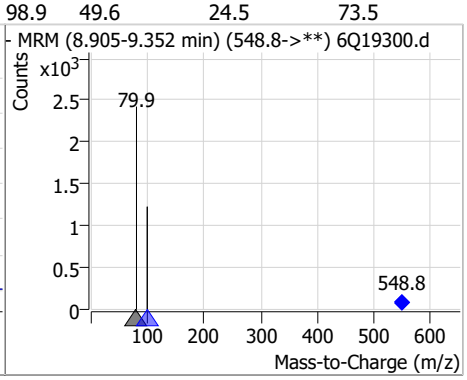




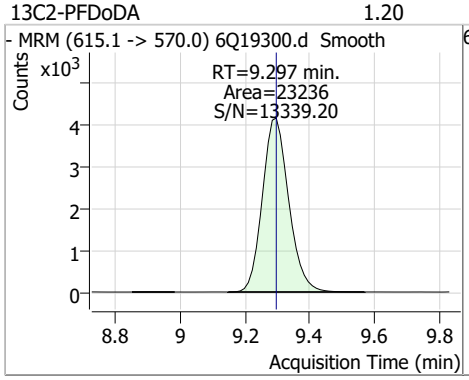
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	11.50	9.04	0.00	64523	548.8 -> 98.9	49.6	24.5	73.5

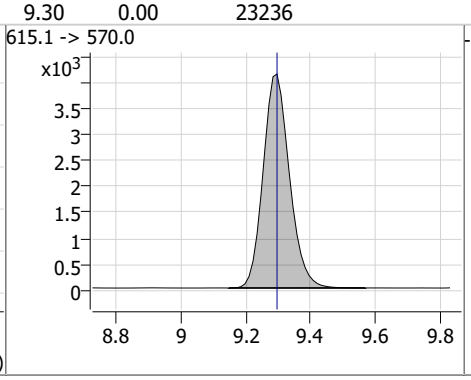


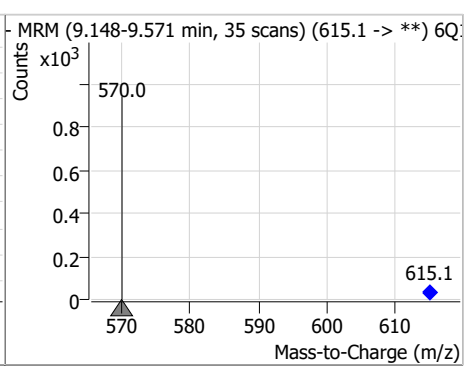




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.20	9.30	0.00	23236				

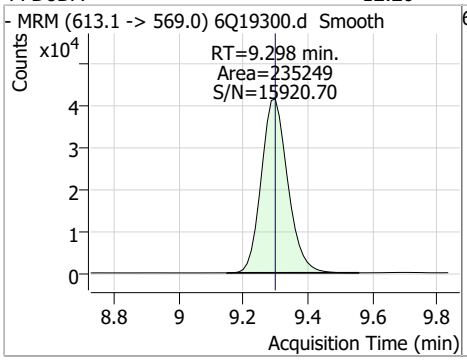


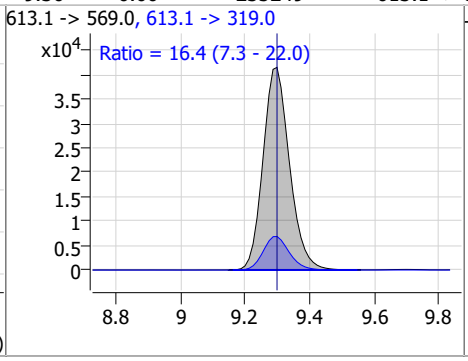


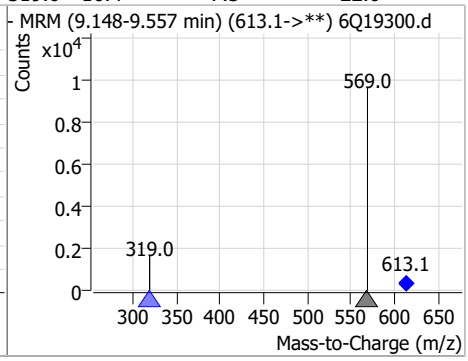


Perfluorinated Compounds by LC/MS/MS

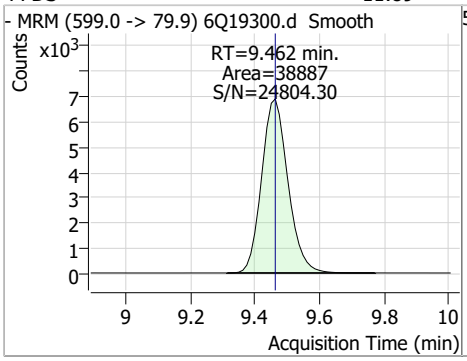
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	12.20	9.30	0.00	235249	613.1 -> 319.0	16.4	7.3	22.0

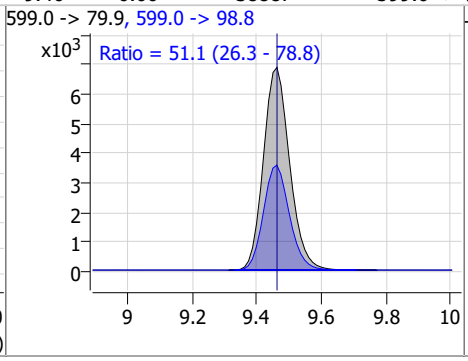


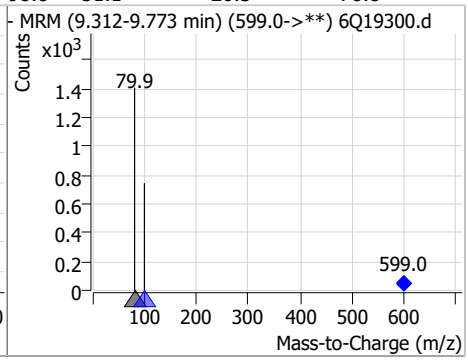




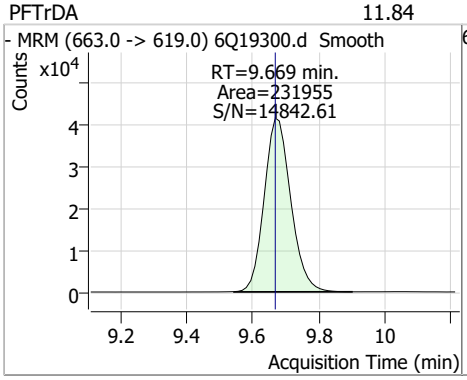
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	11.89	9.46	0.00	38887	599.0 -> 98.8	51.1	26.3	78.8

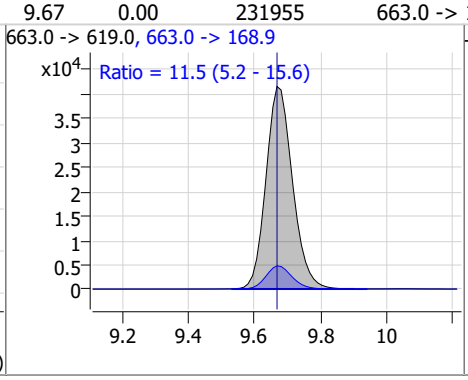


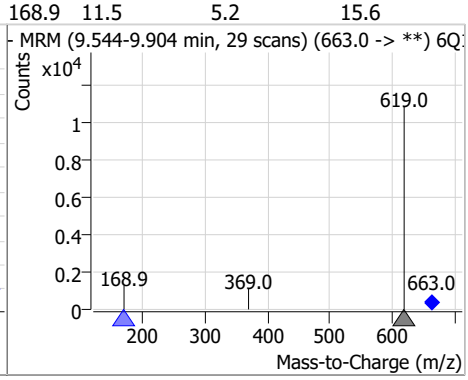




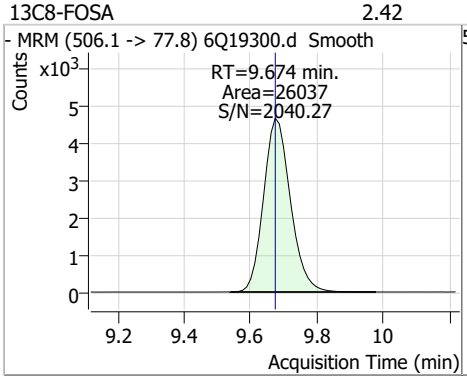
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	11.84	9.67	0.00	231955	663.0 -> 168.9	11.5	5.2	15.6

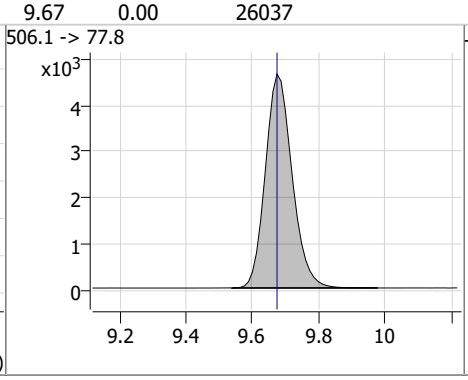


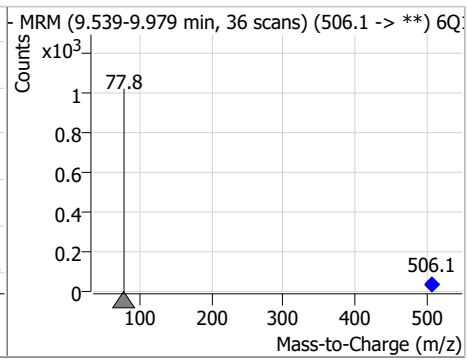




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.42	9.67	0.00	26037				

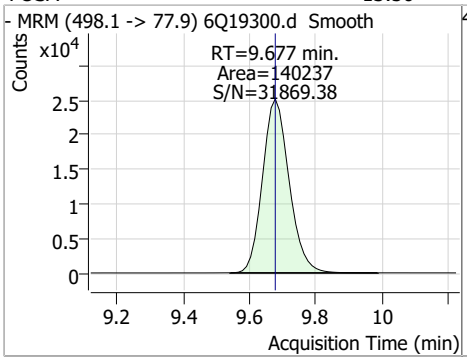


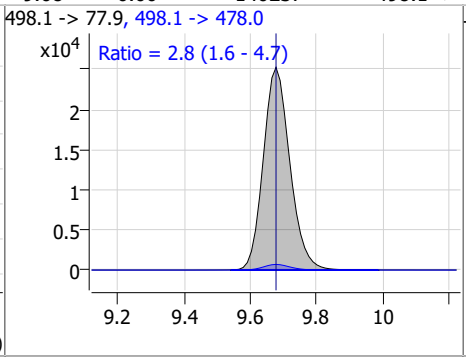


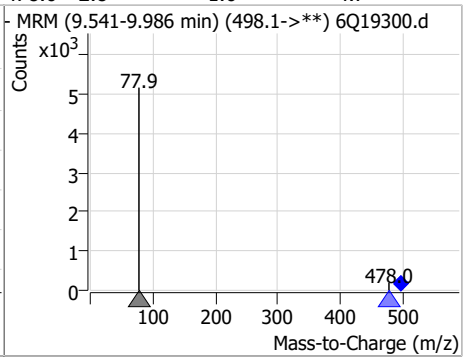


Perfluorinated Compounds by LC/MS/MS

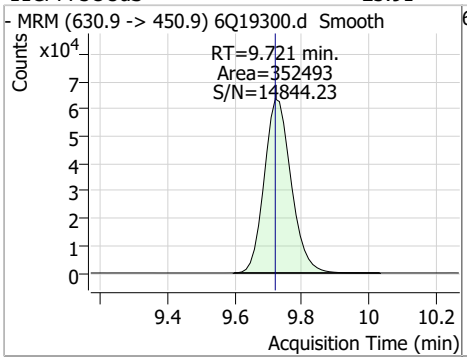
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	13.56	9.68	0.00	140237	498.1 -> 478.0	2.8	1.6	4.7

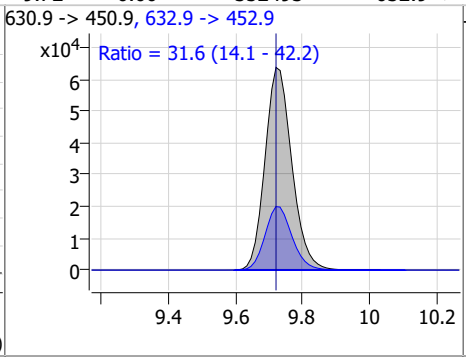


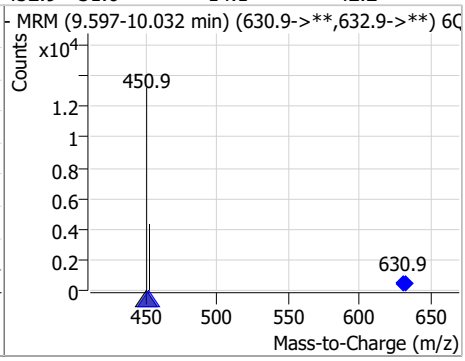




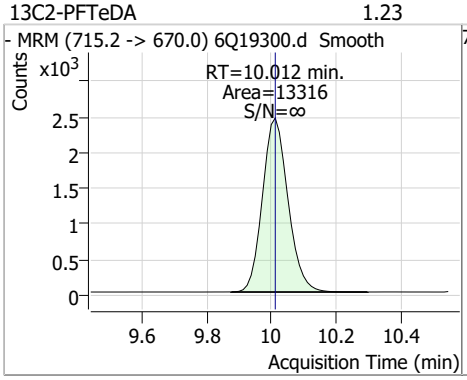
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	23.91	9.72	0.00	352493	632.9 -> 452.9	31.6	14.1	42.2

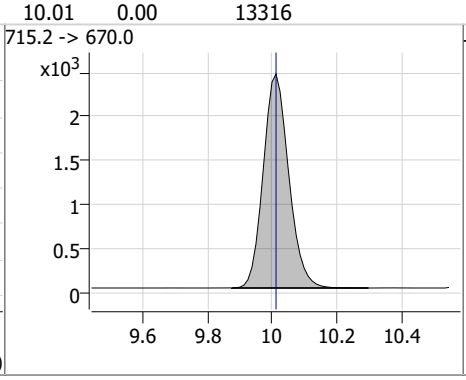


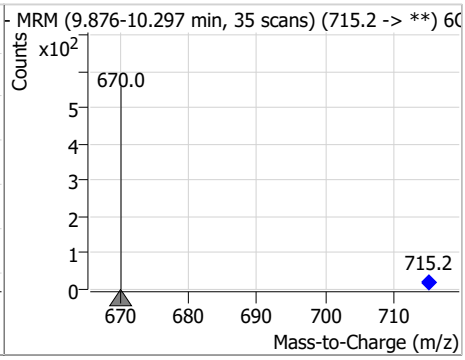




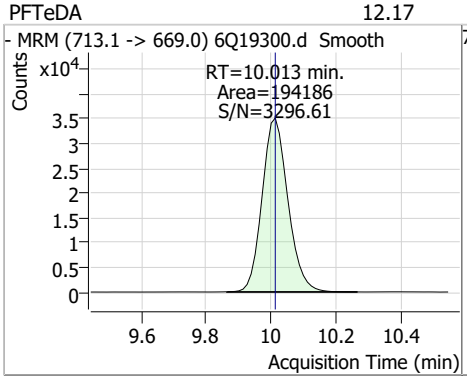
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.23	10.01	0.00	13316				

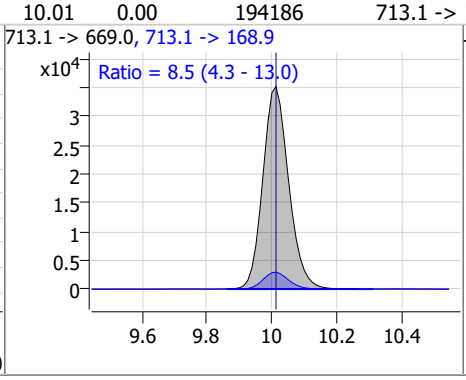


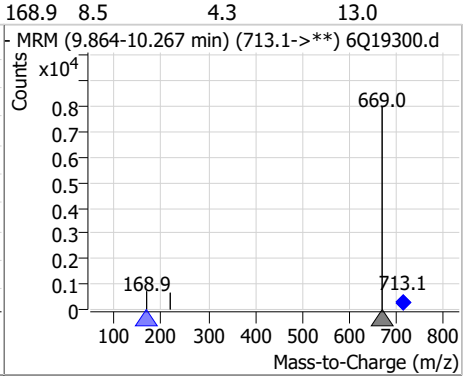




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	12.17	10.01	0.00	194186	713.1 -> 168.9	8.5	4.3	13.0

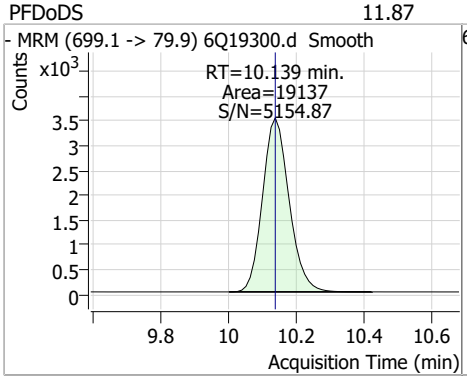


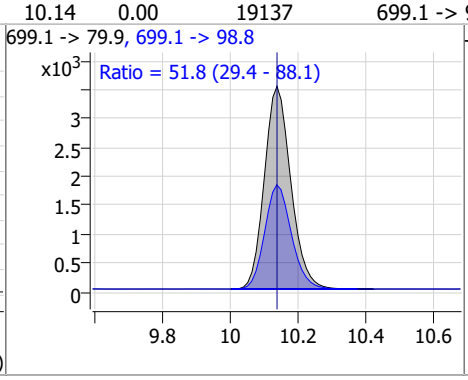


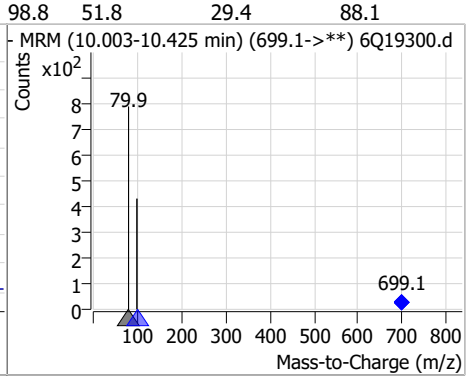


Perfluorinated Compounds by LC/MS/MS

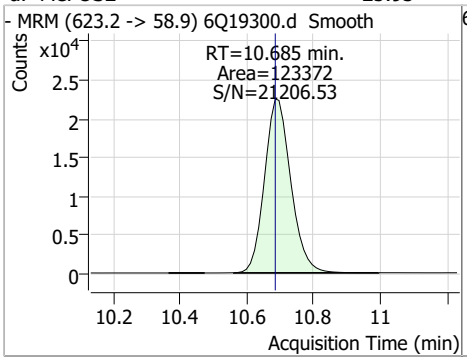
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	11.87	10.14	0.00	19137	699.1 -> 98.8	51.8	29.4	88.1

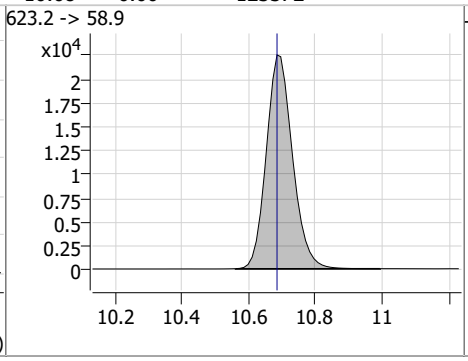


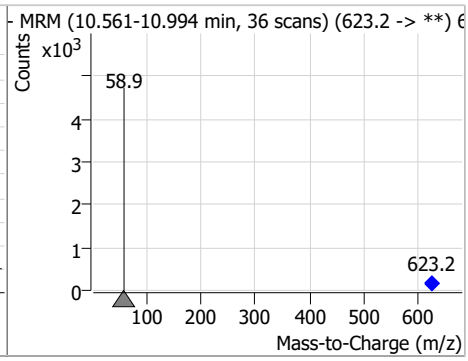




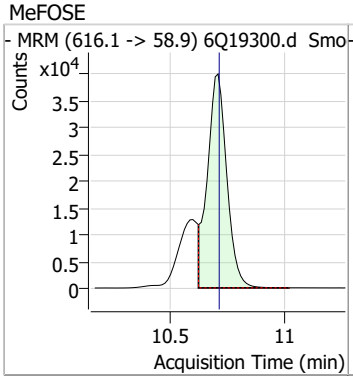
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.93	10.68	0.00	123372				

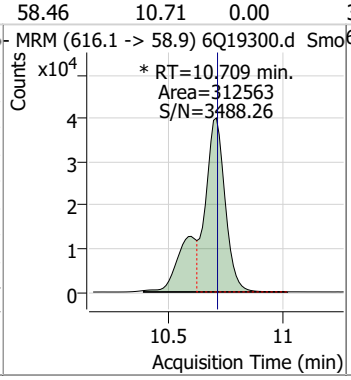


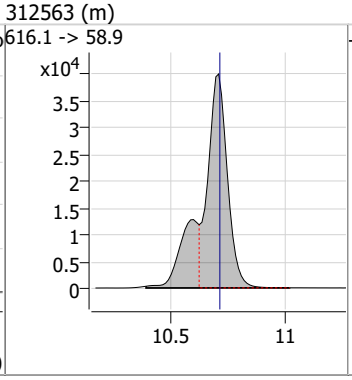


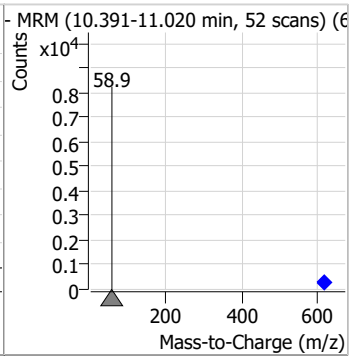


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	58.46	10.71	0.00	312563 (m)				

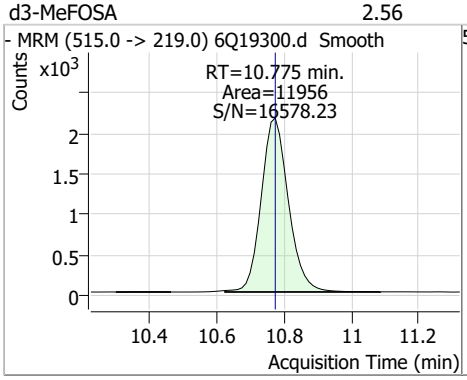


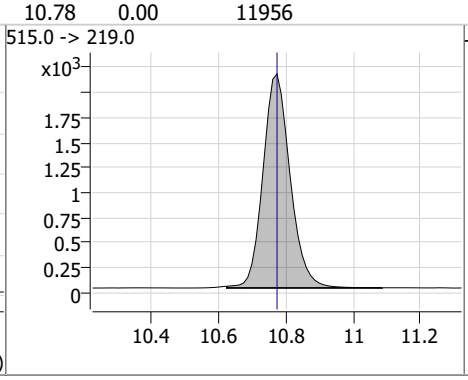


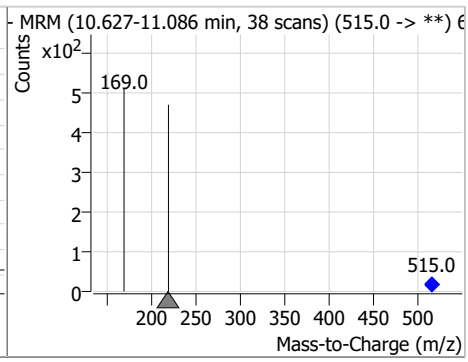




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.56	10.78	0.00	11956				

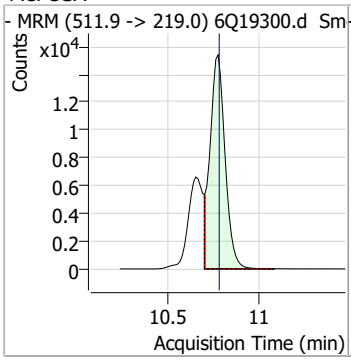


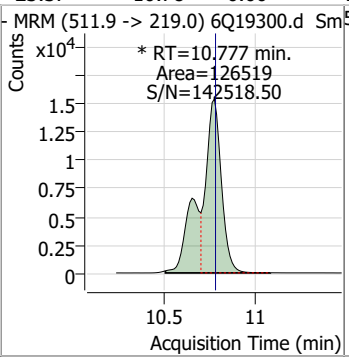


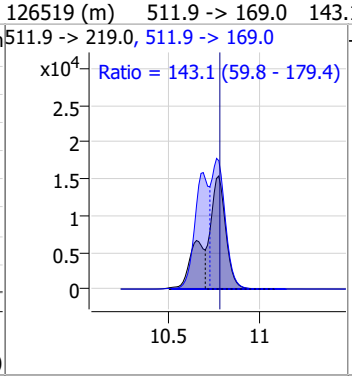


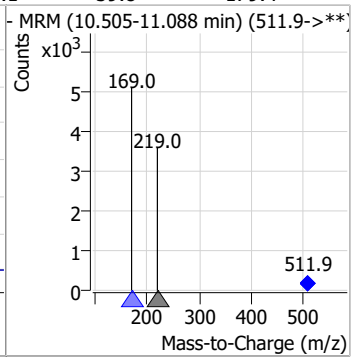
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	23.37	10.78	0.00	126519 (m)	511.9 -> 169.0	143.1	59.8	179.4

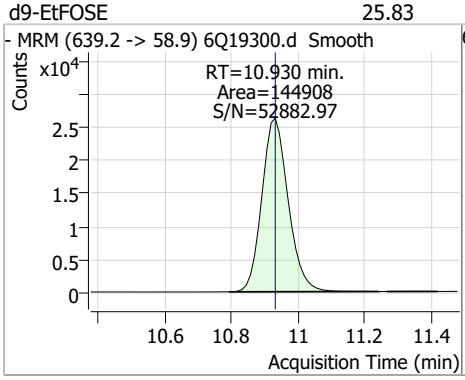


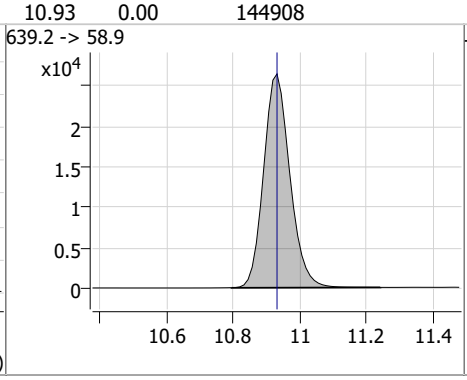


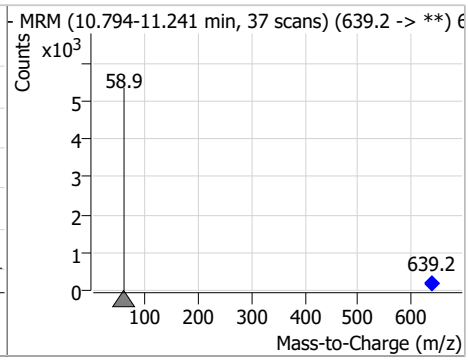




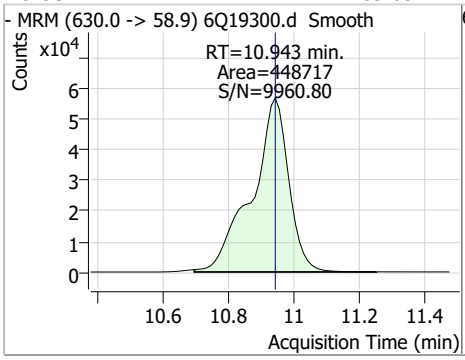
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.83	10.93	0.00	144908				

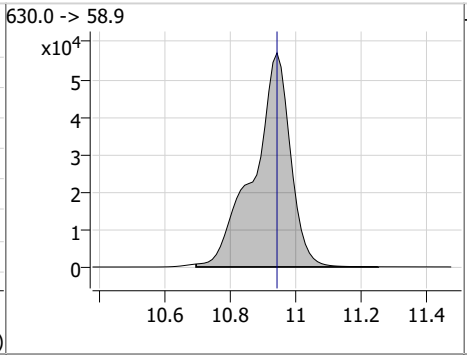


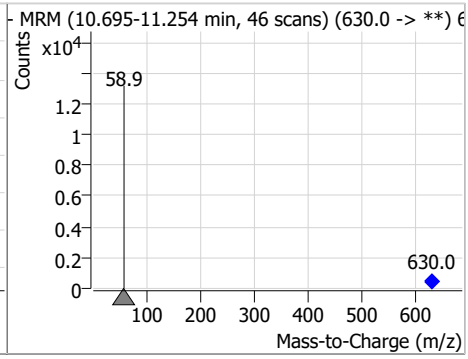




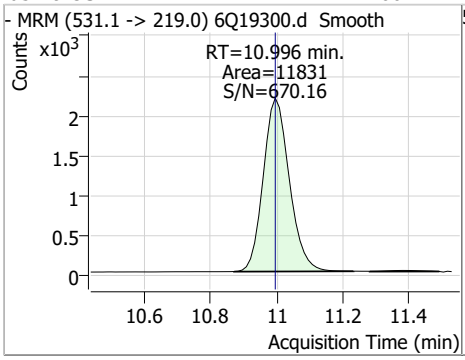
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	59.83	10.94	0.00	448717				

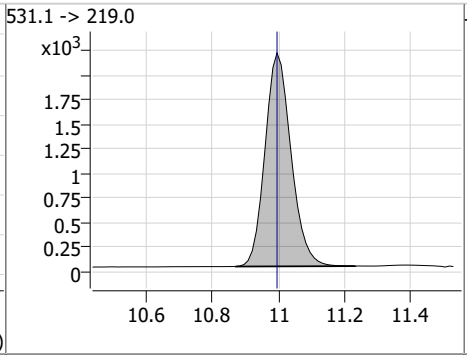


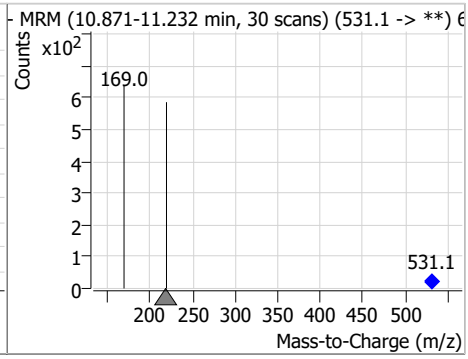




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.60	11.00	0.00	11831				

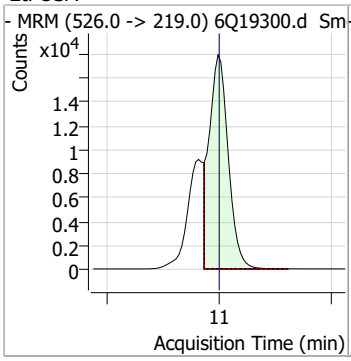


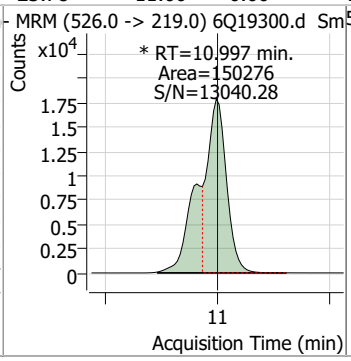


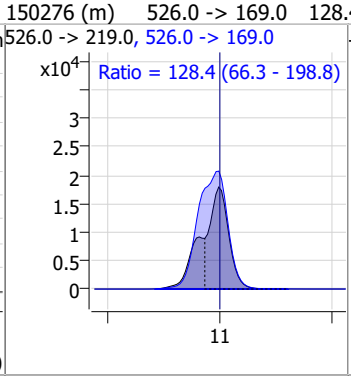


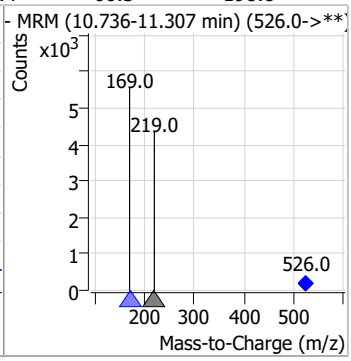
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	23.78	11.00	0.00	150276 (m)	526.0 -> 169.0	128.4	66.3	198.8









Manual Integration Approval Summary

Sample Number: S6Q288-IC288
Lab FileID: 6Q19300.D
Injection Time: 06/13/23 12:45
Method: EPA DRAFT 1633
Analyst approved: 06/14/23 10:15 Martha Valls
Supervisor approved: 06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.41	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak
EtFOSA	4151-50-2		11.00	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19301.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 12:59:43 PM
Sample Name : ic288-7
Vial : P1-A8
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	131187	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	44327	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	47479	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	47524	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	76063	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	34037	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	18801	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	26815	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	24577	1.25	µg/L	-0.012
M2-PFTeDA	10.012	715.2 -> 670.0	12908	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	25751	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	17662	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11444	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	10515	2.50	µg/L	0.000
M2-4:2FTS	5.442	329.1 -> 80.9	2112	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	3172	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3240	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	24011	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	33091	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	23284	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	111921	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	135313	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11141	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12067	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	13806	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	55966	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8923	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	78158	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	27632	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	42130	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	46229	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	2112	3.94	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 78.9%		
13C2-6:2FTS	7.113	429.1 -> 80.9	3172	3.92	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 78.4%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3240	4.26	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 85.2%		
13C2-PFDoDA	9.285	615.1 -> 570.0	24577	1.33	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.4%		
13C2-PFTeDA	10.012	715.2 -> 670.0	12908	1.25	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.2%		
13C3-PFBS	5.746	302.1 -> 79.9	17662	2.38	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.1%		
13C3-PFHxS	7.478	402.1 -> 79.9	11444	2.44	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%		
13C4-PFBA	3.085	216.8 -> 171.9	131187	9.99 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C4-PFHpA	6.707	367.1 -> 322.0	47524	2.66 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.5%		
13C5-PFHxA	5.792	318.0 -> 273.0	47479	2.49 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%		
13C5-PFPeA	4.560	268.3 -> 223.0	44327	5.07 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C6-PFDA	8.387	519.1 -> 474.1	18801	1.19 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.9%		
13C7-PFUnDA	8.853	570.0 -> 525.1	26815	1.26 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.0%		
13C8-FOSA	9.674	506.1 -> 77.8	25751	2.46 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.5%		
13C8-PFOA	7.339	421.1 -> 376.0	76063	2.60 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%		
13C8-PFOS	8.563	507.1 -> 79.9	10515	2.52 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C9-PFNA	7.882	472.1 -> 427.0	34037	1.33 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.2%		
d3-MeFOSAA	8.420	573.2 -> 419.0	24011	4.60 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.9%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	33091	10.37 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.7%		
d3-MeFOSA	10.775	515.0 -> 219.0	12067	2.66 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.2%		
d5-EtFOSAA	8.615	589.2 -> 419.0	23284	5.25 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.0%		
d7-MeFOSE	10.685	623.2 -> 58.9	111921	24.16 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.6%		
d9-EtFOSE	10.930	639.2 -> 58.9	135313	24.78 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.1%		
d5-EtFOSA	10.996	531.1 -> 219.0	11141	2.51 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	333362	90.77 µg/L		98
		327.1 -> 80.9	128291			
6:2FTS	7.113	427.1 -> 407.0	331719	87.83 µg/L		97
		427.1 -> 80.9	113922			
8:2FTS	8.164	527.1 -> 507.0	197687	91.79 µg/L		96
		527.1 -> 80.8	73227			
EtFOSAA	8.629	584.2 -> 419.1	93160	23.63 µg/L	m	98
		584.2 -> 526.0	48275			
FOSA	9.677	498.1 -> 77.9	238306	23.29 µg/L		100
		498.1 -> 478.0	7762			
MeFOSAA	8.421	570.1 -> 419.0	153857	24.72 µg/L	m	94
		570.1 -> 483.0	33672			
PFBA	3.093	212.8 -> 168.9	521546	98.66 µg/L		100
PFBS	5.747	298.7 -> 79.9	171238	21.71 µg/L		99
		298.7 -> 98.8	66394			
PFDA	8.388	512.9 -> 469.0	723504	25.87 µg/L		98
		512.9 -> 219.0	106893			
PFDoDA	9.298	613.1 -> 569.0	465606	22.82 µg/L		99
		613.1 -> 319.0	69282			
PFDS	9.462	599.0 -> 79.9	74838	23.54 µg/L		95

Perfluorinated Compounds by LC/MS/MS

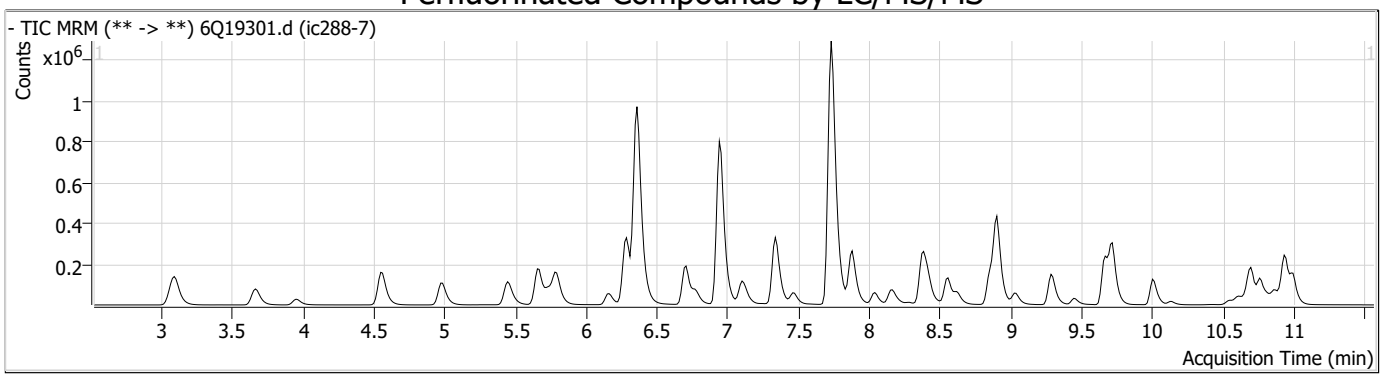
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	36597				
PFHpA	6.708	363.1 -> 319.0	604599	23.83	µg/L		100
		363.1 -> 169.0	92260				
PFHpS	8.046	449.0 -> 79.9	151825	24.16	µg/L		90
		449.0 -> 98.9	67175				
PFHxA	5.795	313.0 -> 269.0	464351	24.23	µg/L		100
		313.0 -> 118.9	24187				
PFHxS	7.479	398.7 -> 79.9	146077	21.20	µg/L	m	98
		398.7 -> 98.9	72129				
PFNA	7.883	463.0 -> 419.0	731120	23.23	µg/L		98
		463.0 -> 219.0	146078				
PFNS	9.041	548.8 -> 79.9	130819	23.98	µg/L		94
		548.8 -> 98.9	69235				
PFOA	7.341	413.0 -> 369.0	953809	22.83	µg/L		99
		413.0 -> 169.0	163964				
PFOS	8.564	498.9 -> 79.9	133122	21.34	µg/L	m	94
		498.9 -> 98.8	64247				
PFPeA	4.563	263.0 -> 219.0	640084	48.91	µg/L		100
PFPeS	6.785	349.1 -> 79.9	141415	22.05	µg/L		100
		349.1 -> 98.9	67930				
PFTeDA	10.013	713.1 -> 669.0	375701	24.29	µg/L		99
		713.1 -> 168.9	30496				
PFTrDA	9.669	663.0 -> 619.0	495452	23.92	µg/L		99
		663.0 -> 168.9	49321				
PFUnDA	8.854	563.1 -> 519.0	513115	24.78	µg/L		92
		563.1 -> 269.1	78313				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	706520	46.89	µg/L		98
		632.9 -> 452.9	206556				
9Cl-PF3ONS	8.906	530.8 -> 351.0	1108089	42.68	µg/L		98
		532.8 -> 353.0	351540				
ADONA	6.959	376.9 -> 250.9	2487179	46.45	µg/L		93
		376.9 -> 84.8	635922				
HFPO-DA	6.169	284.9 -> 168.9	167383	48.33	µg/L		100
		284.9 -> 184.9	19764				
3:3FTCA	3.946	241.0 -> 177.0	109692	123.91	µg/L		99
		241.0 -> 117.0	14218				
5:3FTCA	6.361	341.0 -> 237.1	2284537	599.84	µg/L		95
		341.0 -> 217.0	1613969				
7:3FTCA	7.736	441.0 -> 316.9	1519930	590.24	µg/L		89
		441.0 -> 336.9	3688064				
EtFOSA	10.997	526.0 -> 219.0	295531	49.66	µg/L		96
		526.0 -> 169.0	377778				
EtFOSE	10.943	630.0 -> 58.9	868643	124.04	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	249921	45.74	µg/L	m	79
		511.9 -> 169.0	356205				
MeFOSE	10.709	616.1 -> 58.9	614256	126.64	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	34613	22.09	µg/L		99
		699.1 -> 98.8	20530				
NFDHA	5.673	295.0 -> 201.0	128368	52.44	µg/L		95
		295.0 -> 84.9	30981				
PFMBA	4.988	279.0 -> 85.1	457785	49.07	µg/L		100
PFMPA	3.667	229.0 -> 84.9	358247	49.09	µg/L		100
PFEESA	6.288	314.8 -> 134.9	1177671	45.48	µg/L		100
		314.8 -> 82.9	40208				

 # = Qualifier out of range, m = manually integrated, + = Area summed

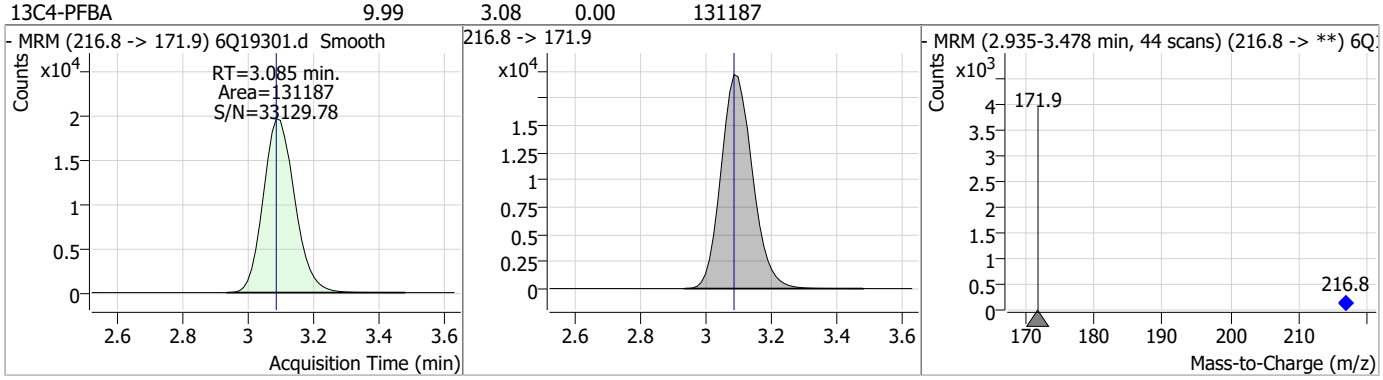
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

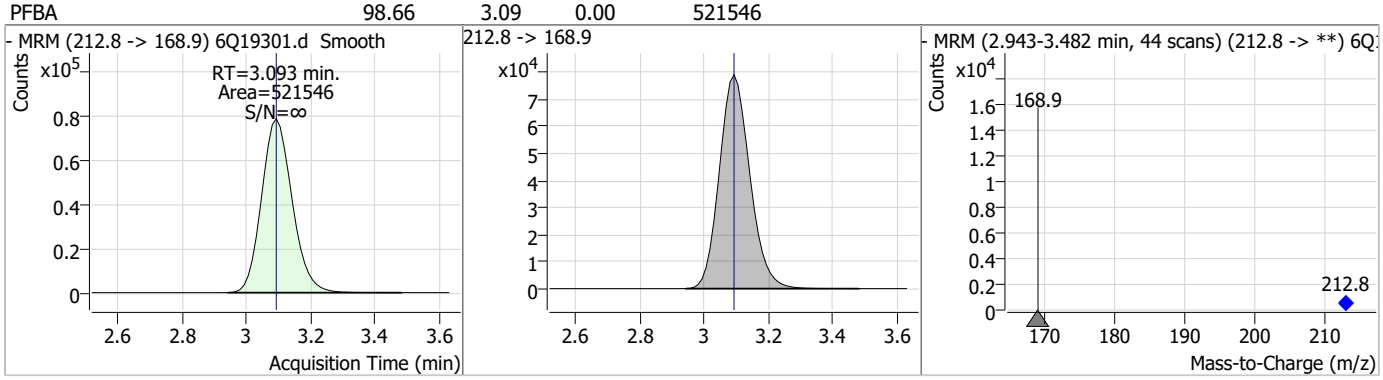
Perfluorinated Compounds by LC/MS/MS



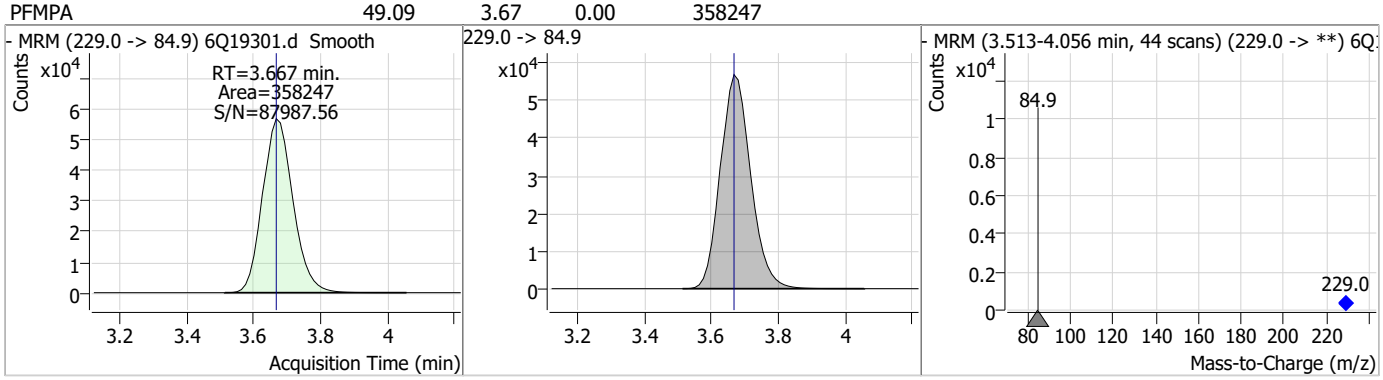
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.99	3.08	0.00	131187				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	98.66	3.09	0.00	521546				

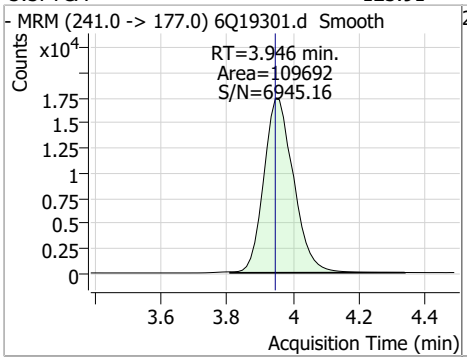


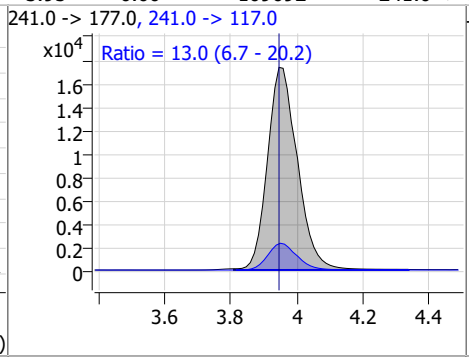
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	49.09	3.67	0.00	358247				

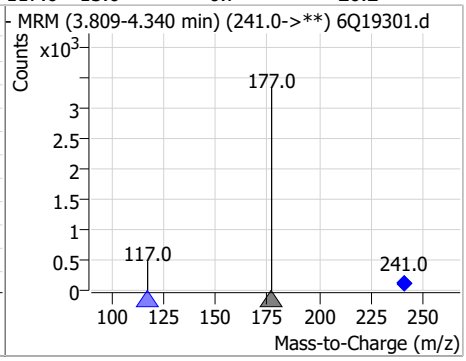


Perfluorinated Compounds by LC/MS/MS

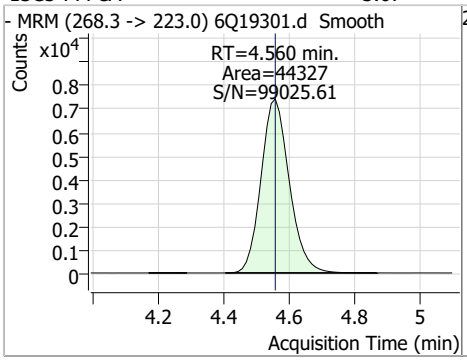
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	123.91	3.95	0.00	109692	241.0 -> 117.0	13.0	6.7	20.2

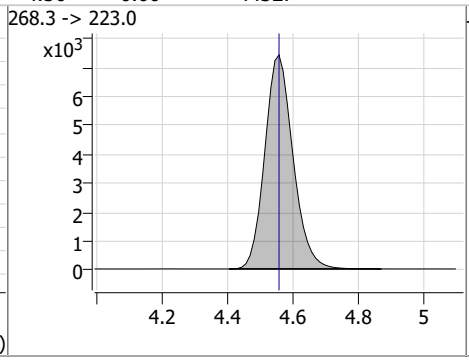


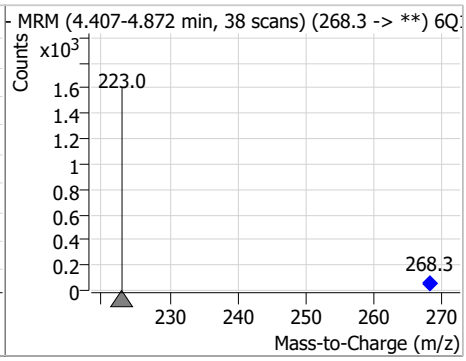




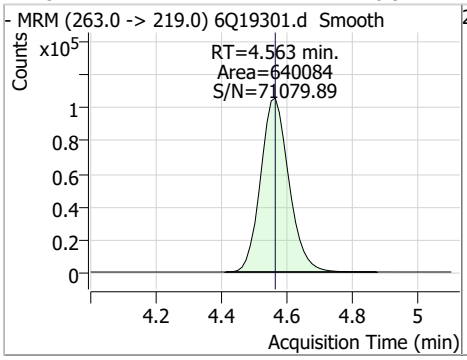
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.07	4.56	0.00	44327				

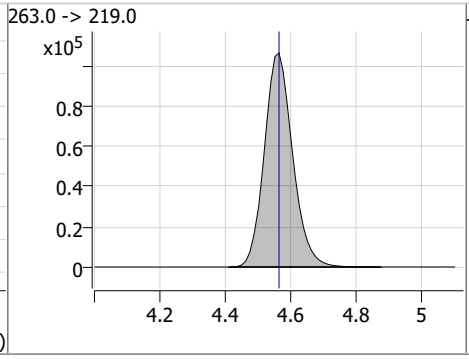


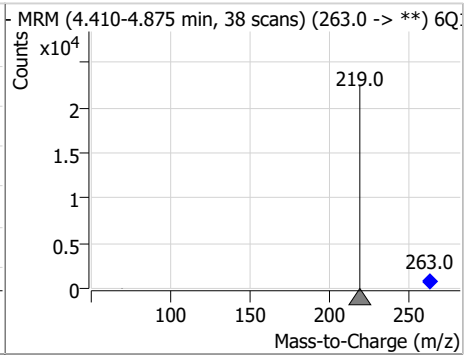




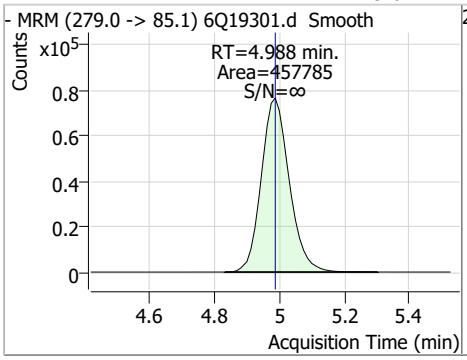
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	48.91	4.56	0.00	640084				

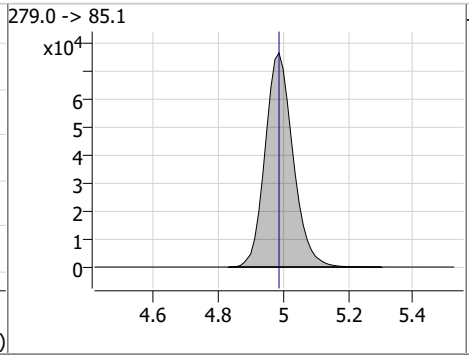


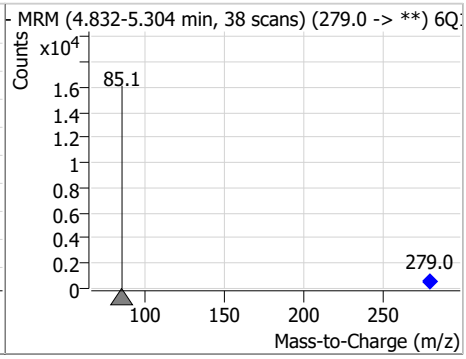




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	49.07	4.99	0.00	457785				

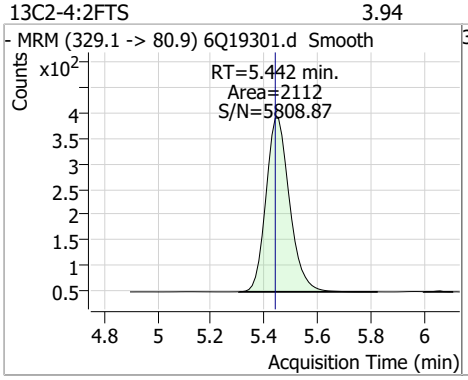


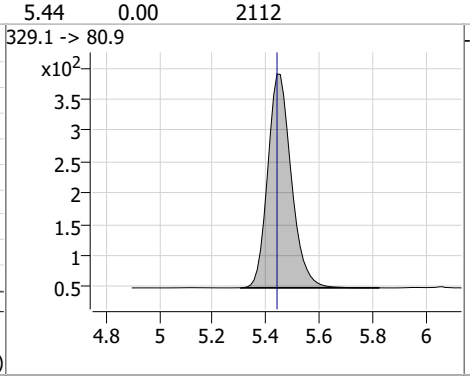


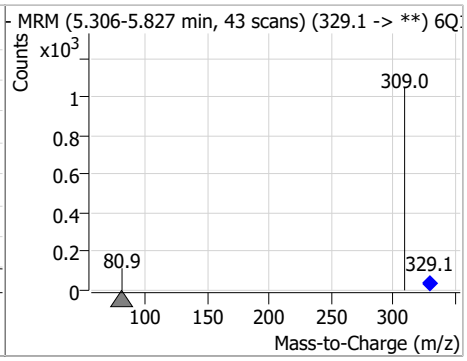


Perfluorinated Compounds by LC/MS/MS

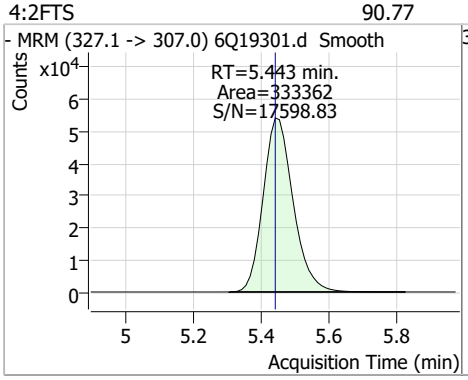
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	3.94	5.44	0.00	2112				

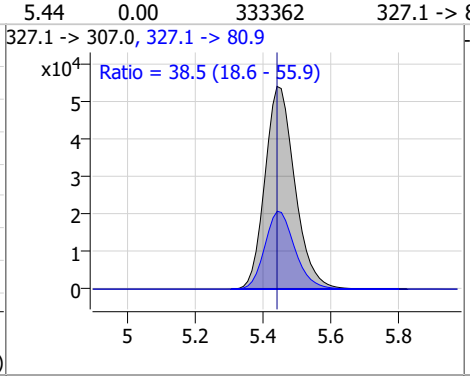


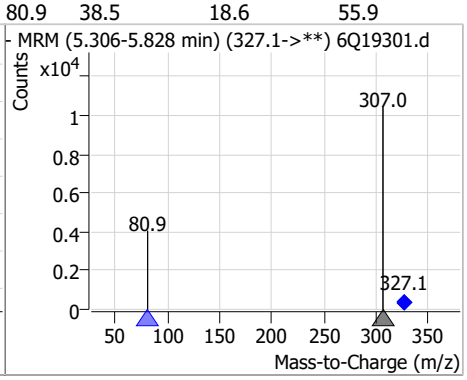




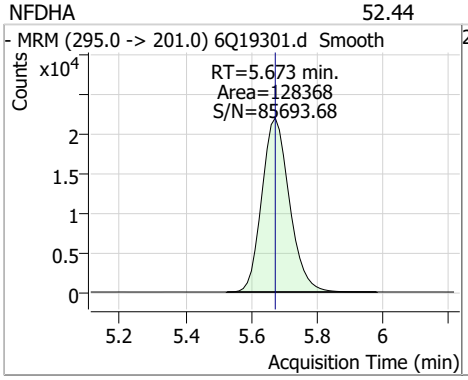
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	90.77	5.44	0.00	333362	327.1 -> 80.9	38.5	18.6	55.9

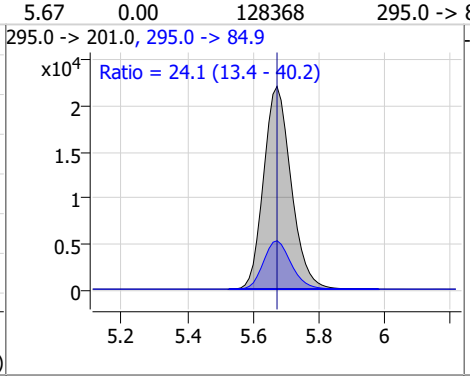


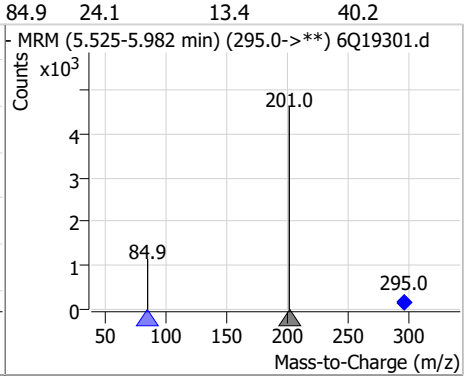




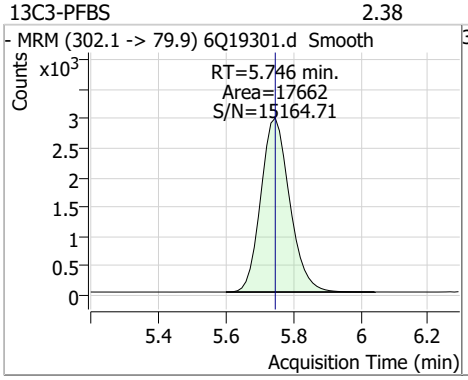
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	52.44	5.67	0.00	128368	295.0 -> 84.9	24.1	13.4	40.2

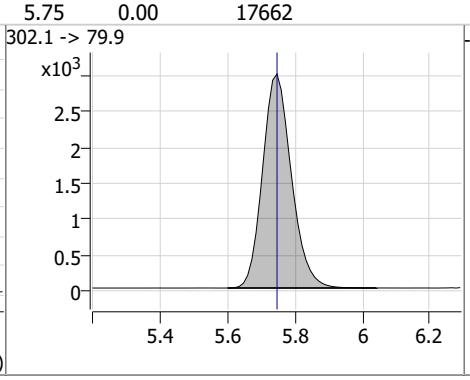


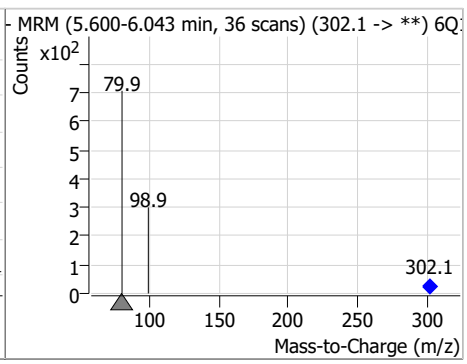




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.38	5.75	0.00	17662				

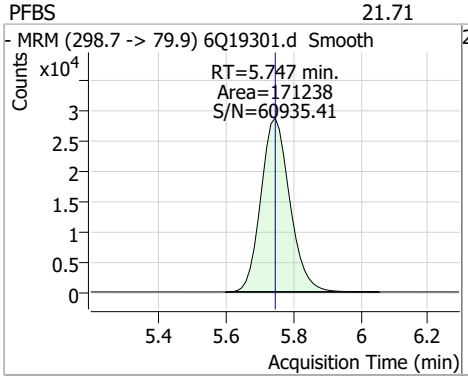


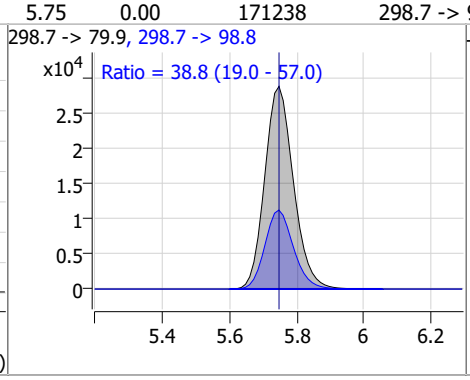


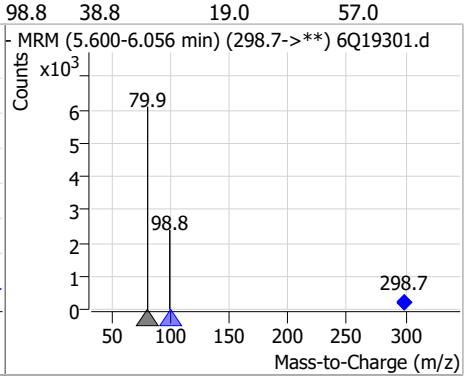


Perfluorinated Compounds by LC/MS/MS

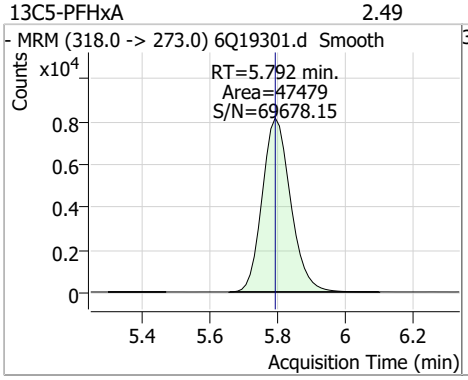
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	21.71	5.75	0.00	171238	298.7 -> 98.8	38.8	19.0	57.0

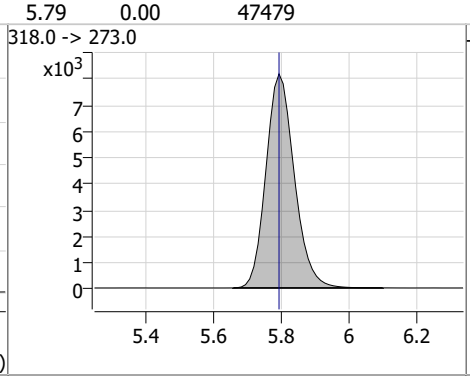


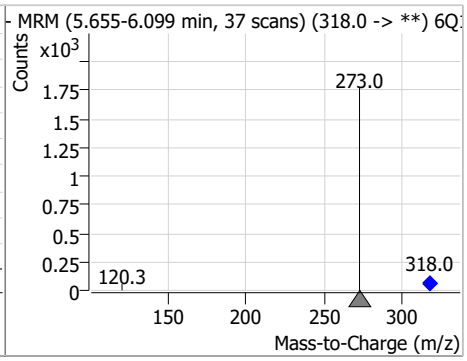




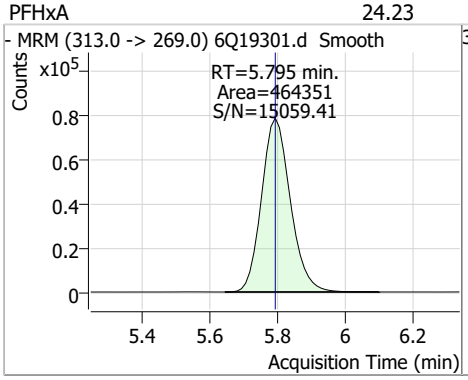
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.49	5.79	0.00	47479				

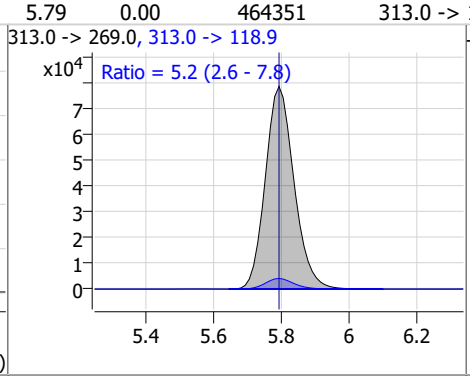


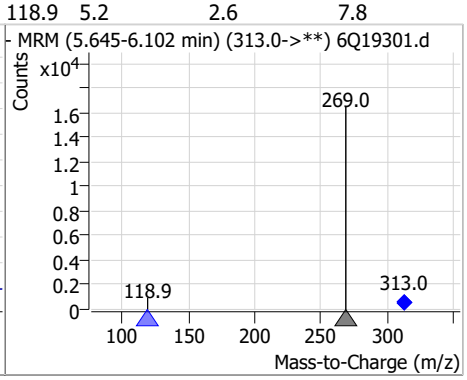




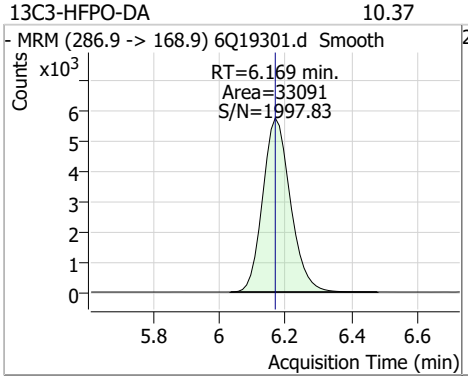
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	24.23	5.79	0.00	464351	313.0 -> 118.9	5.2	2.6	7.8

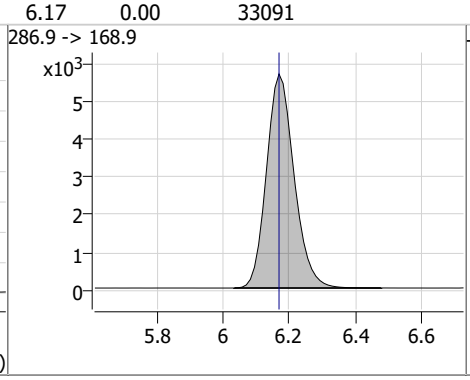


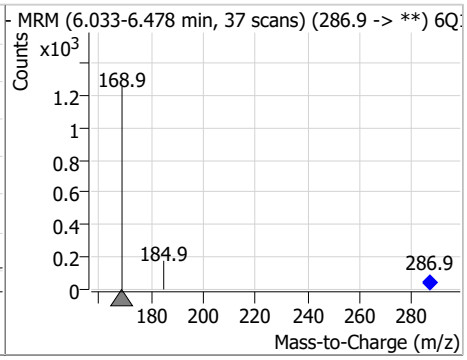




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.37	6.17	0.00	33091				

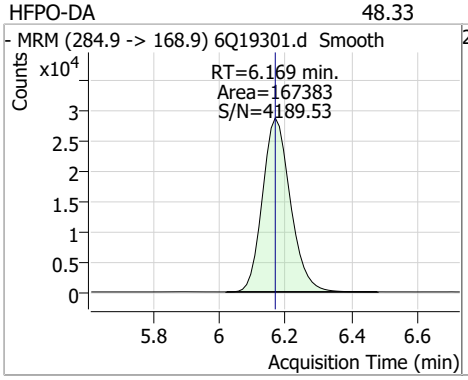


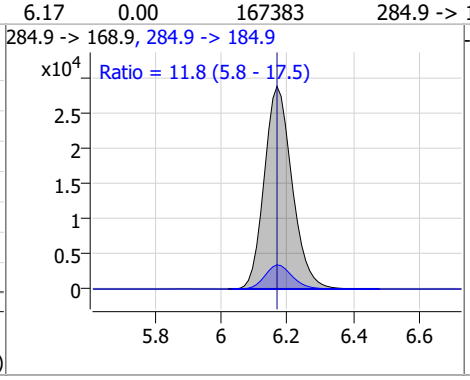


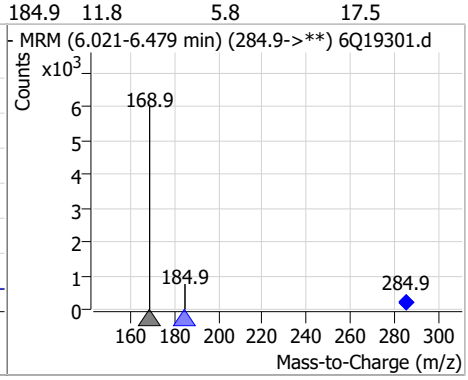


Perfluorinated Compounds by LC/MS/MS

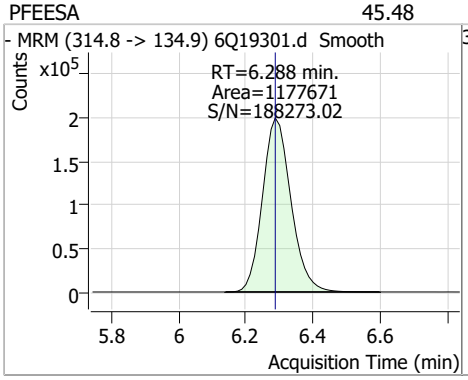
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	48.33	6.17	0.00	167383	284.9 -> 184.9	11.8	5.8	17.5

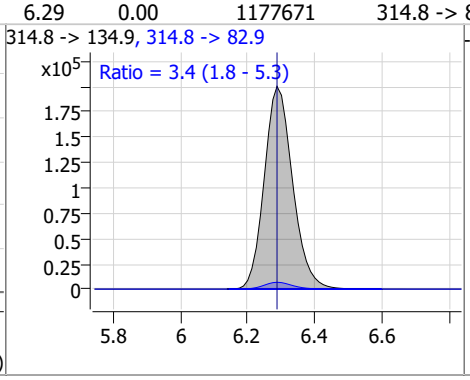


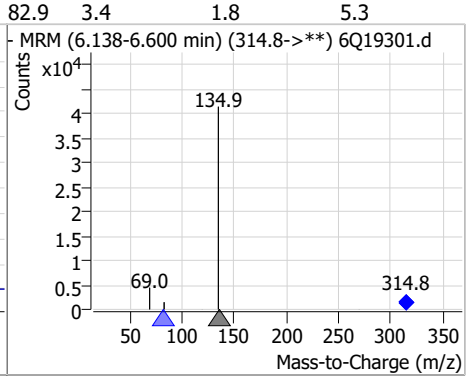




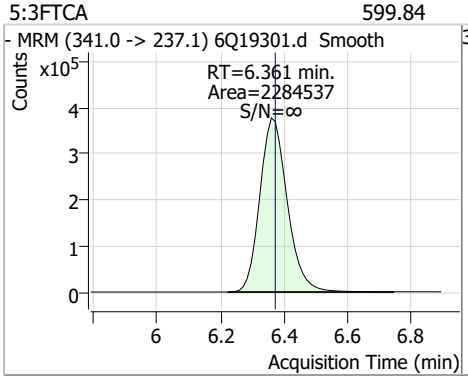
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	45.48	6.29	0.00	1177671	314.8 -> 82.9	3.4	1.8	5.3

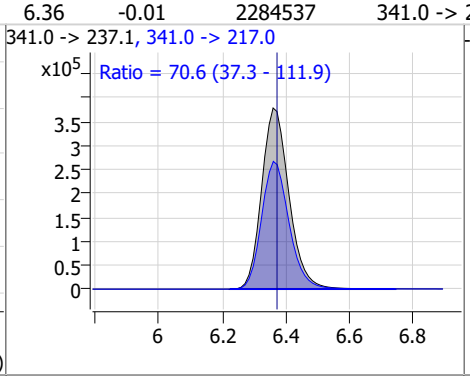


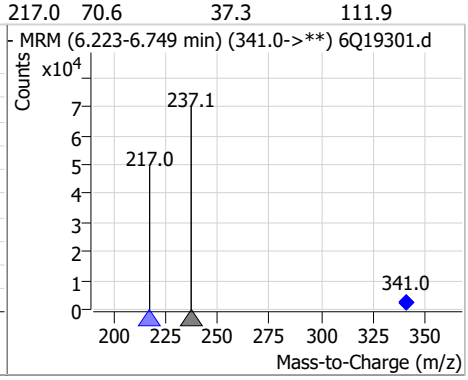




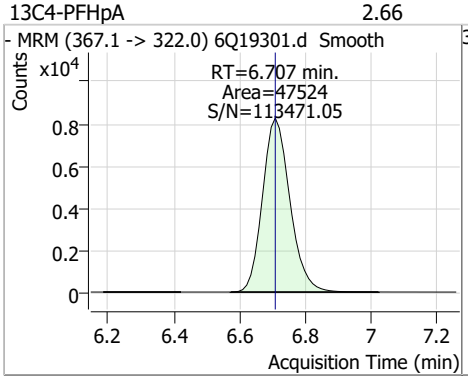
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	599.84	6.36	-0.01	2284537	341.0 -> 217.0	70.6	37.3	111.9

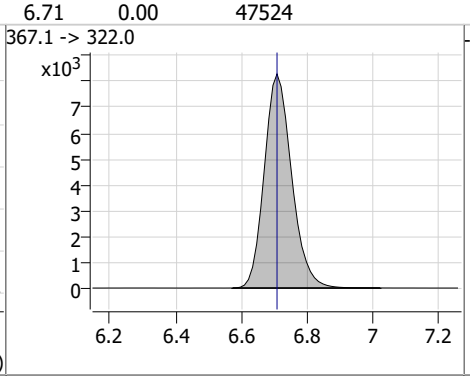


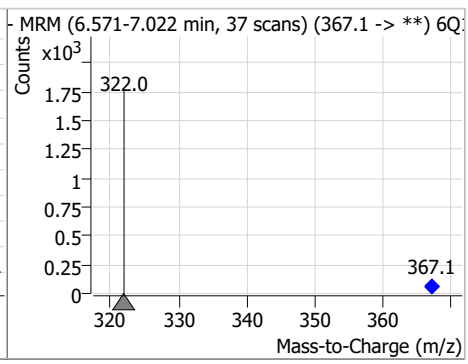




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.66	6.71	0.00	47524				

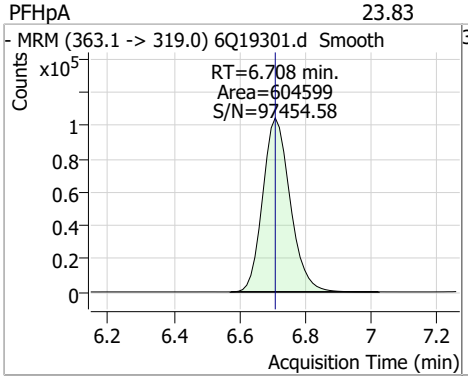


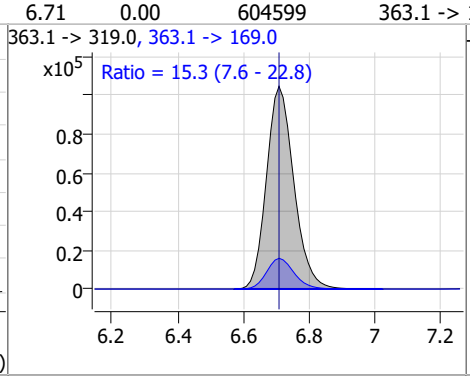


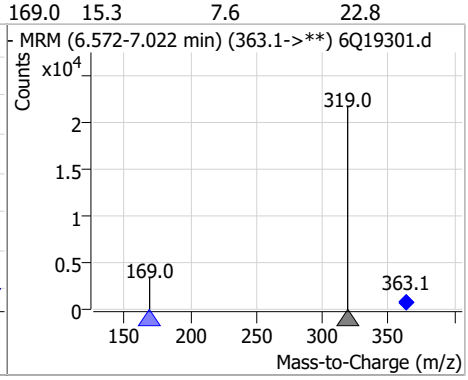


Perfluorinated Compounds by LC/MS/MS

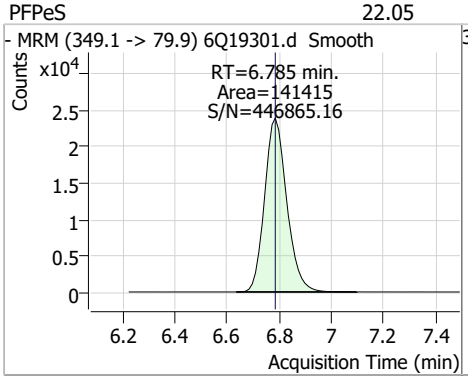
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	23.83	6.71	0.00	604599	363.1 -> 169.0	15.3	7.6	22.8

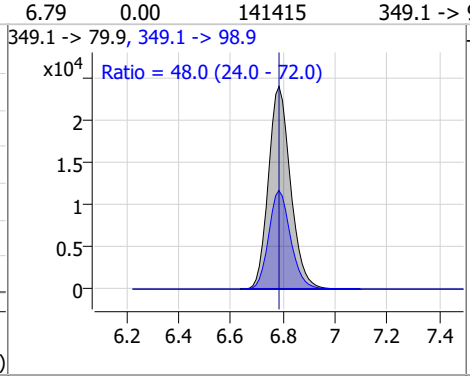


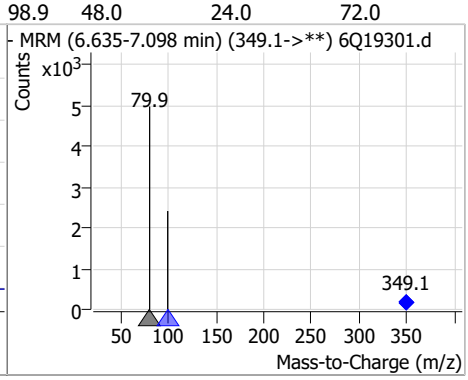




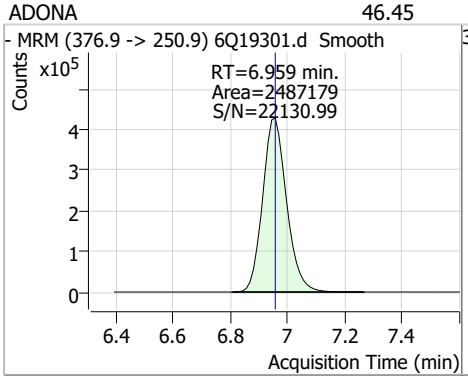
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	22.05	6.79	0.00	141415	349.1 -> 98.9	48.0	24.0	72.0

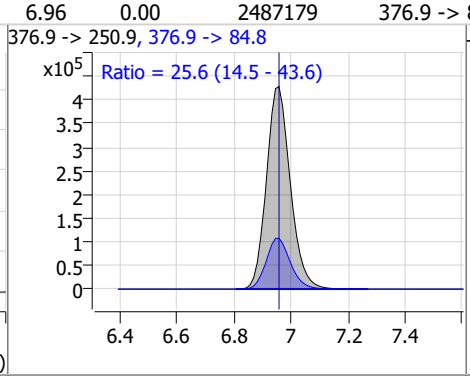


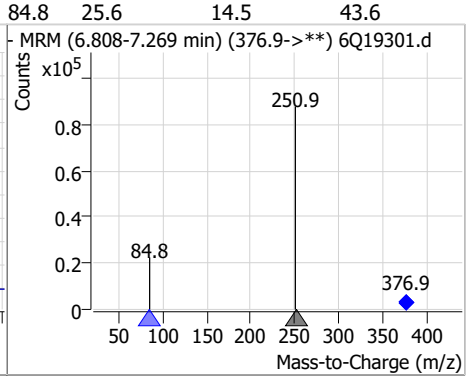




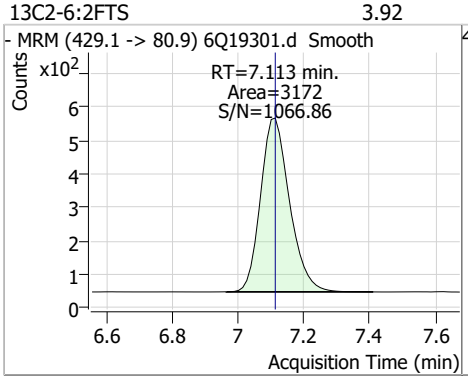
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	46.45	6.96	0.00	2487179	376.9 -> 84.8	25.6	14.5	43.6

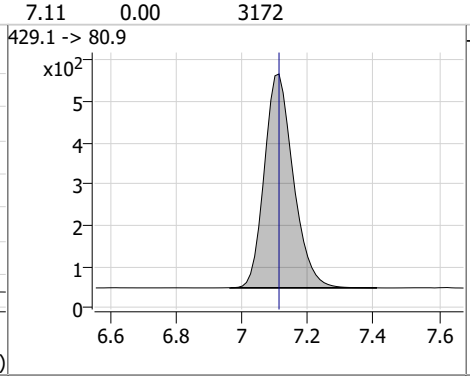


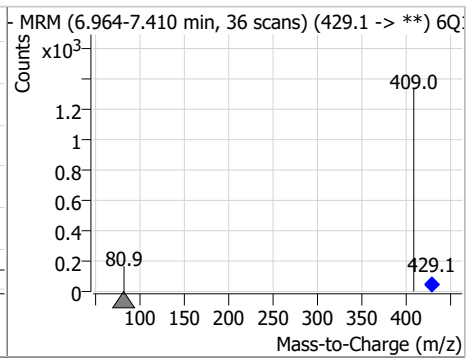




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	3.92	7.11	0.00	3172				

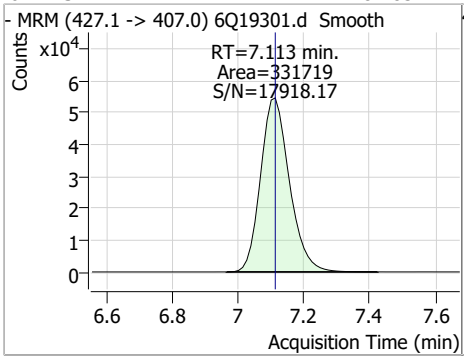


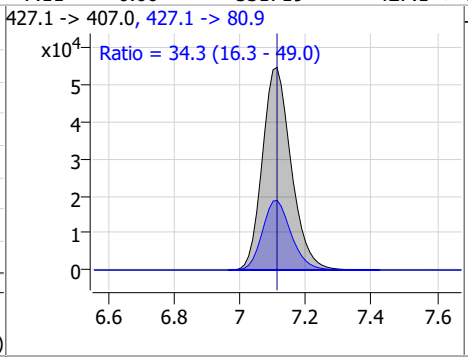


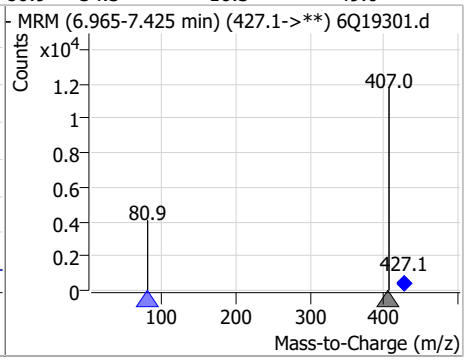


Perfluorinated Compounds by LC/MS/MS

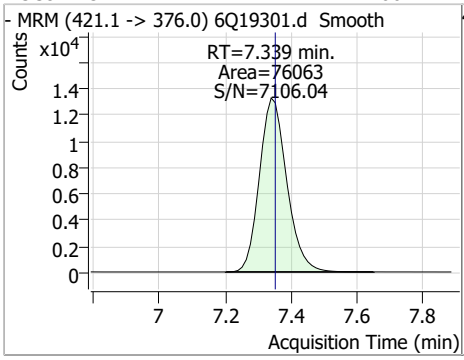
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	87.83	7.11	0.00	331719	427.1 -> 80.9	34.3	16.3	49.0

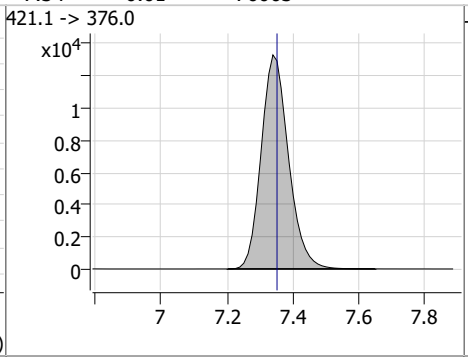


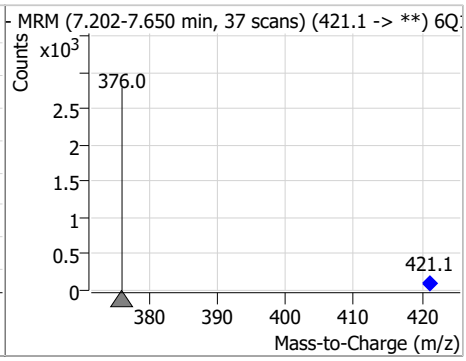




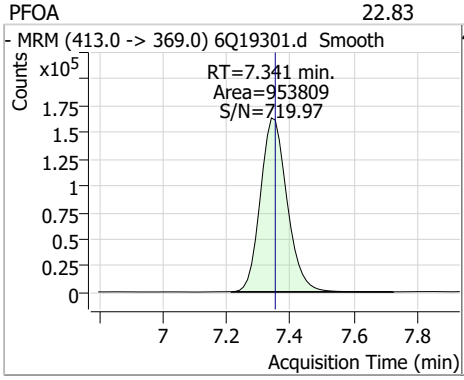
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.60	7.34	-0.01	76063				

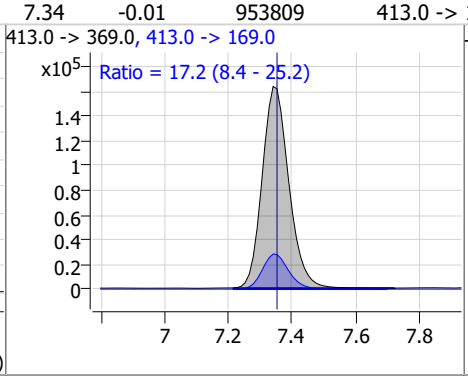


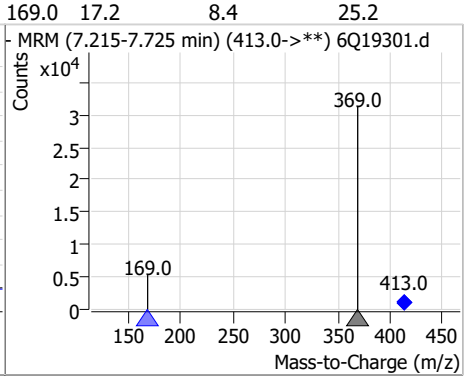




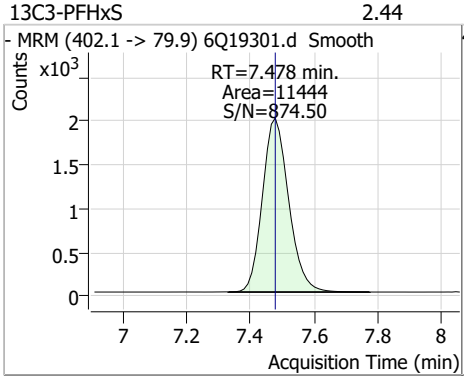
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	22.83	7.34	-0.01	953809	413.0 -> 169.0	17.2	8.4	25.2

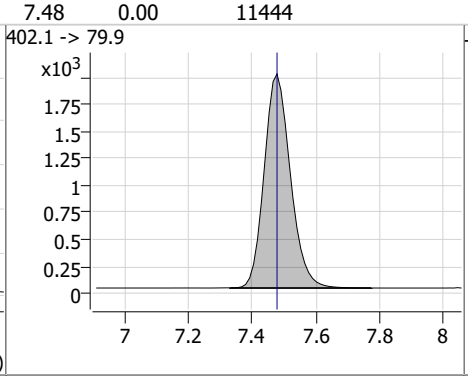


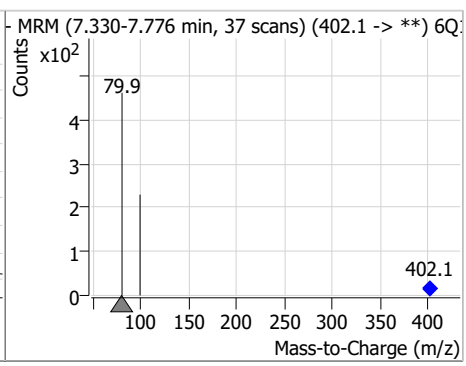




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.44	7.48	0.00	11444				

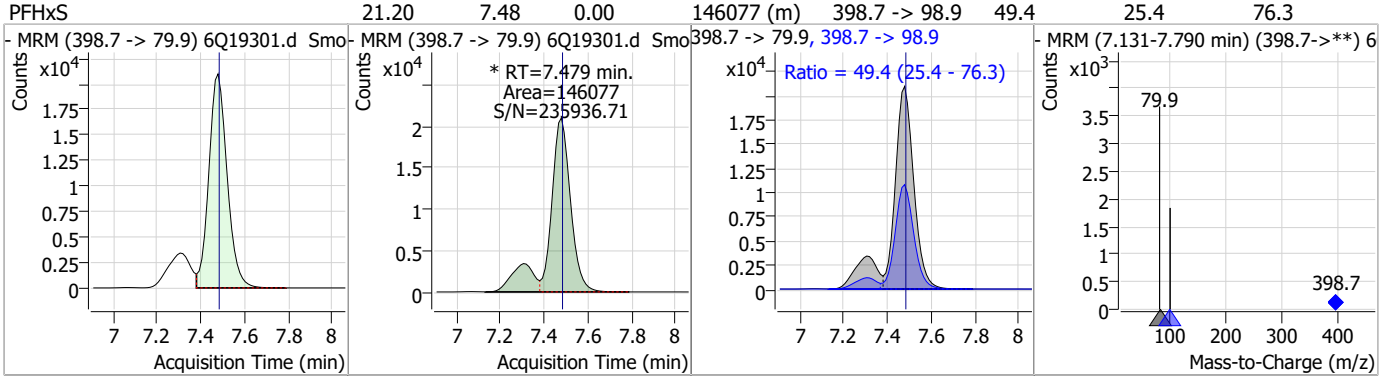




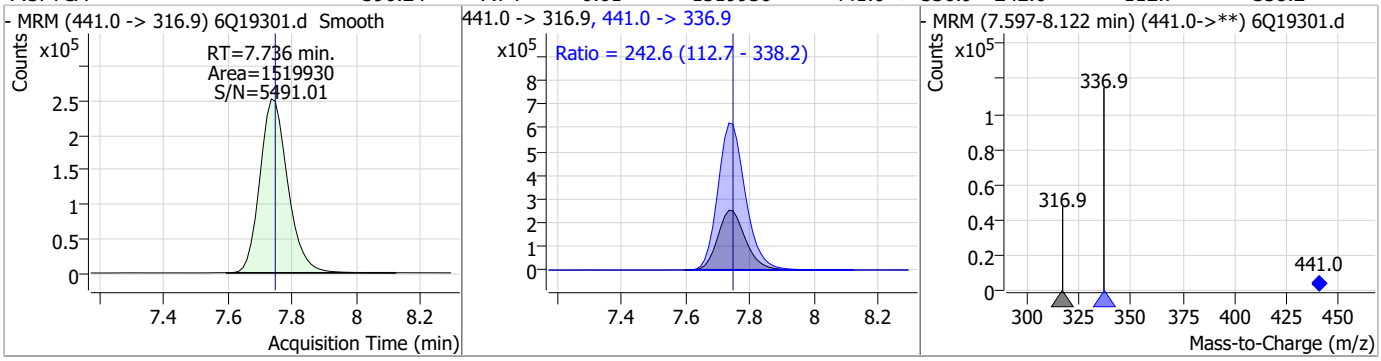


Perfluorinated Compounds by LC/MS/MS

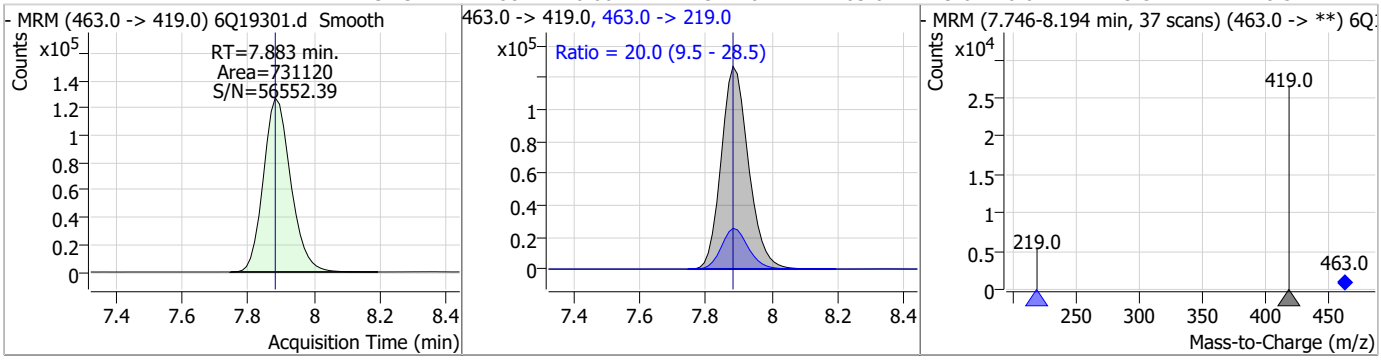
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	21.20	7.48	0.00	146077 (m)	398.7 -> 98.9	49.4	25.4	76.3



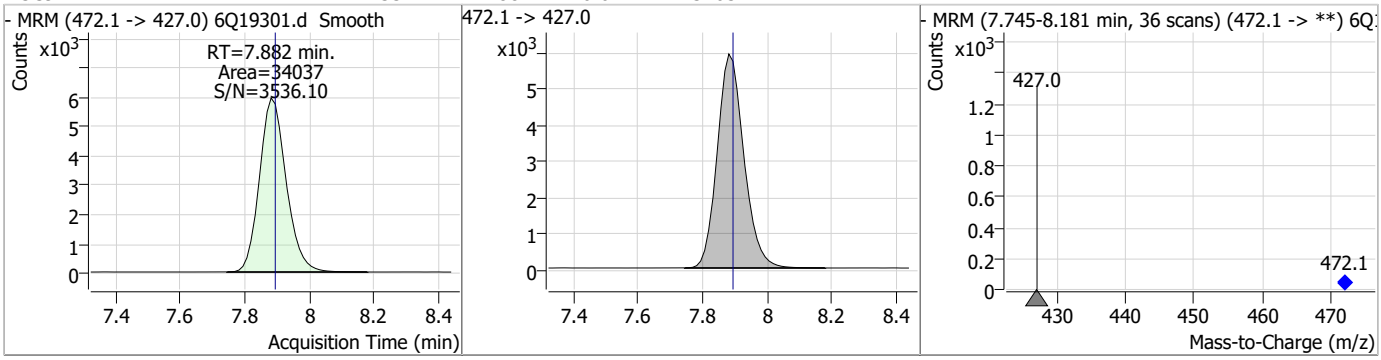
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	590.24	7.74	-0.01	1519930	441.0 -> 336.9	242.6	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	23.23	7.88	0.00	731120	463.0 -> 219.0	20.0	9.5	28.5

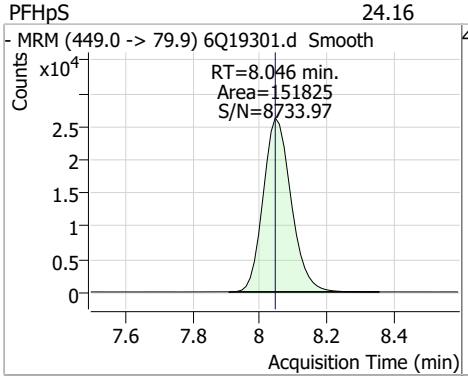


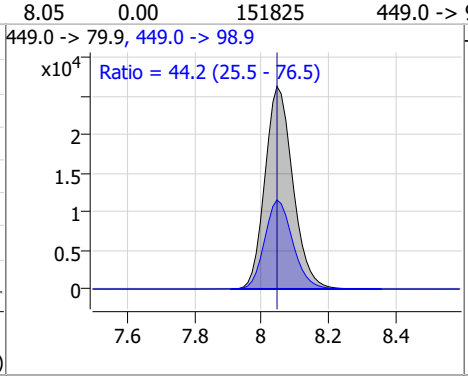
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.33	7.88	-0.01	34037				

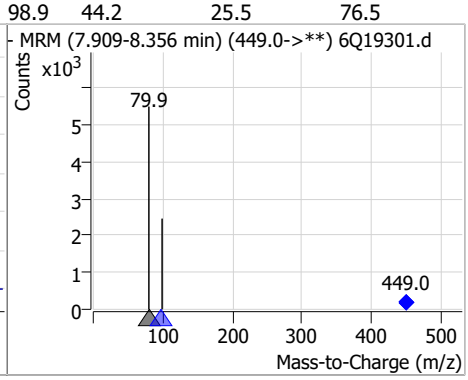


Perfluorinated Compounds by LC/MS/MS

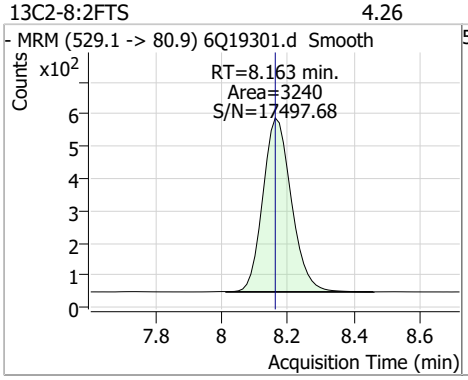
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	24.16	8.05	0.00	151825	449.0 -> 98.9	44.2	25.5	76.5

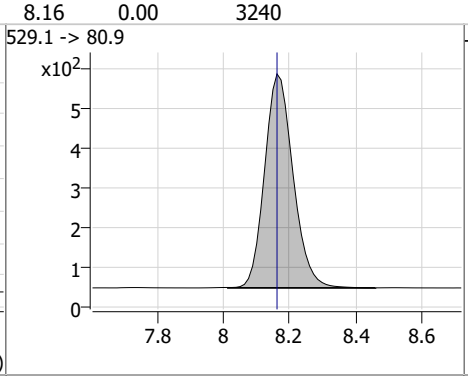


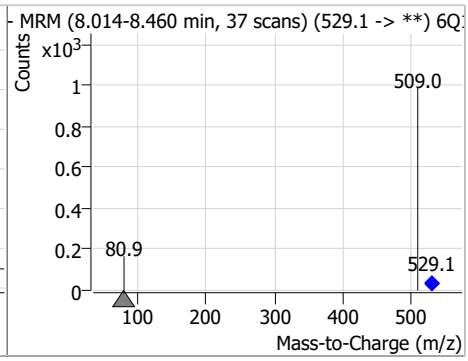




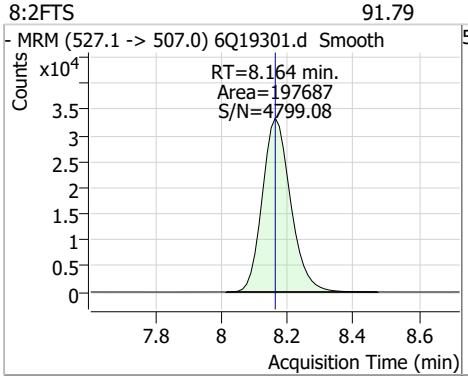
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.26	8.16	0.00	3240				

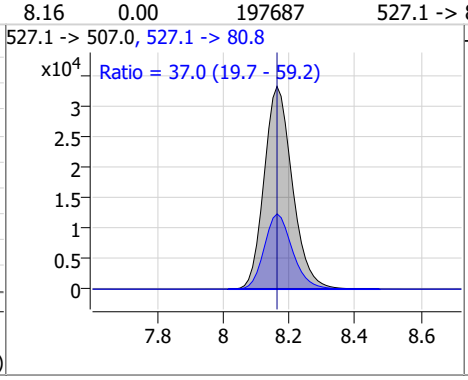


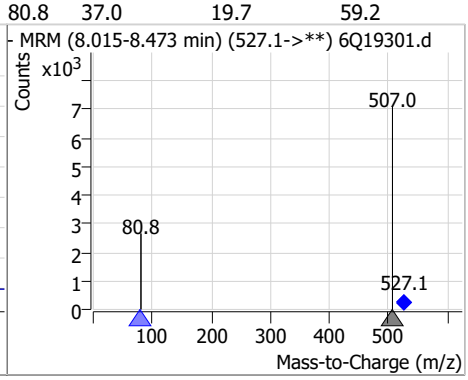




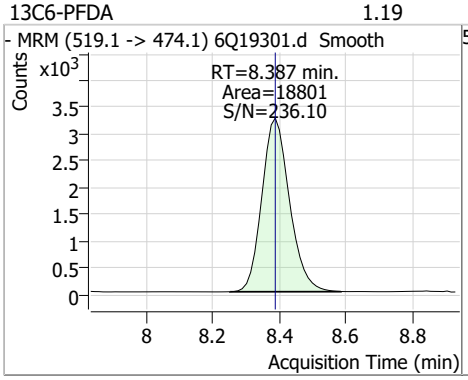
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	91.79	8.16	0.00	197687	527.1 -> 80.8	37.0	19.7	59.2

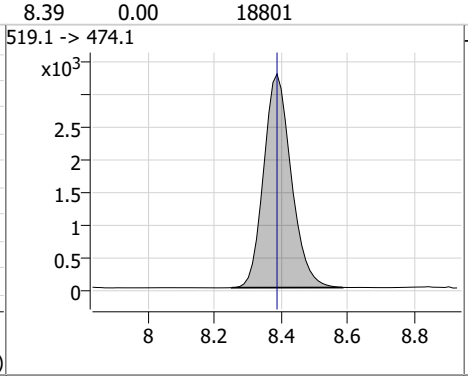


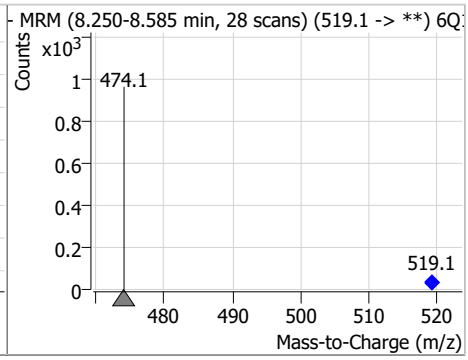




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.19	8.39	0.00	18801				

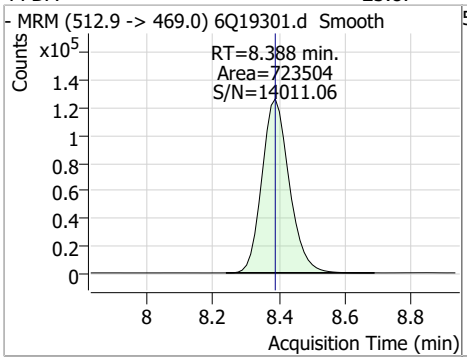


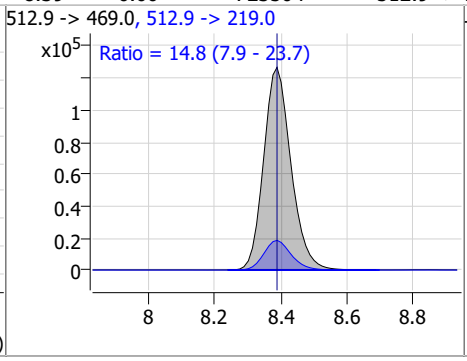


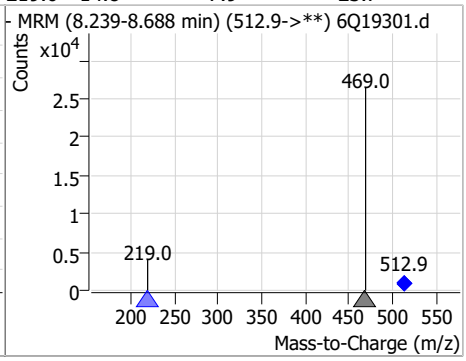


Perfluorinated Compounds by LC/MS/MS

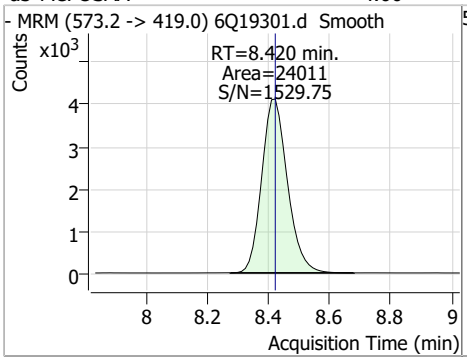
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	25.87	8.39	0.00	723504	512.9 -> 219.0	14.8	7.9	23.7

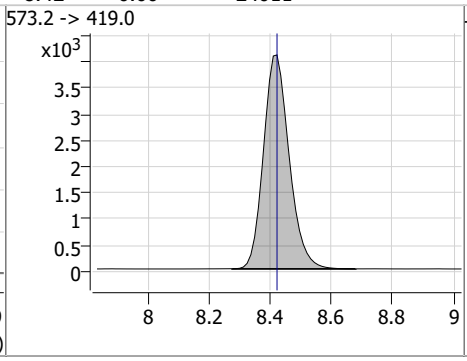


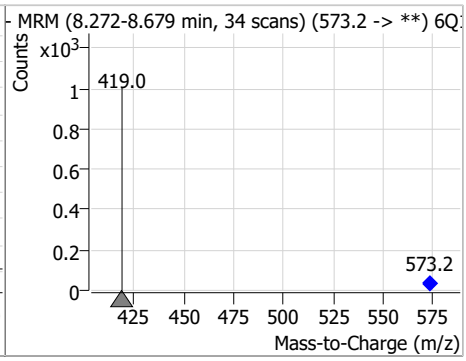




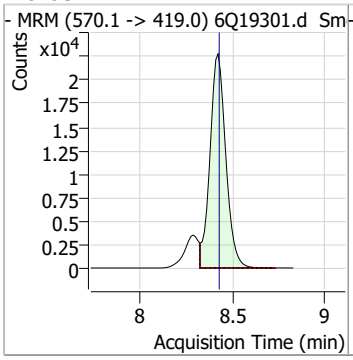
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.60	8.42	0.00	24011				

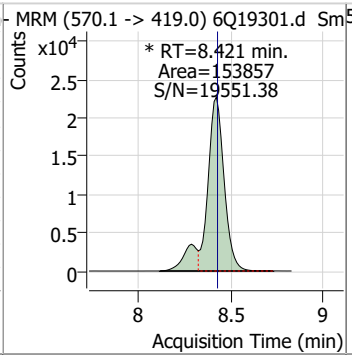


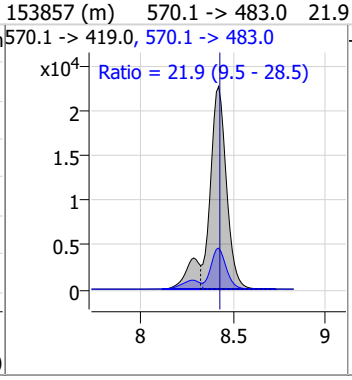


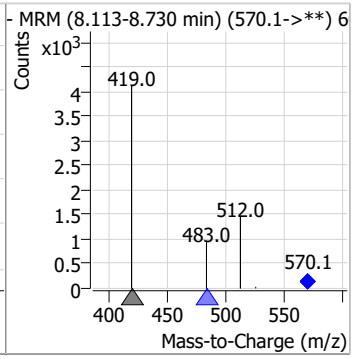


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	24.72	8.42	0.00	153857 (m)	570.1 -> 483.0	21.9	9.5	28.5

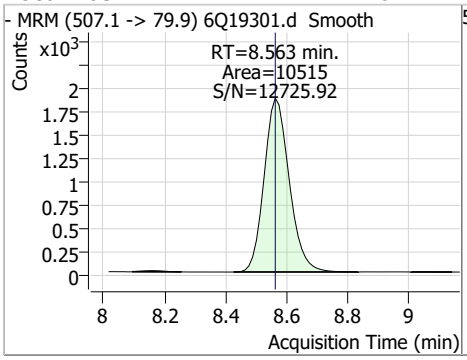


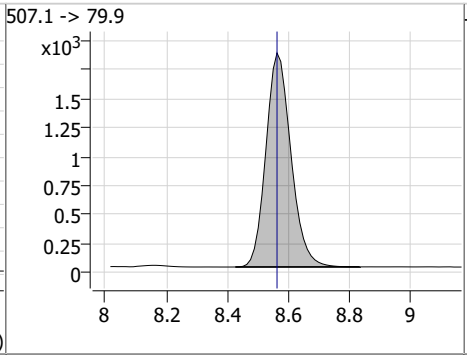


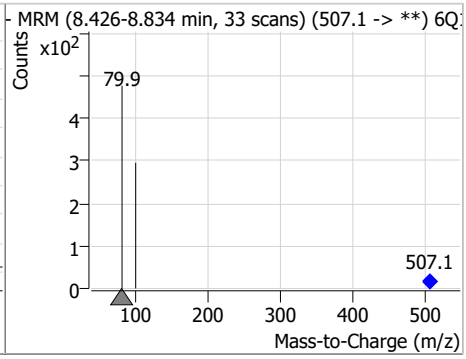




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.52	8.56	0.00	10515				

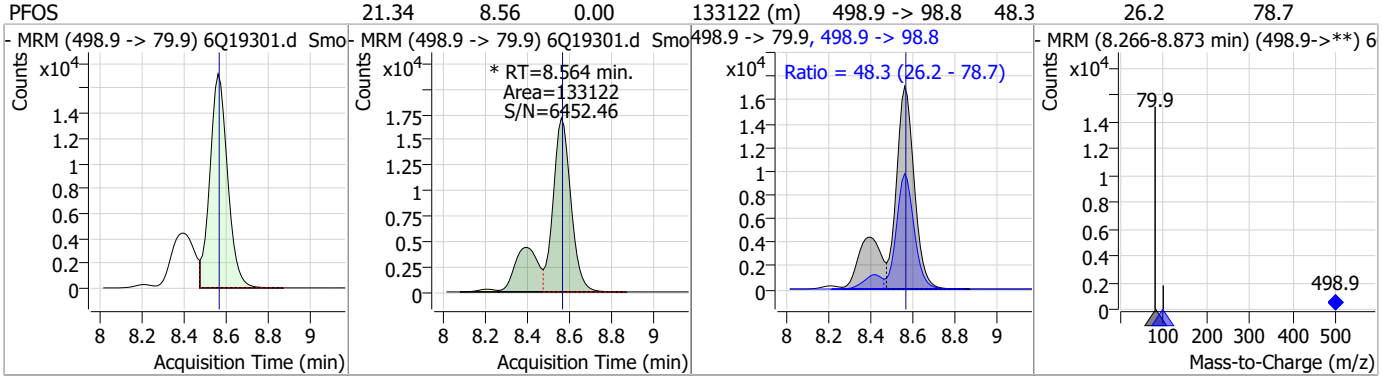




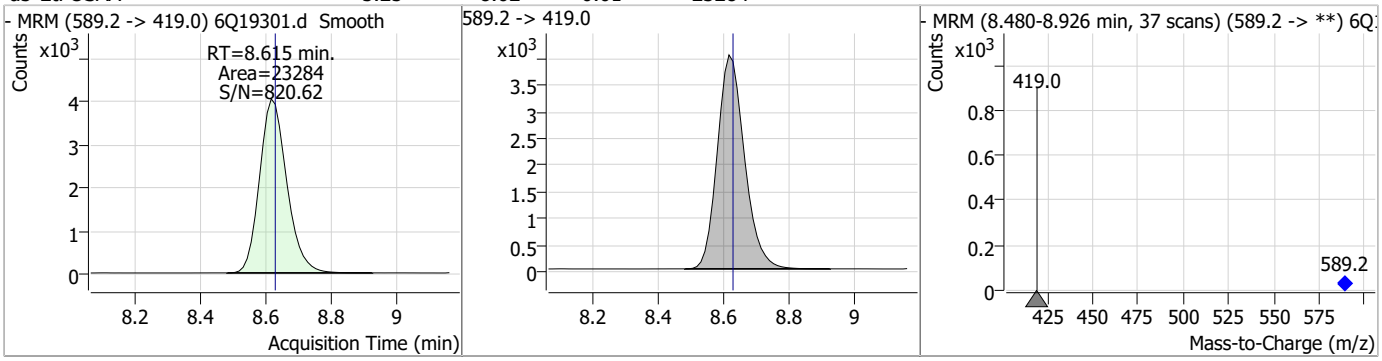


Perfluorinated Compounds by LC/MS/MS

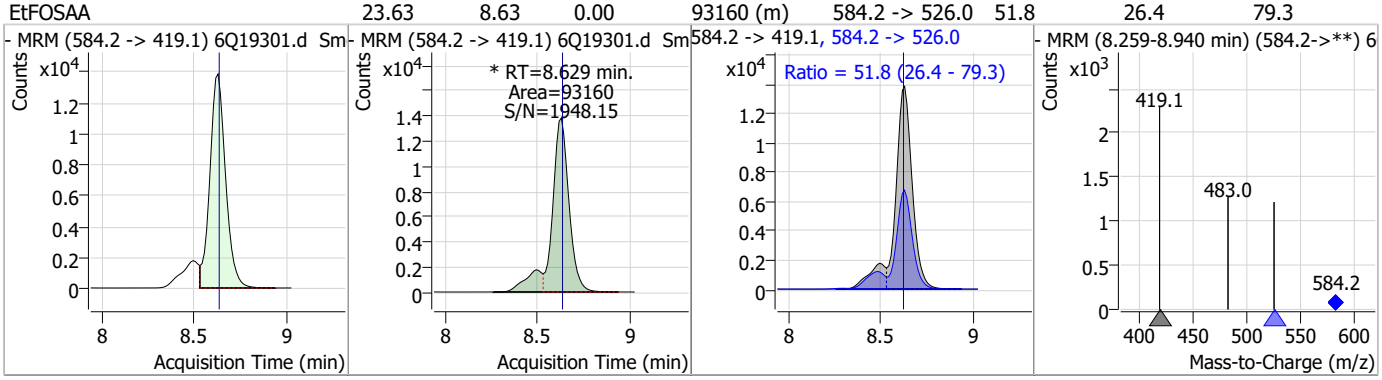
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	21.34	8.56	0.00	133122 (m)	498.9 -> 98.8	48.3	26.2	78.7



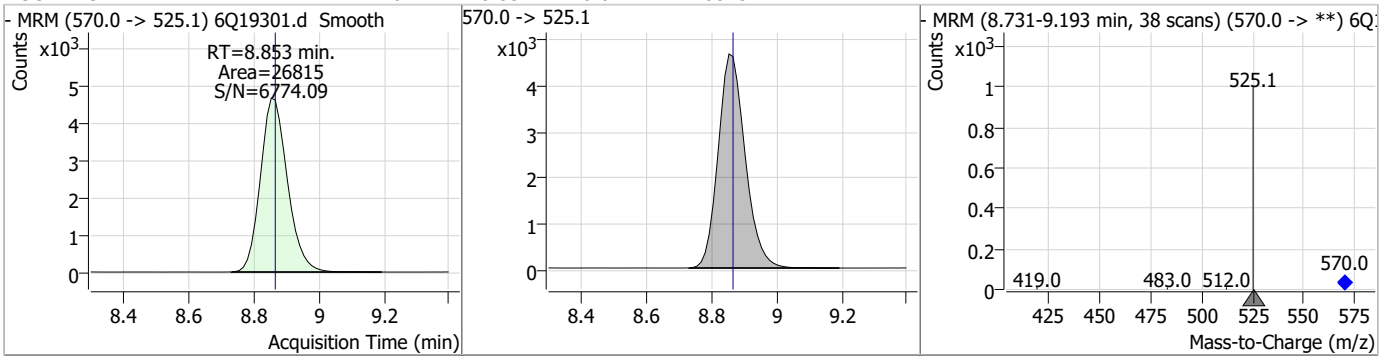
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.25	8.62	-0.01	23284				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	23.63	8.63	0.00	93160 (m)	584.2 -> 526.0	51.8	26.4	79.3

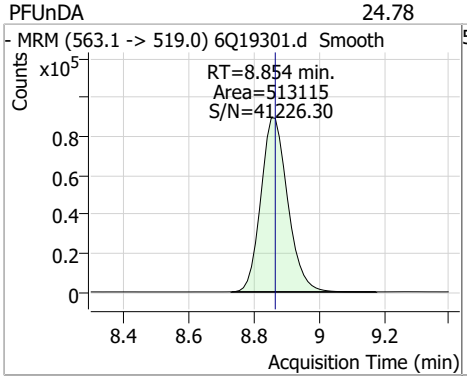


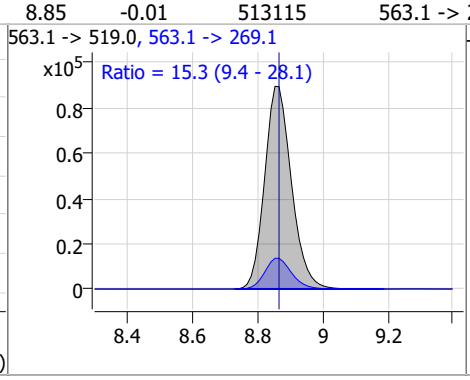
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.26	8.85	-0.01	26815				

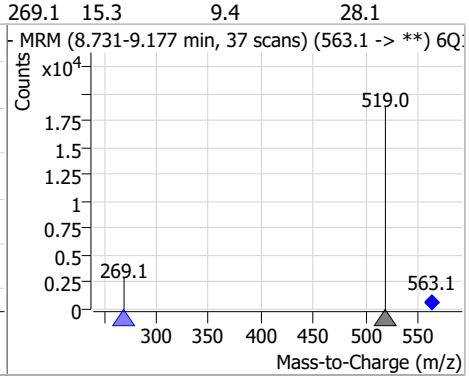


Perfluorinated Compounds by LC/MS/MS

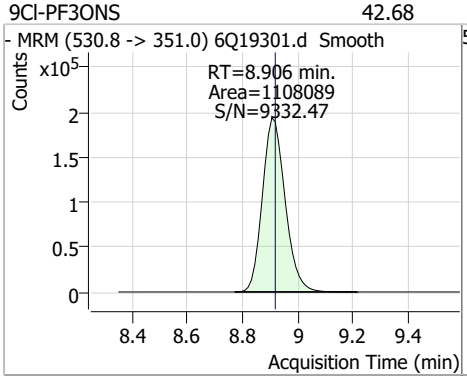
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	24.78	8.85	-0.01	513115	563.1 -> 269.1	15.3	9.4	28.1

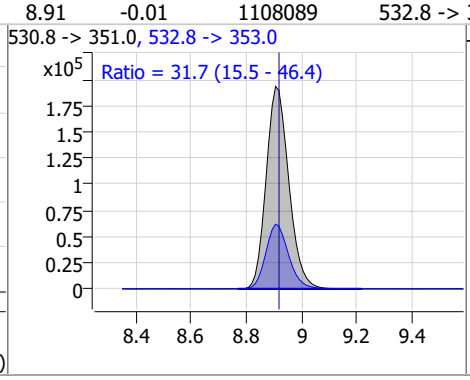


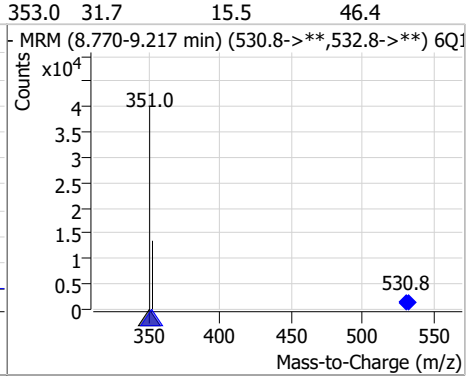




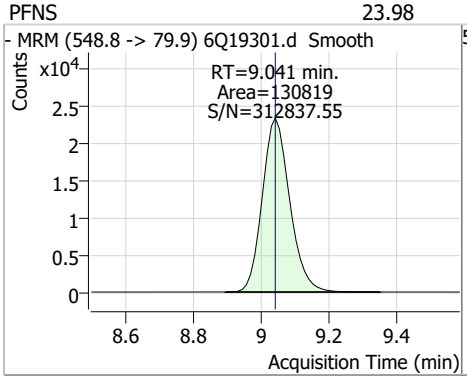
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	42.68	8.91	-0.01	1108089	532.8 -> 353.0	31.7	15.5	46.4

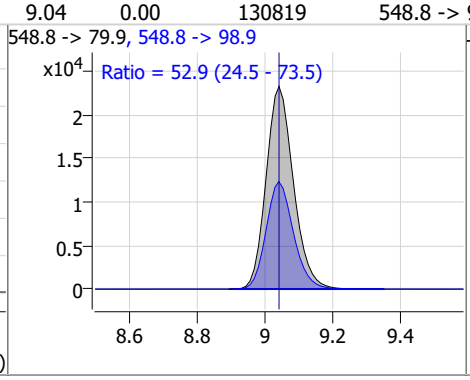


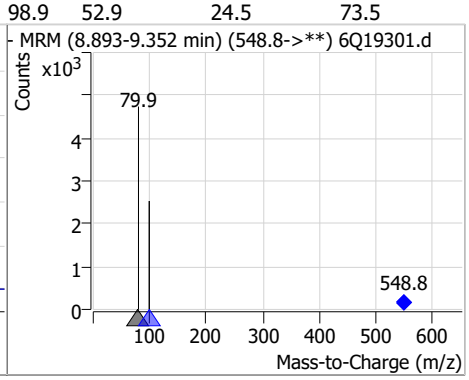




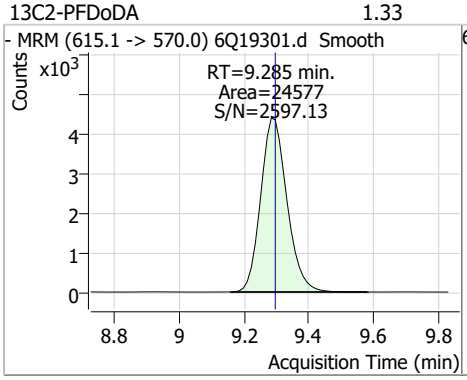
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	23.98	9.04	0.00	130819	548.8 -> 98.9	52.9	24.5	73.5

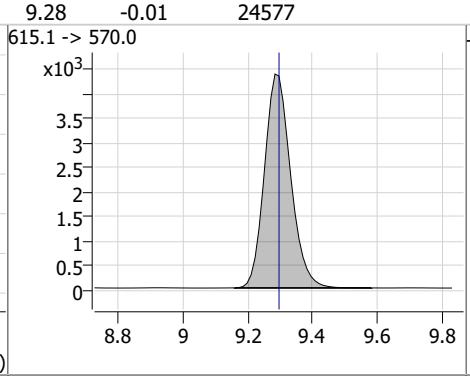


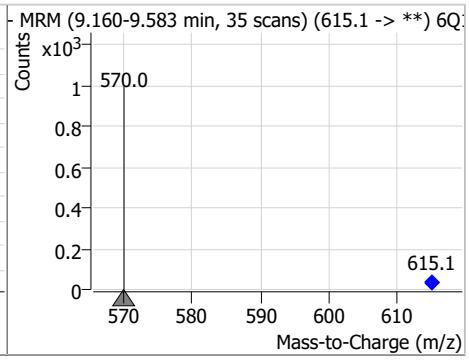




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.33	9.28	-0.01	24577				

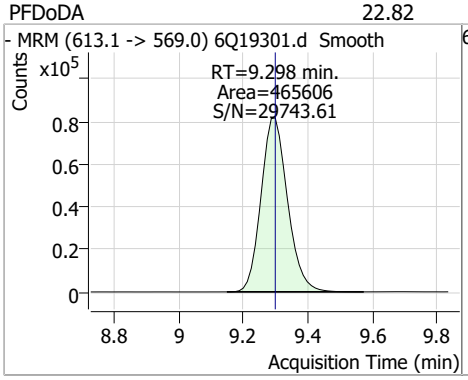


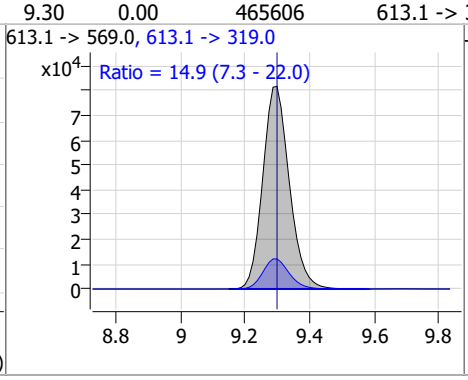


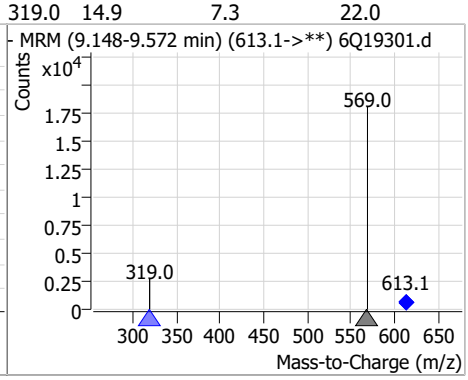


Perfluorinated Compounds by LC/MS/MS

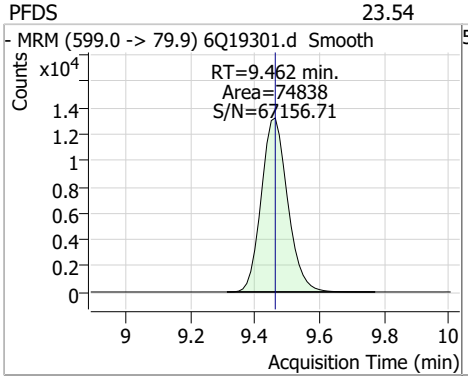
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	22.82	9.30	0.00	465606	613.1 -> 319.0	14.9	7.3	22.0

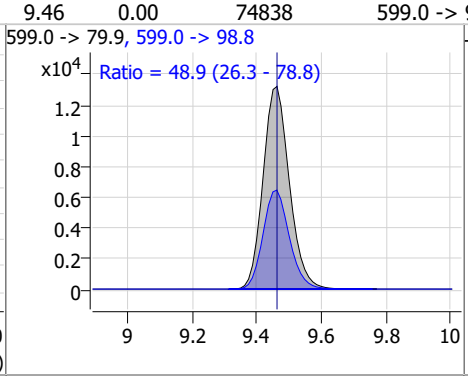


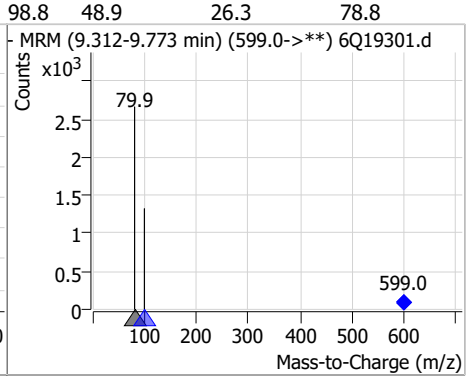




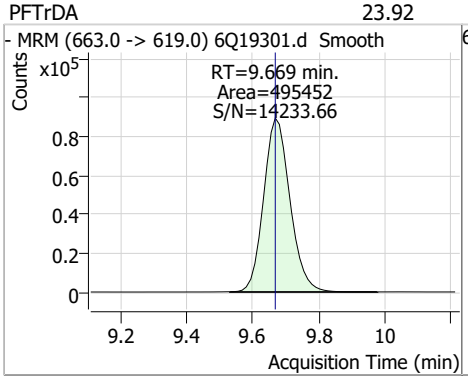
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	23.54	9.46	0.00	74838	599.0 -> 98.8	48.9	26.3	78.8

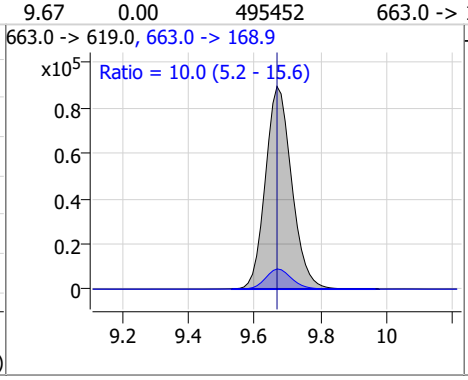


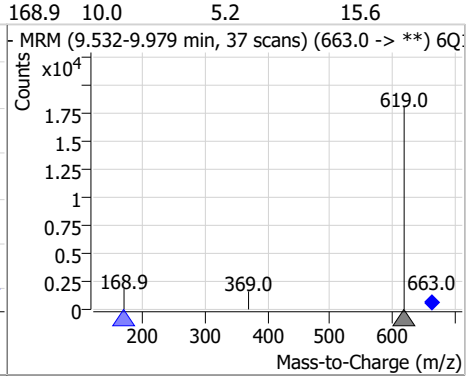




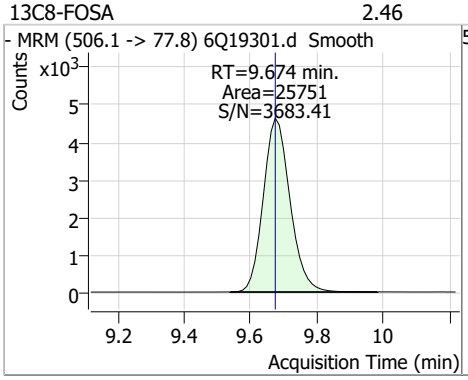
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	23.92	9.67	0.00	495452	663.0 -> 168.9	10.0	5.2	15.6

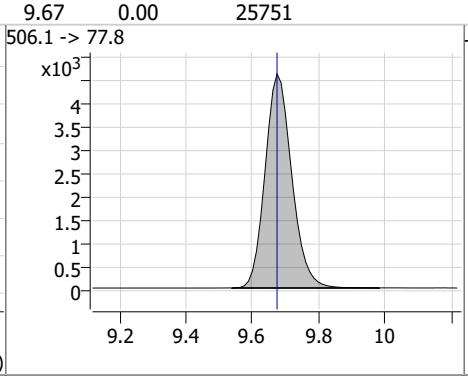


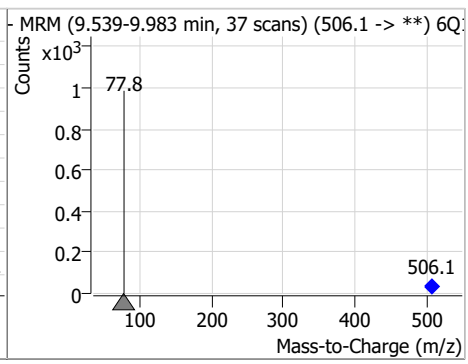




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.46	9.67	0.00	25751				

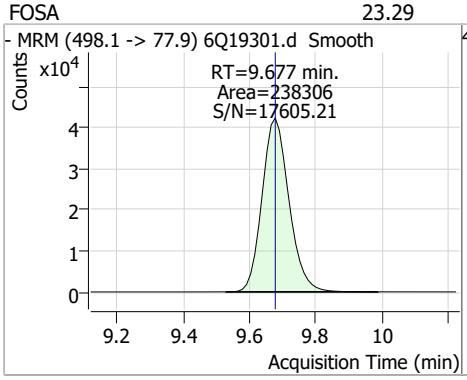


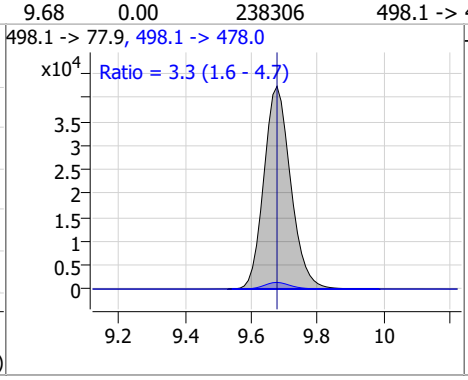


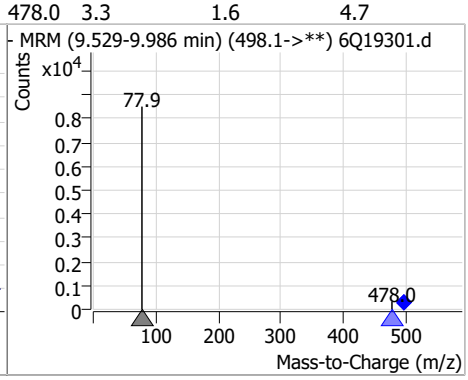


Perfluorinated Compounds by LC/MS/MS

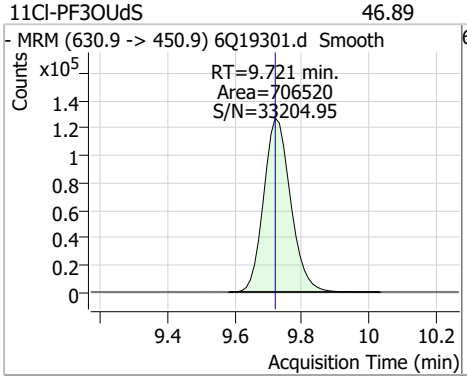
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	23.29	9.68	0.00	238306	498.1 -> 478.0	3.3	1.6	4.7

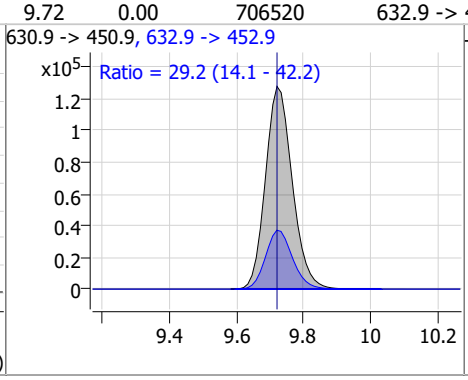


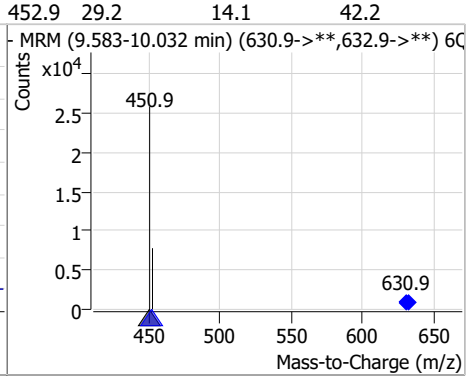




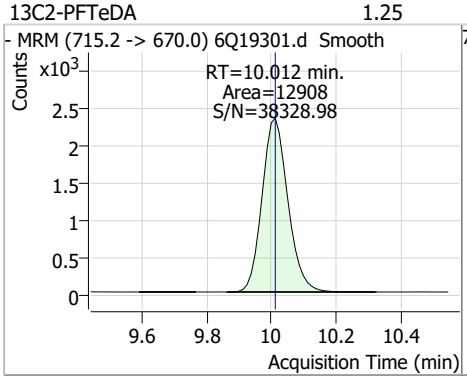
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	46.89	9.72	0.00	706520	632.9 -> 452.9	29.2	14.1	42.2

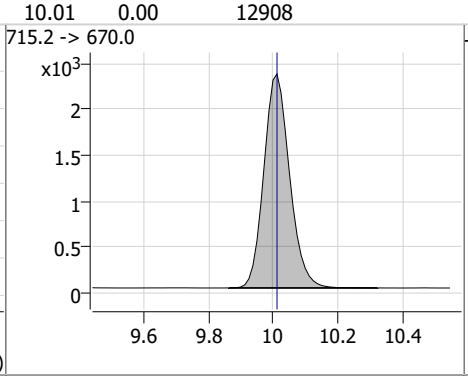


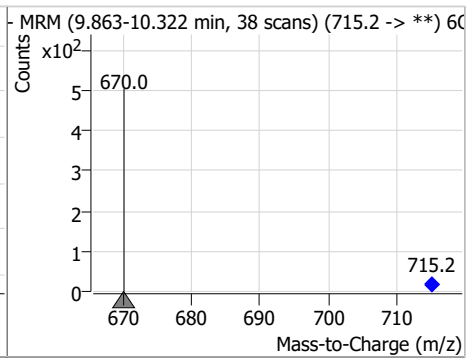




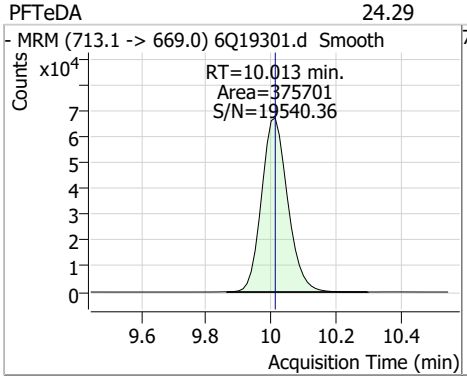
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.25	10.01	0.00	12908				

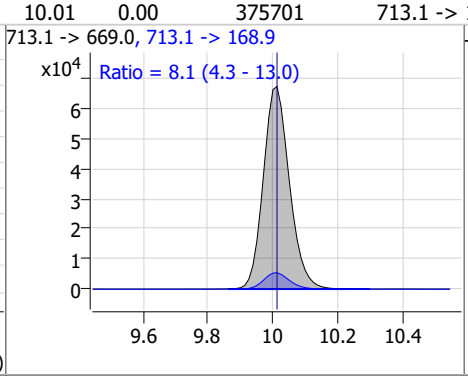


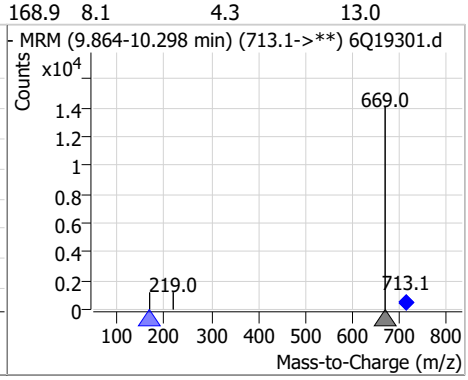




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	24.29	10.01	0.00	375701	713.1 -> 168.9	8.1	4.3	13.0

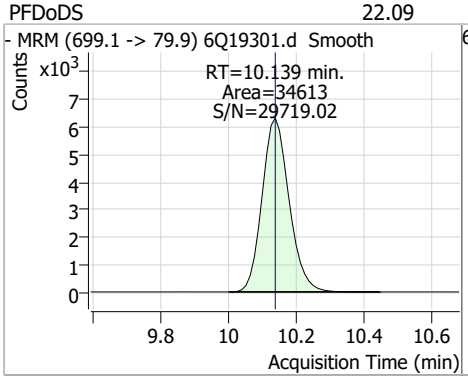


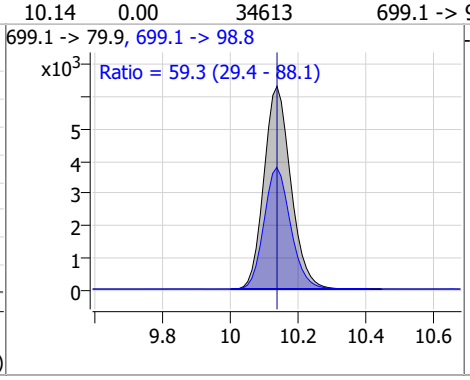


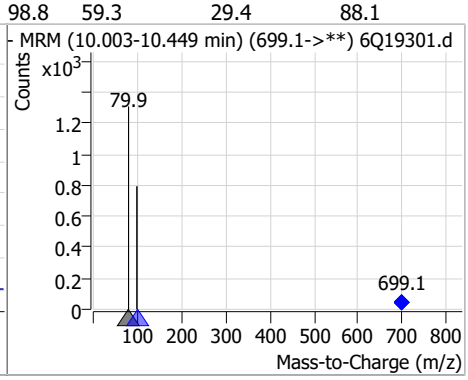


Perfluorinated Compounds by LC/MS/MS

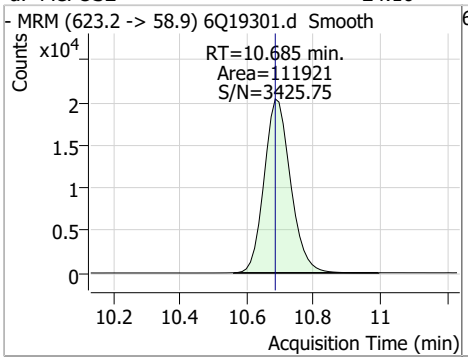
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	22.09	10.14	0.00	34613	699.1 -> 98.8	59.3	29.4	88.1

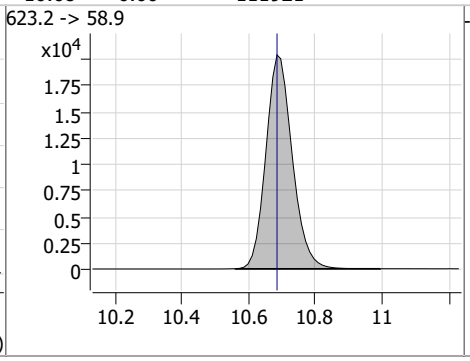


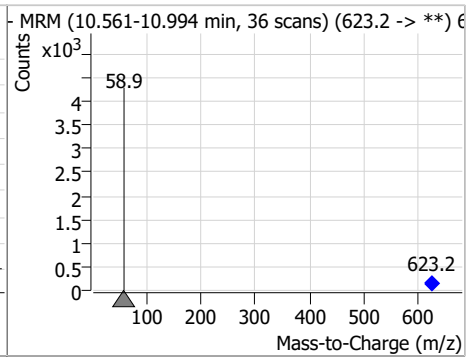




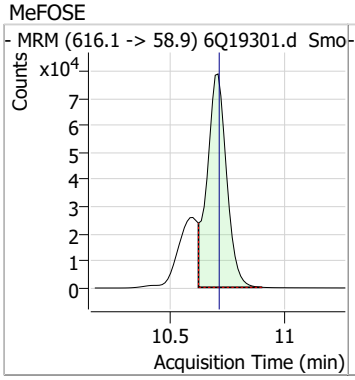
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.16	10.68	0.00	111921				

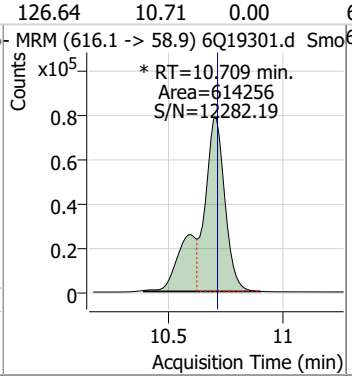


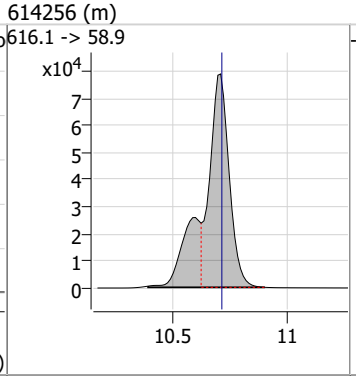


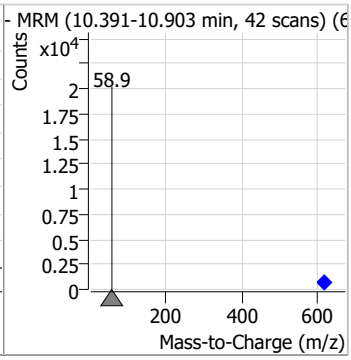


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	126.64	10.71	0.00	614256 (m)				

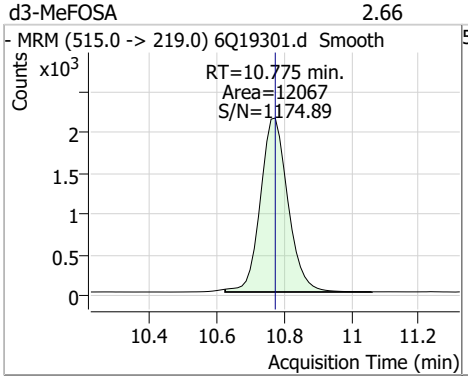


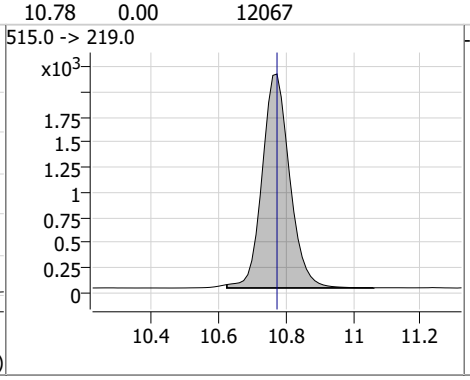


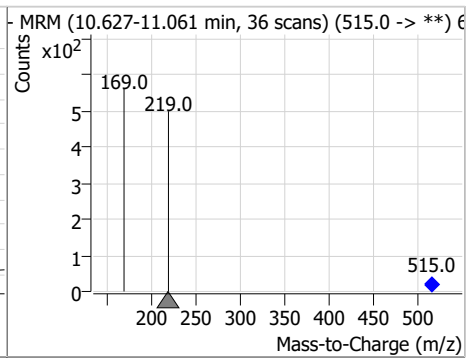




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.66	10.78	0.00	12067				

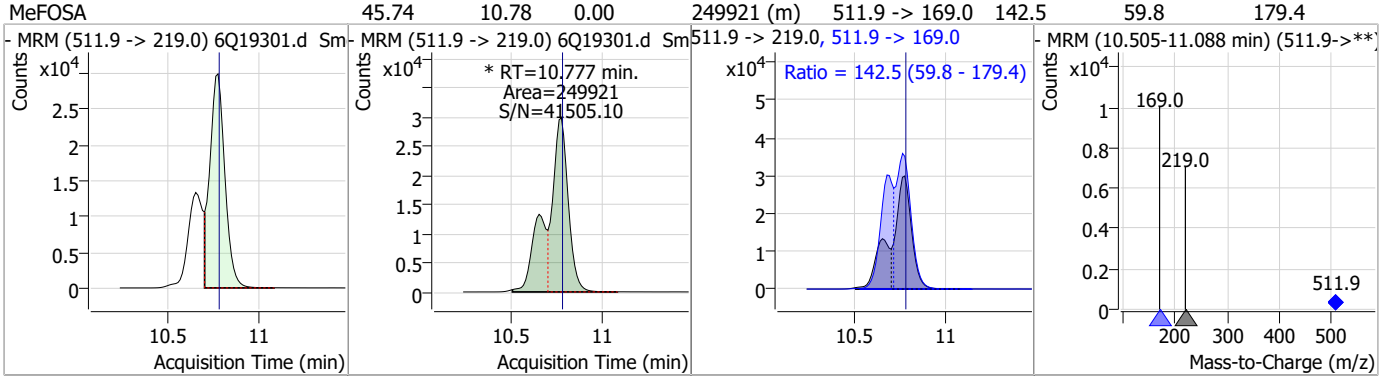




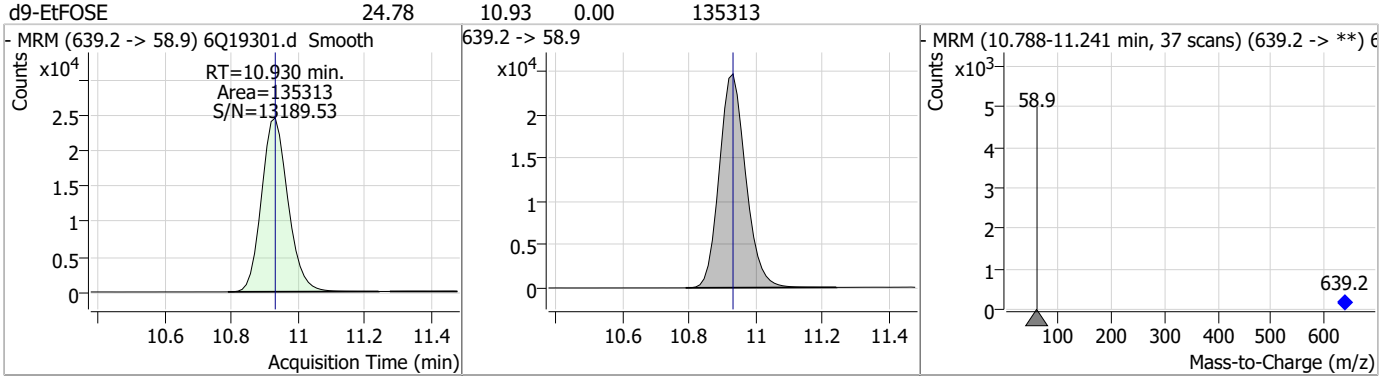


Perfluorinated Compounds by LC/MS/MS

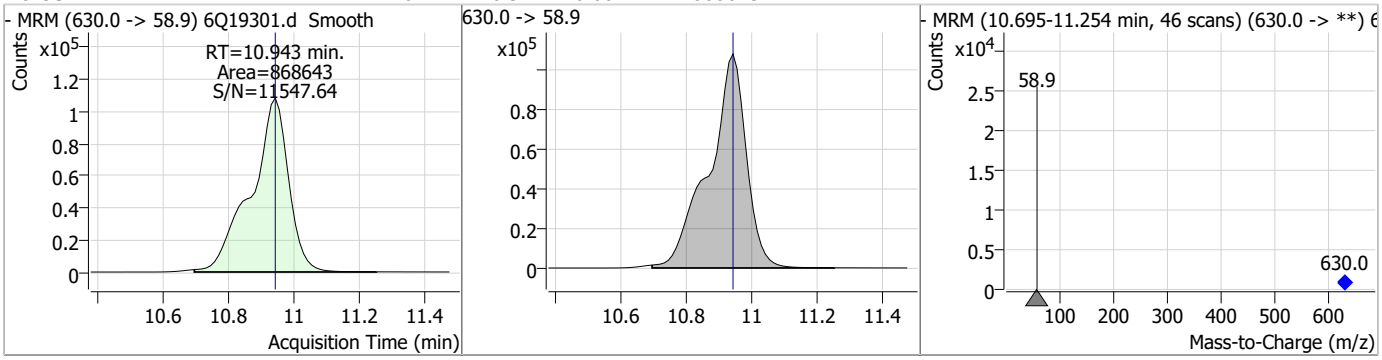
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	45.74	10.78	0.00	249921 (m)	511.9 -> 169.0	142.5	59.8	179.4



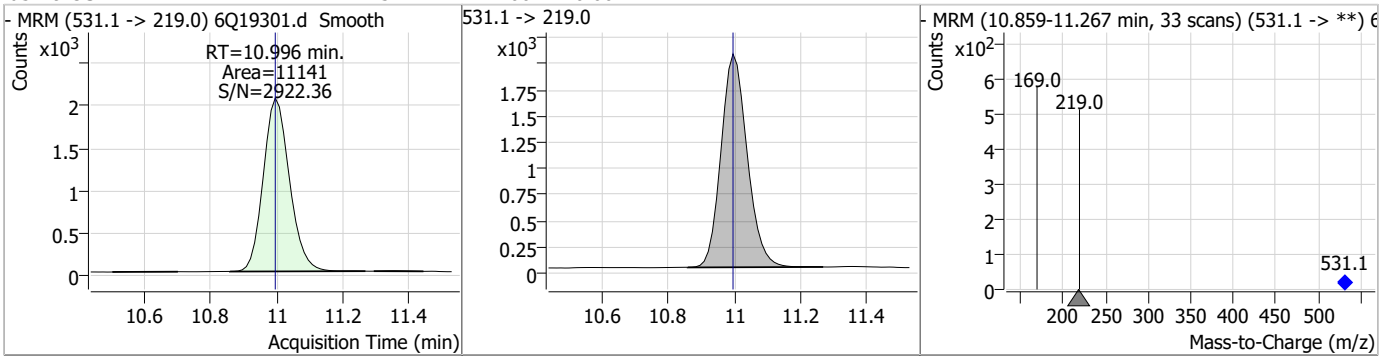
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.78	10.93	0.00	135313				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	124.04	10.94	0.00	868643				

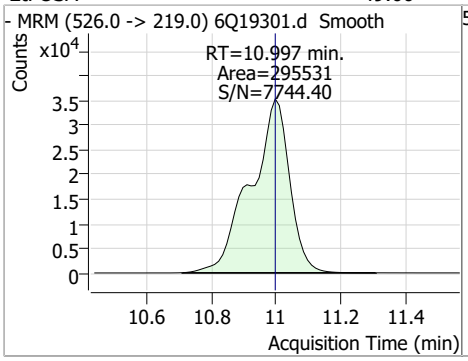


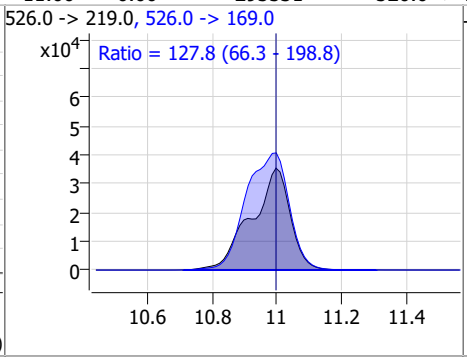
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.51	11.00	0.00	11141				

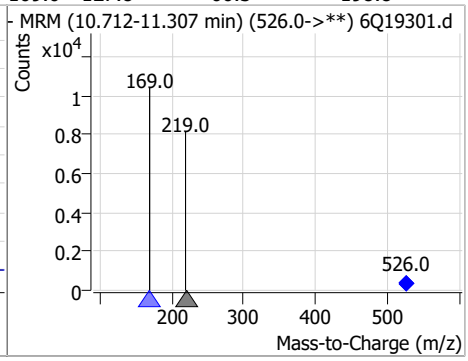


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	49.66	11.00	0.00	295531	526.0 -> 169.0	127.8	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q288-IC288
Lab FileID: 6Q19301.D
Injection Time: 06/13/23 12:59
Method: EPA DRAFT 1633
Analyst approved: 06/14/23 10:15 Martha Valls
Supervisor approved: 06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19302.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 1:13:42 PM
Sample Name : ic288-8
Vial : P1-A9
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	112938	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	40083	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	47594	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	43385	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	68380	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	29654	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	18412	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	23717	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	21098	1.25	µg/L	-0.012
M2-PFTeDA	10.012	715.2 -> 670.0	12465	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	24187	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	16235	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	10290	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	9337	2.50	µg/L	0.000
M2-4:2FTS	5.442	329.1 -> 80.9	1752	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	2775	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	2844	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	22717	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	34106	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	21434	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	102946	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	120752	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	10318	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12079	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	12745	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	48446	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8279	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	72049	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	26182	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	43168	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	42496	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	1752	3.53	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 70.5%		
13C2-6:2FTS	7.113	429.1 -> 80.9	2775	3.70	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 74.0%		
13C2-8:2FTS	8.163	529.1 -> 80.9	2844	4.03	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 80.6%		
13C2-PFDoDA	9.285	615.1 -> 570.0	21098	1.21	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.4%		
13C2-PFTeDA	10.012	715.2 -> 670.0	12465	1.28	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.1%		
13C3-PFBS	5.746	302.1 -> 79.9	16235	2.36	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.2%		
13C3-PFHxS	7.478	402.1 -> 79.9	10290	2.37	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.6%		
13C4-PFBA	3.085	216.8 -> 171.9	112938	9.94 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.4%		
13C4-PFHpA	6.707	367.1 -> 322.0	43385	2.64 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.8%		
13C5-PFHxA	5.792	318.0 -> 273.0	47594	2.71 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.6%		
13C5-PFPeA	4.560	268.3 -> 223.0	40083	4.99 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C6-PFDA	8.387	519.1 -> 474.1	18412	1.23 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.0%		
13C7-PFUnDA	8.853	570.0 -> 525.1	23717	1.18 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.2%		
13C8-FOSA	9.674	506.1 -> 77.8	24187	2.51 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%		
13C8-PFOA	7.339	421.1 -> 376.0	68380	2.54 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%		
13C8-PFOS	8.563	507.1 -> 79.9	9337	2.43 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%		
13C9-PFNA	7.882	472.1 -> 427.0	29654	1.13 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.3%		
d3-MeFOSAA	8.420	573.2 -> 419.0	22717	4.71 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.2%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	34106	11.62 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 116.2%		
d3-MeFOSA	10.775	515.0 -> 219.0	12079	2.88 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.2%		
d5-EtFOSAA	8.615	589.2 -> 419.0	21434	5.24 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.7%		
d7-MeFOSE	10.685	623.2 -> 58.9	102946	24.07 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.3%		
d9-EtFOSE	10.930	639.2 -> 58.9	120752	23.95 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.8%		
d5-EtFOSA	10.996	531.1 -> 219.0	10318	2.52 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	644998	211.74 µg/L		99
		327.1 -> 80.9	243943			
6:2FTS	7.113	427.1 -> 407.0	642106	194.29 µg/L		98
		427.1 -> 80.9	218216			
8:2FTS	8.164	527.1 -> 507.0	386031	204.22 µg/L		94
		527.1 -> 80.8	138203			
EtFOSAA	8.629	584.2 -> 419.1	217929	60.04 µg/L	m	98
		584.2 -> 526.0	117980			
FOSA	9.677	498.1 -> 77.9	577665	60.11 µg/L		100
		498.1 -> 478.0	17245			
MeFOSAA	8.421	570.1 -> 419.0	359186	61.00 µg/L	m	97
		570.1 -> 483.0	72999			
PFBA	3.093	212.8 -> 168.9	1115139	245.04 µg/L		100
PFBS	5.747	298.7 -> 79.9	397863	54.88 µg/L		98
		298.7 -> 98.8	145294			
PFDA	8.388	512.9 -> 469.0	1687738	61.62 µg/L		99
		512.9 -> 219.0	259479			
PFDoDA	9.298	613.1 -> 569.0	1058362	60.43 µg/L		99
		613.1 -> 319.0	160999			
PFDS	9.462	599.0 -> 79.9	169884	60.19 µg/L		93

Perfluorinated Compounds by LC/MS/MS

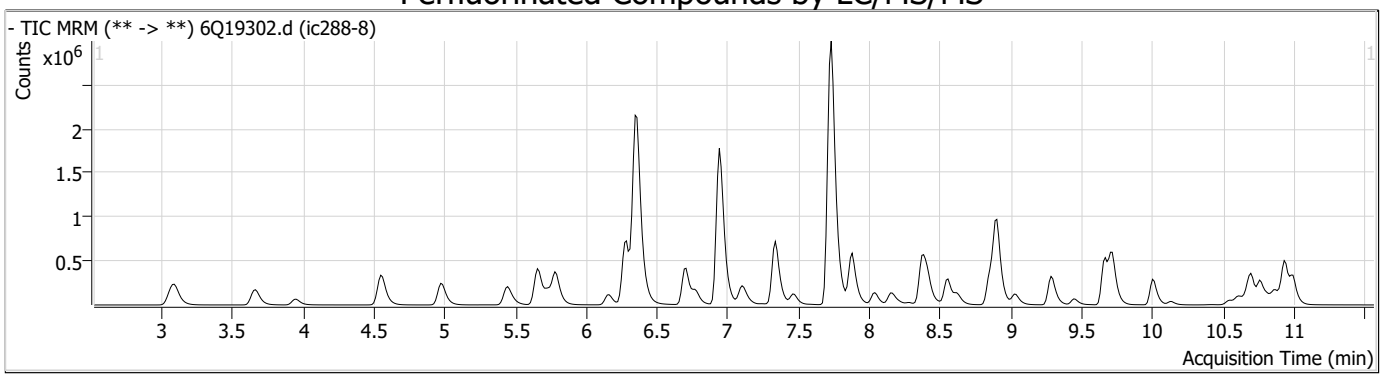
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	80749				
PFHpA	6.708	363.1 -> 319.0	1364666	58.92	µg/L		96
		363.1 -> 169.0	231820				
PFHpS	8.046	449.0 -> 79.9	350962	62.90	µg/L		97
		449.0 -> 98.9	170565				
PFHxA	5.795	313.0 -> 269.0	1167653	60.78	µg/L		99
		313.0 -> 118.9	56904				
PFHxS	7.479	398.7 -> 79.9	346813	55.97	µg/L	m	95
		398.7 -> 98.9	163553				
PFNA	7.883	463.0 -> 419.0	1709441	62.35	µg/L		99
		463.0 -> 219.0	333399				
PFNS	9.041	548.8 -> 79.9	277894	57.37	µg/L		88
		548.8 -> 98.9	158853				
PFOA	7.341	413.0 -> 369.0	2229390	59.36	µg/L		100
		413.0 -> 169.0	379241				
PFOS	8.564	498.9 -> 79.9	329067	59.40	µg/L	m	94
		498.9 -> 98.8	158030				
PFPeA	4.563	263.0 -> 219.0	1421792	120.14	µg/L		100
PFPeS	6.785	349.1 -> 79.9	345731	59.97	µg/L		94
		349.1 -> 98.9	151572				
PFTeDA	10.013	713.1 -> 669.0	892653	59.76	µg/L		99
		713.1 -> 168.9	73237				
PFTrDA	9.669	663.0 -> 619.0	1095025	61.58	µg/L		98
		663.0 -> 168.9	107408				
PFUnDA	8.854	563.1 -> 519.0	1190752	65.03	µg/L		94
		563.1 -> 269.1	192591				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	1375838	88.58	µg/L		90
		632.9 -> 452.9	459532				
9Cl-PF3ONS	8.906	530.8 -> 351.0	2617361	97.81	µg/L		96
		532.8 -> 353.0	752327				
ADONA	6.946	376.9 -> 250.9	5537068	100.34	µg/L		95
		376.9 -> 84.8	1464988				
HFPO-DA	6.169	284.9 -> 168.9	395714	110.86	µg/L		99
		284.9 -> 184.9	44957				
3:3FTCA	3.946	241.0 -> 177.0	259887	324.64	µg/L		99
		241.0 -> 117.0	34047				
5:3FTCA	6.361	341.0 -> 237.1	5243815	1373.52	µg/L		96
		341.0 -> 217.0	3719870				
7:3FTCA	7.736	441.0 -> 316.9	3763487	1457.96	µg/L		99
		441.0 -> 336.9	8421354				
EtFOSA	10.997	526.0 -> 219.0	683328	123.99	µg/L	m	100
		526.0 -> 169.0	903319				
EtFOSE	10.943	630.0 -> 58.9	1958731	313.44	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	583556	106.69	µg/L	m	82
		511.9 -> 169.0	814334				
MeFOSE	10.709	616.1 -> 58.9	1377110	308.67	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	84082	60.42	µg/L		94
		699.1 -> 98.8	45811				
NFDHA	5.673	295.0 -> 201.0	278920	113.68	µg/L		99
		295.0 -> 84.9	72731				
PFMBA	4.988	279.0 -> 85.1	1042222	123.55	µg/L		100
PFMPA	3.667	229.0 -> 84.9	812703	123.15	µg/L		100
PFEESA	6.288	314.8 -> 134.9	2664647	102.65	µg/L		100
		314.8 -> 82.9	89643				

 # = Qualifier out of range, m = manually integrated, + = Area summed

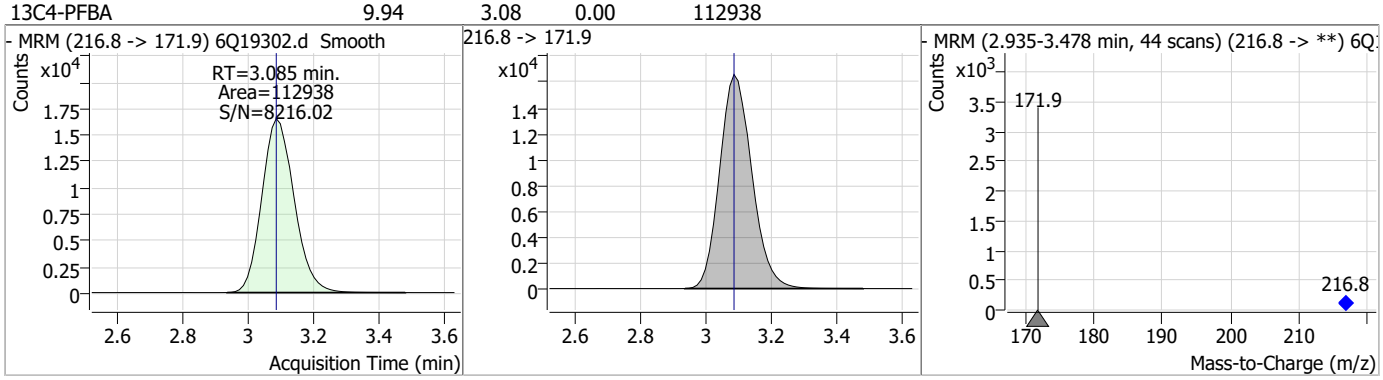
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

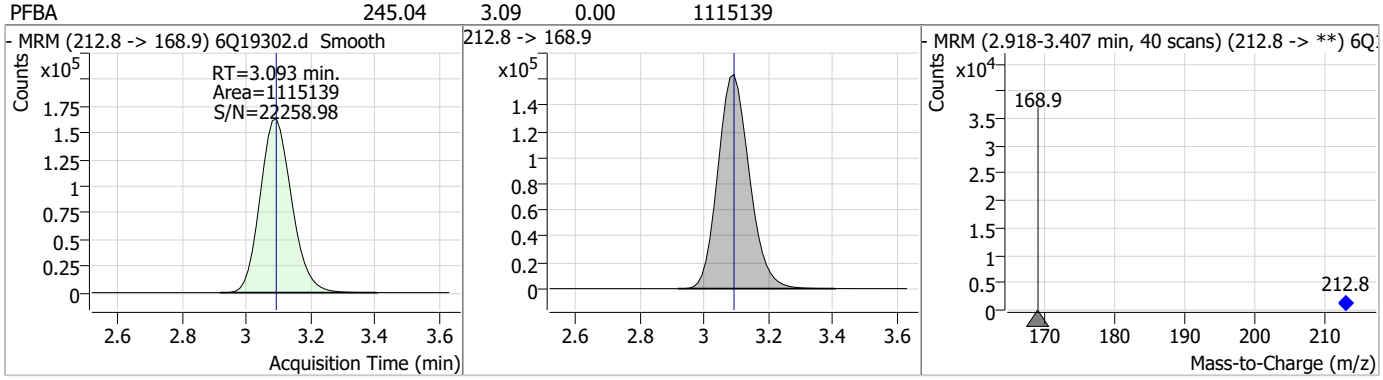
Perfluorinated Compounds by LC/MS/MS



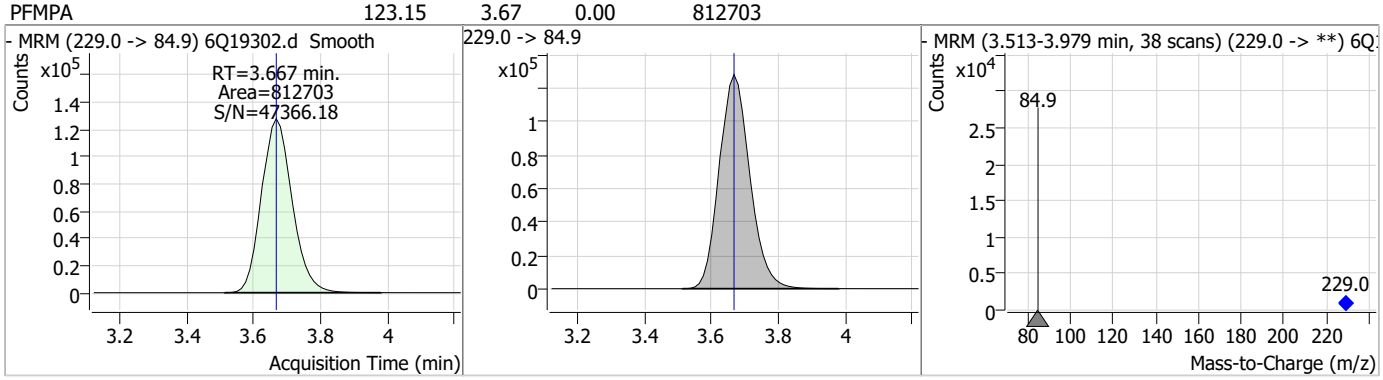
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.94	3.08	0.00	112938				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	245.04	3.09	0.00	1115139				

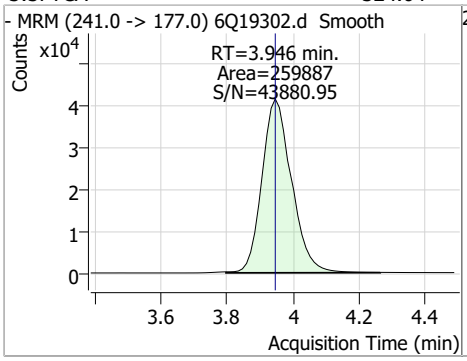


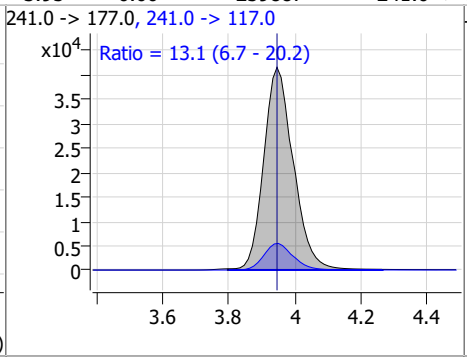
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	123.15	3.67	0.00	812703				

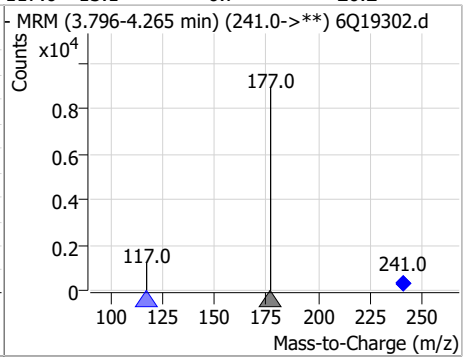


Perfluorinated Compounds by LC/MS/MS

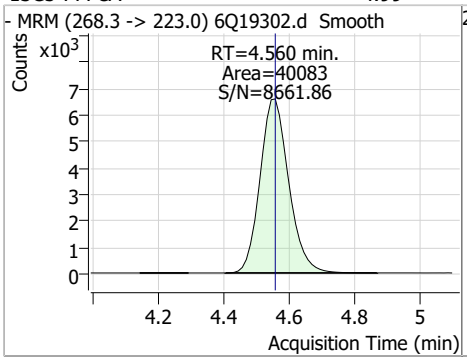
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	324.64	3.95	0.00	259887	241.0 -> 117.0	13.1	6.7	20.2

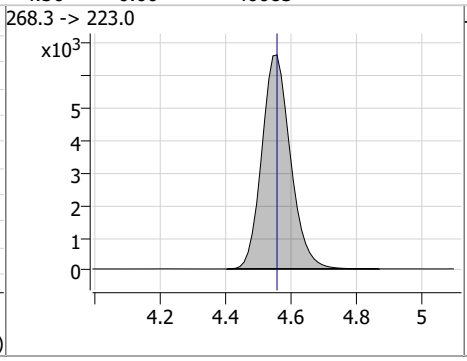


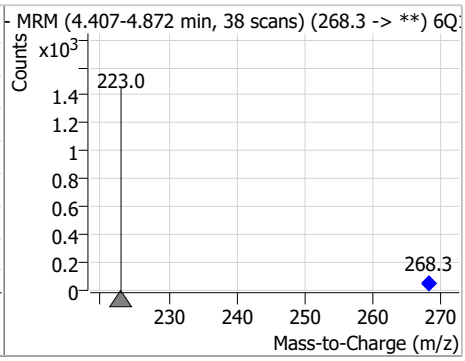




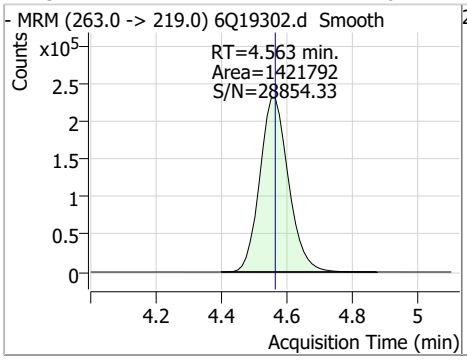
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.99	4.56	0.00	40083				

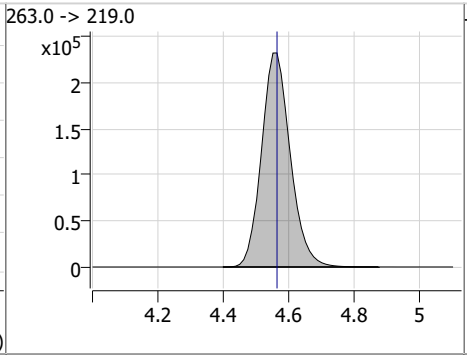


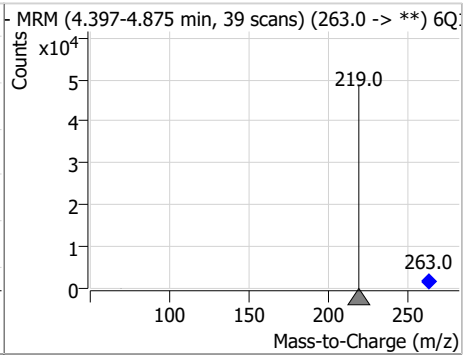




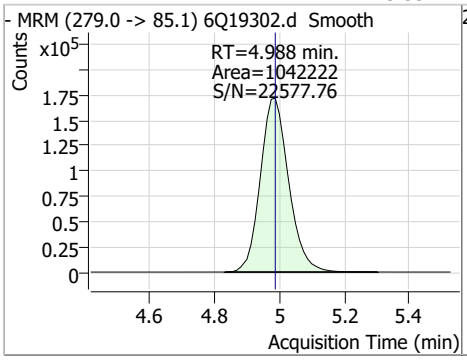
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	120.14	4.56	0.00	1421792				

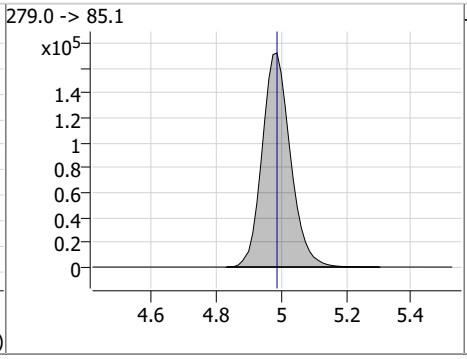


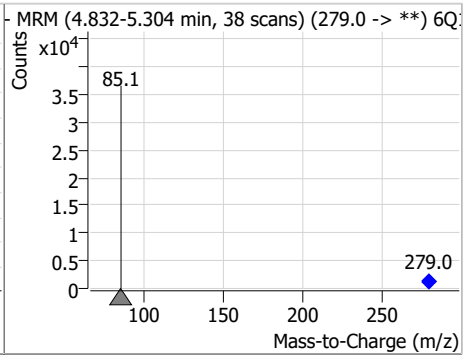




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	123.55	4.99	0.00	1042222				

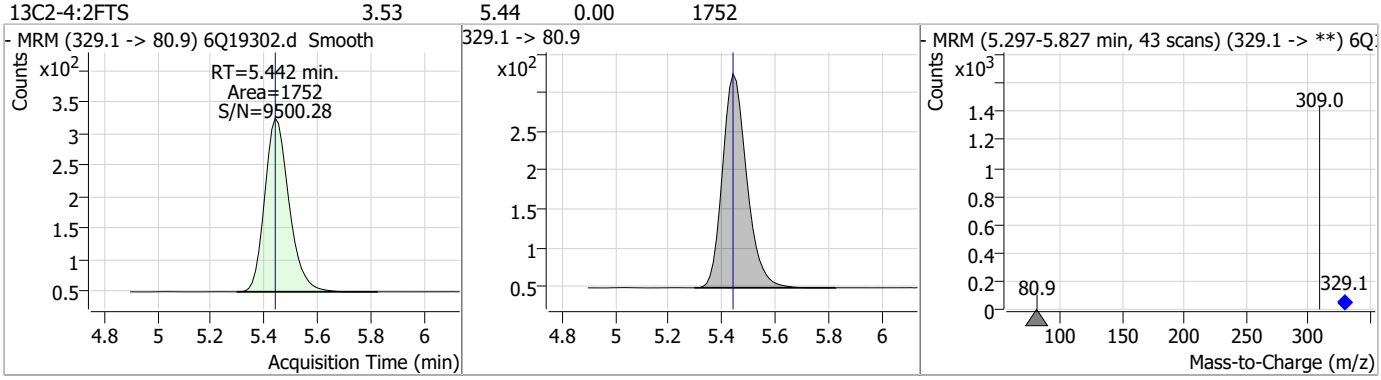




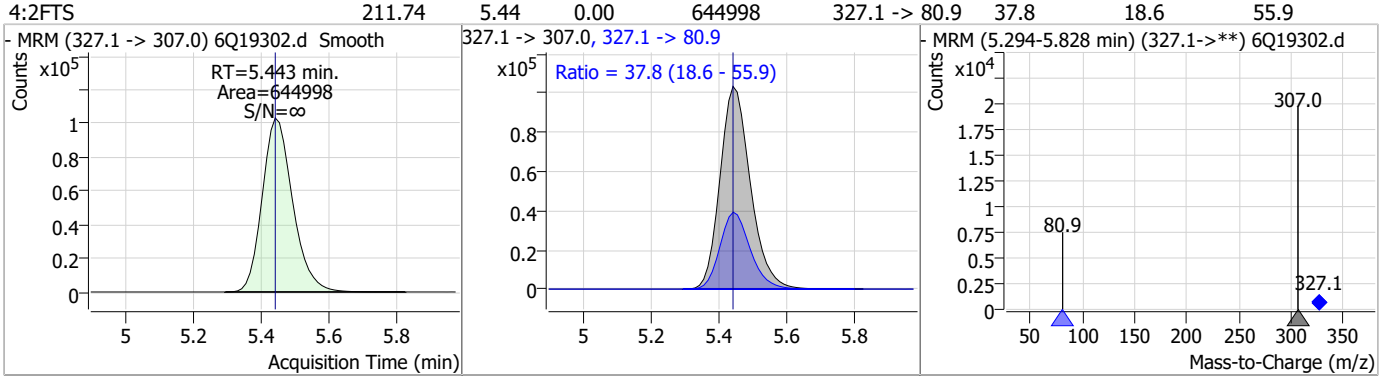


Perfluorinated Compounds by LC/MS/MS

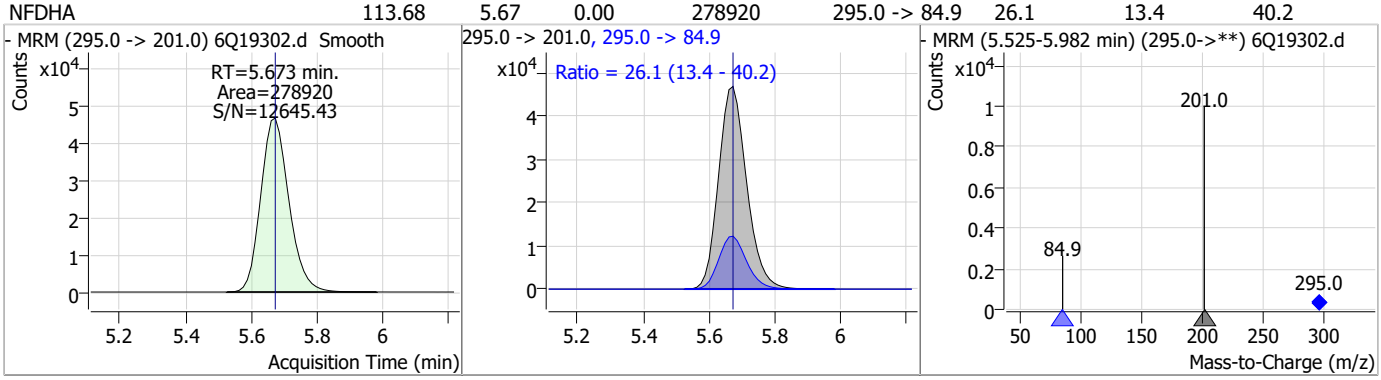
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	3.53	5.44	0.00	1752				



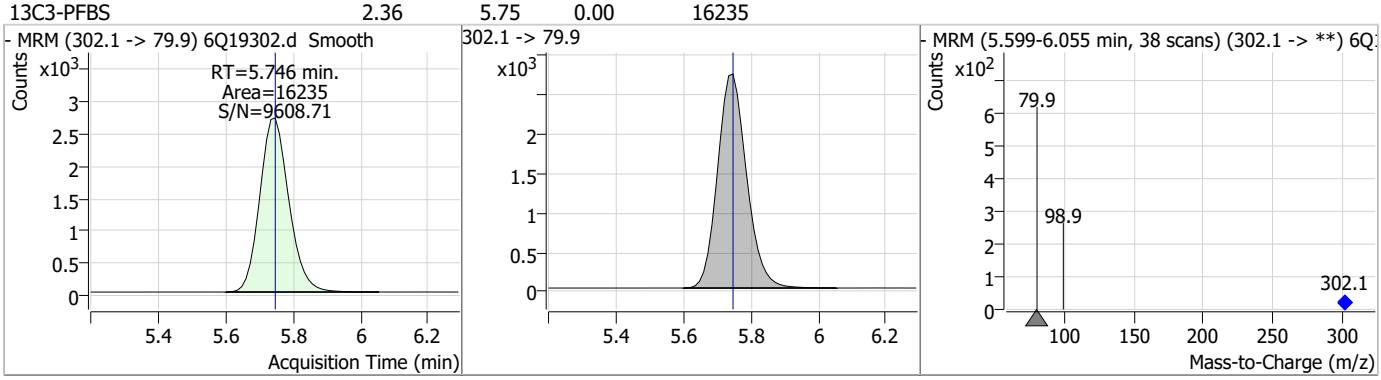
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	211.74	5.44	0.00	644998	327.1 -> 80.9	37.8	18.6	55.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	113.68	5.67	0.00	278920	295.0 -> 84.9	26.1	13.4	40.2

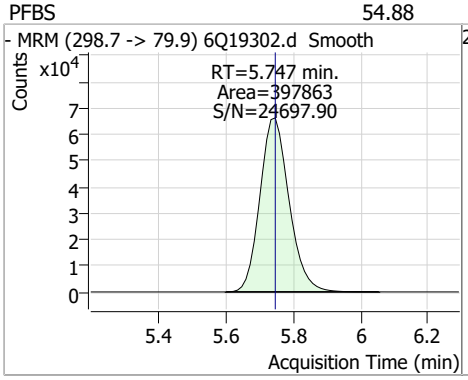


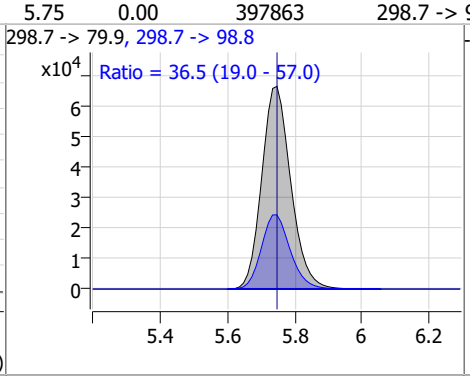
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.36	5.75	0.00	16235				

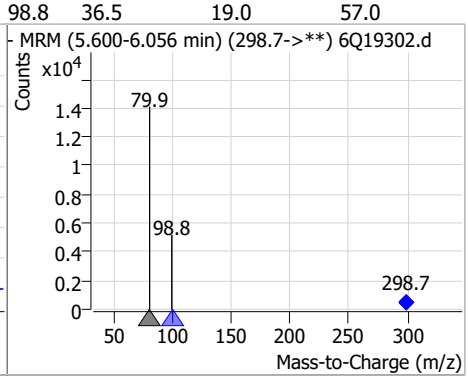


Perfluorinated Compounds by LC/MS/MS

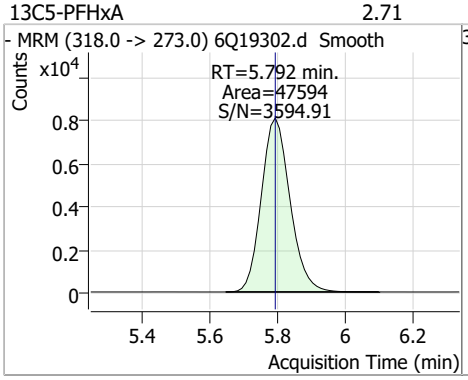
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	54.88	5.75	0.00	397863	298.7 -> 98.8	36.5	19.0	57.0

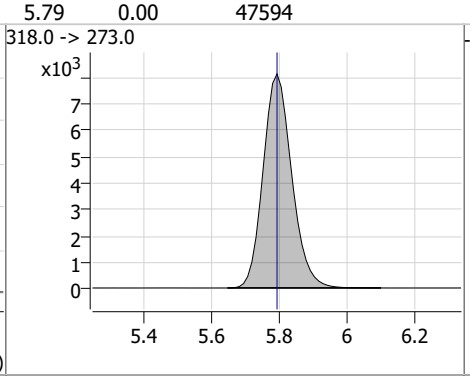


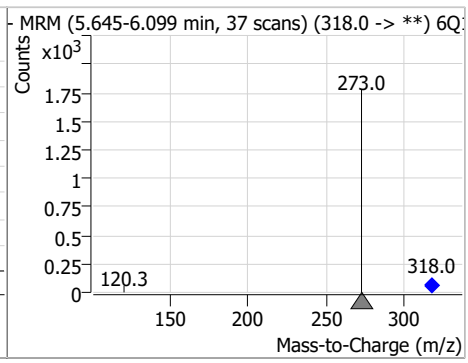




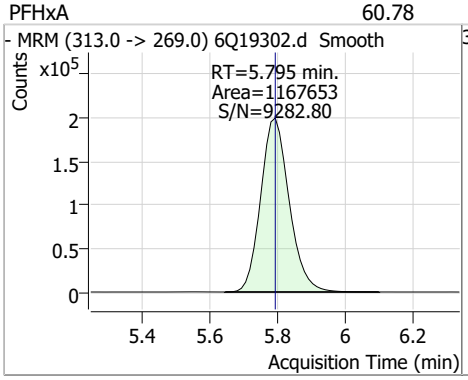
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.71	5.79	0.00	47594				

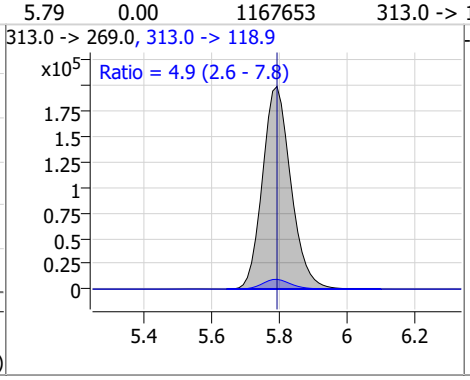


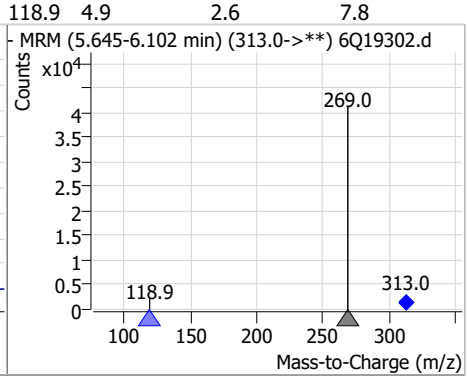




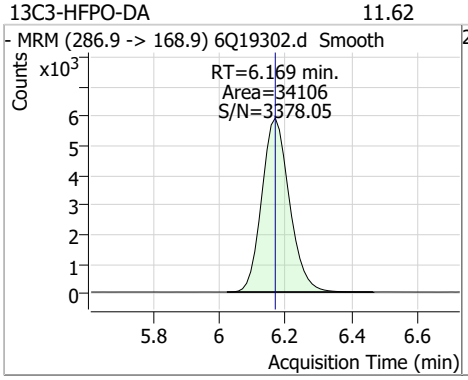
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	60.78	5.79	0.00	1167653	313.0 -> 118.9	4.9	2.6	7.8

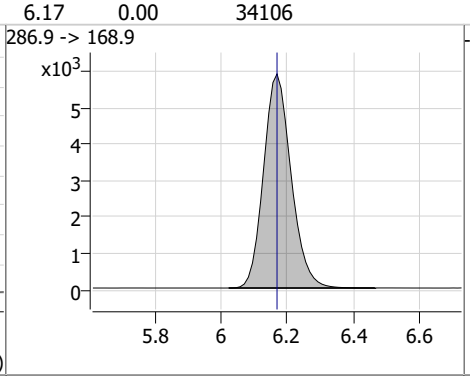


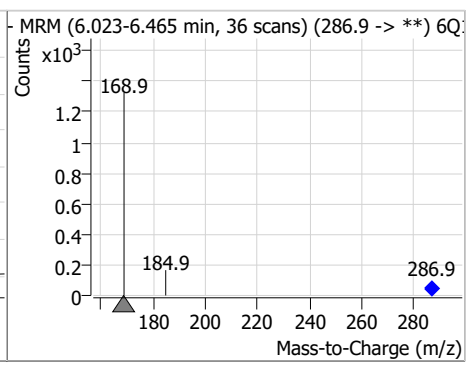




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.62	6.17	0.00	34106				

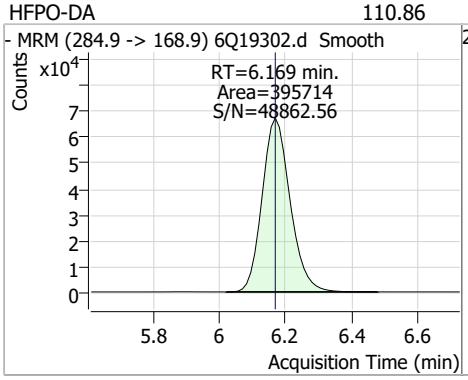


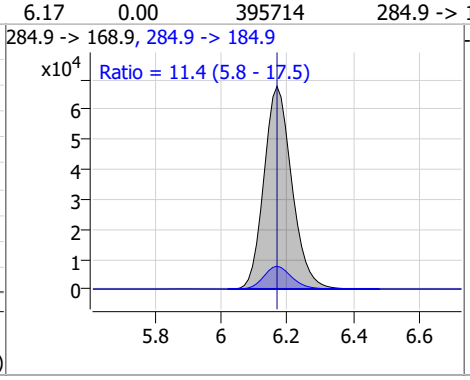


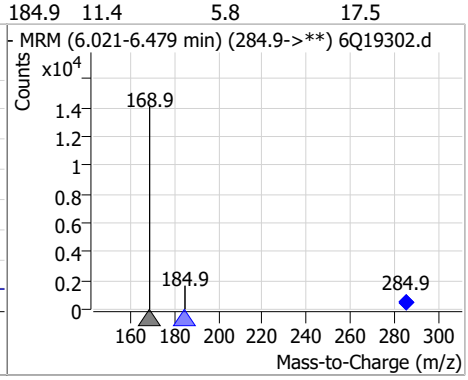


Perfluorinated Compounds by LC/MS/MS

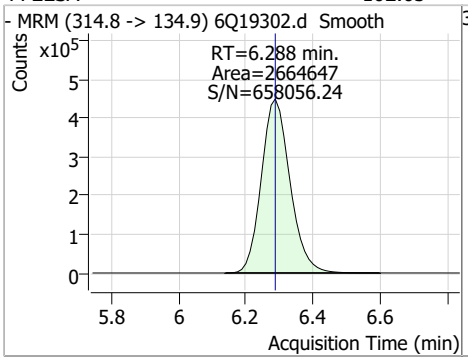
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	110.86	6.17	0.00	395714	284.9 -> 184.9	11.4	5.8	17.5

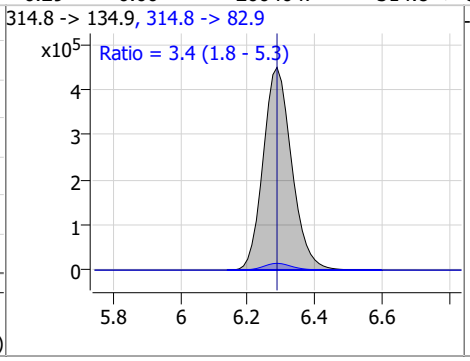


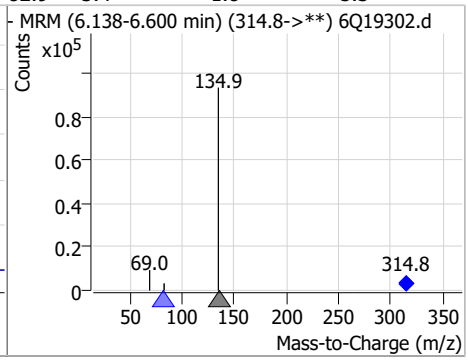




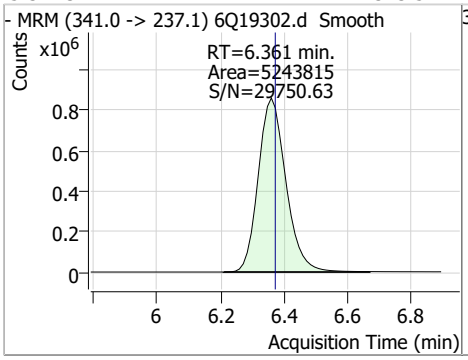
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	102.65	6.29	0.00	2664647	314.8 -> 82.9	3.4	1.8	5.3

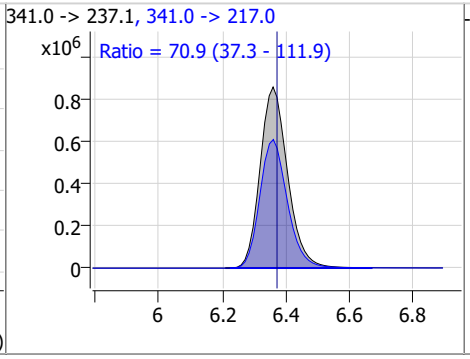


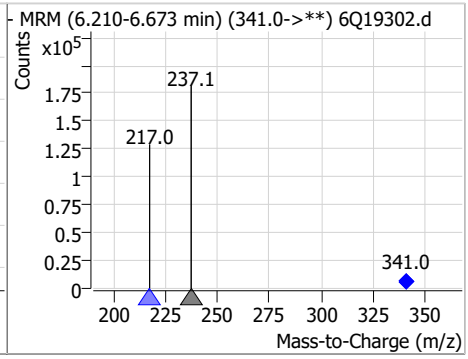




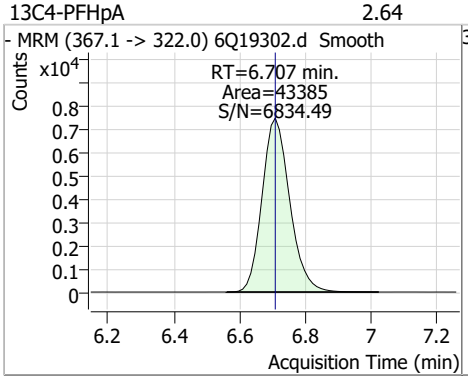
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	1373.52	6.36	-0.01	5243815	341.0 -> 217.0	70.9	37.3	111.9

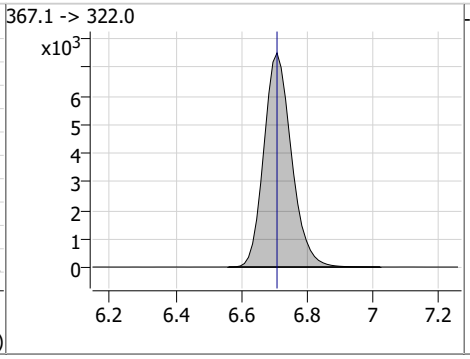


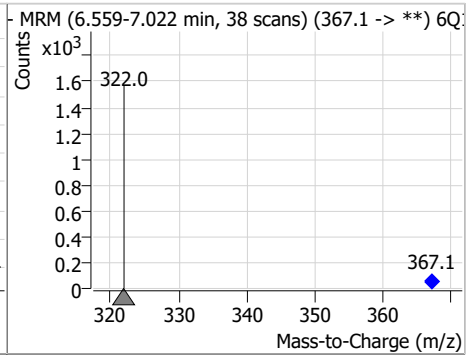




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.64	6.71	0.00	43385				

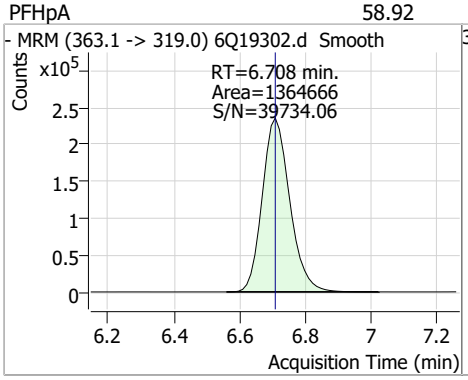


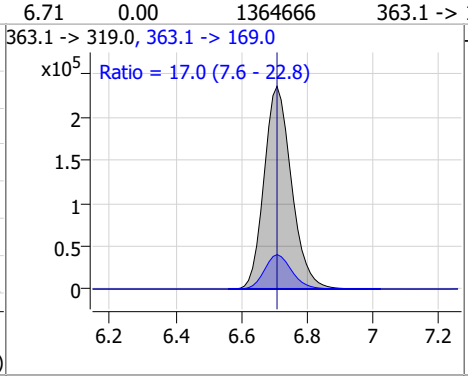


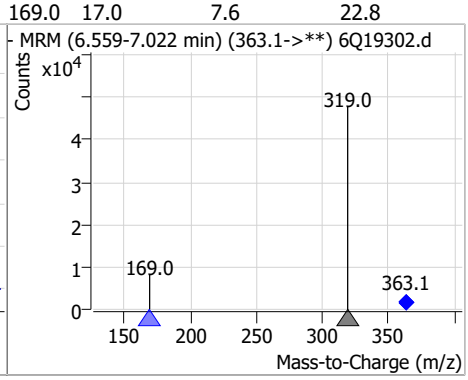


Perfluorinated Compounds by LC/MS/MS

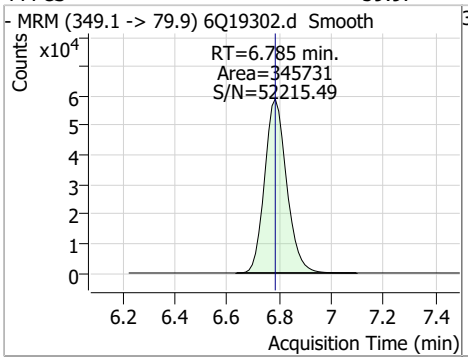
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	58.92	6.71	0.00	1364666	363.1 -> 169.0	17.0	7.6	22.8

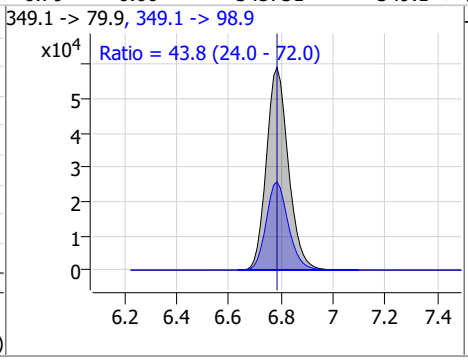


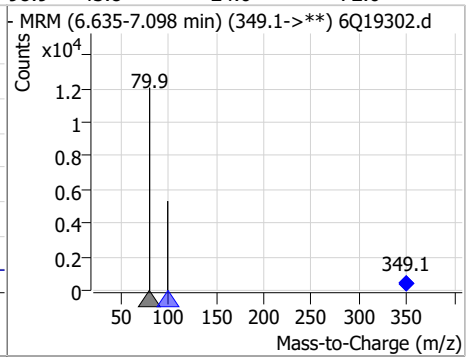




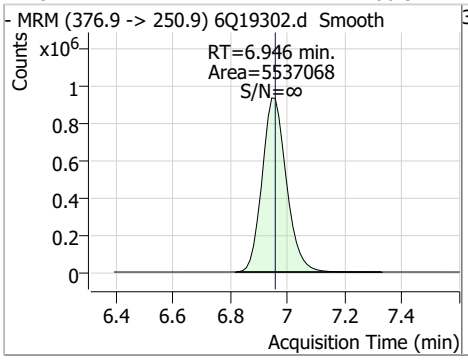
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	59.97	6.79	0.00	345731	349.1 -> 98.9	43.8	24.0	72.0

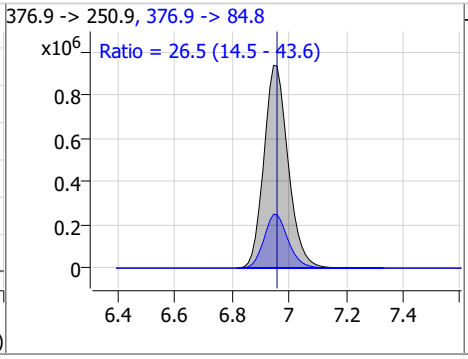


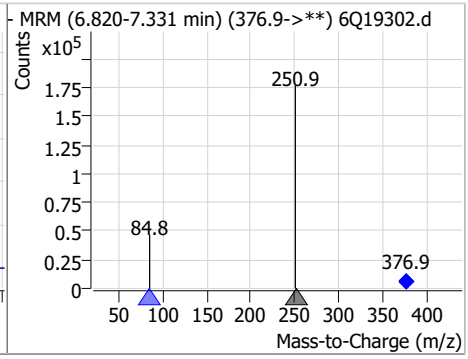




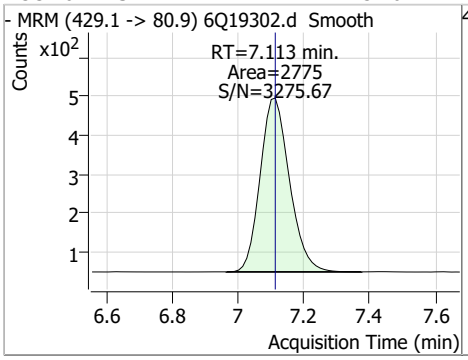
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	100.34	6.95	-0.01	5537068	376.9 -> 84.8	26.5	14.5	43.6

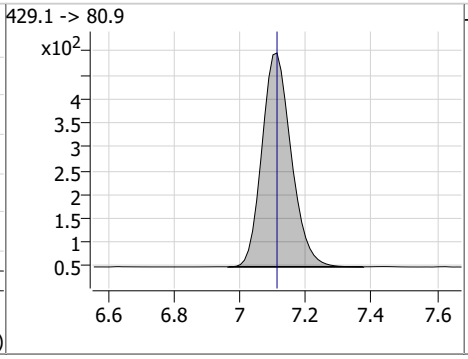


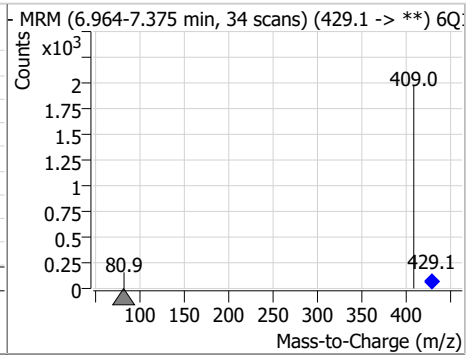




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	3.70	7.11	0.00	2775				

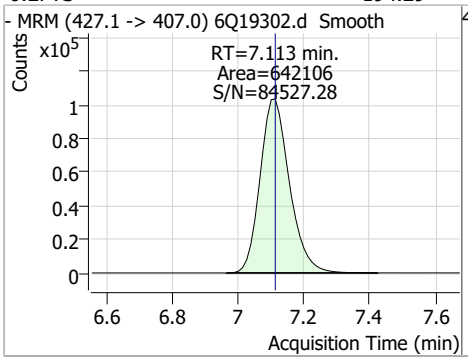


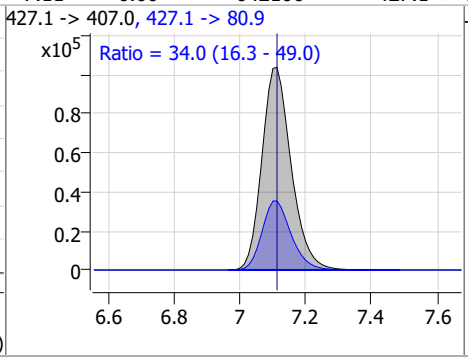


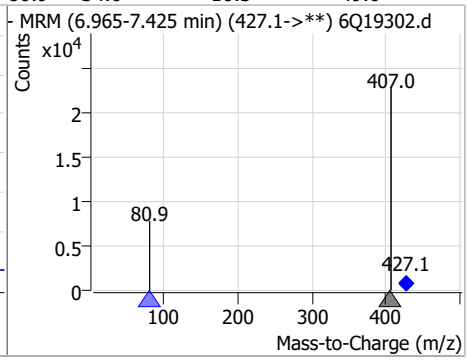


Perfluorinated Compounds by LC/MS/MS

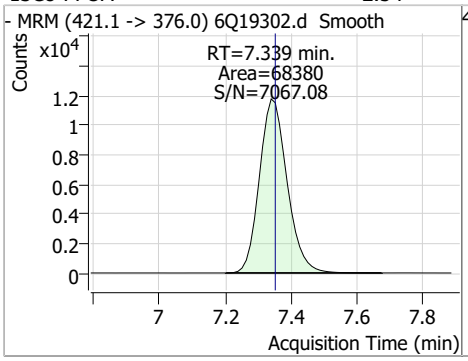
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	194.29	7.11	0.00	642106	427.1 -> 80.9	34.0	16.3	49.0

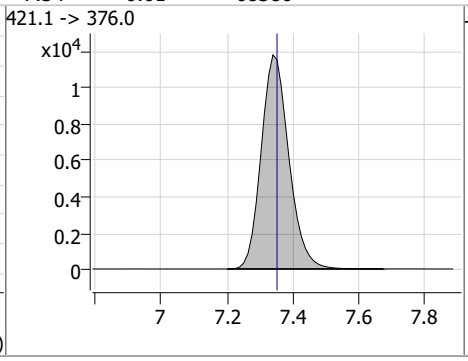


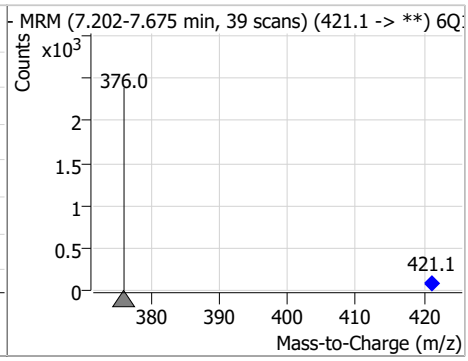




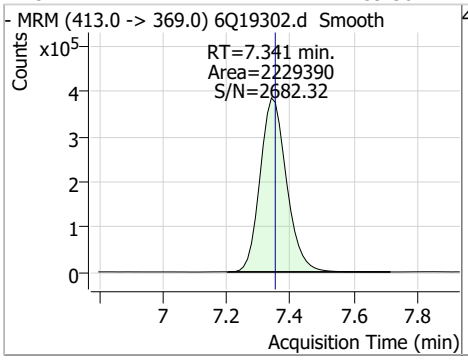
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.54	7.34	-0.01	68380				

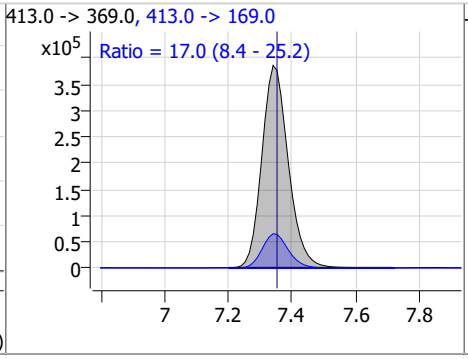


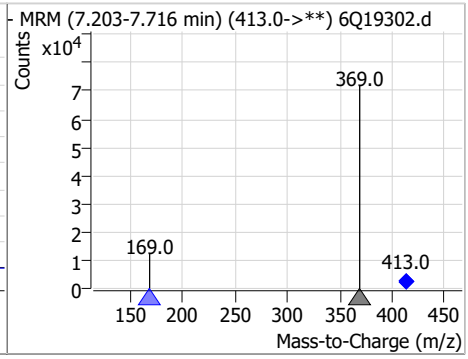




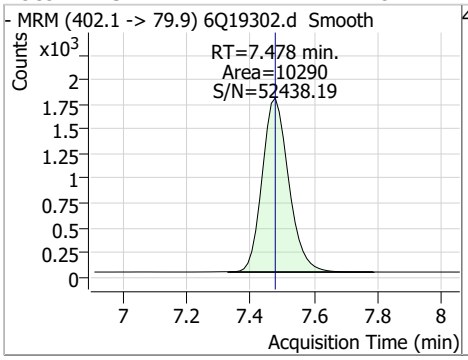
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	59.36	7.34	-0.01	2229390	413.0 -> 169.0	17.0	8.4	25.2

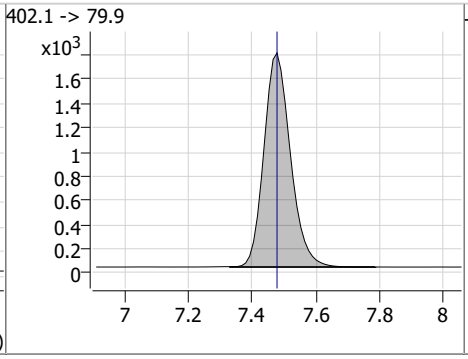


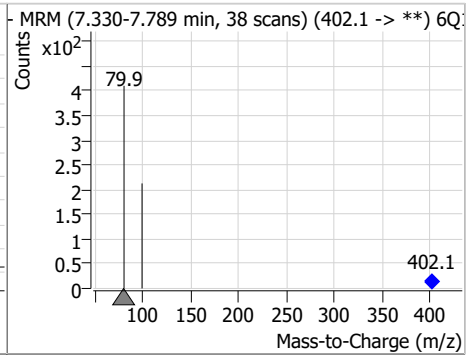




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.37	7.48	0.00	10290				

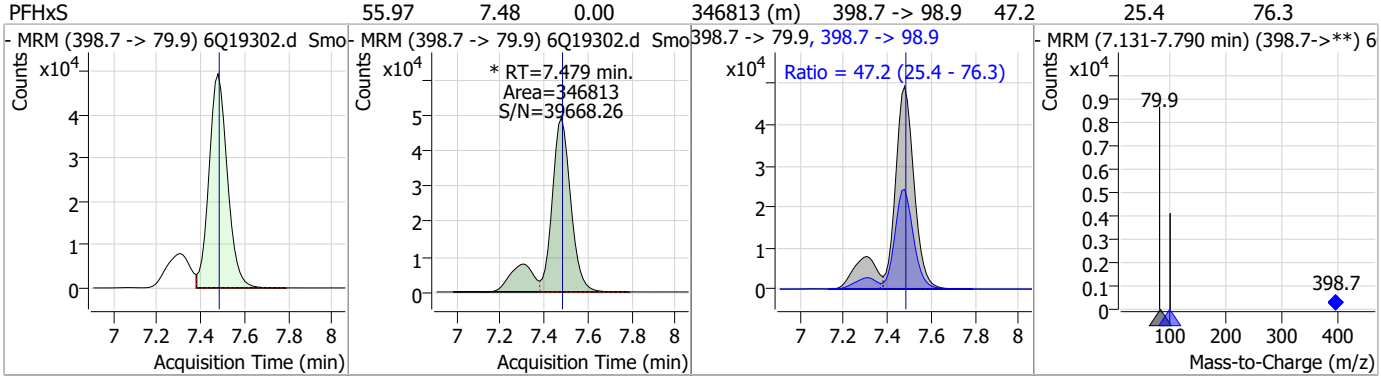




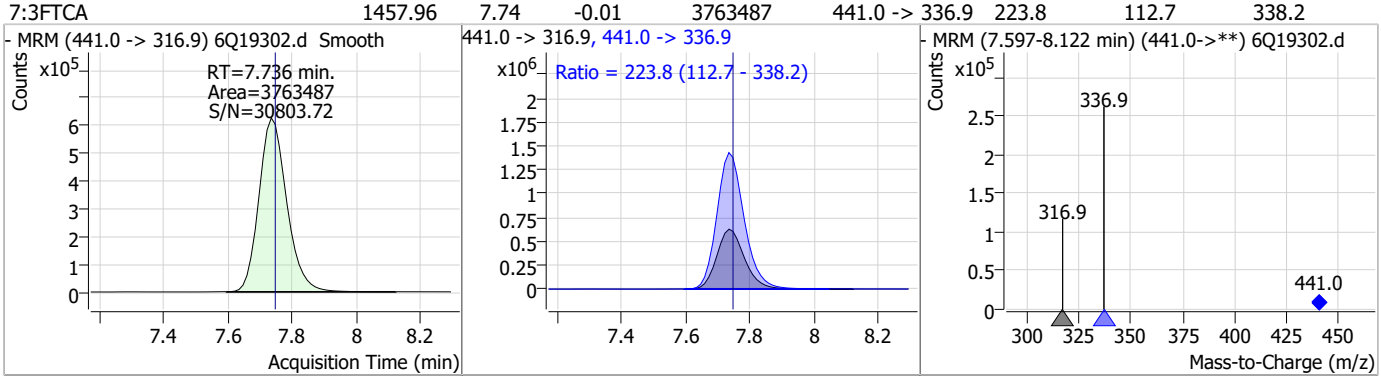


Perfluorinated Compounds by LC/MS/MS

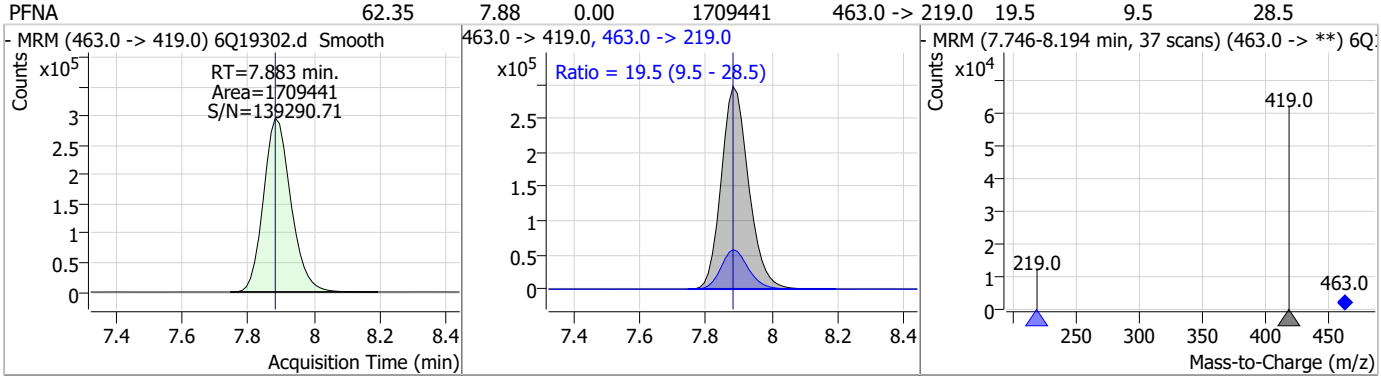
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	55.97	7.48	0.00	346813 (m)	398.7 -> 98.9	47.2	25.4	76.3



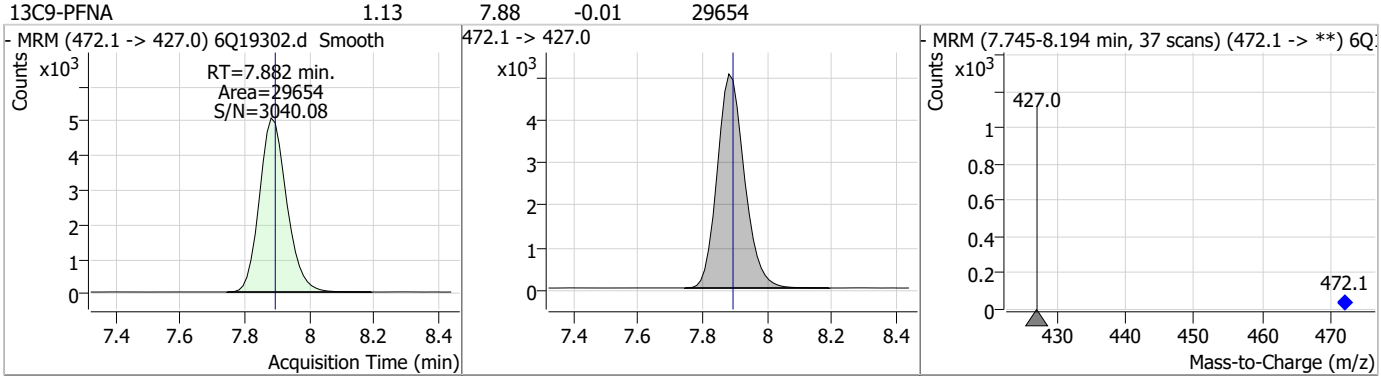
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	1457.96	7.74	-0.01	3763487	441.0 -> 336.9	223.8	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	62.35	7.88	0.00	1709441	463.0 -> 219.0	19.5	9.5	28.5

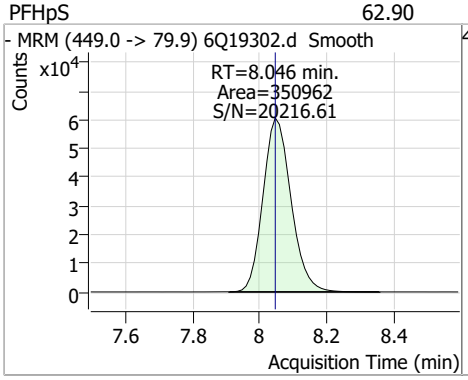


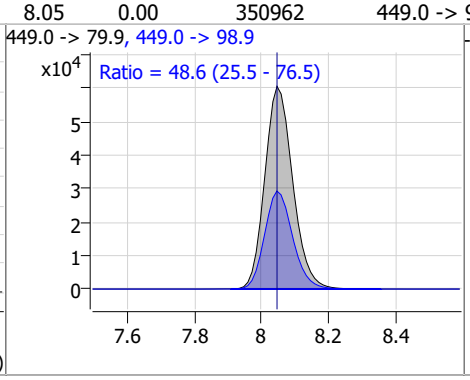
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.13	7.88	-0.01	29654				

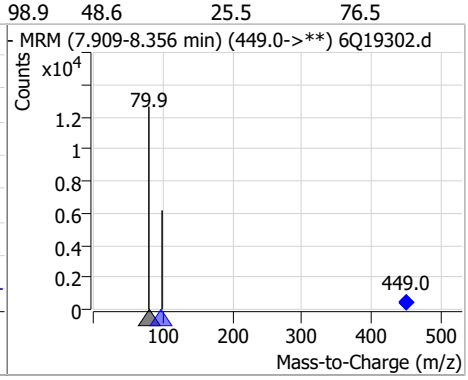


Perfluorinated Compounds by LC/MS/MS

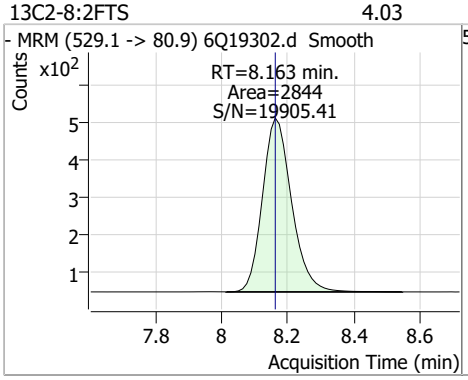
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	62.90	8.05	0.00	350962	449.0 -> 98.9	48.6	25.5	76.5

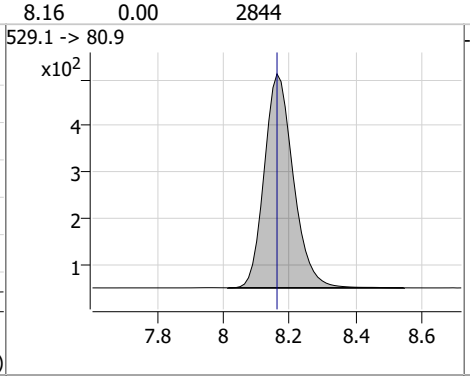


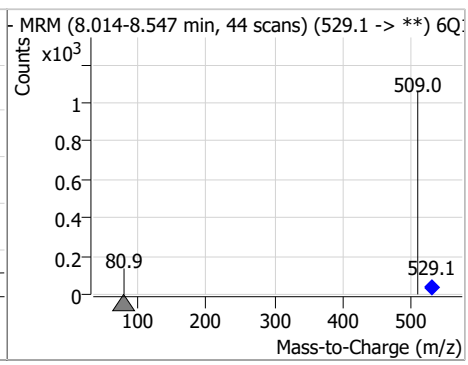




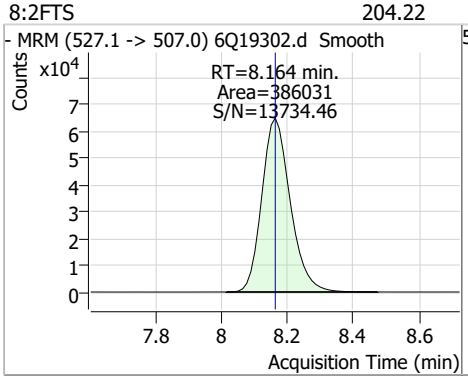
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.03	8.16	0.00	2844				

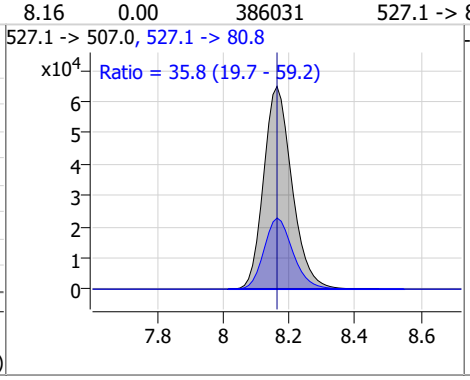


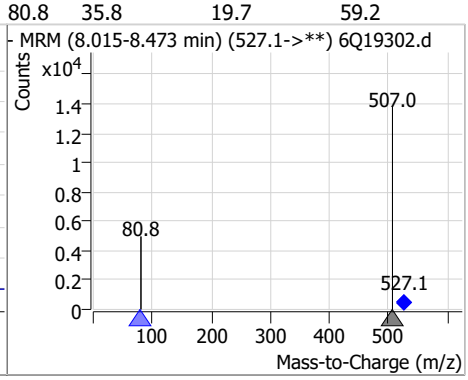




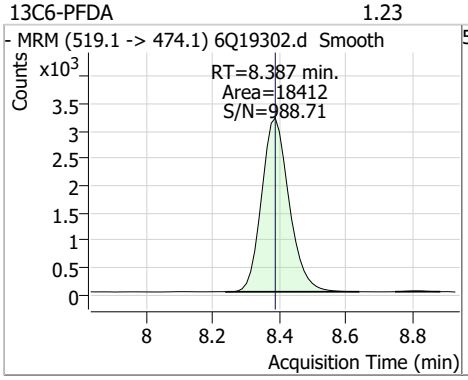
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	204.22	8.16	0.00	386031	527.1 -> 80.8	35.8	19.7	59.2

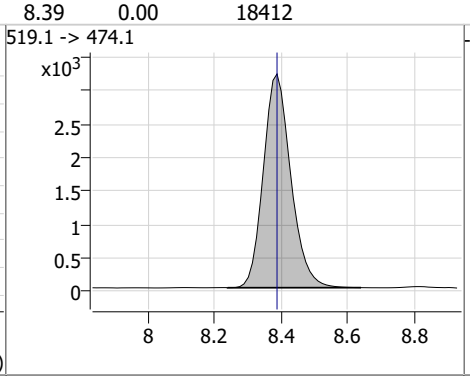


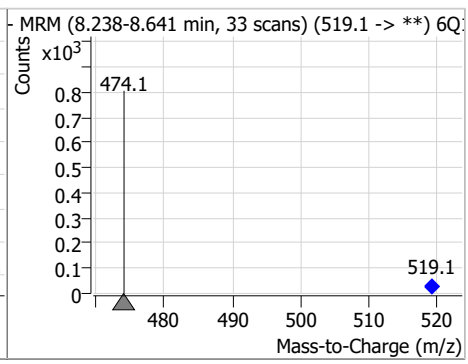




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.23	8.39	0.00	18412				

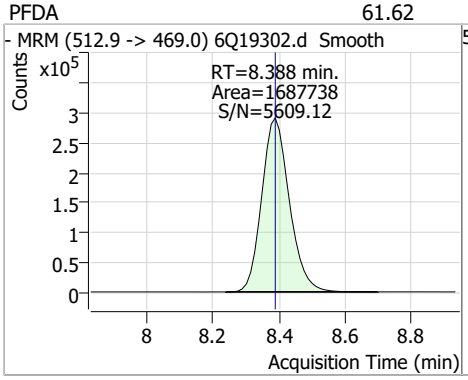


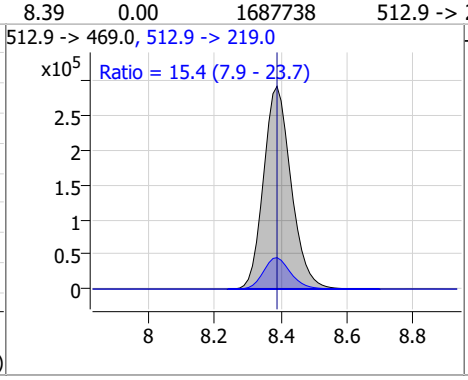


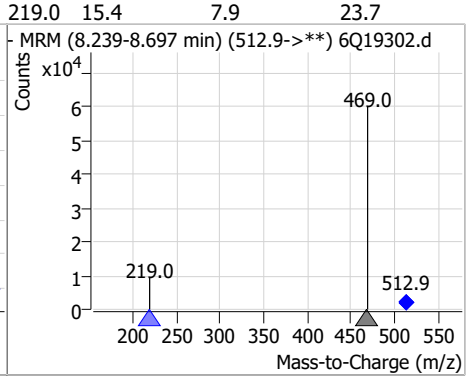


Perfluorinated Compounds by LC/MS/MS

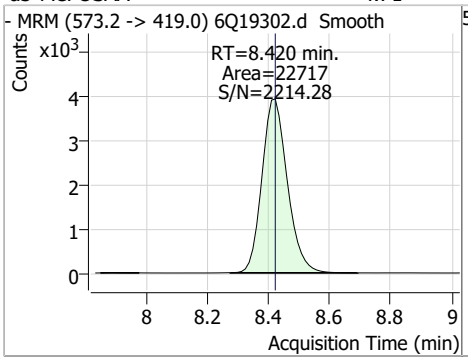
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	61.62	8.39	0.00	1687738	512.9 -> 219.0	15.4	7.9	23.7

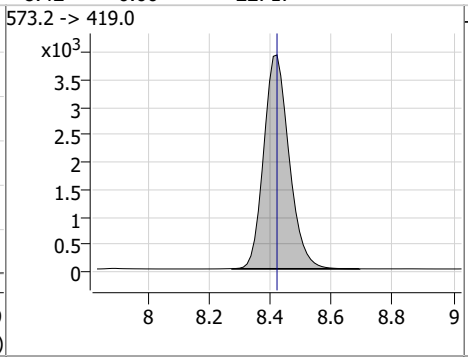


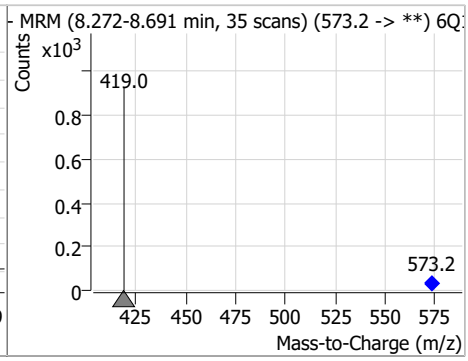




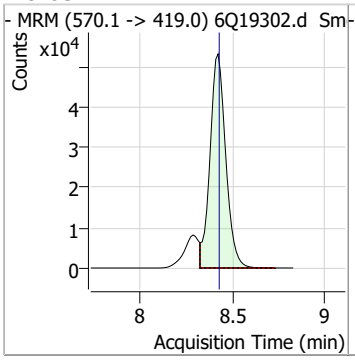
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.71	8.42	0.00	22717				

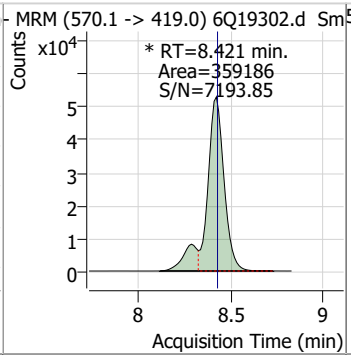


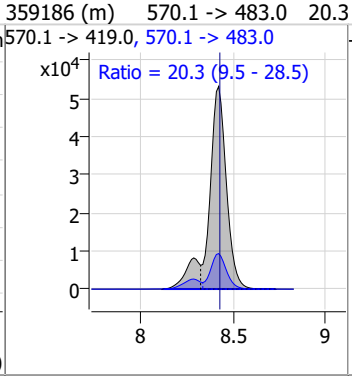


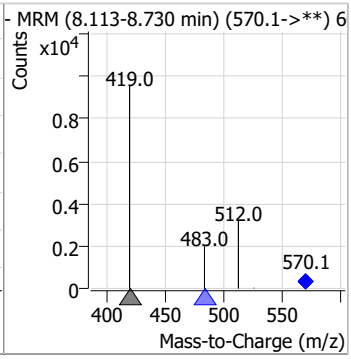


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	61.00	8.42	0.00	359186 (m)	570.1 -> 483.0	20.3	9.5	28.5

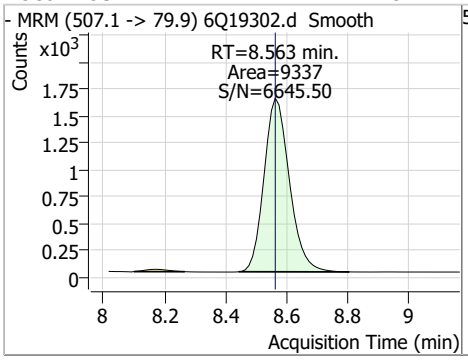


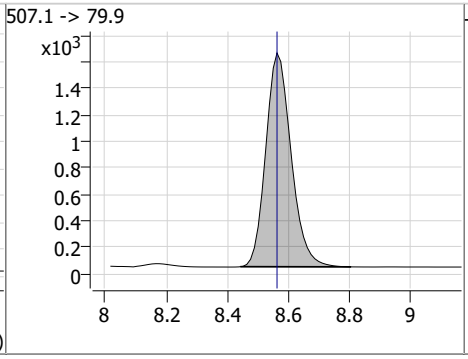


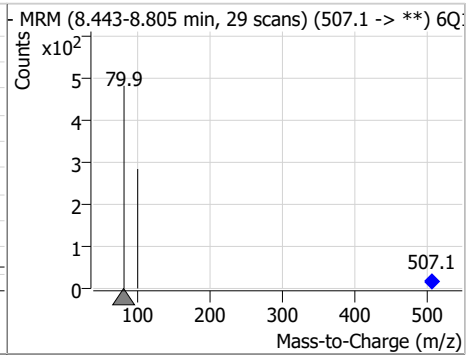




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.43	8.56	0.00	9337				

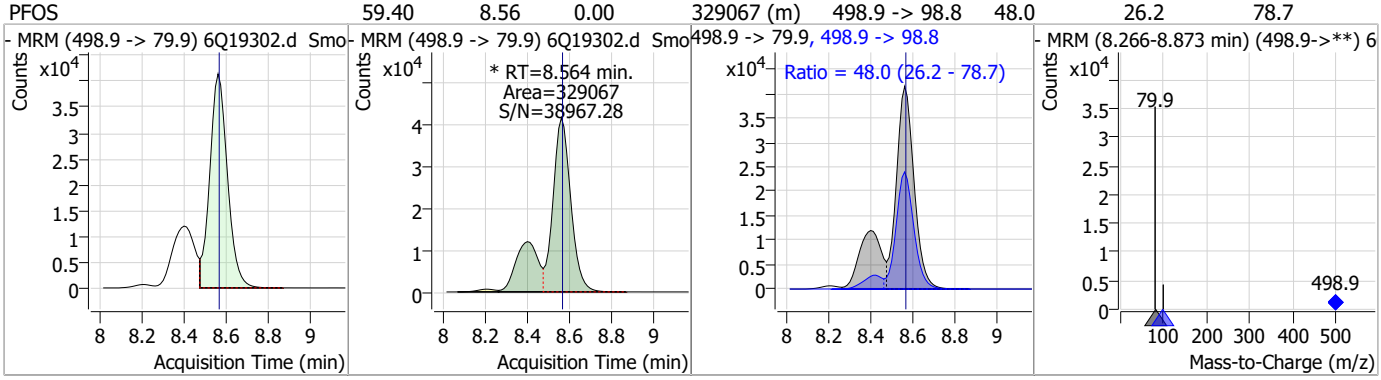




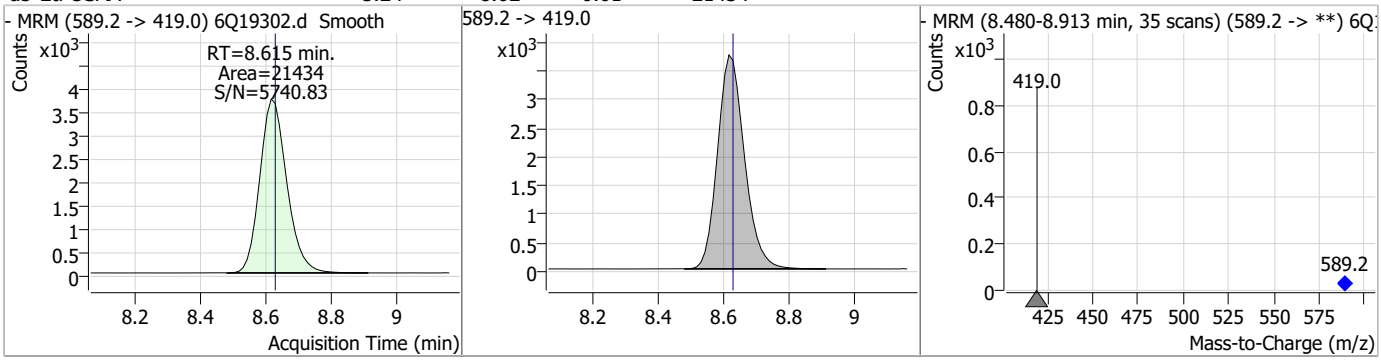


Perfluorinated Compounds by LC/MS/MS

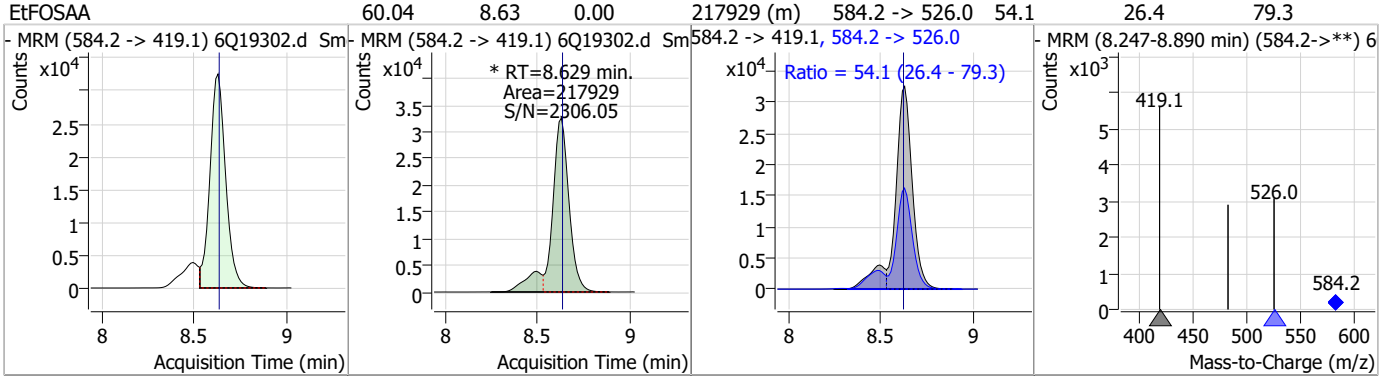
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	59.40	8.56	0.00	329067 (m)	498.9 -> 98.8	48.0	26.2	78.7



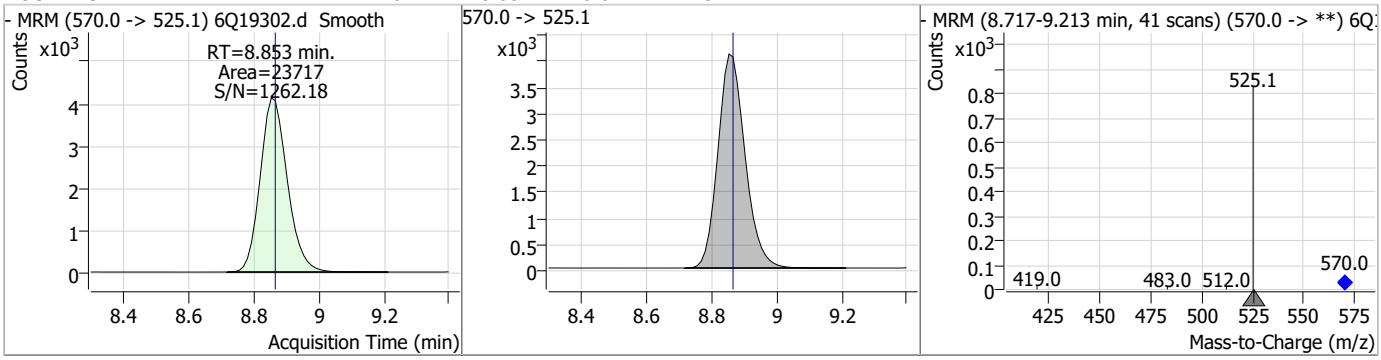
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.24	8.62	-0.01	21434				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	60.04	8.63	0.00	217929 (m)	584.2 -> 526.0	54.1	26.4	79.3

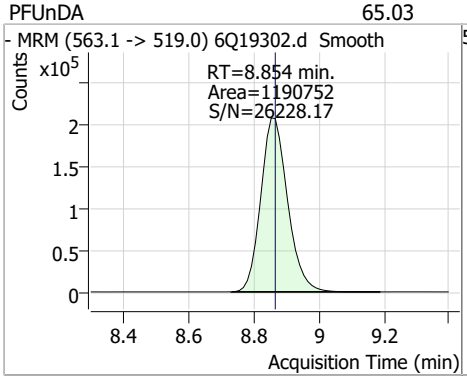


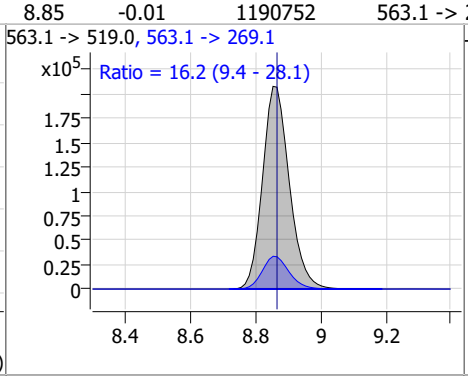
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.18	8.85	-0.01	23717				

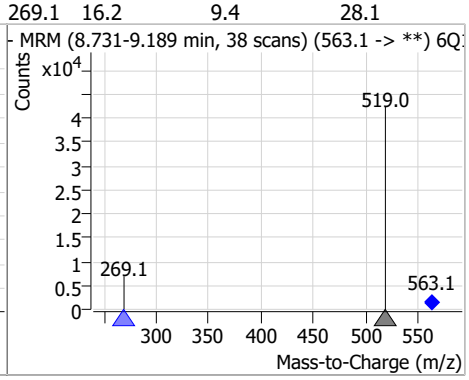


Perfluorinated Compounds by LC/MS/MS

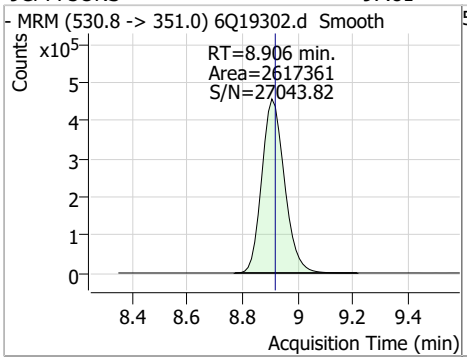
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	65.03	8.85	-0.01	1190752	563.1 -> 269.1	16.2	9.4	28.1

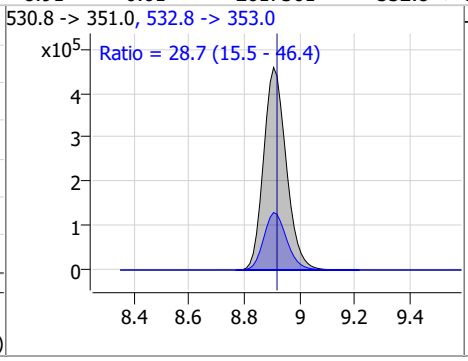


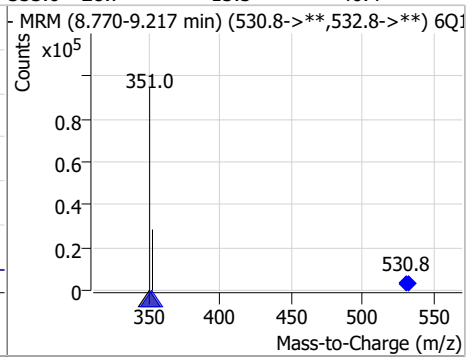




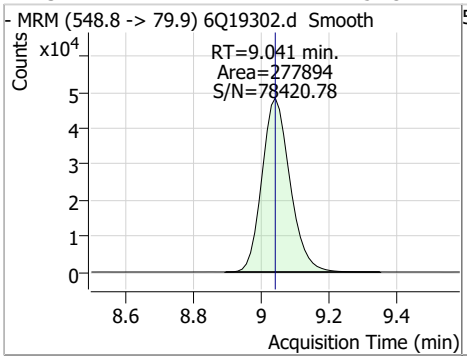
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	97.81	8.91	-0.01	2617361	532.8 -> 353.0	28.7	15.5	46.4

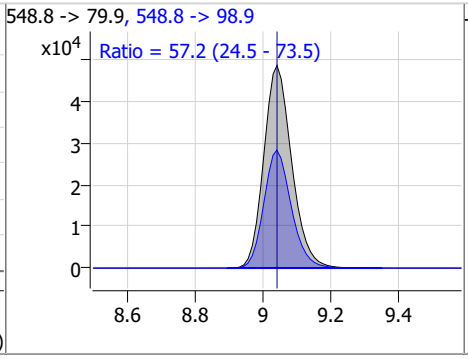


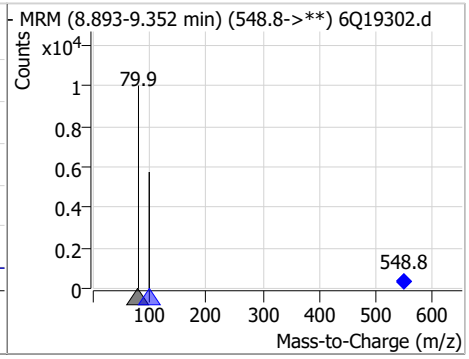




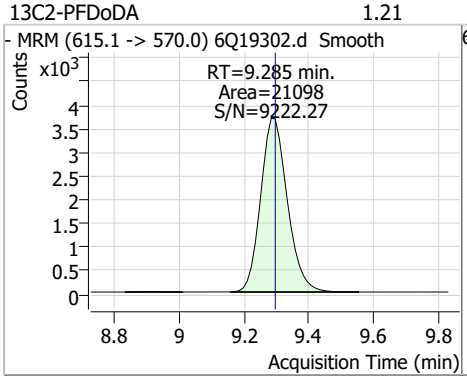
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	57.37	9.04	0.00	277894	548.8 -> 98.9	57.2	24.5	73.5

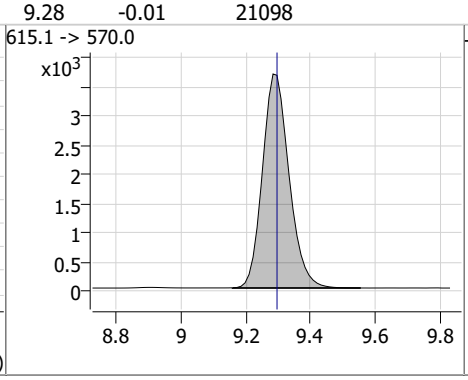


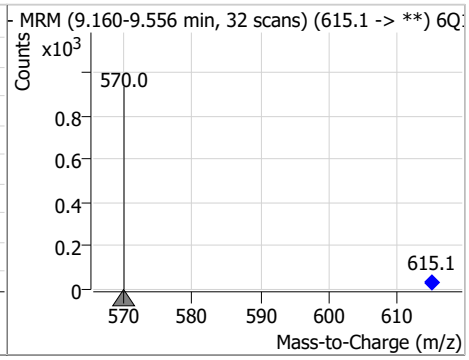




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.21	9.28	-0.01	21098				

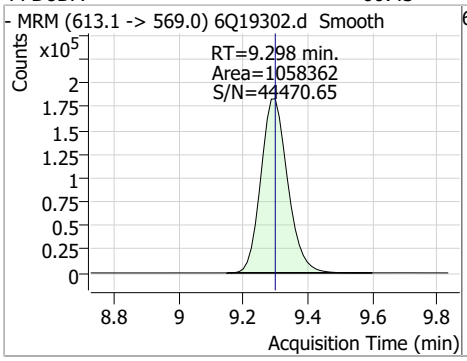


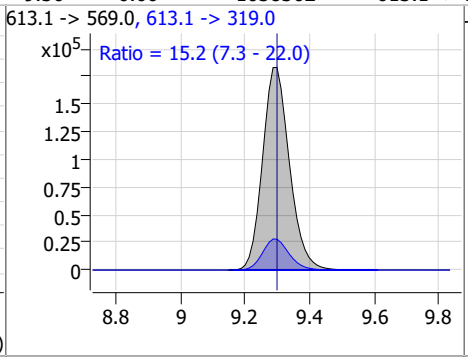


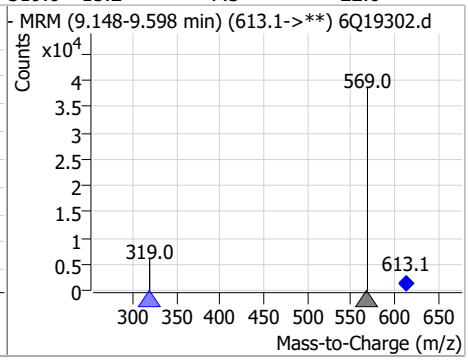


Perfluorinated Compounds by LC/MS/MS

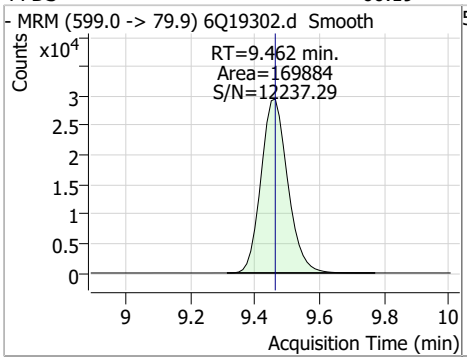
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	60.43	9.30	0.00	1058362	613.1 -> 319.0	15.2	7.3	22.0

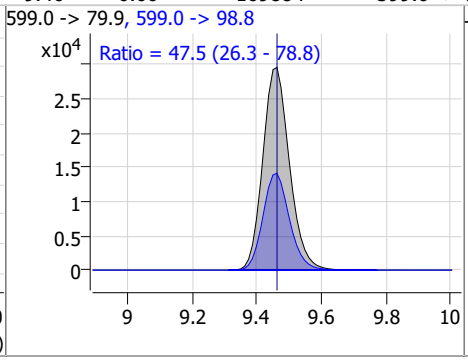


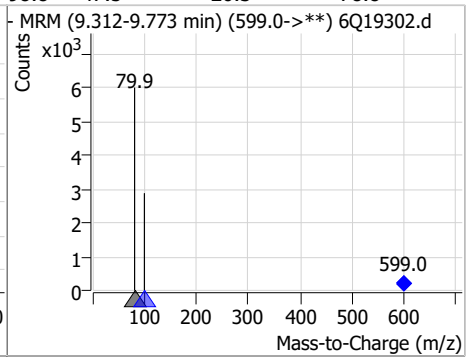




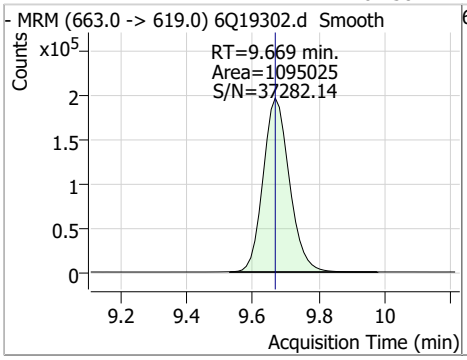
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	60.19	9.46	0.00	169884	599.0 -> 98.8	47.5	26.3	78.8

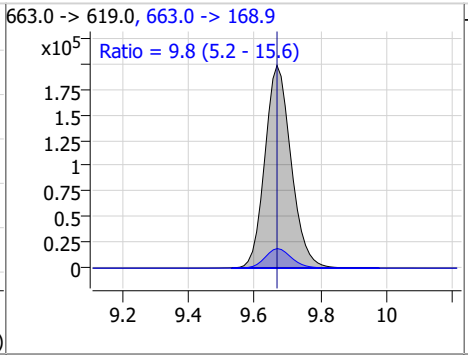


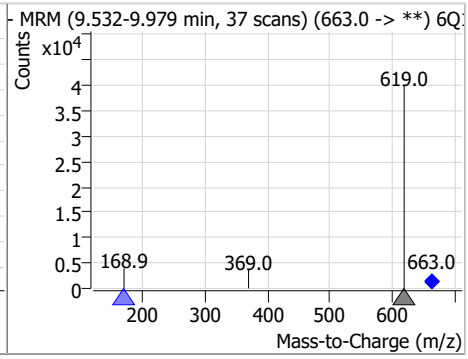




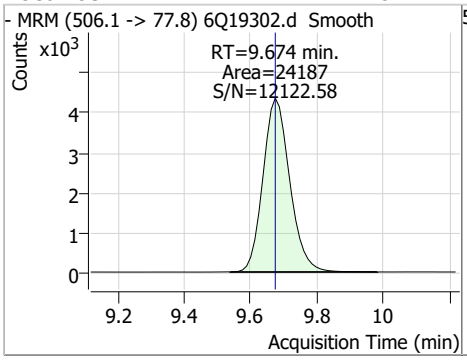
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	61.58	9.67	0.00	1095025	663.0 -> 168.9	9.8	5.2	15.6

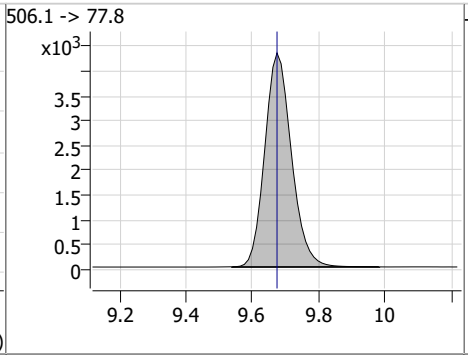


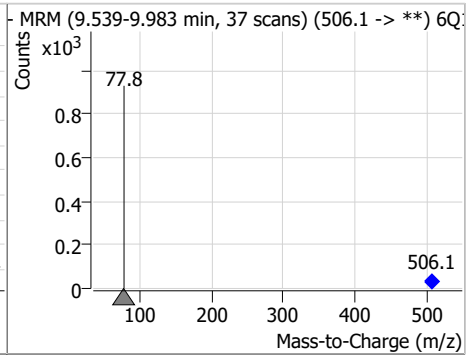




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.51	9.67	0.00	24187				

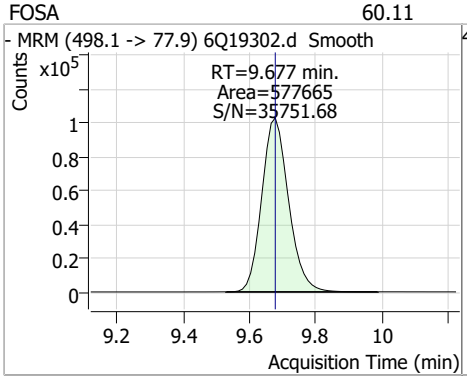


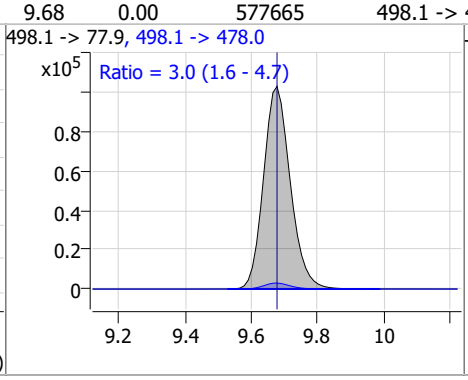


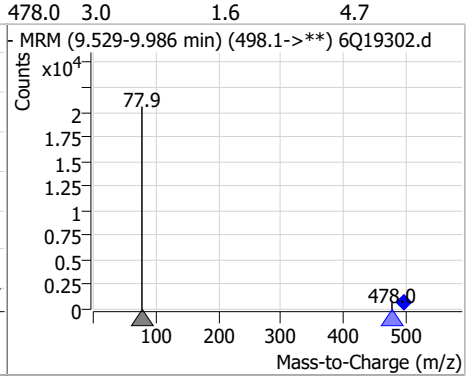


Perfluorinated Compounds by LC/MS/MS

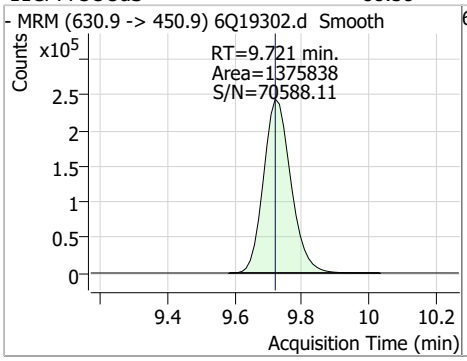
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	60.11	9.68	0.00	577665	498.1 -> 478.0	3.0	1.6	4.7

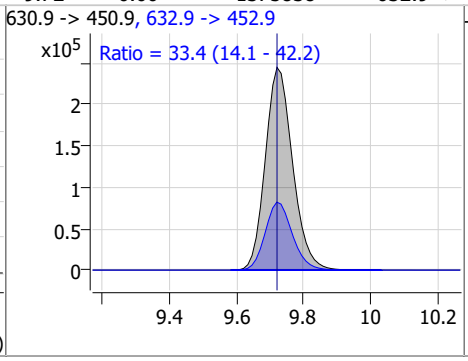


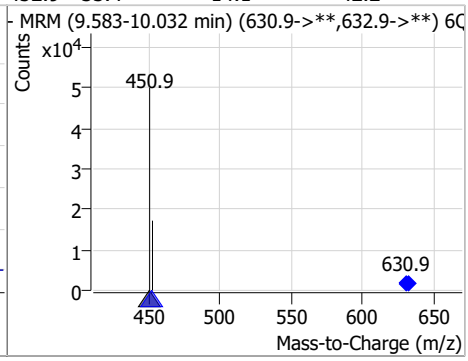




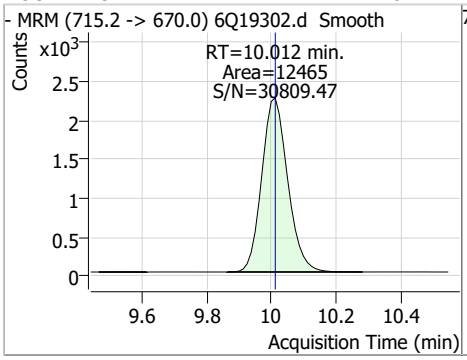
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	88.58	9.72	0.00	1375838	632.9 -> 452.9	33.4	14.1	42.2

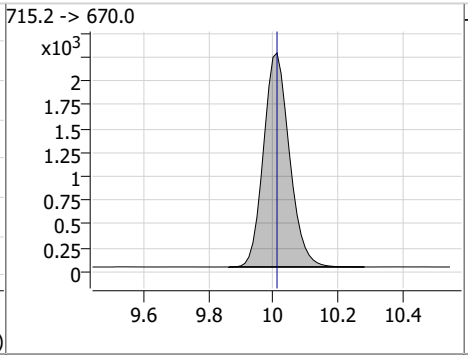


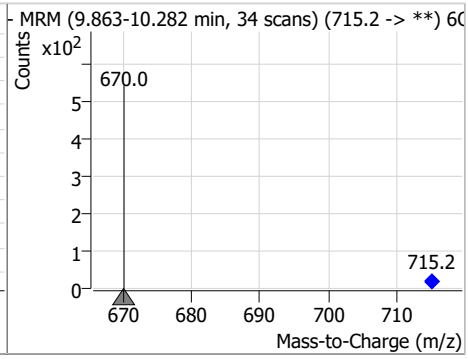




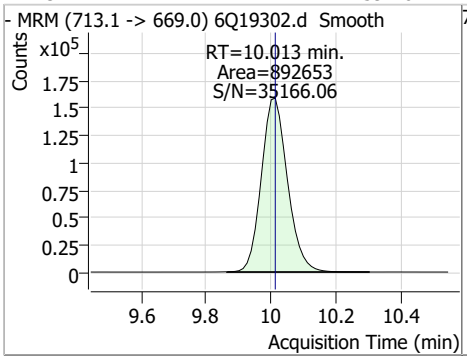
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.28	10.01	0.00	12465				

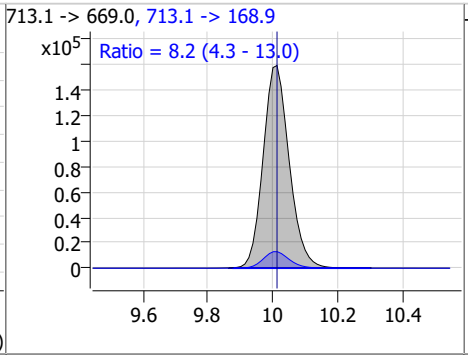


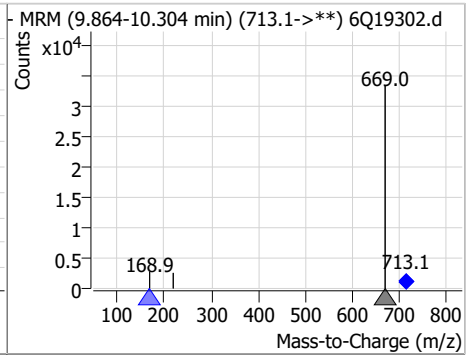




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	59.76	10.01	0.00	892653	713.1 -> 168.9	8.2	4.3	13.0

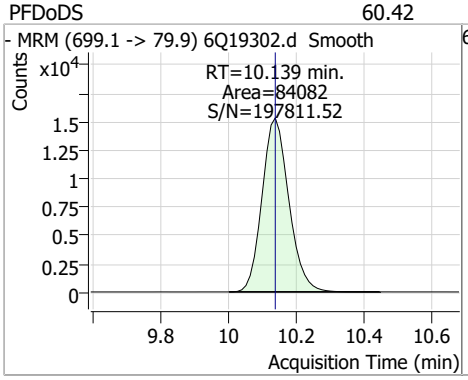


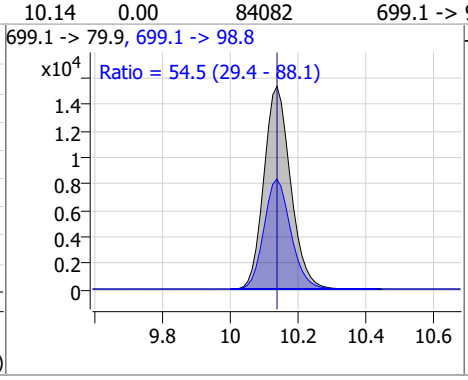


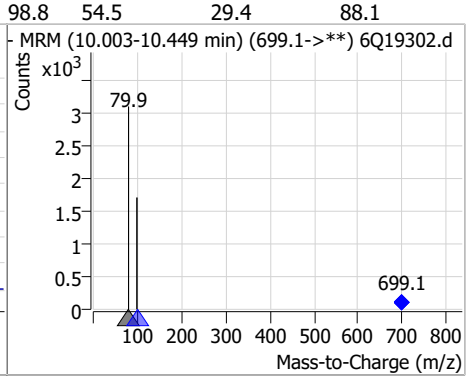


Perfluorinated Compounds by LC/MS/MS

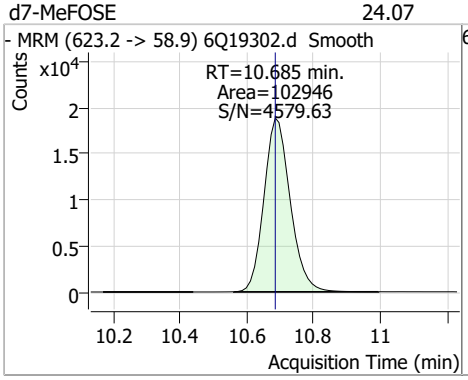
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	60.42	10.14	0.00	84082	699.1 -> 98.8	54.5	29.4	88.1

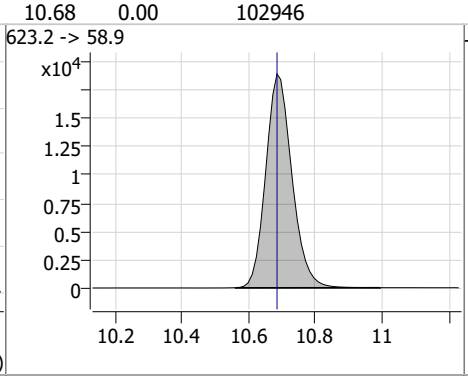


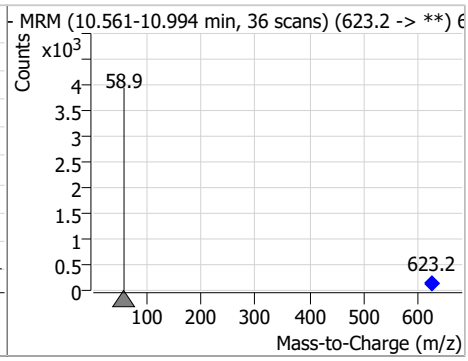




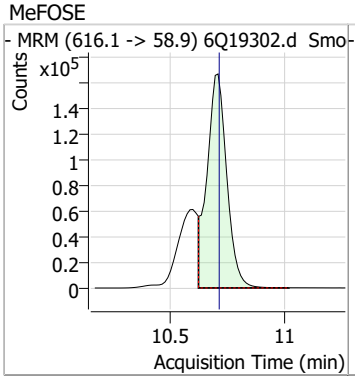
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.07	10.68	0.00	102946				

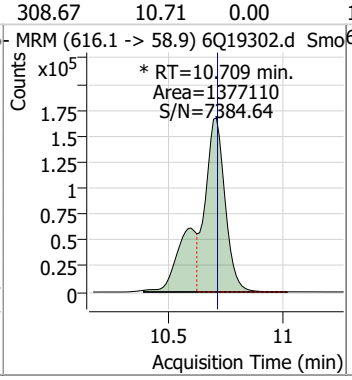


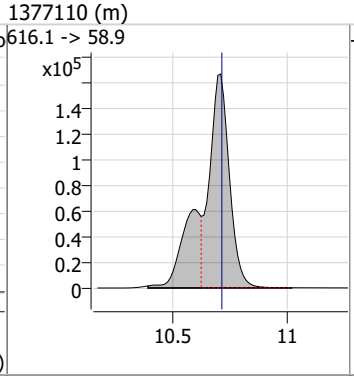


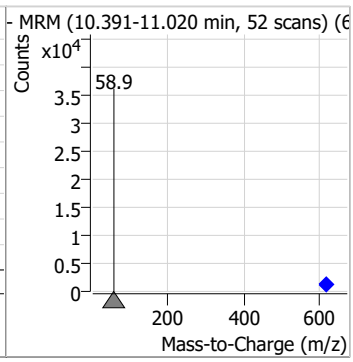


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	308.67	10.71	0.00	1377110 (m)				

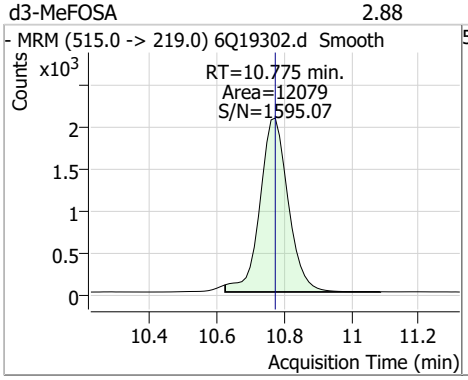


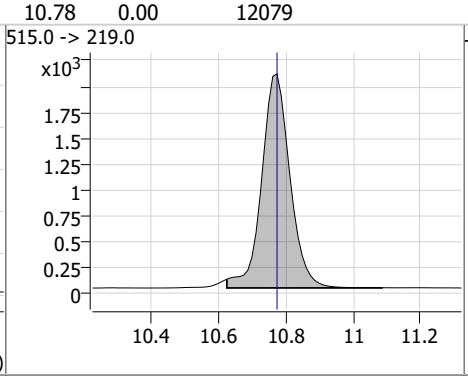


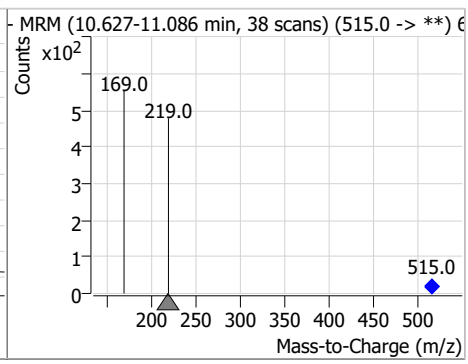




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.88	10.78	0.00	12079				

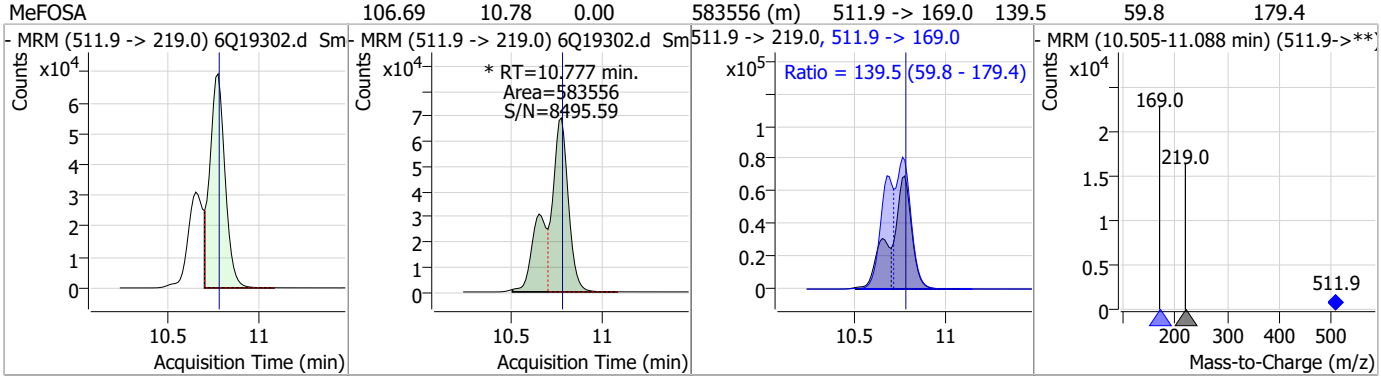




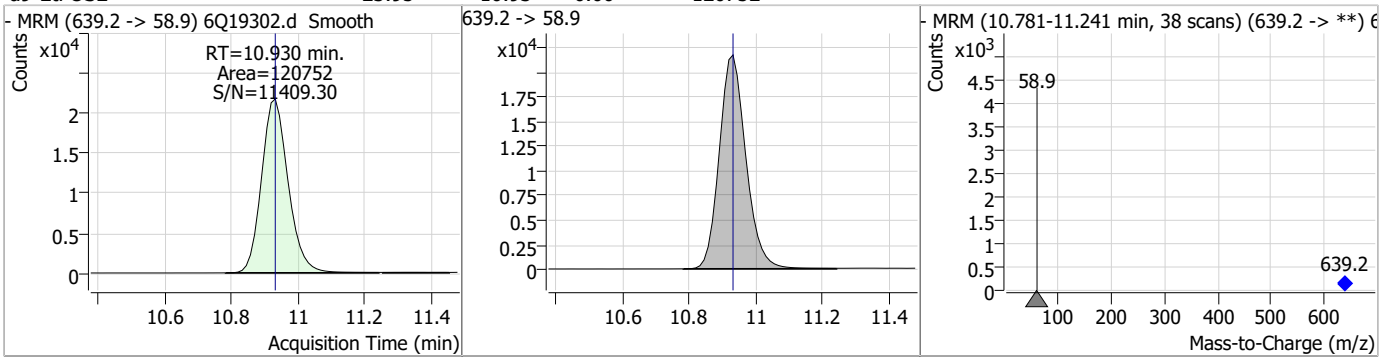


Perfluorinated Compounds by LC/MS/MS

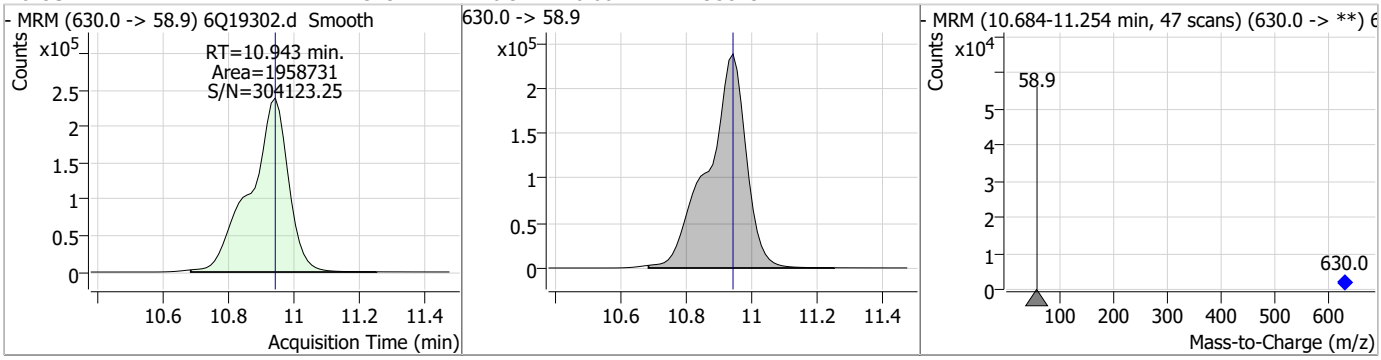
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	106.69	10.78	0.00	583556 (m)	511.9 -> 169.0	139.5	59.8	179.4



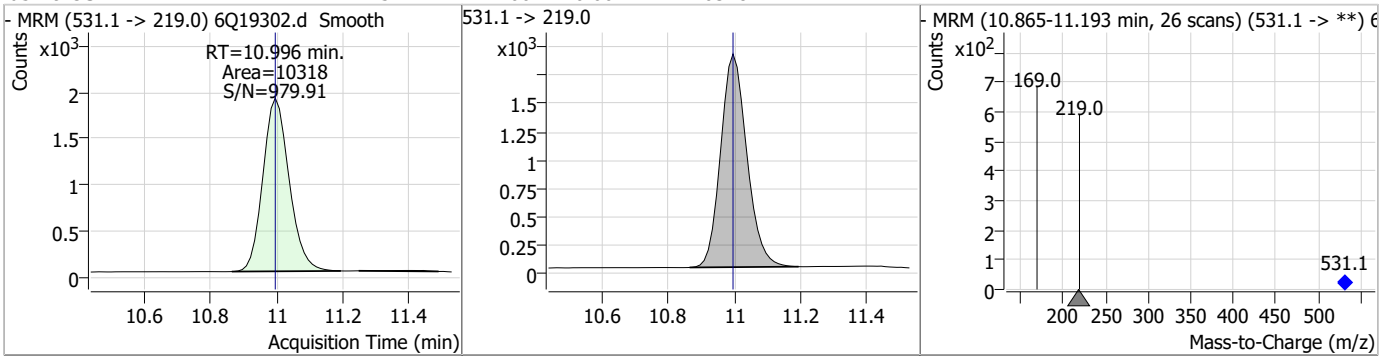
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.95	10.93	0.00	120752				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	313.44	10.94	0.00	1958731				

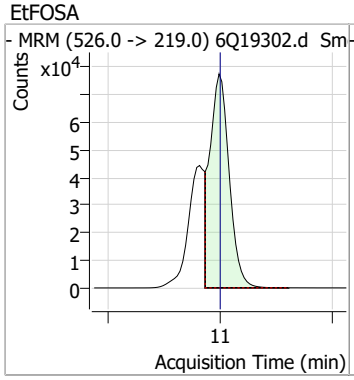


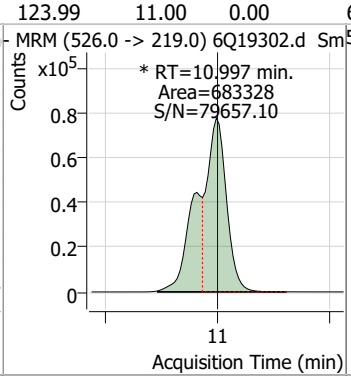
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.52	11.00	0.00	10318				

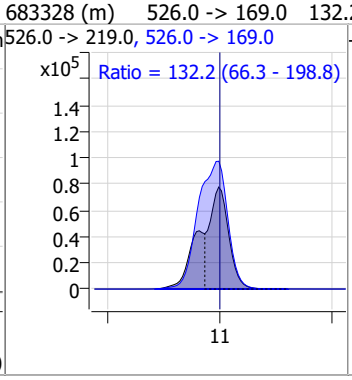


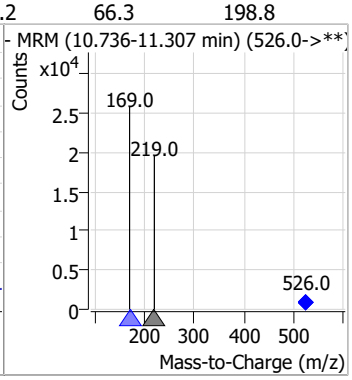
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	123.99	11.00	0.00	683328 (m)	526.0 -> 169.0	132.2	66.3	198.8









Manual Integration Approval Summary

Sample Number: S6Q288-IC288
Lab FileID: 6Q19302.D
Injection Time: 06/13/23 13:13
Method: EPA DRAFT 1633
Analyst approved: 06/14/23 10:15 Martha Valls
Supervisor approved: 06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak
EtFOSA	4151-50-2		11.00	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19304.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 1:41:39 PM
Sample Name : icv288-4
Vial : P1-B1
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	143600	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	46975	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	53110	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	47958	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	74512	2.50	µg/L	0.000
M9-PFNA	7.882	472.1 -> 427.0	35310	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	21193	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	28683	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	24687	1.25	µg/L	-0.012
M2-PFTeDA	10.012	715.2 -> 670.0	13388	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	27399	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	17757	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11222	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11483	2.50	µg/L	0.000
M2-4:2FTS	5.442	329.1 -> 80.9	3016	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	4430	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4211	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	26983	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	33525	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	22950	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	125555	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	143450	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11955	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11821	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	14926	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	60965	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8341	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	79640	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	29028	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	46812	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	46664	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	3016	6.03	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 120.5%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4430	5.86	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.2%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4211	5.92	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.5%		
13C2-PFDoDA	9.285	615.1 -> 570.0	24687	1.27	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.8%		
13C2-PFTeDA	10.012	715.2 -> 670.0	13388	1.24	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C3-PFBS	5.746	302.1 -> 79.9	17757	2.56	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C3-PFHxS	7.478	402.1 -> 79.9	11222	2.56	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C4-PFBA	3.085	216.8 -> 171.9	143600	10.04 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C4-PFHpA	6.707	367.1 -> 322.0	47958	2.66 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.5%		
13C5-PFHxA	5.792	318.0 -> 273.0	53110	2.76 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.3%		
13C5-PFPeA	4.560	268.3 -> 223.0	46975	5.32 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.4%		
13C6-PFDA	8.387	519.1 -> 474.1	21193	1.27 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.8%		
13C7-PFUnDA	8.853	570.0 -> 525.1	28683	1.29 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C8-FOSA	9.674	506.1 -> 77.8	27399	2.42 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%		
13C8-PFOA	7.352	421.1 -> 376.0	74512	2.50 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C8-PFOS	8.563	507.1 -> 79.9	11483	2.55 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.9%		
13C9-PFNA	7.882	472.1 -> 427.0	35310	1.24 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.1%		
d3-MeFOSAA	8.420	573.2 -> 419.0	26983	4.78 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.6%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	33525	10.40 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.0%		
d3-MeFOSA	10.775	515.0 -> 219.0	11821	2.41 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.3%		
d5-EtFOSAA	8.615	589.2 -> 419.0	22950	4.79 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.8%		
d7-MeFOSE	10.685	623.2 -> 58.9	125555	25.07 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.3%		
d9-EtFOSE	10.930	639.2 -> 58.9	143450	24.30 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.2%		
d5-EtFOSA	10.996	531.1 -> 219.0	11955	2.49 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	50547	9.64 µg/L		93
		327.1 -> 80.9	16818			
6:2FTS	7.113	427.1 -> 407.0	47223	8.95 µg/L		95
		427.1 -> 80.9	16703			
8:2FTS	8.164	527.1 -> 507.0	25560	9.13 µg/L		98
		527.1 -> 80.8	10452			
EtFOSAA	8.629	584.2 -> 419.1	10028	2.58 µg/L	m	96
		584.2 -> 526.0	4998			
FOSA	9.677	498.1 -> 77.9	26975	2.48 µg/L		100
		498.1 -> 478.0	822			
MeFOSAA	8.421	570.1 -> 419.0	18585	2.66 µg/L	m	100
		570.1 -> 483.0	3557			
PFBA	3.093	212.8 -> 168.9	57267	9.90 µg/L		100
PFBS	5.747	298.7 -> 79.9	18008	2.27 µg/L		98
		298.7 -> 98.8	6636			
PFDA	8.388	512.9 -> 469.0	77790	2.47 µg/L		97
		512.9 -> 219.0	11395			
PFDoDA	9.298	613.1 -> 569.0	50430	2.46 µg/L		99
		613.1 -> 319.0	7490			
PFDS	9.462	599.0 -> 79.9	8036	2.31 µg/L		97

Perfluorinated Compounds by LC/MS/MS

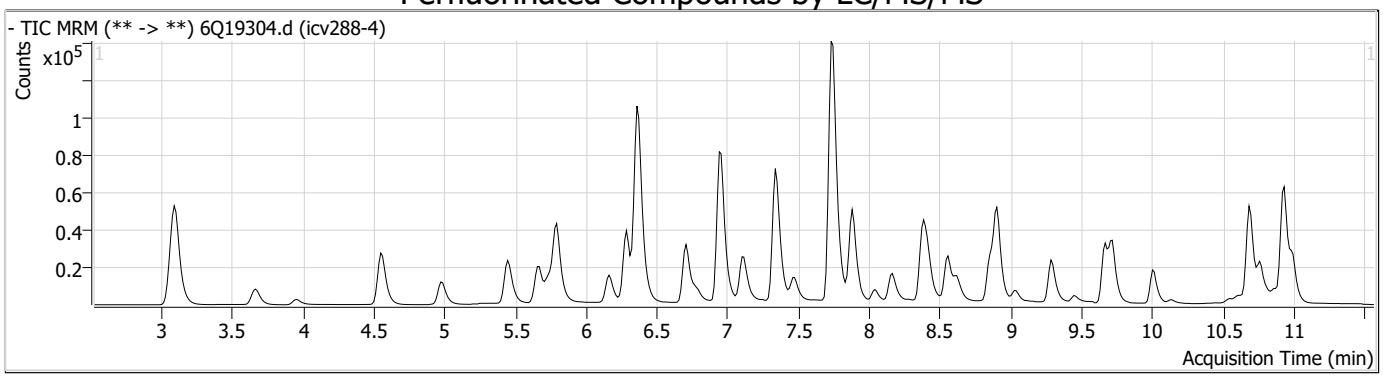
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	4058				
PFHpA	6.708	363.1 -> 319.0	62363	2.44	µg/L		98
		363.1 -> 169.0	10115				
PFHpS	8.046	449.0 -> 79.9	14901	2.17	µg/L		96
		449.0 -> 98.9	7967				
PFHxA	5.795	313.0 -> 269.0	51699	2.41	µg/L		100
		313.0 -> 118.9	2741				
PFHxS	7.479	398.7 -> 79.9	15694	2.32	µg/L	m	94
		398.7 -> 98.9	7358				
PFNA	7.883	463.0 -> 419.0	78085	2.39	µg/L		98
		463.0 -> 219.0	15670				
PFNS	9.041	548.8 -> 79.9	13997	2.35	µg/L		97
		548.8 -> 98.9	7138				
PFOA	7.353	413.0 -> 369.0	98136	2.40	µg/L		100
		413.0 -> 169.0	16316				
PFOS	8.564	498.9 -> 79.9	15198	2.23	µg/L	m	91
		498.9 -> 98.8	7036				
PFPeA	4.563	263.0 -> 219.0	68707	4.95	µg/L		100
PFPeS	6.785	349.1 -> 79.9	14418	2.29	µg/L		98
		349.1 -> 98.9	6717				
PFTeDA	10.013	713.1 -> 669.0	42536	2.65	µg/L		99
		713.1 -> 168.9	3430				
PFTrDA	9.669	663.0 -> 619.0	48895	2.35	µg/L		99
		663.0 -> 168.9	5255				
PFUnDA	8.866	563.1 -> 519.0	53903	2.43	µg/L		96
		563.1 -> 269.1	9187				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	71322	4.67	µg/L		93
		632.9 -> 452.9	22932				
9Cl-PF3ONS	8.906	530.8 -> 351.0	124073	4.72	µg/L		100
		532.8 -> 353.0	38211				
ADONA	6.959	376.9 -> 250.9	247867	4.57	µg/L		99
		376.9 -> 84.8	72947				
HFPO-DA	6.169	284.9 -> 168.9	17508	4.99	µg/L		100
		284.9 -> 184.9	2039				
3:3FTCA	3.946	241.0 -> 177.0	11297	12.04	µg/L		99
		241.0 -> 117.0	1495				
5:3FTCA	6.374	341.0 -> 237.1	241276	56.63	µg/L		99
		341.0 -> 217.0	182018				
7:3FTCA	7.748	441.0 -> 316.9	177132	61.49	µg/L		98
		441.0 -> 336.9	394086				
EtFOSA	10.997	526.0 -> 219.0	31160	4.88	µg/L		98
		526.0 -> 169.0	40747				
EtFOSE	10.943	630.0 -> 58.9	96074	12.94	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	26617	4.97	µg/L	m	83
		511.9 -> 169.0	36956				
MeFOSE	10.709	616.1 -> 58.9	66353	12.19	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	3916	2.29	µg/L		100
		699.1 -> 98.8	2308				
NFDHA	5.673	295.0 -> 201.0	13450	4.91	µg/L		100
		295.0 -> 84.9	3576				
PFMBA	4.988	279.0 -> 85.1	49516	5.01	µg/L		100
PFMPA	3.667	229.0 -> 84.9	38038	4.92	µg/L		100
PFEESA	6.288	314.8 -> 134.9	130995	4.52	µg/L		99
		314.8 -> 82.9	4086				

 # = Qualifier out of range, m = manually integrated, + = Area summed

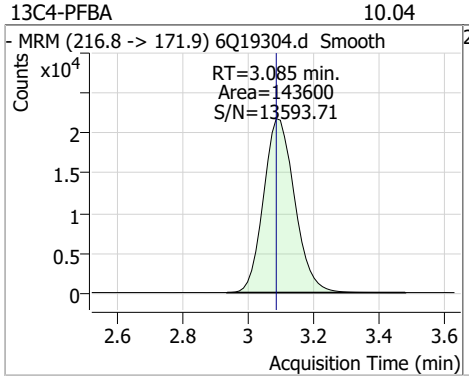
Perfluorinated Compounds by LC/MS/MS

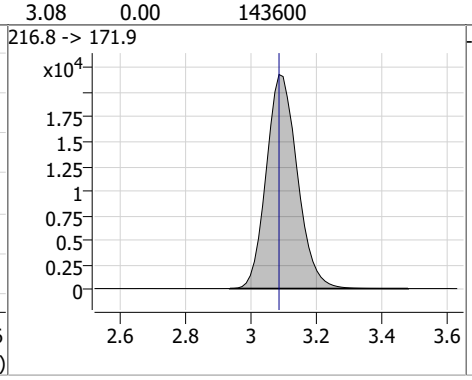
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

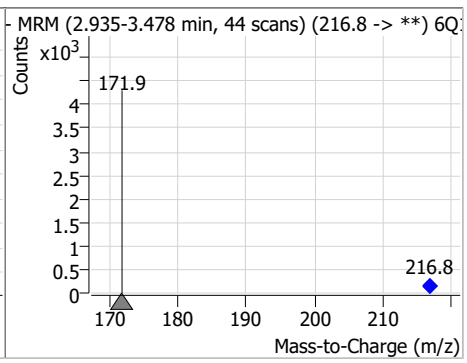
Perfluorinated Compounds by LC/MS/MS



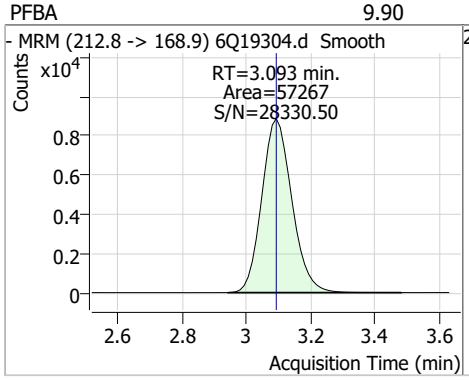
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.04	3.08	0.00	143600				

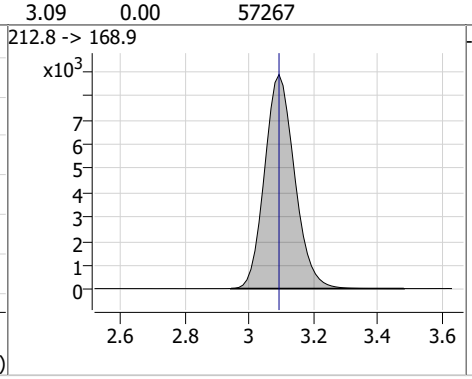


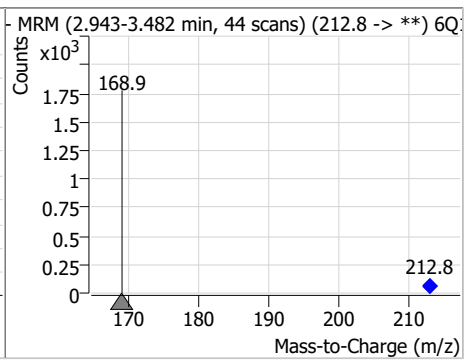




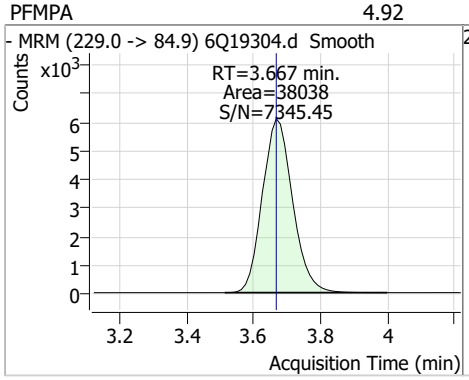
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.90	3.09	0.00	57267				

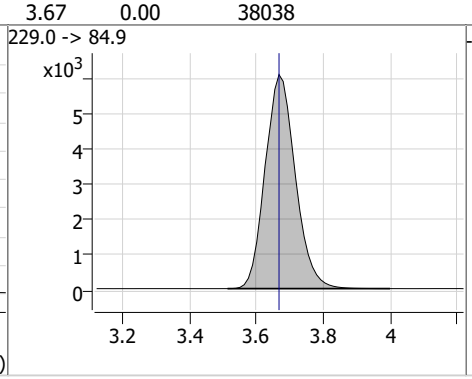


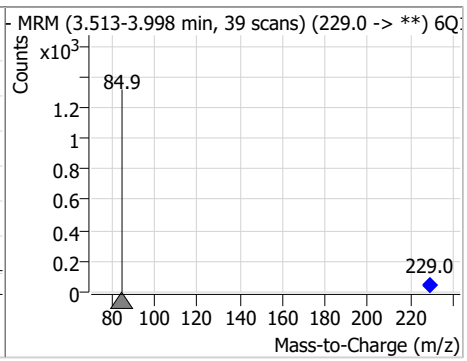




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.92	3.67	0.00	38038				

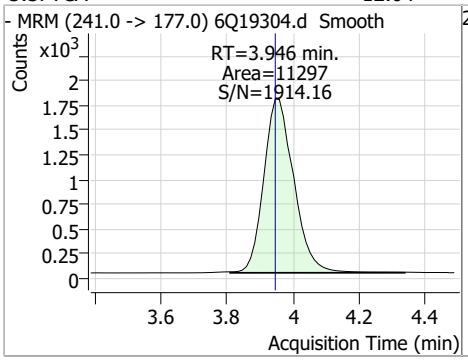


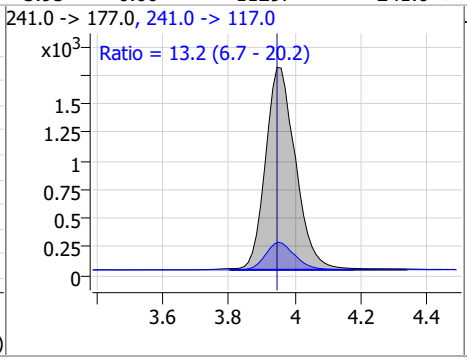


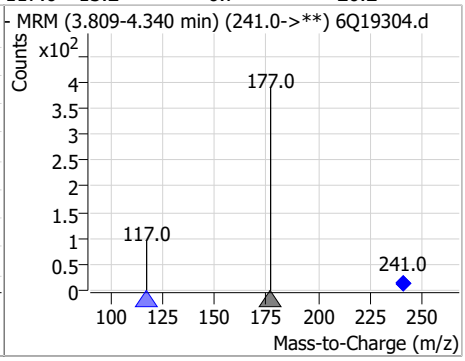


Perfluorinated Compounds by LC/MS/MS

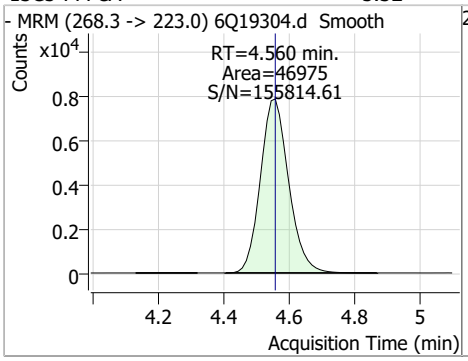
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.04	3.95	0.00	11297	241.0 -> 117.0	13.2	6.7	20.2

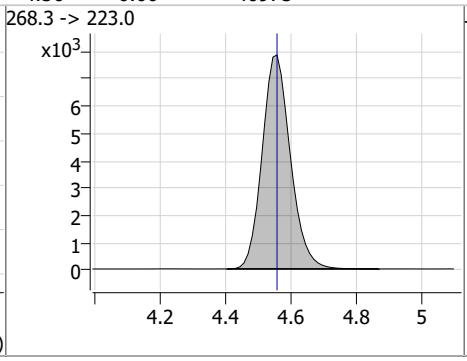


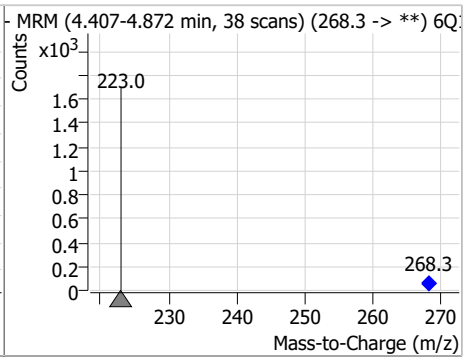




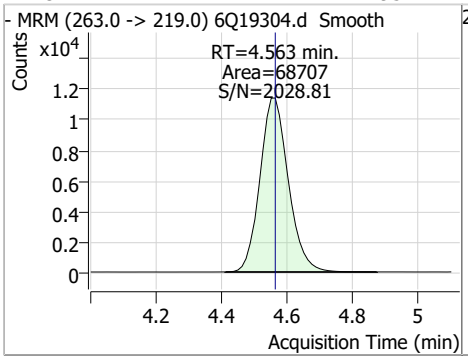
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.32	4.56	0.00	46975				

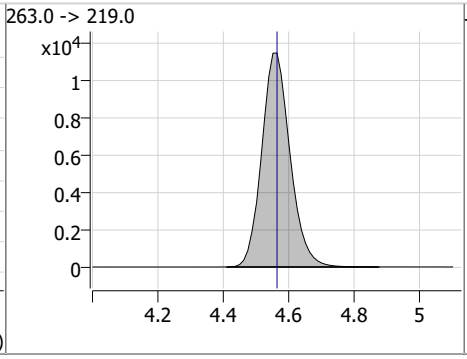


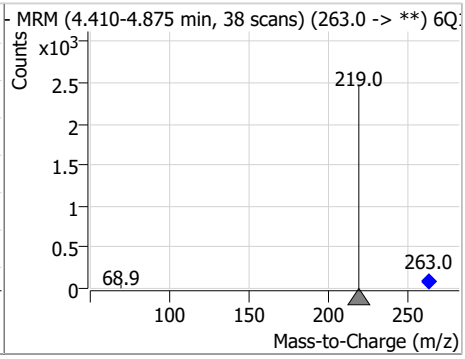




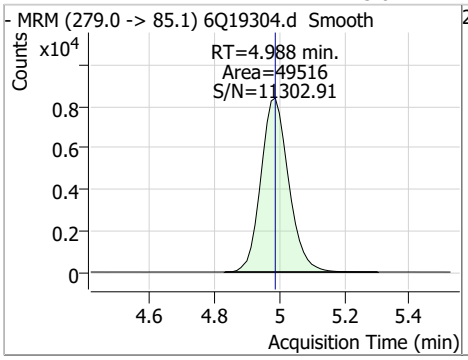
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.95	4.56	0.00	68707				

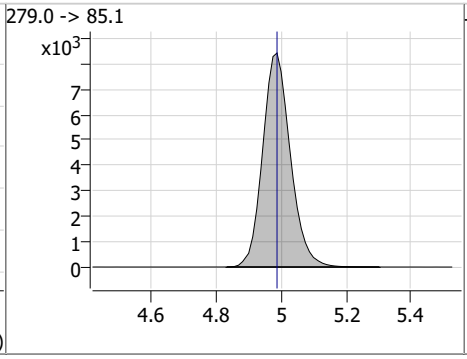


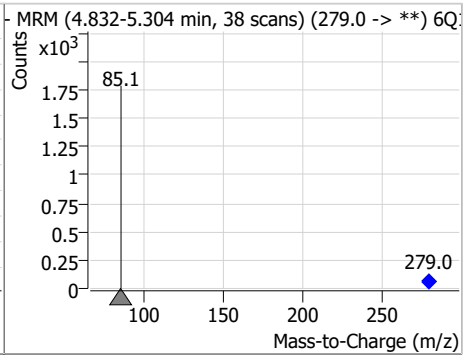




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.01	4.99	0.00	49516				

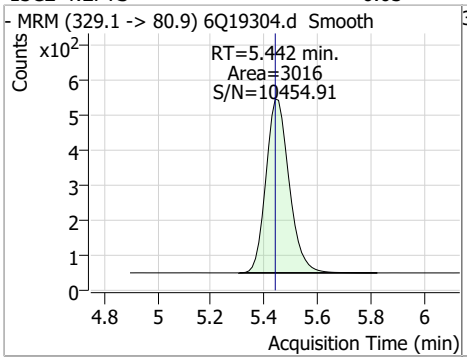


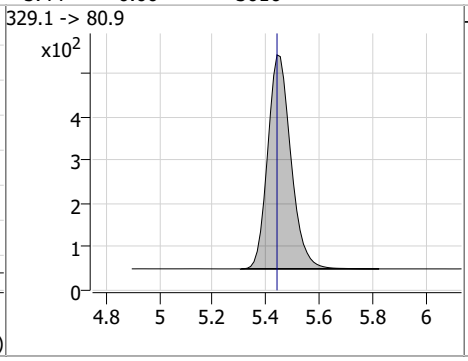


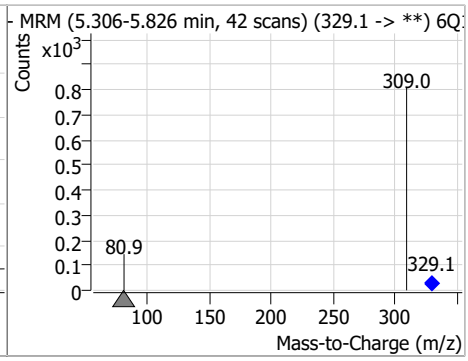


Perfluorinated Compounds by LC/MS/MS

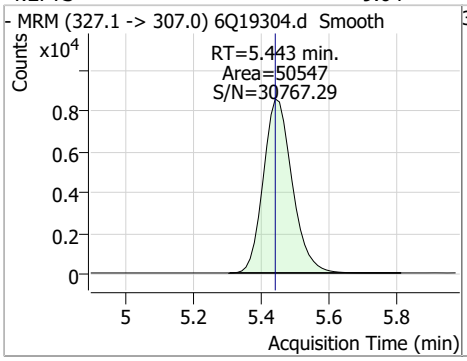
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.03	5.44	0.00	3016				

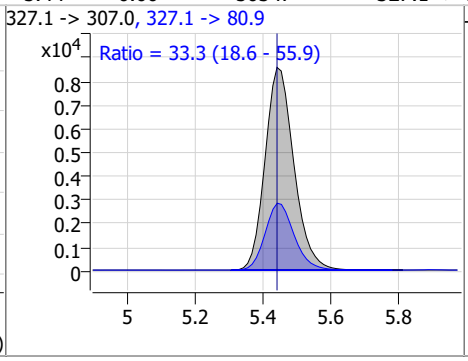


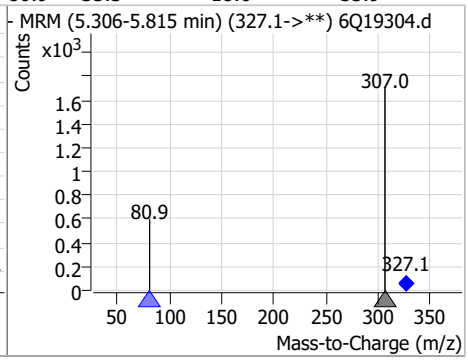




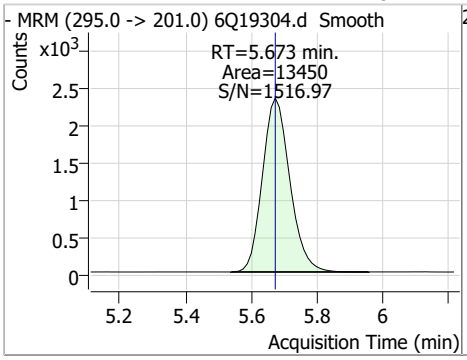
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.64	5.44	0.00	50547	327.1 -> 80.9	33.3	18.6	55.9

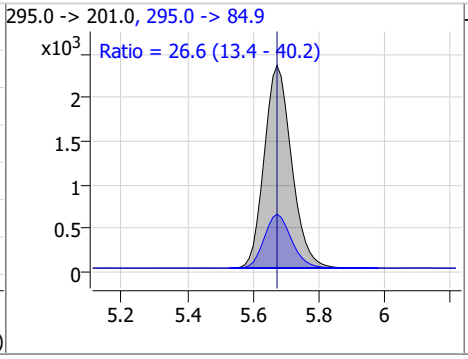


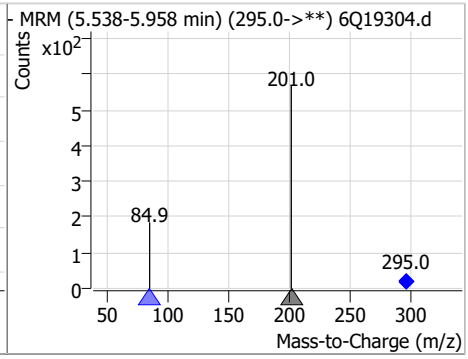




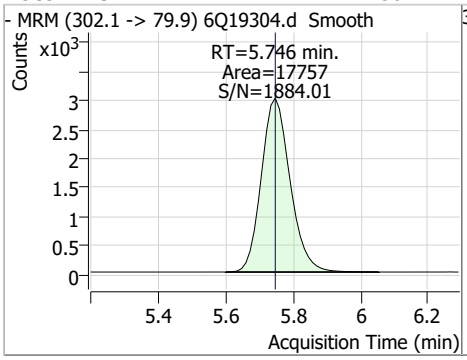
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.91	5.67	0.00	13450	295.0 -> 84.9	26.6	13.4	40.2

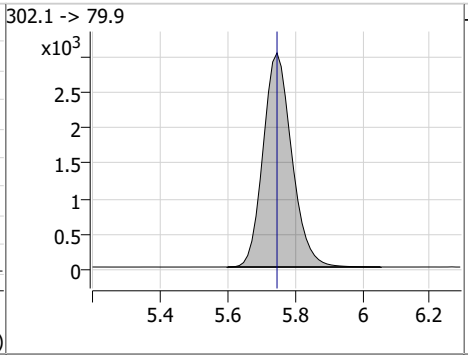


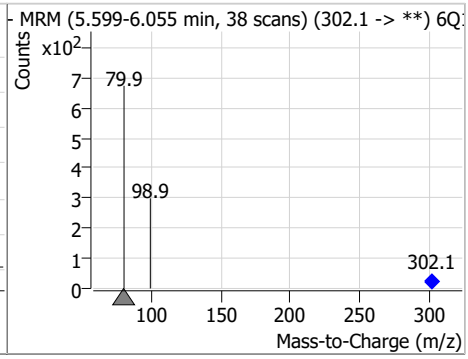




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.56	5.75	0.00	17757				

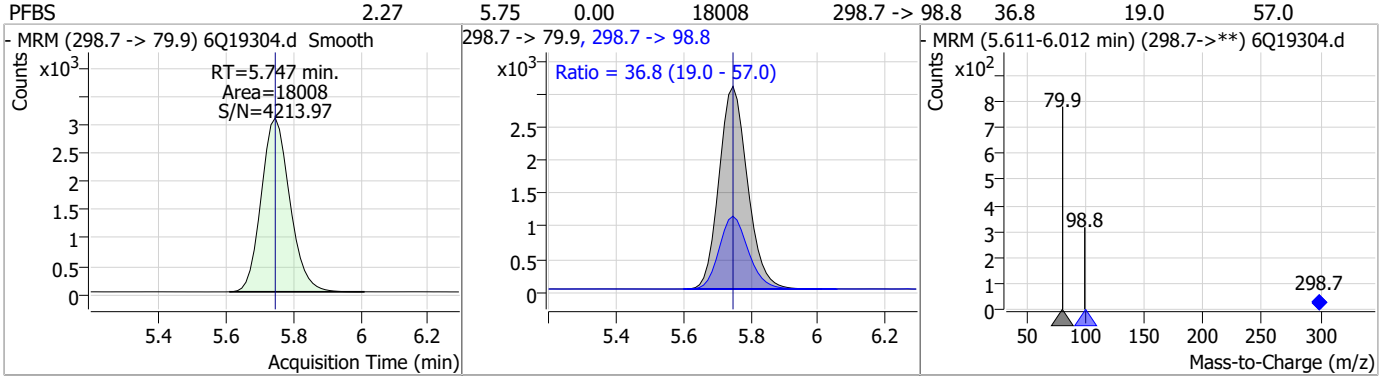




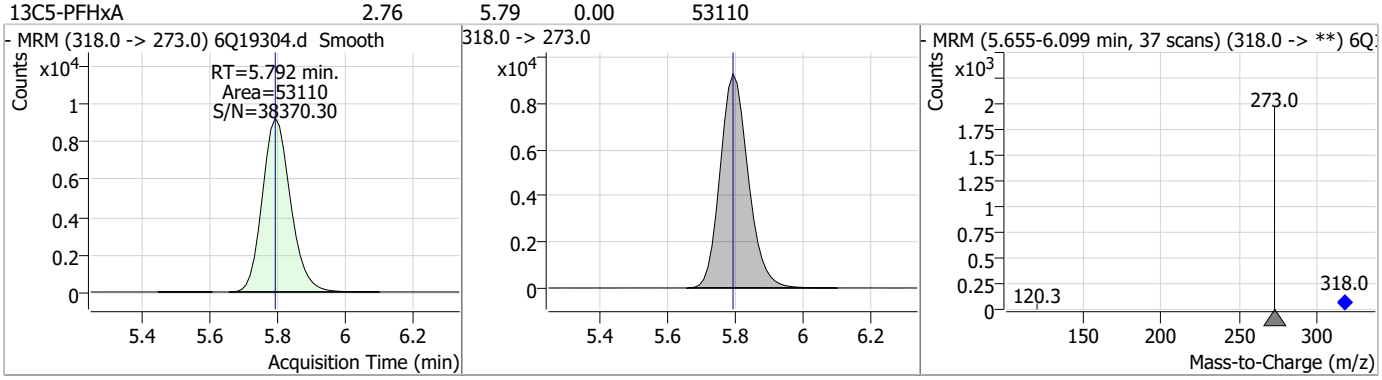


Perfluorinated Compounds by LC/MS/MS

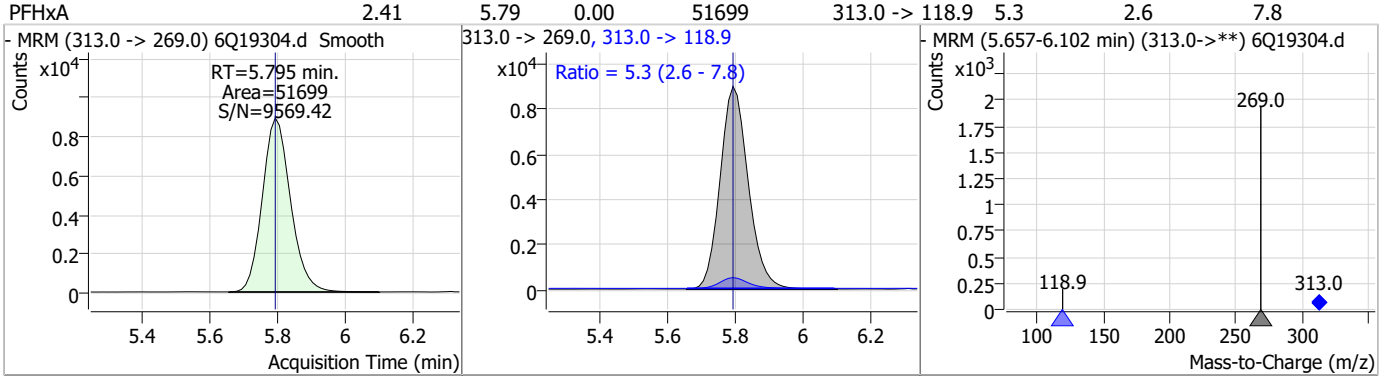
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.27	5.75	0.00	18008	298.7 -> 98.8	36.8	19.0	57.0



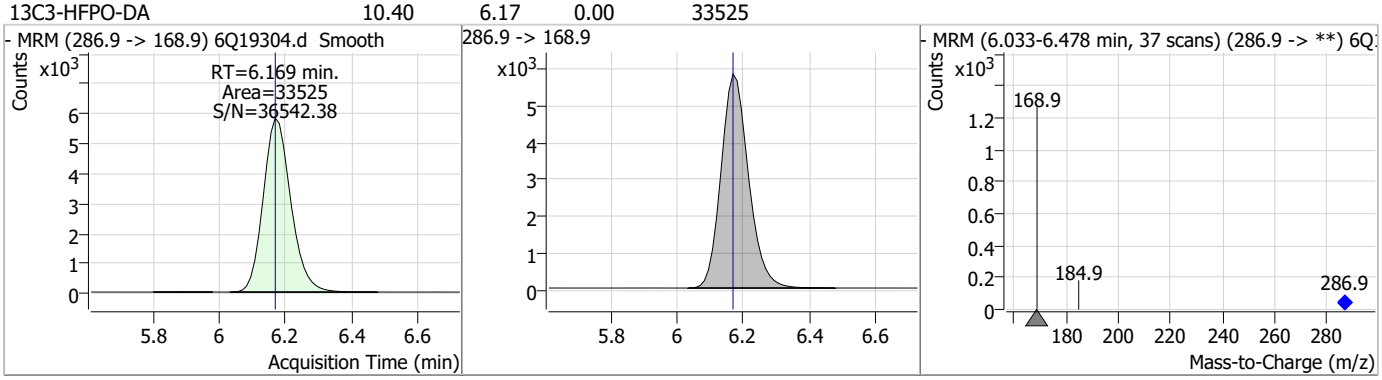
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.76	5.79	0.00	53110				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.41	5.79	0.00	51699	313.0 -> 118.9	5.3	2.6	7.8

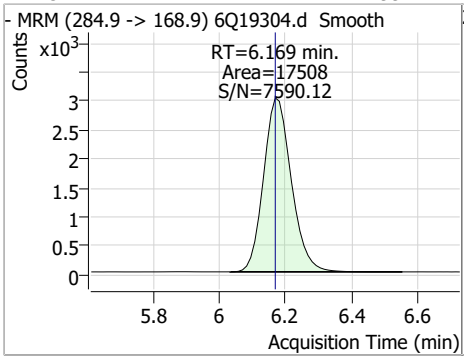


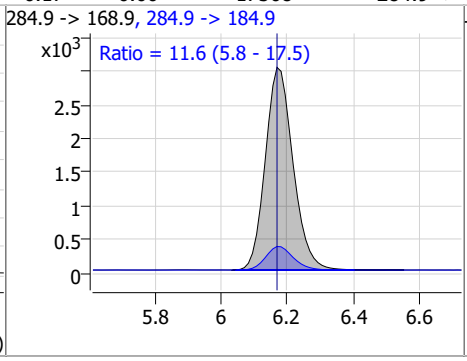
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.40	6.17	0.00	33525				

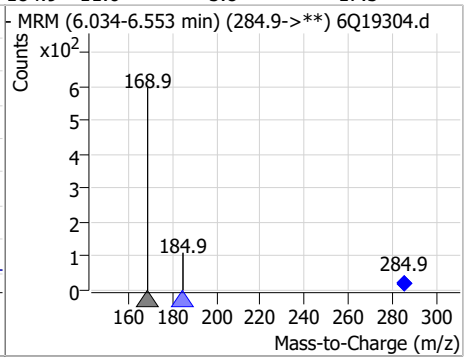


Perfluorinated Compounds by LC/MS/MS

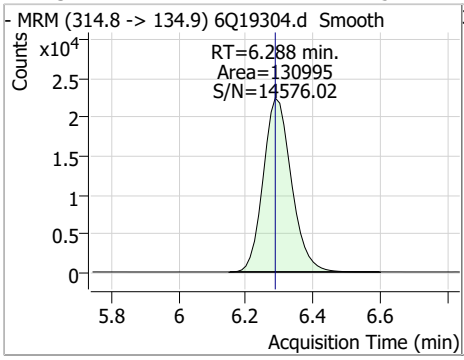
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.99	6.17	0.00	17508	284.9 -> 184.9	11.6	5.8	17.5

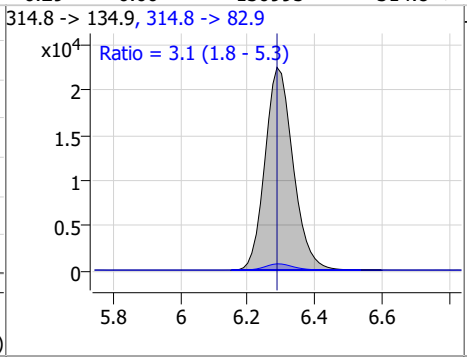


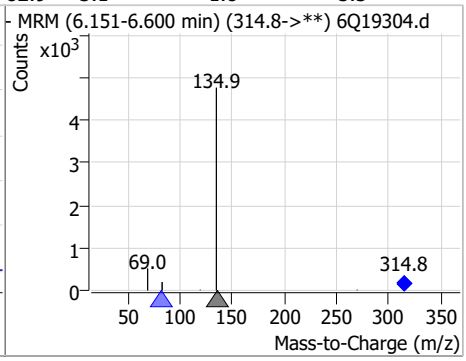




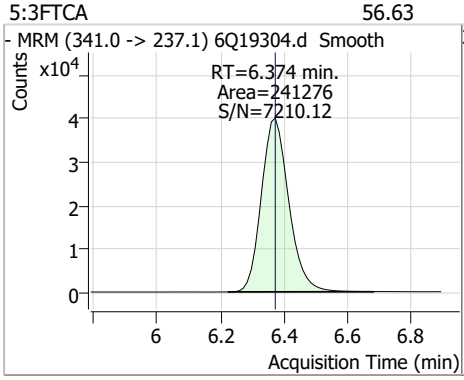
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.52	6.29	0.00	130995	314.8 -> 82.9	3.1	1.8	5.3

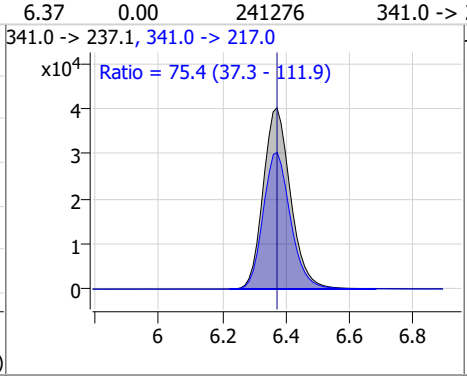


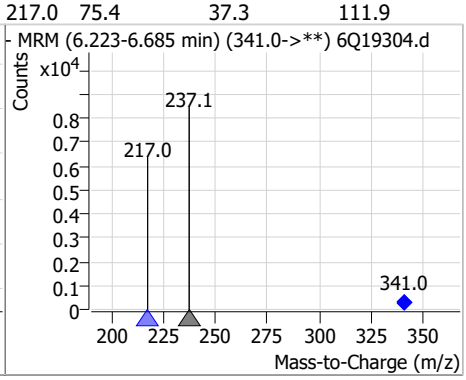




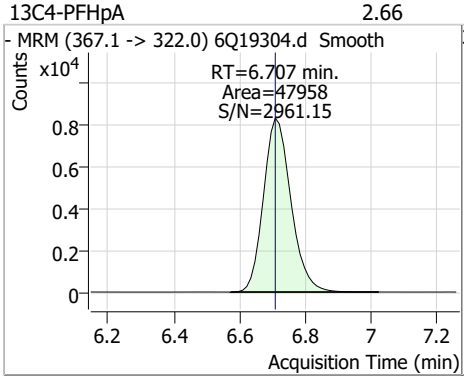
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	56.63	6.37	0.00	241276	341.0 -> 217.0	75.4	37.3	111.9

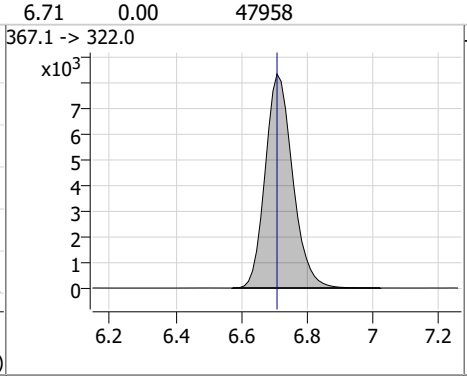


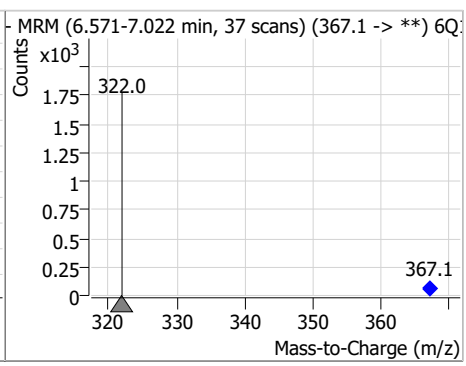




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.66	6.71	0.00	47958				

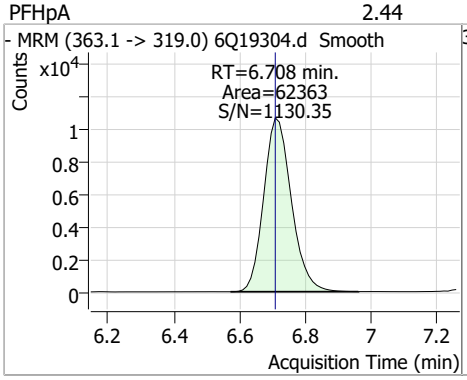


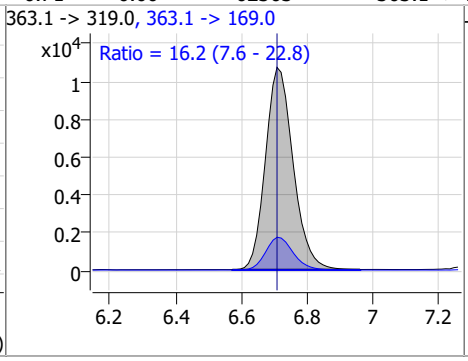


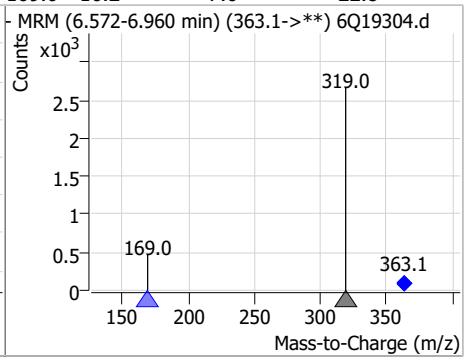


Perfluorinated Compounds by LC/MS/MS

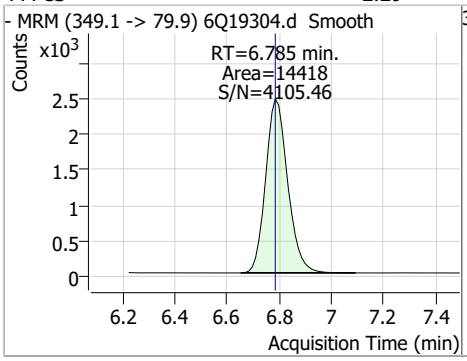
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.44	6.71	0.00	62363	363.1 -> 169.0	16.2	7.6	22.8

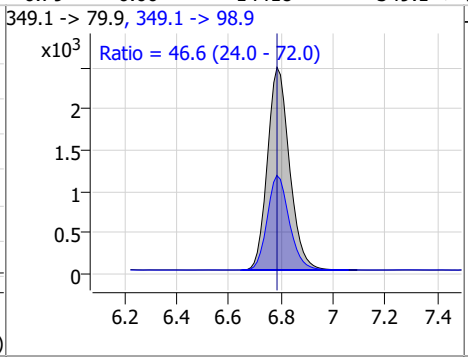


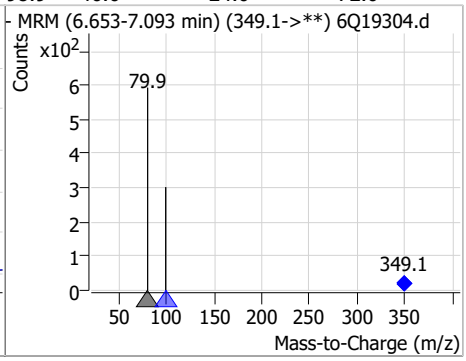




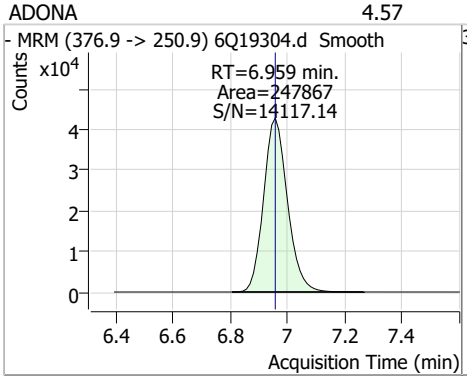
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.29	6.79	0.00	14418	349.1 -> 98.9	46.6	24.0	72.0

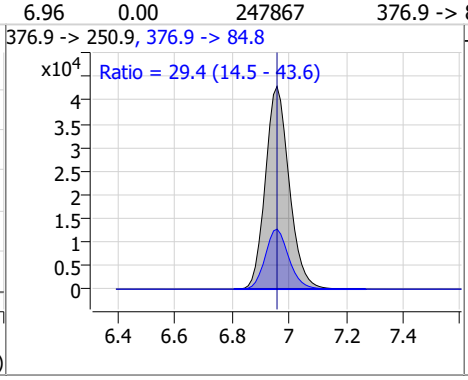


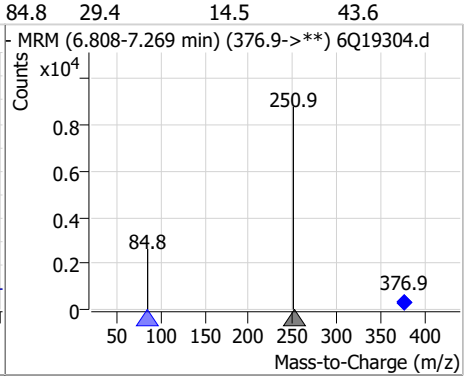




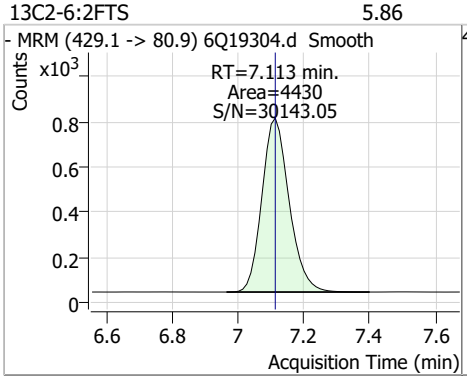
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.57	6.96	0.00	247867	376.9 -> 84.8	29.4	14.5	43.6

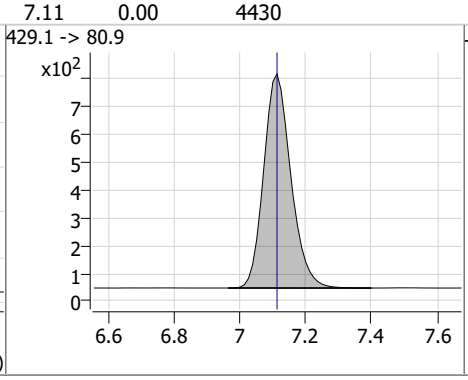


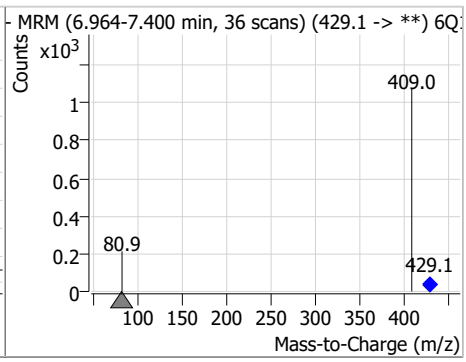




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.86	7.11	0.00	4430				

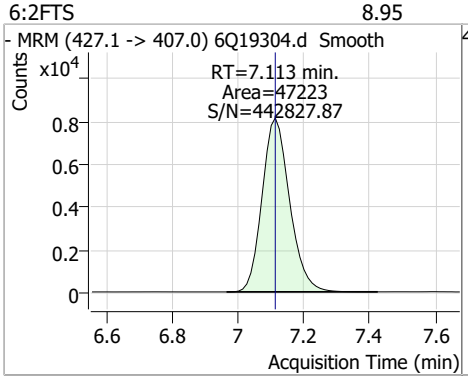


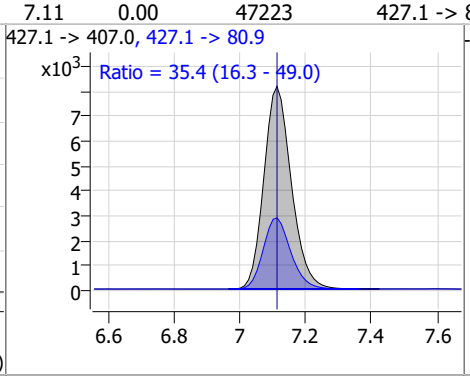


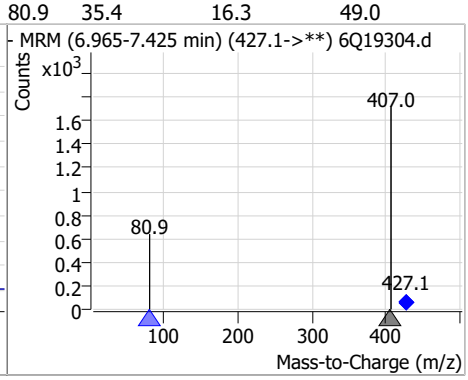


Perfluorinated Compounds by LC/MS/MS

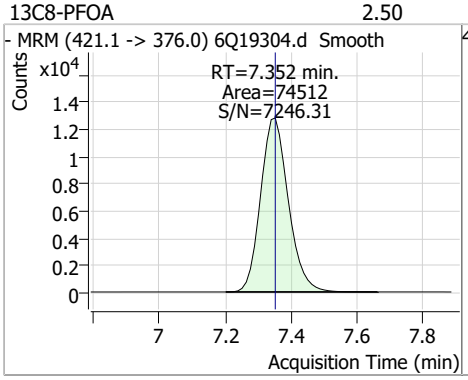
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	8.95	7.11	0.00	47223	427.1 -> 80.9	35.4	16.3	49.0

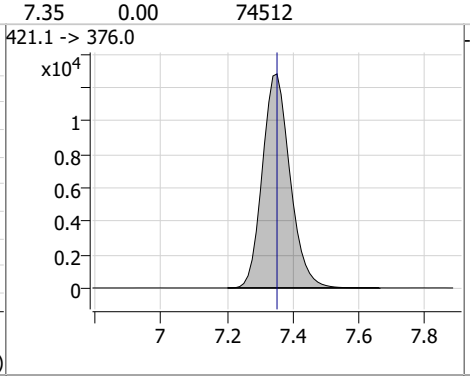


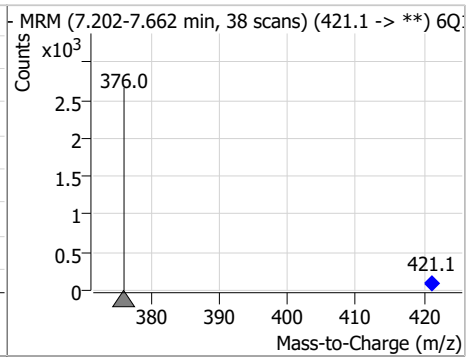




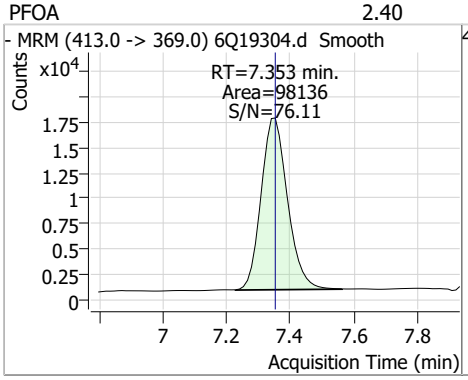
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.50	7.35	0.00	74512				

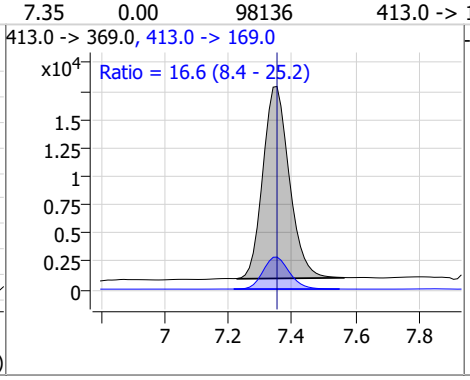


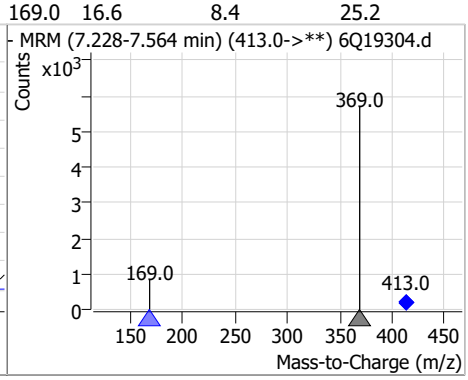




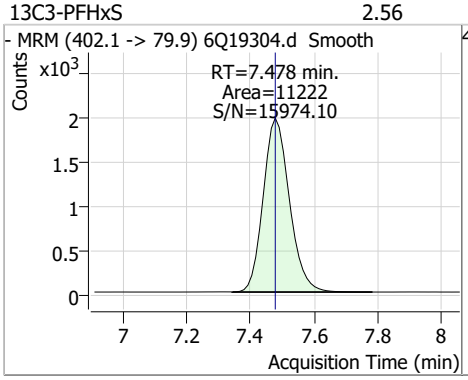
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.40	7.35	0.00	98136	413.0 -> 169.0	16.6	8.4	25.2

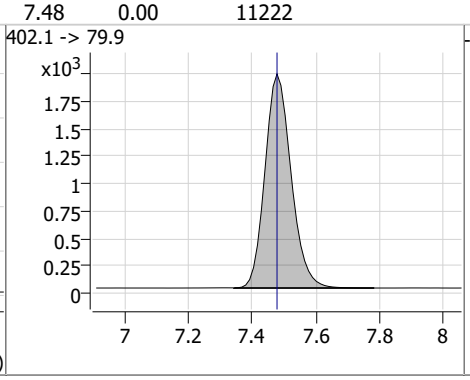


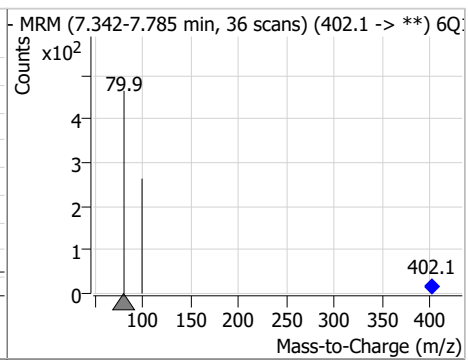




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.56	7.48	0.00	11222				

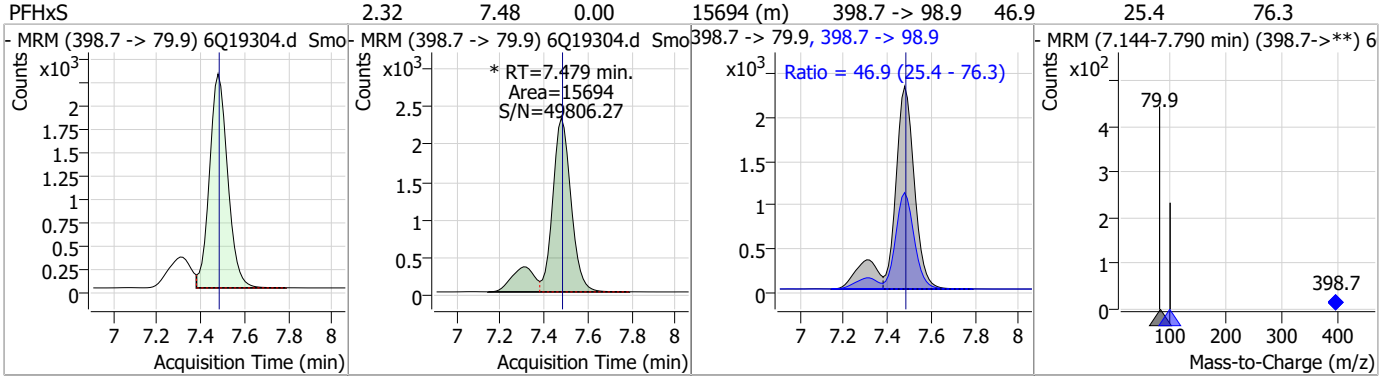




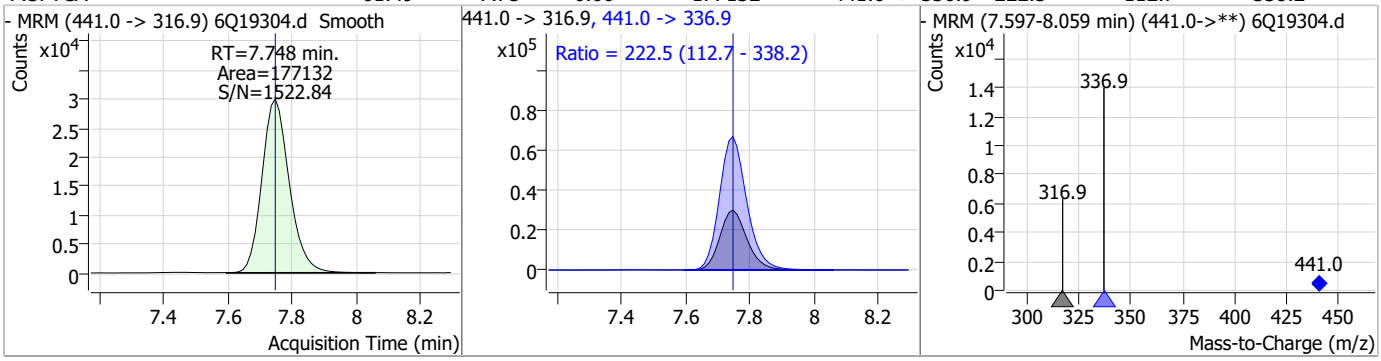


Perfluorinated Compounds by LC/MS/MS

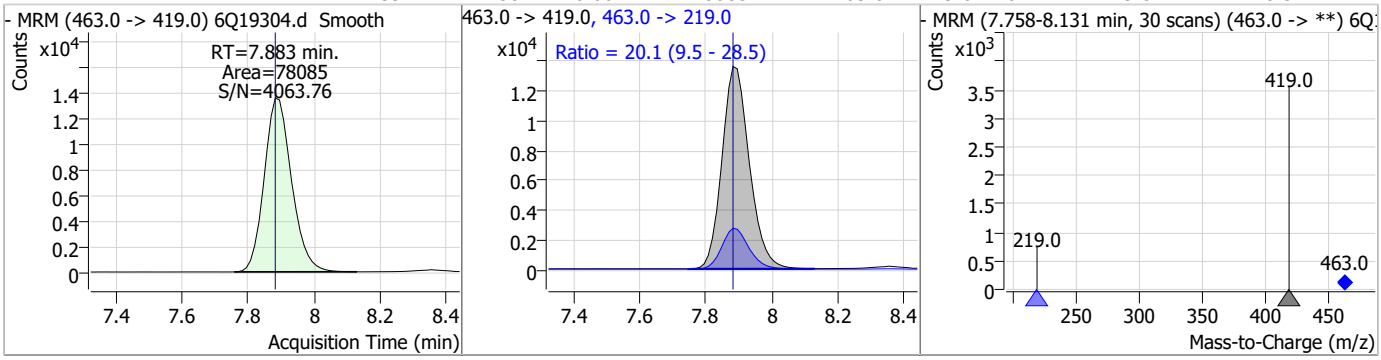
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.32	7.48	0.00	15694 (m)	398.7 -> 98.9	46.9	25.4	76.3



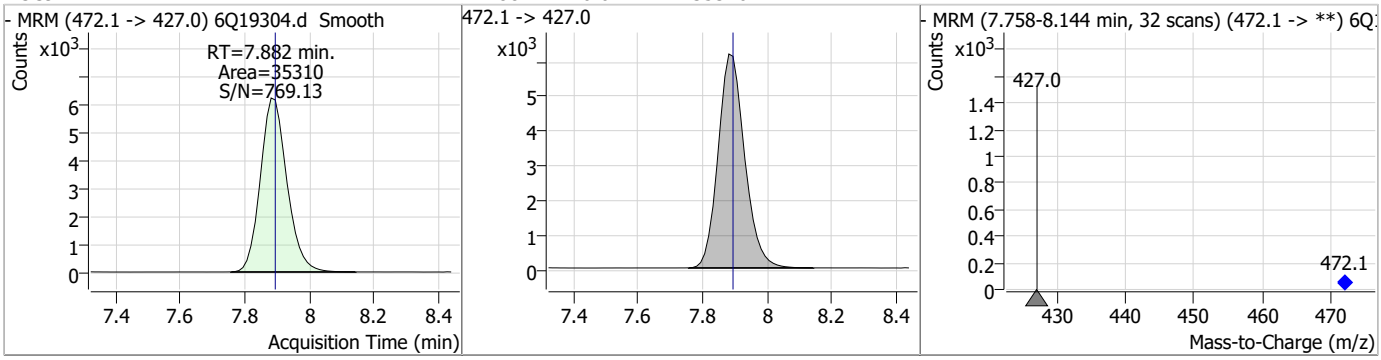
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	61.49	7.75	0.00	177132	441.0 -> 336.9	222.5	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.39	7.88	0.00	78085	463.0 -> 219.0	20.1	9.5	28.5

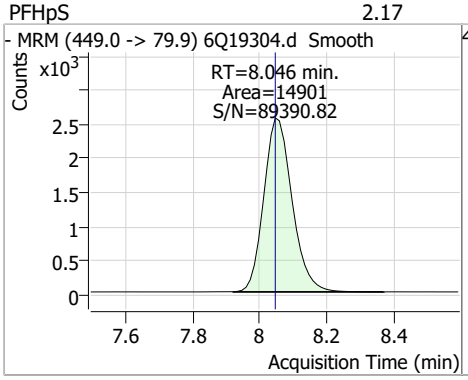


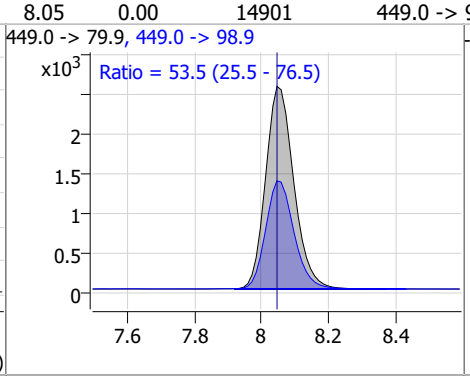
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.24	7.88	-0.01	35310				

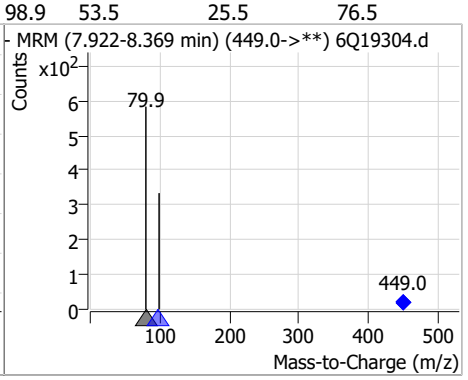


Perfluorinated Compounds by LC/MS/MS

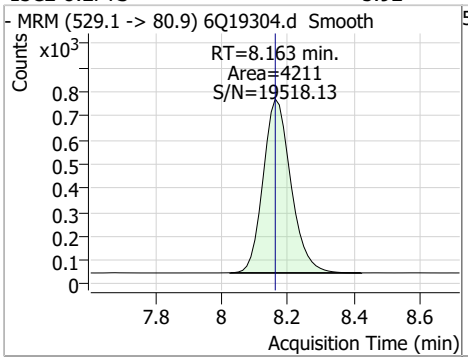
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.17	8.05	0.00	14901	449.0 -> 98.9	53.5	25.5	76.5

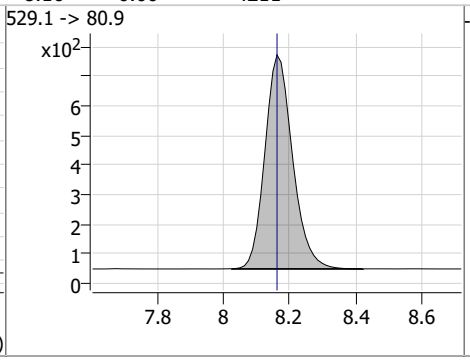


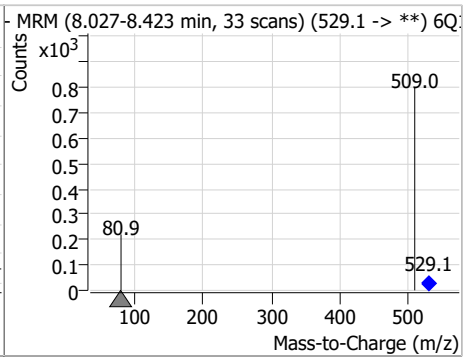




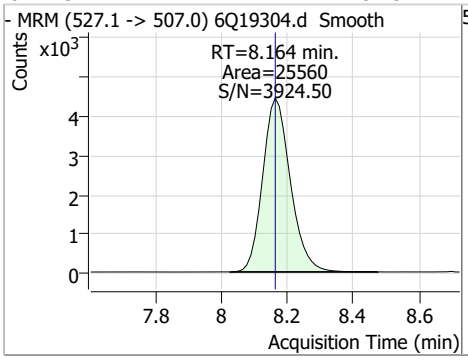
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.92	8.16	0.00	4211				

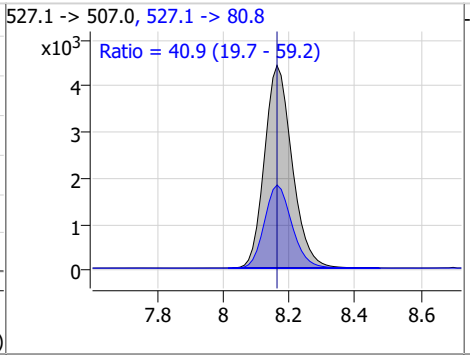


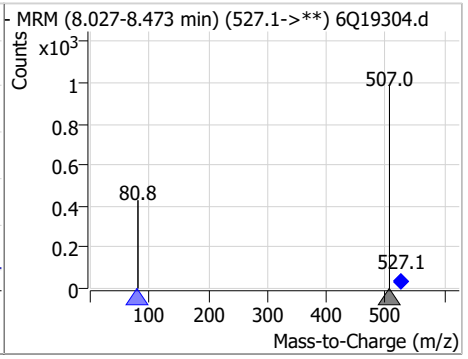




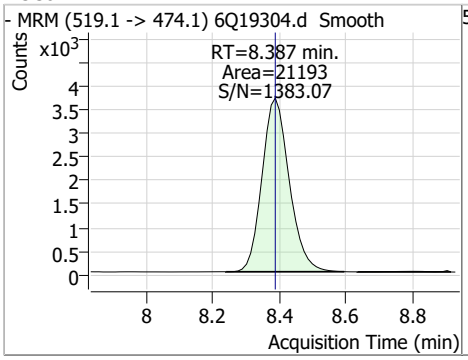
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.13	8.16	0.00	25560	527.1 -> 80.8	40.9	19.7	59.2

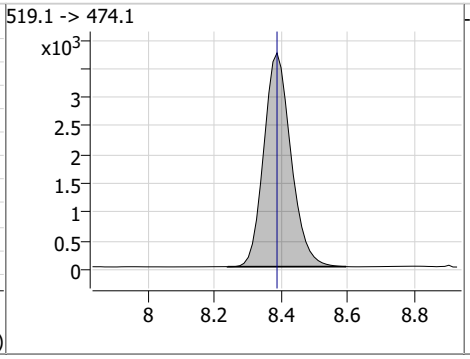


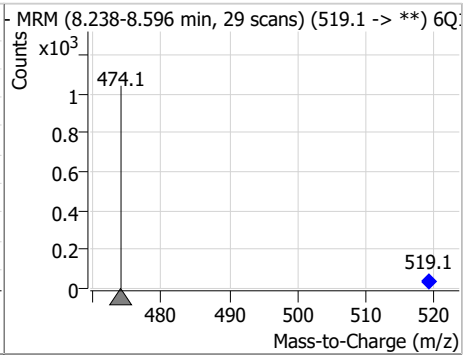




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.27	8.39	0.00	21193				

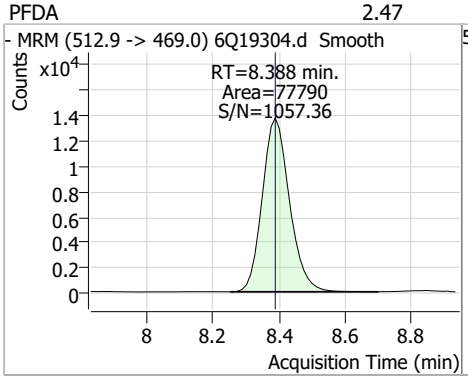


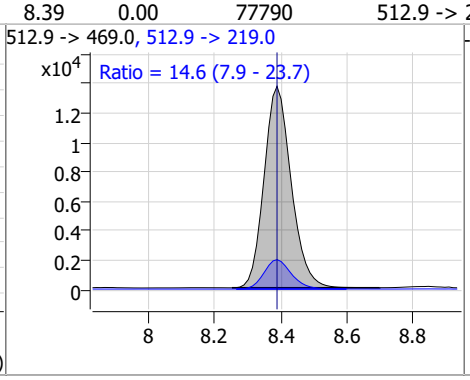


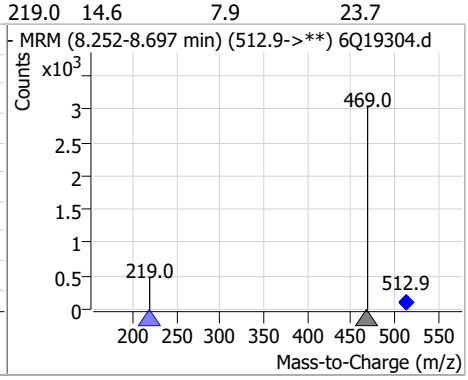


Perfluorinated Compounds by LC/MS/MS

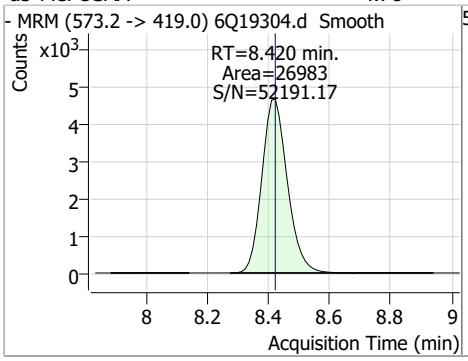
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.47	8.39	0.00	77790	512.9 -> 219.0	14.6	7.9	23.7

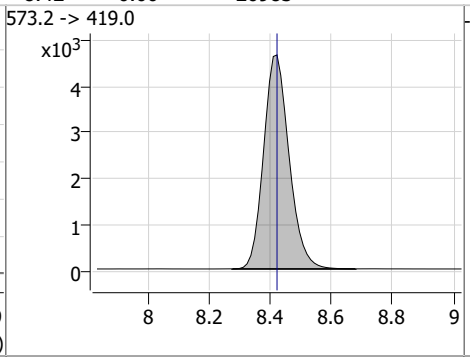


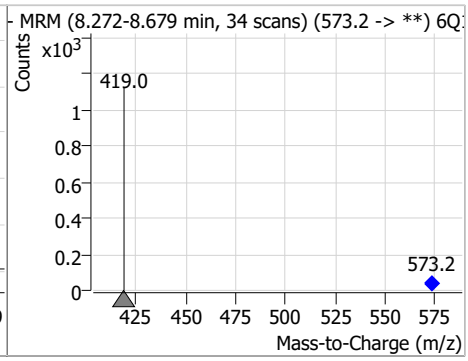




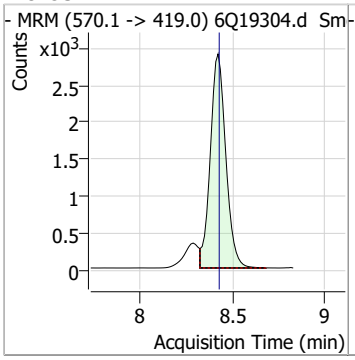
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.78	8.42	0.00	26983				

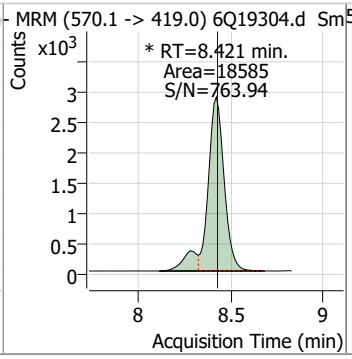


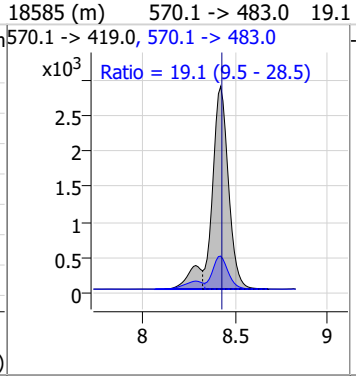


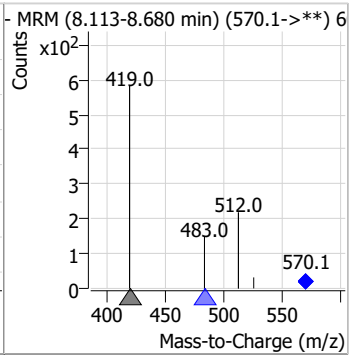


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.66	8.42	0.00	18585 (m)	570.1 -> 483.0	19.1	9.5	28.5

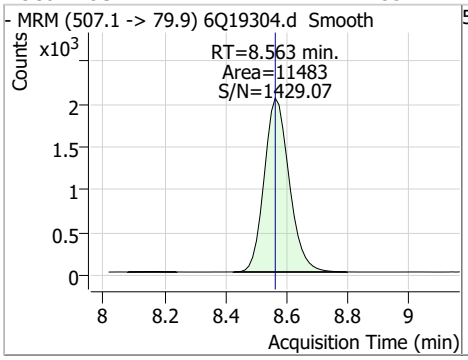


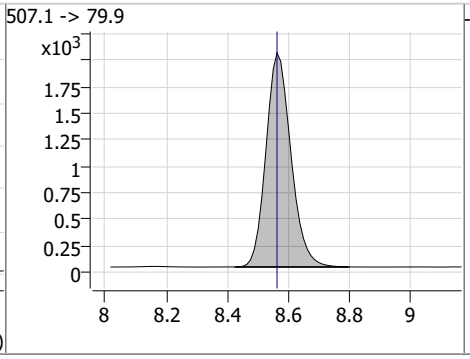


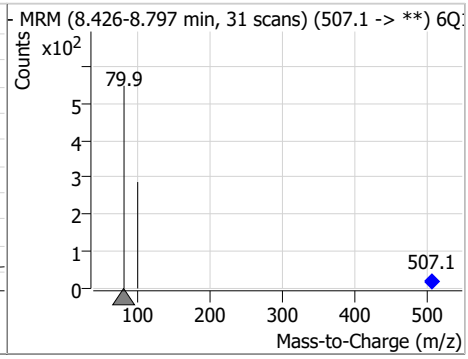




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.55	8.56	0.00	11483				

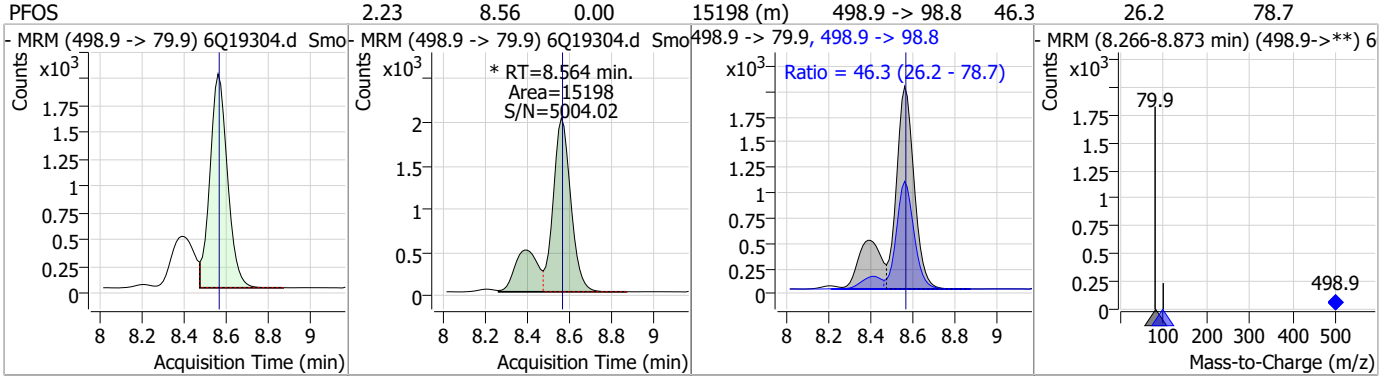




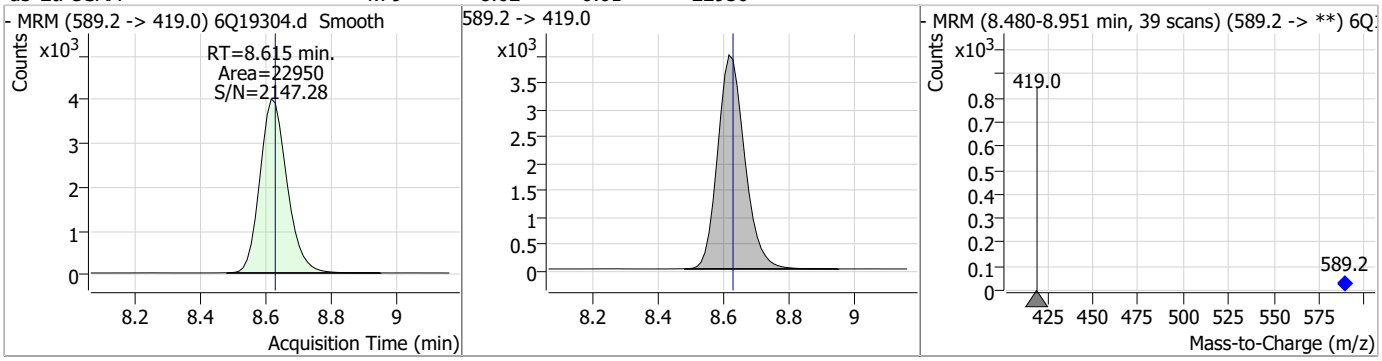


Perfluorinated Compounds by LC/MS/MS

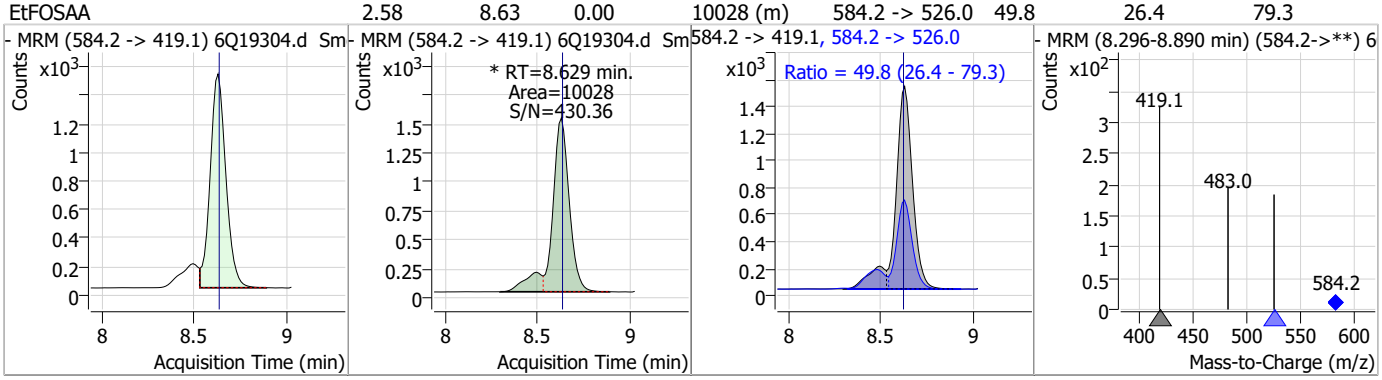
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.23	8.56	0.00	15198 (m)	498.9 -> 98.8	46.3	26.2	78.7



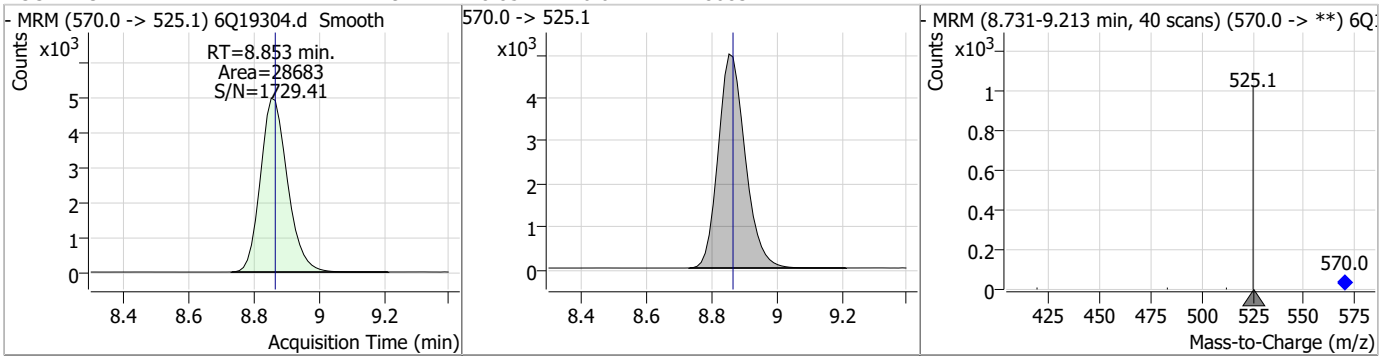
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.79	8.62	-0.01	22950				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.58	8.63	0.00	10028 (m)	584.2 -> 526.0	49.8	26.4	79.3

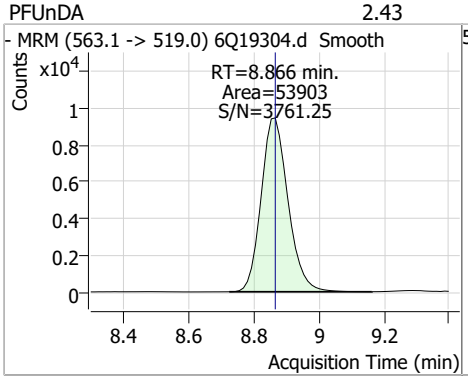


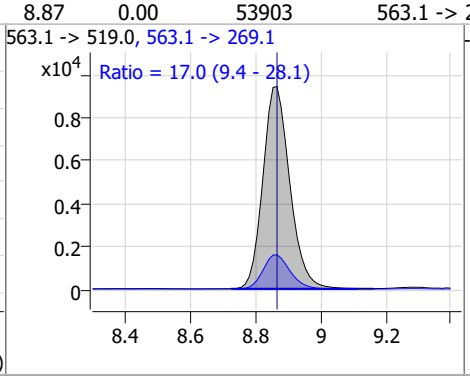
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.29	8.85	-0.01	28683				

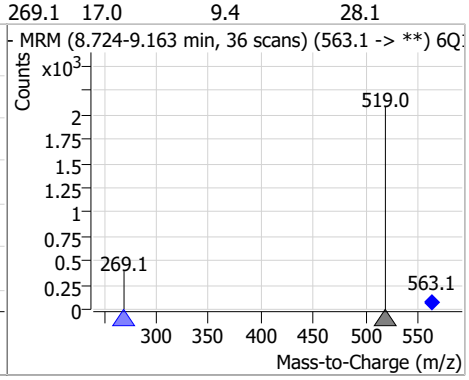


Perfluorinated Compounds by LC/MS/MS

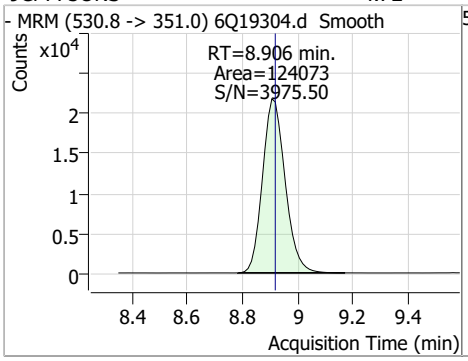
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.43	8.87	0.00	53903	563.1 -> 269.1	17.0	9.4	28.1

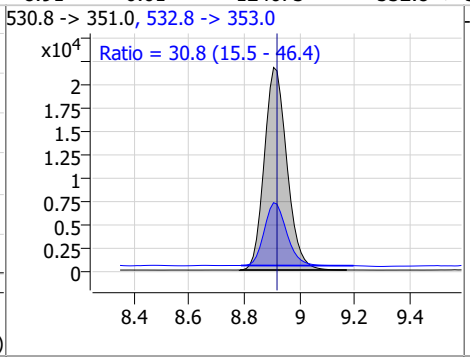


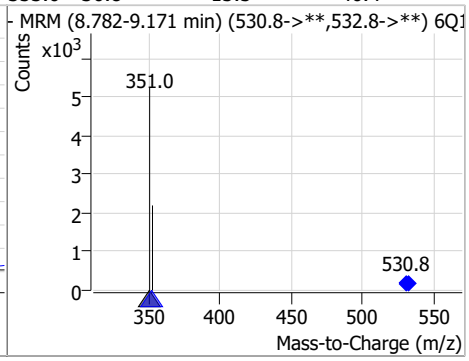




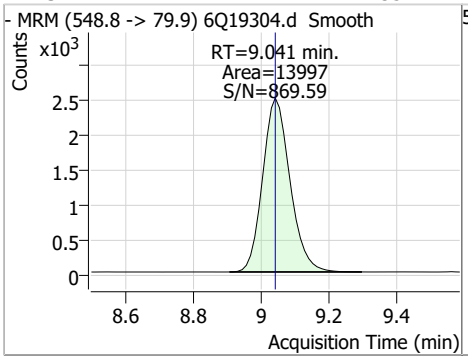
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.72	8.91	-0.01	124073	532.8 -> 353.0	30.8	15.5	46.4

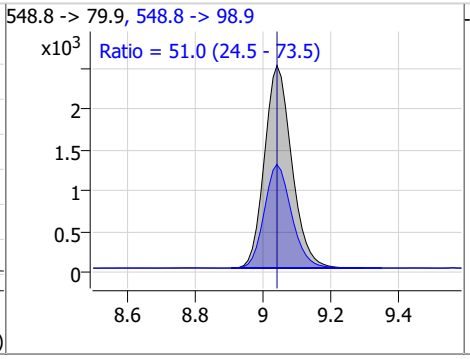


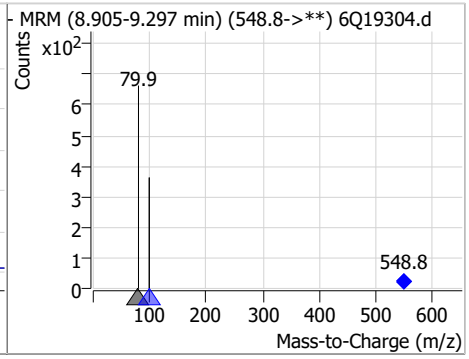




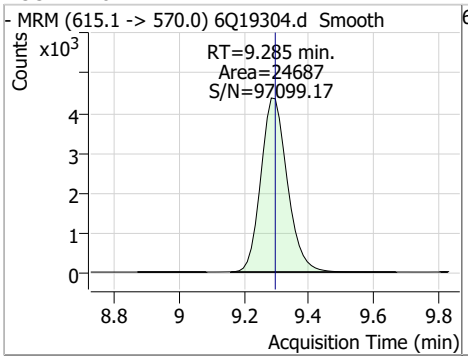
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.35	9.04	0.00	13997	548.8 -> 98.9	51.0	24.5	73.5

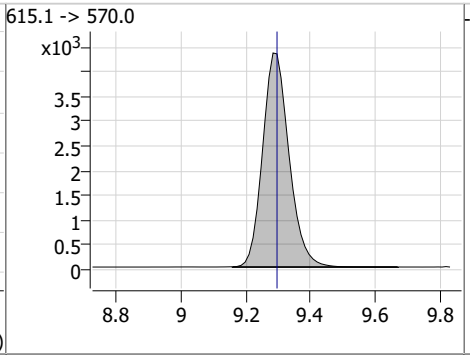


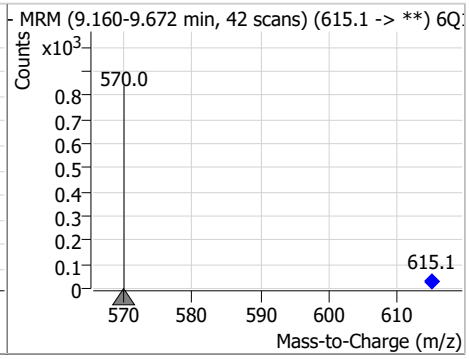




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.27	9.28	-0.01	24687				

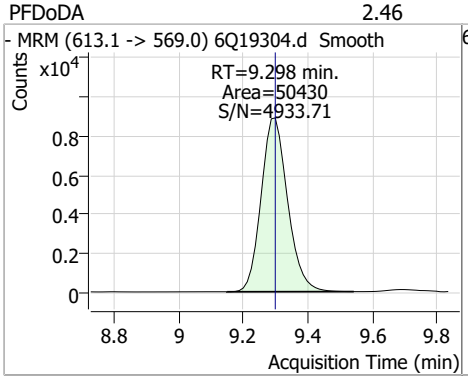


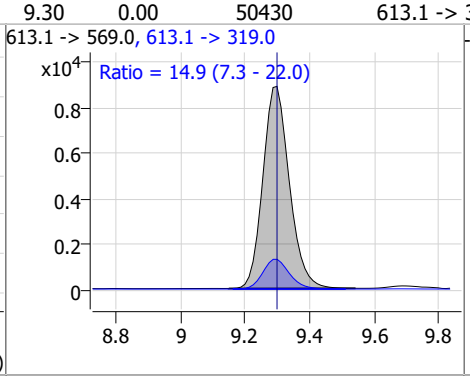


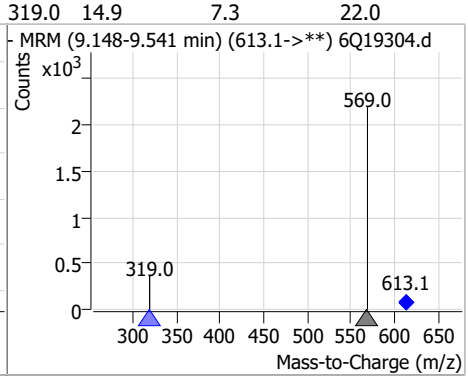


Perfluorinated Compounds by LC/MS/MS

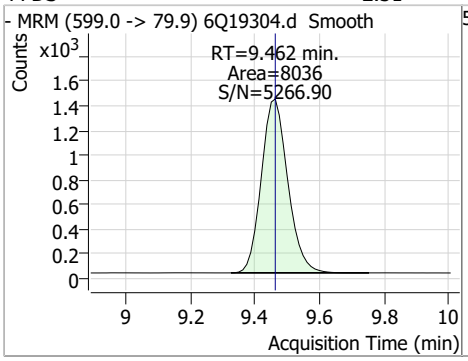
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.46	9.30	0.00	50430	613.1 -> 319.0	14.9	7.3	22.0

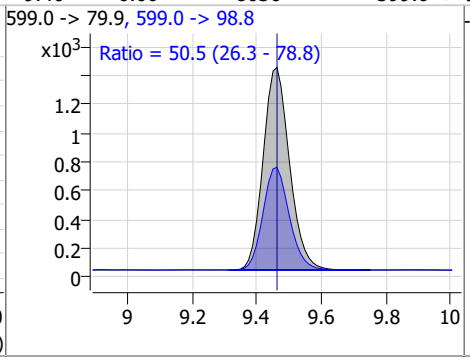


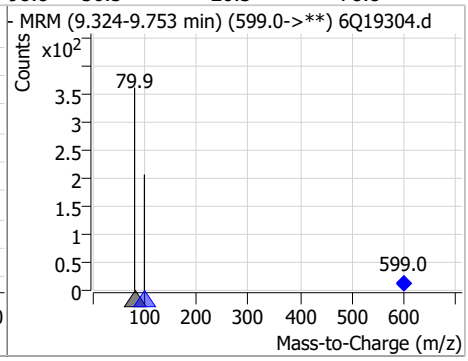




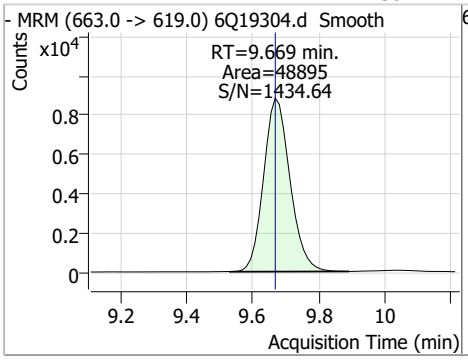
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.31	9.46	0.00	8036	599.0 -> 98.8	50.5	26.3	78.8

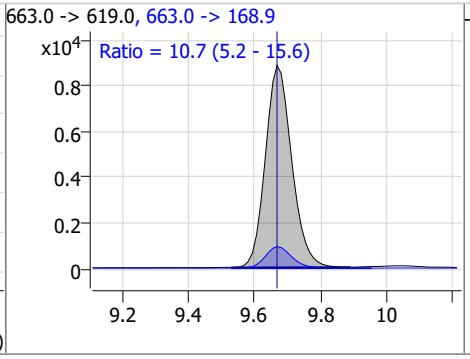


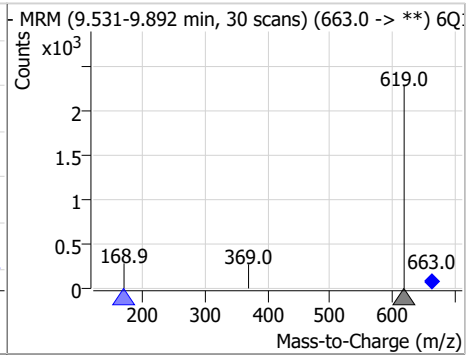




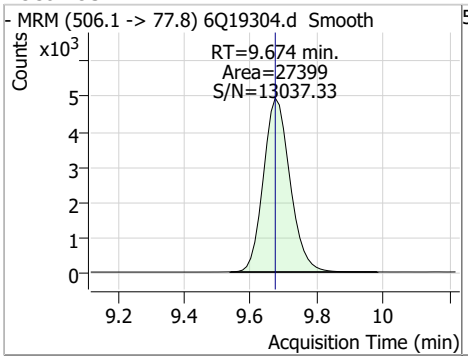
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.35	9.67	0.00	48895	663.0 -> 168.9	10.7	5.2	15.6

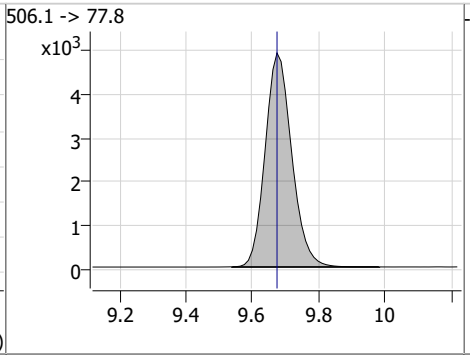


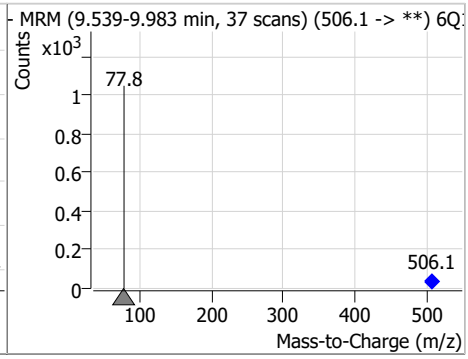




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.42	9.67	0.00	27399				

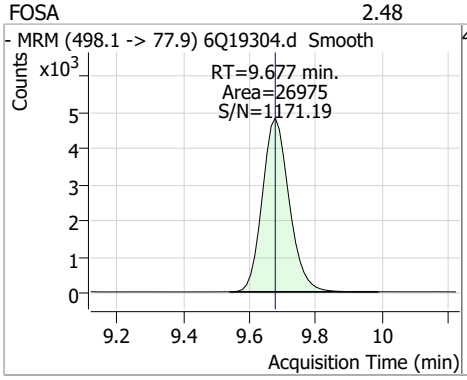


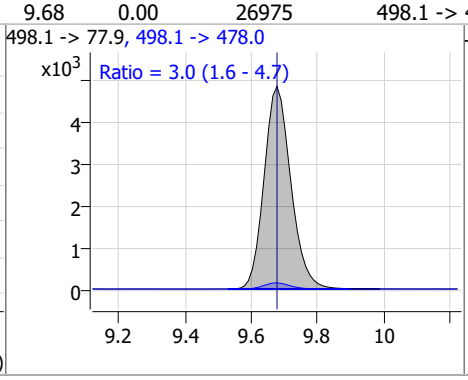


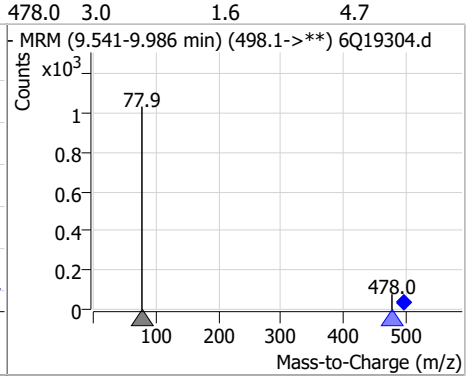


Perfluorinated Compounds by LC/MS/MS

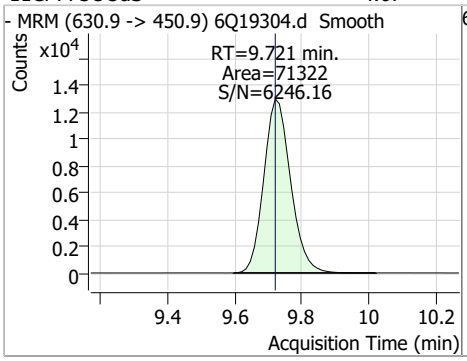
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.48	9.68	0.00	26975	498.1 -> 478.0	3.0	1.6	4.7

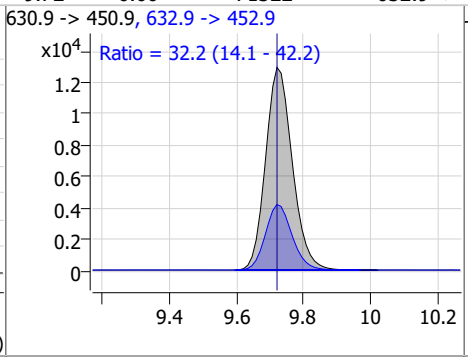


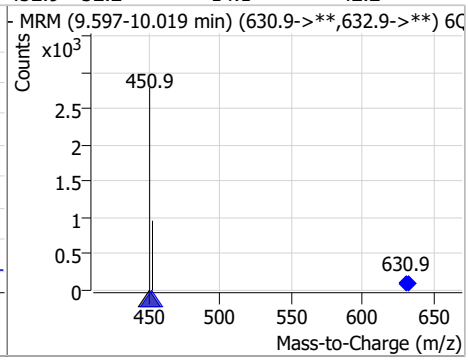




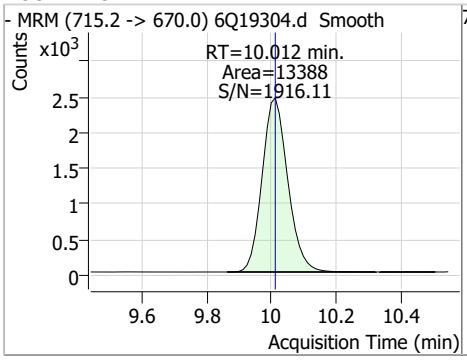
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.67	9.72	0.00	71322	632.9 -> 452.9	32.2	14.1	42.2

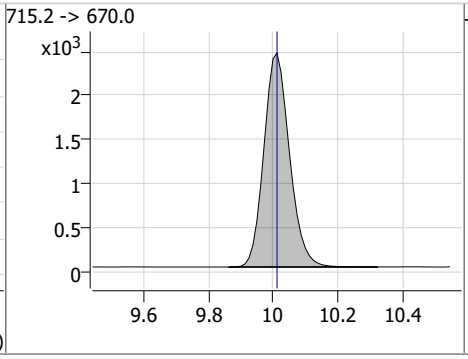


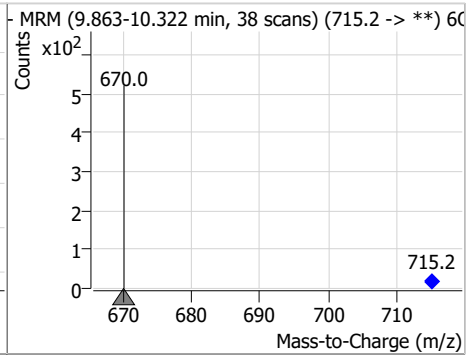




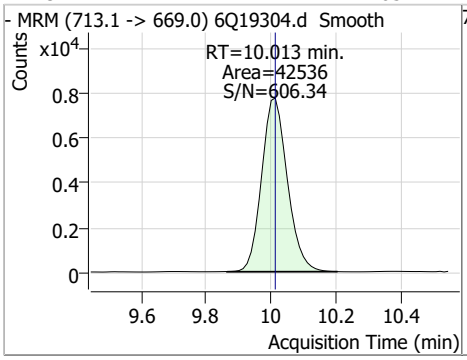
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.24	10.01	0.00	13388				

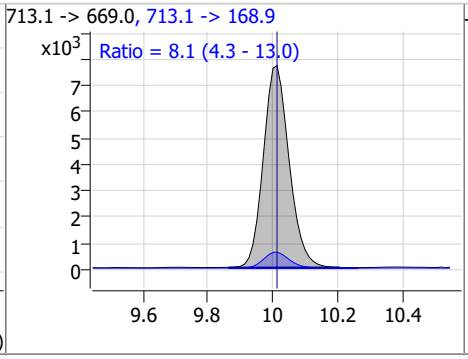


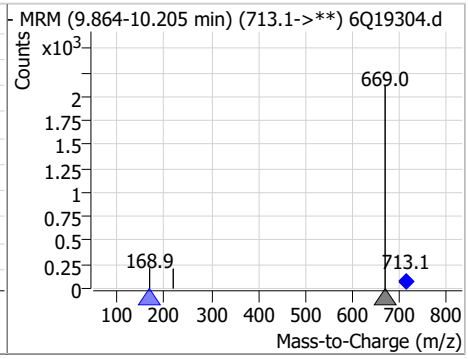




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.65	10.01	0.00	42536	713.1 -> 168.9	8.1	4.3	13.0

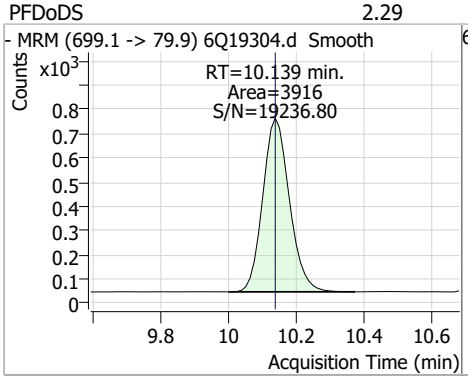


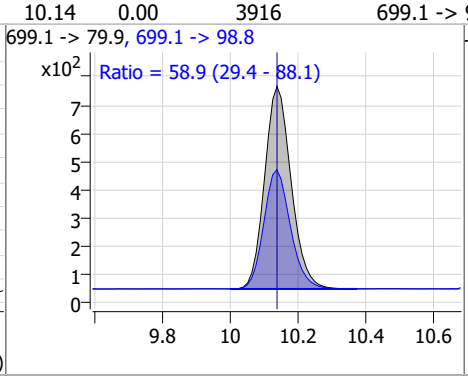


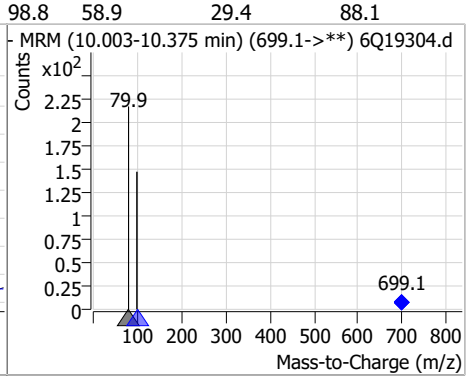


Perfluorinated Compounds by LC/MS/MS

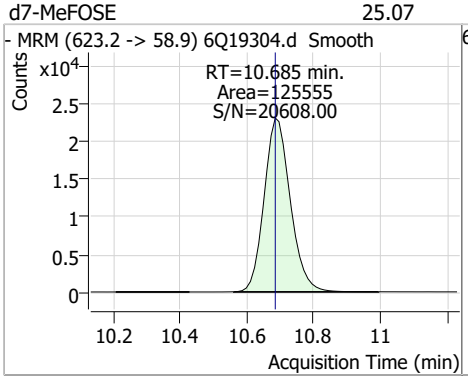
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.29	10.14	0.00	3916	699.1 -> 98.8	58.9	29.4	88.1

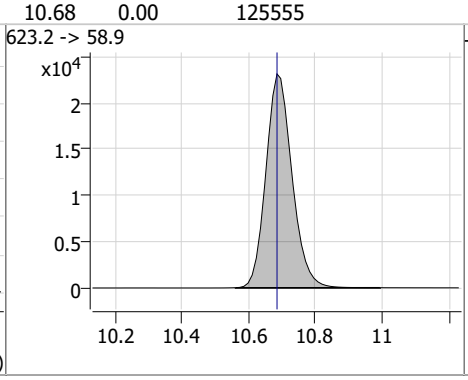


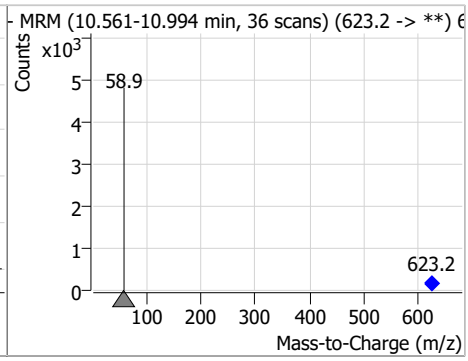




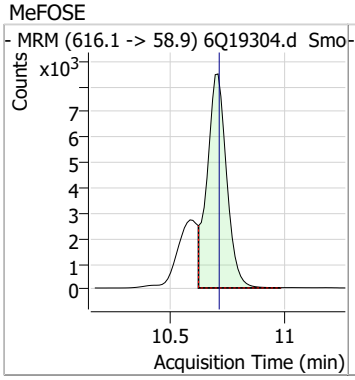
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.07	10.68	0.00	125555				

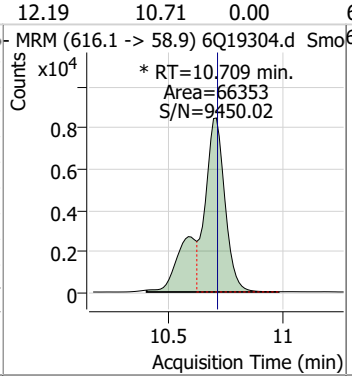


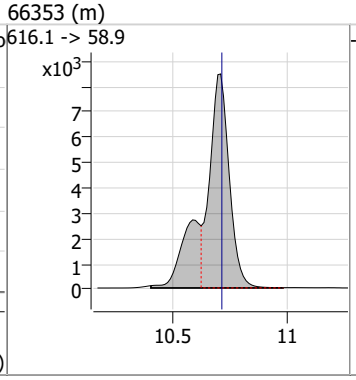


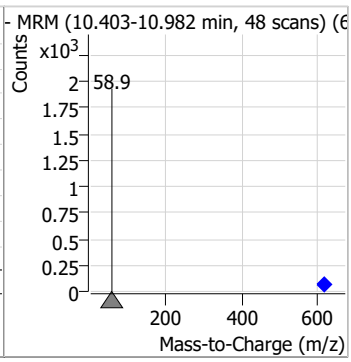


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.19	10.71	0.00	66353 (m)				

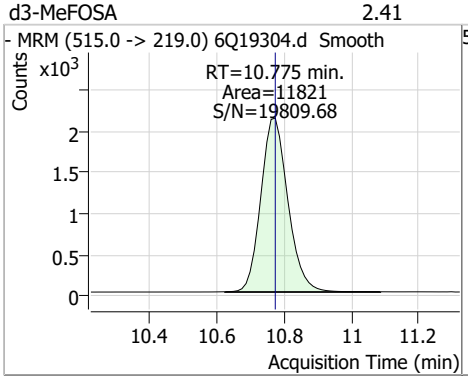


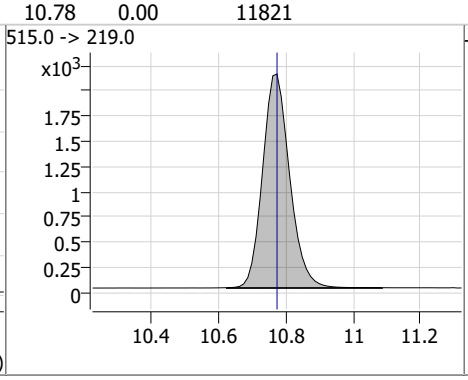


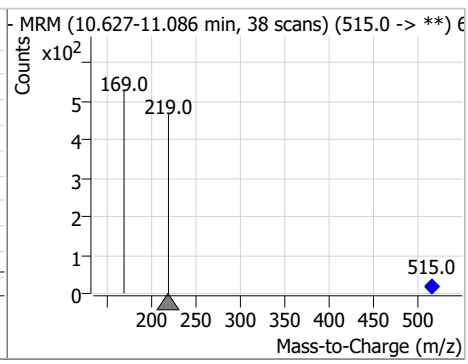




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.41	10.78	0.00	11821				

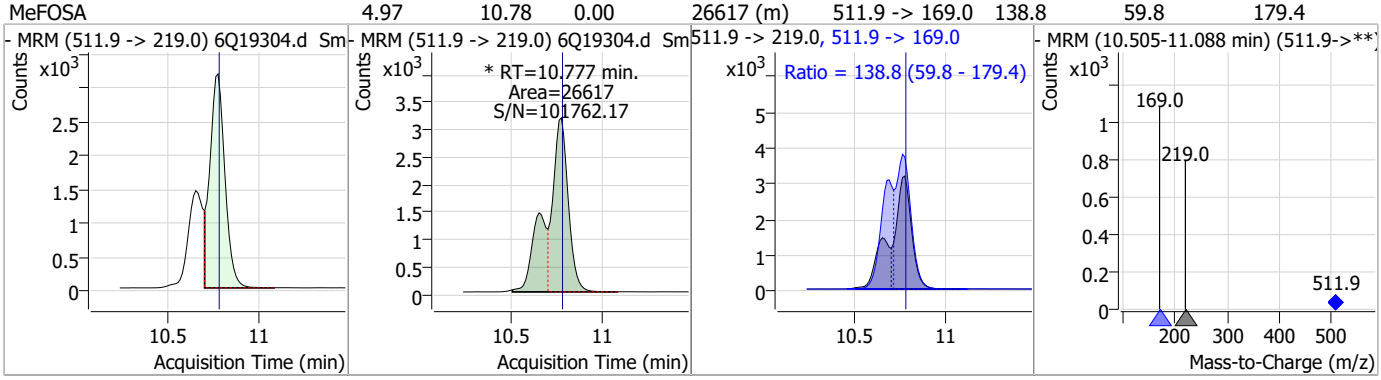




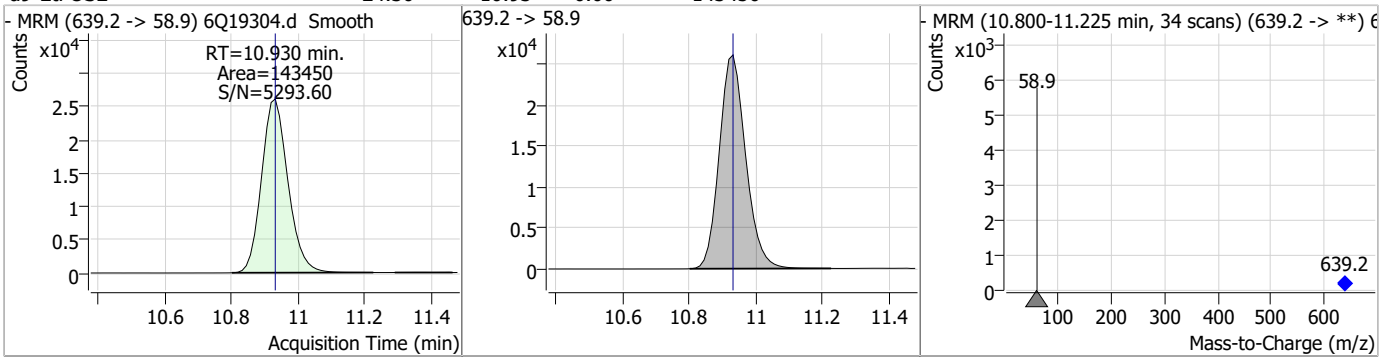


Perfluorinated Compounds by LC/MS/MS

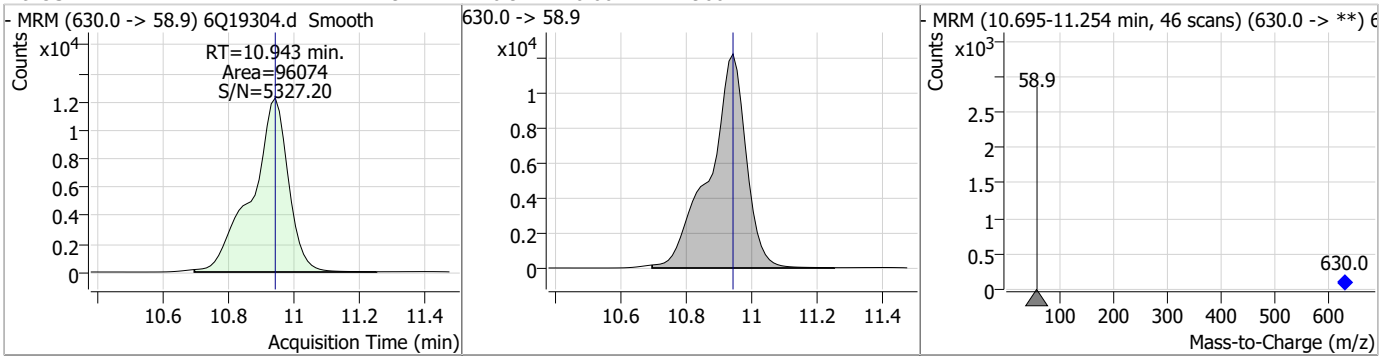
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.97	10.78	0.00	26617 (m)	511.9 -> 169.0	138.8	59.8	179.4



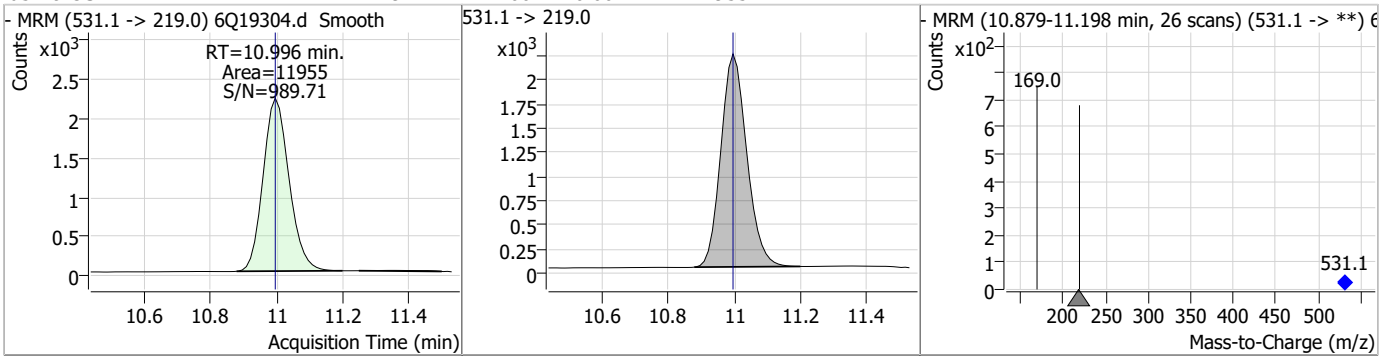
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.30	10.93	0.00	143450				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.94	10.94	0.00	96074				

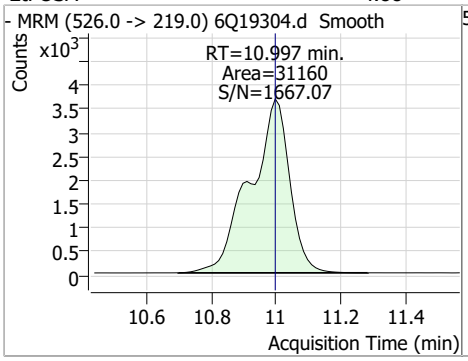


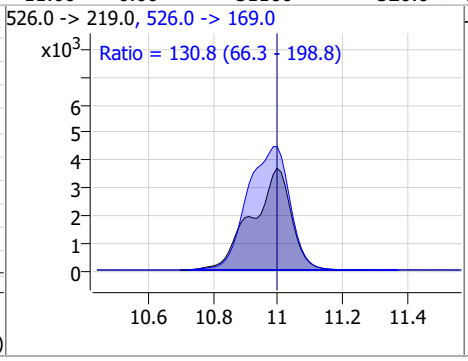
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.49	11.00	0.00	11955				

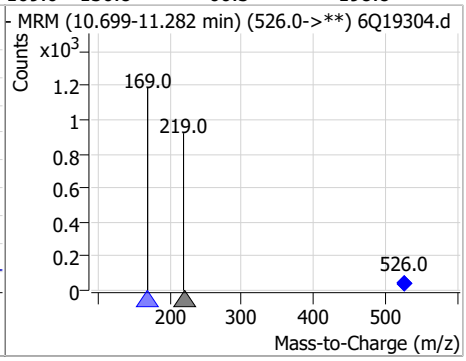


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.88	11.00	0.00	31160	526.0 -> 169.0	130.8	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q288-ICV288
Lab FileID: 6Q19304.D
Injection Time: 06/13/23 13:41
Method: EPA DRAFT 1633
Analyst approved: 06/14/23 10:15 Martha Valls
Supervisor approved: 06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/14/23 11:30

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19305.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/13/2023 1:55:37 PM
Sample Name : icv288-20
Vial : P1-B2
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q288.batch.bin
Sample Information : OP97215,S6Q288,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	132779	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	42502	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	47097	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	42669	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	66682	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	33145	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	19378	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	25530	1.25	µg/L	-0.012
M2-PFDoDA	9.297	615.1 -> 570.0	22968	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	12081	1.25	µg/L	0.000
M8-FOSA	9.674	506.1 -> 77.8	23551	2.50	µg/L	0.000
M3-PFBS	5.746	302.1 -> 79.9	16855	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	10273	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	9937	2.50	µg/L	0.000
M2-4:2FTS	5.442	329.1 -> 80.9	2538	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	3754	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3292	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	22357	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	30871	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	22127	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	110836	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	121128	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	10202	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	10903	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	12840	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	56833	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	7381	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	77814	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	26670	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	39123	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	42310	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	2538	5.73	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.6%		
13C2-6:2FTS	7.113	429.1 -> 80.9	3754	5.61	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.2%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3292	5.23	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.7%		
13C2-PFDoDA	9.297	615.1 -> 570.0	22968	1.29	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C2-PFTeDA	10.012	715.2 -> 670.0	12081	1.21	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.1%		
13C3-PFBS	5.746	302.1 -> 79.9	16855	2.74	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.7%		
13C3-PFHxS	7.478	402.1 -> 79.9	10273	2.65	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.9%		
13C4-PFBA	3.085	216.8 -> 171.9	132779	9.96 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%		
13C4-PFHpA	6.707	367.1 -> 322.0	42669	2.61 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.5%		
13C5-PFHxA	5.792	318.0 -> 273.0	47097	2.70 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.9%		
13C5-PFPeA	4.560	268.3 -> 223.0	42502	5.31 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.2%		
13C6-PFDA	8.387	519.1 -> 474.1	19378	1.27 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.3%		
13C7-PFUnDA	8.853	570.0 -> 525.1	25530	1.24 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.6%		
13C8-FOSA	9.674	506.1 -> 77.8	23551	2.42 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%		
13C8-PFOA	7.339	421.1 -> 376.0	66682	2.29 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.7%		
13C8-PFOS	8.563	507.1 -> 79.9	9937	2.56 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%		
13C9-PFNA	7.882	472.1 -> 427.0	33145	1.39 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 111.3%		
d3-MeFOSAA	8.420	573.2 -> 419.0	22357	4.60 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.0%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	30871	10.57 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.7%		
d3-MeFOSA	10.775	515.0 -> 219.0	10903	2.58 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%		
d5-EtFOSAA	8.615	589.2 -> 419.0	22127	5.37 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.3%		
d7-MeFOSE	10.685	623.2 -> 58.9	110836	25.73 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.9%		
d9-EtFOSE	10.930	639.2 -> 58.9	121128	23.85 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.4%		
d5-EtFOSA	10.996	531.1 -> 219.0	10202	2.47 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	93449	21.17 µg/L		99
		327.1 -> 80.9	34439			
6:2FTS	7.113	427.1 -> 407.0	94231	21.08 µg/L		96
		427.1 -> 80.9	32703			
8:2FTS	8.164	527.1 -> 507.0	50630	23.14 µg/L		98
		527.1 -> 80.8	19418			
EtFOSAA	8.629	584.2 -> 419.1	72726	19.41 µg/L	m	100
		584.2 -> 526.0	38280			
FOSA	9.677	498.1 -> 77.9	189455	20.25 µg/L		100
		498.1 -> 478.0	5690			
MeFOSAA	8.421	570.1 -> 419.0	129087	22.28 µg/L	m	98
		570.1 -> 483.0	25909			
PFBA	3.093	212.8 -> 168.9	108770	20.33 µg/L		100
PFBS	5.747	298.7 -> 79.9	157762	20.96 µg/L		100
		298.7 -> 98.8	60366			
PFDA	8.388	512.9 -> 469.0	589984	20.47 µg/L		98
		512.9 -> 219.0	87478			
PFDoDA	9.298	613.1 -> 569.0	337893	17.72 µg/L		97
		613.1 -> 319.0	53958			
PFDS	9.462	599.0 -> 79.9	61082	20.33 µg/L		94

Perfluorinated Compounds by LC/MS/MS

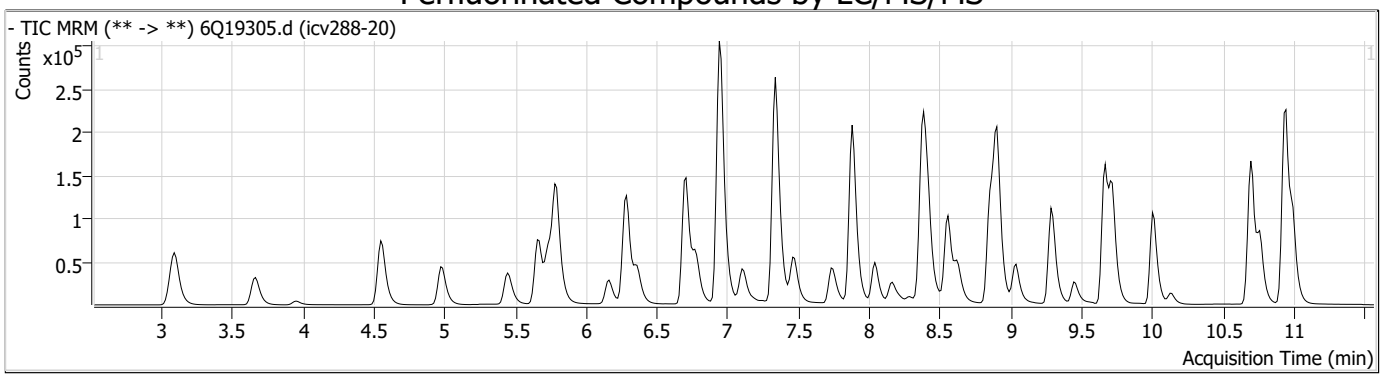
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	29460				
PFHpA	6.708	363.1 -> 319.0	467497	20.52	µg/L		98
		363.1 -> 169.0	74848				
PFHpS	8.046	449.0 -> 79.9	117149	19.73	µg/L		99
		449.0 -> 98.9	59176				
PFHxA	5.795	313.0 -> 269.0	381914	20.09	µg/L		100
		313.0 -> 118.9	19743				
PFHxS	7.479	398.7 -> 79.9	135254	21.86	µg/L	m	95
		398.7 -> 98.9	64289				
PFNA	7.883	463.0 -> 419.0	597455	19.50	µg/L		99
		463.0 -> 219.0	111302				
PFNS	9.041	548.8 -> 79.9	108782	21.10	µg/L		97
		548.8 -> 98.9	55428				
PFOA	7.341	413.0 -> 369.0	717025	19.58	µg/L		99
		413.0 -> 169.0	124827				
PFOS	8.564	498.9 -> 79.9	101848	17.27	µg/L	m	99
		498.9 -> 98.8	54142				
PFPeA	4.551	263.0 -> 219.0	268395	21.39	µg/L		100
PFPeS	6.785	349.1 -> 79.9	125000	21.72	µg/L		96
		349.1 -> 98.9	57003				
PFTeDA	10.013	713.1 -> 669.0	317758	21.95	µg/L		99
		713.1 -> 168.9	26351				
PFTrDA	9.669	663.0 -> 619.0	307140	15.87	µg/L		97
		663.0 -> 168.9	35374				
PFUnDA	8.866	563.1 -> 519.0	398918	20.24	µg/L		92
		563.1 -> 269.1	59890				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	290847	20.69	µg/L		98
		632.9 -> 452.9	85261				
9Cl-PF3ONS	8.906	530.8 -> 351.0	484301	19.99	µg/L		99
		532.8 -> 353.0	152886				
ADONA	6.959	376.9 -> 250.9	923233	18.48	µg/L		98
		376.9 -> 84.8	256839				
HFPO-DA	6.169	284.9 -> 168.9	67507	20.89	µg/L		98
		284.9 -> 184.9	7407				
3:3FTCA	3.946	241.0 -> 177.0	16979	20.00	µg/L		99
		241.0 -> 117.0	2239				
5:3FTCA	6.374	341.0 -> 237.1	78928	20.89	µg/L		99
		341.0 -> 217.0	57885				
7:3FTCA	7.748	441.0 -> 316.9	52898	20.71	µg/L		95
		441.0 -> 336.9	114650				
EtFOSA	10.997	526.0 -> 219.0	110623	20.30	µg/L		77
		526.0 -> 169.0	117058				
EtFOSE	10.943	630.0 -> 58.9	713787	113.87	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	91259	18.48	µg/L		94
		511.9 -> 169.0	102983				
MeFOSE	10.709	616.1 -> 58.9	495140	103.08	µg/L		100
PFDoDS	10.139	699.1 -> 79.9	27570	18.62	µg/L		93
		699.1 -> 98.8	14679				
NFDHA	5.673	295.0 -> 201.0	50132	20.65	µg/L		100
		295.0 -> 84.9	13417				
PFMBA	4.988	279.0 -> 85.1	183620	20.53	µg/L		100
PFMPA	3.667	229.0 -> 84.9	144065	20.59	µg/L		100
PFEESA	6.288	314.8 -> 134.9	445335	17.34	µg/L		100
		314.8 -> 82.9	16083				

 # = Qualifier out of range, m = manually integrated, + = Area summed

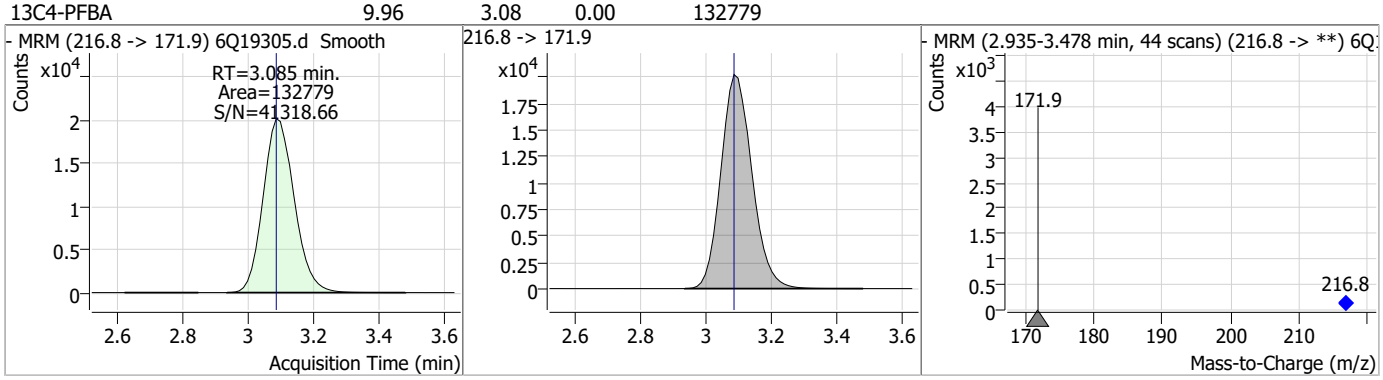
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

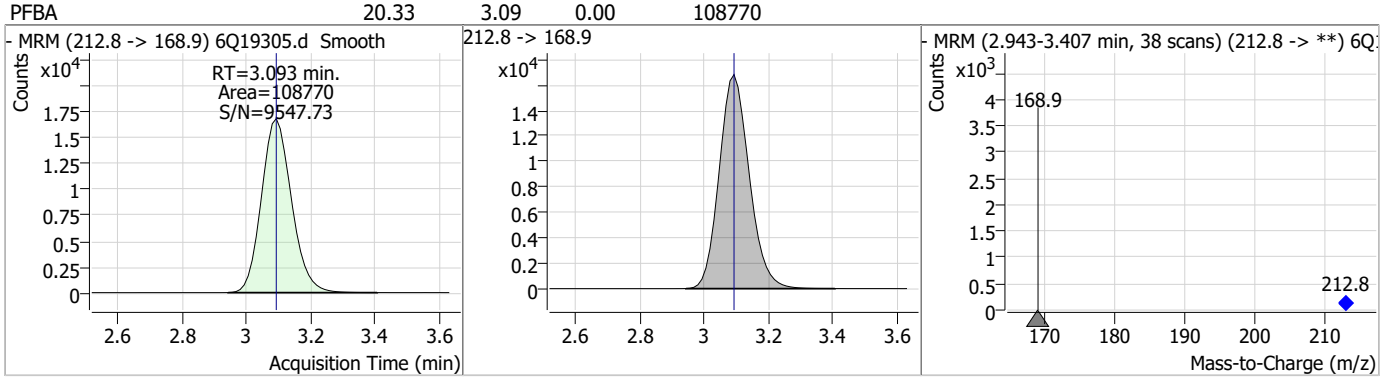
Perfluorinated Compounds by LC/MS/MS



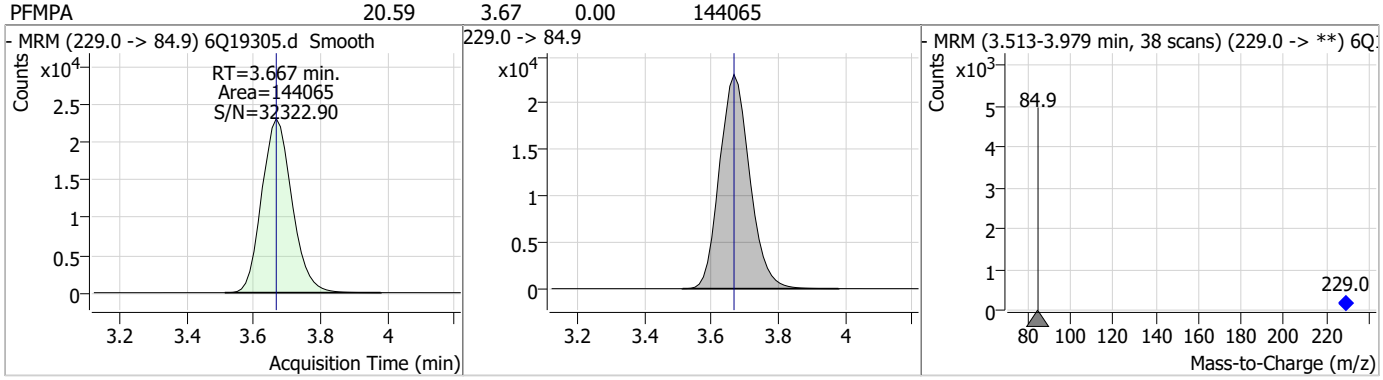
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.96	3.08	0.00	132779				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	20.33	3.09	0.00	108770				

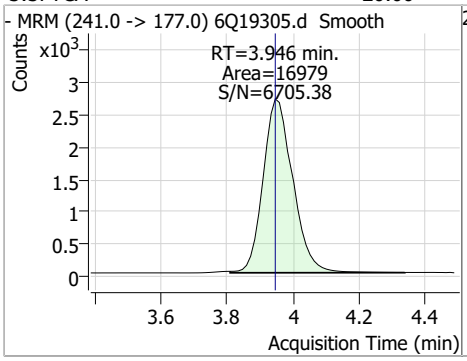


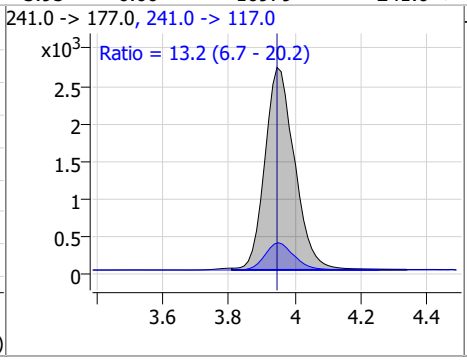
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	20.59	3.67	0.00	144065				

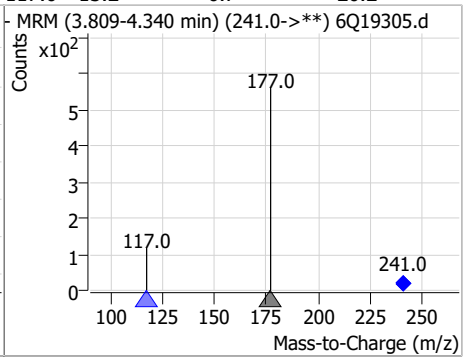


Perfluorinated Compounds by LC/MS/MS

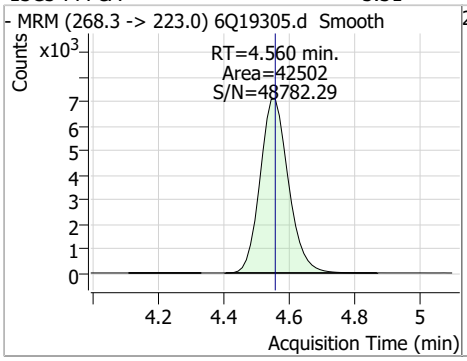
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	20.00	3.95	0.00	16979	241.0 -> 117.0	13.2	6.7	20.2

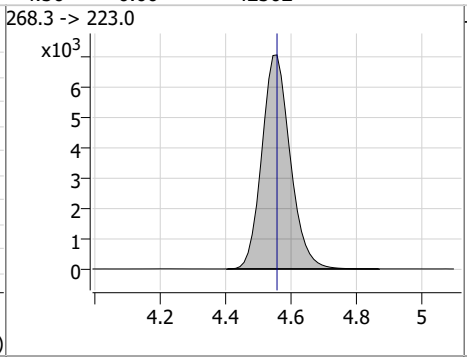


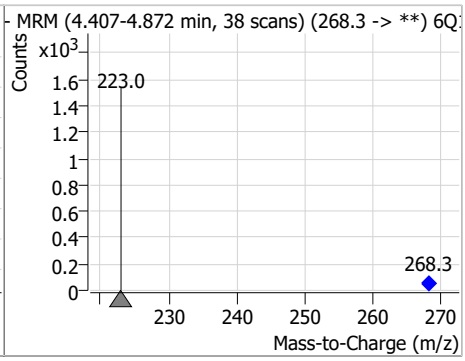




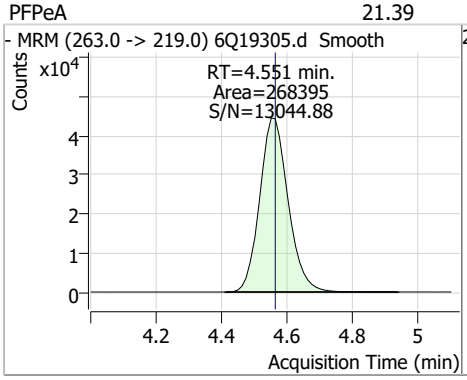
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.31	4.56	0.00	42502				

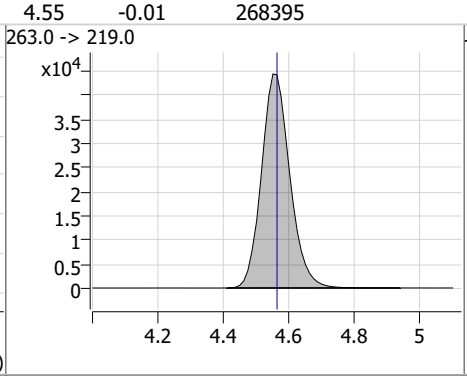


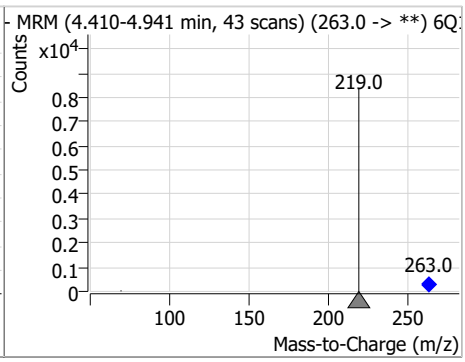




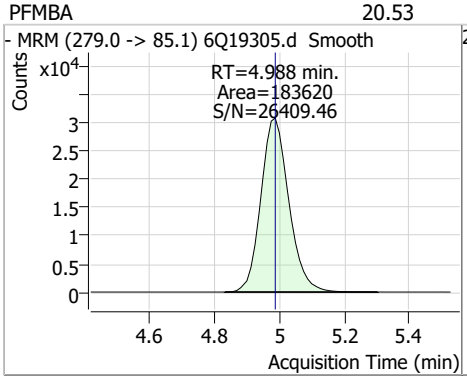
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	21.39	4.55	-0.01	268395				

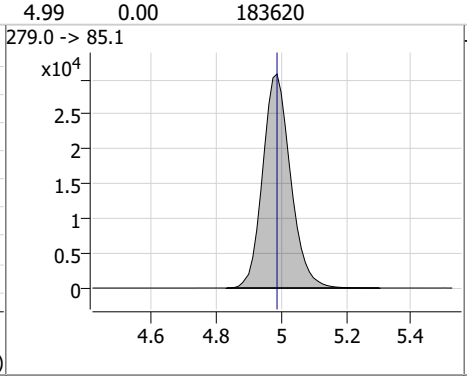


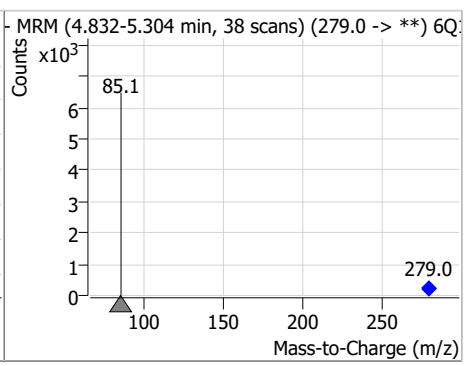




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	20.53	4.99	0.00	183620				

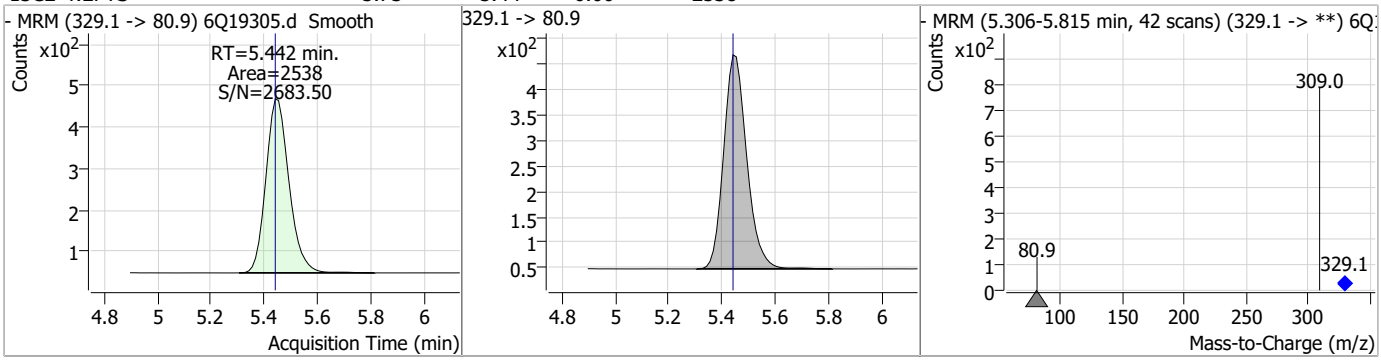




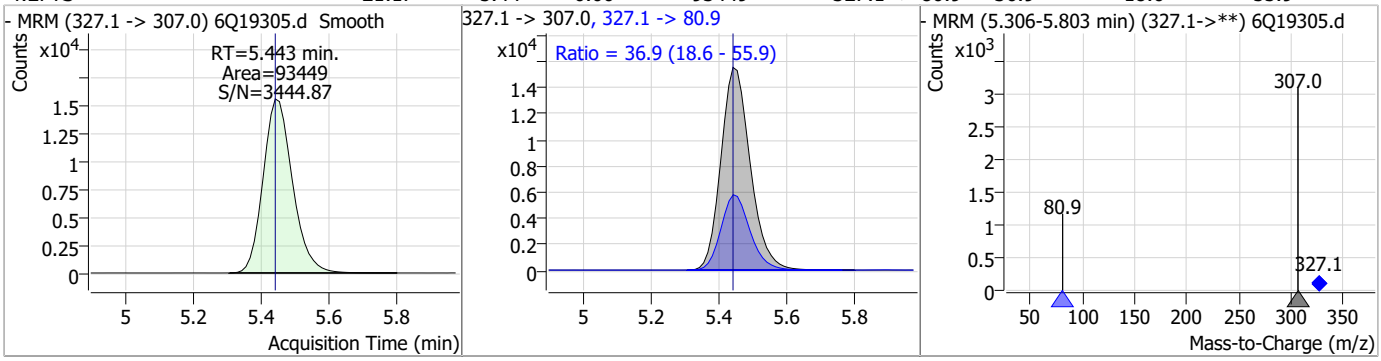


Perfluorinated Compounds by LC/MS/MS

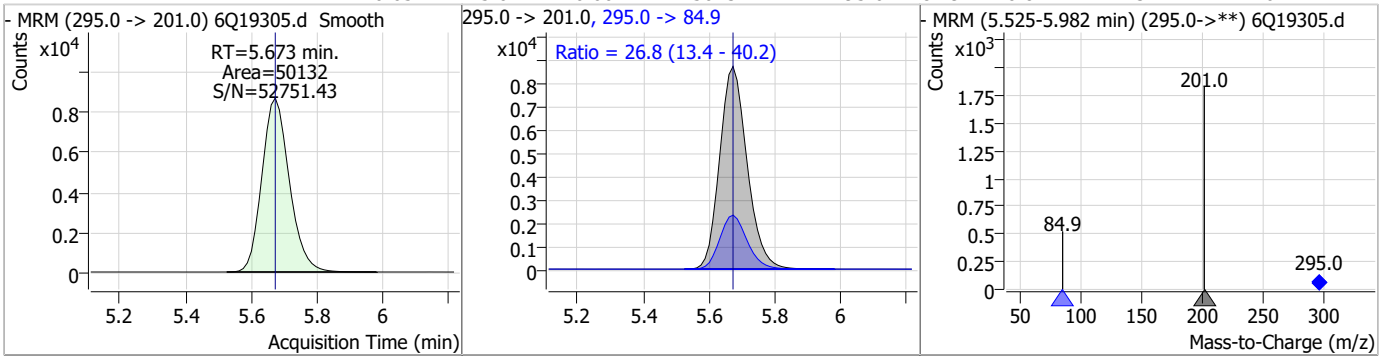
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.73	5.44	0.00	2538				



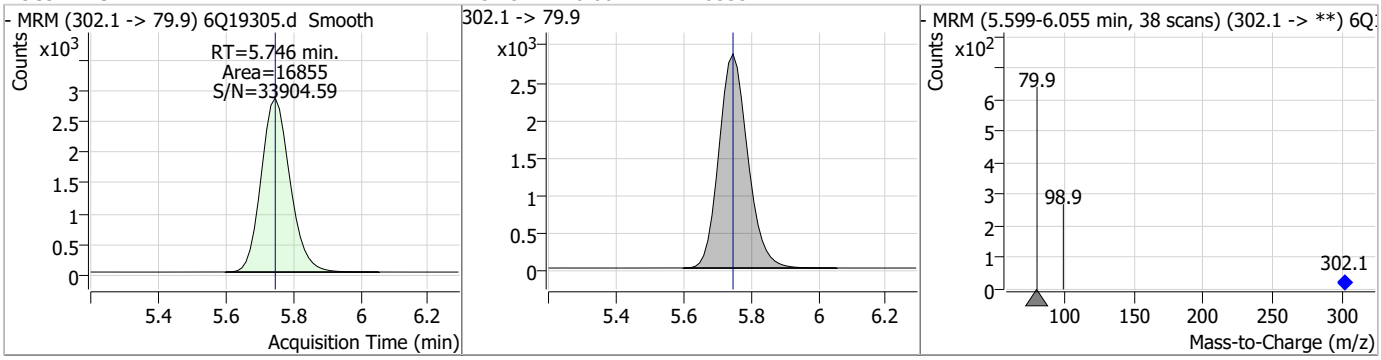
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	21.17	5.44	0.00	93449	327.1 -> 80.9	36.9	18.6	55.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	20.65	5.67	0.00	50132	295.0 -> 84.9	26.8	13.4	40.2

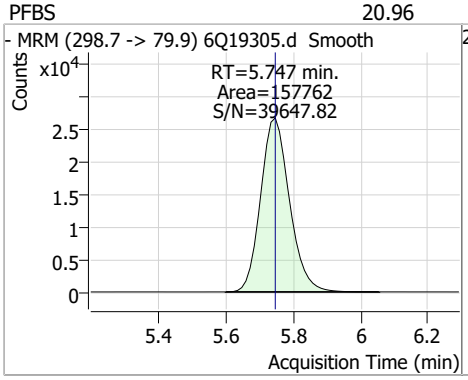


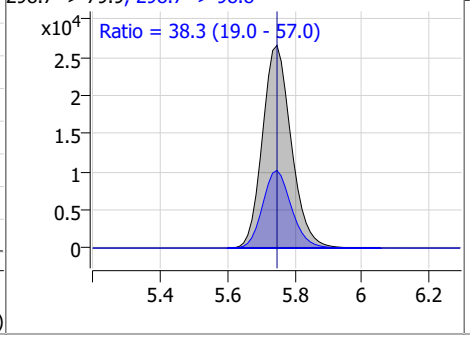
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.74	5.75	0.00	16855				

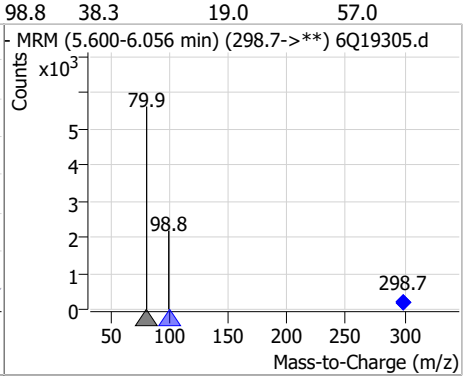


Perfluorinated Compounds by LC/MS/MS

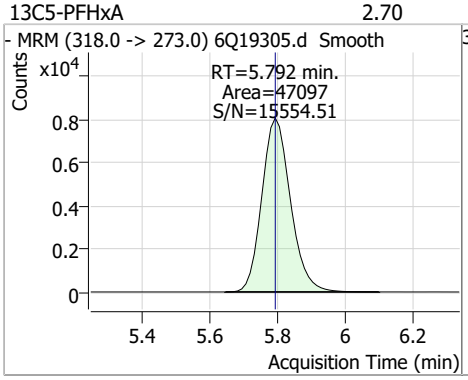
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	20.96	5.75	0.00	157762	298.7 -> 98.8	38.3	19.0	57.0

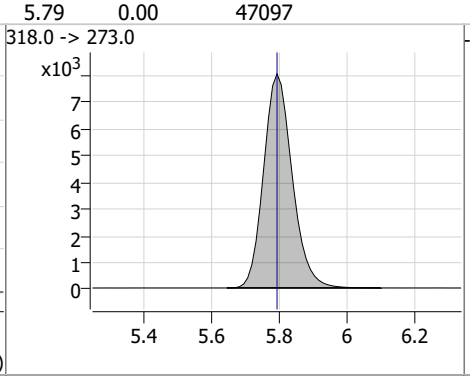


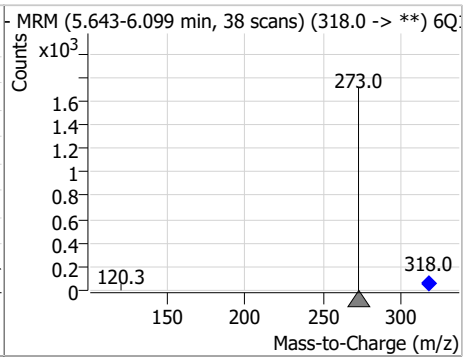




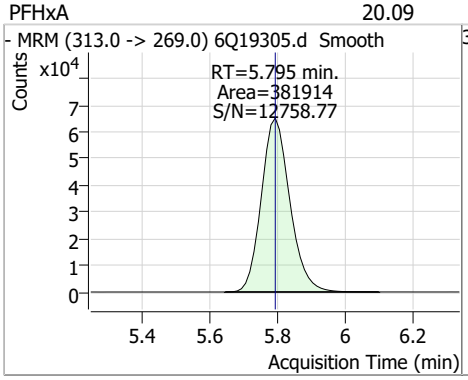
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.70	5.79	0.00	47097				

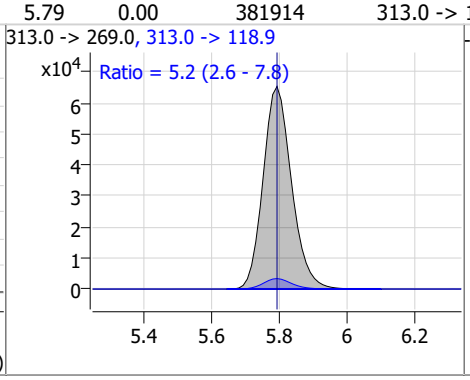


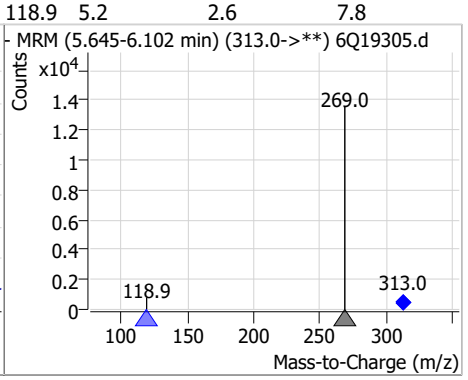




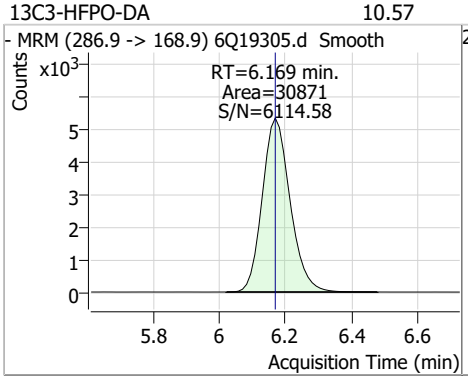
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	20.09	5.79	0.00	381914	313.0 -> 118.9	5.2	2.6	7.8

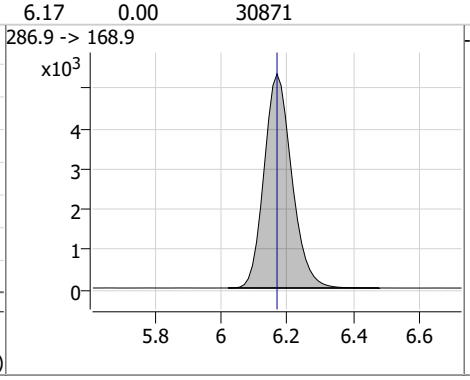


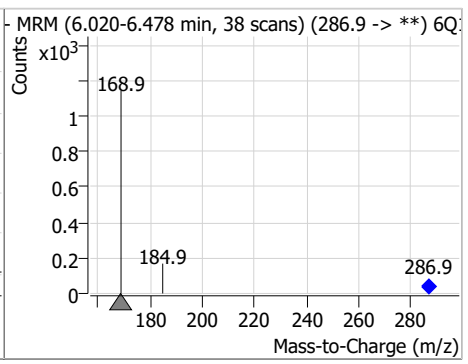




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.57	6.17	0.00	30871				

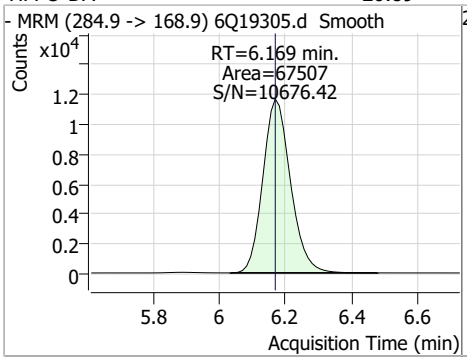


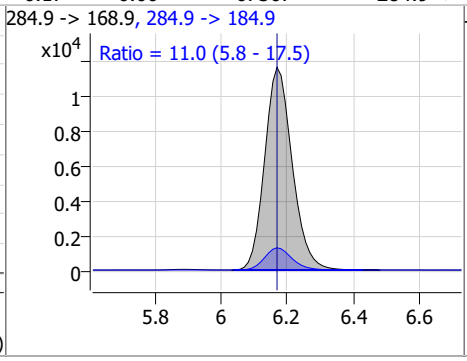


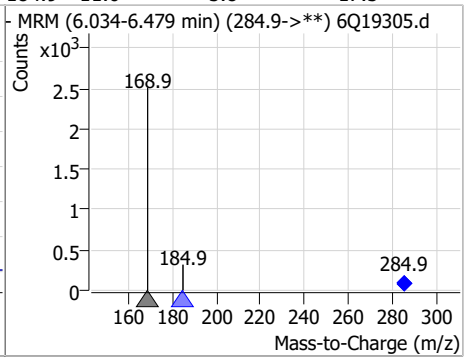


Perfluorinated Compounds by LC/MS/MS

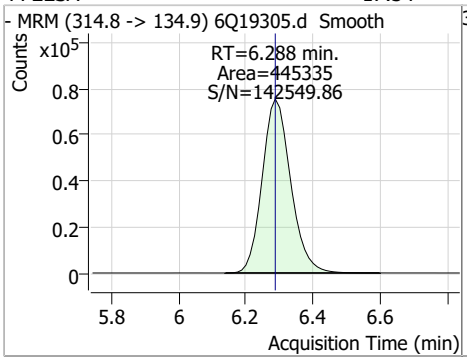
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	20.89	6.17	0.00	67507	284.9 -> 184.9	11.0	5.8	17.5

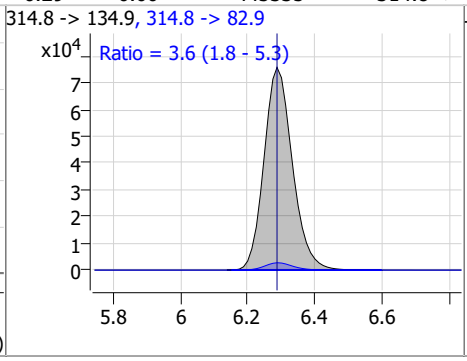


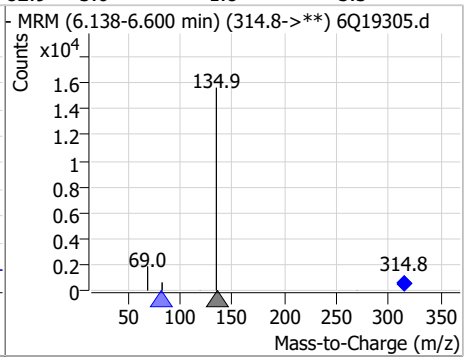




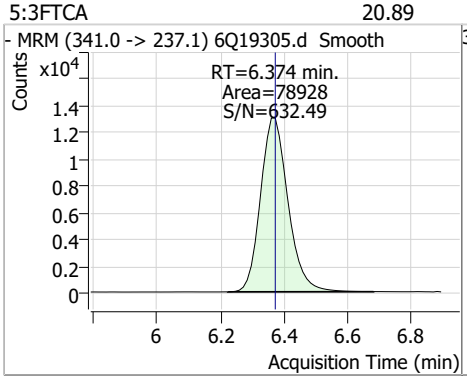
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	17.34	6.29	0.00	445335	314.8 -> 82.9	3.6	1.8	5.3

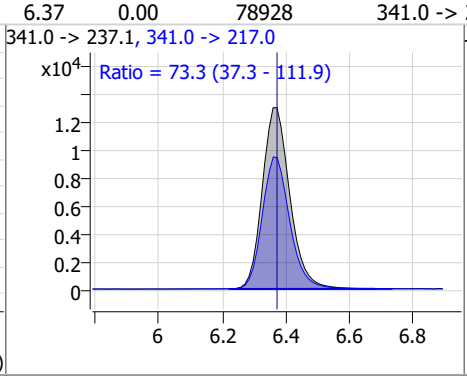


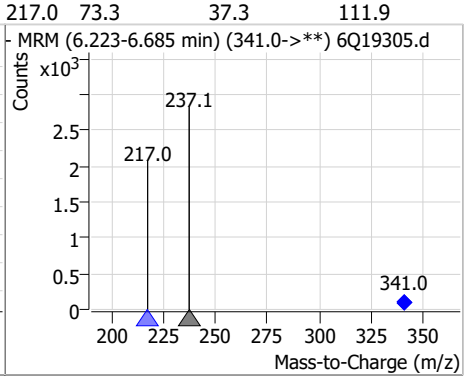




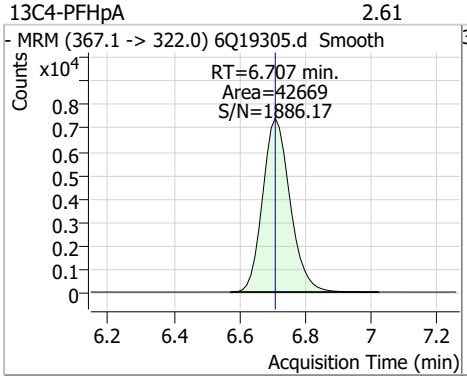
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	20.89	6.37	0.00	78928	341.0 -> 217.0	73.3	37.3	111.9

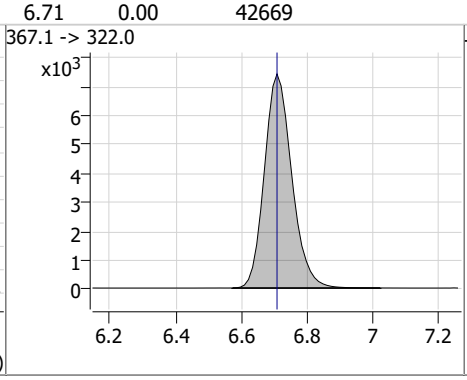


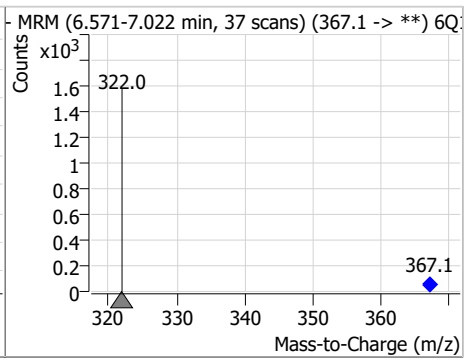




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.61	6.71	0.00	42669				

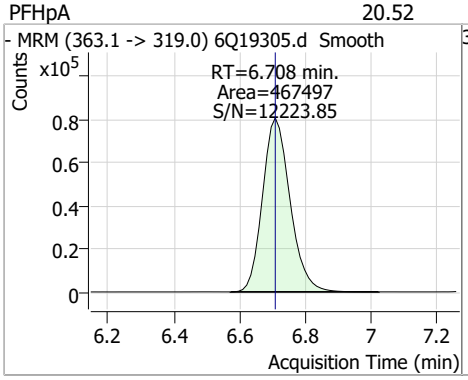


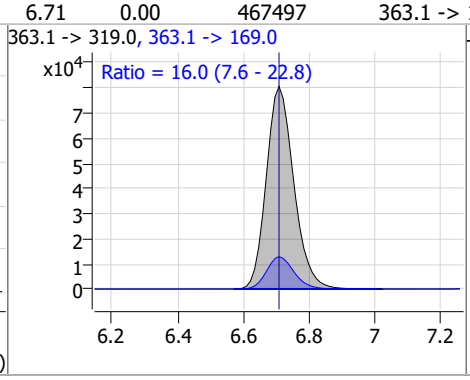


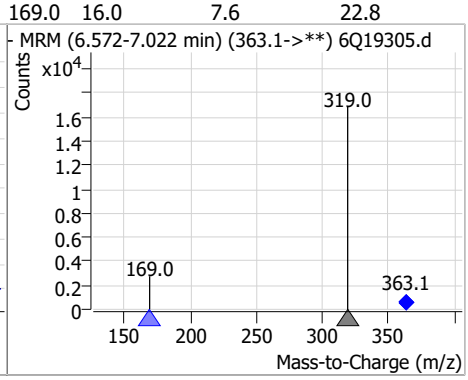


Perfluorinated Compounds by LC/MS/MS

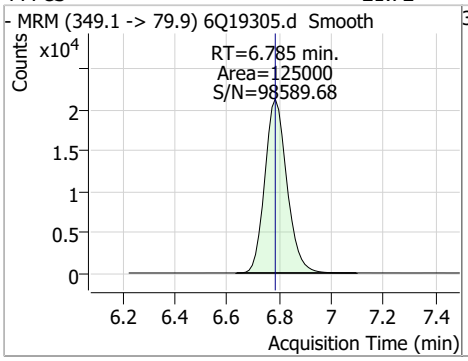
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	20.52	6.71	0.00	467497	363.1 -> 169.0	16.0	7.6	22.8

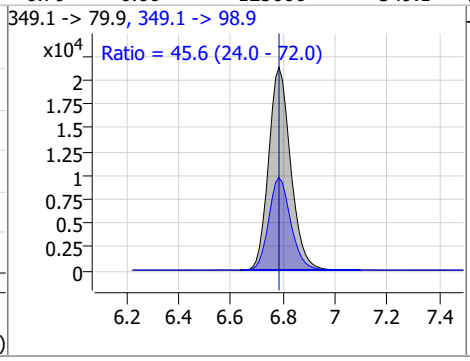


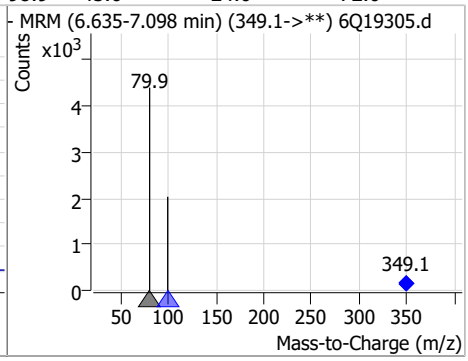




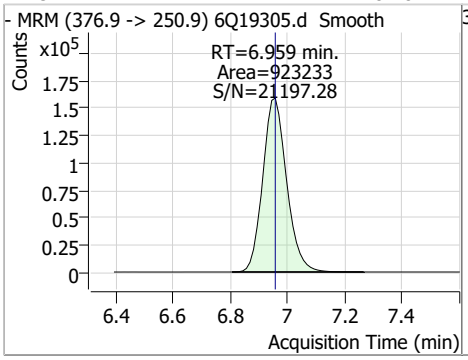
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	21.72	6.79	0.00	125000	349.1 -> 98.9	45.6	24.0	72.0

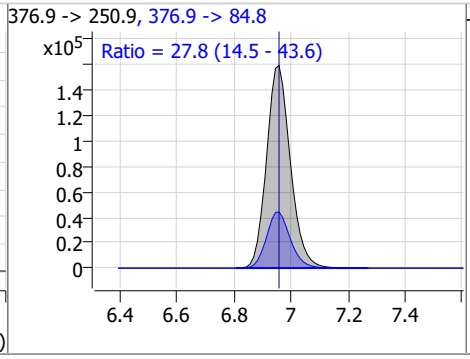


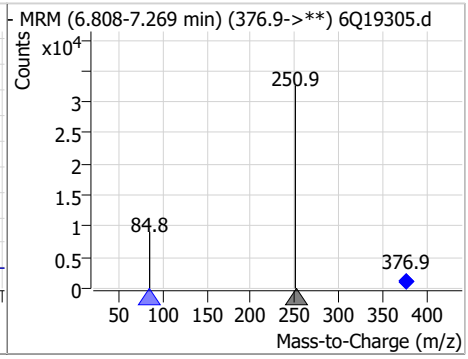




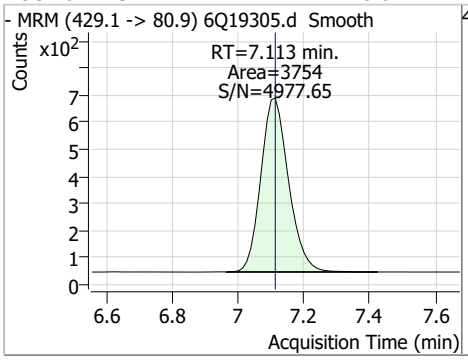
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.48	6.96	0.00	923233	376.9 -> 84.8	27.8	14.5	43.6

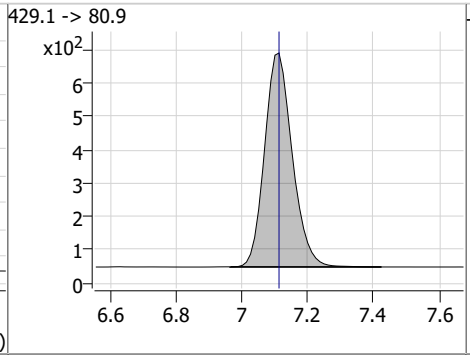


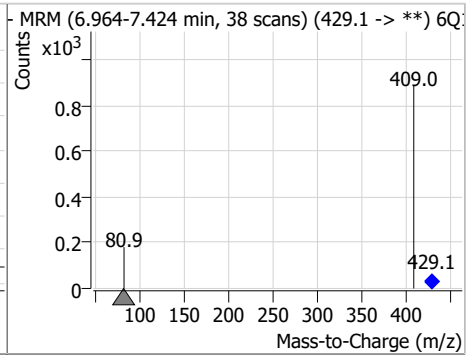




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.61	7.11	0.00	3754				

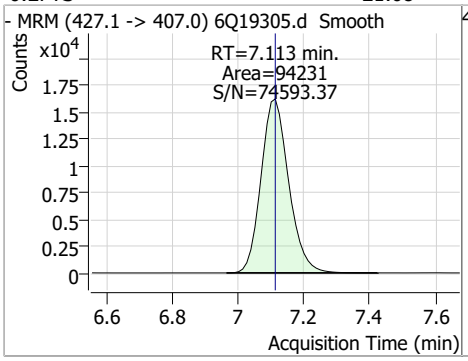


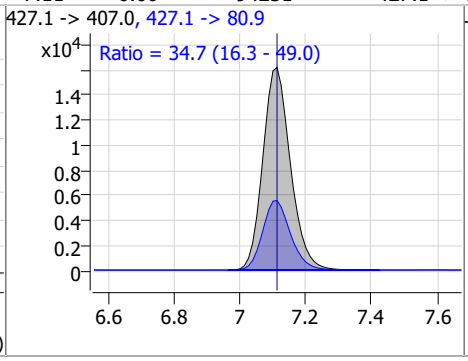


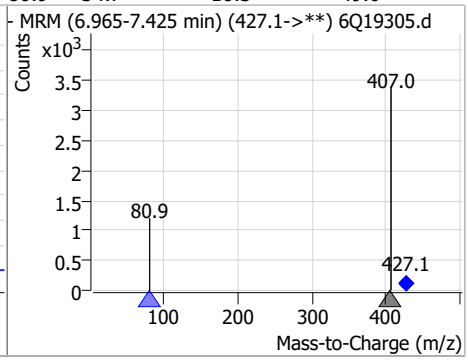


Perfluorinated Compounds by LC/MS/MS

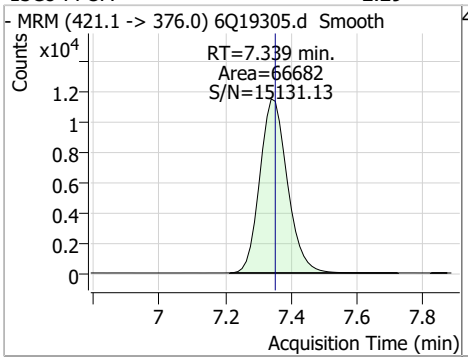
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	21.08	7.11	0.00	94231	427.1 -> 80.9	34.7	16.3	49.0

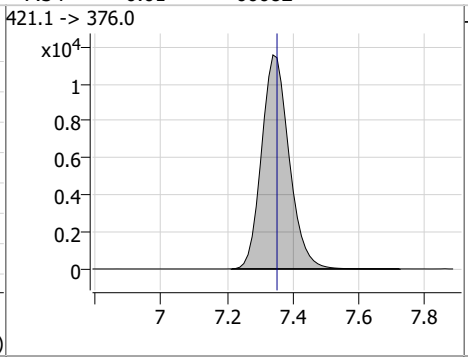


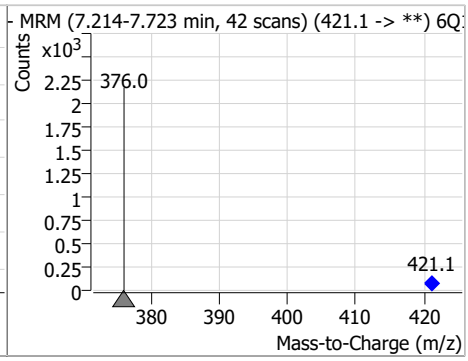




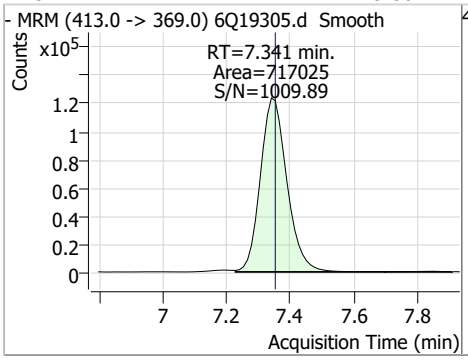
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.29	7.34	-0.01	66682				

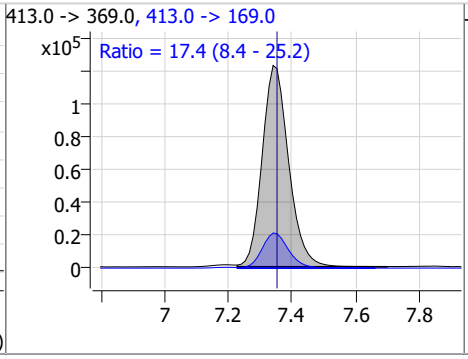


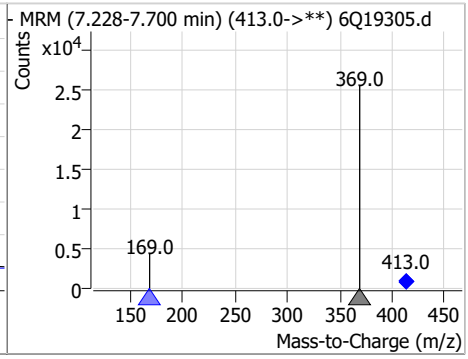




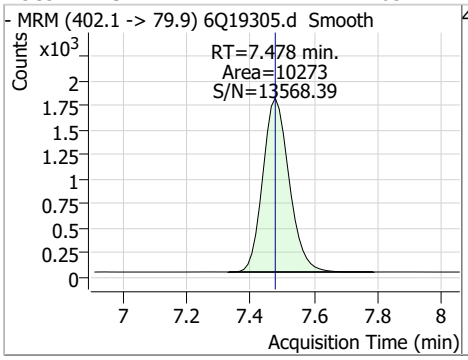
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	19.58	7.34	-0.01	717025	413.0 -> 169.0	17.4	8.4	25.2

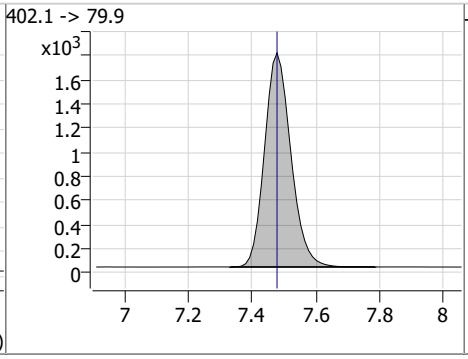


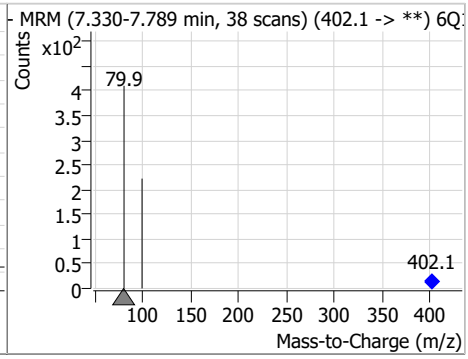




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.65	7.48	0.00	10273				

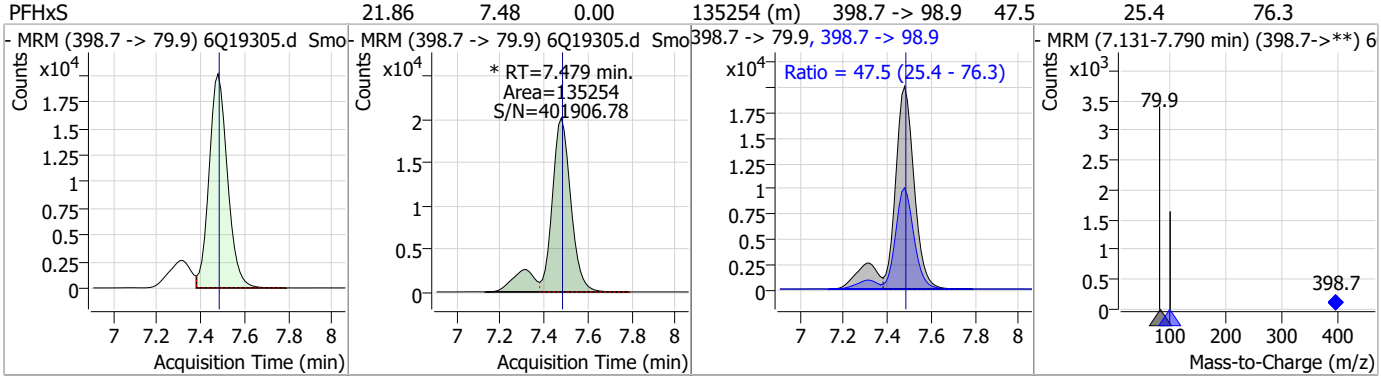




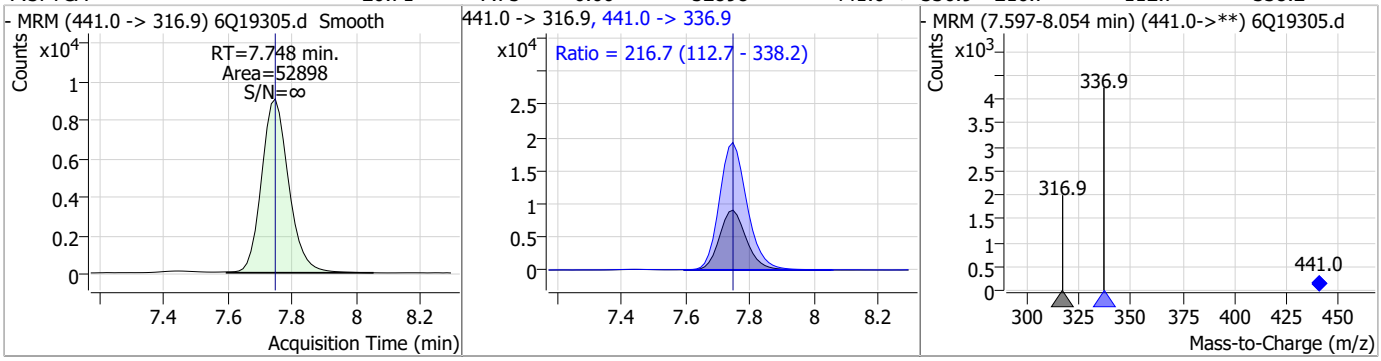


Perfluorinated Compounds by LC/MS/MS

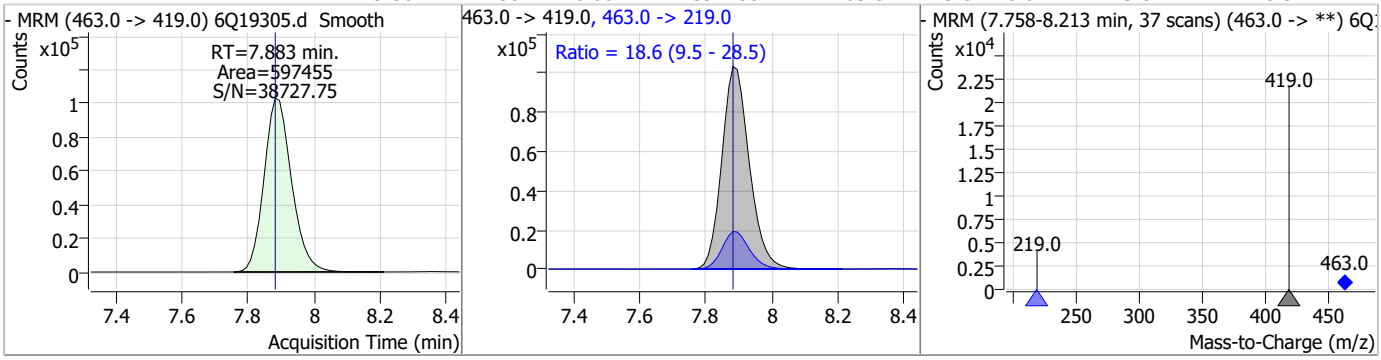
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	21.86	7.48	0.00	135254 (m)	398.7 -> 98.9	47.5	25.4	76.3



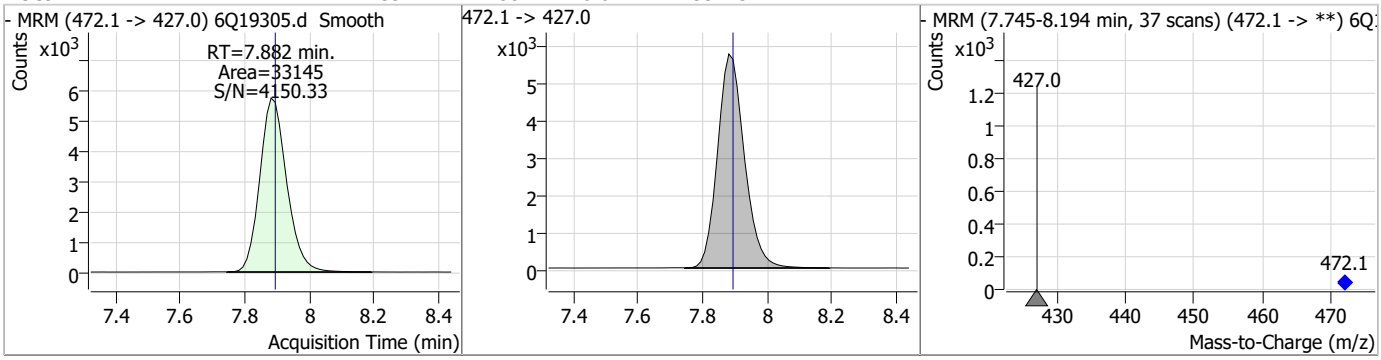
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	20.71	7.75	0.00	52898	441.0 -> 336.9	216.7	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.50	7.88	0.00	597455	463.0 -> 219.0	18.6	9.5	28.5

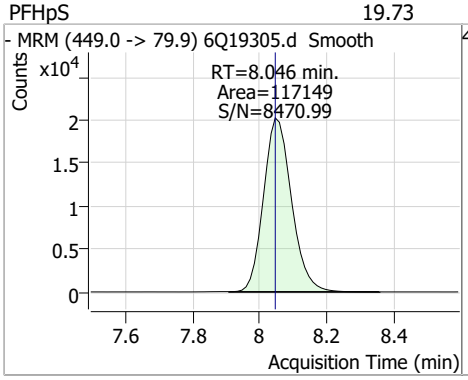


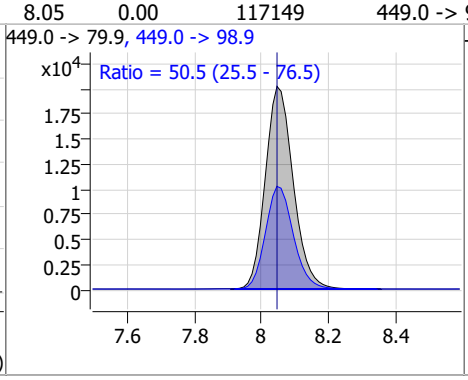
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.39	7.88	-0.01	33145				

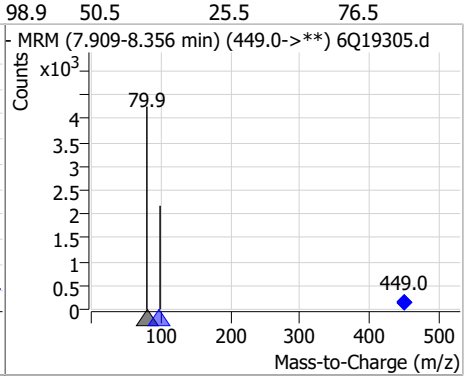


Perfluorinated Compounds by LC/MS/MS

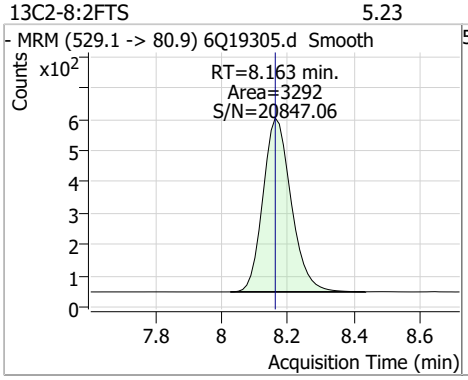
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	19.73	8.05	0.00	117149	449.0 -> 98.9	50.5	25.5	76.5

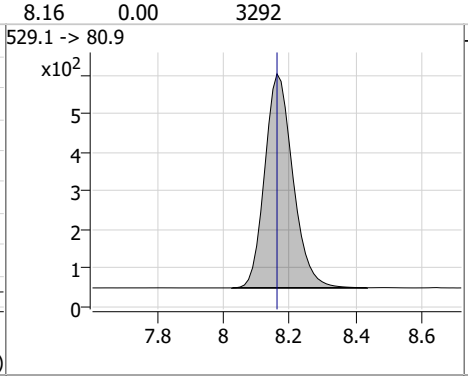


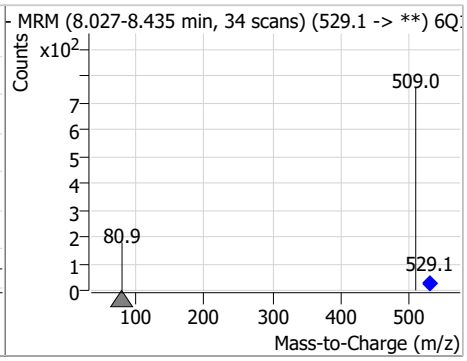




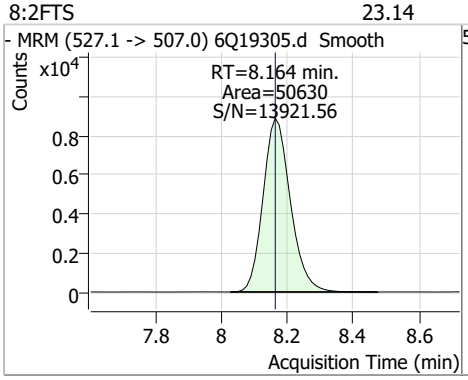
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.23	8.16	0.00	3292				

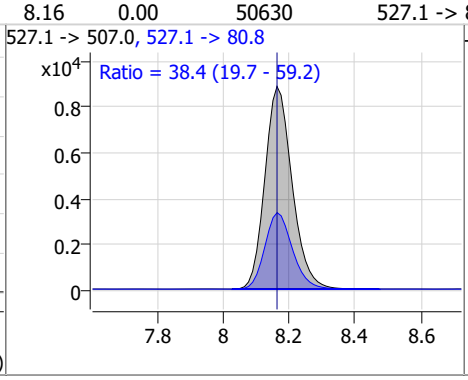


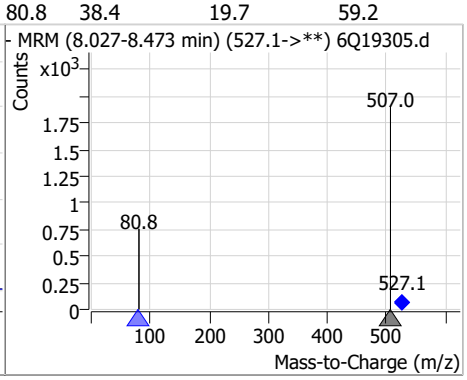




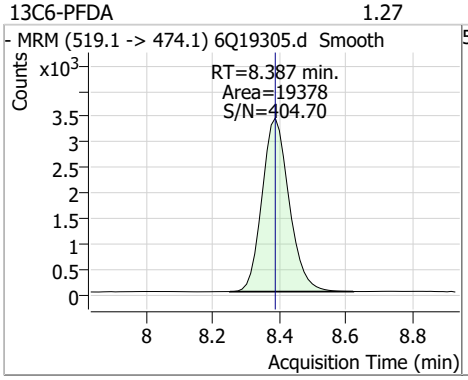
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	23.14	8.16	0.00	50630	527.1 -> 80.8	38.4	19.7	59.2

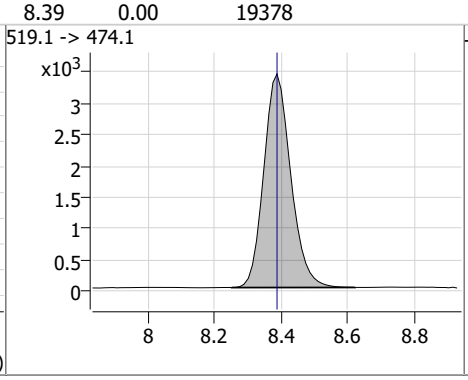


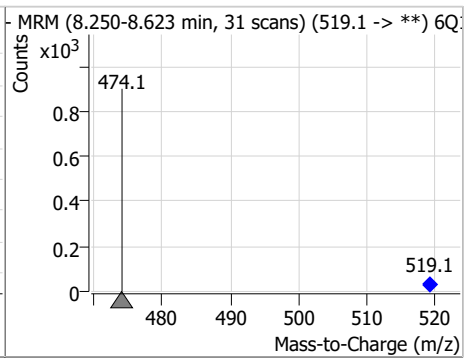




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.27	8.39	0.00	19378				

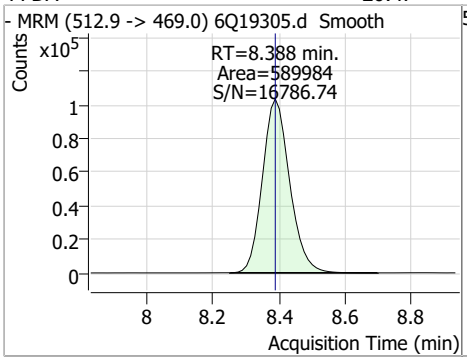


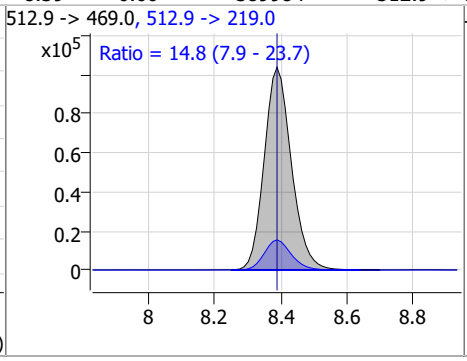


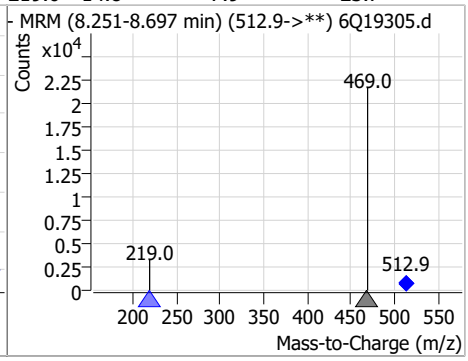


Perfluorinated Compounds by LC/MS/MS

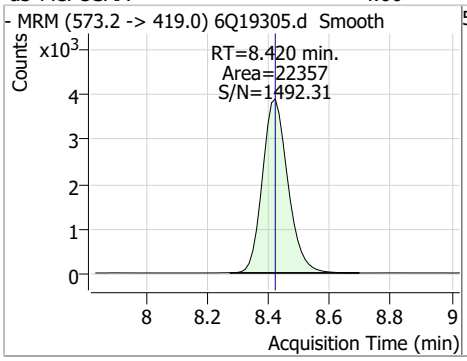
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	20.47	8.39	0.00	589984	512.9 -> 219.0	14.8	7.9	23.7

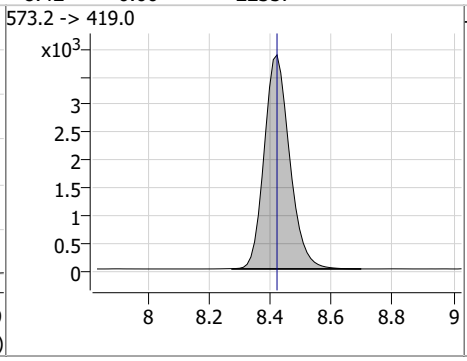


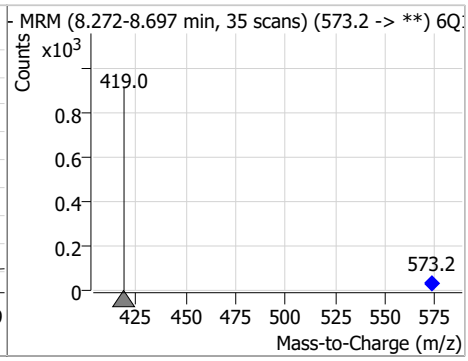




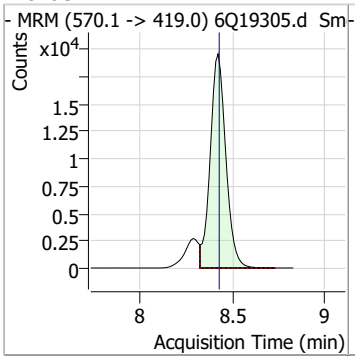
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.60	8.42	0.00	22357				

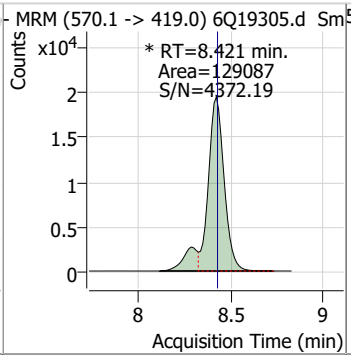


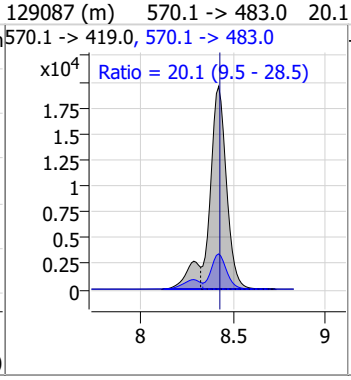


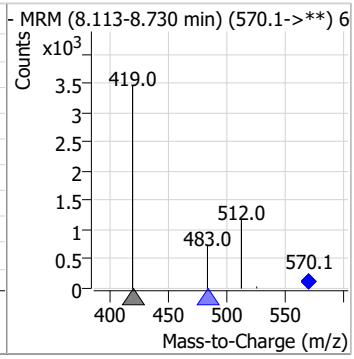


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	22.28	8.42	0.00	129087 (m)	570.1 -> 483.0	20.1	9.5	28.5

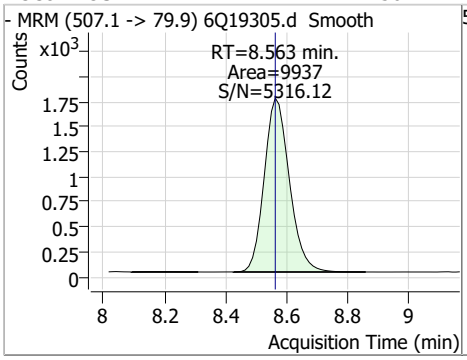


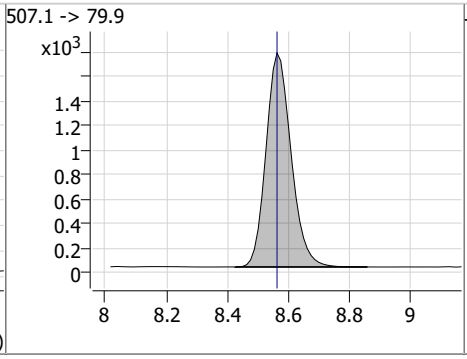


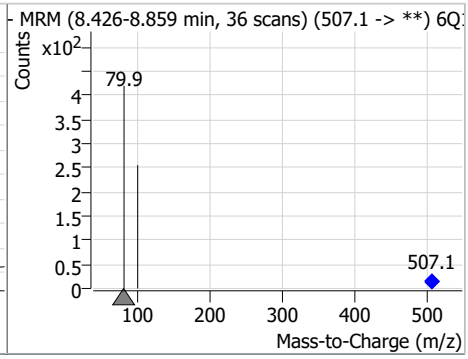




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.56	8.56	0.00	9937				

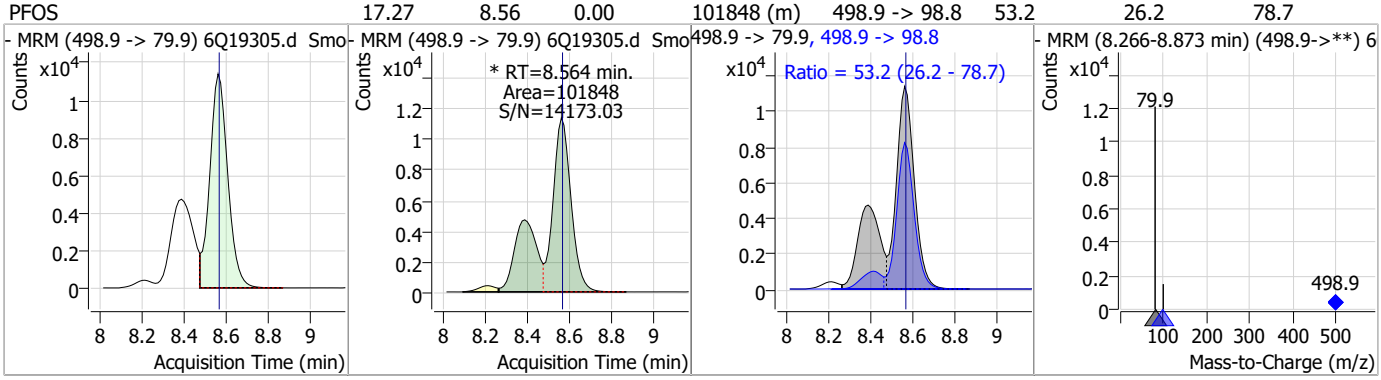




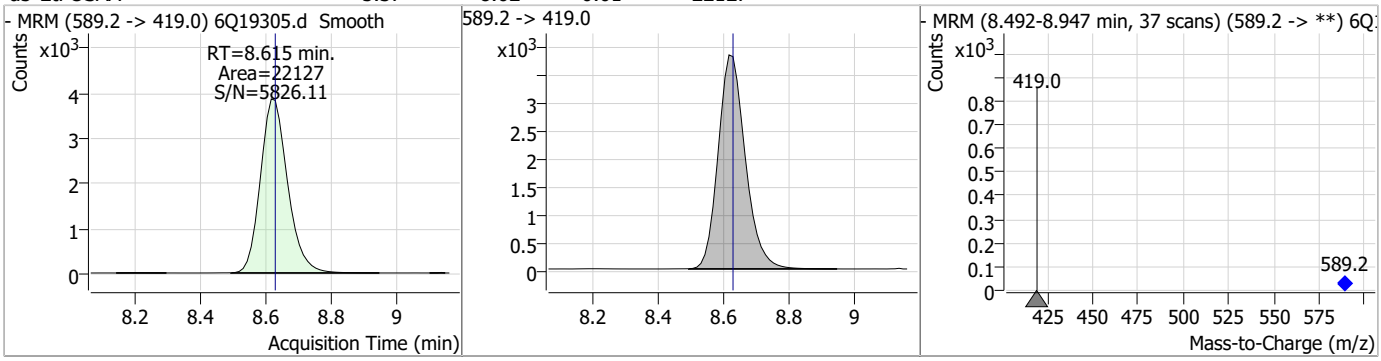


Perfluorinated Compounds by LC/MS/MS

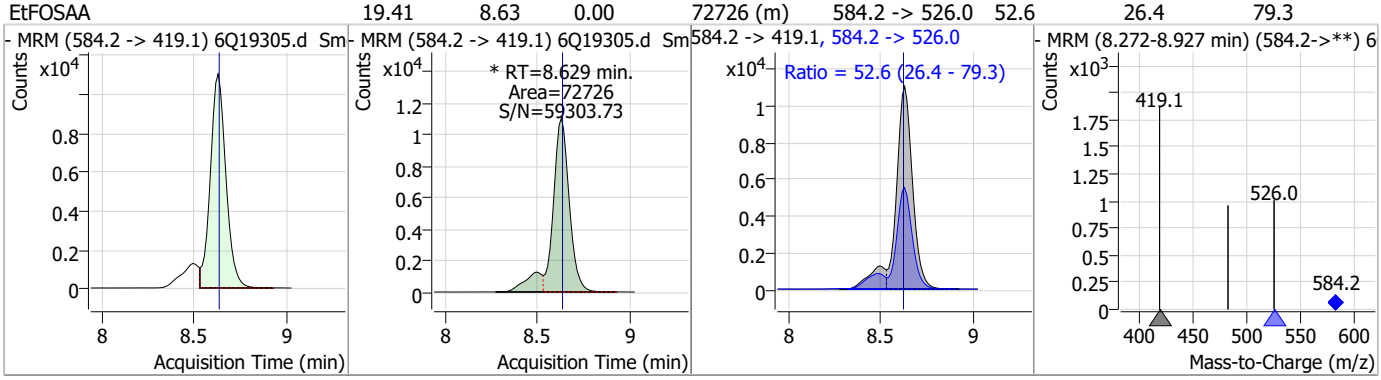
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	17.27	8.56	0.00	101848 (m)	498.9 -> 98.8	53.2	26.2	78.7



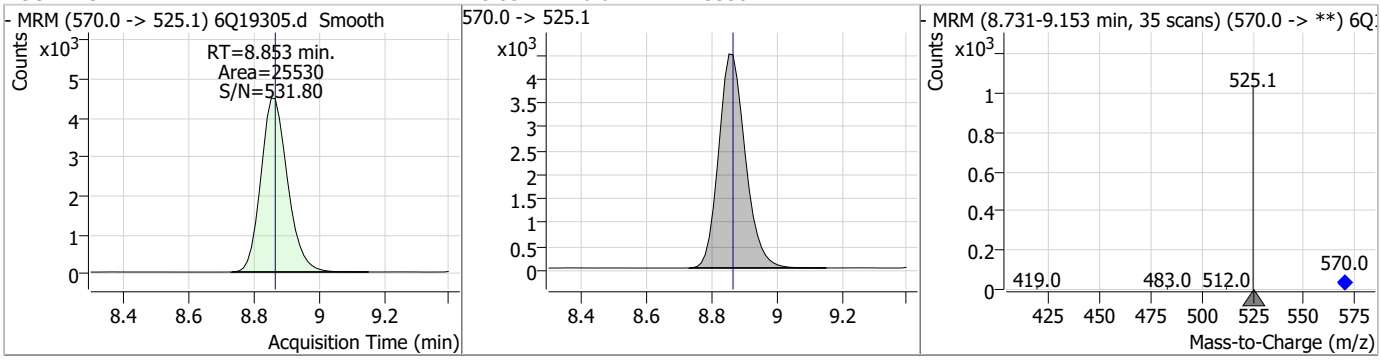
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.37	8.62	-0.01	22127				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	19.41	8.63	0.00	72726 (m)	584.2 -> 526.0	52.6	26.4	79.3

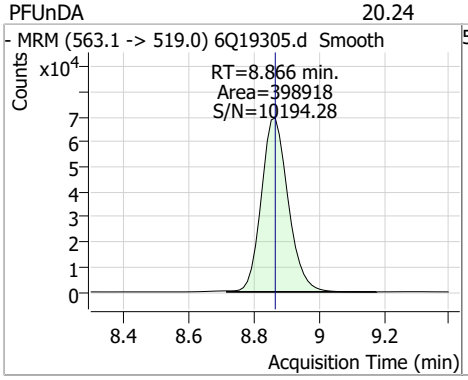


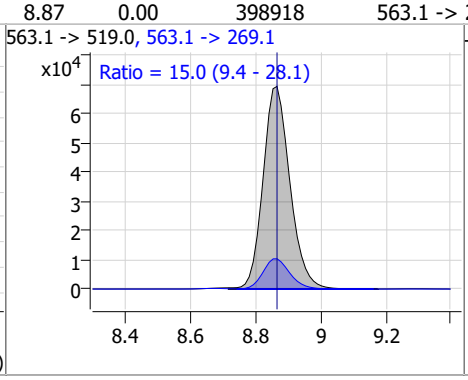
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.24	8.85	-0.01	25530				

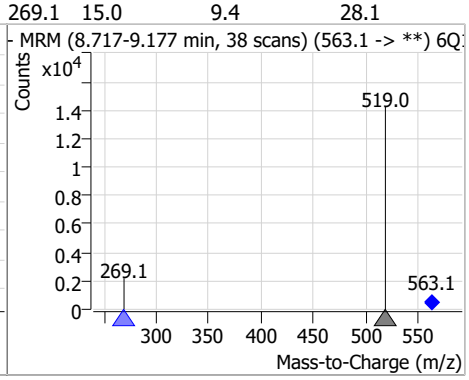


Perfluorinated Compounds by LC/MS/MS

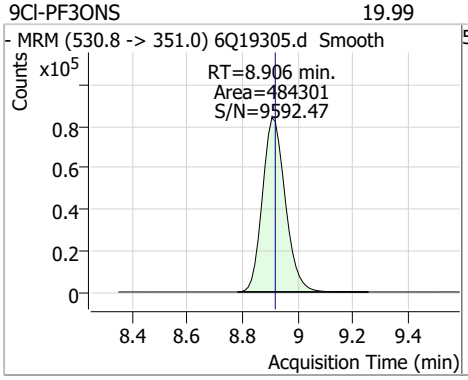
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	20.24	8.87	0.00	398918	563.1 -> 269.1	15.0	9.4	28.1

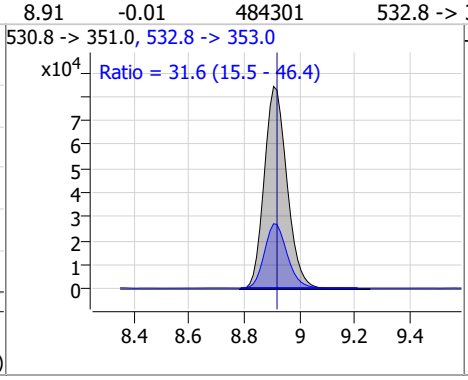


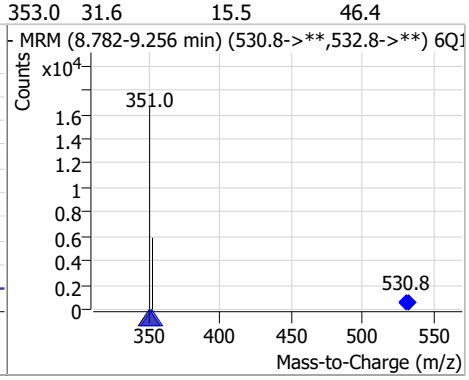




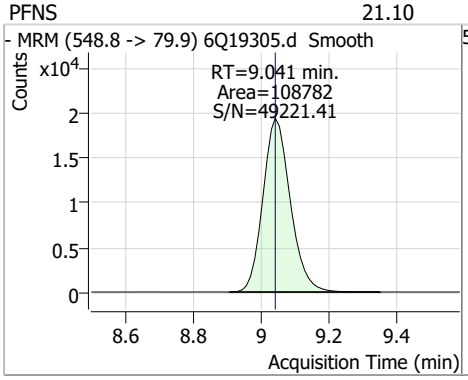
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	19.99	8.91	-0.01	484301	532.8 -> 353.0	31.6	15.5	46.4

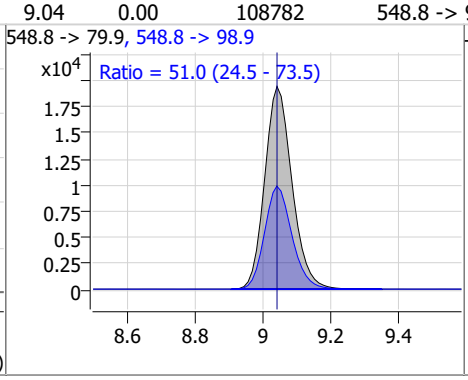


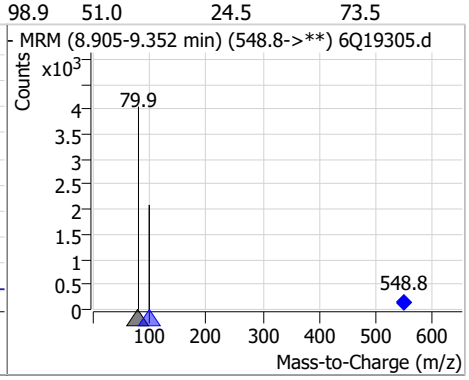




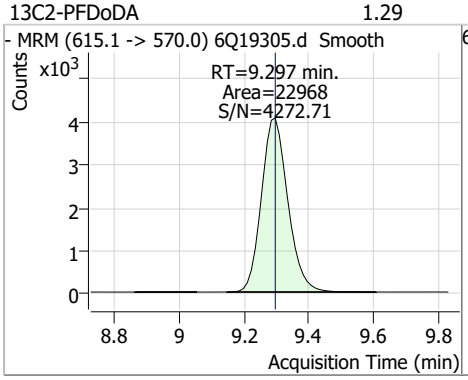
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	21.10	9.04	0.00	108782	548.8 -> 98.9	51.0	24.5	73.5

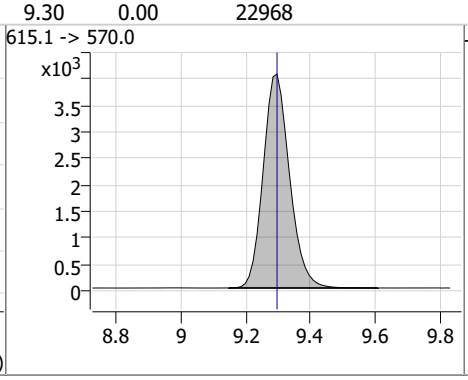


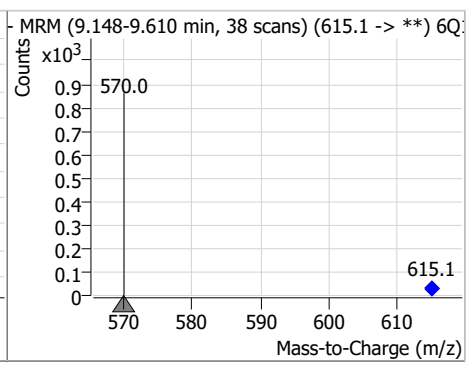




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.29	9.30	0.00	22968				

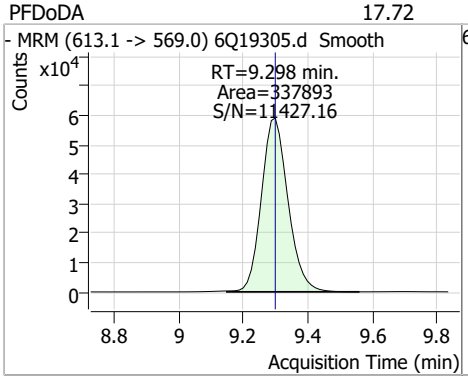


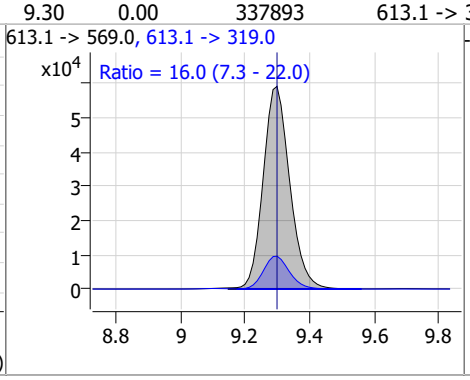


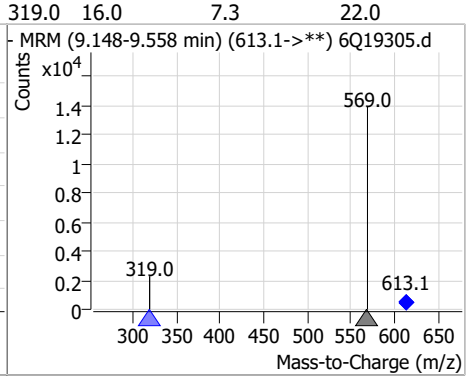


Perfluorinated Compounds by LC/MS/MS

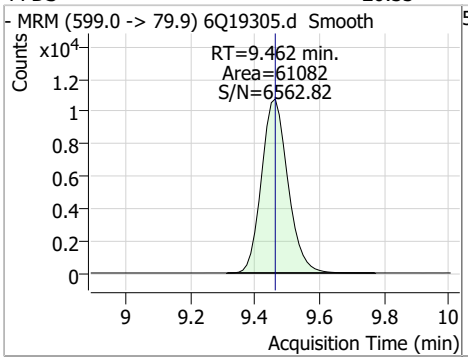
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	17.72	9.30	0.00	337893	613.1 -> 319.0	16.0	7.3	22.0

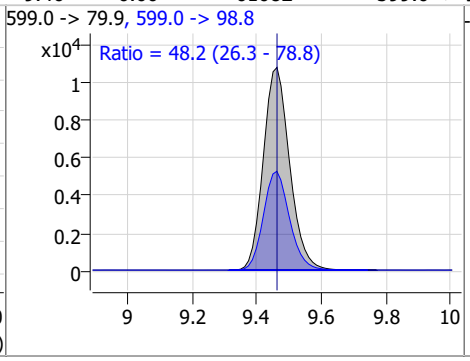


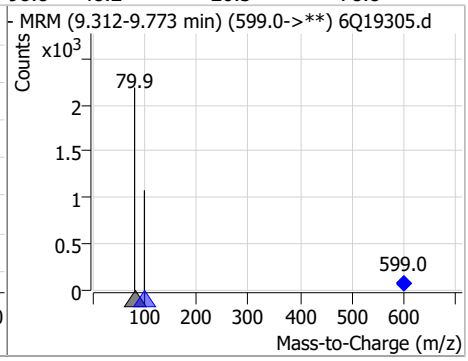




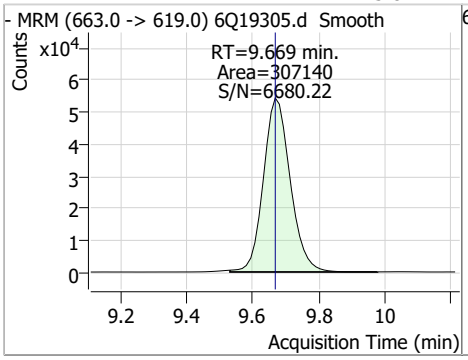
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	20.33	9.46	0.00	61082	599.0 -> 98.8	48.2	26.3	78.8

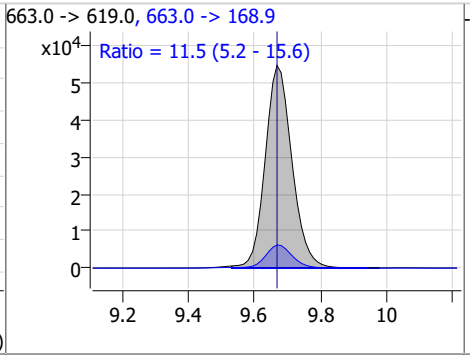


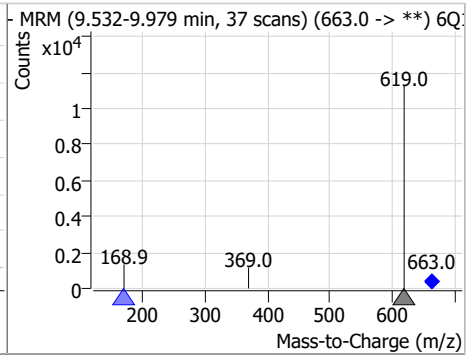




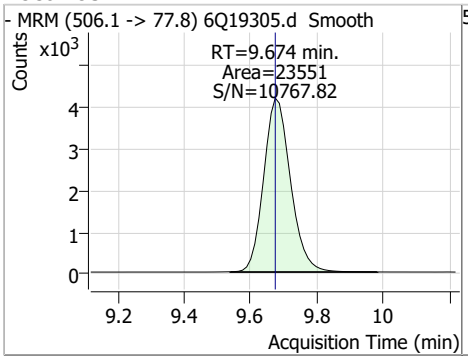
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	15.87	9.67	0.00	307140	663.0 -> 168.9	11.5	5.2	15.6

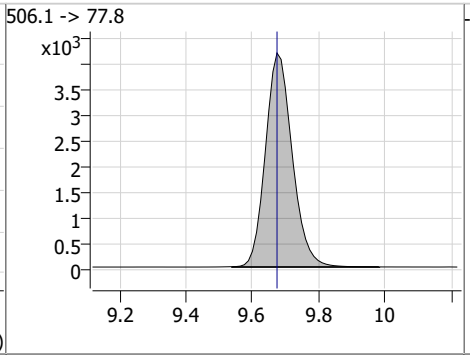


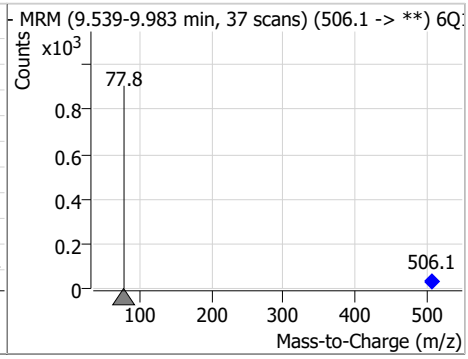




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.42	9.67	0.00	23551				

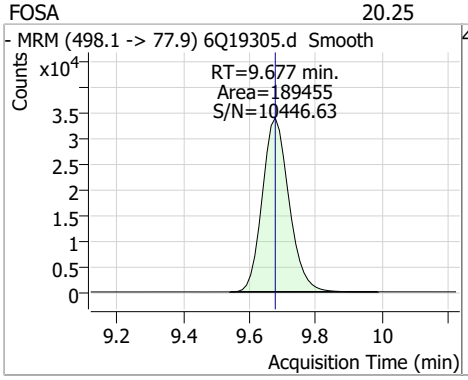


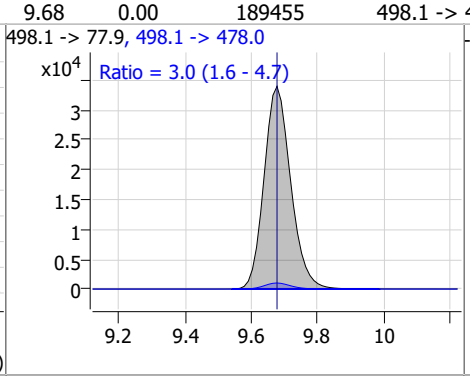


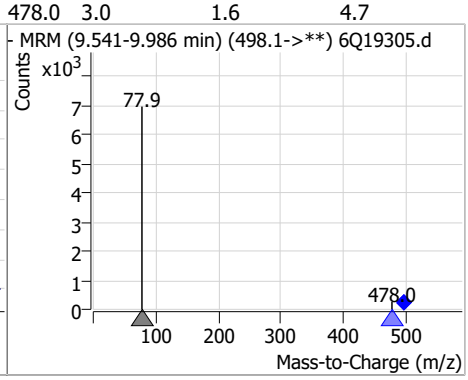


Perfluorinated Compounds by LC/MS/MS

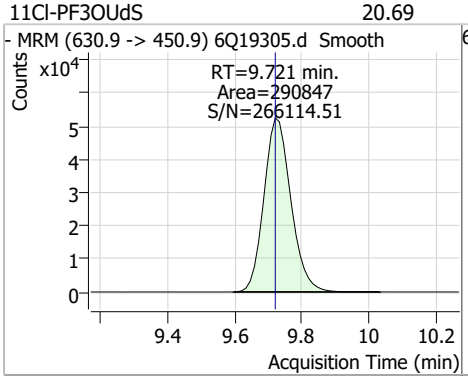
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	20.25	9.68	0.00	189455	498.1 -> 478.0	3.0	1.6	4.7

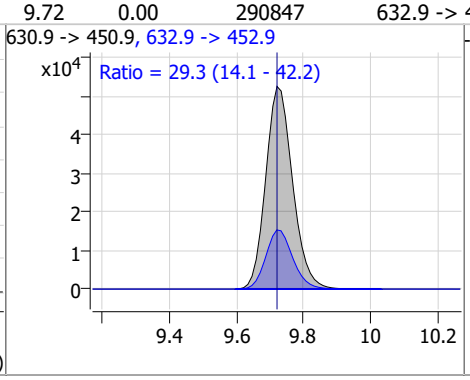


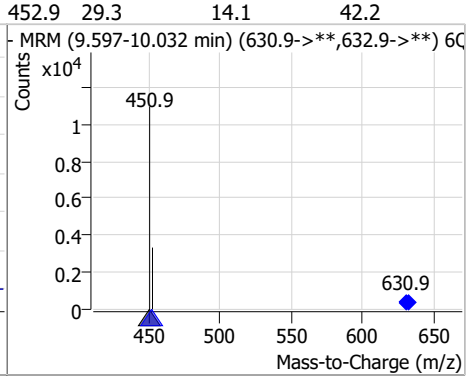




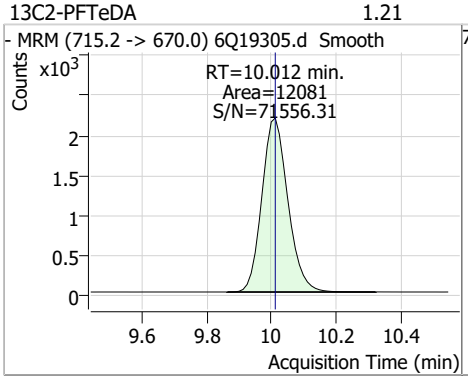
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	20.69	9.72	0.00	290847	632.9 -> 452.9	29.3	14.1	42.2

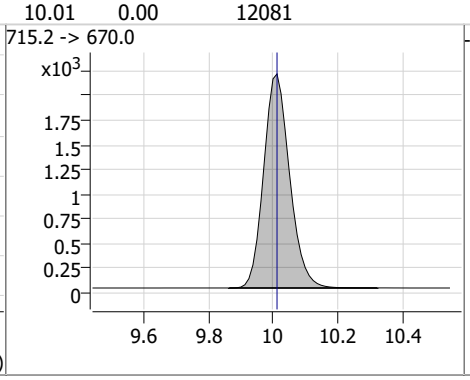


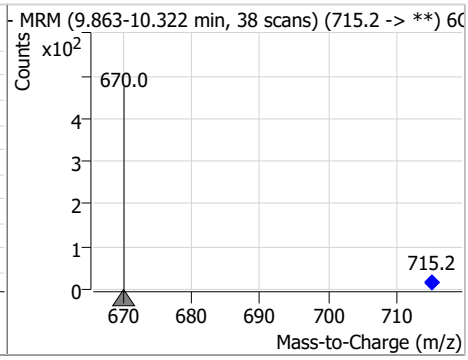




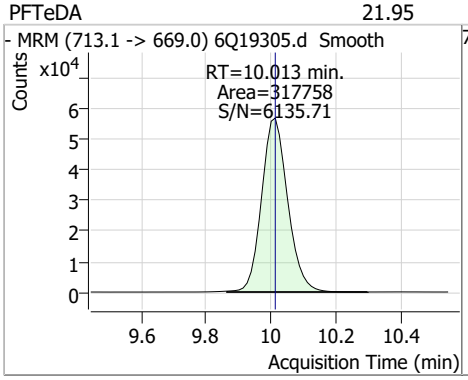
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.21	10.01	0.00	12081				

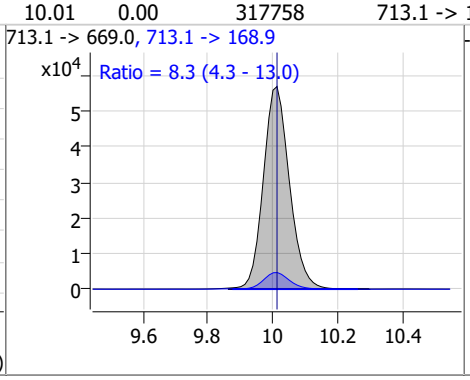


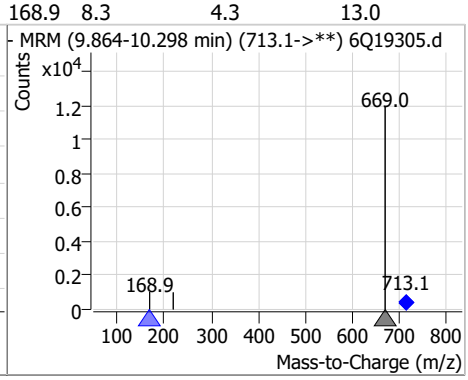




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	21.95	10.01	0.00	317758	713.1 -> 168.9	8.3	4.3	13.0

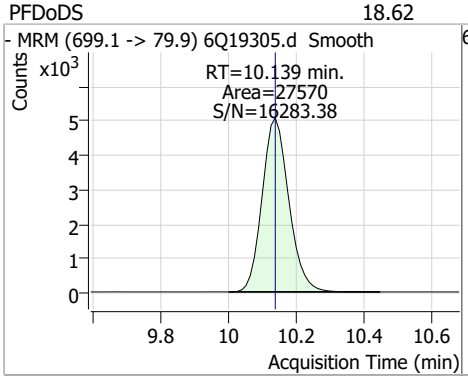


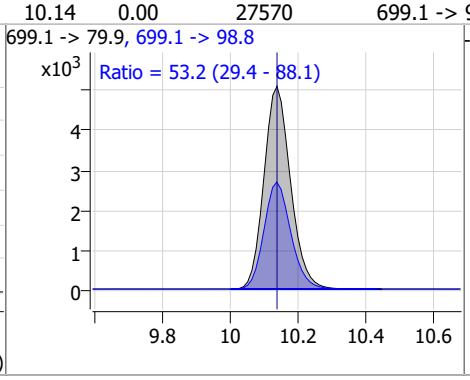


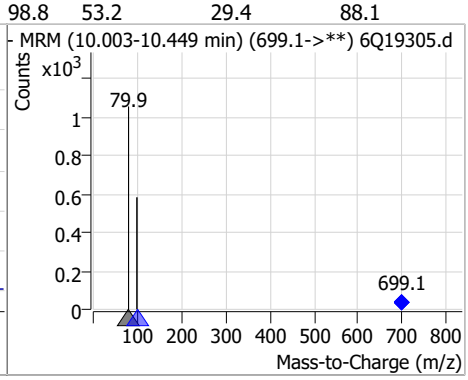


Perfluorinated Compounds by LC/MS/MS

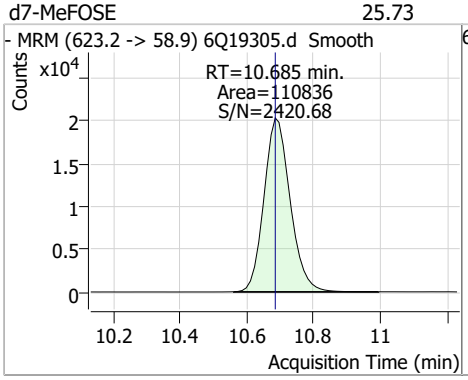
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	18.62	10.14	0.00	27570	699.1 -> 98.8	53.2	29.4	88.1

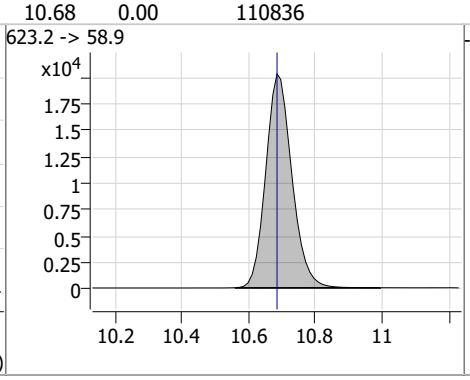


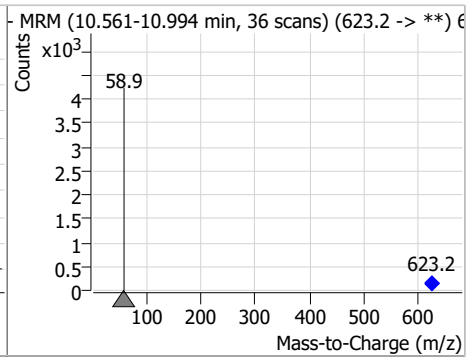




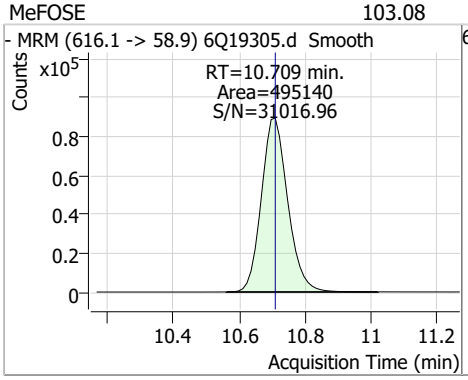
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.73	10.68	0.00	110836				

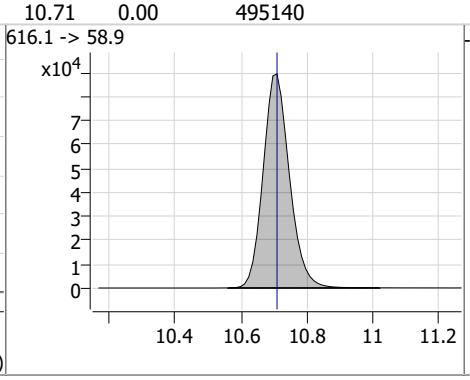


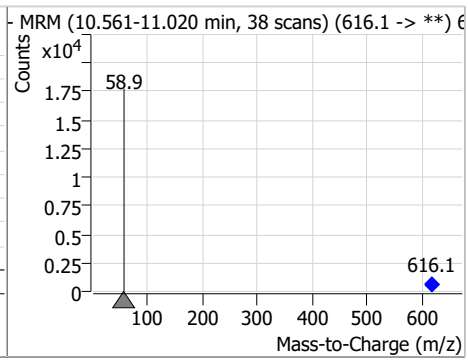




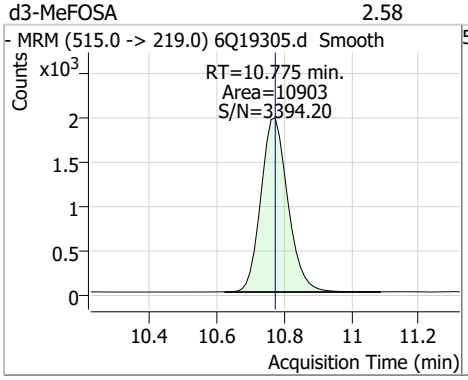
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	103.08	10.71	0.00	495140				

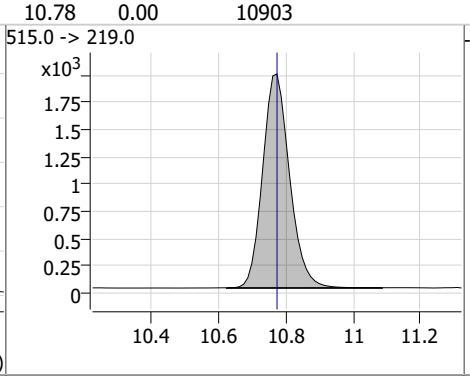


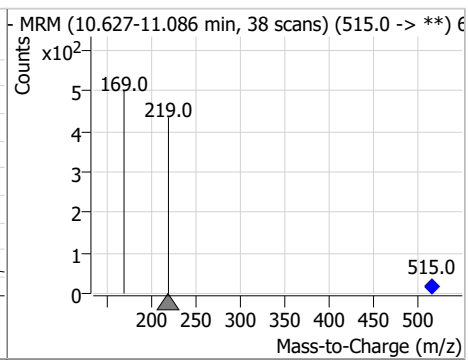




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.58	10.78	0.00	10903				

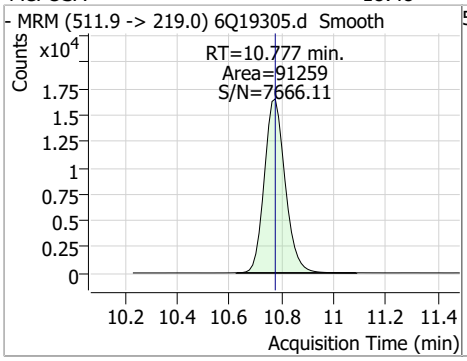


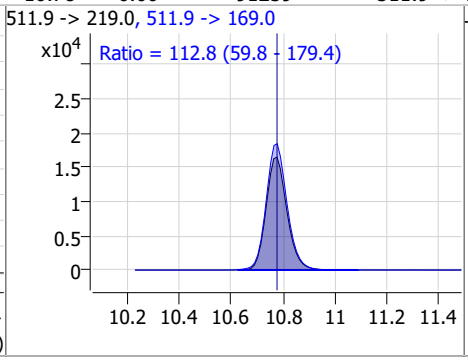


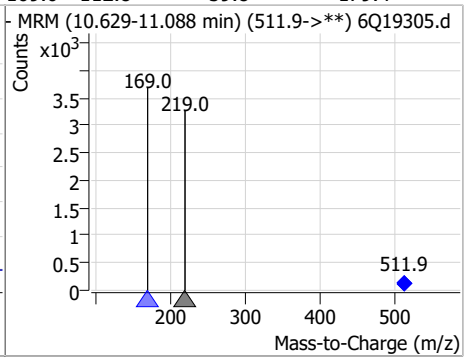


Perfluorinated Compounds by LC/MS/MS

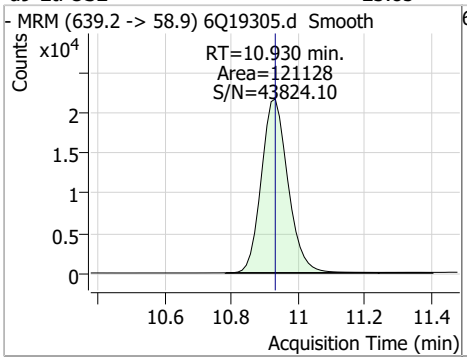
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	18.48	10.78	0.00	91259	511.9 -> 169.0	112.8	59.8	179.4

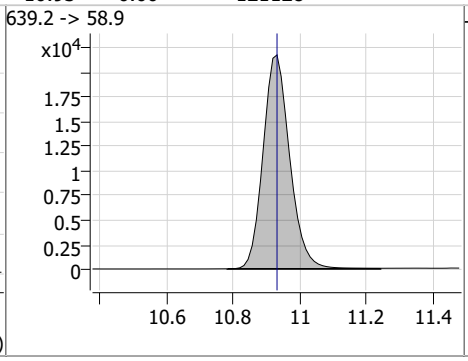


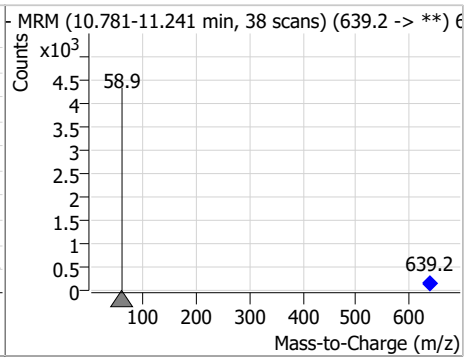




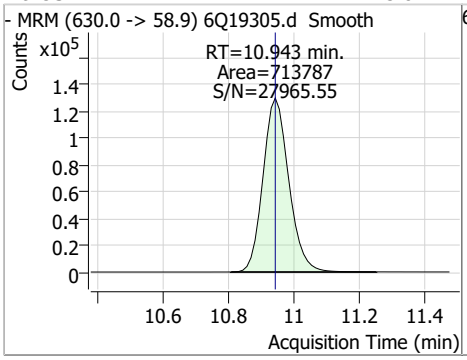
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.85	10.93	0.00	121128				

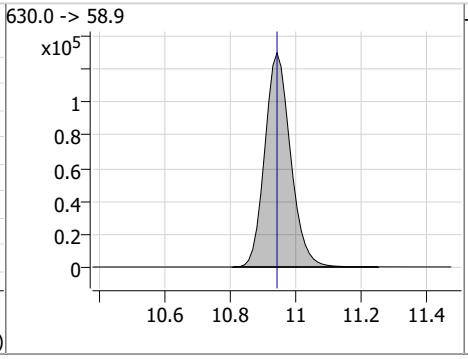


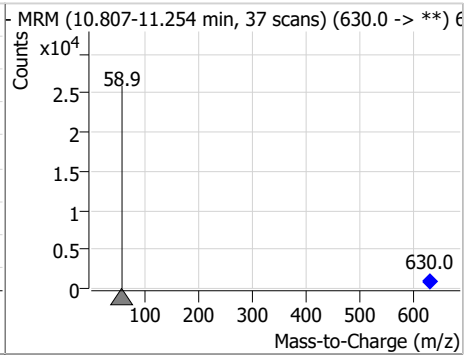




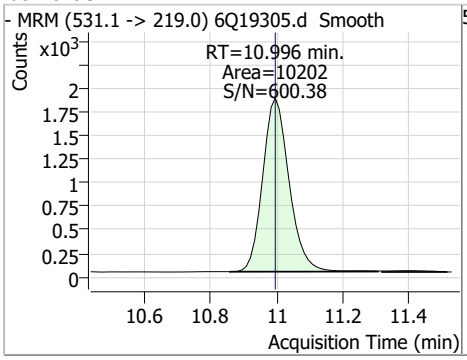
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	113.87	10.94	0.00	713787				

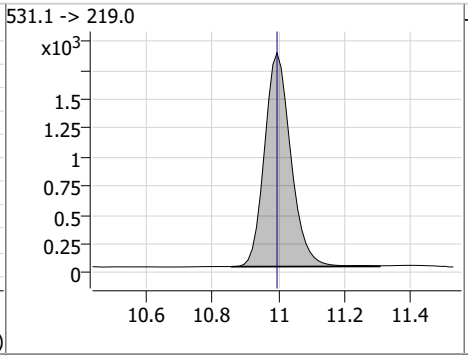


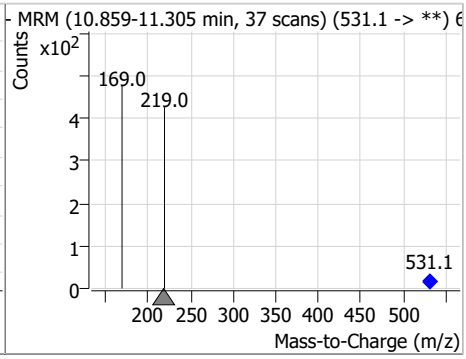




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.47	11.00	0.00	10202				

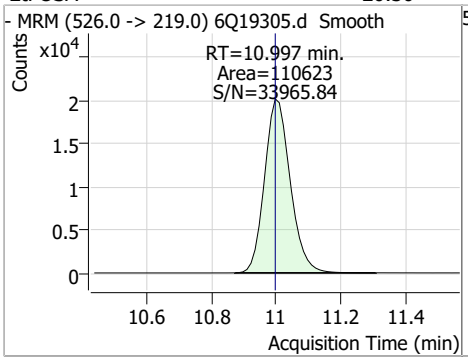


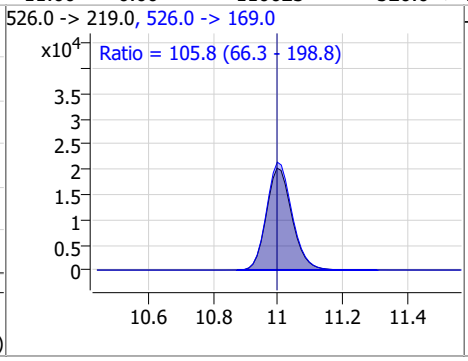


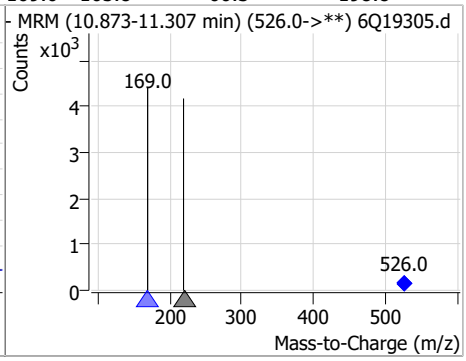


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	20.30	11.00	0.00	110623	526.0 -> 169.0	105.8	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q288-ICV288
Lab FileID: 6Q19305.D
Injection Time: 06/13/23 13:55
Method: EPA DRAFT 1633
Analyst approved: 06/14/23 10:15 Martha Valls
Supervisor approved: 06/14/23 11:30 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:54

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19343.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 2:17:15 PM
Sample Name : cc288-1.0LL
Vial : P1-A2
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	156807	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	51195	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	56818	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	52472	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	84392	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	41440	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	21992	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	32690	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	27825	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	14627	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	31570	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19658	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12385	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	13035	2.50	µg/L	0.012
M2-4:2FTS	5.454	329.1 -> 80.9	3334	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	5138	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4857	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	29989	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	37204	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	25237	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	138228	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	160748	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	13092	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12693	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	16360	2.50	µg/L	0.012
13C3-PFBA	3.101	216.0 -> 172.0	66533	5.00	µg/L	0.012
18O2-PFHxS	7.477	403.0 -> 83.9	10150	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	88816	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	32556	1.25	µg/L	0.000
13C5-PFNA	7.895	468.0 -> 423.0	46408	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	53648	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3334	5.47	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.5%		
13C2-6:2FTS	7.113	429.1 -> 80.9	5138	5.59	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.7%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4857	5.61	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.3%		
13C2-PFDoDA	9.297	615.1 -> 570.0	27825	1.28	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C2-PFTeDA	10.012	715.2 -> 670.0	14627	1.20	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.3%		
13C3-PFBS	5.746	302.1 -> 79.9	19658	2.33	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.1%		
13C3-PFHxS	7.478	402.1 -> 79.9	12385	2.32	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.9%		
13C4-PFBA	3.097	216.8 -> 171.9	156807	10.05 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C4-PFHpA	6.707	367.1 -> 322.0	52472	2.53 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%		
13C5-PFHxA	5.792	318.0 -> 273.0	56818	2.57 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.7%		
13C5-PFPeA	4.560	268.3 -> 223.0	51195	5.05 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C6-PFDA	8.387	519.1 -> 474.1	21992	1.18 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.2%		
13C7-PFUnDA	8.866	570.0 -> 525.1	32690	1.31 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.5%		
13C8-FOSA	9.687	506.1 -> 77.8	31570	2.55 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.9%		
13C8-PFOA	7.352	421.1 -> 376.0	84392	2.54 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%		
13C8-PFOS	8.575	507.1 -> 79.9	13035	2.64 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.6%		
13C9-PFNA	7.895	472.1 -> 427.0	41440	1.47 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 117.4%		
d3-MeFOSAA	8.420	573.2 -> 419.0	29989	4.85 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.9%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	37204	10.04 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%		
d3-MeFOSA	10.775	515.0 -> 219.0	12693	2.36 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.3%		
d5-EtFOSAA	8.628	589.2 -> 419.0	25237	4.80 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.1%		
d7-MeFOSE	10.696	623.2 -> 58.9	138228	25.18 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.7%		
d9-EtFOSE	10.930	639.2 -> 58.9	160748	24.84 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.4%		
d5-EtFOSA	10.996	531.1 -> 219.0	13092	2.49 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	3928	0.68 µg/L		98
		327.1 -> 80.9	1518			
6:2FTS	7.113	427.1 -> 407.0	4027	0.66 µg/L		99
		427.1 -> 80.9	1339			
8:2FTS	8.176	527.1 -> 507.0	2188	0.68 µg/L		92
		527.1 -> 80.8	756			
EtFOSAA	8.641	584.2 -> 419.1	766	0.18 µg/L	m	91
		584.2 -> 526.0	358			
FOSA	9.677	498.1 -> 77.9	2205	0.18 µg/L		98
		498.1 -> 478.0	53			
MeFOSAA	8.421	570.1 -> 419.0	1408	0.18 µg/L	m	85
		570.1 -> 483.0	363			
PFBA	3.106	212.8 -> 168.9	4540	0.72 µg/L		100
PFBS	5.747	298.7 -> 79.9	1418	0.16 µg/L		100
		298.7 -> 98.8	542			
PFDA	8.400	512.9 -> 469.0	6110	0.19 µg/L		98
		512.9 -> 219.0	909			
PFDoDA	9.298	613.1 -> 569.0	4027	0.17 µg/L		98
		613.1 -> 319.0	614			
PFDS	9.462	599.0 -> 79.9	626	0.16 µg/L		91

Perfluorinated Compounds by LC/MS/MS

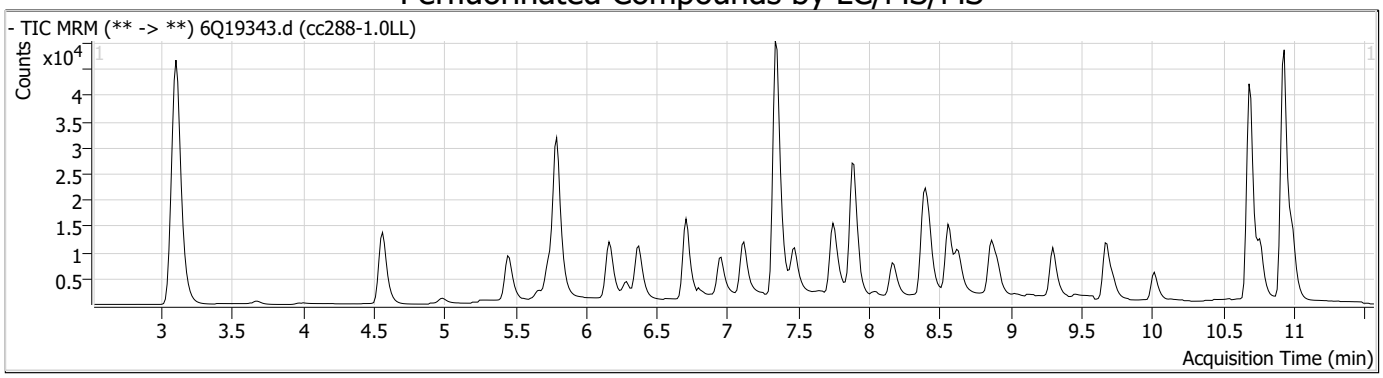
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	289				
PFHpA	6.708	363.1 -> 319.0	5091	0.18	µg/L		95
		363.1 -> 169.0	873				
PFHpS	8.059	449.0 -> 79.9	1298	0.17	µg/L		99
		449.0 -> 98.9	652				
PFHxA	5.795	313.0 -> 269.0	4047	0.18	µg/L		98
		313.0 -> 118.9	242				
PFHxS	7.479	398.7 -> 79.9	1241	0.17	µg/L	m	97
		398.7 -> 98.9	606				
PFNA	7.896	463.0 -> 419.0	6361	0.17	µg/L		99
		463.0 -> 219.0	1248				
PFNS	9.041	548.8 -> 79.9	1075	0.16	µg/L		88
		548.8 -> 98.9	614				
PFOA	7.353	413.0 -> 369.0	7208	0.16	µg/L		95
		413.0 -> 169.0	1376				
PFOS	8.576	498.9 -> 79.9	1234	0.16	µg/L	m	98
		498.9 -> 98.8	663				
PFPeA	4.563	263.0 -> 219.0	5406	0.36	µg/L		100
PFPeS	6.785	349.1 -> 79.9	1244	0.18	µg/L		87
		349.1 -> 98.9	488				
PFTeDA	10.013	713.1 -> 669.0	3357	0.19	µg/L		97
		713.1 -> 168.9	255				
PFTrDA	9.681	663.0 -> 619.0	4238	0.18	µg/L		98
		663.0 -> 168.9	465				
PFUnDA	8.866	563.1 -> 519.0	4542	0.18	µg/L		90
		563.1 -> 269.1	648				
11Cl-PF3OUdS	9.733	630.9 -> 450.9	5941	0.35	µg/L		99
		632.9 -> 452.9	1698				
9Cl-PF3ONS	8.918	530.8 -> 351.0	9777	0.33	µg/L		92
		532.8 -> 353.0	2589				
ADONA	6.959	376.9 -> 250.9	21365	0.35	µg/L		97
		376.9 -> 84.8	5883				
HFPO-DA	6.169	284.9 -> 168.9	1289	0.33	µg/L		100
		284.9 -> 184.9	153				
3:3FTCA	3.971	241.0 -> 177.0	1097	1.07	µg/L		99
		241.0 -> 117.0	152				
5:3FTCA	6.374	341.0 -> 237.1	25049	5.50	µg/L		97
		341.0 -> 217.0	19423				
7:3FTCA	7.748	441.0 -> 316.9	17038	5.53	µg/L		98
		441.0 -> 336.9	37773				
EtFOSA	10.997	526.0 -> 219.0	2440	0.35	µg/L		92
		526.0 -> 169.0	3017				
EtFOSE	10.943	630.0 -> 58.9	7385	0.89	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	1991	0.35	µg/L	m	86
		511.9 -> 169.0	2691				
MeFOSE	10.709	616.1 -> 58.9	5098	0.85	µg/L		100
PFDoDS	10.139	699.1 -> 79.9	354	0.18	µg/L		89
		699.1 -> 98.8	178				
NFDHA	5.673	295.0 -> 201.0	908	0.31	µg/L		88
		295.0 -> 84.9	300				
PFMBA	4.988	279.0 -> 85.1	3823	0.35	µg/L		100
PFMPA	3.680	229.0 -> 84.9	2895	0.34	µg/L		100
PFEESA	6.288	314.8 -> 134.9	9586	0.31	µg/L		100
		314.8 -> 82.9	336				

 # = Qualifier out of range, m = manually integrated, + = Area summed

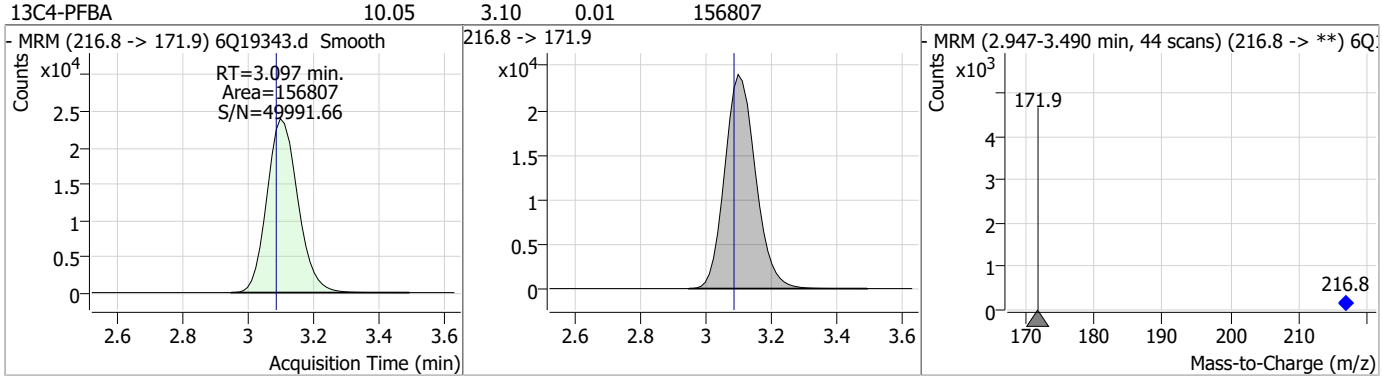
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

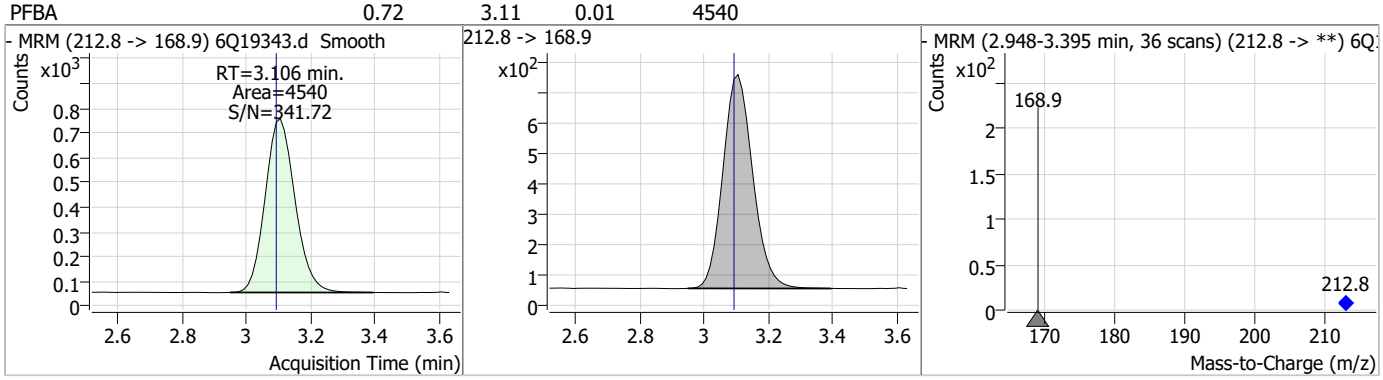
Perfluorinated Compounds by LC/MS/MS



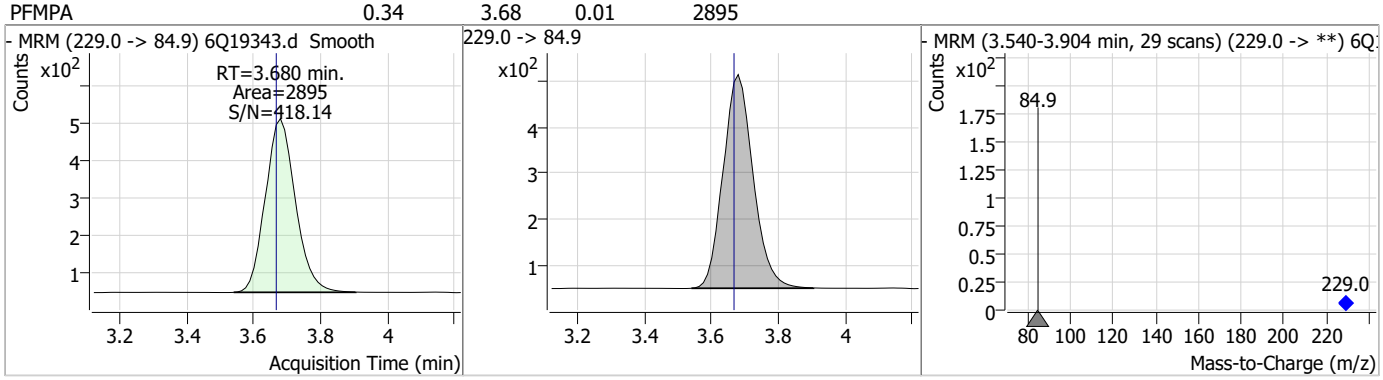
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.05	3.10	0.01	156807				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.72	3.11	0.01	4540				

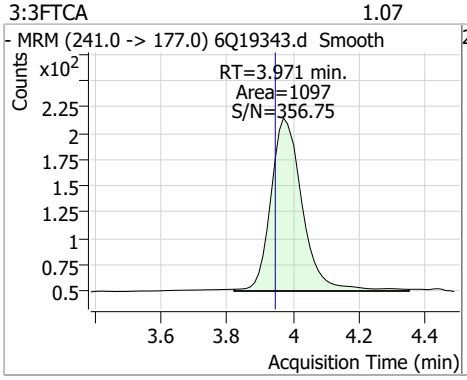


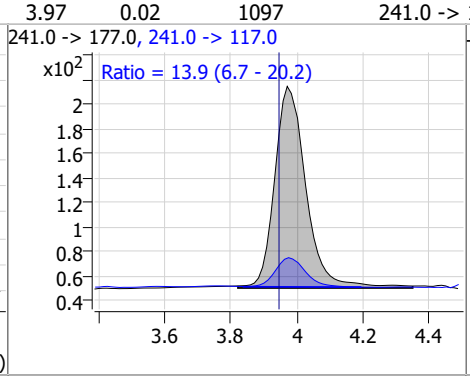
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	0.34	3.68	0.01	2895				

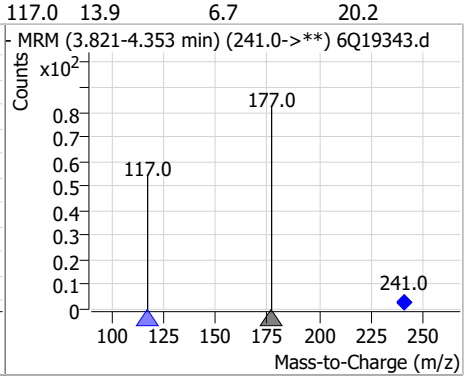


Perfluorinated Compounds by LC/MS/MS

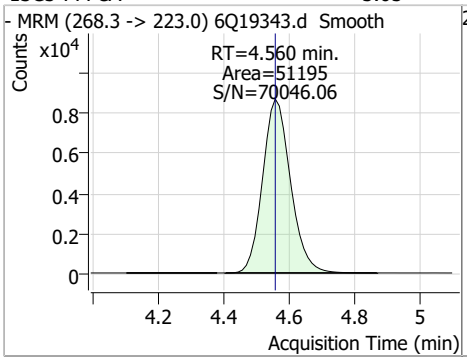
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.07	3.97	0.02	1097	241.0 -> 117.0	13.9	6.7	20.2

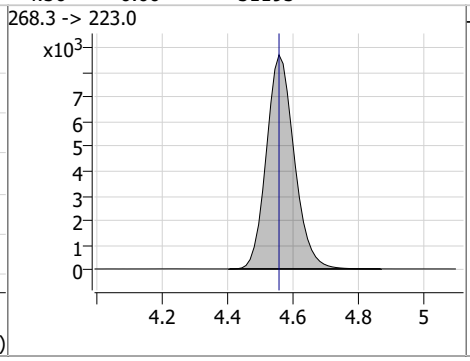


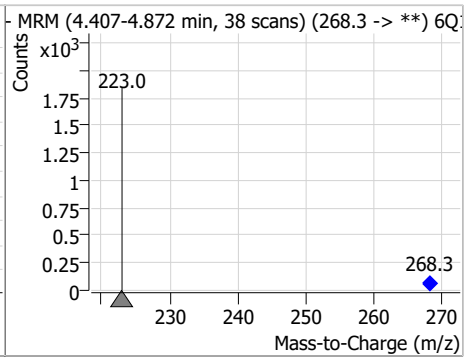




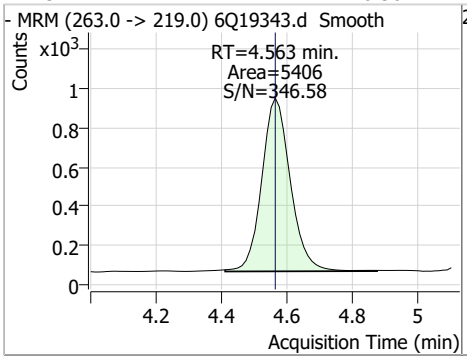
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.05	4.56	0.00	51195				

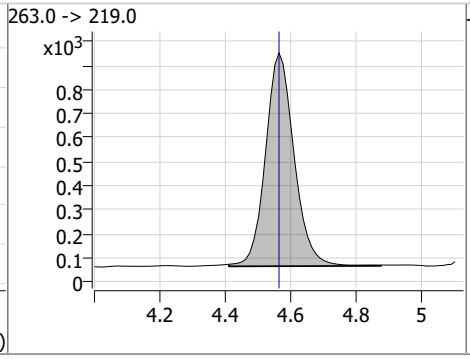


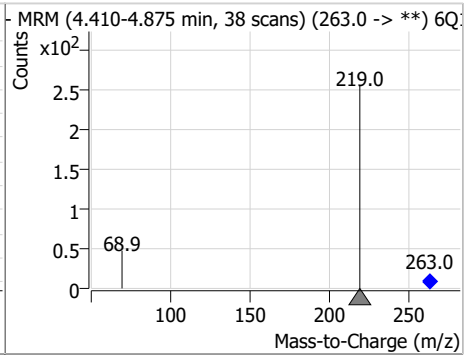




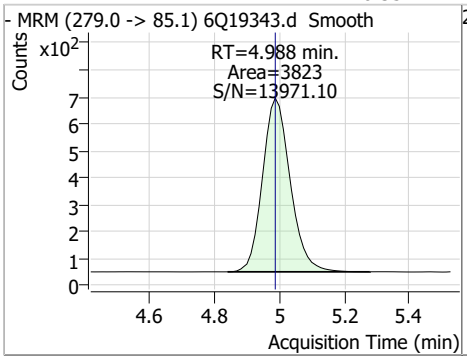
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.36	4.56	0.00	5406				

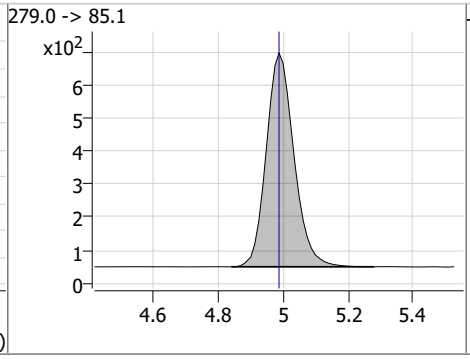


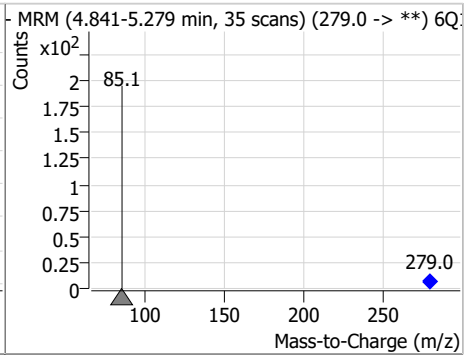




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.35	4.99	0.00	3823				

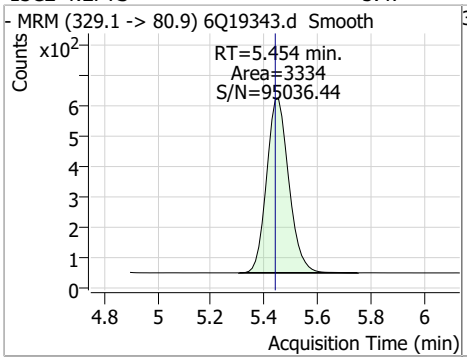


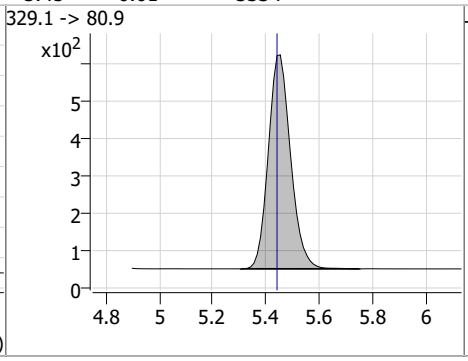


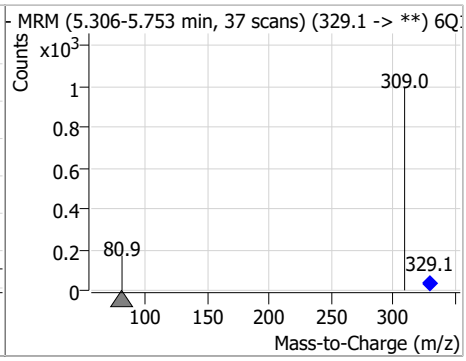


Perfluorinated Compounds by LC/MS/MS

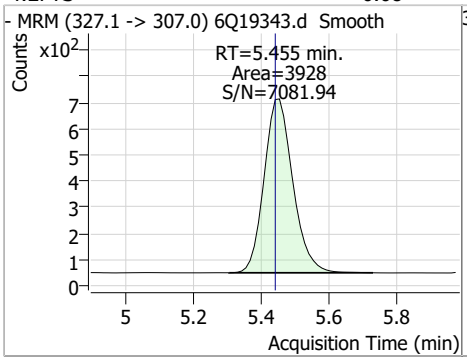
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.47	5.45	0.01	3334				

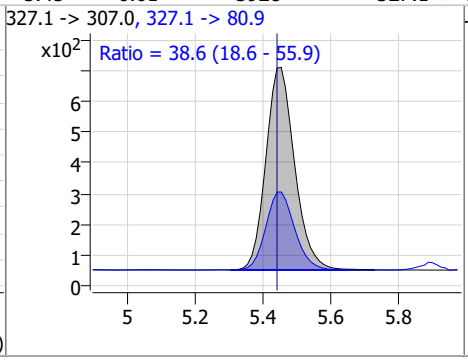


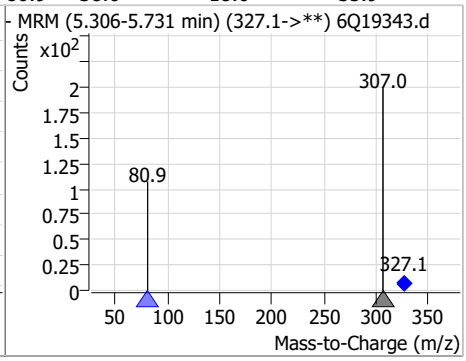




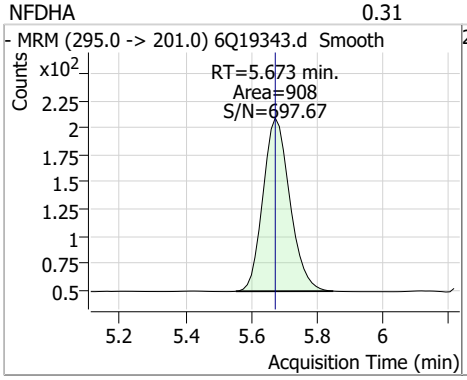
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	0.68	5.45	0.01	3928	327.1 -> 80.9	38.6	18.6	55.9

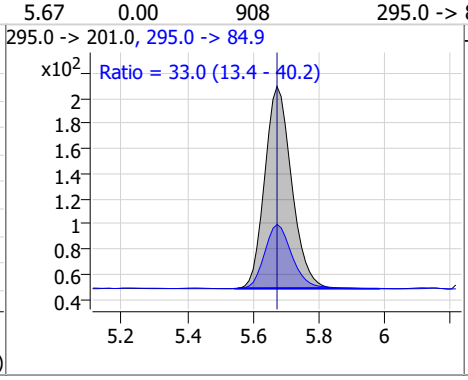


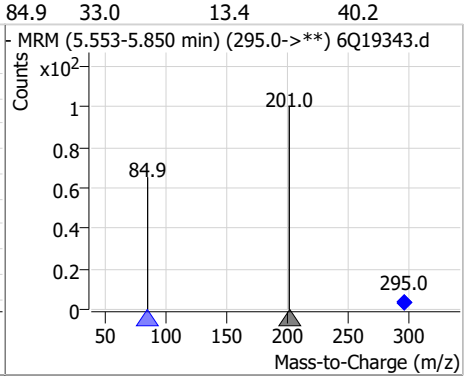




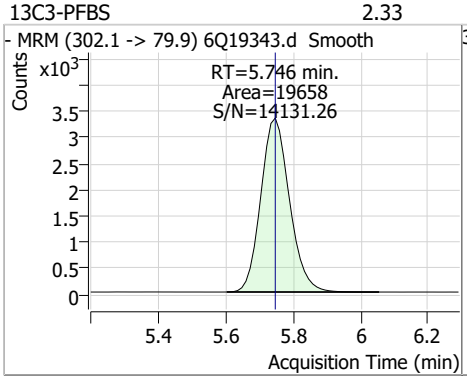
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	0.31	5.67	0.00	908	295.0 -> 84.9	33.0	13.4	40.2

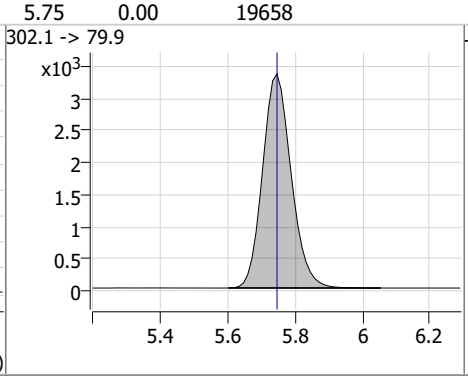


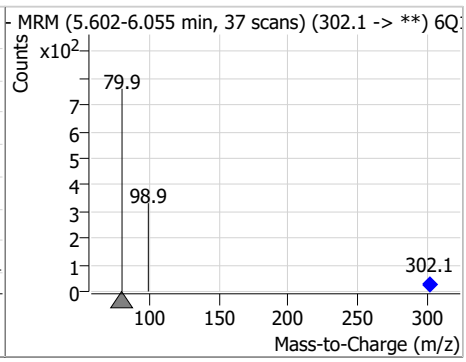




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.33	5.75	0.00	19658				

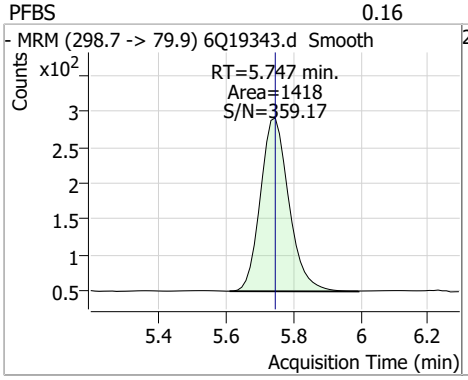


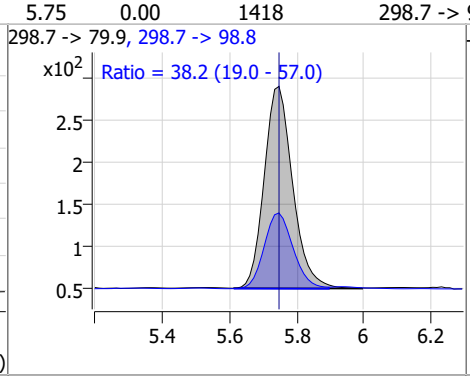


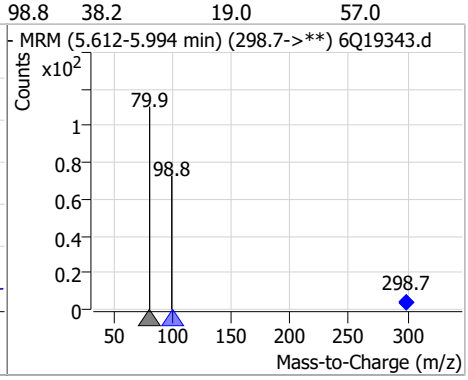


Perfluorinated Compounds by LC/MS/MS

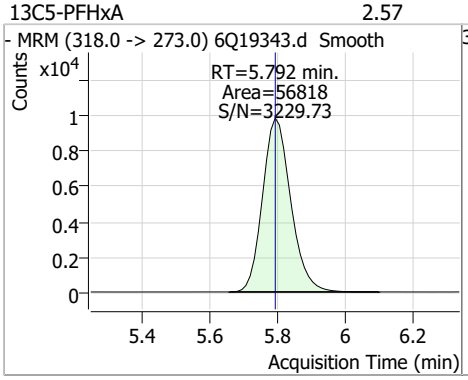
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.16	5.75	0.00	1418	298.7 -> 98.8	38.2	19.0	57.0

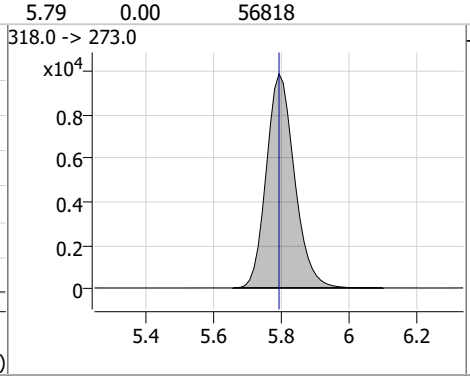


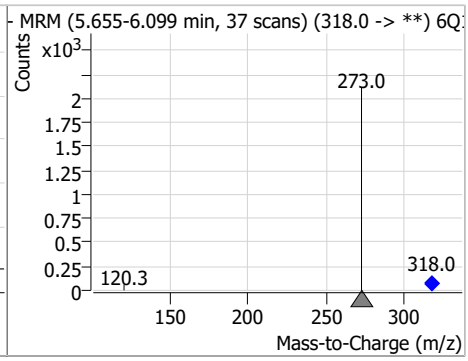




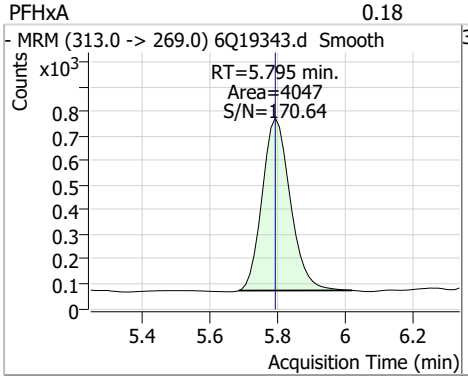
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.57	5.79	0.00	56818				

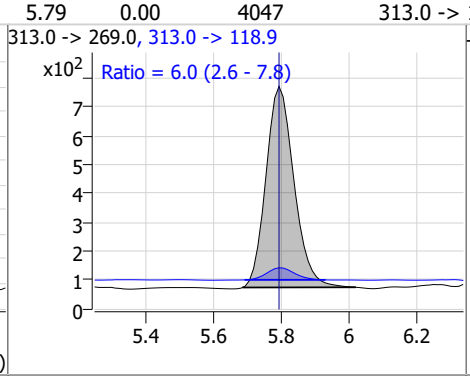


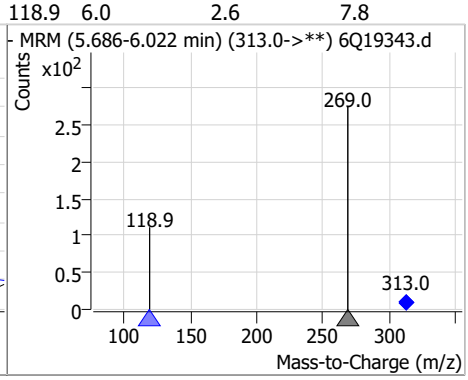




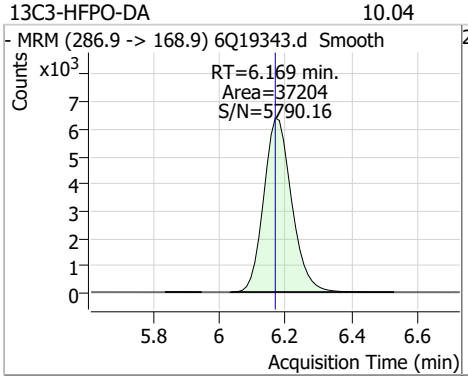
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.18	5.79	0.00	4047	313.0 -> 118.9	6.0	2.6	7.8

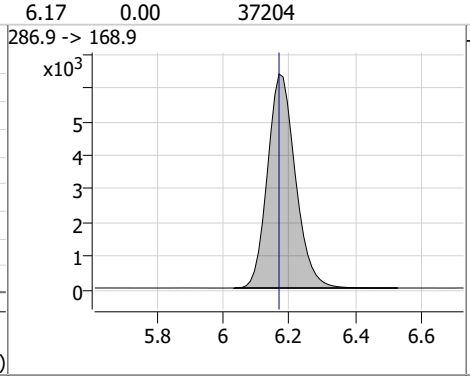


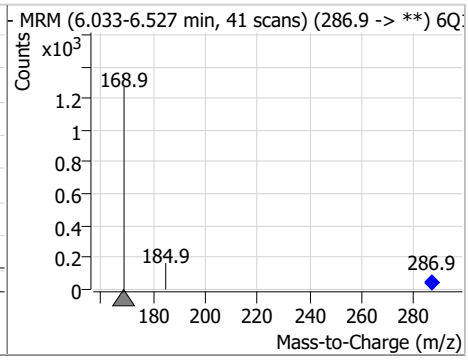




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.04	6.17	0.00	37204				

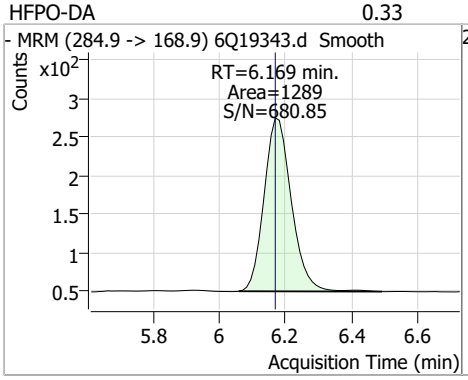


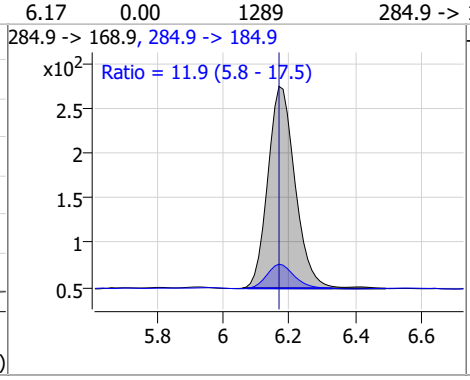


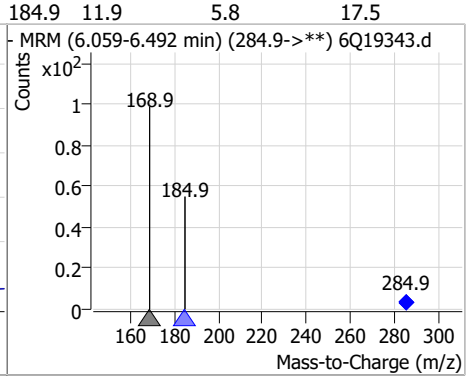


Perfluorinated Compounds by LC/MS/MS

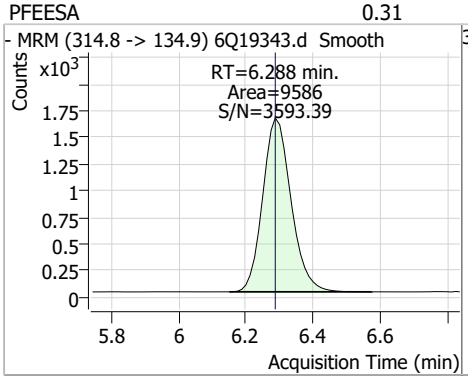
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.33	6.17	0.00	1289	284.9 -> 184.9	11.9	5.8	17.5

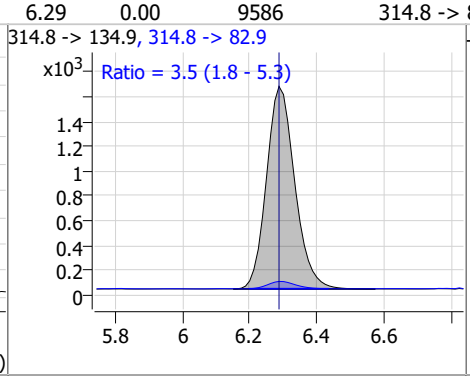


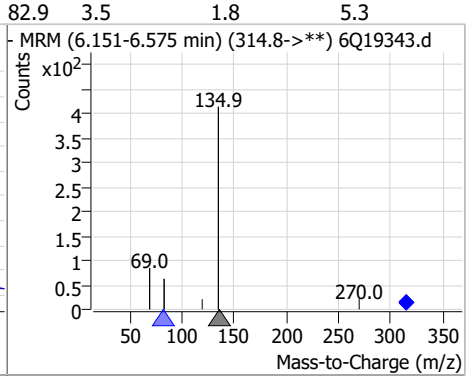




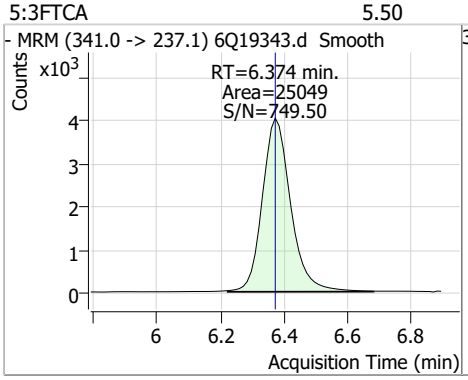
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.31	6.29	0.00	9586	314.8 -> 82.9	3.5	1.8	5.3

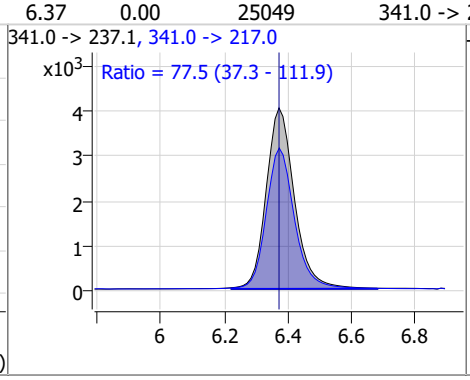


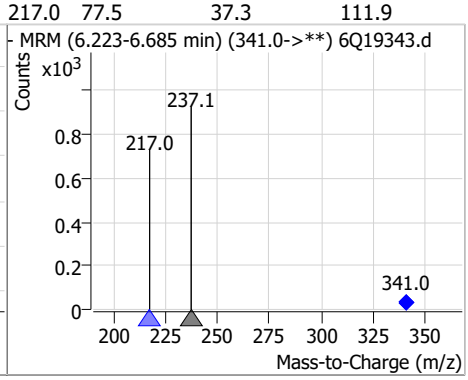




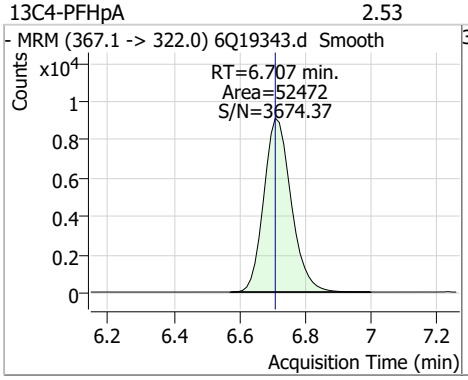
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.50	6.37	0.00	25049	341.0 -> 217.0	77.5	37.3	111.9

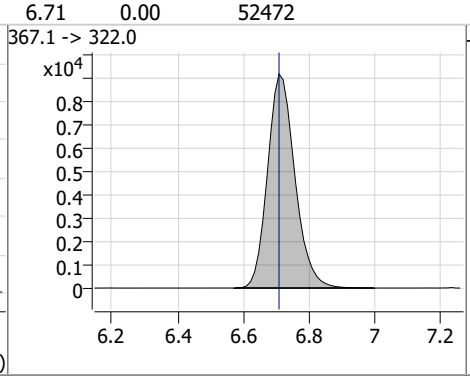


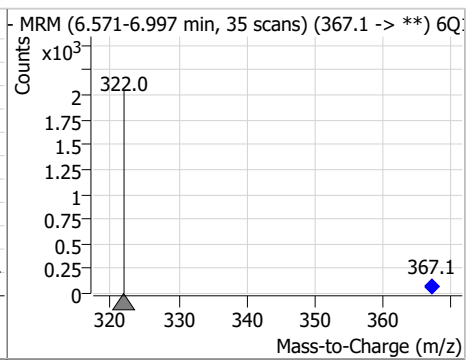




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.53	6.71	0.00	52472				

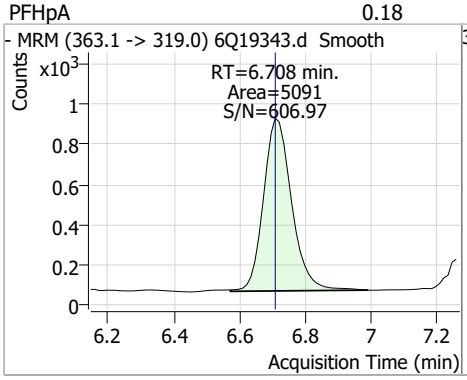


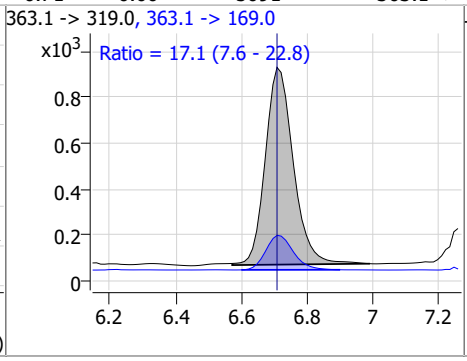


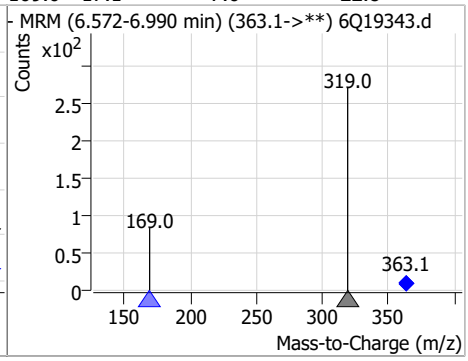


Perfluorinated Compounds by LC/MS/MS

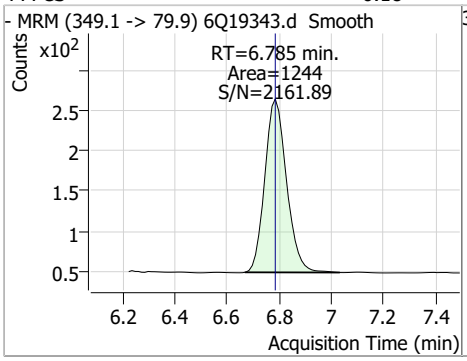
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.18	6.71	0.00	5091	363.1 -> 169.0	17.1	7.6	22.8

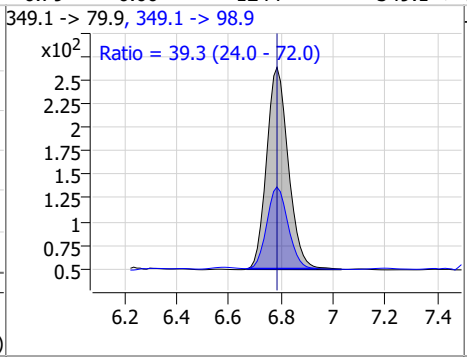


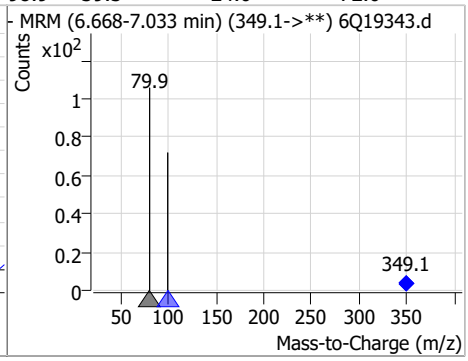




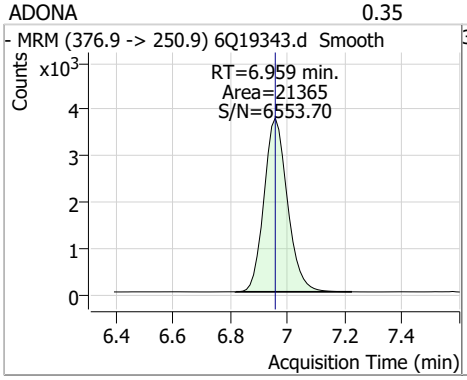
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.18	6.79	0.00	1244	349.1 -> 98.9	39.3	24.0	72.0

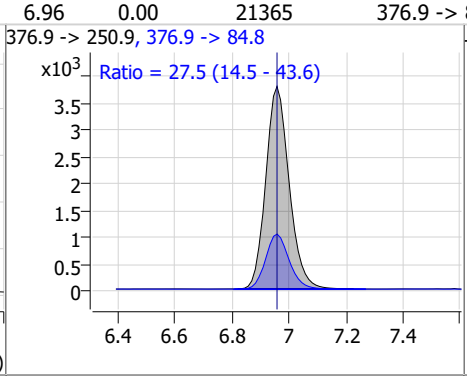


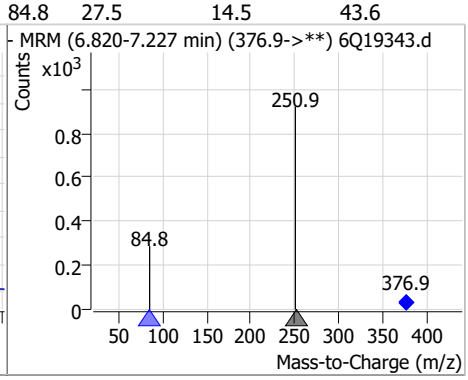




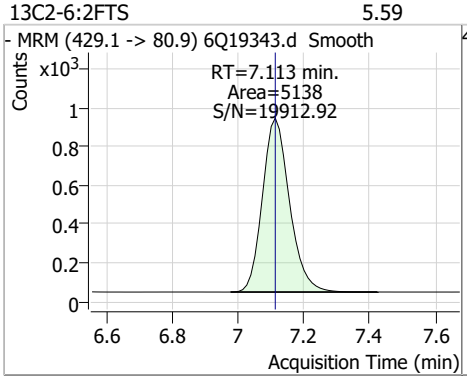
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.35	6.96	0.00	21365	376.9 -> 84.8	27.5	14.5	43.6

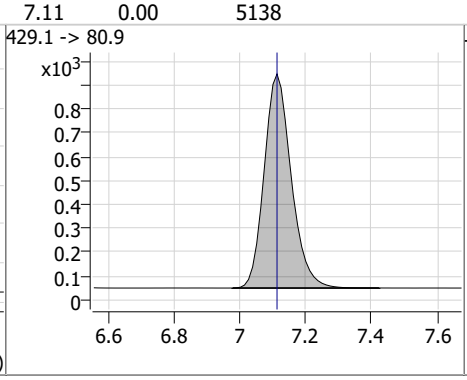


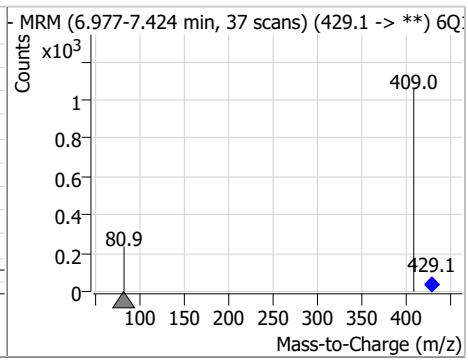




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.59	7.11	0.00	5138				

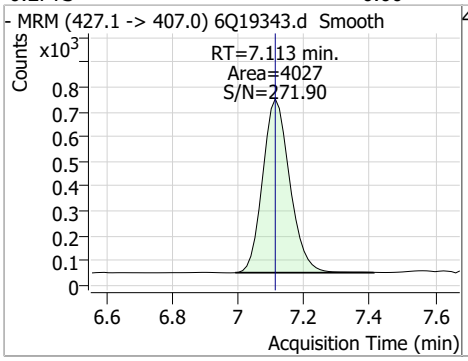


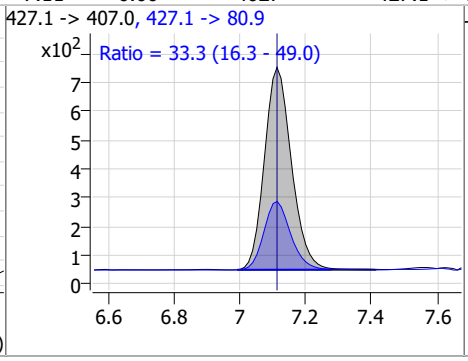


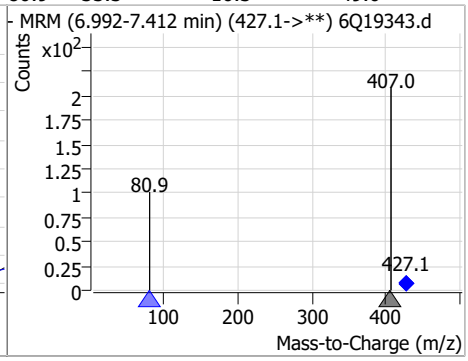


Perfluorinated Compounds by LC/MS/MS

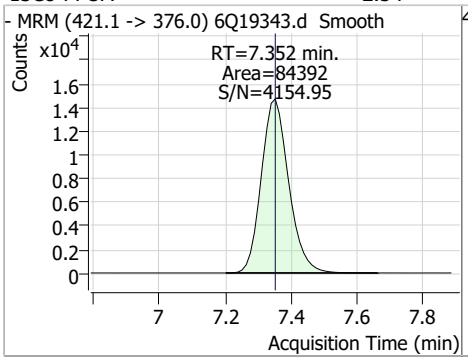
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.66	7.11	0.00	4027	427.1 -> 80.9	33.3	16.3	49.0

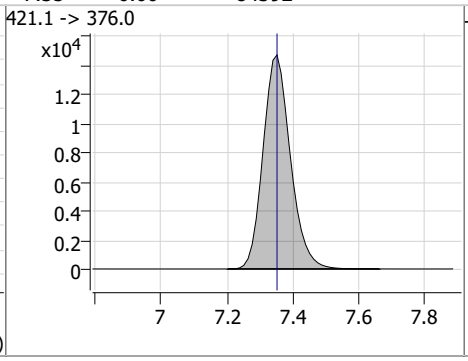


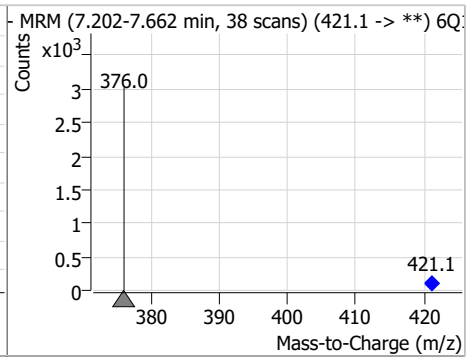




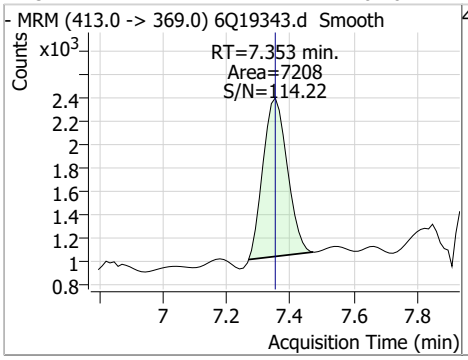
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.54	7.35	0.00	84392				

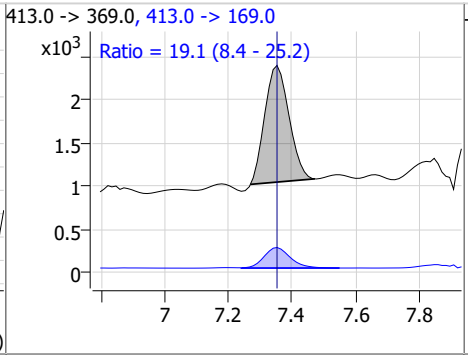


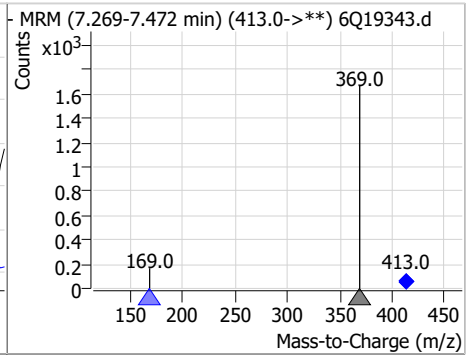




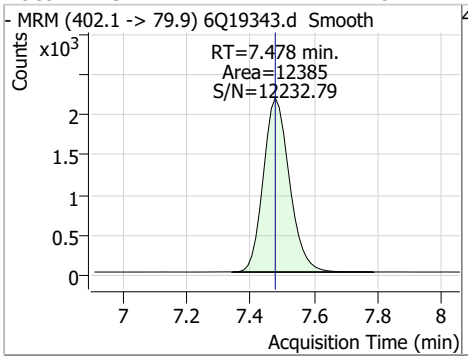
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.16	7.35	0.00	7208	413.0 -> 169.0	19.1	8.4	25.2

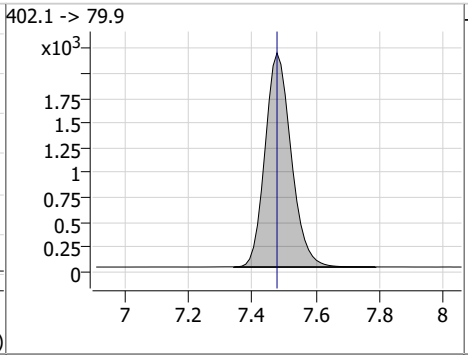


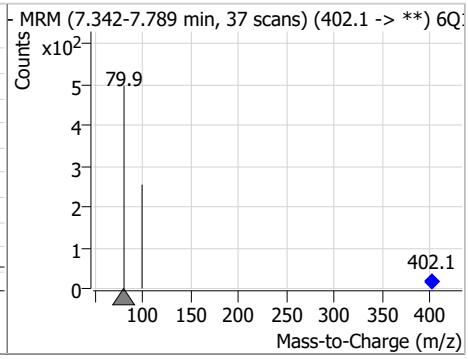




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.32	7.48	0.00	12385				

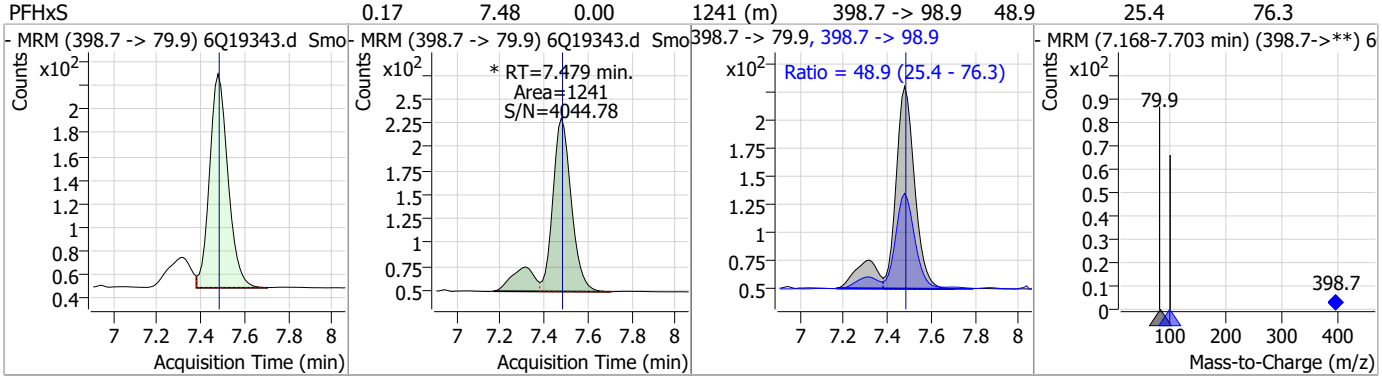




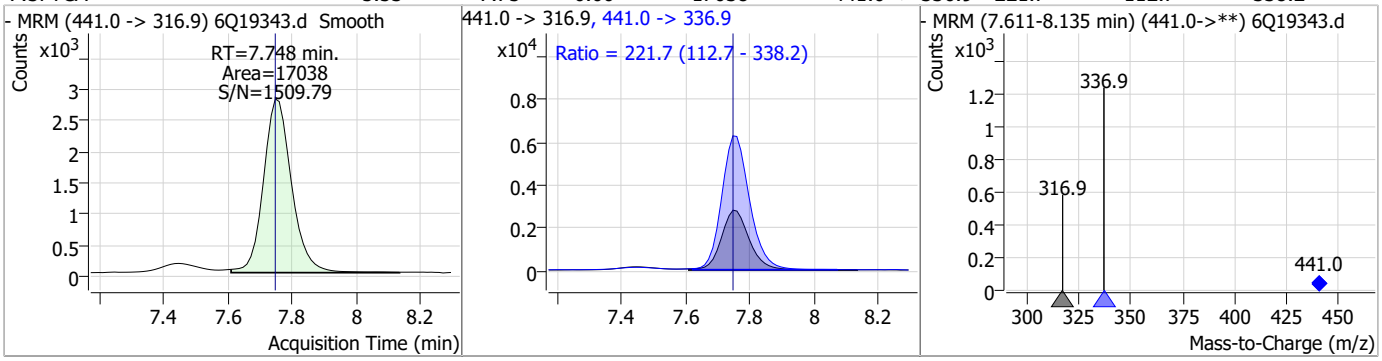


Perfluorinated Compounds by LC/MS/MS

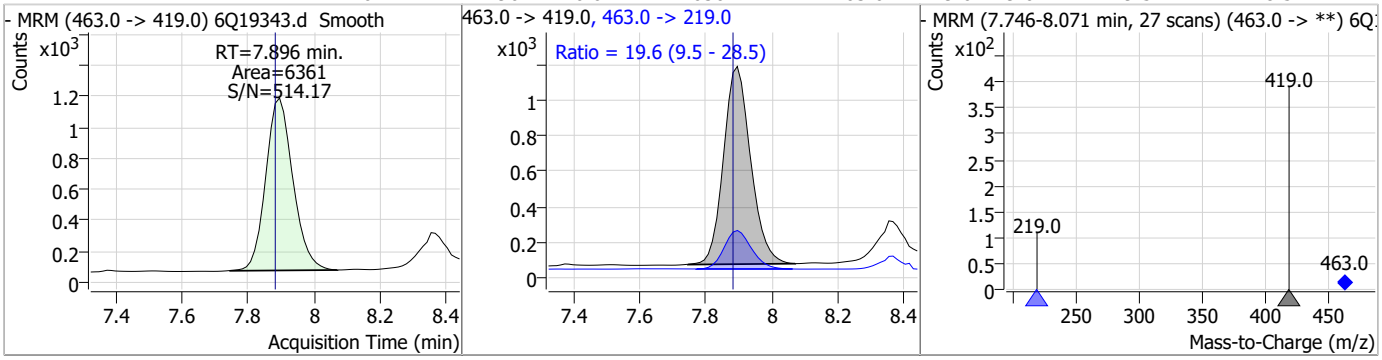
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.17	7.48	0.00	1241 (m)	398.7 -> 98.9	48.9	25.4	76.3



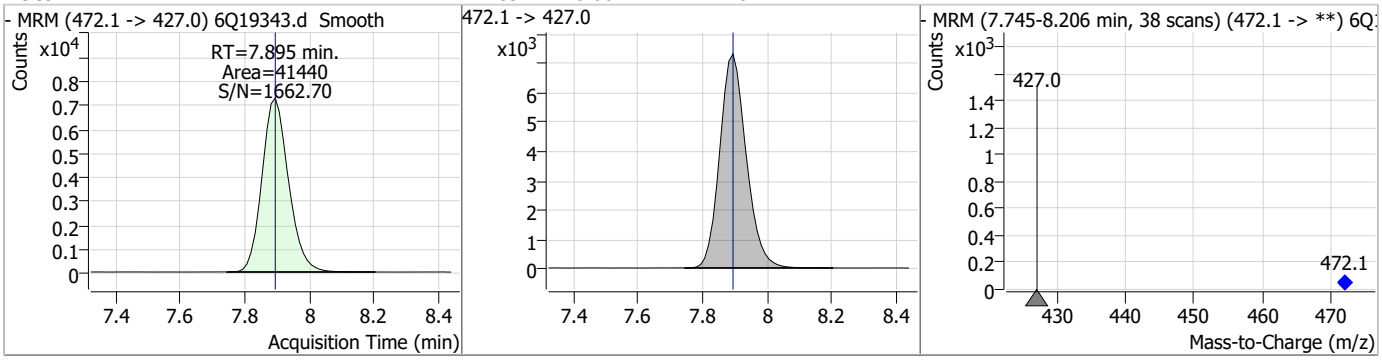
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	5.53	7.75	0.00	17038	441.0 -> 336.9	221.7	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.17	7.90	0.01	6361	463.0 -> 219.0	19.6	9.5	28.5

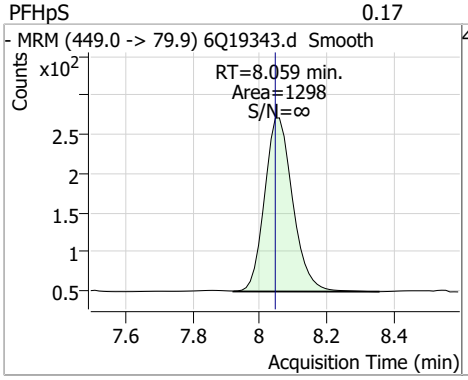


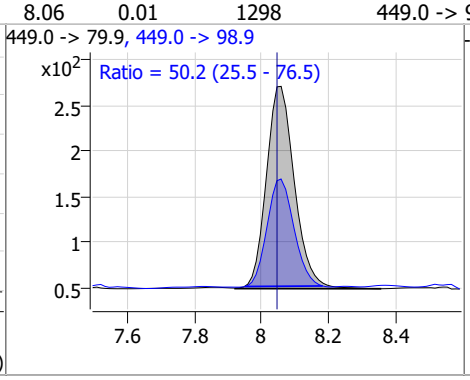
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.47	7.89	0.00	41440				

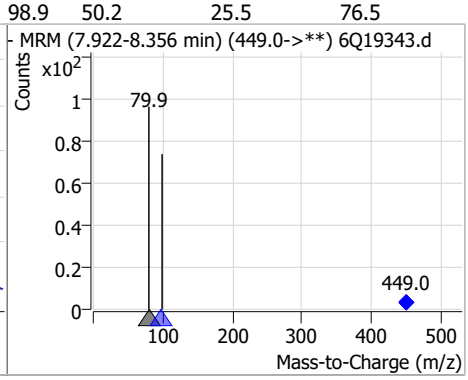


Perfluorinated Compounds by LC/MS/MS

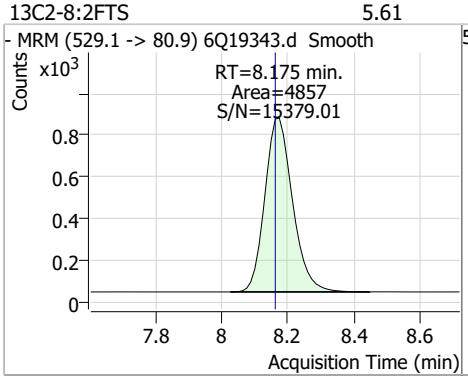
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.17	8.06	0.01	1298	449.0 -> 98.9	50.2	25.5	76.5

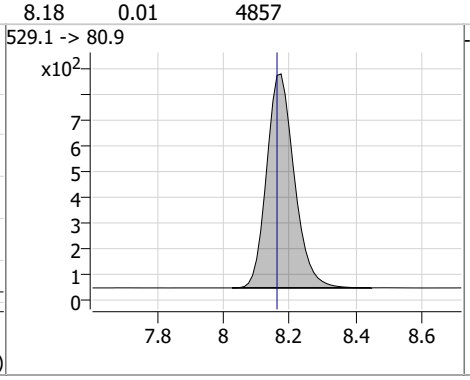


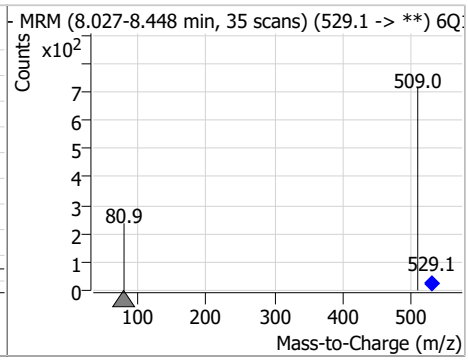




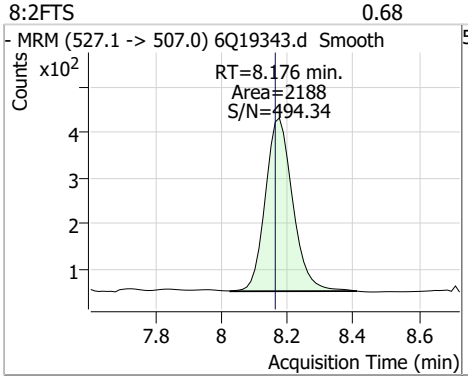
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.61	8.18	0.01	4857				

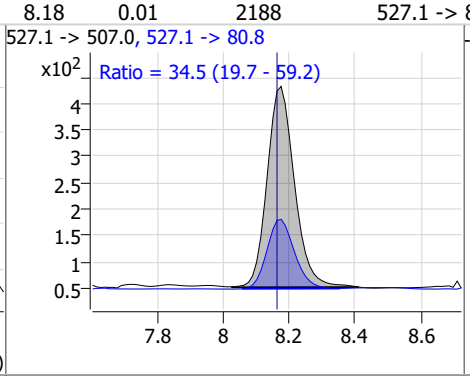


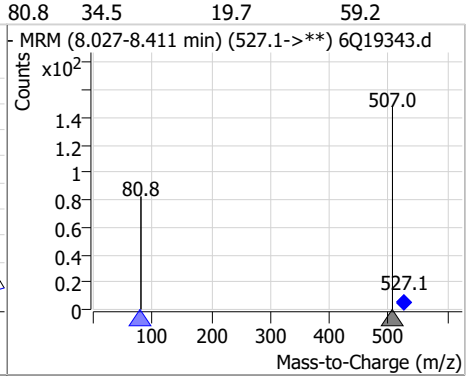




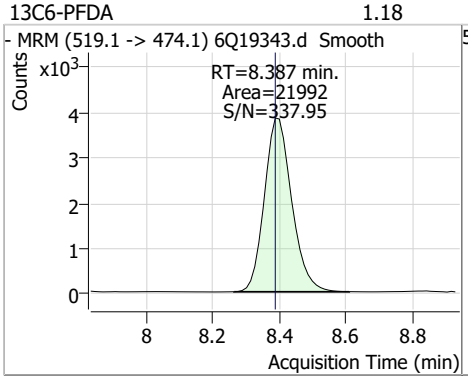
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.68	8.18	0.01	2188	527.1 -> 80.8	34.5	19.7	59.2

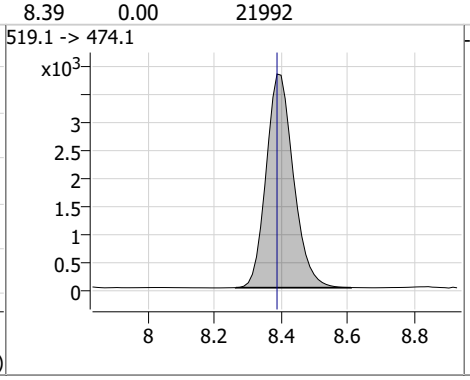


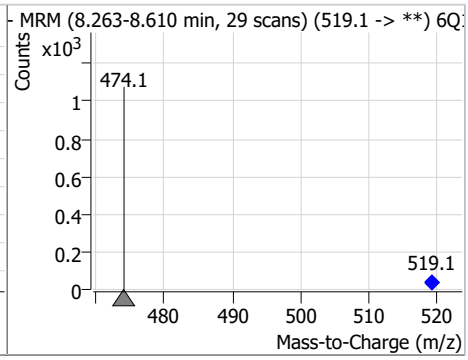




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.18	8.39	0.00	21992				

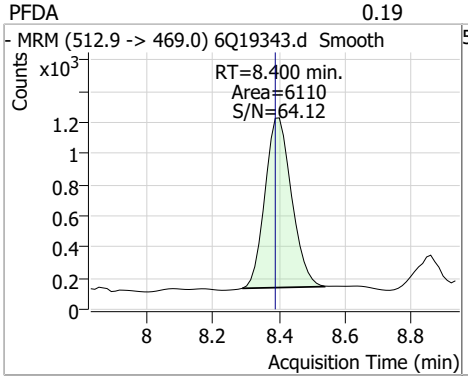


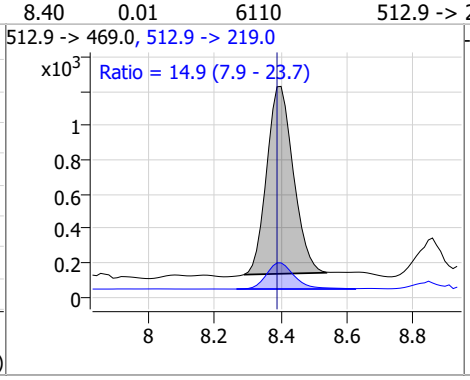


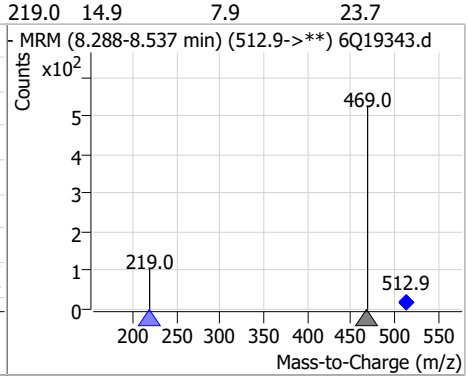


Perfluorinated Compounds by LC/MS/MS

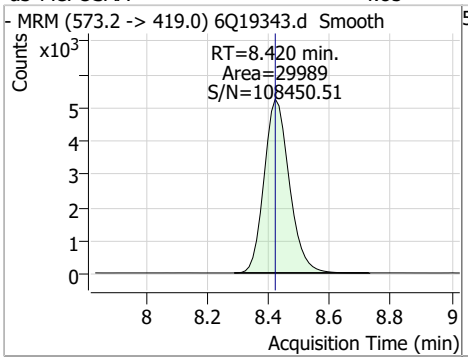
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.19	8.40	0.01	6110	512.9 -> 219.0	14.9	7.9	23.7

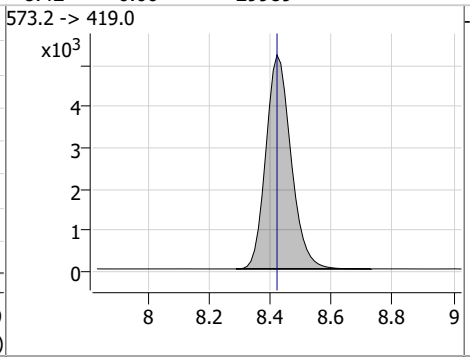


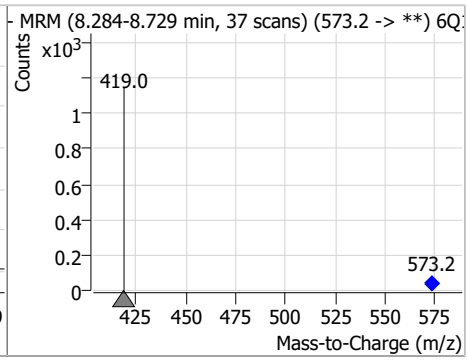




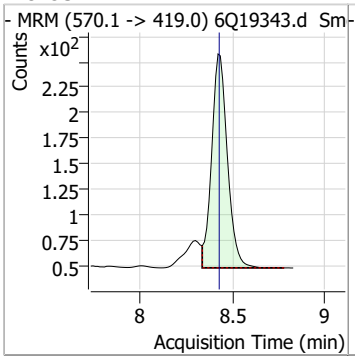
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.85	8.42	0.00	29989				

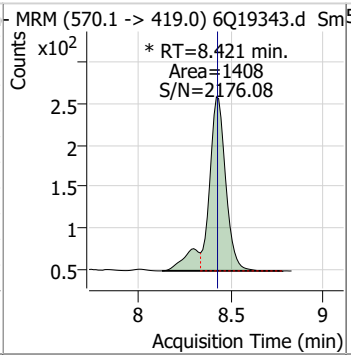


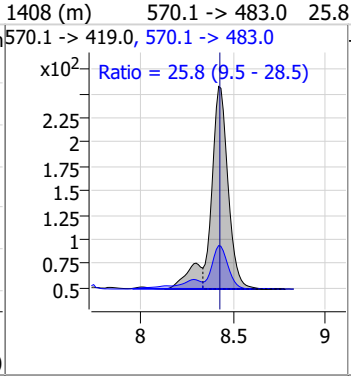


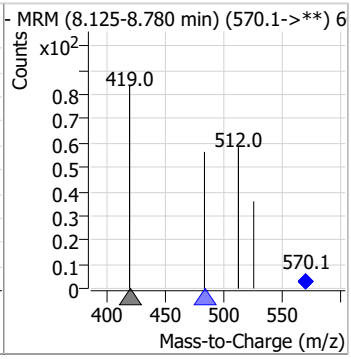


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.18	8.42	0.00	1408 (m)	570.1 -> 483.0	25.8	9.5	28.5

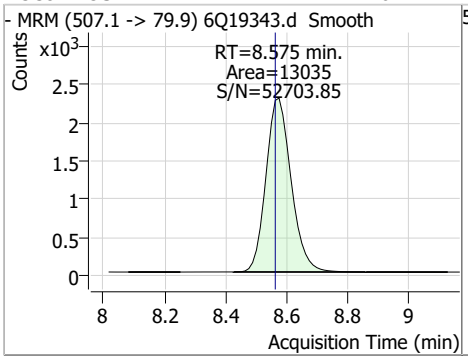


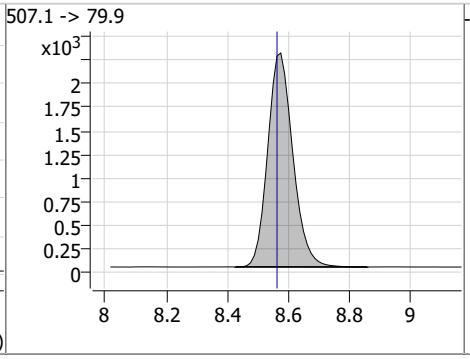


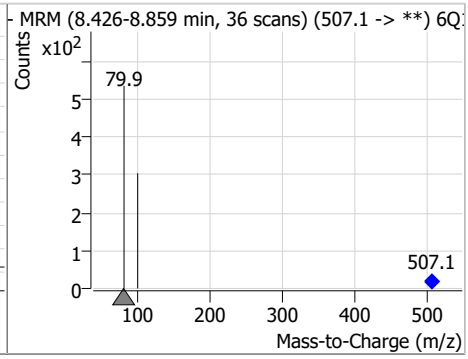




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.64	8.57	0.01	13035				

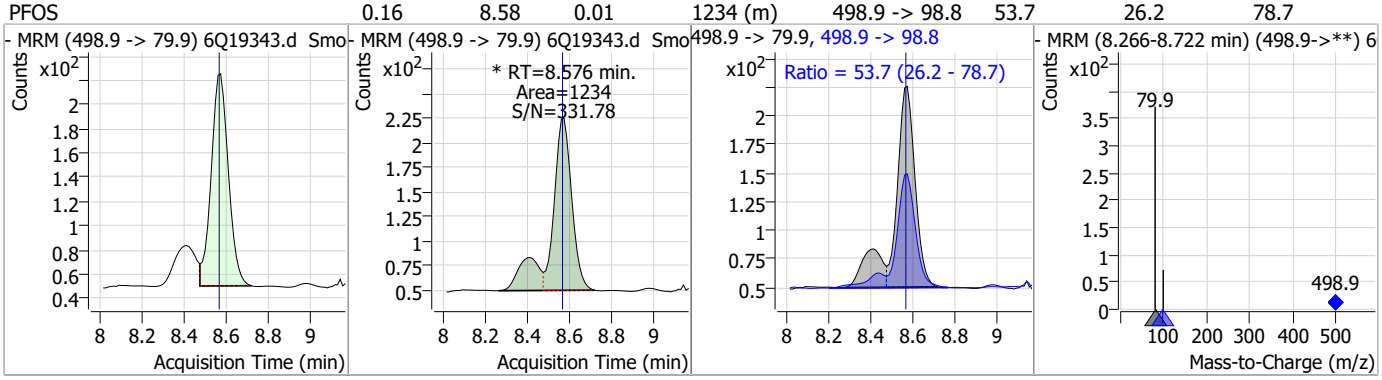




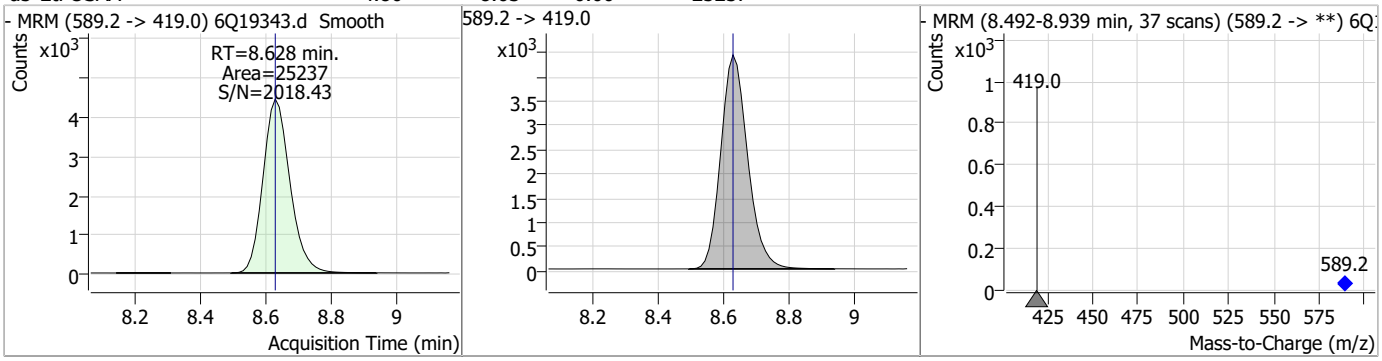


Perfluorinated Compounds by LC/MS/MS

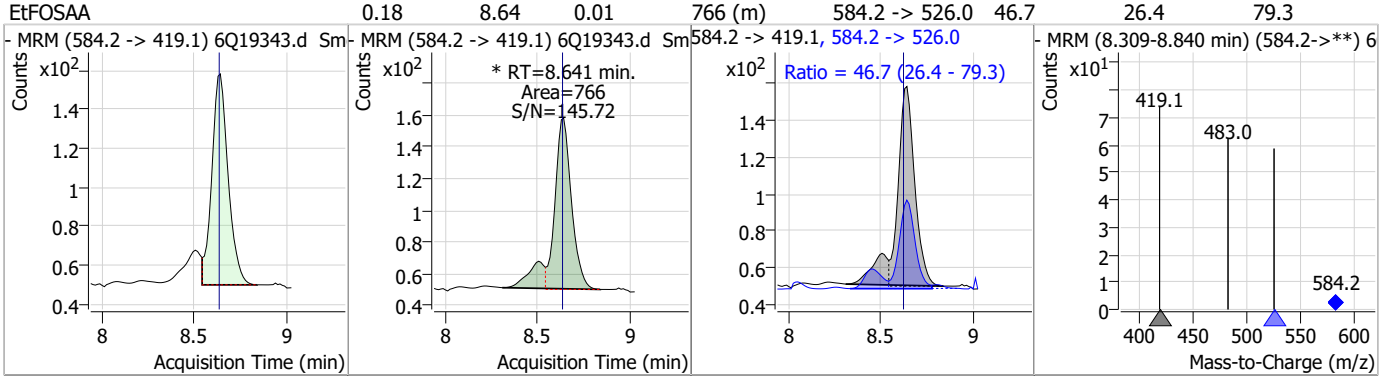
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.16	8.58	0.01	1234 (m)	498.9 -> 98.8	53.7	26.2	78.7



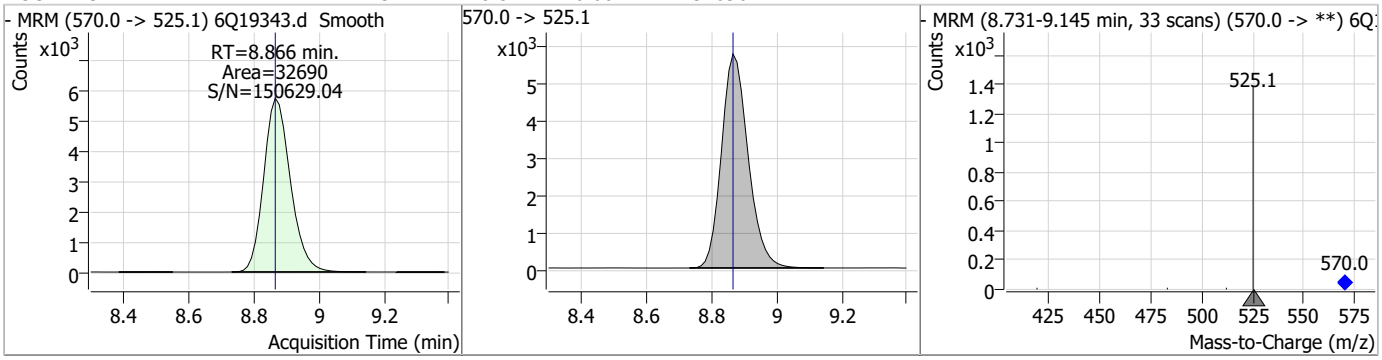
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.80	8.63	0.00	25237				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.18	8.64	0.01	766 (m)	584.2 -> 526.0	46.7	26.4	79.3

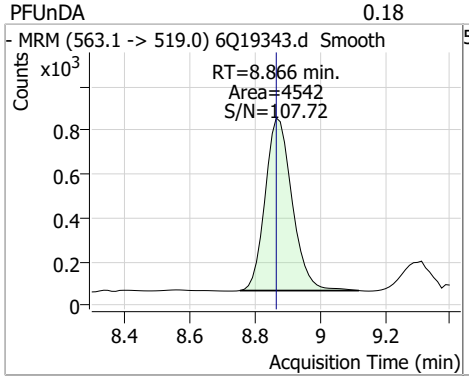


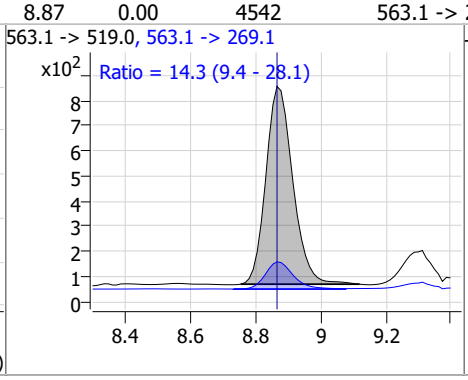
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.31	8.87	0.00	32690				

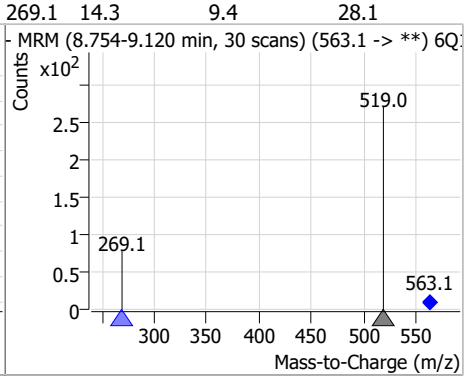


Perfluorinated Compounds by LC/MS/MS

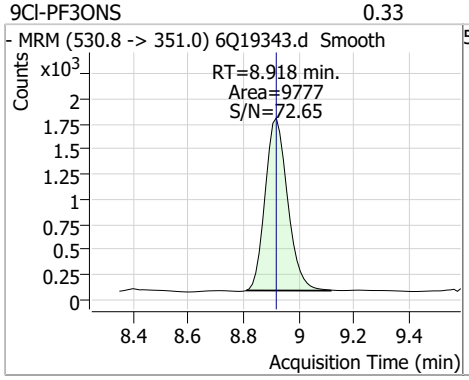
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.18	8.87	0.00	4542	563.1 -> 269.1	14.3	9.4	28.1

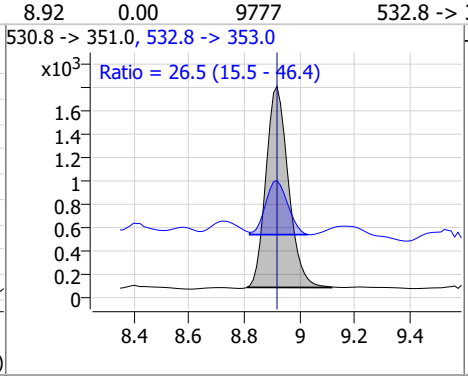


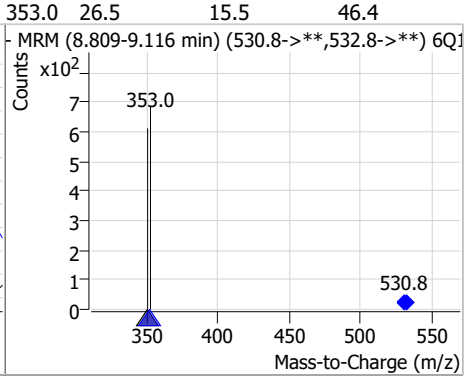




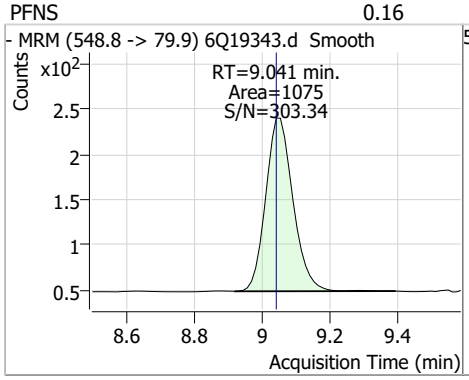
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.33	8.92	0.00	9777	532.8 -> 353.0	26.5	15.5	46.4

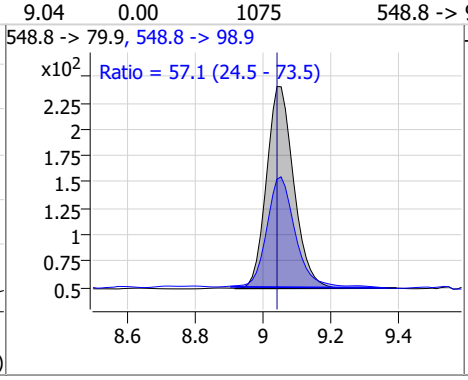


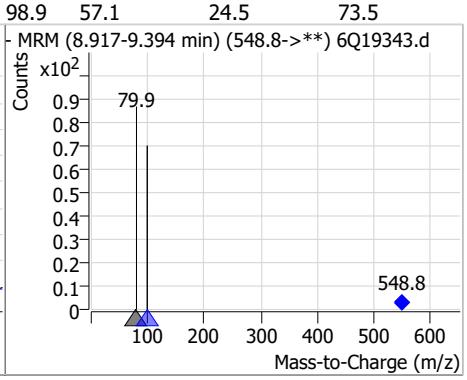




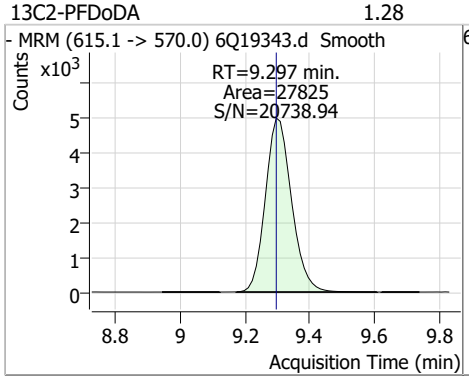
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.16	9.04	0.00	1075	548.8 -> 98.9	57.1	24.5	73.5

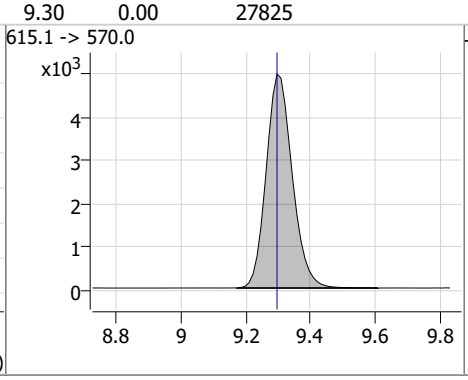


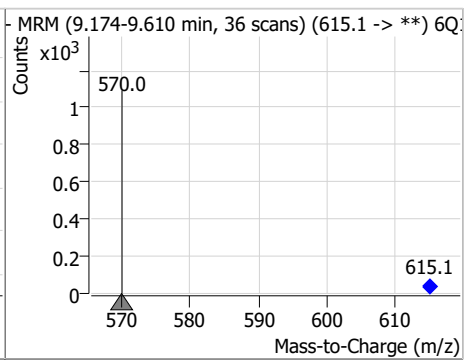




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.28	9.30	0.00	27825				

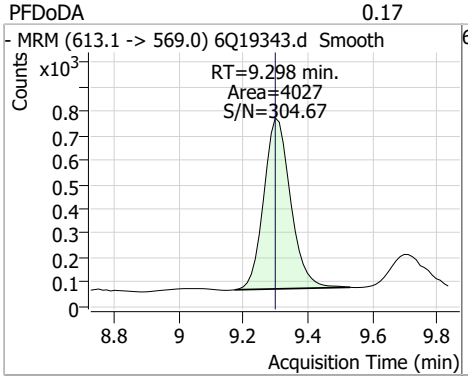


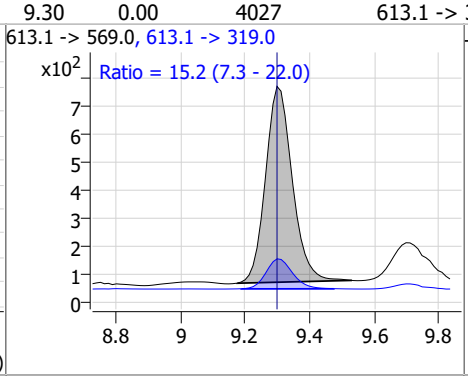


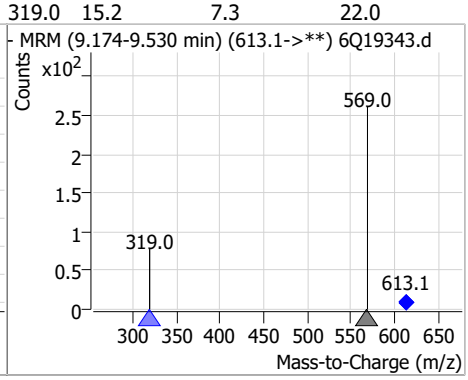


Perfluorinated Compounds by LC/MS/MS

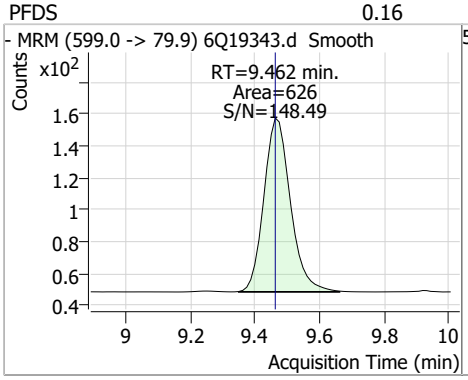
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.17	9.30	0.00	4027	613.1 -> 319.0	15.2	7.3	22.0

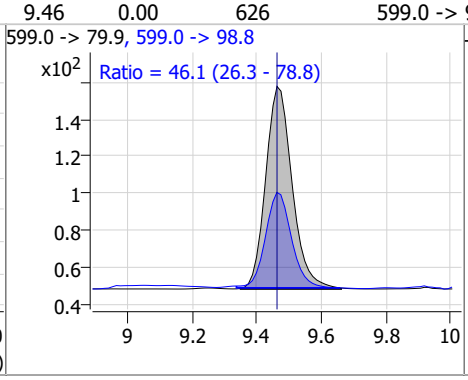


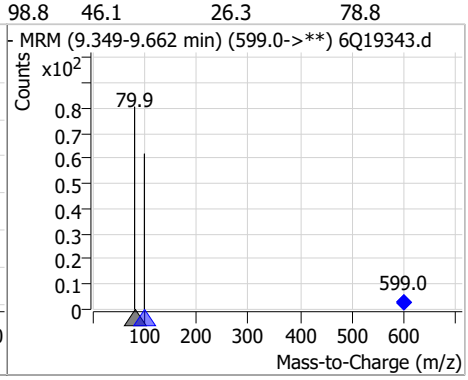




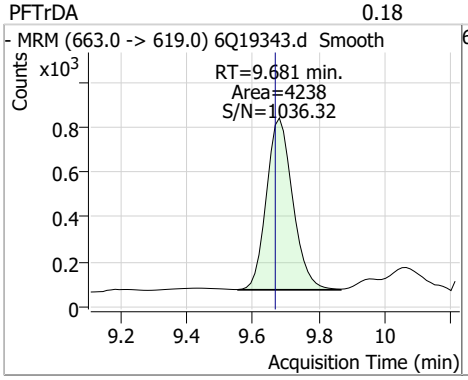
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.16	9.46	0.00	626	599.0 -> 98.8	46.1	26.3	78.8

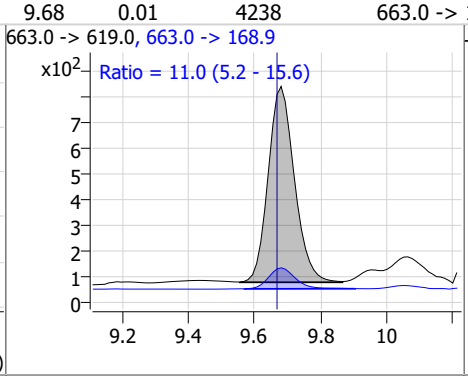


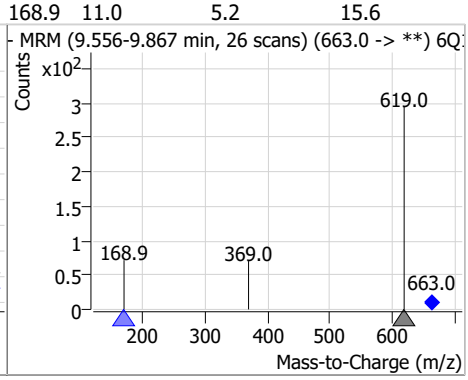




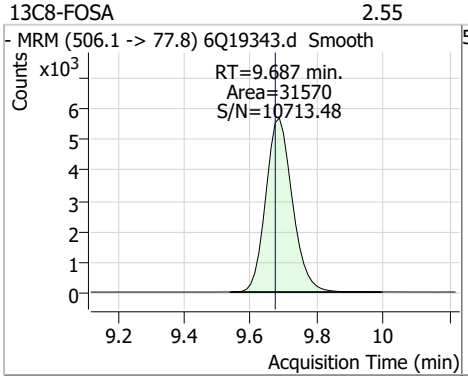
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.18	9.68	0.01	4238	663.0 -> 168.9	11.0	5.2	15.6

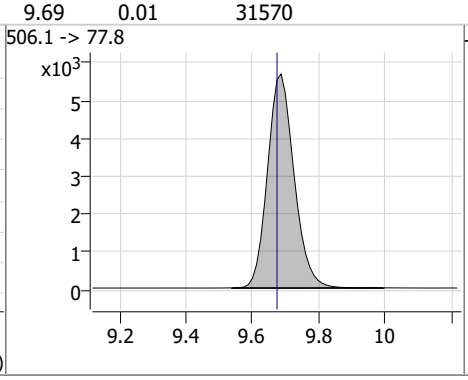


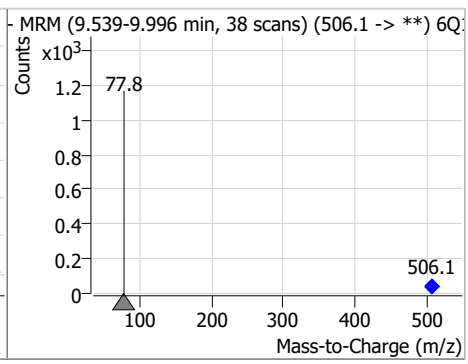




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.55	9.69	0.01	31570				

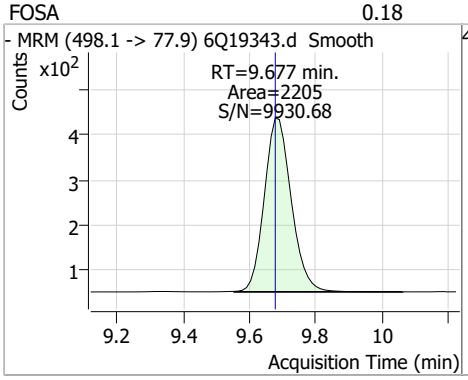


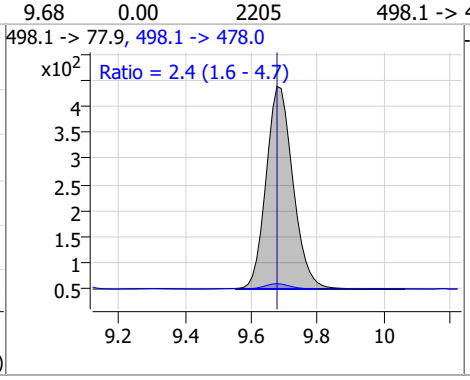


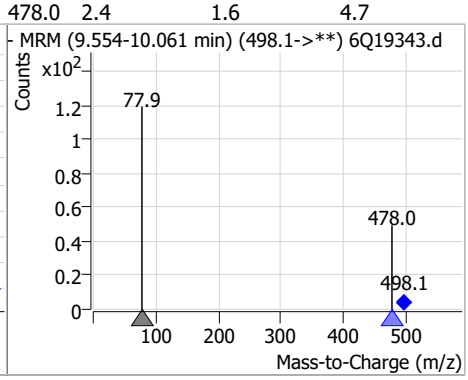


Perfluorinated Compounds by LC/MS/MS

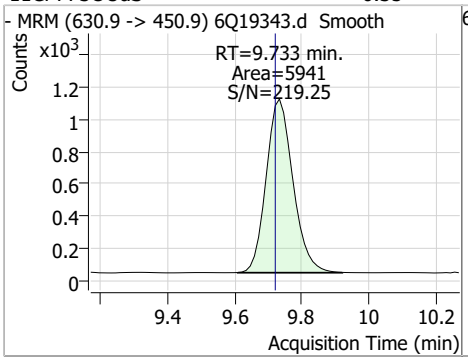
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.18	9.68	0.00	2205	498.1 -> 478.0	2.4	1.6	4.7

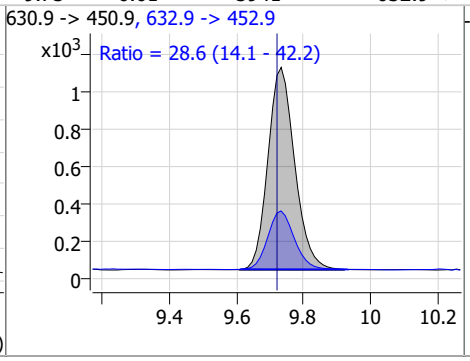


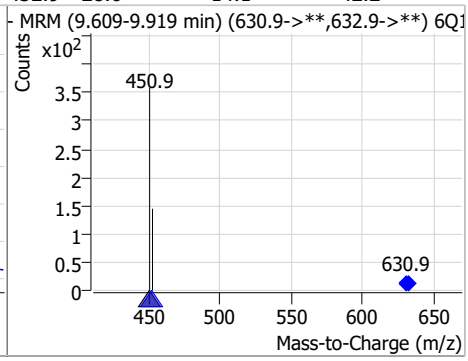




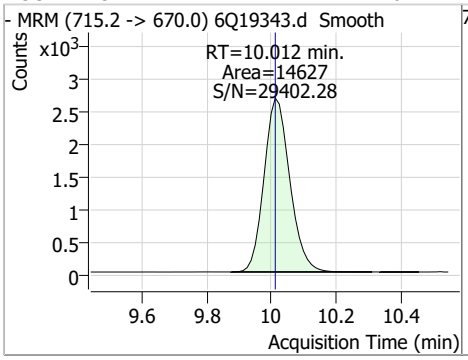
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.35	9.73	0.01	5941	632.9 -> 452.9	28.6	14.1	42.2

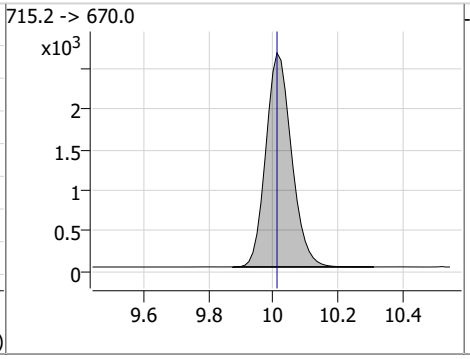


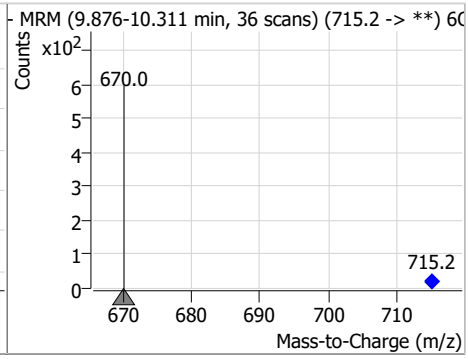




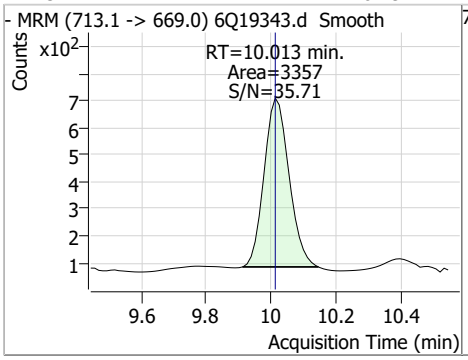
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.20	10.01	0.00	14627				

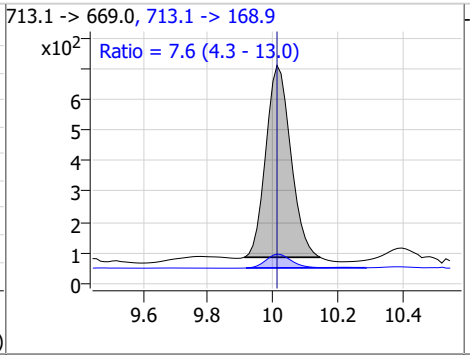


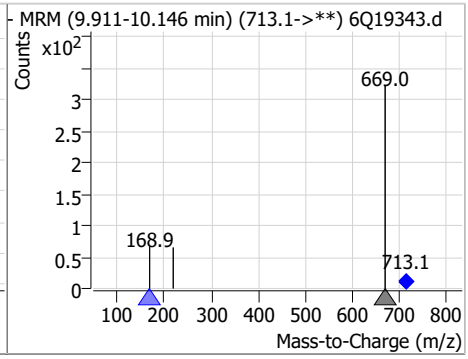




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.19	10.01	0.00	3357	713.1 -> 168.9	7.6	4.3	13.0

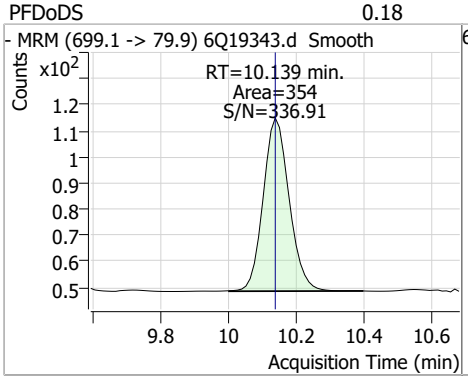


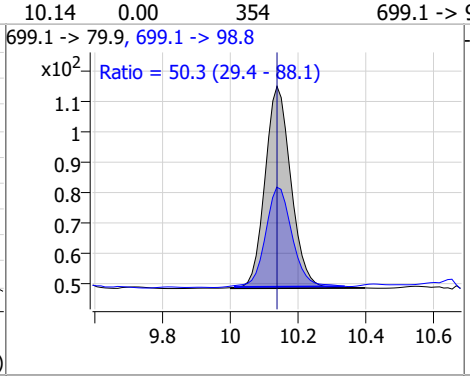


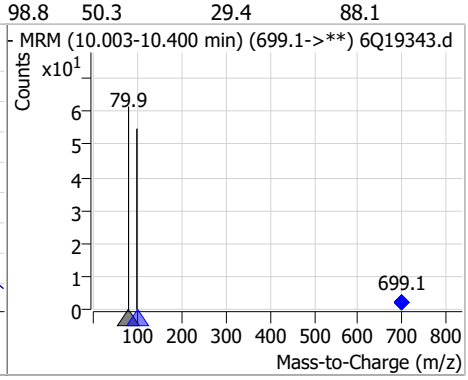


Perfluorinated Compounds by LC/MS/MS

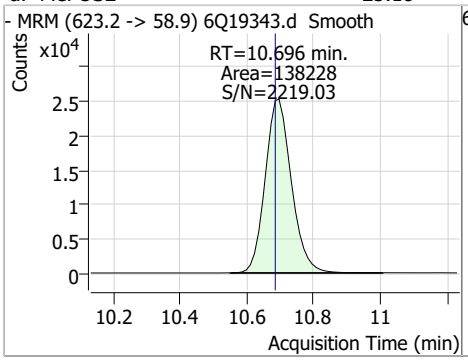
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.18	10.14	0.00	354	699.1 -> 98.8	50.3	29.4	88.1

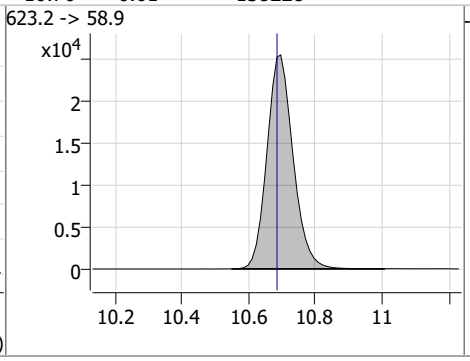


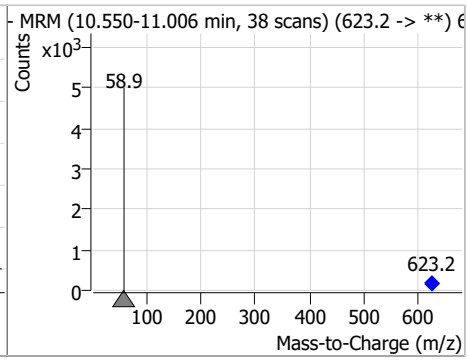




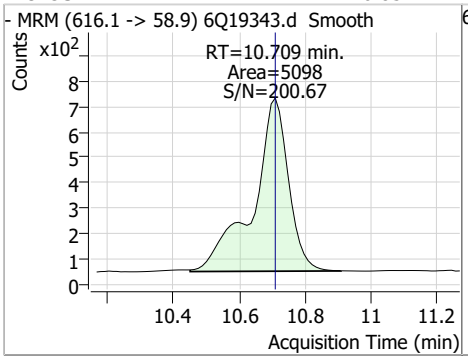
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.18	10.70	0.01	138228				

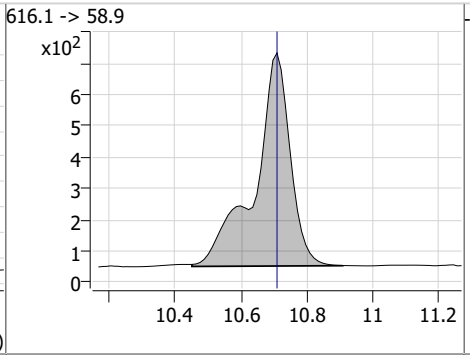


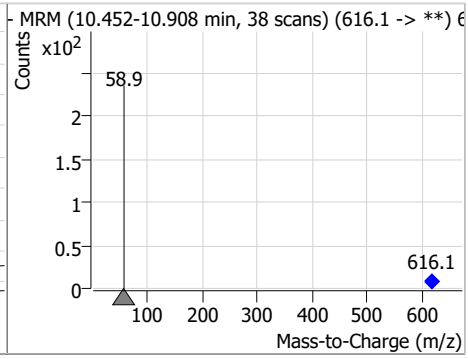




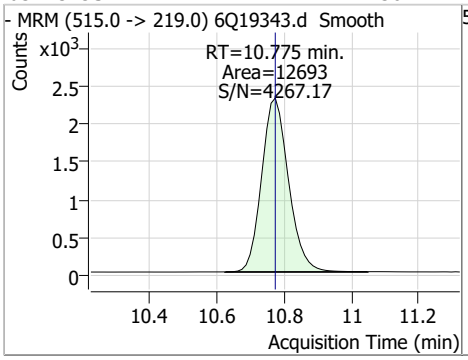
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	0.85	10.71	0.00	5098				

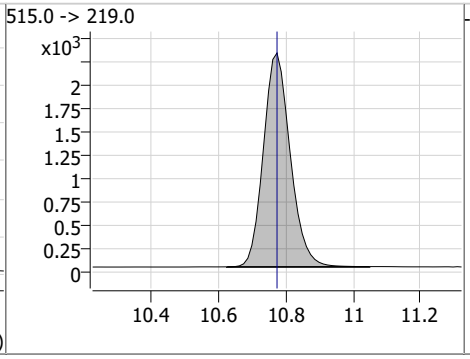


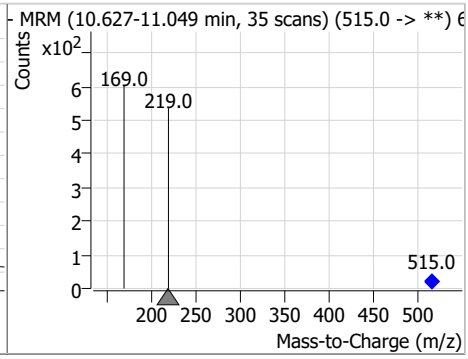




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.36	10.78	0.00	12693				

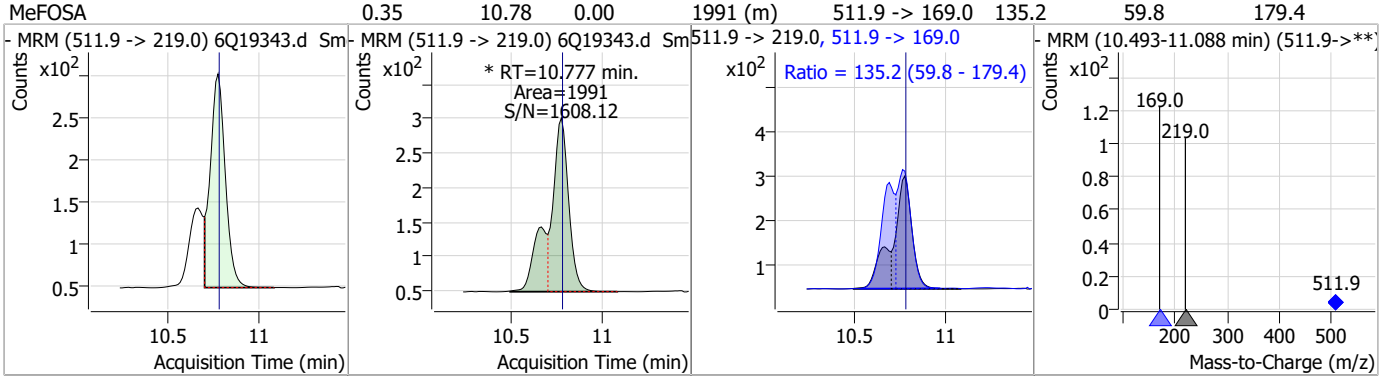




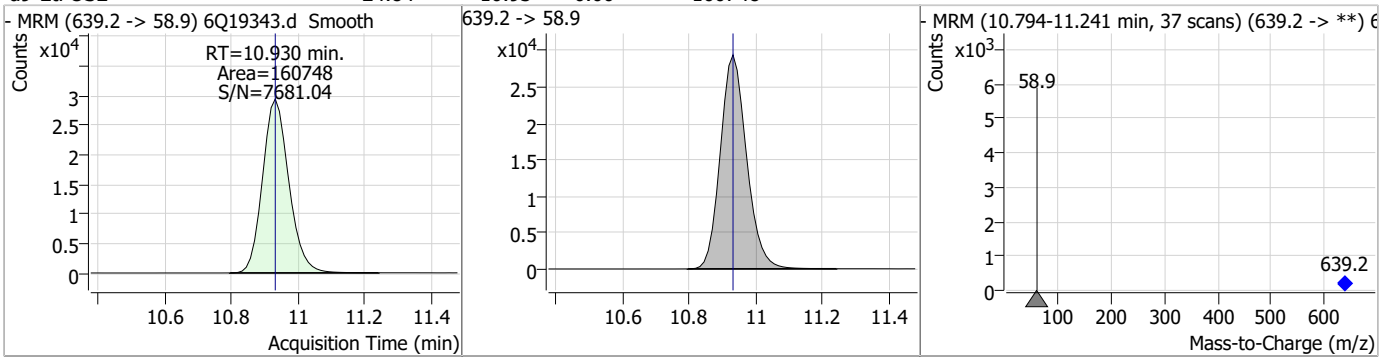


Perfluorinated Compounds by LC/MS/MS

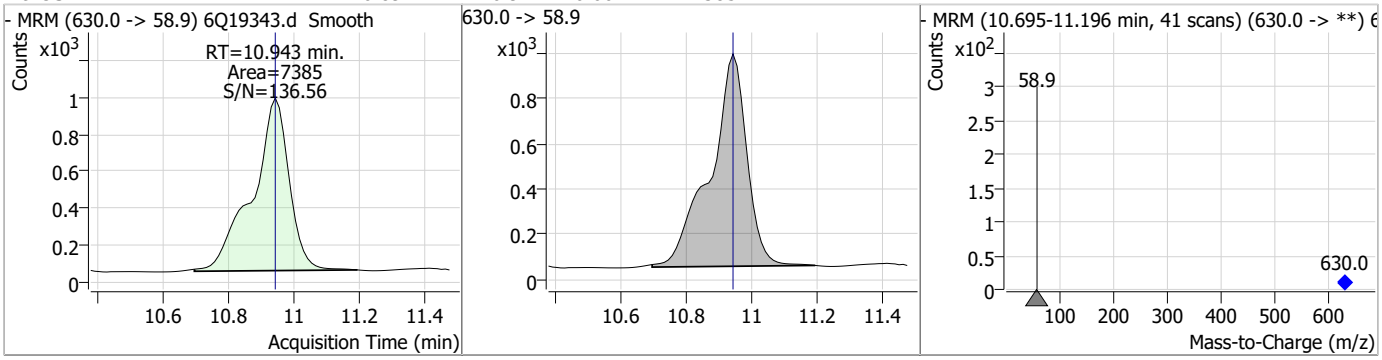
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.35	10.78	0.00	1991 (m)	511.9 -> 169.0	135.2	59.8	179.4



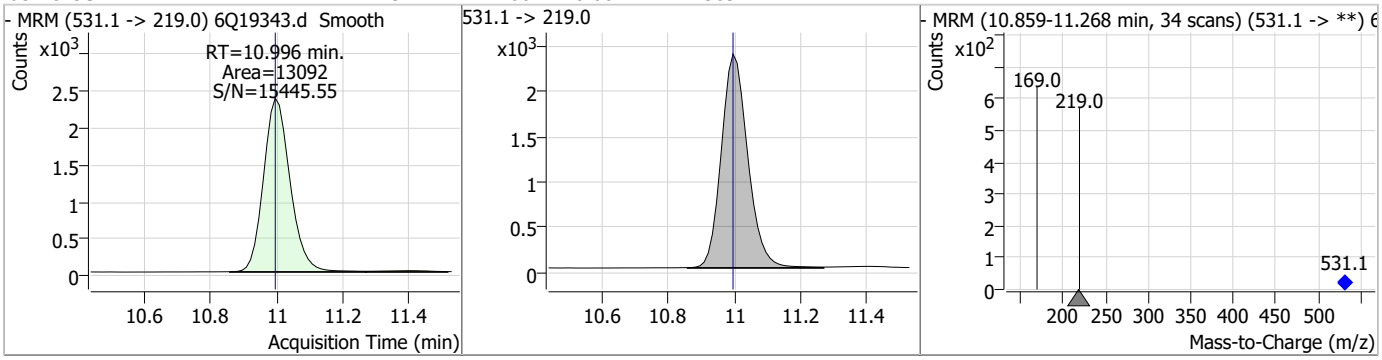
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.84	10.93	0.00	160748				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	0.89	10.94	0.00	7385				

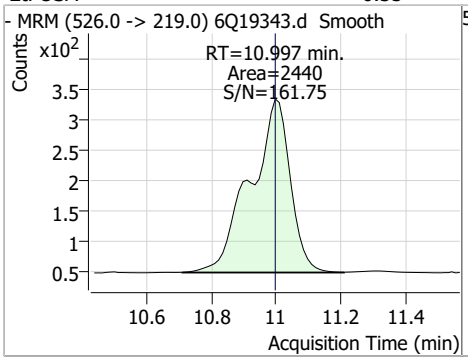


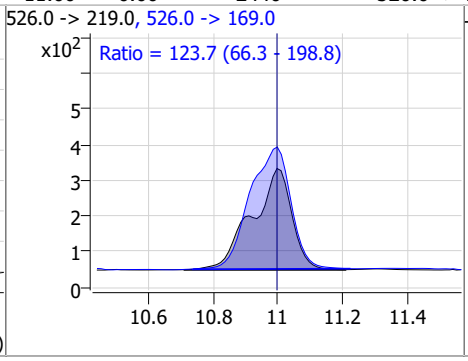
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.49	11.00	0.00	13092				

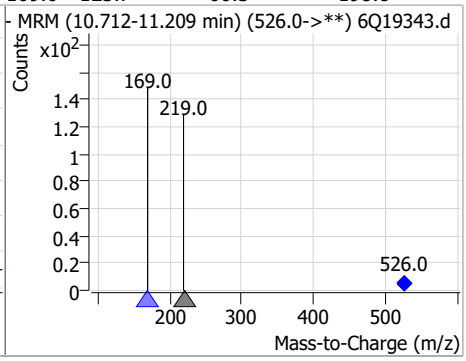


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.35	11.00	0.00	2440	526.0 -> 169.0	123.7	66.3	198.8







7.7.12

7

Manual Integration Approval Summary

Sample Number: S6Q289-CC288
Lab FileID: 6Q19343.D
Injection Time: 06/14/23 14:17
Method: EPA DRAFT 1633
Analyst approved: 06/15/23 10:05 Martha Valls
Supervisor approved: 06/15/23 10:54 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.58	Split peak
EtFOSAA	2991-50-6		8.64	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:54

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19353.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 4:38:47 PM
Sample Name : cc288-4
Vial : P1-A5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	152115	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	49611	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	55193	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	50689	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	82248	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	36539	1.25	µg/L	0.000
M6-PFDA	8.387	519.1 -> 474.1	22351	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	30032	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	26364	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	14419	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	28547	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	18372	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12507	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11560	2.50	µg/L	0.000
M2-4:2FTS	5.442	329.1 -> 80.9	3041	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	4592	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4068	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	31291	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	33997	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	24309	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	124259	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	150408	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12519	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12251	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15242	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	64177	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8886	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	88693	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	31150	1.25	µg/L	0.000
13C5-PFNA	7.895	468.0 -> 423.0	46825	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	51732	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	3041	5.70	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.1%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4592	5.70	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.1%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4068	5.37	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.4%		
13C2-PFDoDA	9.297	615.1 -> 570.0	26364	1.27	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.3%		
13C2-PFTeDA	10.012	715.2 -> 670.0	14419	1.24	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.2%		
13C3-PFBS	5.746	302.1 -> 79.9	18372	2.48	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%		
13C3-PFHxS	7.478	402.1 -> 79.9	12507	2.68	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.1%		
13C4-PFBA	3.085	216.8 -> 171.9	152115	10.10 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.0%		
13C4-PFHpA	6.707	367.1 -> 322.0	50689	2.54 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%		
13C5-PFHxA	5.792	318.0 -> 273.0	55193	2.59 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.4%		
13C5-PFPeA	4.560	268.3 -> 223.0	49611	5.07 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C6-PFDA	8.387	519.1 -> 474.1	22351	1.25 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C7-PFUnDA	8.866	570.0 -> 525.1	30032	1.25 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C8-FOSA	9.687	506.1 -> 77.8	28547	2.47 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C8-PFOA	7.352	421.1 -> 376.0	82248	2.48 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%		
13C8-PFOS	8.563	507.1 -> 79.9	11560	2.51 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C9-PFNA	7.895	472.1 -> 427.0	36539	1.28 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.6%		
d3-MeFOSAA	8.420	573.2 -> 419.0	31291	5.43 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.5%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	33997	9.52 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.2%		
d3-MeFOSA	10.775	515.0 -> 219.0	12251	2.44 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.7%		
d5-EtFOSAA	8.628	589.2 -> 419.0	24309	4.97 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
d7-MeFOSE	10.696	623.2 -> 58.9	124259	24.30 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.2%		
d9-EtFOSE	10.930	639.2 -> 58.9	150408	24.95 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
d5-EtFOSA	10.996	531.1 -> 219.0	12519	2.56 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	47495	8.98 µg/L		97
		327.1 -> 80.9	18529			
6:2FTS	7.113	427.1 -> 407.0	50670	9.27 µg/L		97
		427.1 -> 80.9	17431			
8:2FTS	8.164	527.1 -> 507.0	25046	9.26 µg/L		95
		527.1 -> 80.8	10717			
EtFOSAA	8.629	584.2 -> 419.1	9881	2.40 µg/L	m	98
		584.2 -> 526.0	5376			
FOSA	9.677	498.1 -> 77.9	27172	2.40 µg/L		100
		498.1 -> 478.0	857			
MeFOSAA	8.421	570.1 -> 419.0	18868	2.33 µg/L	m	99
		570.1 -> 483.0	3517			
PFBA	3.093	212.8 -> 168.9	59221	9.66 µg/L		100
PFBS	5.747	298.7 -> 79.9	18794	2.29 µg/L		98
		298.7 -> 98.8	6967			
PFDA	8.388	512.9 -> 469.0	80265	2.41 µg/L		99
		512.9 -> 219.0	12270			
PFDoDA	9.298	613.1 -> 569.0	50226	2.29 µg/L		97
		613.1 -> 319.0	8024			
PFDS	9.462	599.0 -> 79.9	8649	2.47 µg/L		90

Perfluorinated Compounds by LC/MS/MS

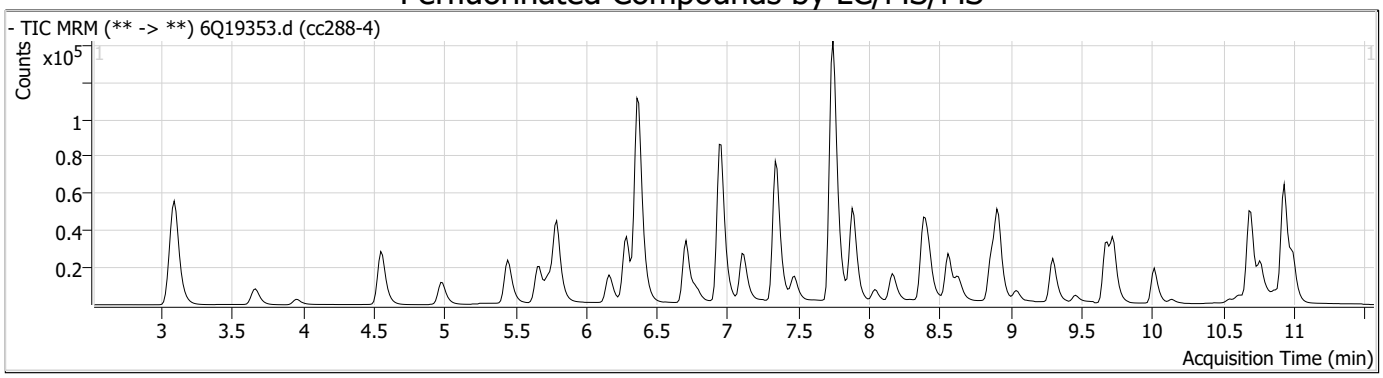
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3926				
PFHpA	6.708	363.1 -> 319.0	65825	2.43	µg/L		100
		363.1 -> 169.0	9915				
PFHpS	8.046	449.0 -> 79.9	15064	2.18	µg/L		97
		449.0 -> 98.9	7950				
PFHxA	5.795	313.0 -> 269.0	50584	2.27	µg/L		100
		313.0 -> 118.9	2618				
PFHxS	7.479	398.7 -> 79.9	15573	2.07	µg/L	m	98
		398.7 -> 98.9	7708				
PFNA	7.896	463.0 -> 419.0	81786	2.42	µg/L		99
		463.0 -> 219.0	15305				
PFNS	9.053	548.8 -> 79.9	13452	2.24	µg/L		89
		548.8 -> 98.9	7577				
PFOA	7.353	413.0 -> 369.0	98187	2.17	µg/L		99
		413.0 -> 169.0	16729				
PFOS	8.576	498.9 -> 79.9	15932	2.32	µg/L	m	90
		498.9 -> 98.8	7201				
PFPeA	4.551	263.0 -> 219.0	68961	4.71	µg/L		100
PFPeS	6.785	349.1 -> 79.9	15309	2.18	µg/L		94
		349.1 -> 98.9	6760				
PFTeDA	10.013	713.1 -> 669.0	43882	2.54	µg/L		99
		713.1 -> 168.9	3611				
PFTrDA	9.681	663.0 -> 619.0	52358	2.36	µg/L		97
		663.0 -> 168.9	5941				
PFUnDA	8.866	563.1 -> 519.0	55130	2.38	µg/L		96
		563.1 -> 269.1	9344				
11Cl-PF3OUdS	9.733	630.9 -> 450.9	74428	4.81	µg/L		96
		632.9 -> 452.9	22613				
9Cl-PF3ONS	8.918	530.8 -> 351.0	123303	4.62	µg/L		97
		532.8 -> 353.0	35917				
ADONA	6.959	376.9 -> 250.9	265391	4.82	µg/L		95
		376.9 -> 84.8	70186				
HFPO-DA	6.169	284.9 -> 168.9	18031	5.07	µg/L		100
		284.9 -> 184.9	2106				
3:3FTCA	3.958	241.0 -> 177.0	11442	11.55	µg/L		100
		241.0 -> 117.0	1539				
5:3FTCA	6.374	341.0 -> 237.1	259073	58.52	µg/L		96
		341.0 -> 217.0	184885				
7:3FTCA	7.748	441.0 -> 316.9	175926	58.77	µg/L		98
		441.0 -> 336.9	391909				
EtFOSA	10.997	526.0 -> 219.0	30481	4.56	µg/L		97
		526.0 -> 169.0	41476				
EtFOSE	10.943	630.0 -> 58.9	87239	11.21	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	25932	4.67	µg/L	m	78
		511.9 -> 169.0	37375				
MeFOSE	10.709	616.1 -> 58.9	65083	12.09	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	4271	2.48	µg/L		94
		699.1 -> 98.8	2303				
NFDHA	5.673	295.0 -> 201.0	12593	4.43	µg/L		97
		295.0 -> 84.9	3198				
PFMBA	4.988	279.0 -> 85.1	48955	4.69	µg/L		100
PFMPA	3.667	229.0 -> 84.9	38749	4.74	µg/L		100
PFEESA	6.288	314.8 -> 134.9	124718	4.14	µg/L		99
		314.8 -> 82.9	4001				

 # = Qualifier out of range, m = manually integrated, + = Area summed

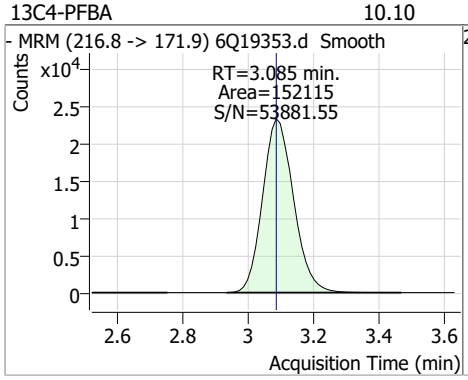
Perfluorinated Compounds by LC/MS/MS

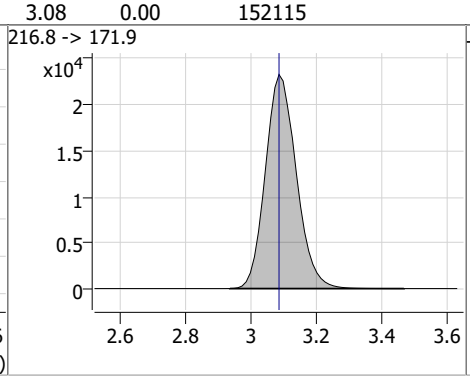
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

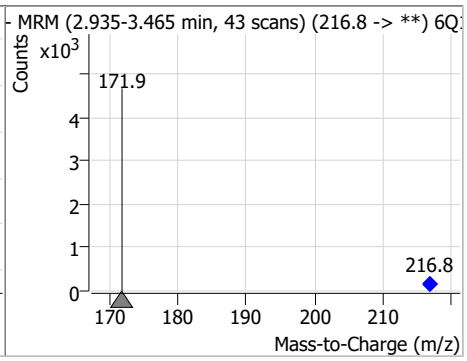
Perfluorinated Compounds by LC/MS/MS



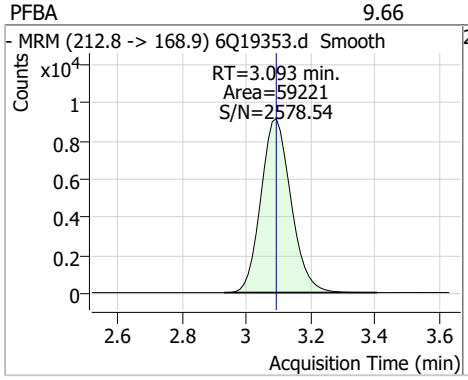
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.10	3.08	0.00	152115				

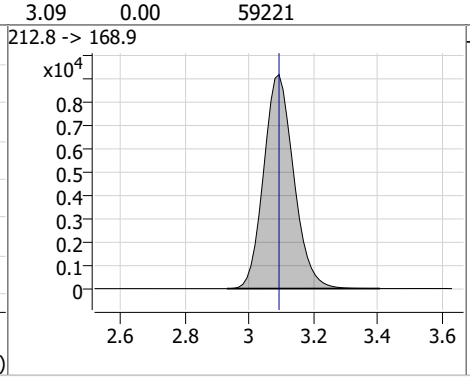


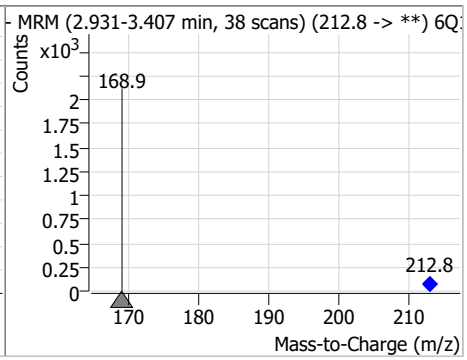




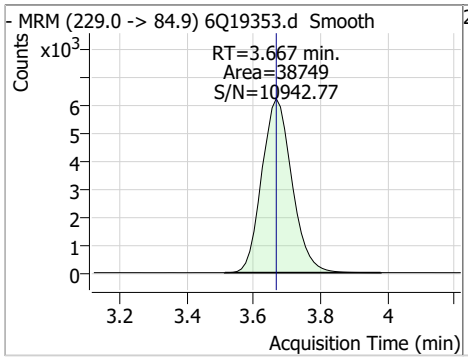
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.66	3.09	0.00	59221				

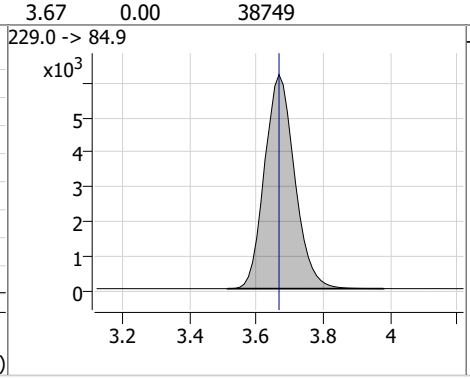


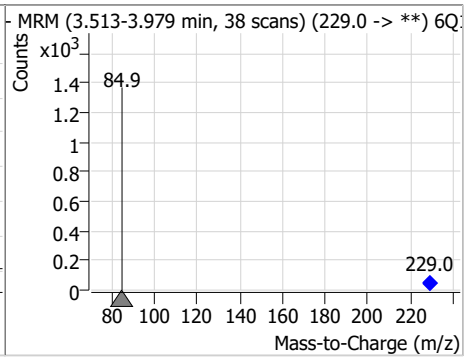




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.74	3.67	0.00	38749				

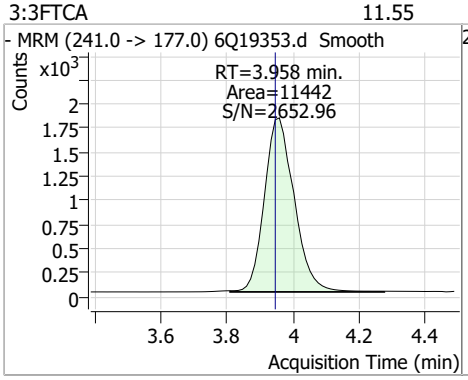


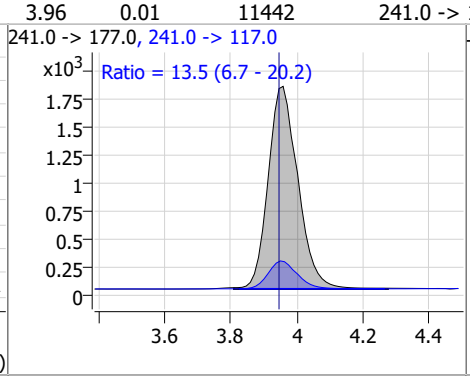


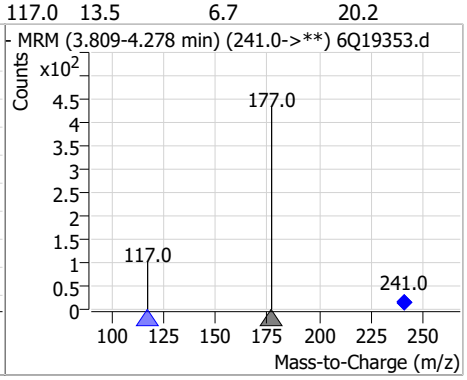


Perfluorinated Compounds by LC/MS/MS

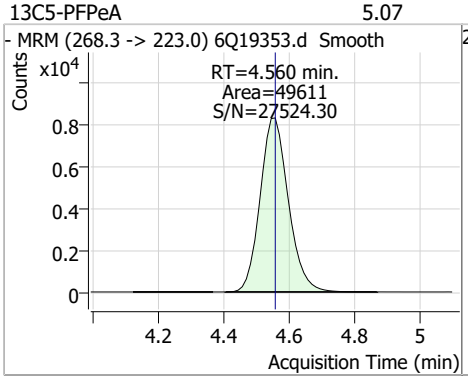
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.55	3.96	0.01	11442	241.0 -> 117.0	13.5	6.7	20.2

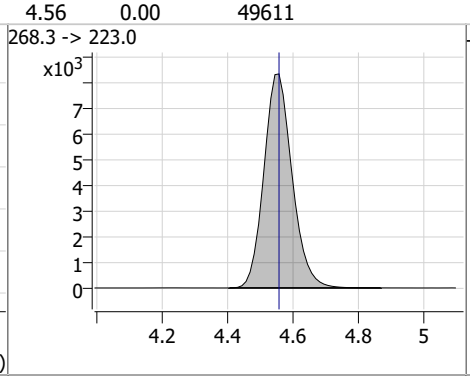


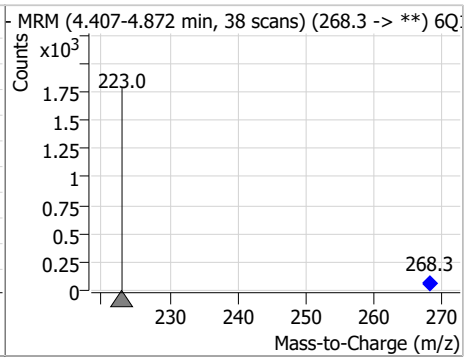




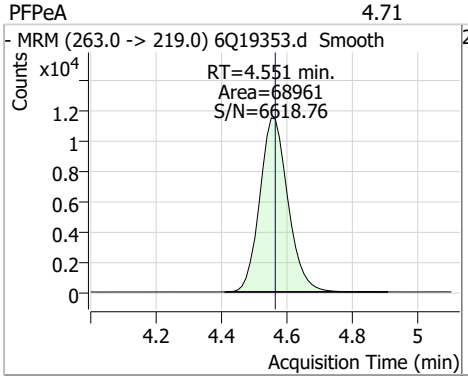
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.07	4.56	0.00	49611				

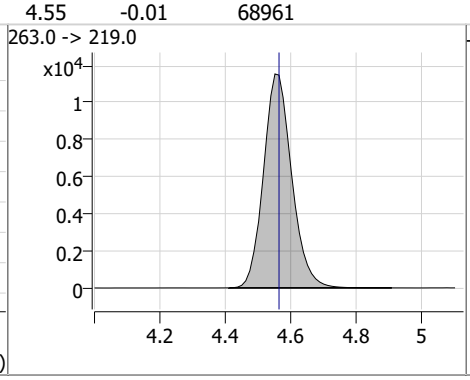


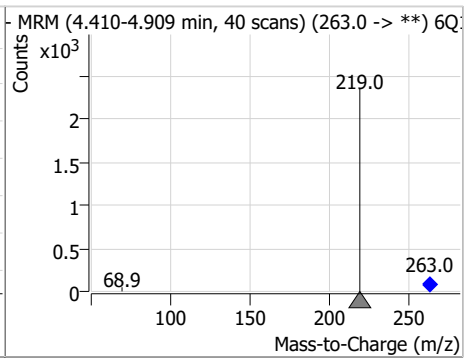




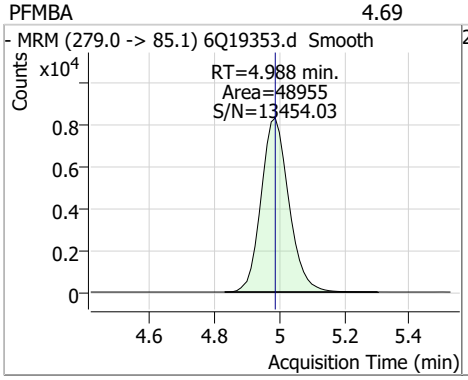
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.71	4.55	-0.01	68961				

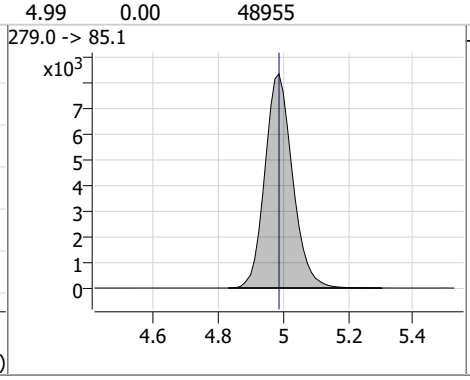


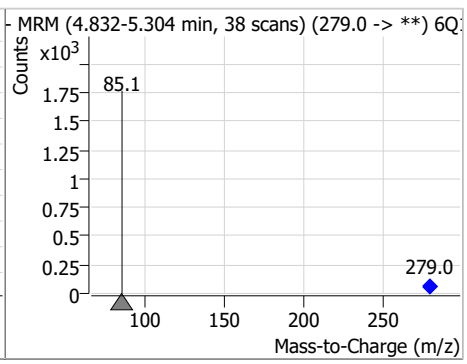




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.69	4.99	0.00	48955				

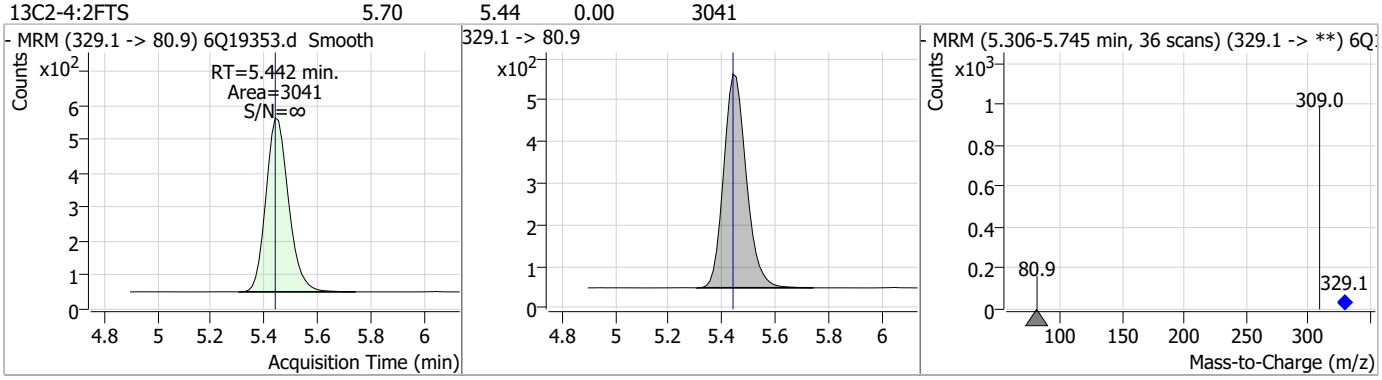




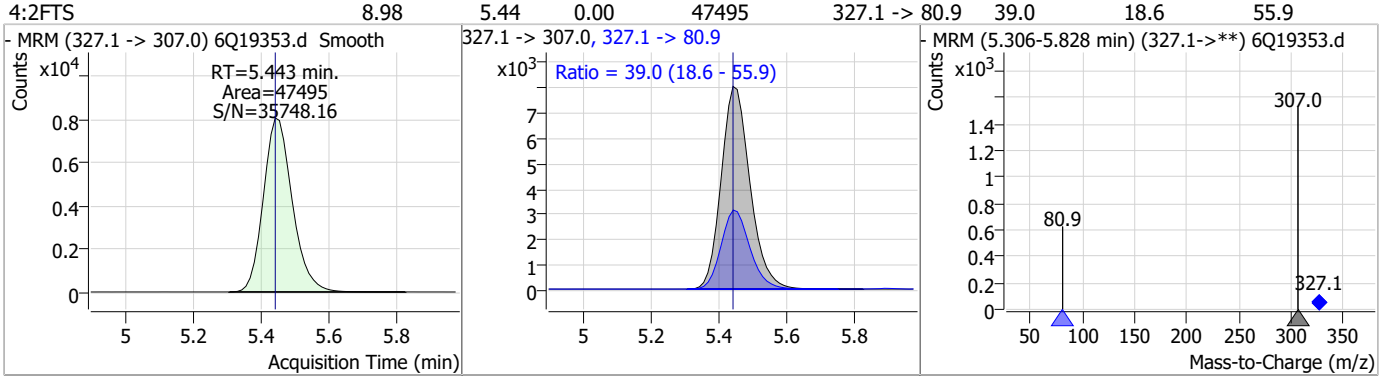


Perfluorinated Compounds by LC/MS/MS

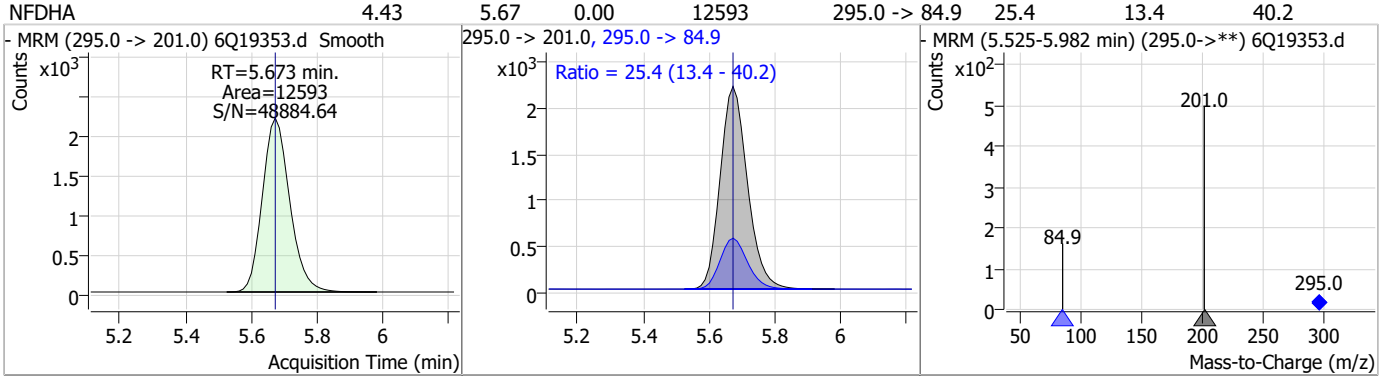
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.70	5.44	0.00	3041				



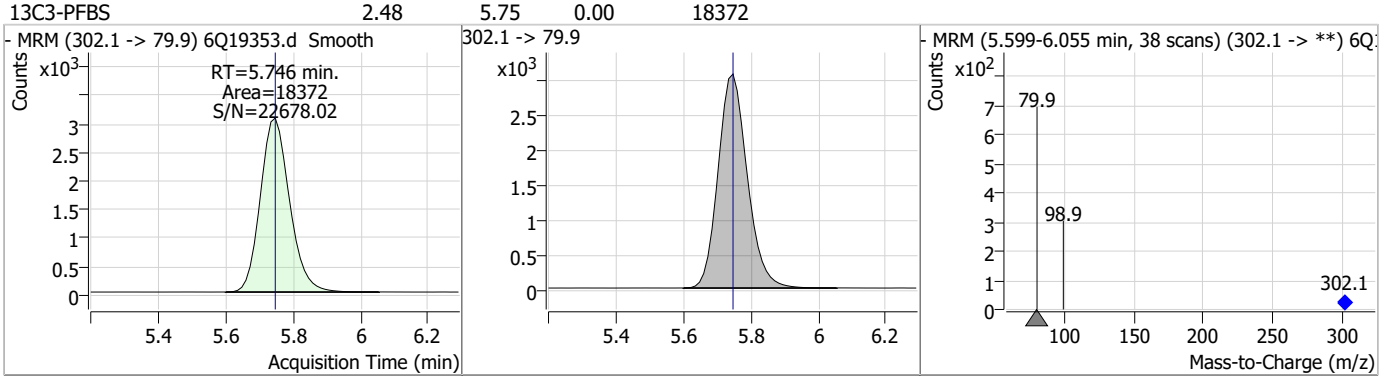
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	8.98	5.44	0.00	47495	327.1 -> 80.9	39.0	18.6	55.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.43	5.67	0.00	12593	295.0 -> 84.9	25.4	13.4	40.2

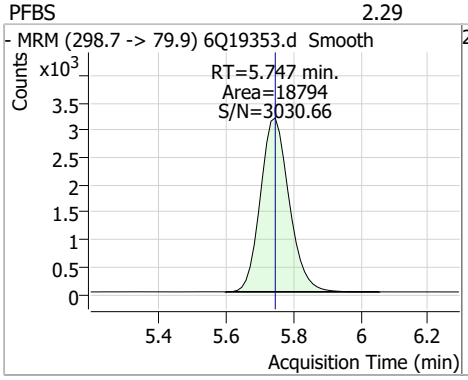


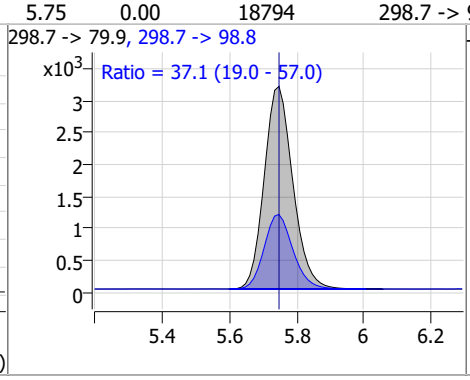
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.48	5.75	0.00	18372				

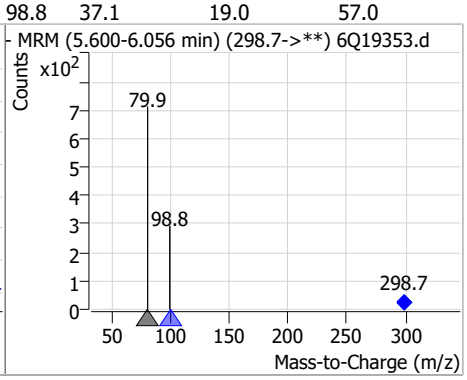


Perfluorinated Compounds by LC/MS/MS

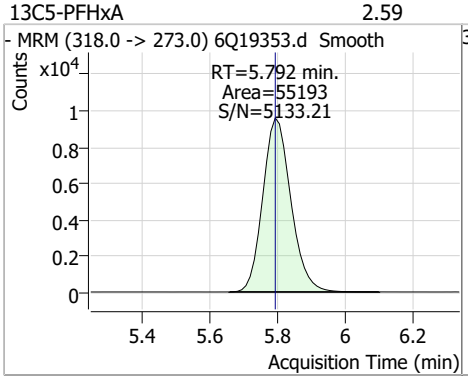
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.29	5.75	0.00	18794	298.7 -> 98.8	37.1	19.0	57.0

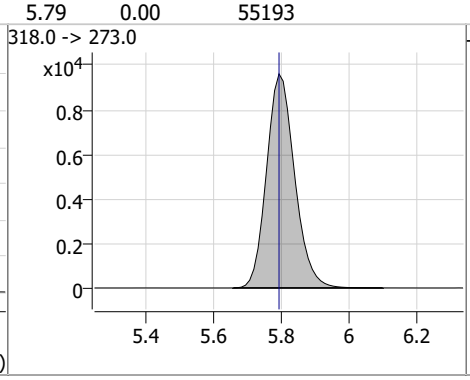


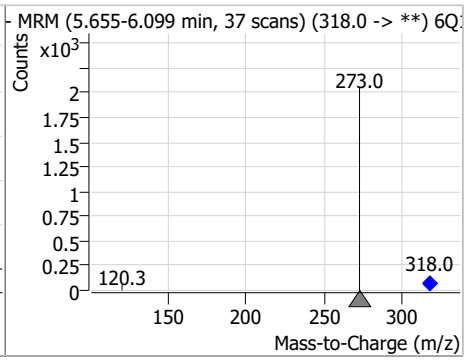




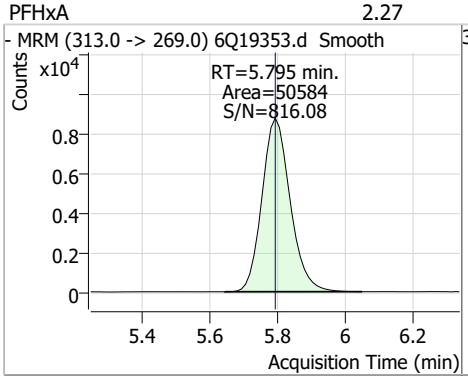
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.59	5.79	0.00	55193				

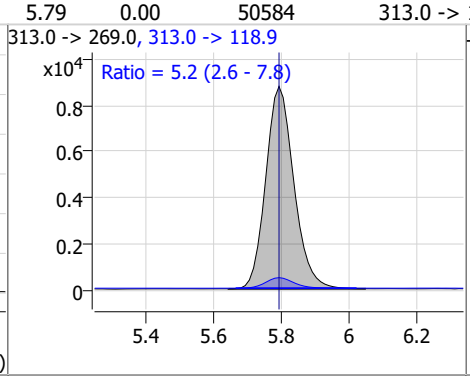


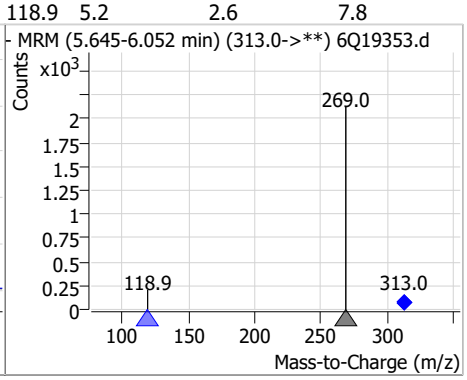




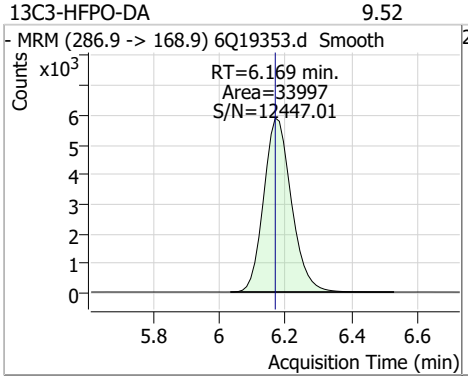
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.27	5.79	0.00	50584	313.0 -> 118.9	5.2	2.6	7.8

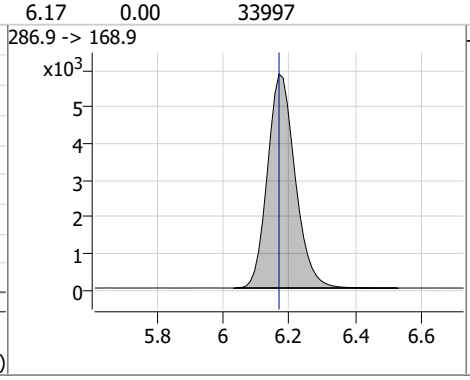


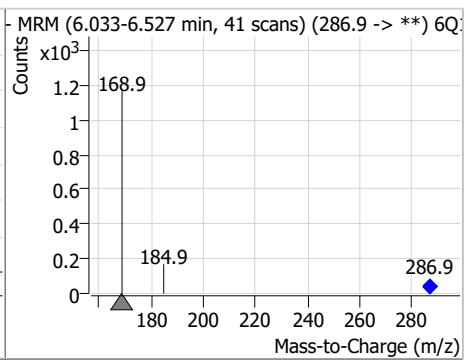




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.52	6.17	0.00	33997				

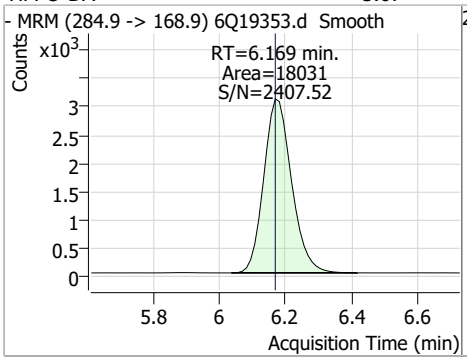


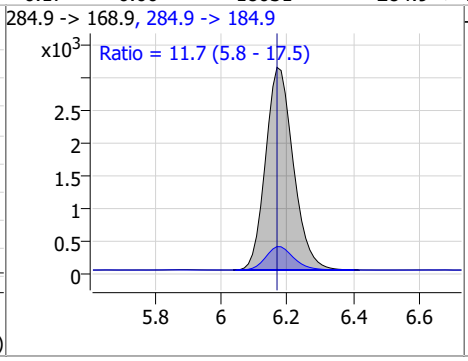


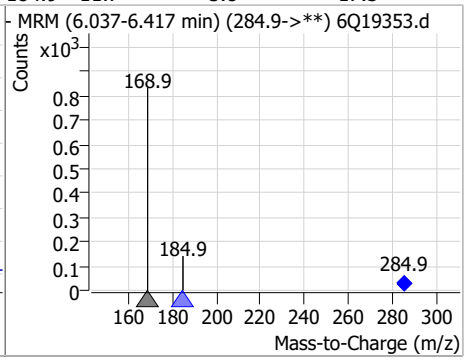


Perfluorinated Compounds by LC/MS/MS

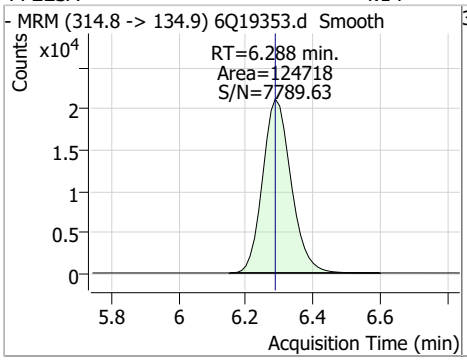
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.07	6.17	0.00	18031	284.9 -> 184.9	11.7	5.8	17.5

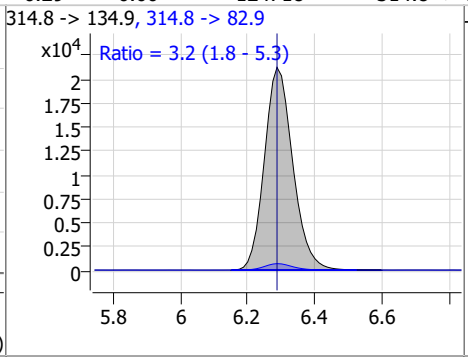


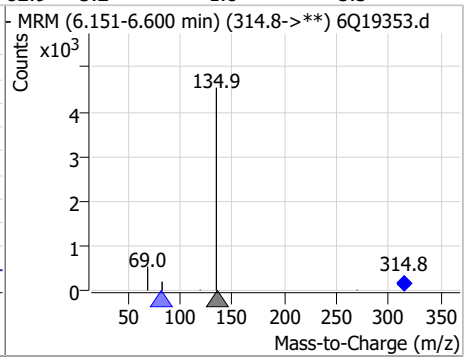




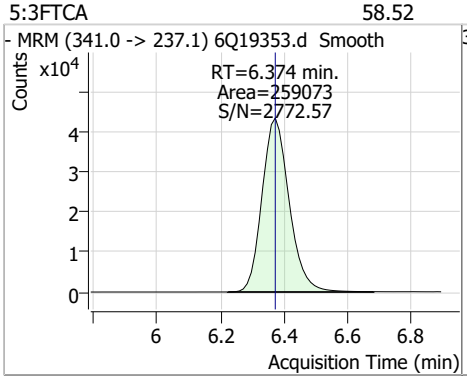
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.14	6.29	0.00	124718	314.8 -> 82.9	3.2	1.8	5.3

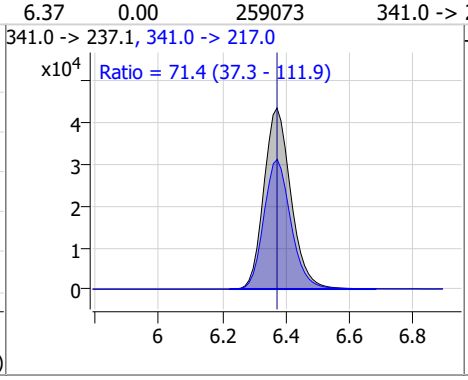


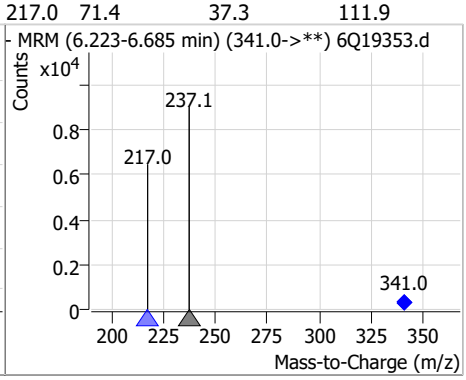




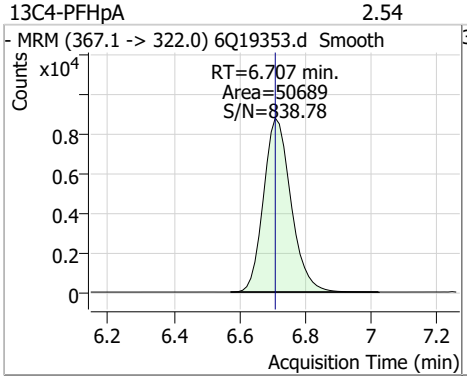
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	58.52	6.37	0.00	259073	341.0 -> 217.0	71.4	37.3	111.9

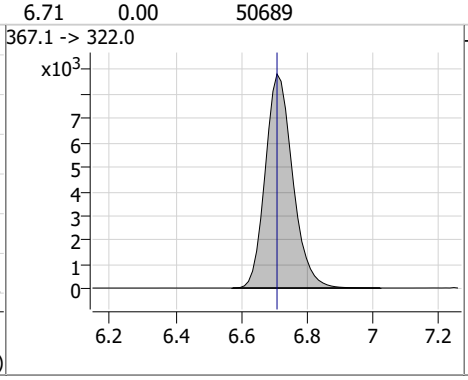


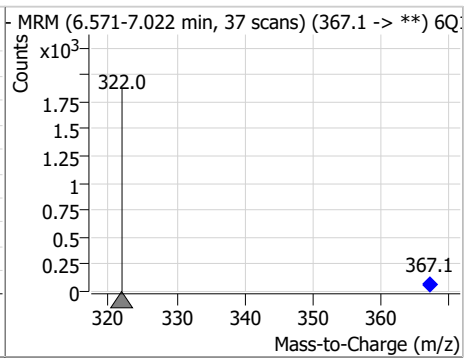




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.54	6.71	0.00	50689				

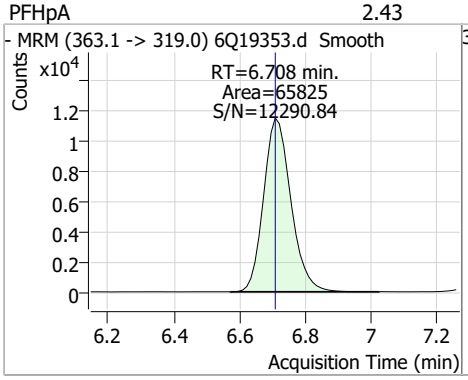


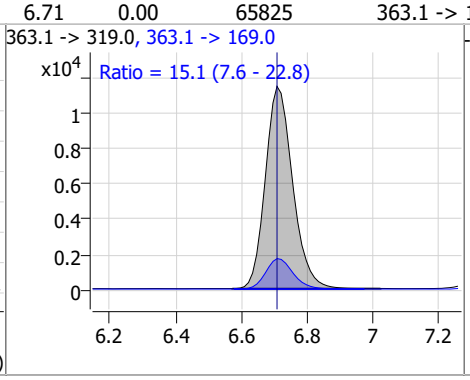


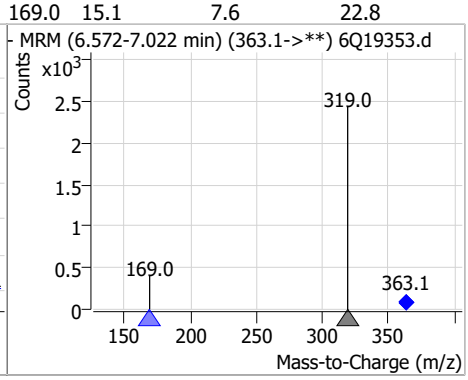


Perfluorinated Compounds by LC/MS/MS

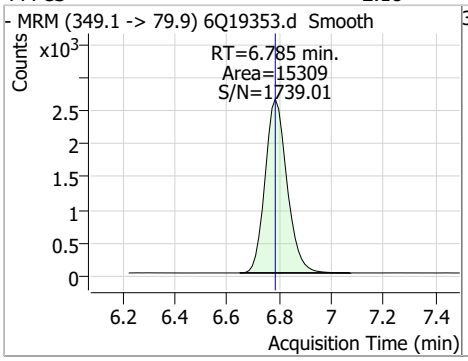
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.43	6.71	0.00	65825	363.1 -> 169.0	15.1	7.6	22.8

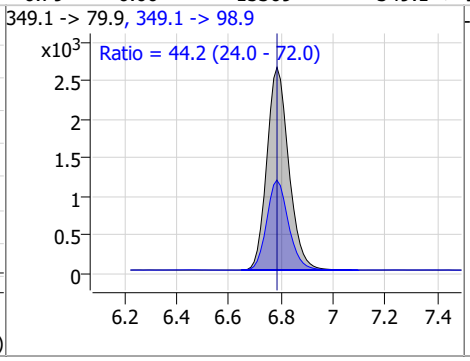


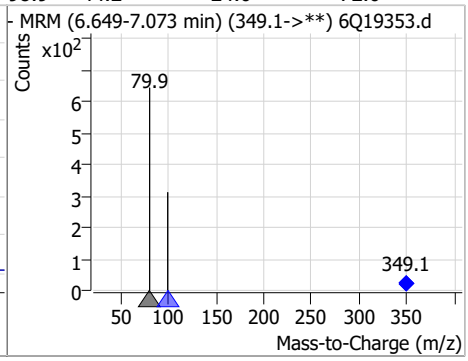




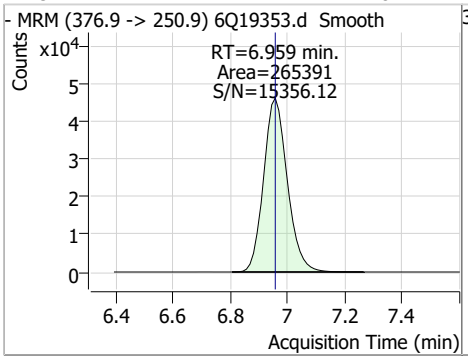
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.18	6.79	0.00	15309	349.1 -> 98.9	44.2	24.0	72.0

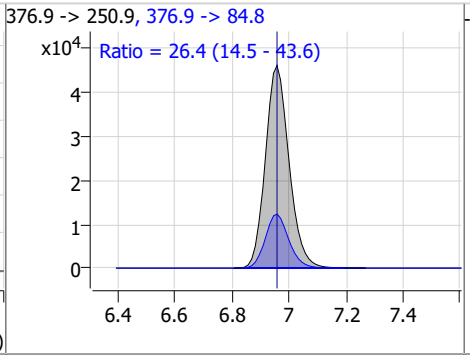


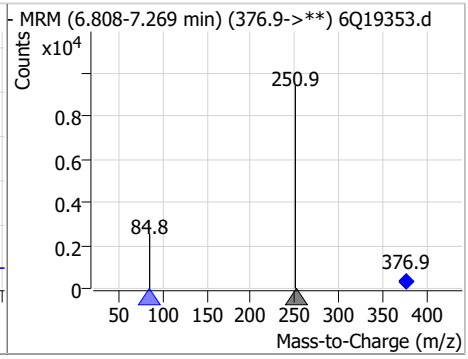




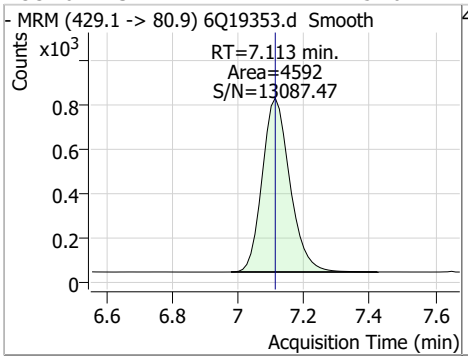
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.82	6.96	0.00	265391	376.9 -> 84.8	26.4	14.5	43.6

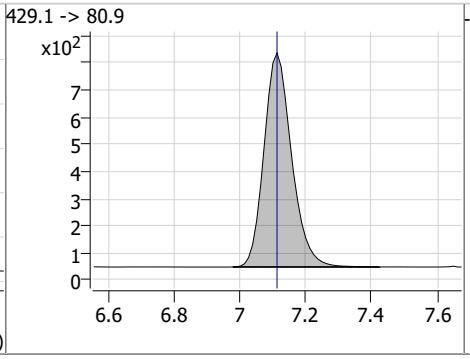


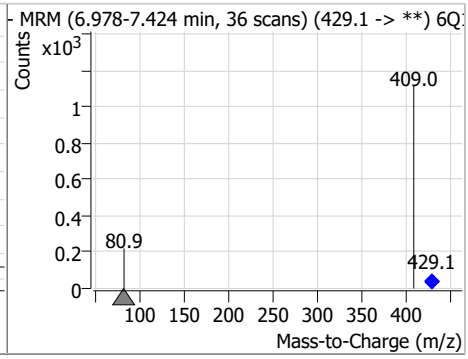




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.70	7.11	0.00	4592				

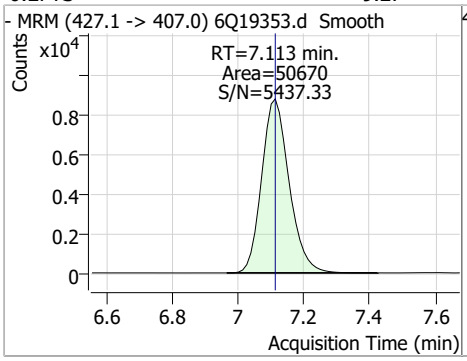


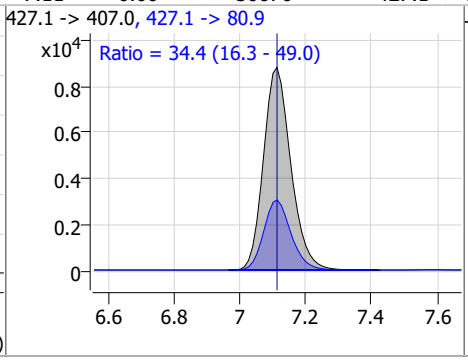


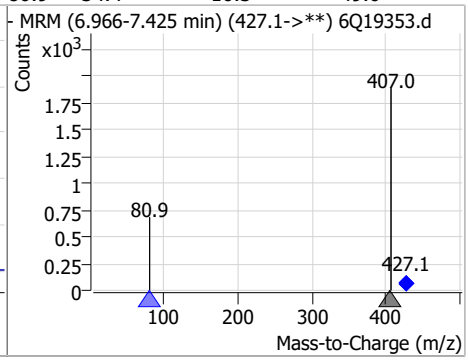


Perfluorinated Compounds by LC/MS/MS

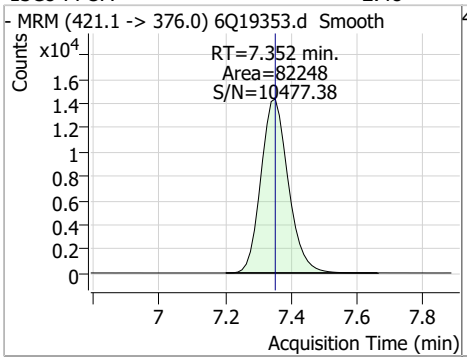
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.27	7.11	0.00	50670	427.1 -> 80.9	34.4	16.3	49.0

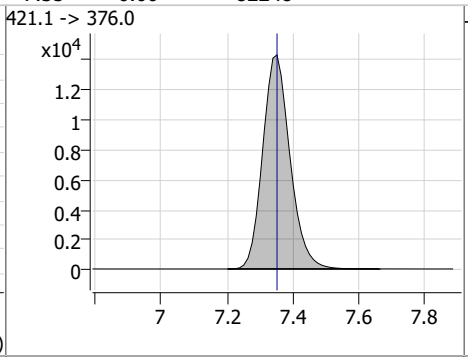


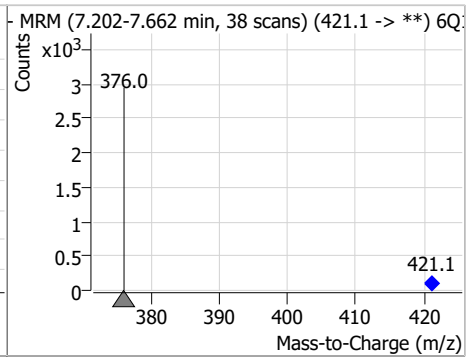




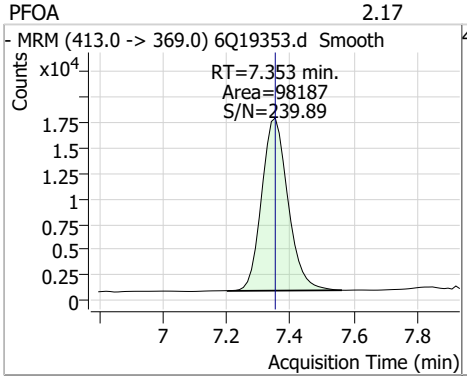
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.48	7.35	0.00	82248				

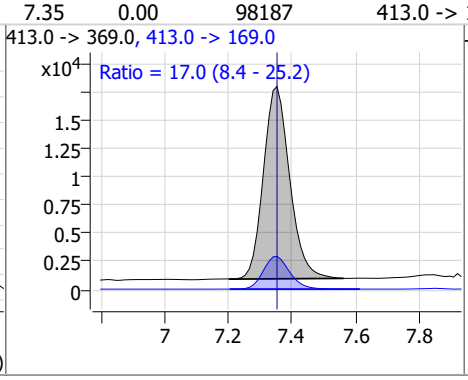


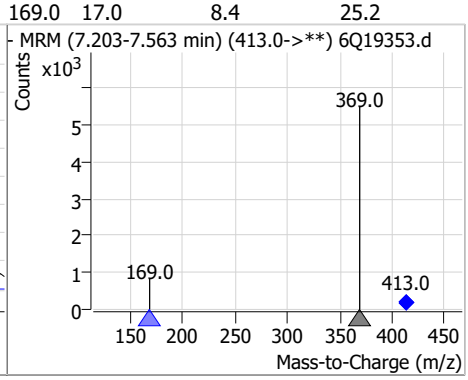




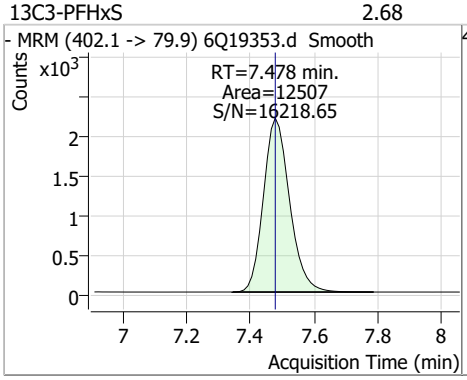
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.17	7.35	0.00	98187	413.0 -> 169.0	17.0	8.4	25.2

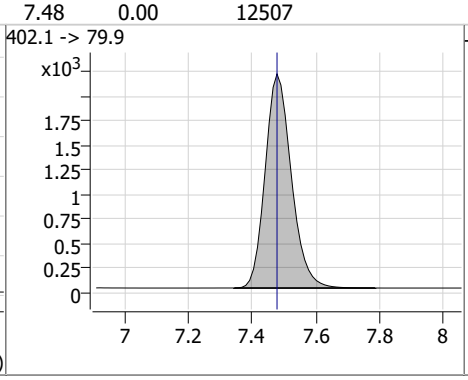


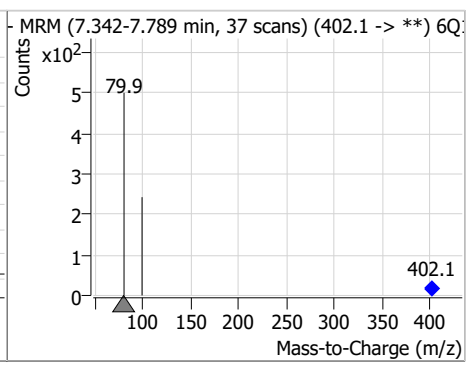




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.68	7.48	0.00	12507				

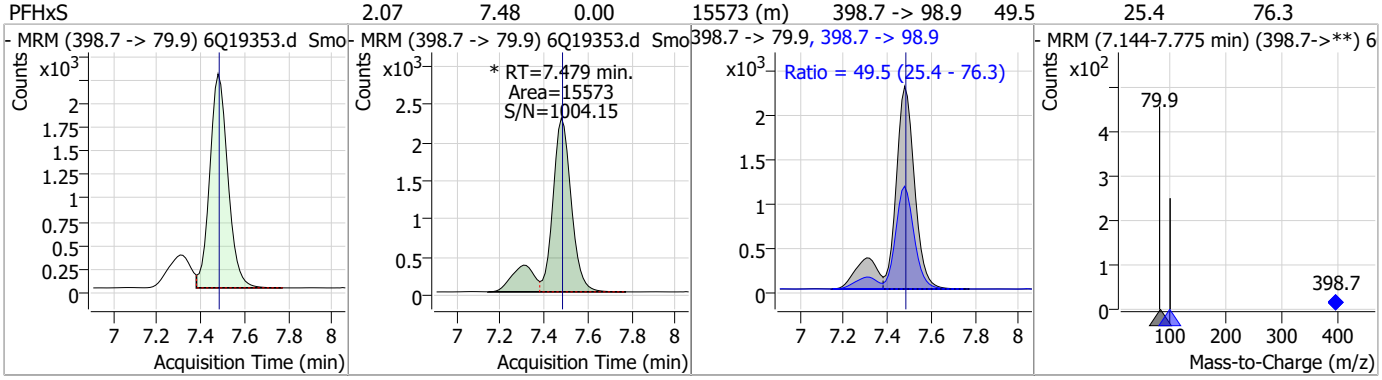




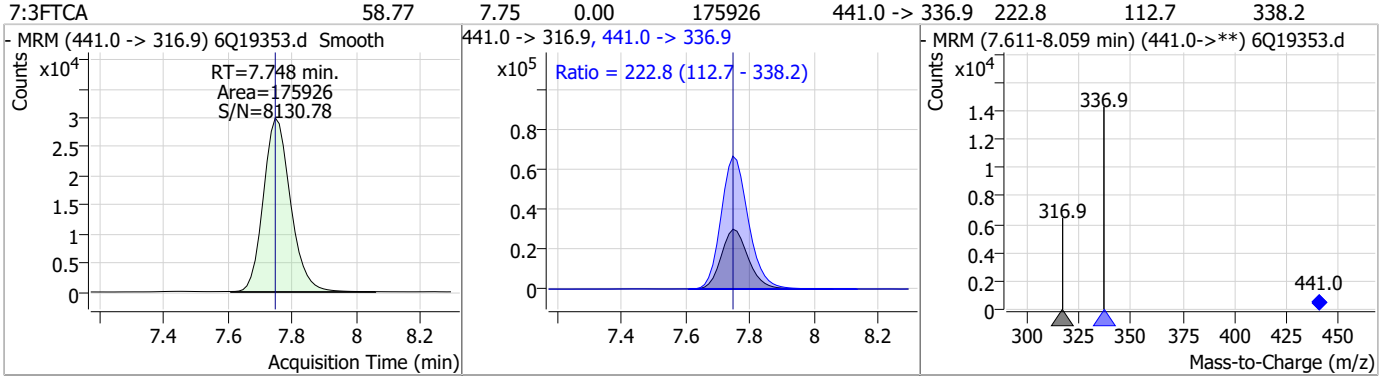


Perfluorinated Compounds by LC/MS/MS

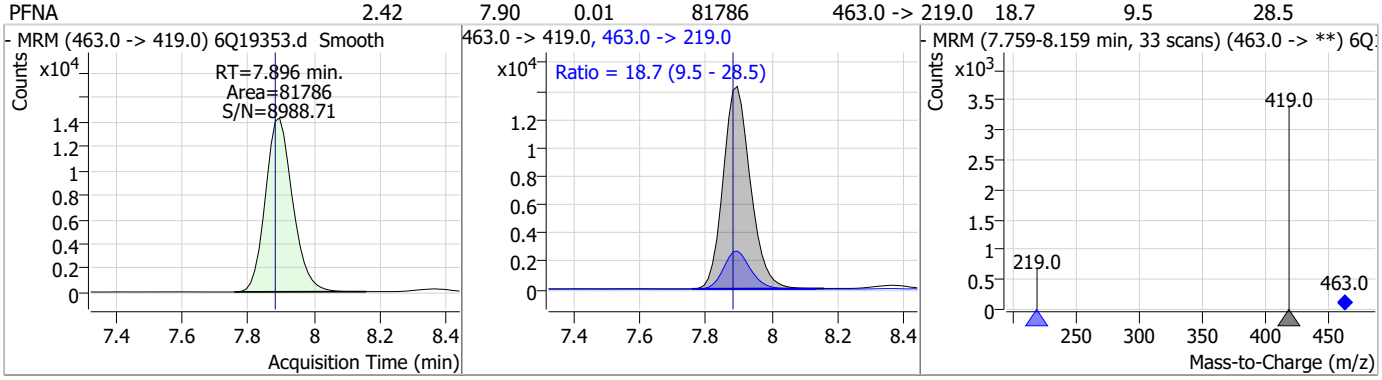
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.07	7.48	0.00	15573 (m)	398.7 -> 98.9	49.5	25.4	76.3



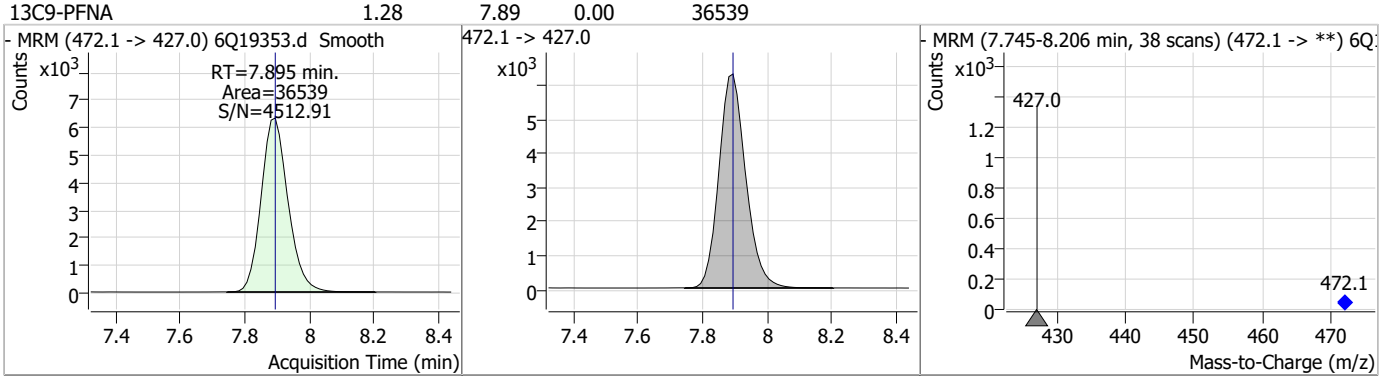
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	58.77	7.75	0.00	175926	441.0 -> 336.9	222.8	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.42	7.90	0.01	81786	463.0 -> 219.0	18.7	9.5	28.5

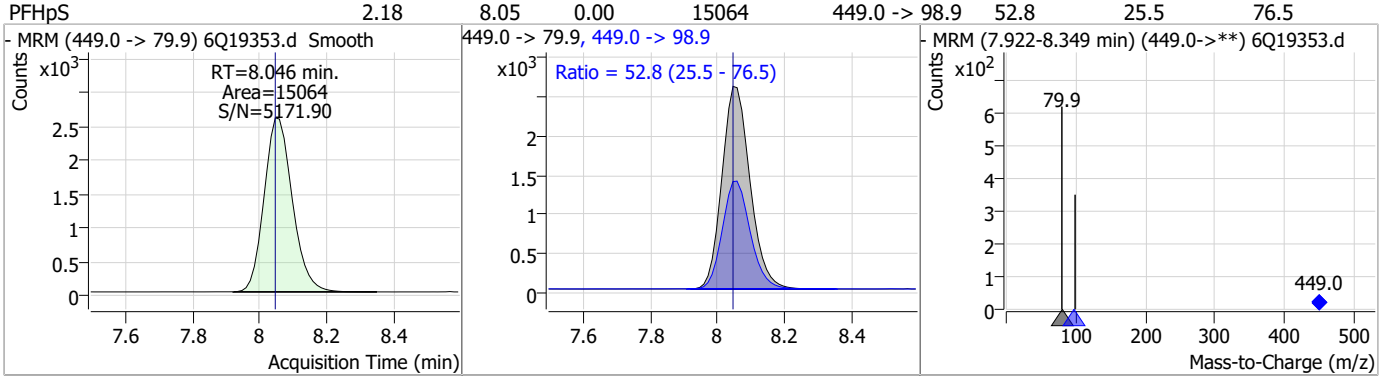


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.28	7.89	0.00	36539				

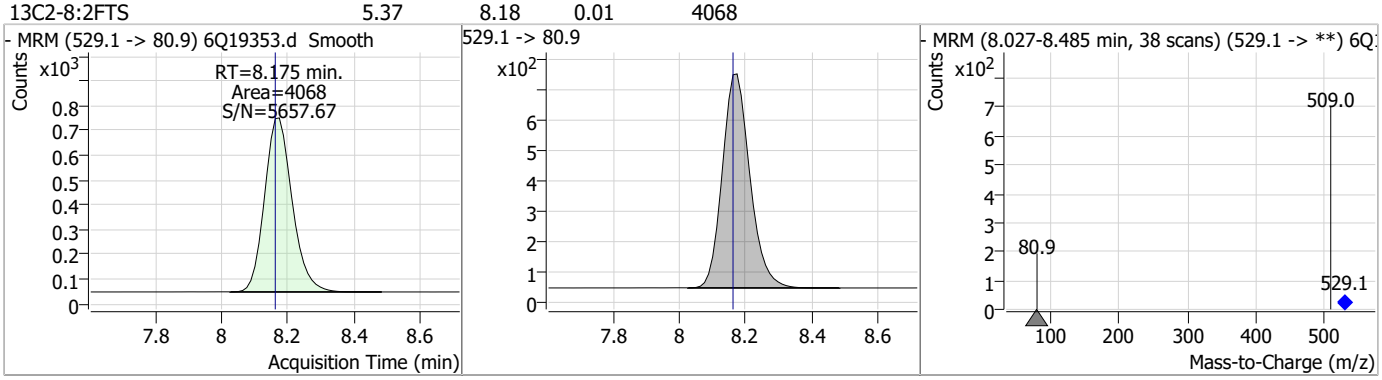


Perfluorinated Compounds by LC/MS/MS

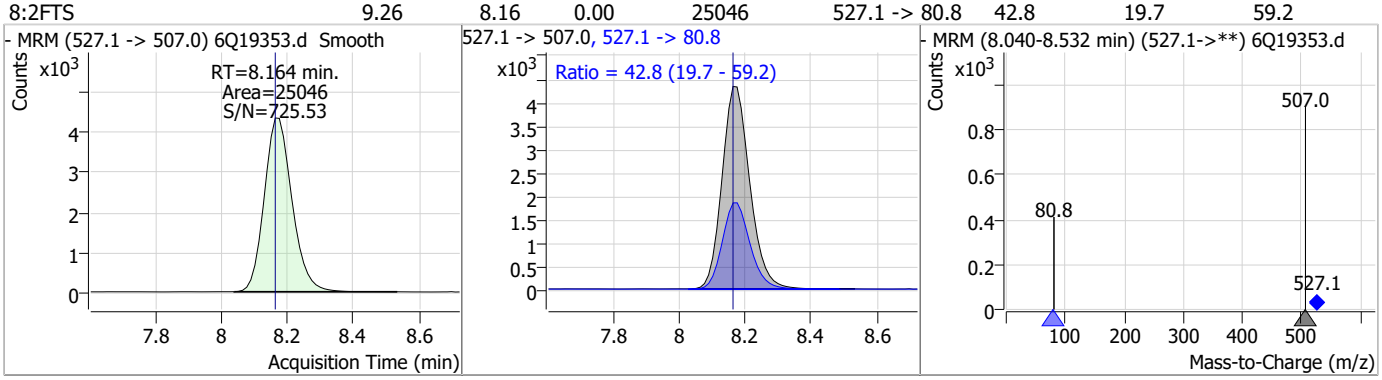
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.18	8.05	0.00	15064	449.0 -> 98.9	52.8	25.5	76.5



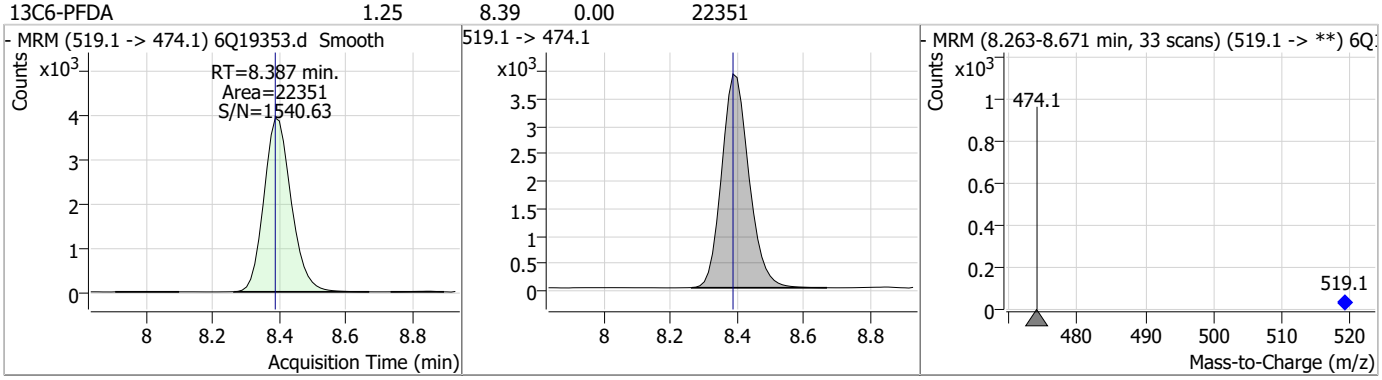
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.37	8.18	0.01	4068				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.26	8.16	0.00	25046	527.1 -> 80.8	42.8	19.7	59.2

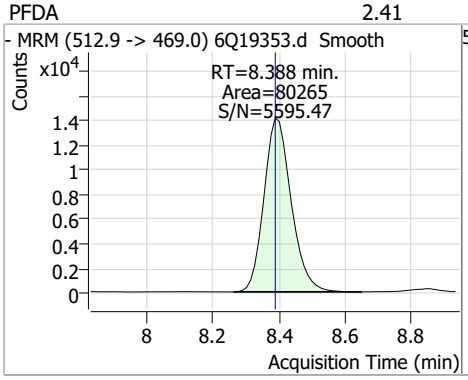


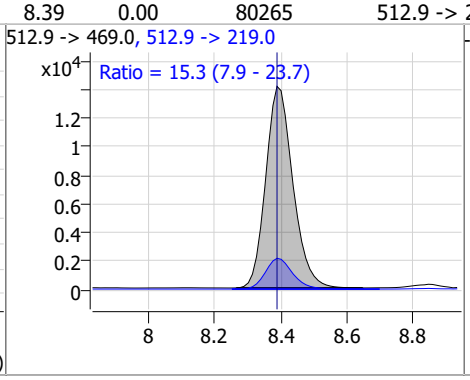
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.25	8.39	0.00	22351				

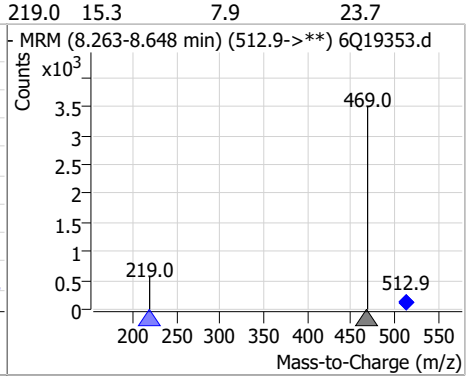


Perfluorinated Compounds by LC/MS/MS

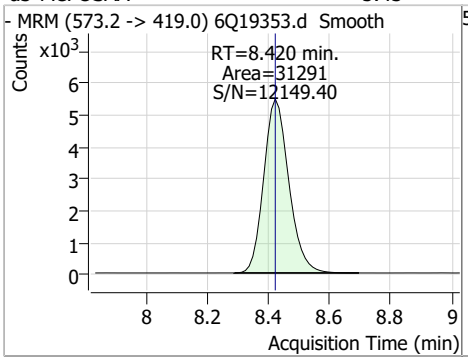
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.41	8.39	0.00	80265	512.9 -> 219.0	15.3	7.9	23.7

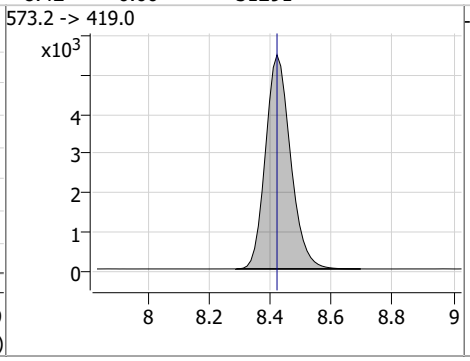


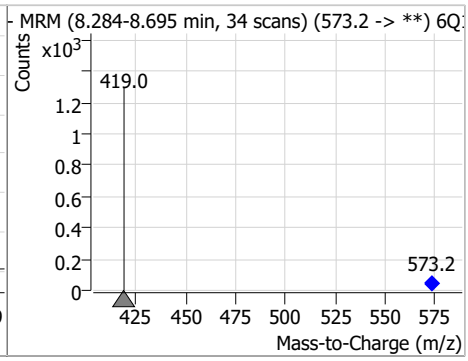




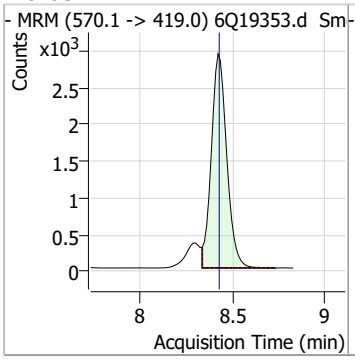
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.43	8.42	0.00	31291				

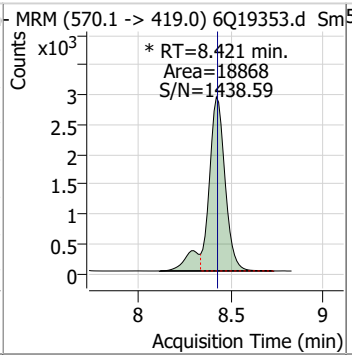


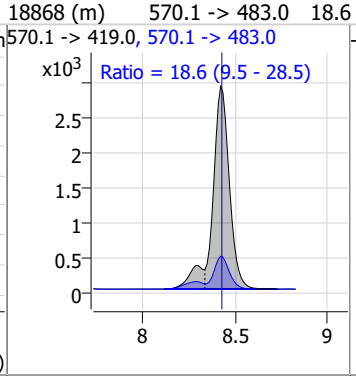


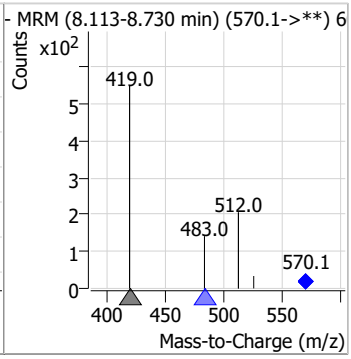


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.33	8.42	0.00	18868 (m)	570.1 -> 483.0	18.6	9.5	28.5

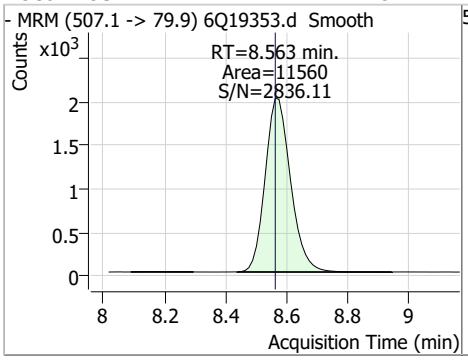


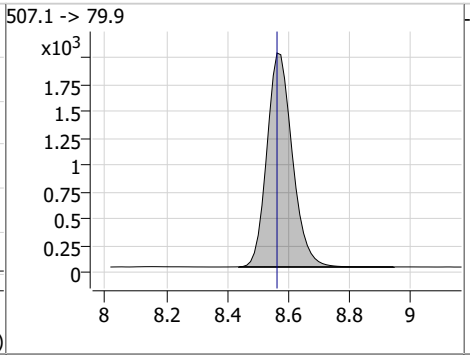


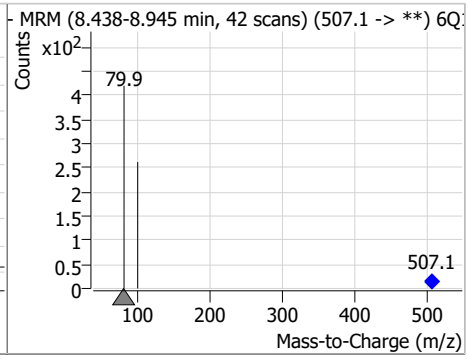




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.51	8.56	0.00	11560				

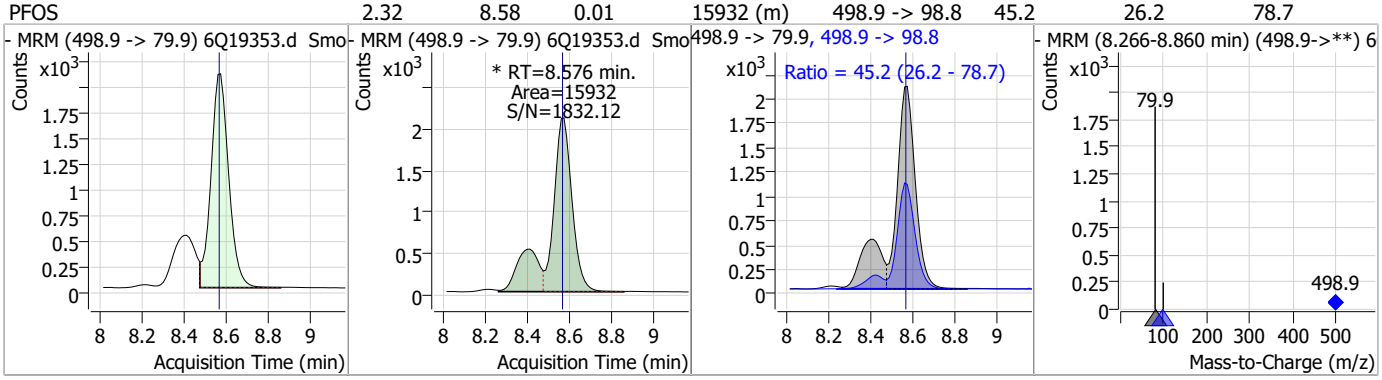




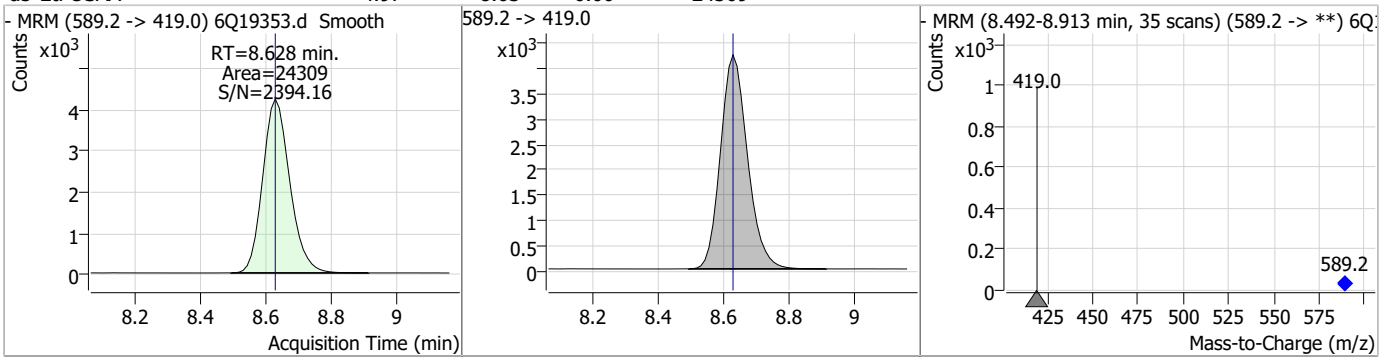


Perfluorinated Compounds by LC/MS/MS

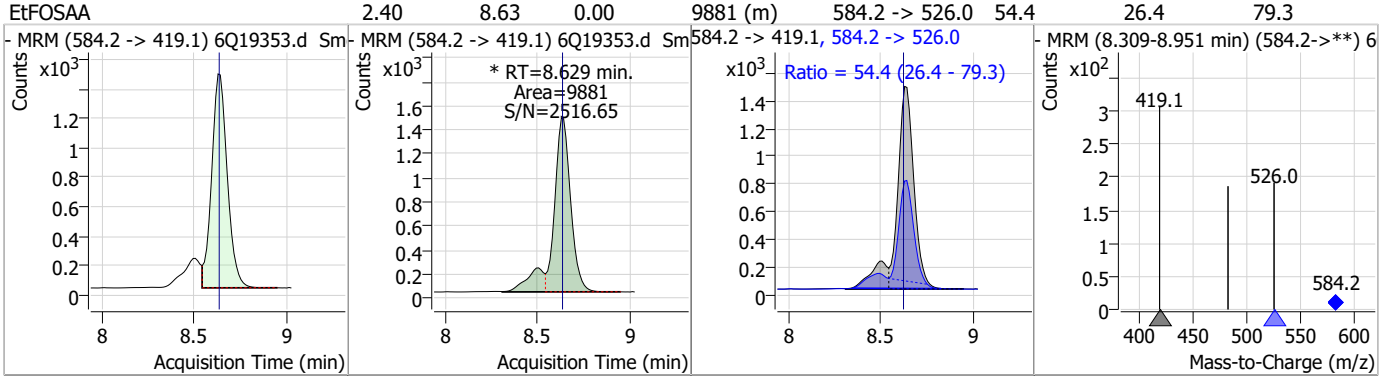
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.32	8.58	0.01	15932 (m)	498.9 -> 98.8	45.2	26.2	78.7



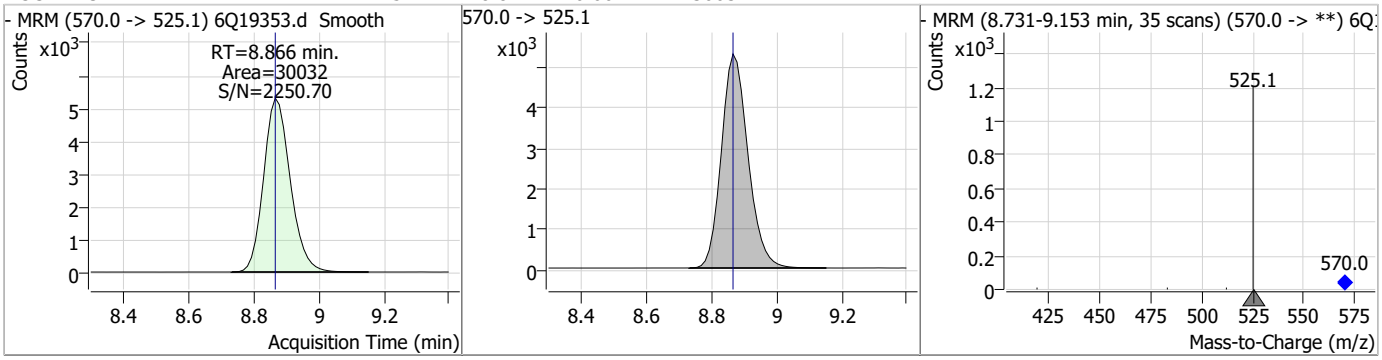
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.97	8.63	0.00	24309				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.40	8.63	0.00	9881 (m)	584.2 -> 526.0	54.4	26.4	79.3

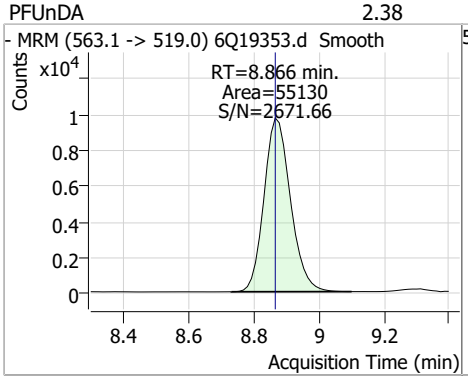


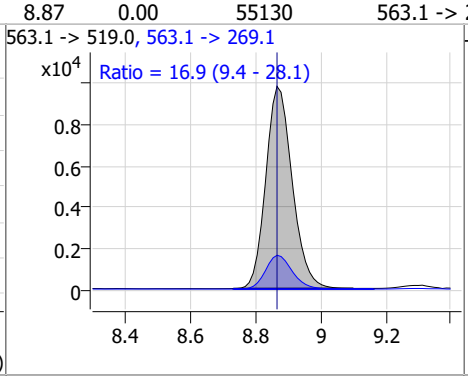
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.25	8.87	0.00	30032				

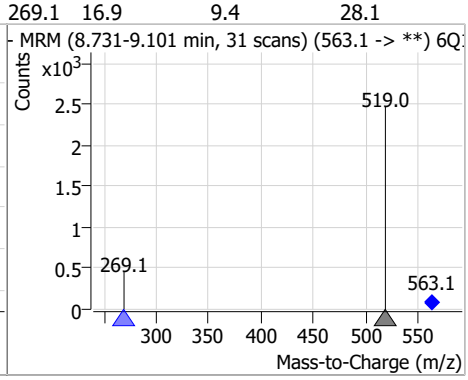


Perfluorinated Compounds by LC/MS/MS

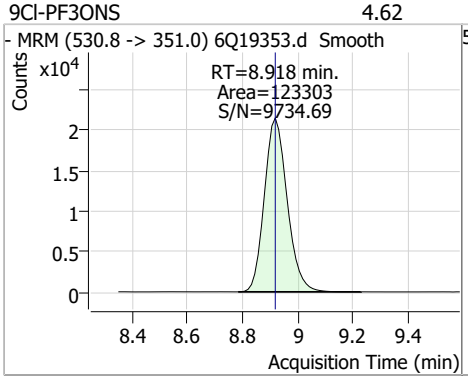
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.38	8.87	0.00	55130	563.1 -> 269.1	16.9	9.4	28.1

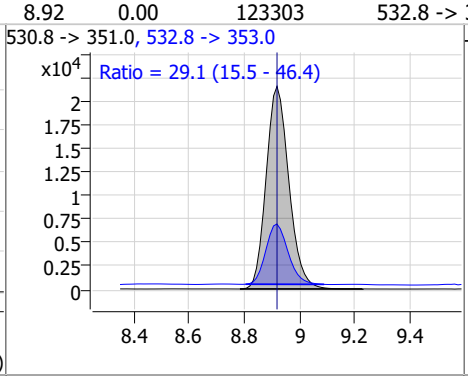


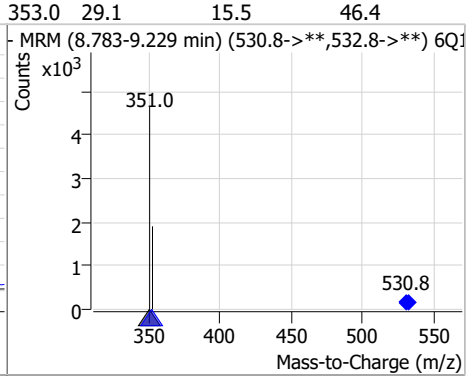




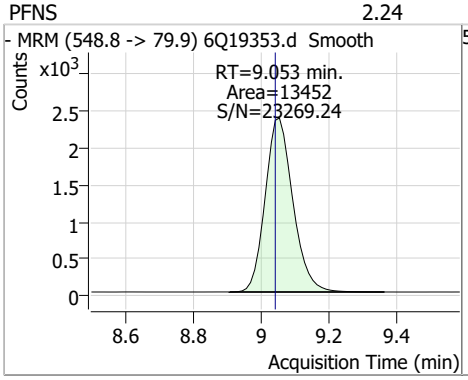
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.62	8.92	0.00	123303	532.8 -> 353.0	29.1	15.5	46.4

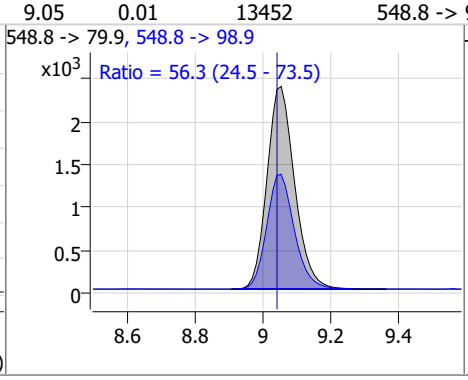


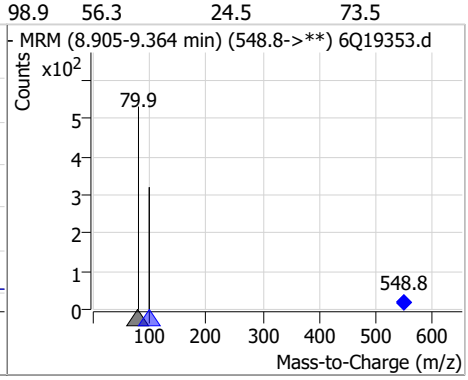




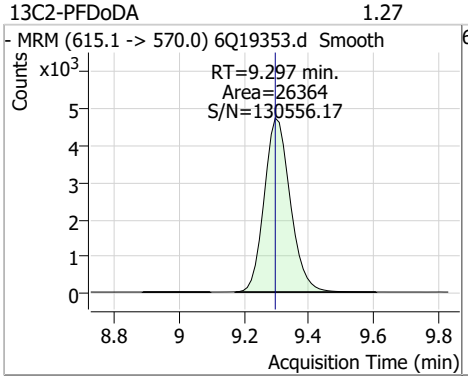
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.24	9.05	0.01	13452	548.8 -> 98.9	56.3	24.5	73.5

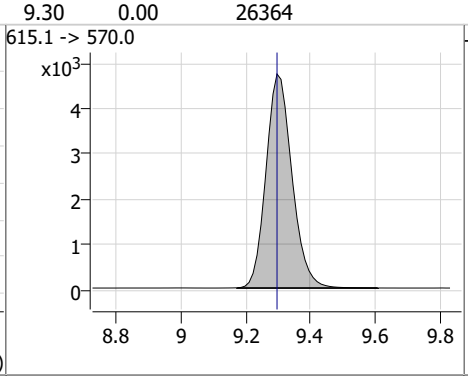


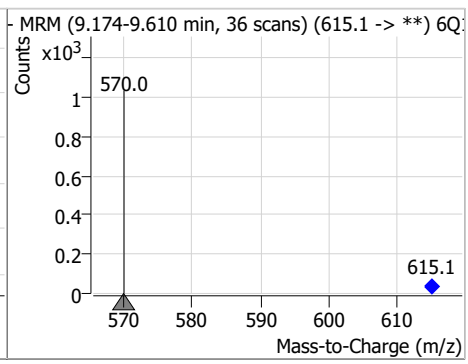




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.27	9.30	0.00	26364				

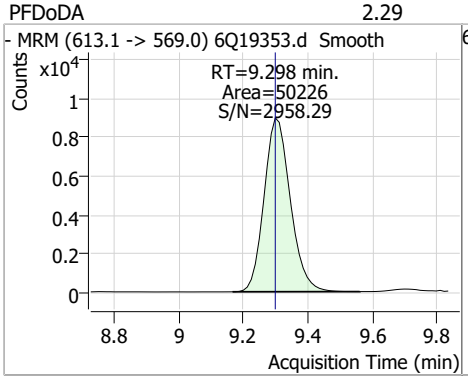


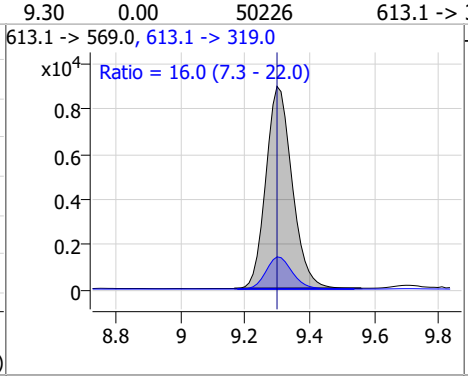


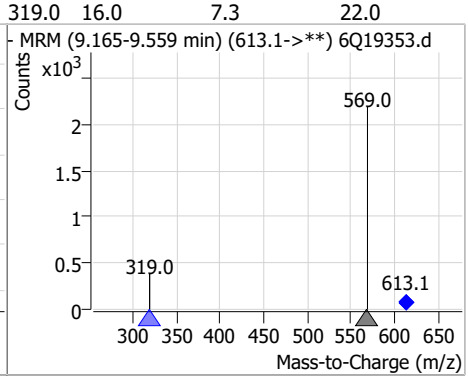


Perfluorinated Compounds by LC/MS/MS

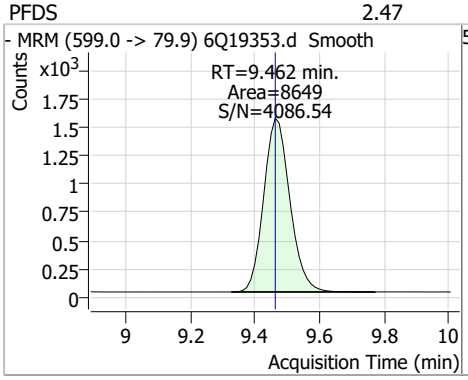
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.29	9.30	0.00	50226	613.1 -> 319.0	16.0	7.3	22.0

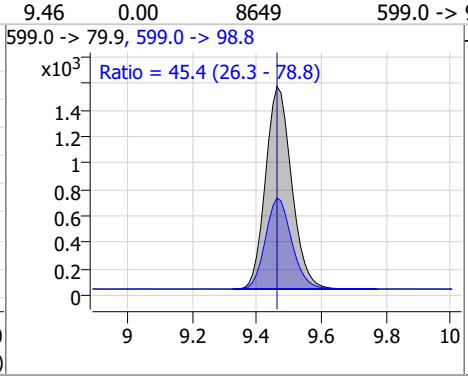


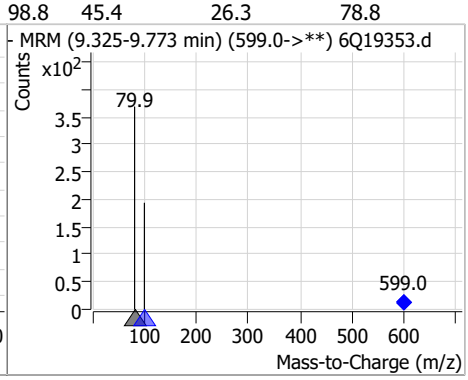




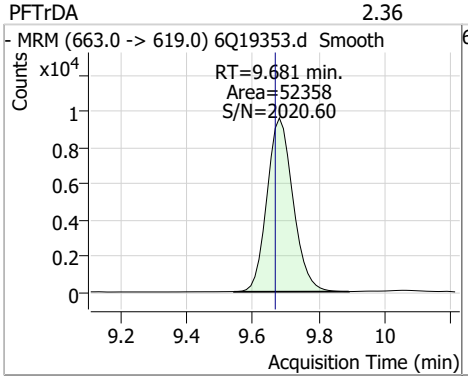
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.47	9.46	0.00	8649	599.0 -> 98.8	45.4	26.3	78.8

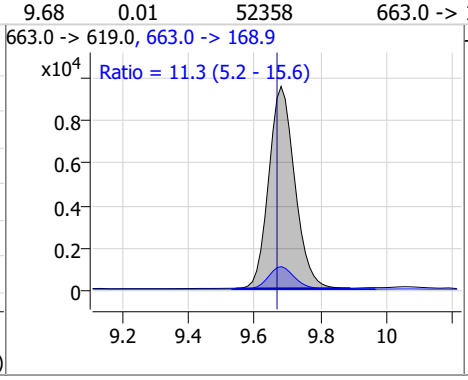


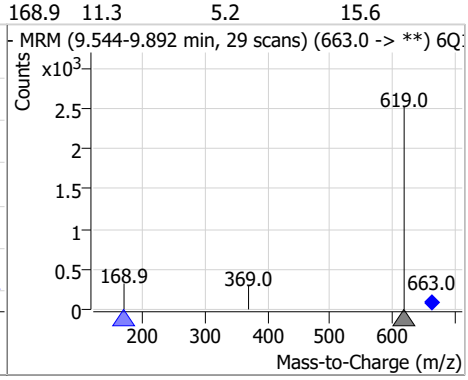




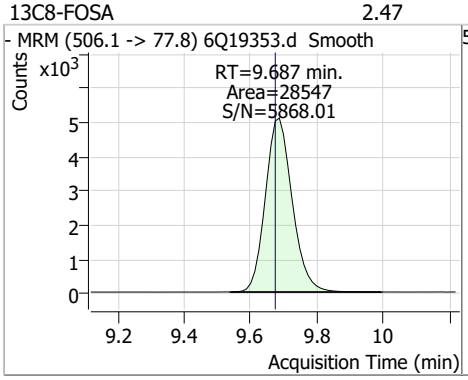
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.36	9.68	0.01	52358	663.0 -> 168.9	11.3	5.2	15.6

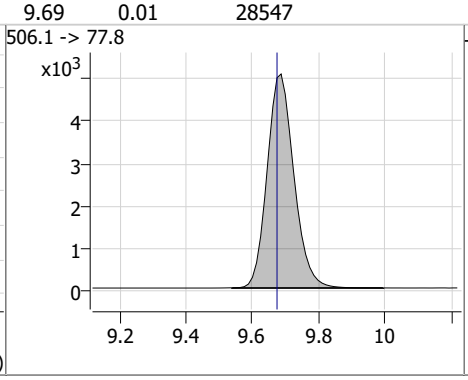


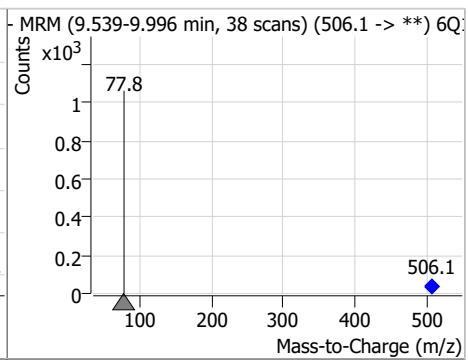




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.47	9.69	0.01	28547				

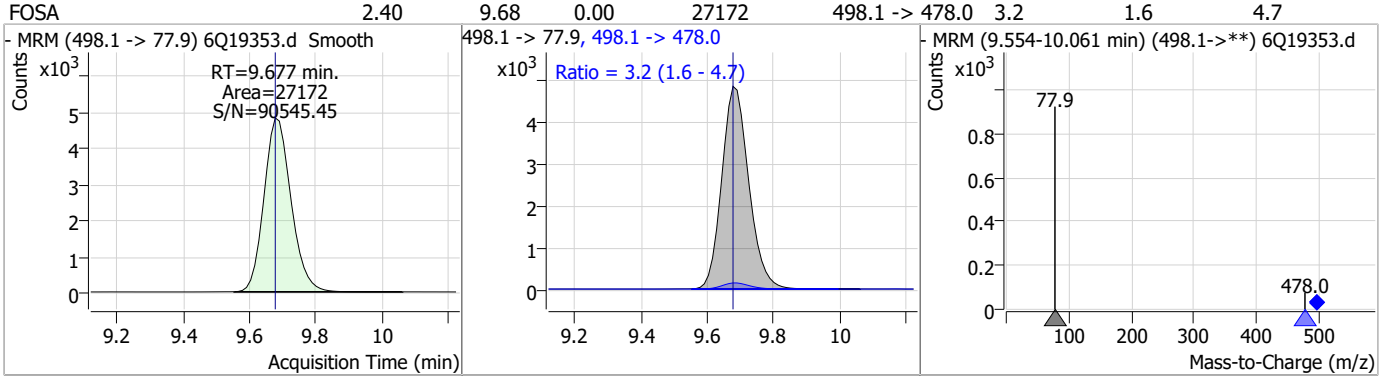




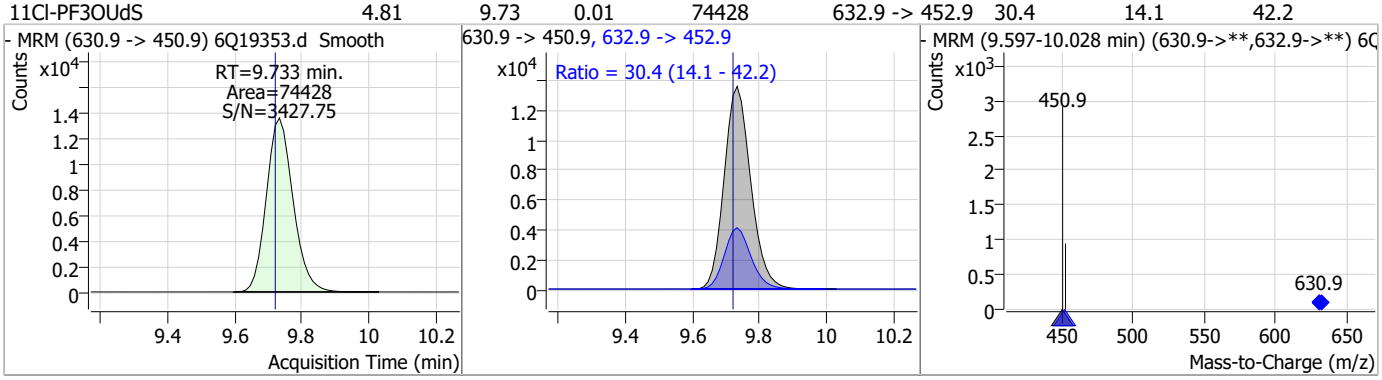


Perfluorinated Compounds by LC/MS/MS

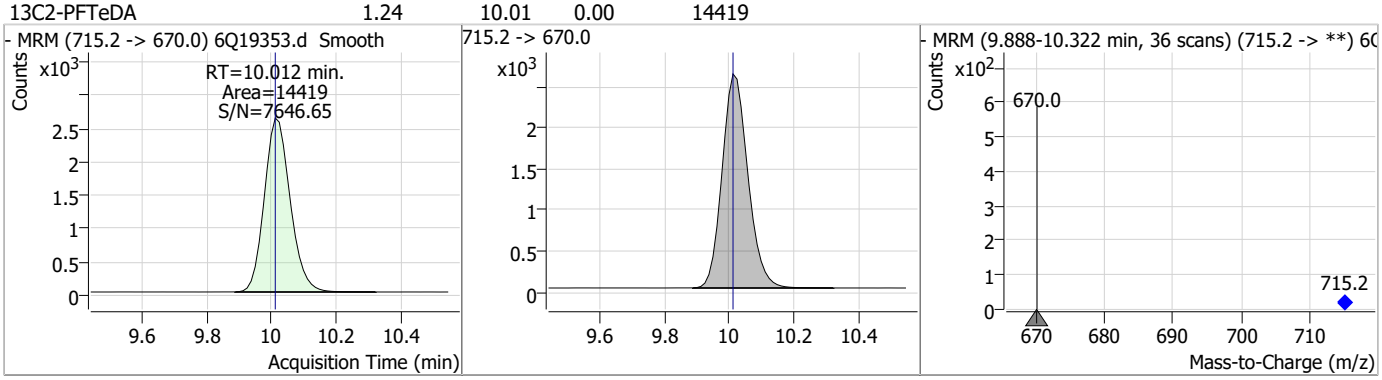
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.40	9.68	0.00	27172	498.1 -> 478.0	3.2	1.6	4.7



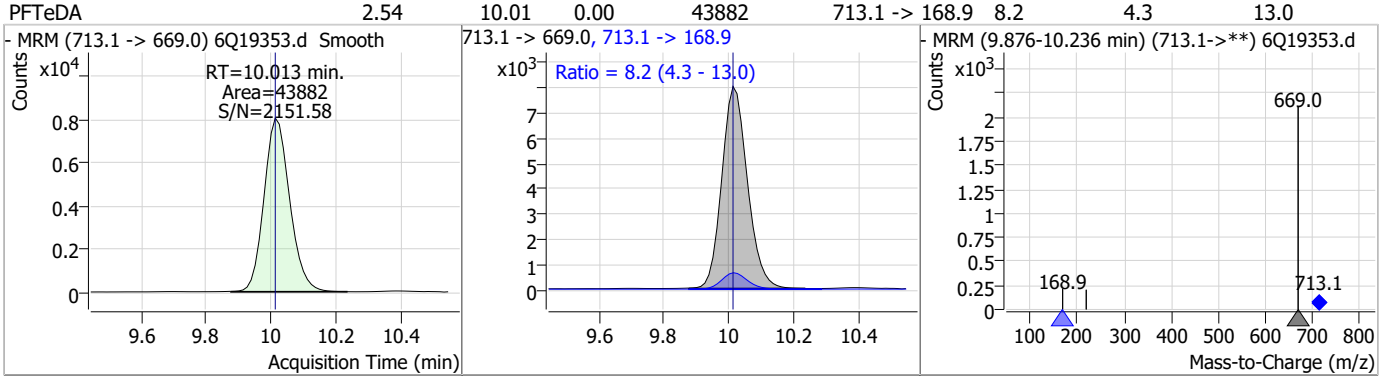
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.81	9.73	0.01	74428	632.9 -> 452.9	30.4	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.24	10.01	0.00	14419				

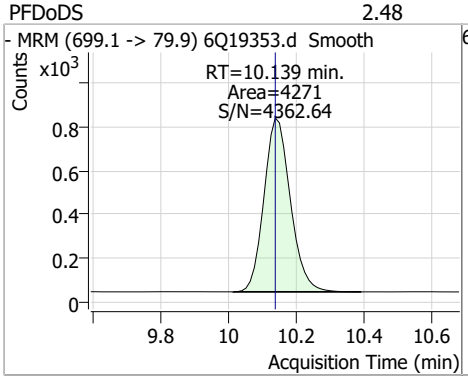


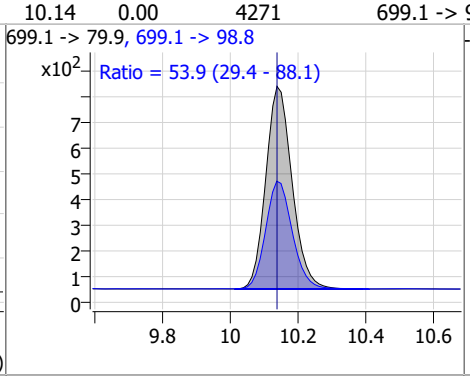
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.54	10.01	0.00	43882	713.1 -> 168.9	8.2	4.3	13.0

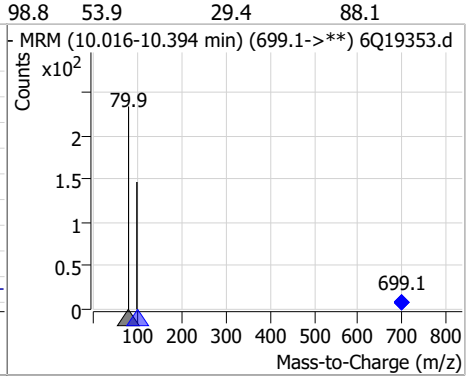


Perfluorinated Compounds by LC/MS/MS

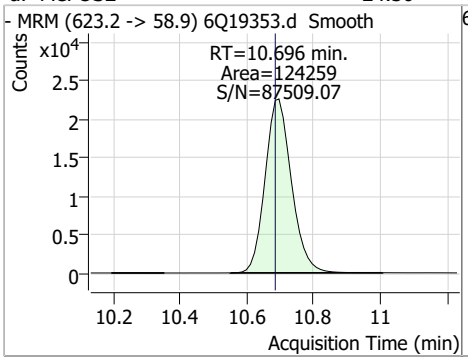
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.48	10.14	0.00	4271	699.1 -> 98.8	53.9	29.4	88.1

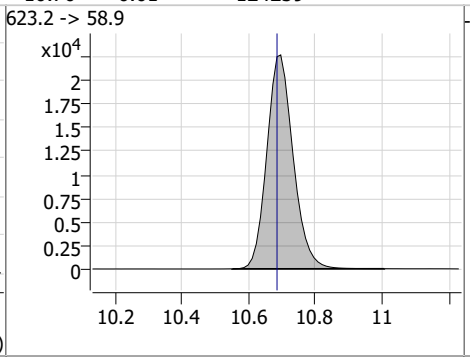


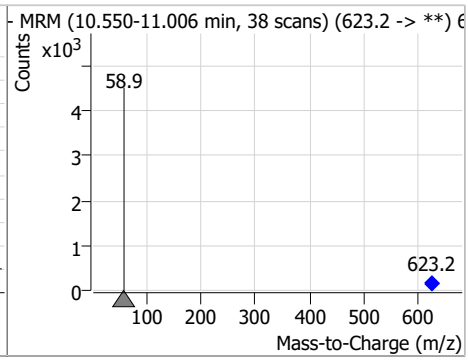




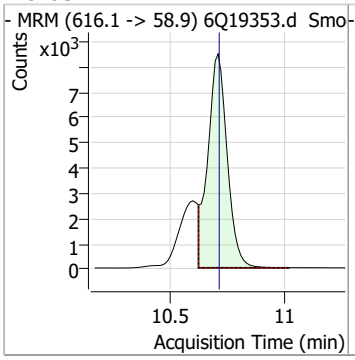
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.30	10.70	0.01	124259				

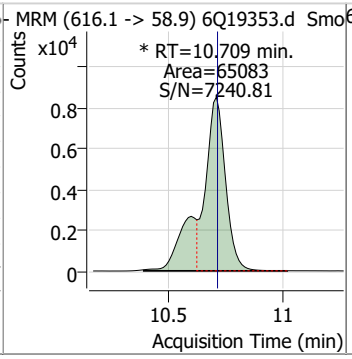


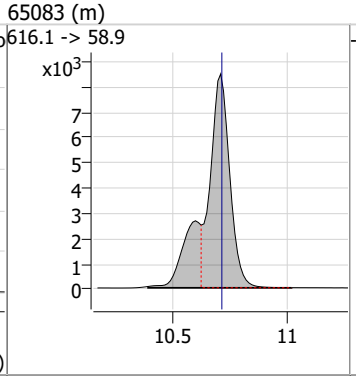


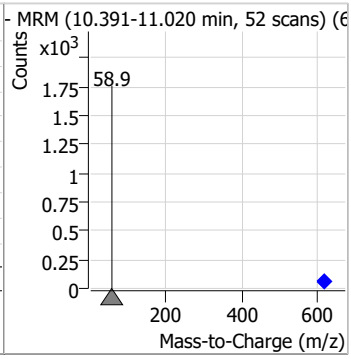


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.09	10.71	0.00	65083 (m)				

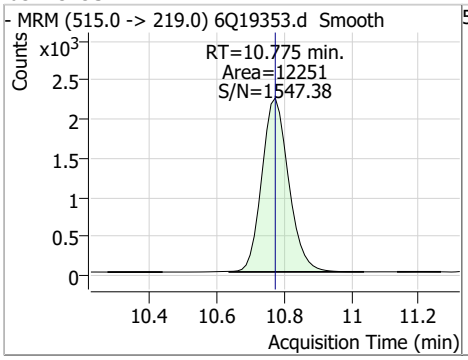


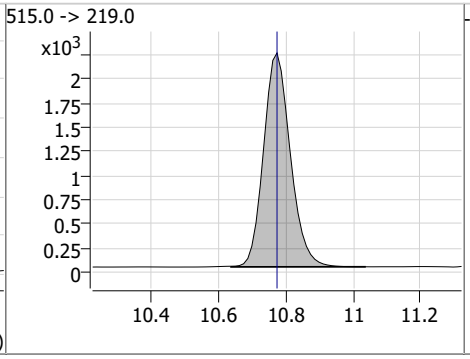


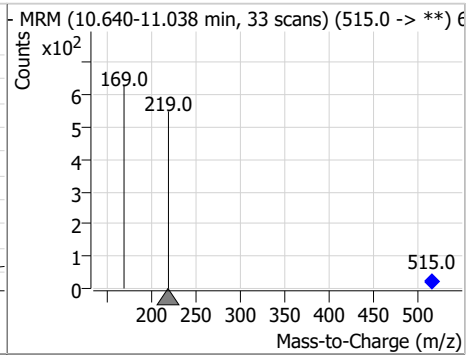




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.44	10.78	0.00	12251				

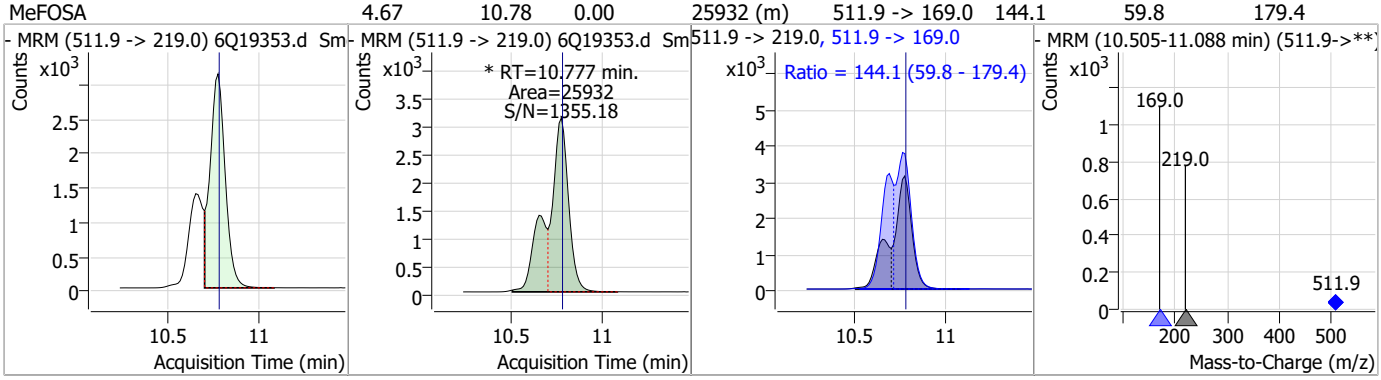




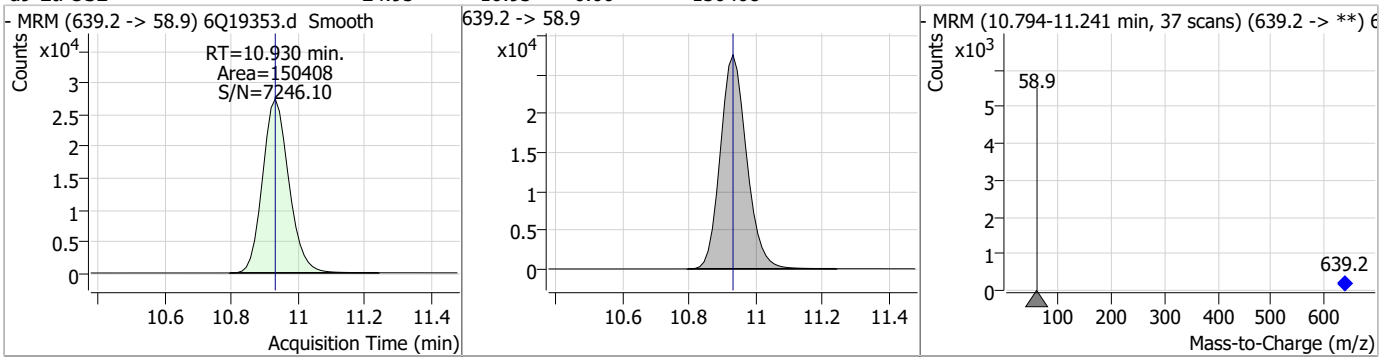


Perfluorinated Compounds by LC/MS/MS

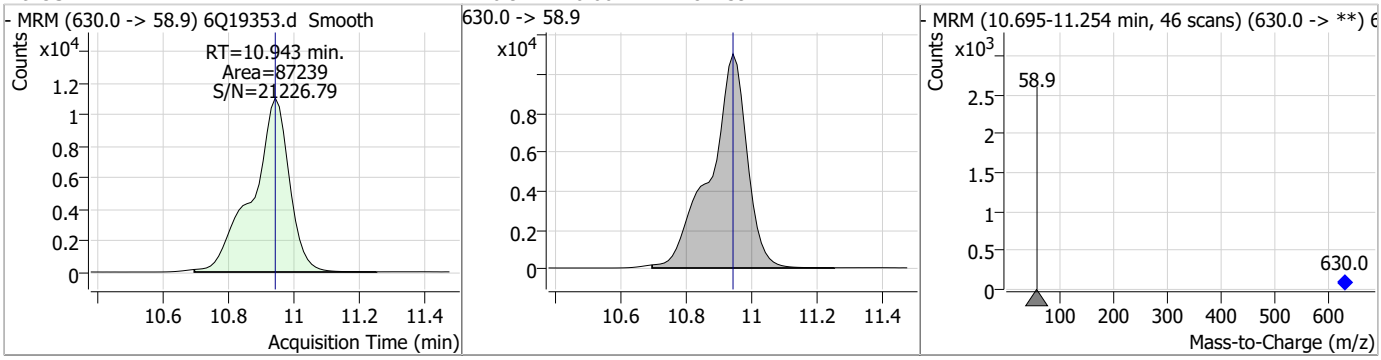
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.67	10.78	0.00	25932 (m)	511.9 -> 169.0	144.1	59.8	179.4



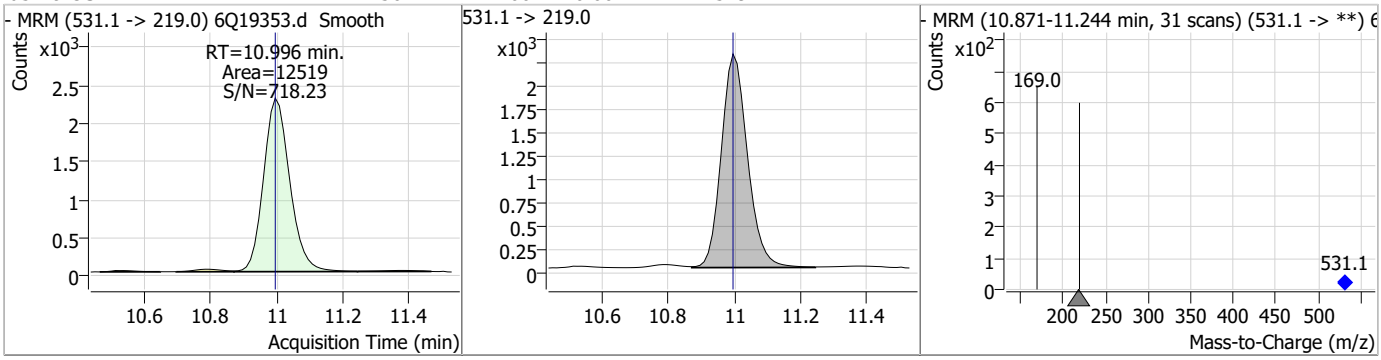
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.95	10.93	0.00	150408				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	11.21	10.94	0.00	87239				

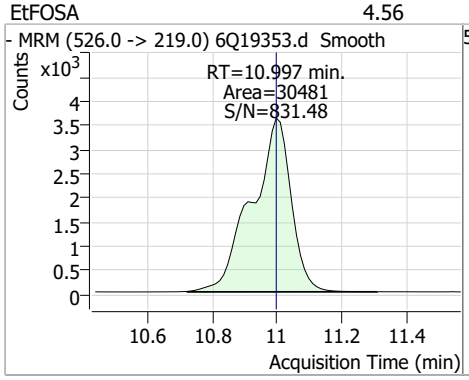


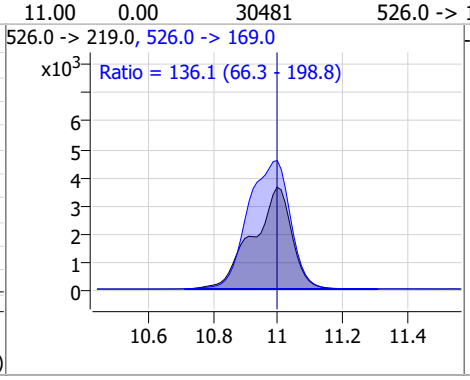
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.56	11.00	0.00	12519				

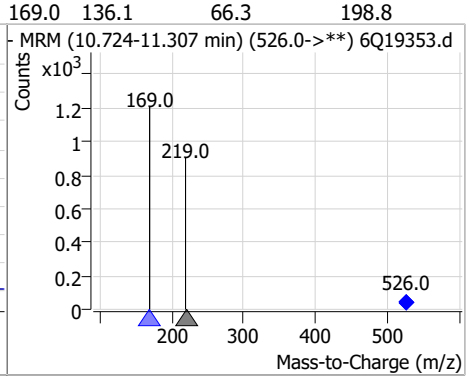


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.56	11.00	0.00	30481	526.0 -> 169.0	136.1	66.3	198.8







7.7.13

7

Manual Integration Approval Summary

Sample Number: S6Q289-CC288
Lab FileID: 6Q19353.D
Injection Time: 06/14/23 16:38
Method: EPA DRAFT 1633
Analyst approved: 06/15/23 10:05 Martha Valls
Supervisor approved: 06/15/23 10:54 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.58	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:54

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19361.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 6:30:35 PM
Sample Name : cc288-4
Vial : P1-A5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	152300	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	49622	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	53529	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	52889	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	84172	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	37856	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	22772	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	31922	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	23947	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	14205	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	30612	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19747	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12662	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	11174	2.50	µg/L	0.012
M2-4:2FTS	5.442	329.1 -> 80.9	2938	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	4610	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4551	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	32289	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	34346	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	25636	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	116861	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	152334	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11720	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11995	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	15821	2.50	µg/L	0.012
13C3-PFBA	3.089	216.0 -> 172.0	64981	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9017	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	80641	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	29564	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	47319	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	54028	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	2938	5.43	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.6%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4610	5.64	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.8%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4551	5.92	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.5%		
13C2-PFDoDA	9.297	615.1 -> 570.0	23947	1.21	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.9%		
13C2-PFTeDA	10.012	715.2 -> 670.0	14205	1.29	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C3-PFBS	5.746	302.1 -> 79.9	19747	2.63	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%		
13C3-PFHxS	7.478	402.1 -> 79.9	12662	2.67	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.9%		
13C4-PFBA	3.085	216.8 -> 171.9	152300	9.99 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C4-PFHpA	6.707	367.1 -> 322.0	52889	2.54 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C5-PFHxA	5.792	318.0 -> 273.0	53529	2.40 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.0%		
13C5-PFPeA	4.560	268.3 -> 223.0	49622	4.86 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.1%		
13C6-PFDA	8.400	519.1 -> 474.1	22772	1.34 µg/L		0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.4%		
13C7-PFUnDA	8.866	570.0 -> 525.1	31922	1.40 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.3%		
13C8-FOSA	9.687	506.1 -> 77.8	30612	2.55 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C8-PFOA	7.352	421.1 -> 376.0	84172	2.79 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.7%		
13C8-PFOS	8.575	507.1 -> 79.9	11174	2.34 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.6%		
13C9-PFNA	7.895	472.1 -> 427.0	37856	1.31 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.1%		
d3-MeFOSAA	8.420	573.2 -> 419.0	32289	5.39 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.9%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	34346	9.21 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 92.1%		
d3-MeFOSA	10.775	515.0 -> 219.0	11995	2.30 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.2%		
d5-EtFOSAA	8.628	589.2 -> 419.0	25636	5.05 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
d7-MeFOSE	10.696	623.2 -> 58.9	116861	22.01 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 88.1%		
d9-EtFOSE	10.930	639.2 -> 58.9	152334	24.34 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.4%		
d5-EtFOSA	10.996	531.1 -> 219.0	11720	2.31 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.2%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	48071	9.41 µg/L		98
		327.1 -> 80.9	18518			
6:2FTS	7.113	427.1 -> 407.0	53345	9.72 µg/L		99
		427.1 -> 80.9	17274			
8:2FTS	8.176	527.1 -> 507.0	27963	9.24 µg/L		99
		527.1 -> 80.8	10804			
EtFOSAA	8.641	584.2 -> 419.1	10687	2.46 µg/L	m	97
		584.2 -> 526.0	5417			
FOSA	9.677	498.1 -> 77.9	27923	2.30 µg/L		99
		498.1 -> 478.0	797			
MeFOSAA	8.433	570.1 -> 419.0	18686	2.23 µg/L	m	99
		570.1 -> 483.0	3497			
PFBA	3.093	212.8 -> 168.9	60170	9.80 µg/L		100
PFBS	5.747	298.7 -> 79.9	18365	2.08 µg/L		97
		298.7 -> 98.8	7324			
PFDA	8.400	512.9 -> 469.0	83210	2.46 µg/L		94
		512.9 -> 219.0	11008			
PFDoDA	9.298	613.1 -> 569.0	51081	2.57 µg/L		99
		613.1 -> 319.0	7675			
PFDS	9.462	599.0 -> 79.9	8856	2.62 µg/L		87

Perfluorinated Compounds by LC/MS/MS

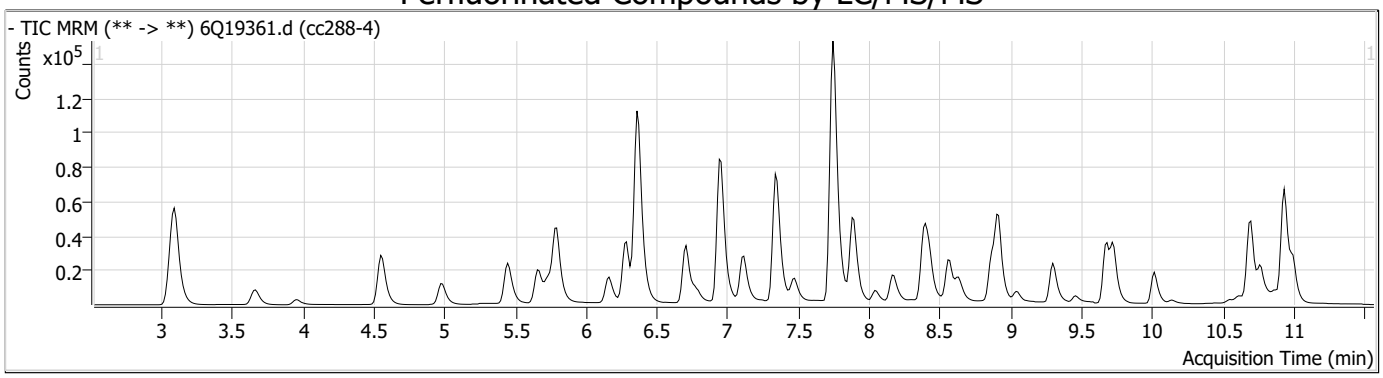
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3853				
PFHpA	6.708	363.1 -> 319.0	64099	2.27	µg/L		98
		363.1 -> 169.0	10253				
PFHpS	8.059	449.0 -> 79.9	15377	2.30	µg/L		98
		449.0 -> 98.9	8015				
PFHxA	5.795	313.0 -> 269.0	51779	2.40	µg/L		100
		313.0 -> 118.9	2730				
PFHxS	7.479	398.7 -> 79.9	15818	2.07	µg/L	m	93
		398.7 -> 98.9	7267				
PFNA	7.896	463.0 -> 419.0	78110	2.23	µg/L		98
		463.0 -> 219.0	15511				
PFNS	9.053	548.8 -> 79.9	14358	2.48	µg/L		98
		548.8 -> 98.9	7187				
PFOA	7.353	413.0 -> 369.0	99500	2.15	µg/L		96
		413.0 -> 169.0	18514				
PFOS	8.576	498.9 -> 79.9	14756	2.23	µg/L	m	96
		498.9 -> 98.8	7316				
PFPeA	4.551	263.0 -> 219.0	69588	4.75	µg/L		100
PFPeS	6.785	349.1 -> 79.9	15865	2.24	µg/L		95
		349.1 -> 98.9	7122				
PFTeDA	10.013	713.1 -> 669.0	41311	2.43	µg/L		100
		713.1 -> 168.9	3598				
PFTrDA	9.681	663.0 -> 619.0	55090	2.73	µg/L		100
		663.0 -> 168.9	5641				
PFUnDA	8.866	563.1 -> 519.0	57172	2.32	µg/L		94
		563.1 -> 269.1	9175				
11Cl-PF3OUdS	9.733	630.9 -> 450.9	73977	4.73	µg/L		97
		632.9 -> 452.9	22186				
9Cl-PF3ONS	8.918	530.8 -> 351.0	125011	4.64	µg/L		95
		532.8 -> 353.0	35156				
ADONA	6.959	376.9 -> 250.9	253468	4.56	µg/L		100
		376.9 -> 84.8	73842				
HFPO-DA	6.169	284.9 -> 168.9	18138	5.05	µg/L		100
		284.9 -> 184.9	2143				
3:3FTCA	3.958	241.0 -> 177.0	11692	11.80	µg/L		100
		241.0 -> 117.0	1565				
5:3FTCA	6.374	341.0 -> 237.1	263028	61.26	µg/L		92
		341.0 -> 217.0	179321				
7:3FTCA	7.748	441.0 -> 316.9	177914	61.28	µg/L		95
		441.0 -> 336.9	415698				
EtFOSA	10.997	526.0 -> 219.0	31391	5.01	µg/L		98
		526.0 -> 169.0	42251				
EtFOSE	10.943	630.0 -> 58.9	96461	12.24	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	25540	4.70	µg/L	m	80
		511.9 -> 169.0	36186				
MeFOSE	10.709	616.1 -> 58.9	65235	12.88	µg/L		100
PFDoDS	10.139	699.1 -> 79.9	3864	2.32	µg/L		98
		699.1 -> 98.8	2203				
NFDHA	5.673	295.0 -> 201.0	12568	4.55	µg/L		99
		295.0 -> 84.9	3311				
PFMBA	4.988	279.0 -> 85.1	50129	4.80	µg/L		100
PFMPA	3.667	229.0 -> 84.9	39242	4.80	µg/L		100
PFEESA	6.288	314.8 -> 134.9	123500	4.23	µg/L		100
		314.8 -> 82.9	4481				

 # = Qualifier out of range, m = manually integrated, + = Area summed

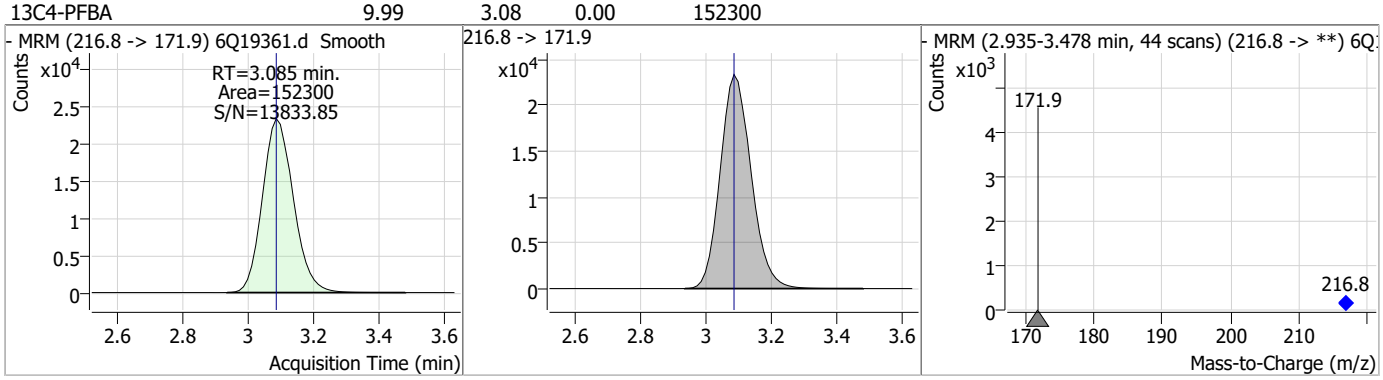
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

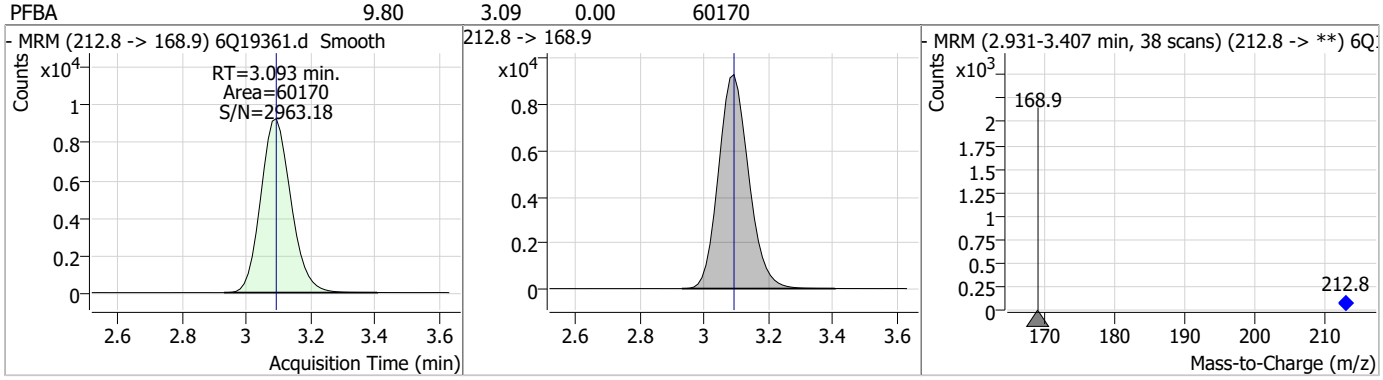
Perfluorinated Compounds by LC/MS/MS



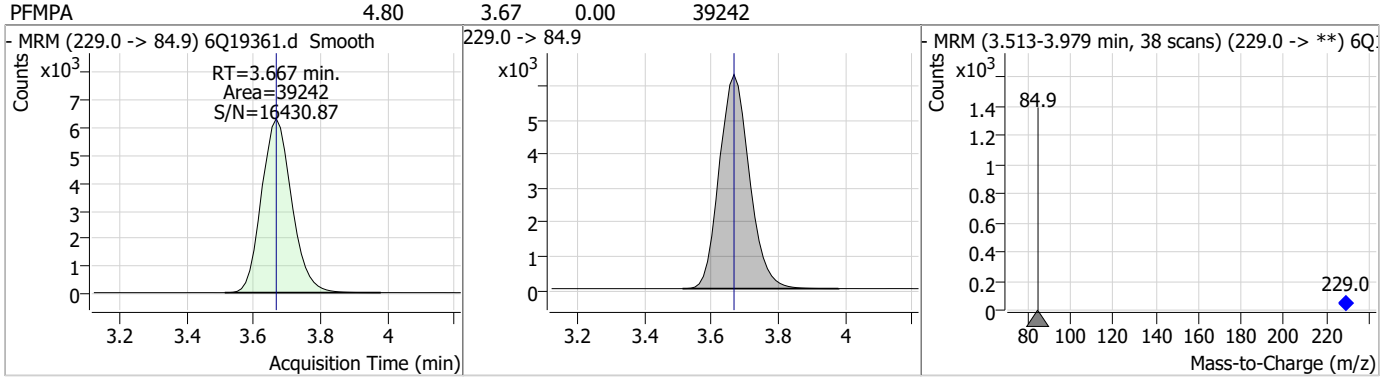
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.99	3.08	0.00	152300				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.80	3.09	0.00	60170				

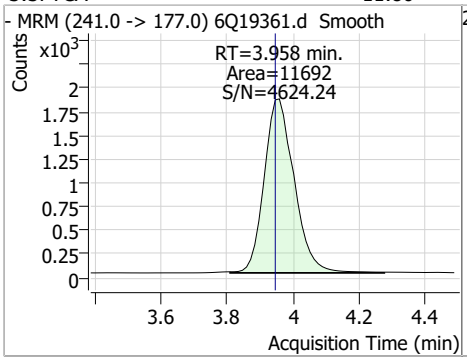


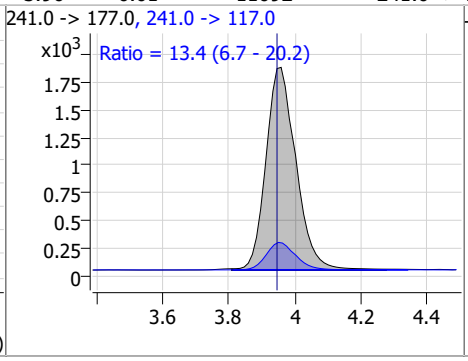
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.80	3.67	0.00	39242				

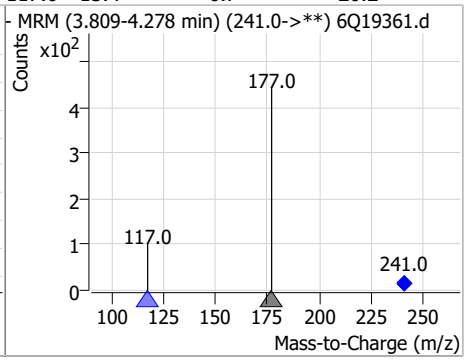


Perfluorinated Compounds by LC/MS/MS

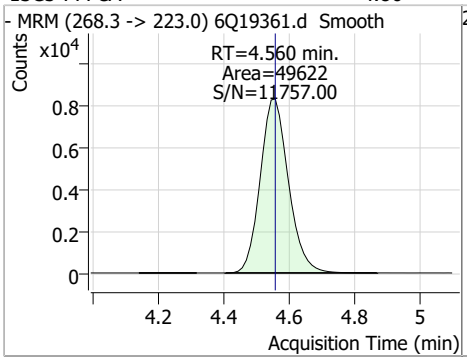
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.80	3.96	0.01	11692	241.0 -> 117.0	13.4	6.7	20.2

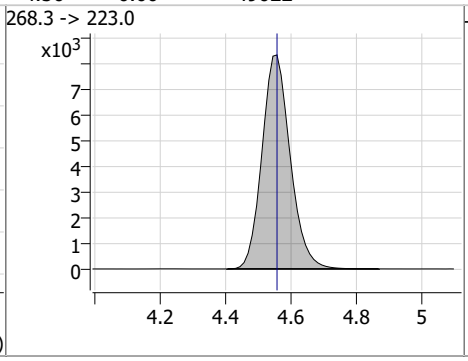


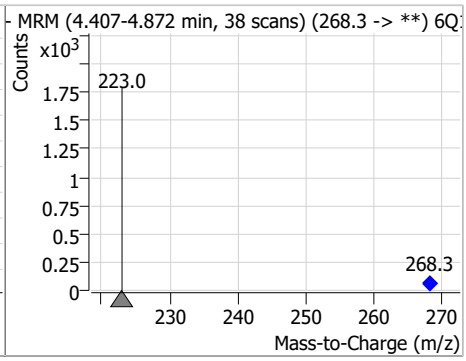




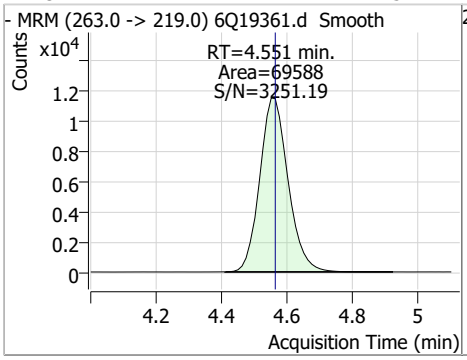
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.86	4.56	0.00	49622				

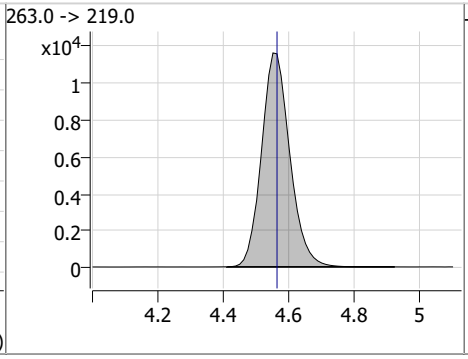


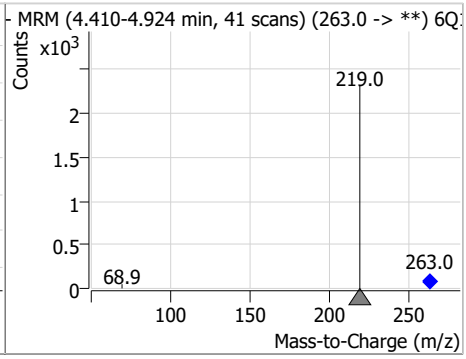




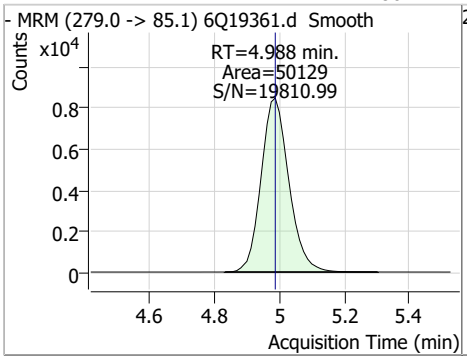
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.75	4.55	-0.01	69588				

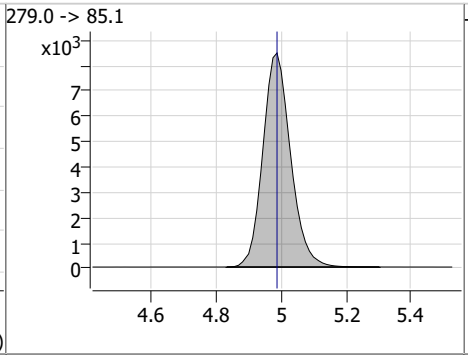


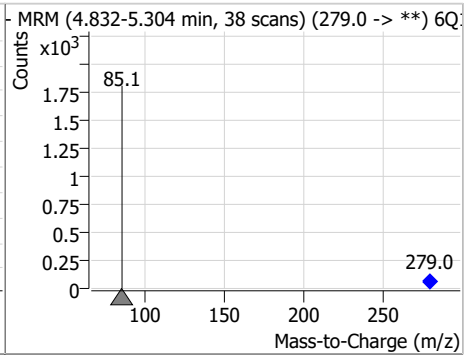




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.80	4.99	0.00	50129				

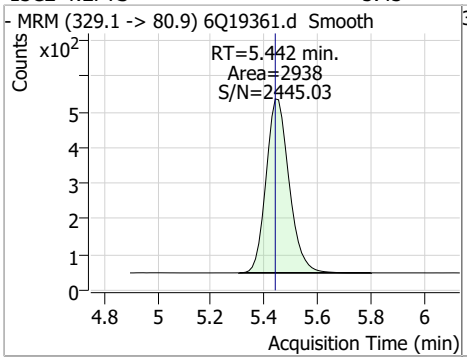


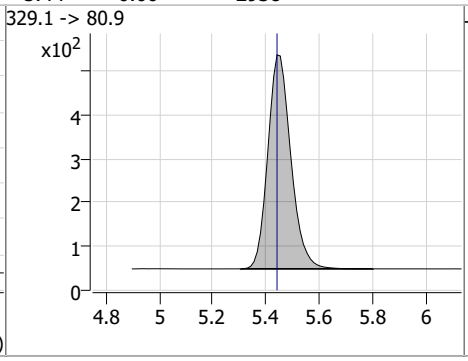


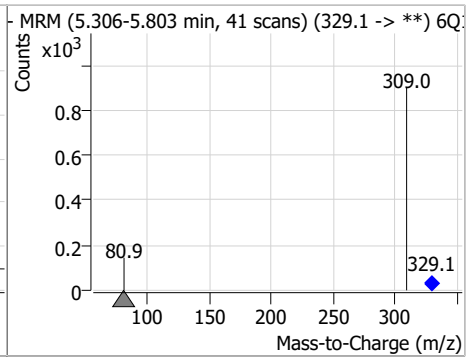


Perfluorinated Compounds by LC/MS/MS

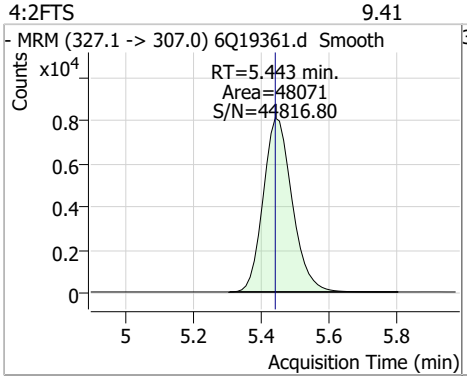
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.43	5.44	0.00	2938				

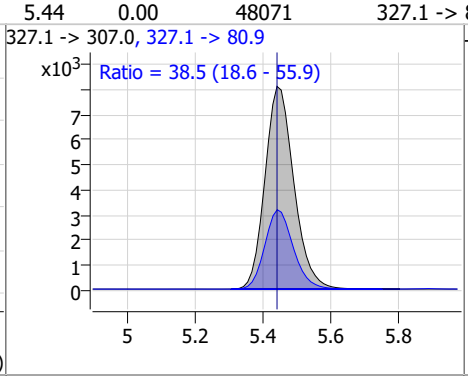


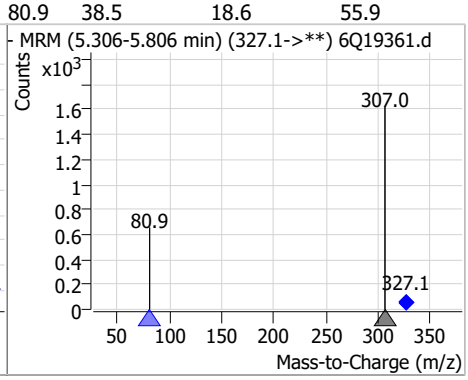




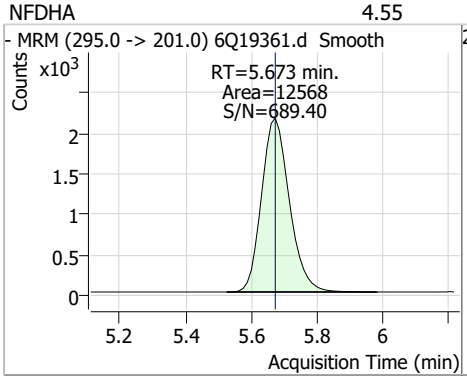
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.41	5.44	0.00	48071	327.1 -> 80.9	38.5	18.6	55.9

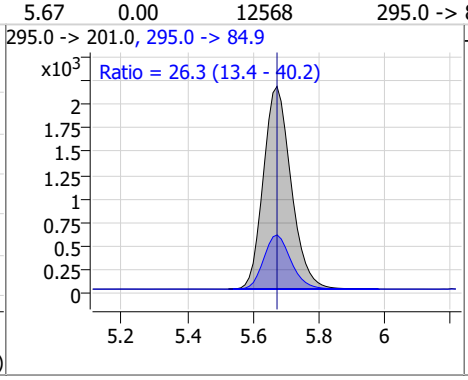


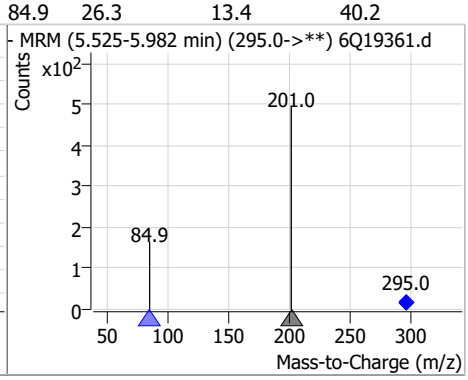




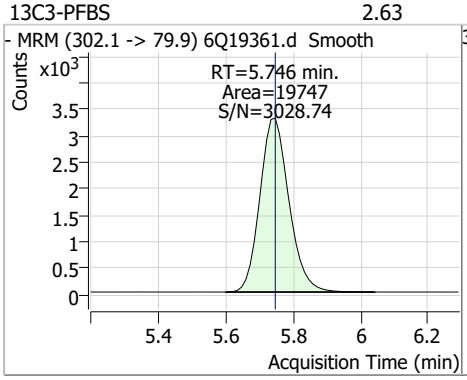
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.55	5.67	0.00	12568	295.0 -> 84.9	26.3	13.4	40.2

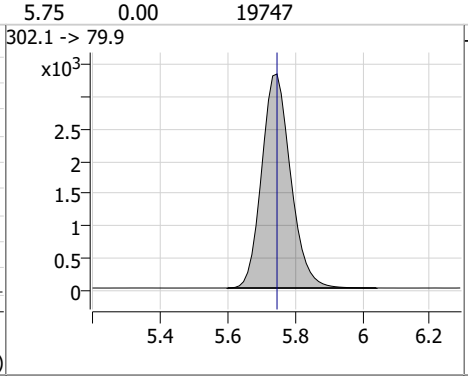


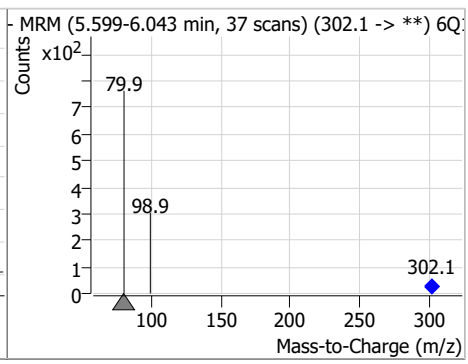




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.63	5.75	0.00	19747				

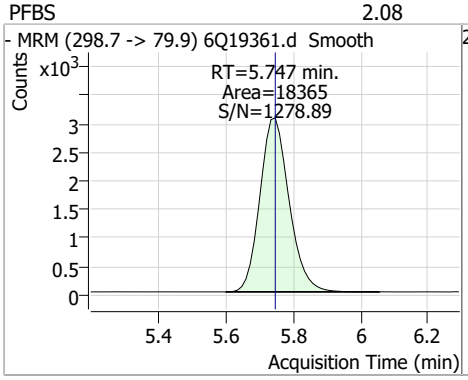


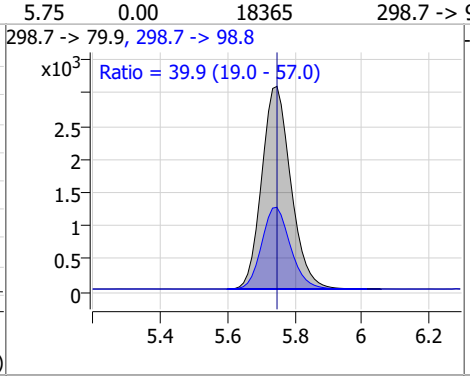


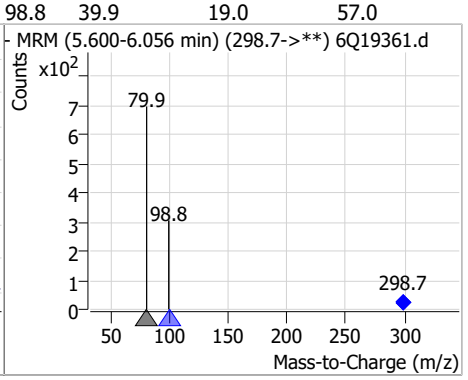


Perfluorinated Compounds by LC/MS/MS

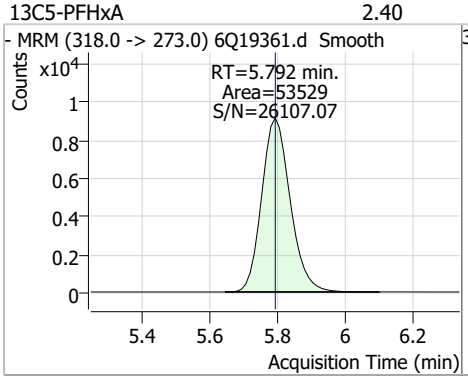
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.08	5.75	0.00	18365	298.7 -> 98.8	39.9	19.0	57.0

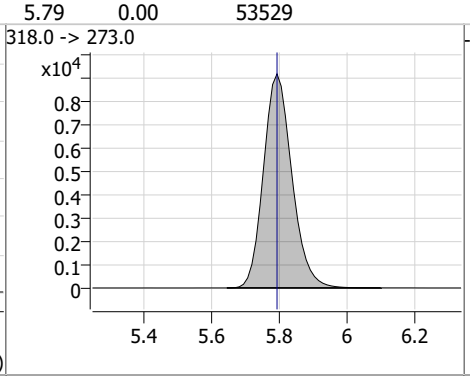


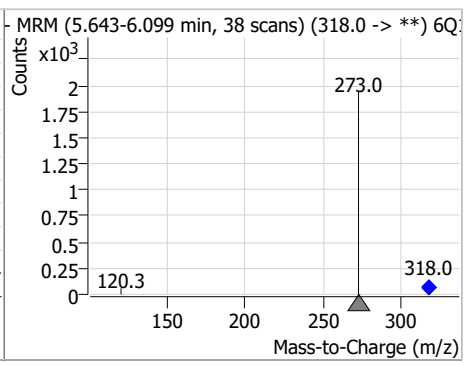




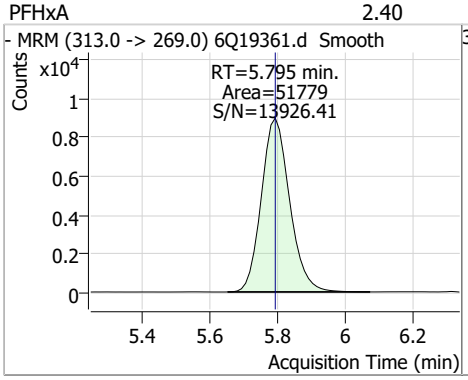
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.40	5.79	0.00	53529				

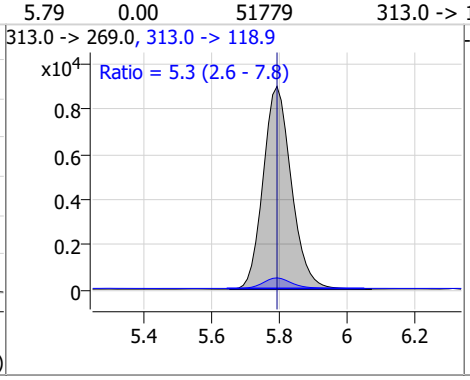


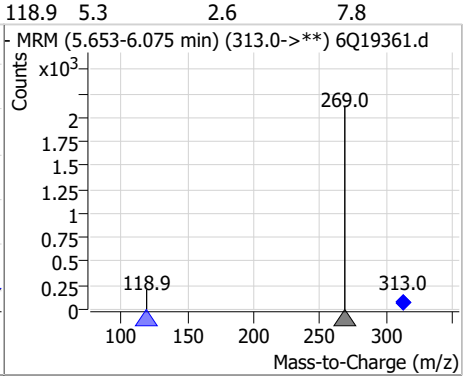




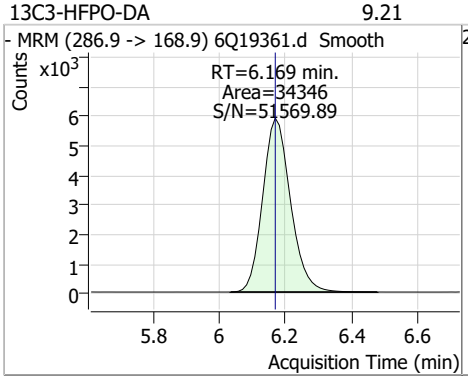
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.40	5.79	0.00	51779	313.0 -> 118.9	5.3	2.6	7.8

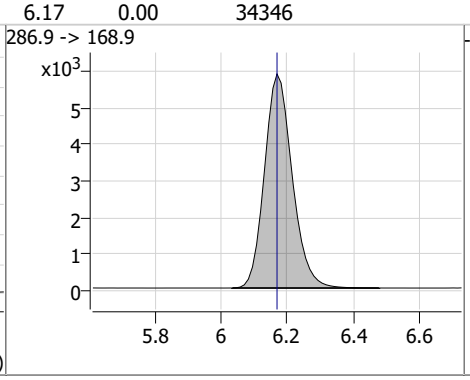


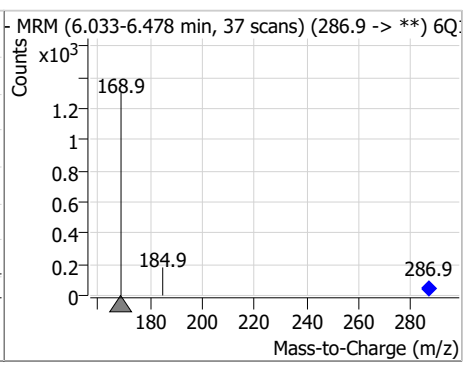




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.21	6.17	0.00	34346				

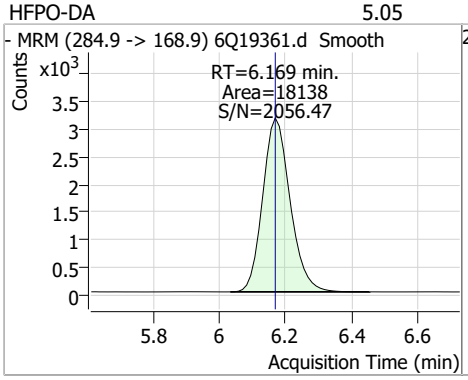


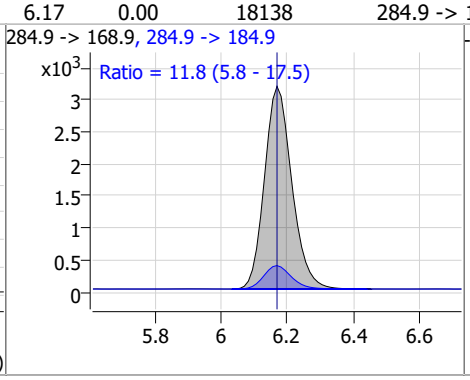


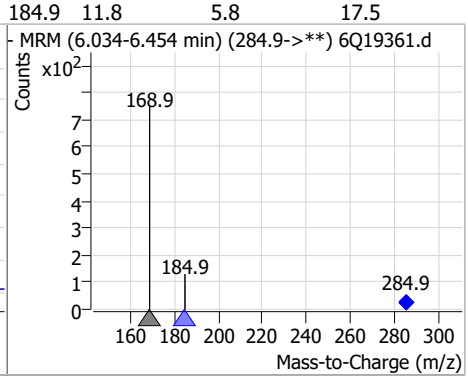


Perfluorinated Compounds by LC/MS/MS

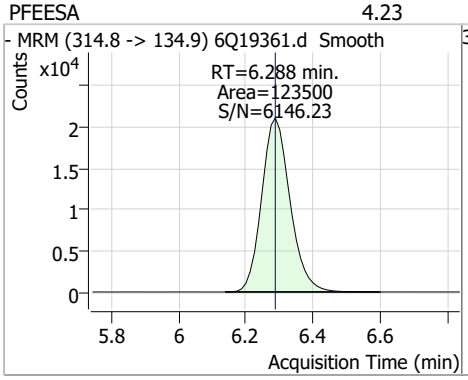
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.05	6.17	0.00	18138	284.9 -> 184.9	11.8	5.8	17.5

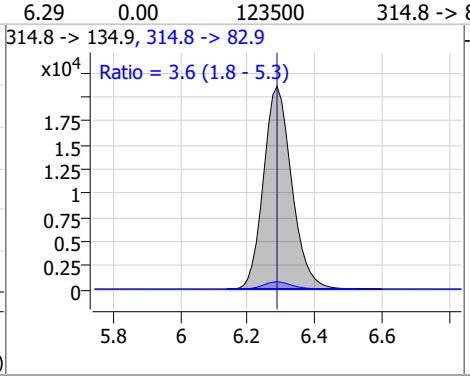


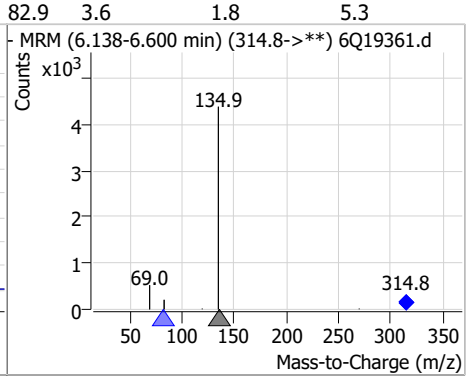




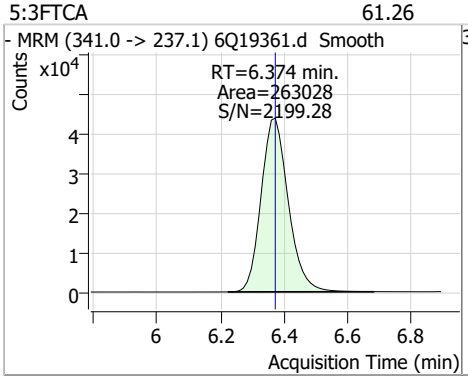
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.23	6.29	0.00	123500	314.8 -> 82.9	3.6	1.8	5.3

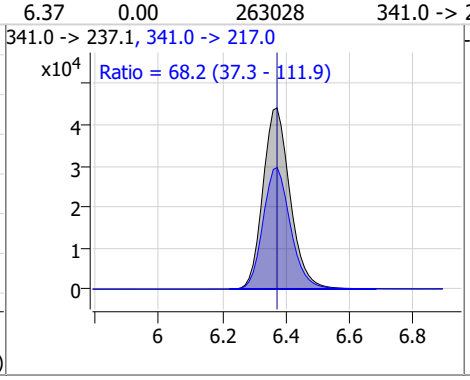


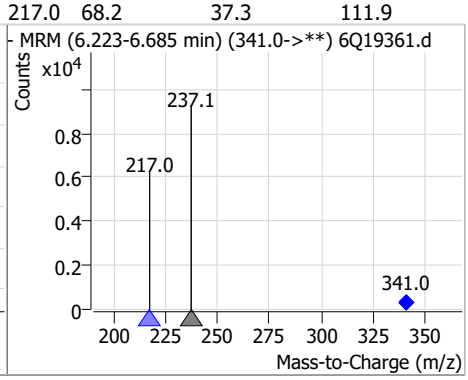




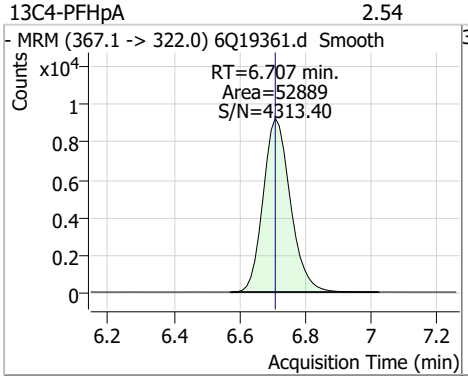
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	61.26	6.37	0.00	263028	341.0 -> 217.0	68.2	37.3	111.9

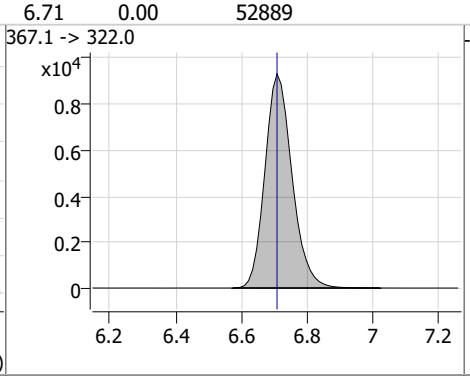


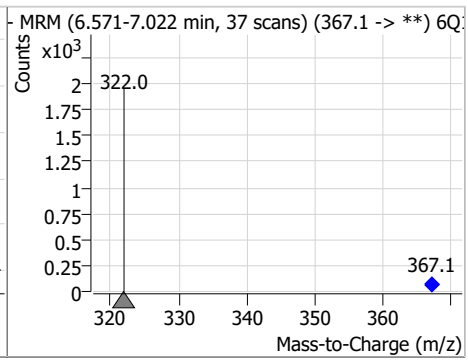




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.54	6.71	0.00	52889				

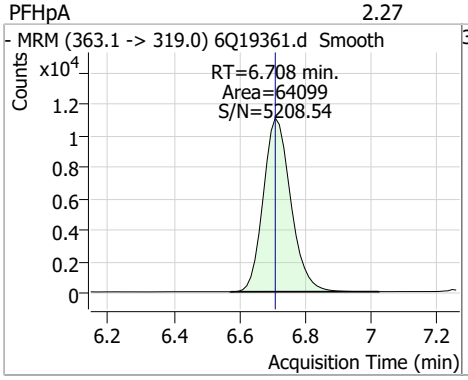


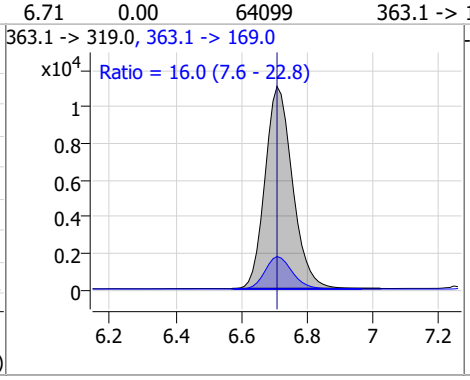


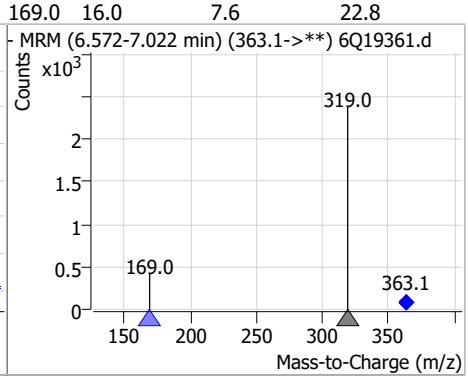


Perfluorinated Compounds by LC/MS/MS

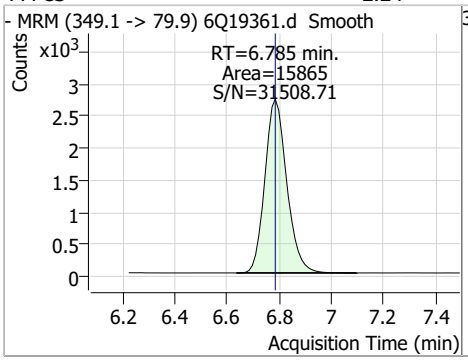
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.27	6.71	0.00	64099	363.1 -> 169.0	16.0	7.6	22.8

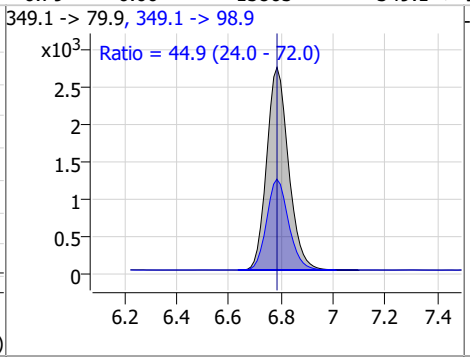


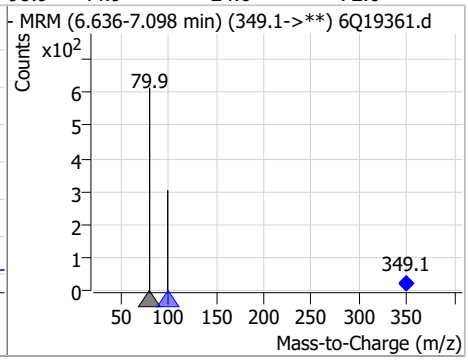




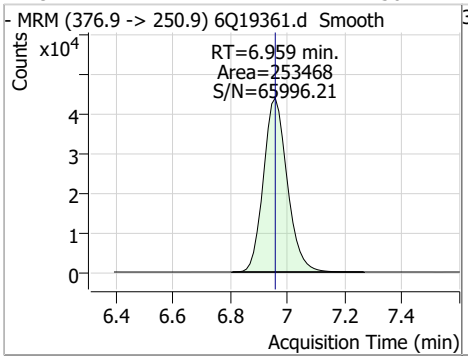
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.24	6.79	0.00	15865	349.1 -> 98.9	44.9	24.0	72.0

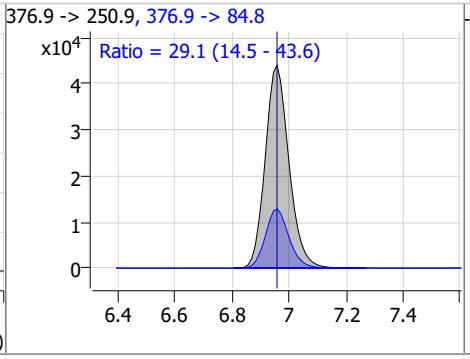


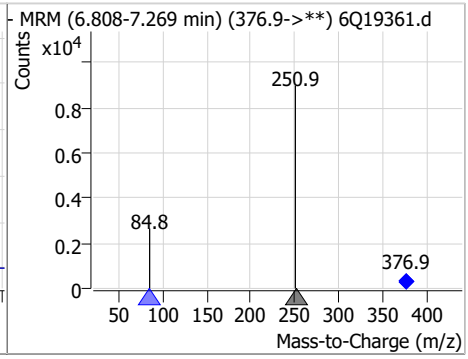




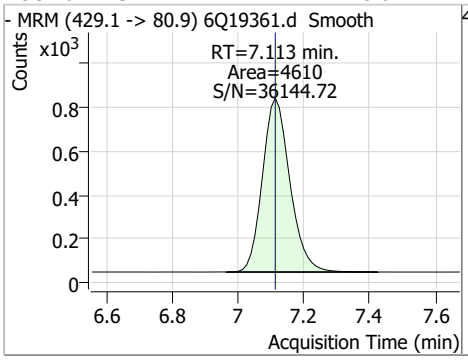
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.56	6.96	0.00	253468	376.9 -> 84.8	29.1	14.5	43.6

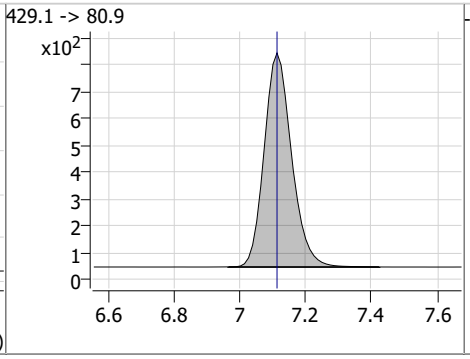


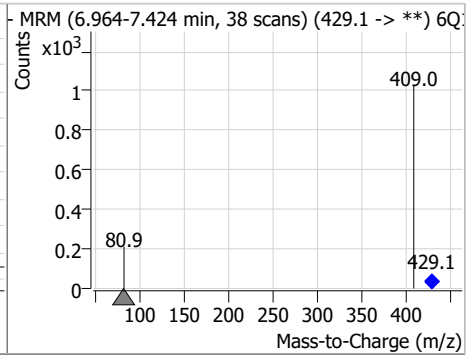




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.64	7.11	0.00	4610				

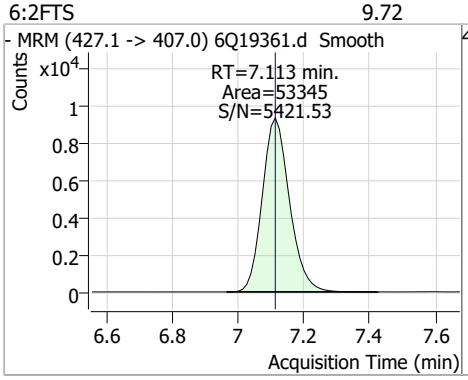


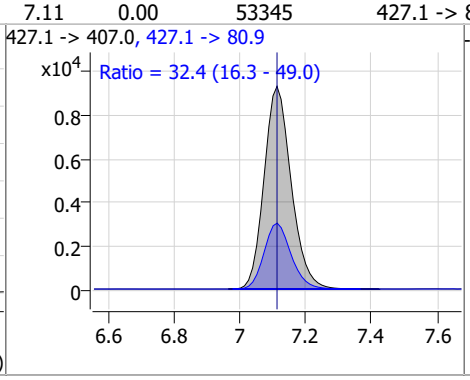


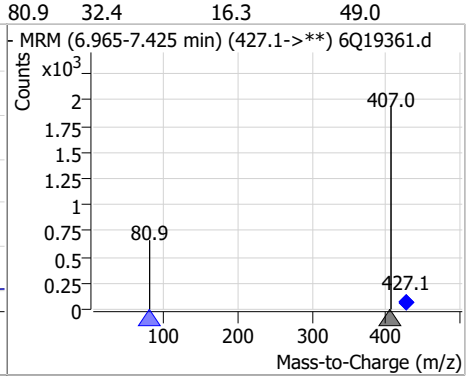


Perfluorinated Compounds by LC/MS/MS

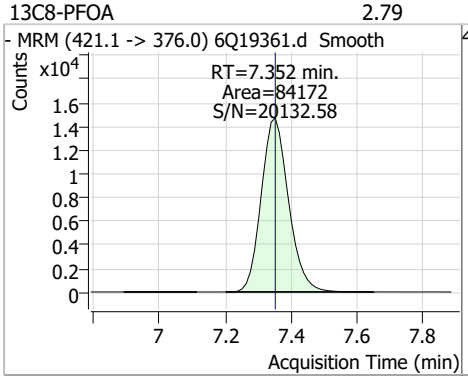
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.72	7.11	0.00	53345	427.1 -> 80.9	32.4	16.3	49.0

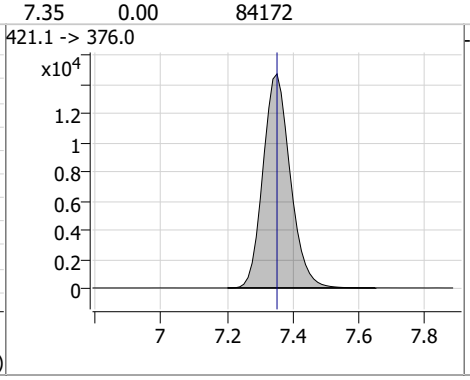


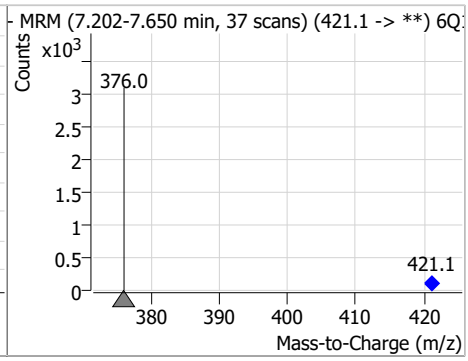




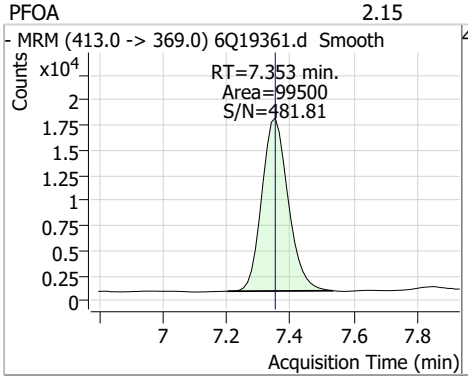
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.79	7.35	0.00	84172				

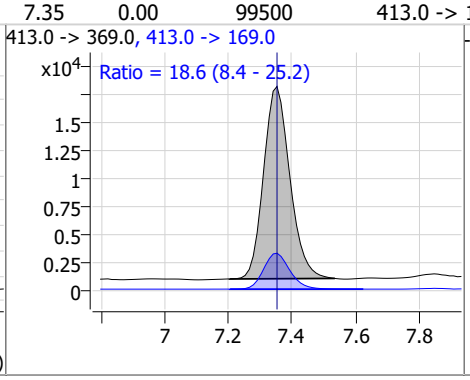


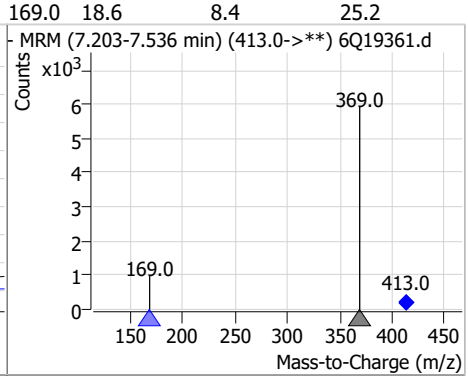




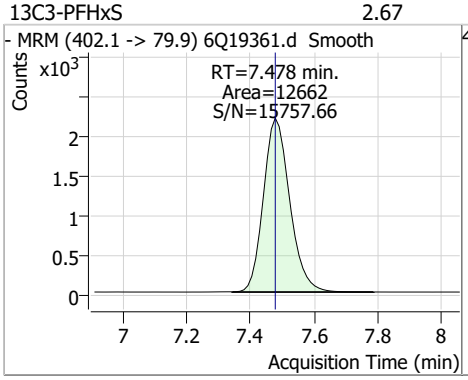
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.15	7.35	0.00	99500	413.0 -> 169.0	18.6	8.4	25.2

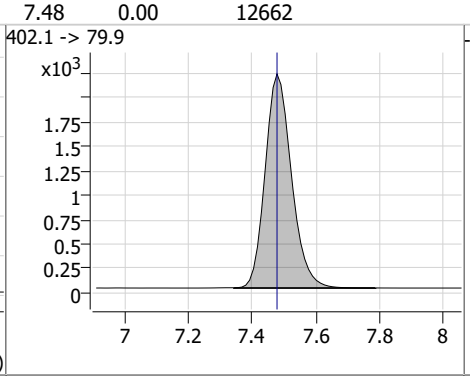


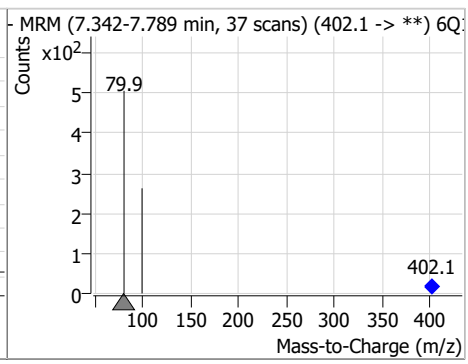




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.67	7.48	0.00	12662				

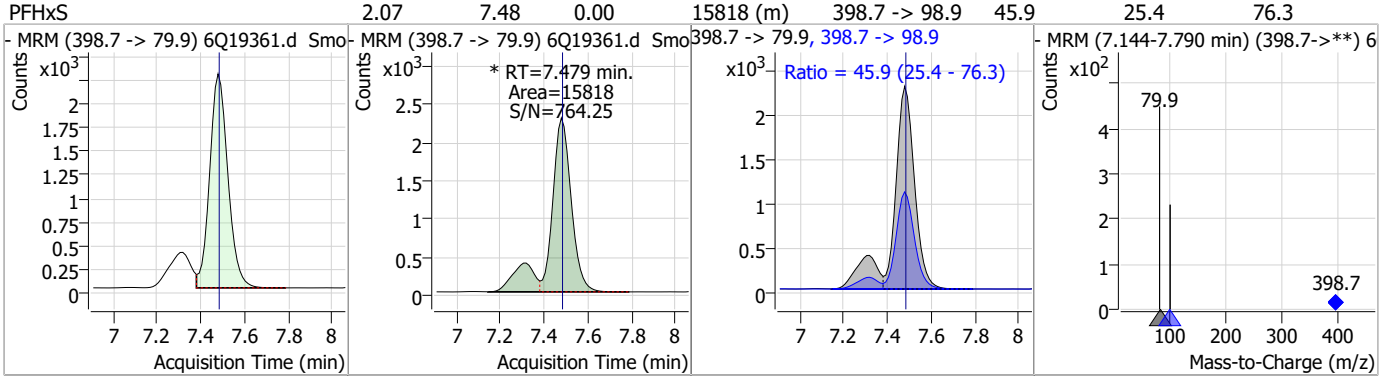




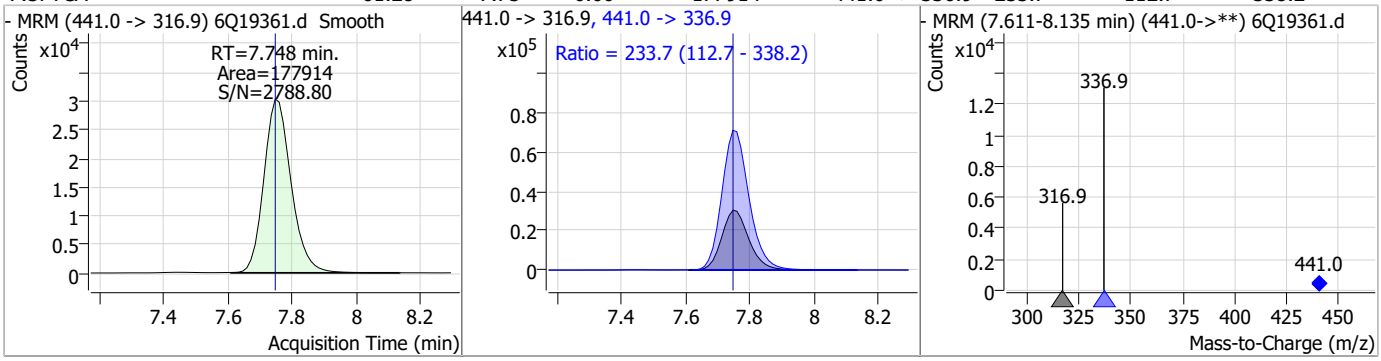


Perfluorinated Compounds by LC/MS/MS

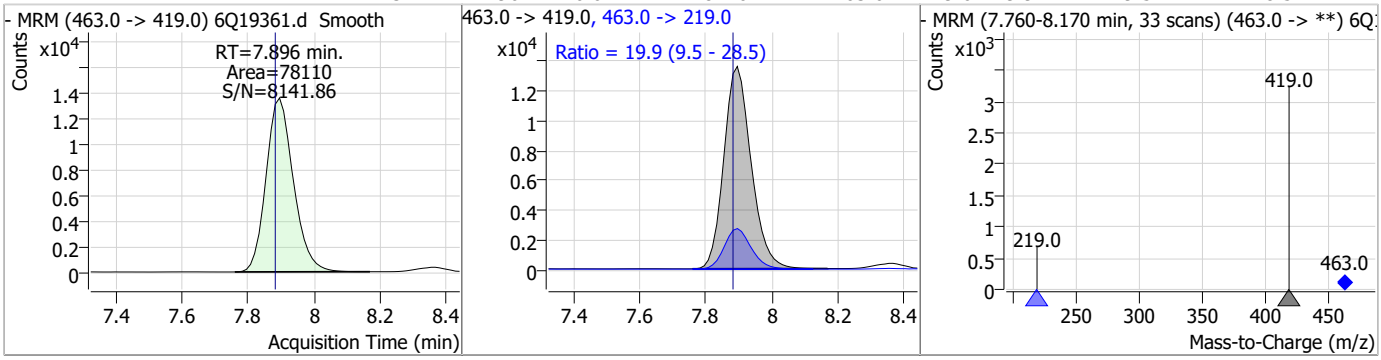
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.07	7.48	0.00	15818 (m)	398.7 -> 98.9	45.9	25.4	76.3



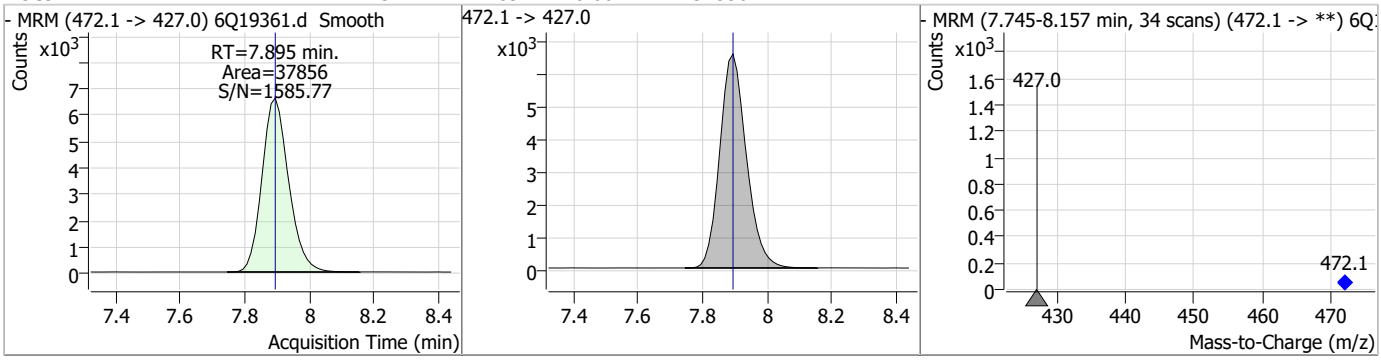
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	61.28	7.75	0.00	177914	441.0 -> 336.9	233.7	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.23	7.90	0.01	78110	463.0 -> 219.0	19.9	9.5	28.5

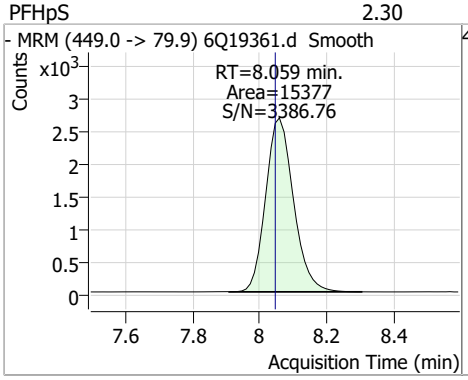


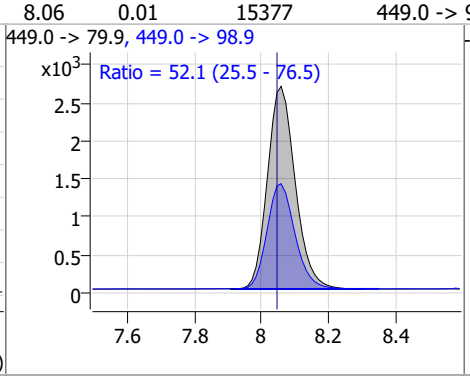
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.31	7.89	0.00	37856				

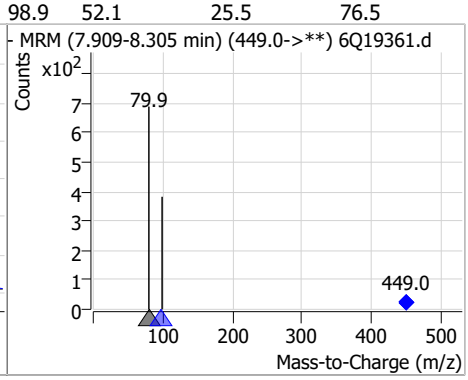


Perfluorinated Compounds by LC/MS/MS

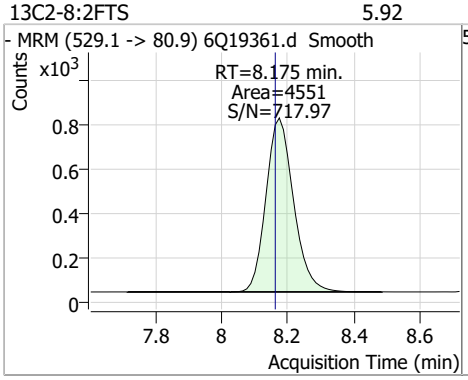
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.30	8.06	0.01	15377	449.0 -> 98.9	52.1	25.5	76.5

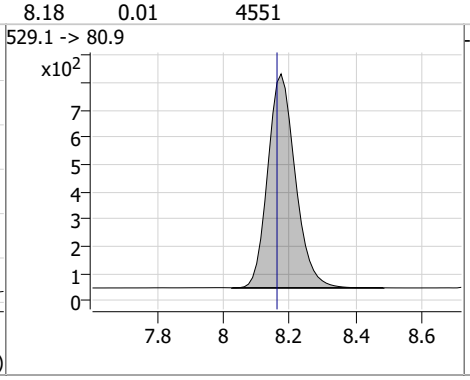


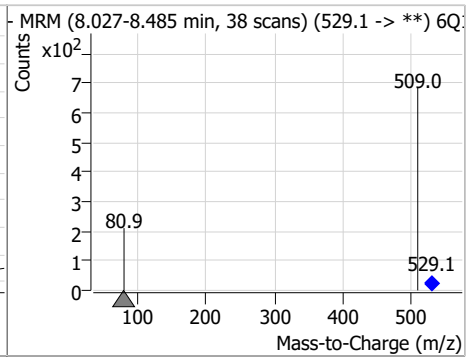




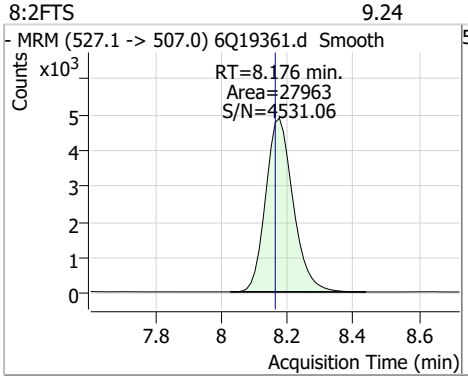
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.92	8.18	0.01	4551				

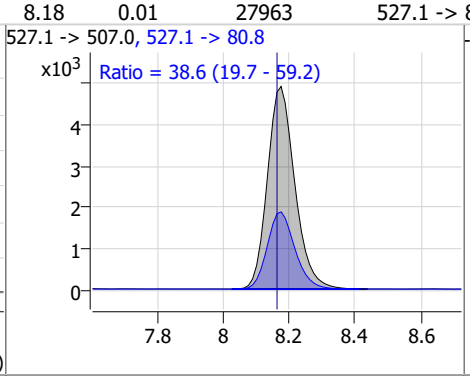


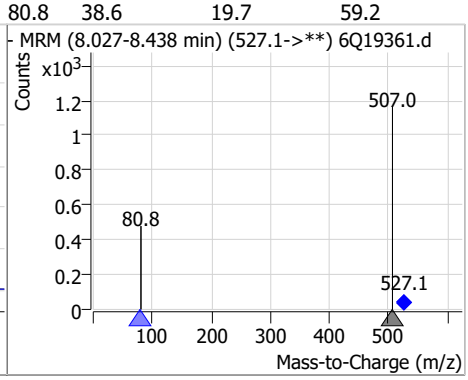




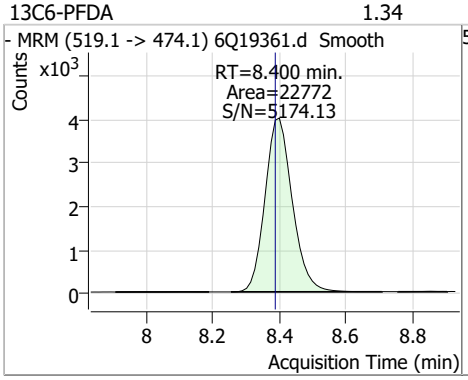
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.24	8.18	0.01	27963	527.1 -> 80.8	38.6	19.7	59.2

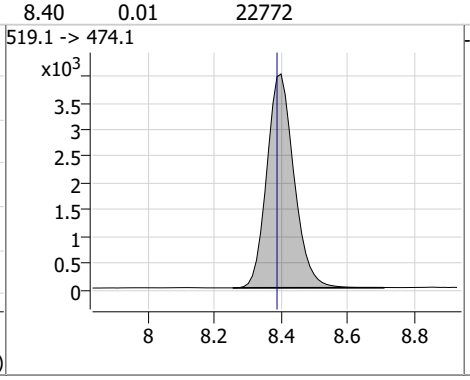


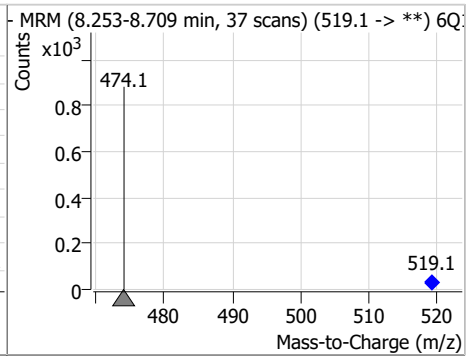




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.34	8.40	0.01	22772				

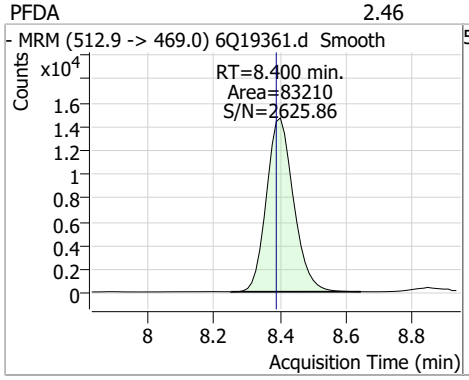


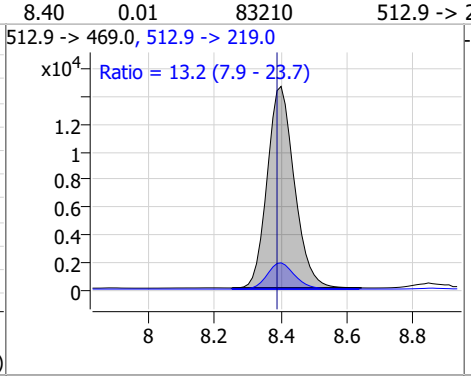


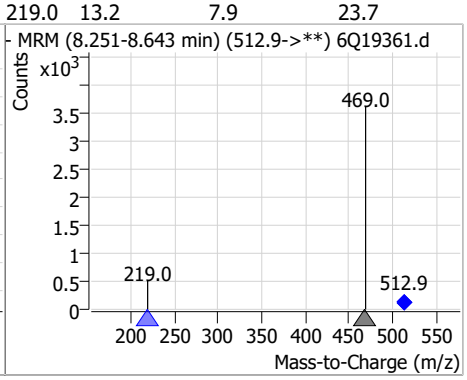


Perfluorinated Compounds by LC/MS/MS

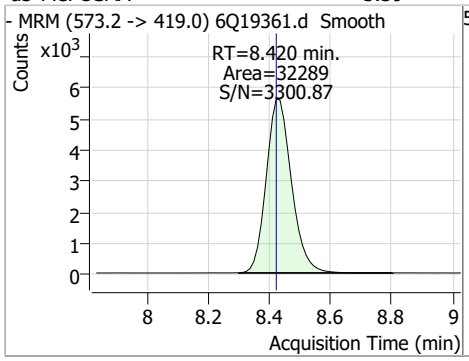
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.46	8.40	0.01	83210	512.9 -> 219.0	13.2	7.9	23.7

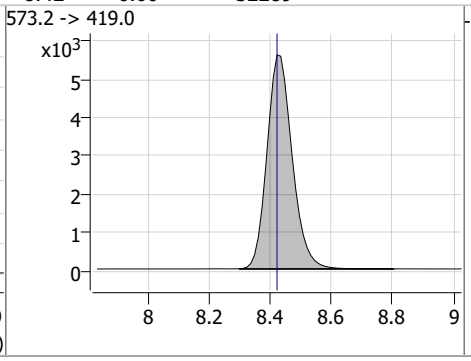


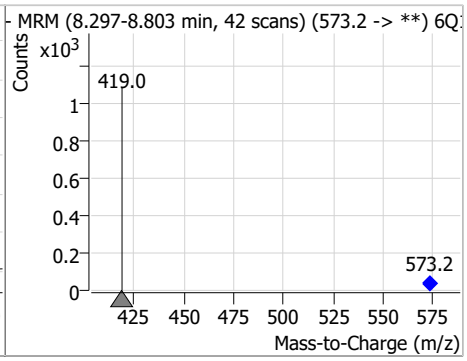




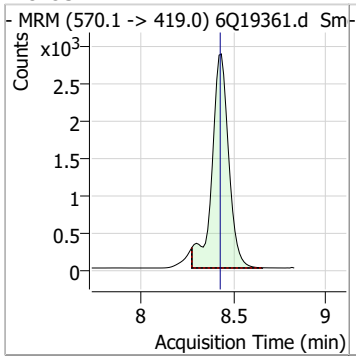
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.39	8.42	0.00	32289				

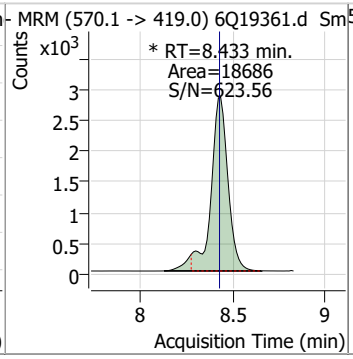


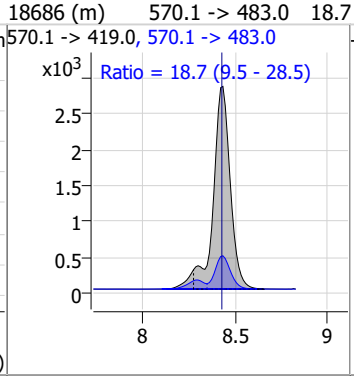


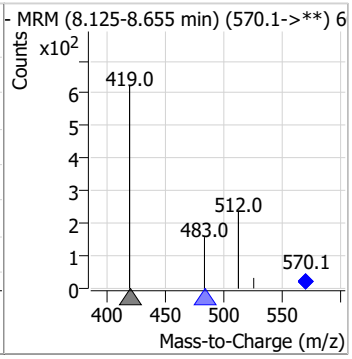


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.23	8.43	0.01	18686 (m)	570.1 -> 483.0	18.7	9.5	28.5

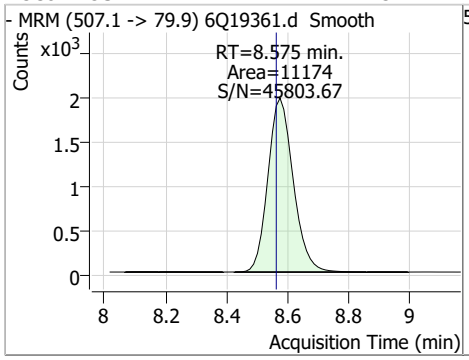


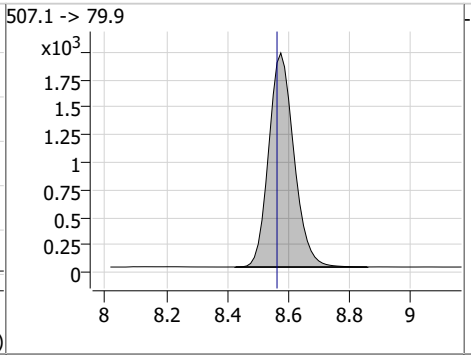


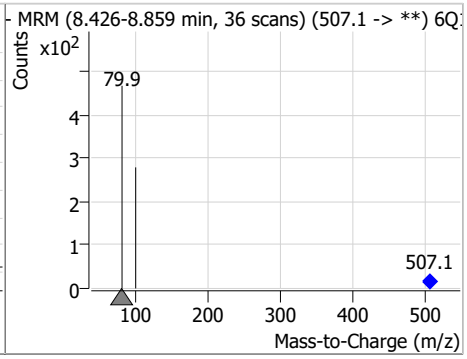




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.34	8.57	0.01	11174				

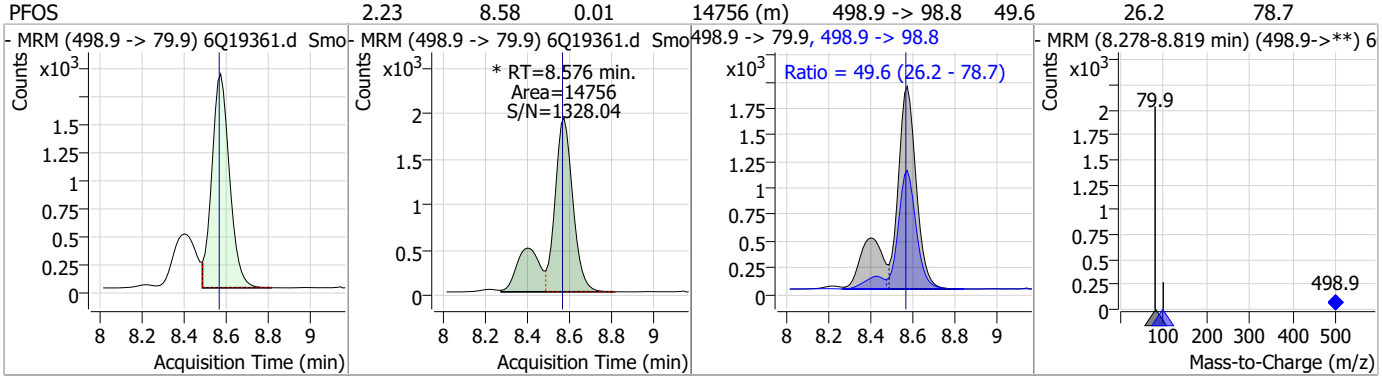




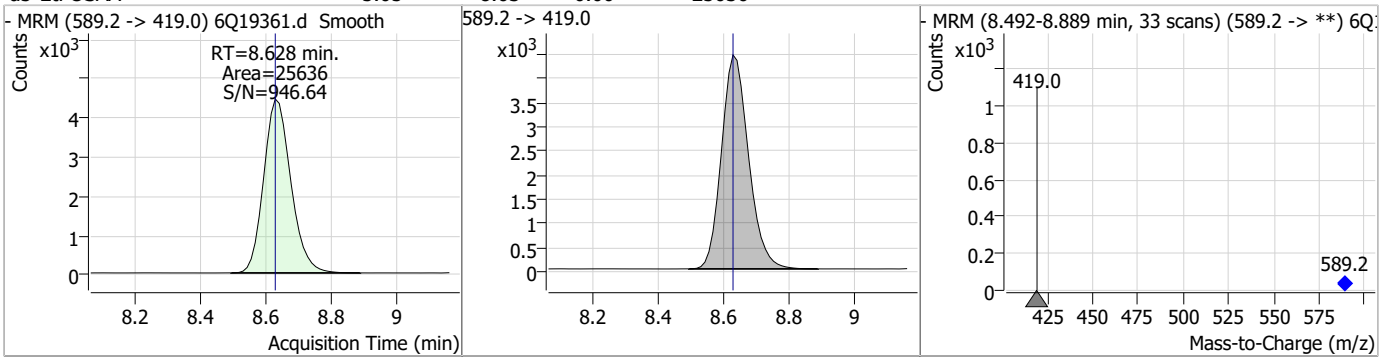


Perfluorinated Compounds by LC/MS/MS

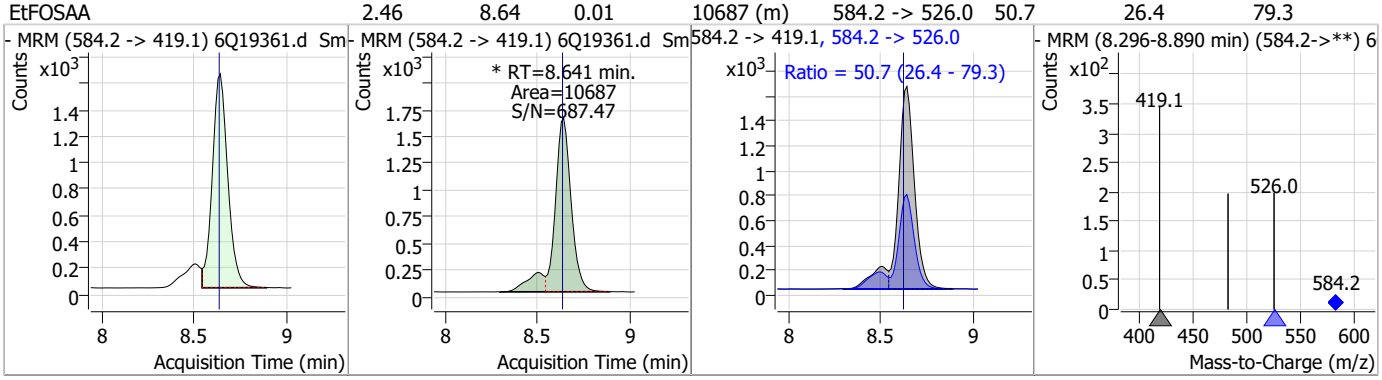
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.23	8.58	0.01	14756 (m)	498.9 -> 98.8	49.6	26.2	78.7



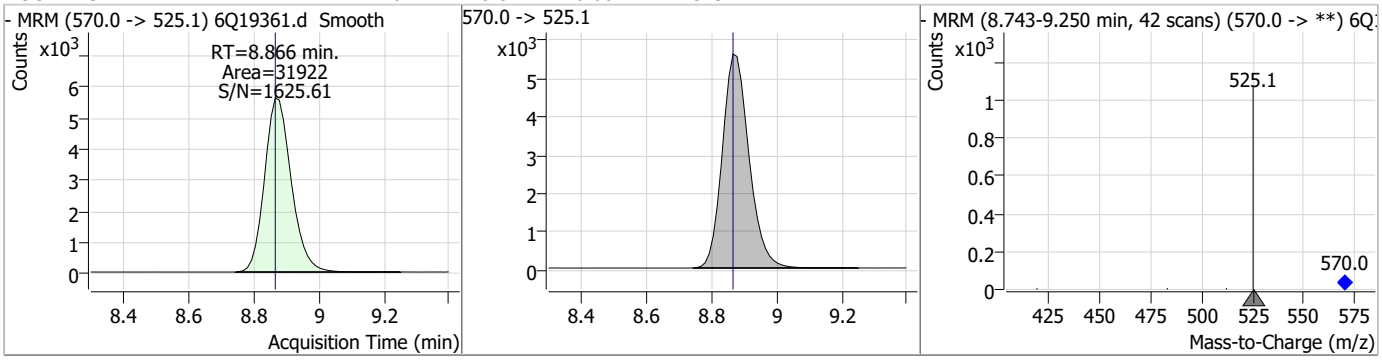
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.05	8.63	0.00	25636				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.46	8.64	0.01	10687 (m)	584.2 -> 526.0	50.7	26.4	79.3

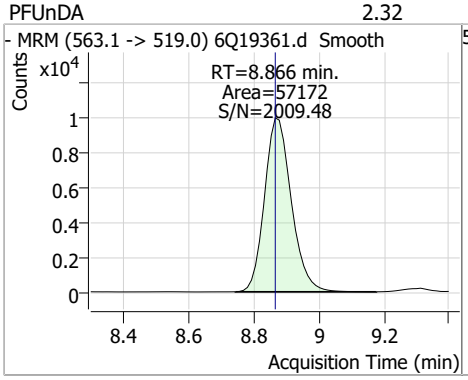


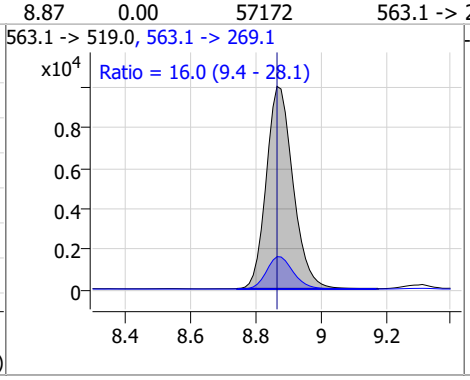
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.40	8.87	0.00	31922				

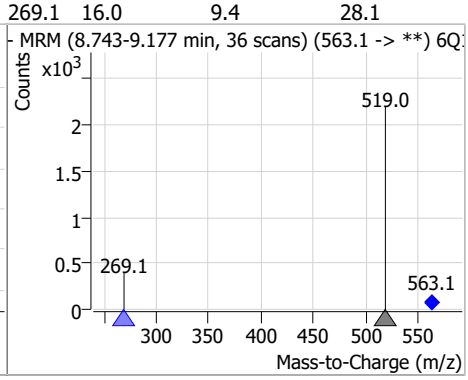


Perfluorinated Compounds by LC/MS/MS

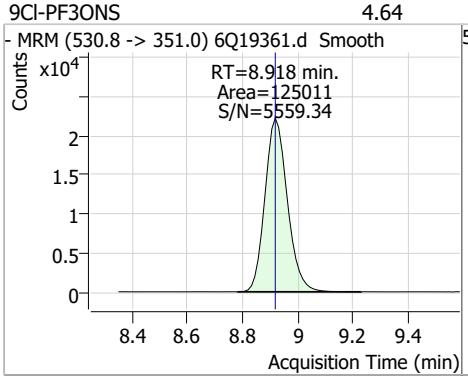
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.32	8.87	0.00	57172	563.1 -> 269.1	16.0	9.4	28.1

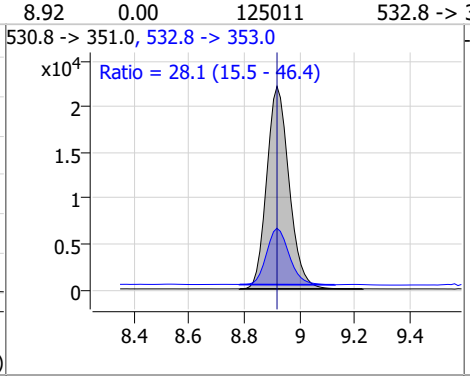


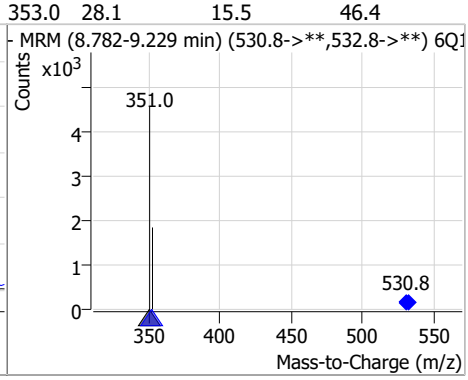




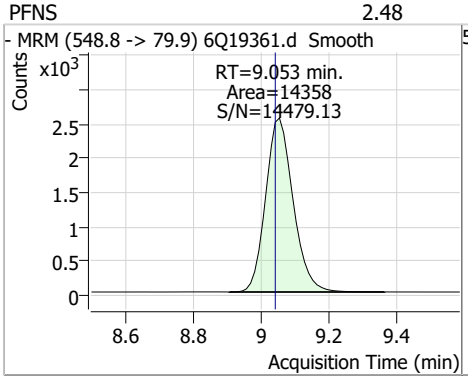
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.64	8.92	0.00	125011	532.8 -> 353.0	28.1	15.5	46.4

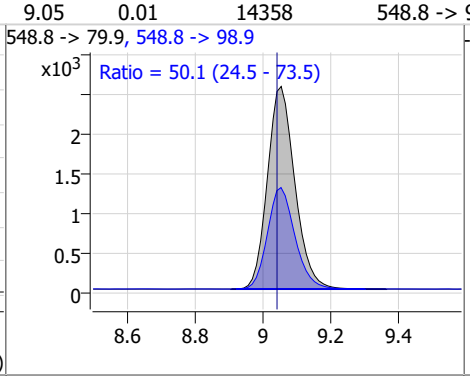


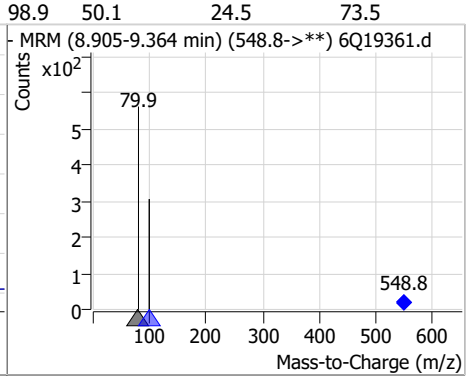




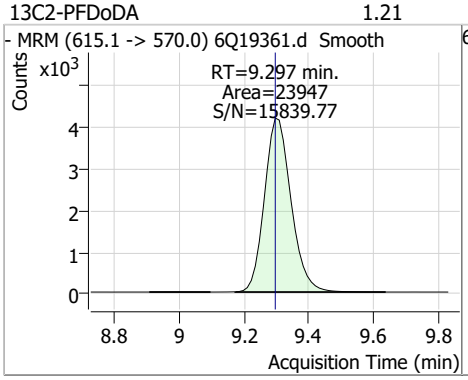
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.48	9.05	0.01	14358	548.8 -> 98.9	50.1	24.5	73.5

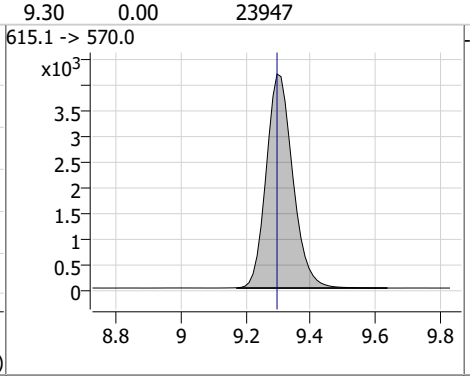


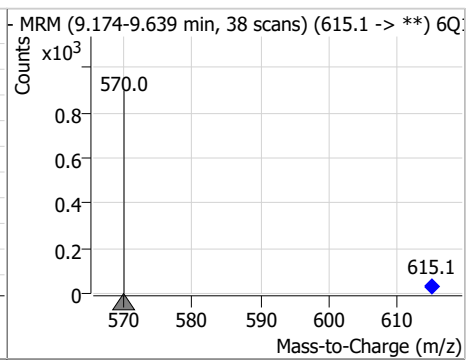




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.21	9.30	0.00	23947				

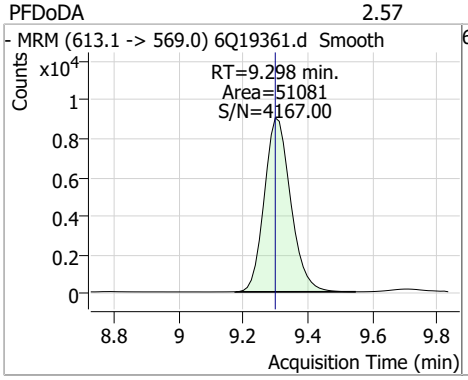


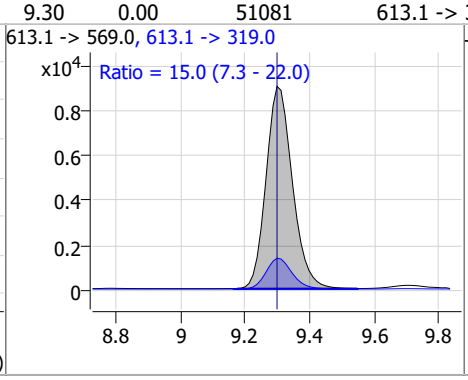


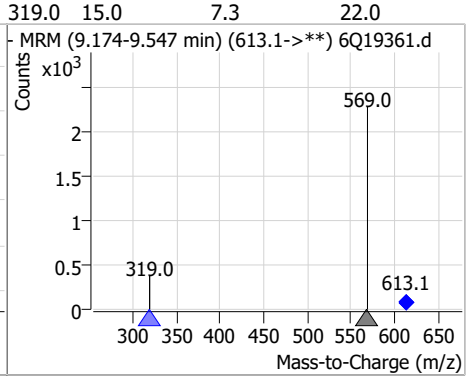


Perfluorinated Compounds by LC/MS/MS

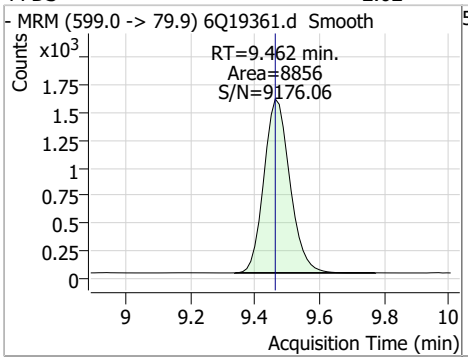
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.57	9.30	0.00	51081	613.1 -> 319.0	15.0	7.3	22.0

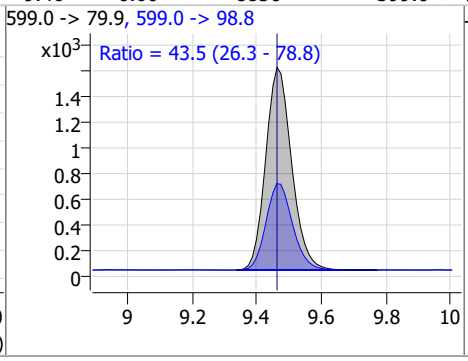


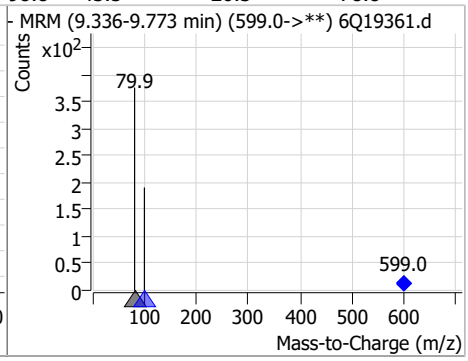




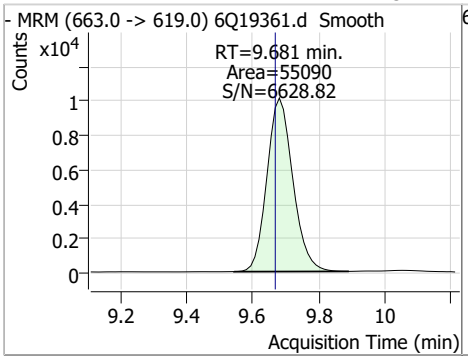
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.62	9.46	0.00	8856	599.0 -> 98.8	43.5	26.3	78.8

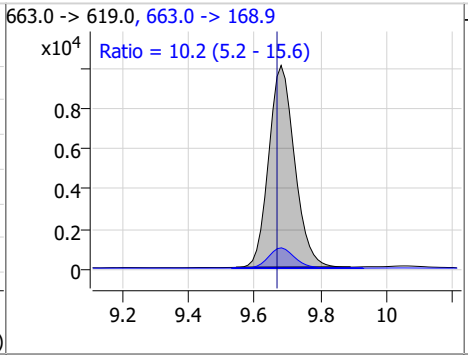


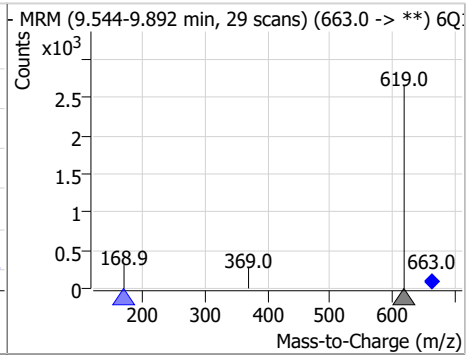




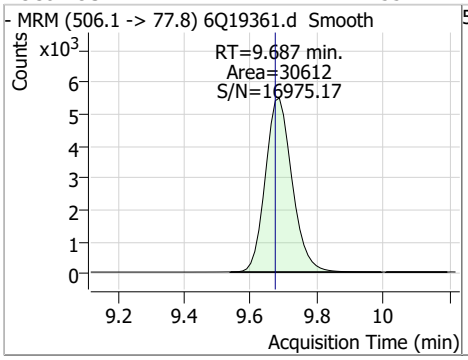
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.73	9.68	0.01	55090	663.0 -> 168.9	10.2	5.2	15.6

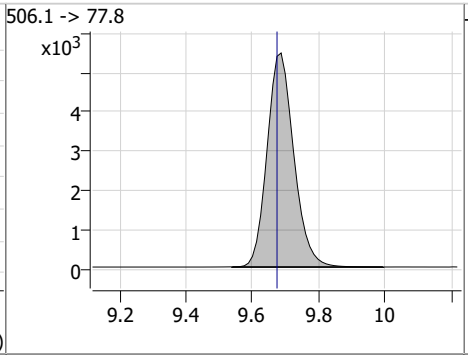


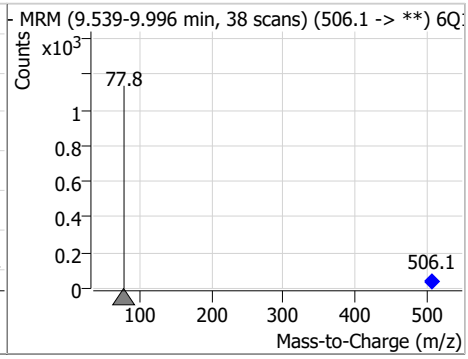




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.55	9.69	0.01	30612				

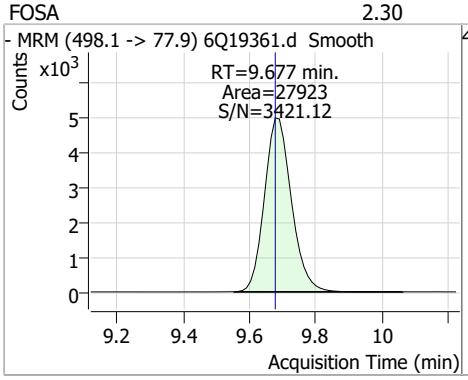


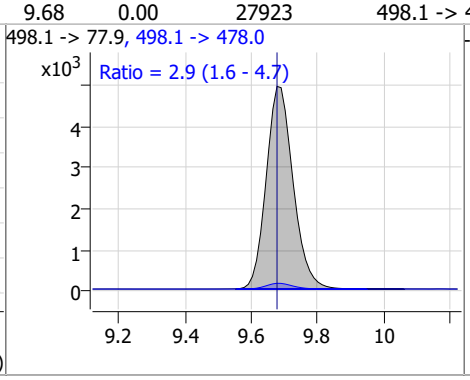


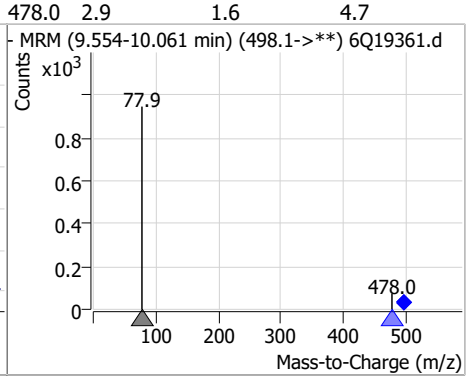


Perfluorinated Compounds by LC/MS/MS

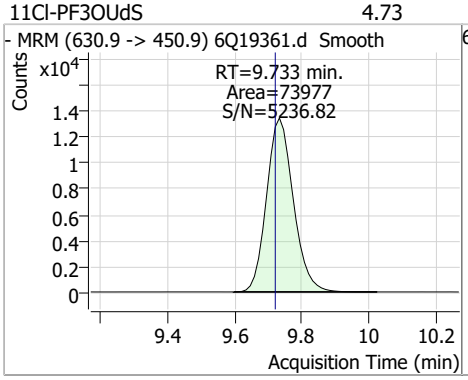
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.30	9.68	0.00	27923	498.1 -> 478.0	2.9	1.6	4.7

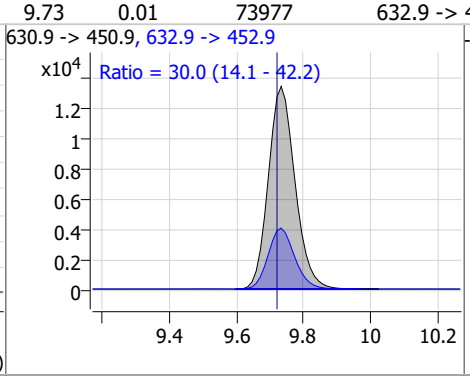


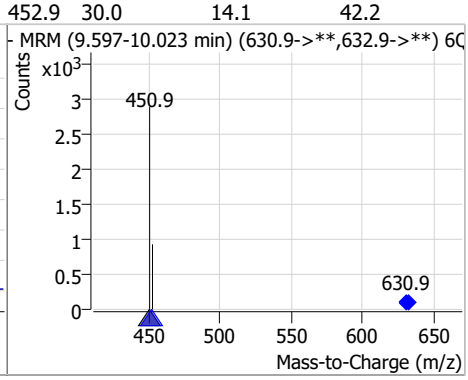




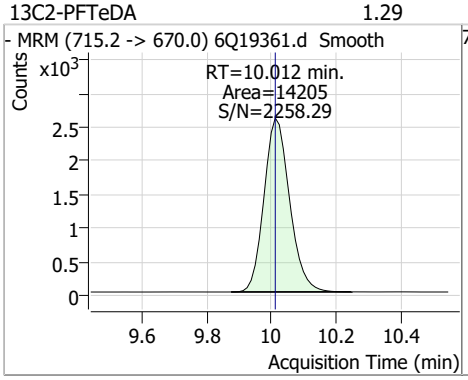
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.73	9.73	0.01	73977	632.9 -> 452.9	30.0	14.1	42.2

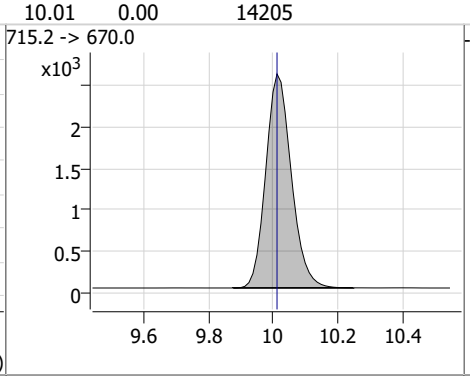


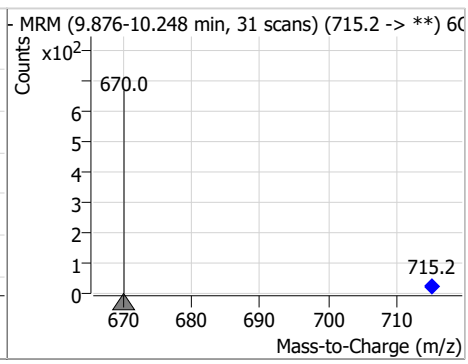




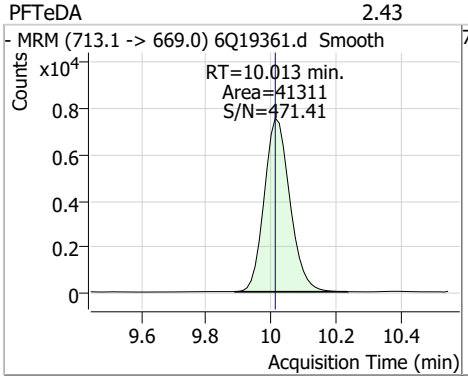
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.29	10.01	0.00	14205				

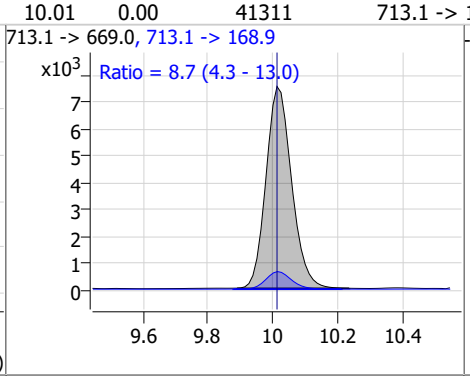


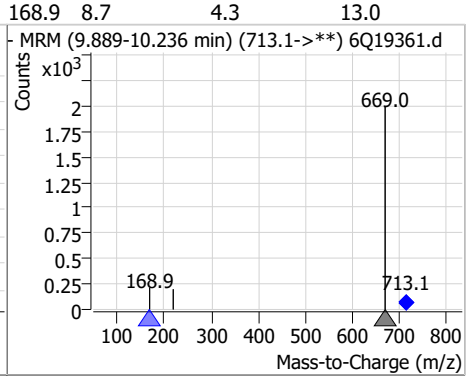




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.43	10.01	0.00	41311	713.1 -> 168.9	8.7	4.3	13.0

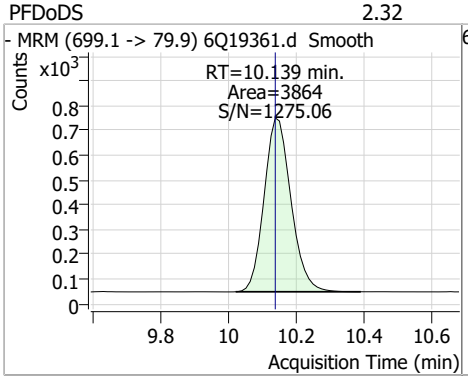


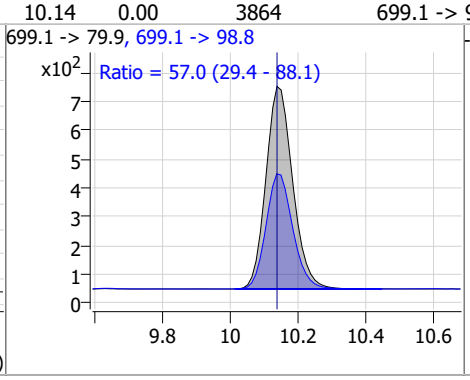


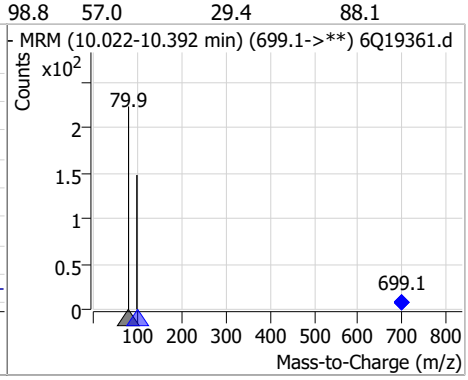


Perfluorinated Compounds by LC/MS/MS

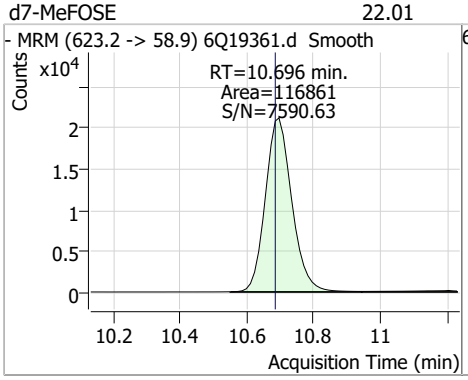
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.32	10.14	0.00	3864	699.1 -> 98.8	57.0	29.4	88.1

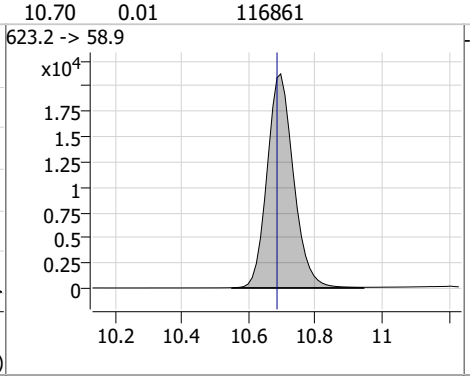


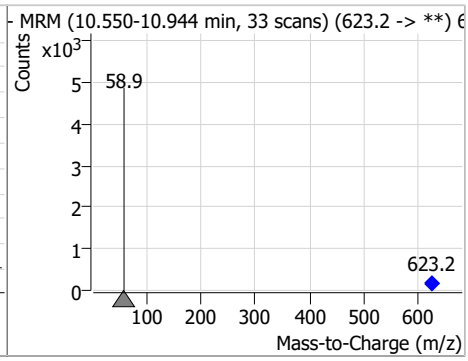




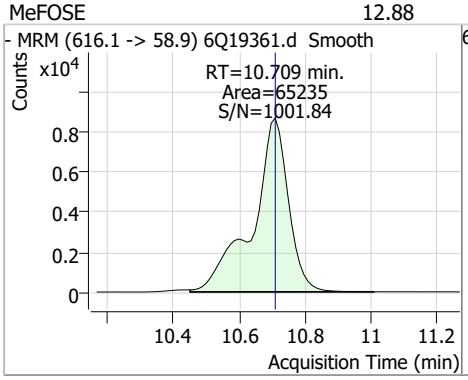
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	22.01	10.70	0.01	116861				

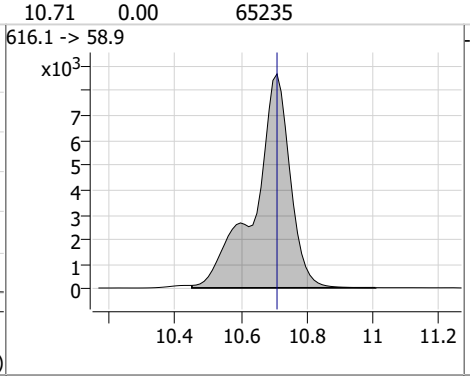


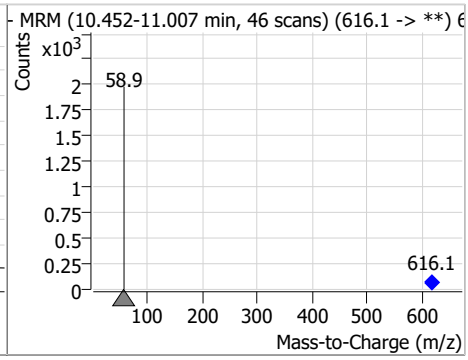




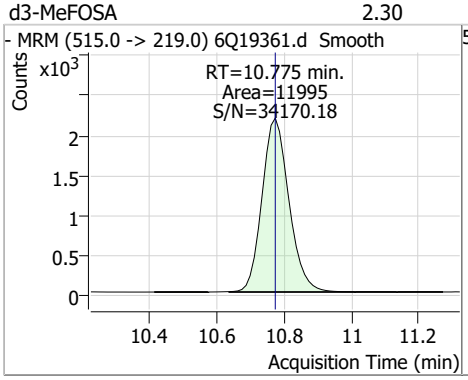
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.88	10.71	0.00	65235				

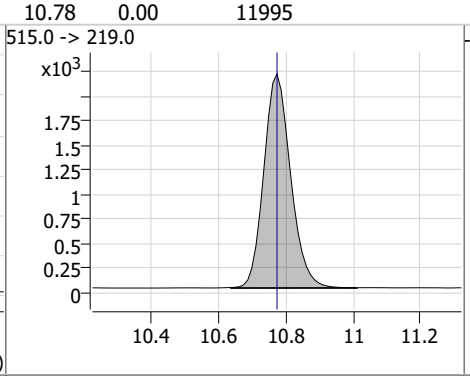


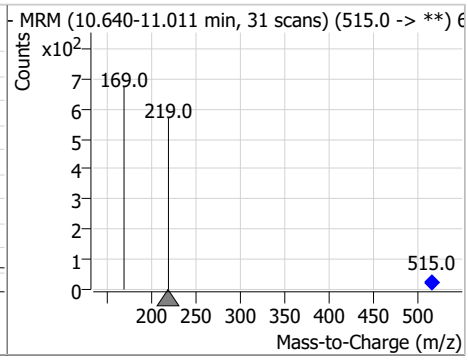




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.30	10.78	0.00	11995				

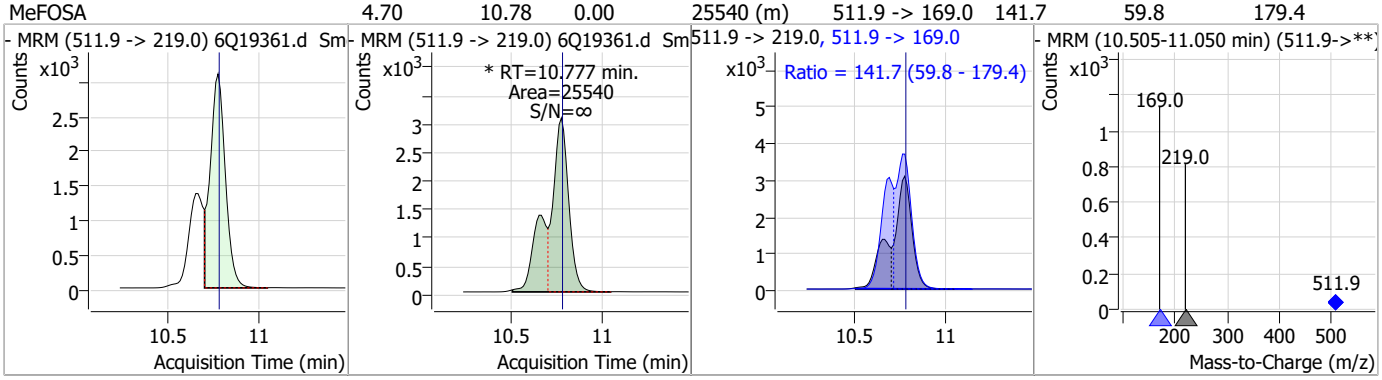




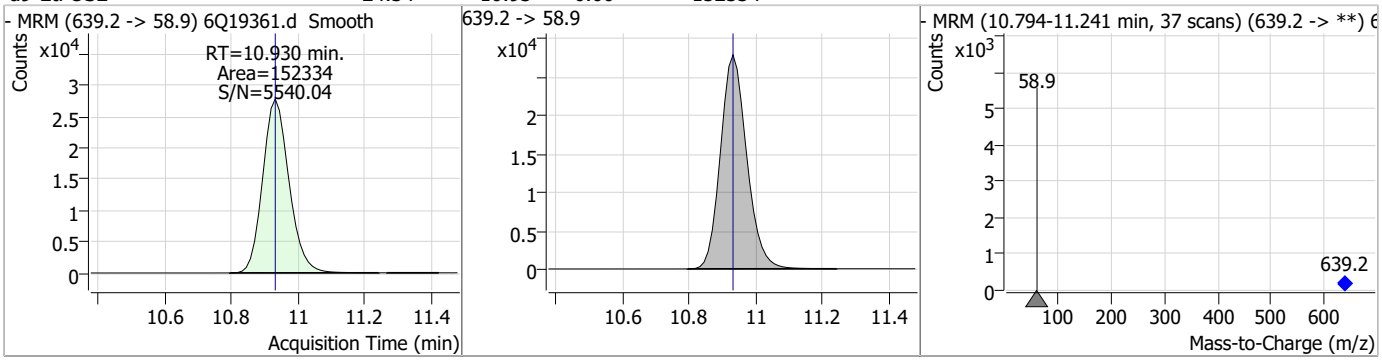


Perfluorinated Compounds by LC/MS/MS

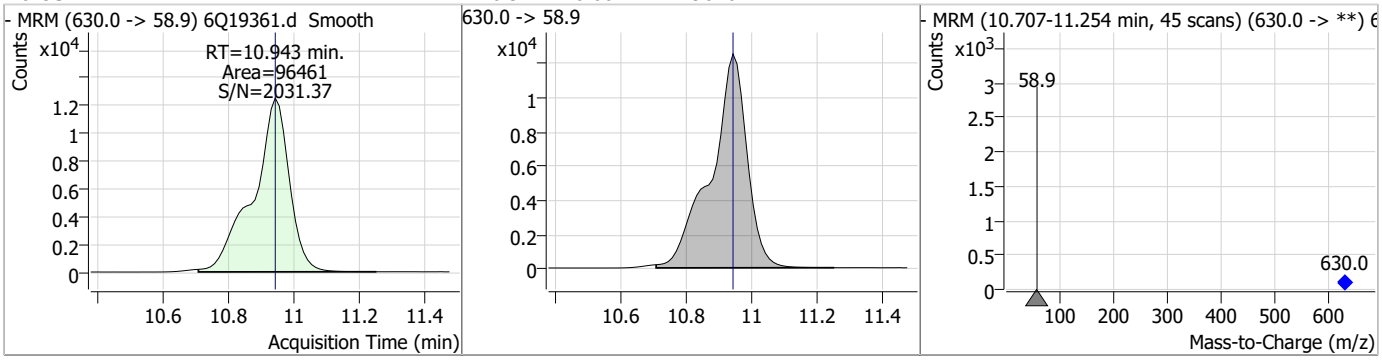
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.70	10.78	0.00	25540 (m)	511.9 -> 169.0	141.7	59.8	179.4



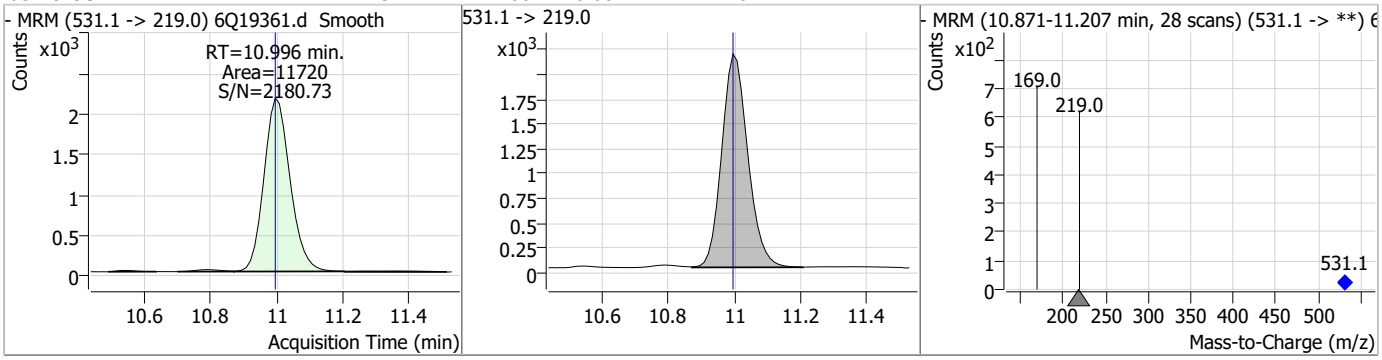
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.34	10.93	0.00	152334				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.24	10.94	0.00	96461				

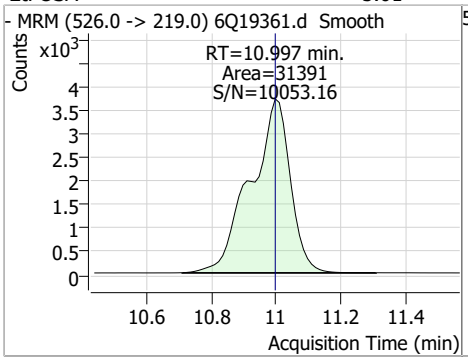


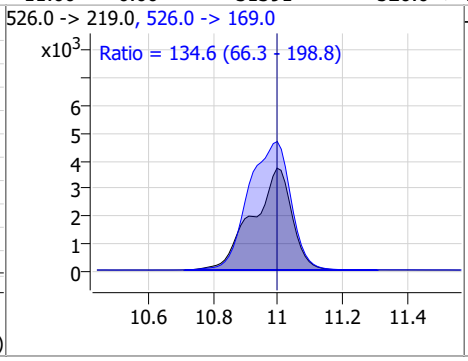
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.31	11.00	0.00	11720				

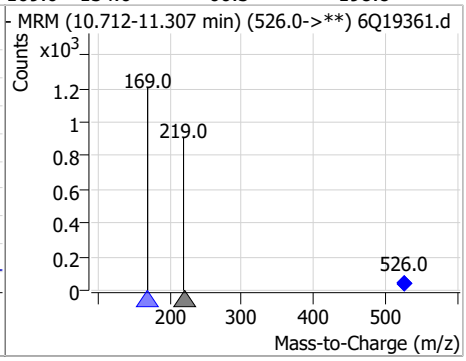


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	5.01	11.00	0.00	31391	526.0 -> 169.0	134.6	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q289-CC288
Lab FileID: 6Q19361.D
Injection Time: 06/14/23 18:30
Method: EPA DRAFT 1633
Analyst approved: 06/15/23 10:05 Martha Valls
Supervisor approved: 06/15/23 10:54 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.43	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.58	Split peak
EtFOSAA	2991-50-6		8.64	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:54

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19373.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 9:18:18 PM
Sample Name : cc288-4
Vial : P1-A5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	154128	10.00	µg/L	0.000
M5-PFPeA	4.548	268.3 -> 223.0	50111	5.00	µg/L	-0.012
M5-PFHxA	5.792	318.0 -> 273.0	55069	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	55066	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	82877	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	37516	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	20823	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	31680	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	27088	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	13510	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	29145	2.50	µg/L	0.012
M3-PFBS	5.733	302.1 -> 79.9	19627	2.50	µg/L	-0.013
M3-PFHxS	7.478	402.1 -> 79.9	12221	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	11985	2.50	µg/L	0.012
M2-4:2FTS	5.442	329.1 -> 80.9	3206	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	4812	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4155	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	30499	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35706	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	24869	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	129472	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	147157	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12317	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12492	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	15790	2.50	µg/L	0.012
13C3-PFBA	3.089	216.0 -> 172.0	65182	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	10055	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	84124	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	32832	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	46616	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	53949	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	3206	5.31	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.3%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4812	5.28	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.6%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4155	4.85	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C2-PFDoDA	9.297	615.1 -> 570.0	27088	1.23	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C2-PFTeDA	10.012	715.2 -> 670.0	13510	1.10	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 88.2%		
13C3-PFBS	5.733	302.1 -> 79.9	19627	2.34	µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.8%		
13C3-PFHxS	7.478	402.1 -> 79.9	12221	2.31	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.5%		
13C4-PFBA	3.085	216.8 -> 171.9	154128	10.08 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C4-PFHpA	6.707	367.1 -> 322.0	55066	2.64 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.8%		
13C5-PFHxA	5.792	318.0 -> 273.0	55069	2.47 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C5-PFPeA	4.548	268.3 -> 223.0	50111	4.91 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C6-PFDA	8.400	519.1 -> 474.1	20823	1.11 µg/L		0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 88.4%		
13C7-PFUnDA	8.866	570.0 -> 525.1	31680	1.25 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C8-FOSA	9.687	506.1 -> 77.8	29145	2.44 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.5%		
13C8-PFOA	7.352	421.1 -> 376.0	82877	2.64 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.4%		
13C8-PFOS	8.575	507.1 -> 79.9	11985	2.51 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C9-PFNA	7.895	472.1 -> 427.0	37516	1.32 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.8%		
d3-MeFOSAA	8.420	573.2 -> 419.0	30499	5.11 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.1%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	35706	9.58 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.8%		
d3-MeFOSA	10.775	515.0 -> 219.0	12492	2.40 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.2%		
d5-EtFOSAA	8.628	589.2 -> 419.0	24869	4.90 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.1%		
d7-MeFOSE	10.696	623.2 -> 58.9	129472	24.44 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.7%		
d9-EtFOSE	10.930	639.2 -> 58.9	147157	23.56 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.2%		
d5-EtFOSA	10.996	531.1 -> 219.0	12317	2.43 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	48511	8.70 µg/L		99
		327.1 -> 80.9	18445			
6:2FTS	7.113	427.1 -> 407.0	50692	8.85 µg/L		99
		427.1 -> 80.9	16778			
8:2FTS	8.176	527.1 -> 507.0	26846	9.72 µg/L		100
		527.1 -> 80.8	10559			
EtFOSAA	8.641	584.2 -> 419.1	9554	2.27 µg/L	m	90
		584.2 -> 526.0	5740			
FOSA	9.677	498.1 -> 77.9	27261	2.35 µg/L		100
		498.1 -> 478.0	874			
MeFOSAA	8.433	570.1 -> 419.0	17781	2.25 µg/L	m	95
		570.1 -> 483.0	3803			
PFBA	3.093	212.8 -> 168.9	60356	9.72 µg/L		100
PFBS	5.734	298.7 -> 79.9	17665	2.02 µg/L		96
		298.7 -> 98.8	7098			
PFDA	8.400	512.9 -> 469.0	80796	2.61 µg/L		96
		512.9 -> 219.0	11532			
PFDoDA	9.298	613.1 -> 569.0	50909	2.26 µg/L		98
		613.1 -> 319.0	7818			
PFDS	9.462	599.0 -> 79.9	8251	2.28 µg/L		92

Perfluorinated Compounds by LC/MS/MS

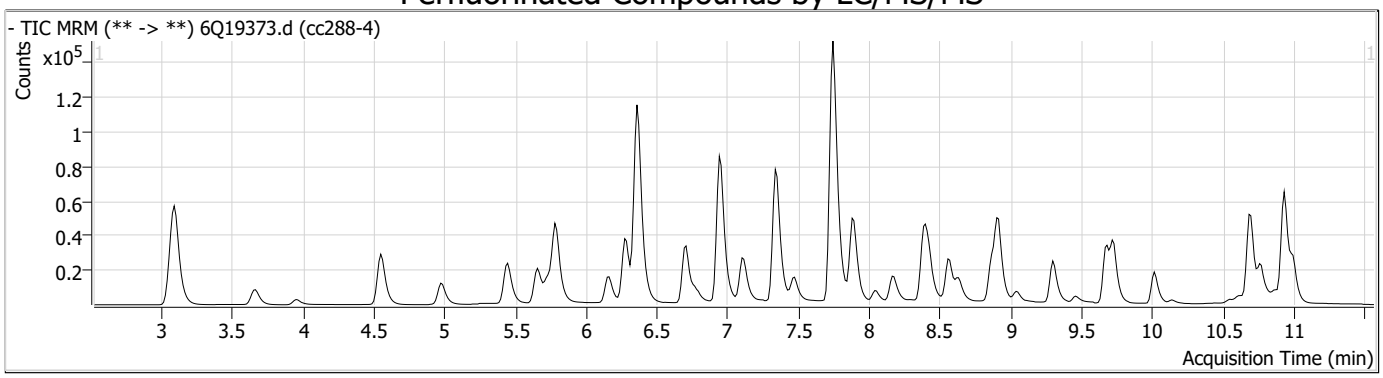
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3870				
PFHpA	6.708	363.1 -> 319.0	62631	2.13	µg/L		96
		363.1 -> 169.0	10605				
PFHpS	8.059	449.0 -> 79.9	16175	2.26	µg/L		95
		449.0 -> 98.9	7642				
PFHxA	5.795	313.0 -> 269.0	55066	2.48	µg/L		99
		313.0 -> 118.9	2663				
PFHxS	7.479	398.7 -> 79.9	16425	2.23	µg/L	m	92
		398.7 -> 98.9	7445				
PFNA	7.896	463.0 -> 419.0	78520	2.26	µg/L		99
		463.0 -> 219.0	15269				
PFNS	9.053	548.8 -> 79.9	13970	2.25	µg/L		92
		548.8 -> 98.9	7600				
PFOA	7.353	413.0 -> 369.0	108366	2.38	µg/L		97
		413.0 -> 169.0	16904				
PFOS	8.576	498.9 -> 79.9	15027	2.11	µg/L	m	97
		498.9 -> 98.8	7524				
PFPeA	4.551	263.0 -> 219.0	69998	4.73	µg/L		100
PFPeS	6.785	349.1 -> 79.9	15205	2.22	µg/L		97
		349.1 -> 98.9	7014				
PFTeDA	10.013	713.1 -> 669.0	42528	2.63	µg/L		100
		713.1 -> 168.9	3706				
PFTrDA	9.681	663.0 -> 619.0	53351	2.34	µg/L		100
		663.0 -> 168.9	5585				
PFUnDA	8.866	563.1 -> 519.0	52851	2.16	µg/L		97
		563.1 -> 269.1	9122				
11Cl-PF3OUdS	9.733	630.9 -> 450.9	76753	4.72	µg/L		95
		632.9 -> 452.9	23740				
9Cl-PF3ONS	8.918	530.8 -> 351.0	117875	4.21	µg/L		100
		532.8 -> 353.0	36535				
ADONA	6.959	376.9 -> 250.9	254707	4.41	µg/L		100
		376.9 -> 84.8	74533				
HFPO-DA	6.169	284.9 -> 168.9	18501	4.95	µg/L		99
		284.9 -> 184.9	2210				
3:3FTCA	3.958	241.0 -> 177.0	11584	11.57	µg/L		99
		241.0 -> 117.0	1596				
5:3FTCA	6.374	341.0 -> 237.1	266212	60.26	µg/L		95
		341.0 -> 217.0	188191				
7:3FTCA	7.748	441.0 -> 316.9	191348	64.06	µg/L		92
		441.0 -> 336.9	406504				
EtFOSA	10.997	526.0 -> 219.0	32069	4.87	µg/L		92
		526.0 -> 169.0	39531				
EtFOSE	10.943	630.0 -> 58.9	93782	12.31	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	26096	4.61	µg/L	m	74
		511.9 -> 169.0	38815				
MeFOSE	10.709	616.1 -> 58.9	64781	11.55	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	4085	2.29	µg/L		92
		699.1 -> 98.8	2147				
NFDHA	5.673	295.0 -> 201.0	13333	4.70	µg/L		95
		295.0 -> 84.9	3195				
PFMBA	4.988	279.0 -> 85.1	49713	4.71	µg/L		100
PFMPA	3.667	229.0 -> 84.9	39386	4.77	µg/L		100
PFEESA	6.288	314.8 -> 134.9	130568	4.35	µg/L		100
		314.8 -> 82.9	4391				

 # = Qualifier out of range, m = manually integrated, + = Area summed

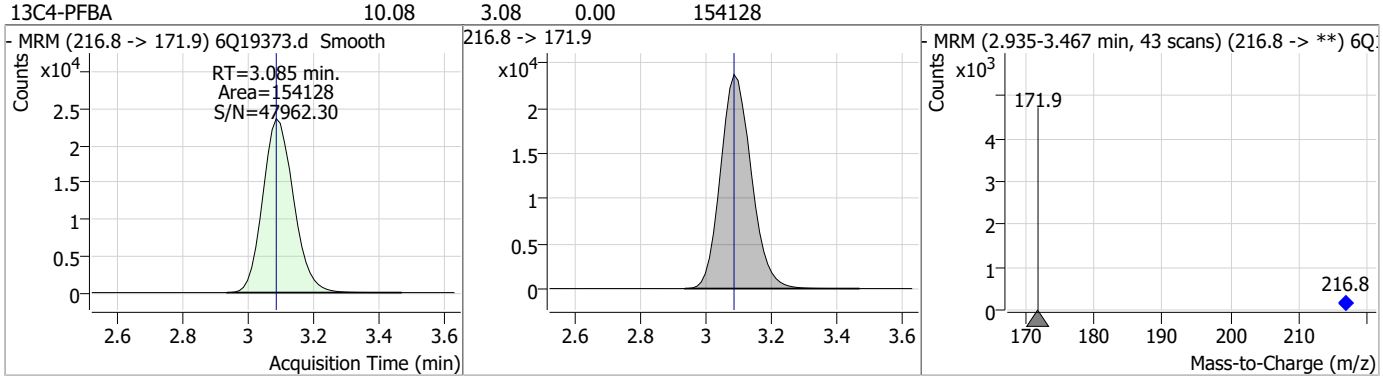
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

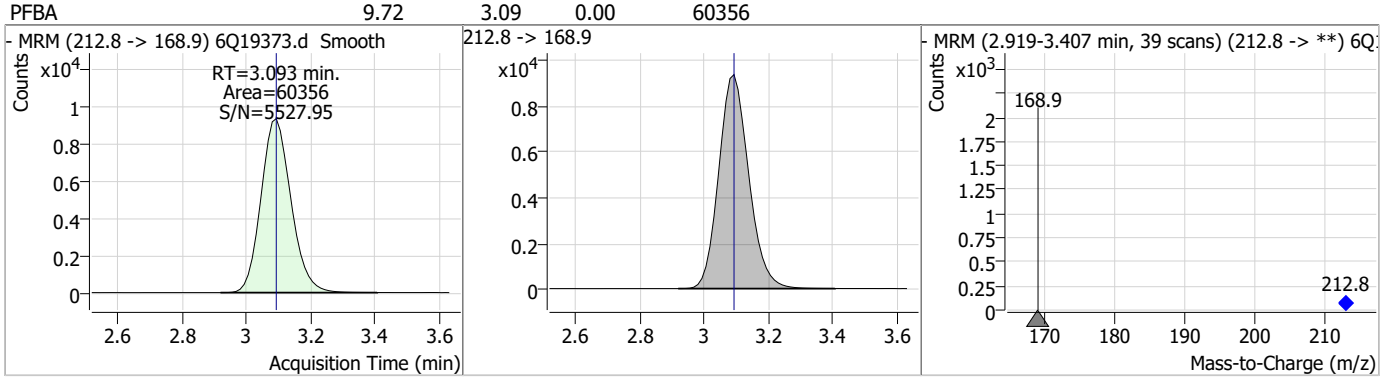
Perfluorinated Compounds by LC/MS/MS



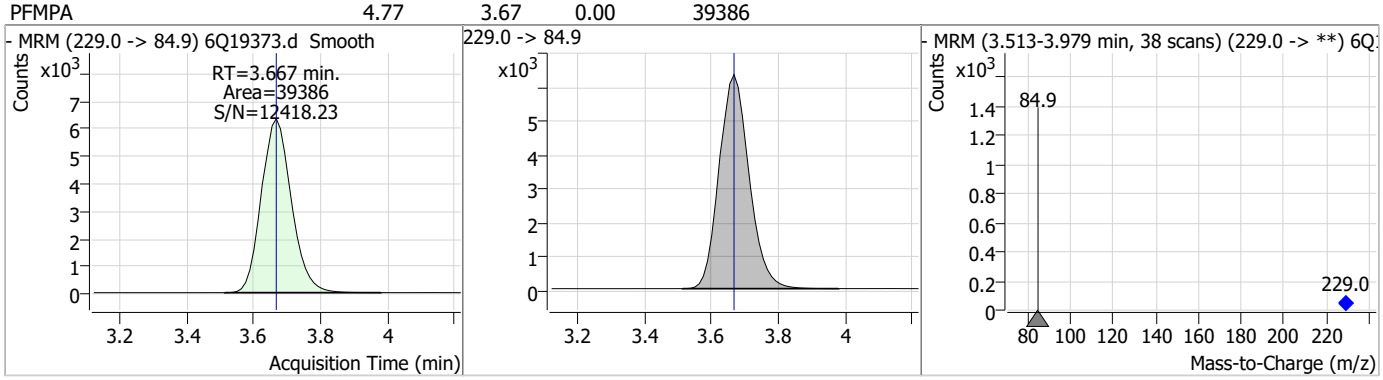
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.08	3.08	0.00	154128				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.72	3.09	0.00	60356				

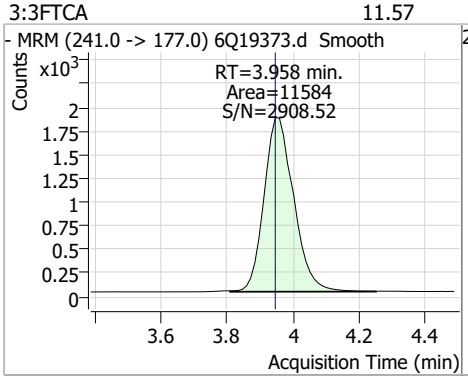


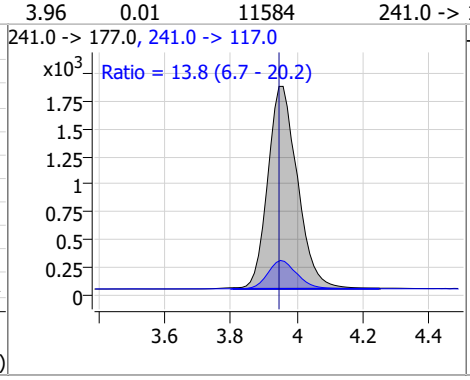
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.77	3.67	0.00	39386				

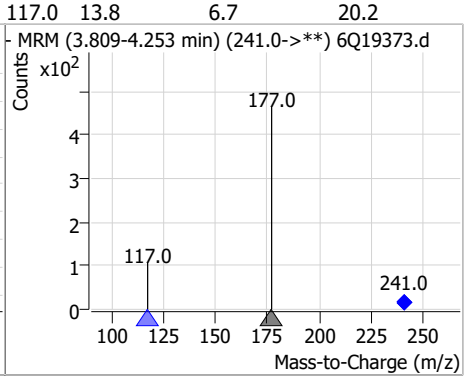


Perfluorinated Compounds by LC/MS/MS

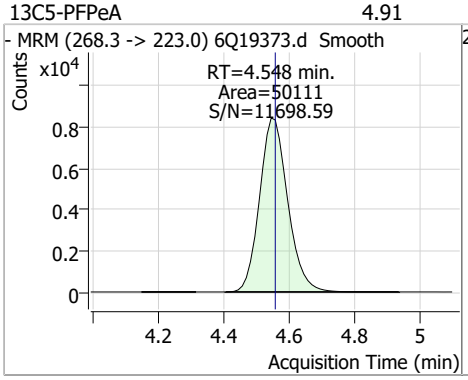
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.57	3.96	0.01	11584	241.0 -> 117.0	13.8	6.7	20.2

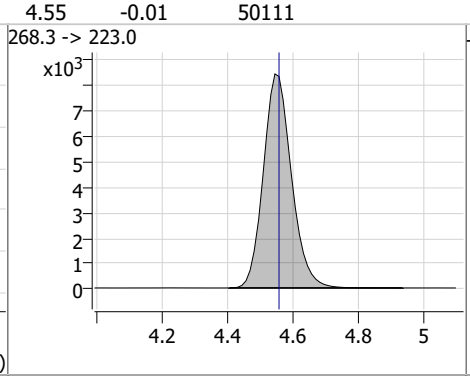


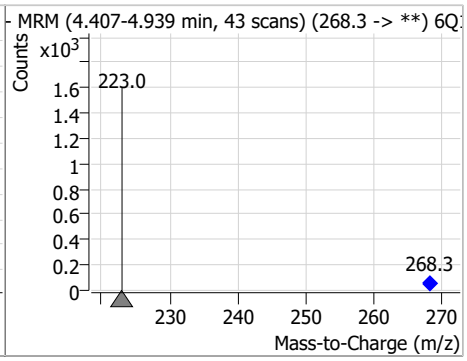




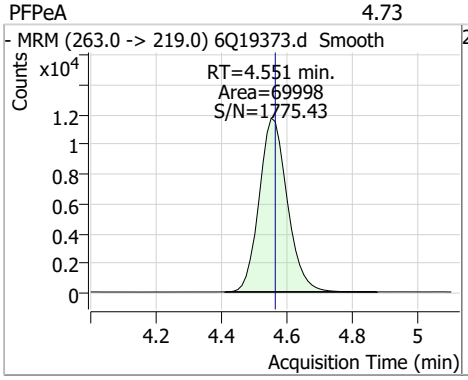
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.91	4.55	-0.01	50111				

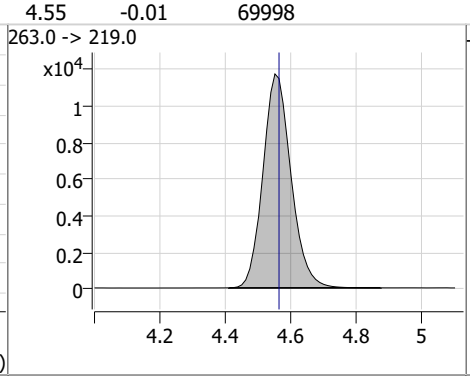


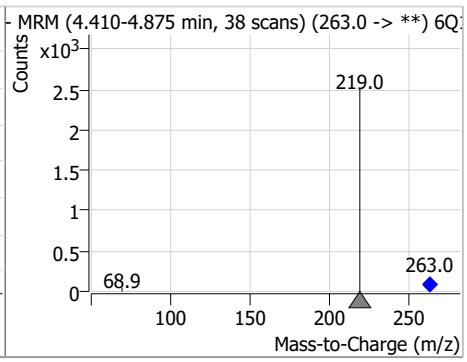




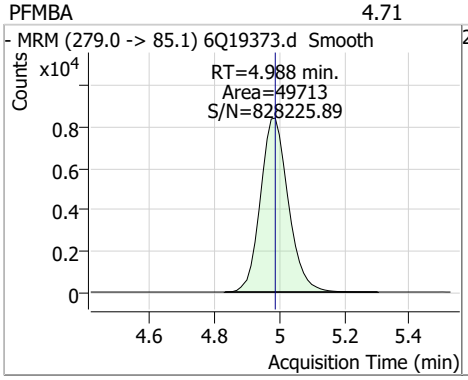
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.73	4.55	-0.01	69998				

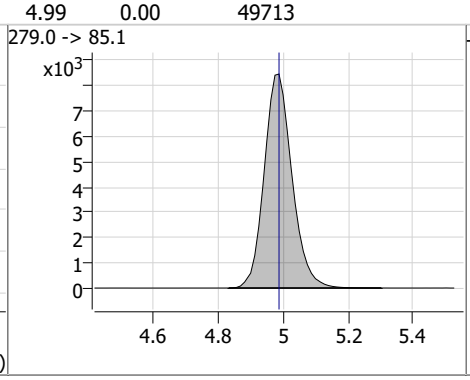


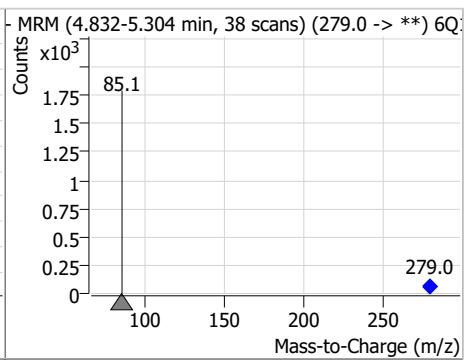




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.71	4.99	0.00	49713				

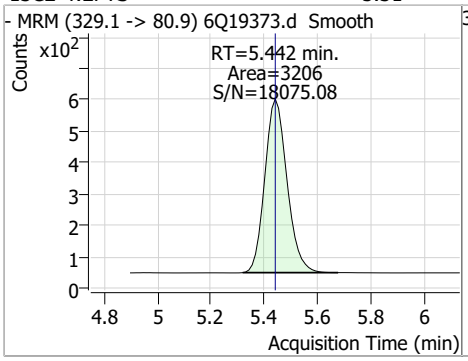


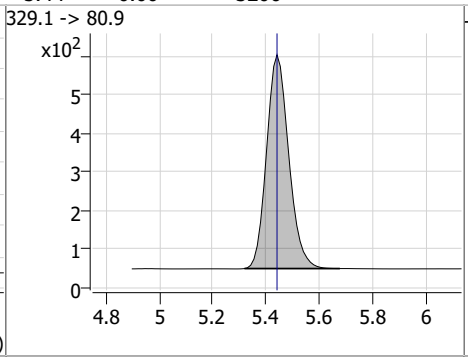


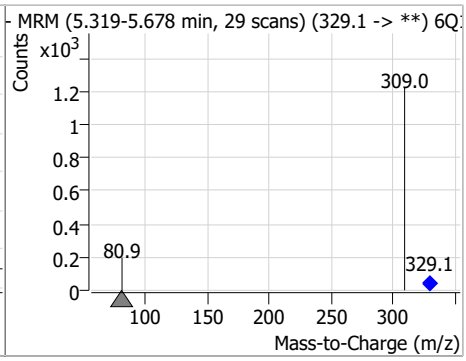


Perfluorinated Compounds by LC/MS/MS

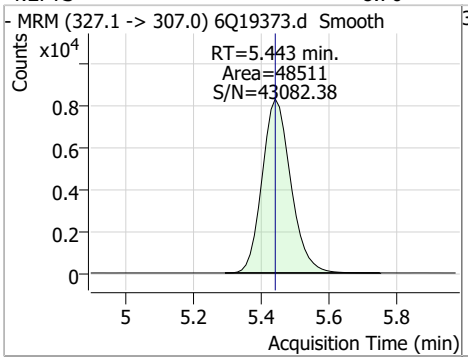
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.31	5.44	0.00	3206				

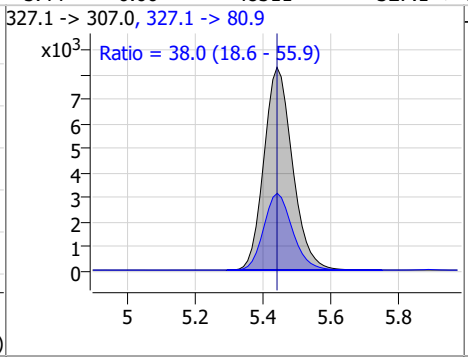


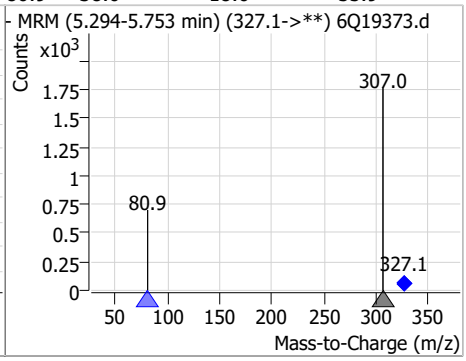




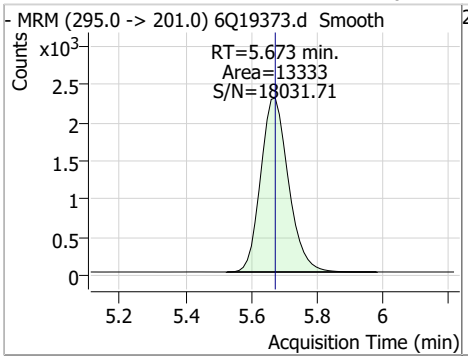
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	8.70	5.44	0.00	48511	327.1 -> 80.9	38.0	18.6	55.9

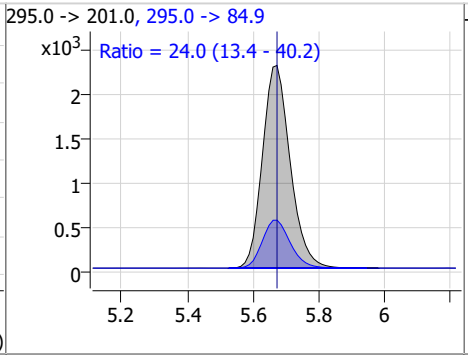


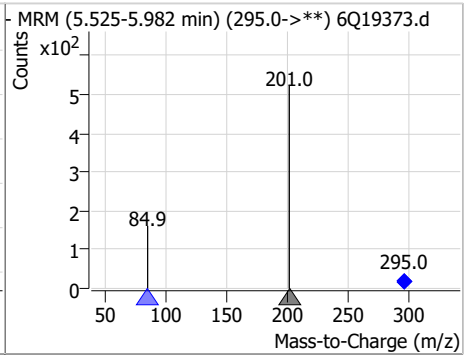




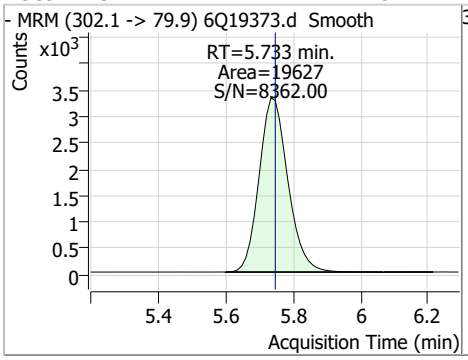
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.70	5.67	0.00	13333	295.0 -> 84.9	24.0	13.4	40.2

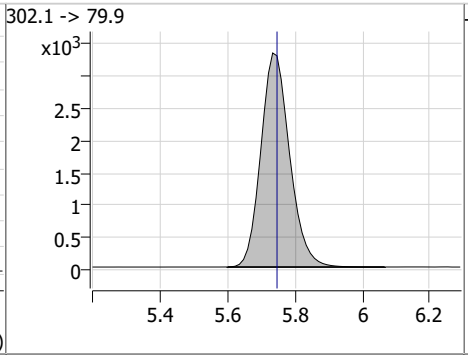


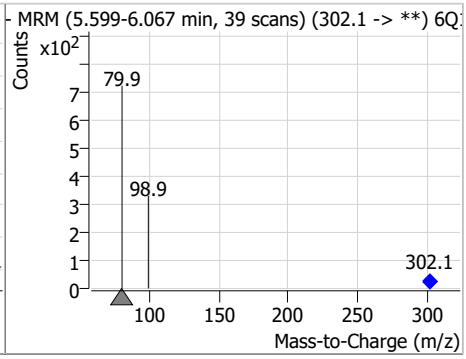




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.34	5.73	-0.01	19627				

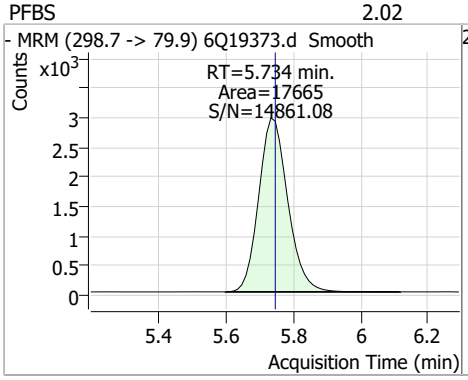


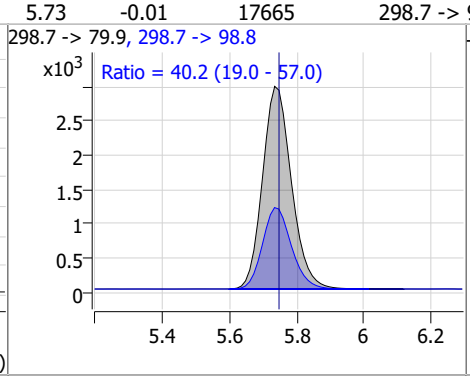


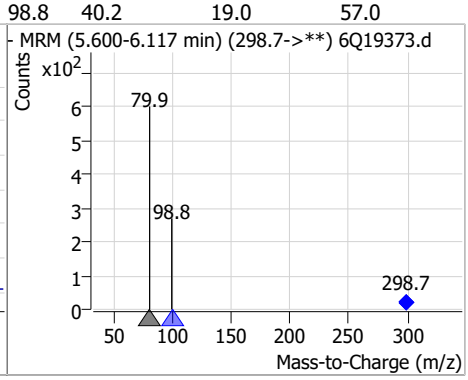


Perfluorinated Compounds by LC/MS/MS

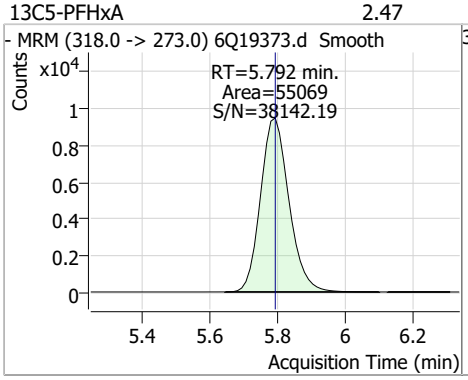
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.02	5.73	-0.01	17665	298.7 -> 98.8	40.2	19.0	57.0

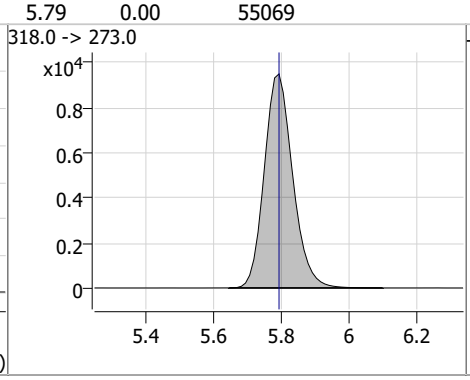


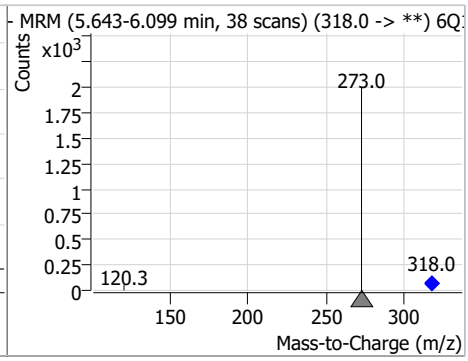




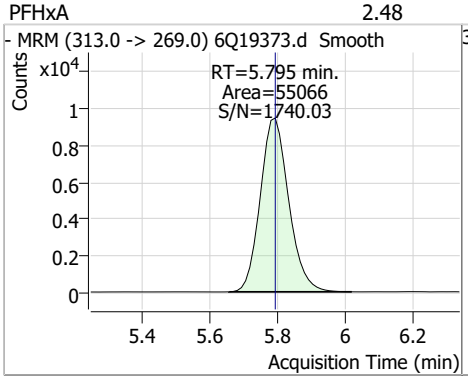
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.79	0.00	55069				

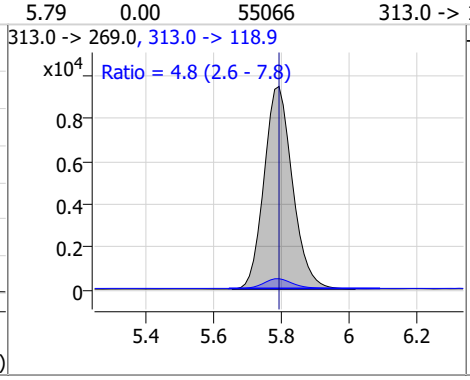


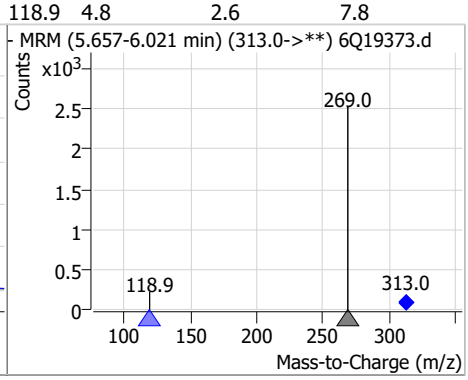




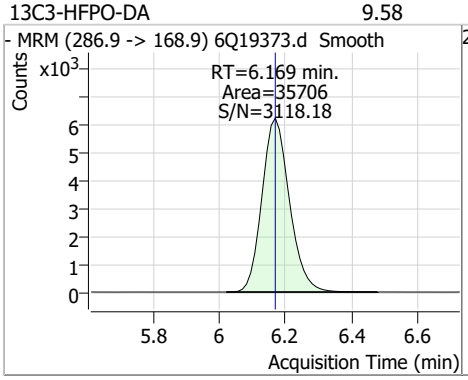
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.48	5.79	0.00	55066	313.0 -> 118.9	4.8	2.6	7.8

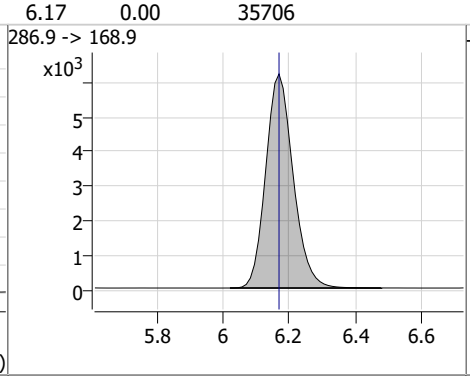


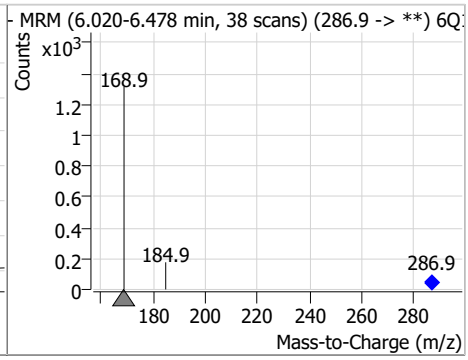




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.58	6.17	0.00	35706				

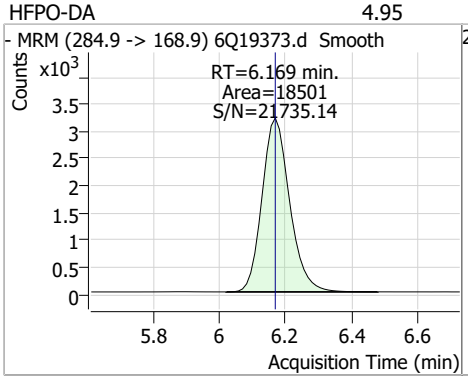


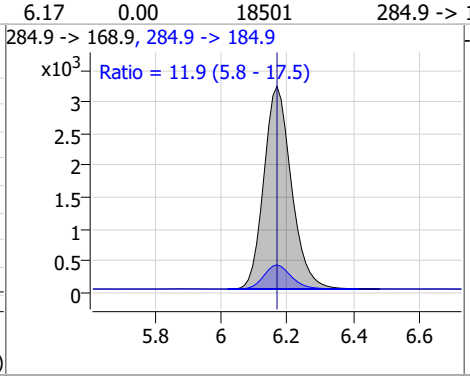


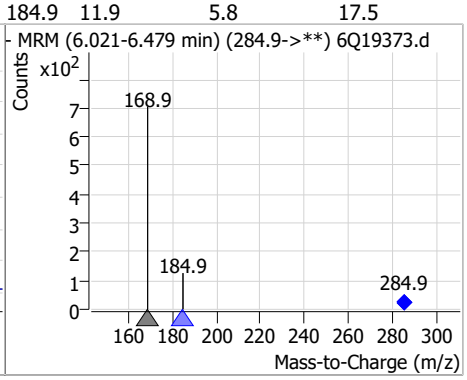


Perfluorinated Compounds by LC/MS/MS

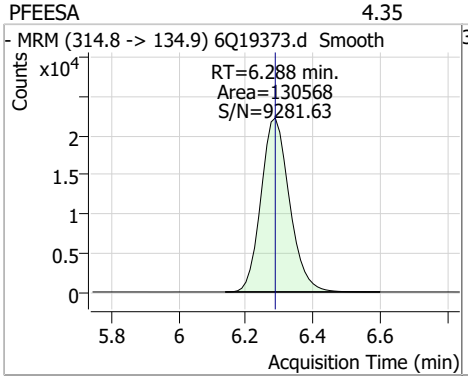
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.95	6.17	0.00	18501	284.9 -> 184.9	11.9	5.8	17.5

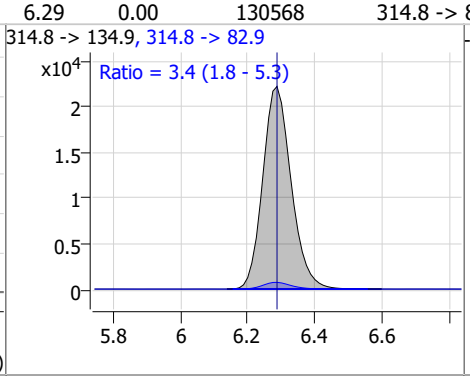


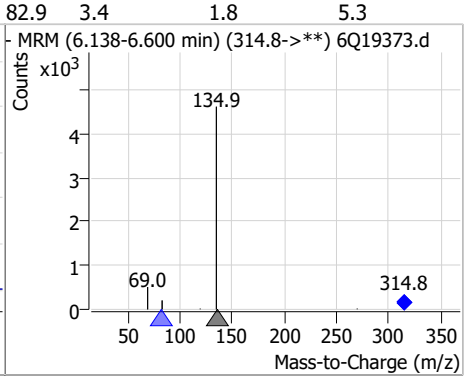




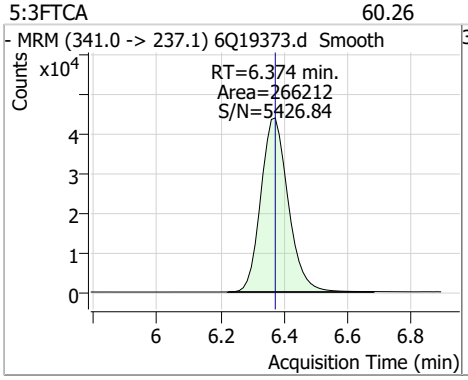
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.35	6.29	0.00	130568	314.8 -> 82.9	3.4	1.8	5.3

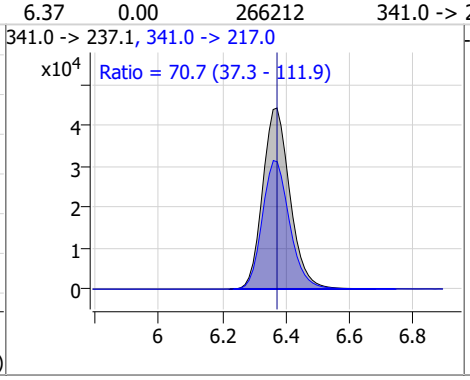


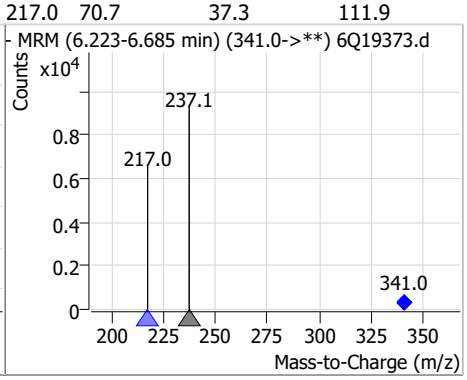




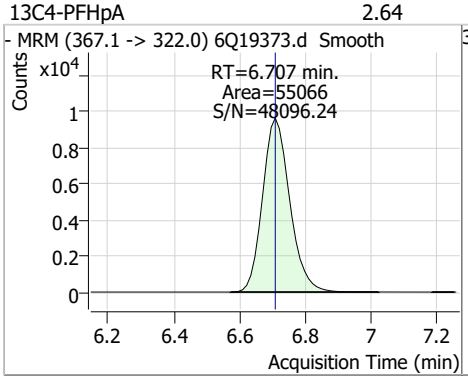
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	60.26	6.37	0.00	266212	341.0 -> 217.0	70.7	37.3	111.9

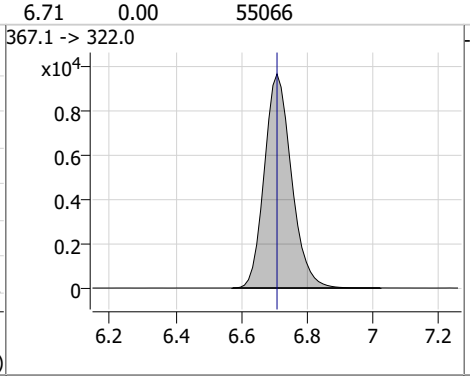


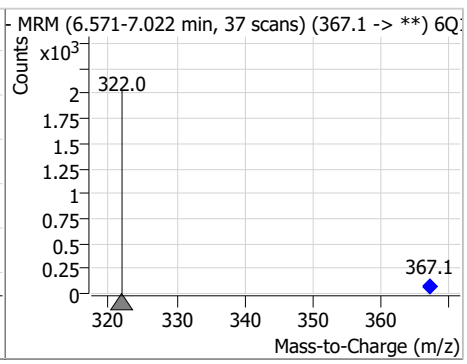




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.64	6.71	0.00	55066				

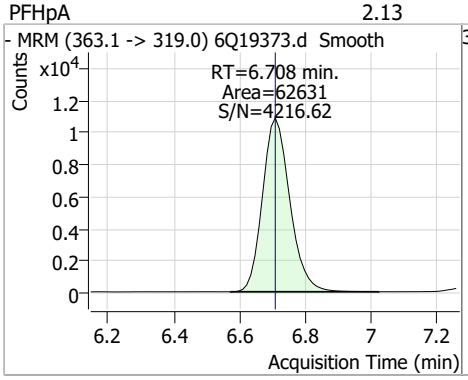


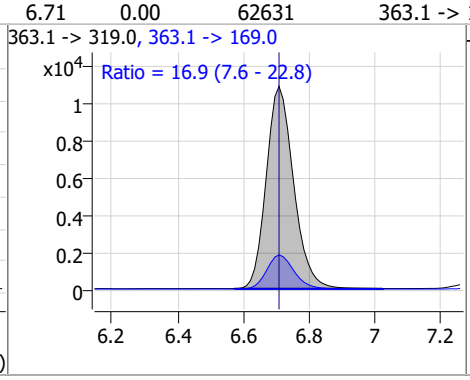


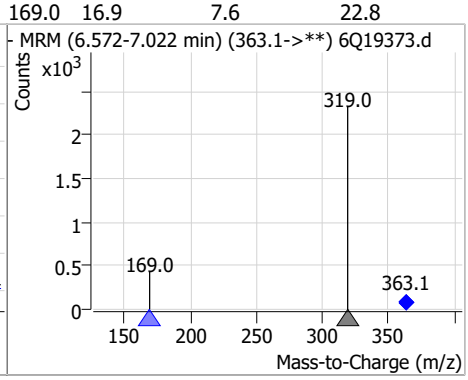


Perfluorinated Compounds by LC/MS/MS

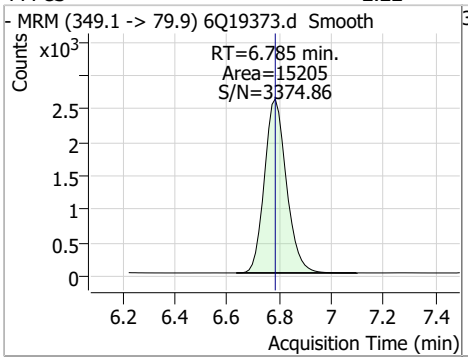
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.13	6.71	0.00	62631	363.1 -> 169.0	16.9	7.6	22.8

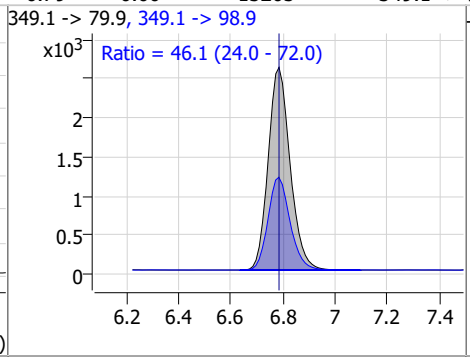


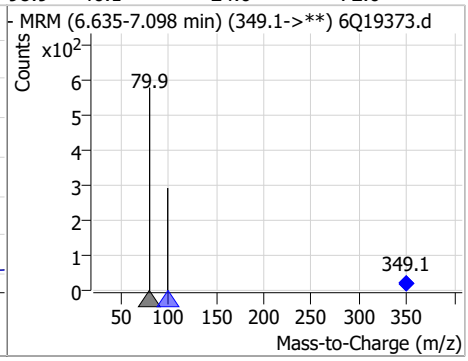




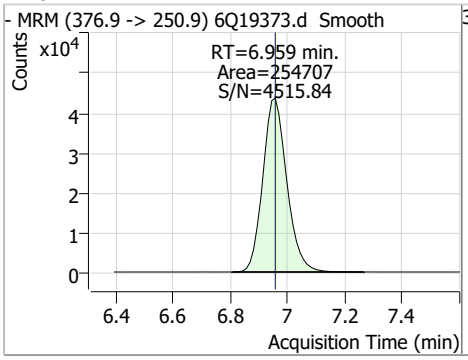
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.22	6.79	0.00	15205	349.1 -> 98.9	46.1	24.0	72.0

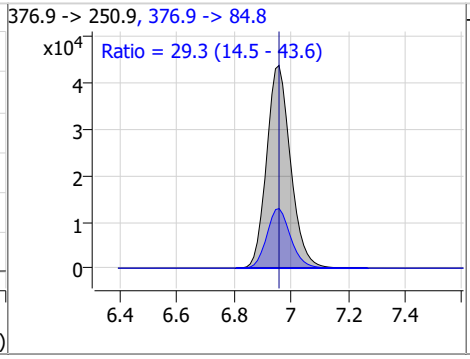


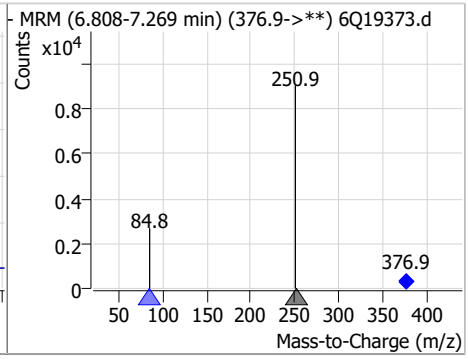




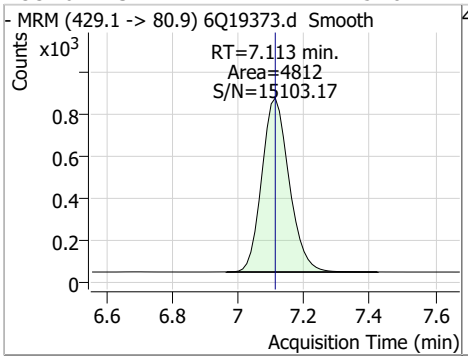
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.41	6.96	0.00	254707	376.9 -> 84.8	29.3	14.5	43.6

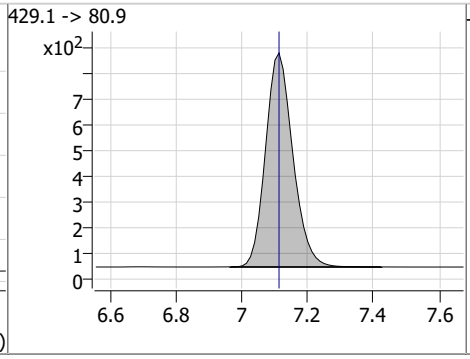


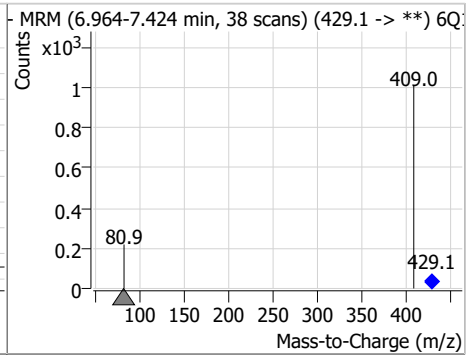




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.28	7.11	0.00	4812				

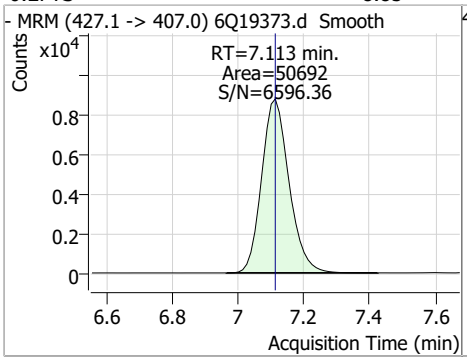


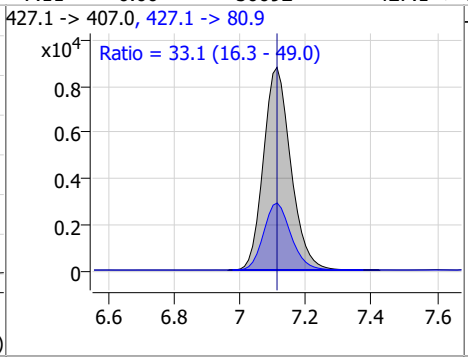


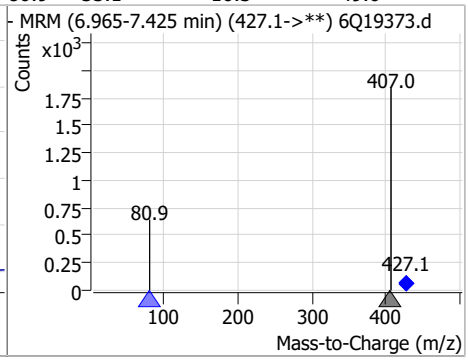


Perfluorinated Compounds by LC/MS/MS

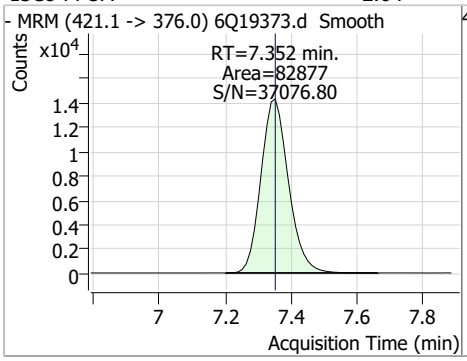
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	8.85	7.11	0.00	50692	427.1 -> 80.9	33.1	16.3	49.0

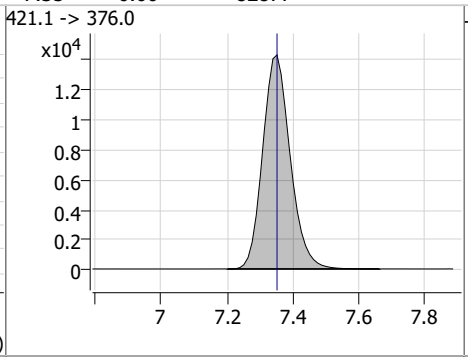


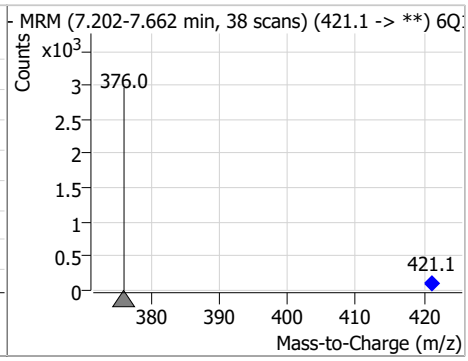




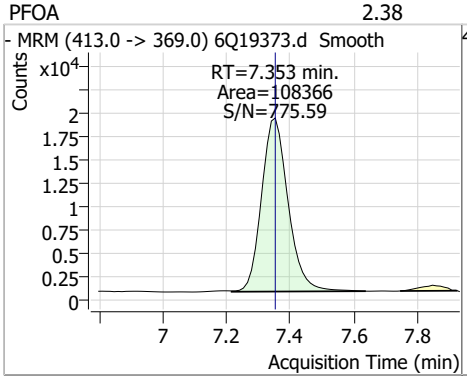
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.64	7.35	0.00	82877				

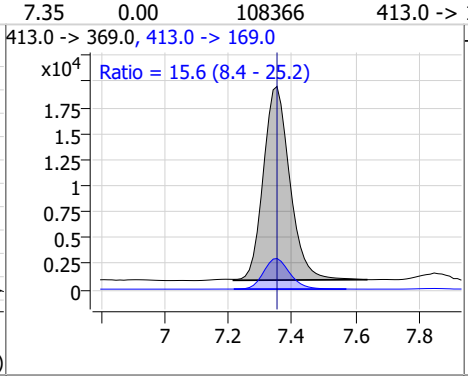


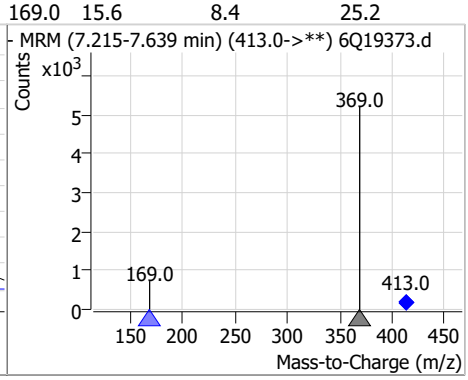




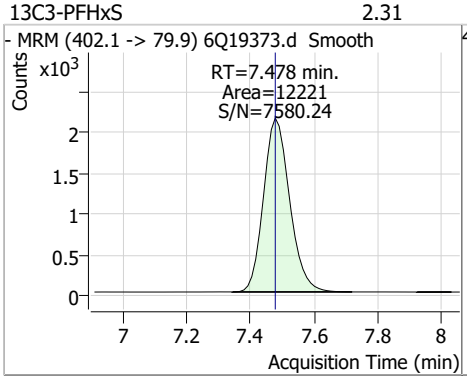
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.38	7.35	0.00	108366	413.0 -> 169.0	15.6	8.4	25.2

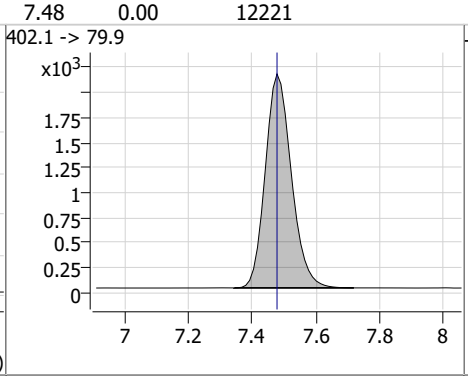


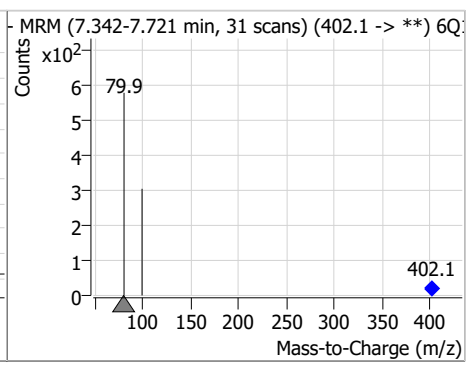




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.31	7.48	0.00	12221				

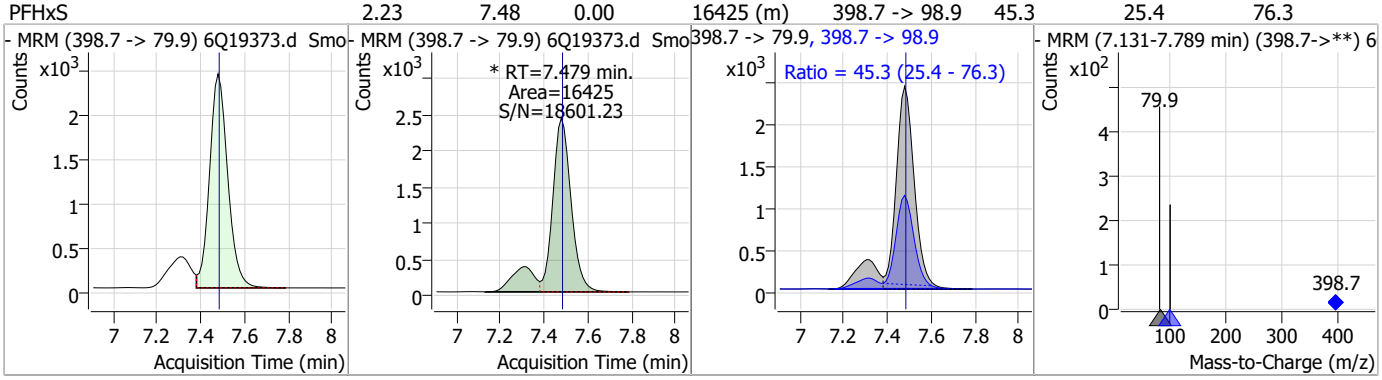




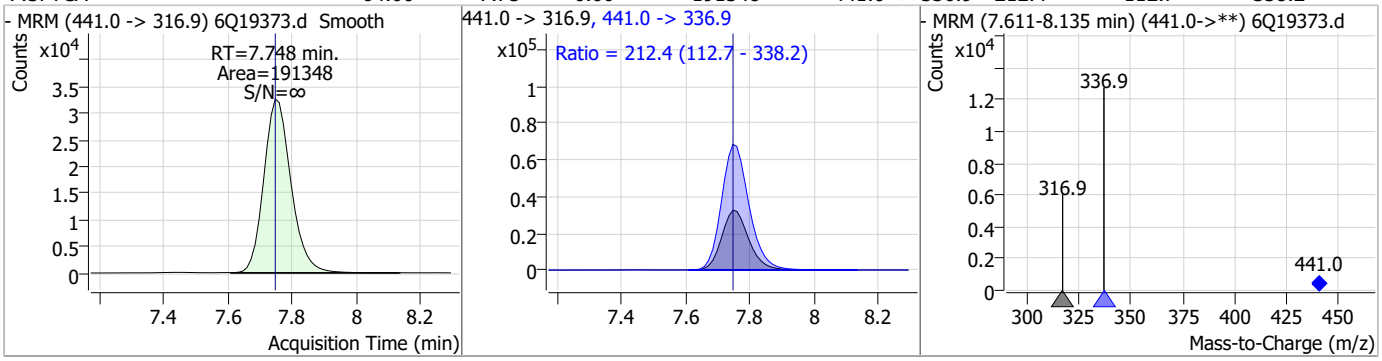


Perfluorinated Compounds by LC/MS/MS

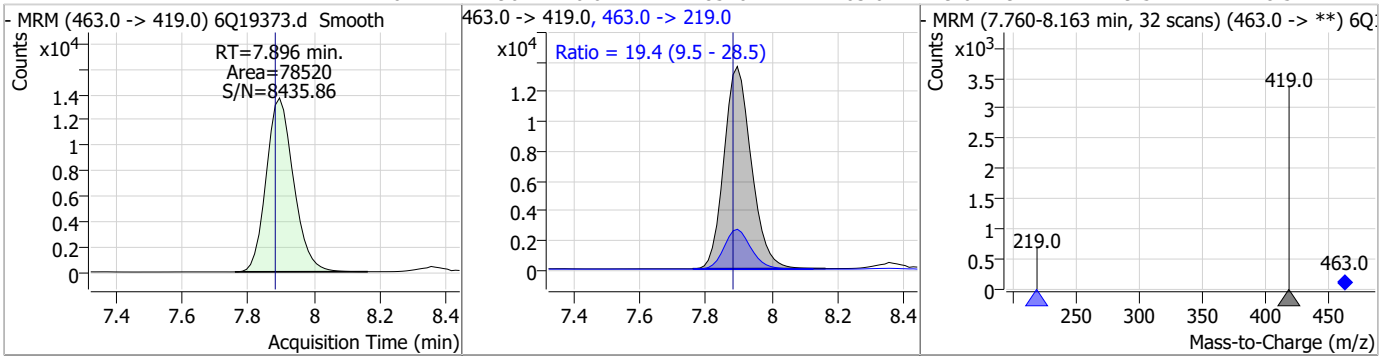
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.23	7.48	0.00	16425 (m)	398.7 -> 98.9	45.3	25.4	76.3



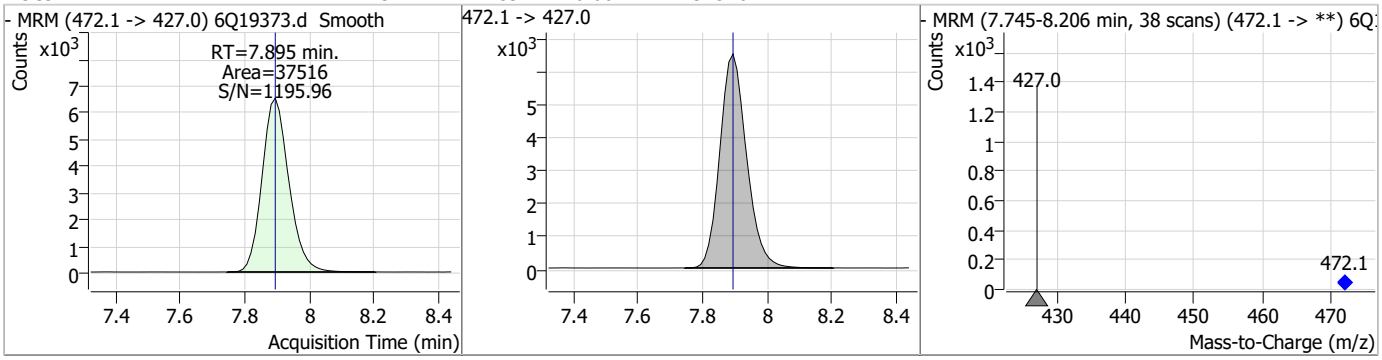
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	64.06	7.75	0.00	191348	441.0 -> 336.9	212.4	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.26	7.90	0.01	78520	463.0 -> 219.0	19.4	9.5	28.5

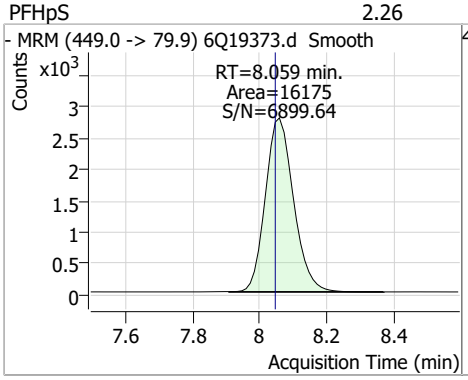


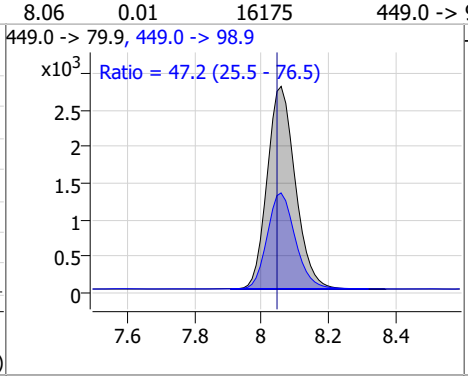
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.32	7.89	0.00	37516				

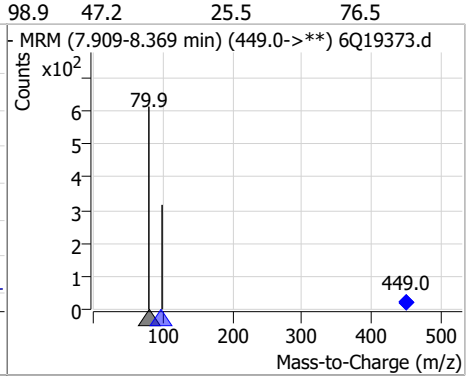


Perfluorinated Compounds by LC/MS/MS

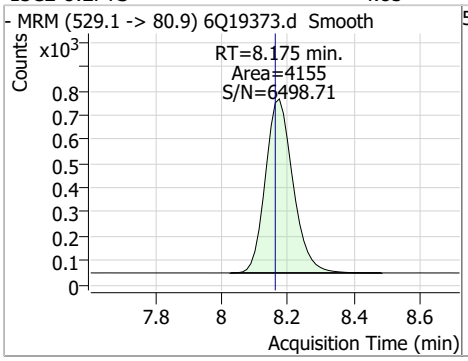
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.26	8.06	0.01	16175	449.0 -> 98.9	47.2	25.5	76.5

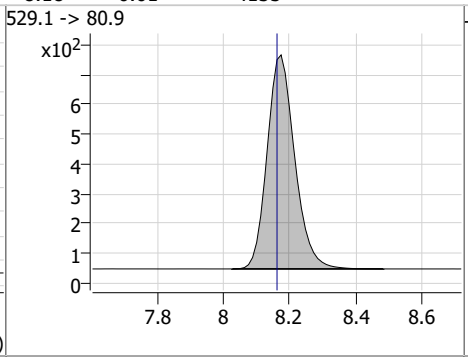


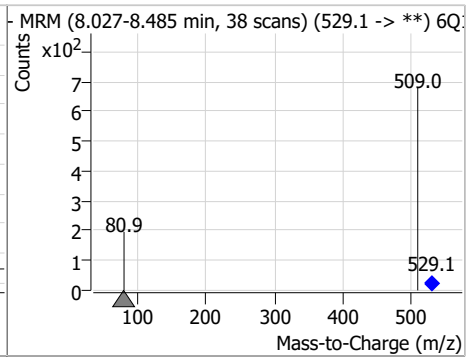




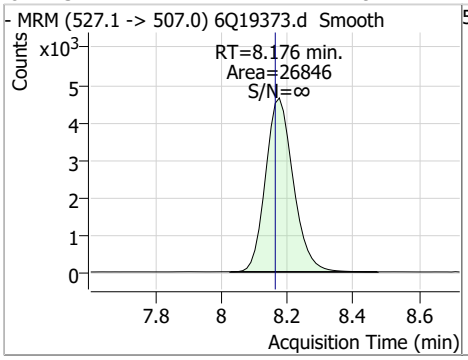
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.85	8.18	0.01	4155				

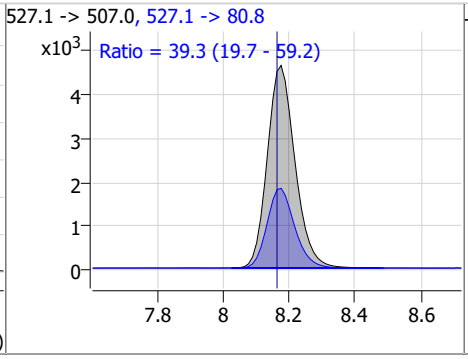


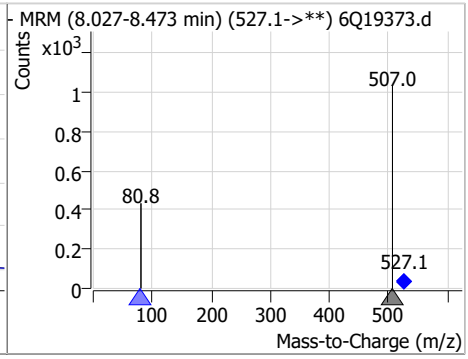




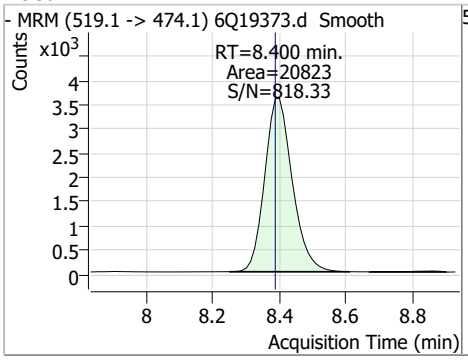
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.72	8.18	0.01	26846	527.1 -> 80.8	39.3	19.7	59.2

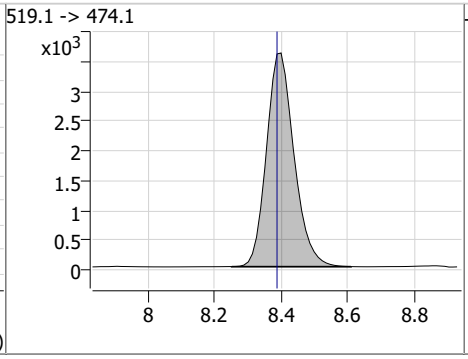


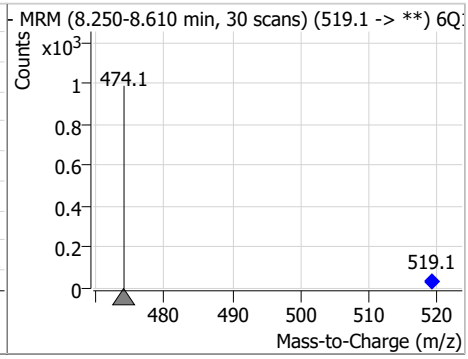




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.11	8.40	0.01	20823				

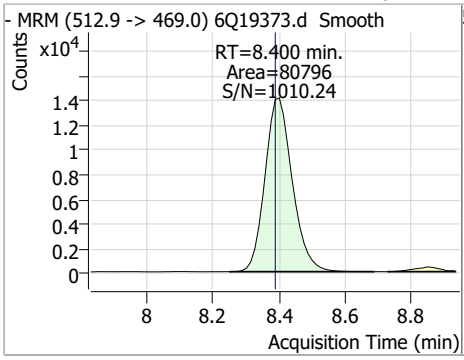


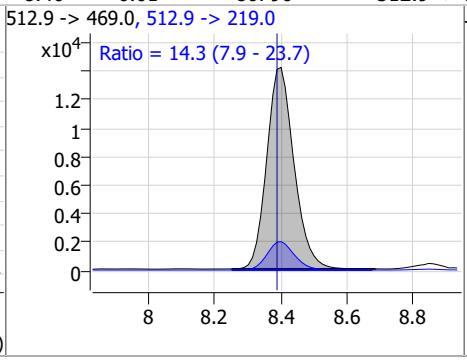


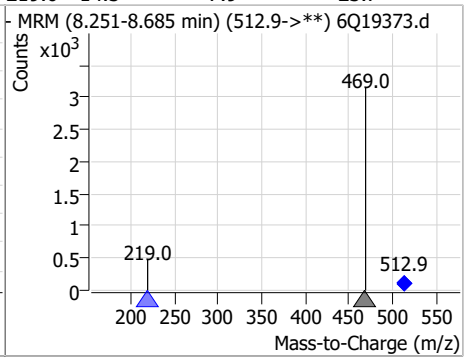


Perfluorinated Compounds by LC/MS/MS

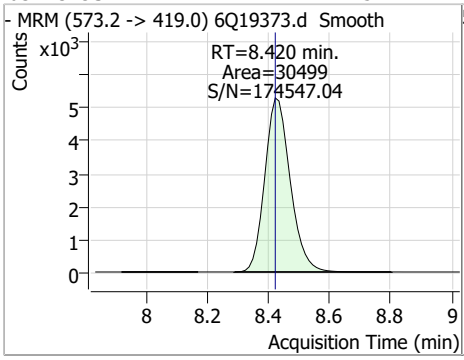
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.61	8.40	0.01	80796	512.9 -> 219.0	14.3	7.9	23.7

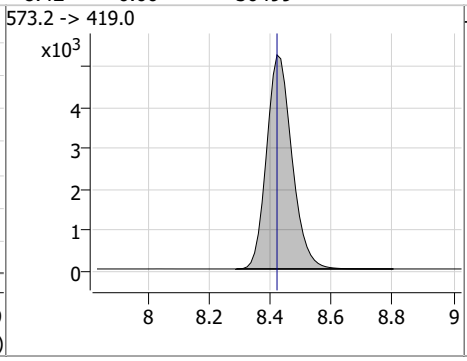


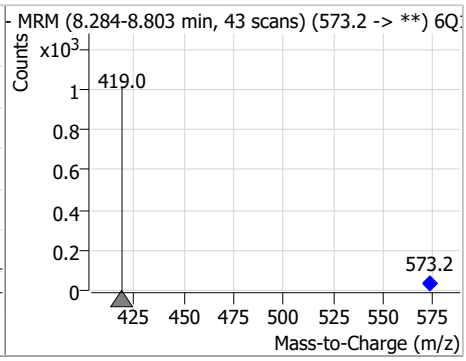




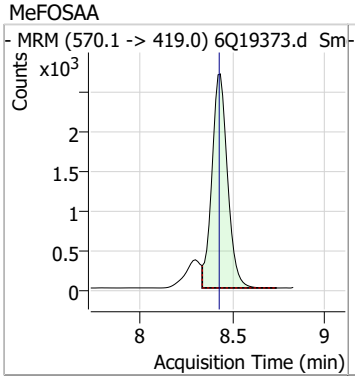
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.11	8.42	0.00	30499				

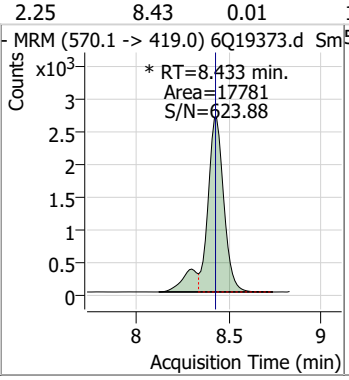


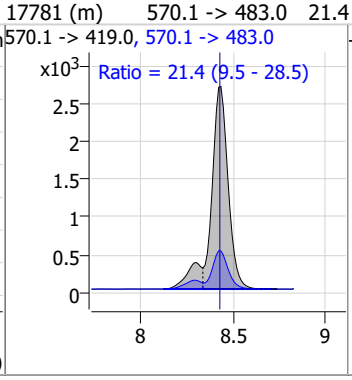


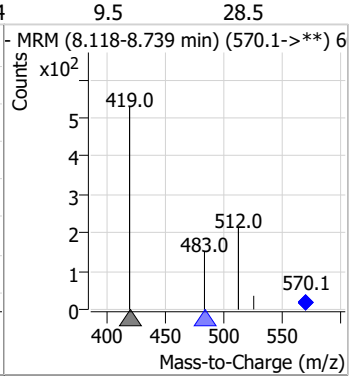


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.25	8.43	0.01	17781 (m)	570.1 -> 483.0	21.4	9.5	28.5

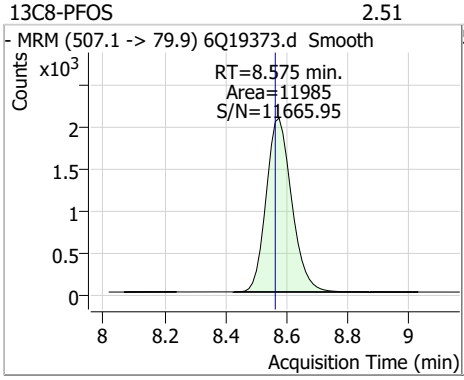


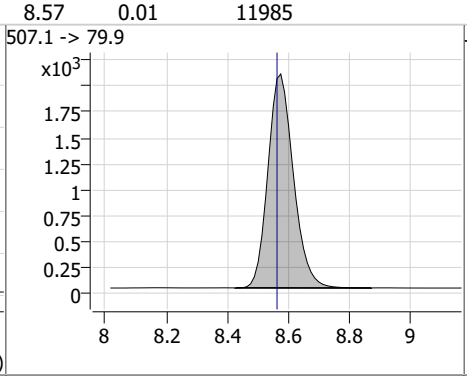


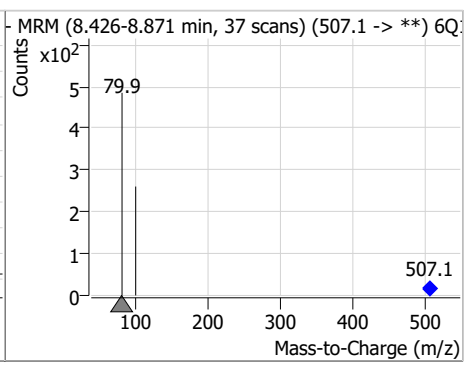




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.51	8.57	0.01	11985				

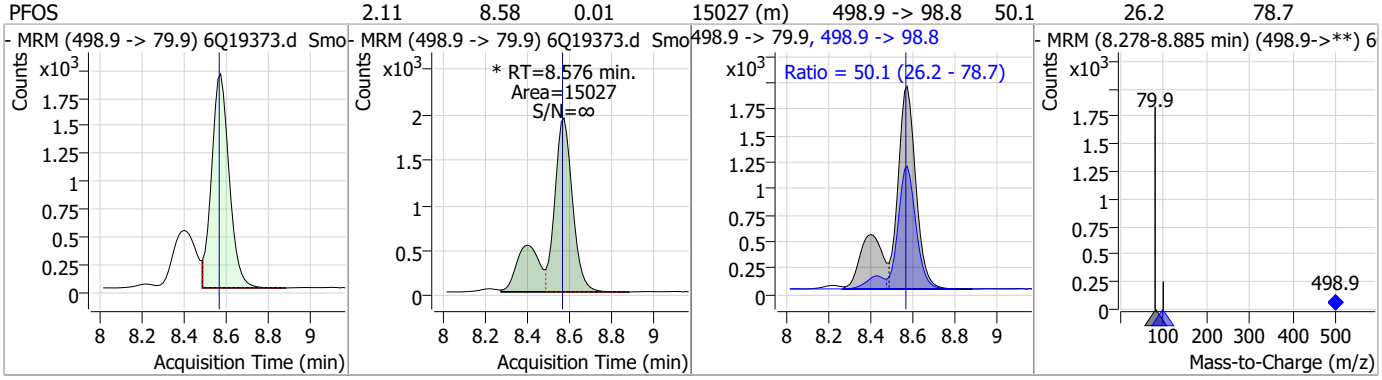




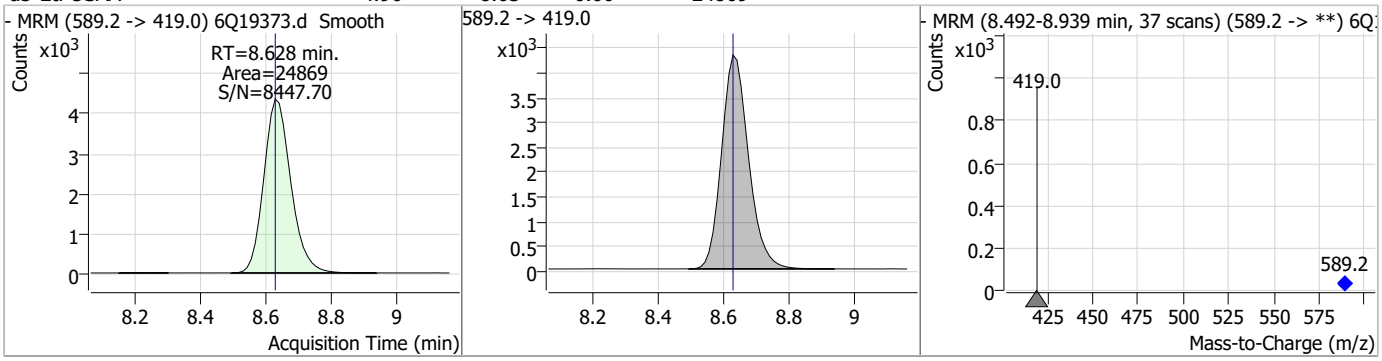


Perfluorinated Compounds by LC/MS/MS

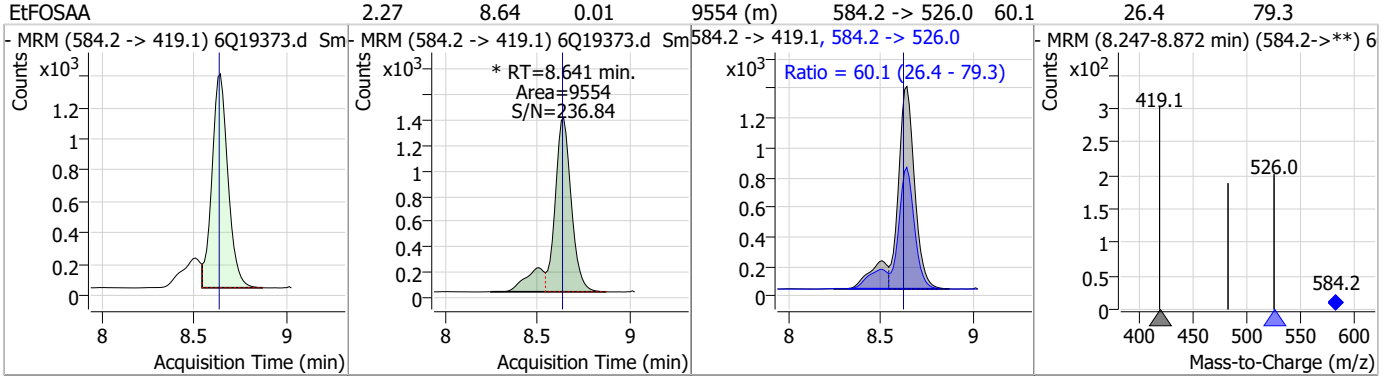
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.11	8.58	0.01	15027 (m)	498.9 -> 98.8	50.1	26.2	78.7



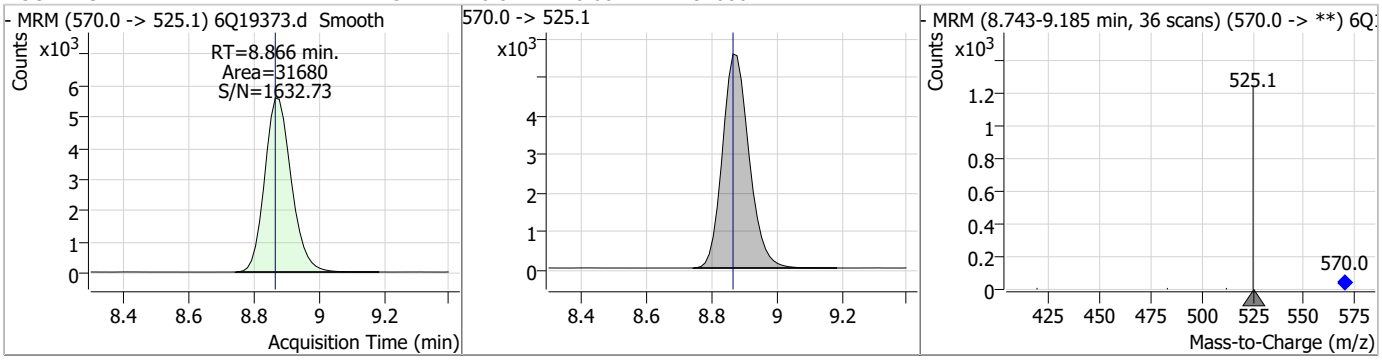
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.90	8.63	0.00	24869				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.27	8.64	0.01	9554 (m)	584.2 -> 526.0	60.1	26.4	79.3

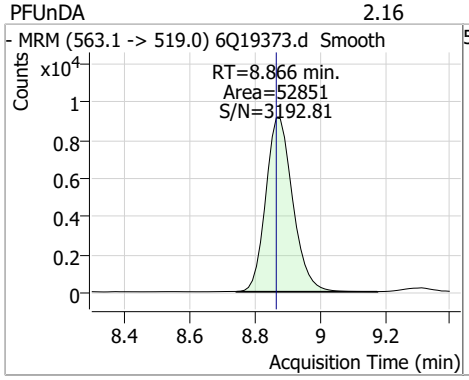


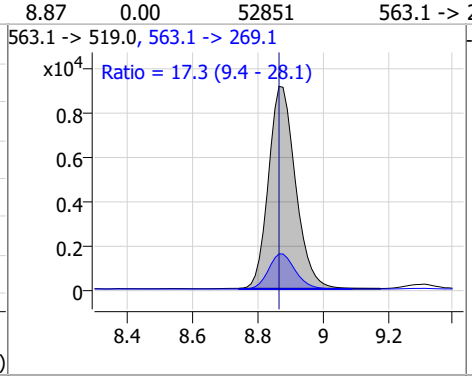
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.25	8.87	0.00	31680				

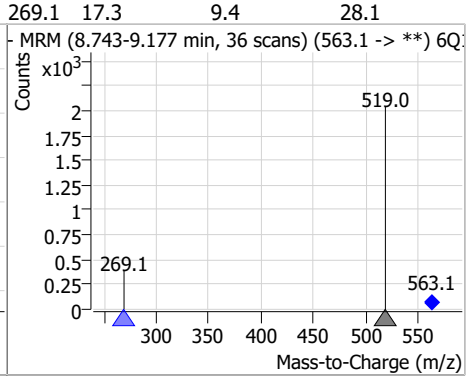


Perfluorinated Compounds by LC/MS/MS

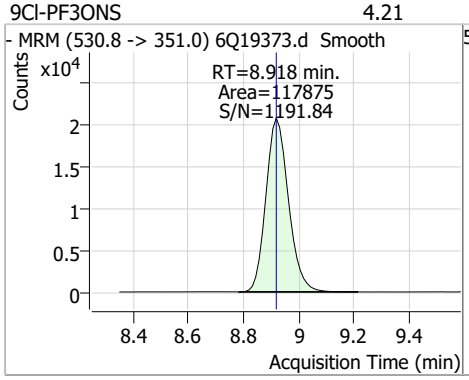
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.16	8.87	0.00	52851	563.1 -> 269.1	17.3	9.4	28.1

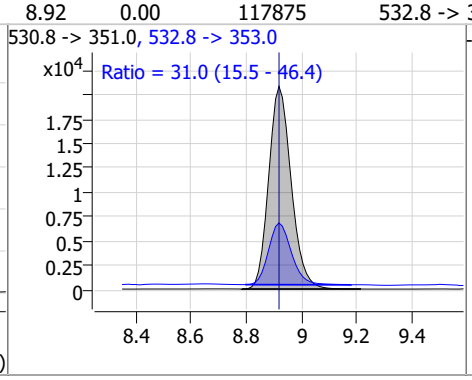


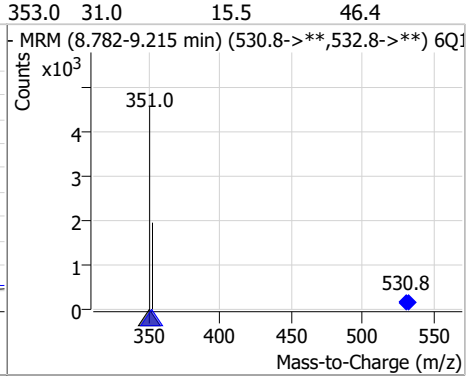




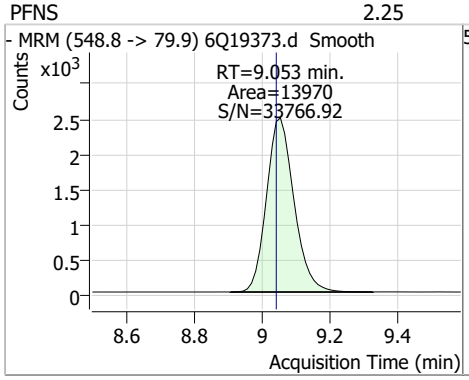
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.21	8.92	0.00	117875	532.8 -> 353.0	31.0	15.5	46.4

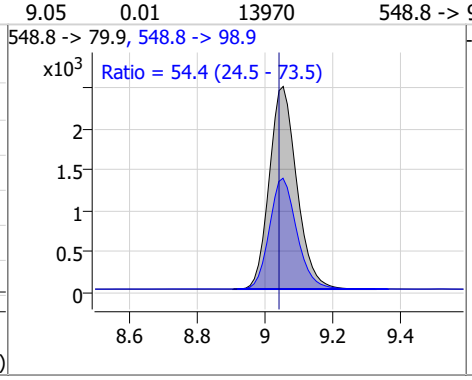


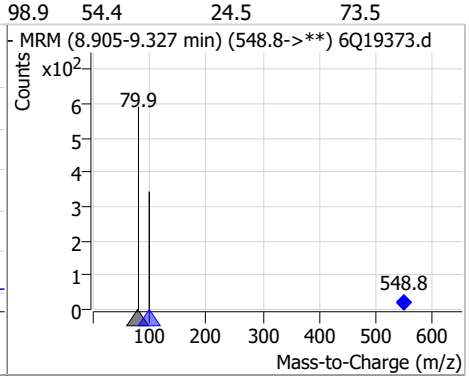




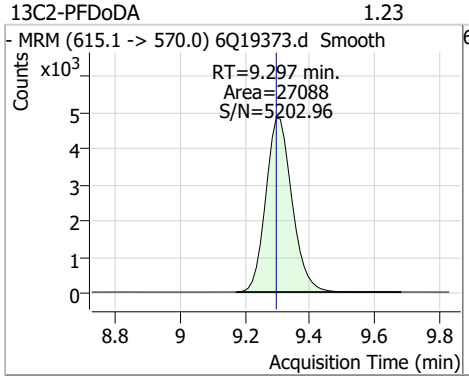
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.25	9.05	0.01	13970	548.8 -> 98.9	54.4	24.5	73.5

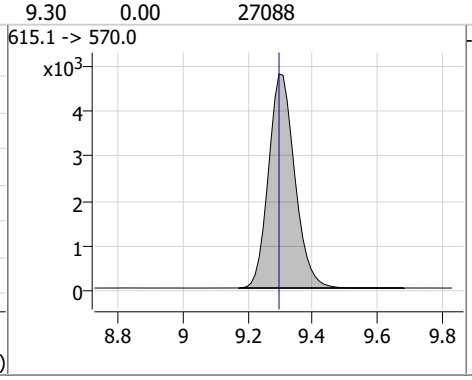


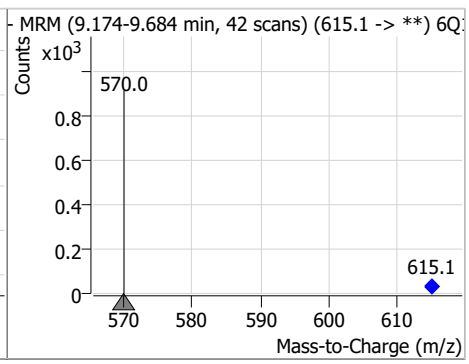




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.23	9.30	0.00	27088				

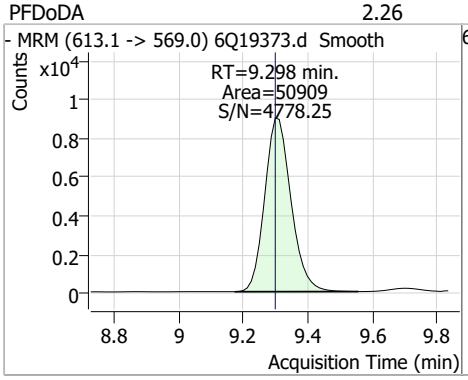


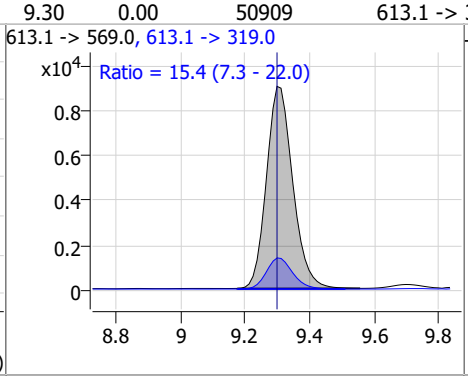


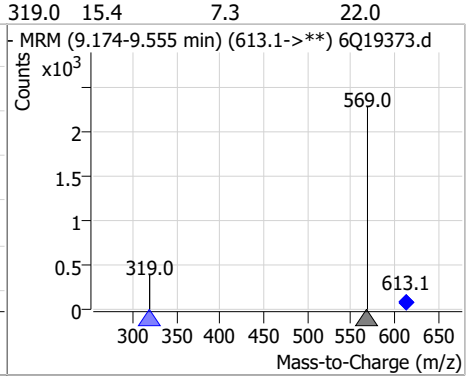


Perfluorinated Compounds by LC/MS/MS

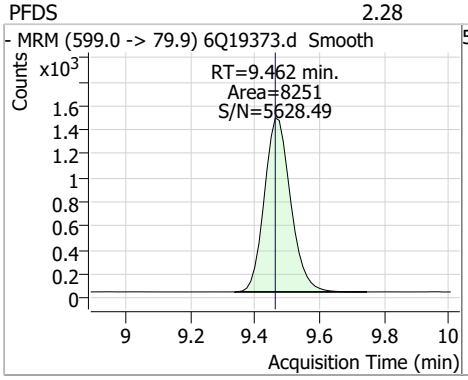
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.26	9.30	0.00	50909	613.1 -> 319.0	15.4	7.3	22.0

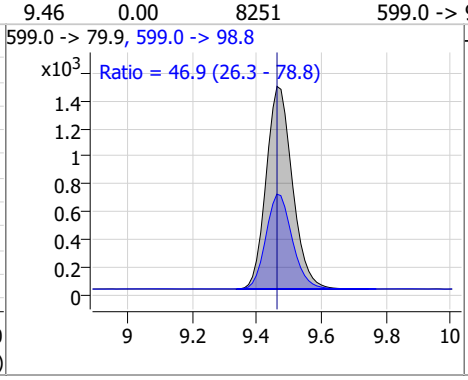


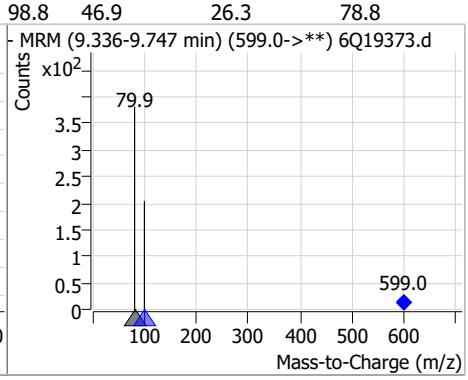




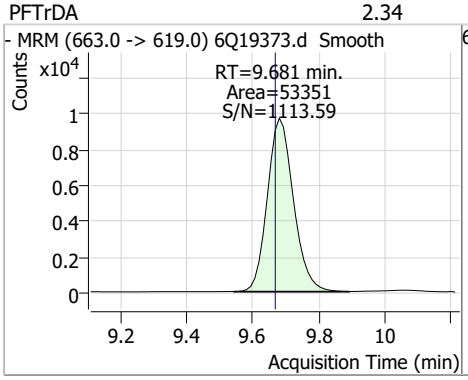
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.28	9.46	0.00	8251	599.0 -> 98.8	46.9	26.3	78.8

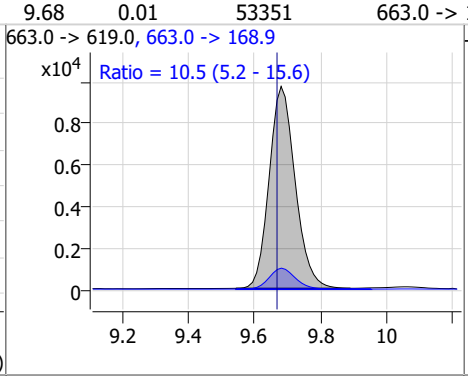


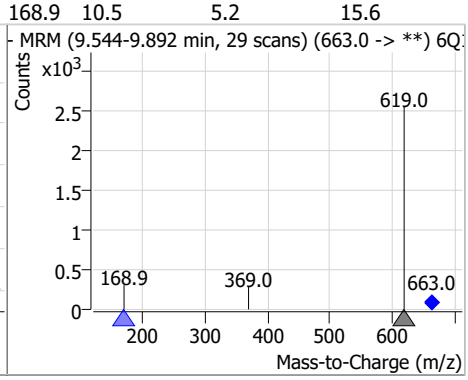




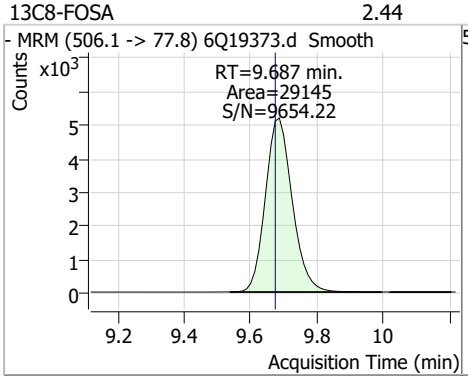
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.34	9.68	0.01	53351	663.0 -> 168.9	10.5	5.2	15.6

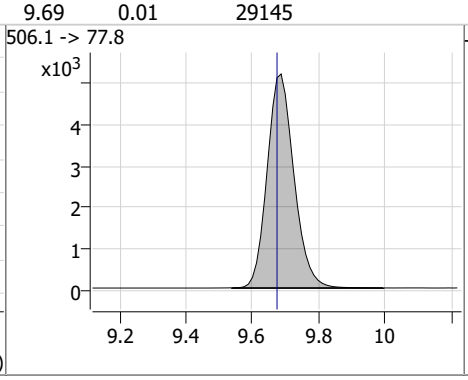


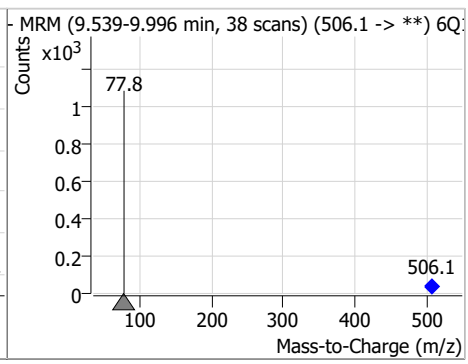




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.44	9.69	0.01	29145				

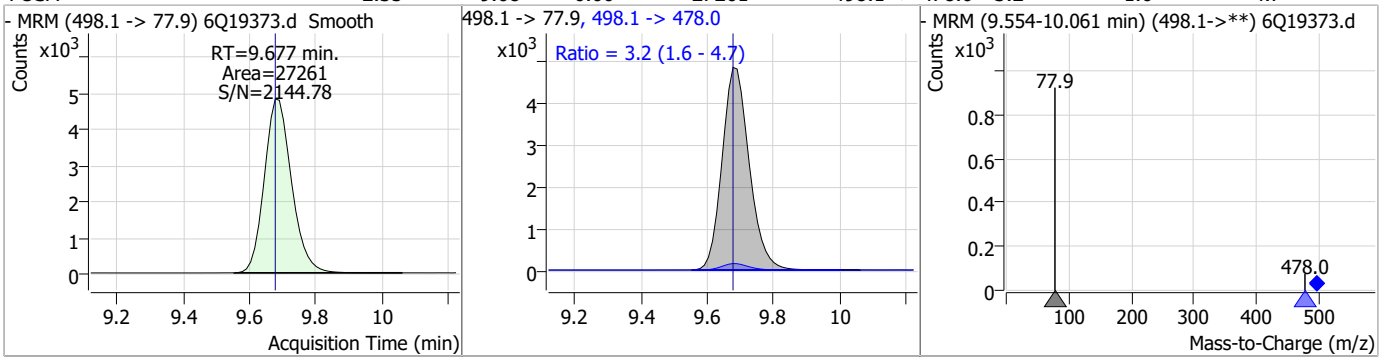




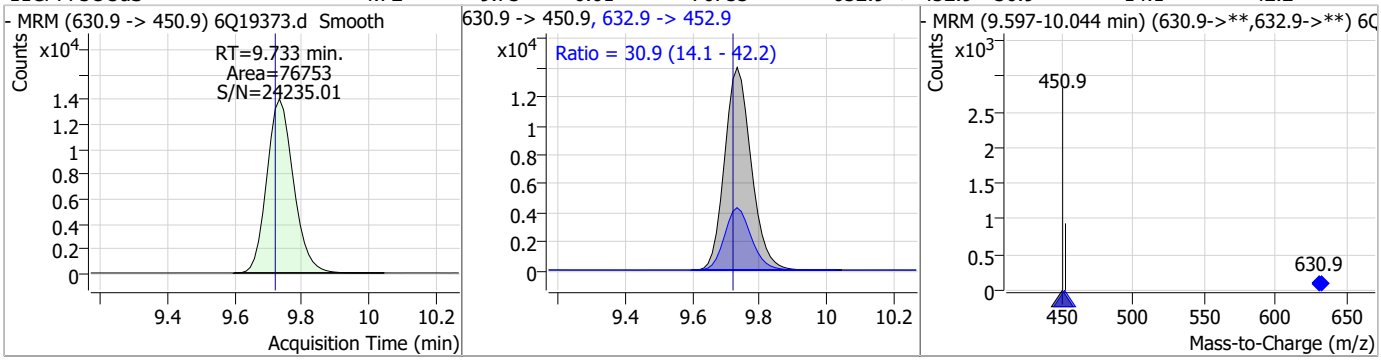


Perfluorinated Compounds by LC/MS/MS

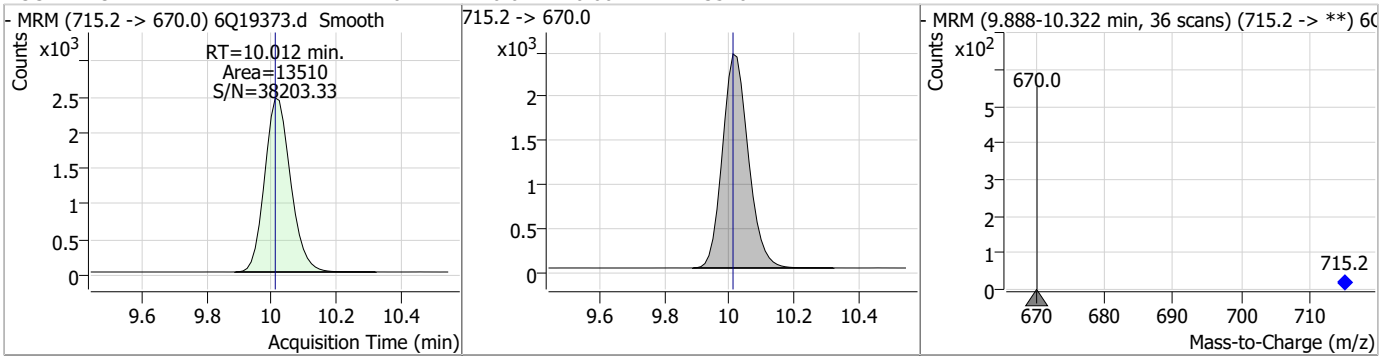
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.35	9.68	0.00	27261	498.1 -> 478.0	3.2	1.6	4.7



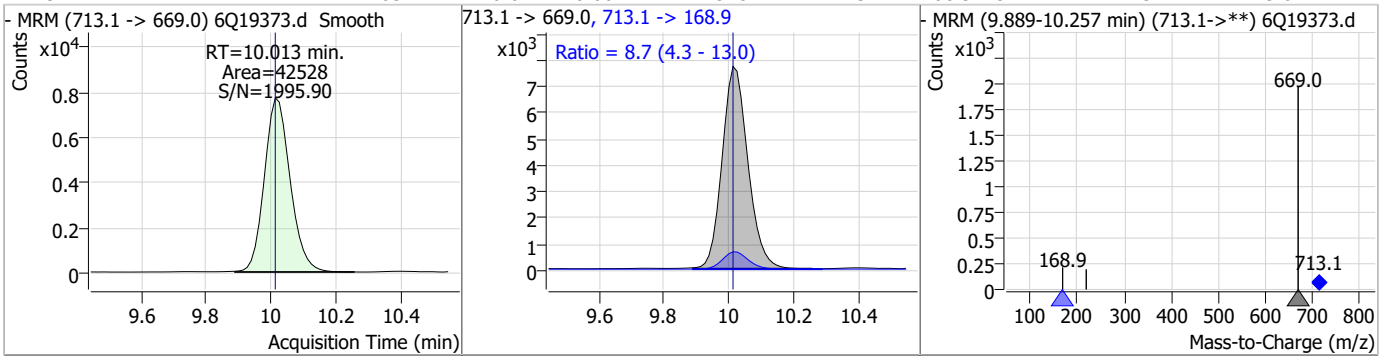
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.72	9.73	0.01	76753	632.9 -> 452.9	30.9	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.10	10.01	0.00	13510				

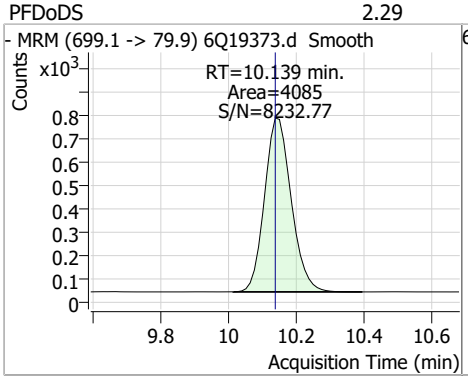


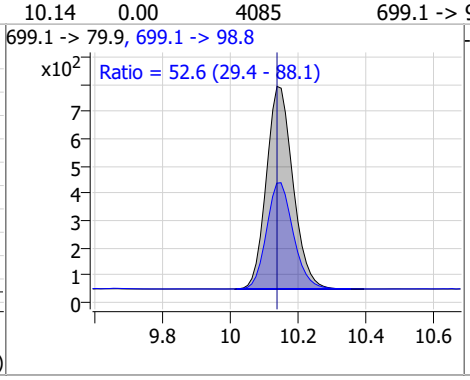
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.63	10.01	0.00	42528	713.1 -> 168.9	8.7	4.3	13.0

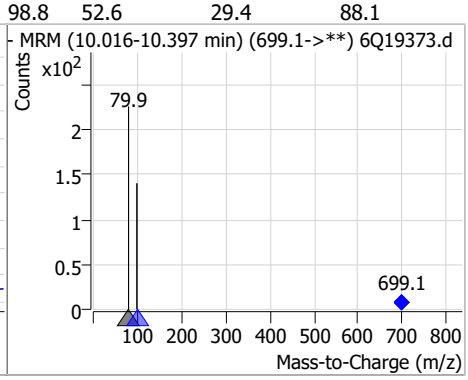


Perfluorinated Compounds by LC/MS/MS

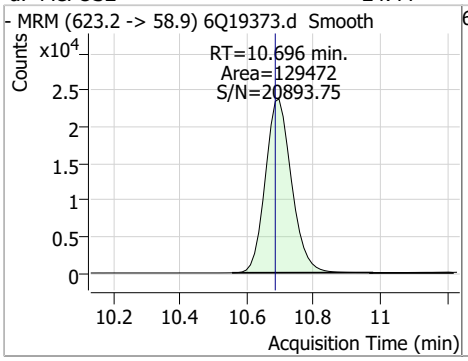
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.29	10.14	0.00	4085	699.1 -> 98.8	52.6	29.4	88.1

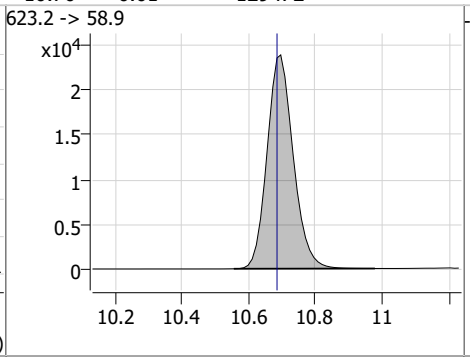


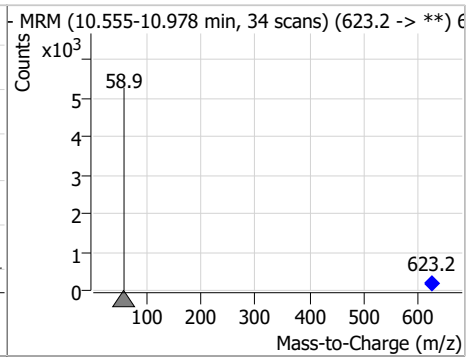




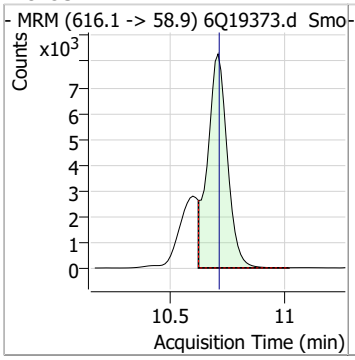
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.44	10.70	0.01	129472				

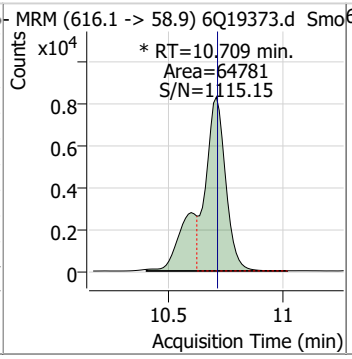


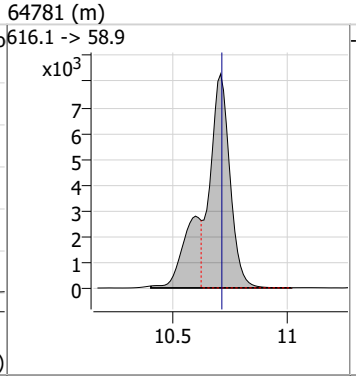


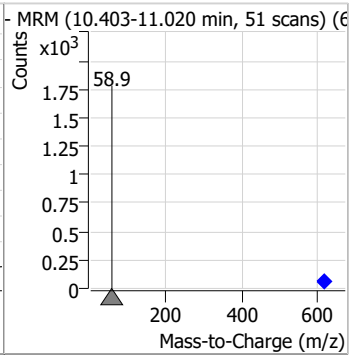


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	11.55	10.71	0.00	64781 (m)				

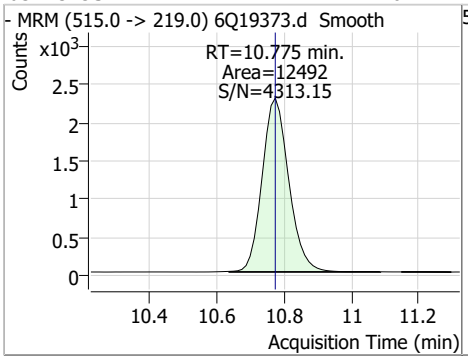


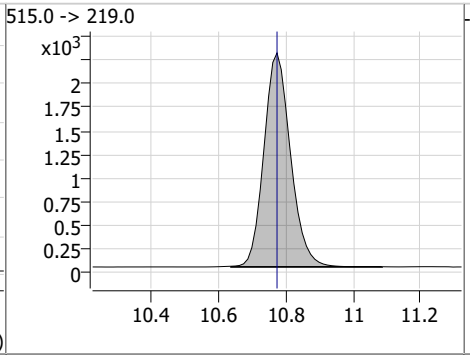


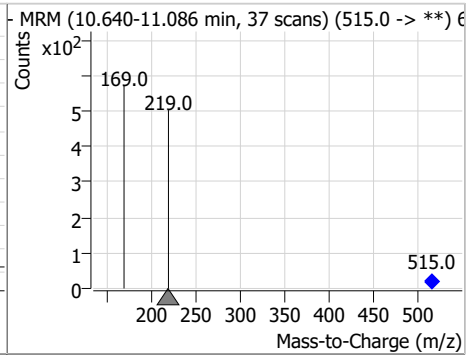




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.40	10.78	0.00	12492				

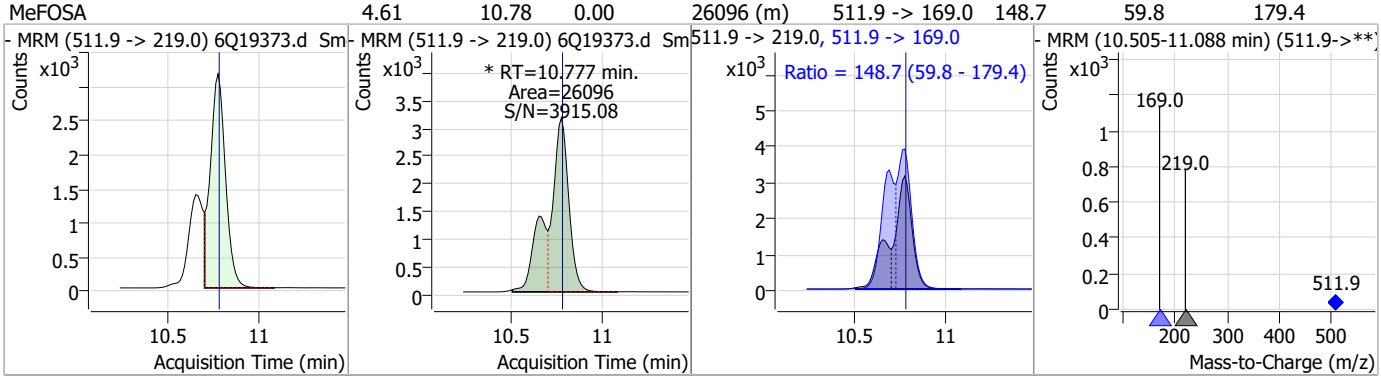




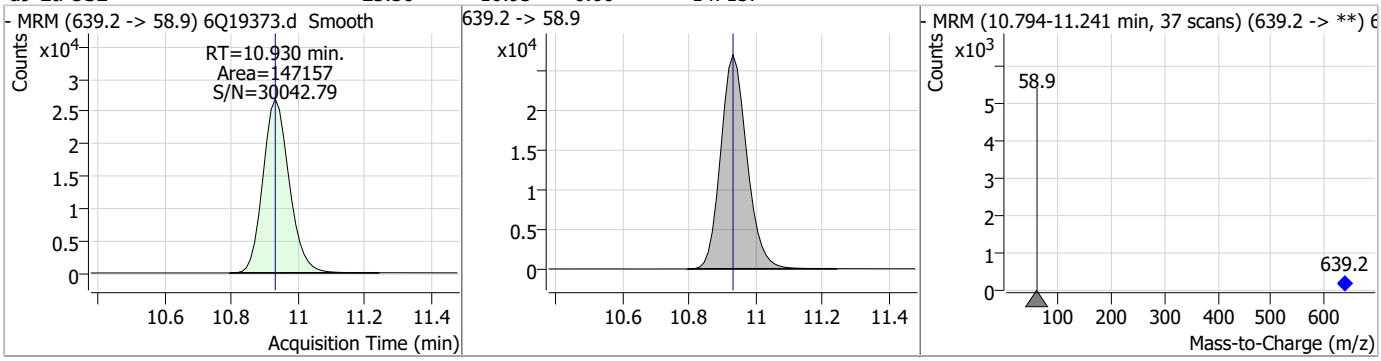


Perfluorinated Compounds by LC/MS/MS

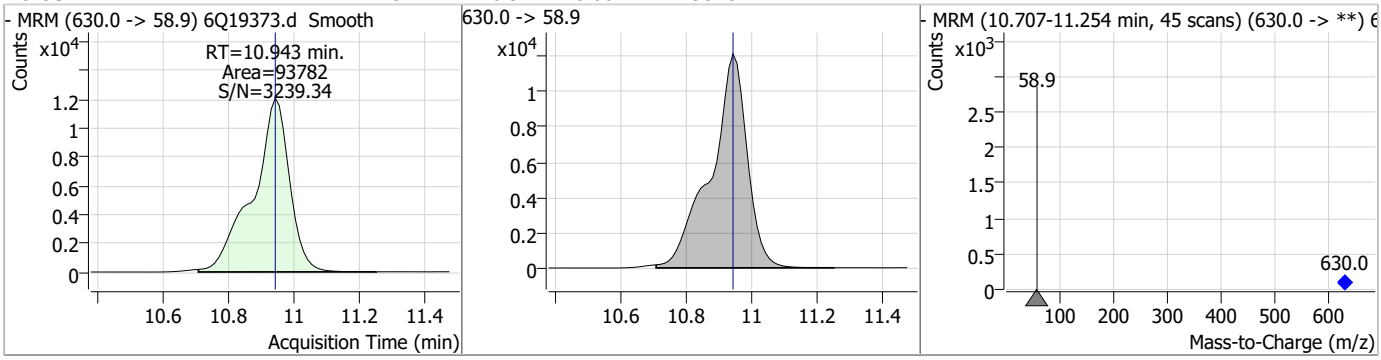
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.61	10.78	0.00	26096 (m)	511.9 -> 169.0	148.7	59.8	179.4



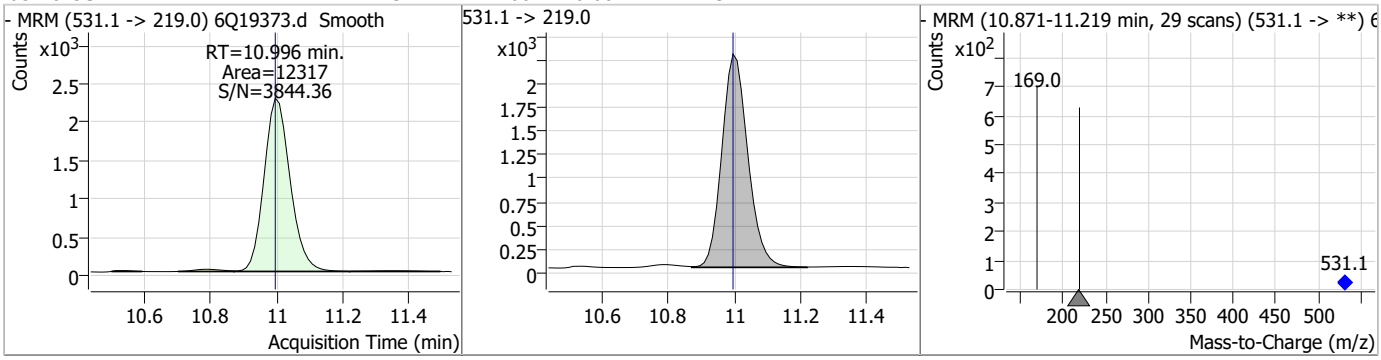
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.56	10.93	0.00	147157				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.31	10.94	0.00	93782				

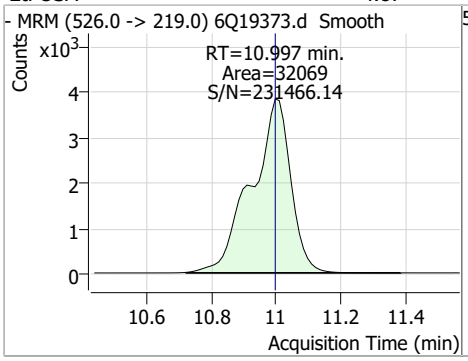


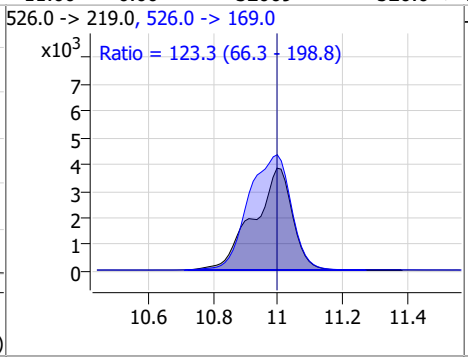
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.43	11.00	0.00	12317				

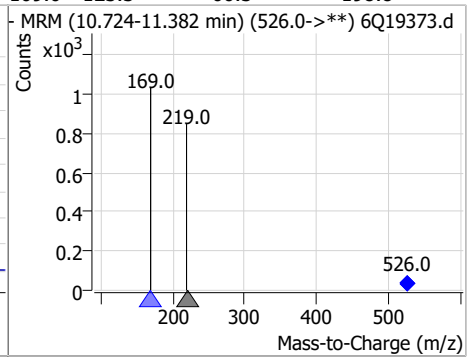


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.87	11.00	0.00	32069	526.0 -> 169.0	123.3	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q289-CC288
Lab FileID: 6Q19373.D
Injection Time: 06/14/23 21:18
Method: EPA DRAFT 1633
Analyst approved: 06/15/23 10:05 Martha Valls
Supervisor approved: 06/15/23 10:54 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.43	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.58	Split peak
EtFOSAA	2991-50-6		8.64	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/15/23 10:54

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19376.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/14/2023 10:00:16 PM
Sample Name : ecc288-4
Vial : P1-A5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q289.batch.bin
Sample Information : OP97215,S6Q289,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	155470	10.00	µg/L	0.000
M5-PFPeA	4.548	268.3 -> 223.0	50916	5.00	µg/L	-0.012
M5-PFHxA	5.792	318.0 -> 273.0	53117	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	50924	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	79761	2.50	µg/L	0.000
M9-PFNA	7.895	472.1 -> 427.0	38356	1.25	µg/L	0.000
M6-PFDA	8.400	519.1 -> 474.1	21504	1.25	µg/L	0.012
M7-PFUnDA	8.866	570.0 -> 525.1	31004	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	26003	1.25	µg/L	0.000
M2-PFTeDA	10.012	715.2 -> 670.0	14465	1.25	µg/L	0.000
M8-FOSA	9.687	506.1 -> 77.8	30069	2.50	µg/L	0.012
M3-PFBS	5.733	302.1 -> 79.9	19428	2.50	µg/L	-0.013
M3-PFHxS	7.478	402.1 -> 79.9	12257	2.50	µg/L	0.000
M8-PFOS	8.575	507.1 -> 79.9	12596	2.50	µg/L	0.012
M2-4:2FTS	5.442	329.1 -> 80.9	2966	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	4476	5.00	µg/L	0.000
M2-8:2FTS	8.175	529.1 -> 80.9	4173	5.00	µg/L	0.012
M3-MeFOSAA	8.420	573.2 -> 419.0	31064	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35320	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	25662	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	119551	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	146897	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12709	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12087	2.50	µg/L	0.000
13C4-PFOS	8.576	502.8 -> 79.9	16665	2.50	µg/L	0.012
13C3-PFBA	3.089	216.0 -> 172.0	66032	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9615	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	90575	2.50	µg/L	0.000
13C2-PFDA	8.400	515.1 -> 470.1	33350	1.25	µg/L	0.012
13C5-PFNA	7.895	468.0 -> 423.0	49529	1.25	µg/L	0.013
13C2-PFHxA	5.792	315.1 -> 270.0	53264	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	2966	5.14	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4476	5.14	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C2-8:2FTS	8.175	529.1 -> 80.9	4173	5.09	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.9%		
13C2-PFDoDA	9.297	615.1 -> 570.0	26003	1.17	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.3%		
13C2-PFTeDA	10.012	715.2 -> 670.0	14465	1.16	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.0%		
13C3-PFBS	5.733	302.1 -> 79.9	19428	2.43	µg/L	-0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%		
13C3-PFHxS	7.478	402.1 -> 79.9	12257	2.43	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C4-PFBA	3.085	216.8 -> 171.9	155470	10.04 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C4-PFHpA	6.707	367.1 -> 322.0	50924	2.48 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%		
13C5-PFHxA	5.792	318.0 -> 273.0	53117	2.42 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.7%		
13C5-PFPeA	4.548	268.3 -> 223.0	50916	5.05 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.1%		
13C6-PFDA	8.400	519.1 -> 474.1	21504	1.12 µg/L		0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 89.9%		
13C7-PFUnDA	8.866	570.0 -> 525.1	31004	1.21 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.7%		
13C8-FOSA	9.687	506.1 -> 77.8	30069	2.38 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.3%		
13C8-PFOA	7.352	421.1 -> 376.0	79761	2.36 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.2%		
13C8-PFOS	8.575	507.1 -> 79.9	12596	2.50 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C9-PFNA	7.895	472.1 -> 427.0	38356	1.27 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.8%		
d3-MeFOSAA	8.420	573.2 -> 419.0	31064	4.93 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.5%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	35320	9.60 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 96.0%		
d3-MeFOSA	10.775	515.0 -> 219.0	12087	2.20 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.2%		
d5-EtFOSAA	8.628	589.2 -> 419.0	25662	4.80 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.9%		
d7-MeFOSE	10.696	623.2 -> 58.9	119551	21.38 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 85.5%		
d9-EtFOSE	10.930	639.2 -> 58.9	146897	22.28 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 89.1%		
d5-EtFOSA	10.996	531.1 -> 219.0	12709	2.37 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.9%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	47849	9.28 µg/L		100
		327.1 -> 80.9	17824			
6:2FTS	7.113	427.1 -> 407.0	51418	9.65 µg/L		100
		427.1 -> 80.9	16945			
8:2FTS	8.176	527.1 -> 507.0	25448	9.17 µg/L		99
		527.1 -> 80.8	10198			
EtFOSAA	8.641	584.2 -> 419.1	10440	2.40 µg/L	m	96
		584.2 -> 526.0	5249			
FOSA	9.677	498.1 -> 77.9	27905	2.34 µg/L		100
		498.1 -> 478.0	884			
MeFOSAA	8.433	570.1 -> 419.0	18575	2.31 µg/L	m	98
		570.1 -> 483.0	3659			
PFBA	3.093	212.8 -> 168.9	60507	9.66 µg/L		100
PFBS	5.747	298.7 -> 79.9	18618	2.15 µg/L		99
		298.7 -> 98.8	6911			
PFDA	8.400	512.9 -> 469.0	83019	2.60 µg/L		96
		512.9 -> 219.0	11847			
PFDoDA	9.298	613.1 -> 569.0	51632	2.39 µg/L		99
		613.1 -> 319.0	7674			
PFDS	9.462	599.0 -> 79.9	8217	2.16 µg/L		95

Perfluorinated Compounds by LC/MS/MS

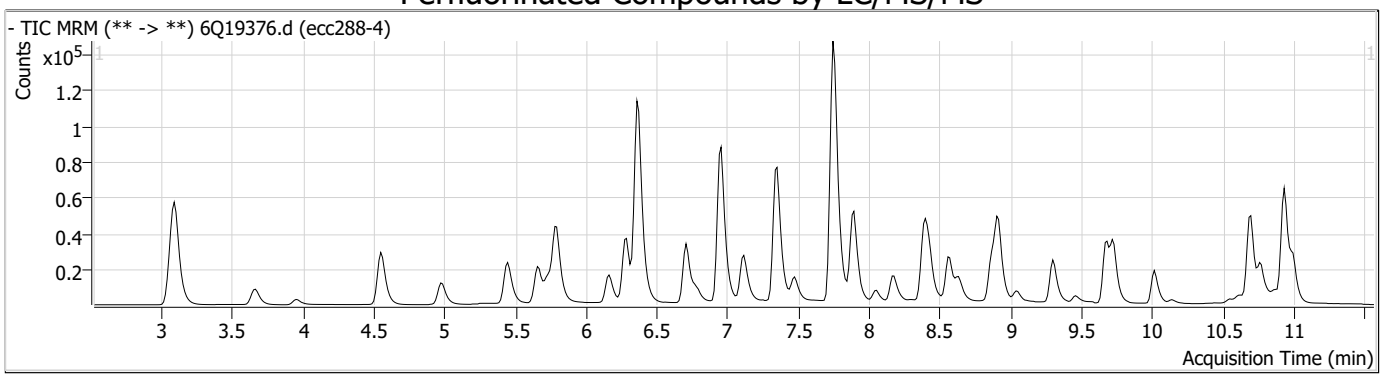
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	4039				
PFHpA	6.708	363.1 -> 319.0	64040	2.36	µg/L		97
		363.1 -> 169.0	10539				
PFHpS	8.059	449.0 -> 79.9	15033	2.00	µg/L		97
		449.0 -> 98.9	8028				
PFHxA	5.795	313.0 -> 269.0	52210	2.44	µg/L		99
		313.0 -> 118.9	2823				
PFHxS	7.479	398.7 -> 79.9	15077	2.04	µg/L	m	99
		398.7 -> 98.9	7519				
PFNA	7.896	463.0 -> 419.0	80719	2.28	µg/L		99
		463.0 -> 219.0	15563				
PFNS	9.053	548.8 -> 79.9	14124	2.16	µg/L		93
		548.8 -> 98.9	7613				
PFOA	7.353	413.0 -> 369.0	107658	2.46	µg/L		98
		413.0 -> 169.0	17067				
PFOS	8.576	498.9 -> 79.9	14997	2.01	µg/L	m	91
		498.9 -> 98.8	6872				
PFPeA	4.551	263.0 -> 219.0	70363	4.68	µg/L		100
PFPeS	6.785	349.1 -> 79.9	15981	2.33	µg/L		97
		349.1 -> 98.9	7302				
PFTeDA	10.013	713.1 -> 669.0	42570	2.46	µg/L		99
		713.1 -> 168.9	3492				
PFTrDA	9.681	663.0 -> 619.0	55546	2.53	µg/L		100
		663.0 -> 168.9	5768				
PFUnDA	8.866	563.1 -> 519.0	57368	2.40	µg/L		93
		563.1 -> 269.1	8844				
11Cl-PF3OUdS	9.733	630.9 -> 450.9	74541	4.63	µg/L		95
		632.9 -> 452.9	22861				
9Cl-PF3ONS	8.918	530.8 -> 351.0	112738	4.07	µg/L		95
		532.8 -> 353.0	38109				
ADONA	6.959	376.9 -> 250.9	262634	4.60	µg/L		99
		376.9 -> 84.8	74809				
HFPO-DA	6.169	284.9 -> 168.9	19100	5.17	µg/L		99
		284.9 -> 184.9	2184				
3:3FTCA	3.946	241.0 -> 177.0	11605	11.41	µg/L		100
		241.0 -> 117.0	1562				
5:3FTCA	6.374	341.0 -> 237.1	261249	61.31	µg/L		97
		341.0 -> 217.0	187147				
7:3FTCA	7.761	441.0 -> 316.9	179334	62.25	µg/L		98
		441.0 -> 336.9	399285				
EtFOSA	10.997	526.0 -> 219.0	31688	4.67	µg/L		97
		526.0 -> 169.0	40892				
EtFOSE	10.943	630.0 -> 58.9	95383	12.55	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	26642	4.87	µg/L	m	80
		511.9 -> 169.0	37766				
MeFOSE	10.709	616.1 -> 58.9	66384	12.81	µg/L	m	100
PFDoDS	10.139	699.1 -> 79.9	4154	2.21	µg/L		90
		699.1 -> 98.8	2122				
NFDHA	5.673	295.0 -> 201.0	13073	4.77	µg/L		99
		295.0 -> 84.9	3408				
PFMBA	4.988	279.0 -> 85.1	49729	4.64	µg/L		100
PFMPA	3.667	229.0 -> 84.9	39612	4.73	µg/L		100
PFEESA	6.288	314.8 -> 134.9	127320	4.39	µg/L		100
		314.8 -> 82.9	4394				

 # = Qualifier out of range, m = manually integrated, + = Area summed

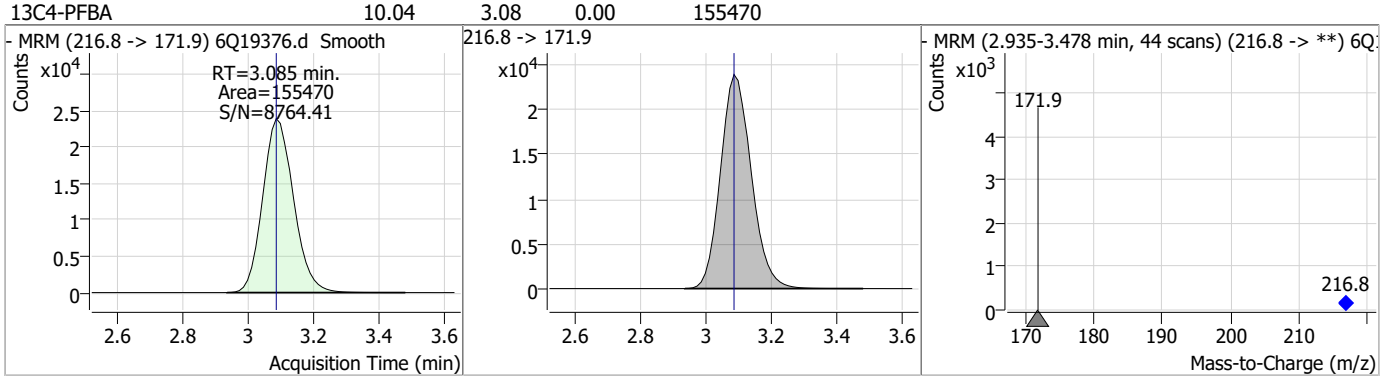
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

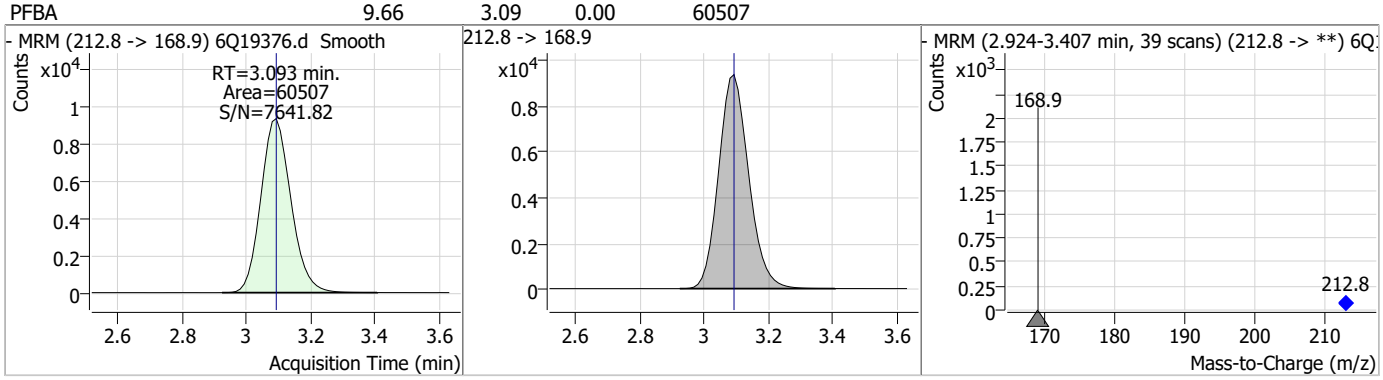
Perfluorinated Compounds by LC/MS/MS



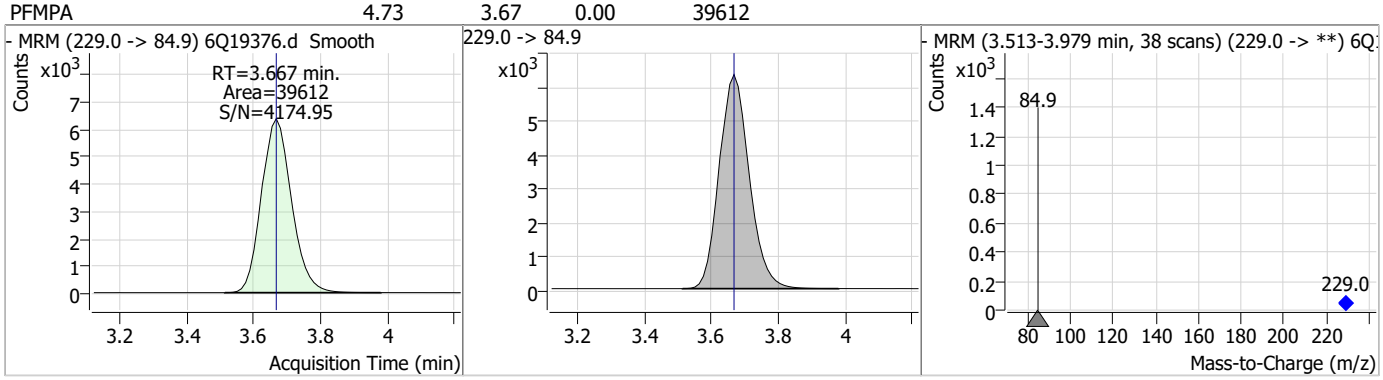
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.04	3.08	0.00	155470				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.66	3.09	0.00	60507				

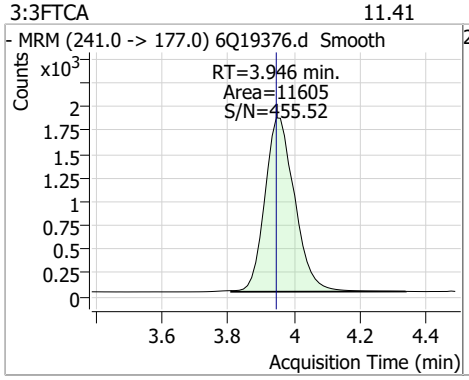


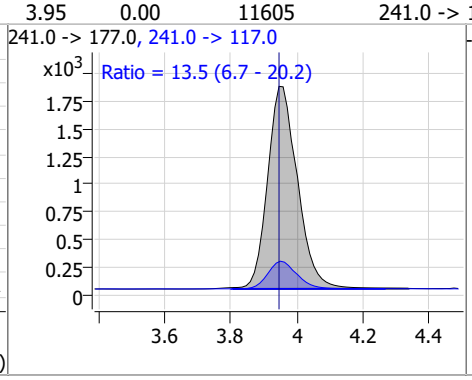
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.73	3.67	0.00	39612				

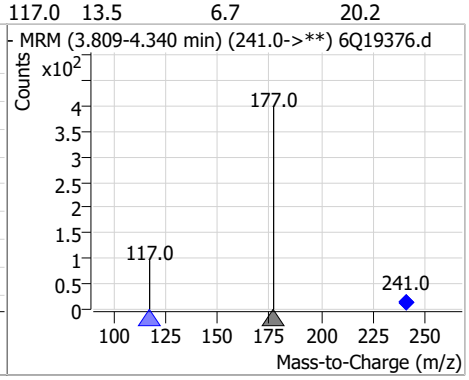


Perfluorinated Compounds by LC/MS/MS

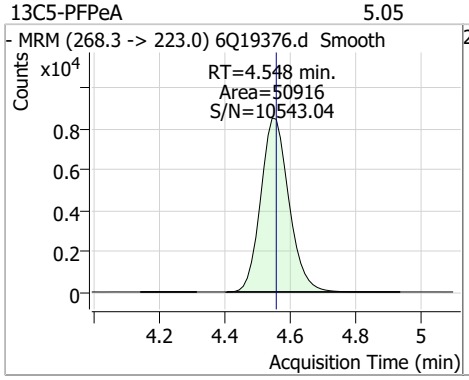
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.41	3.95	0.00	11605	241.0 -> 117.0	13.5	6.7	20.2

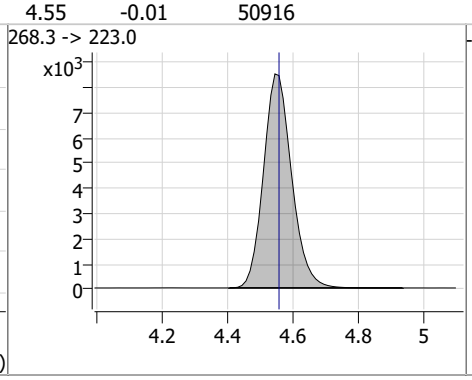


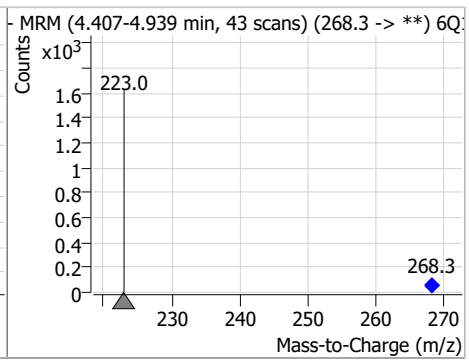




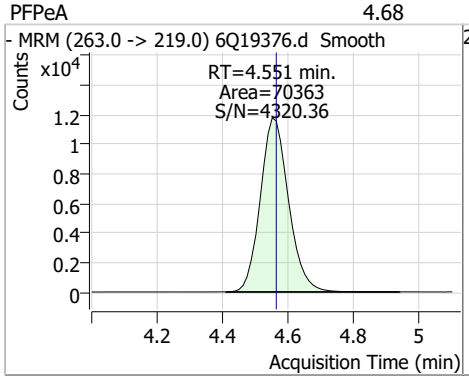
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.05	4.55	-0.01	50916				

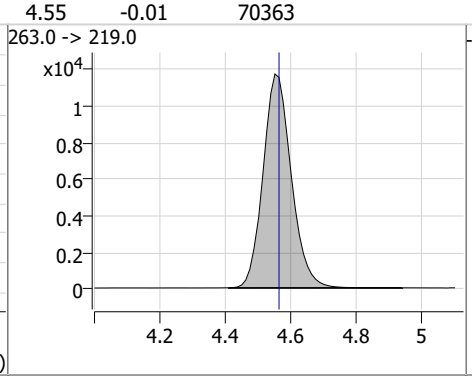


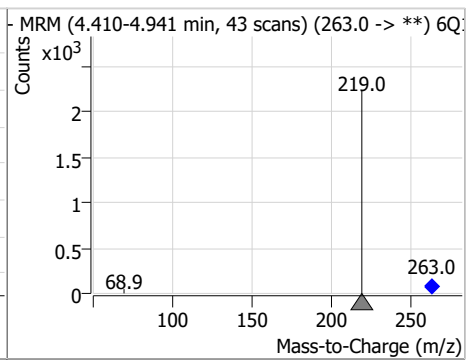




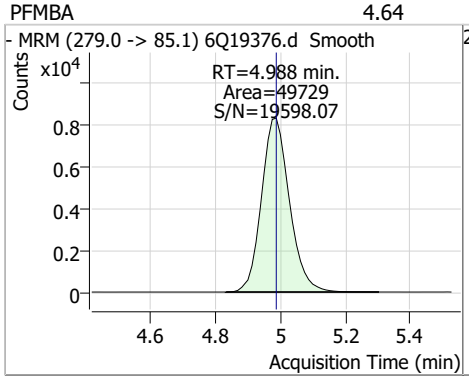
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.68	4.55	-0.01	70363				

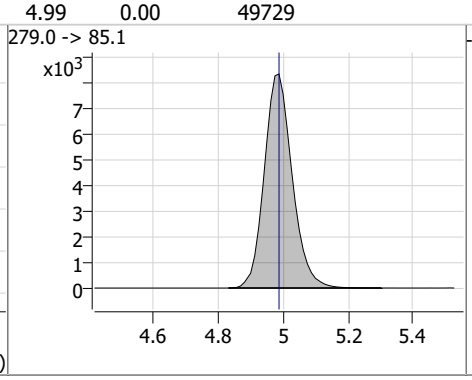


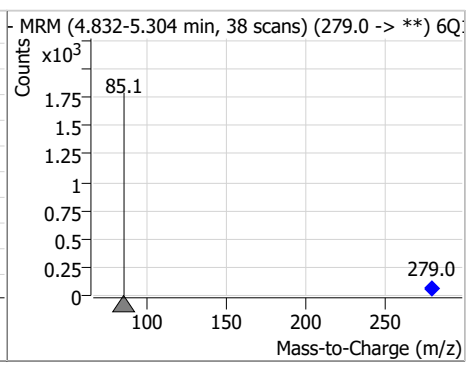




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.64	4.99	0.00	49729				

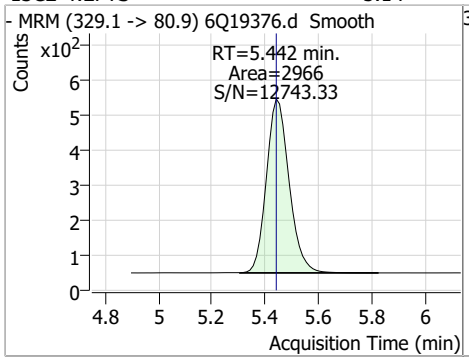


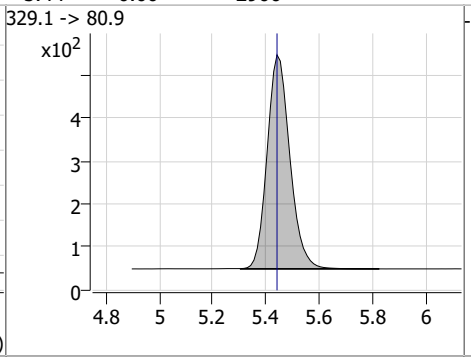


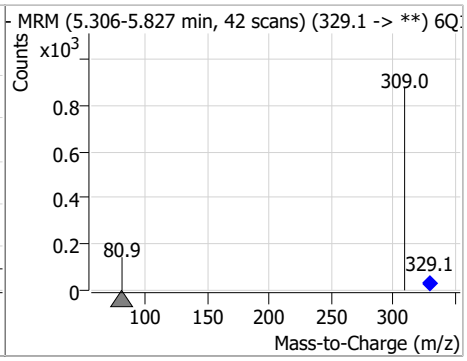


Perfluorinated Compounds by LC/MS/MS

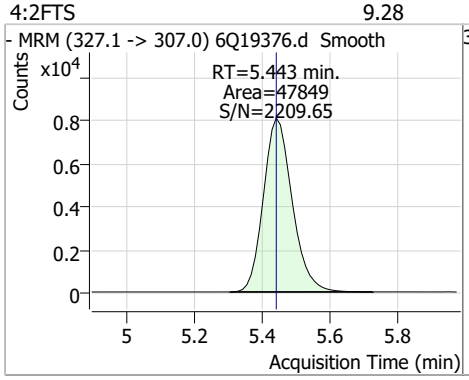
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.14	5.44	0.00	2966				

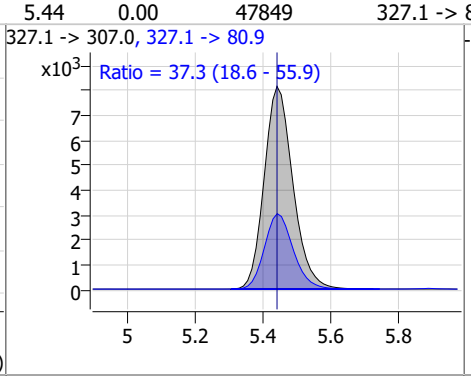


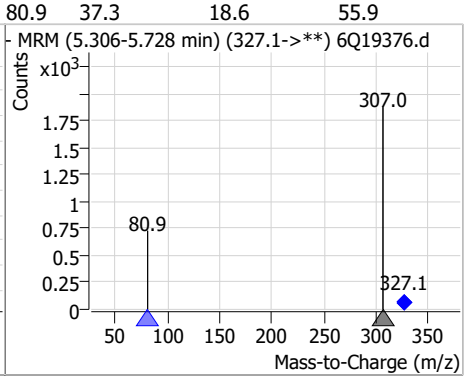




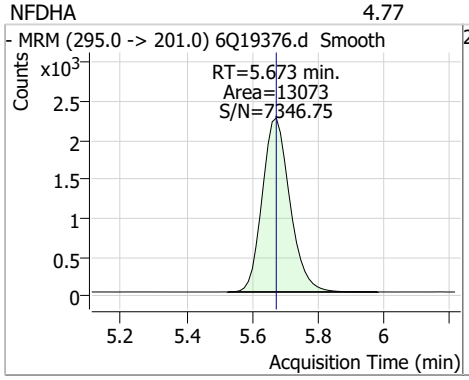
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.28	5.44	0.00	47849	327.1 -> 80.9	37.3	18.6	55.9

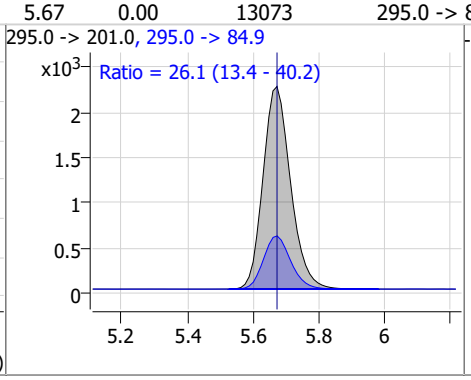


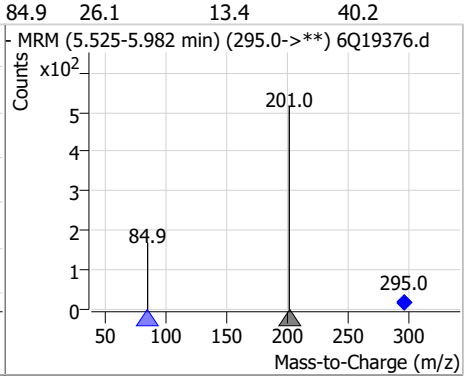




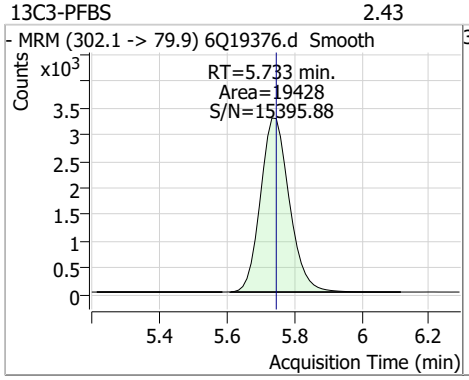
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.77	5.67	0.00	13073	295.0 -> 84.9	26.1	13.4	40.2

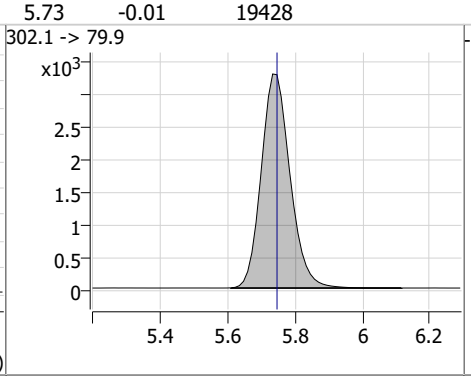


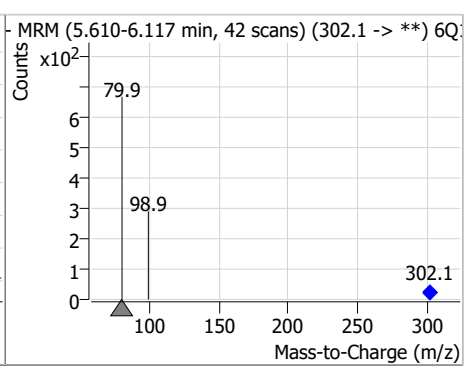




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.43	5.73	-0.01	19428				

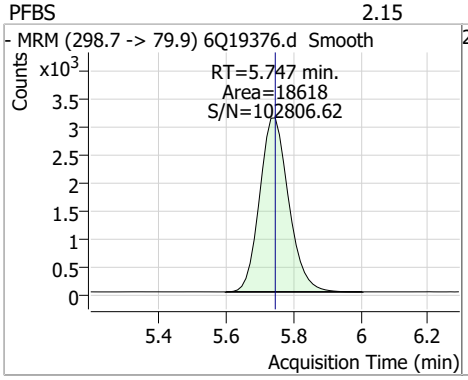


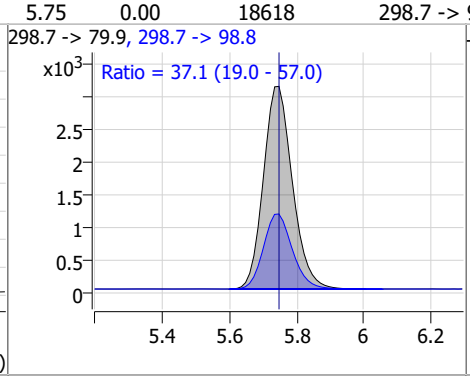


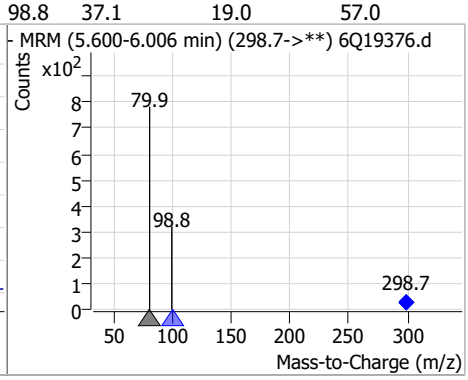


Perfluorinated Compounds by LC/MS/MS

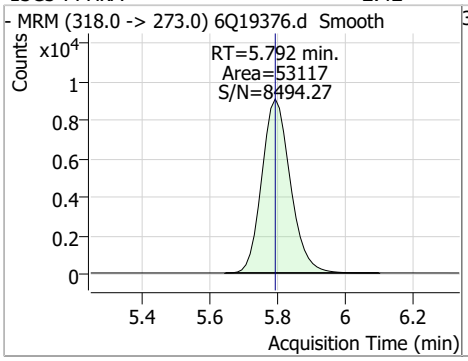
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.15	5.75	0.00	18618	298.7 -> 98.8	37.1	19.0	57.0

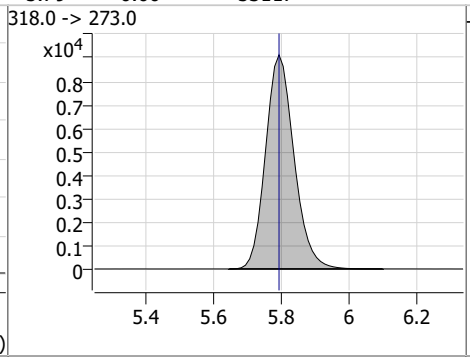


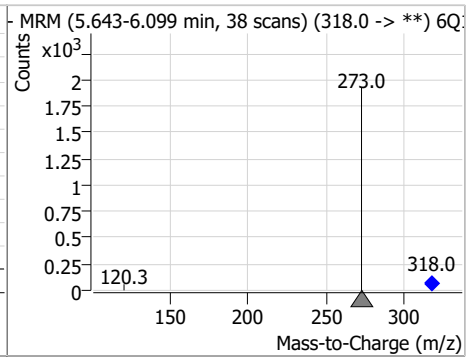




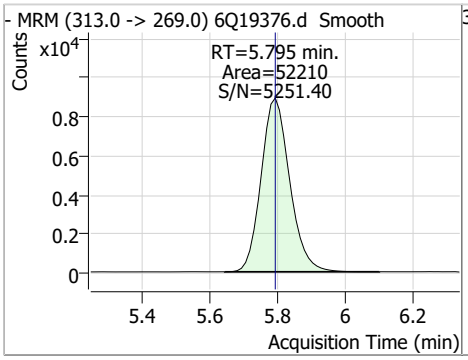
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.42	5.79	0.00	53117				

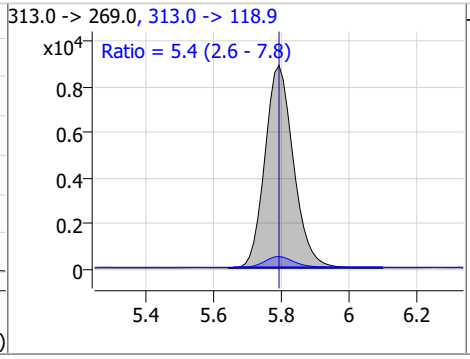


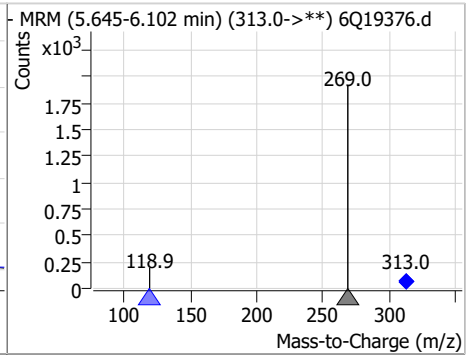




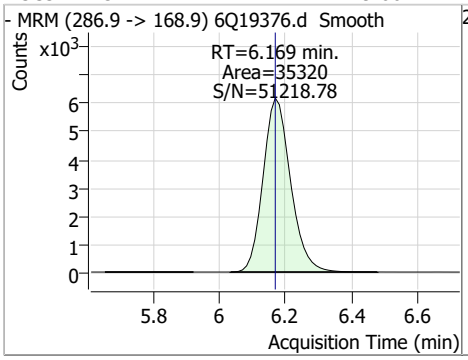
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.44	5.79	0.00	52210	313.0 -> 118.9	5.4	2.6	7.8

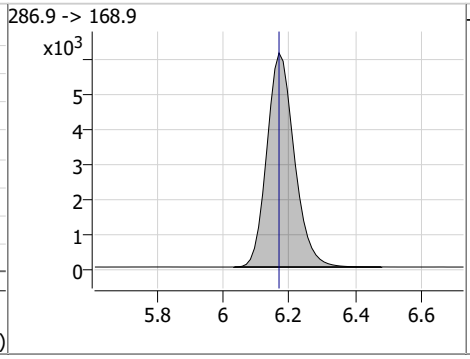


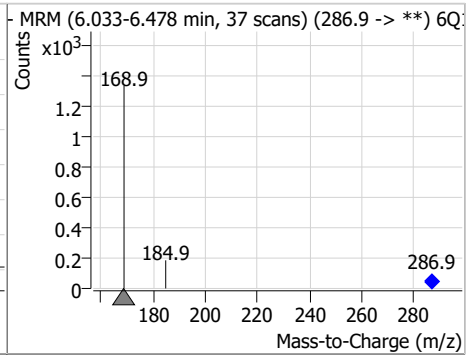




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.60	6.17	0.00	35320				

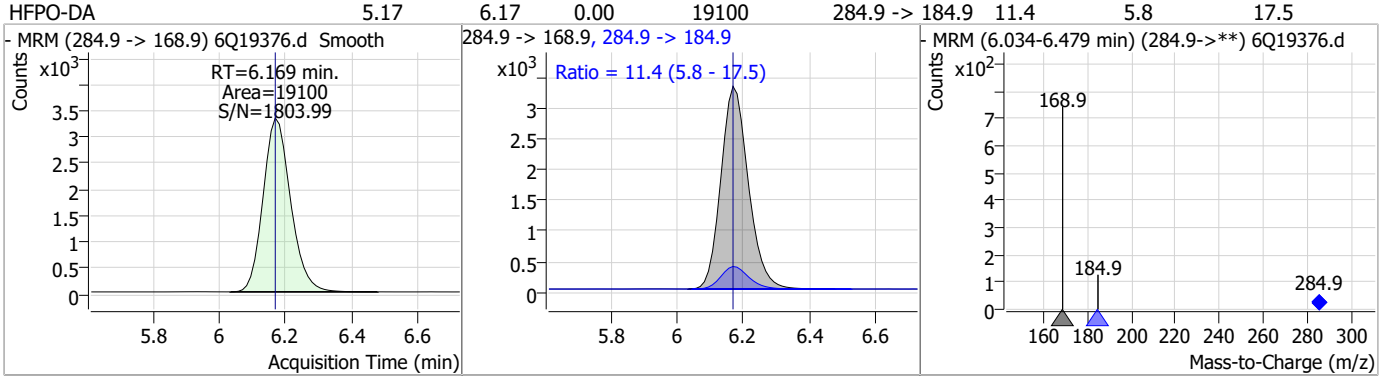




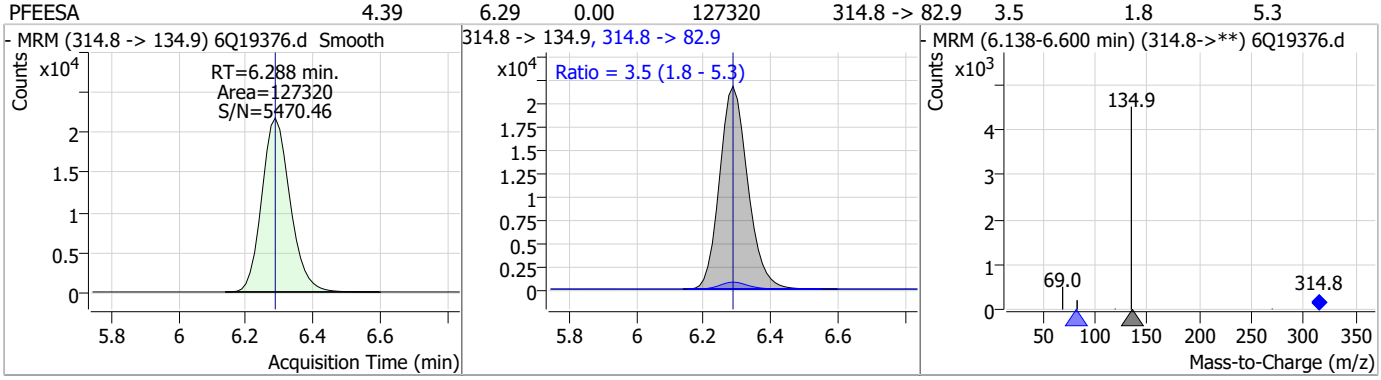


Perfluorinated Compounds by LC/MS/MS

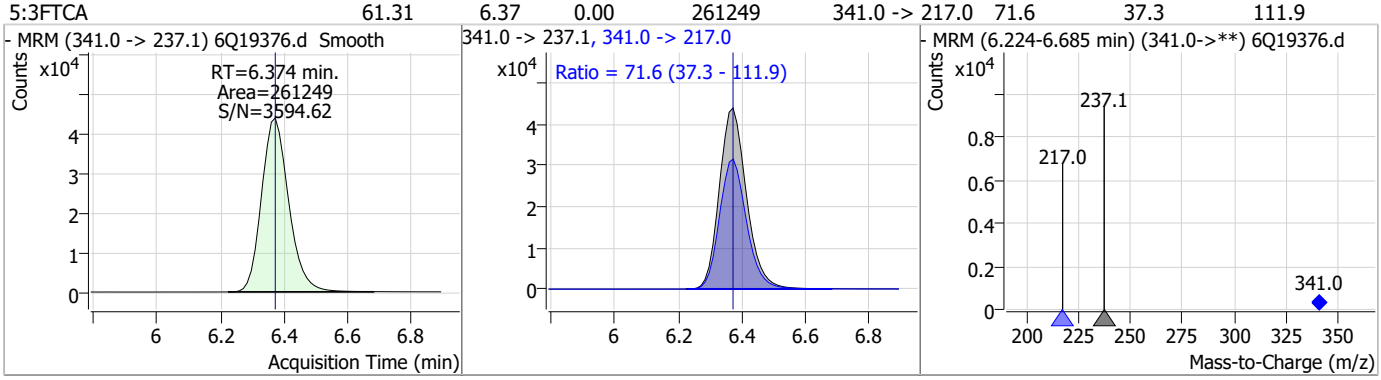
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.17	6.17	0.00	19100	284.9 -> 184.9	11.4	5.8	17.5



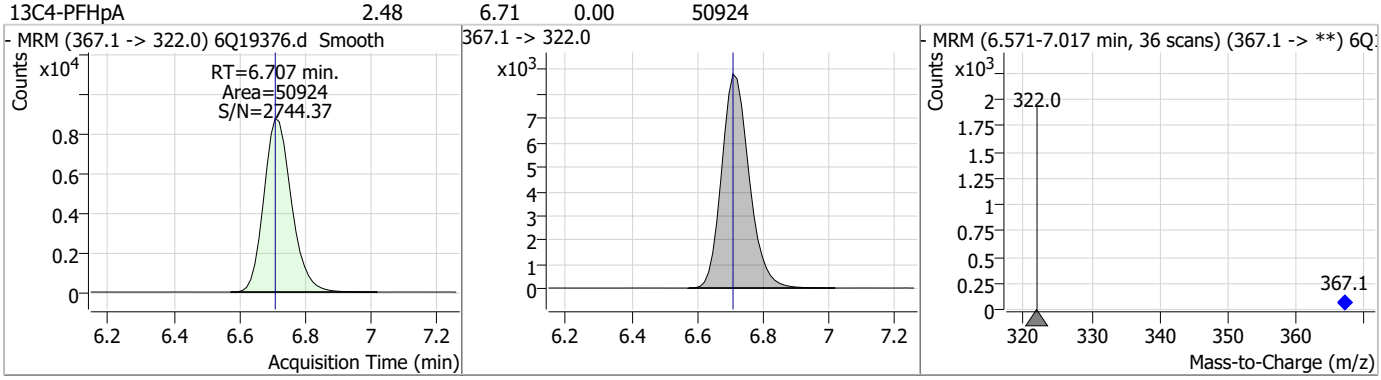
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.39	6.29	0.00	127320	314.8 -> 82.9	3.5	1.8	5.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	61.31	6.37	0.00	261249	341.0 -> 217.0	71.6	37.3	111.9

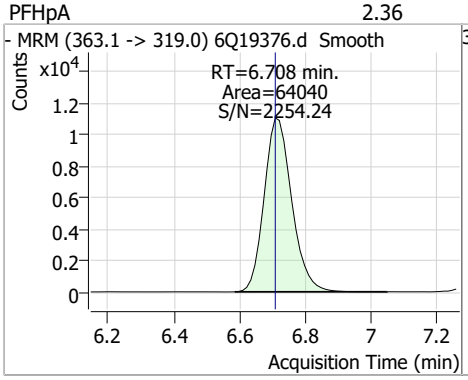


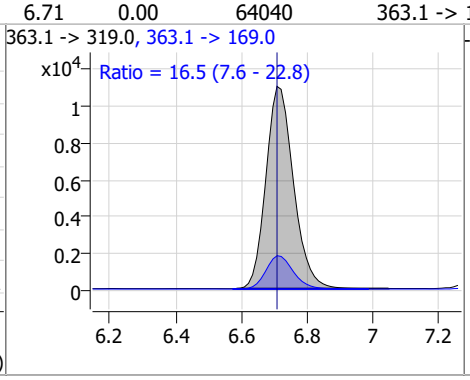
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.48	6.71	0.00	50924				

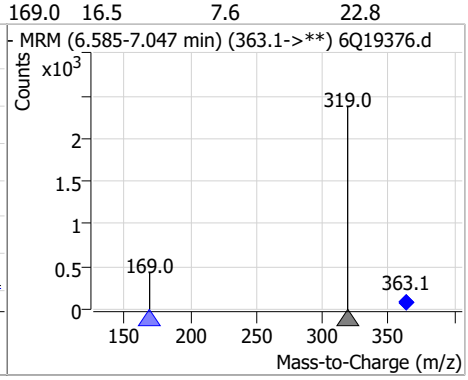


Perfluorinated Compounds by LC/MS/MS

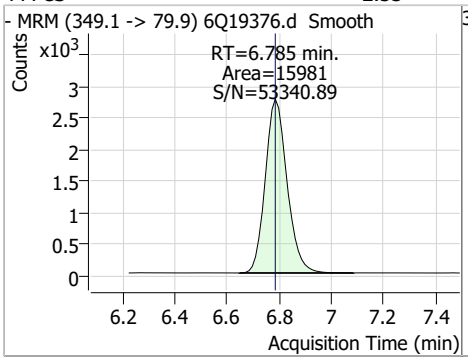
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.36	6.71	0.00	64040	363.1 -> 169.0	16.5	7.6	22.8

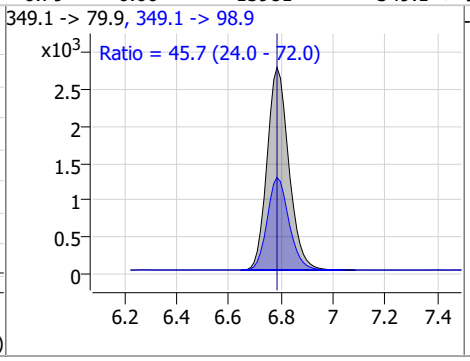


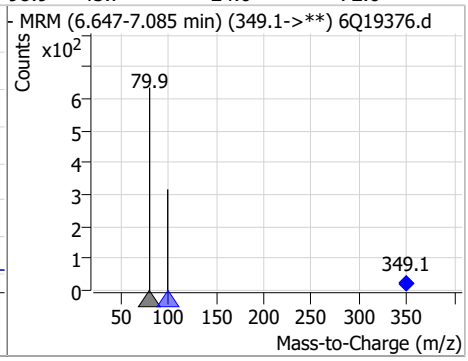




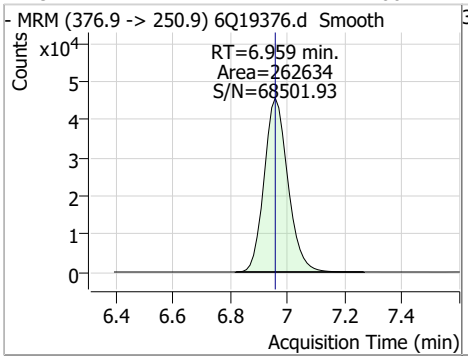
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.33	6.79	0.00	15981	349.1 -> 98.9	45.7	24.0	72.0

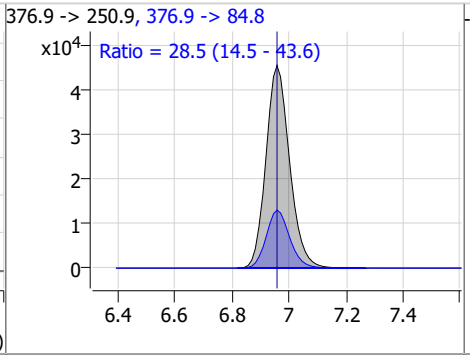


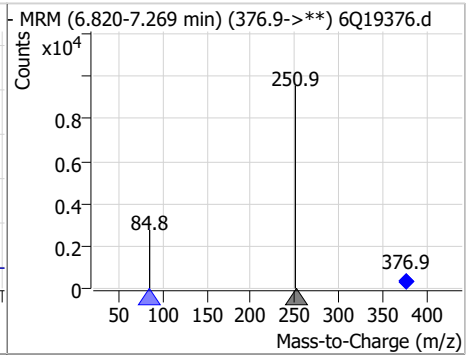




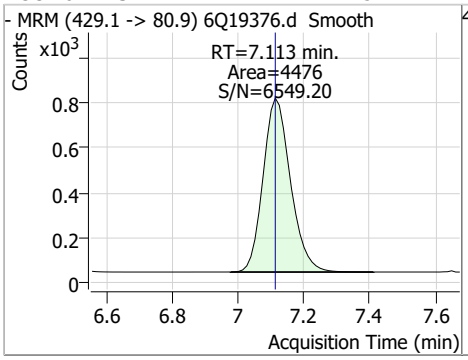
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.60	6.96	0.00	262634	376.9 -> 84.8	28.5	14.5	43.6

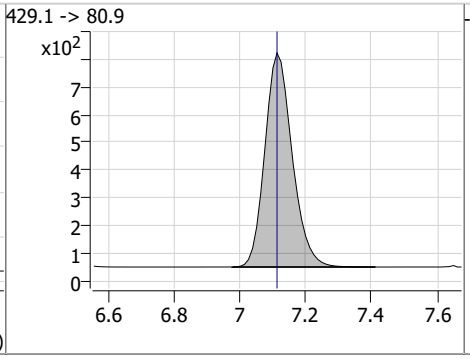


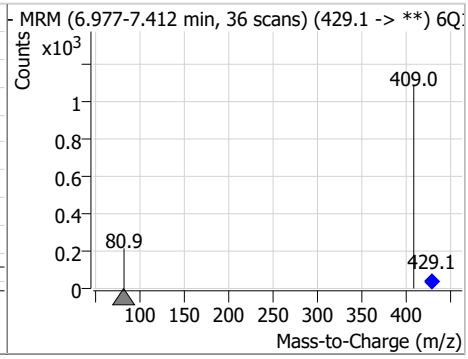




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.14	7.11	0.00	4476				

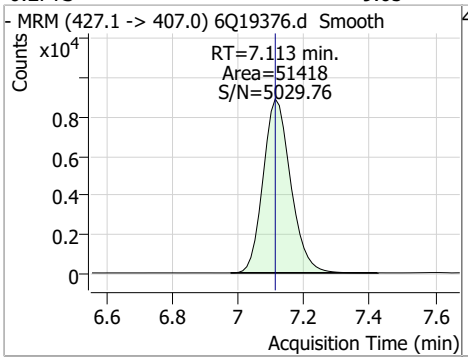


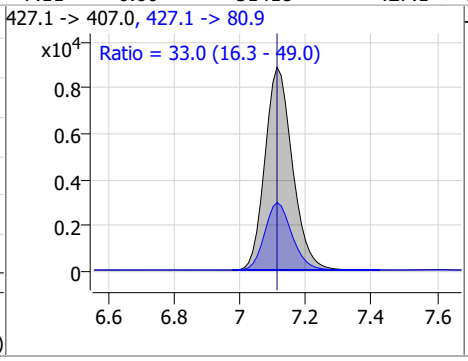


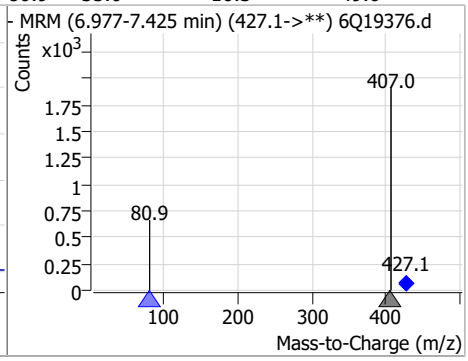


Perfluorinated Compounds by LC/MS/MS

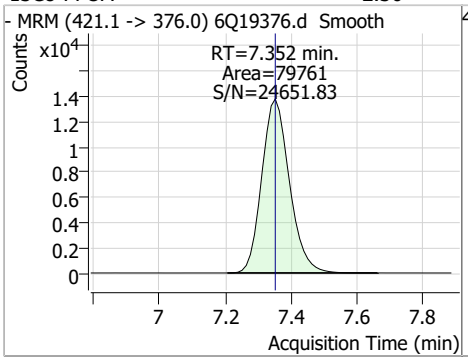
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.65	7.11	0.00	51418	427.1 -> 80.9	33.0	16.3	49.0

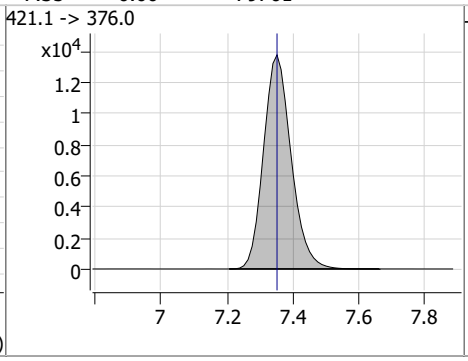


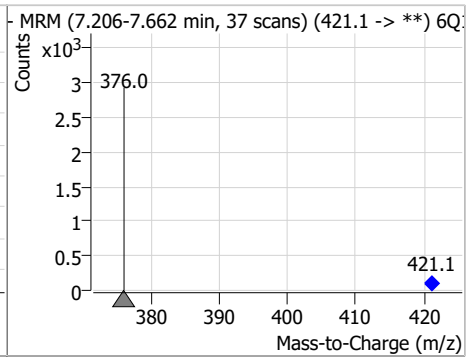




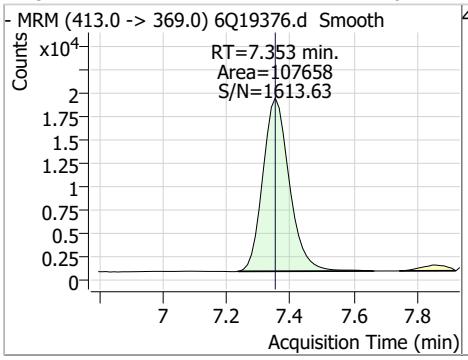
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.36	7.35	0.00	79761				

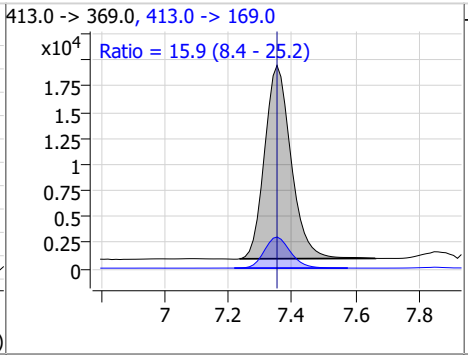


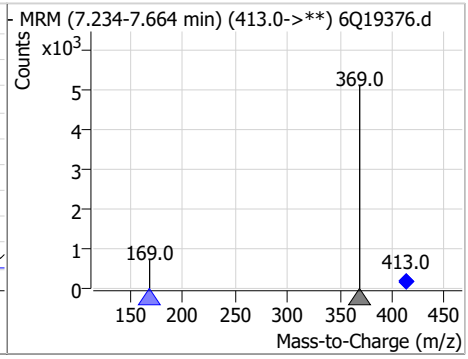




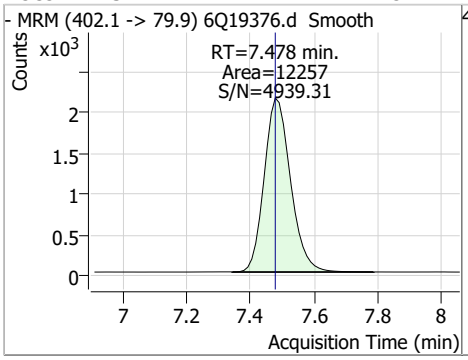
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.46	7.35	0.00	107658	413.0 -> 169.0	15.9	8.4	25.2

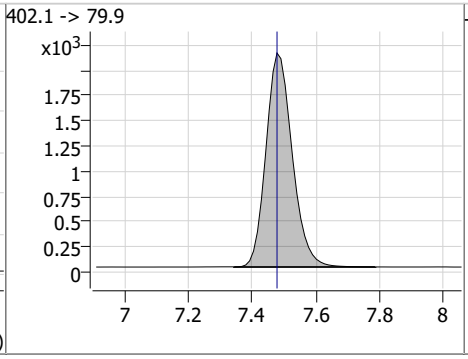


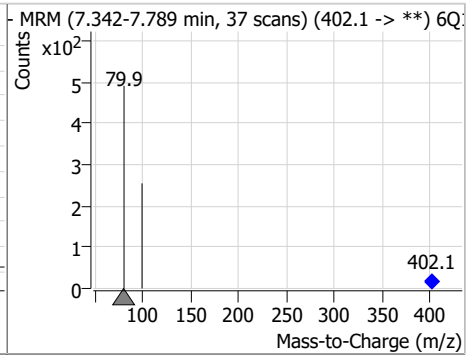




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.43	7.48	0.00	12257				

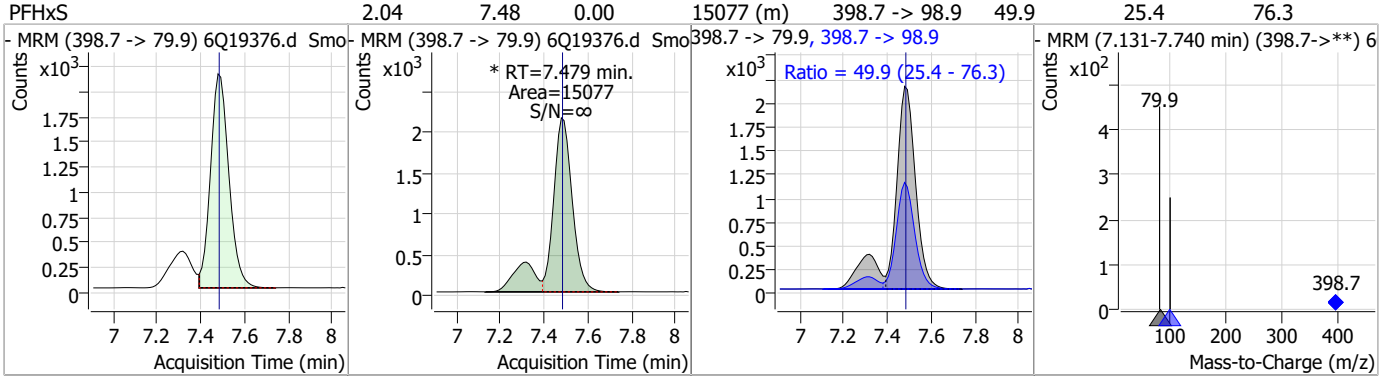




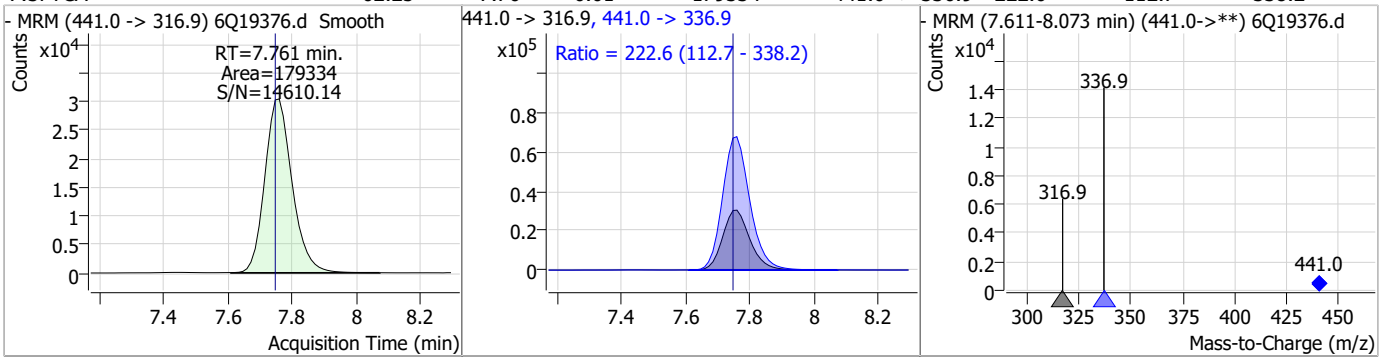


Perfluorinated Compounds by LC/MS/MS

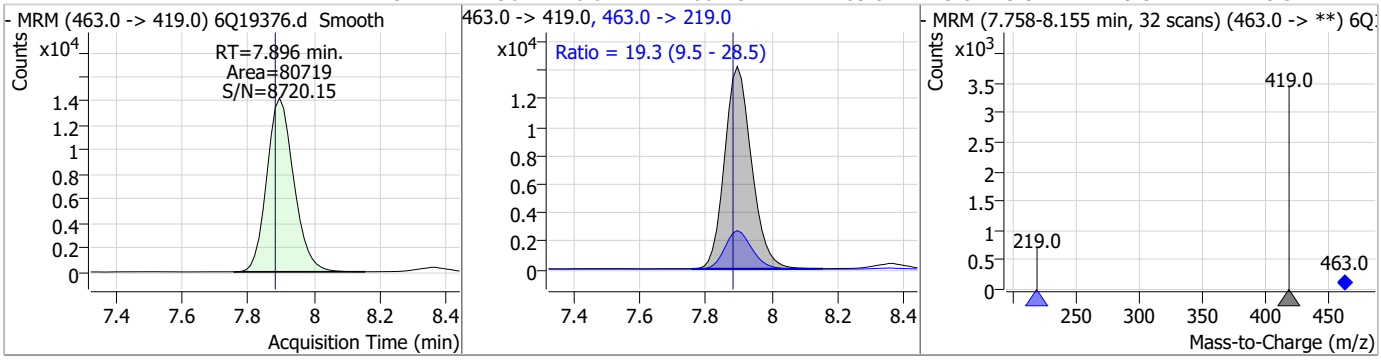
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.04	7.48	0.00	15077 (m)	398.7 -> 98.9	49.9	25.4	76.3



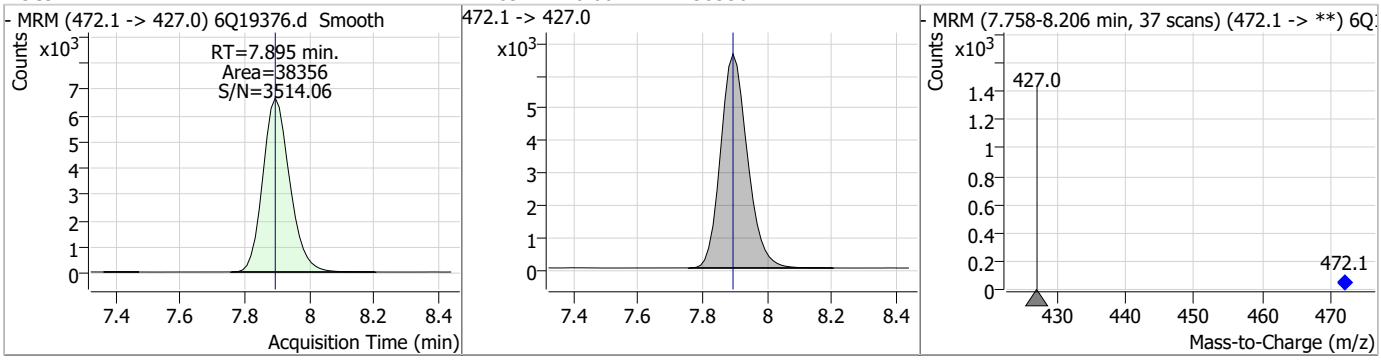
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	62.25	7.76	0.01	179334	441.0 -> 336.9	222.6	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.28	7.90	0.01	80719	463.0 -> 219.0	19.3	9.5	28.5

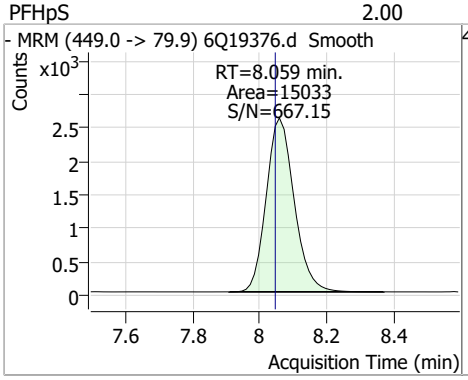


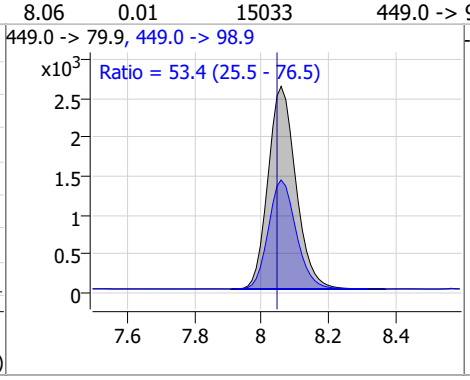
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.27	7.89	0.00	38356				

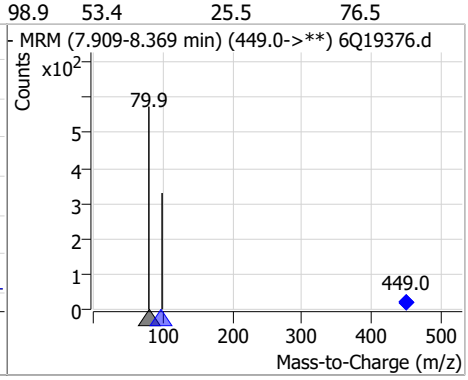


Perfluorinated Compounds by LC/MS/MS

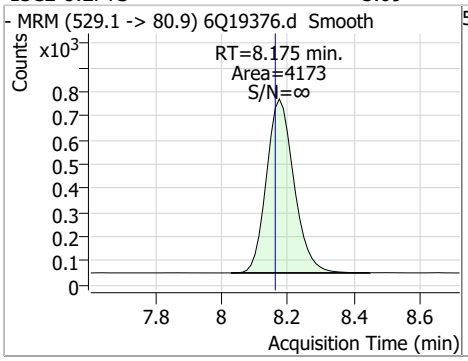
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.00	8.06	0.01	15033	449.0 -> 98.9	53.4	25.5	76.5

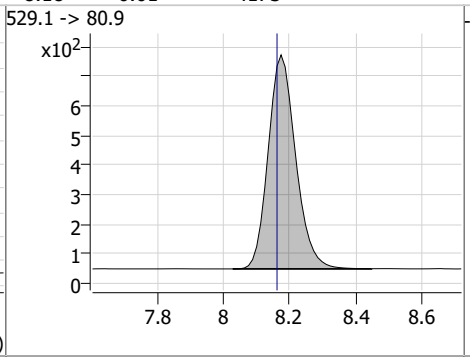


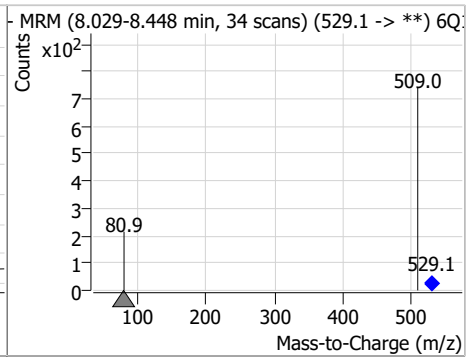




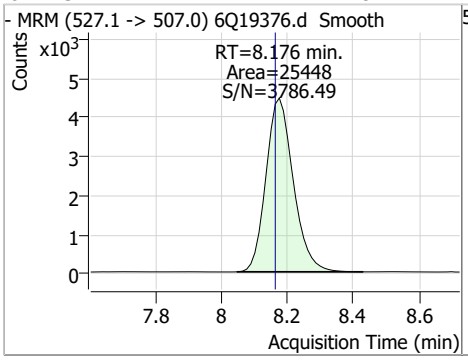
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.09	8.18	0.01	4173				

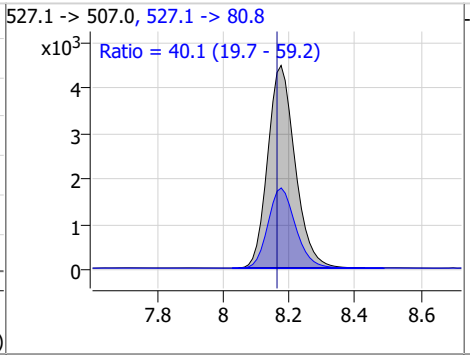


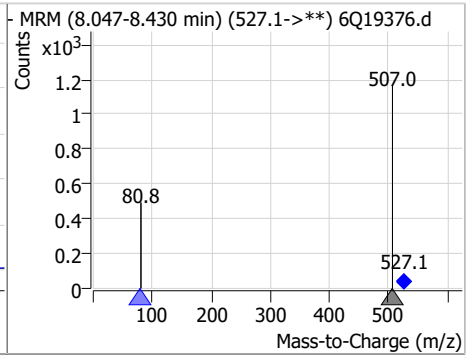




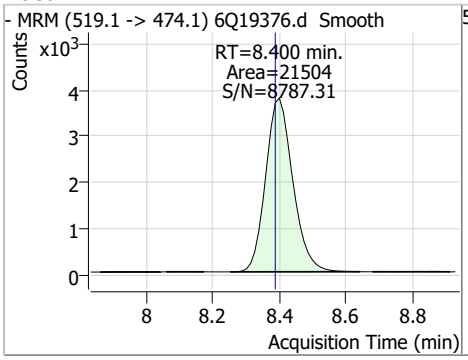
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.17	8.18	0.01	25448	527.1 -> 80.8	40.1	19.7	59.2

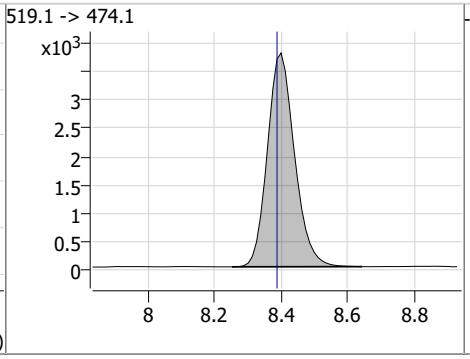


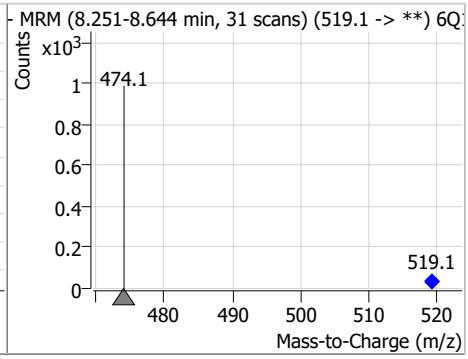




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.12	8.40	0.01	21504				

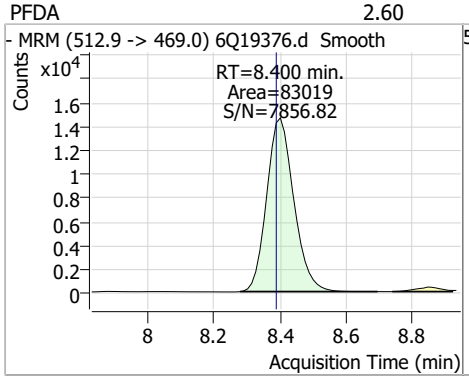


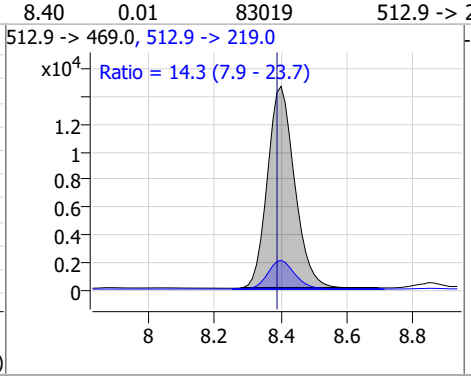


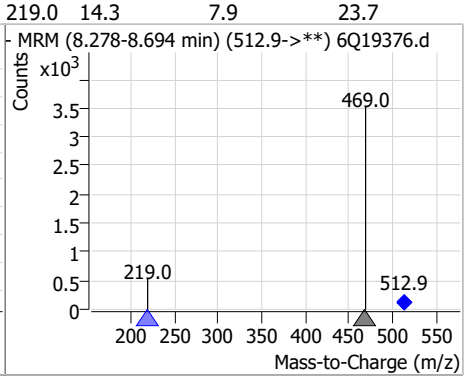


Perfluorinated Compounds by LC/MS/MS

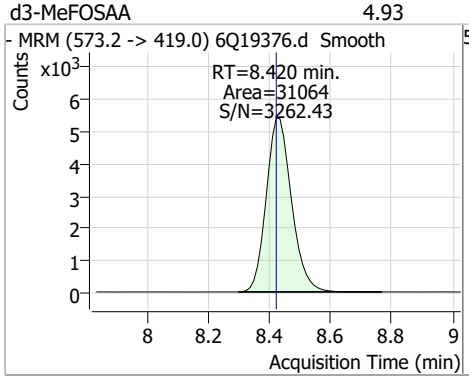
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.60	8.40	0.01	83019	512.9 -> 219.0	14.3	7.9	23.7

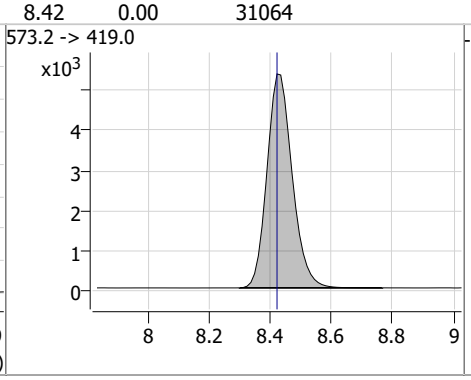


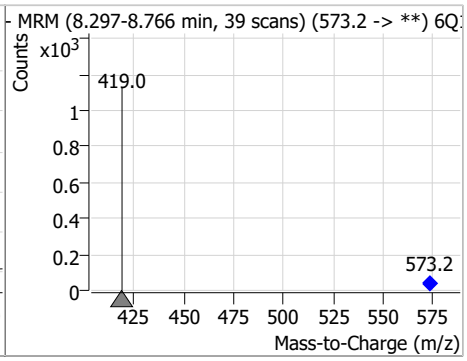




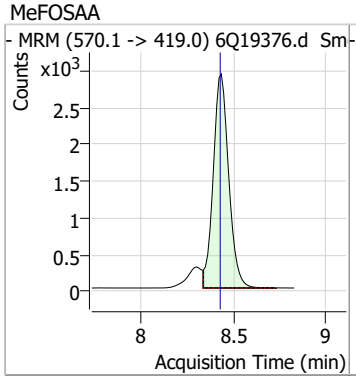
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.93	8.42	0.00	31064				

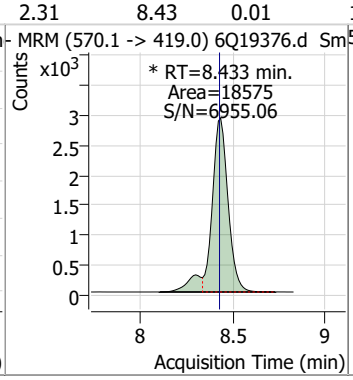


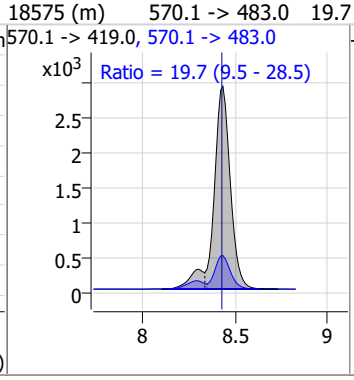


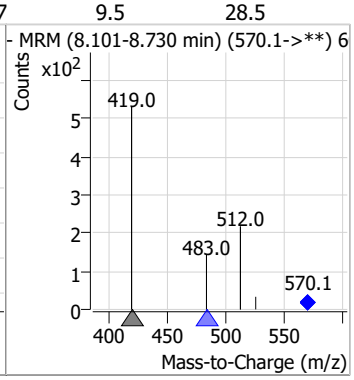


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.31	8.43	0.01	18575 (m)	570.1 -> 483.0	19.7	9.5	28.5

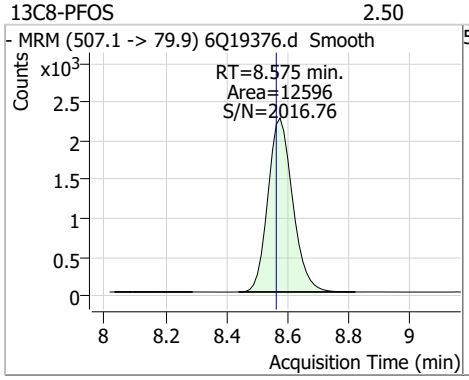


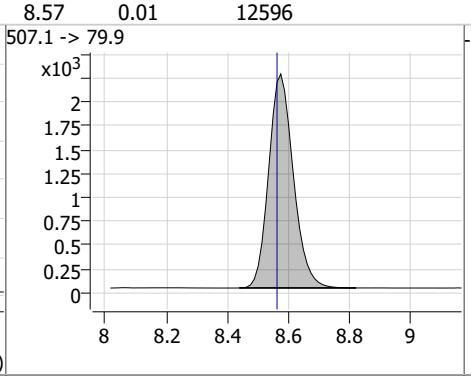


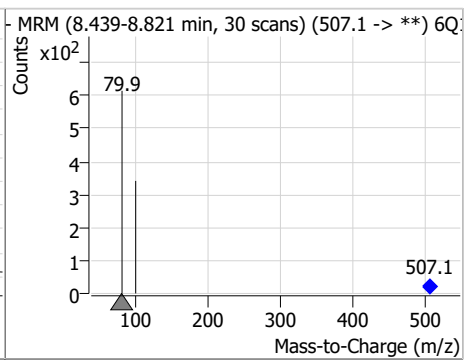




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.50	8.57	0.01	12596				

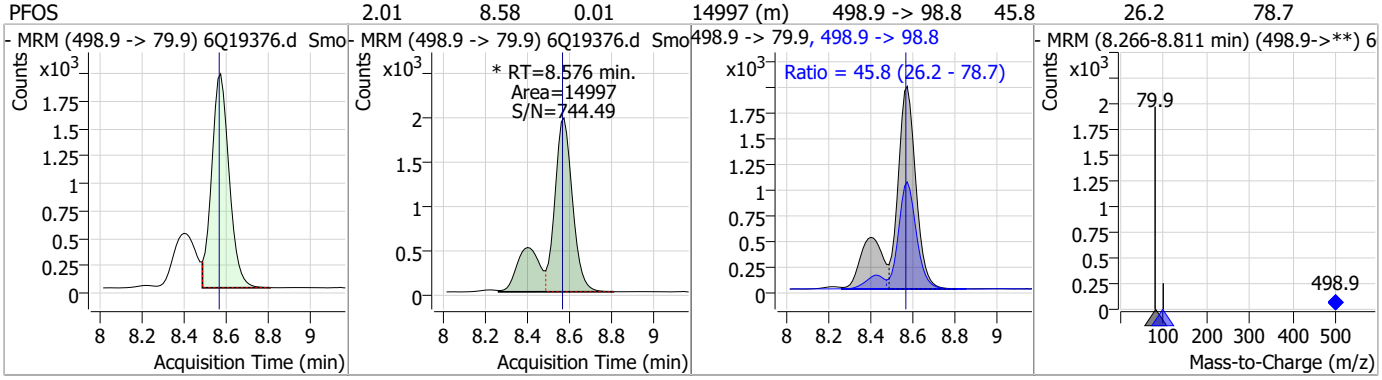




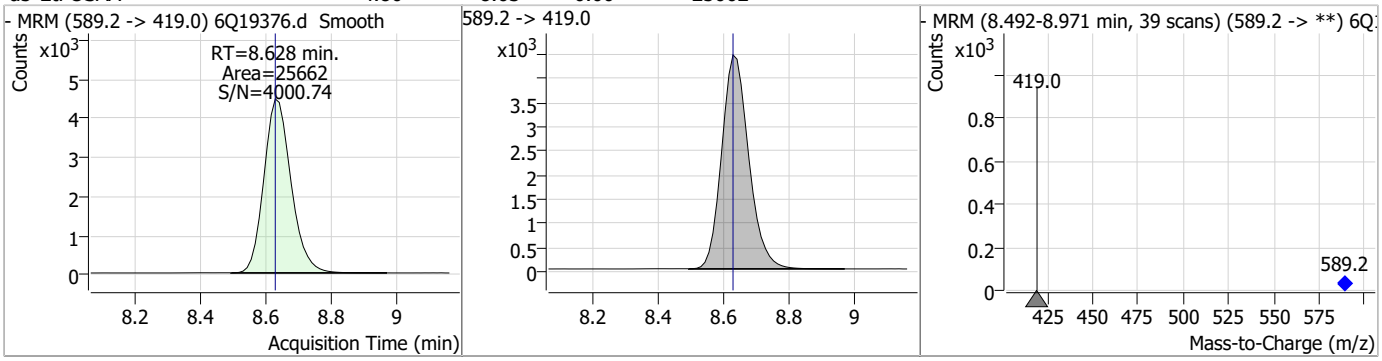


Perfluorinated Compounds by LC/MS/MS

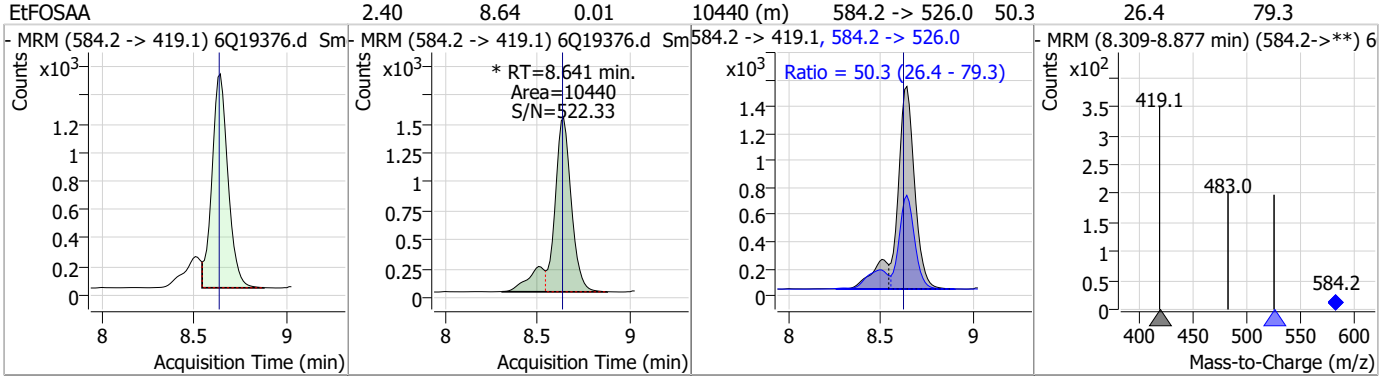
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.01	8.58	0.01	14997 (m)	498.9 -> 98.8	45.8	26.2	78.7



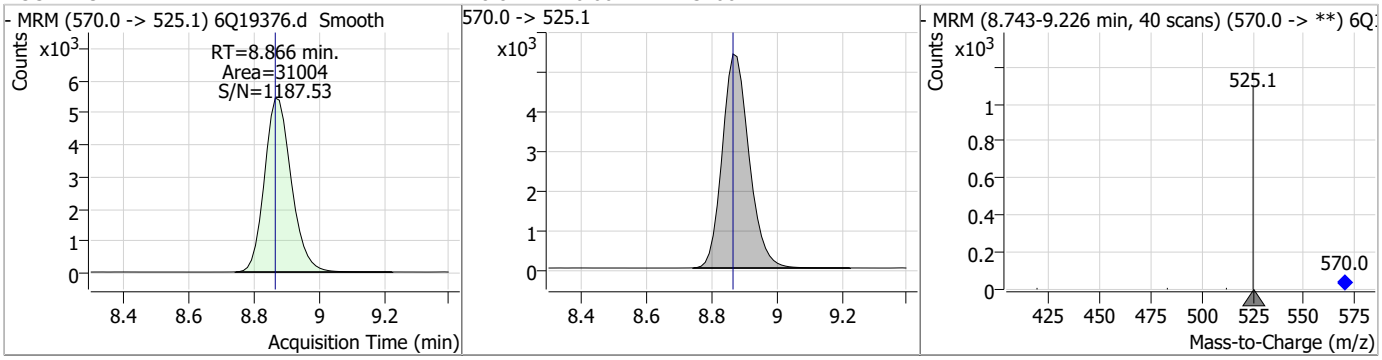
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.80	8.63	0.00	25662				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.40	8.64	0.01	10440 (m)	584.2 -> 526.0	50.3	26.4	79.3

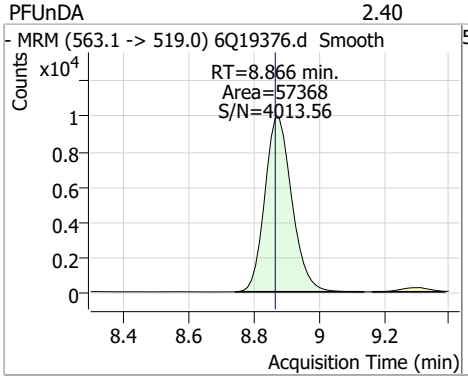


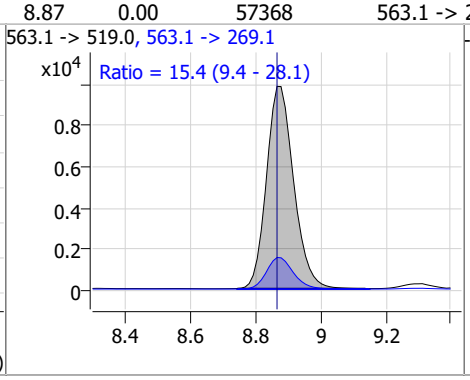
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.21	8.87	0.00	31004				

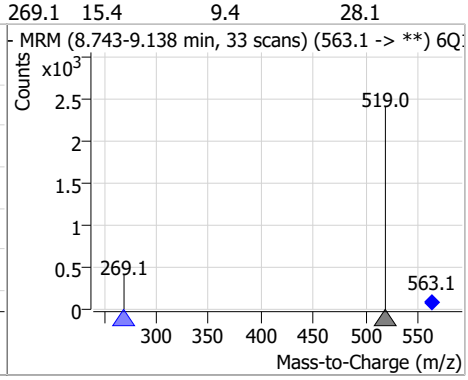


Perfluorinated Compounds by LC/MS/MS

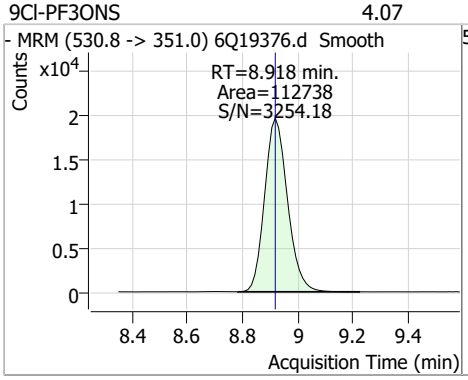
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.40	8.87	0.00	57368	563.1 -> 269.1	15.4	9.4	28.1

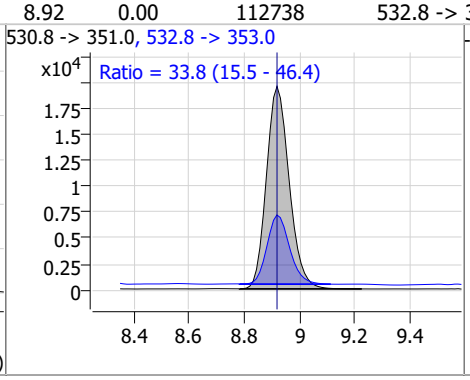


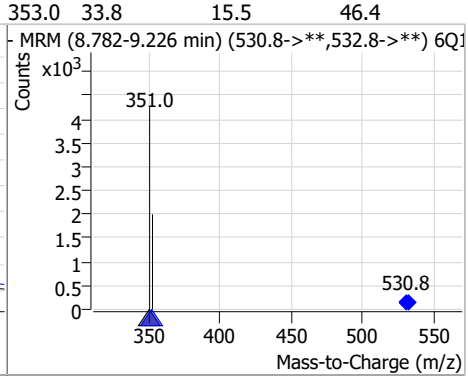




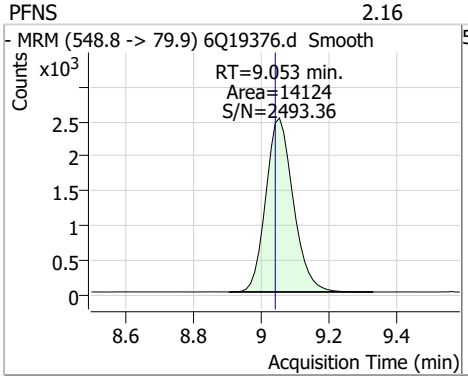
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.07	8.92	0.00	112738	532.8 -> 353.0	33.8	15.5	46.4

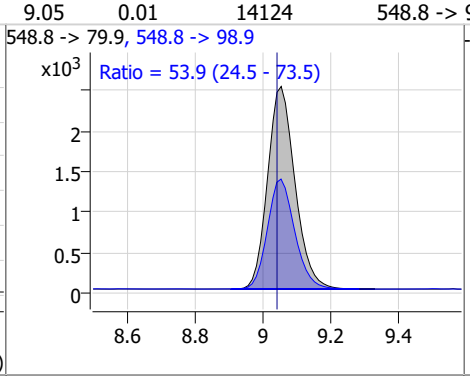


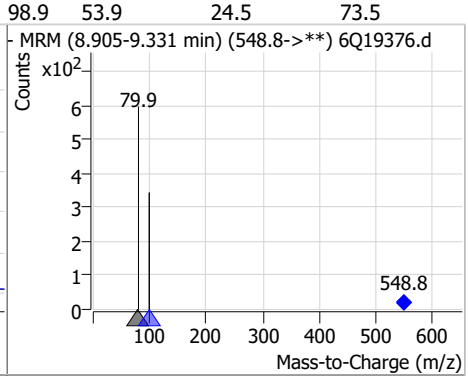




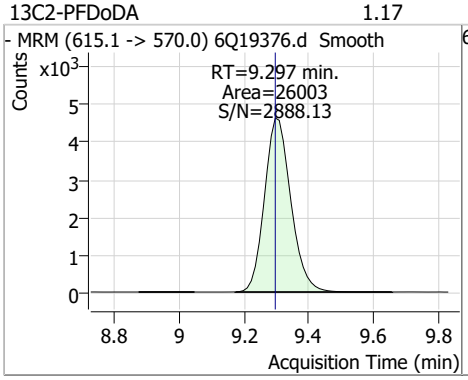
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.16	9.05	0.01	14124	548.8 -> 98.9	53.9	24.5	73.5

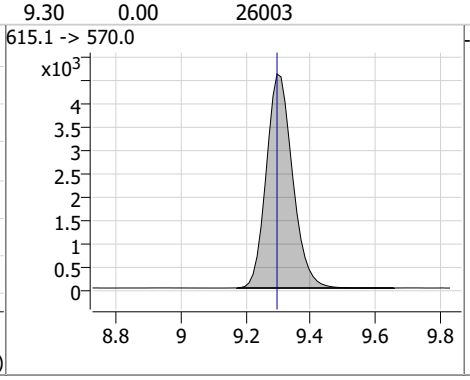


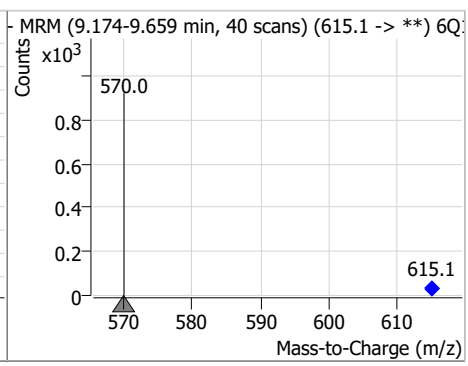




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.17	9.30	0.00	26003				

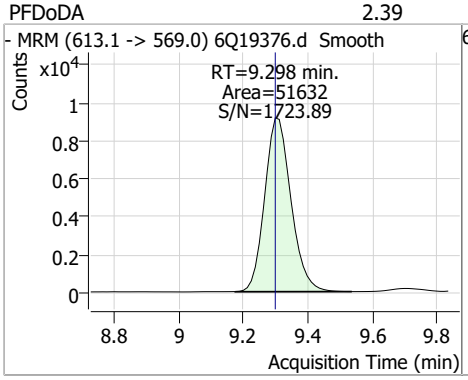


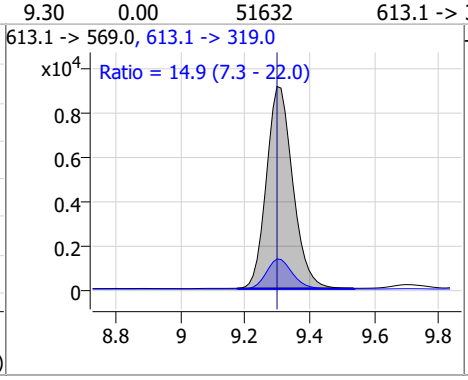


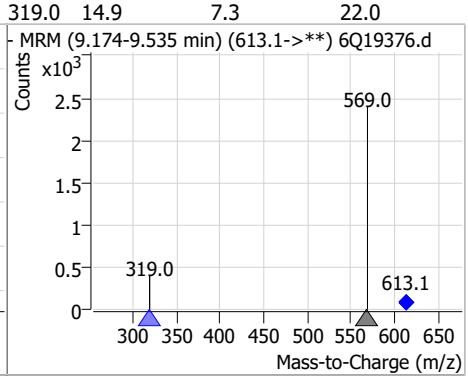


Perfluorinated Compounds by LC/MS/MS

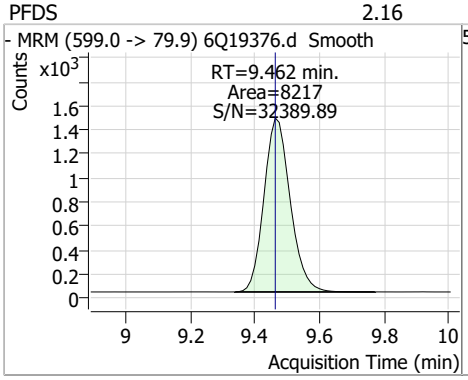
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.39	9.30	0.00	51632	613.1 -> 319.0	14.9	7.3	22.0

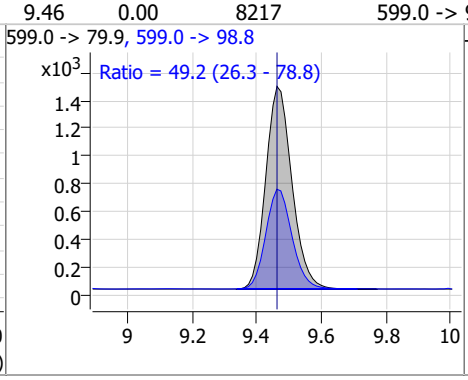


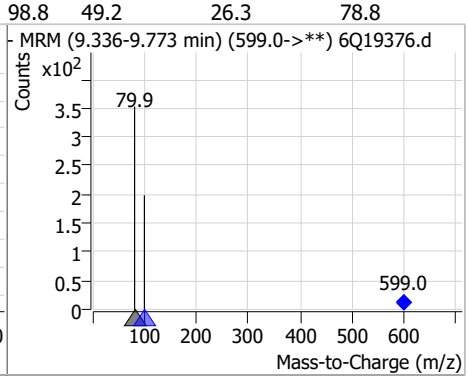




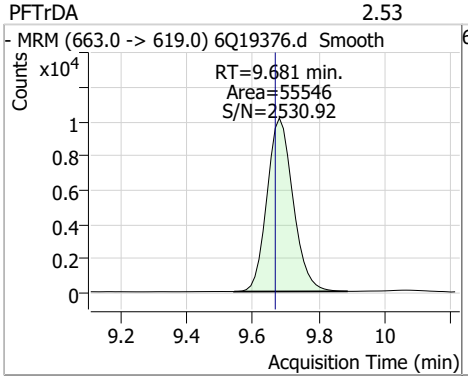
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.16	9.46	0.00	8217	599.0 -> 98.8	49.2	26.3	78.8

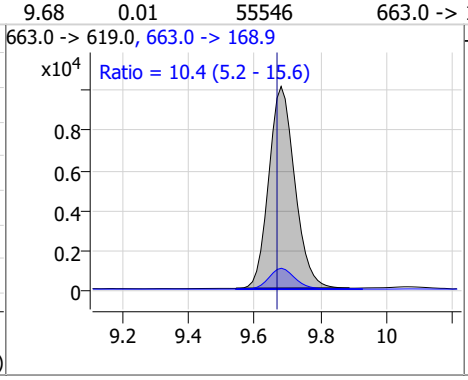


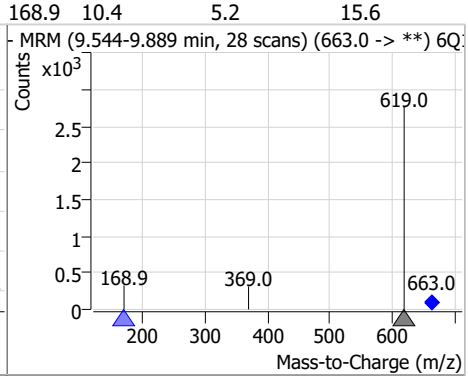




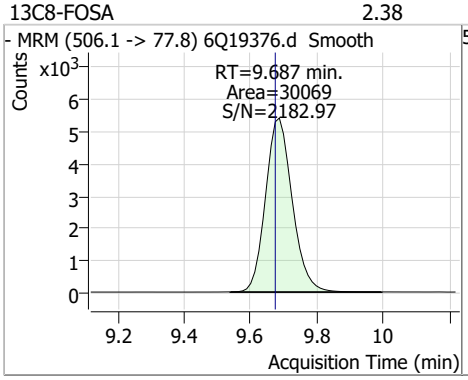
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.53	9.68	0.01	55546	663.0 -> 168.9	10.4	5.2	15.6

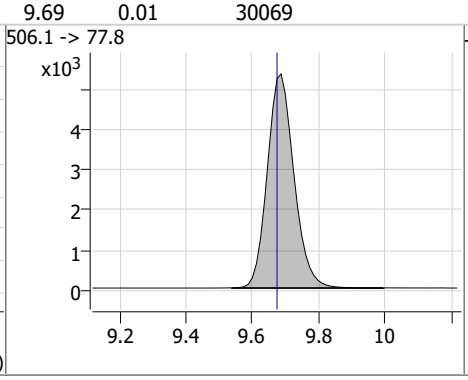


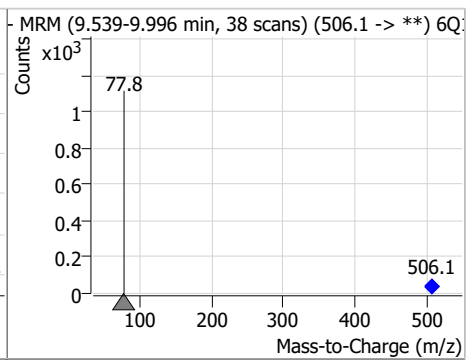




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.38	9.69	0.01	30069				

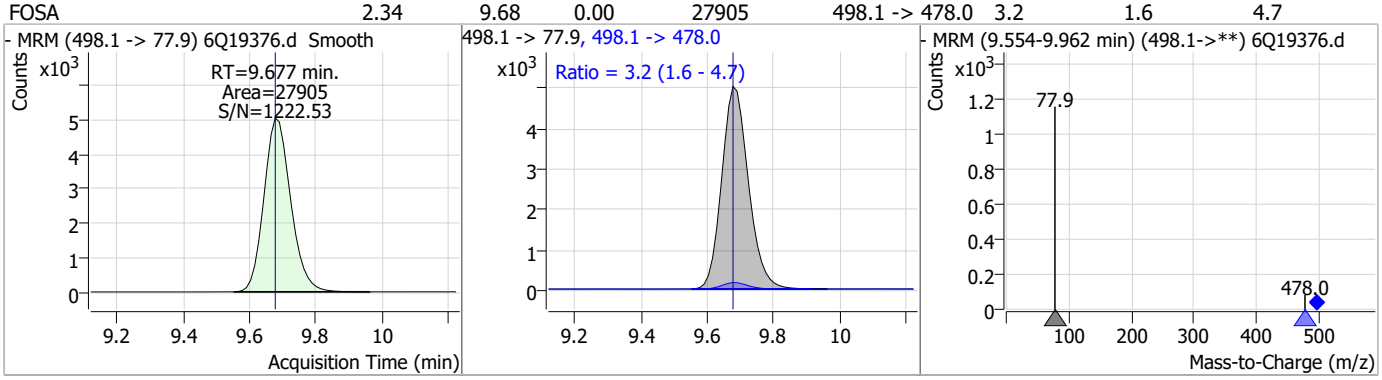




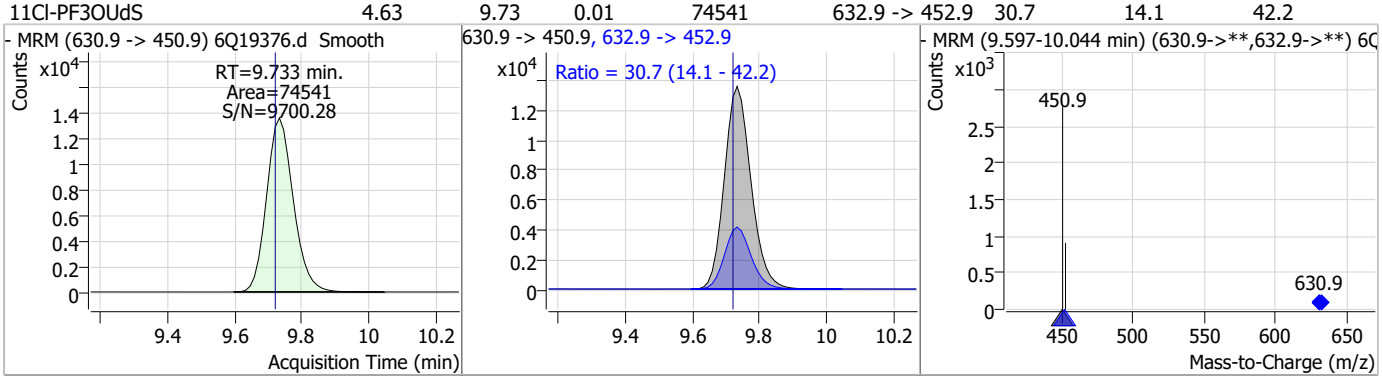


Perfluorinated Compounds by LC/MS/MS

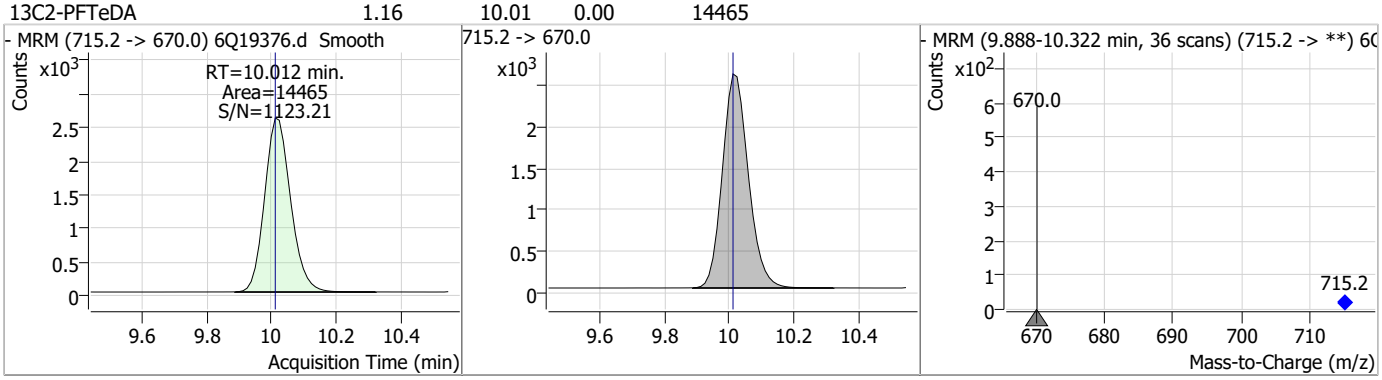
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.34	9.68	0.00	27905	498.1 -> 478.0	3.2	1.6	4.7



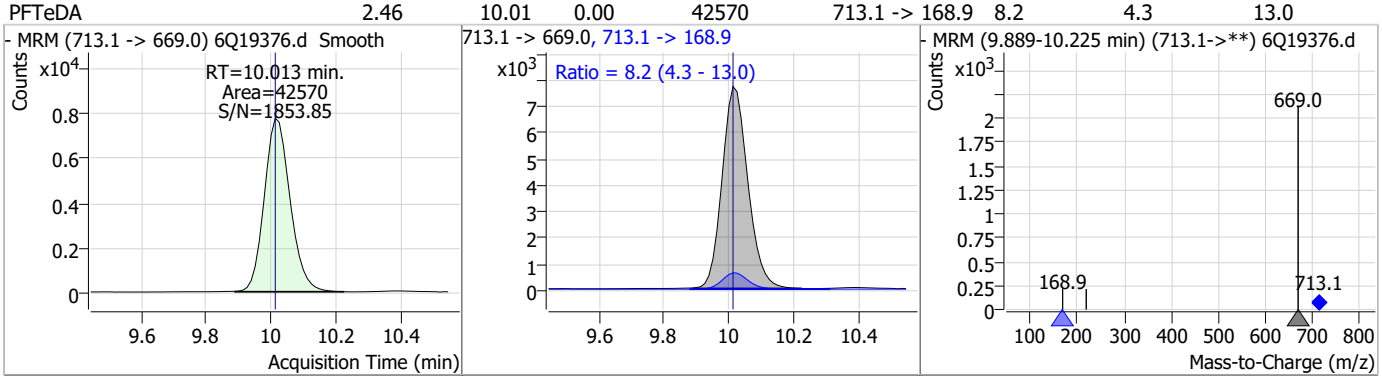
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.63	9.73	0.01	74541	632.9 -> 452.9	30.7	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.16	10.01	0.00	14465				

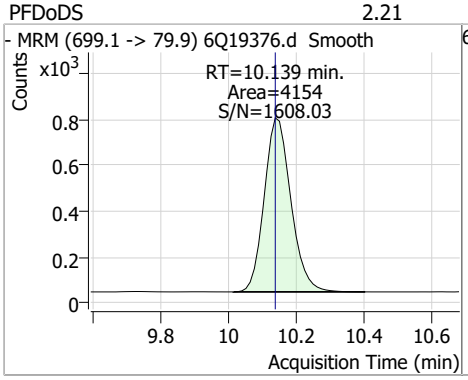


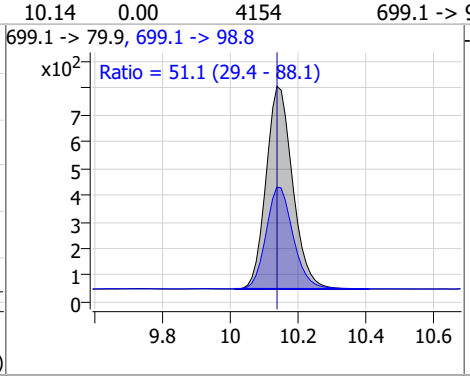
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.46	10.01	0.00	42570	713.1 -> 168.9	8.2	4.3	13.0

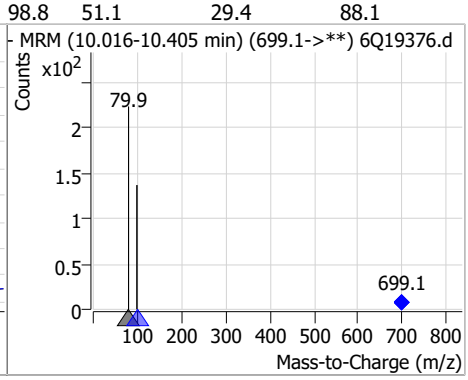


Perfluorinated Compounds by LC/MS/MS

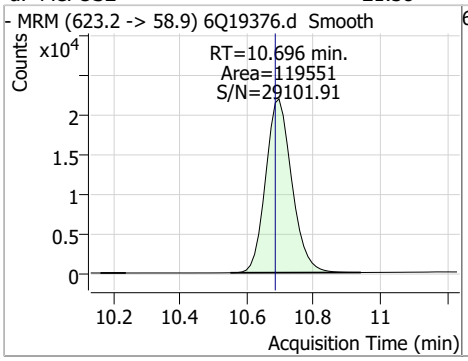
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.21	10.14	0.00	4154	699.1 -> 98.8	51.1	29.4	88.1

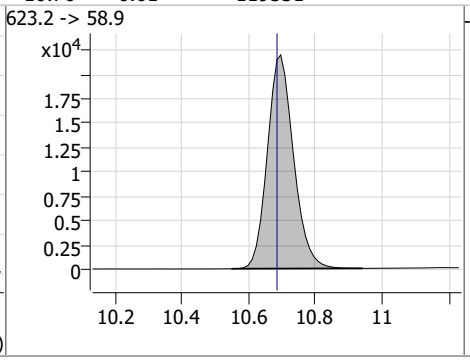


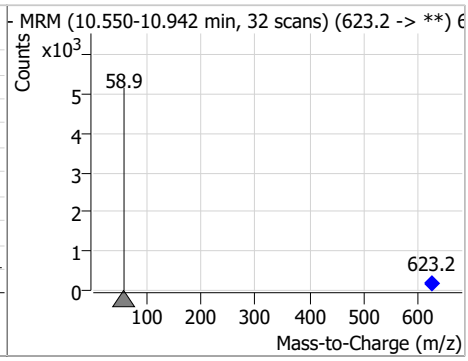




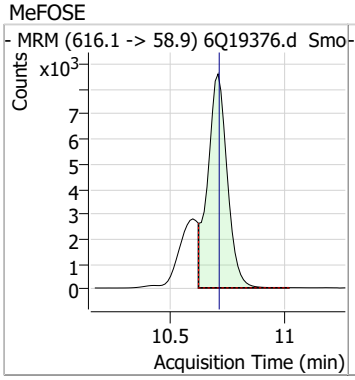
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	21.38	10.70	0.01	119551				

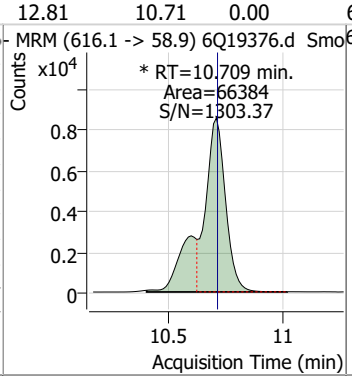


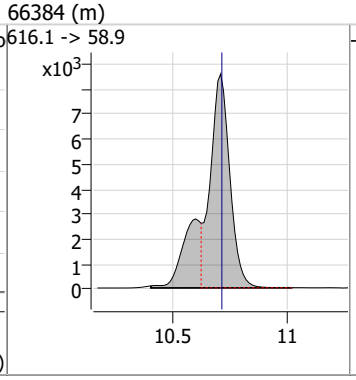


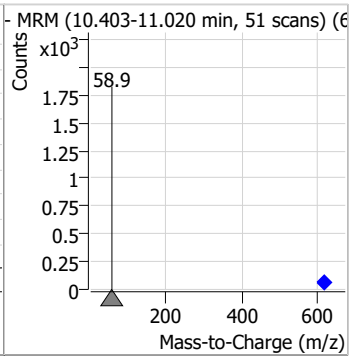


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.81	10.71	0.00	66384 (m)				

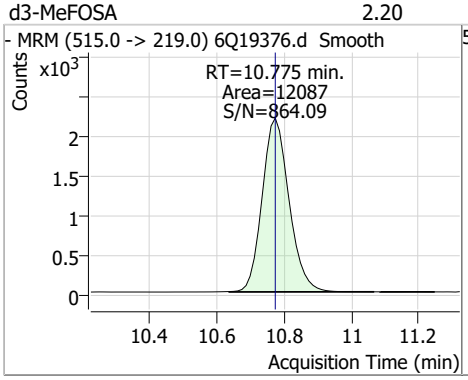


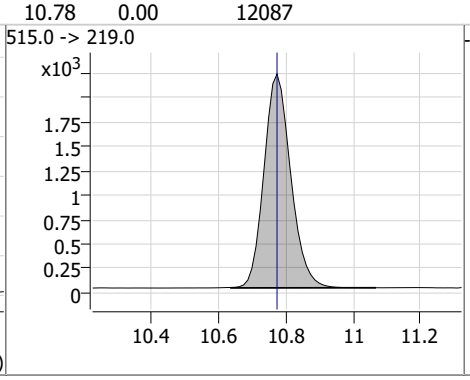


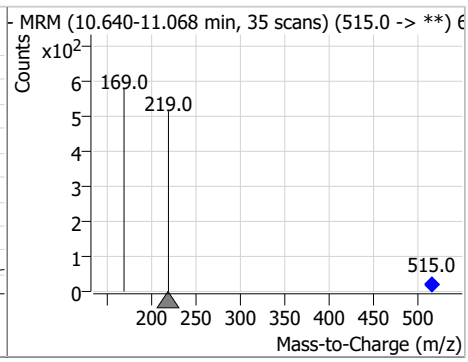




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.20	10.78	0.00	12087				

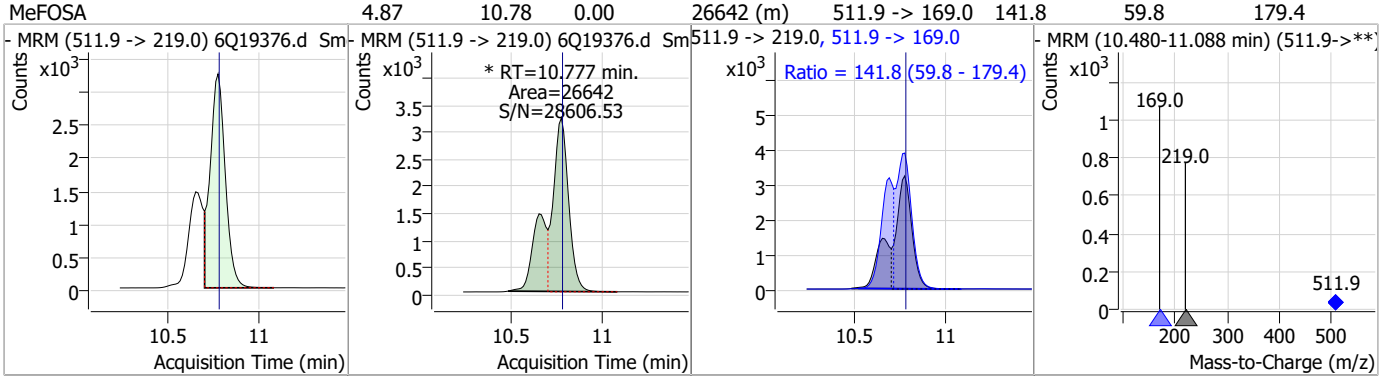




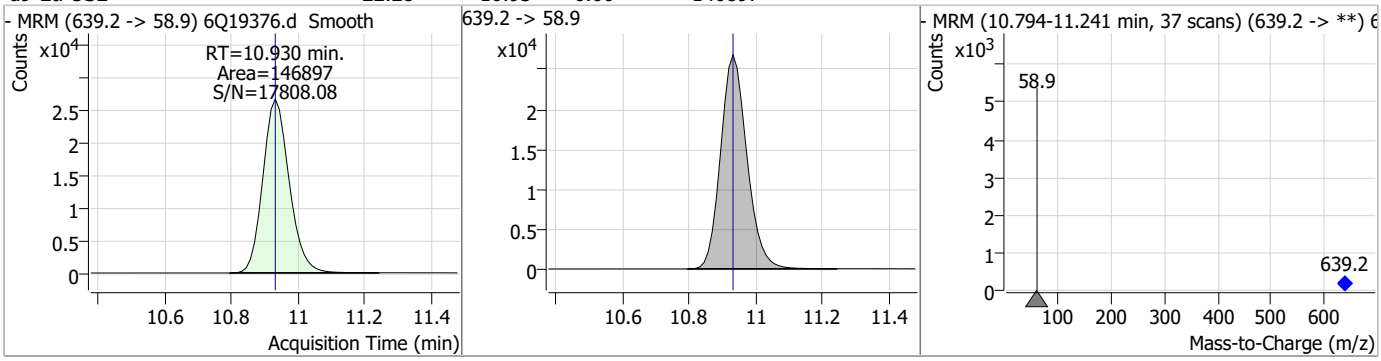


Perfluorinated Compounds by LC/MS/MS

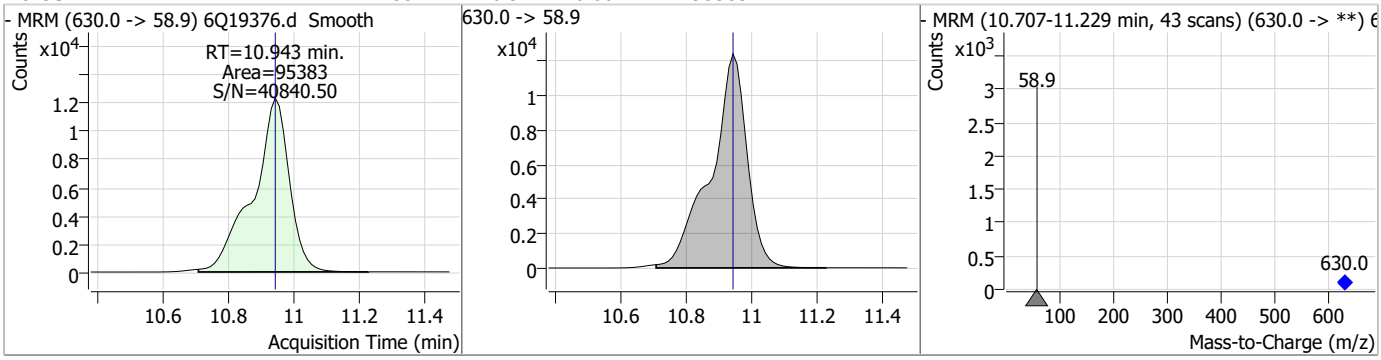
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.87	10.78	0.00	26642 (m)	511.9 -> 169.0	141.8	59.8	179.4



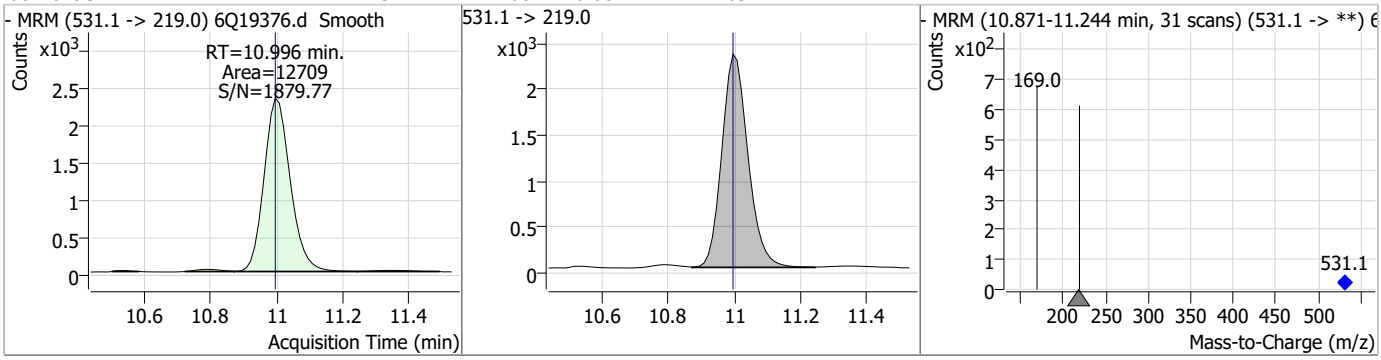
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.28	10.93	0.00	146897				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.55	10.94	0.00	95383				

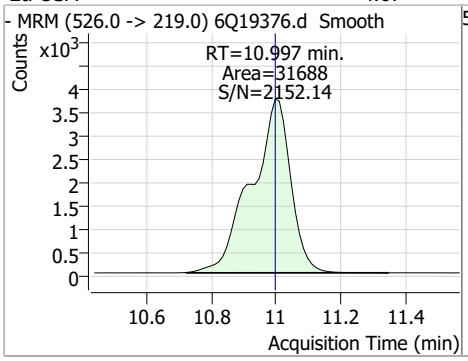


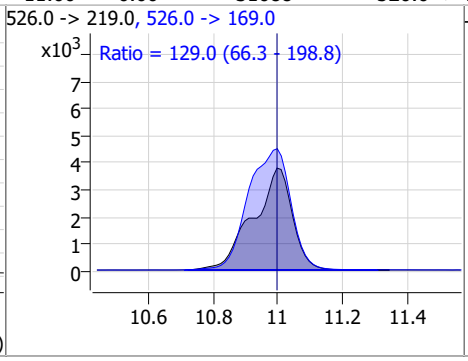
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.37	11.00	0.00	12709				

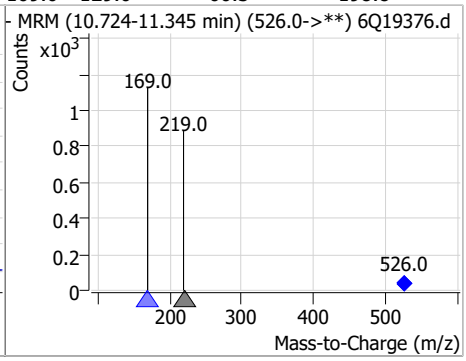


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.67	11.00	0.00	31688	526.0 -> 169.0	129.0	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q289-ECC288
Lab FileID: 6Q19376.D
Injection Time: 06/14/23 22:00
Method: EPA DRAFT 1633
Analyst approved: 06/15/23 10:05 Martha Valls
Supervisor approved: 06/15/23 10:54 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.43	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.58	Split peak
EtFOSAA	2991-50-6		8.64	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/20/23 16:44

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19579.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 4:49:18 AM
Sample Name : cc288-1.0LL
Vial : P1-A2
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	152114	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	49352	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	53541	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	48490	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	75228	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	35822	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	21007	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	27487	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	23387	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	12144	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	29146	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19699	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12651	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11664	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3306	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4746	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4136	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	27398	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35890	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	24245	5.00	µg/L	-0.012
M7-MeFOSE	10.696	623.2 -> 58.9	123941	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	139523	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12312	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12290	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15395	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	64790	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9847	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	84521	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	27385	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	47981	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	49015	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3306	5.60	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.9%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4746	5.32	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.4%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4136	4.93	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C2-PFDoDA	9.285	615.1 -> 570.0	23387	1.28	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C2-PFTeDA	10.000	715.2 -> 670.0	12144	1.19	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.1%		
13C3-PFBS	5.746	302.1 -> 79.9	19699	2.40	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.1%		
13C3-PFHxS	7.478	402.1 -> 79.9	12651	2.44	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.8%		
13C4-PFBA	3.085	216.8 -> 171.9	152114	10.01 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C4-PFHpA	6.707	367.1 -> 322.0	48490	2.56 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%		
13C5-PFHxA	5.792	318.0 -> 273.0	53541	2.65 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.9%		
13C5-PFPeA	4.560	268.3 -> 223.0	49352	5.32 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.5%		
13C6-PFDA	8.387	519.1 -> 474.1	21007	1.34 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.9%		
13C7-PFUnDA	8.853	570.0 -> 525.1	27487	1.31 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.4%		
13C8-FOSA	9.687	506.1 -> 77.8	29146	2.50 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C8-PFOA	7.339	421.1 -> 376.0	75228	2.38 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.2%		
13C8-PFOS	8.563	507.1 -> 79.9	11664	2.51 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C9-PFNA	7.882	472.1 -> 427.0	35822	1.23 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.1%		
d3-MeFOSAA	8.420	573.2 -> 419.0	27398	4.70 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.1%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	35890	10.60 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.0%		
d3-MeFOSA	10.775	515.0 -> 219.0	12290	2.43 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%		
d5-EtFOSAA	8.615	589.2 -> 419.0	24245	4.90 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.1%		
d7-MeFOSE	10.696	623.2 -> 58.9	123941	23.99 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.0%		
d9-EtFOSE	10.930	639.2 -> 58.9	139523	22.91 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.6%		
d5-EtFOSA	10.996	531.1 -> 219.0	12312	2.49 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	3718	0.65 µg/L		97
		327.1 -> 80.9	1462			
6:2FTS	7.113	427.1 -> 407.0	3855	0.68 µg/L		98
		427.1 -> 80.9	1304			
8:2FTS	8.164	527.1 -> 507.0	1680	0.61 µg/L		94
		527.1 -> 80.8	728			
EtFOSAA	8.629	584.2 -> 419.1	697	0.17 µg/L	m	94
		584.2 -> 526.0	400			
FOSA	9.690	498.1 -> 77.9	2150	0.19 µg/L		98
		498.1 -> 478.0	50			
MeFOSAA	8.421	570.1 -> 419.0	1298	0.18 µg/L	m	100
		570.1 -> 483.0	244			
PFBA	3.093	212.8 -> 168.9	4449	0.73 µg/L		100
PFBS	5.747	298.7 -> 79.9	1421	0.16 µg/L		96
		298.7 -> 98.8	510			
PFDA	8.388	512.9 -> 469.0	5805	0.19 µg/L		98
		512.9 -> 219.0	872			
PFDoDA	9.285	613.1 -> 569.0	3749	0.19 µg/L		94
		613.1 -> 319.0	646			
PFDS	9.450	599.0 -> 79.9	536	0.15 µg/L		92

Perfluorinated Compounds by LC/MS/MS

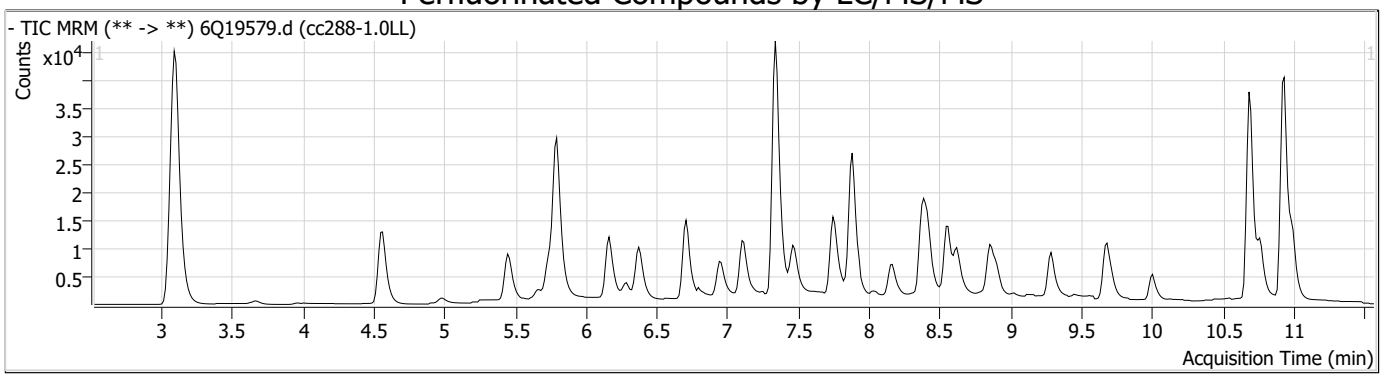
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	312				
PFHpA	6.708	363.1 -> 319.0	4508	0.17	µg/L		96
		363.1 -> 169.0	757				
PFHpS	8.046	449.0 -> 79.9	1162	0.17	µg/L		91
		449.0 -> 98.9	665				
PFHxA	5.795	313.0 -> 269.0	3912	0.18	µg/L		99
		313.0 -> 118.9	187				
PFHxS	7.479	398.7 -> 79.9	1152	0.15	µg/L	m	93
		398.7 -> 98.9	643				
PFNA	7.883	463.0 -> 419.0	5809	0.18	µg/L		98
		463.0 -> 219.0	1058				
PFNS	9.041	548.8 -> 79.9	1031	0.17	µg/L		92
		548.8 -> 98.9	451				
PFOA	7.341	413.0 -> 369.0	6934	0.17	µg/L		95
		413.0 -> 169.0	1307				
PFOS	8.564	498.9 -> 79.9	1111	0.16	µg/L	m	94
		498.9 -> 98.8	533				
PFPeA	4.563	263.0 -> 219.0	5220	0.36	µg/L		100
PFPeS	6.785	349.1 -> 79.9	1189	0.17	µg/L		94
		349.1 -> 98.9	526				
PFTeDA	10.000	713.1 -> 669.0	2893	0.20	µg/L		99
		713.1 -> 168.9	243				
PFTrDA	9.669	663.0 -> 619.0	3255	0.17	µg/L		94
		663.0 -> 168.9	413				
PFUnDA	8.854	563.1 -> 519.0	3952	0.19	µg/L		94
		563.1 -> 269.1	626				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	4961	0.30	µg/L		93
		632.9 -> 452.9	1586				
9Cl-PF3ONS	8.906	530.8 -> 351.0	9192	0.33	µg/L		92
		532.8 -> 353.0	2435				
ADONA	6.959	376.9 -> 250.9	18412	0.32	µg/L		94
		376.9 -> 84.8	4758				
HFPO-DA	6.169	284.9 -> 168.9	1423	0.38	µg/L		94
		284.9 -> 184.9	197				
3:3FTCA	3.958	241.0 -> 177.0	1016	1.03	µg/L		97
		241.0 -> 117.0	151				
5:3FTCA	6.374	341.0 -> 237.1	22906	5.33	µg/L		98
		341.0 -> 217.0	16720				
7:3FTCA	7.761	441.0 -> 316.9	16494	5.68	µg/L		97
		441.0 -> 336.9	37906				
EtFOSA	10.997	526.0 -> 219.0	2163	0.33	µg/L	m	89
		526.0 -> 169.0	3153				
EtFOSE	10.943	630.0 -> 58.9	6737	0.93	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	1927	0.35	µg/L	m	83
		511.9 -> 169.0	2679				
MeFOSE	10.709	616.1 -> 58.9	4538	0.84	µg/L	m	100
PFDoDS	10.127	699.1 -> 79.9	296	0.17	µg/L		84
		699.1 -> 98.8	139				
NFDHA	5.673	295.0 -> 201.0	991	0.36	µg/L		96
		295.0 -> 84.9	285				
PFMBA	4.988	279.0 -> 85.1	3614	0.35	µg/L		100
PFMPA	3.667	229.0 -> 84.9	2825	0.35	µg/L		100
PFEESA	6.288	314.8 -> 134.9	8045	0.28	µg/L		100
		314.8 -> 82.9	278				

 # = Qualifier out of range, m = manually integrated, + = Area summed

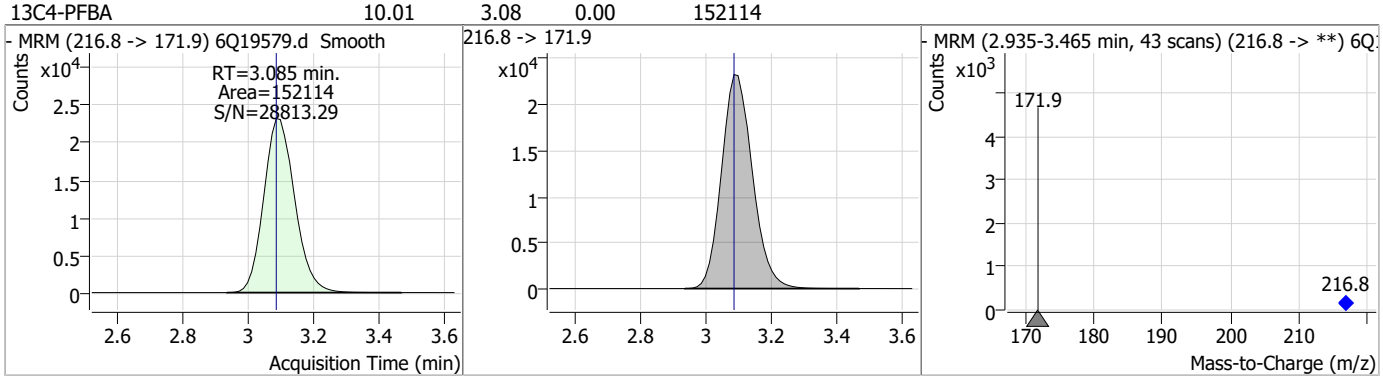
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

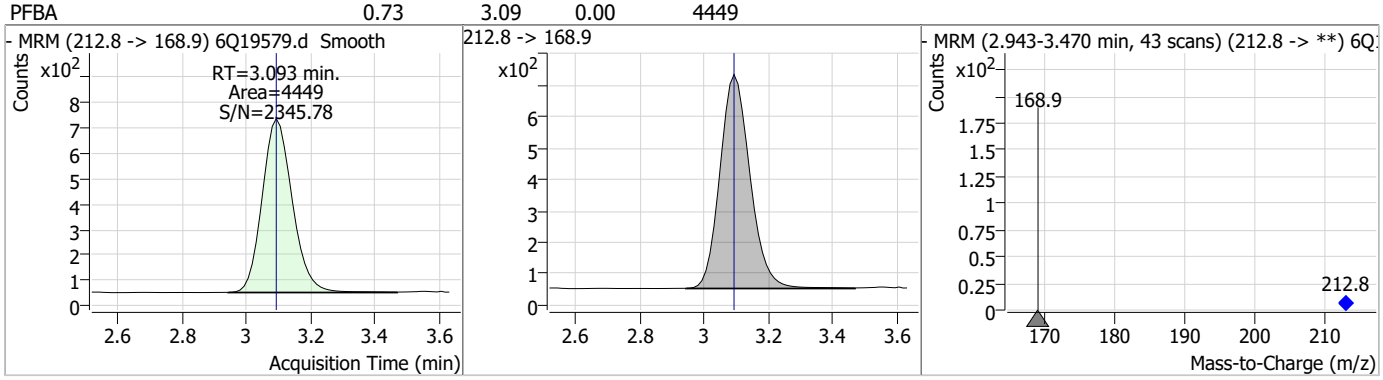
Perfluorinated Compounds by LC/MS/MS



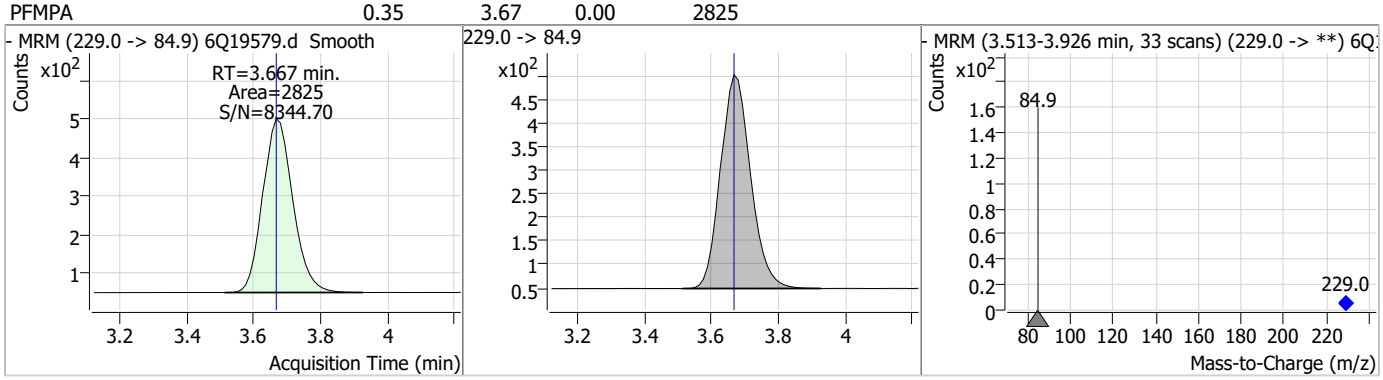
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.01	3.08	0.00	152114				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.73	3.09	0.00	4449				

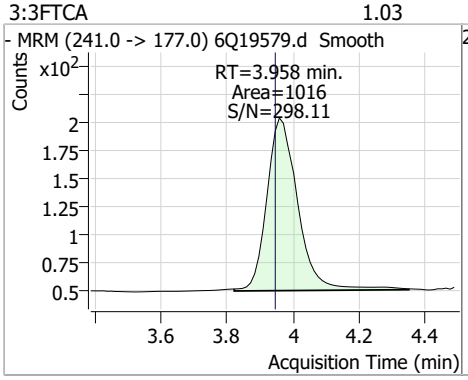


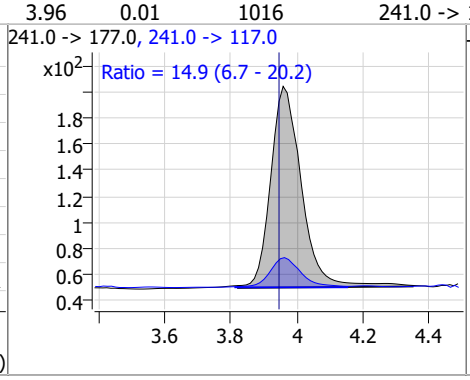
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	0.35	3.67	0.00	2825				

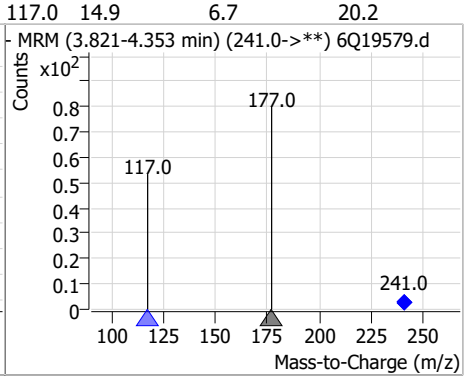


Perfluorinated Compounds by LC/MS/MS

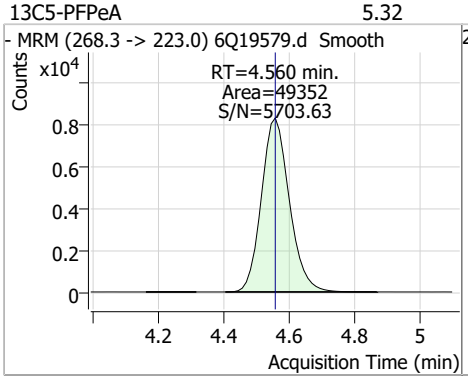
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.03	3.96	0.01	1016	241.0 -> 117.0	14.9	6.7	20.2

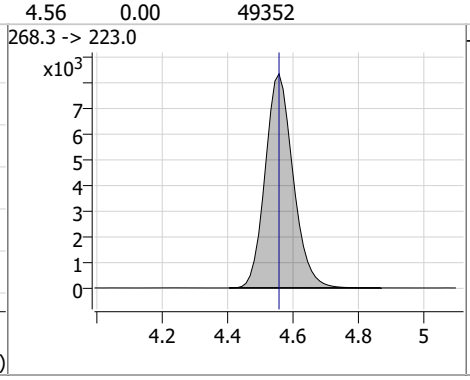


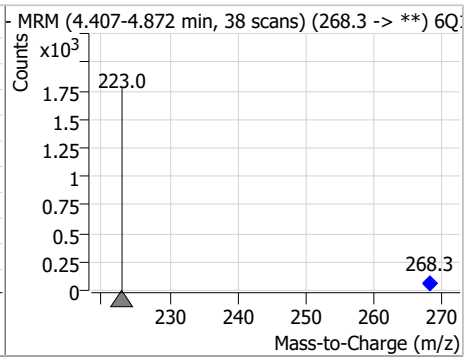




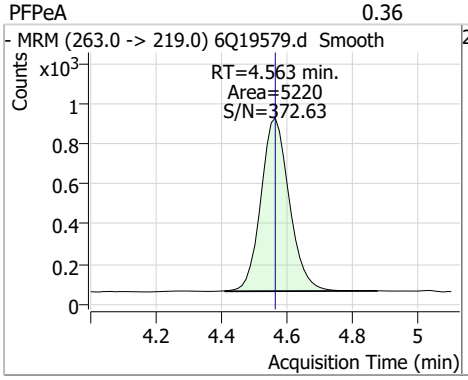
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.32	4.56	0.00	49352				

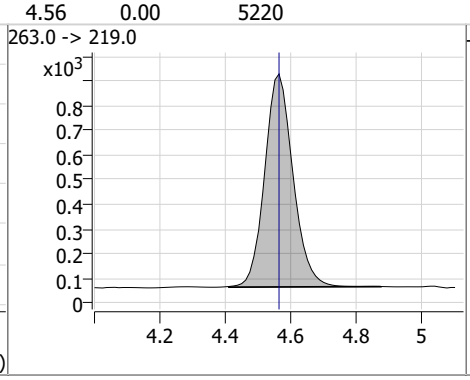


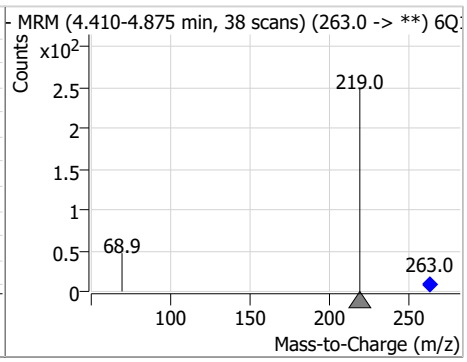




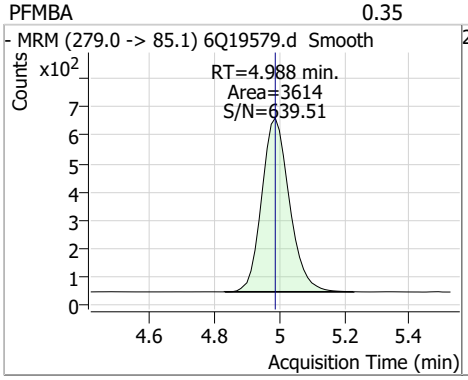
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.36	4.56	0.00	5220				

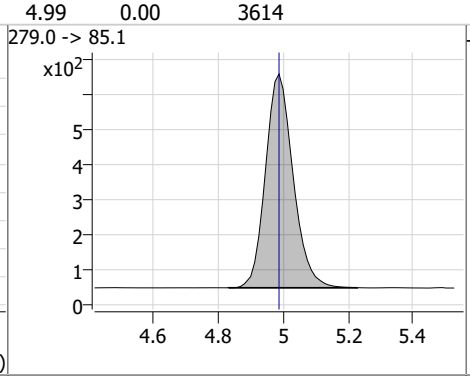


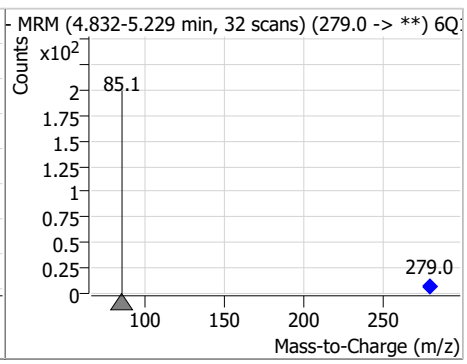




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.35	4.99	0.00	3614				

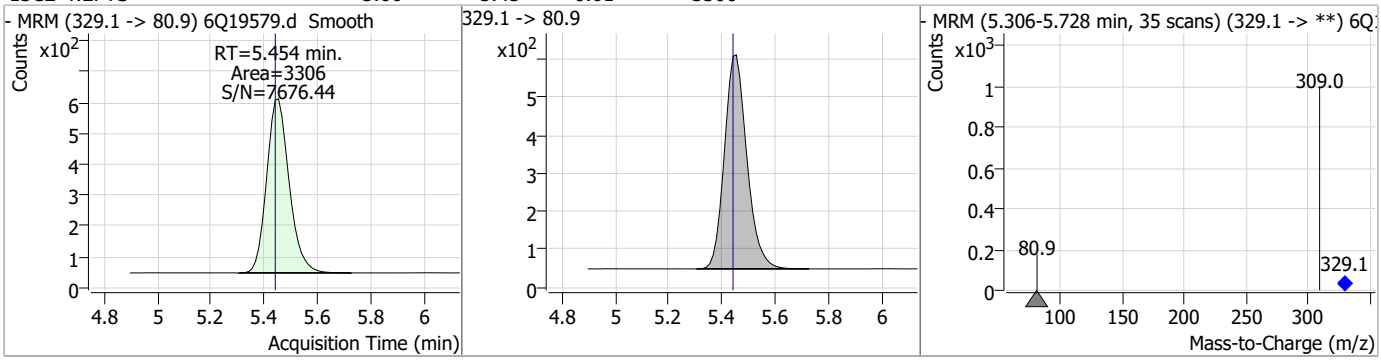




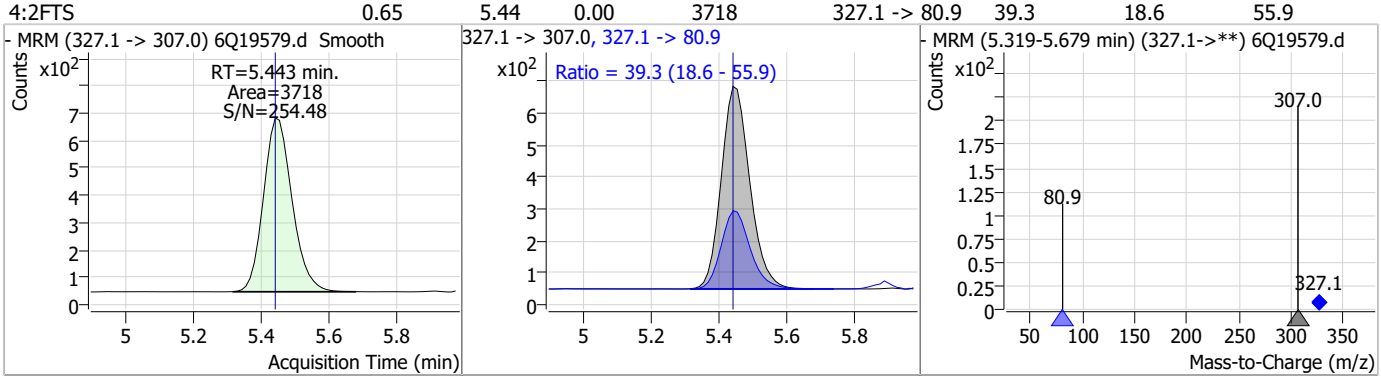


Perfluorinated Compounds by LC/MS/MS

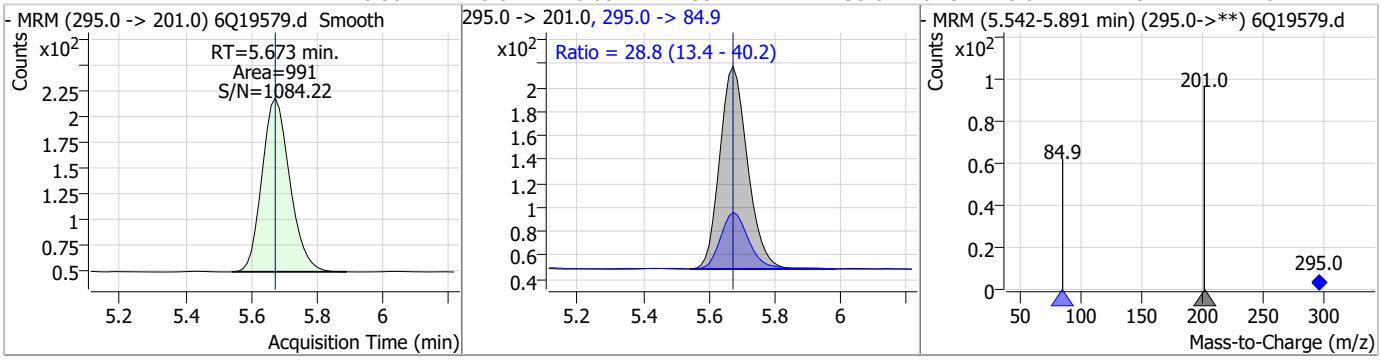
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.60	5.45	0.01	3306				



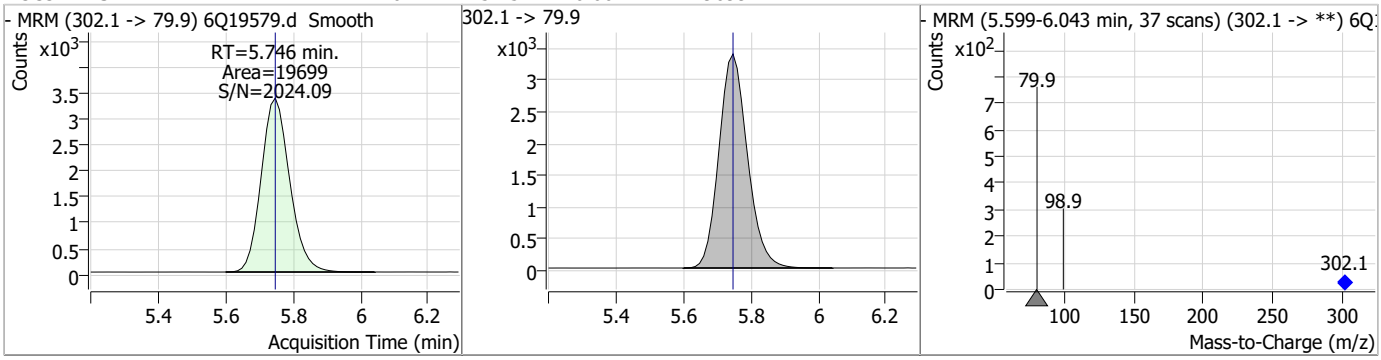
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	0.65	5.44	0.00	3718	327.1 -> 80.9	39.3	18.6	55.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	0.36	5.67	0.00	991	295.0 -> 84.9	28.8	13.4	40.2

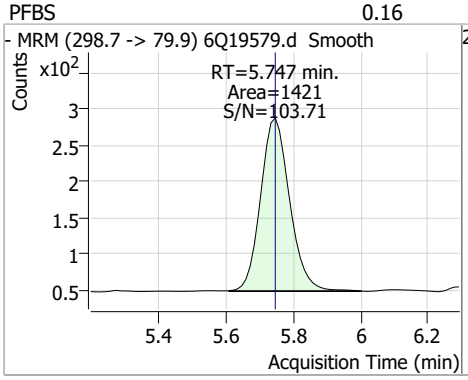


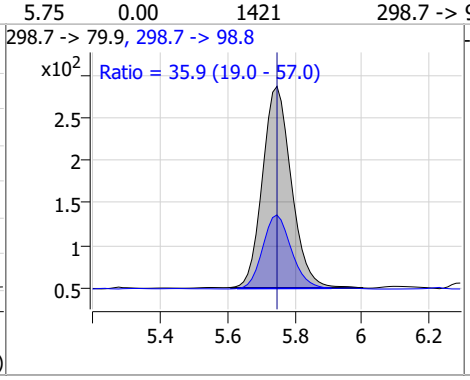
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.40	5.75	0.00	19699				

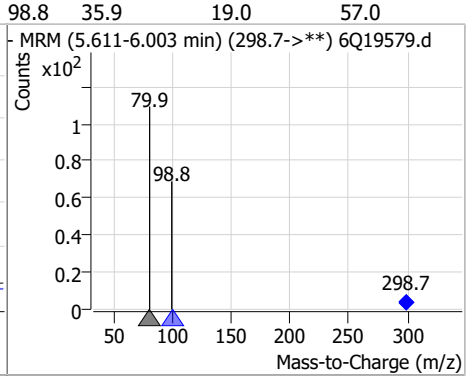


Perfluorinated Compounds by LC/MS/MS

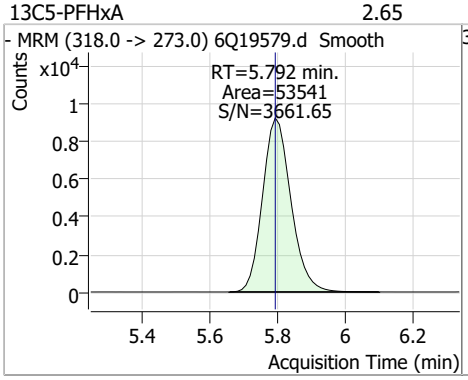
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.16	5.75	0.00	1421	298.7 -> 98.8	35.9	19.0	57.0

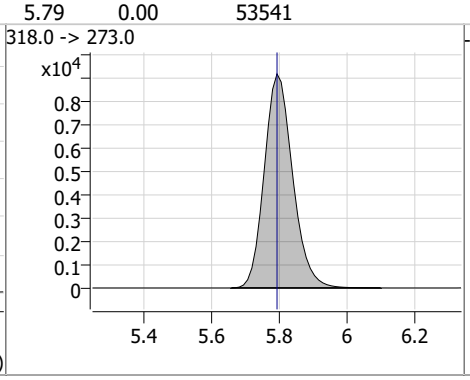


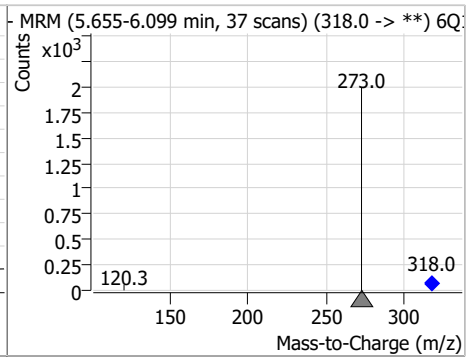




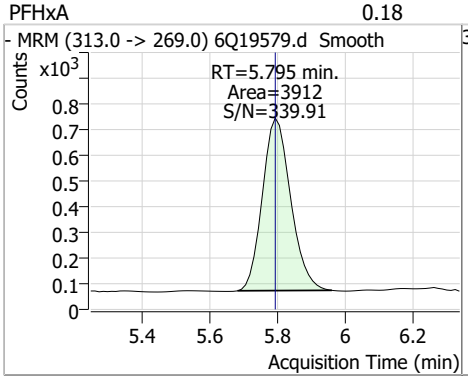
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.65	5.79	0.00	53541				

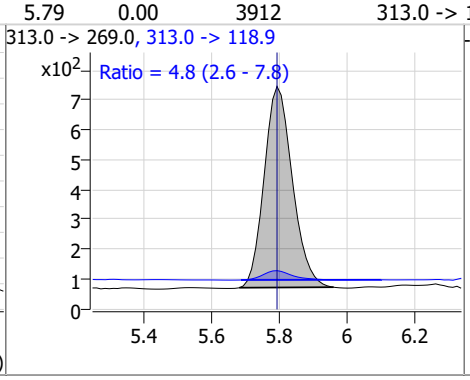


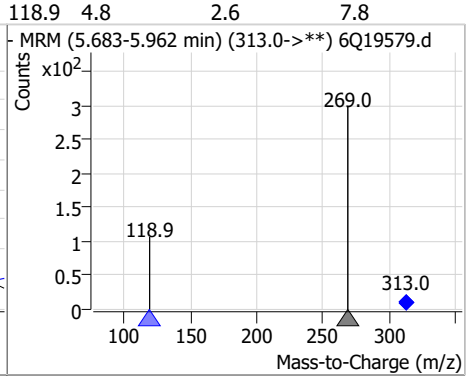




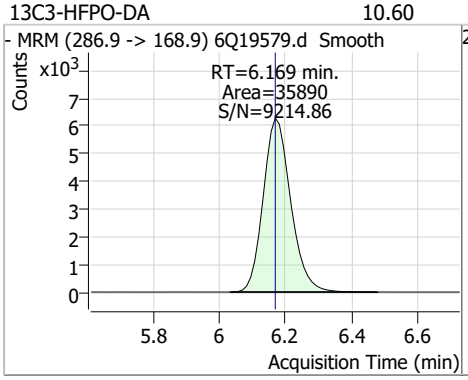
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.18	5.79	0.00	3912	313.0 -> 118.9	4.8	2.6	7.8

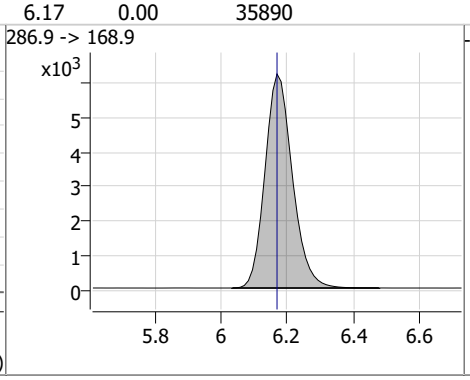


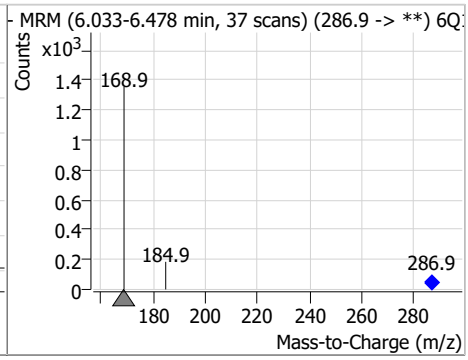




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.60	6.17	0.00	35890				

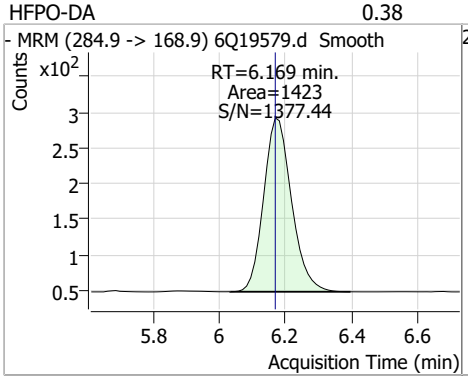


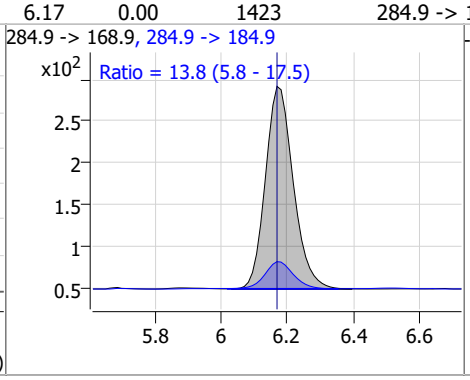


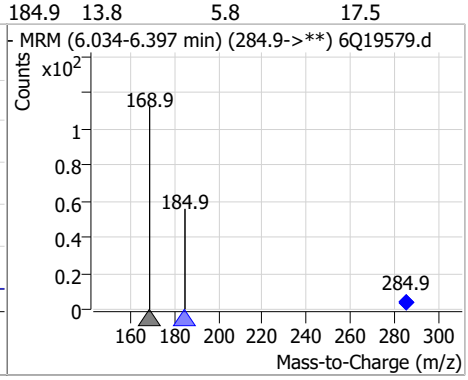


Perfluorinated Compounds by LC/MS/MS

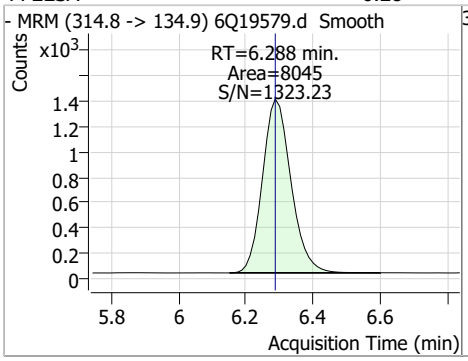
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.38	6.17	0.00	1423	284.9 -> 184.9	13.8	5.8	17.5

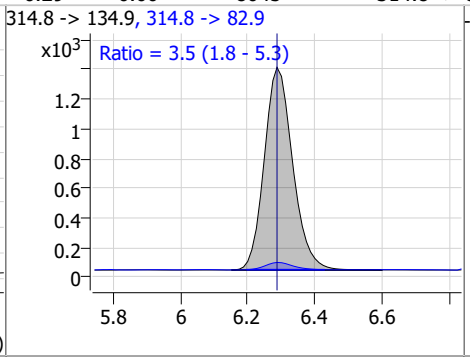


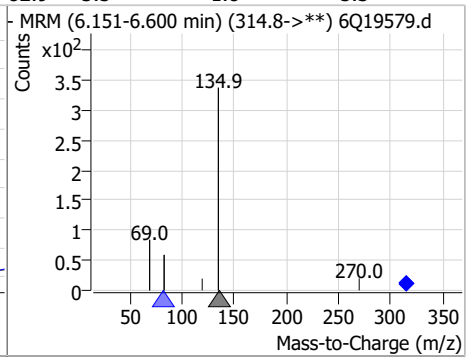




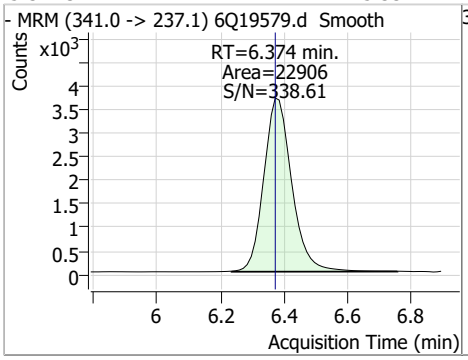
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.28	6.29	0.00	8045	314.8 -> 82.9	3.5	1.8	5.3

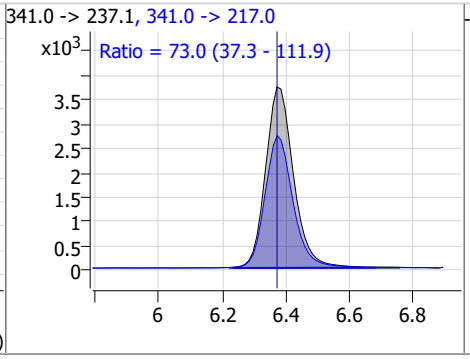


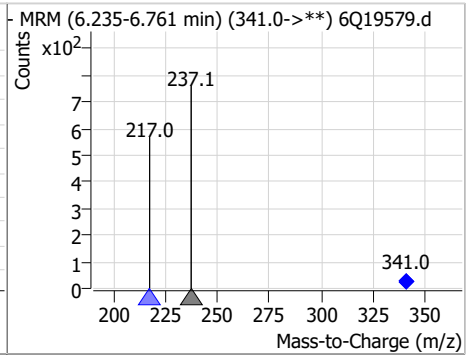




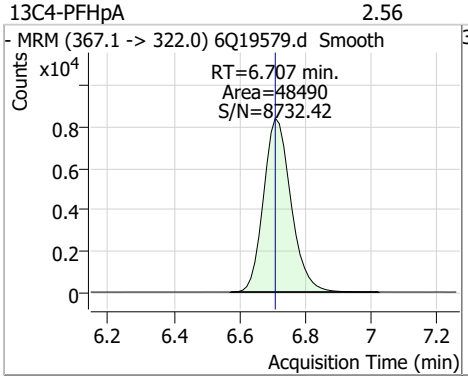
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.33	6.37	0.00	22906	341.0 -> 217.0	73.0	37.3	111.9

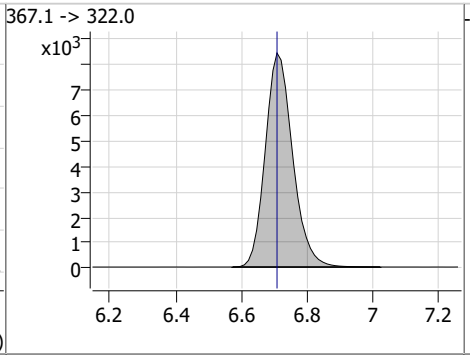


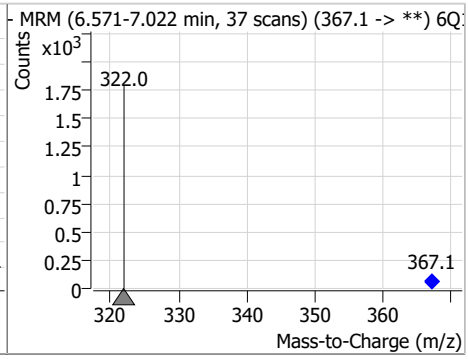




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.56	6.71	0.00	48490				

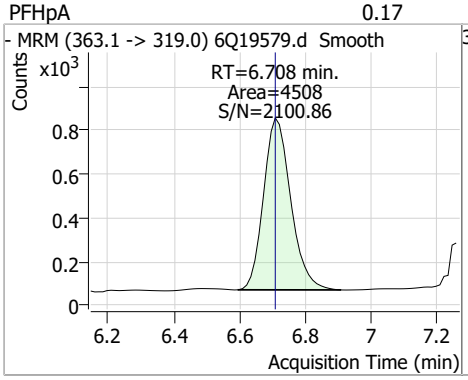


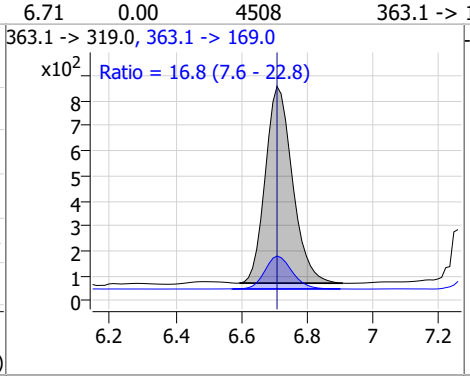


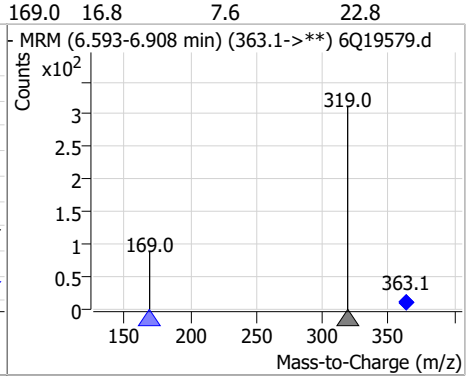


Perfluorinated Compounds by LC/MS/MS

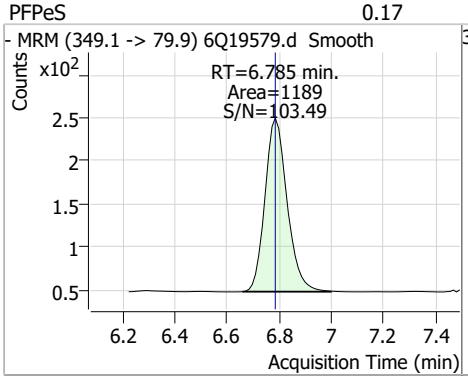
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.17	6.71	0.00	4508	363.1 -> 169.0	16.8	7.6	22.8

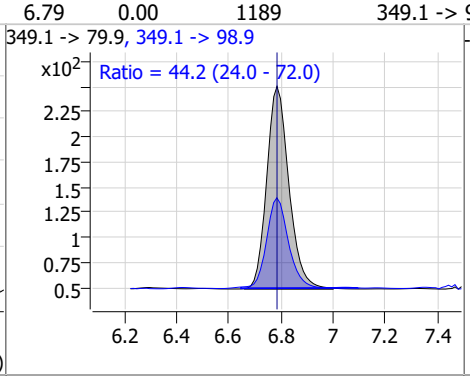


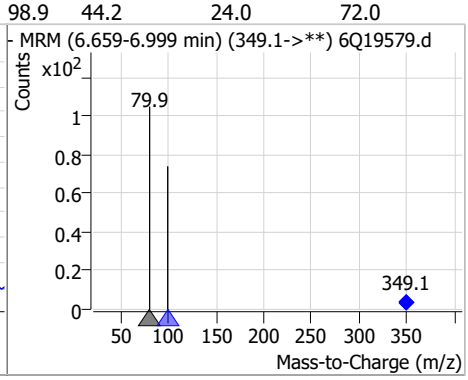




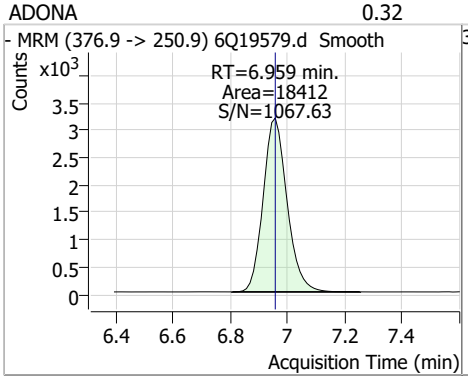
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.17	6.79	0.00	1189	349.1 -> 98.9	44.2	24.0	72.0

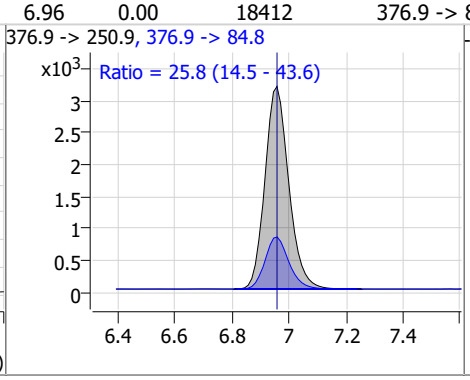


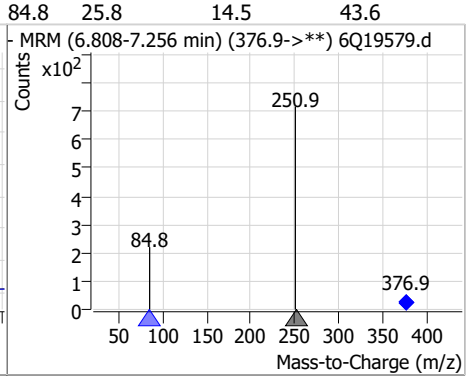




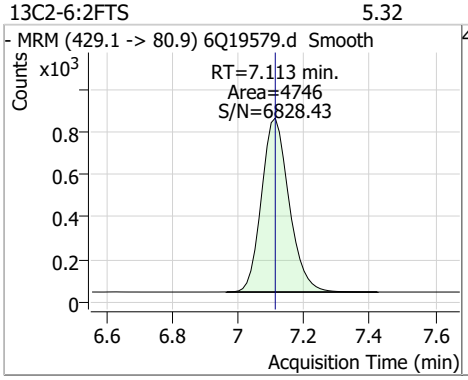
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.32	6.96	0.00	18412	376.9 -> 84.8	25.8	14.5	43.6

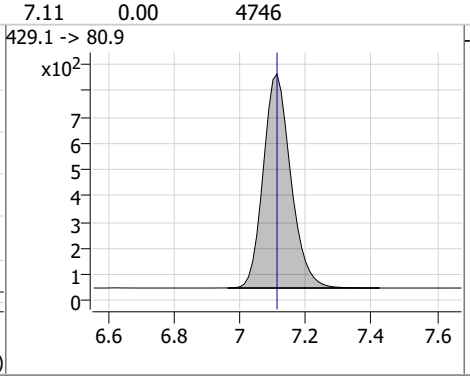


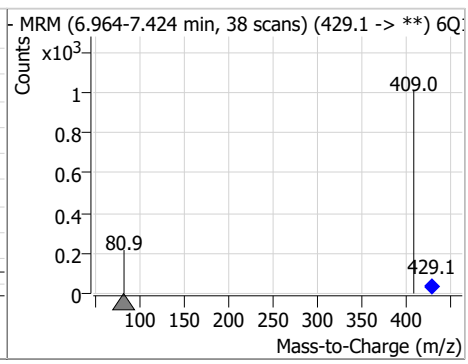




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.32	7.11	0.00	4746				

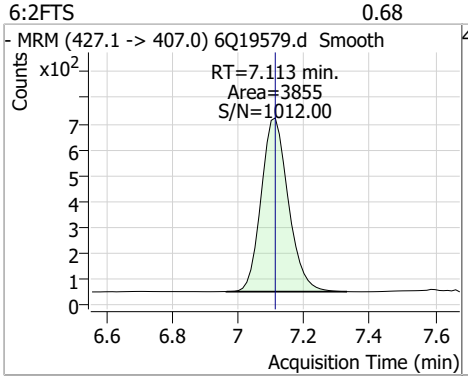


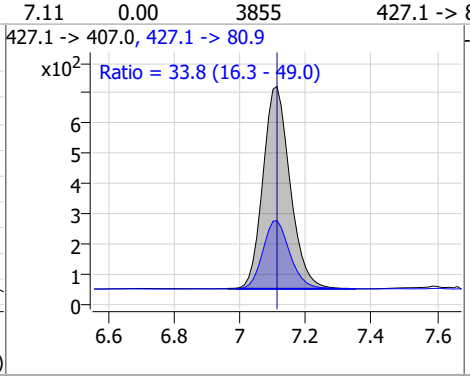


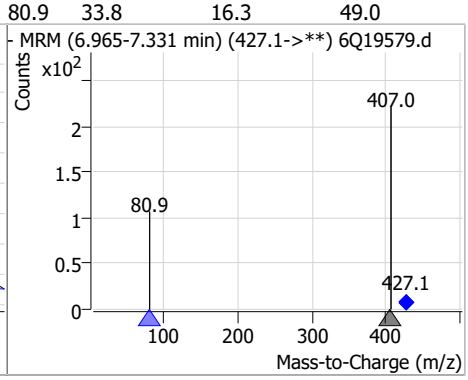


Perfluorinated Compounds by LC/MS/MS

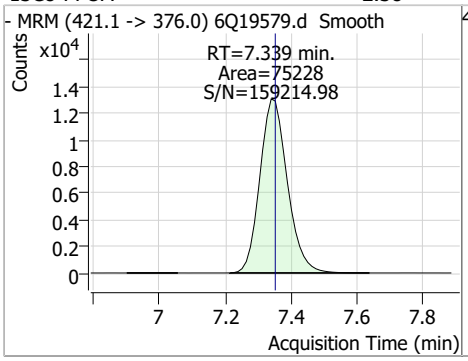
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.68	7.11	0.00	3855	427.1 -> 80.9	33.8	16.3	49.0

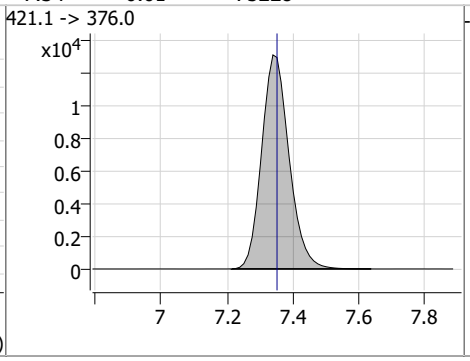


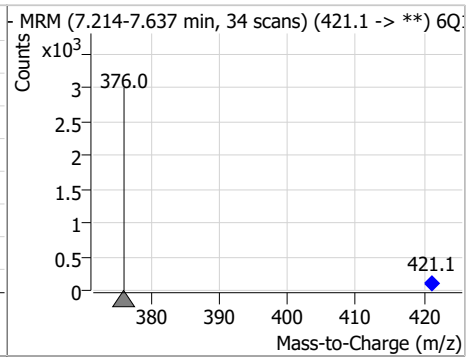




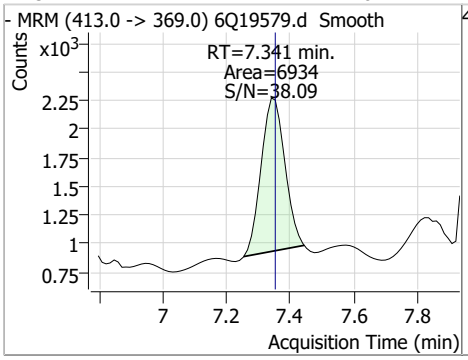
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.38	7.34	-0.01	75228				

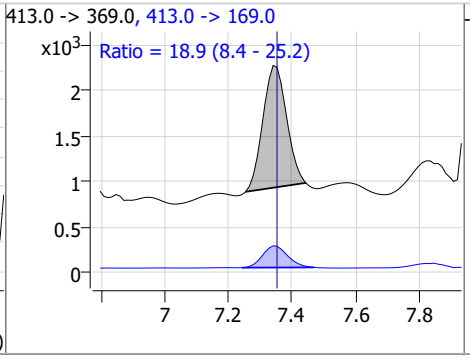


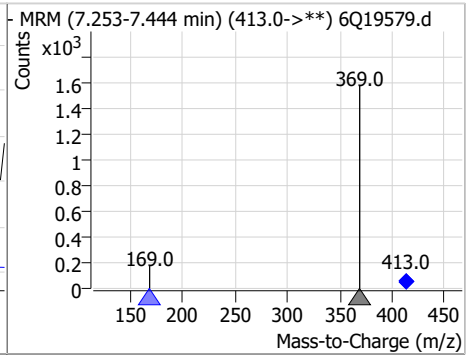




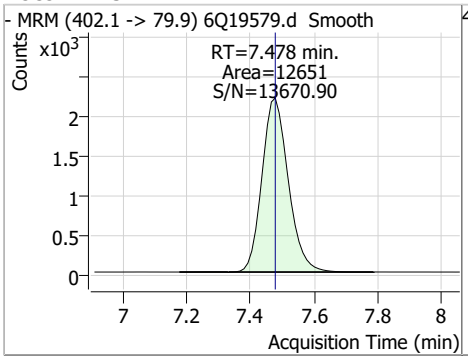
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.17	7.34	-0.01	6934	413.0 -> 169.0	18.9	8.4	25.2

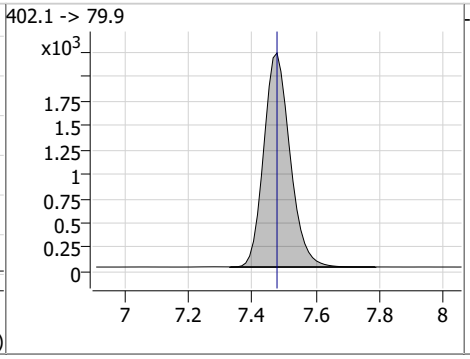


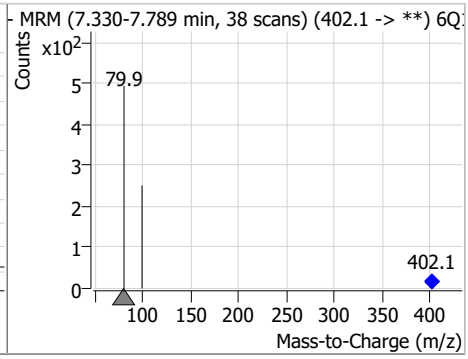




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.44	7.48	0.00	12651				

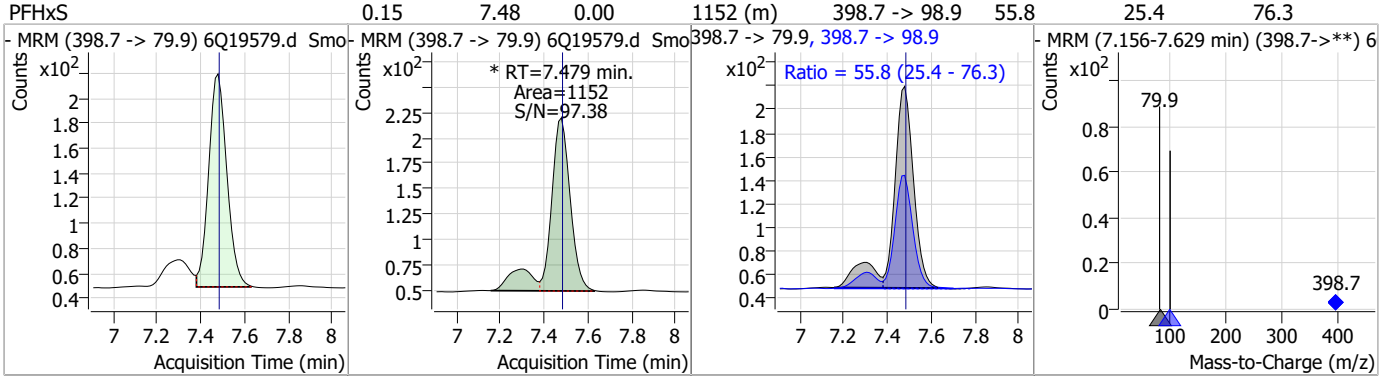




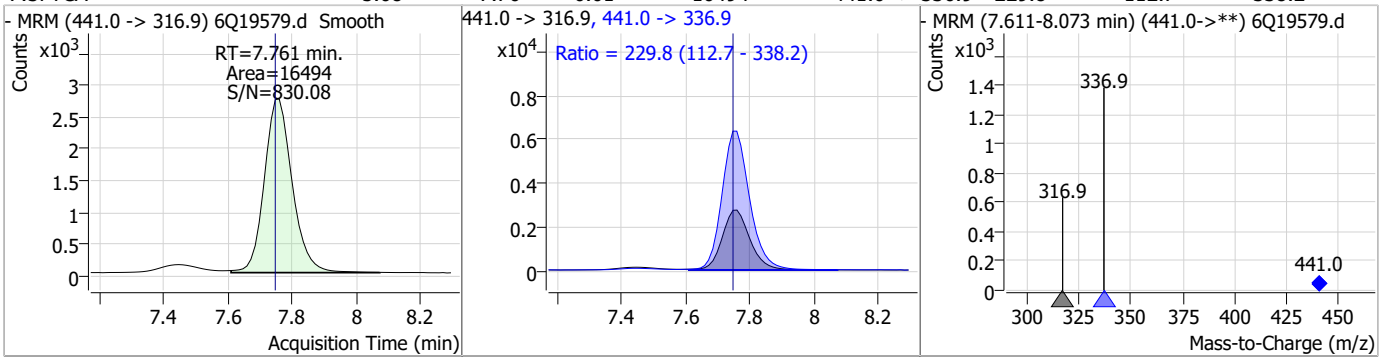


Perfluorinated Compounds by LC/MS/MS

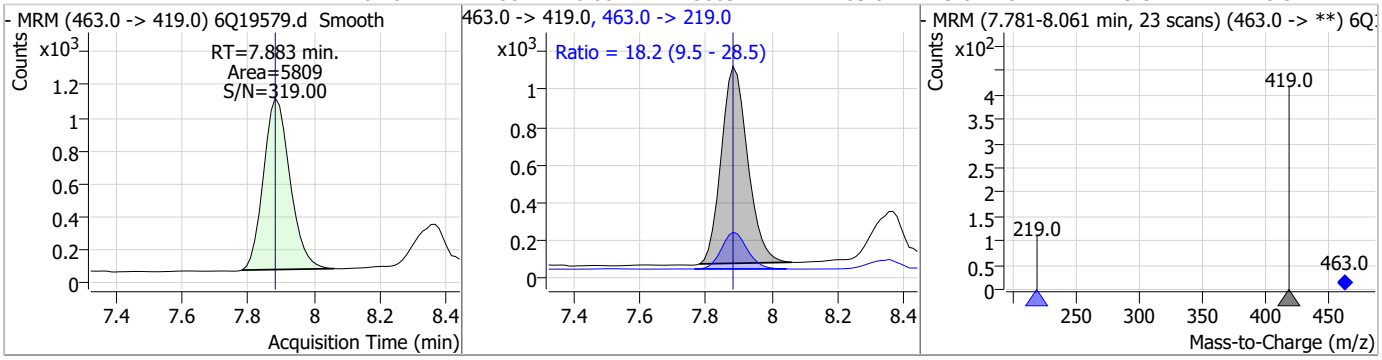
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.15	7.48	0.00	1152 (m)	398.7 -> 98.9	55.8	25.4	76.3



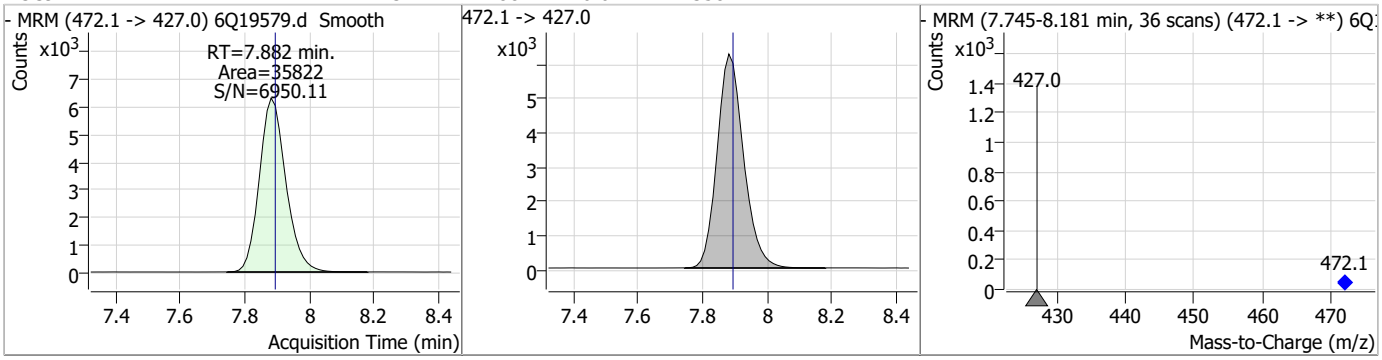
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	5.68	7.76	0.01	16494	441.0 -> 336.9	229.8	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.18	7.88	0.00	5809	463.0 -> 219.0	18.2	9.5	28.5

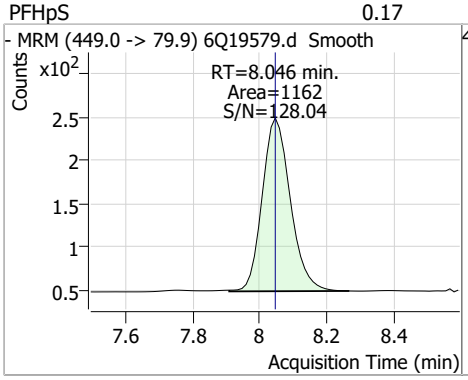


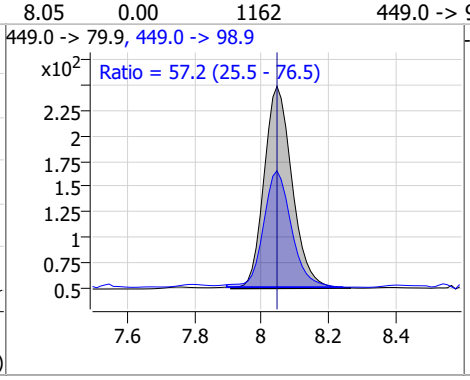
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.23	7.88	-0.01	35822				

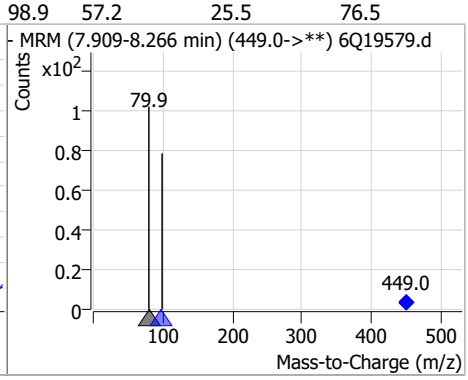


Perfluorinated Compounds by LC/MS/MS

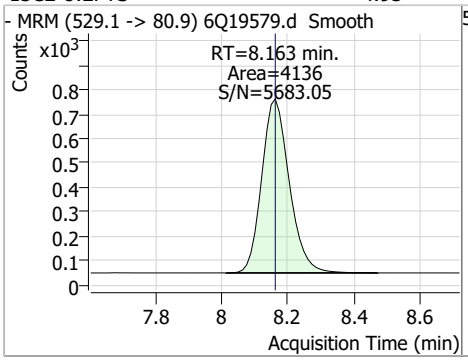
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.17	8.05	0.00	1162	449.0 -> 98.9	57.2	25.5	76.5

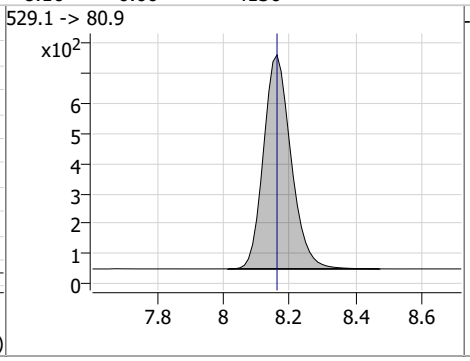


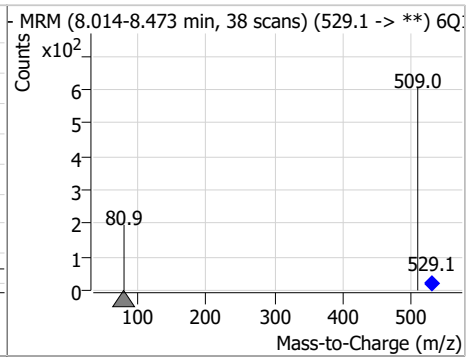




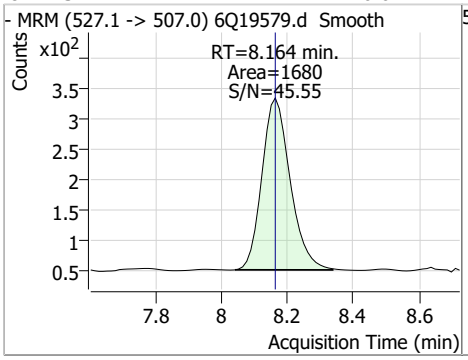
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.93	8.16	0.00	4136				

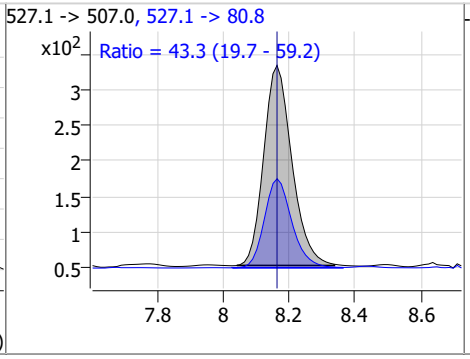


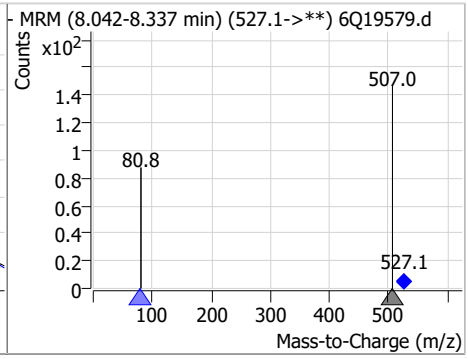




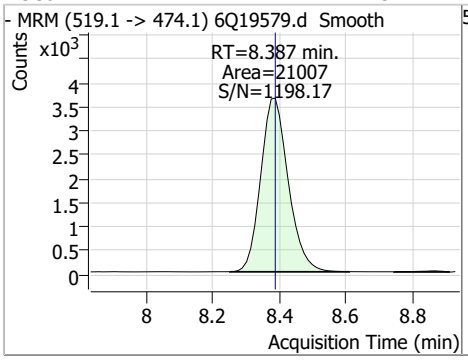
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.61	8.16	0.00	1680	527.1 -> 80.8	43.3	19.7	59.2

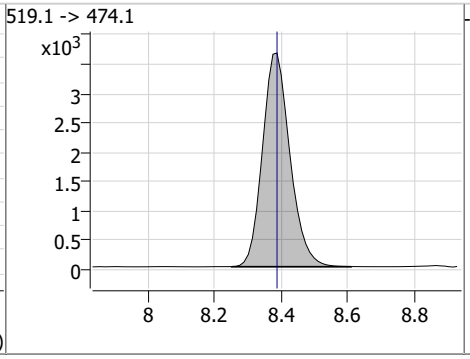


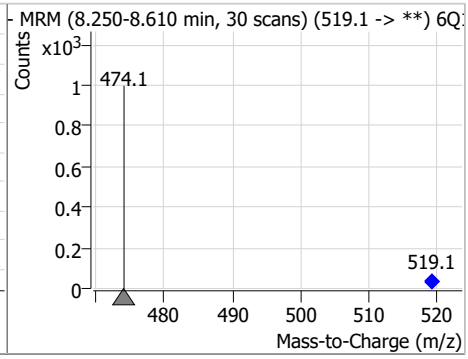




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.34	8.39	0.00	21007				

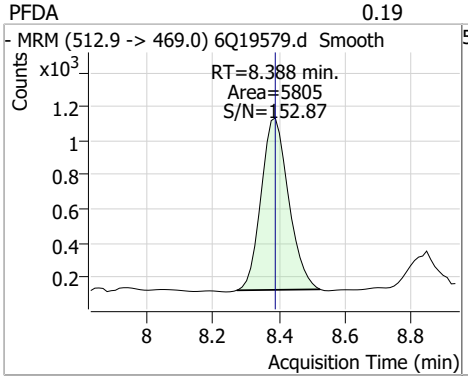


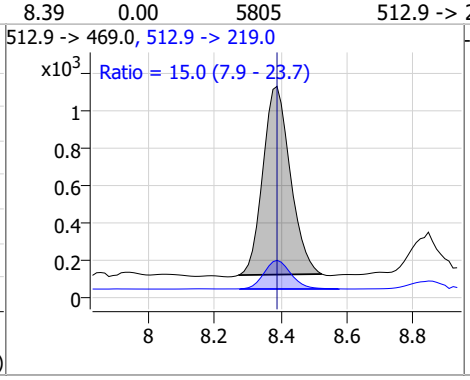


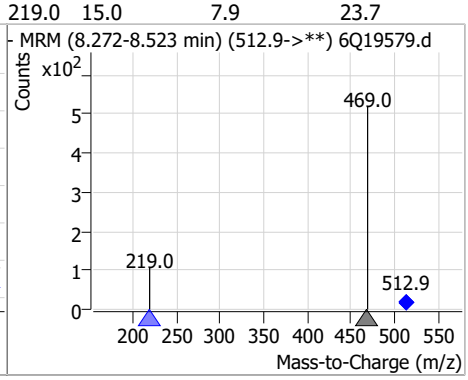


Perfluorinated Compounds by LC/MS/MS

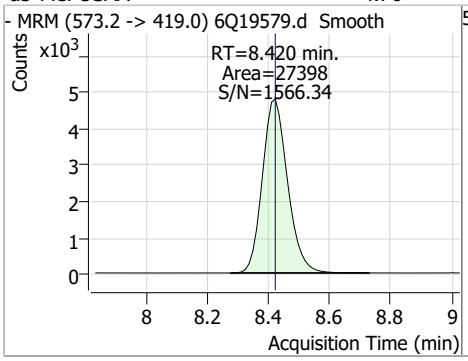
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.19	8.39	0.00	5805	512.9 -> 219.0	15.0	7.9	23.7

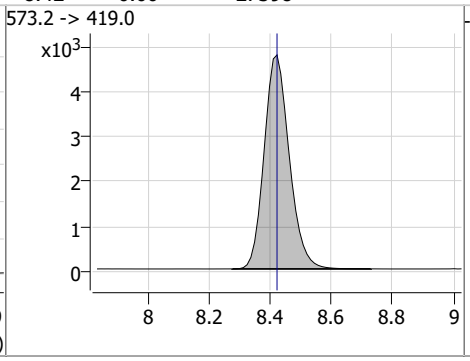


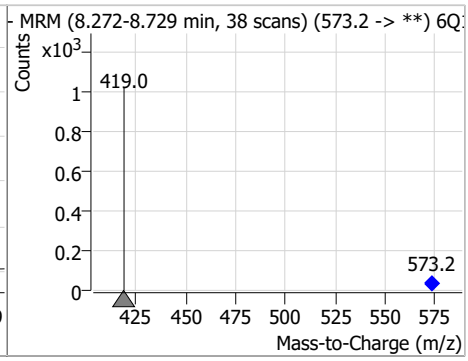




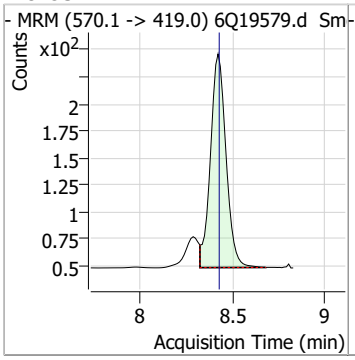
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.70	8.42	0.00	27398				

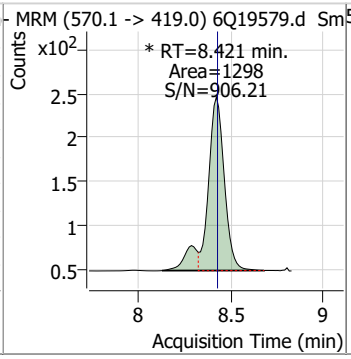


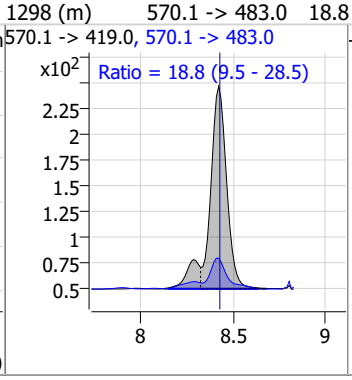


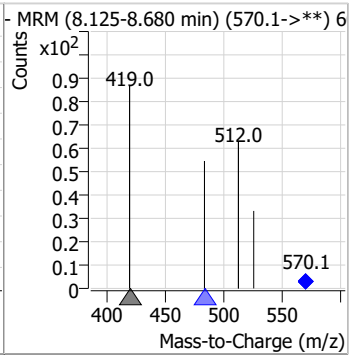


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.18	8.42	0.00	1298 (m)	570.1 -> 483.0	18.8	9.5	28.5

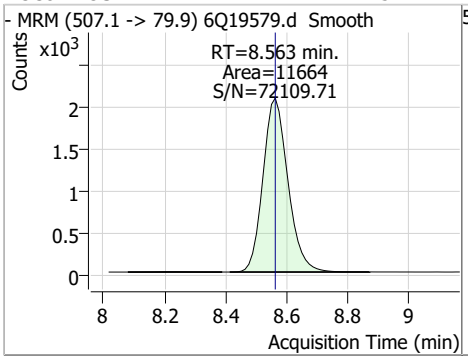


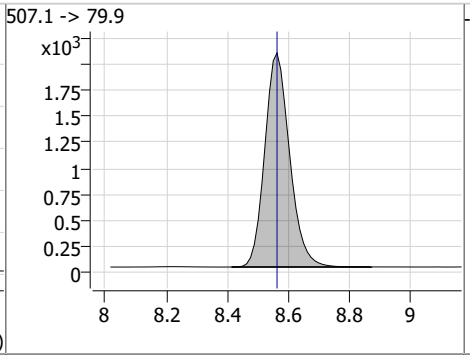


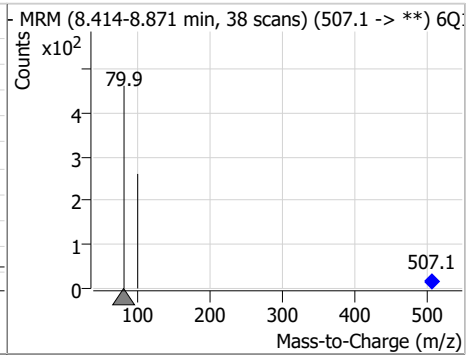




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.51	8.56	0.00	11664				

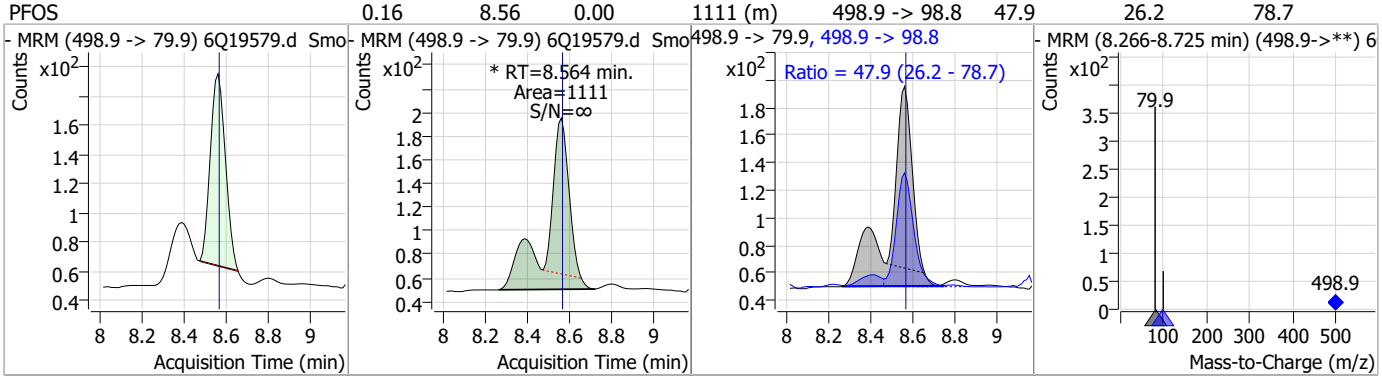




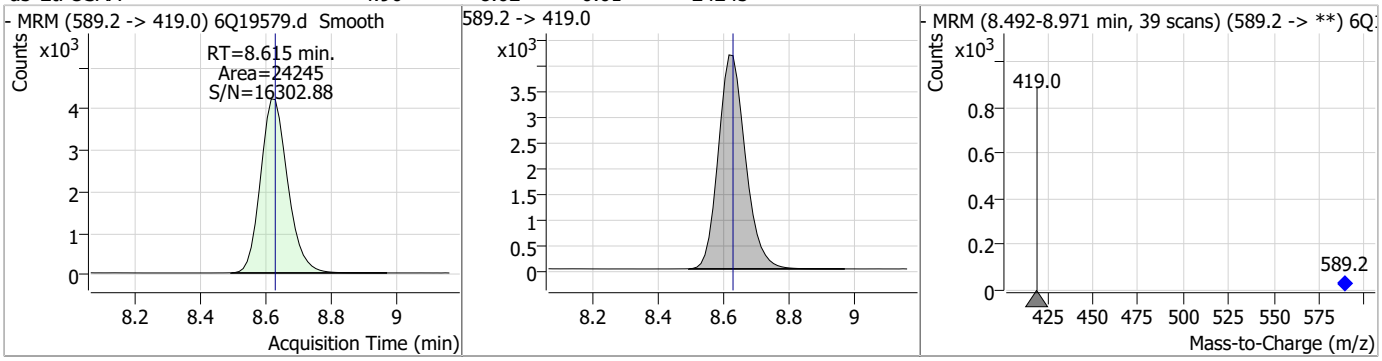


Perfluorinated Compounds by LC/MS/MS

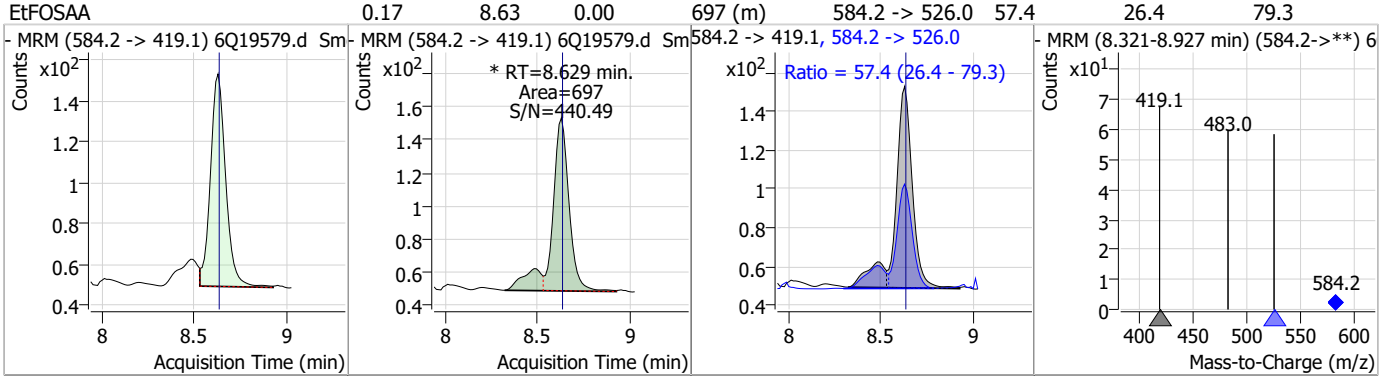
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.16	8.56	0.00	1111 (m)	498.9 -> 98.8	47.9	26.2	78.7



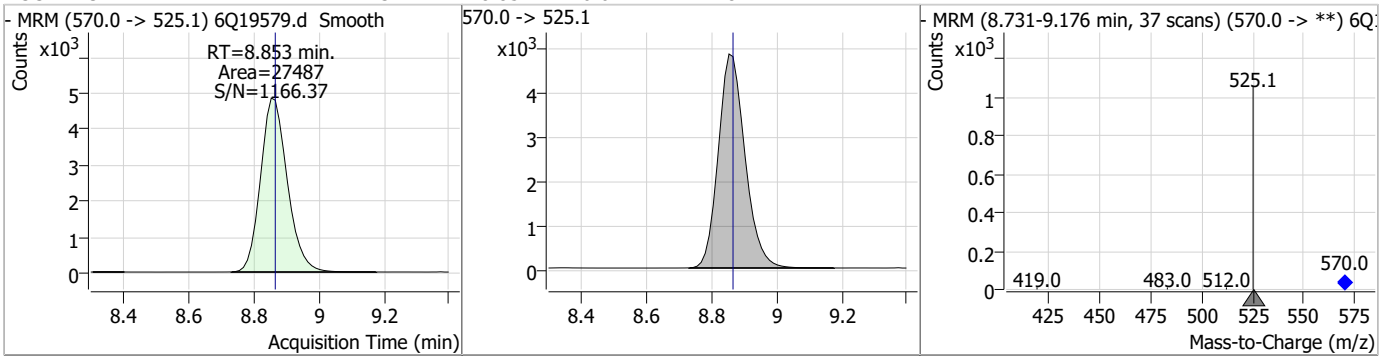
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.90	8.62	-0.01	24245				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.17	8.63	0.00	697 (m)	584.2 -> 526.0	57.4	26.4	79.3

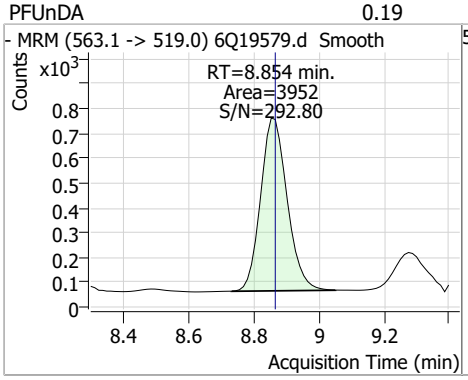


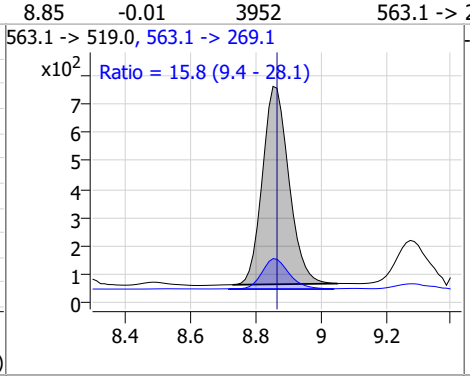
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.31	8.85	-0.01	27487				

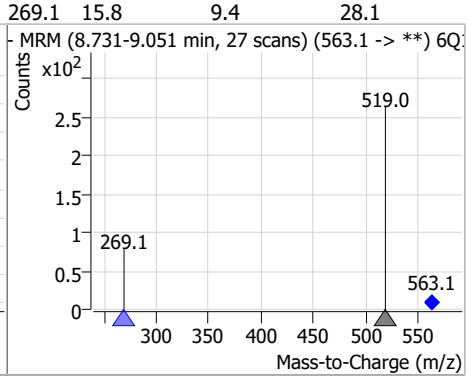


Perfluorinated Compounds by LC/MS/MS

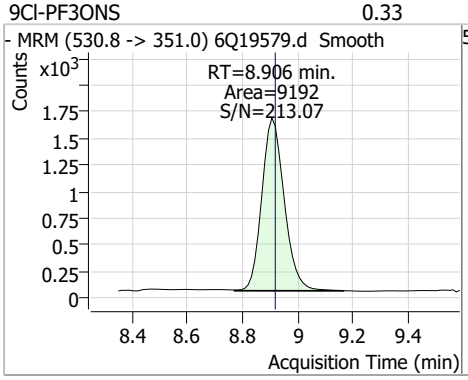
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.19	8.85	-0.01	3952	563.1 -> 269.1	15.8	9.4	28.1

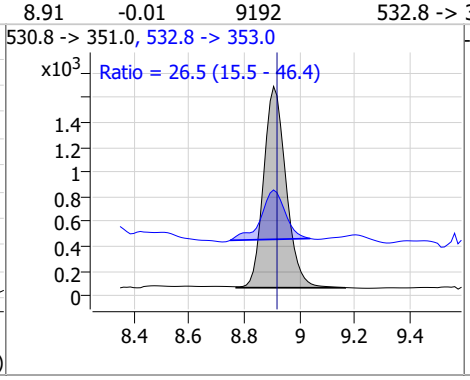


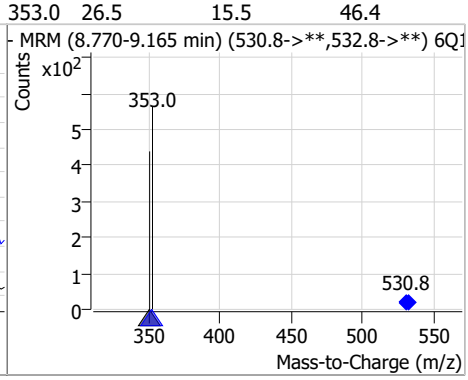




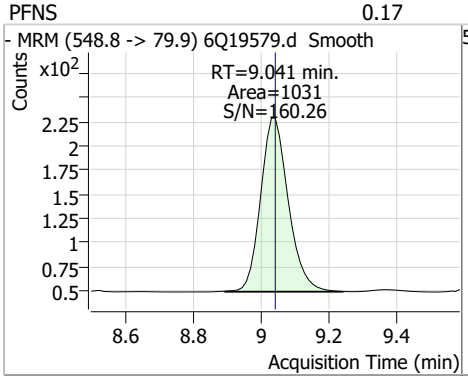
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.33	8.91	-0.01	9192	532.8 -> 353.0	26.5	15.5	46.4

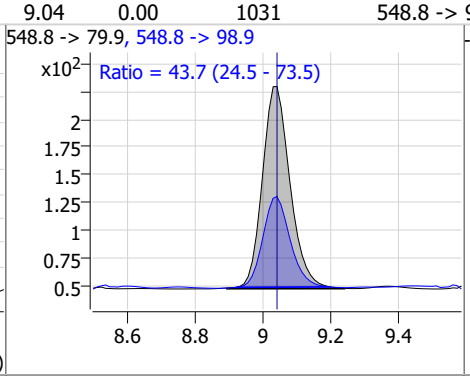


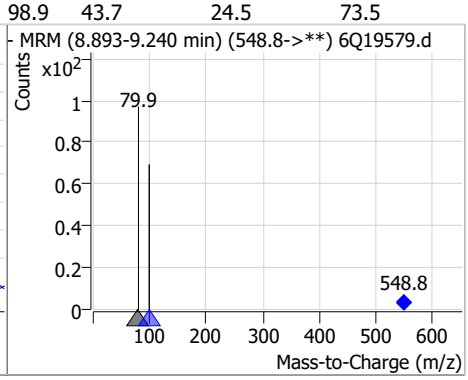




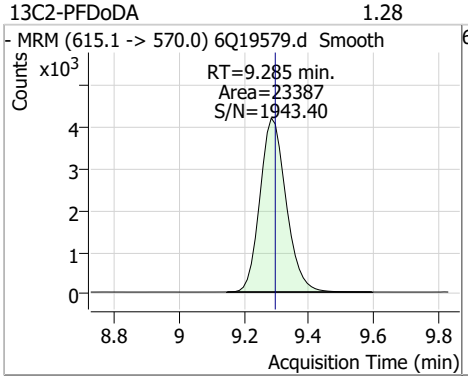
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.17	9.04	0.00	1031	548.8 -> 98.9	43.7	24.5	73.5

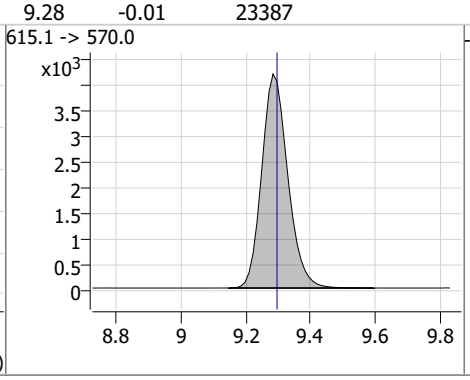


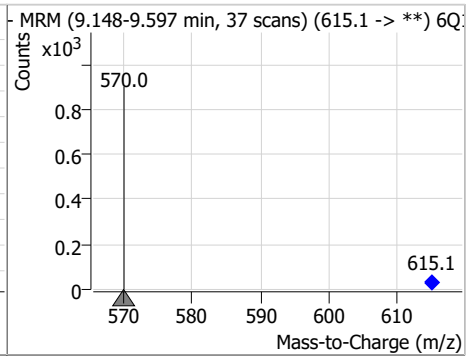




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.28	9.28	-0.01	23387				

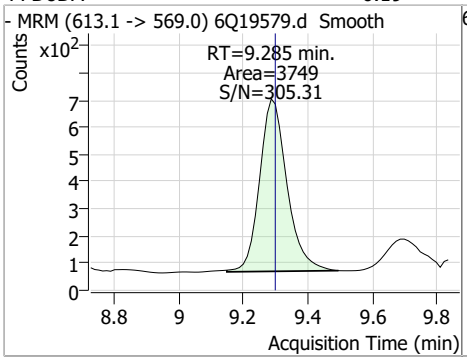


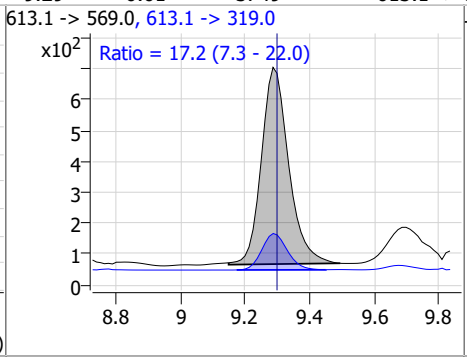


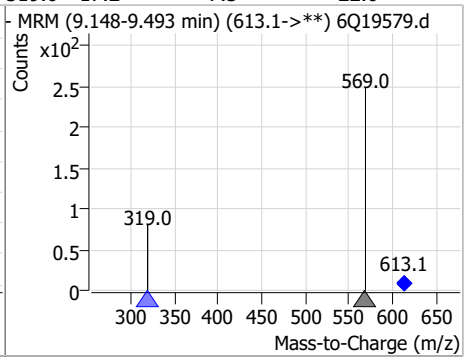


Perfluorinated Compounds by LC/MS/MS

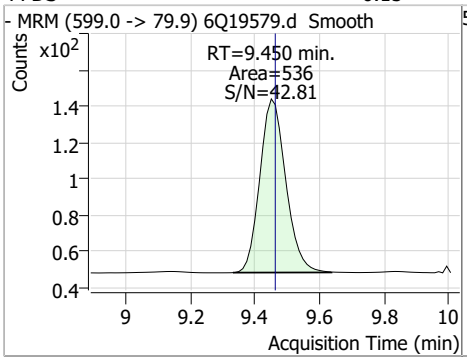
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.19	9.29	-0.01	3749	613.1 -> 319.0	17.2	7.3	22.0

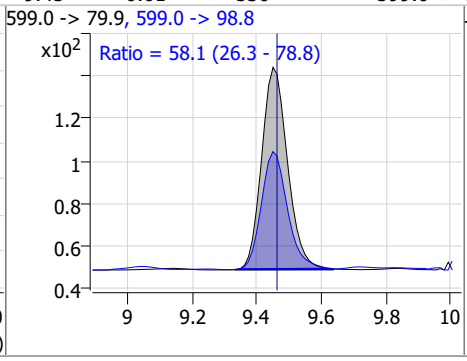


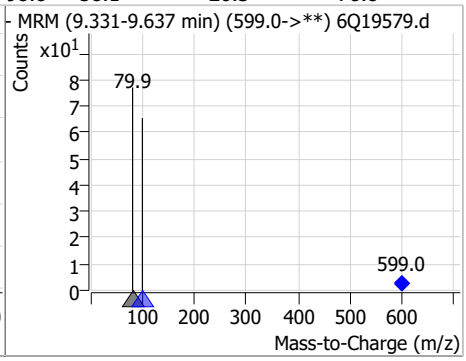




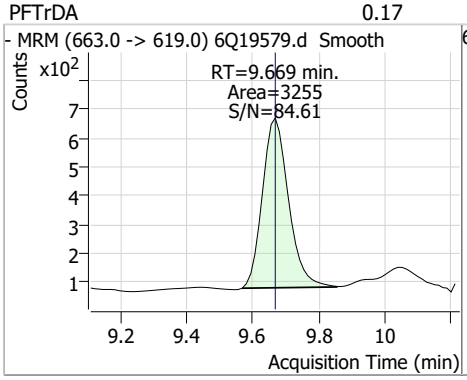
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.15	9.45	-0.01	536	599.0 -> 98.8	58.1	26.3	78.8

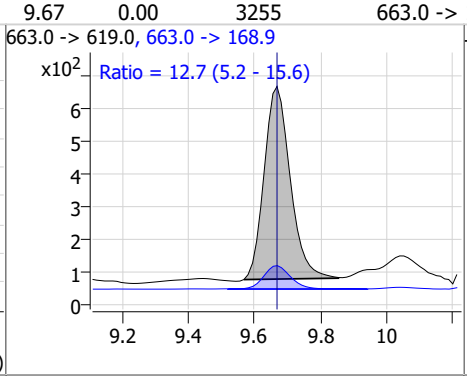


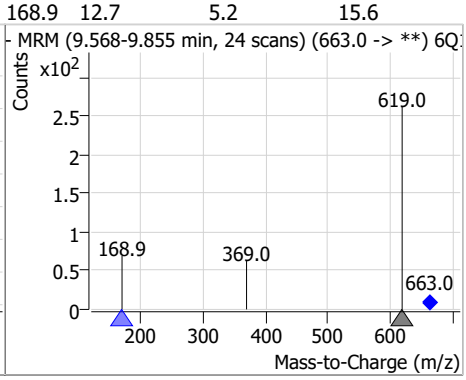




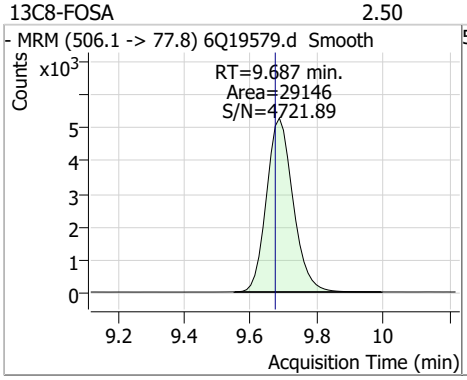
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.17	9.67	0.00	3255	663.0 -> 168.9	12.7	5.2	15.6

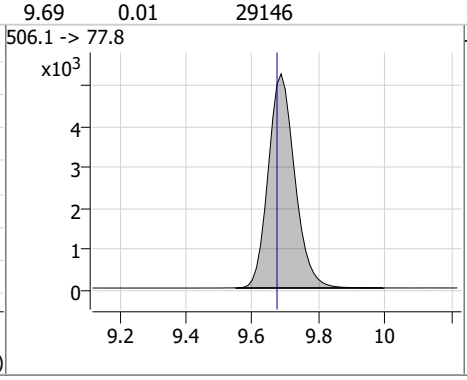


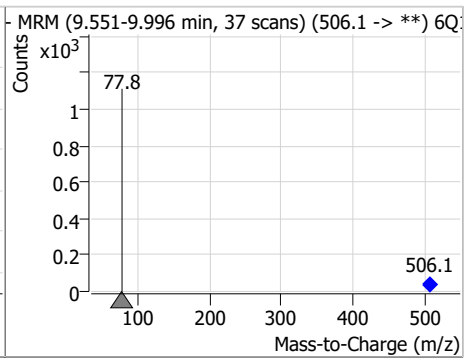




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.50	9.69	0.01	29146				

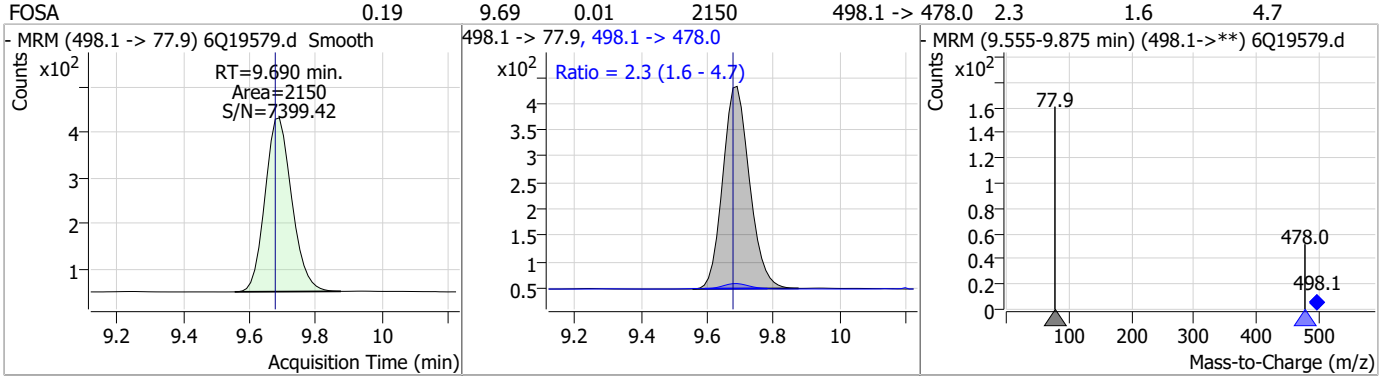




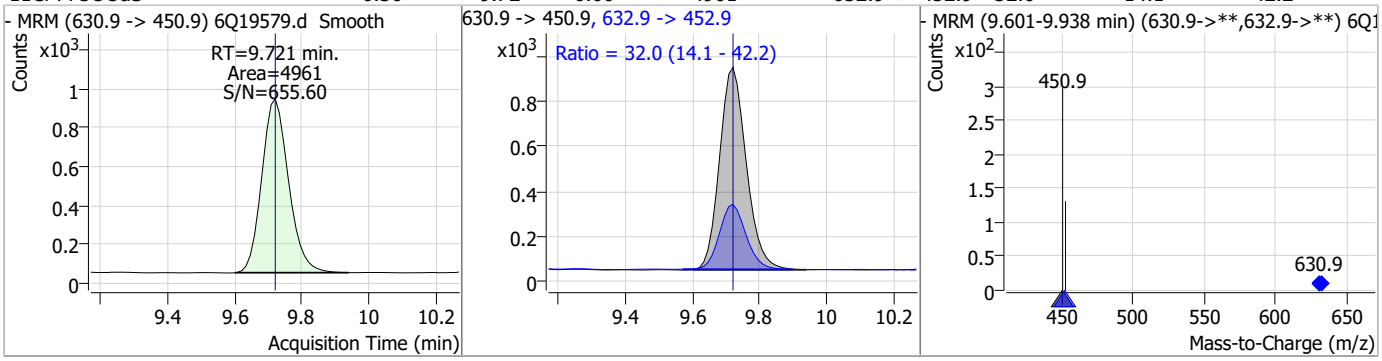


Perfluorinated Compounds by LC/MS/MS

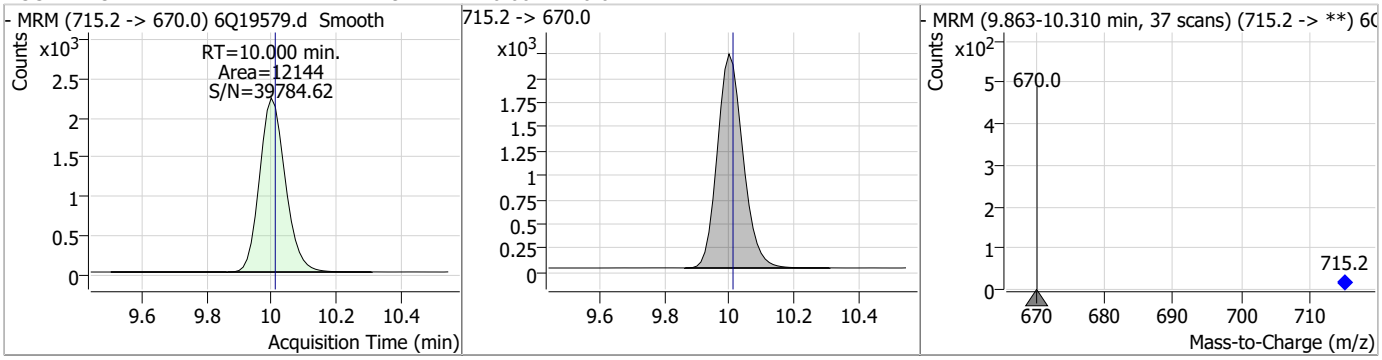
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.19	9.69	0.01	2150	498.1 -> 478.0	2.3	1.6	4.7



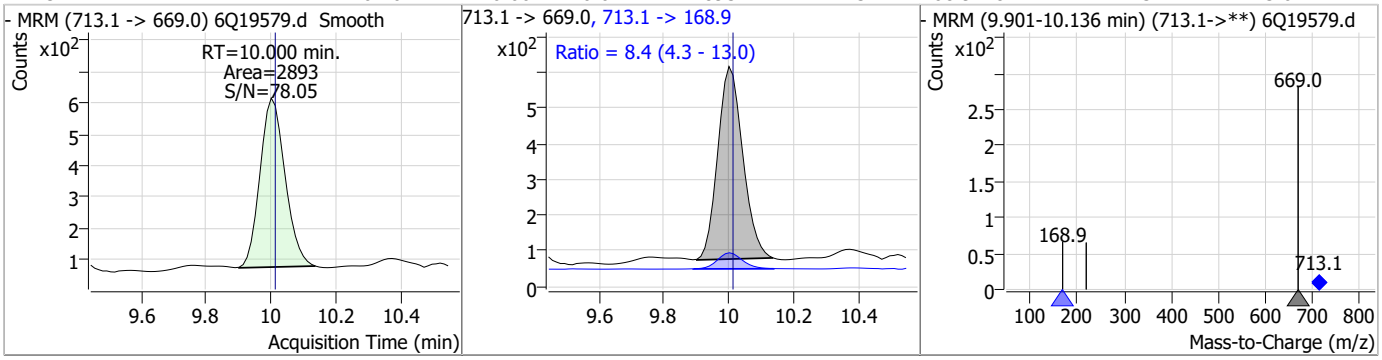
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.30	9.72	0.00	4961	632.9 -> 452.9	32.0	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.19	10.00	-0.01	12144				

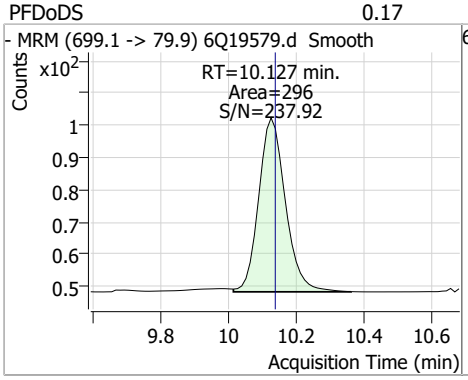


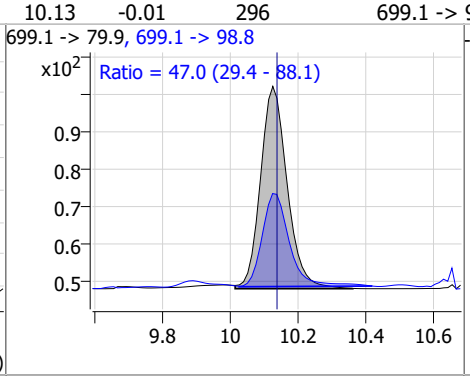
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.20	10.00	-0.01	2893	713.1 -> 168.9	8.4	4.3	13.0

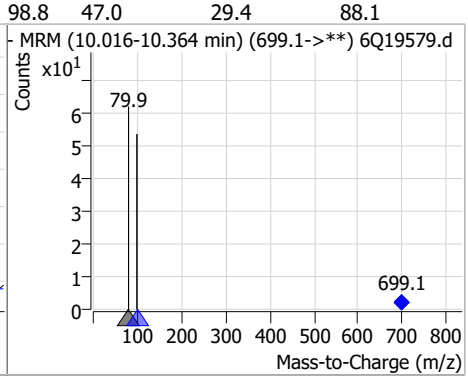


Perfluorinated Compounds by LC/MS/MS

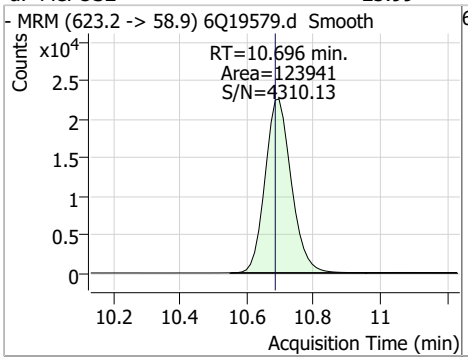
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.17	10.13	-0.01	296	699.1 -> 98.8	47.0	29.4	88.1

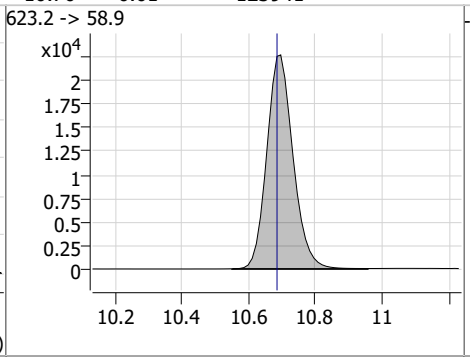


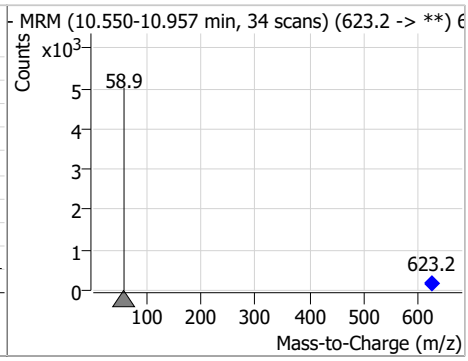




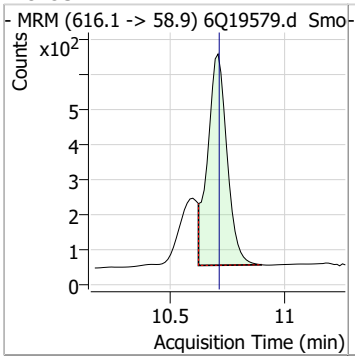
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.99	10.70	0.01	123941				

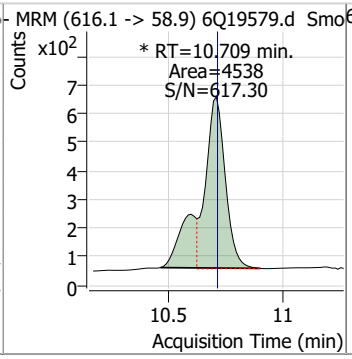


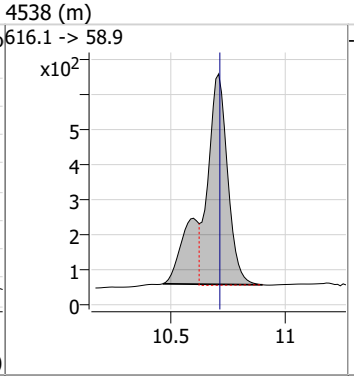


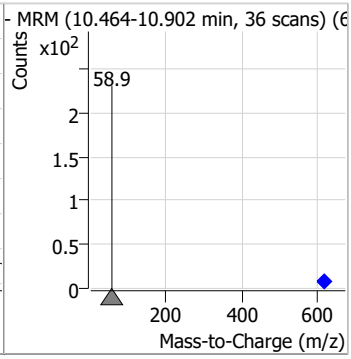


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	0.84	10.71	0.00	4538 (m)				

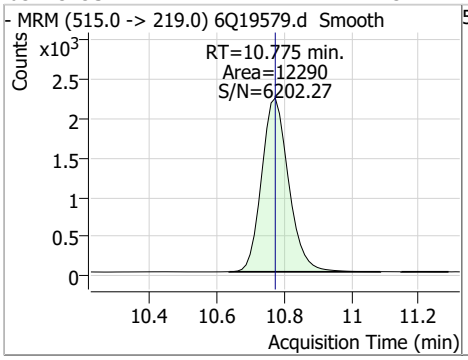


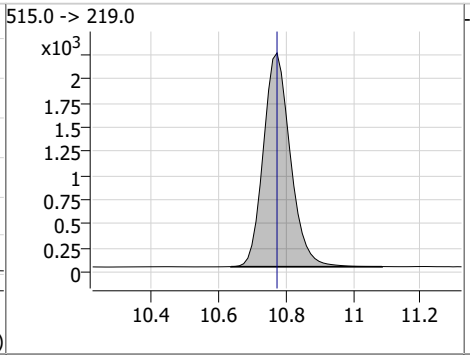


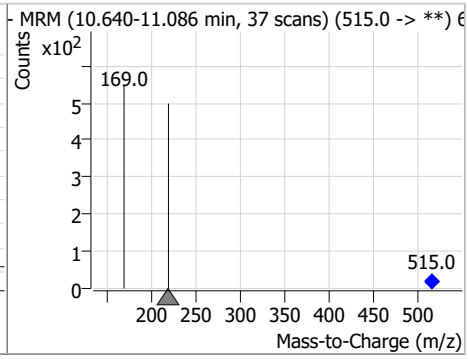




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.43	10.78	0.00	12290				

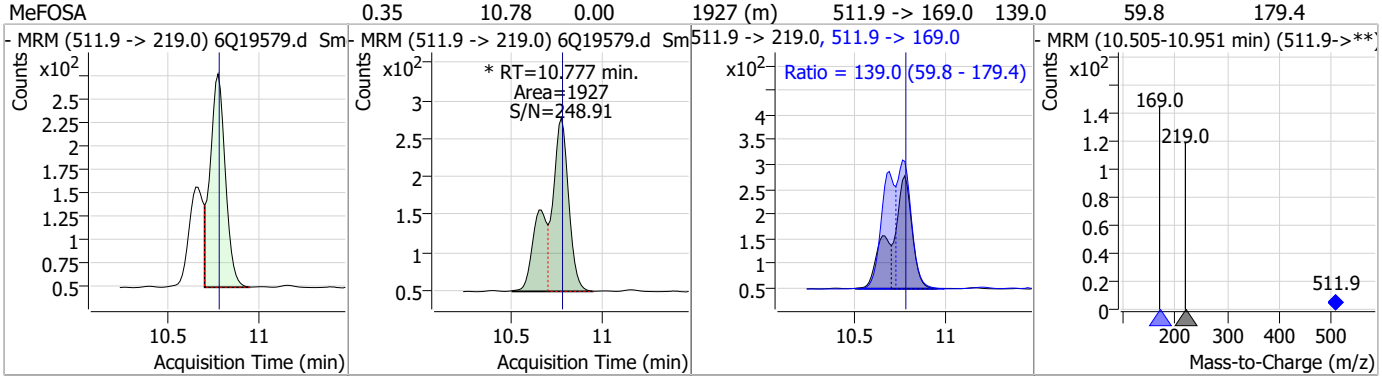




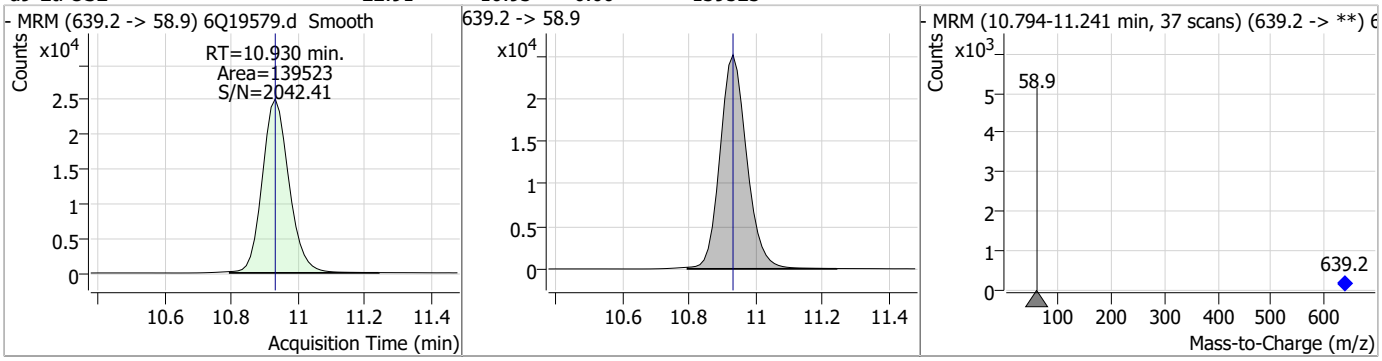


Perfluorinated Compounds by LC/MS/MS

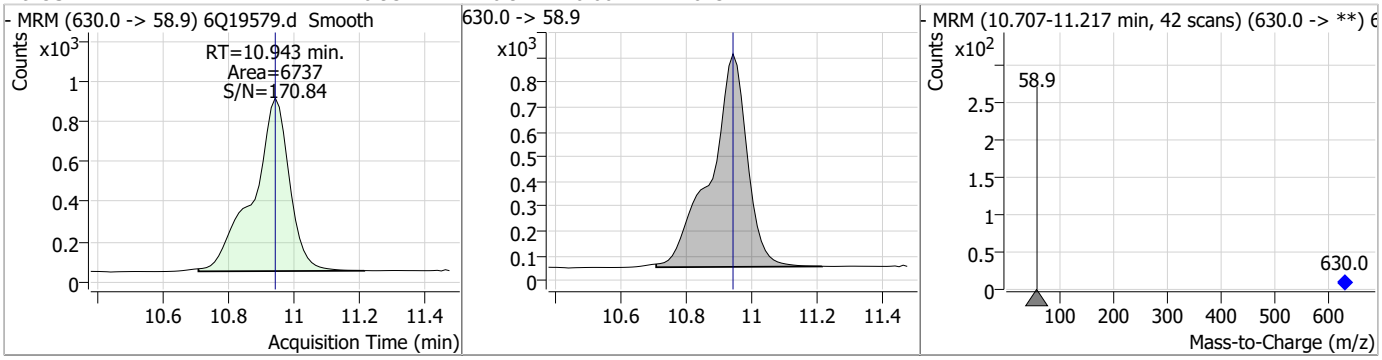
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.35	10.78	0.00	1927 (m)	511.9 -> 169.0	139.0	59.8	179.4



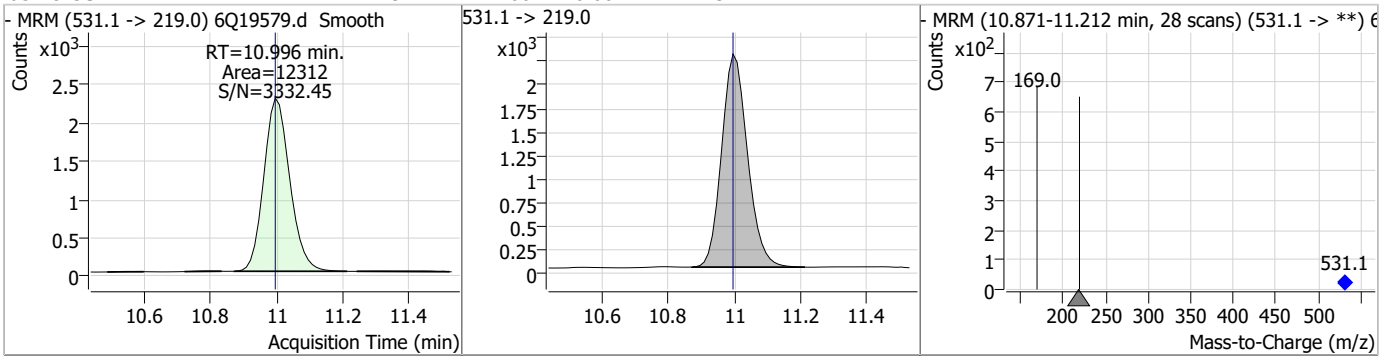
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.91	10.93	0.00	139523				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	0.93	10.94	0.00	6737				

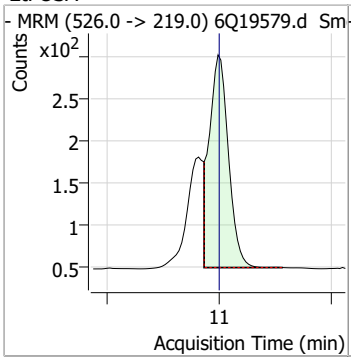


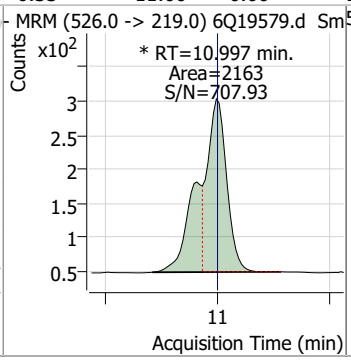
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.49	11.00	0.00	12312				

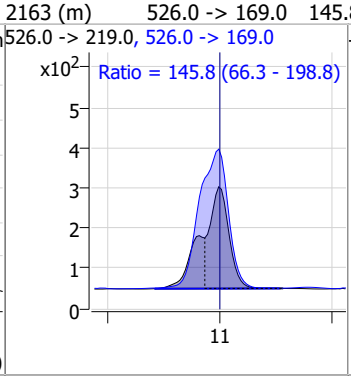


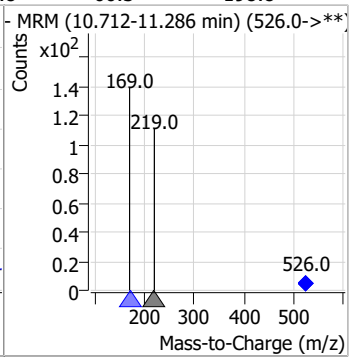
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.33	11.00	0.00	2163 (m)	526.0 -> 169.0	145.8	66.3	198.8









Manual Integration Approval Summary

Sample Number:	S6Q292-CC288	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q19579.D	**Analyst approved:**	06/20/23 14:08 Martha Valls
Injection Time:	06/20/23 04:49	**Supervisor approved:**	06/20/23 16:44 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak
EtFOSA	4151-50-2		11.00	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/20/23 16:44

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19591.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 7:37:00 AM
Sample Name : cc288-4
Vial : P1-A5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.085	216.8 -> 171.9	150787	10.00	µg/L	0.000
M5-PFPeA	4.560	268.3 -> 223.0	49327	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	50828	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	46824	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	75198	2.50	µg/L	0.000
M9-PFNA	7.882	472.1 -> 427.0	36058	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	21825	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	25912	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	21783	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	11177	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	27872	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19724	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11820	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11131	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3019	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4501	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3726	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	27008	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35278	10.00	µg/L	0.000
M5-EtFOSAA	8.615	589.2 -> 419.0	22674	5.00	µg/L	-0.012
M7-MeFOSE	10.696	623.2 -> 58.9	114793	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	136532	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11756	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11839	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15861	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	64381	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9505	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	82823	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	28196	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	44677	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	50332	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3019	5.29	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.9%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4501	5.23	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.5%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3726	4.60	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.0%		
13C2-PFDoDA	9.285	615.1 -> 570.0	21783	1.16	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.4%		
13C2-PFTeDA	10.000	715.2 -> 670.0	11177	1.06	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 85.0%		
13C3-PFBS	5.746	302.1 -> 79.9	19724	2.49	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C3-PFHxS	7.478	402.1 -> 79.9	11820	2.37	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.7%		
13C4-PFBA	3.085	216.8 -> 171.9	150787	9.98 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C4-PFHpA	6.707	367.1 -> 322.0	46824	2.41 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.4%		
13C5-PFHxA	5.792	318.0 -> 273.0	50828	2.45 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%		
13C5-PFPeA	4.560	268.3 -> 223.0	49327	5.18 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.6%		
13C6-PFDA	8.387	519.1 -> 474.1	21825	1.35 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.9%		
13C7-PFUnDA	8.853	570.0 -> 525.1	25912	1.20 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.6%		
13C8-FOSA	9.687	506.1 -> 77.8	27872	2.32 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.8%		
13C8-PFOA	7.352	421.1 -> 376.0	75198	2.43 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%		
13C8-PFOS	8.563	507.1 -> 79.9	11131	2.32 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.0%		
13C9-PFNA	7.882	472.1 -> 427.0	36058	1.33 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.1%		
d3-MeFOSAA	8.420	573.2 -> 419.0	27008	4.50 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.0%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	35278	10.15 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.5%		
d3-MeFOSA	10.775	515.0 -> 219.0	11839	2.27 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.7%		
d5-EtFOSAA	8.615	589.2 -> 419.0	22674	4.45 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 89.0%		
d7-MeFOSE	10.696	623.2 -> 58.9	114793	21.57 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 86.3%		
d9-EtFOSE	10.930	639.2 -> 58.9	136532	21.76 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 87.0%		
d5-EtFOSA	10.996	531.1 -> 219.0	11756	2.31 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.3%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	47001	8.95 µg/L		98
		327.1 -> 80.9	18124			
6:2FTS	7.113	427.1 -> 407.0	50860	9.49 µg/L		97
		427.1 -> 80.9	15834			
8:2FTS	8.164	527.1 -> 507.0	23507	9.49 µg/L		93
		527.1 -> 80.8	10320			
EtFOSAA	8.629	584.2 -> 419.1	9013	2.35 µg/L	m	99
		584.2 -> 526.0	4703			
FOSA	9.690	498.1 -> 77.9	24790	2.24 µg/L		99
		498.1 -> 478.0	863			
MeFOSAA	8.421	570.1 -> 419.0	17201	2.46 µg/L	m	98
		570.1 -> 483.0	3133			
PFBA	3.093	212.8 -> 168.9	59020	9.71 µg/L		100
PFBS	5.747	298.7 -> 79.9	17398	1.98 µg/L		95
		298.7 -> 98.8	7135			
PFDA	8.388	512.9 -> 469.0	73663	2.27 µg/L		97
		512.9 -> 219.0	10836			
PFDoDA	9.285	613.1 -> 569.0	45524	2.52 µg/L		99
		613.1 -> 319.0	6552			
PFDS	9.450	599.0 -> 79.9	7253	2.16 µg/L		95

Perfluorinated Compounds by LC/MS/MS

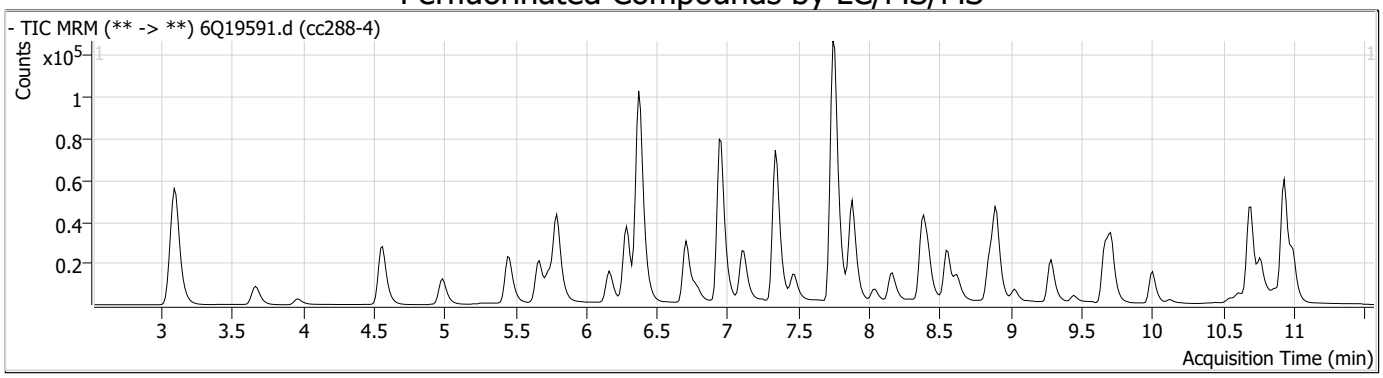
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3569				
PFHpA	6.708	363.1 -> 319.0	58120	2.32	µg/L		96
		363.1 -> 169.0	9874				
PFHpS	8.046	449.0 -> 79.9	14812	2.23	µg/L		93
		449.0 -> 98.9	6833				
PFHxA	5.795	313.0 -> 269.0	50281	2.45	µg/L		100
		313.0 -> 118.9	2582				
PFHxS	7.479	398.7 -> 79.9	15353	2.16	µg/L	m	94
		398.7 -> 98.9	7160				
PFNA	7.883	463.0 -> 419.0	77998	2.34	µg/L		96
		463.0 -> 219.0	13426				
PFNS	9.041	548.8 -> 79.9	13056	2.26	µg/L		94
		548.8 -> 98.9	6925				
PFOA	7.353	413.0 -> 369.0	97030	2.35	µg/L		100
		413.0 -> 169.0	16499				
PFOS	8.564	498.9 -> 79.9	14890	2.25	µg/L	m	90
		498.9 -> 98.8	6753				
PFPeA	4.563	263.0 -> 219.0	69260	4.76	µg/L		100
PFPeS	6.785	349.1 -> 79.9	15326	2.31	µg/L		95
		349.1 -> 98.9	6856				
PFTeDA	10.000	713.1 -> 669.0	36211	2.70	µg/L		99
		713.1 -> 168.9	3034				
PFTrDA	9.669	663.0 -> 619.0	44742	2.44	µg/L		100
		663.0 -> 168.9	4677				
PFUnDA	8.854	563.1 -> 519.0	51862	2.59	µg/L		92
		563.1 -> 269.1	7870				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	61096	3.80	µg/L		90
		632.9 -> 452.9	20328				
9Cl-PF3ONS	8.906	530.8 -> 351.0	107891	3.90	µg/L		93
		532.8 -> 353.0	37455				
ADONA	6.959	376.9 -> 250.9	238081	4.17	µg/L		99
		376.9 -> 84.8	67536				
HFPO-DA	6.169	284.9 -> 168.9	17536	4.75	µg/L		98
		284.9 -> 184.9	1947				
3:3FTCA	3.958	241.0 -> 177.0	10852	11.02	µg/L		100
		241.0 -> 117.0	1451				
5:3FTCA	6.374	341.0 -> 237.1	233936	57.38	µg/L		100
		341.0 -> 217.0	175255				
7:3FTCA	7.761	441.0 -> 316.9	161083	58.43	µg/L		96
		441.0 -> 336.9	351538				
EtFOSA	10.997	526.0 -> 219.0	29403	4.68	µg/L		99
		526.0 -> 169.0	39391				
EtFOSE	10.943	630.0 -> 58.9	89463	12.66	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	25839	4.82	µg/L	m	85
		511.9 -> 169.0	35161				
MeFOSE	10.709	616.1 -> 58.9	63883	12.84	µg/L	m	100
PFDoDS	10.127	699.1 -> 79.9	3571	2.15	µg/L		92
		699.1 -> 98.8	1894				
NFDHA	5.673	295.0 -> 201.0	12863	4.91	µg/L		100
		295.0 -> 84.9	3470				
PFMBA	4.988	279.0 -> 85.1	49987	4.82	µg/L		100
PFMPA	3.667	229.0 -> 84.9	39886	4.91	µg/L		100
PFEESA	6.288	314.8 -> 134.9	127173	4.59	µg/L		99
		314.8 -> 82.9	4233				

 # = Qualifier out of range, m = manually integrated, + = Area summed

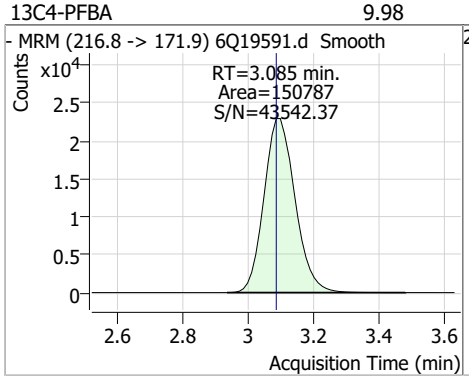
Perfluorinated Compounds by LC/MS/MS

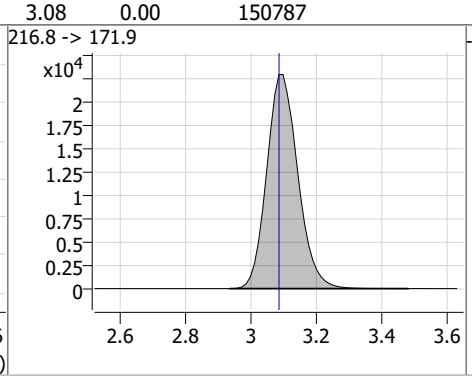
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

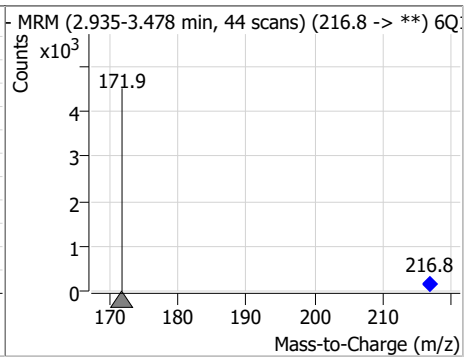
Perfluorinated Compounds by LC/MS/MS



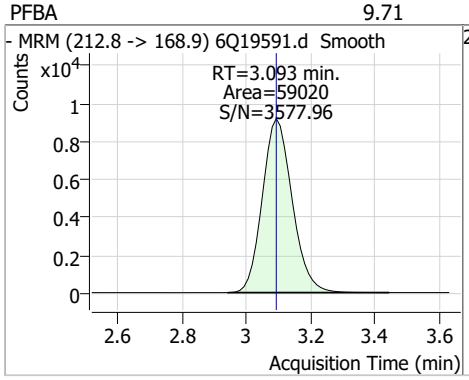
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.98	3.08	0.00	150787				

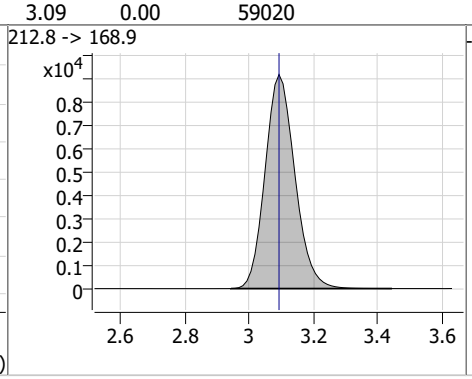


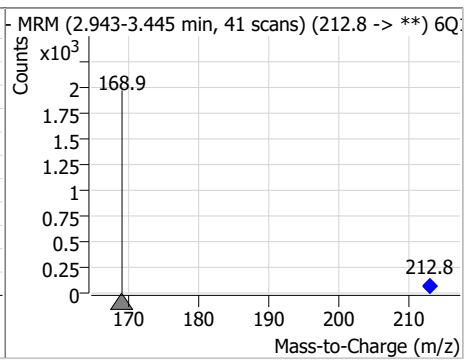




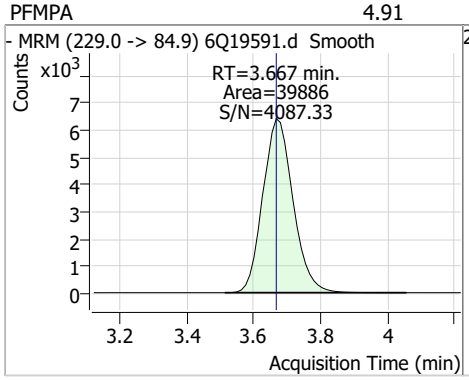
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.71	3.09	0.00	59020				

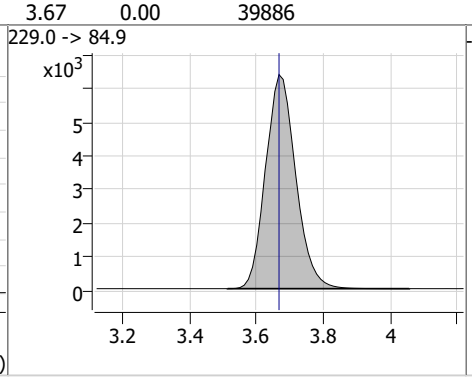


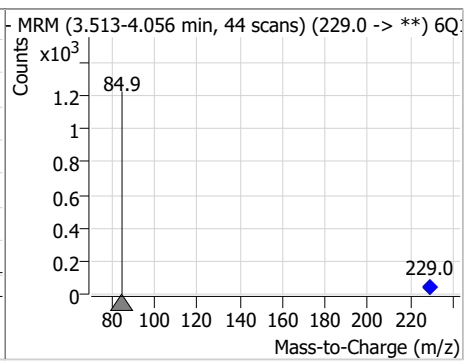




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.91	3.67	0.00	39886				

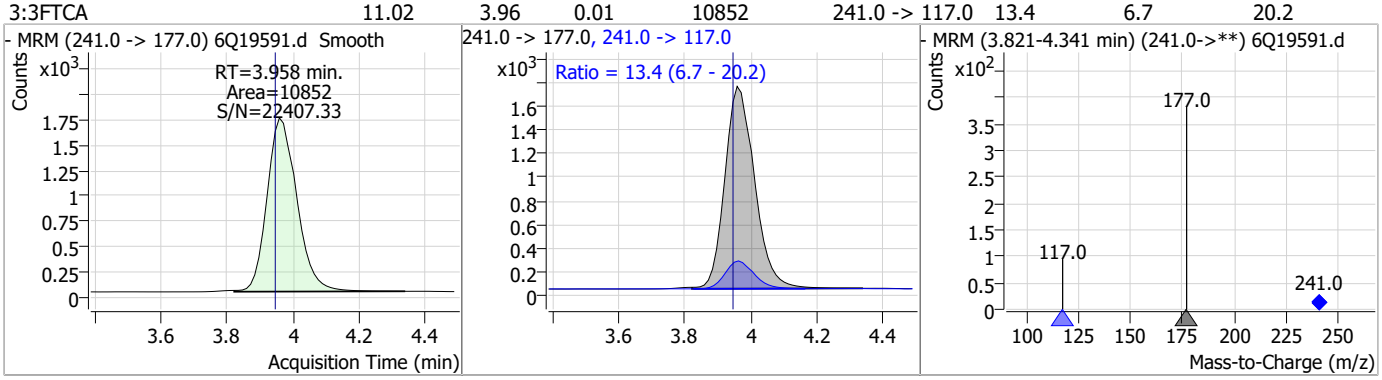




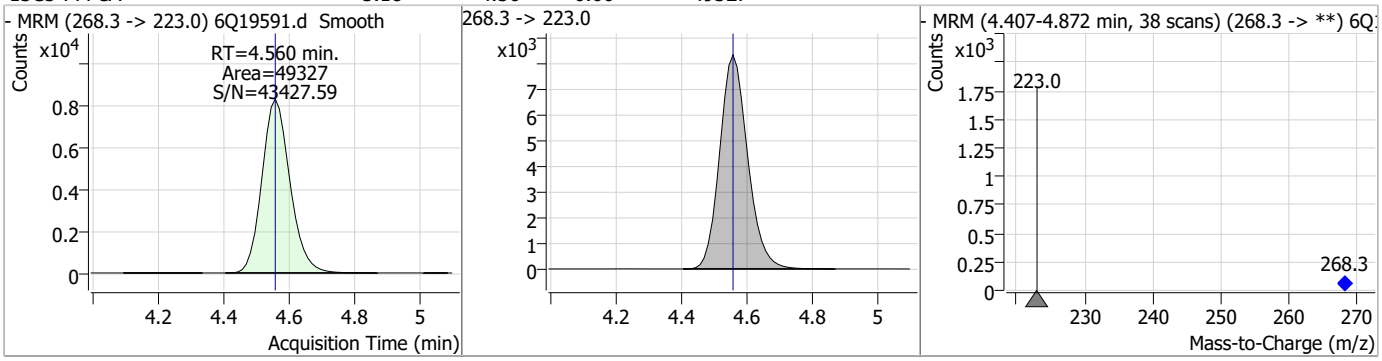


Perfluorinated Compounds by LC/MS/MS

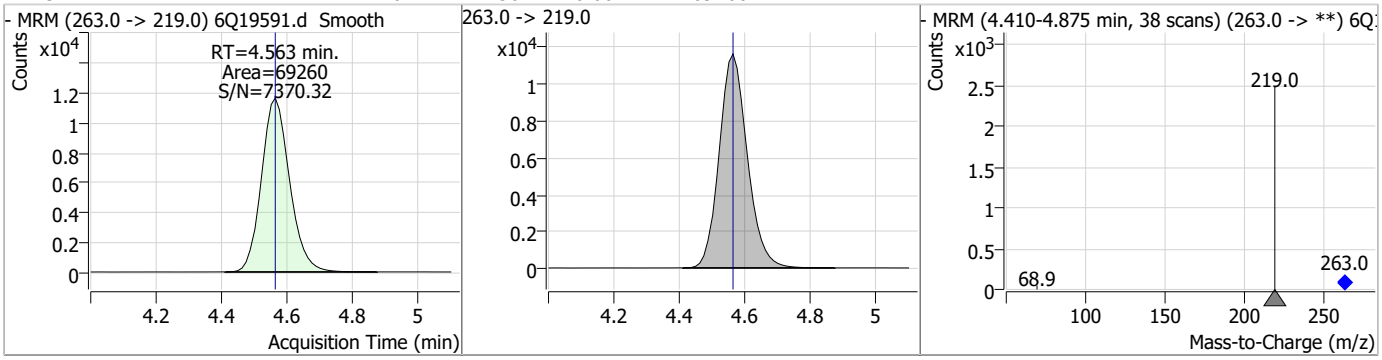
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.02	3.96	0.01	10852	241.0 -> 117.0	13.4	6.7	20.2



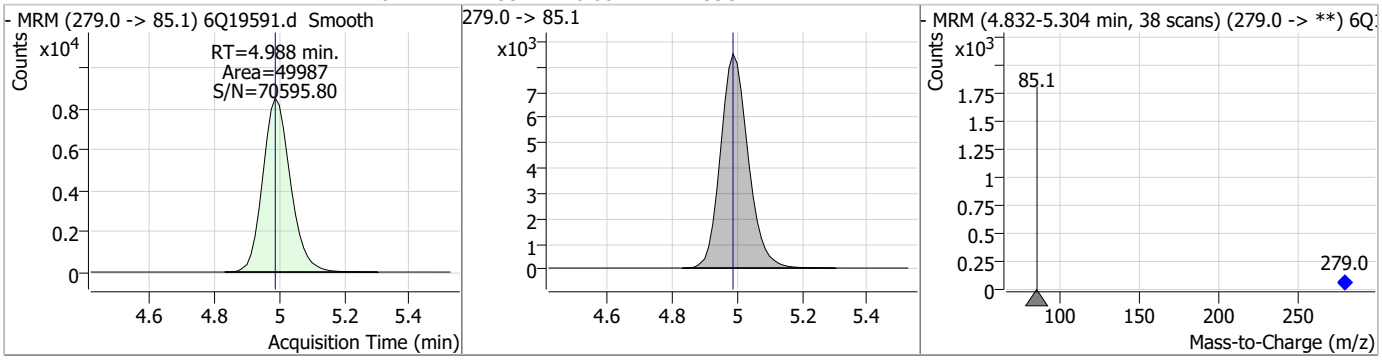
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.18	4.56	0.00	49327				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.76	4.56	0.00	69260				

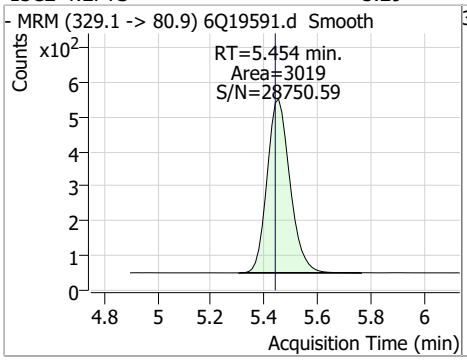


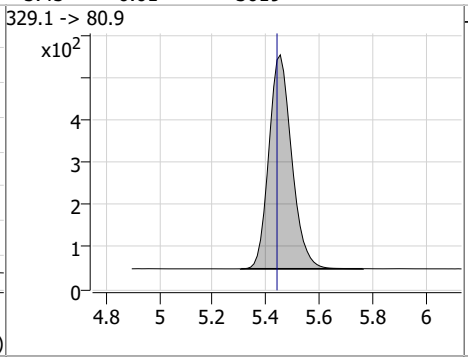
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.82	4.99	0.00	49987				

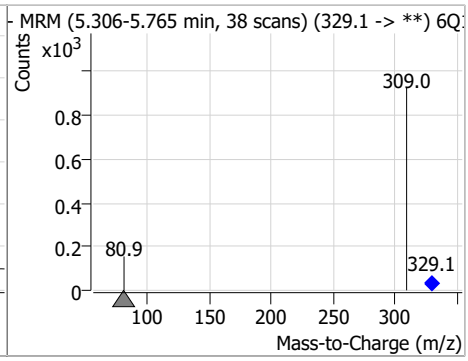


Perfluorinated Compounds by LC/MS/MS

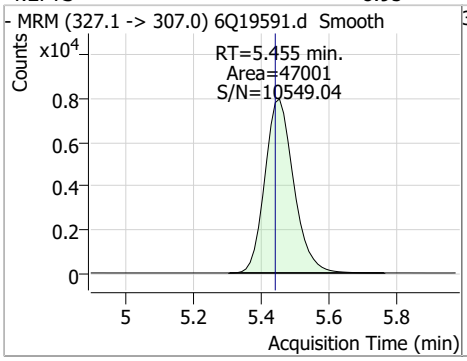
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.29	5.45	0.01	3019				

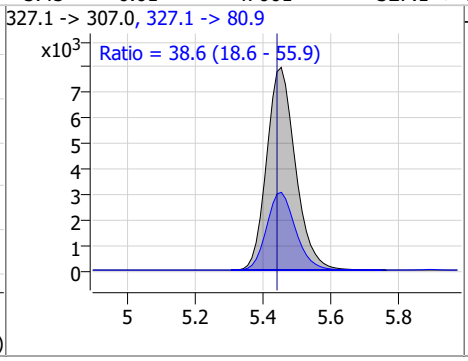


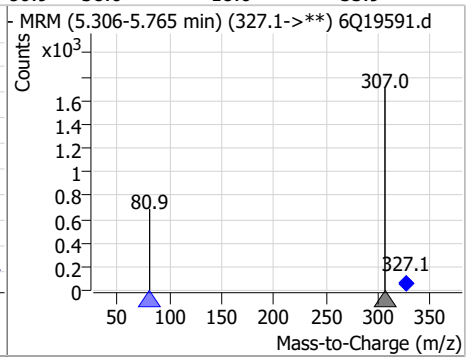




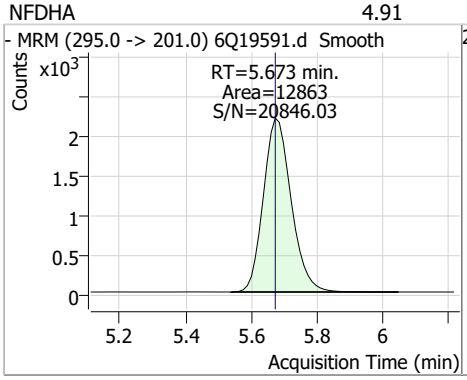
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	8.95	5.45	0.01	47001	327.1 -> 80.9	38.6	18.6	55.9

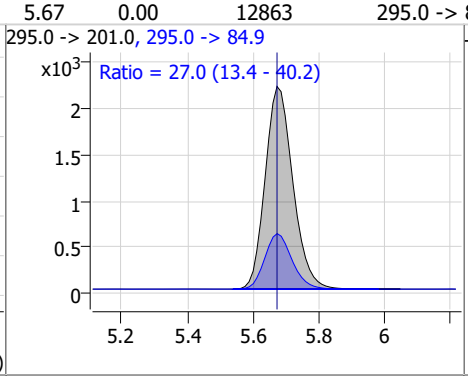


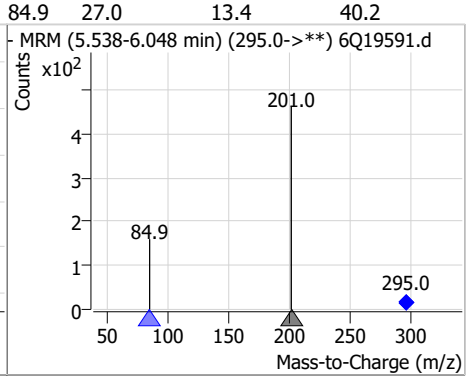




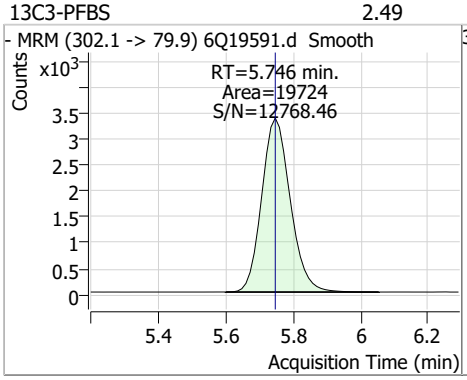
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.91	5.67	0.00	12863	295.0 -> 84.9	27.0	13.4	40.2

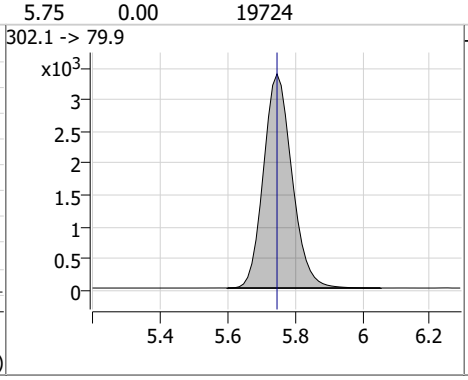


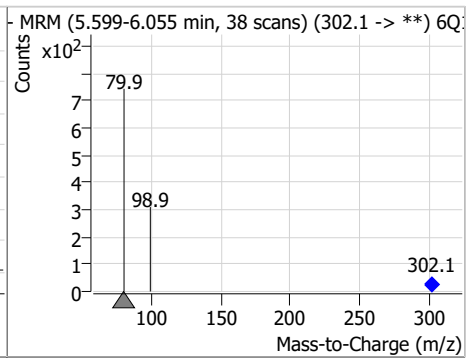




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.49	5.75	0.00	19724				

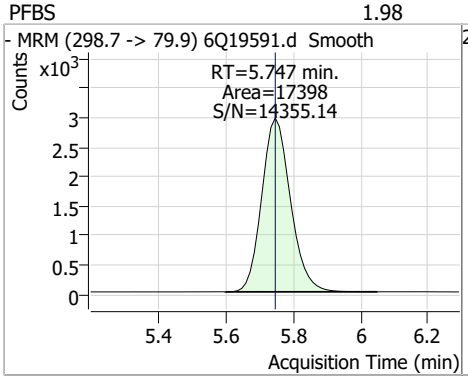


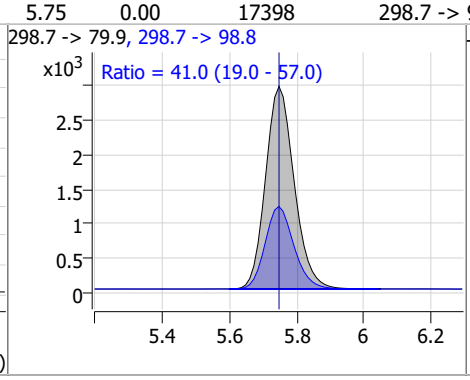


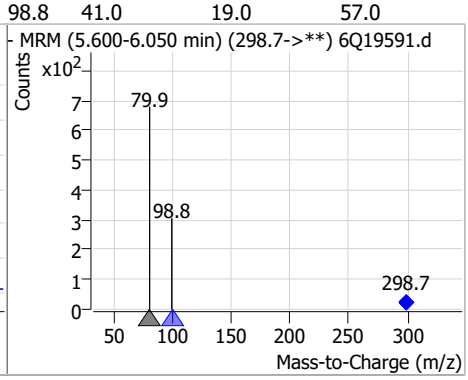


Perfluorinated Compounds by LC/MS/MS

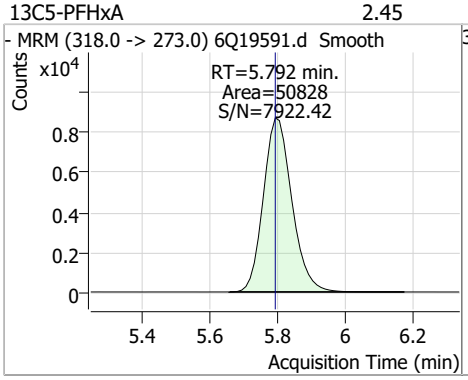
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.98	5.75	0.00	17398	298.7 -> 98.8	41.0	19.0	57.0

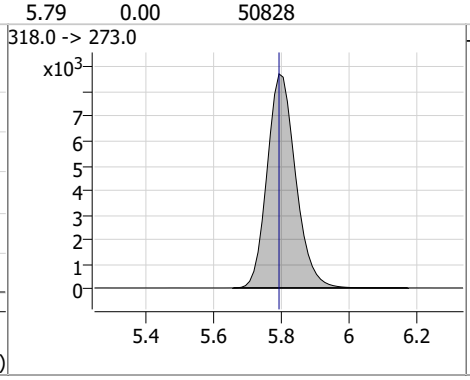


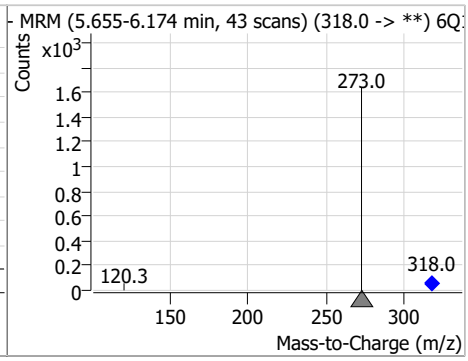




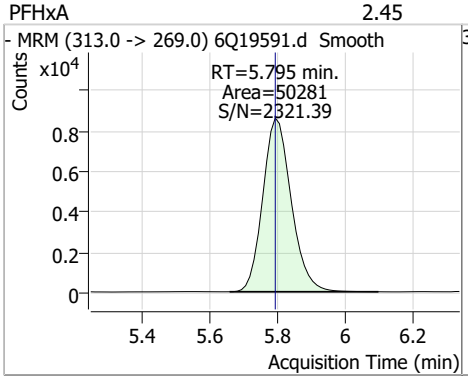
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.45	5.79	0.00	50828				

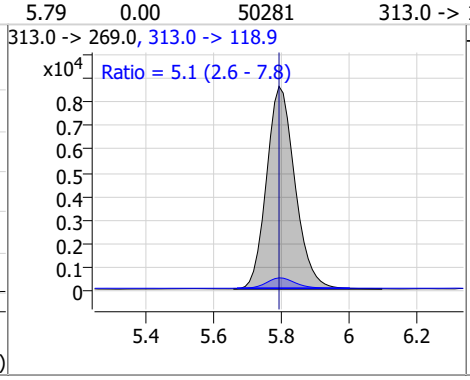


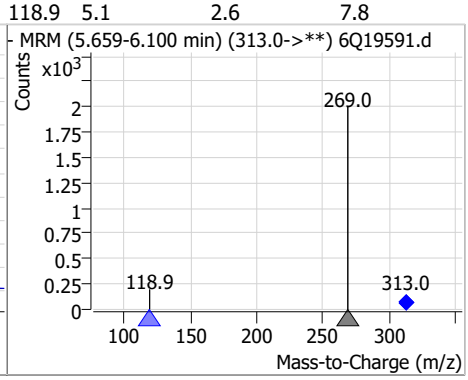




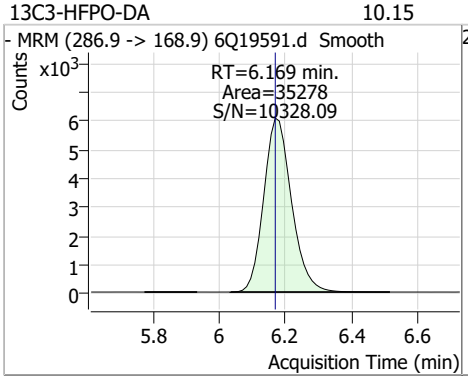
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.45	5.79	0.00	50281	313.0 -> 118.9	5.1	2.6	7.8

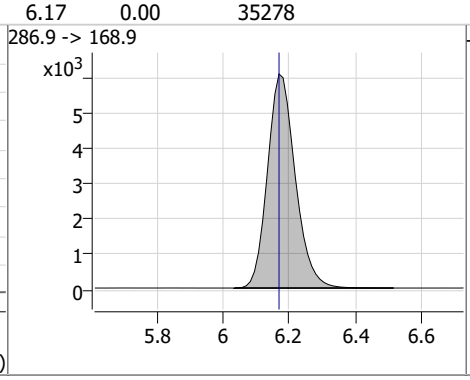


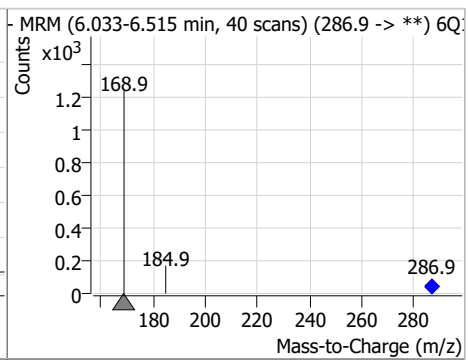




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.15	6.17	0.00	35278				

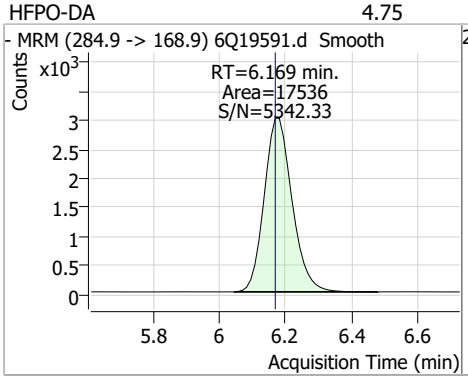


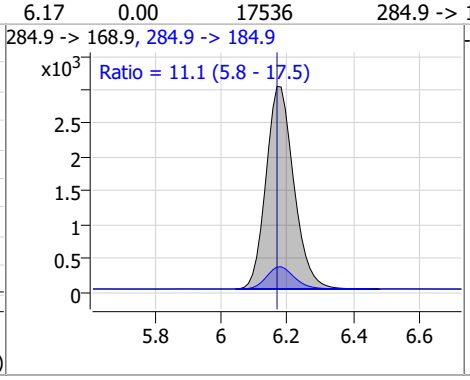


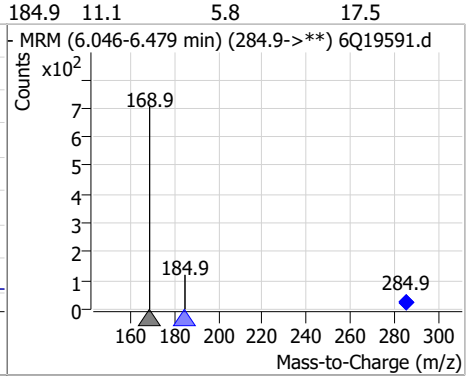


Perfluorinated Compounds by LC/MS/MS

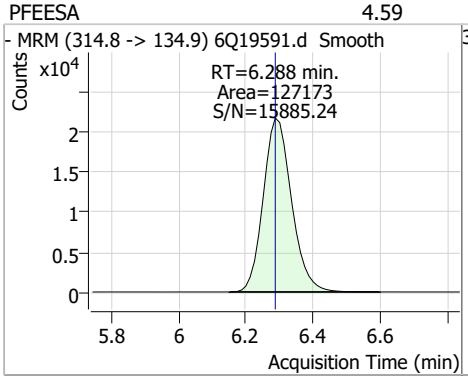
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.75	6.17	0.00	17536	284.9 -> 184.9	11.1	5.8	17.5

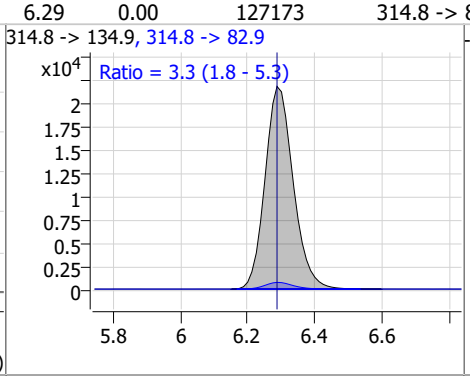


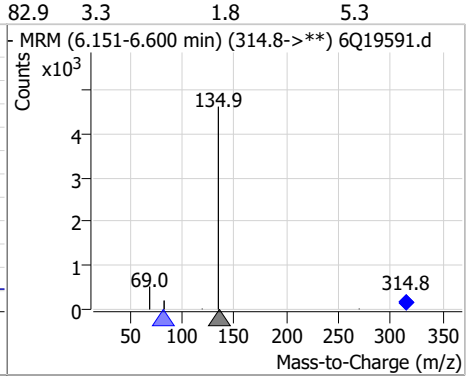




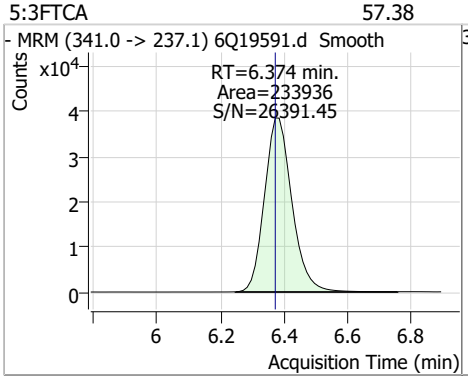
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.59	6.29	0.00	127173	314.8 -> 82.9	3.3	1.8	5.3

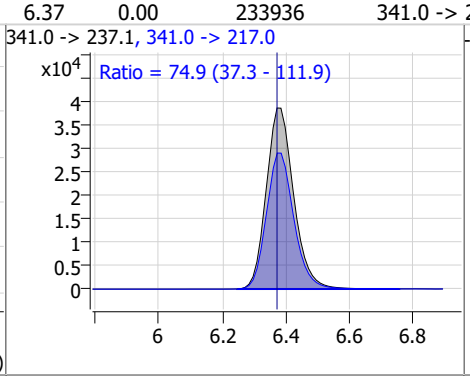


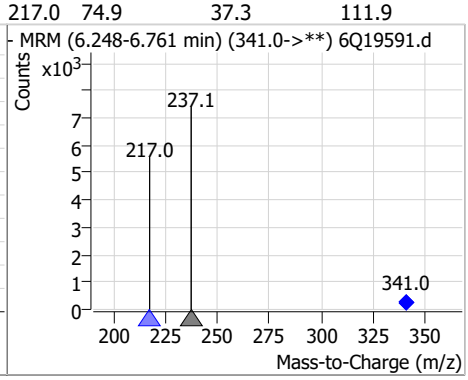




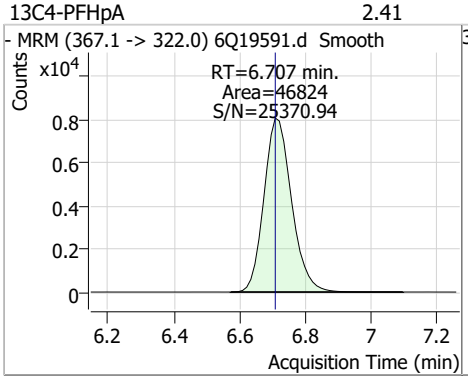
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	57.38	6.37	0.00	233936	341.0 -> 217.0	74.9	37.3	111.9

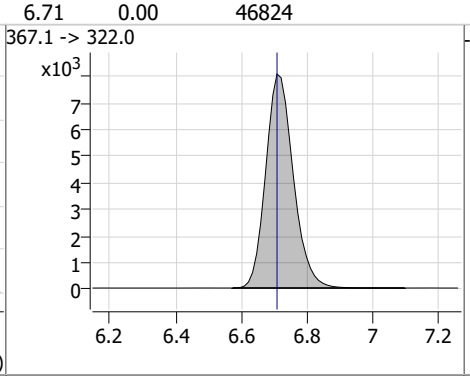


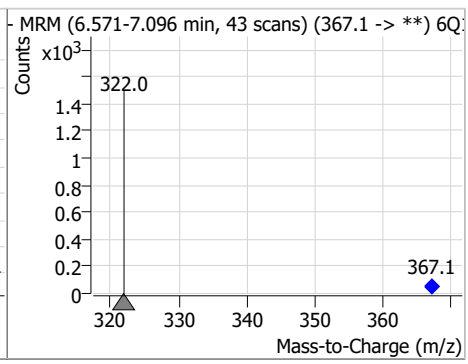




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.41	6.71	0.00	46824				

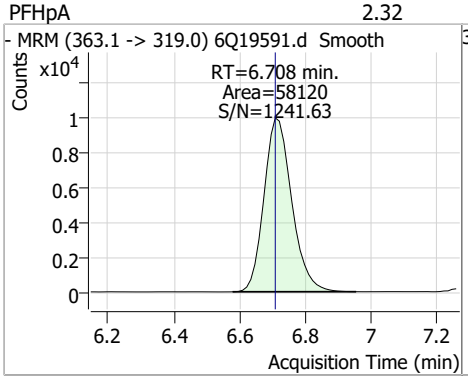


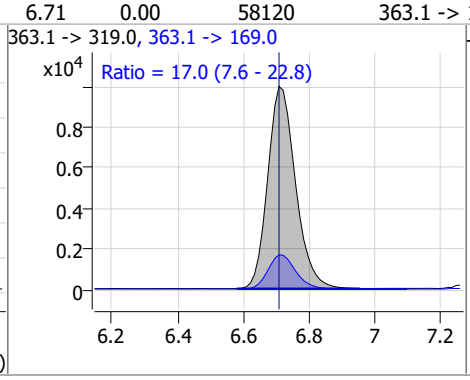


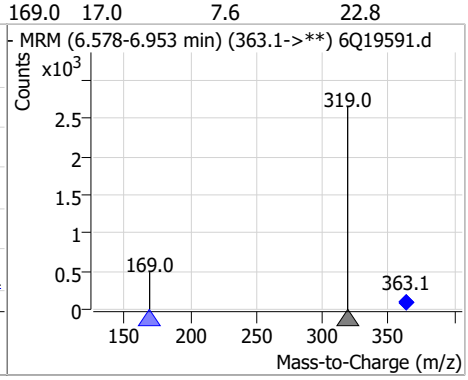


Perfluorinated Compounds by LC/MS/MS

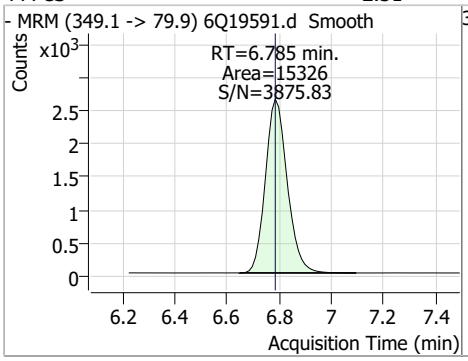
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.32	6.71	0.00	58120	363.1 -> 169.0	17.0	7.6	22.8

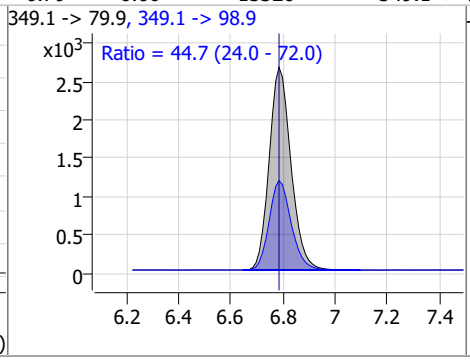


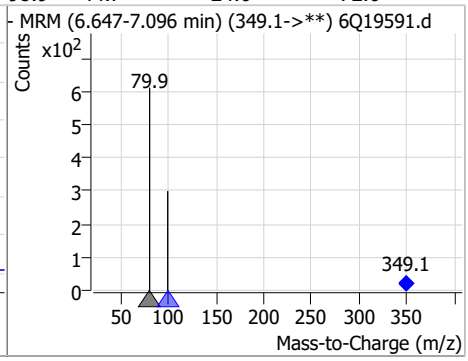




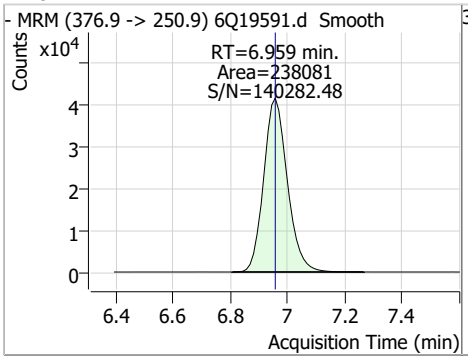
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.31	6.79	0.00	15326	349.1 -> 98.9	44.7	24.0	72.0

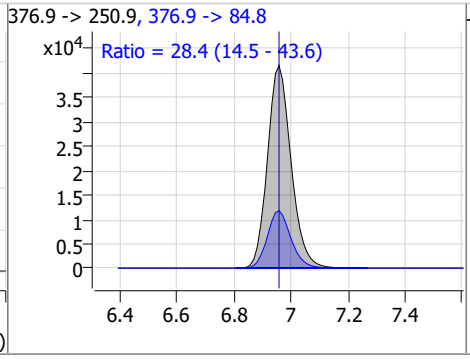


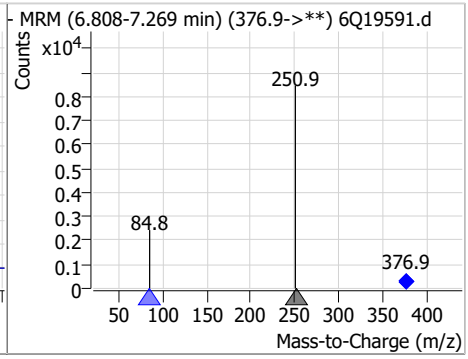




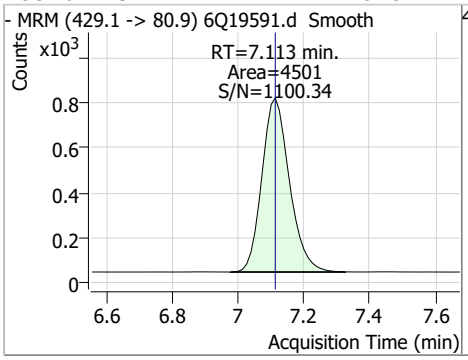
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.17	6.96	0.00	238081	376.9 -> 84.8	28.4	14.5	43.6

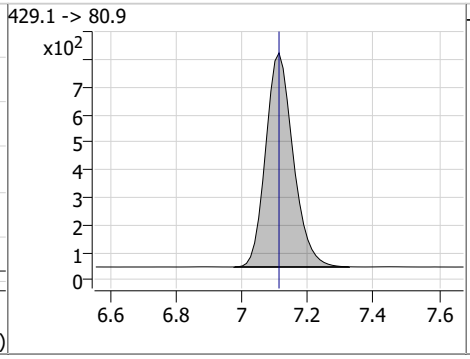


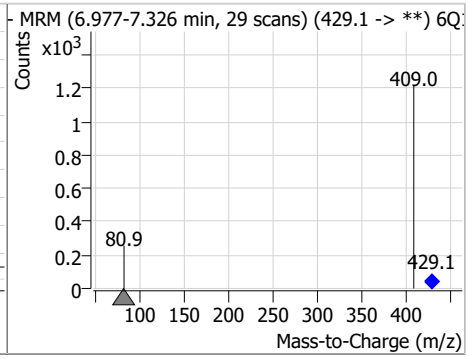




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.23	7.11	0.00	4501				

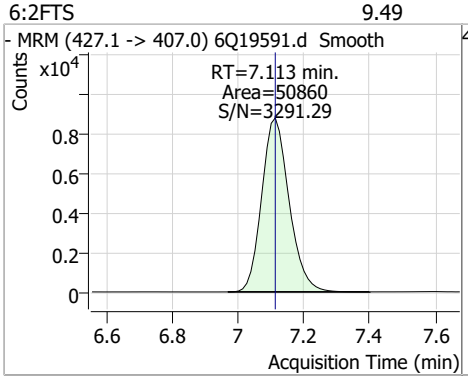


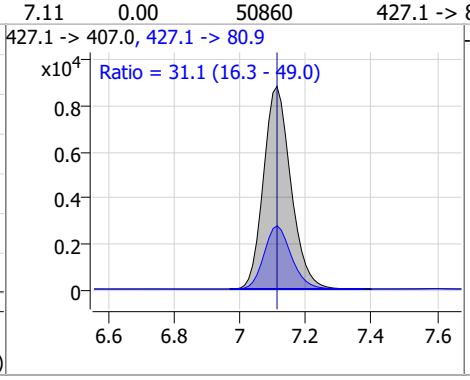


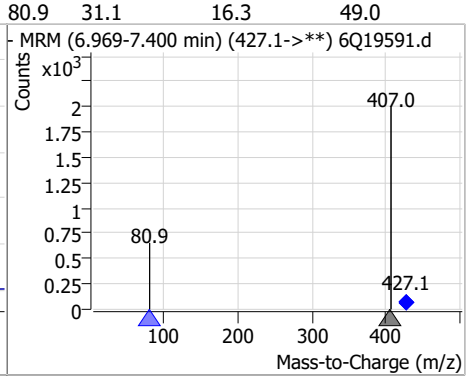


Perfluorinated Compounds by LC/MS/MS

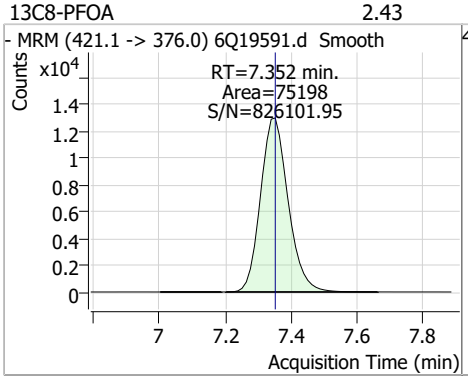
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.49	7.11	0.00	50860	427.1 -> 80.9	31.1	16.3	49.0

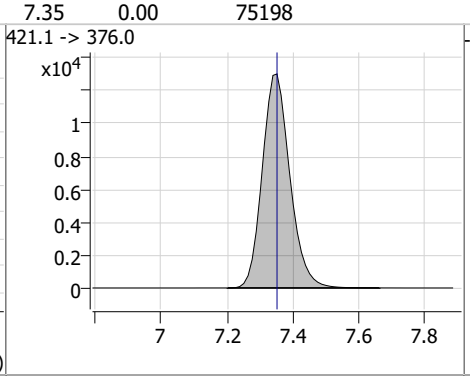


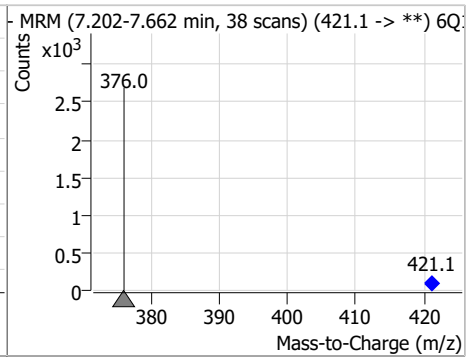




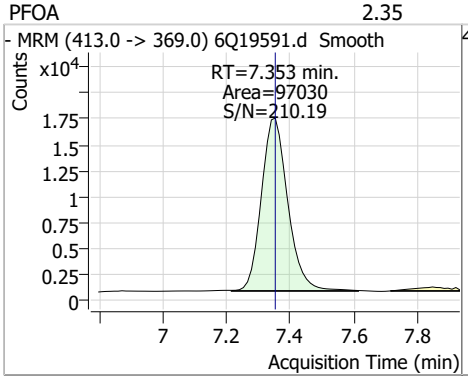
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.43	7.35	0.00	75198				

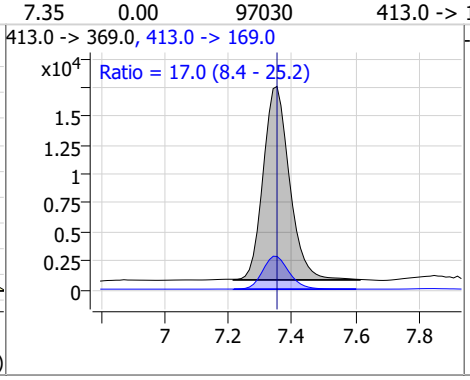


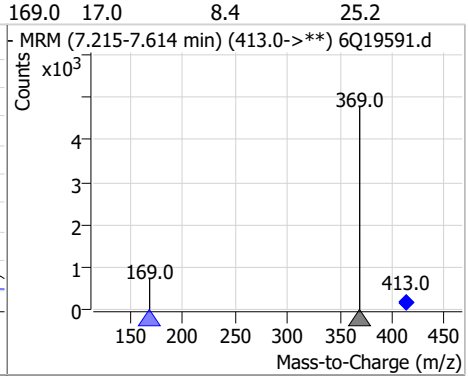




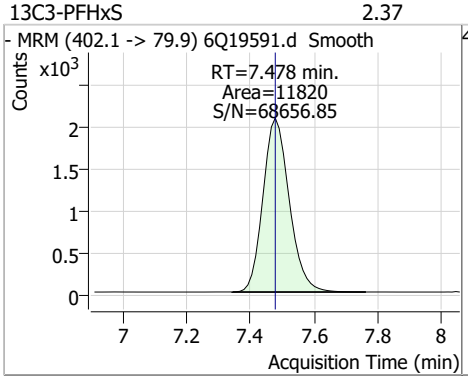
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.35	7.35	0.00	97030	413.0 -> 169.0	17.0	8.4	25.2

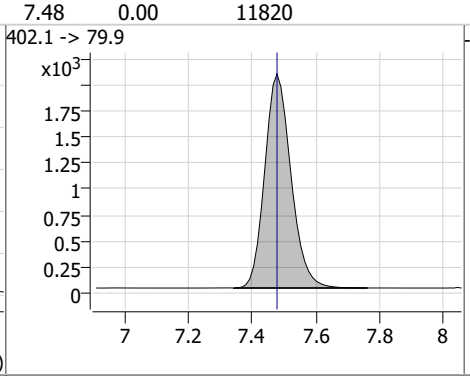


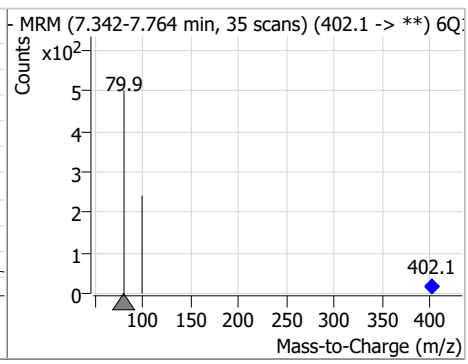




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.37	7.48	0.00	11820				

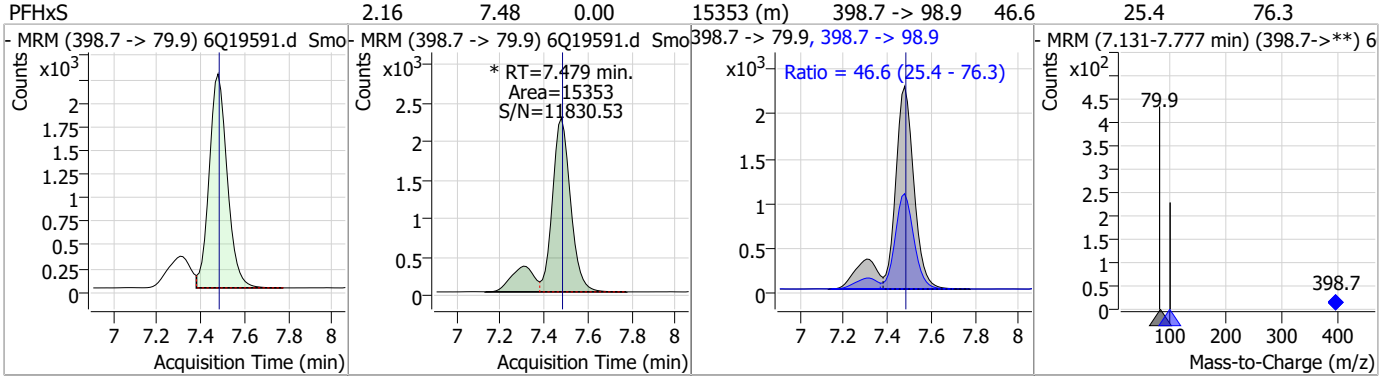




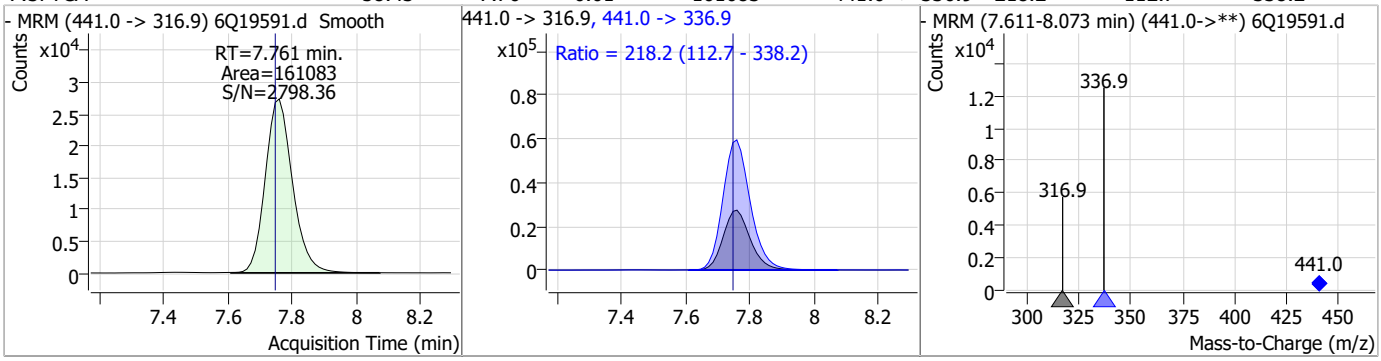


Perfluorinated Compounds by LC/MS/MS

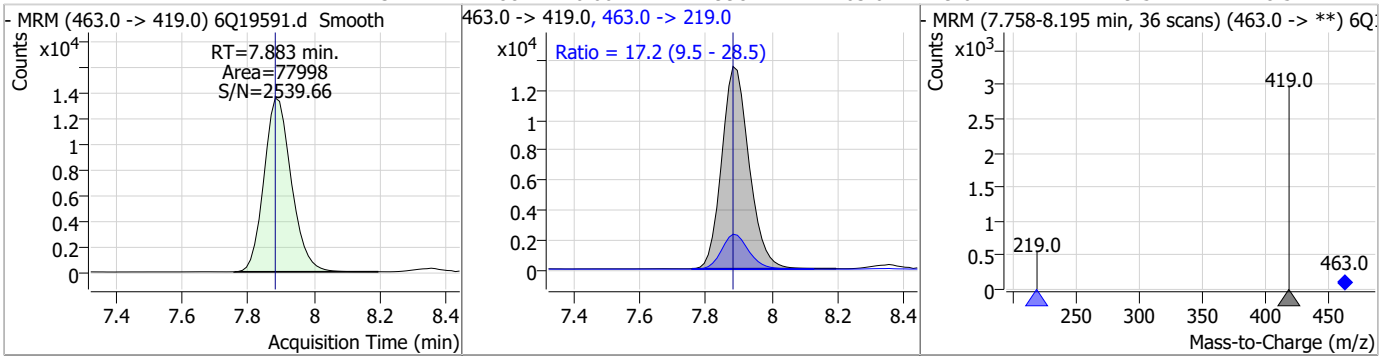
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.16	7.48	0.00	15353 (m)	398.7 -> 98.9	46.6	25.4	76.3



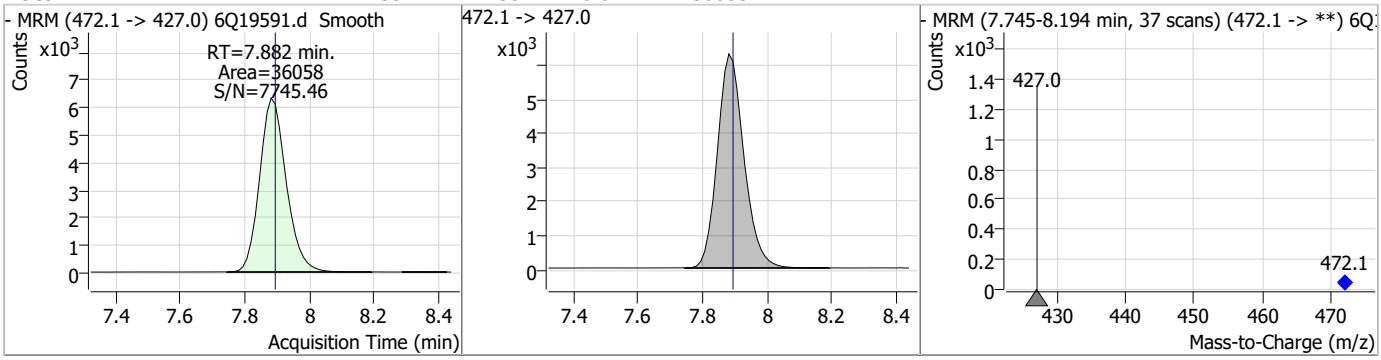
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	58.43	7.76	0.01	161083	441.0 -> 336.9	218.2	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.34	7.88	0.00	77998	463.0 -> 219.0	17.2	9.5	28.5

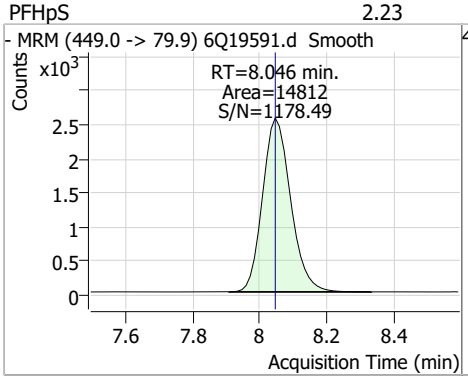


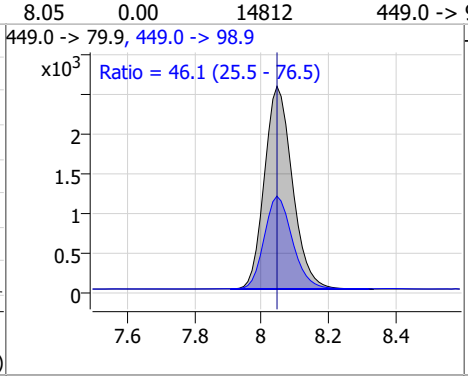
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.33	7.88	-0.01	36058				

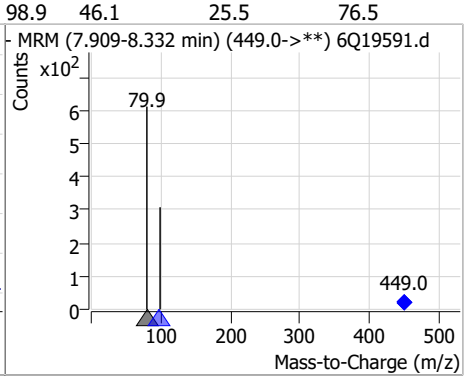


Perfluorinated Compounds by LC/MS/MS

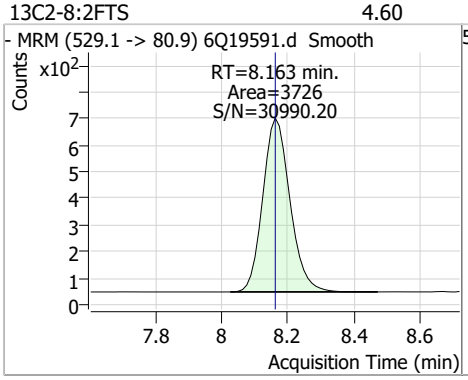
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.23	8.05	0.00	14812	449.0 -> 98.9	46.1	25.5	76.5

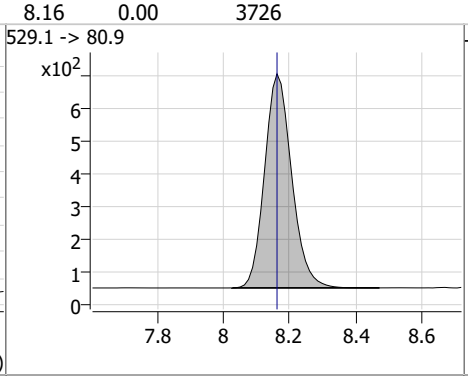


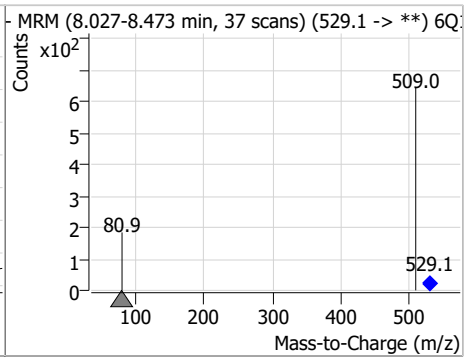




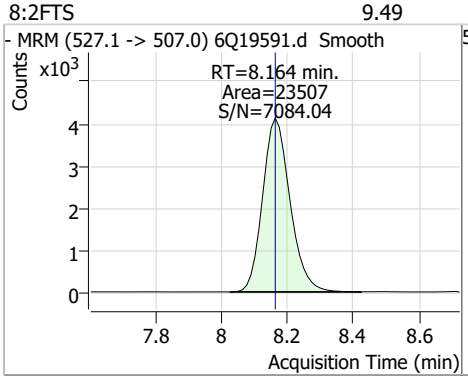
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.60	8.16	0.00	3726				

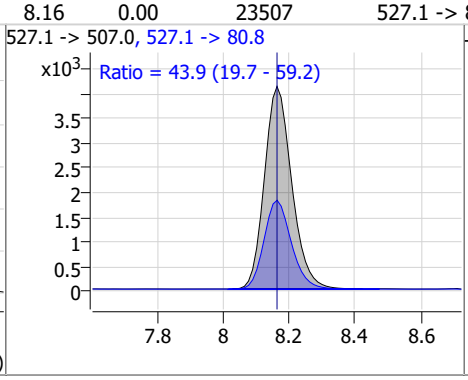


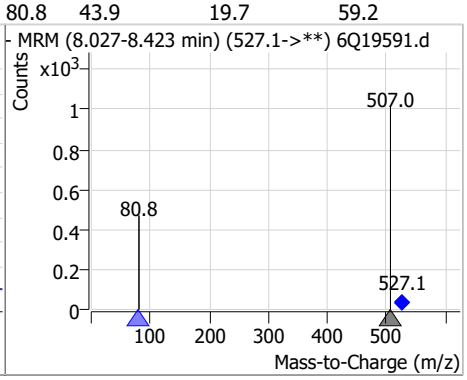




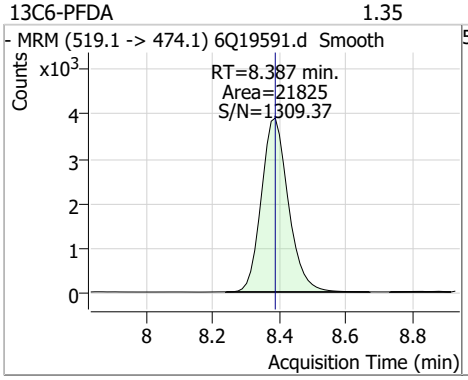
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.49	8.16	0.00	23507	527.1 -> 80.8	43.9	19.7	59.2

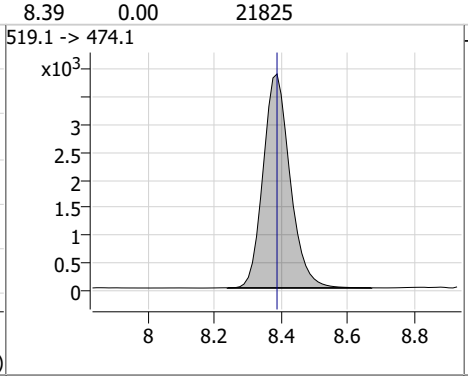


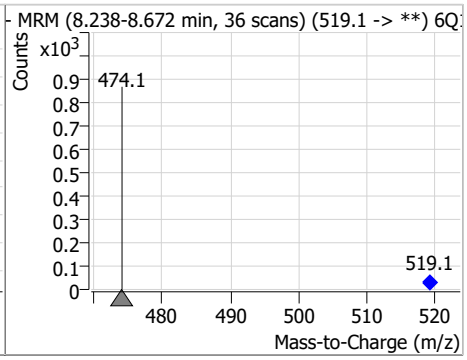




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.35	8.39	0.00	21825				

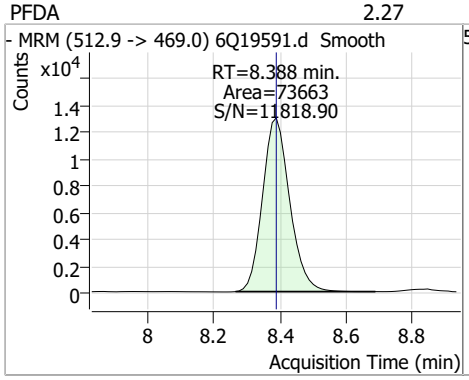


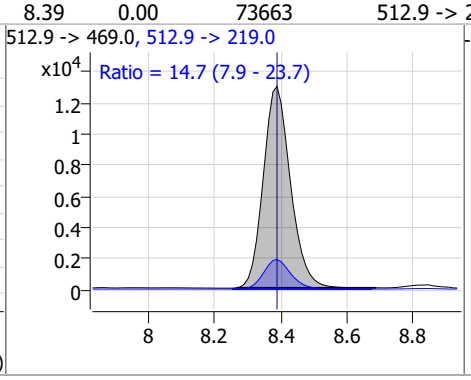


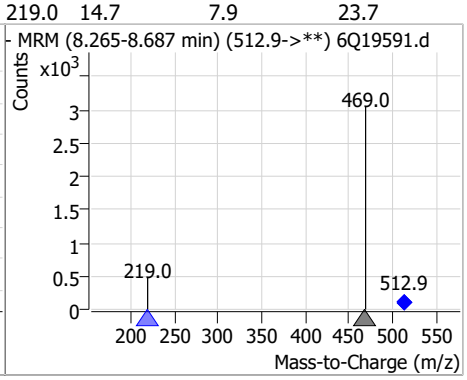


Perfluorinated Compounds by LC/MS/MS

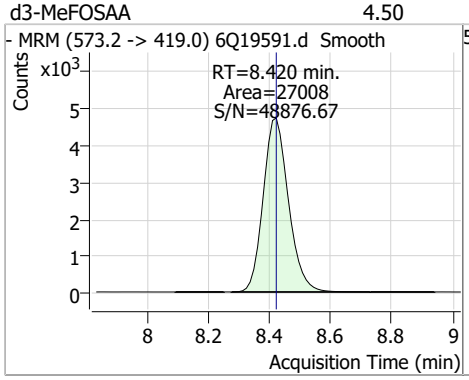
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.27	8.39	0.00	73663	512.9 -> 219.0	14.7	7.9	23.7

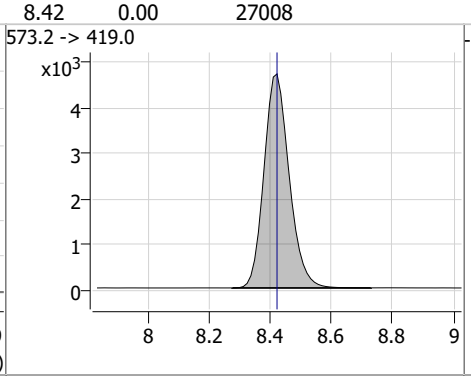


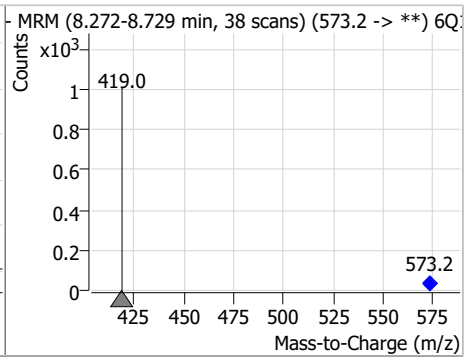




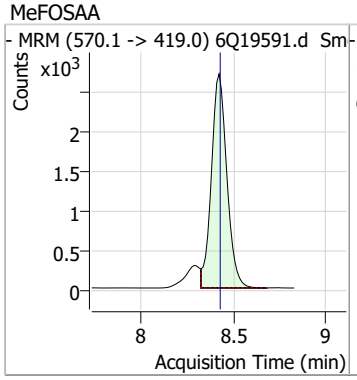
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.50	8.42	0.00	27008				

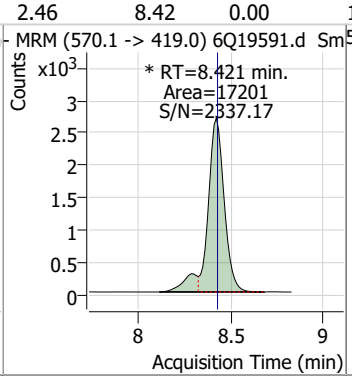


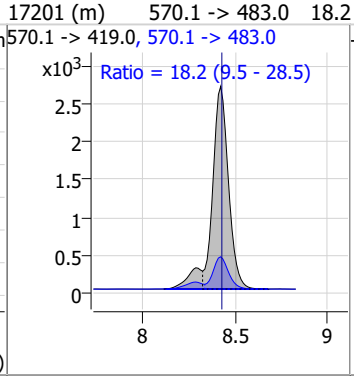


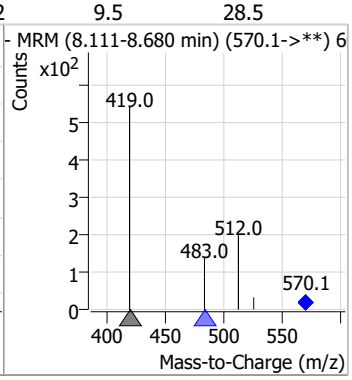


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.46	8.42	0.00	17201 (m)	570.1 -> 483.0	18.2	9.5	28.5

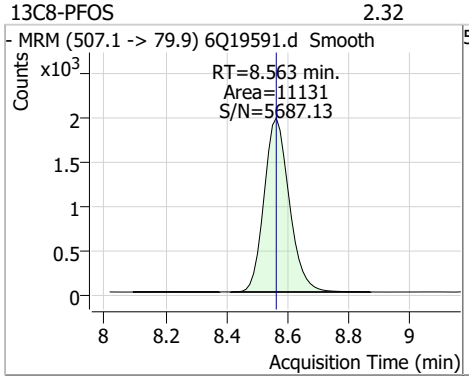


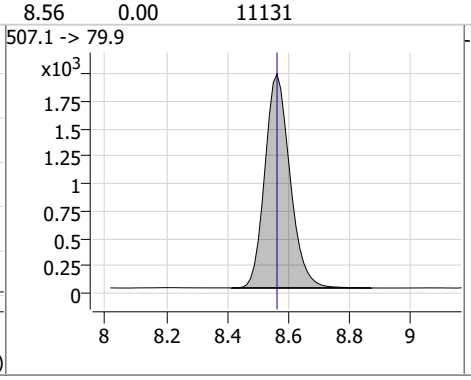


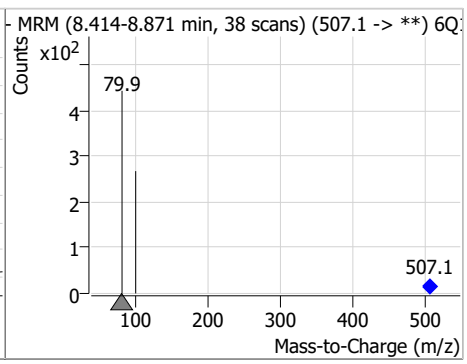




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.32	8.56	0.00	11131				

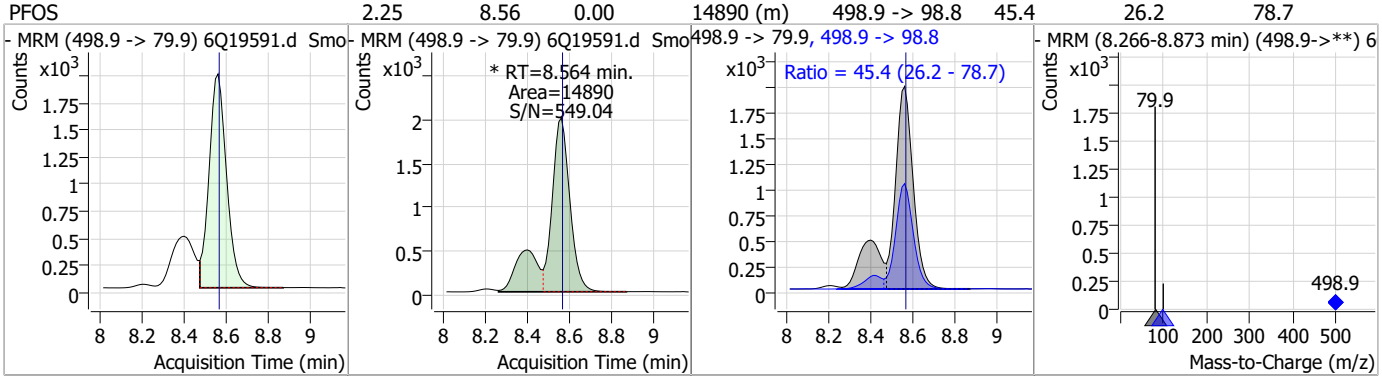




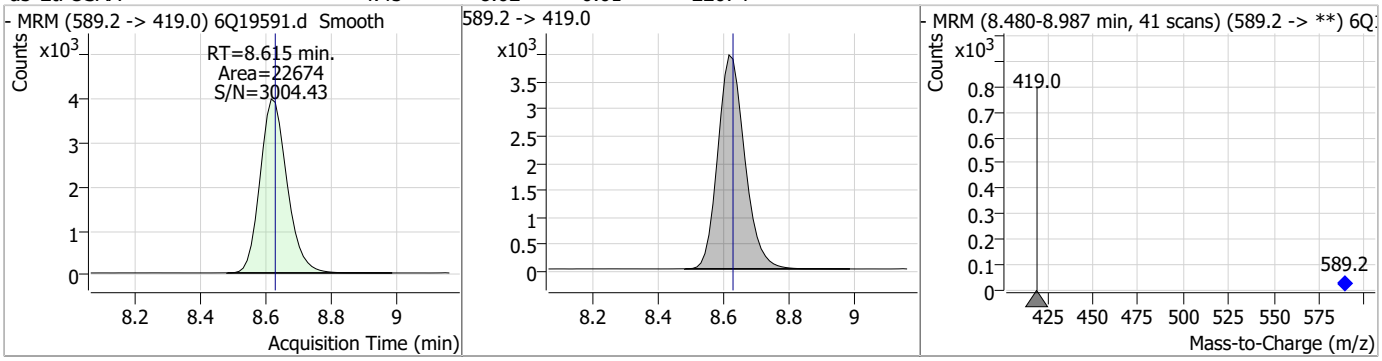


Perfluorinated Compounds by LC/MS/MS

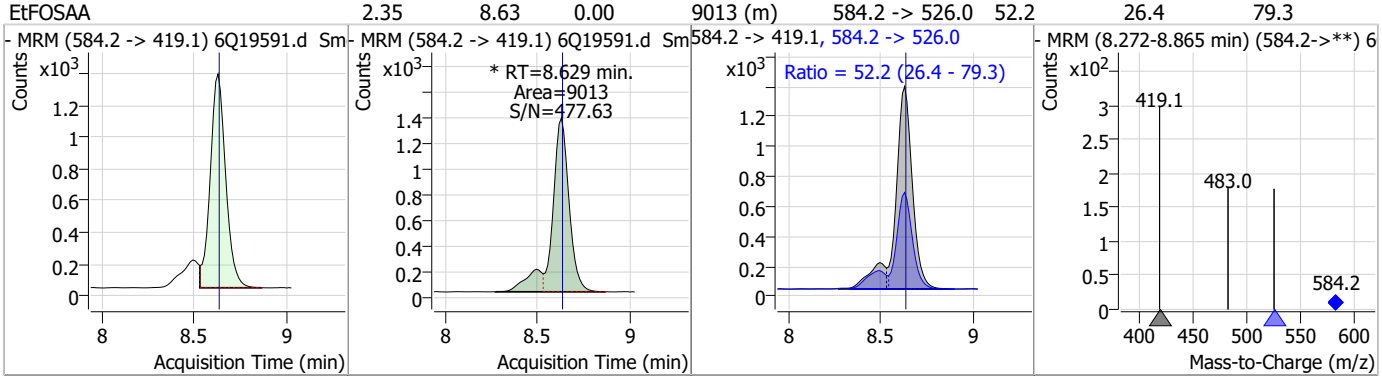
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.25	8.56	0.00	14890 (m)	498.9 -> 98.8	45.4	26.2	78.7



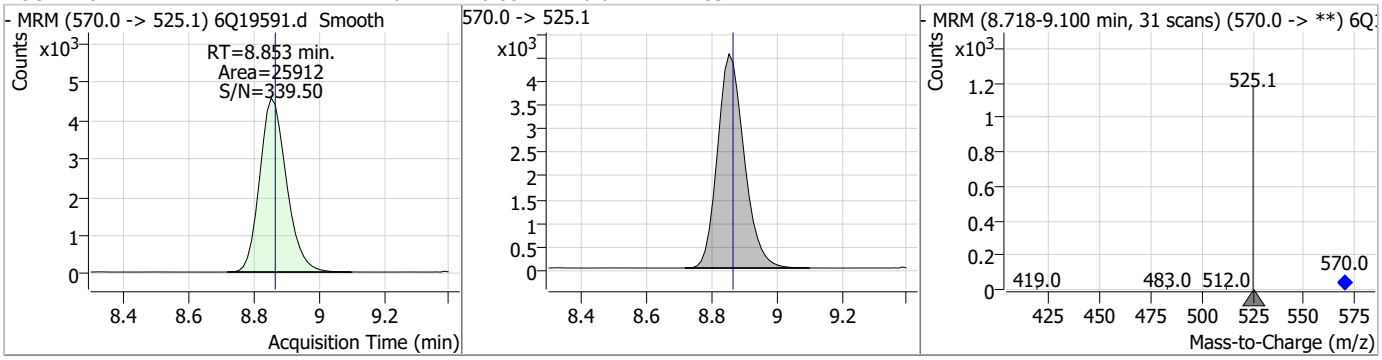
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.45	8.62	-0.01	22674				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.35	8.63	0.00	9013 (m)	584.2 -> 526.0	52.2	26.4	79.3

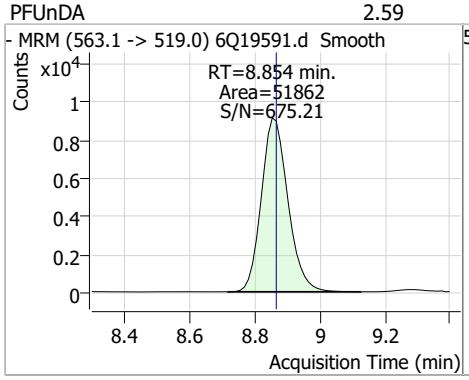


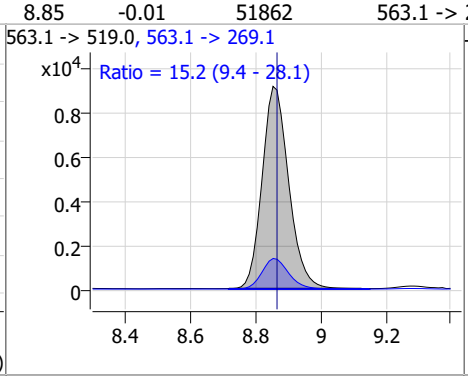
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.20	8.85	-0.01	25912				

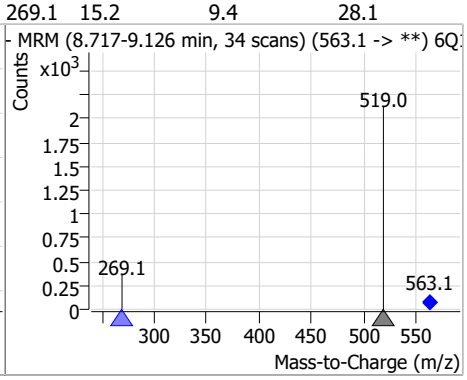


Perfluorinated Compounds by LC/MS/MS

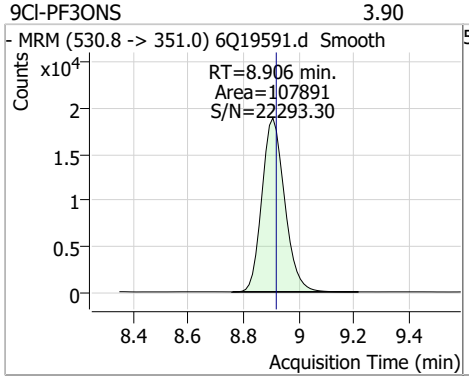
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.59	8.85	-0.01	51862	563.1 -> 269.1	15.2	9.4	28.1

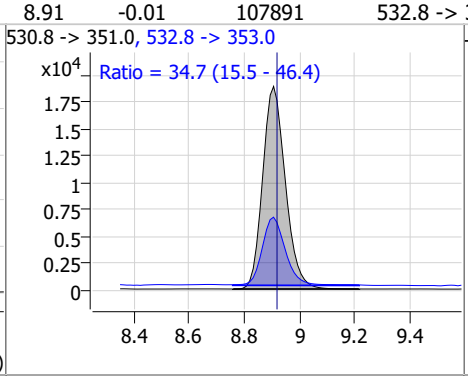


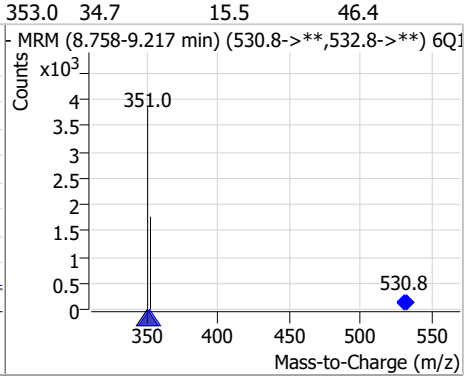




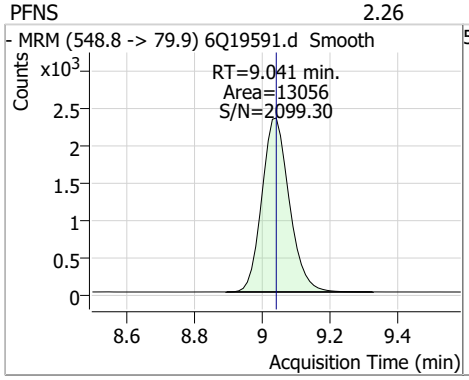
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	3.90	8.91	-0.01	107891	532.8 -> 353.0	34.7	15.5	46.4

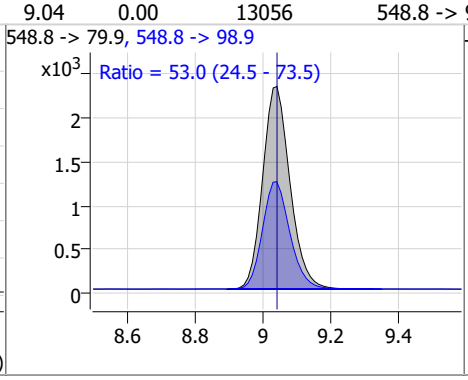


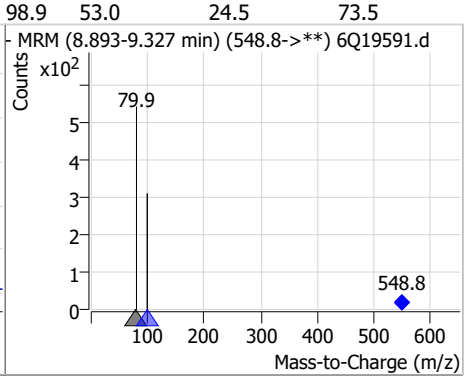




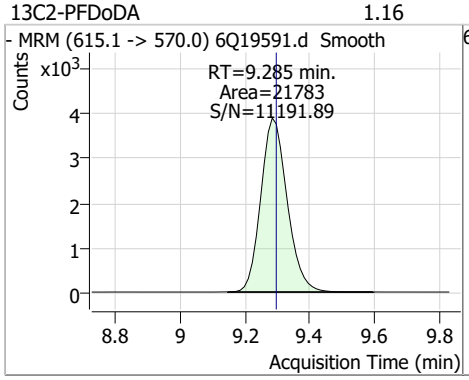
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.26	9.04	0.00	13056	548.8 -> 98.9	53.0	24.5	73.5

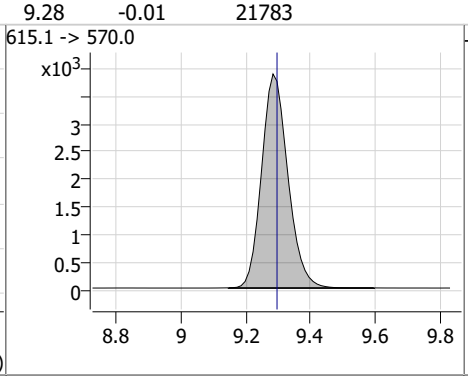


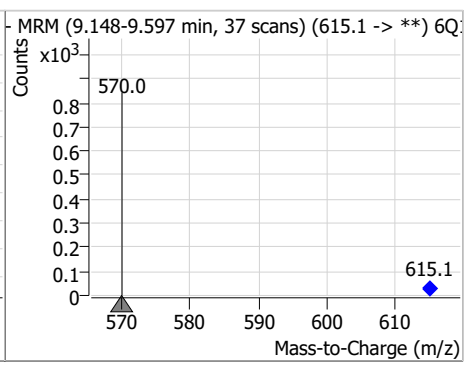




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.16	9.28	-0.01	21783				

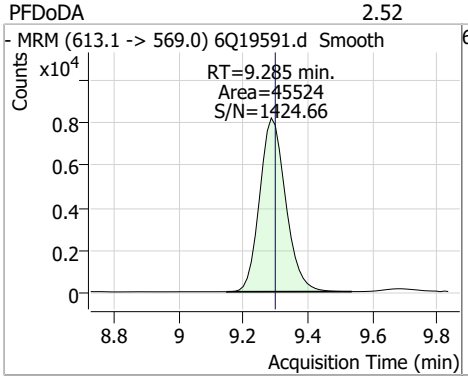


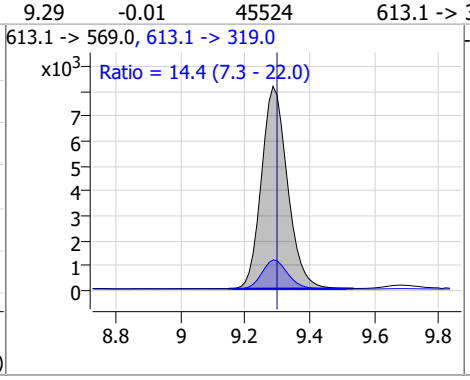


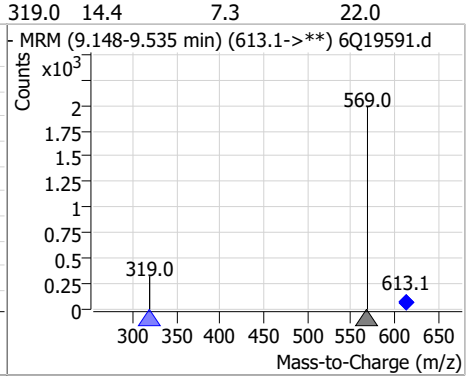


Perfluorinated Compounds by LC/MS/MS

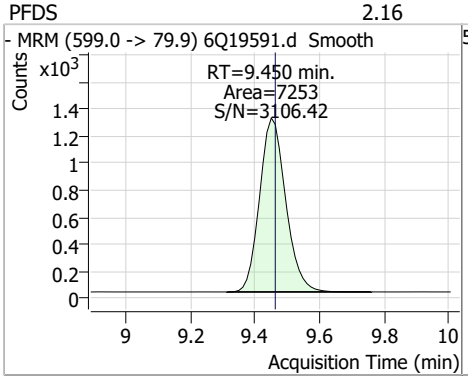
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.52	9.29	-0.01	45524	613.1 -> 319.0	14.4	7.3	22.0

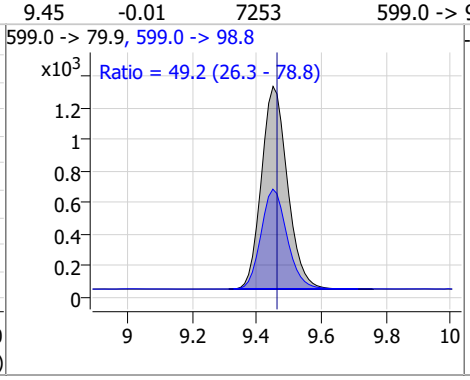


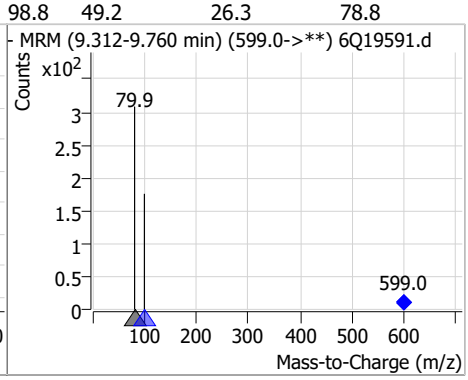




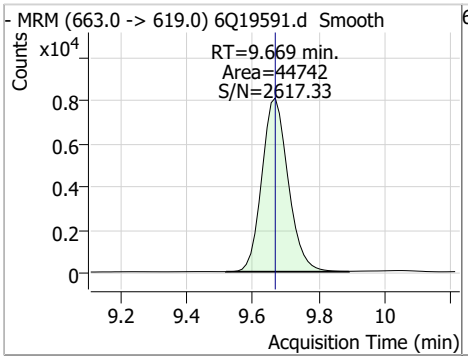
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.16	9.45	-0.01	7253	599.0 -> 98.8	49.2	26.3	78.8

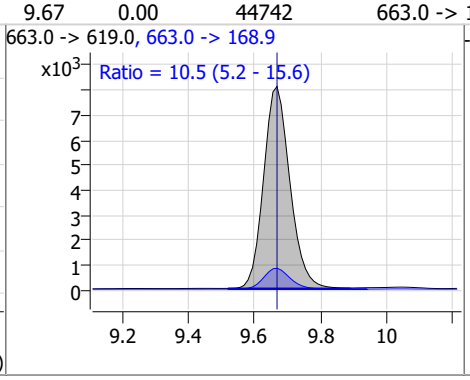


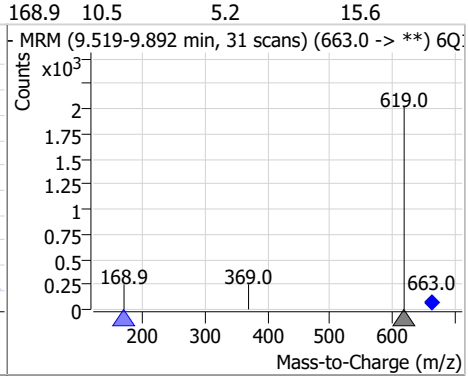




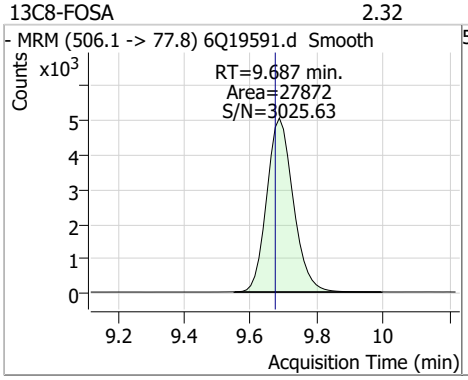
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.44	9.67	0.00	44742	663.0 -> 168.9	10.5	5.2	15.6

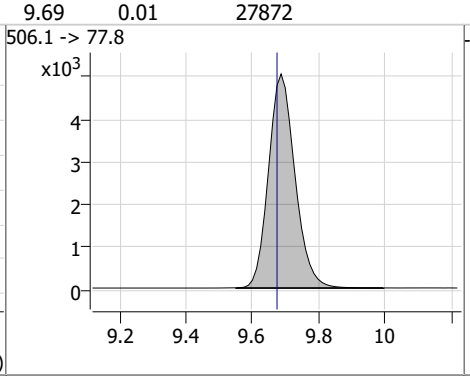


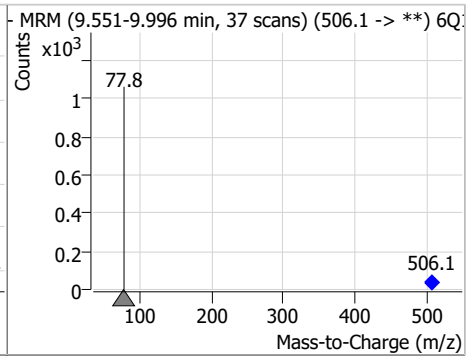




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.32	9.69	0.01	27872				

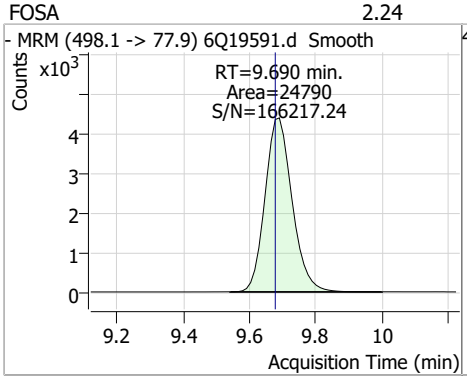


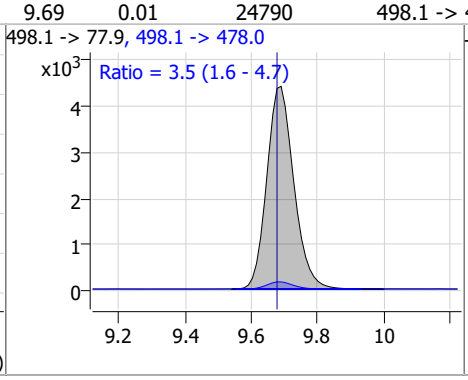


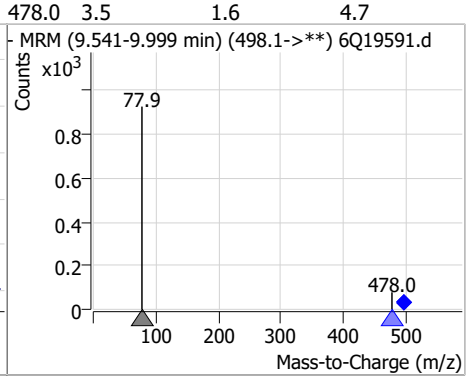


Perfluorinated Compounds by LC/MS/MS

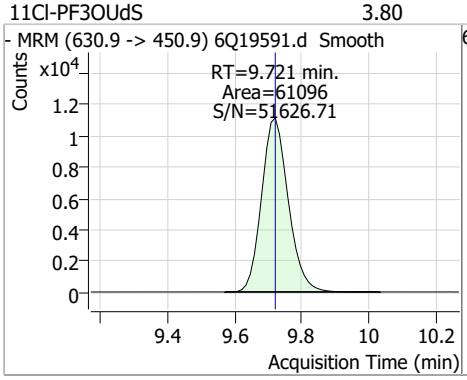
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.24	9.69	0.01	24790	498.1 -> 478.0	3.5	1.6	4.7

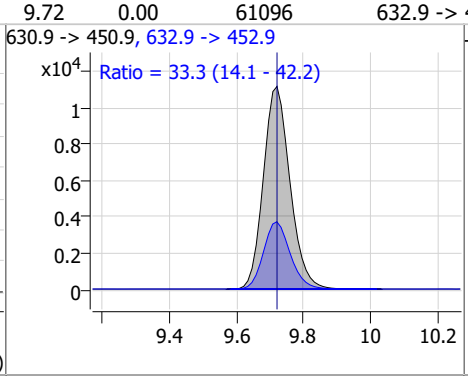


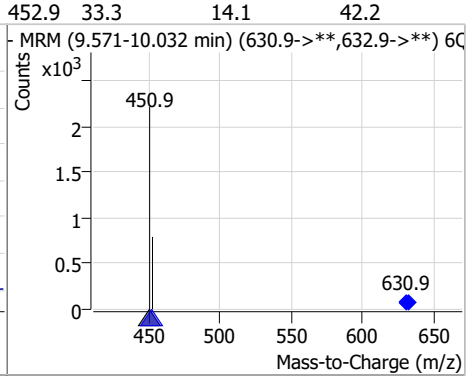




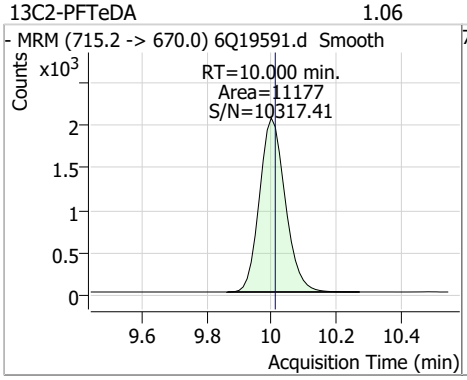
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	3.80	9.72	0.00	61096	632.9 -> 452.9	33.3	14.1	42.2

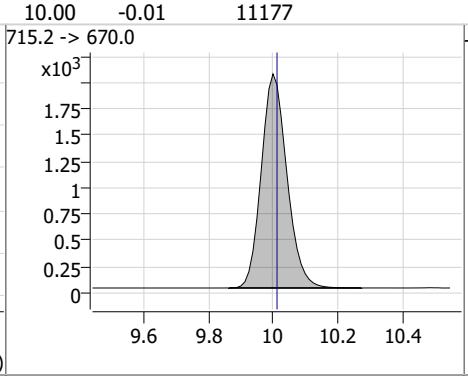


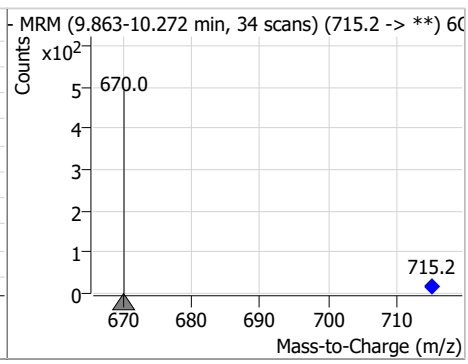




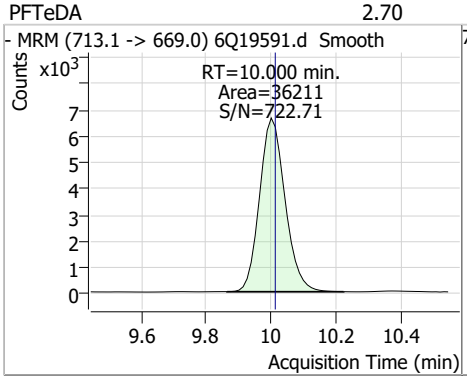
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.06	10.00	-0.01	11177				

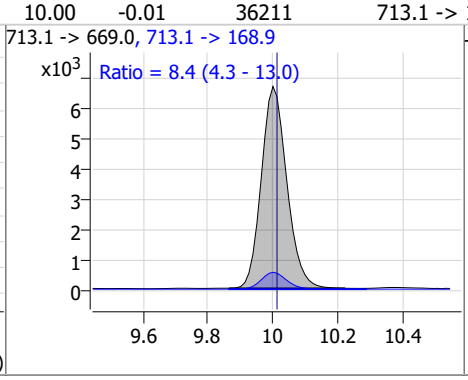


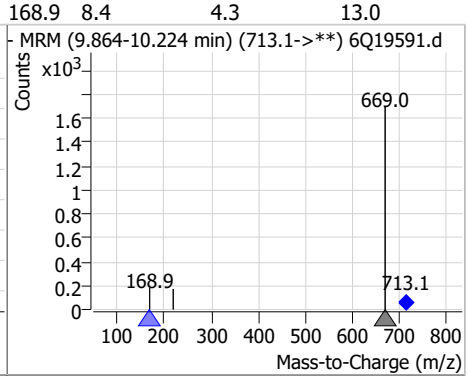




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.70	10.00	-0.01	36211	713.1 -> 168.9	8.4	4.3	13.0

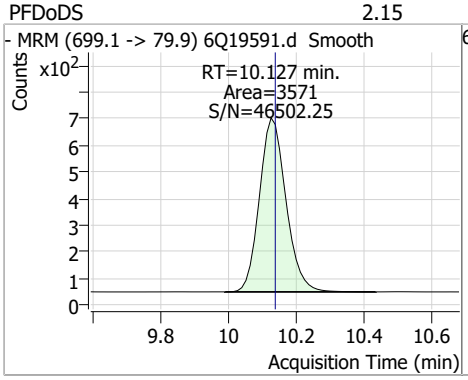


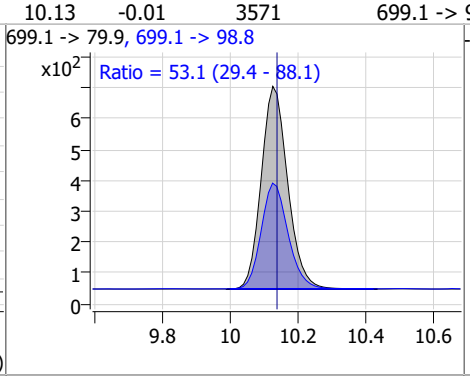


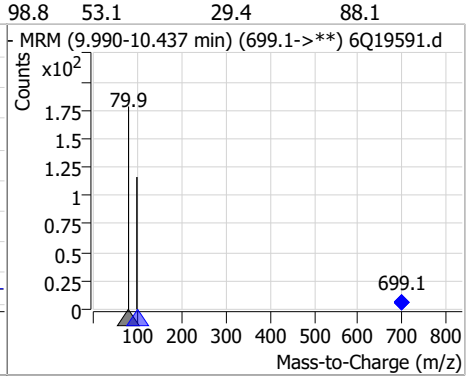


Perfluorinated Compounds by LC/MS/MS

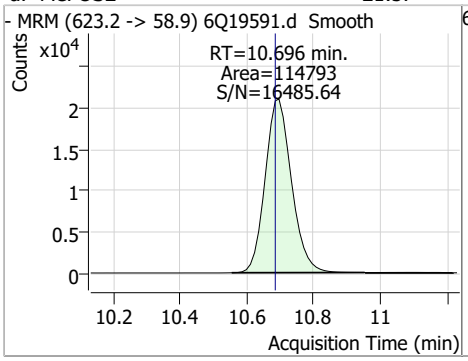
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.15	10.13	-0.01	3571	699.1 -> 98.8	53.1	29.4	88.1

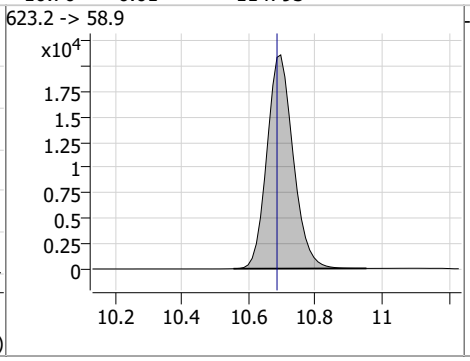


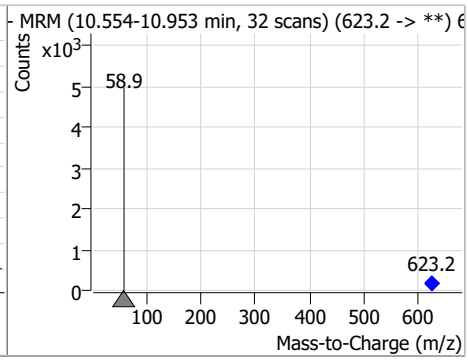




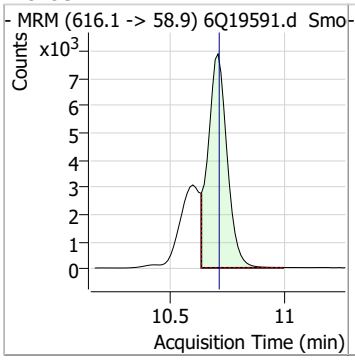
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	21.57	10.70	0.01	114793				

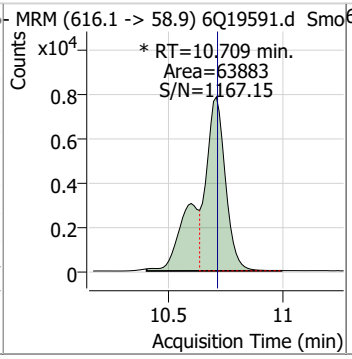


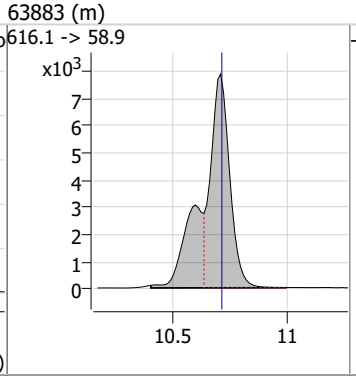


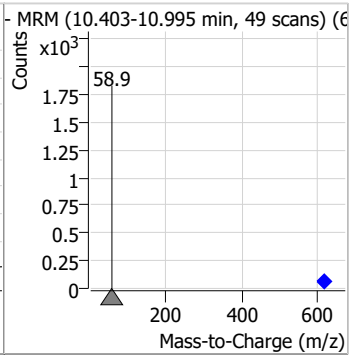


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.84	10.71	0.00	63883 (m)				

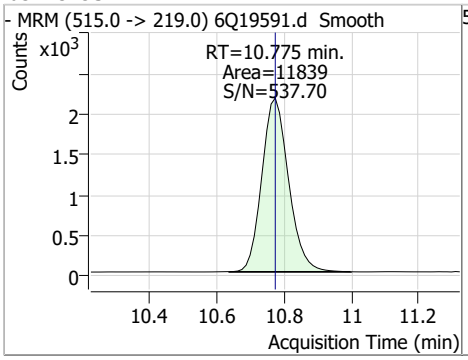


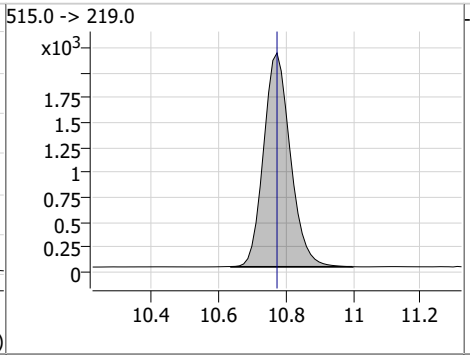


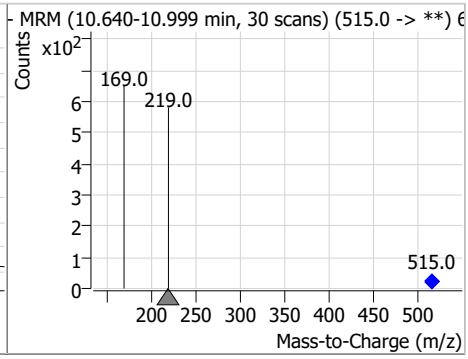




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.27	10.78	0.00	11839				

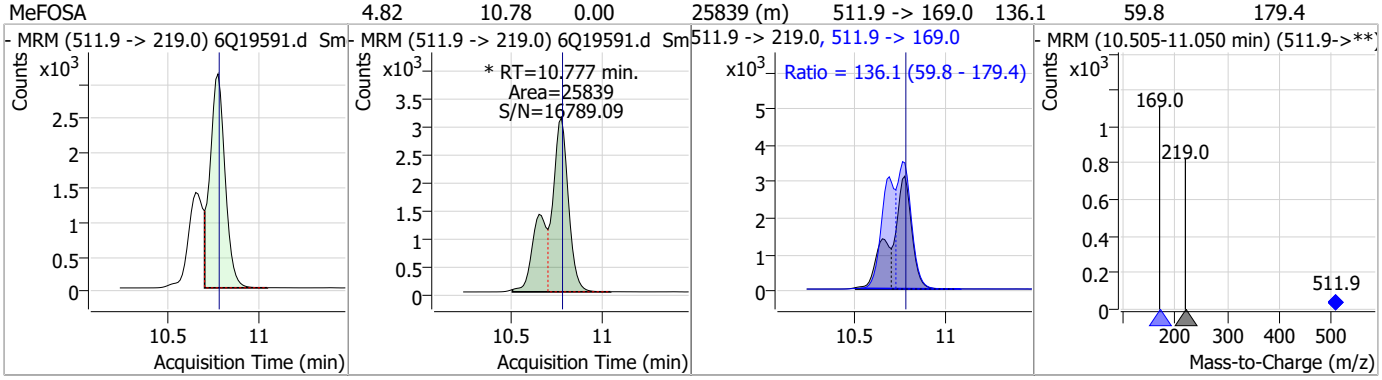




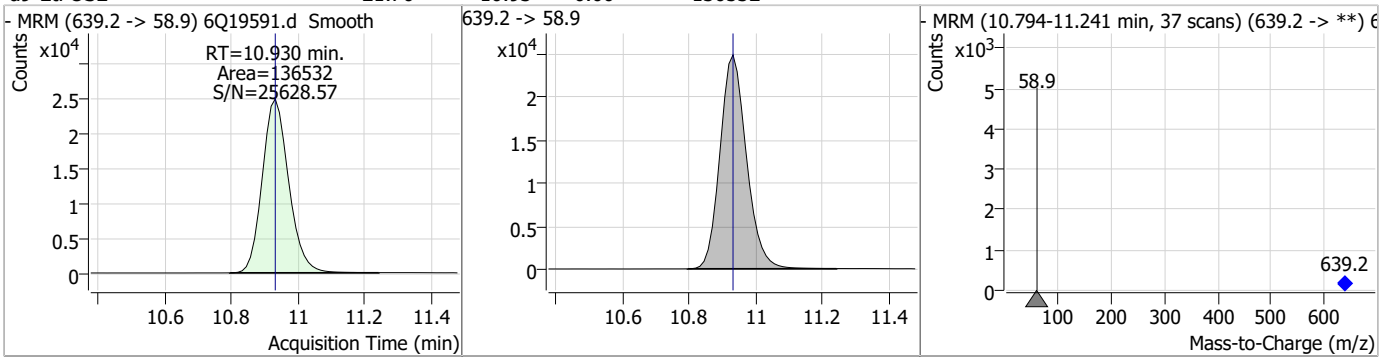


Perfluorinated Compounds by LC/MS/MS

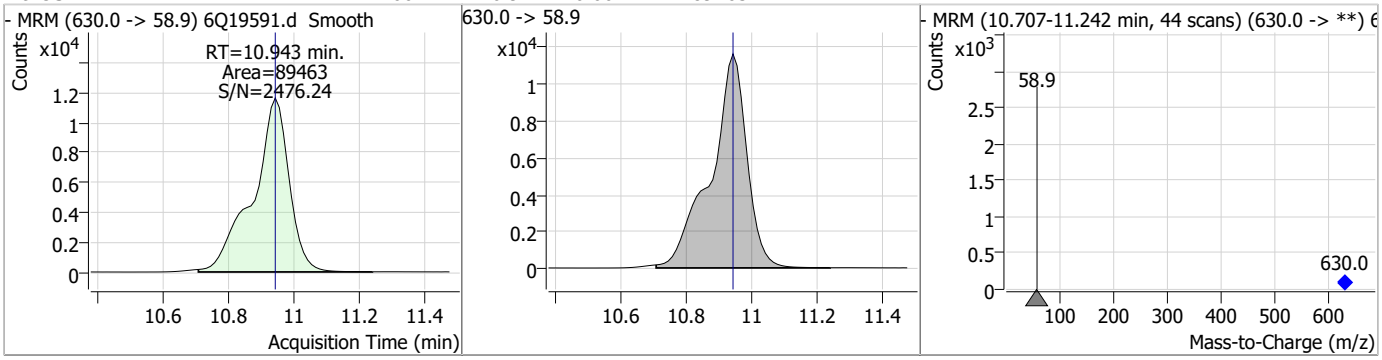
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.82	10.78	0.00	25839 (m)	511.9 -> 169.0	136.1	59.8	179.4



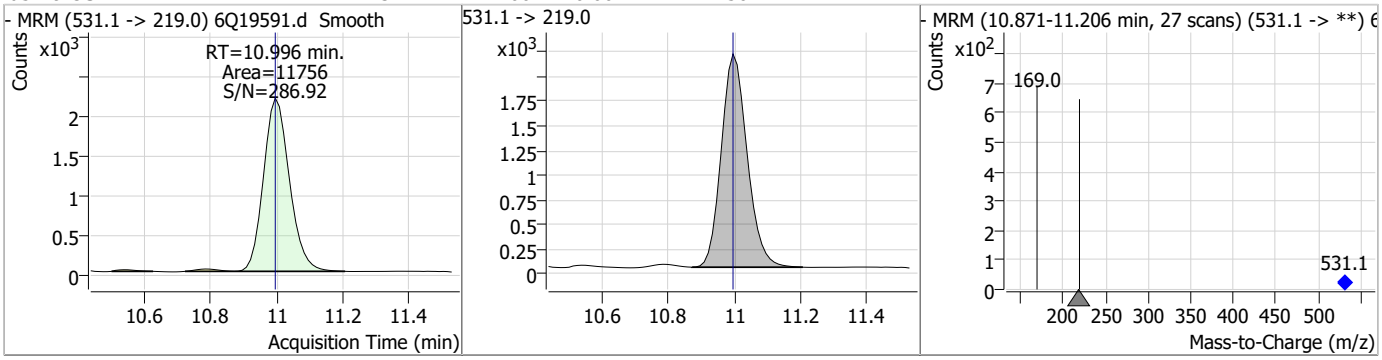
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	21.76	10.93	0.00	136532				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.66	10.94	0.00	89463				

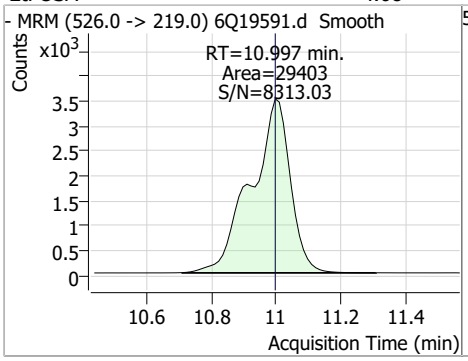


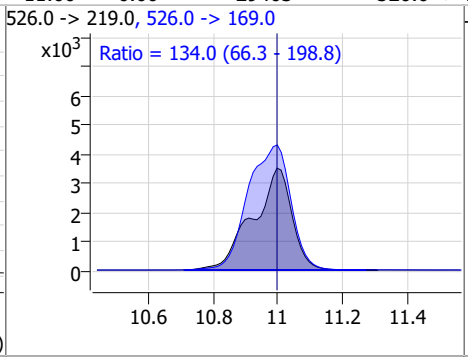
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.31	11.00	0.00	11756				

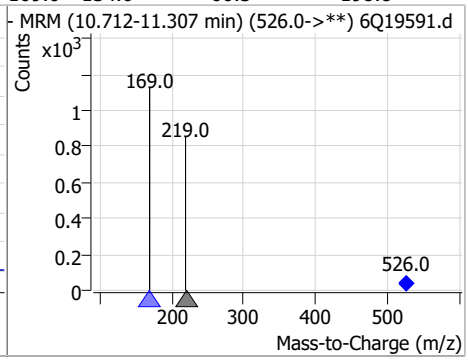


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.68	11.00	0.00	29403	526.0 -> 169.0	134.0	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q292-CC288
Lab FileID: 6Q19591.D
Injection Time: 06/20/23 07:37
Method: EPA DRAFT 1633
Analyst approved: 06/20/23 14:08 Martha Valls
Supervisor approved: 06/20/23 16:44 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/20/23 16:44

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19603.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 10:30:05 AM
Sample Name : cc288-4
Vial : P1-A5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	152037	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	50504	5.00	µg/L	0.000
M5-PFHxA	5.804	318.0 -> 273.0	50524	2.50	µg/L	0.012
M4-PFHpA	6.707	367.1 -> 322.0	46499	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	74397	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	34843	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	20599	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	26595	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	22005	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	11027	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	26831	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19893	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11939	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11833	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	3007	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4486	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4208	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	27734	5.00	µg/L	0.000
M3-HFPO-DA	6.181	286.9 -> 168.9	38338	10.00	µg/L	0.012
M5-EtFOSAA	8.615	589.2 -> 419.0	22712	5.00	µg/L	-0.012
M7-MeFOSE	10.696	623.2 -> 58.9	105129	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	131116	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12454	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	12209	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	16245	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	65232	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8751	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	81232	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	28290	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	43995	1.25	µg/L	0.000
13C2-PFHxA	5.805	315.1 -> 270.0	50567	2.50	µg/L	0.012
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	3007	5.73	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.5%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4486	5.66	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.1%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4208	5.64	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.9%		
13C2-PFDoDA	9.285	615.1 -> 570.0	22005	1.16	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.1%		
13C2-PFTeDA	10.000	715.2 -> 670.0	11027	1.04	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 83.6%		
13C3-PFBS	5.746	302.1 -> 79.9	19893	2.73	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.2%		
13C3-PFHxS	7.478	402.1 -> 79.9	11939	2.60	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.9%		
13C4-PFBA	3.097	216.8 -> 171.9	152037	9.93 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C4-PFHpA	6.707	367.1 -> 322.0	46499	2.38 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.3%		
13C5-PFHxA	5.804	318.0 -> 273.0	50524	2.42 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%		
13C5-PFPeA	4.560	268.3 -> 223.0	50504	5.28 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.6%		
13C6-PFDA	8.387	519.1 -> 474.1	20599	1.27 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.5%		
13C7-PFUnDA	8.853	570.0 -> 525.1	26595	1.22 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.8%		
13C8-FOSA	9.687	506.1 -> 77.8	26831	2.18 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.2%		
13C8-PFOA	7.339	421.1 -> 376.0	74397	2.45 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.0%		
13C8-PFOS	8.563	507.1 -> 79.9	11833	2.41 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.5%		
13C9-PFNA	7.882	472.1 -> 427.0	34843	1.30 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.1%		
d3-MeFOSAA	8.420	573.2 -> 419.0	27734	4.51 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.2%		
13C3-HFPO-DA	6.181	286.9 -> 168.9	38338	10.98 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.8%		
d3-MeFOSA	10.775	515.0 -> 219.0	12209	2.28 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.3%		
d5-EtFOSAA	8.615	589.2 -> 419.0	22712	4.35 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 87.1%		
d7-MeFOSE	10.696	623.2 -> 58.9	105129	19.29 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 77.1%		
d9-EtFOSE	10.930	639.2 -> 58.9	131116	20.40 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 81.6%		
d5-EtFOSA	10.996	531.1 -> 219.0	12454	2.39 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	47849	9.15 µg/L		98
		327.1 -> 80.9	18278			
6:2FTS	7.113	427.1 -> 407.0	51235	9.59 µg/L		96
		427.1 -> 80.9	15642			
8:2FTS	8.164	527.1 -> 507.0	23662	8.46 µg/L		96
		527.1 -> 80.8	9971			
EtFOSAA	8.629	584.2 -> 419.1	9640	2.51 µg/L	m	95
		584.2 -> 526.0	4760			
FOSA	9.677	498.1 -> 77.9	26323	2.47 µg/L		99
		498.1 -> 478.0	886			
MeFOSAA	8.421	570.1 -> 419.0	19203	2.67 µg/L	m	98
		570.1 -> 483.0	3469			
PFBA	3.093	212.8 -> 168.9	59666	9.74 µg/L		100
PFBS	5.747	298.7 -> 79.9	17917	2.02 µg/L		100
		298.7 -> 98.8	6821			
PFDA	8.388	512.9 -> 469.0	78416	2.56 µg/L		97
		512.9 -> 219.0	11278			
PFDoDA	9.285	613.1 -> 569.0	45766	2.51 µg/L		99
		613.1 -> 319.0	6584			
PFDS	9.450	599.0 -> 79.9	7020	1.96 µg/L		96

Perfluorinated Compounds by LC/MS/MS

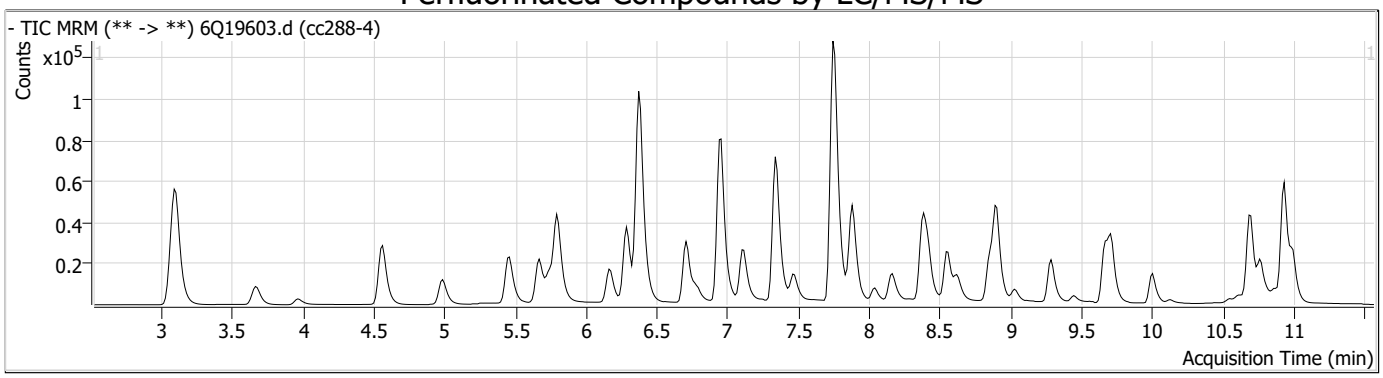
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3498				
PFHpA	6.708	363.1 -> 319.0	58207	2.34	µg/L		96
		363.1 -> 169.0	9711				
PFHpS	8.046	449.0 -> 79.9	15151	2.14	µg/L		99
		449.0 -> 98.9	7638				
PFHxA	5.795	313.0 -> 269.0	51627	2.53	µg/L		99
		313.0 -> 118.9	2579				
PFHxS	7.479	398.7 -> 79.9	15296	2.13	µg/L	m	96
		398.7 -> 98.9	7339				
PFNA	7.883	463.0 -> 419.0	73837	2.29	µg/L		100
		463.0 -> 219.0	14174				
PFNS	9.041	548.8 -> 79.9	13929	2.27	µg/L		99
		548.8 -> 98.9	6745				
PFOA	7.353	413.0 -> 369.0	90496	2.21	µg/L		98
		413.0 -> 169.0	16177				
PFOS	8.564	498.9 -> 79.9	14447	2.06	µg/L	m	92
		498.9 -> 98.8	6726				
PFPeA	4.563	263.0 -> 219.0	69563	4.66	µg/L		100
PFPeS	6.785	349.1 -> 79.9	14949	2.23	µg/L		98
		349.1 -> 98.9	6959				
PFTeDA	10.000	713.1 -> 669.0	33750	2.55	µg/L		100
		713.1 -> 168.9	2855				
PFTrDA	9.669	663.0 -> 619.0	44048	2.37	µg/L		99
		663.0 -> 168.9	4673				
PFUnDA	8.854	563.1 -> 519.0	49925	2.43	µg/L		98
		563.1 -> 269.1	8789				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	63414	3.63	µg/L		94
		632.9 -> 452.9	19756				
9Cl-PF3ONS	8.906	530.8 -> 351.0	113254	3.76	µg/L		98
		532.8 -> 353.0	36090				
ADONA	6.959	376.9 -> 250.9	245391	3.96	µg/L		96
		376.9 -> 84.8	65987				
HFPO-DA	6.182	284.9 -> 168.9	18357	4.58	µg/L		98
		284.9 -> 184.9	2258				
3:3FTCA	3.958	241.0 -> 177.0	10962	10.87	µg/L		99
		241.0 -> 117.0	1543				
5:3FTCA	6.386	341.0 -> 237.1	234885	57.96	µg/L		100
		341.0 -> 217.0	174749				
7:3FTCA	7.761	441.0 -> 316.9	164116	59.89	µg/L		92
		441.0 -> 336.9	347294				
EtFOSA	10.997	526.0 -> 219.0	29720	4.47	µg/L		99
		526.0 -> 169.0	39595				
EtFOSE	10.943	630.0 -> 58.9	86088	12.69	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	24678	4.46	µg/L	m	77
		511.9 -> 169.0	35712				
MeFOSE	10.709	616.1 -> 58.9	57202	12.56	µg/L	m	100
PFDoDS	10.127	699.1 -> 79.9	3453	1.96	µg/L		99
		699.1 -> 98.8	2005				
NFDHA	5.686	295.0 -> 201.0	12538	4.81	µg/L		97
		295.0 -> 84.9	3582				
PFMBA	4.988	279.0 -> 85.1	49304	4.64	µg/L		100
PFMPA	3.667	229.0 -> 84.9	40086	4.82	µg/L		100
PFEESA	6.288	314.8 -> 134.9	125660	4.56	µg/L		99
		314.8 -> 82.9	4118				

 # = Qualifier out of range, m = manually integrated, + = Area summed

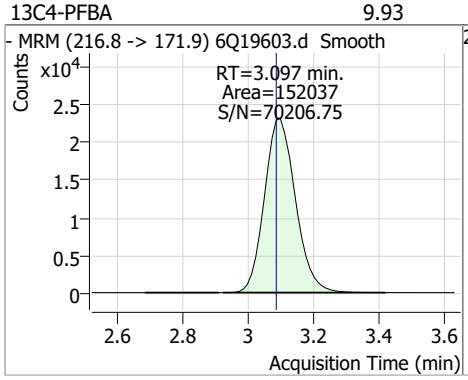
Perfluorinated Compounds by LC/MS/MS

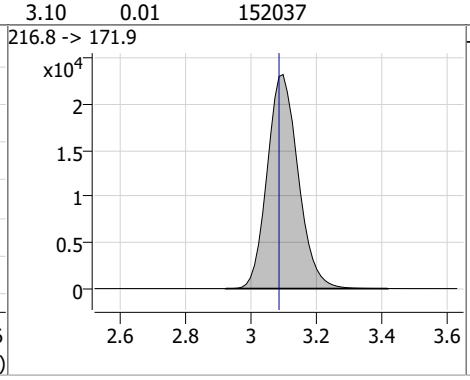
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

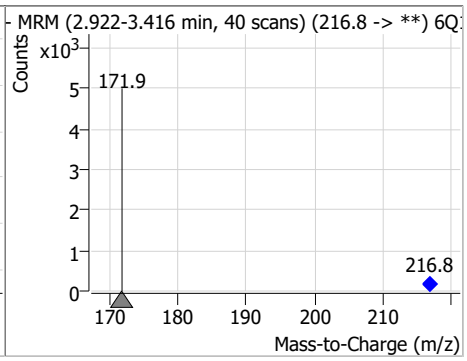
Perfluorinated Compounds by LC/MS/MS



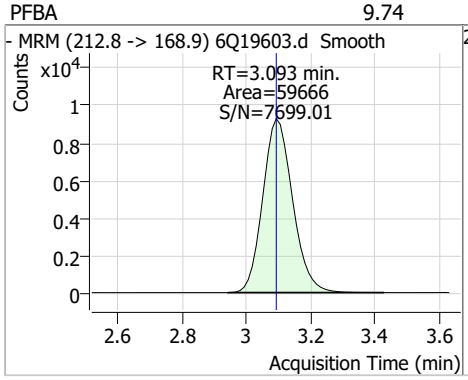
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.93	3.10	0.01	152037				

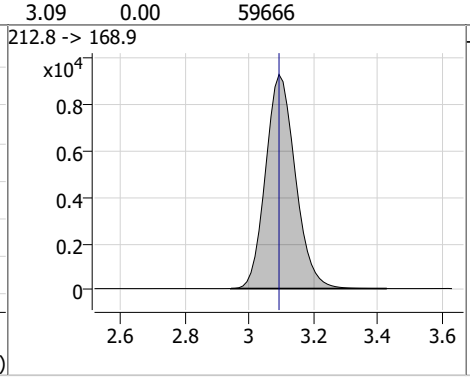


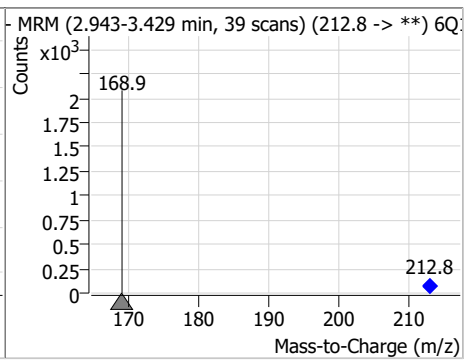




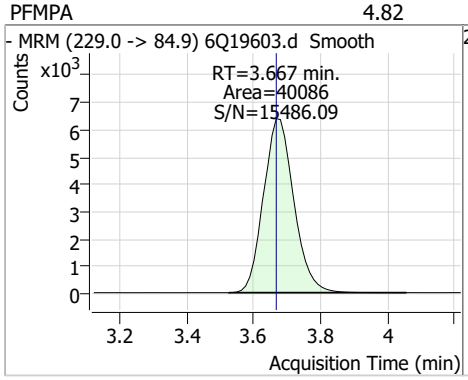
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.74	3.09	0.00	59666				

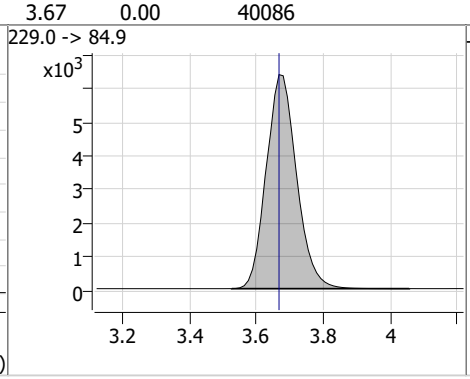


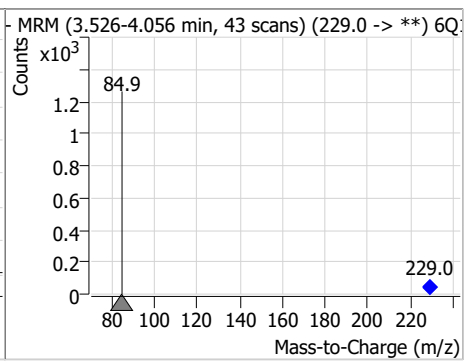




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.82	3.67	0.00	40086				

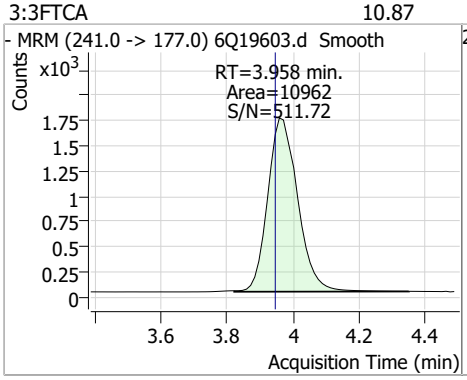


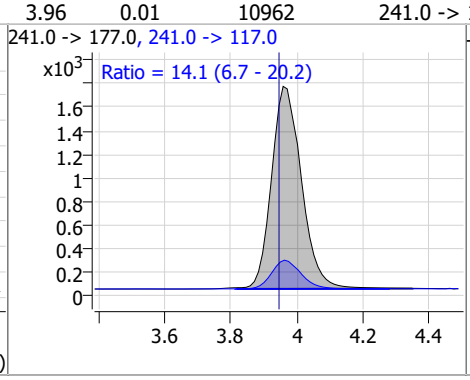


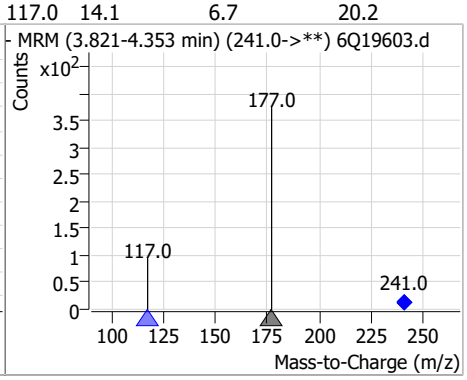


Perfluorinated Compounds by LC/MS/MS

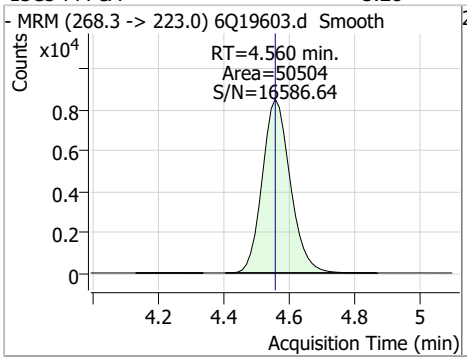
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	10.87	3.96	0.01	10962	241.0 -> 117.0	14.1	6.7	20.2

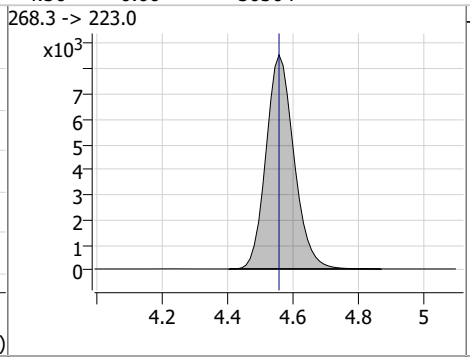


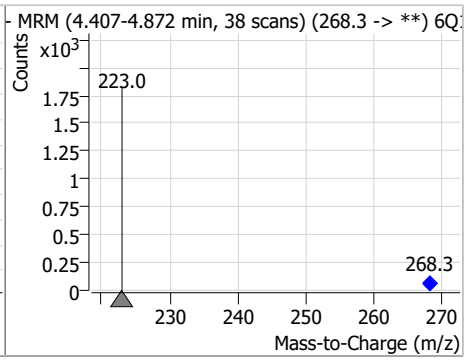




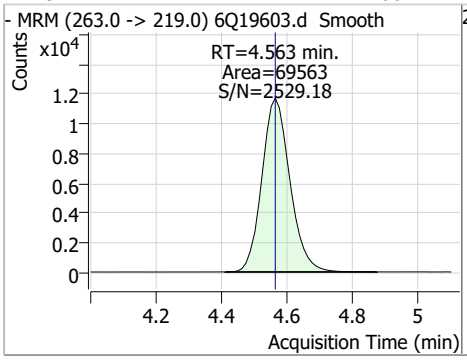
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.28	4.56	0.00	50504				

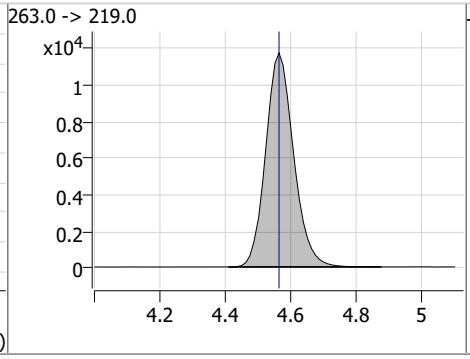


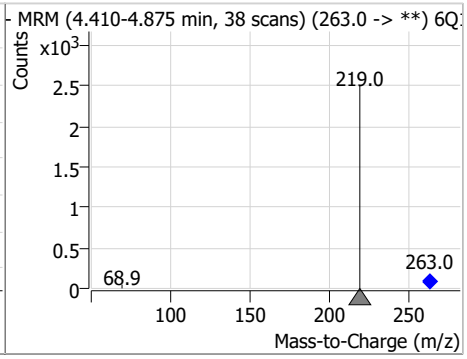




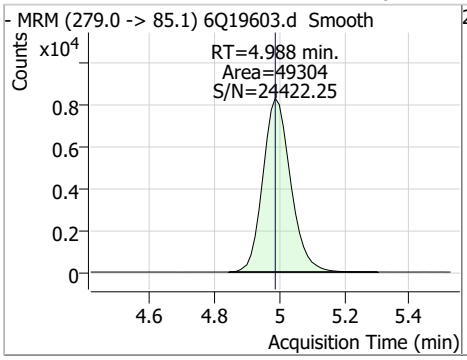
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.66	4.56	0.00	69563				

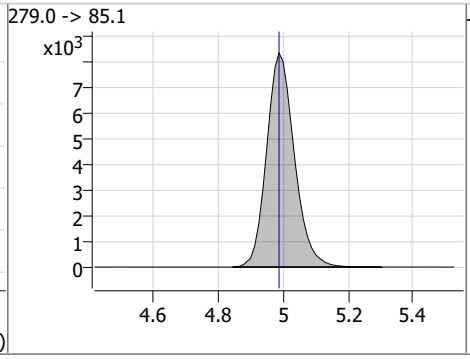


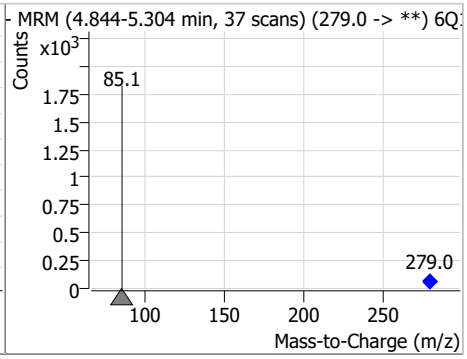




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.64	4.99	0.00	49304				

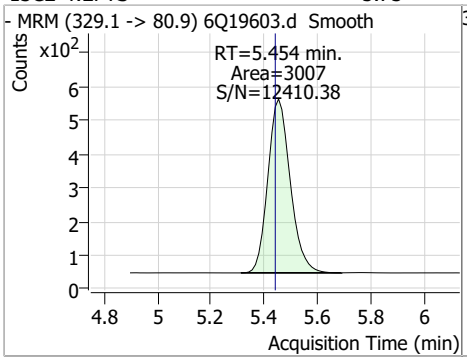


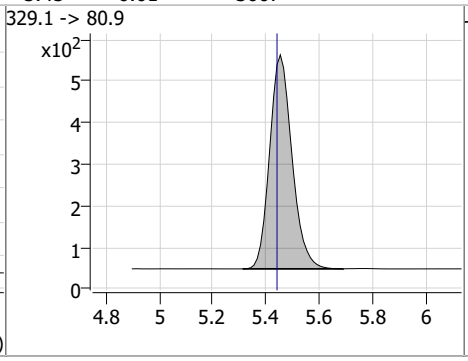


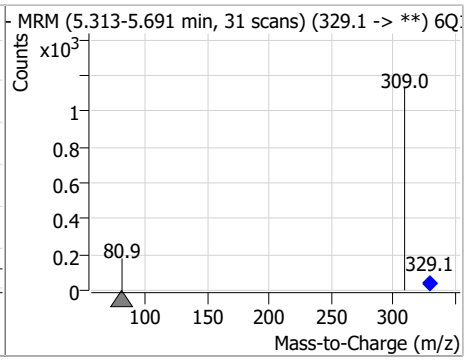


Perfluorinated Compounds by LC/MS/MS

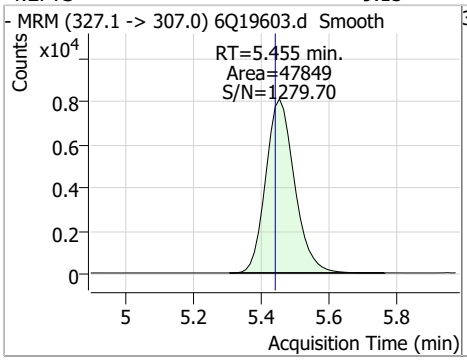
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.73	5.45	0.01	3007				

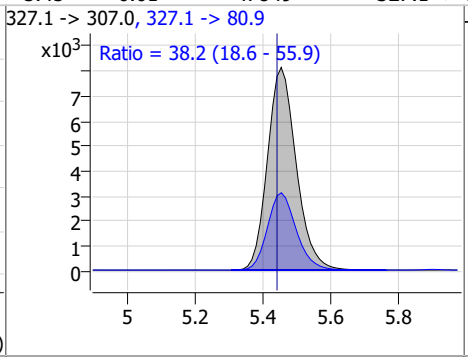


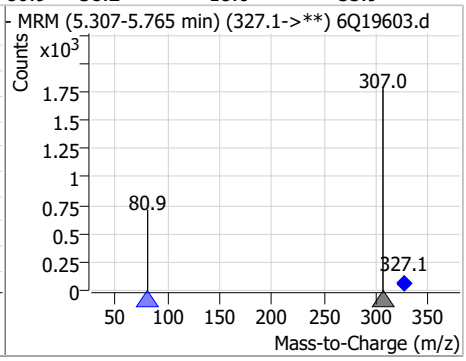




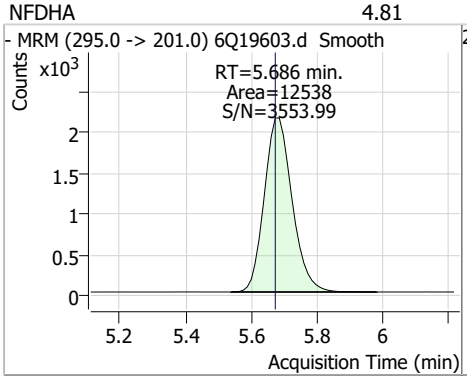
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.15	5.45	0.01	47849	327.1 -> 80.9	38.2	18.6	55.9

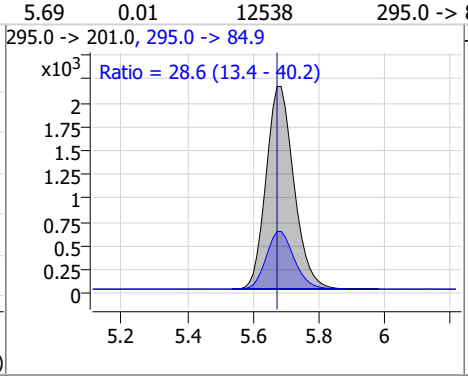


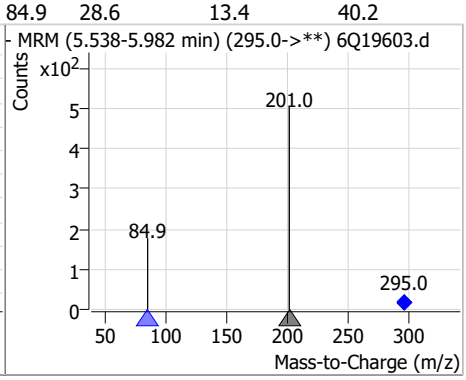




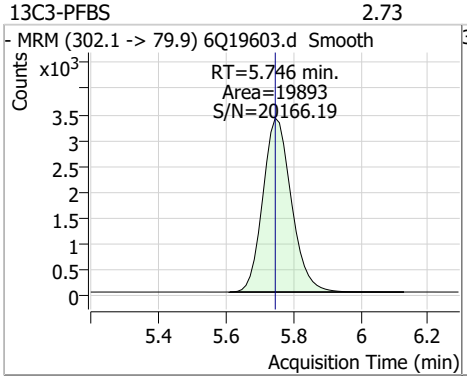
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.81	5.69	0.01	12538	295.0 -> 84.9	28.6	13.4	40.2

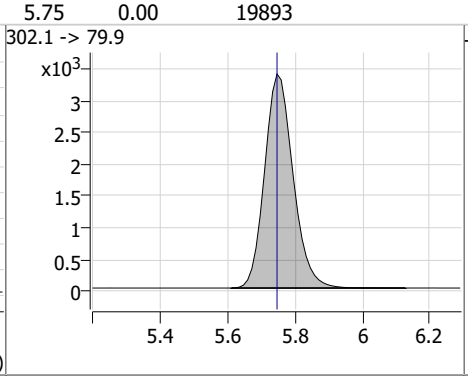


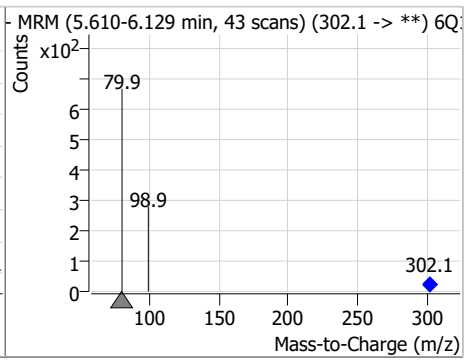




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.73	5.75	0.00	19893				

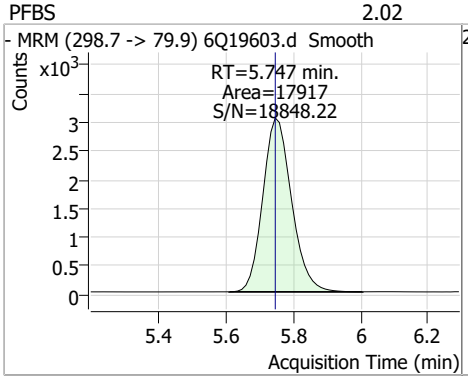


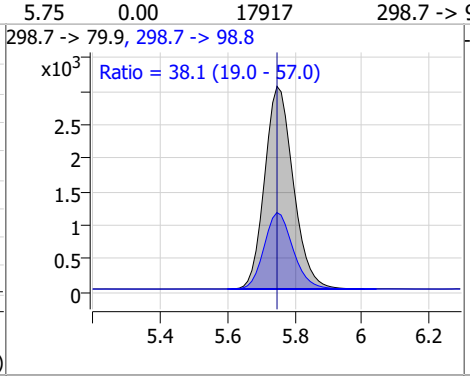


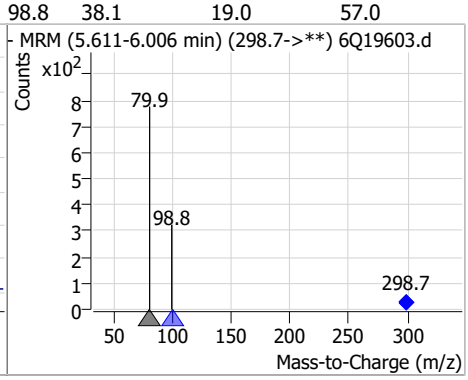


Perfluorinated Compounds by LC/MS/MS

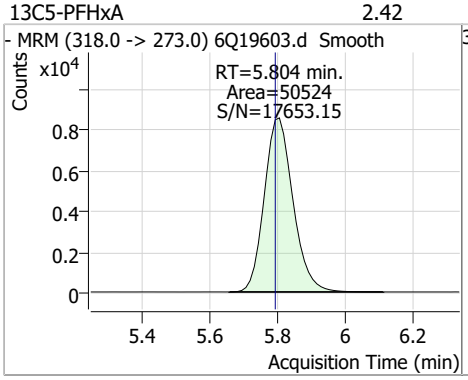
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.02	5.75	0.00	17917	298.7 -> 98.8	38.1	19.0	57.0

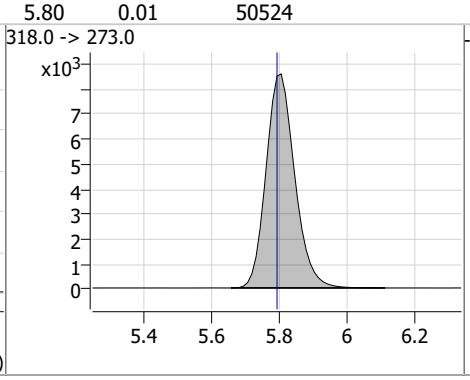


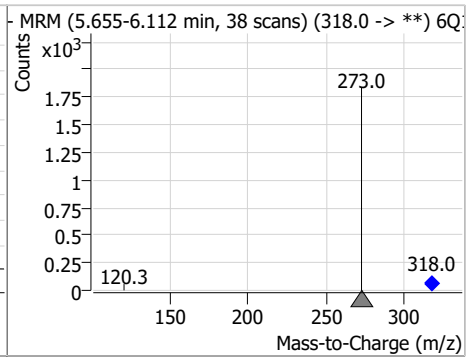




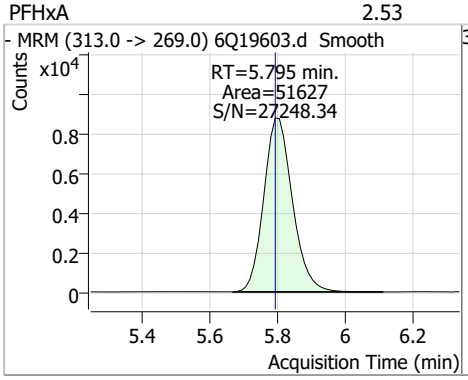
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.42	5.80	0.01	50524				

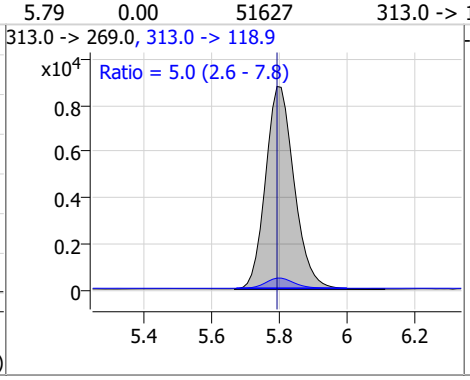


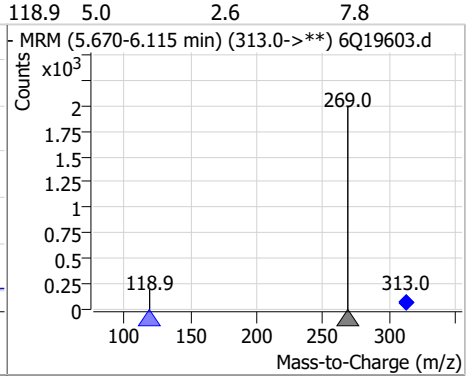




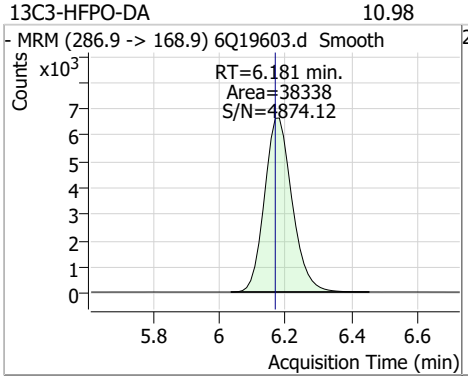
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.53	5.79	0.00	51627	313.0 -> 118.9	5.0	2.6	7.8

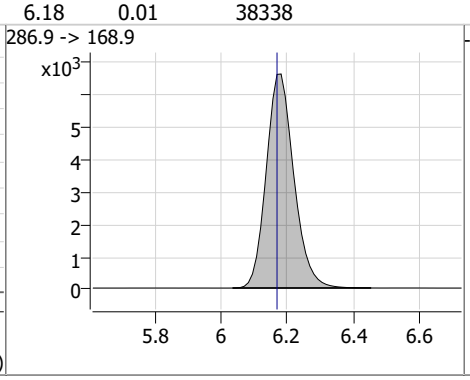


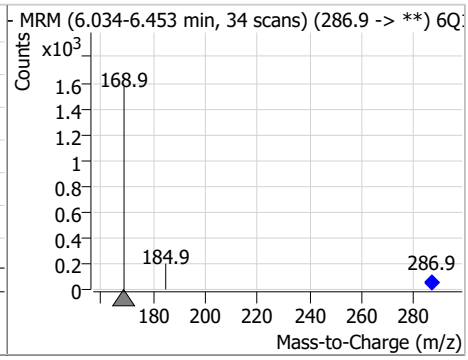




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.98	6.18	0.01	38338				

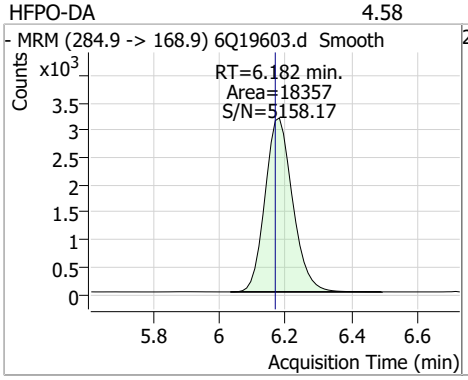


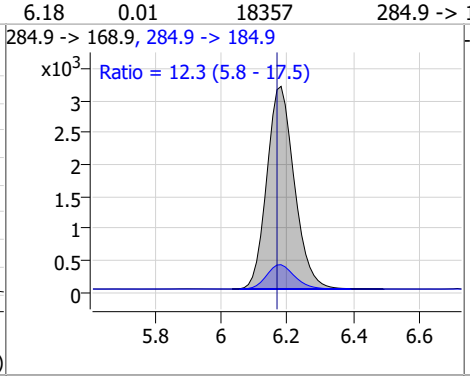


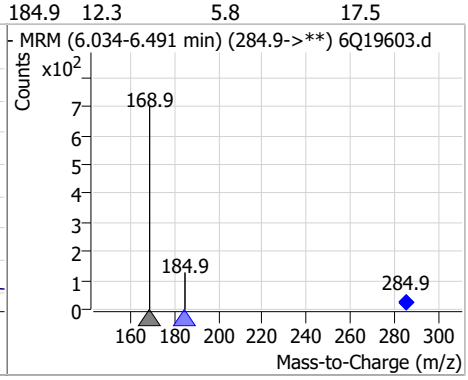


Perfluorinated Compounds by LC/MS/MS

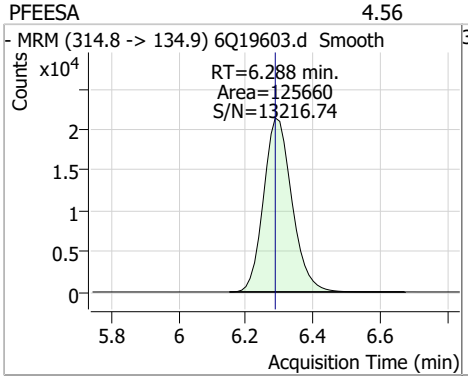
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.58	6.18	0.01	18357	284.9 -> 184.9	12.3	5.8	17.5

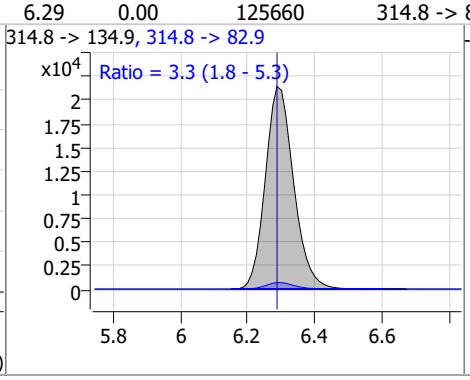


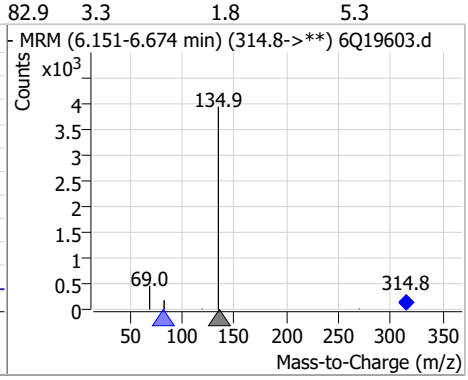




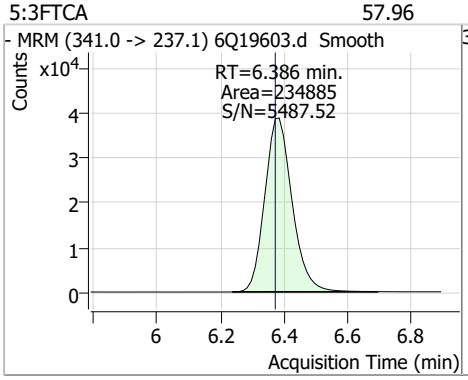
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.56	6.29	0.00	125660	314.8 -> 82.9	3.3	1.8	5.3

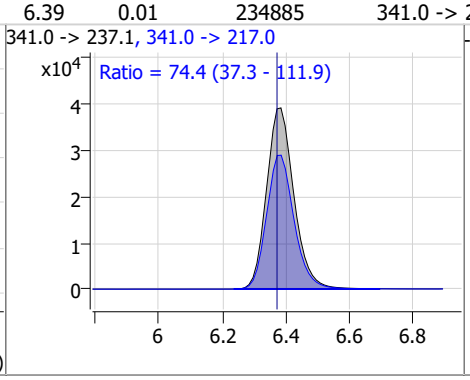


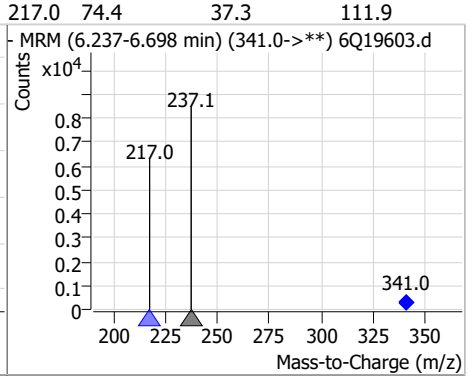




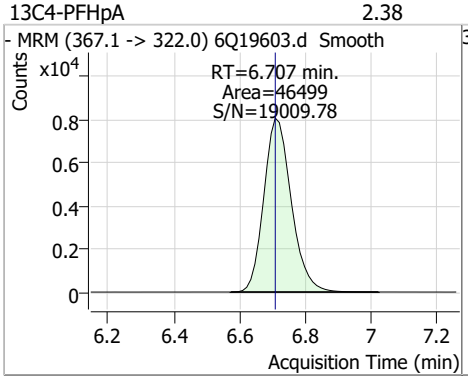
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	57.96	6.39	0.01	234885	341.0 -> 217.0	74.4	37.3	111.9

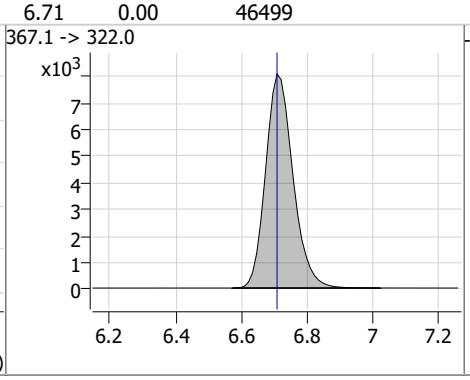


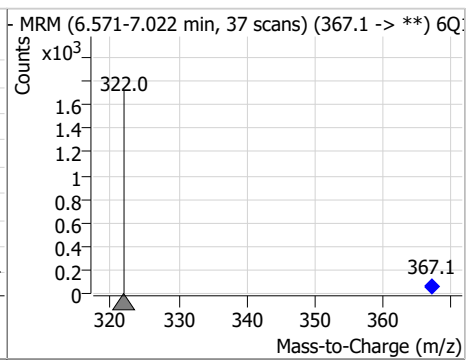




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.38	6.71	0.00	46499				

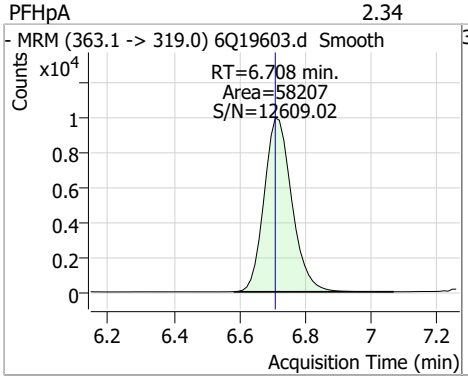


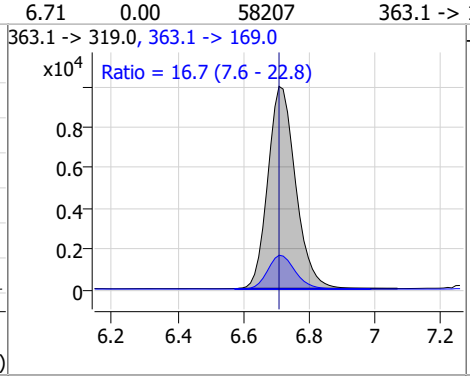


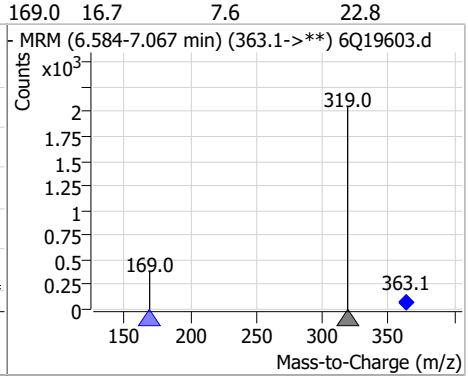


Perfluorinated Compounds by LC/MS/MS

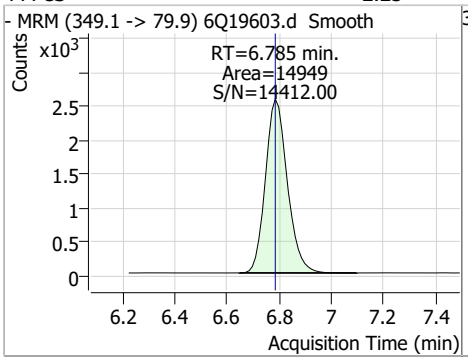
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.34	6.71	0.00	58207	363.1 -> 169.0	16.7	7.6	22.8

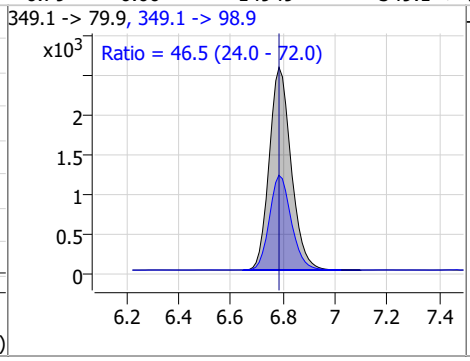


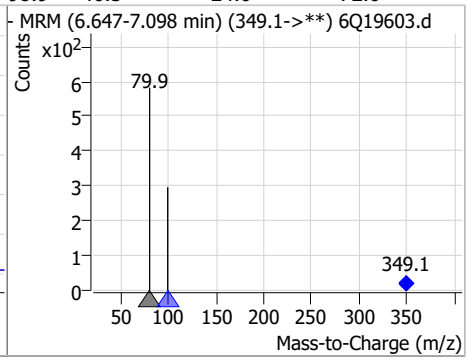




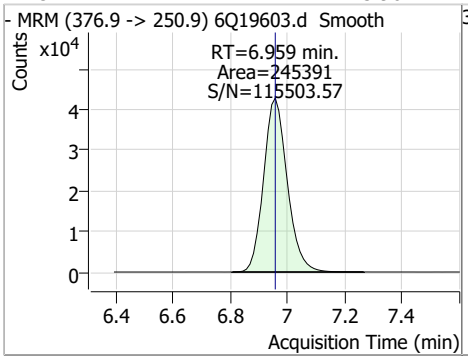
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.23	6.79	0.00	14949	349.1 -> 98.9	46.5	24.0	72.0

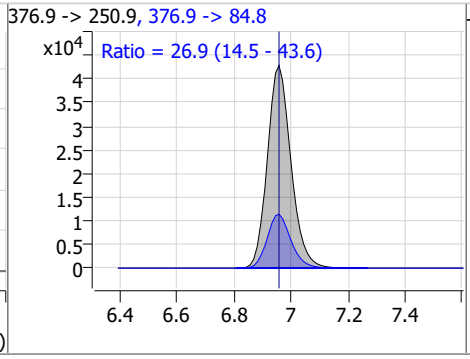


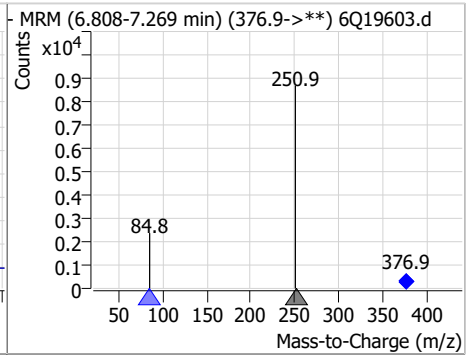




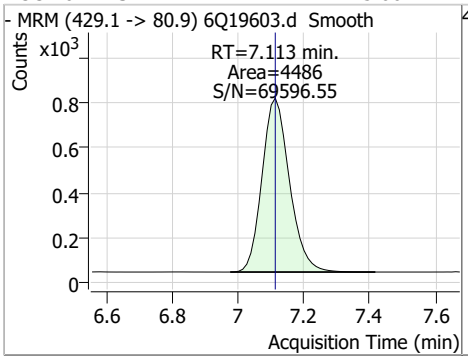
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	3.96	6.96	0.00	245391	376.9 -> 84.8	26.9	14.5	43.6

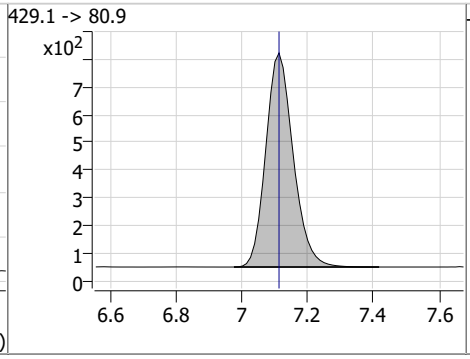


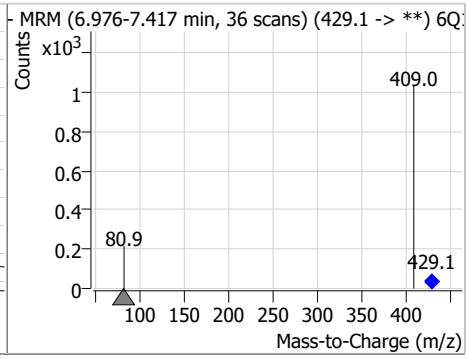




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.66	7.11	0.00	4486				

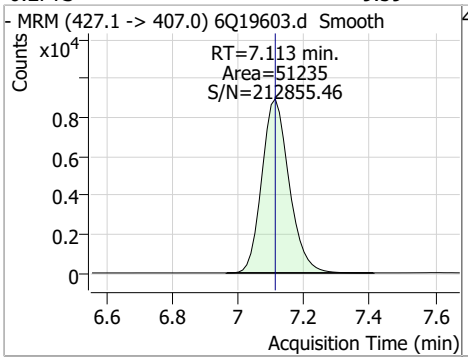


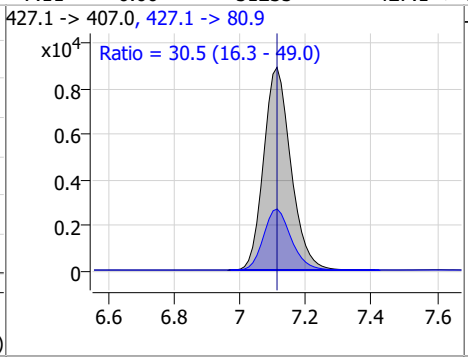


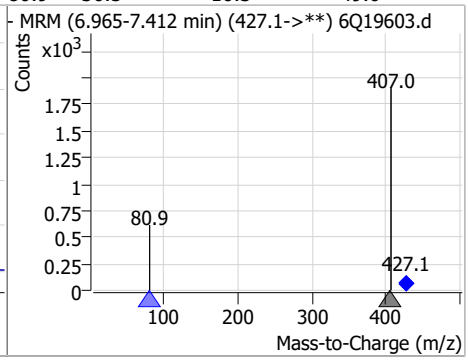


Perfluorinated Compounds by LC/MS/MS

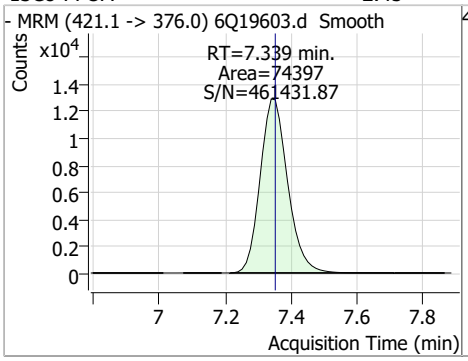
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.59	7.11	0.00	51235	427.1 -> 80.9	30.5	16.3	49.0

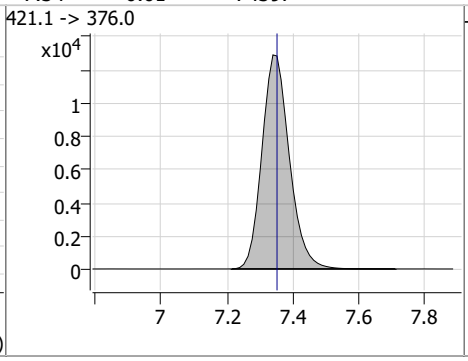


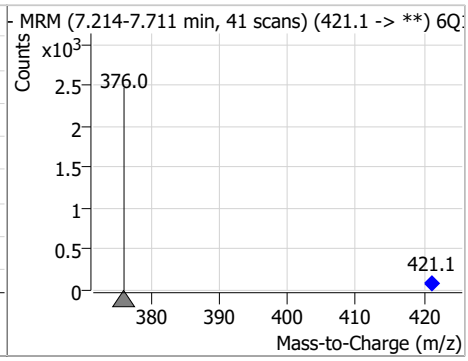




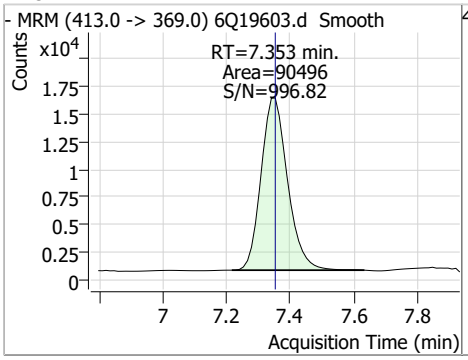
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.45	7.34	-0.01	74397				

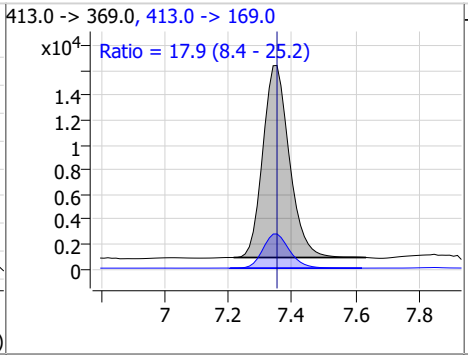


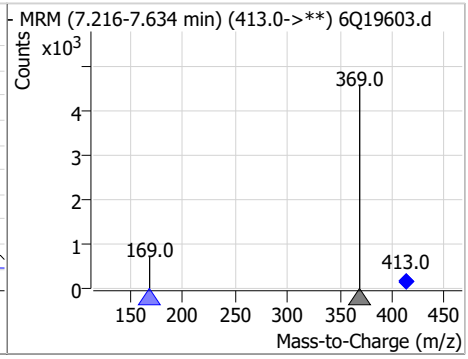




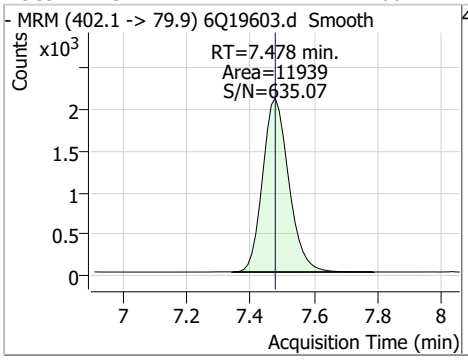
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.21	7.35	0.00	90496	413.0 -> 169.0	17.9	8.4	25.2

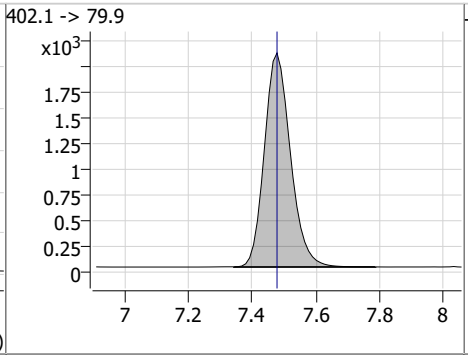


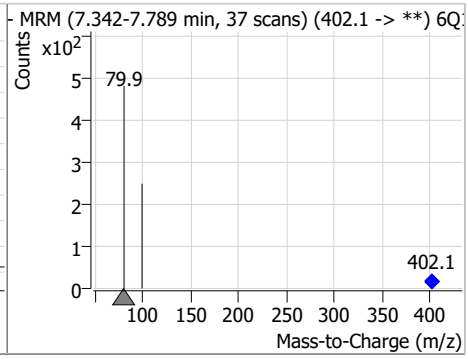




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.60	7.48	0.00	11939				

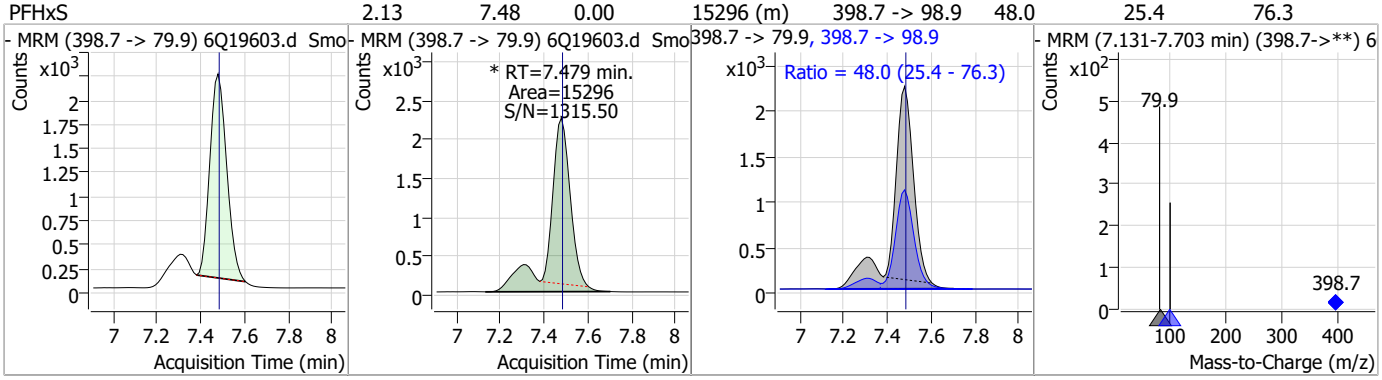




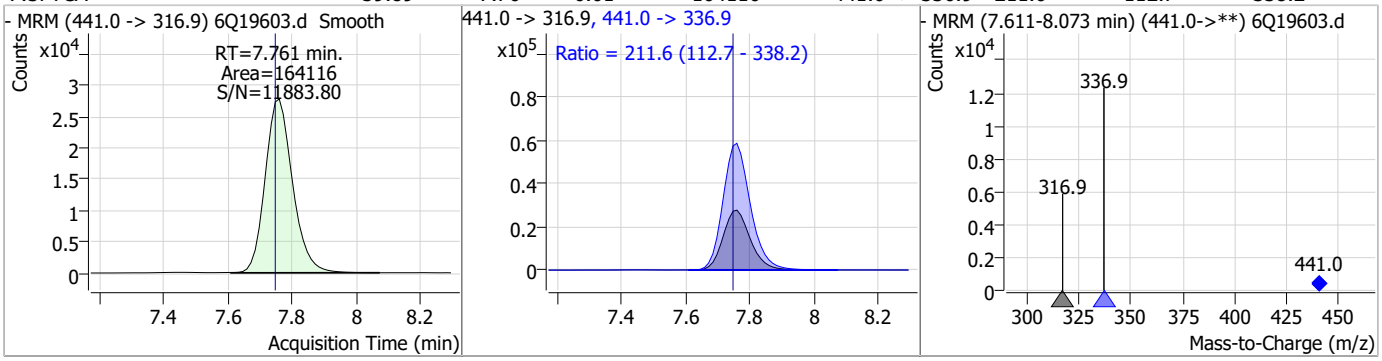


Perfluorinated Compounds by LC/MS/MS

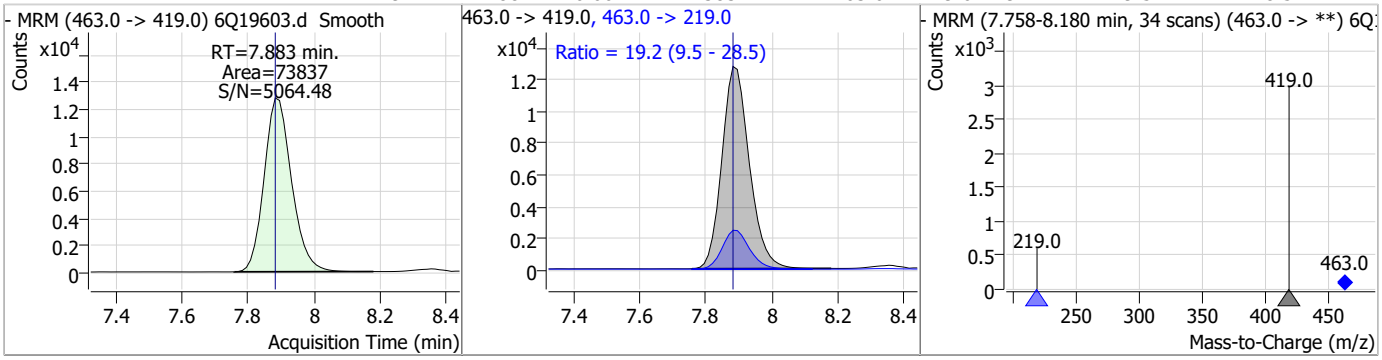
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.13	7.48	0.00	15296 (m)	398.7 -> 98.9	48.0	25.4	76.3



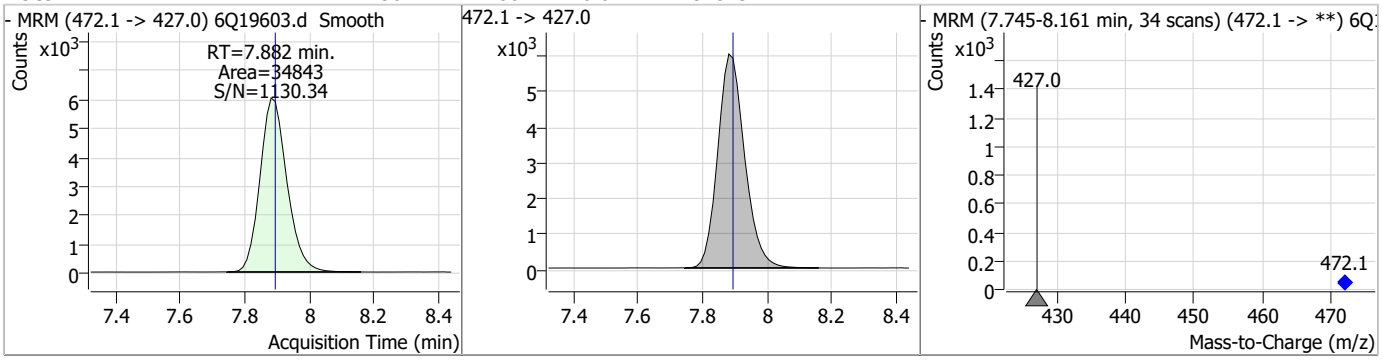
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	59.89	7.76	0.01	164116	441.0 -> 336.9	211.6	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.29	7.88	0.00	73837	463.0 -> 219.0	19.2	9.5	28.5

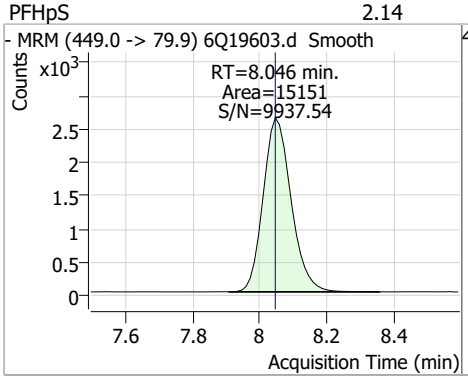


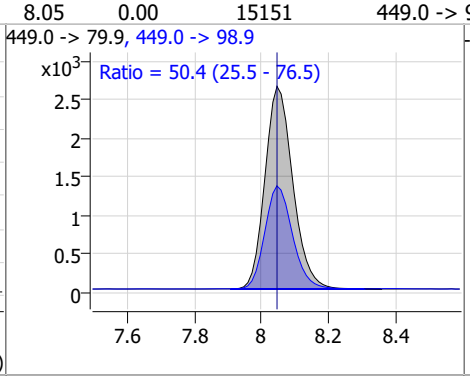
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.30	7.88	-0.01	34843				

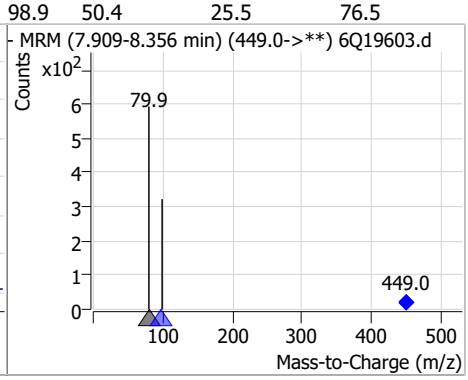


Perfluorinated Compounds by LC/MS/MS

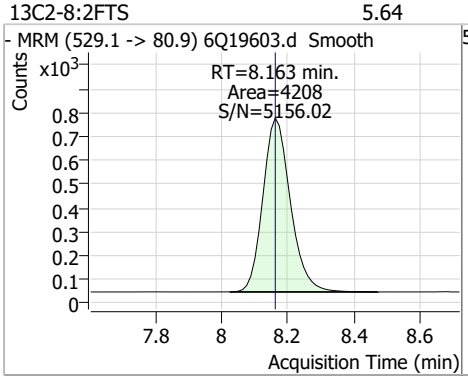
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.14	8.05	0.00	15151	449.0 -> 98.9	50.4	25.5	76.5

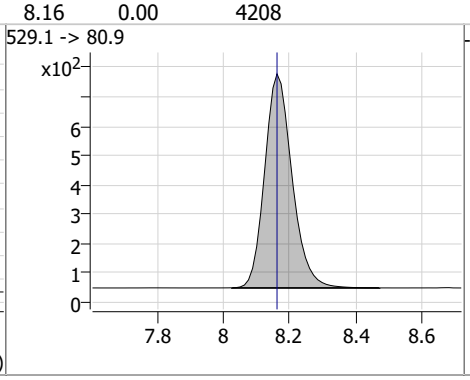


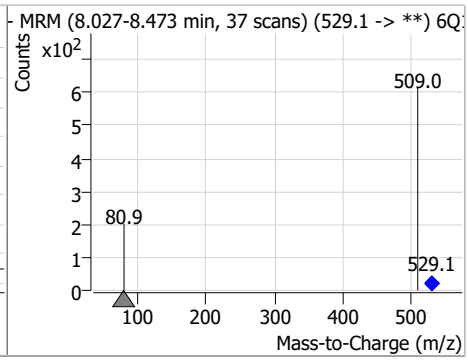




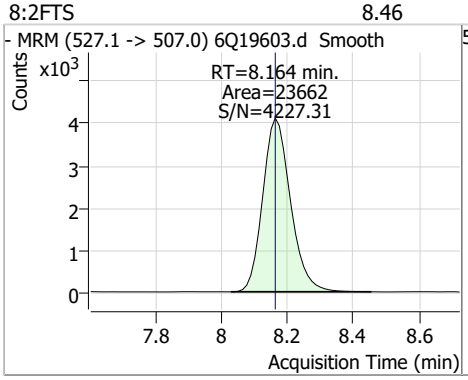
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.64	8.16	0.00	4208				

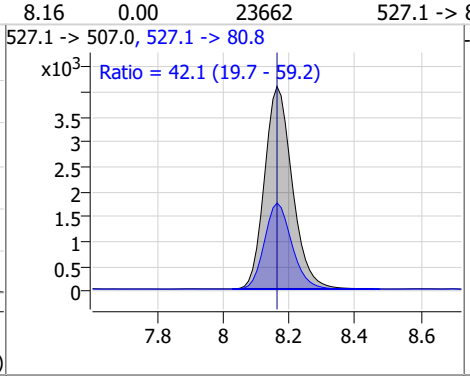


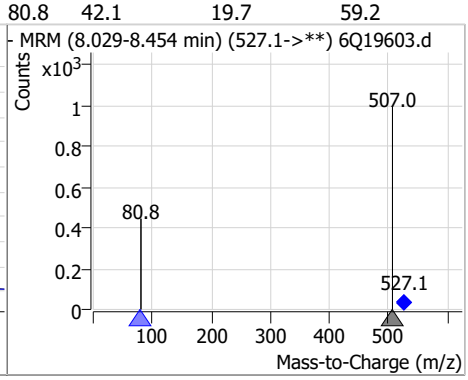




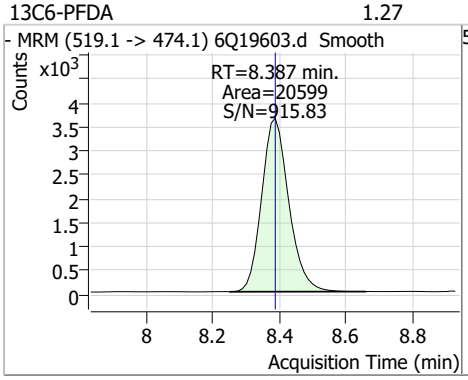
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	8.46	8.16	0.00	23662	527.1 -> 80.8	42.1	19.7	59.2

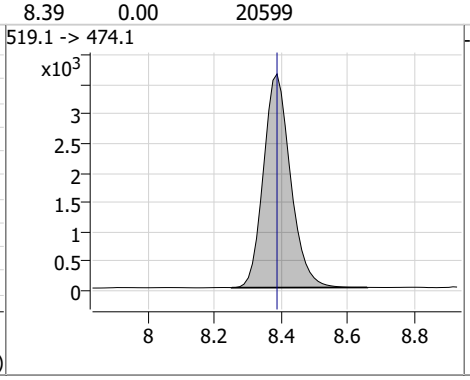


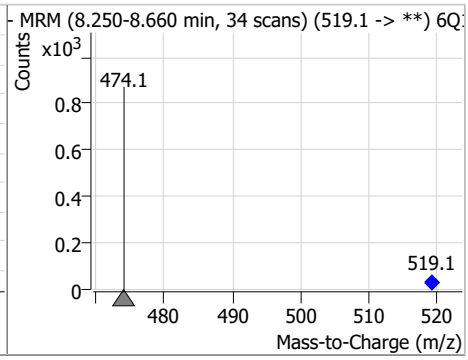




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.27	8.39	0.00	20599				

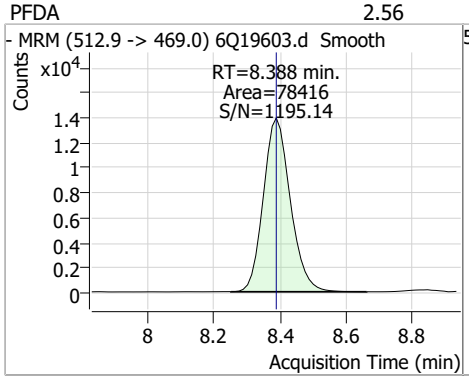


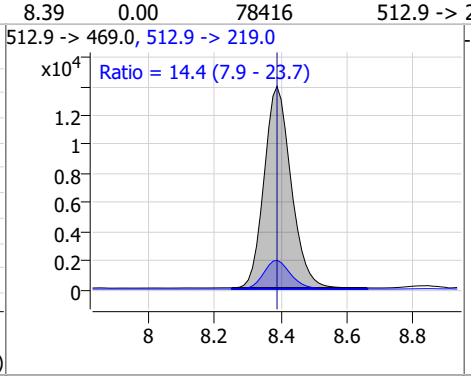


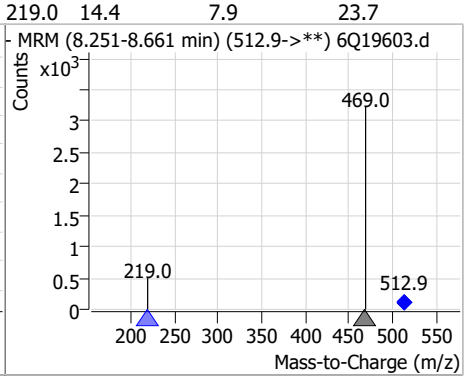


Perfluorinated Compounds by LC/MS/MS

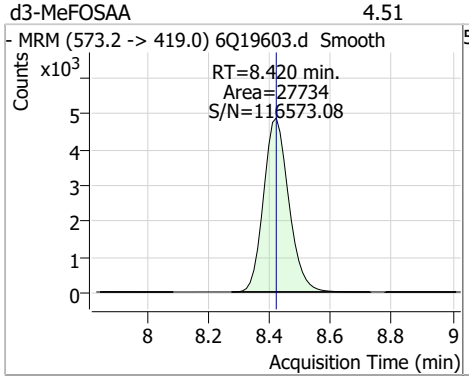
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.56	8.39	0.00	78416	512.9 -> 219.0	14.4	7.9	23.7

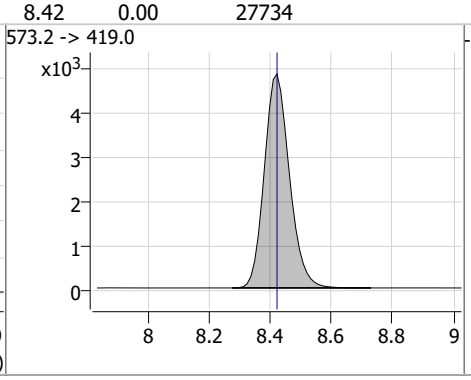


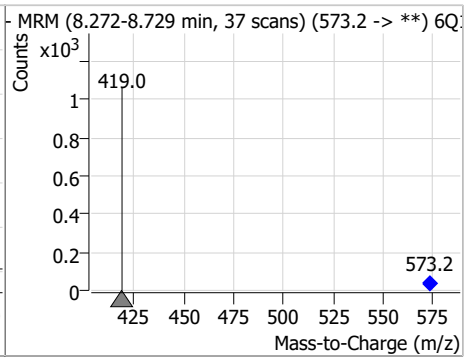




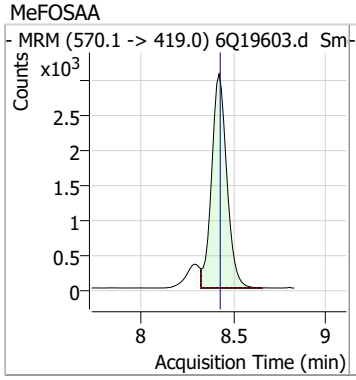
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.51	8.42	0.00	27734				

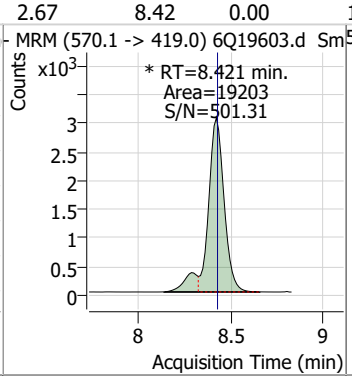


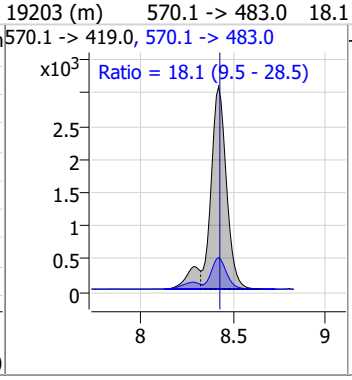


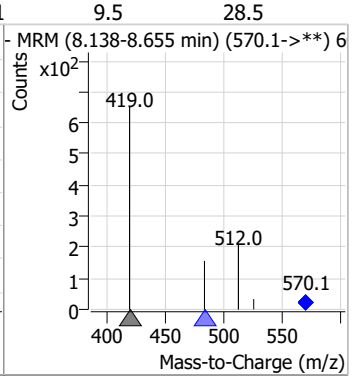


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.67	8.42	0.00	19203 (m)	570.1 -> 483.0	18.1	9.5	28.5

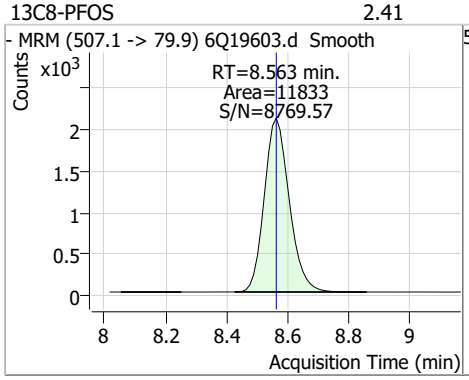


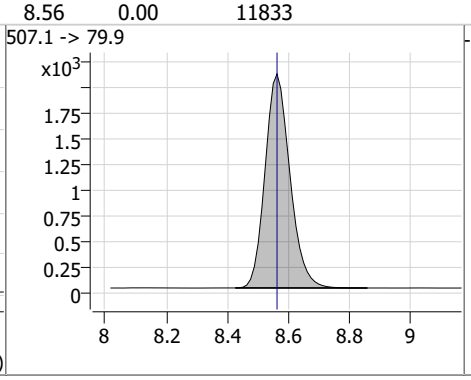


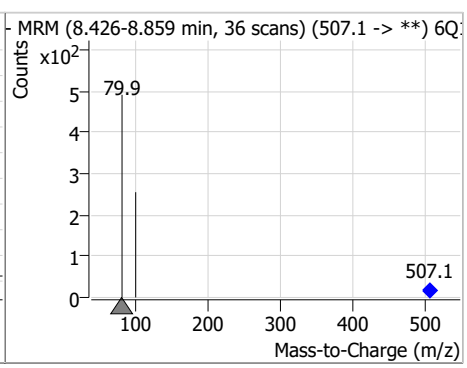




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.41	8.56	0.00	11833				

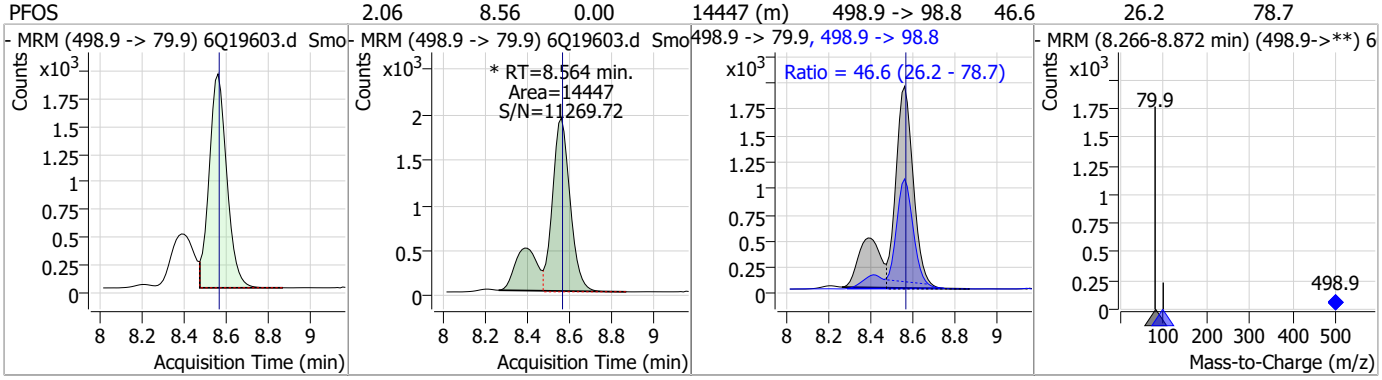




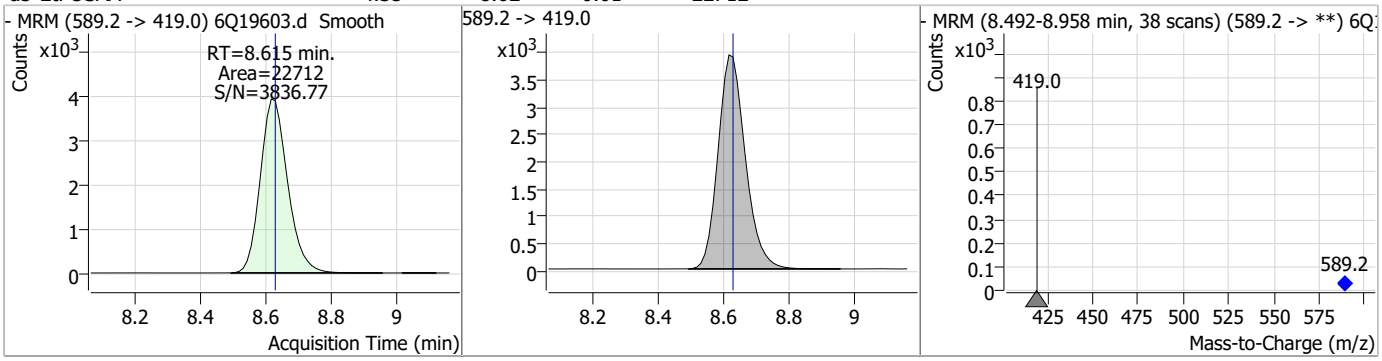


Perfluorinated Compounds by LC/MS/MS

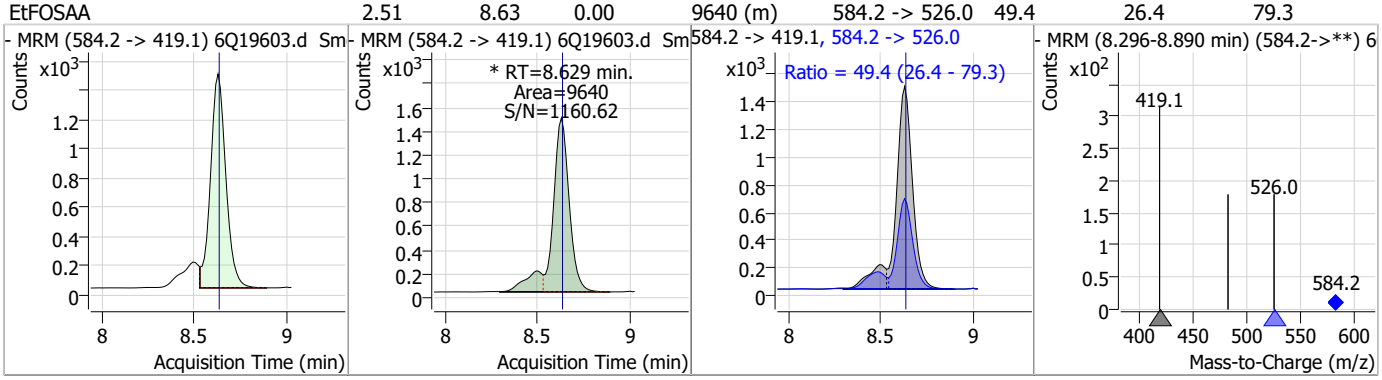
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.06	8.56	0.00	14447 (m)	498.9 -> 98.8	46.6	26.2	78.7



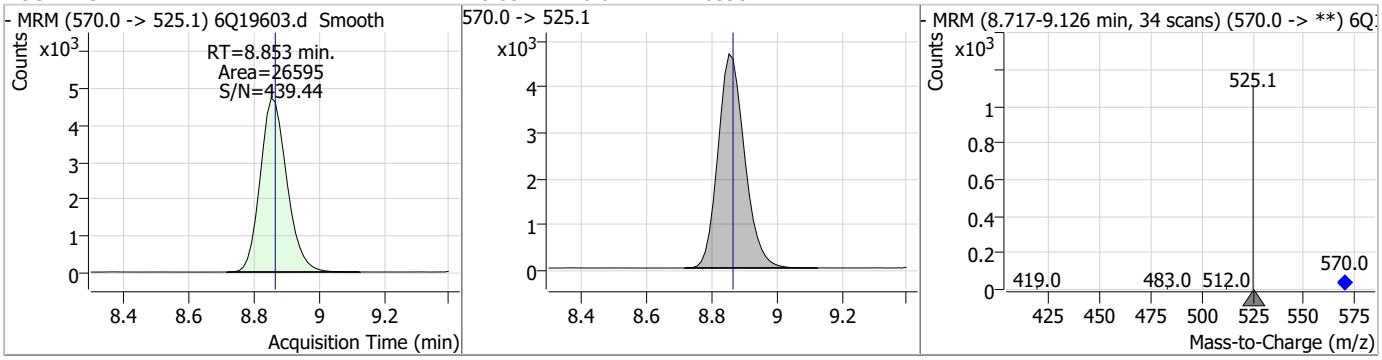
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.35	8.62	-0.01	22712				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.51	8.63	0.00	9640 (m)	584.2 -> 526.0	49.4	26.4	79.3

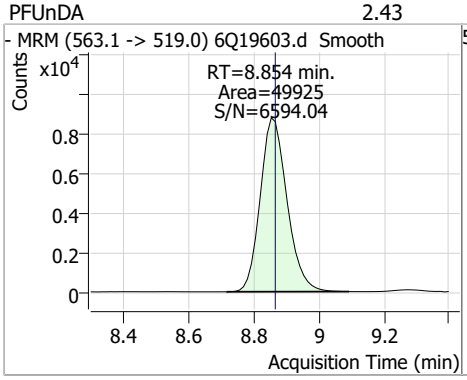


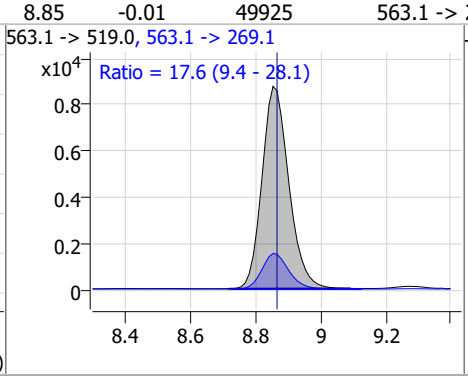
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.22	8.85	-0.01	26595				

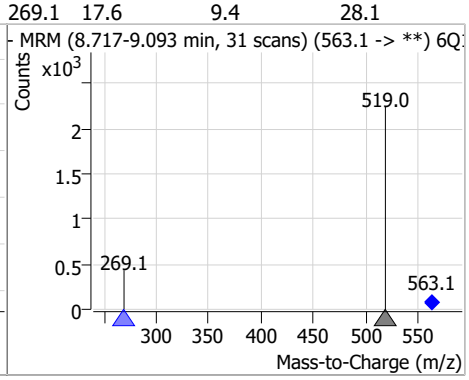


Perfluorinated Compounds by LC/MS/MS

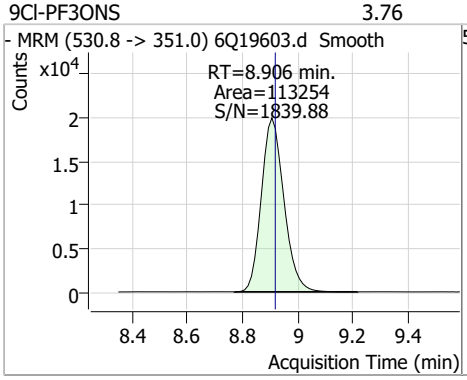
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.43	8.85	-0.01	49925	563.1 -> 269.1	17.6	9.4	28.1

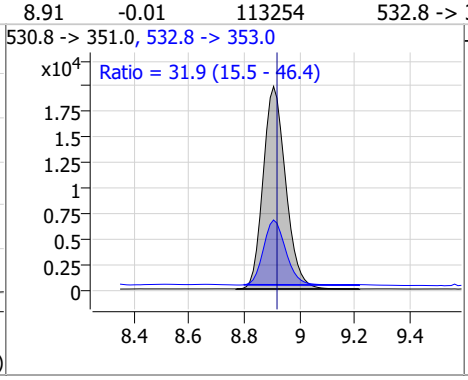


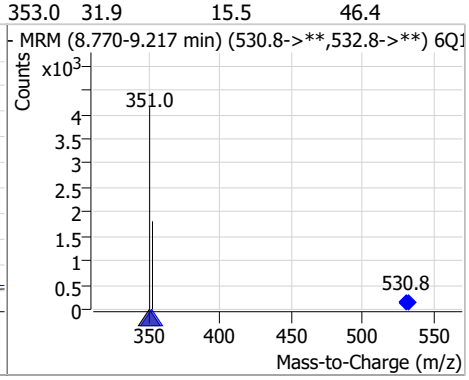




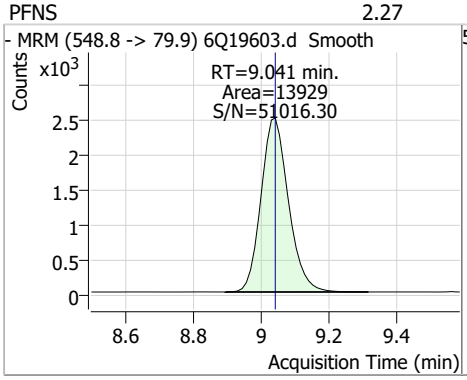
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	3.76	8.91	-0.01	113254	532.8 -> 353.0	31.9	15.5	46.4

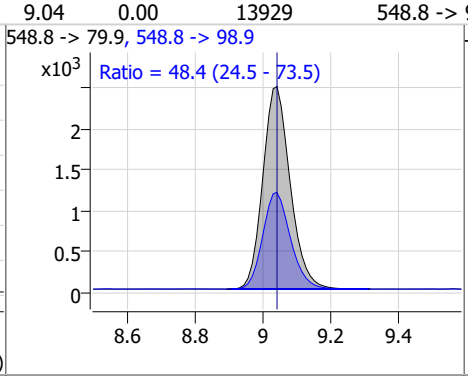


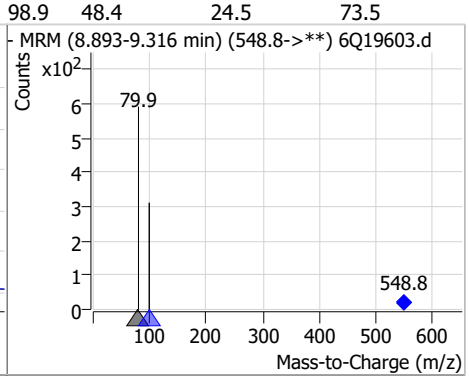




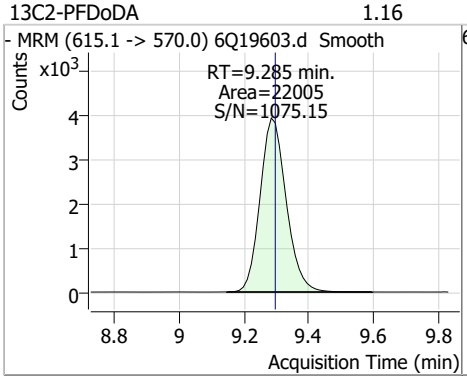
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.27	9.04	0.00	13929	548.8 -> 98.9	48.4	24.5	73.5

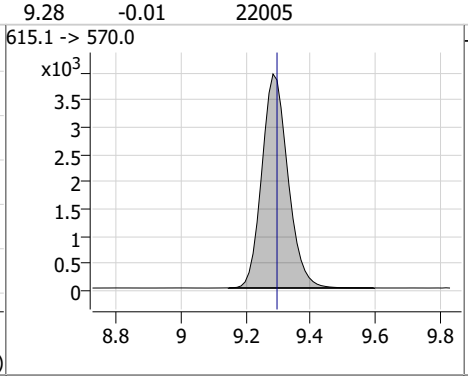


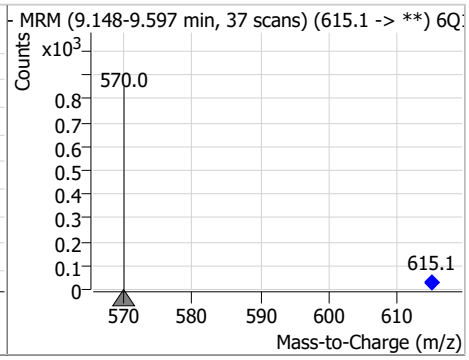




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.16	9.28	-0.01	22005				

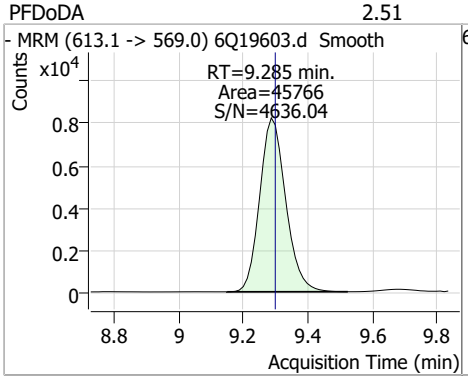


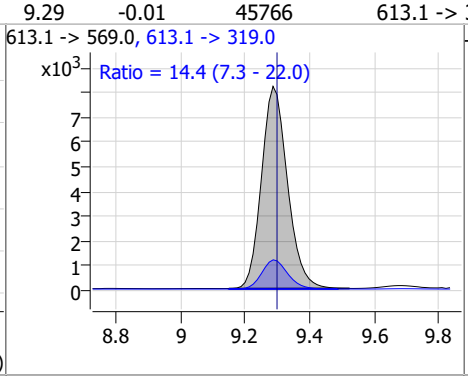


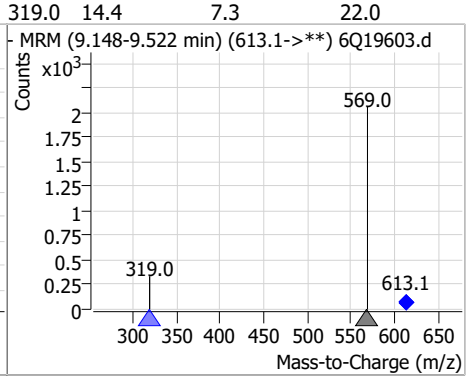


Perfluorinated Compounds by LC/MS/MS

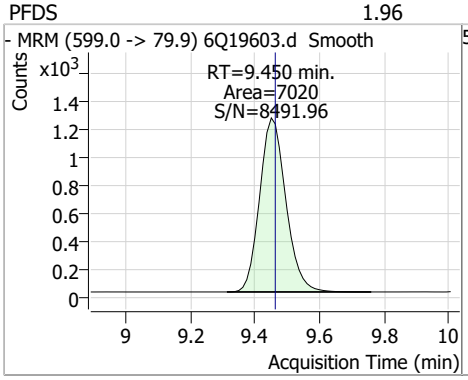
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.51	9.29	-0.01	45766	613.1 -> 319.0	14.4	7.3	22.0

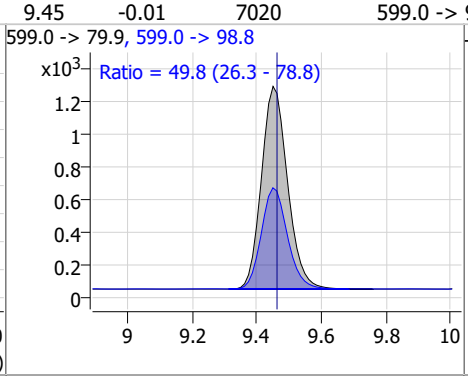


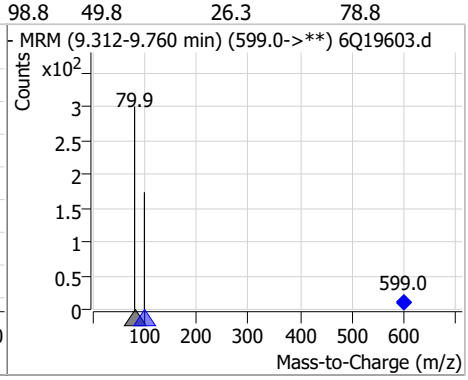




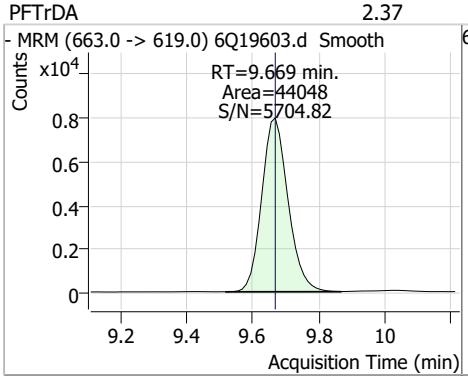
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	1.96	9.45	-0.01	7020	599.0 -> 98.8	49.8	26.3	78.8

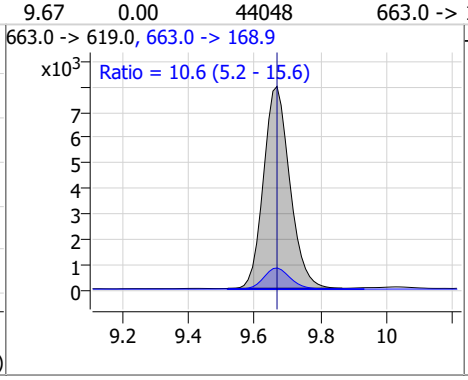


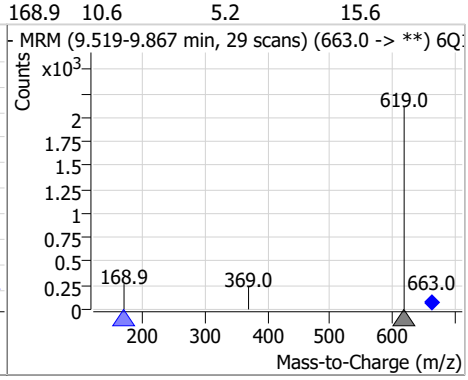




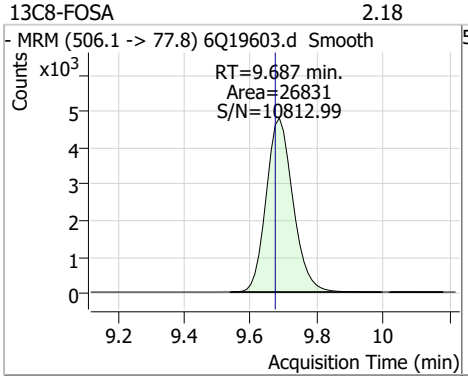
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.37	9.67	0.00	44048	663.0 -> 168.9	10.6	5.2	15.6

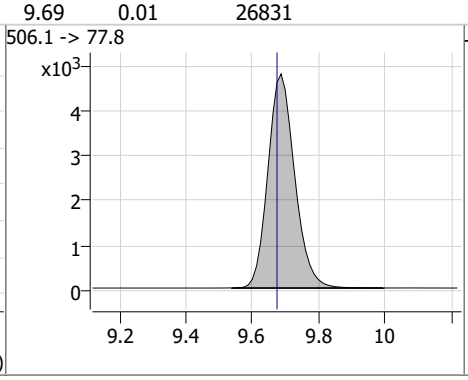


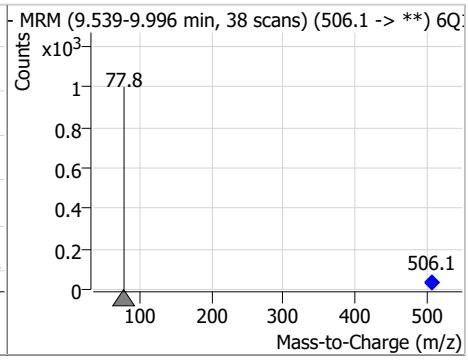




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.18	9.69	0.01	26831				

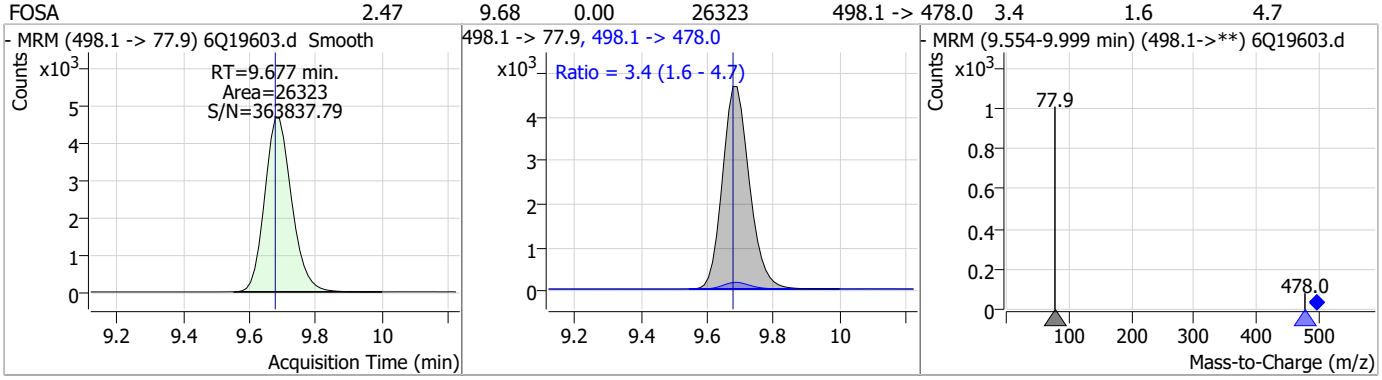




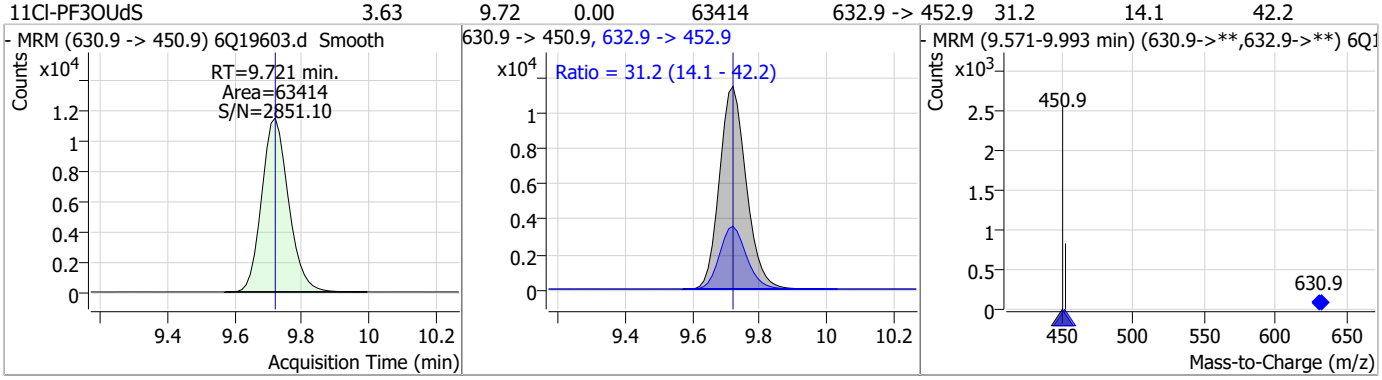


Perfluorinated Compounds by LC/MS/MS

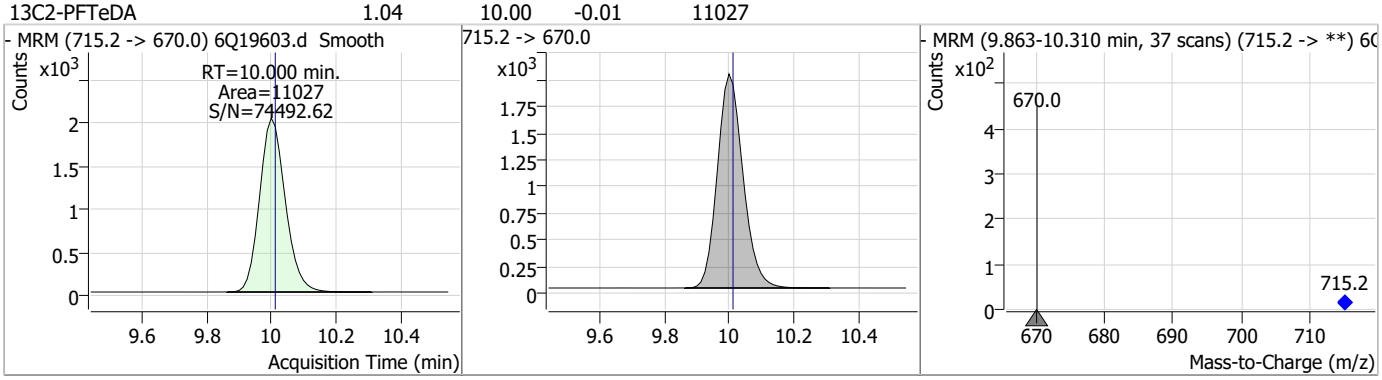
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.47	9.68	0.00	26323	498.1 -> 478.0	3.4	1.6	4.7



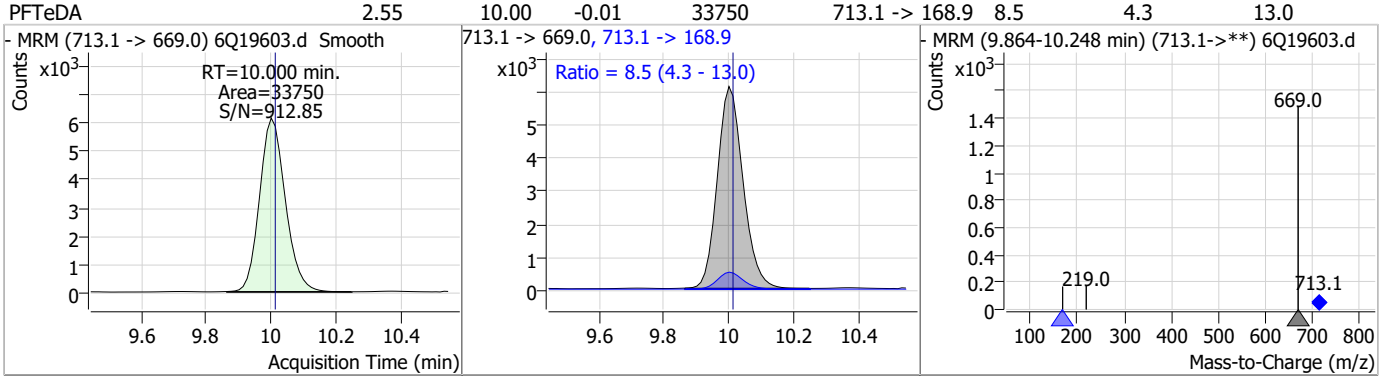
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	3.63	9.72	0.00	63414	632.9 -> 452.9	31.2	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.04	10.00	-0.01	11027				

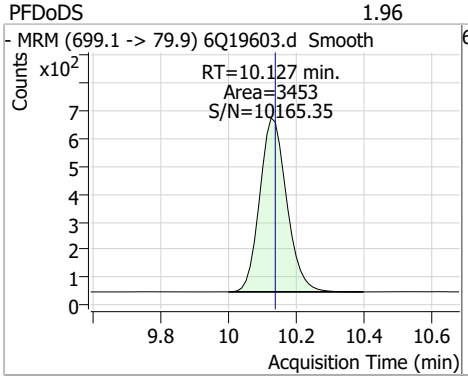


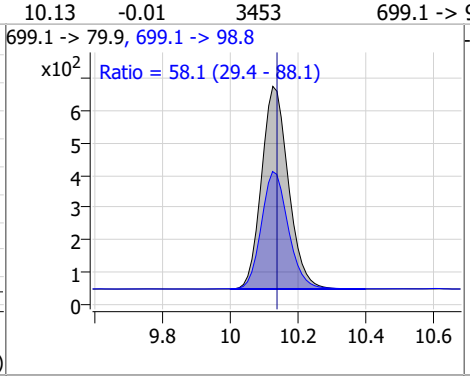
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.55	10.00	-0.01	33750	713.1 -> 168.9	8.5	4.3	13.0

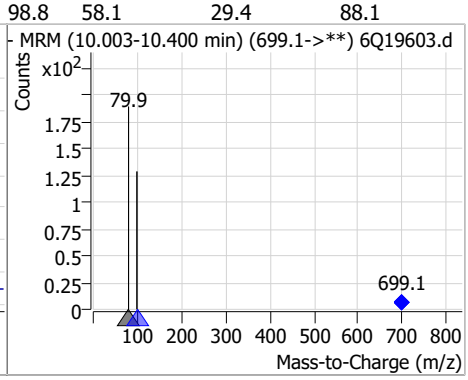


Perfluorinated Compounds by LC/MS/MS

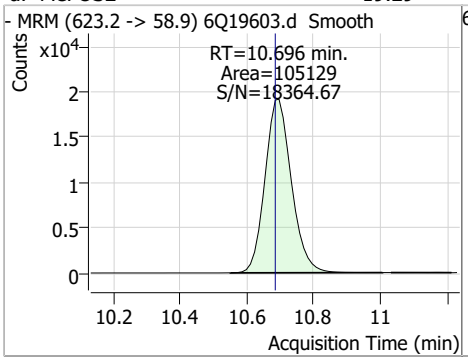
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	1.96	10.13	-0.01	3453	699.1 -> 98.8	58.1	29.4	88.1

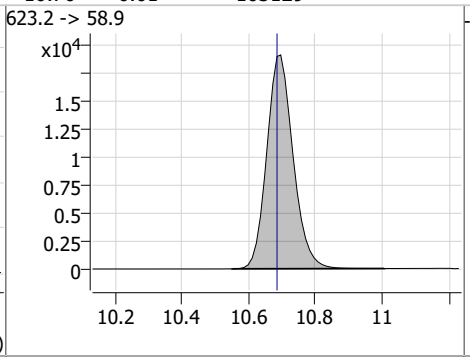


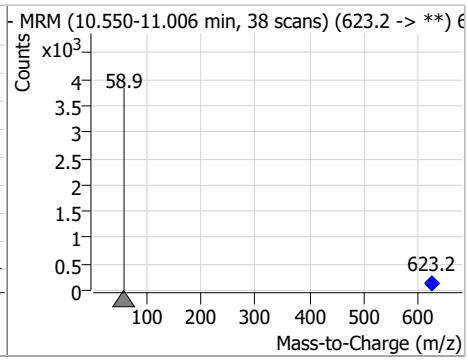




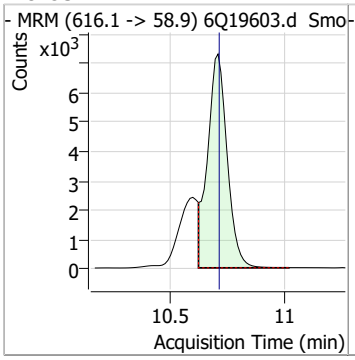
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	19.29	10.70	0.01	105129				

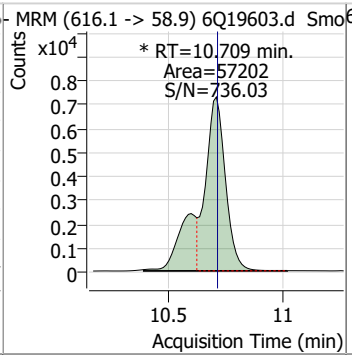


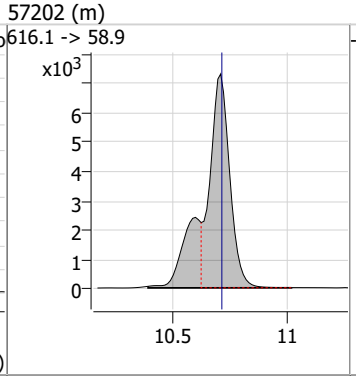


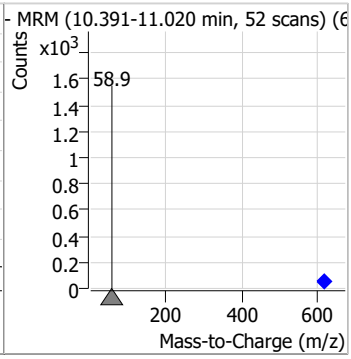


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.56	10.71	0.00	57202 (m)				

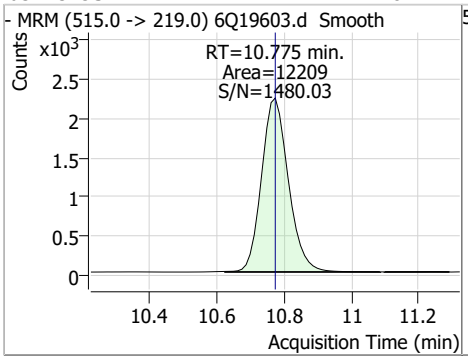


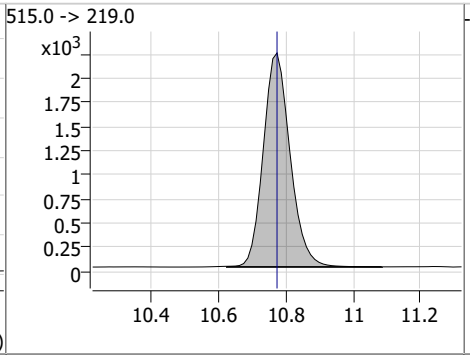


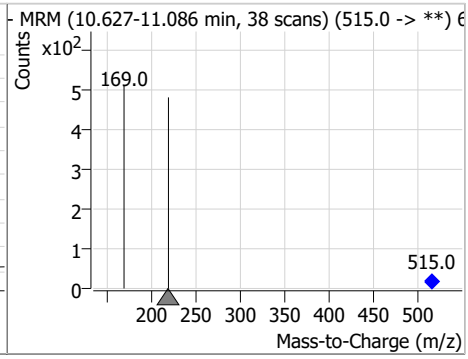




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.28	10.78	0.00	12209				

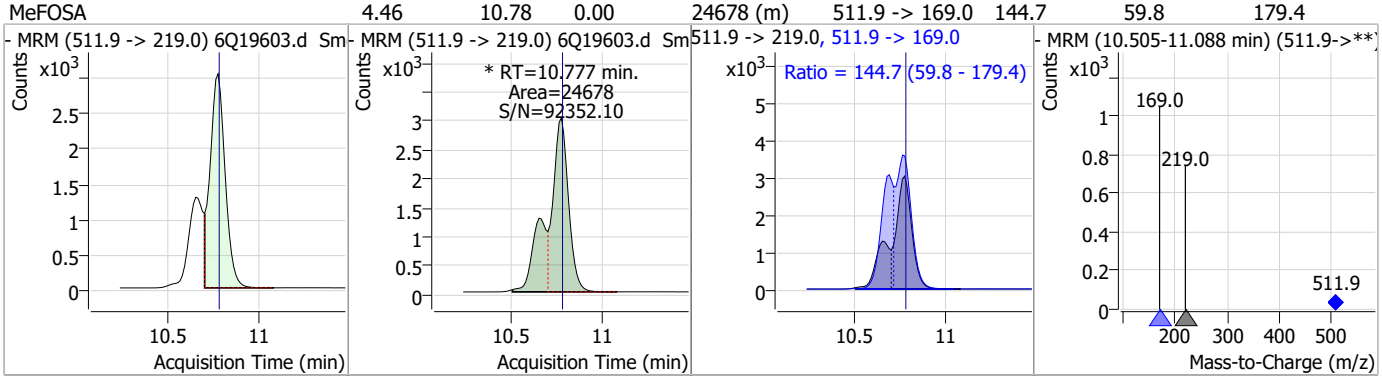




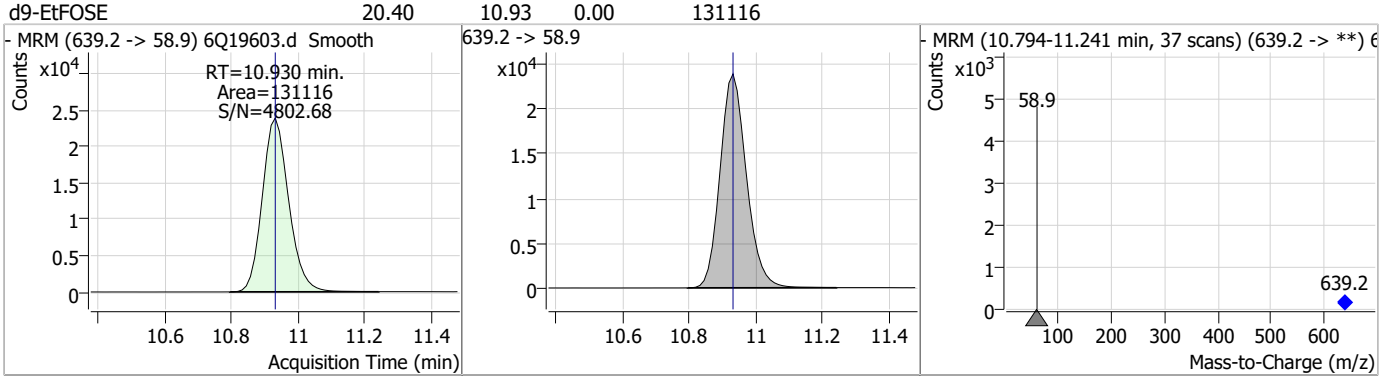


Perfluorinated Compounds by LC/MS/MS

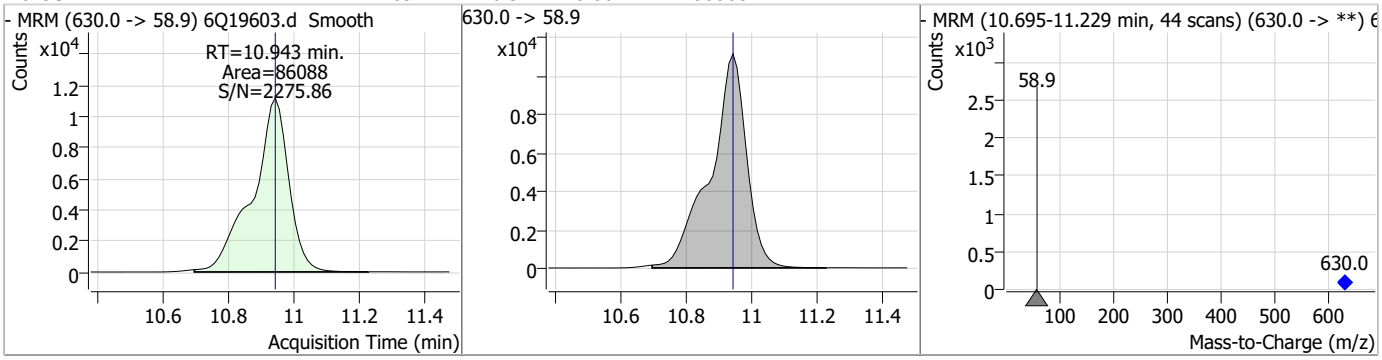
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.46	10.78	0.00	24678 (m)	511.9 -> 169.0	144.7	59.8	179.4



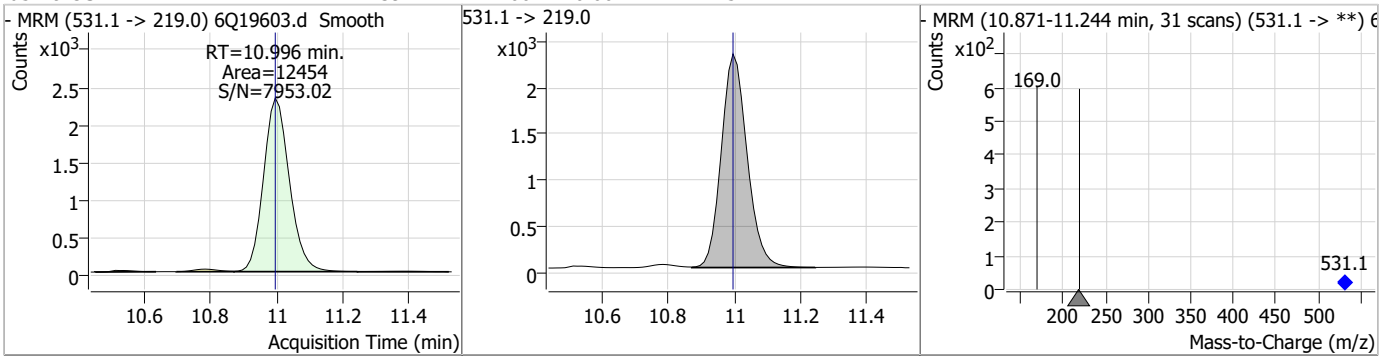
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	20.40	10.93	0.00	131116				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.69	10.94	0.00	86088				

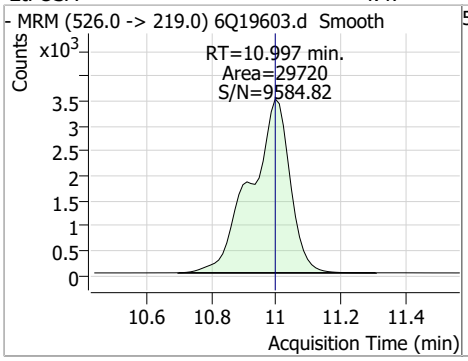


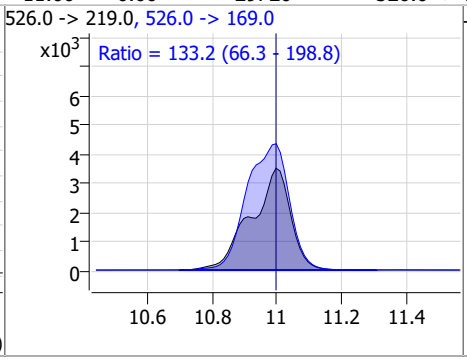
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.39	11.00	0.00	12454				

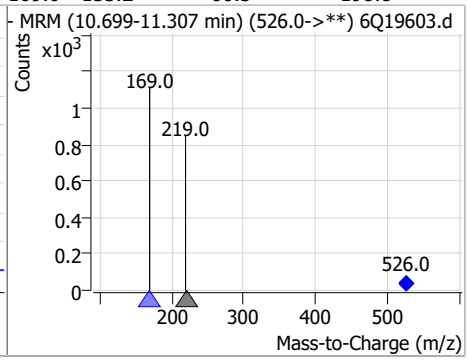


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.47	11.00	0.00	29720	526.0 -> 169.0	133.2	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q292-CC288
Lab FileID: 6Q19603.D
Injection Time: 06/20/23 10:30
Method: EPA DRAFT 1633
Analyst approved: 06/20/23 14:08 Martha Valls
Supervisor approved: 06/20/23 16:44 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/20/23 16:44

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19615.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 1:18:15 PM
Sample Name : cc288-4
Vial : P1-A5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	152953	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	49693	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	51383	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	46368	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	75744	2.50	µg/L	0.000
M9-PFNA	7.882	472.1 -> 427.0	32926	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	22548	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	25751	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	21429	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	11161	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	27050	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	20469	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	12168	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	11635	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	2877	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4641	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4158	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	26453	5.00	µg/L	0.000
M3-HFPO-DA	6.181	286.9 -> 168.9	37232	10.00	µg/L	0.012
M5-EtFOSAA	8.615	589.2 -> 419.0	24146	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	106907	25.00	µg/L	0.000
M9-EtFOSE	10.930	639.2 -> 58.9	124878	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12454	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11817	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15217	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	65134	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8589	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	81577	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	30412	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	44569	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	48710	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	2877	5.58	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.6%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4641	5.96	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.3%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4158	5.68	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.6%		
13C2-PFDoDA	9.285	615.1 -> 570.0	21429	1.05	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 84.3%		
13C2-PFTeDA	10.000	715.2 -> 670.0	11161	0.98	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 78.7%		
13C3-PFBS	5.746	302.1 -> 79.9	20469	2.86	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.5%		
13C3-PFHxS	7.478	402.1 -> 79.9	12168	2.70	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.8%		
13C4-PFBA	3.097	216.8 -> 171.9	152953	10.01 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%		
13C4-PFHpA	6.707	367.1 -> 322.0	46368	2.47 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C5-PFHxA	5.792	318.0 -> 273.0	51383	2.56 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C5-PFPeA	4.560	268.3 -> 223.0	49693	5.39 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.9%		
13C6-PFDA	8.387	519.1 -> 474.1	22548	1.29 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.4%		
13C7-PFUnDA	8.853	570.0 -> 525.1	25751	1.10 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 88.1%		
13C8-FOSA	9.687	506.1 -> 77.8	27050	2.35 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.9%		
13C8-PFOA	7.352	421.1 -> 376.0	75744	2.48 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%		
13C8-PFOS	8.563	507.1 -> 79.9	11635	2.53 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%		
13C9-PFNA	7.882	472.1 -> 427.0	32926	1.21 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.1%		
d3-MeFOSAA	8.420	573.2 -> 419.0	26453	4.59 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.9%		
13C3-HFPO-DA	6.181	286.9 -> 168.9	37232	11.07 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 110.7%		
d3-MeFOSA	10.775	515.0 -> 219.0	11817	2.36 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.4%		
d5-EtFOSAA	8.615	589.2 -> 419.0	24146	4.94 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.8%		
d7-MeFOSE	10.685	623.2 -> 58.9	106907	20.94 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 83.7%		
d9-EtFOSE	10.930	639.2 -> 58.9	124878	20.75 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 83.0%		
d5-EtFOSA	10.996	531.1 -> 219.0	12454	2.55 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.9%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	46658	9.33 µg/L		97
		327.1 -> 80.9	18225			
6:2FTS	7.113	427.1 -> 407.0	49568	8.97 µg/L		100
		427.1 -> 80.9	16249			
8:2FTS	8.164	527.1 -> 507.0	22920	8.29 µg/L		94
		527.1 -> 80.8	9868			
EtFOSAA	8.629	584.2 -> 419.1	8968	2.19 µg/L	m	98
		584.2 -> 526.0	4635			
FOSA	9.690	498.1 -> 77.9	24232	2.25 µg/L		99
		498.1 -> 478.0	860			
MeFOSAA	8.421	570.1 -> 419.0	17558	2.56 µg/L	m	99
		570.1 -> 483.0	3430			
PFBA	3.093	212.8 -> 168.9	59567	9.66 µg/L		100
PFBS	5.747	298.7 -> 79.9	19165	2.10 µg/L		95
		298.7 -> 98.8	6662			
PFDA	8.388	512.9 -> 469.0	71785	2.14 µg/L		99
		512.9 -> 219.0	11771			
PFDoDA	9.285	613.1 -> 569.0	45157	2.54 µg/L		99
		613.1 -> 319.0	6839			
PFDS	9.450	599.0 -> 79.9	7892	2.24 µg/L		90

Perfluorinated Compounds by LC/MS/MS

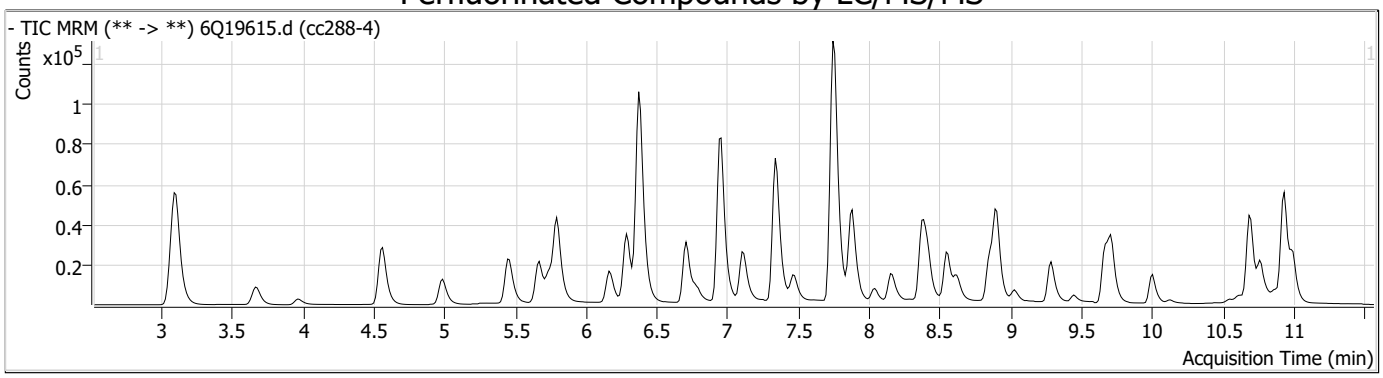
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3602				
PFHpA	6.708	363.1 -> 319.0	59664	2.41	µg/L		98
		363.1 -> 169.0	9634				
PFHpS	8.046	449.0 -> 79.9	15263	2.19	µg/L		99
		449.0 -> 98.9	7716				
PFHxA	5.795	313.0 -> 269.0	49399	2.38	µg/L		100
		313.0 -> 118.9	2551				
PFHxS	7.479	398.7 -> 79.9	15548	2.12	µg/L	m	90
		398.7 -> 98.9	6853				
PFNA	7.883	463.0 -> 419.0	75039	2.47	µg/L		99
		463.0 -> 219.0	13763				
PFNS	9.041	548.8 -> 79.9	12935	2.14	µg/L		96
		548.8 -> 98.9	6679				
PFOA	7.353	413.0 -> 369.0	94442	2.27	µg/L		98
		413.0 -> 169.0	16874				
PFOS	8.564	498.9 -> 79.9	14628	2.12	µg/L	m	95
		498.9 -> 98.8	7196				
PFPeA	4.563	263.0 -> 219.0	70257	4.79	µg/L		100
PFPeS	6.785	349.1 -> 79.9	15146	2.22	µg/L		95
		349.1 -> 98.9	6729				
PFTeDA	10.000	713.1 -> 669.0	33101	2.47	µg/L		100
		713.1 -> 168.9	2821				
PFTrDA	9.669	663.0 -> 619.0	43117	2.39	µg/L		96
		663.0 -> 168.9	5050				
PFUnDA	8.854	563.1 -> 519.0	50600	2.55	µg/L		96
		563.1 -> 269.1	8644				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	64696	3.82	µg/L		94
		632.9 -> 452.9	20266				
9Cl-PF3ONS	8.906	530.8 -> 351.0	111936	3.83	µg/L		94
		532.8 -> 353.0	38282				
ADONA	6.959	376.9 -> 250.9	254019	4.22	µg/L		95
		376.9 -> 84.8	67330				
HFPO-DA	6.182	284.9 -> 168.9	17464	4.48	µg/L		98
		284.9 -> 184.9	2191				
3:3FTCA	3.958	241.0 -> 177.0	10922	11.00	µg/L		98
		241.0 -> 117.0	1578				
5:3FTCA	6.386	341.0 -> 237.1	240188	58.27	µg/L		99
		341.0 -> 217.0	177136				
7:3FTCA	7.761	441.0 -> 316.9	171334	61.48	µg/L		88
		441.0 -> 336.9	351979				
EtFOSA	10.997	526.0 -> 219.0	29520	4.44	µg/L		99
		526.0 -> 169.0	39331				
EtFOSE	10.943	630.0 -> 58.9	83402	12.91	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	24966	4.67	µg/L	m	78
		511.9 -> 169.0	35922				
MeFOSE	10.709	616.1 -> 58.9	55389	11.96	µg/L	m	100
PFDoDS	10.127	699.1 -> 79.9	3524	2.03	µg/L		92
		699.1 -> 98.8	1862				
NFDHA	5.673	295.0 -> 201.0	12912	4.87	µg/L		98
		295.0 -> 84.9	3600				
PFMBA	4.988	279.0 -> 85.1	50790	4.86	µg/L		100
PFMPA	3.680	229.0 -> 84.9	39896	4.88	µg/L		100
PFEESA	6.288	314.8 -> 134.9	118184	4.22	µg/L		99
		314.8 -> 82.9	4458				

 # = Qualifier out of range, m = manually integrated, + = Area summed

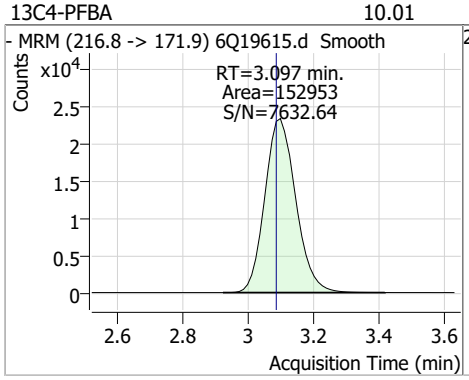
Perfluorinated Compounds by LC/MS/MS

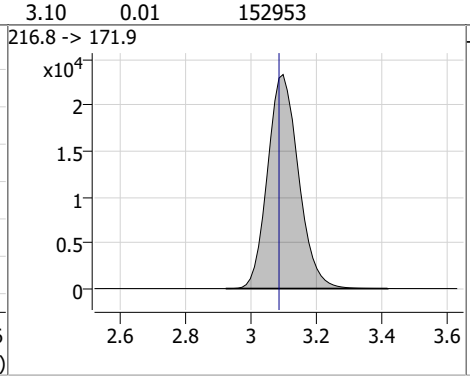
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

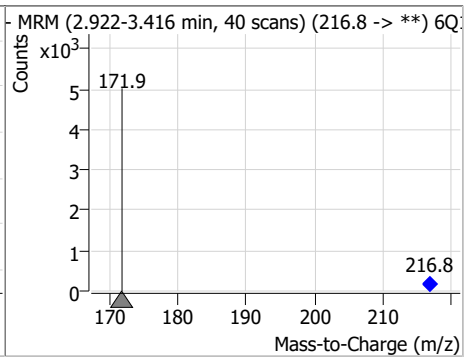
Perfluorinated Compounds by LC/MS/MS



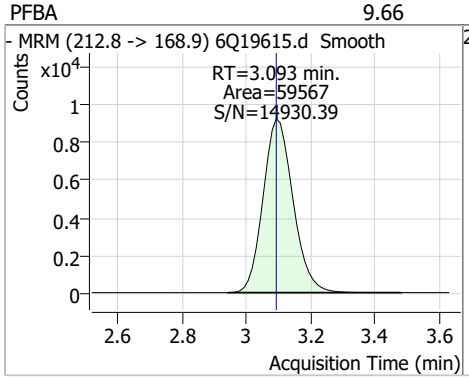
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.01	3.10	0.01	152953				

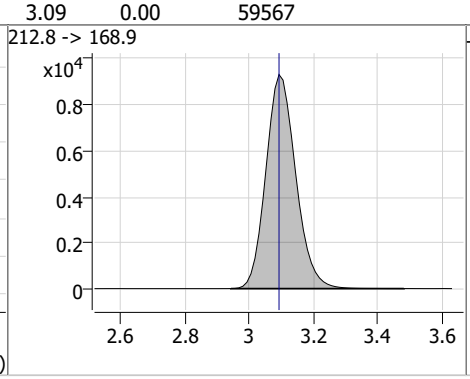


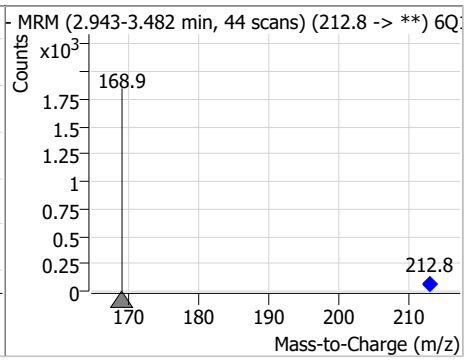




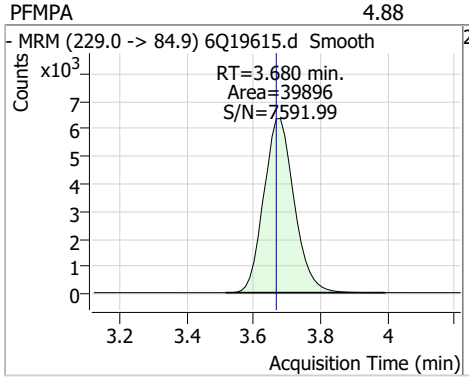
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.66	3.09	0.00	59567				

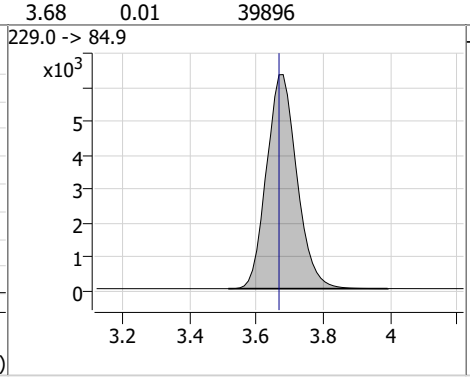


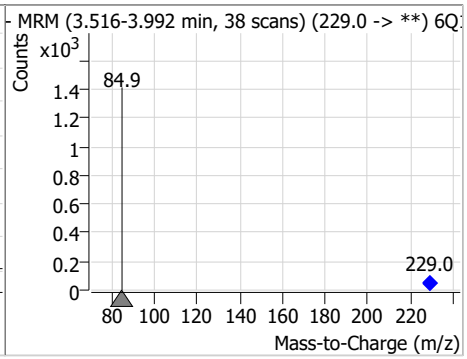




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.88	3.68	0.01	39896				

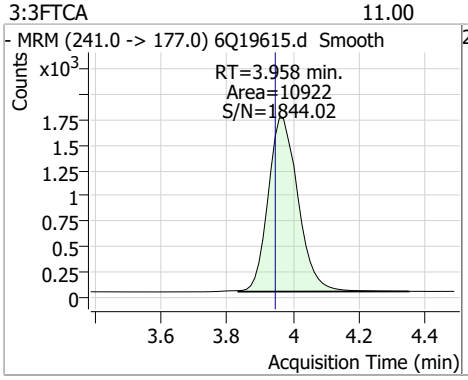


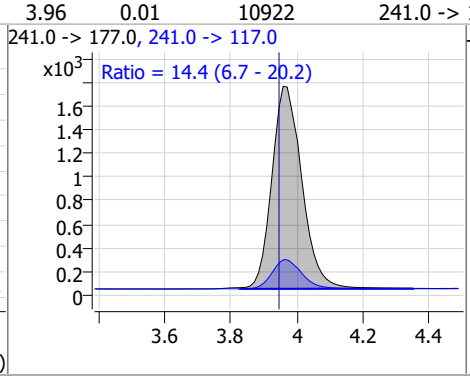


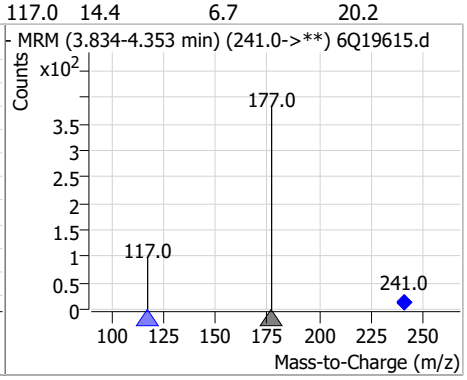


Perfluorinated Compounds by LC/MS/MS

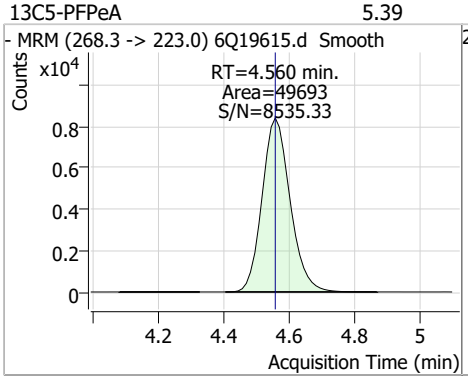
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.00	3.96	0.01	10922	241.0 -> 117.0	14.4	6.7	20.2

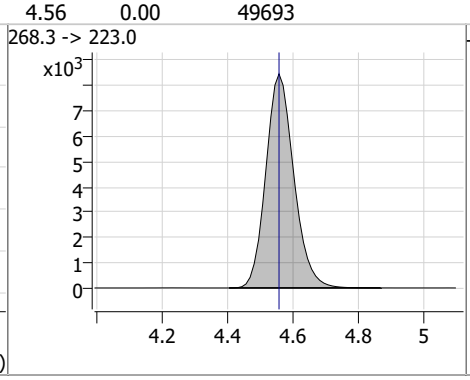


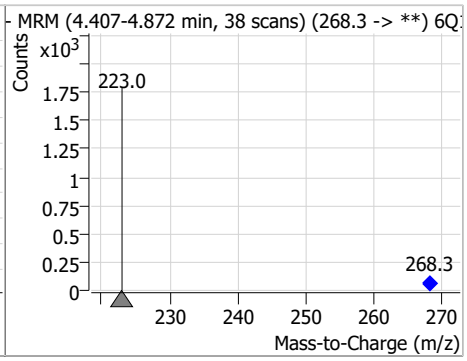




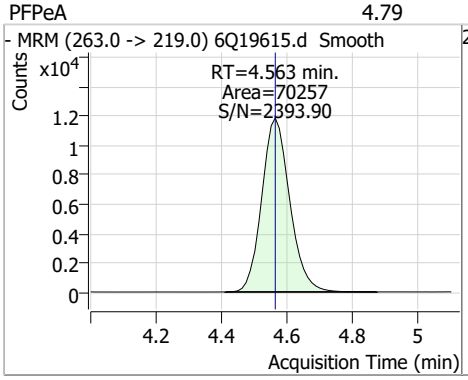
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.39	4.56	0.00	49693				

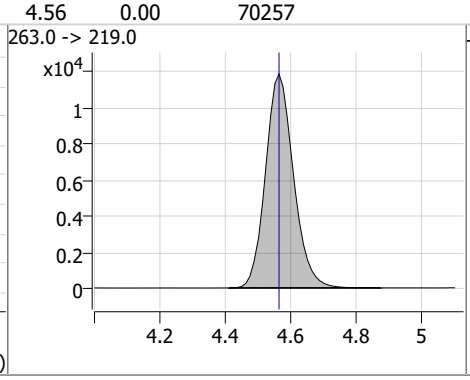


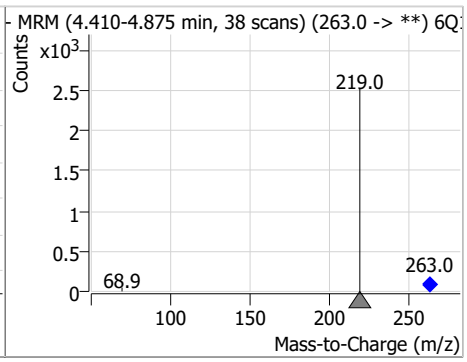




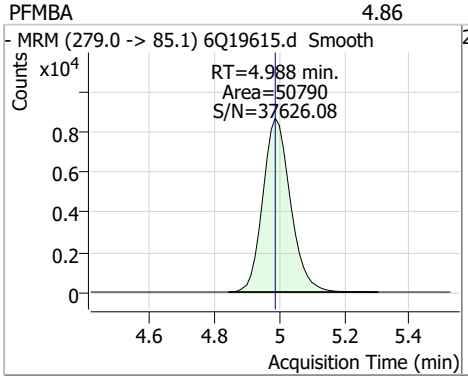
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.79	4.56	0.00	70257				

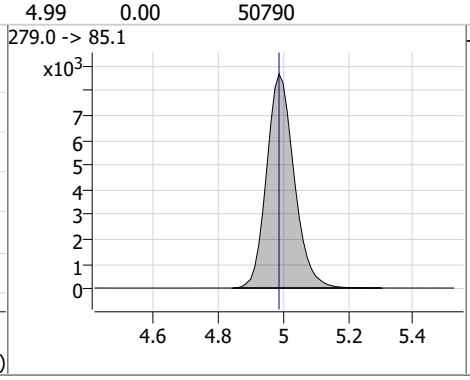


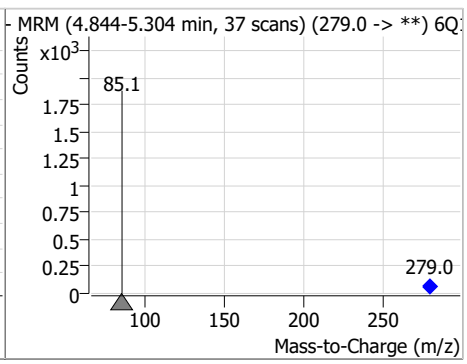




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.86	4.99	0.00	50790				

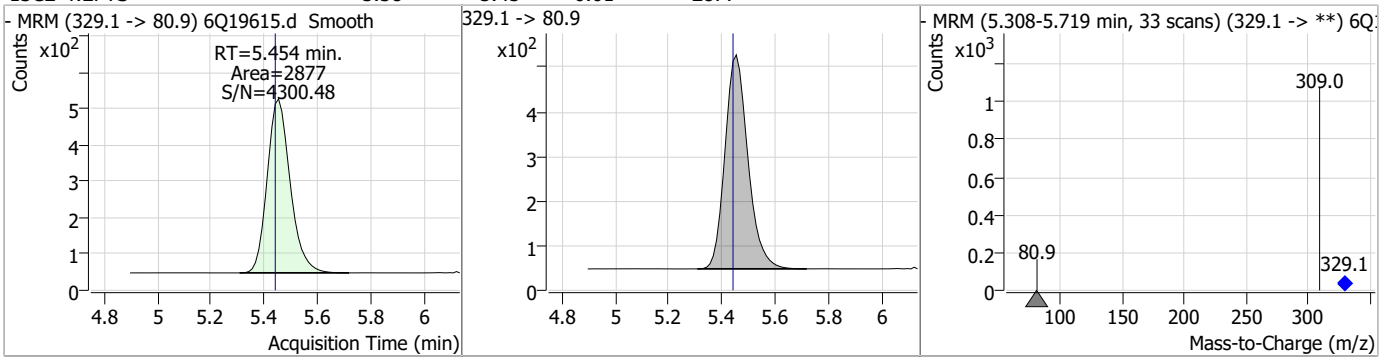




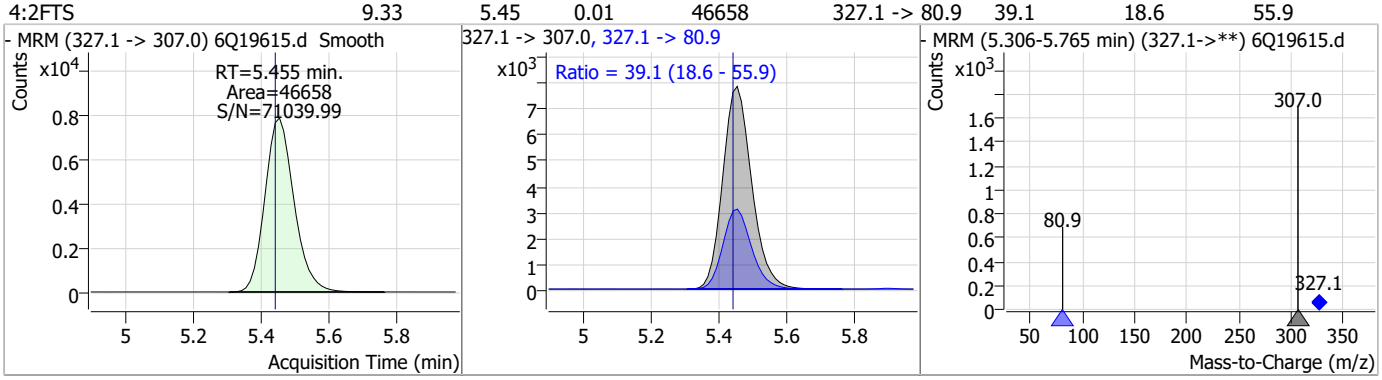


Perfluorinated Compounds by LC/MS/MS

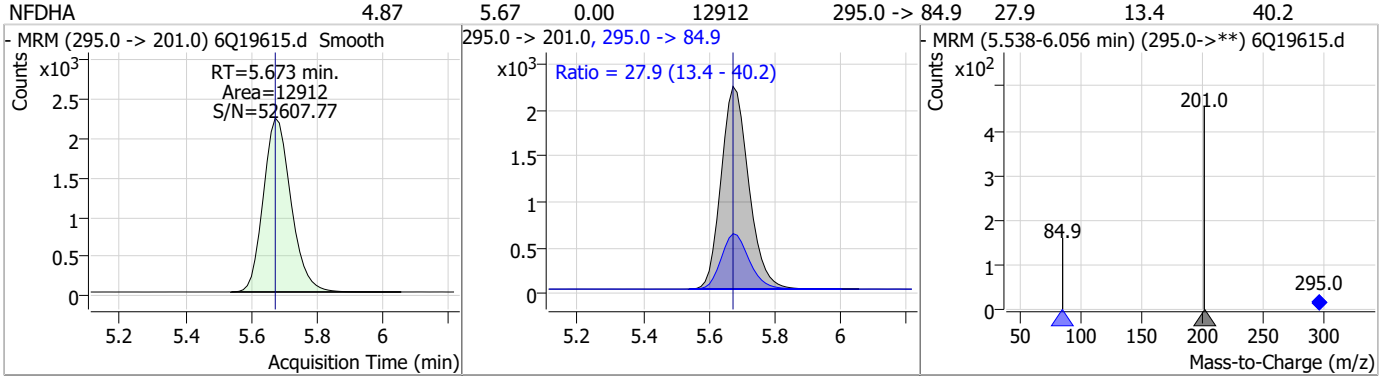
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.58	5.45	0.01	2877				



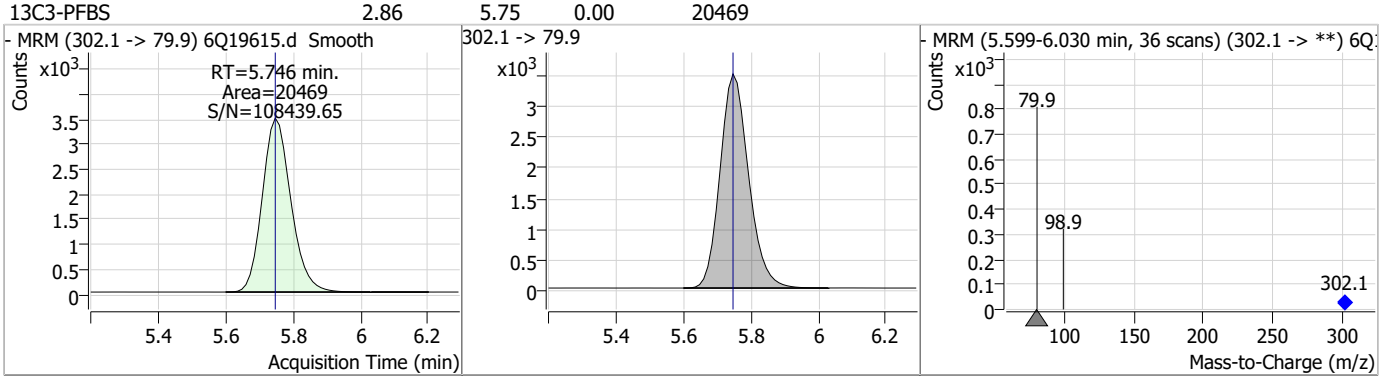
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.33	5.45	0.01	46658	327.1 -> 80.9	39.1	18.6	55.9



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.87	5.67	0.00	12912	295.0 -> 84.9	27.9	13.4	40.2

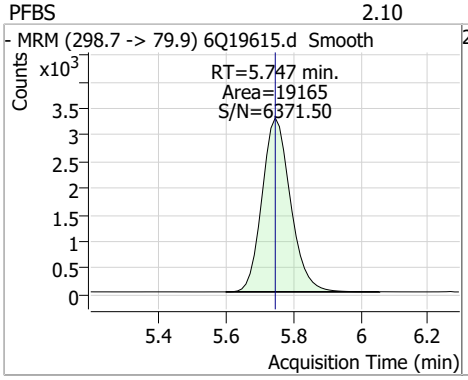


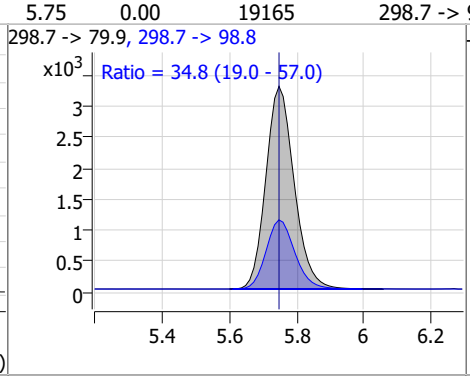
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.86	5.75	0.00	20469				

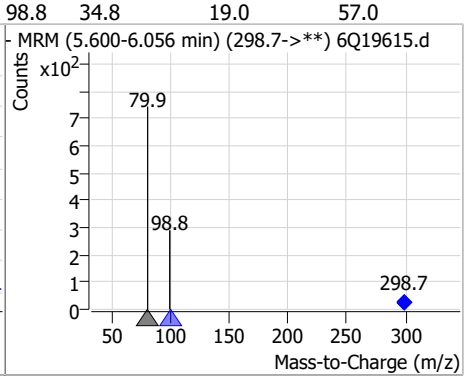


Perfluorinated Compounds by LC/MS/MS

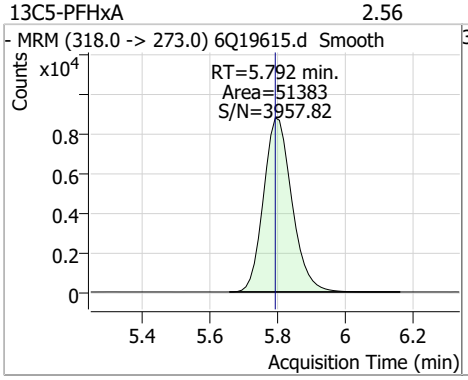
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.10	5.75	0.00	19165	298.7 -> 98.8	34.8	19.0	57.0

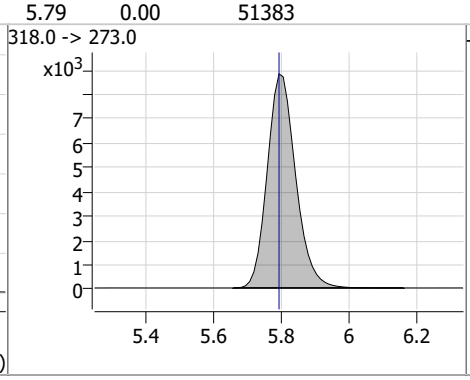


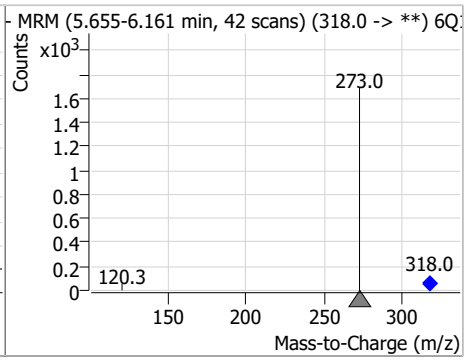




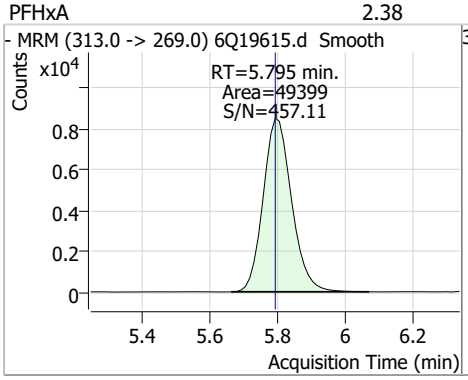
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.56	5.79	0.00	51383				

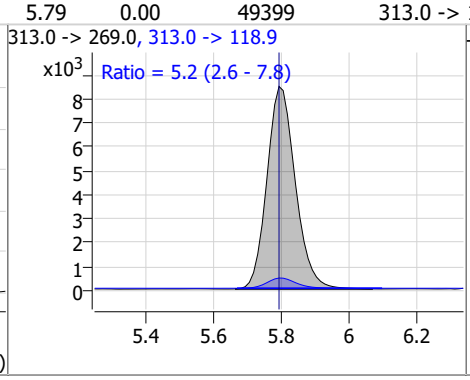


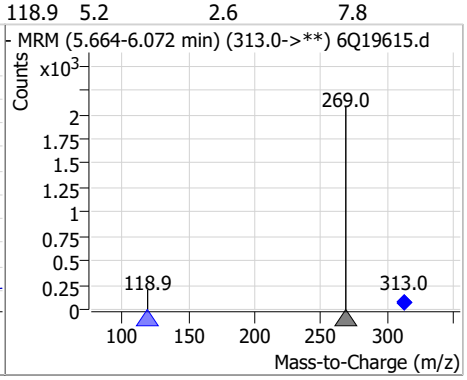




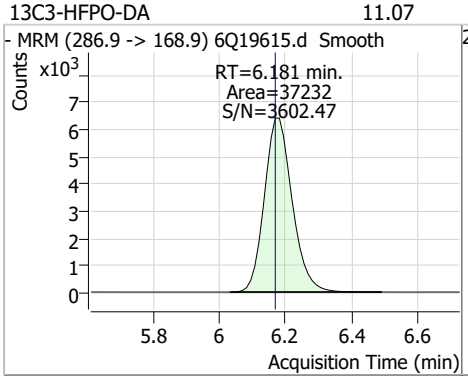
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.38	5.79	0.00	49399	313.0 -> 118.9	5.2	2.6	7.8

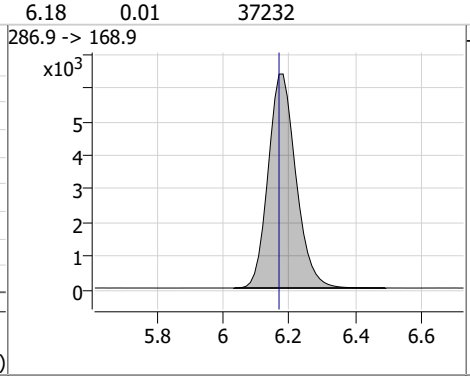


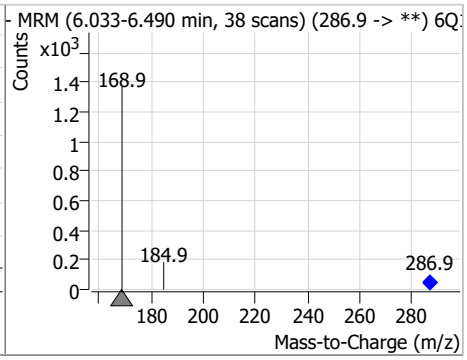




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.07	6.18	0.01	37232				

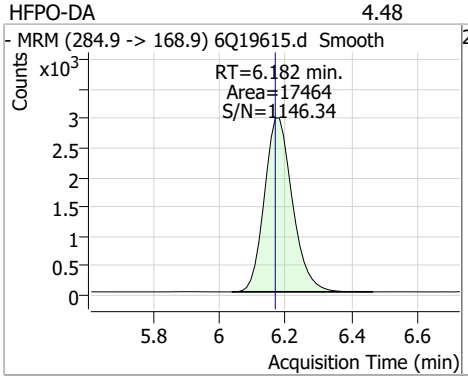


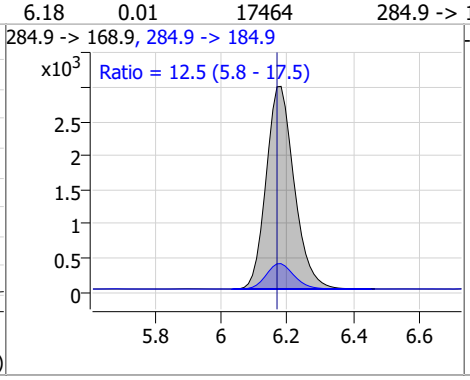


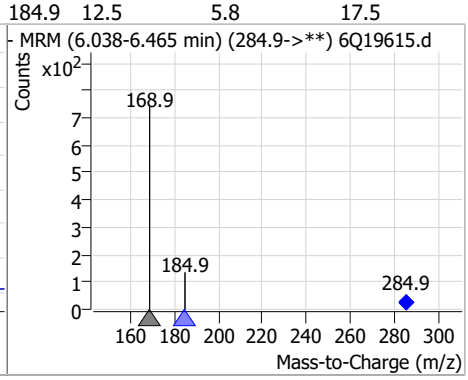


Perfluorinated Compounds by LC/MS/MS

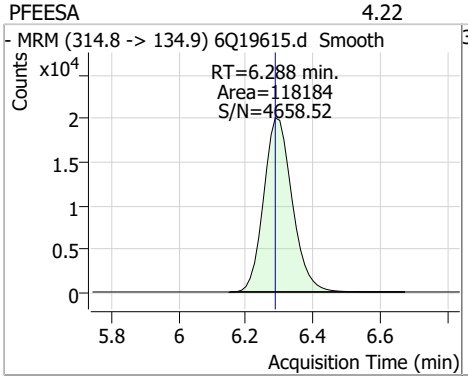
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.48	6.18	0.01	17464	284.9 -> 184.9	12.5	5.8	17.5

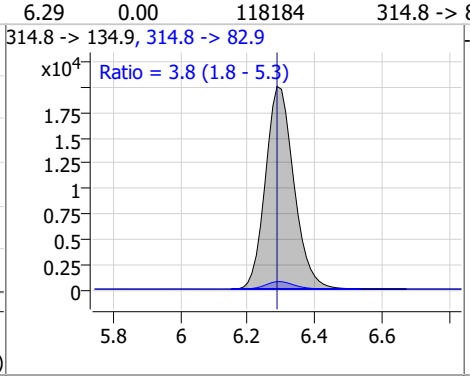


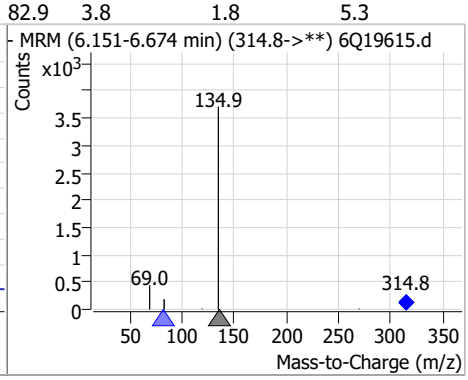




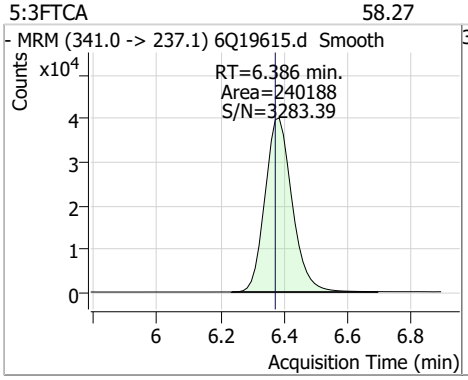
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.22	6.29	0.00	118184	314.8 -> 82.9	3.8	1.8	5.3

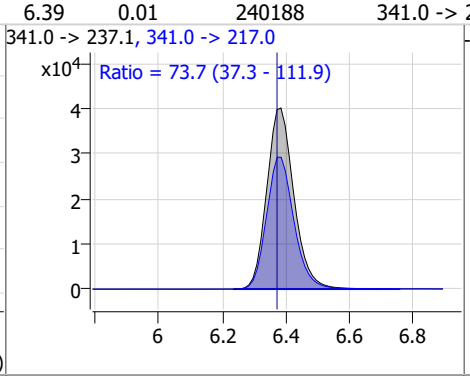


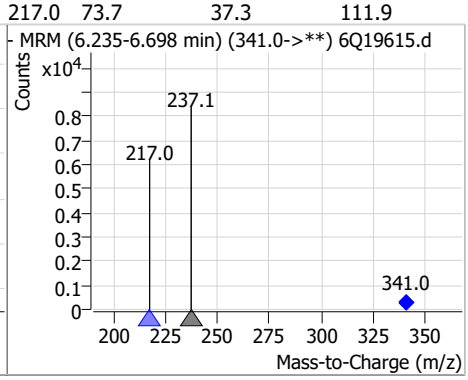




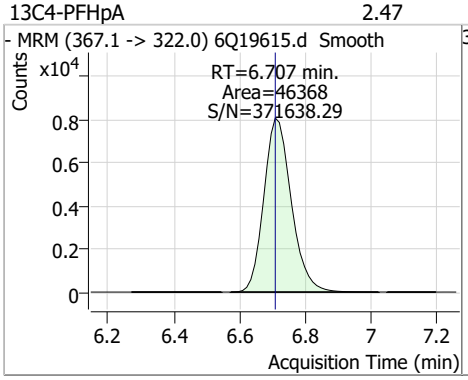
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	58.27	6.39	0.01	240188	341.0 -> 217.0	73.7	37.3	111.9

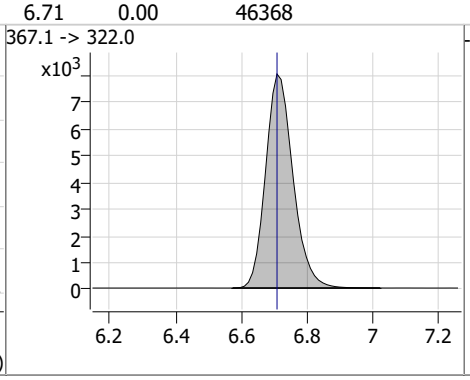


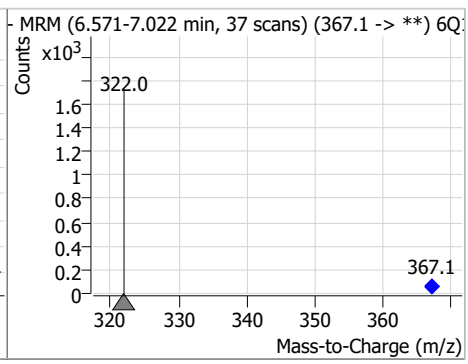




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.47	6.71	0.00	46368				

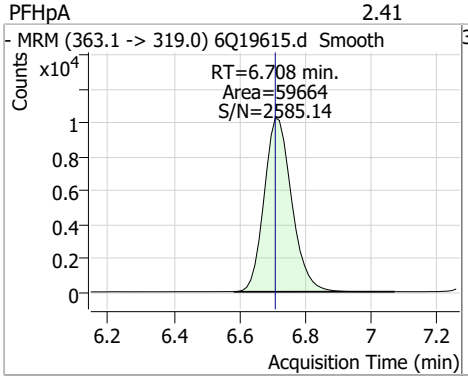


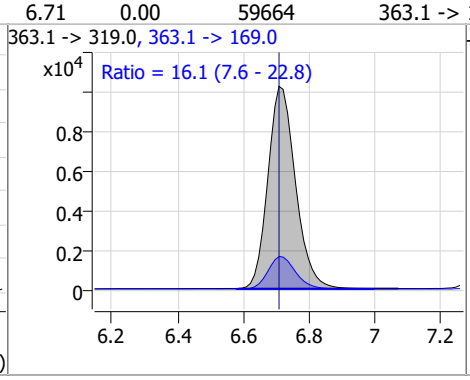


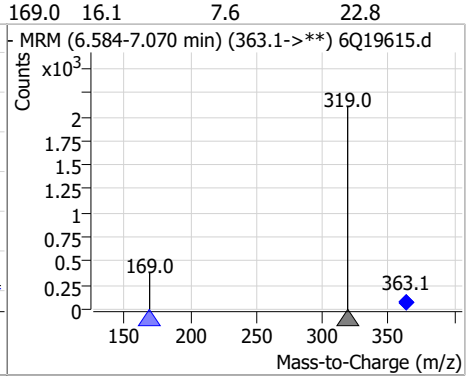


Perfluorinated Compounds by LC/MS/MS

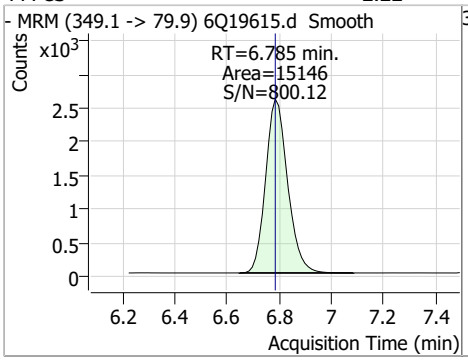
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.41	6.71	0.00	59664	363.1 -> 169.0	16.1	7.6	22.8

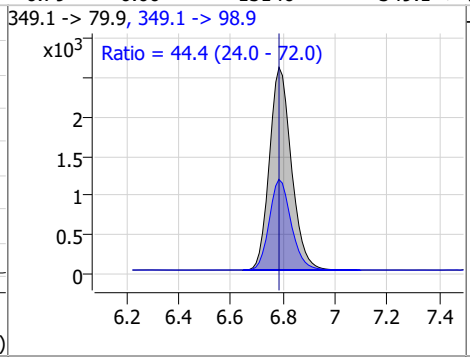


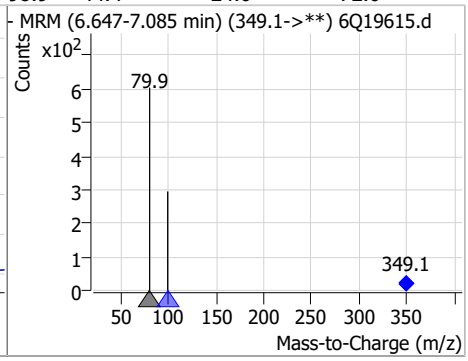




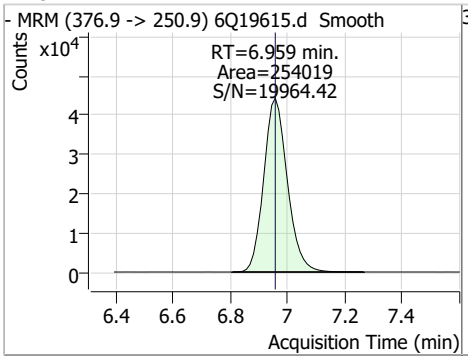
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.22	6.79	0.00	15146	349.1 -> 98.9	44.4	24.0	72.0

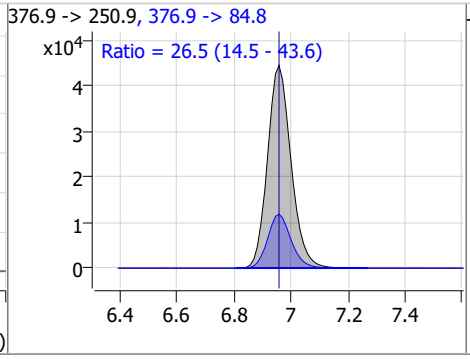


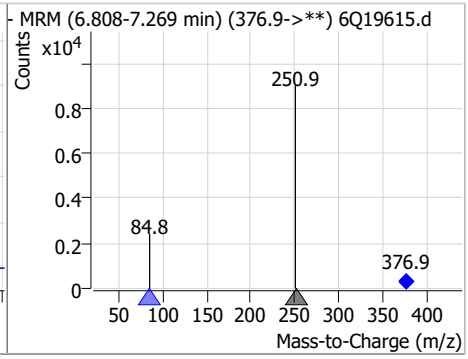




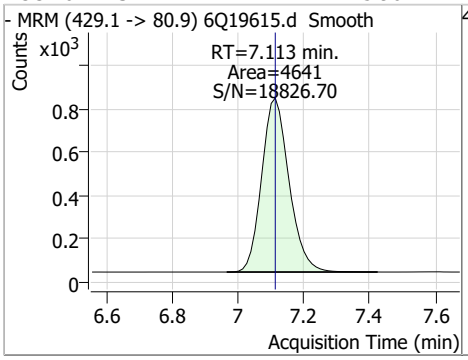
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.22	6.96	0.00	254019	376.9 -> 84.8	26.5	14.5	43.6

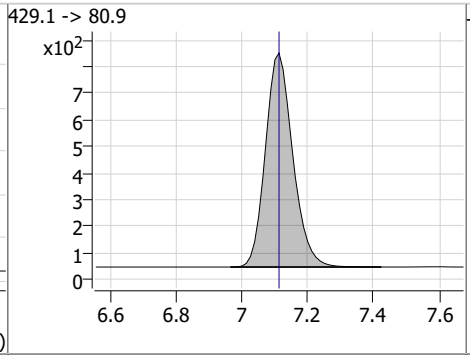


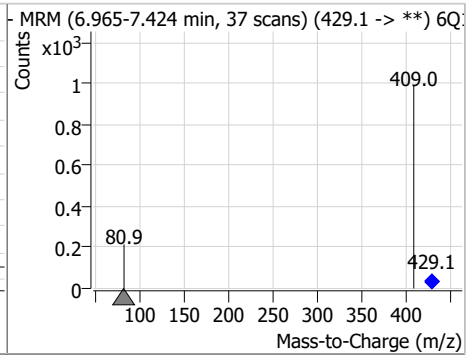




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.96	7.11	0.00	4641				

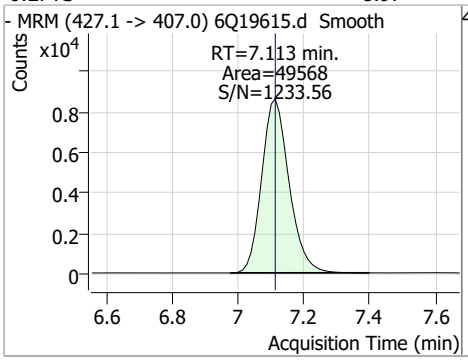


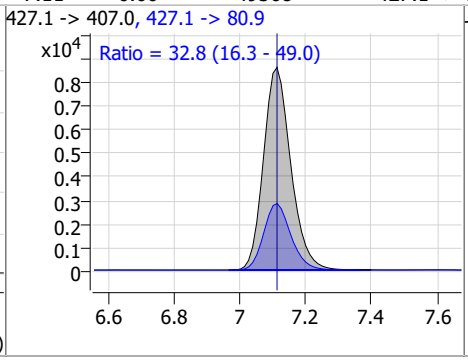


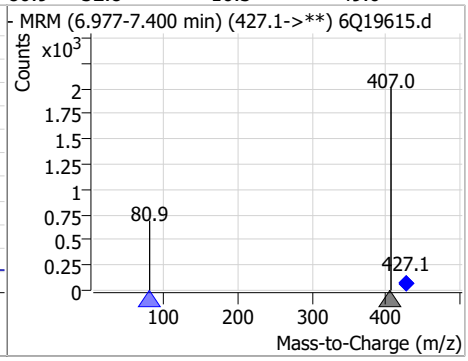


Perfluorinated Compounds by LC/MS/MS

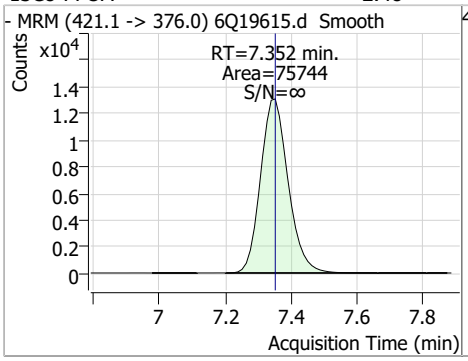
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	8.97	7.11	0.00	49568	427.1 -> 80.9	32.8	16.3	49.0

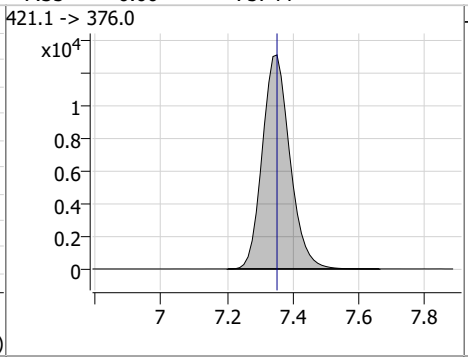


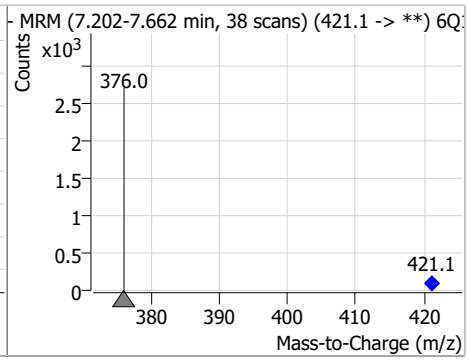




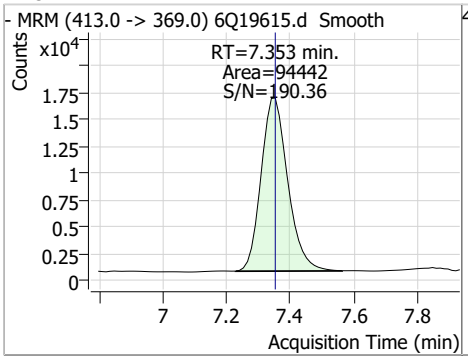
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.48	7.35	0.00	75744				

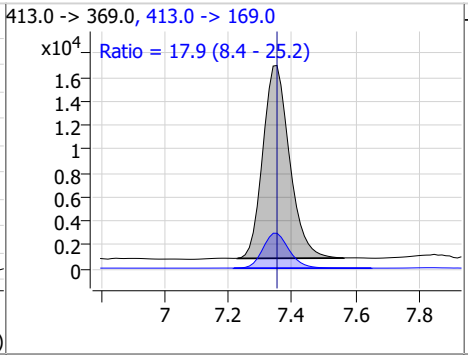


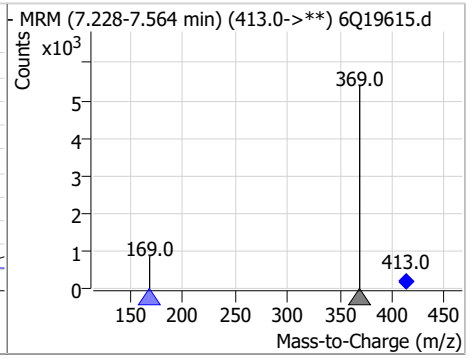




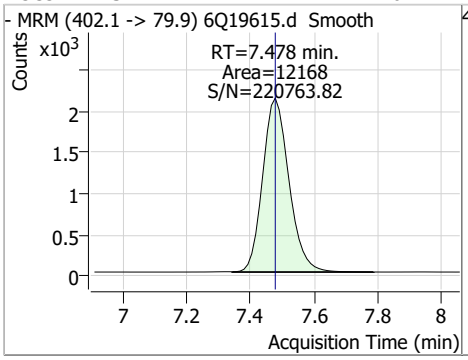
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.27	7.35	0.00	94442	413.0 -> 169.0	17.9	8.4	25.2

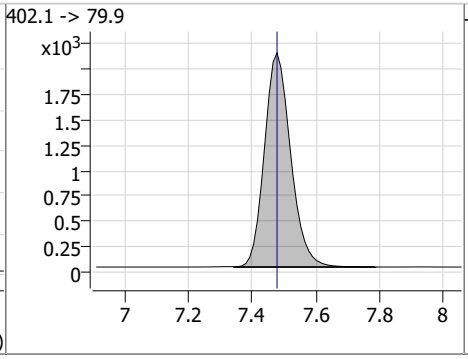


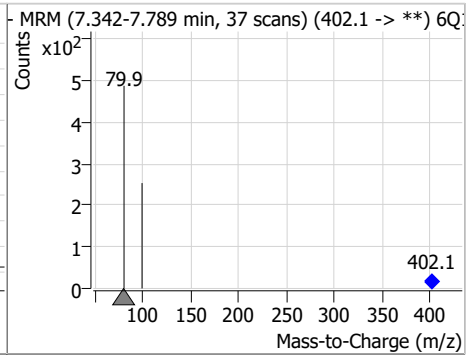




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.70	7.48	0.00	12168				

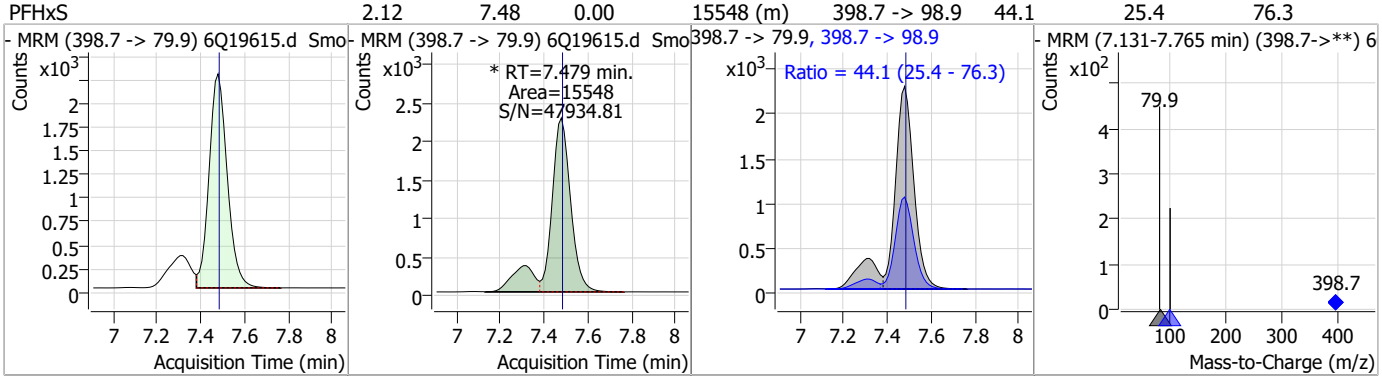




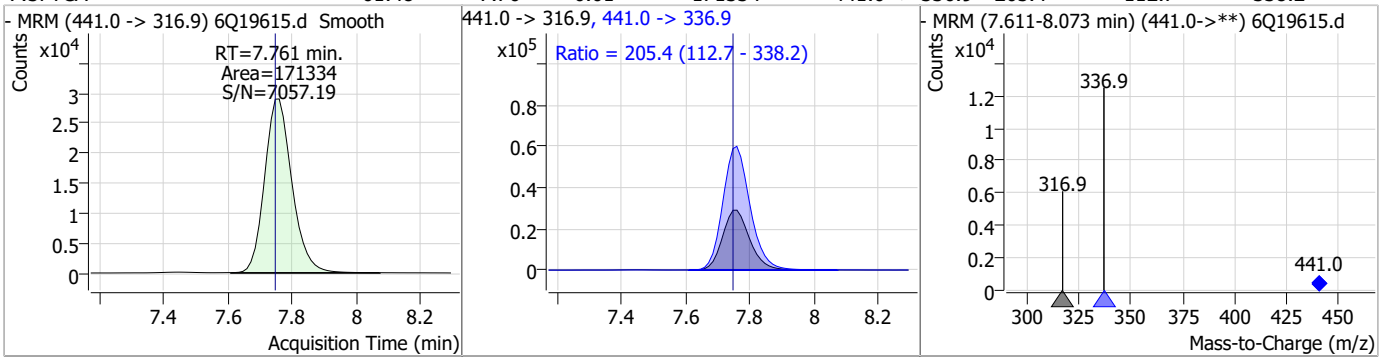


Perfluorinated Compounds by LC/MS/MS

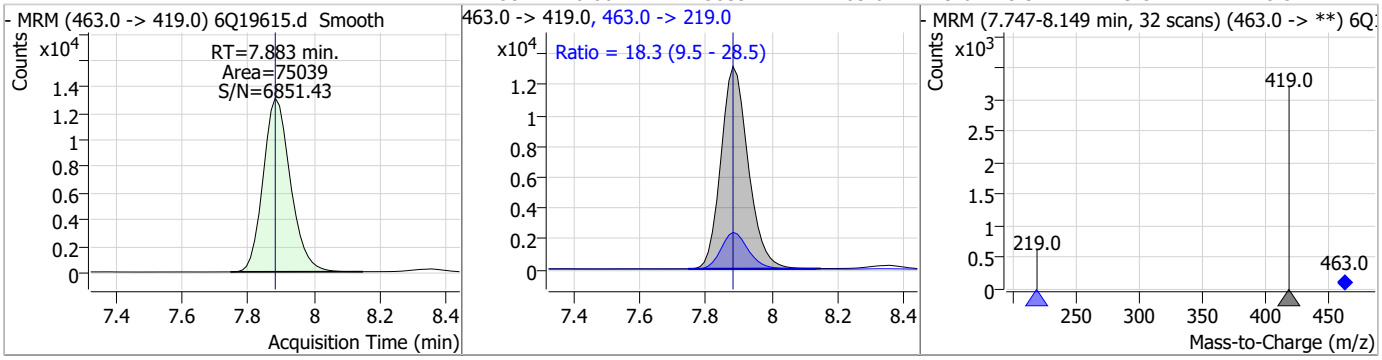
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.12	7.48	0.00	15548 (m)	398.7 -> 98.9	44.1	25.4	76.3



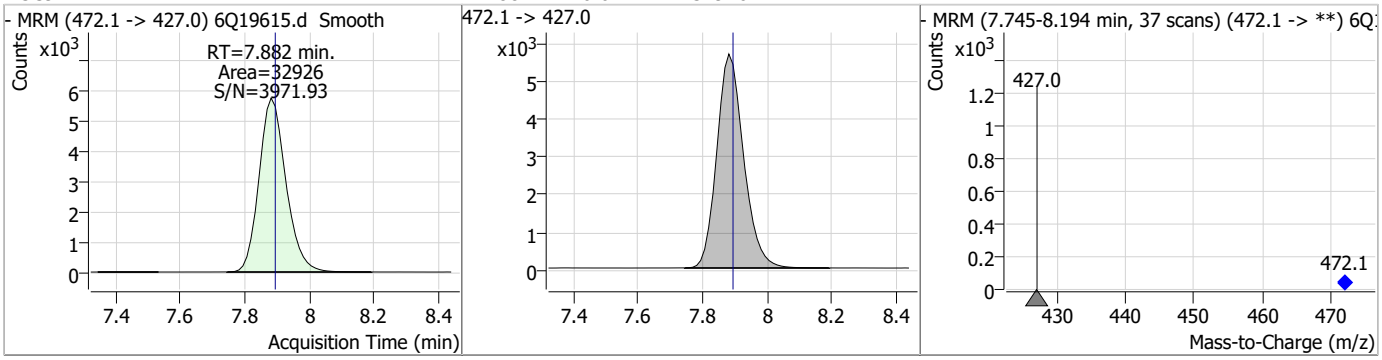
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	61.48	7.76	0.01	171334	441.0 -> 336.9	205.4	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.47	7.88	0.00	75039	463.0 -> 219.0	18.3	9.5	28.5

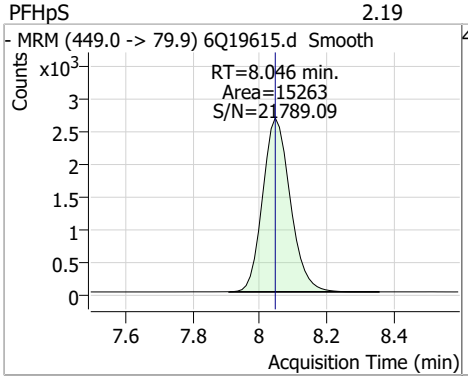


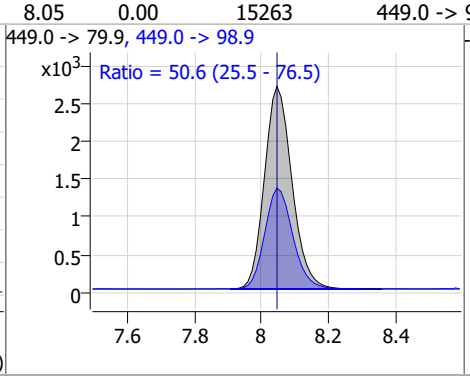
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.21	7.88	-0.01	32926				

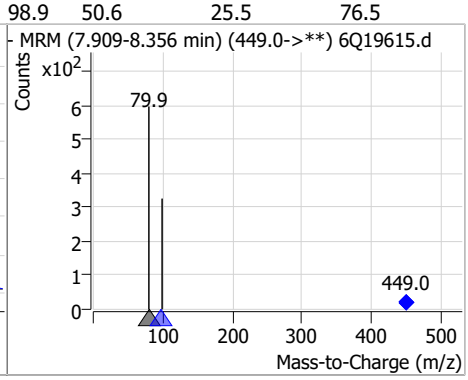


Perfluorinated Compounds by LC/MS/MS

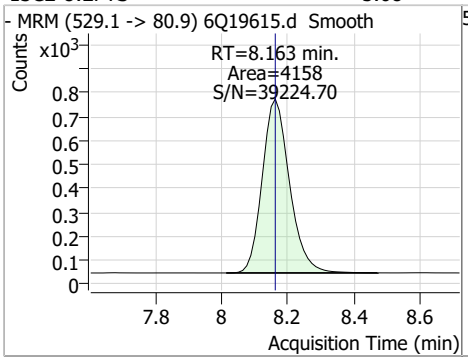
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.19	8.05	0.00	15263	449.0 -> 98.9	50.6	25.5	76.5

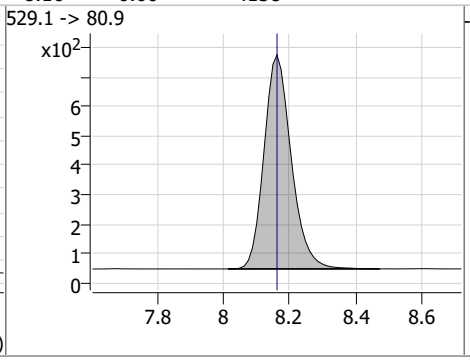


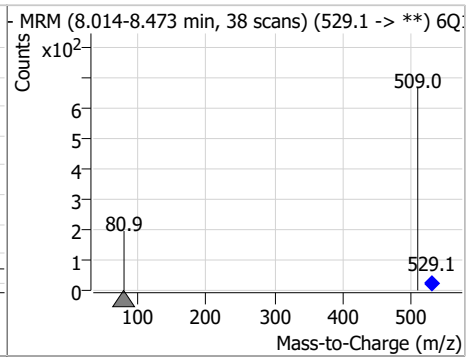




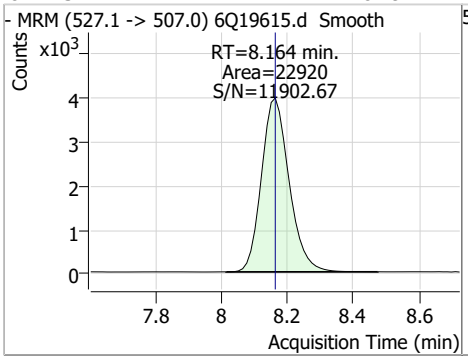
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.68	8.16	0.00	4158				

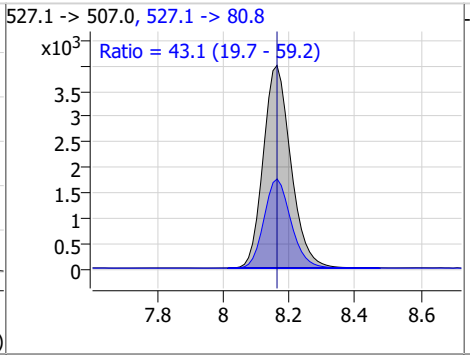


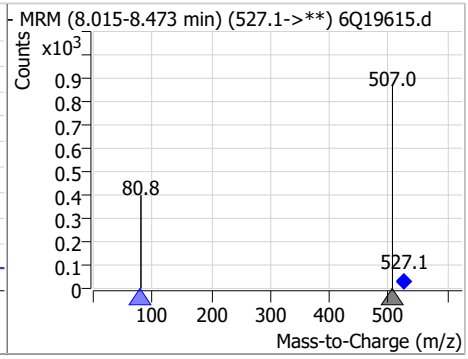




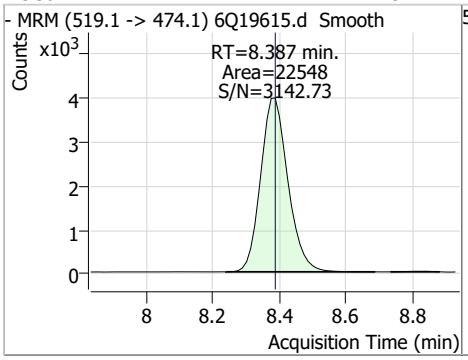
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	8.29	8.16	0.00	22920	527.1 -> 80.8	43.1	19.7	59.2

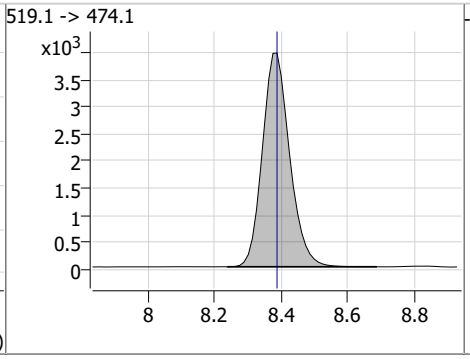


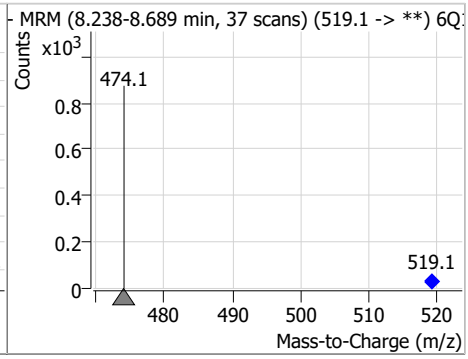




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.29	8.39	0.00	22548				

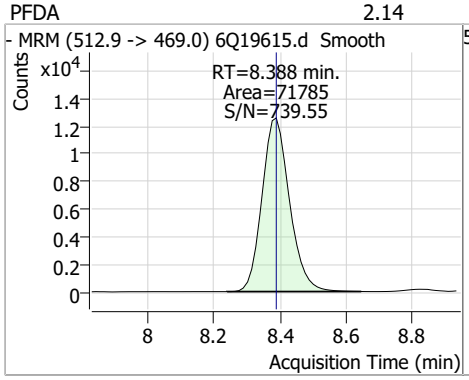


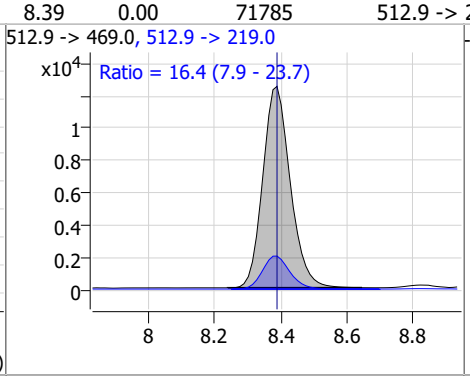


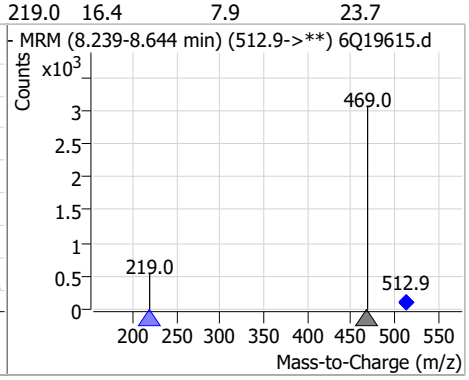


Perfluorinated Compounds by LC/MS/MS

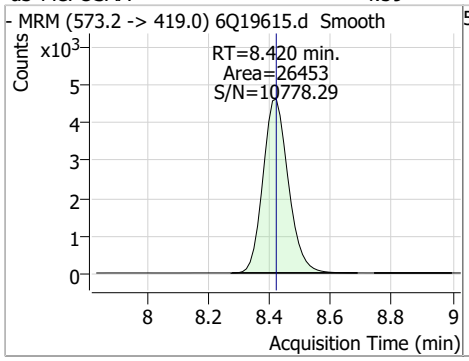
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.14	8.39	0.00	71785	512.9 -> 219.0	16.4	7.9	23.7

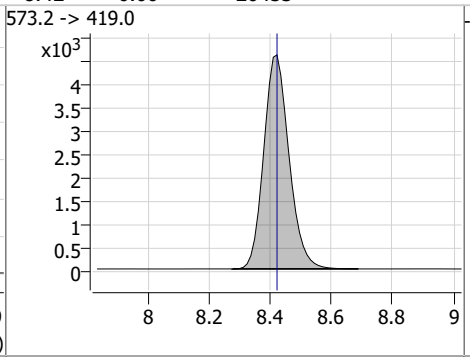


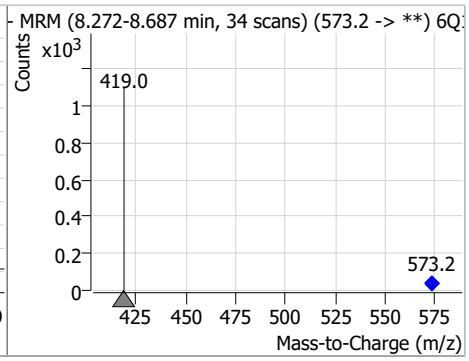




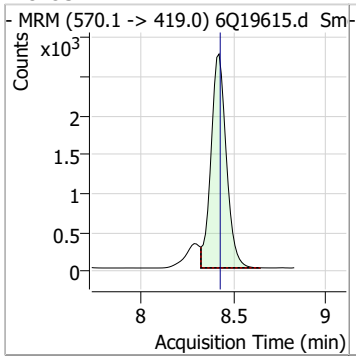
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.59	8.42	0.00	26453				

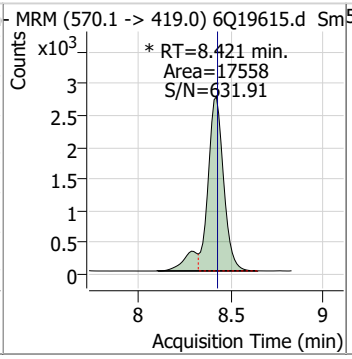


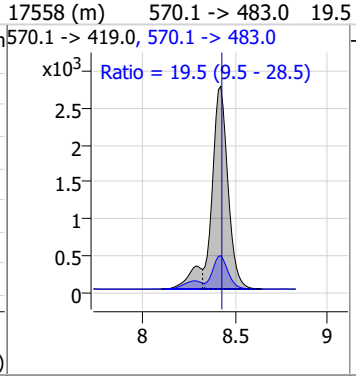


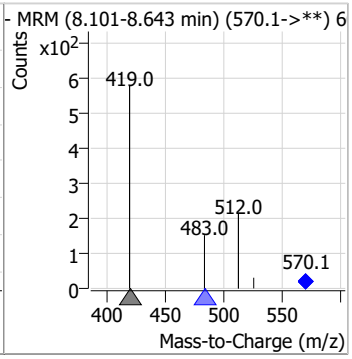


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.56	8.42	0.00	17558 (m)	570.1 -> 483.0	19.5	9.5	28.5

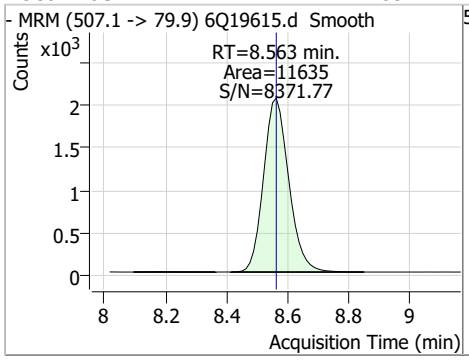


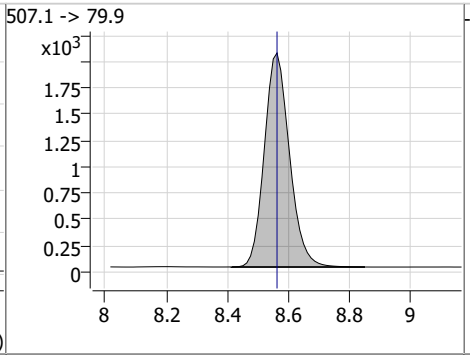


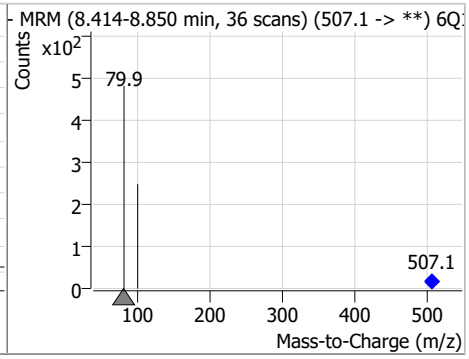




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.53	8.56	0.00	11635				

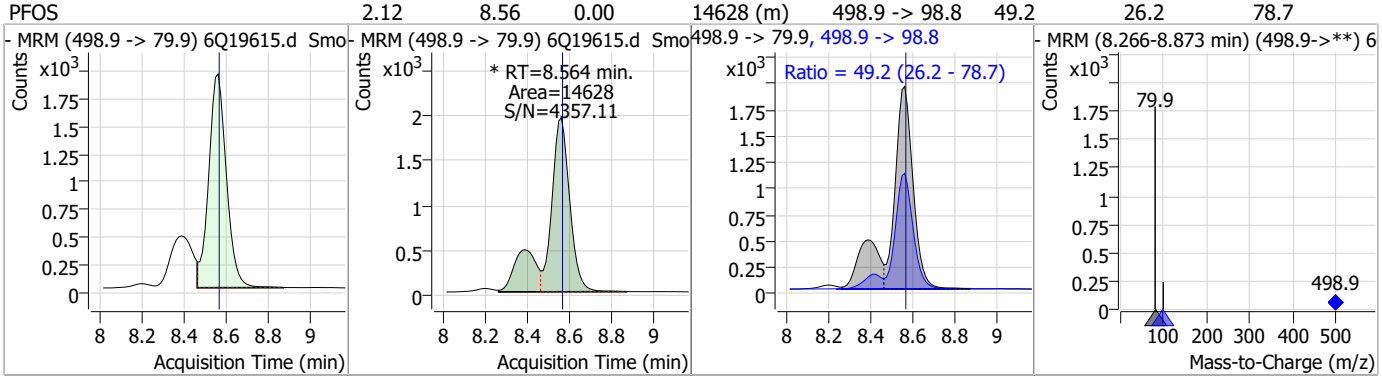




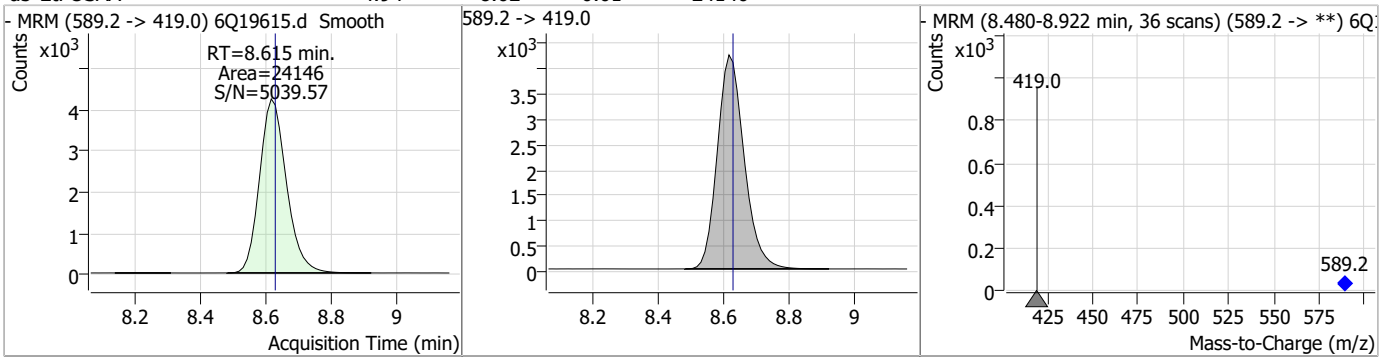


Perfluorinated Compounds by LC/MS/MS

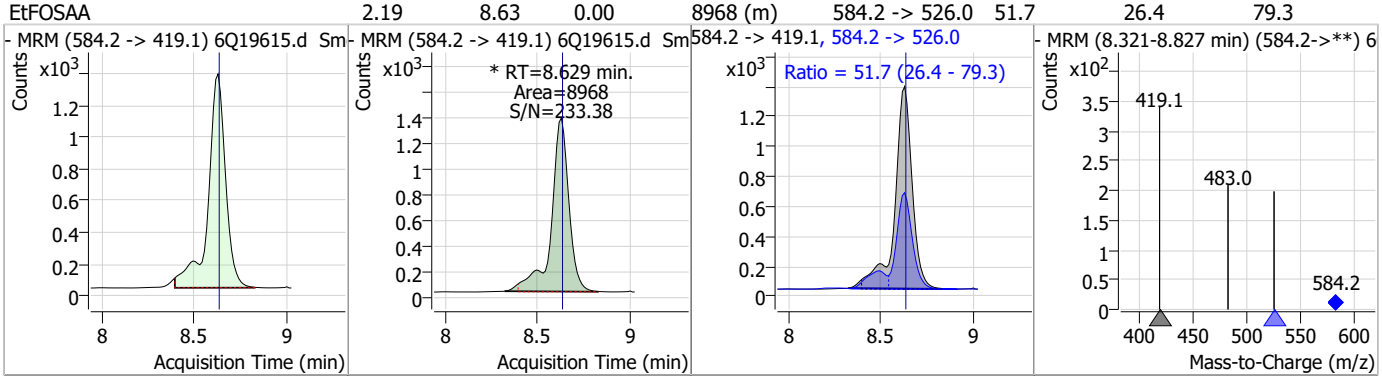
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.12	8.56	0.00	14628 (m)	498.9 -> 98.8	49.2	26.2	78.7



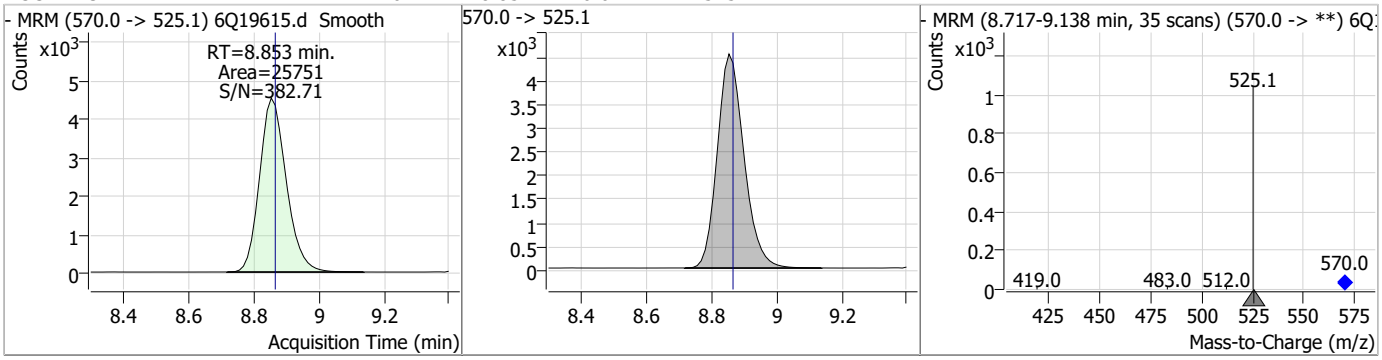
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.94	8.62	-0.01	24146				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.19	8.63	0.00	8968 (m)	584.2 -> 526.0	51.7	26.4	79.3

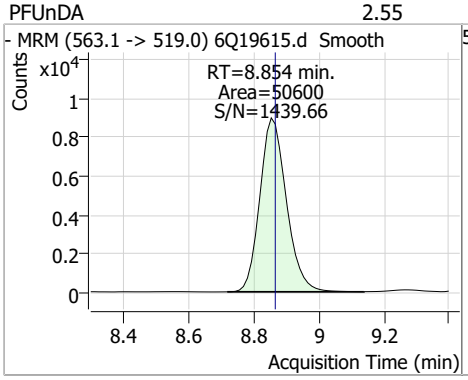


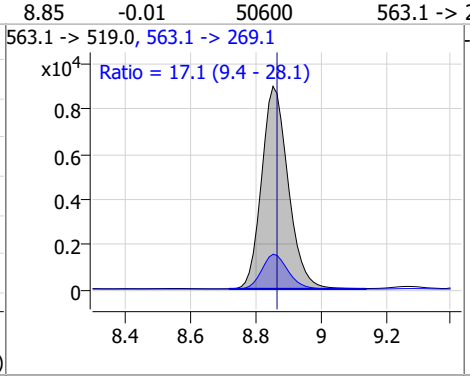
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.10	8.85	-0.01	25751				

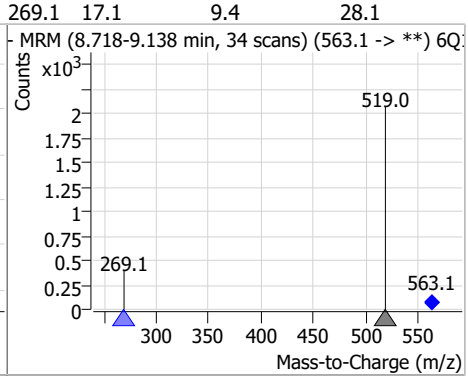


Perfluorinated Compounds by LC/MS/MS

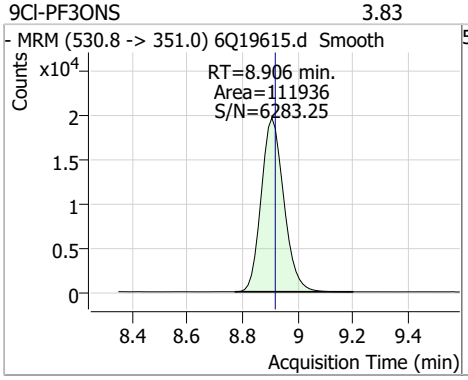
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.55	8.85	-0.01	50600	563.1 -> 269.1	17.1	9.4	28.1

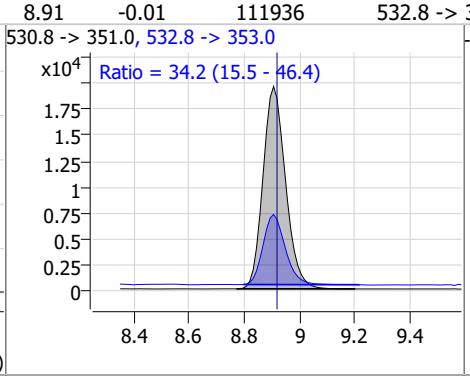


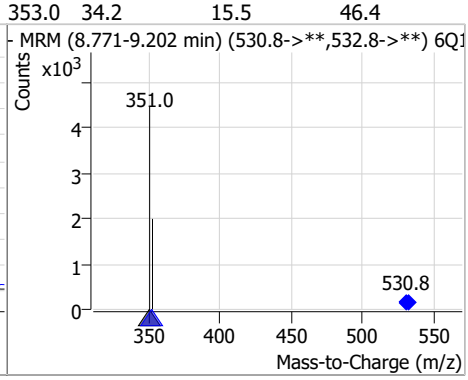




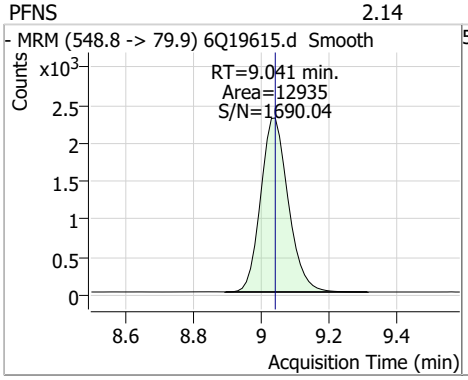
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	3.83	8.91	-0.01	111936	532.8 -> 353.0	34.2	15.5	46.4

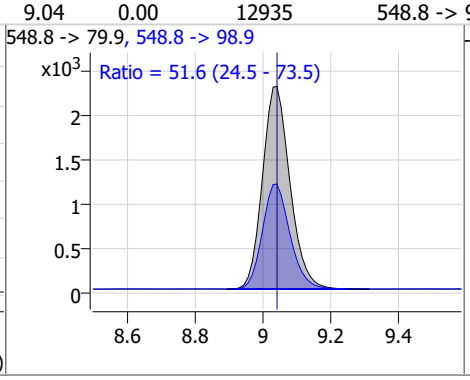


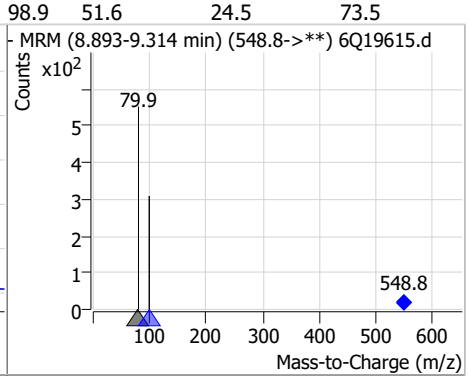




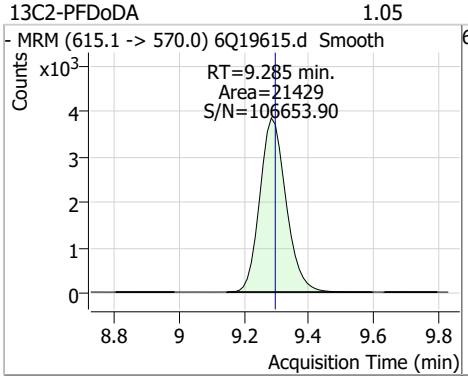
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.14	9.04	0.00	12935	548.8 -> 98.9	51.6	24.5	73.5

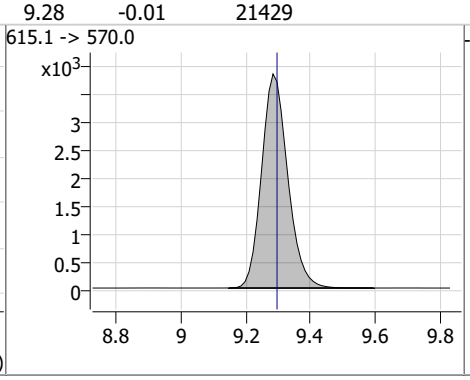


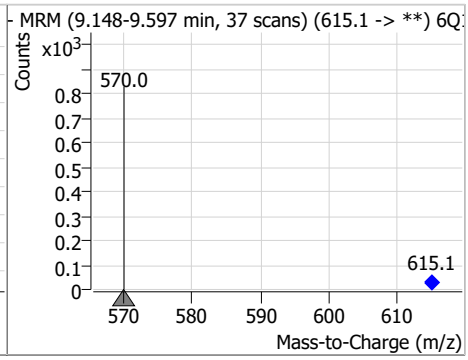




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.05	9.28	-0.01	21429				

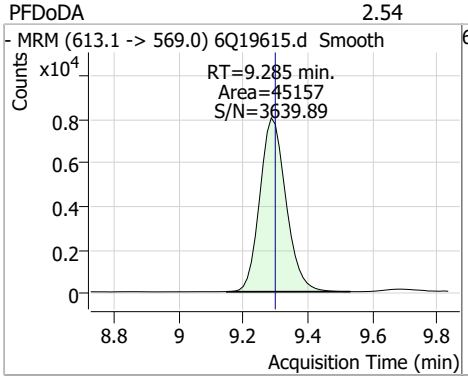


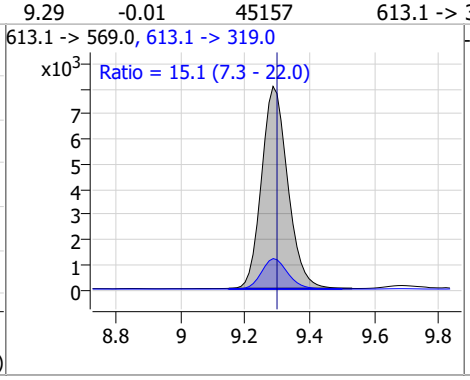


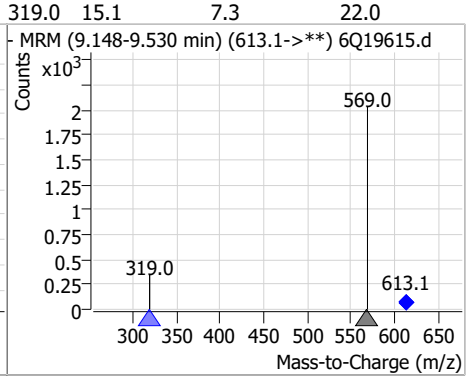


Perfluorinated Compounds by LC/MS/MS

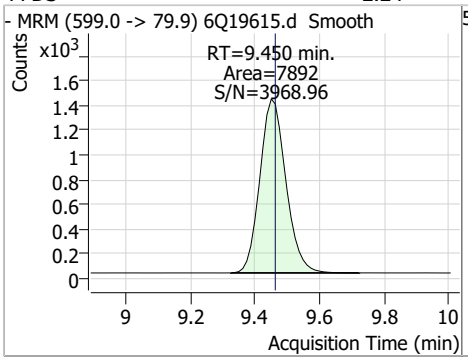
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.54	9.29	-0.01	45157	613.1 -> 319.0	15.1	7.3	22.0

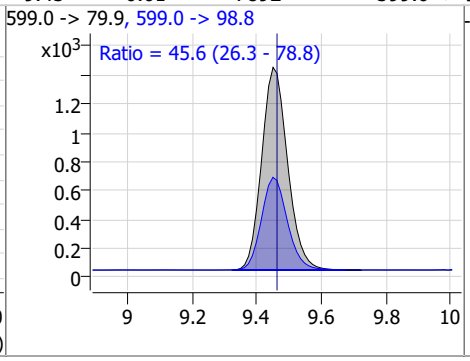


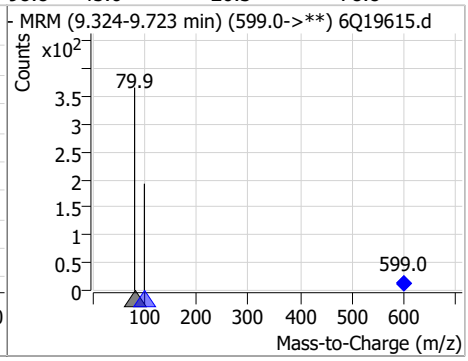




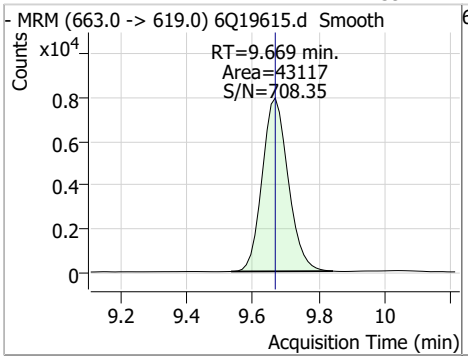
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.24	9.45	-0.01	7892	599.0 -> 98.8	45.6	26.3	78.8

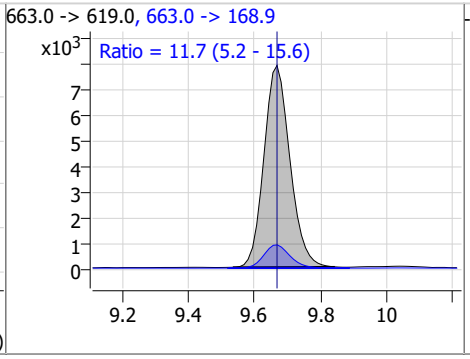


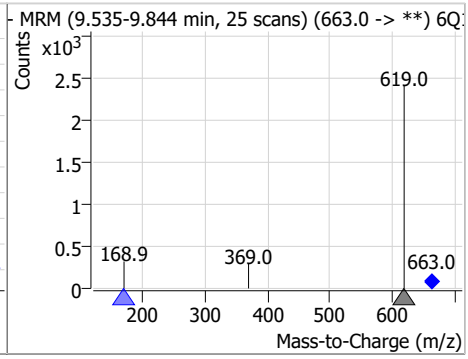




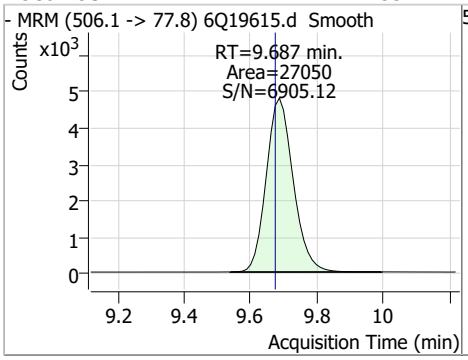
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.39	9.67	0.00	43117	663.0 -> 168.9	11.7	5.2	15.6

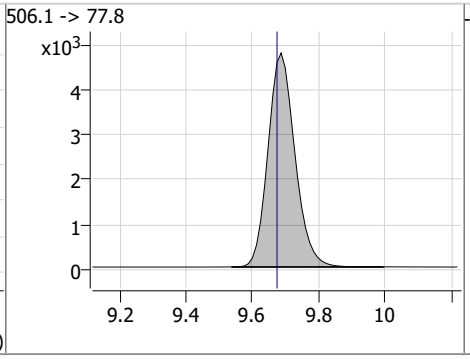


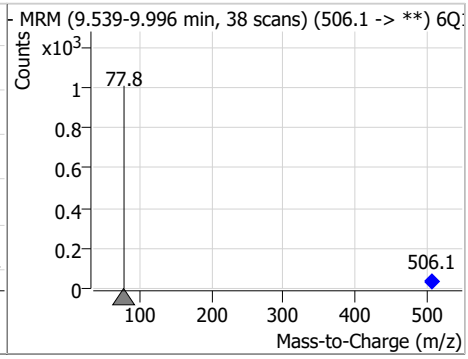




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.35	9.69	0.01	27050				

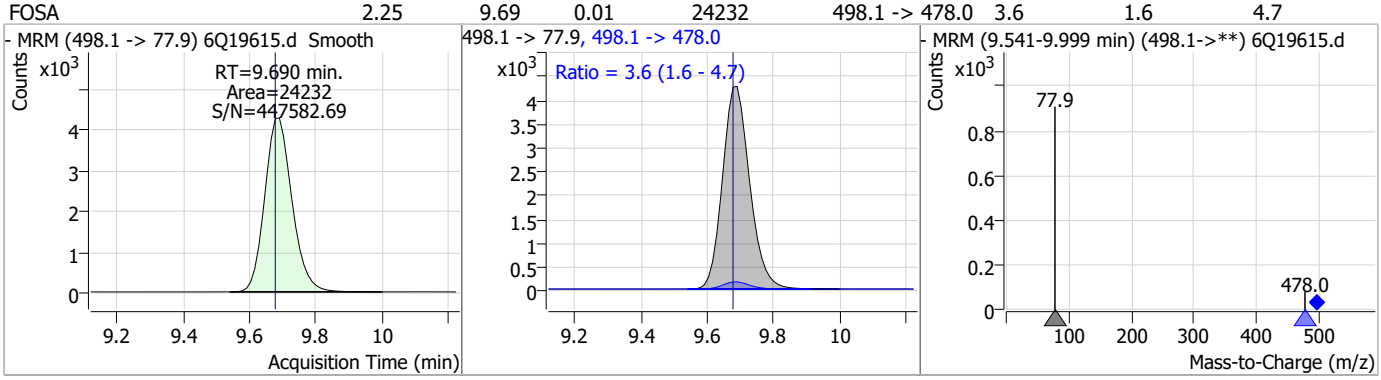




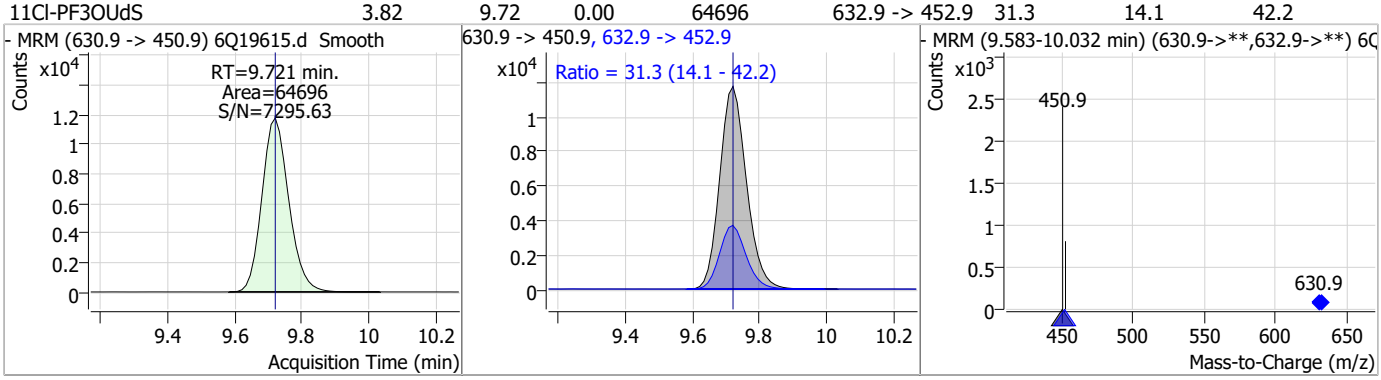


Perfluorinated Compounds by LC/MS/MS

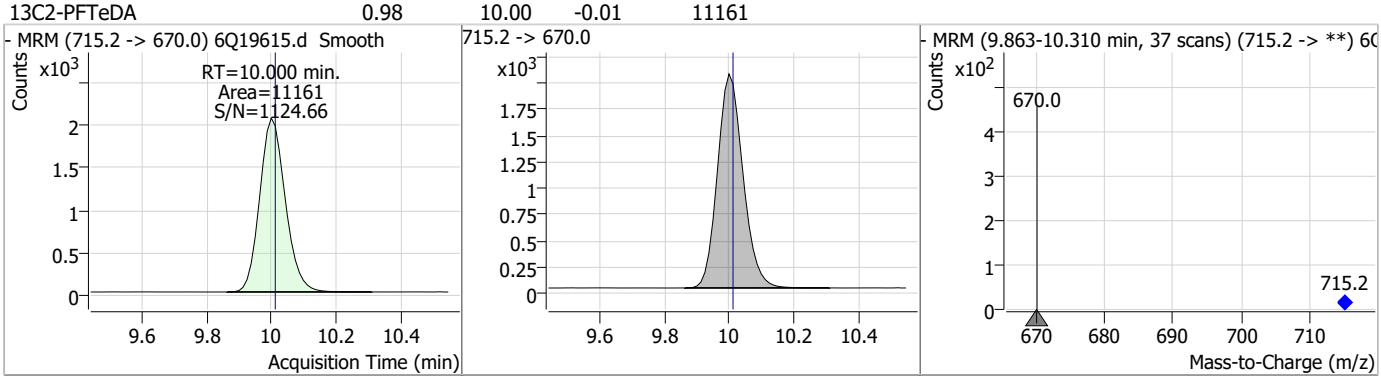
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.25	9.69	0.01	24232	498.1 -> 478.0	3.6	1.6	4.7



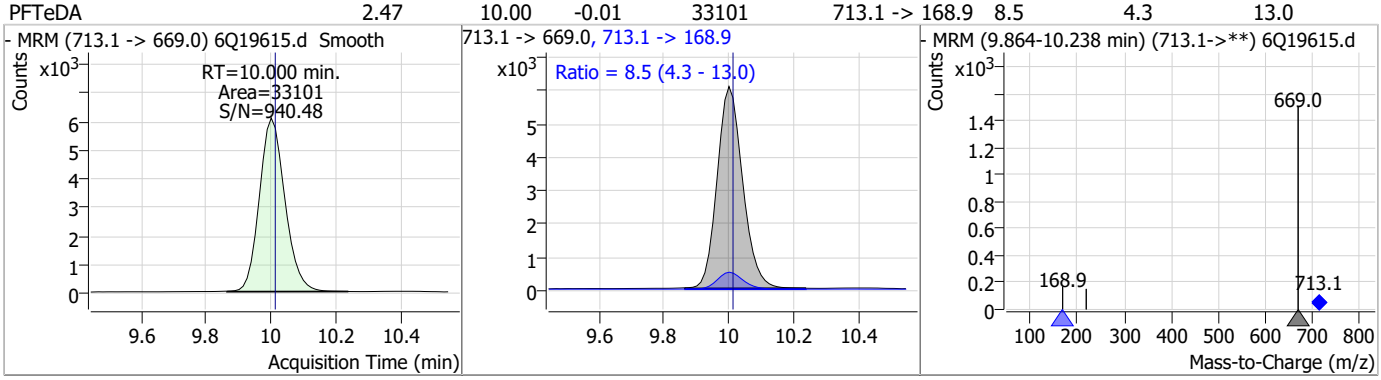
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	3.82	9.72	0.00	64696	632.9 -> 452.9	31.3	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.98	10.00	-0.01	11161				

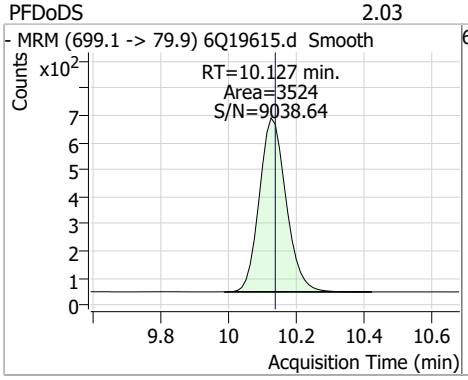


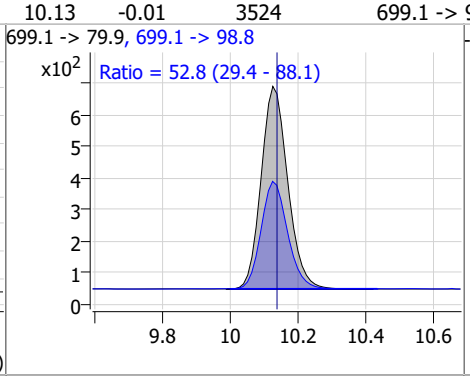
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.47	10.00	-0.01	33101	713.1 -> 168.9	8.5	4.3	13.0

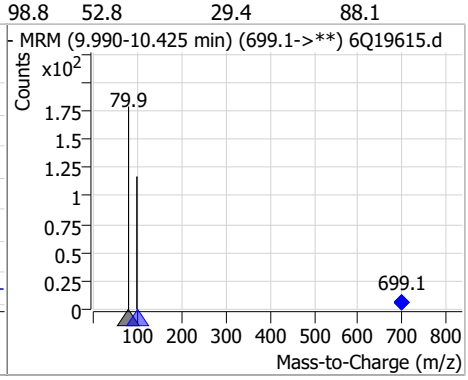


Perfluorinated Compounds by LC/MS/MS

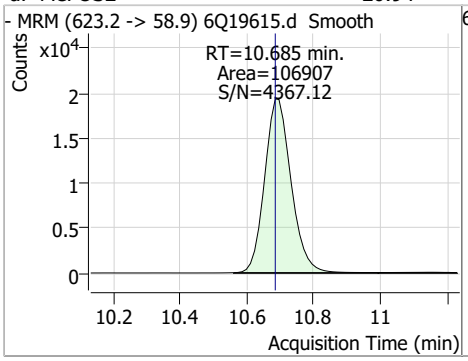
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.03	10.13	-0.01	3524	699.1 -> 98.8	52.8	29.4	88.1

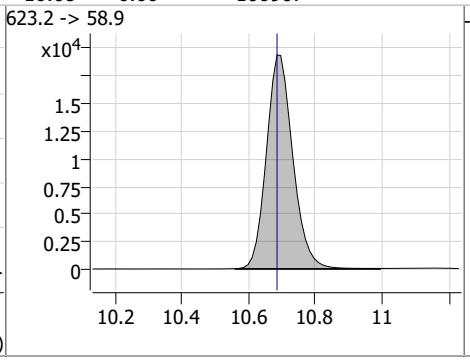


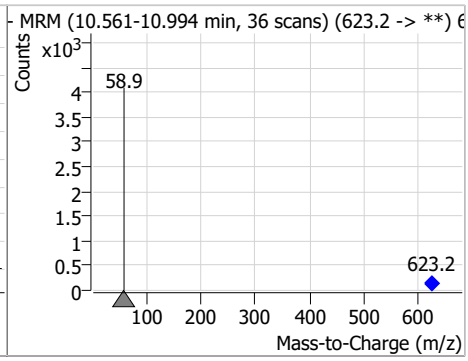




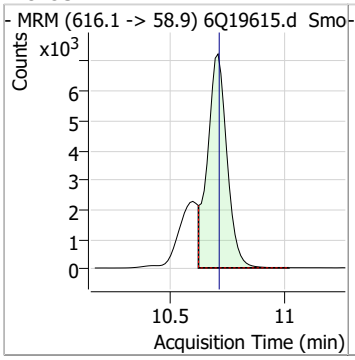
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	20.94	10.68	0.00	106907				

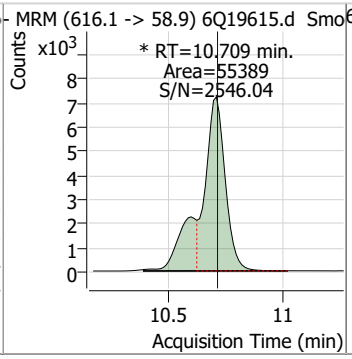


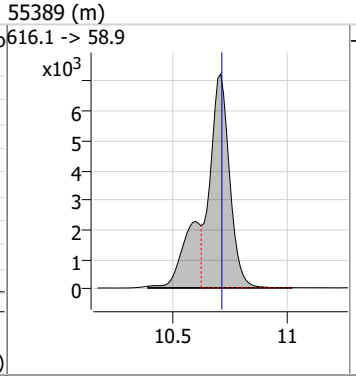


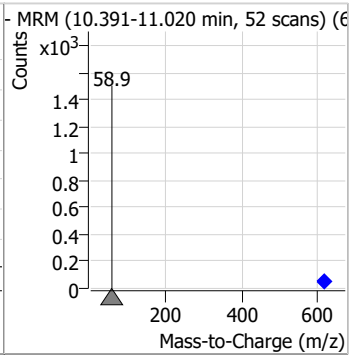


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	11.96	10.71	0.00	55389 (m)				

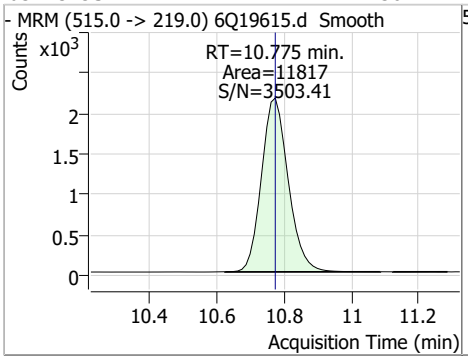


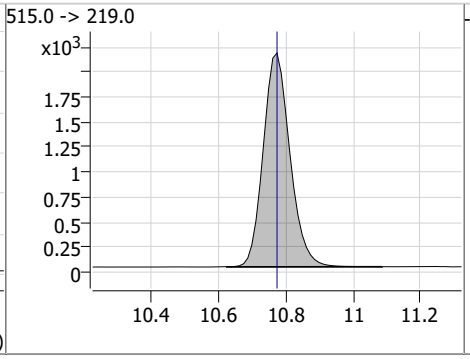


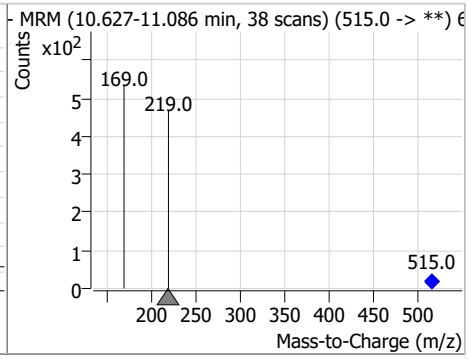




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.36	10.78	0.00	11817				

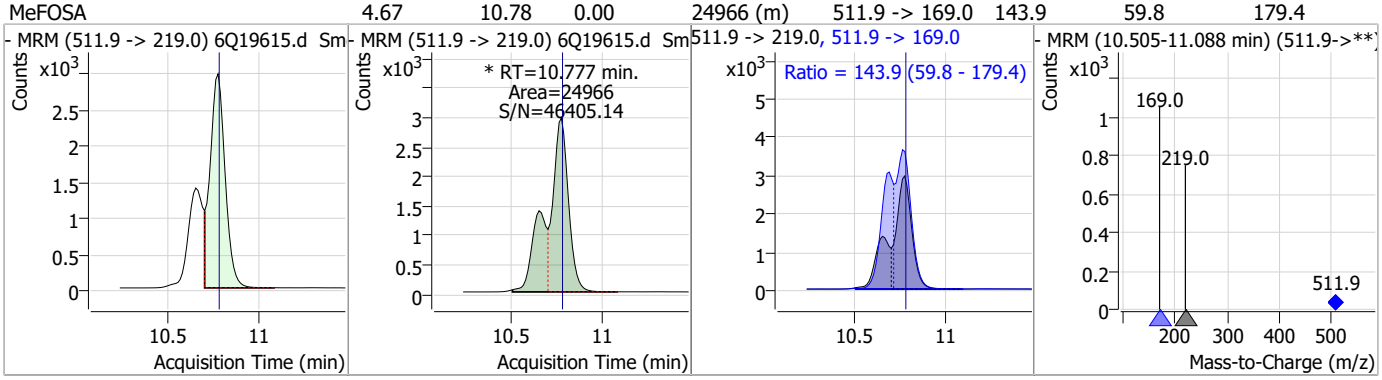




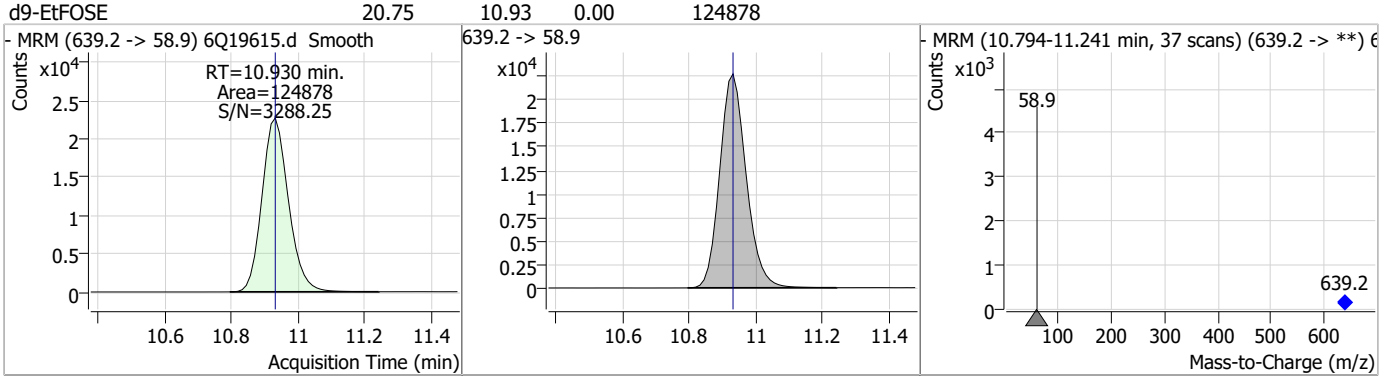


Perfluorinated Compounds by LC/MS/MS

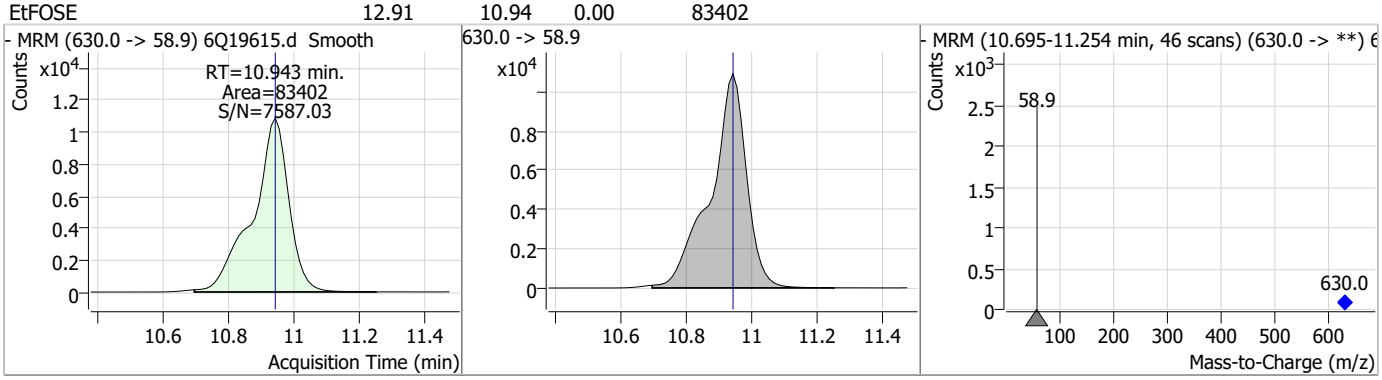
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.67	10.78	0.00	24966 (m)	511.9 -> 169.0	143.9	59.8	179.4



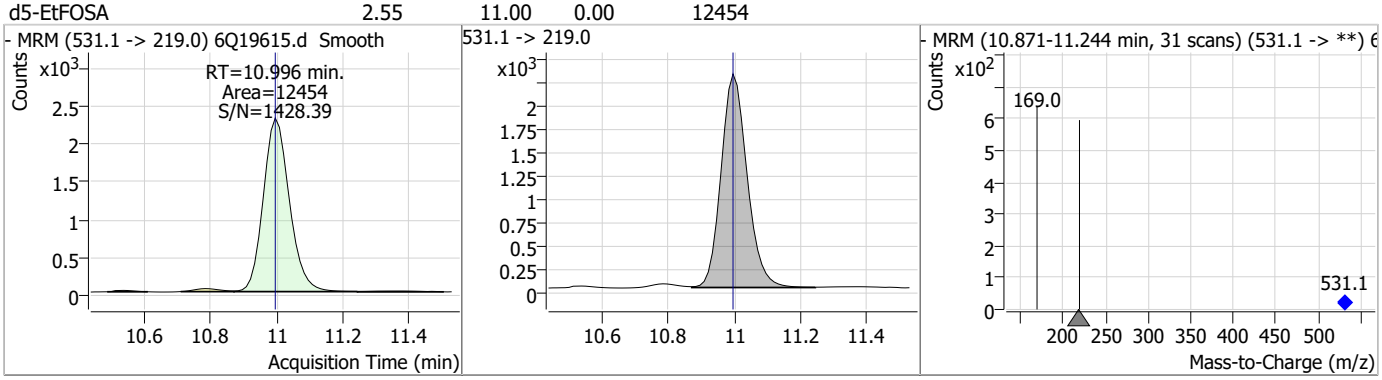
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	20.75	10.93	0.00	124878				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.91	10.94	0.00	83402				

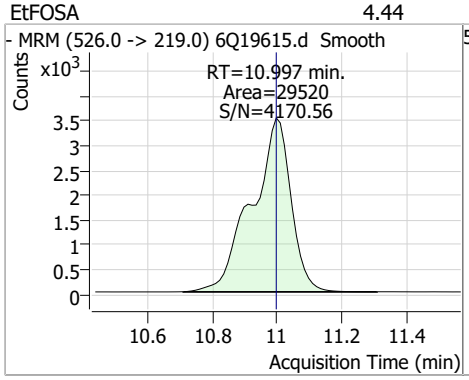


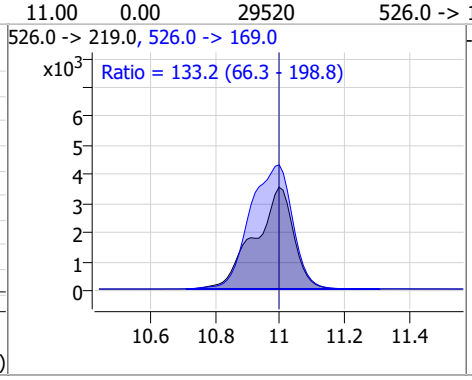
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.55	11.00	0.00	12454				

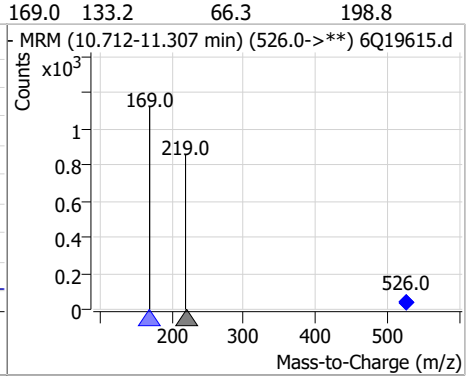


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.44	11.00	0.00	29520	526.0 -> 169.0	133.2	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q292-CC288
Lab FileID: 6Q19615.D
Injection Time: 06/20/23 13:18
Method: EPA DRAFT 1633
Analyst approved: 06/20/23 15:19 Martha Valls
Supervisor approved: 06/20/23 16:44 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/20/23 16:44

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19619.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 2:14:11 PM
Sample Name : cc288-4
Vial : P1-A5
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	153378	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	49956	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	50917	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	47537	2.50	µg/L	0.000
M8-PFOA	7.352	421.1 -> 376.0	77116	2.50	µg/L	0.000
M9-PFNA	7.882	472.1 -> 427.0	35522	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	19640	1.25	µg/L	0.000
M7-PFUnDA	8.866	570.0 -> 525.1	26931	1.25	µg/L	0.000
M2-PFDoDA	9.297	615.1 -> 570.0	22328	1.25	µg/L	0.000
M2-PFTeDA	10.000	715.2 -> 670.0	11105	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	27391	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	19771	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11718	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	10424	2.50	µg/L	0.000
M2-4:2FTS	5.454	329.1 -> 80.9	2937	5.00	µg/L	0.012
M2-6:2FTS	7.113	429.1 -> 80.9	4628	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	4102	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	25537	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	34438	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	22071	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	100082	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	131194	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11483	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11272	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	15481	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	65384	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	8999	2.50	µg/L	0.000
13C4-PFOA	7.352	417.1 -> 372.0	80908	2.50	µg/L	0.000
13C2-PFDA	8.388	515.1 -> 470.1	29529	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	42360	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	48973	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.454	329.1 -> 80.9	2937	5.44	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.8%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4628	5.67	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.5%		
13C2-8:2FTS	8.163	529.1 -> 80.9	4102	5.35	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.0%		
13C2-PFDoDA	9.297	615.1 -> 570.0	22328	1.13	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.5%		
13C2-PFTeDA	10.000	715.2 -> 670.0	11105	1.01	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 80.6%		
13C3-PFBS	5.746	302.1 -> 79.9	19771	2.64	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.6%		
13C3-PFHxS	7.478	402.1 -> 79.9	11718	2.48	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%		
13C4-PFBA	3.097	216.8 -> 171.9	153378	10.00 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C4-PFHpA	6.707	367.1 -> 322.0	47537	2.51 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C5-PFHxA	5.792	318.0 -> 273.0	50917	2.52 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C5-PFPeA	4.560	268.3 -> 223.0	49956	5.39 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.9%		
13C6-PFDA	8.387	519.1 -> 474.1	19640	1.16 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.7%		
13C7-PFUnDA	8.866	570.0 -> 525.1	26931	1.19 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.9%		
13C8-FOSA	9.687	506.1 -> 77.8	27391	2.34 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.4%		
13C8-PFOA	7.352	421.1 -> 376.0	77116	2.55 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%		
13C8-PFOS	8.563	507.1 -> 79.9	10424	2.23 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.2%		
13C9-PFNA	7.882	472.1 -> 427.0	35522	1.38 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.2%		
d3-MeFOSAA	8.420	573.2 -> 419.0	25537	4.36 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 87.2%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	34438	10.18 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.8%		
d3-MeFOSA	10.775	515.0 -> 219.0	11272	2.21 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.5%		
d5-EtFOSAA	8.628	589.2 -> 419.0	22071	4.44 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.8%		
d7-MeFOSE	10.696	623.2 -> 58.9	100082	19.27 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 77.1%		
d9-EtFOSE	10.930	639.2 -> 58.9	131194	21.42 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 85.7%		
d5-EtFOSA	10.996	531.1 -> 219.0	11483	2.31 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.3%		
Target Compounds						QValue
4:2FTS	5.455	327.1 -> 307.0	49070	9.61 µg/L		99
		327.1 -> 80.9	18521			
6:2FTS	7.113	427.1 -> 407.0	47770	8.67 µg/L		96
		427.1 -> 80.9	16817			
8:2FTS	8.164	527.1 -> 507.0	24340	8.93 µg/L		93
		527.1 -> 80.8	10650			
EtFOSAA	8.629	584.2 -> 419.1	9047	2.42 µg/L	m	99
		584.2 -> 526.0	4845			
FOSA	9.690	498.1 -> 77.9	25901	2.38 µg/L		99
		498.1 -> 478.0	890			
MeFOSAA	8.421	570.1 -> 419.0	17738	2.68 µg/L	m	100
		570.1 -> 483.0	3379			
PFBA	3.093	212.8 -> 168.9	59879	9.69 µg/L		100
PFBS	5.747	298.7 -> 79.9	18154	2.06 µg/L		97
		298.7 -> 98.8	6559			
PFDA	8.388	512.9 -> 469.0	75245	2.58 µg/L		98
		512.9 -> 219.0	11210			
PFDoDA	9.285	613.1 -> 569.0	42223	2.28 µg/L		100
		613.1 -> 319.0	6136			
PFDS	9.450	599.0 -> 79.9	7240	2.30 µg/L		89

Perfluorinated Compounds by LC/MS/MS

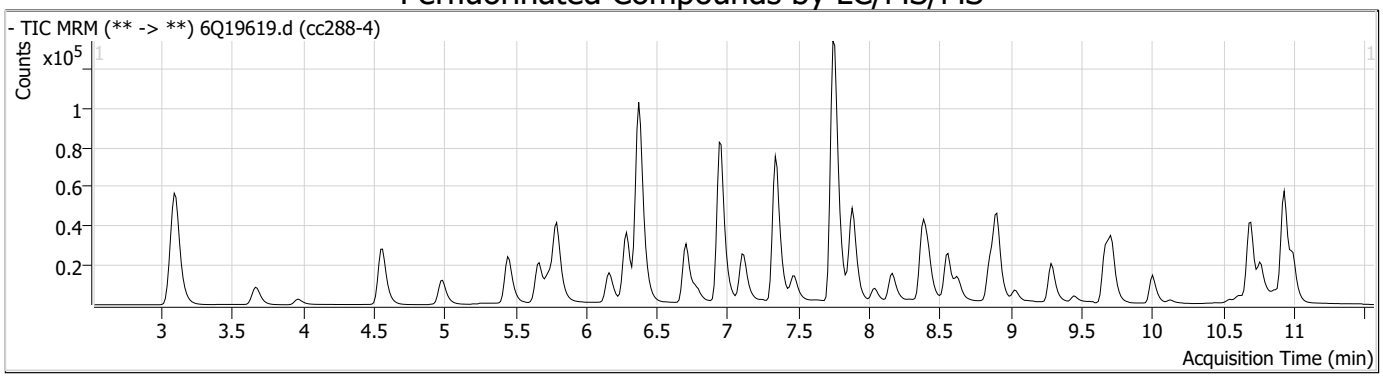
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3243				
PFHpA	6.708	363.1 -> 319.0	57241	2.26	µg/L		95
		363.1 -> 169.0	9970				
PFHpS	8.046	449.0 -> 79.9	16396	2.63	µg/L		91
		449.0 -> 98.9	7298				
PFHxA	5.795	313.0 -> 269.0	45705	2.22	µg/L		99
		313.0 -> 118.9	2586				
PFHxS	7.479	398.7 -> 79.9	15119	2.14	µg/L	m	95
		398.7 -> 98.9	7219				
PFNA	7.883	463.0 -> 419.0	77129	2.35	µg/L		99
		463.0 -> 219.0	14877				
PFNS	9.041	548.8 -> 79.9	13026	2.41	µg/L		91
		548.8 -> 98.9	7212				
PFOA	7.353	413.0 -> 369.0	103349	2.44	µg/L		96
		413.0 -> 169.0	15642				
PFOS	8.564	498.9 -> 79.9	14456	2.34	µg/L	m	96
		498.9 -> 98.8	7213				
PFPeA	4.563	263.0 -> 219.0	70342	4.77	µg/L		100
PFPeS	6.785	349.1 -> 79.9	14960	2.28	µg/L		97
		349.1 -> 98.9	6839				
PFTeDA	10.000	713.1 -> 669.0	32606	2.45	µg/L		99
		713.1 -> 168.9	2723				
PFTrDA	9.669	663.0 -> 619.0	43543	2.31	µg/L		99
		663.0 -> 168.9	4744				
PFUnDA	8.866	563.1 -> 519.0	49334	2.37	µg/L		96
		563.1 -> 269.1	8399				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	64402	4.11	µg/L		96
		632.9 -> 452.9	19645				
9Cl-PF3ONS	8.906	530.8 -> 351.0	110286	4.08	µg/L		100
		532.8 -> 353.0	34205				
ADONA	6.959	376.9 -> 250.9	251425	4.51	µg/L		92
		376.9 -> 84.8	62218				
HFPO-DA	6.169	284.9 -> 168.9	18884	5.24	µg/L		99
		284.9 -> 184.9	2107				
3:3FTCA	3.958	241.0 -> 177.0	10973	11.00	µg/L		98
		241.0 -> 117.0	1549				
5:3FTCA	6.374	341.0 -> 237.1	232543	56.94	µg/L		99
		341.0 -> 217.0	176222				
7:3FTCA	7.761	441.0 -> 316.9	157942	57.19	µg/L		91
		441.0 -> 336.9	380260				
EtFOSA	10.997	526.0 -> 219.0	29830	4.86	µg/L		99
		526.0 -> 169.0	39369				
EtFOSE	10.943	630.0 -> 58.9	80259	11.82	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	24215	4.74	µg/L	m	77
		511.9 -> 169.0	35095				
MeFOSE	10.709	616.1 -> 58.9	55665	12.83	µg/L		100
PFDoDS	10.127	699.1 -> 79.9	3219	2.07	µg/L		95
		699.1 -> 98.8	2008				
NFDHA	5.673	295.0 -> 201.0	13070	4.98	µg/L		100
		295.0 -> 84.9	3491				
PFMBA	4.988	279.0 -> 85.1	50228	4.78	µg/L		100
PFMPA	3.667	229.0 -> 84.9	40129	4.88	µg/L		100
PFEESA	6.288	314.8 -> 134.9	123907	4.46	µg/L		100
		314.8 -> 82.9	4201				

 # = Qualifier out of range, m = manually integrated, + = Area summed

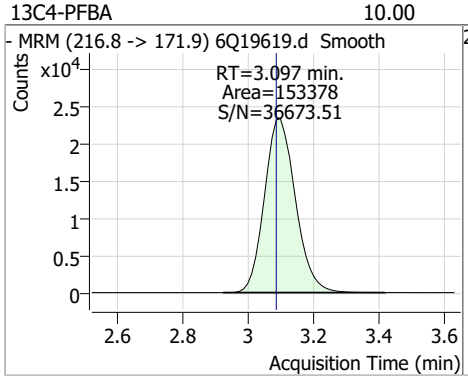
Perfluorinated Compounds by LC/MS/MS

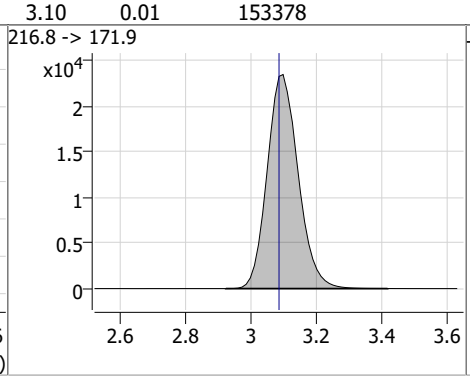
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

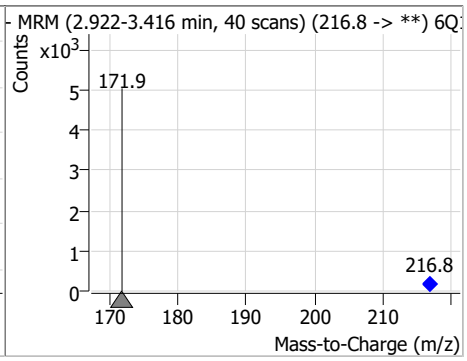
Perfluorinated Compounds by LC/MS/MS



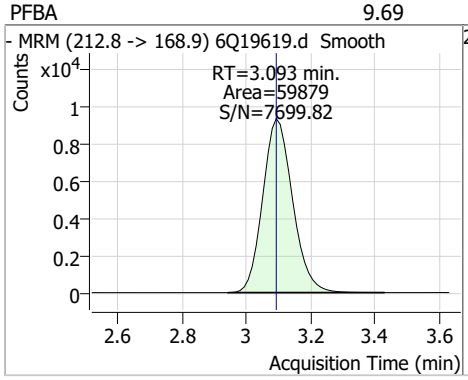
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.00	3.10	0.01	153378				

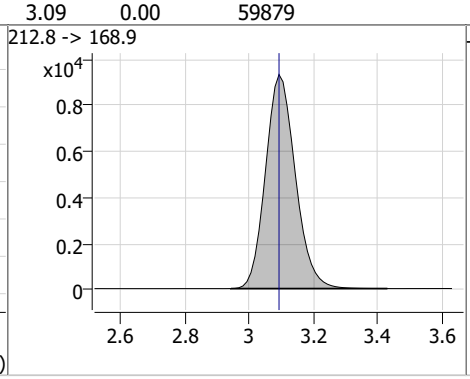


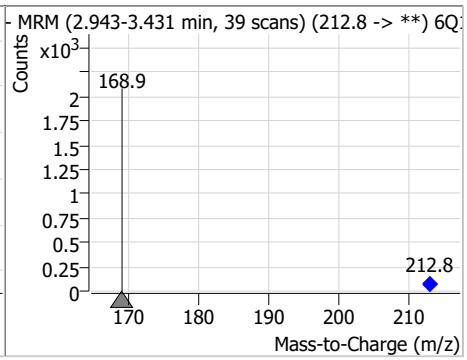




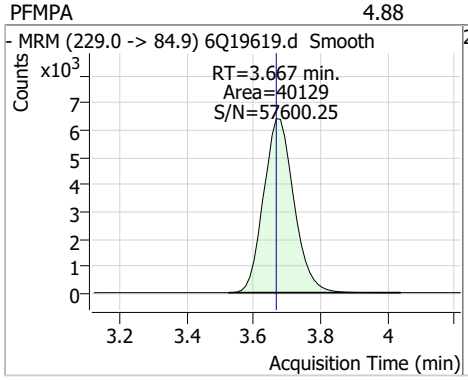
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.69	3.09	0.00	59879				

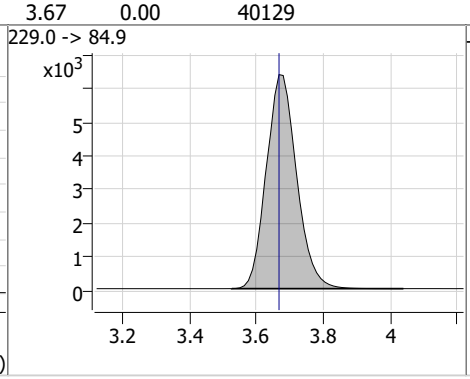


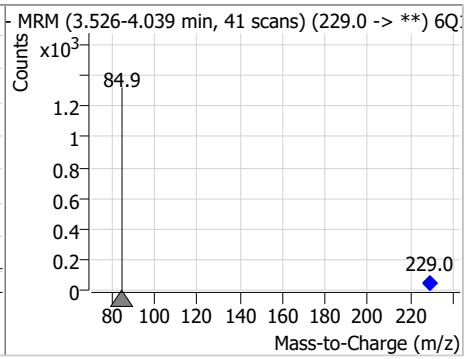




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.88	3.67	0.00	40129				

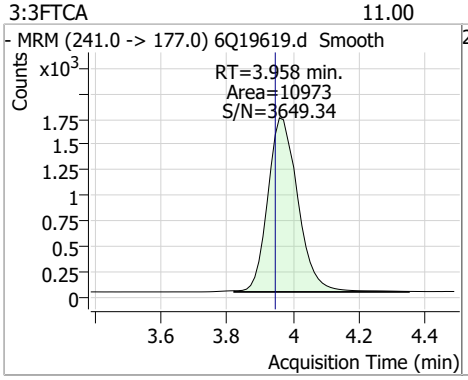


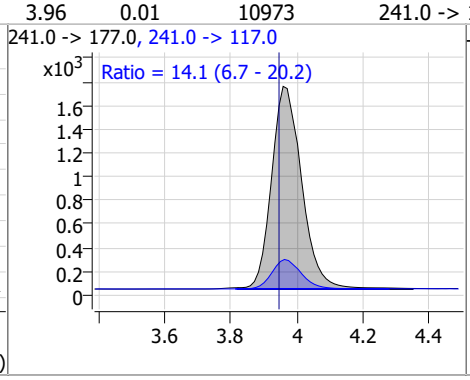


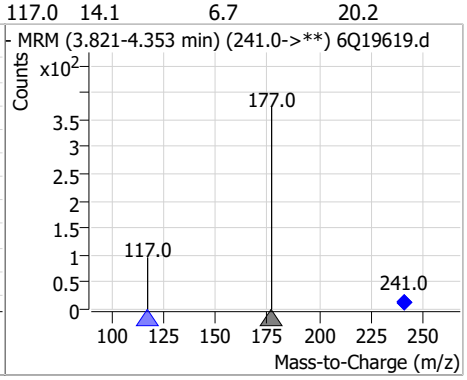


Perfluorinated Compounds by LC/MS/MS

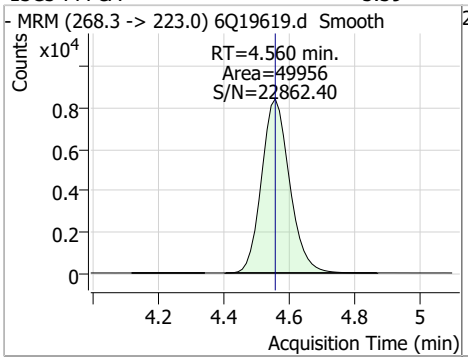
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.00	3.96	0.01	10973	241.0 -> 117.0	14.1	6.7	20.2

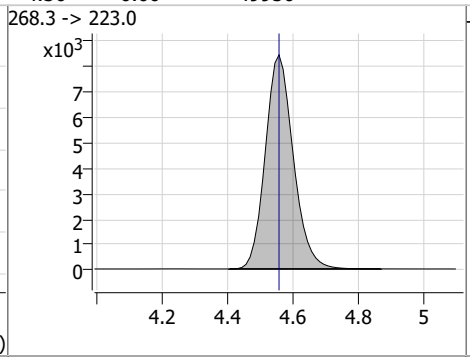


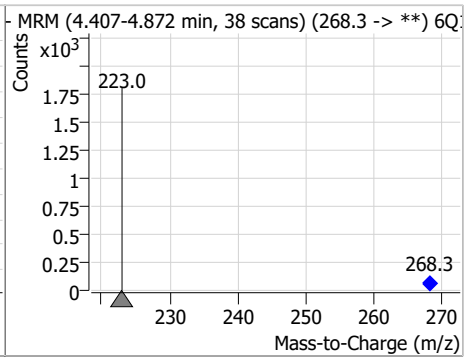




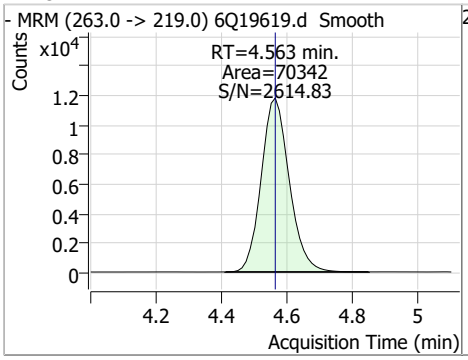
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.39	4.56	0.00	49956				

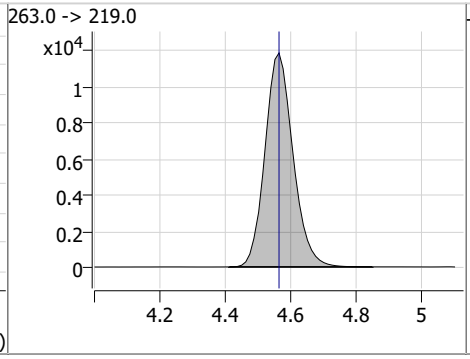


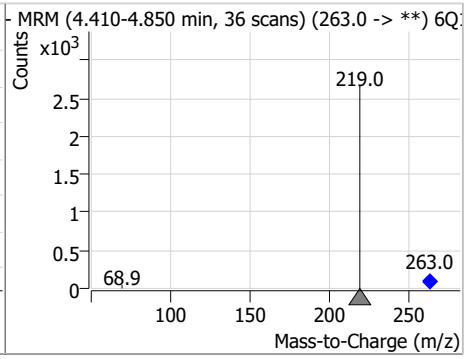




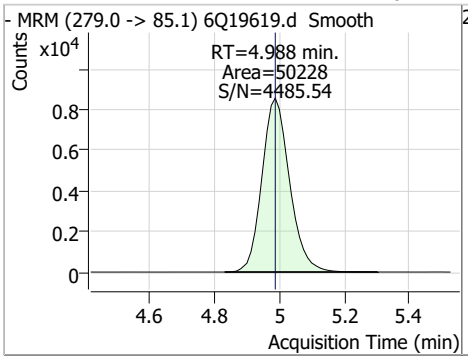
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.77	4.56	0.00	70342				

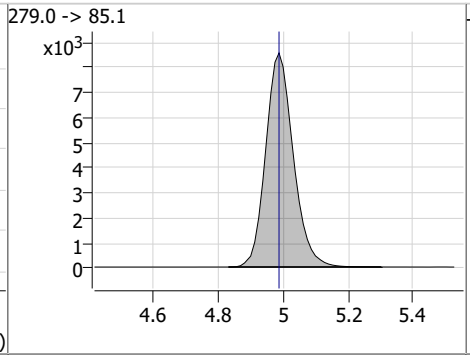


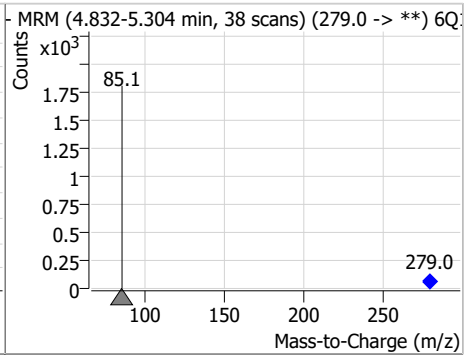




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.78	4.99	0.00	50228				

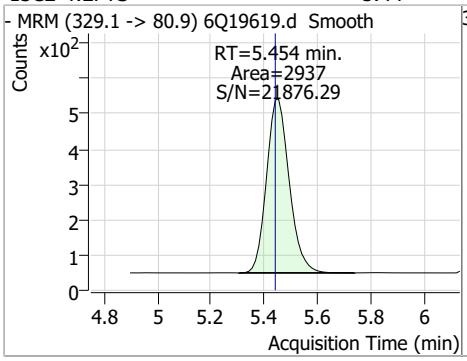


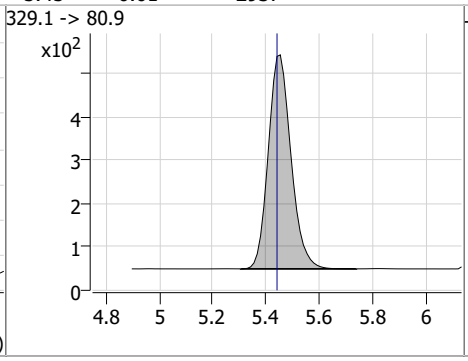


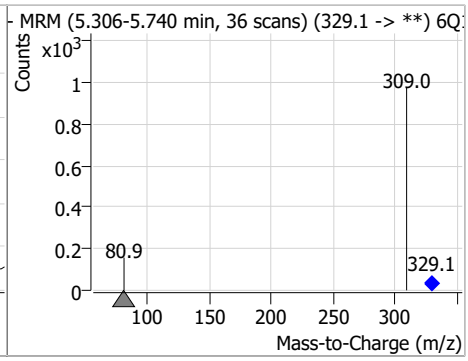


Perfluorinated Compounds by LC/MS/MS

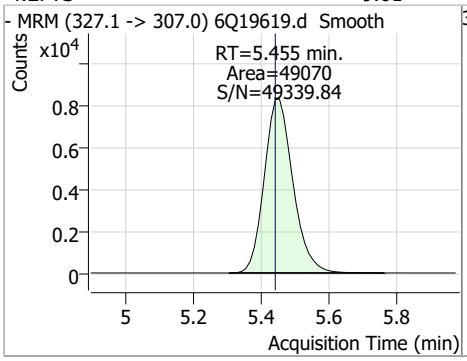
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.44	5.45	0.01	2937				

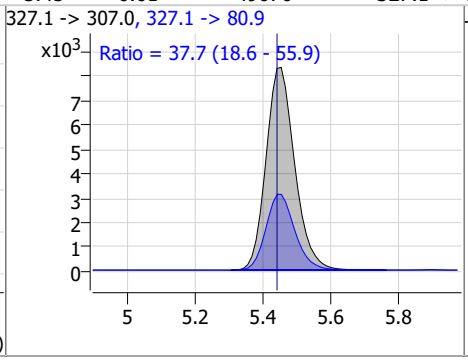


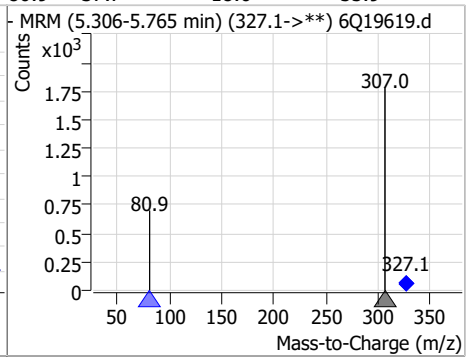




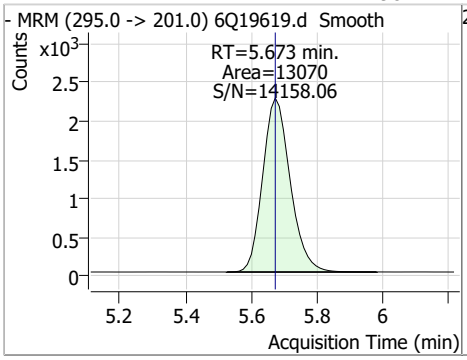
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.61	5.45	0.01	49070	327.1 -> 80.9	37.7	18.6	55.9

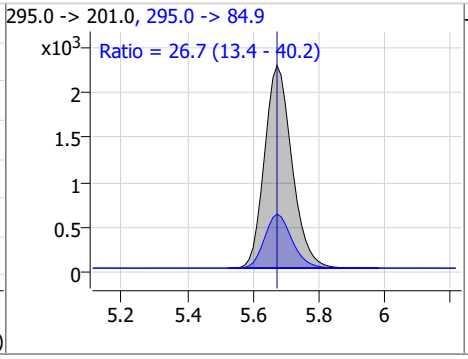


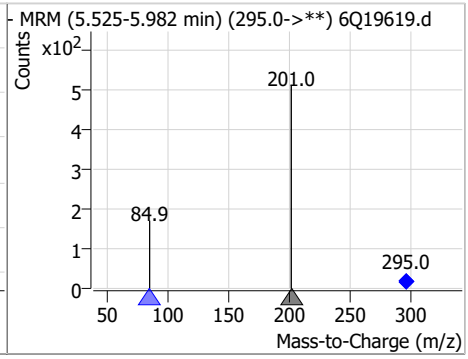




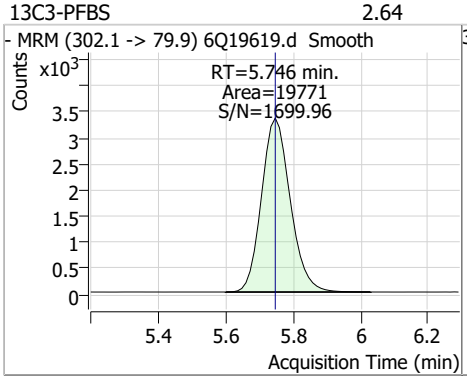
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.98	5.67	0.00	13070	295.0 -> 84.9	26.7	13.4	40.2

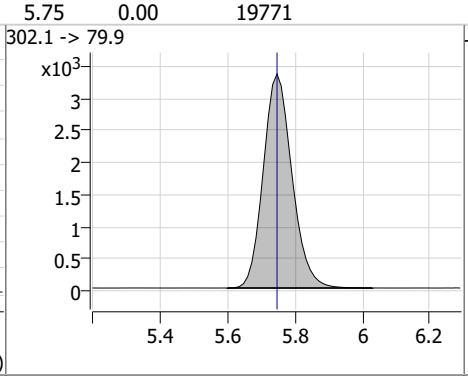


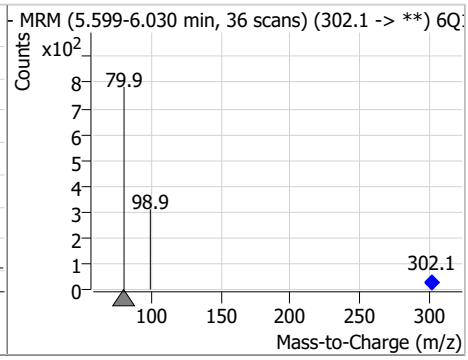




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.64	5.75	0.00	19771				

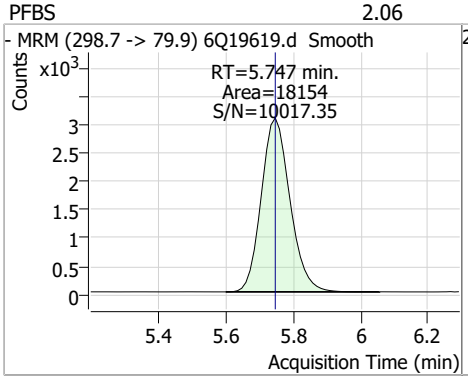


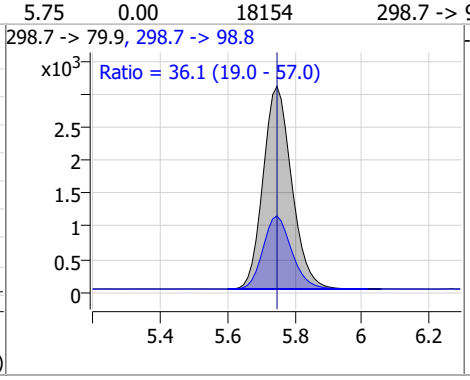


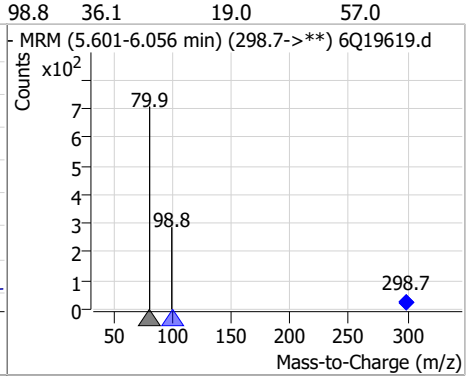


Perfluorinated Compounds by LC/MS/MS

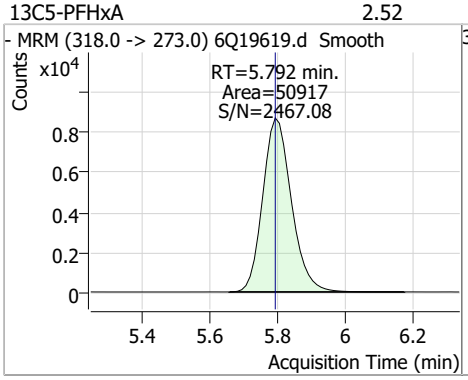
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.06	5.75	0.00	18154	298.7 -> 98.8	36.1	19.0	57.0

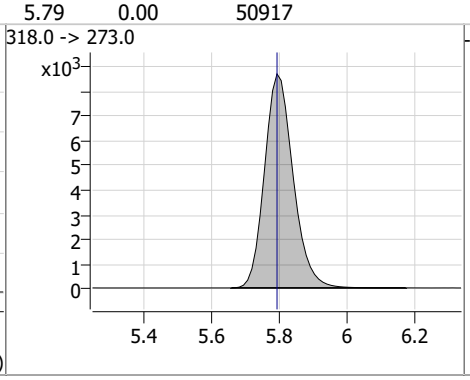


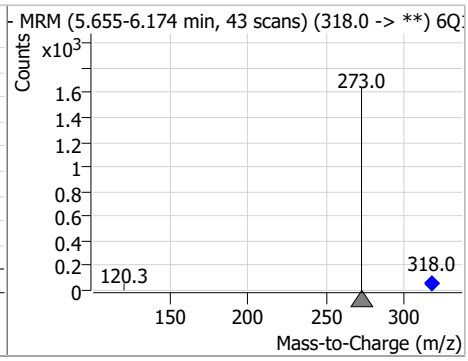




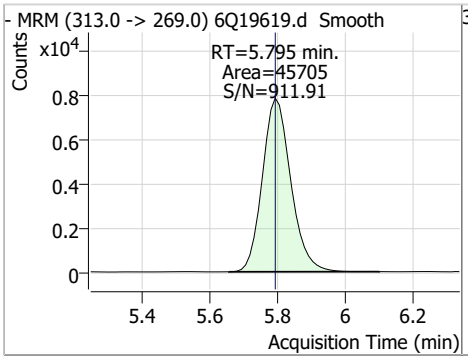
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.52	5.79	0.00	50917				

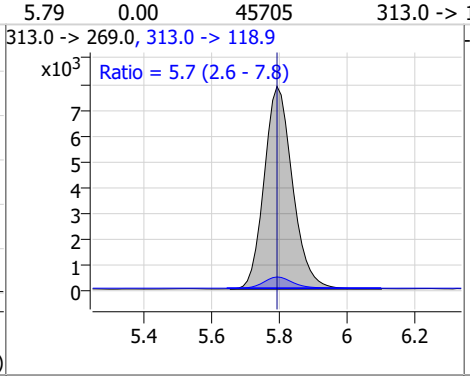


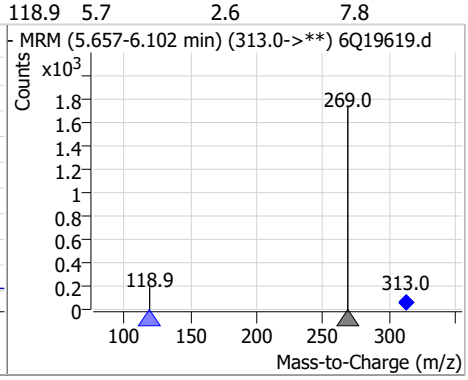




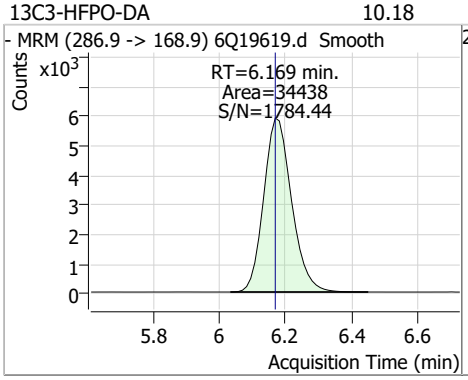
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.22	5.79	0.00	45705	313.0 -> 118.9	5.7	2.6	7.8

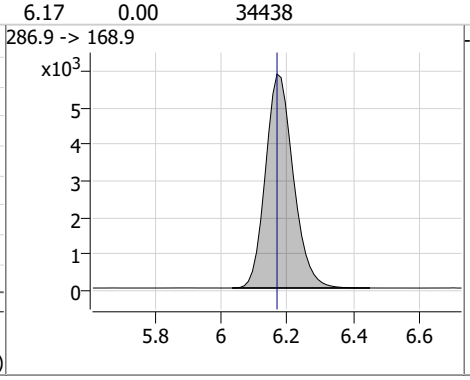


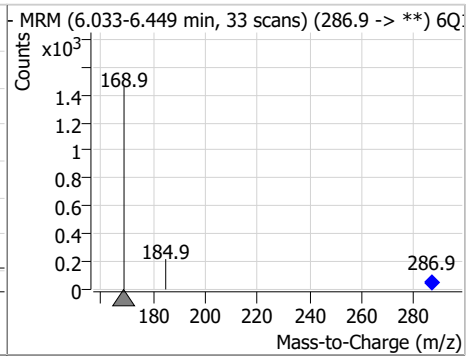




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.18	6.17	0.00	34438				

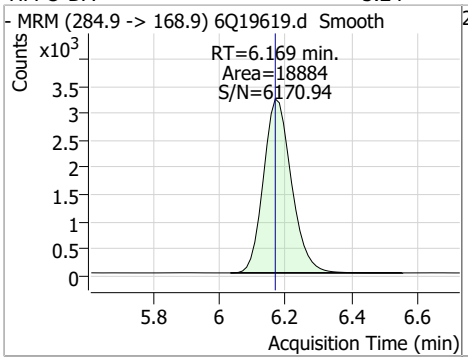


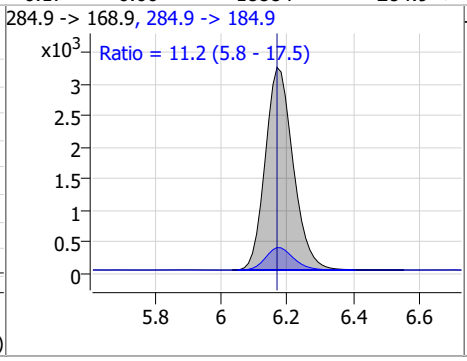


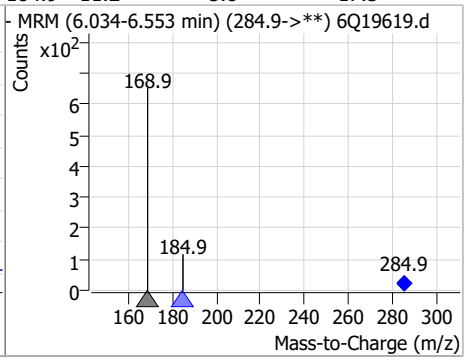


Perfluorinated Compounds by LC/MS/MS

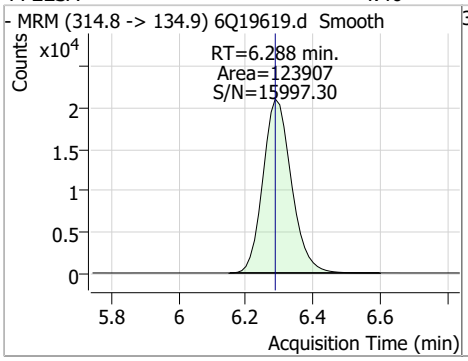
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.24	6.17	0.00	18884	284.9 -> 184.9	11.2	5.8	17.5

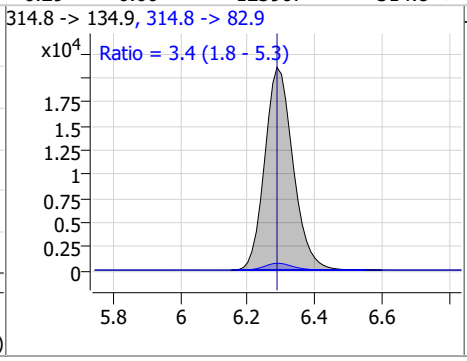


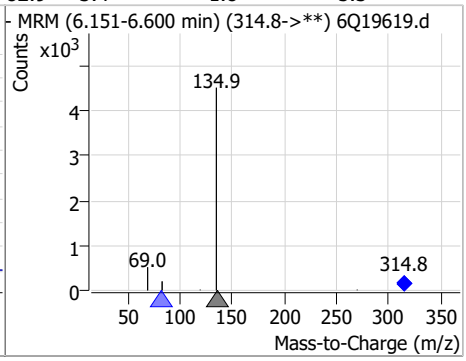




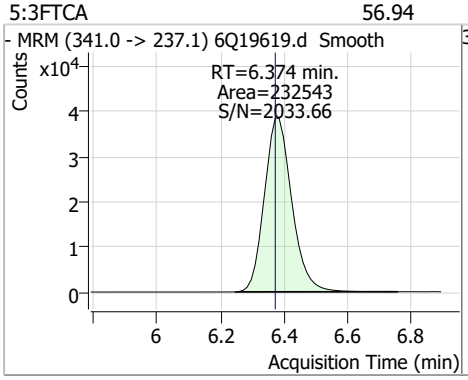
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.46	6.29	0.00	123907	314.8 -> 82.9	3.4	1.8	5.3

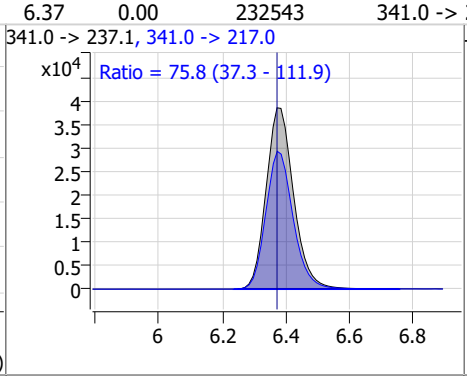


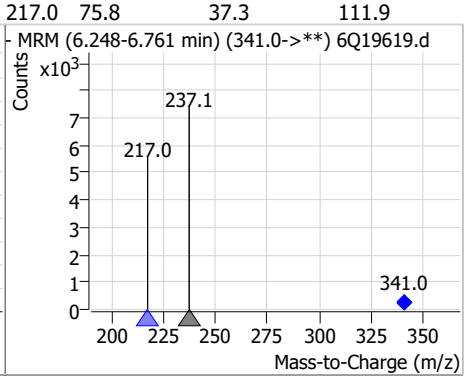




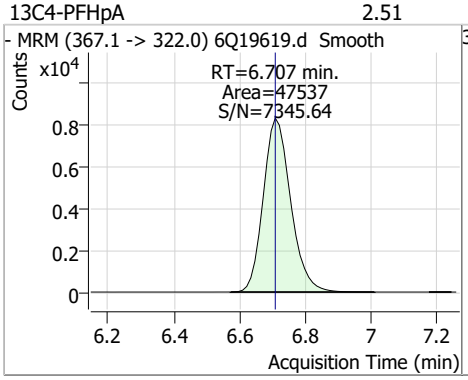
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	56.94	6.37	0.00	232543	341.0 -> 217.0	75.8	37.3	111.9

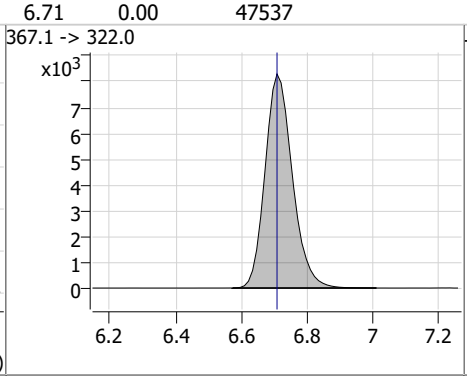


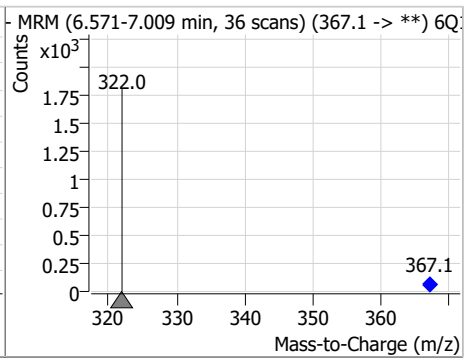




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.51	6.71	0.00	47537				

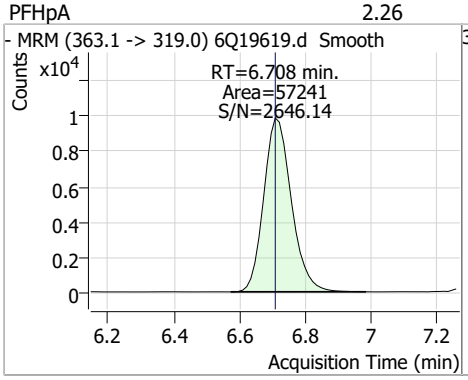


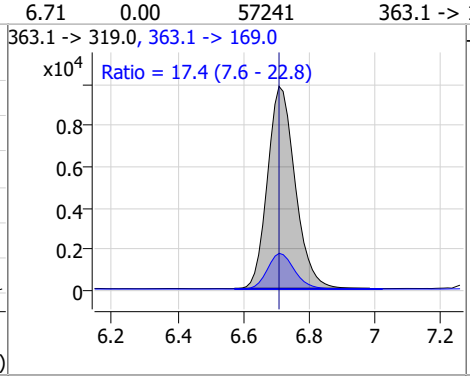


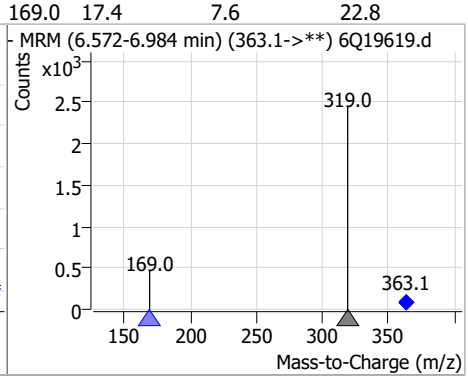


Perfluorinated Compounds by LC/MS/MS

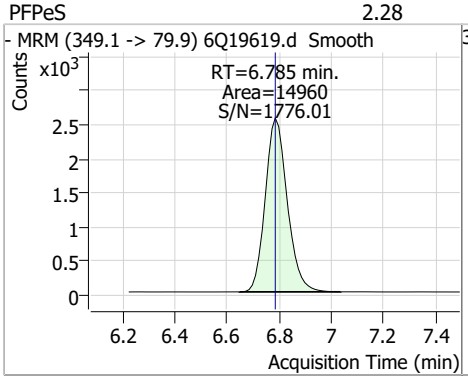
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.26	6.71	0.00	57241	363.1 -> 169.0	17.4	7.6	22.8

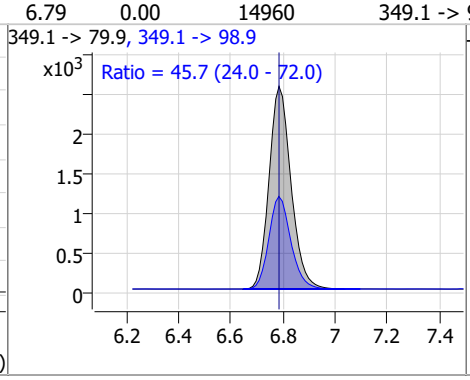


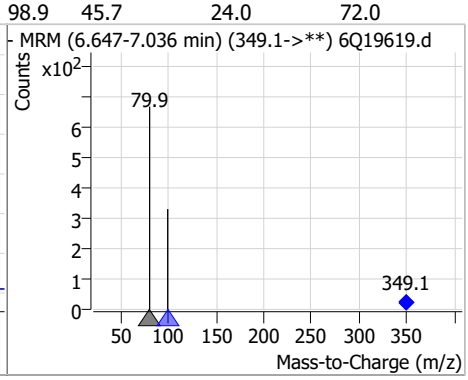




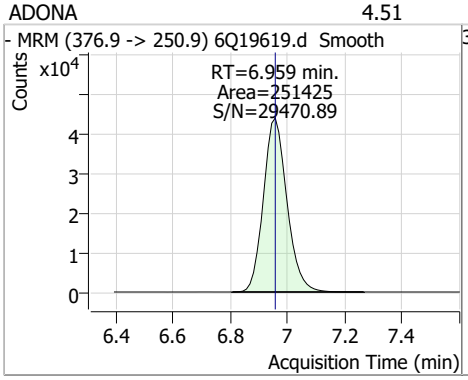
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.28	6.79	0.00	14960	349.1 -> 98.9	45.7	24.0	72.0

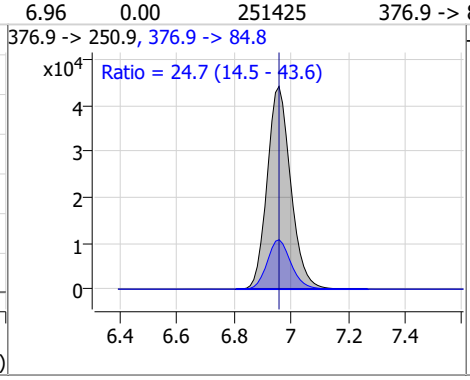


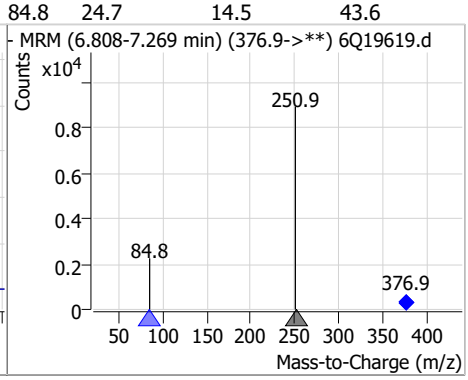




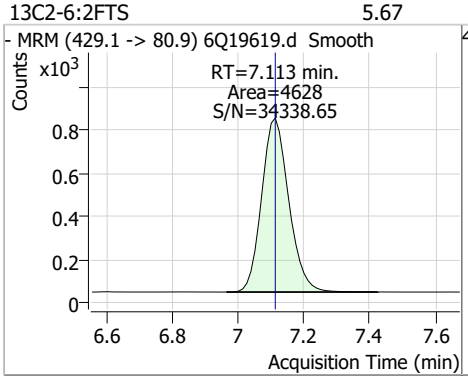
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.51	6.96	0.00	251425	376.9 -> 84.8	24.7	14.5	43.6

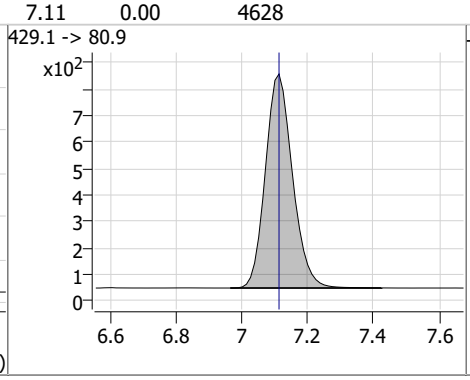


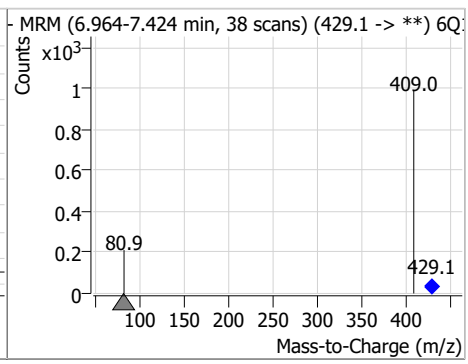




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.67	7.11	0.00	4628				

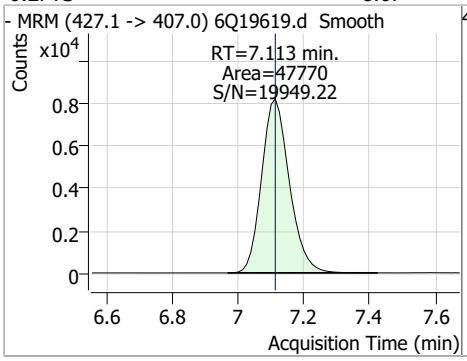


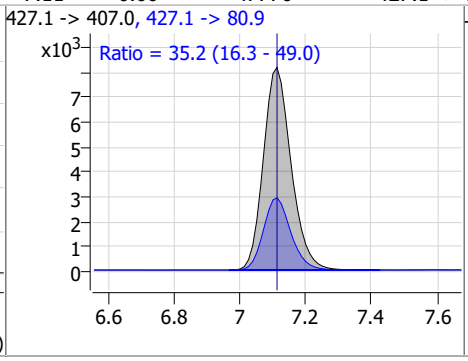


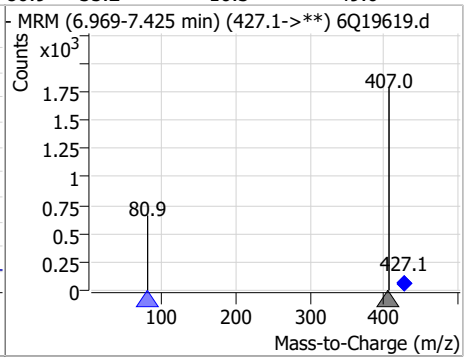


Perfluorinated Compounds by LC/MS/MS

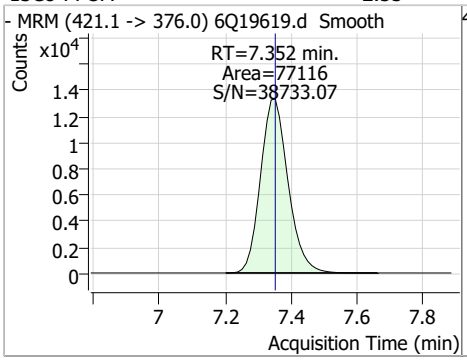
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	8.67	7.11	0.00	47770	427.1 -> 80.9	35.2	16.3	49.0

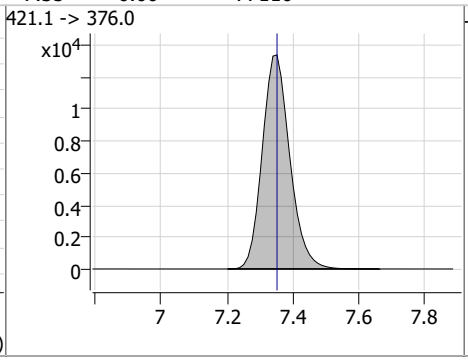


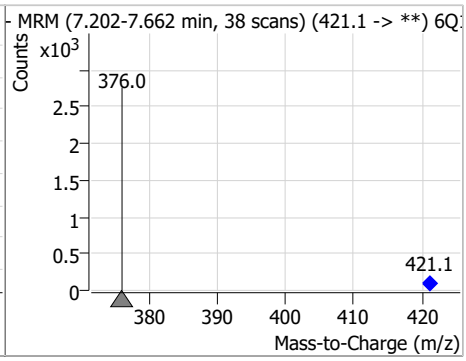




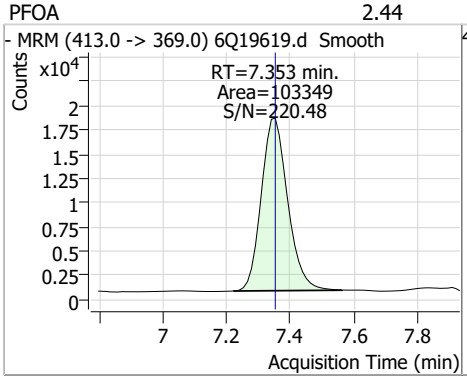
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.55	7.35	0.00	77116				

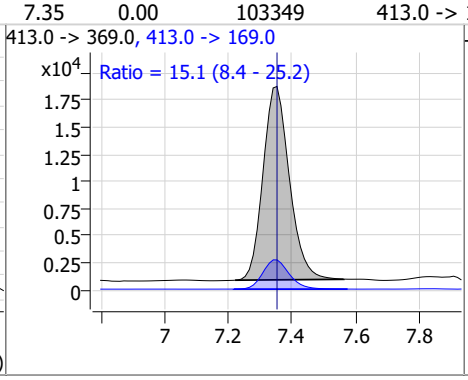


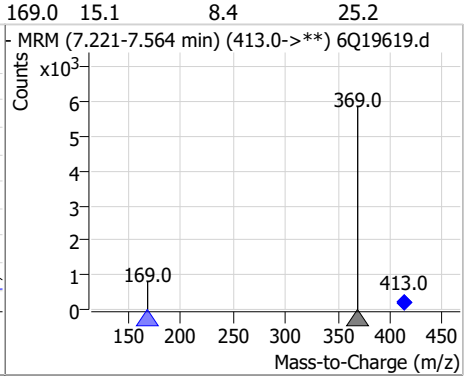




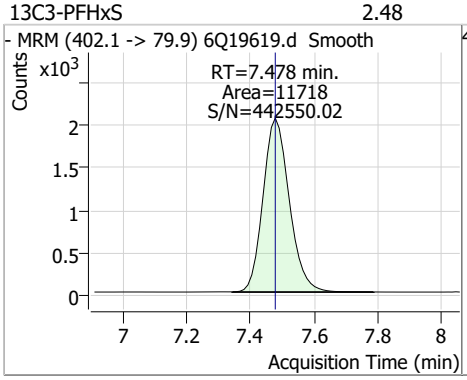
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.44	7.35	0.00	103349	413.0 -> 169.0	15.1	8.4	25.2

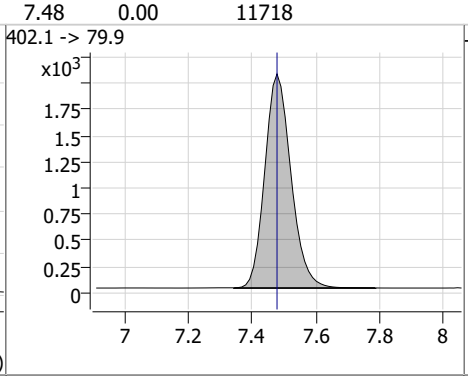


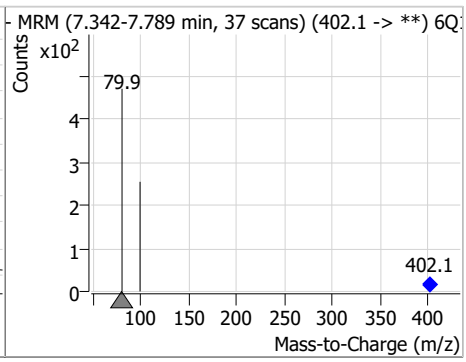




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.48	7.48	0.00	11718				

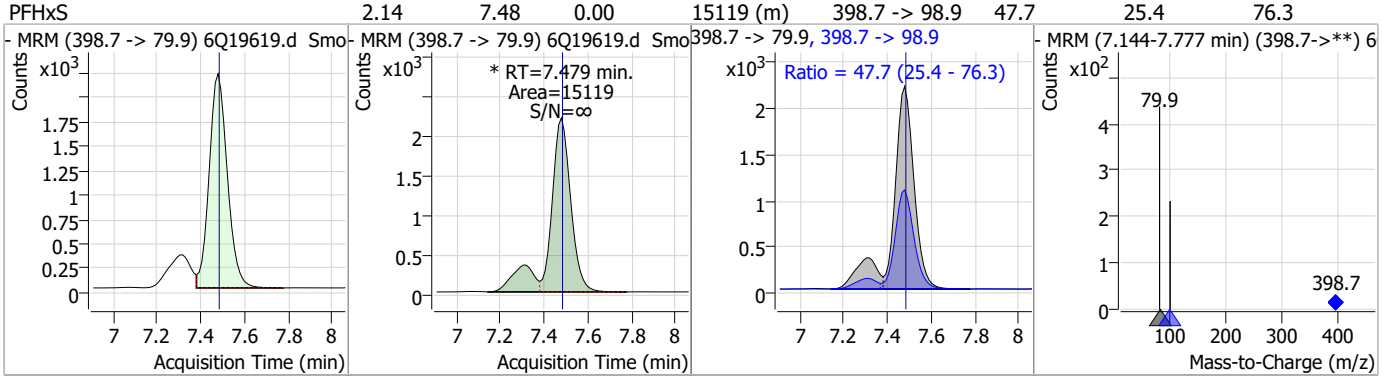




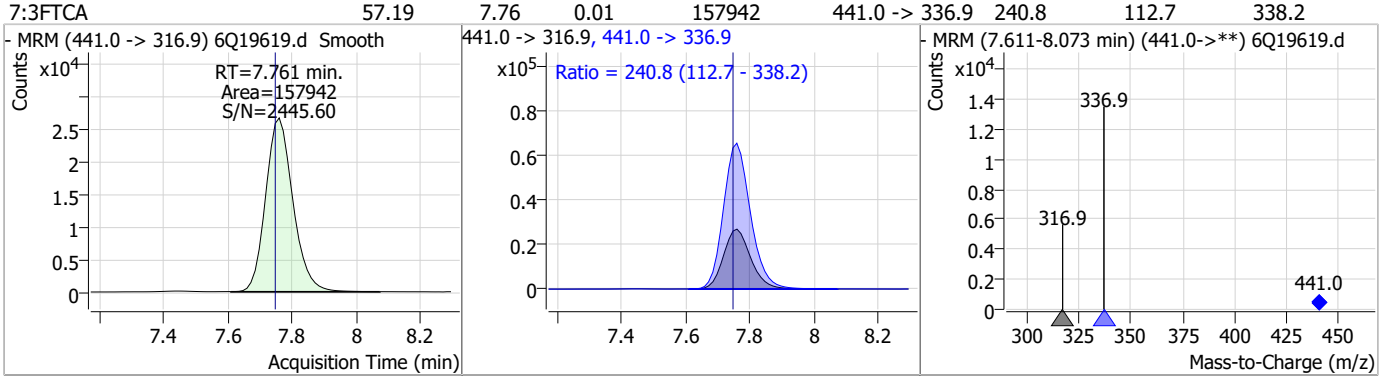


Perfluorinated Compounds by LC/MS/MS

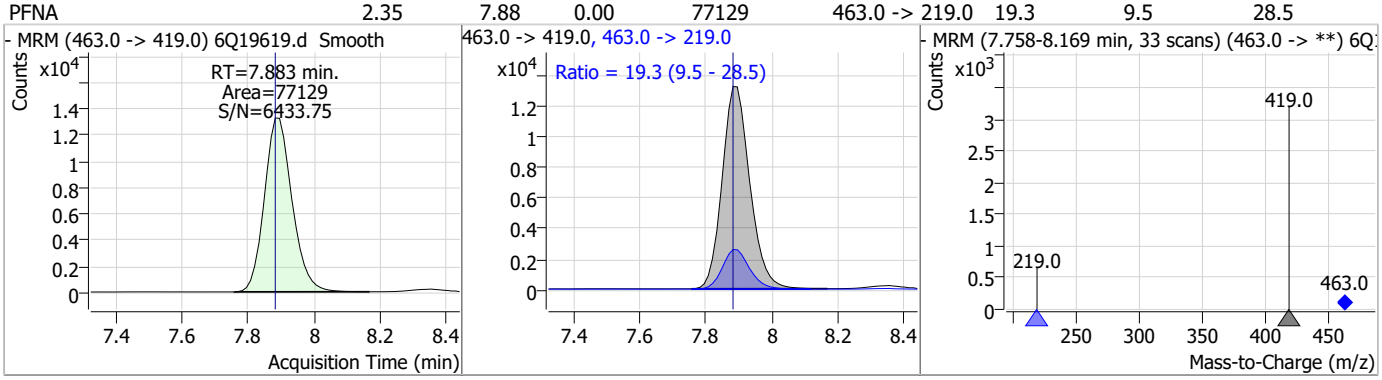
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.14	7.48	0.00	15119 (m)	398.7 -> 98.9	47.7	25.4	76.3



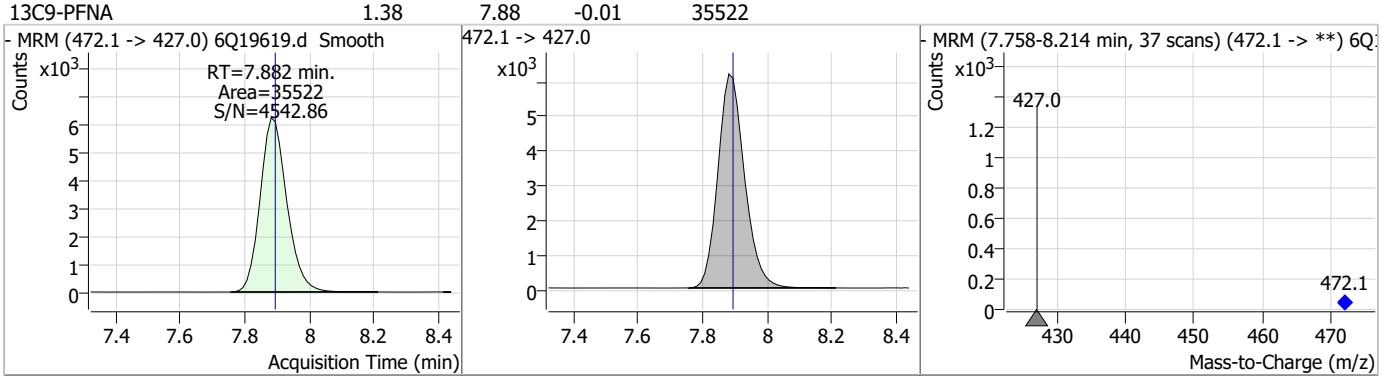
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	57.19	7.76	0.01	157942	441.0 -> 336.9	240.8	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.35	7.88	0.00	77129	463.0 -> 219.0	19.3	9.5	28.5

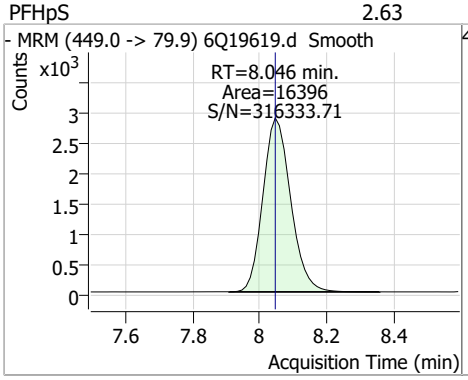


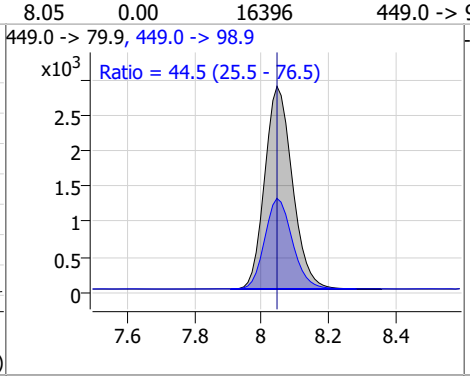
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.38	7.88	-0.01	35522				

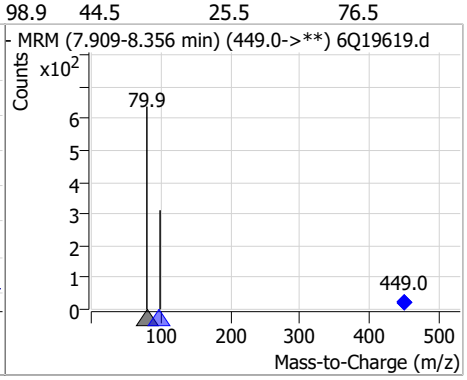


Perfluorinated Compounds by LC/MS/MS

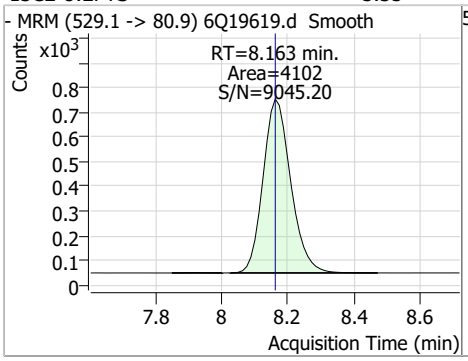
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.63	8.05	0.00	16396	449.0 -> 98.9	44.5	25.5	76.5

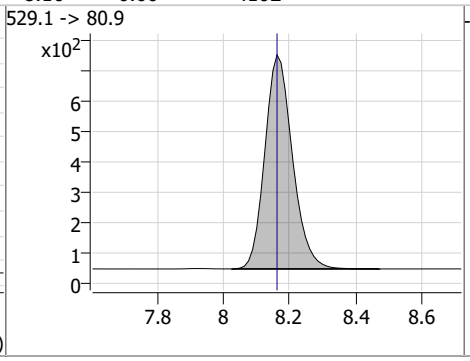


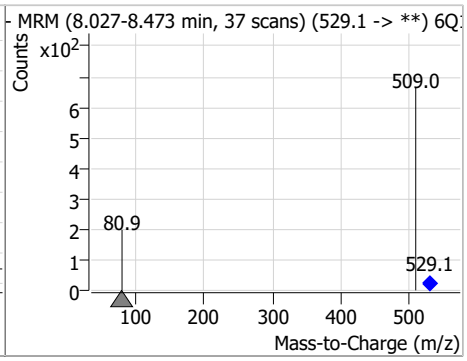




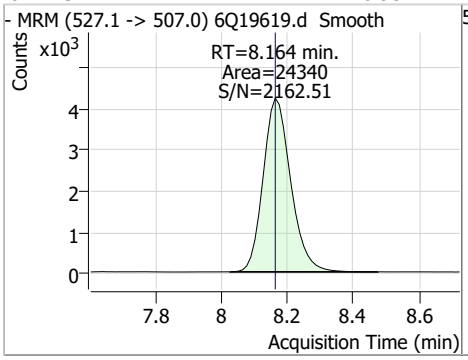
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.35	8.16	0.00	4102				

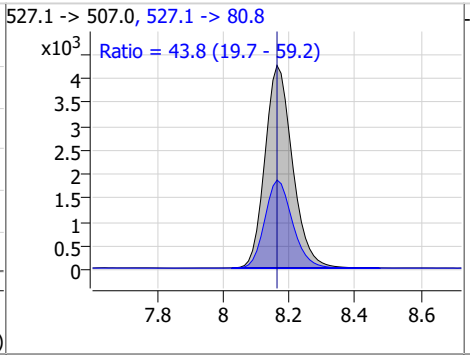


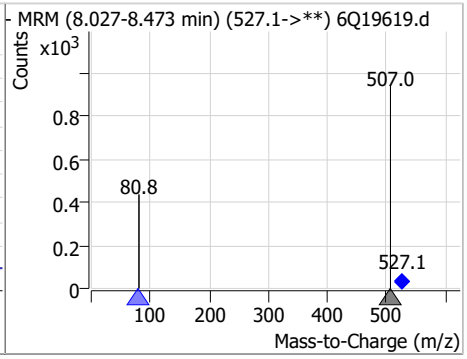




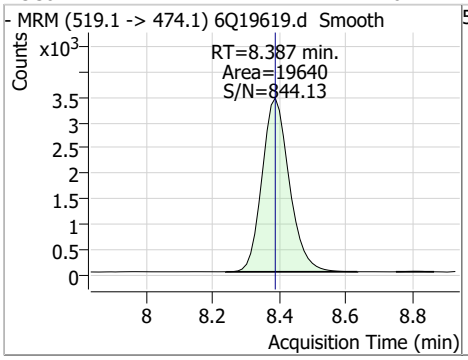
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	8.93	8.16	0.00	24340	527.1 -> 80.8	43.8	19.7	59.2

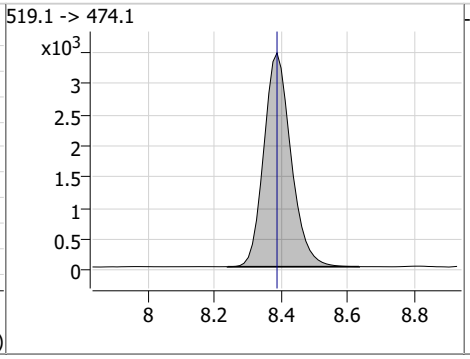


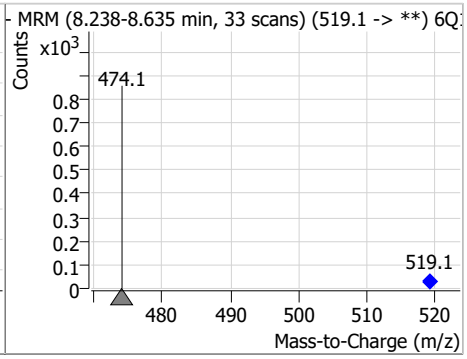




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.16	8.39	0.00	19640				

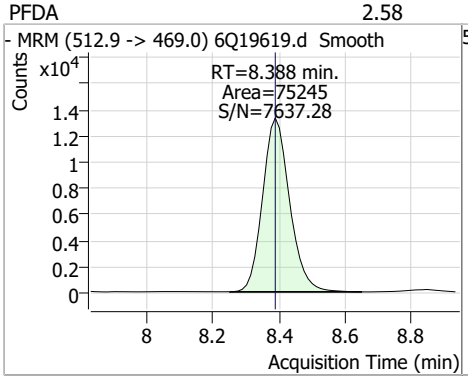


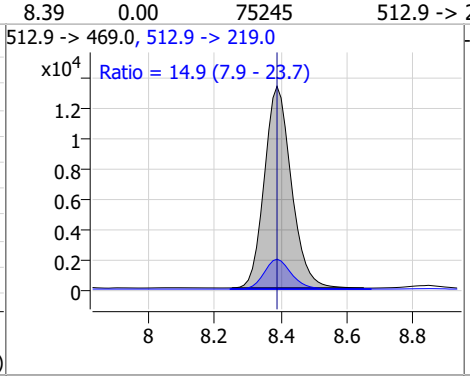


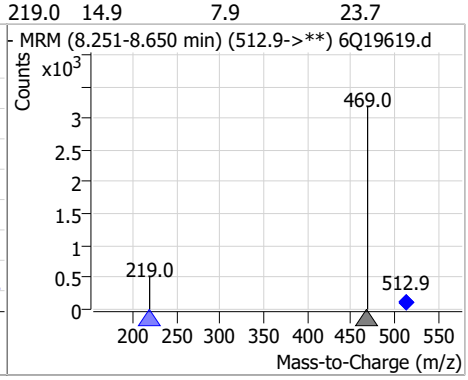


Perfluorinated Compounds by LC/MS/MS

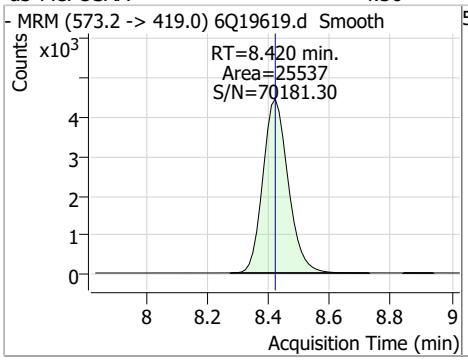
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.58	8.39	0.00	75245	512.9 -> 219.0	14.9	7.9	23.7

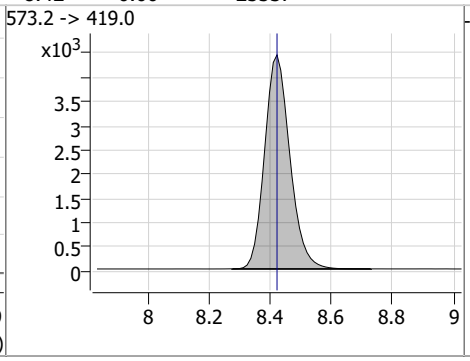


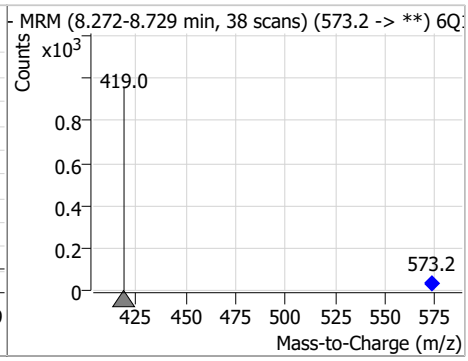




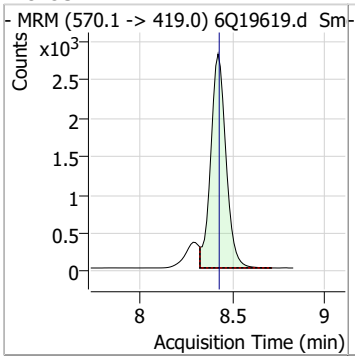
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.36	8.42	0.00	25537				

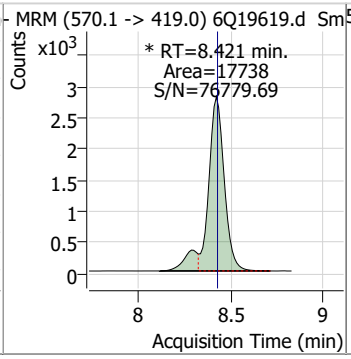


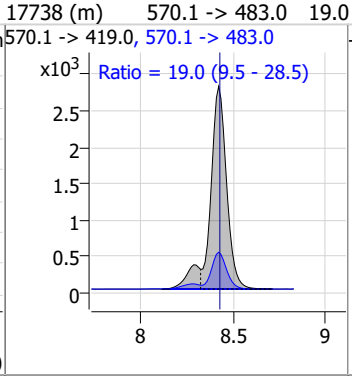


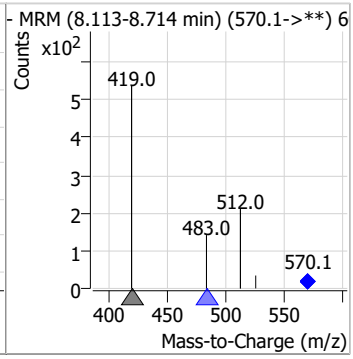


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.68	8.42	0.00	17738 (m)	570.1 -> 483.0	19.0	9.5	28.5

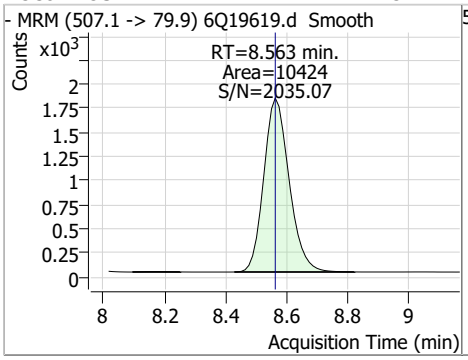


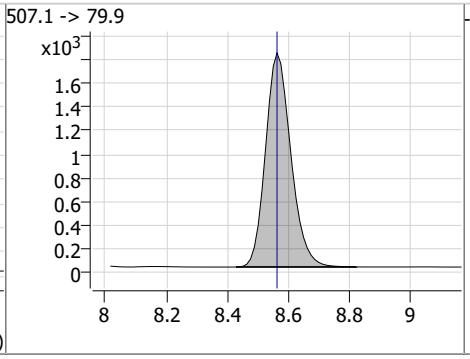


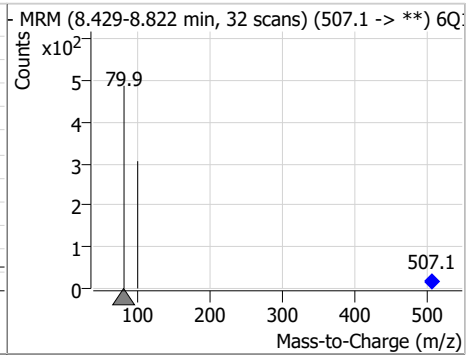




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.23	8.56	0.00	10424				

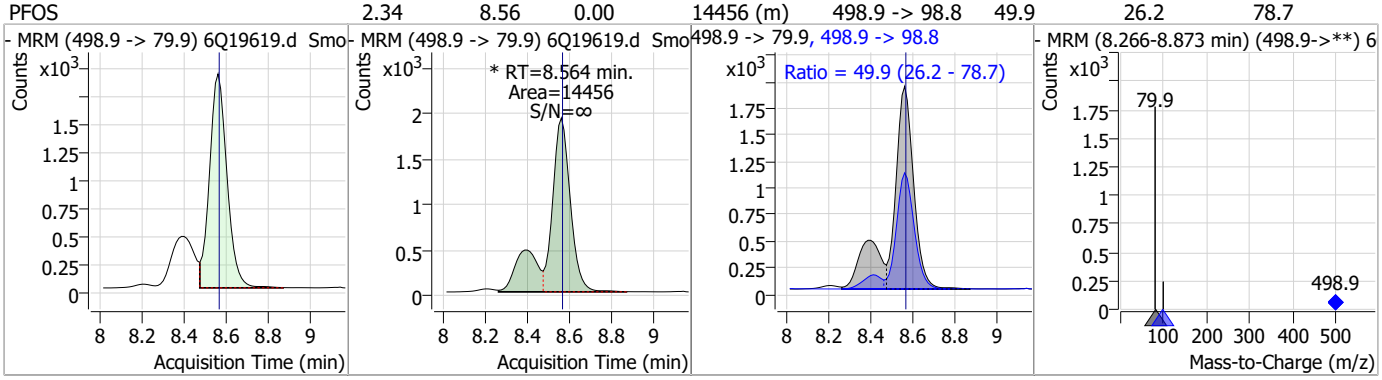




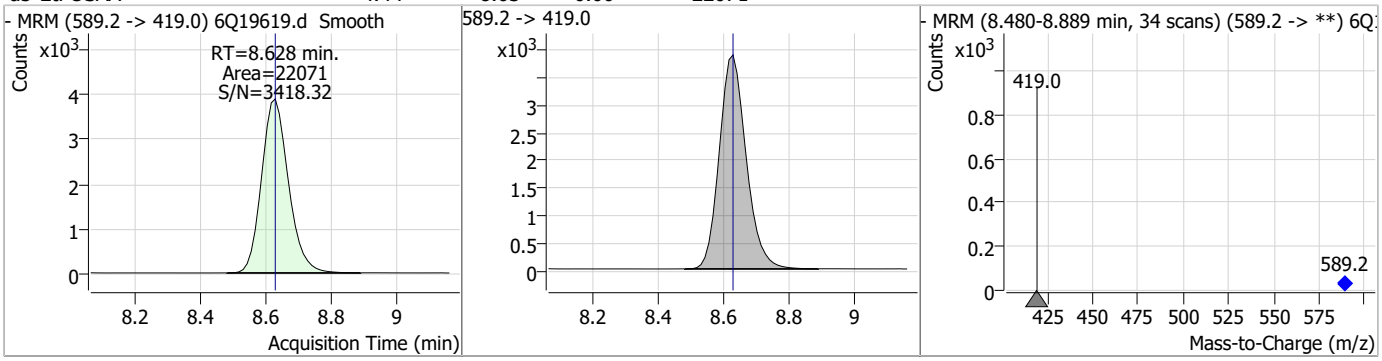


Perfluorinated Compounds by LC/MS/MS

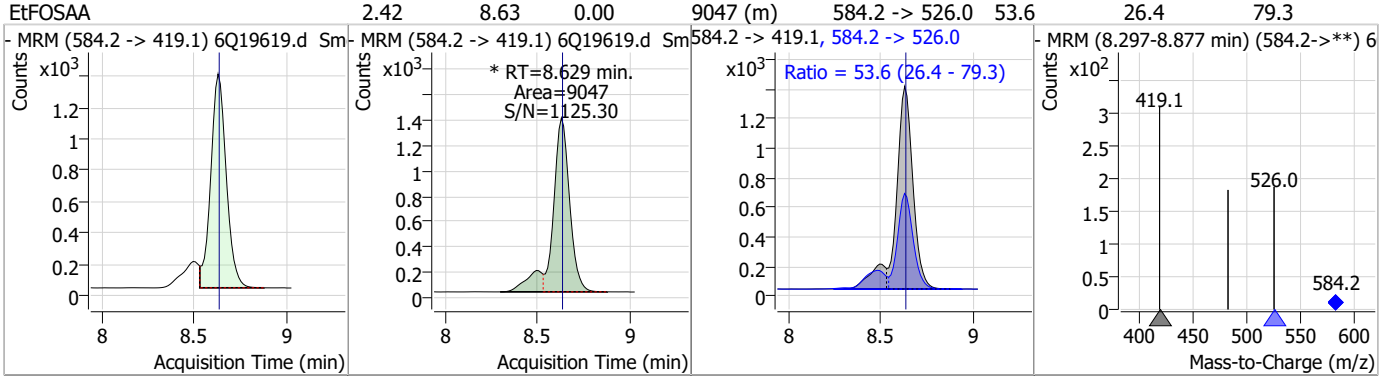
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.34	8.56	0.00	14456 (m)	498.9 -> 98.8	49.9	26.2	78.7



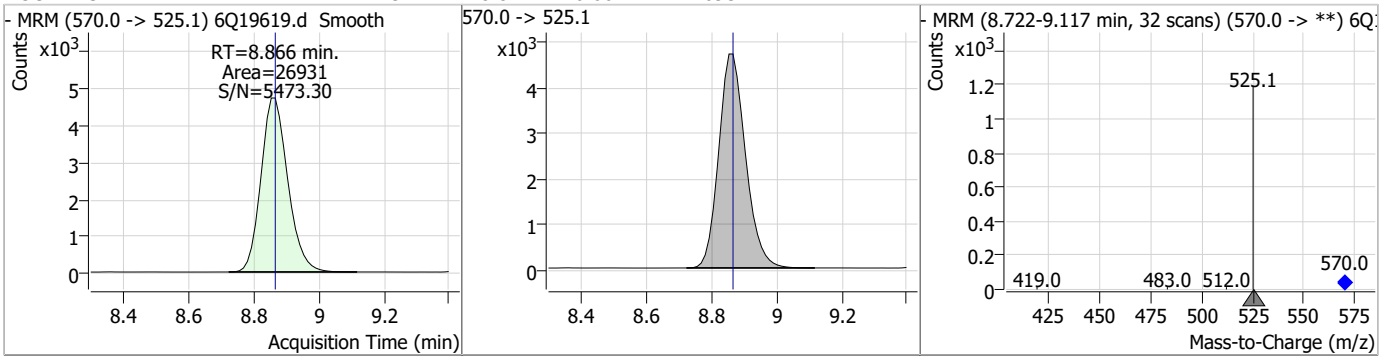
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.44	8.63	0.00	22071				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.42	8.63	0.00	9047 (m)	584.2 -> 526.0	53.6	26.4	79.3

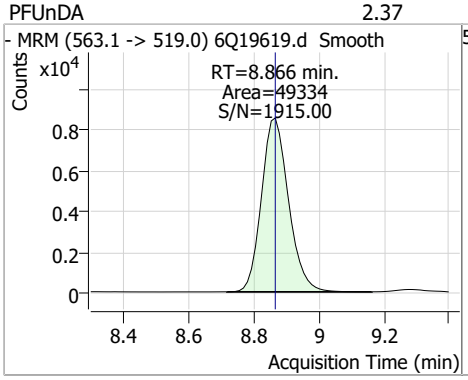


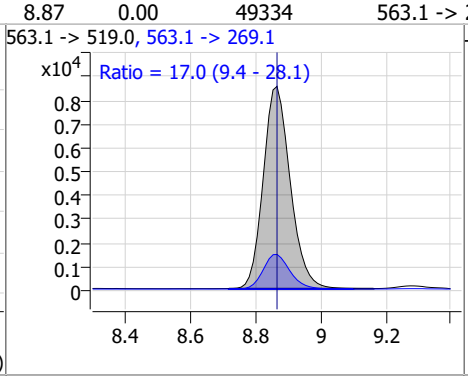
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.19	8.87	0.00	26931				

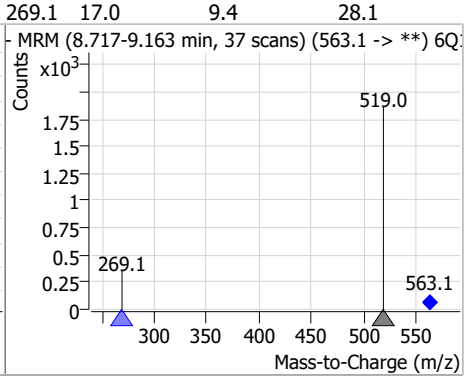


Perfluorinated Compounds by LC/MS/MS

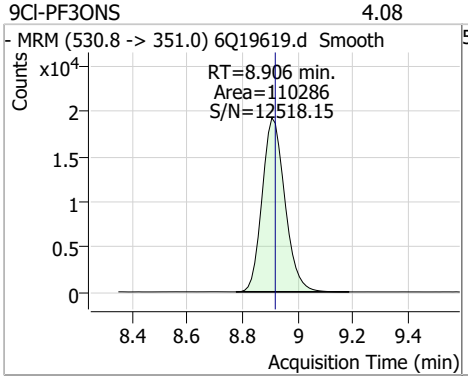
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.37	8.87	0.00	49334	563.1 -> 269.1	17.0	9.4	28.1

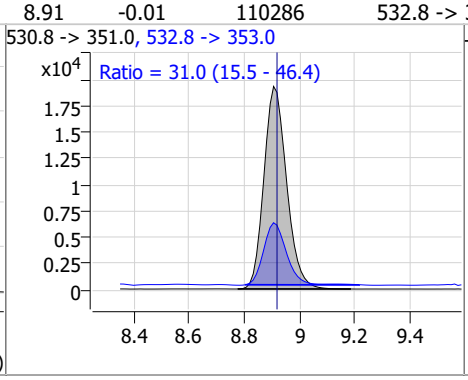


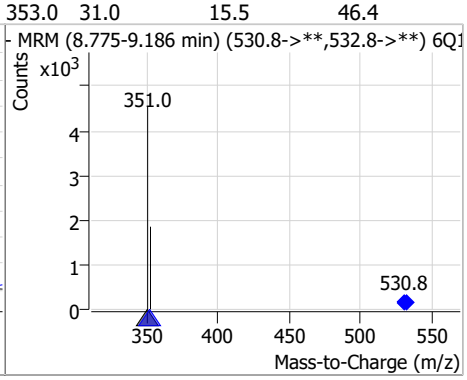




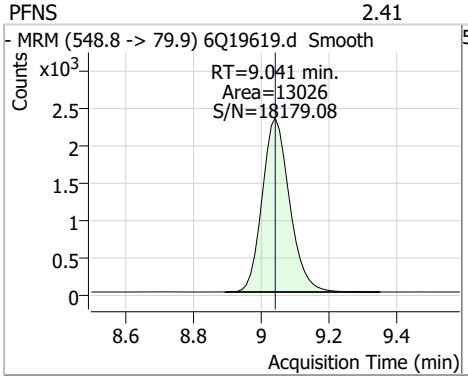
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.08	8.91	-0.01	110286	532.8 -> 353.0	31.0	15.5	46.4

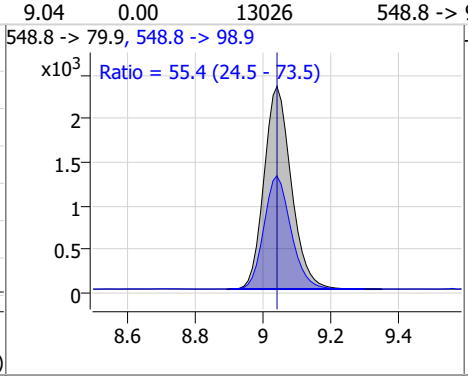


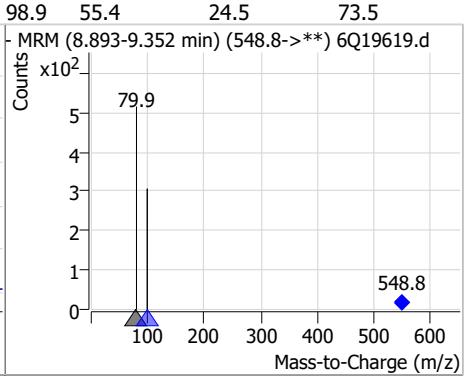




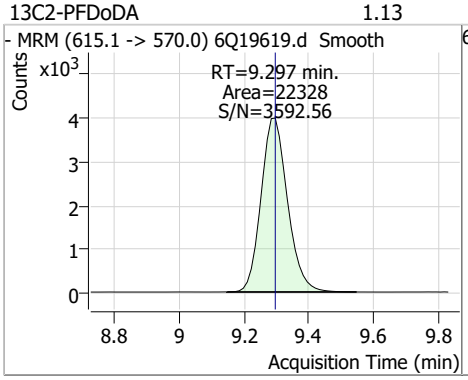
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.41	9.04	0.00	13026	548.8 -> 98.9	55.4	24.5	73.5

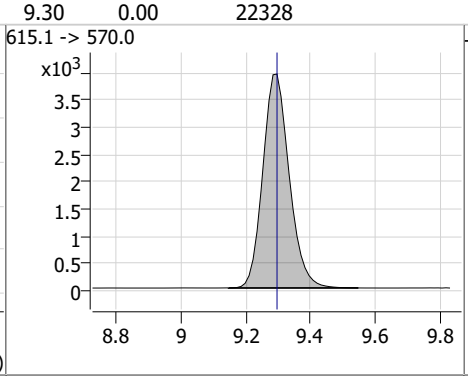


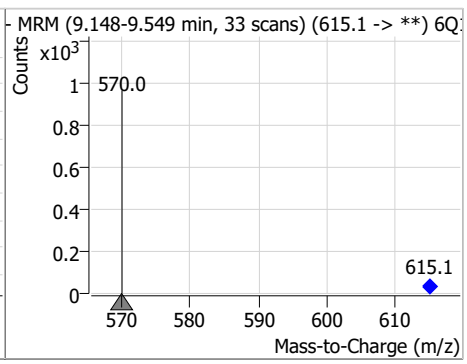




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.13	9.30	0.00	22328				

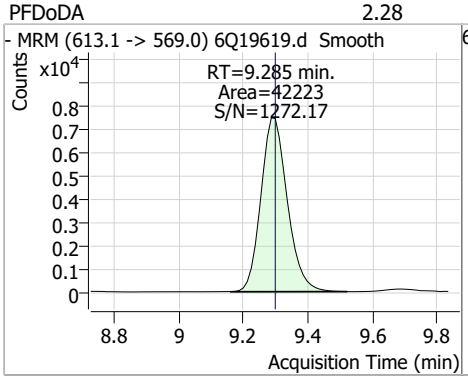


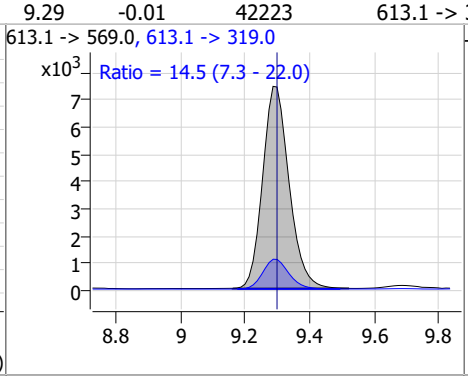


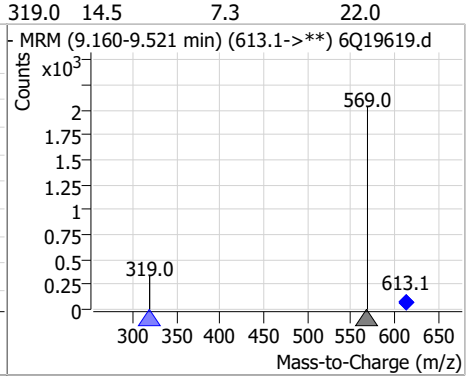


Perfluorinated Compounds by LC/MS/MS

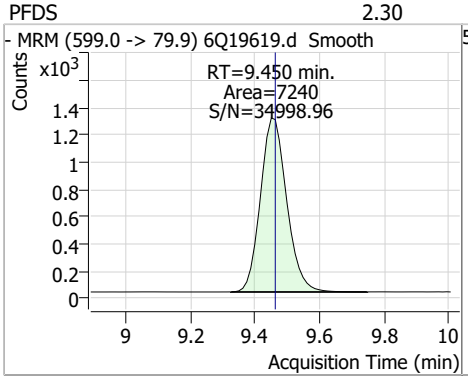
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.28	9.29	-0.01	42223	613.1 -> 319.0	14.5	7.3	22.0

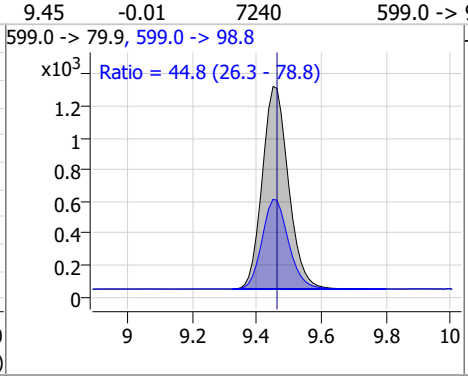


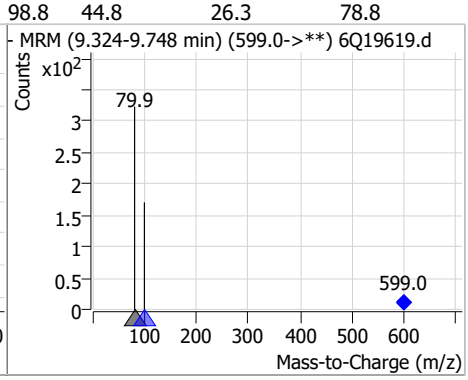




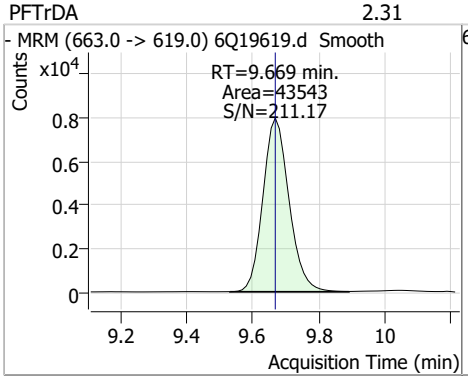
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.30	9.45	-0.01	7240	599.0 -> 98.8	44.8	26.3	78.8

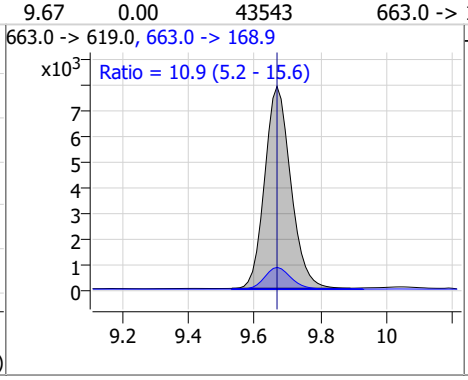


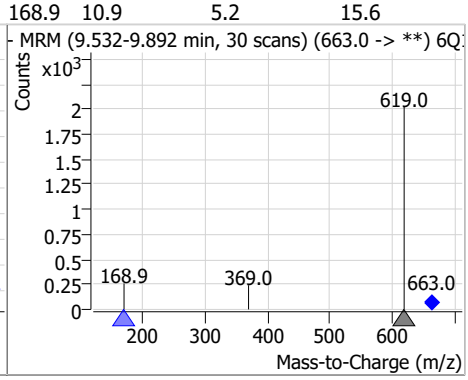




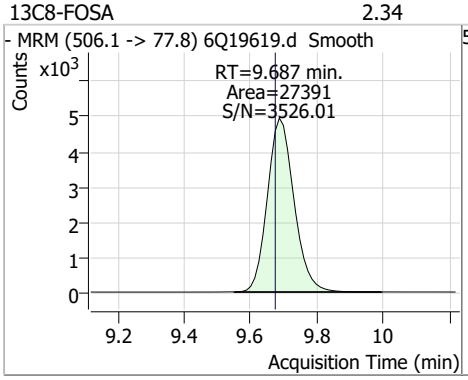
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.31	9.67	0.00	43543	663.0 -> 168.9	10.9	5.2	15.6

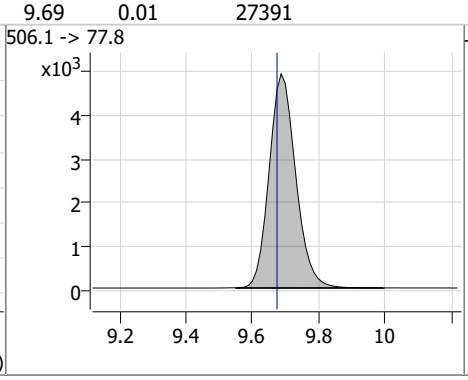


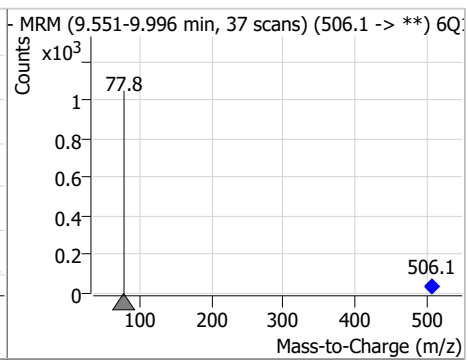




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.34	9.69	0.01	27391				

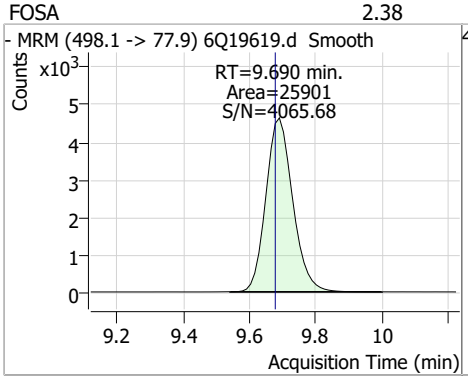


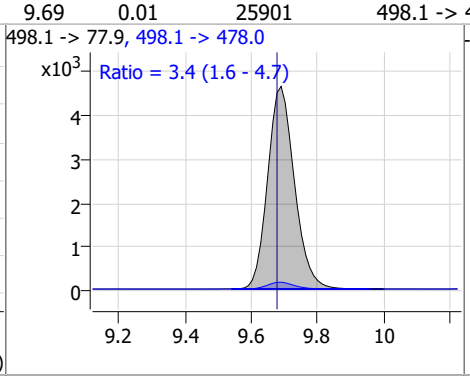


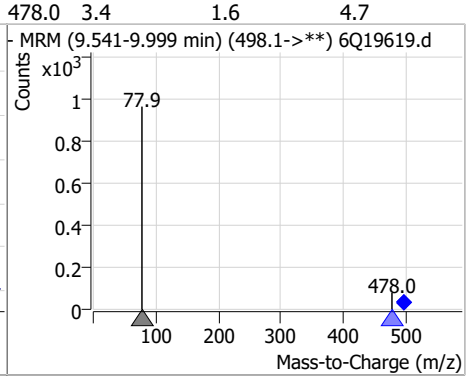


Perfluorinated Compounds by LC/MS/MS

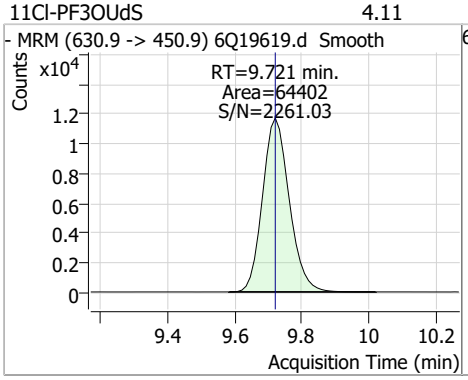
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.38	9.69	0.01	25901	498.1 -> 478.0	3.4	1.6	4.7

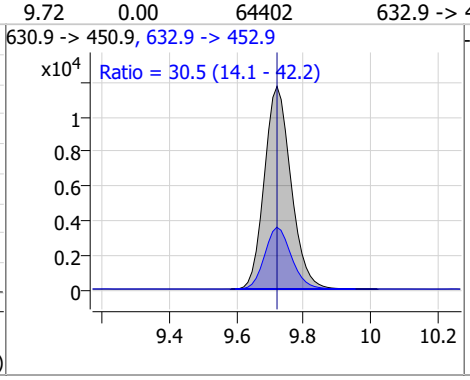


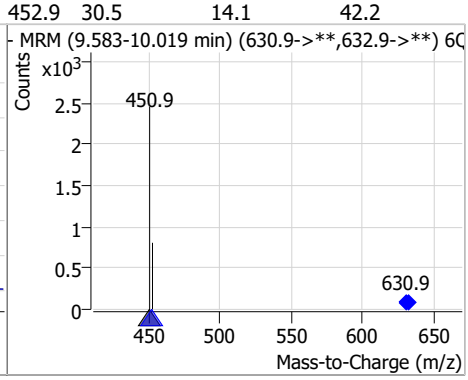




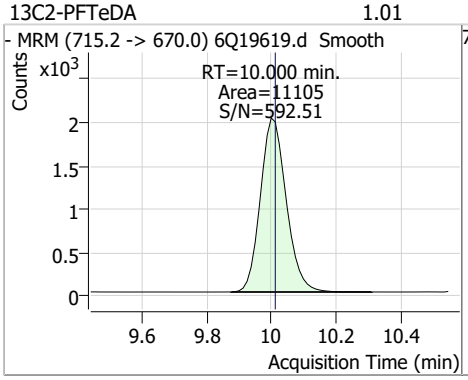
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.11	9.72	0.00	64402	632.9 -> 452.9	30.5	14.1	42.2

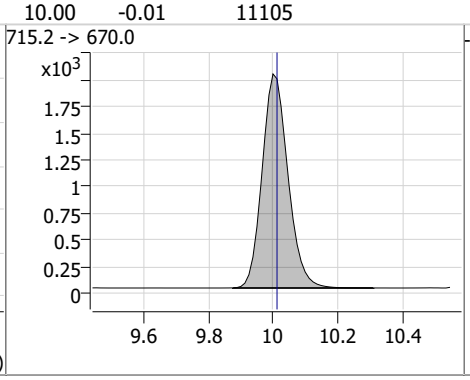


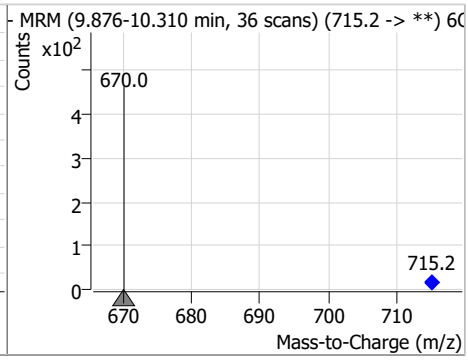




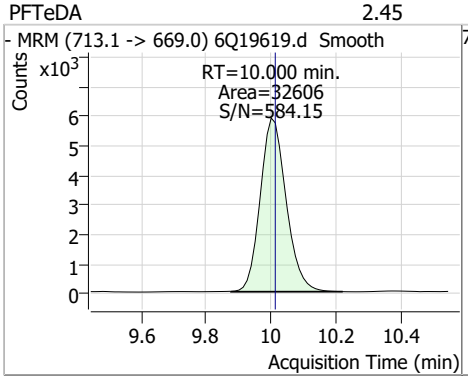
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.01	10.00	-0.01	11105				

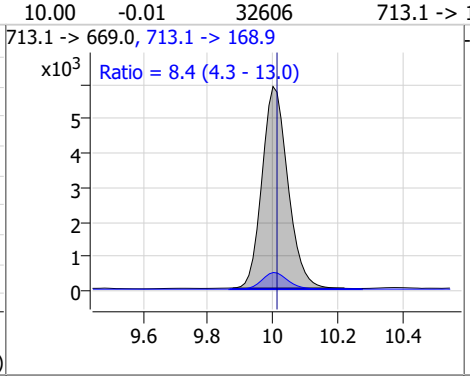


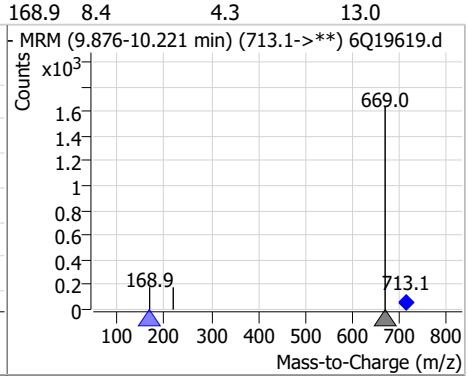




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.45	10.00	-0.01	32606	713.1 -> 168.9	8.4	4.3	13.0

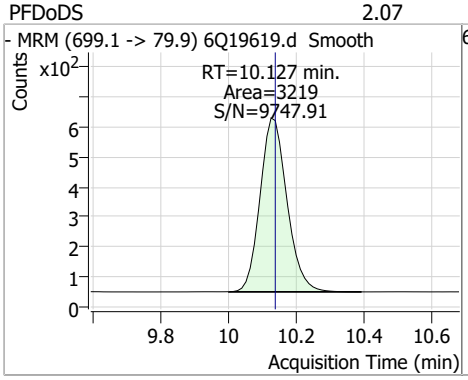


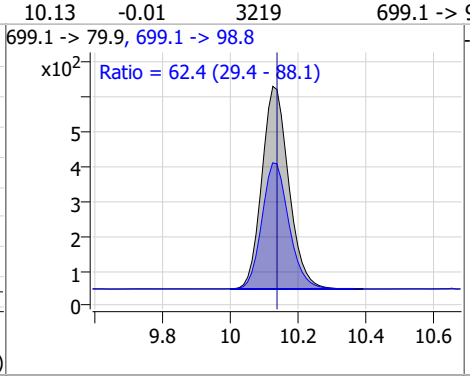


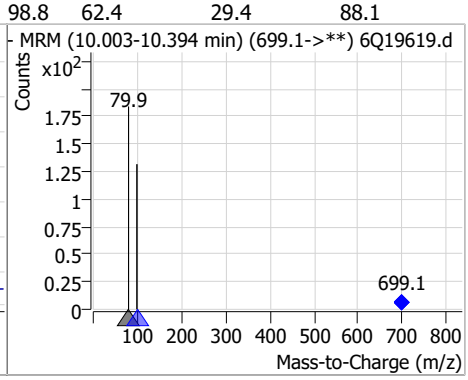


Perfluorinated Compounds by LC/MS/MS

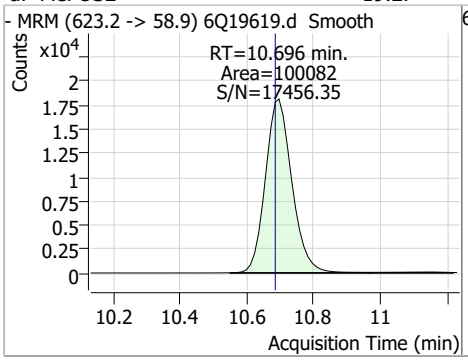
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.07	10.13	-0.01	3219	699.1 -> 98.8	62.4	29.4	88.1

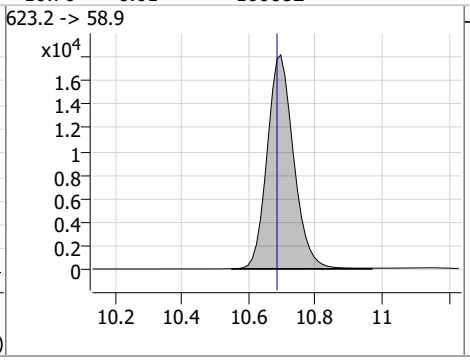


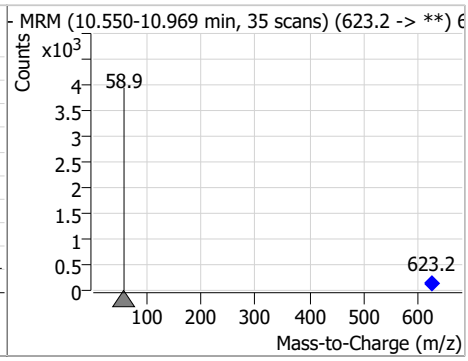




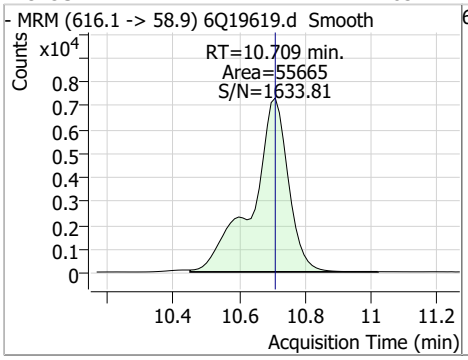
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	19.27	10.70	0.01	100082				

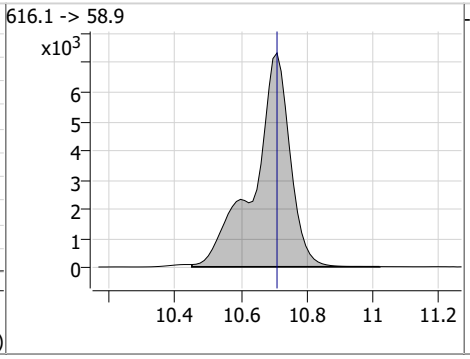


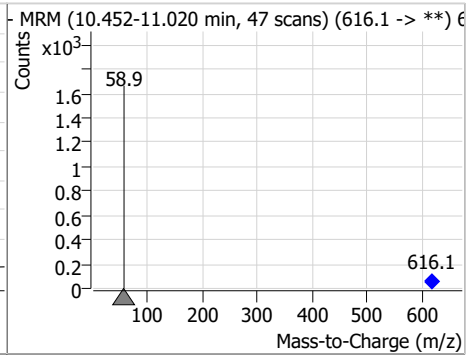




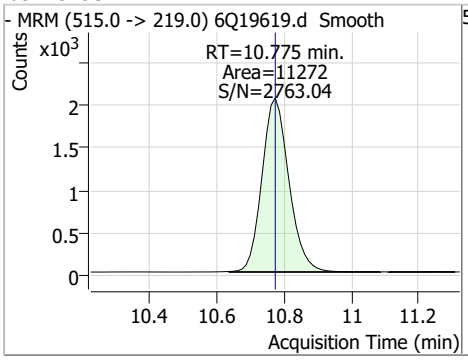
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.83	10.71	0.00	55665				

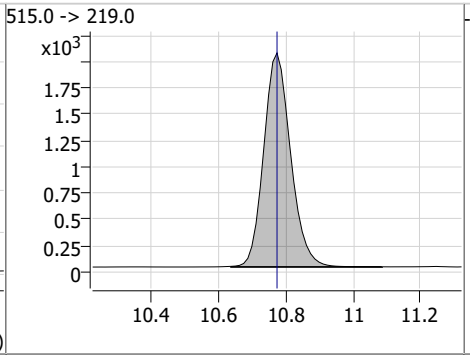


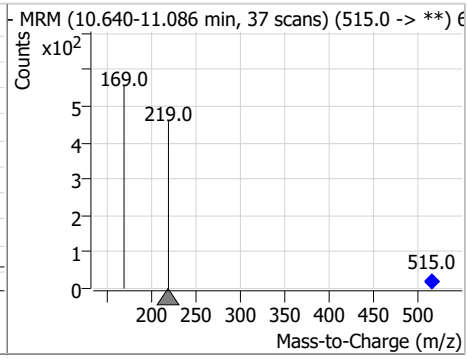




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.21	10.78	0.00	11272				

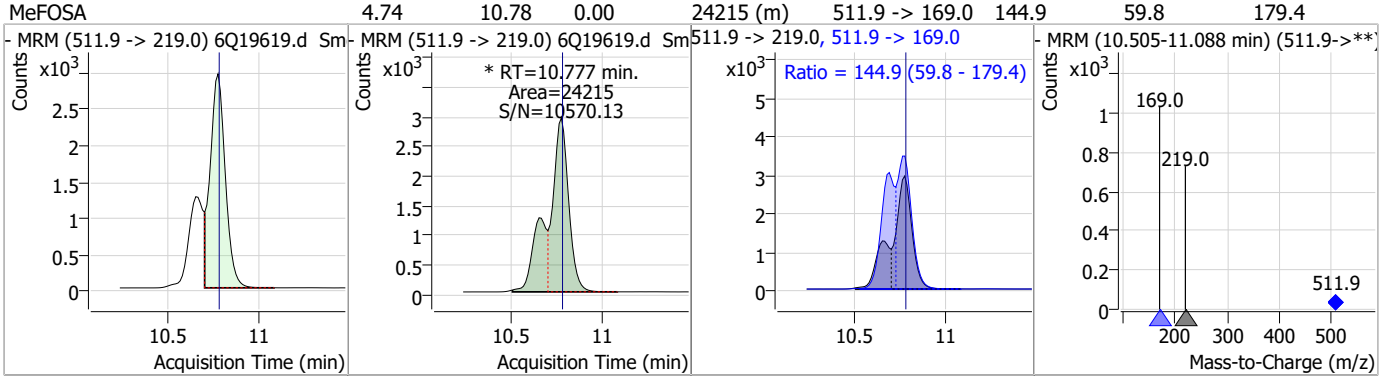




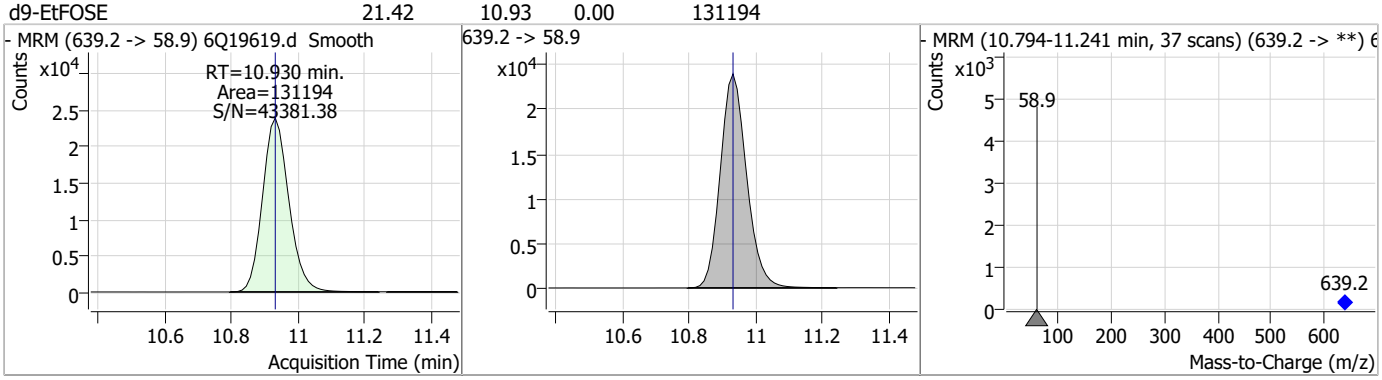


Perfluorinated Compounds by LC/MS/MS

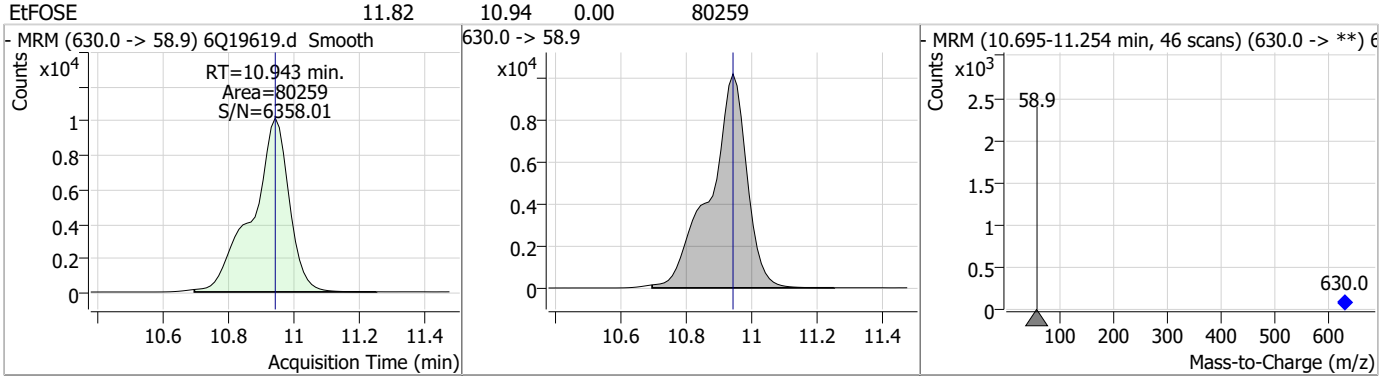
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.74	10.78	0.00	24215 (m)	511.9 -> 169.0	144.9	59.8	179.4



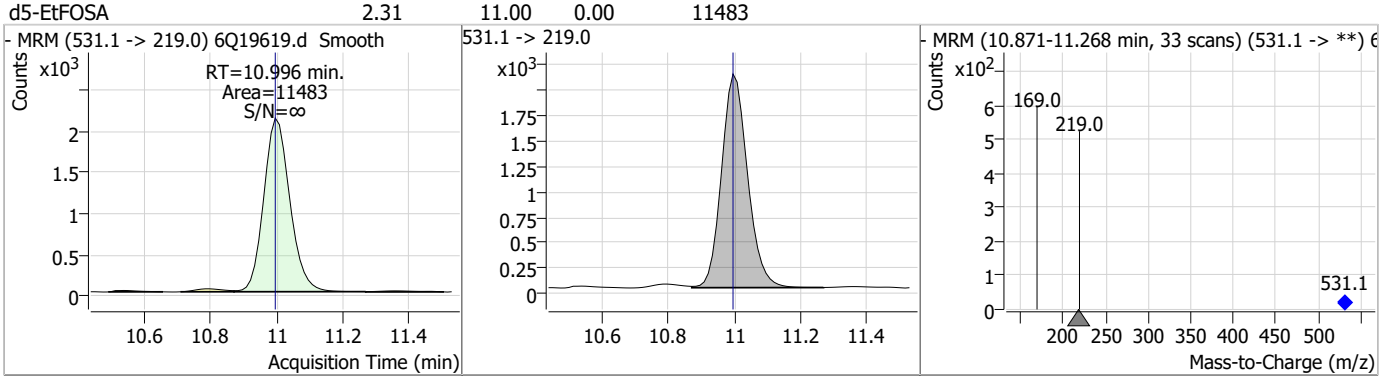
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	21.42	10.93	0.00	131194				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	11.82	10.94	0.00	80259				

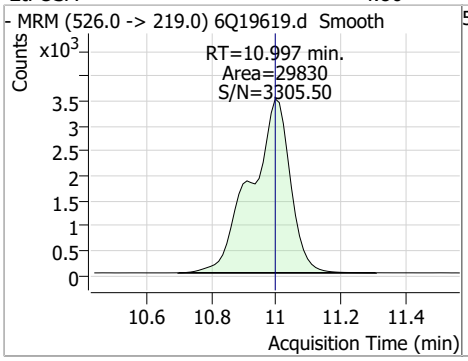


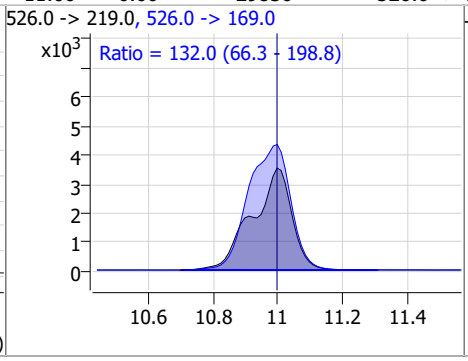
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.31	11.00	0.00	11483				

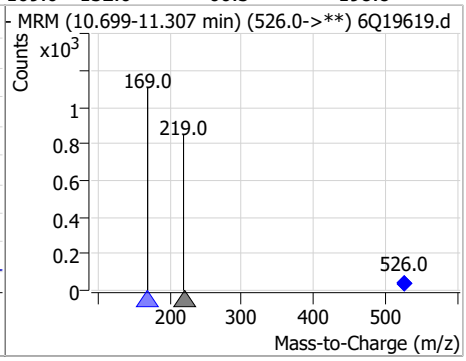


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.86	11.00	0.00	29830	526.0 -> 169.0	132.0	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q292-CC288
Lab FileID: 6Q19619.D
Injection Time: 06/20/23 14:14

Method: EPA DRAFT 1633
Analyst approved: 06/20/23 15:19 Martha Valls
Supervisor approved: 06/20/23 16:44 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSA	31506-32-8		10.78	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 06/21/23 16:17

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19625.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/20/2023 3:39:58 PM
Sample Name : cc288-1.0LL
Vial : P1-A2
DA Method File : 1633_061323_S6Q288.quantmethod.xml
Batch Name : s6q292.batch.bin
Sample Information : OP97325,S6Q292,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.097	216.8 -> 171.9	154578	10.00	µg/L	0.012
M5-PFPeA	4.560	268.3 -> 223.0	50182	5.00	µg/L	0.000
M5-PFHxA	5.792	318.0 -> 273.0	52015	2.50	µg/L	0.000
M4-PFHpA	6.707	367.1 -> 322.0	46915	2.50	µg/L	0.000
M8-PFOA	7.339	421.1 -> 376.0	77213	2.50	µg/L	-0.012
M9-PFNA	7.882	472.1 -> 427.0	37230	1.25	µg/L	-0.013
M6-PFDA	8.387	519.1 -> 474.1	19166	1.25	µg/L	0.000
M7-PFUnDA	8.853	570.0 -> 525.1	25563	1.25	µg/L	-0.012
M2-PFDoDA	9.285	615.1 -> 570.0	22038	1.25	µg/L	-0.012
M2-PFTeDA	10.000	715.2 -> 670.0	10915	1.25	µg/L	-0.012
M8-FOSA	9.687	506.1 -> 77.8	27163	2.50	µg/L	0.012
M3-PFBS	5.746	302.1 -> 79.9	20029	2.50	µg/L	0.000
M3-PFHxS	7.478	402.1 -> 79.9	11851	2.50	µg/L	0.000
M8-PFOS	8.563	507.1 -> 79.9	12622	2.50	µg/L	0.000
M2-4:2FTS	5.442	329.1 -> 80.9	3289	5.00	µg/L	0.000
M2-6:2FTS	7.113	429.1 -> 80.9	4586	5.00	µg/L	0.000
M2-8:2FTS	8.163	529.1 -> 80.9	3770	5.00	µg/L	0.000
M3-MeFOSAA	8.420	573.2 -> 419.0	27123	5.00	µg/L	0.000
M3-HFPO-DA	6.169	286.9 -> 168.9	35192	10.00	µg/L	0.000
M5-EtFOSAA	8.628	589.2 -> 419.0	22478	5.00	µg/L	0.000
M7-MeFOSE	10.696	623.2 -> 58.9	115844	25.00	µg/L	0.011
M9-EtFOSE	10.930	639.2 -> 58.9	129964	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	12503	2.50	µg/L	0.000
M3-MeFOSA	10.775	515.0 -> 219.0	11709	2.50	µg/L	0.000
13C4-PFOS	8.563	502.8 -> 79.9	14884	2.50	µg/L	0.000
13C3-PFBA	3.089	216.0 -> 172.0	65242	5.00	µg/L	0.000
18O2-PFHxS	7.477	403.0 -> 83.9	9413	2.50	µg/L	0.000
13C4-PFOA	7.340	417.1 -> 372.0	80659	2.50	µg/L	-0.012
13C2-PFDA	8.388	515.1 -> 470.1	29857	1.25	µg/L	0.000
13C5-PFNA	7.882	468.0 -> 423.0	43995	1.25	µg/L	0.000
13C2-PFHxA	5.792	315.1 -> 270.0	48378	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.442	329.1 -> 80.9	3289	5.82	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.4%		
13C2-6:2FTS	7.113	429.1 -> 80.9	4586	5.38	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.5%		
13C2-8:2FTS	8.163	529.1 -> 80.9	3770	4.70	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.0%		
13C2-PFDoDA	9.285	615.1 -> 570.0	22038	1.10	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 88.3%		
13C2-PFTeDA	10.000	715.2 -> 670.0	10915	0.98	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 78.4%		
13C3-PFBS	5.746	302.1 -> 79.9	20029	2.56	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C3-PFHxS	7.478	402.1 -> 79.9	11851	2.40	µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units		Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.8%		
13C4-PFBA	3.097	216.8 -> 171.9	154578	10.10 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.0%		
13C4-PFHpA	6.707	367.1 -> 322.0	46915	2.51 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C5-PFHxA	5.792	318.0 -> 273.0	52015	2.61 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.2%		
13C5-PFPeA	4.560	268.3 -> 223.0	50182	5.48 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.7%		
13C6-PFDA	8.387	519.1 -> 474.1	19166	1.12 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 89.5%		
13C7-PFUnDA	8.853	570.0 -> 525.1	25563	1.11 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 89.1%		
13C8-FOSA	9.687	506.1 -> 77.8	27163	2.41 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.4%		
13C8-PFOA	7.339	421.1 -> 376.0	77213	2.56 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C8-PFOS	8.563	507.1 -> 79.9	12622	2.81 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.3%		
13C9-PFNA	7.882	472.1 -> 427.0	37230	1.39 µg/L		-0.013
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 111.2%		
d3-MeFOSAA	8.420	573.2 -> 419.0	27123	4.82 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.3%		
13C3-HFPO-DA	6.169	286.9 -> 168.9	35192	10.53 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.3%		
d3-MeFOSA	10.775	515.0 -> 219.0	11709	2.39 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.6%		
d5-EtFOSAA	8.628	589.2 -> 419.0	22478	4.70 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.0%		
d7-MeFOSE	10.696	623.2 -> 58.9	115844	23.20 µg/L		0.011
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 92.8%		
d9-EtFOSE	10.930	639.2 -> 58.9	129964	22.07 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 88.3%		
d5-EtFOSA	10.996	531.1 -> 219.0	12503	2.61 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.6%		
Target Compounds						QValue
4:2FTS	5.443	327.1 -> 307.0	3842	0.67 µg/L		98
		327.1 -> 80.9	1489			
6:2FTS	7.113	427.1 -> 407.0	3892	0.71 µg/L		96
		427.1 -> 80.9	1369			
8:2FTS	8.164	527.1 -> 507.0	1903	0.76 µg/L		98
		527.1 -> 80.8	728			
EtFOSAA	8.629	584.2 -> 419.1	719	0.19 µg/L	m	93
		584.2 -> 526.0	347			
FOSA	9.690	498.1 -> 77.9	1957	0.18 µg/L		98
		498.1 -> 478.0	51			
MeFOSAA	8.421	570.1 -> 419.0	1304	0.19 µg/L	m	98
		570.1 -> 483.0	239			
PFBA	3.093	212.8 -> 168.9	4482	0.72 µg/L		100
PFBS	5.747	298.7 -> 79.9	1253	0.14 µg/L		96
		298.7 -> 98.8	505			
PFDA	8.388	512.9 -> 469.0	5519	0.19 µg/L		96
		512.9 -> 219.0	788			
PFDoDA	9.285	613.1 -> 569.0	3503	0.19 µg/L		99
		613.1 -> 319.0	498			
PFDS	9.450	599.0 -> 79.9	566	0.15 µg/L		100

Perfluorinated Compounds by LC/MS/MS

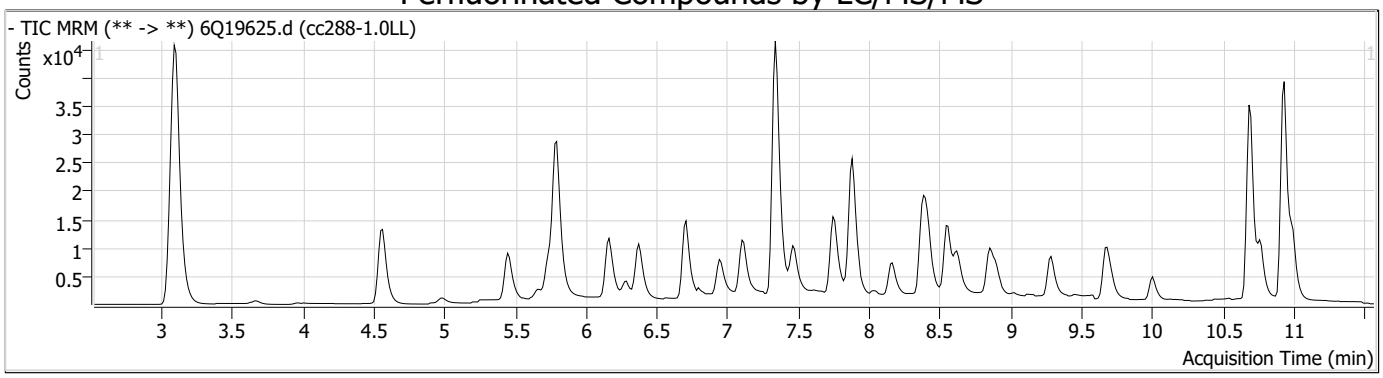
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	300				
PFHpA	6.708	363.1 -> 319.0	4720	0.19	µg/L		99
		363.1 -> 169.0	745				
PFHpS	8.046	449.0 -> 79.9	1309	0.17	µg/L		98
		449.0 -> 98.9	646				
PFHxA	5.795	313.0 -> 269.0	3459	0.16	µg/L		95
		313.0 -> 118.9	235				
PFHxS	7.479	398.7 -> 79.9	1151	0.16	µg/L	m	92
		398.7 -> 98.9	646				
PFNA	7.883	463.0 -> 419.0	5803	0.17	µg/L		99
		463.0 -> 219.0	1124				
PFNS	9.041	548.8 -> 79.9	999	0.15	µg/L		99
		548.8 -> 98.9	498				
PFOA	7.341	413.0 -> 369.0	8021	0.19	µg/L		99
		413.0 -> 169.0	1323				
PFOS	8.564	498.9 -> 79.9	1145	0.15	µg/L	m	93
		498.9 -> 98.8	547				
PFPeA	4.563	263.0 -> 219.0	5356	0.36	µg/L		100
PFPeS	6.785	349.1 -> 79.9	1116	0.17	µg/L		96
		349.1 -> 98.9	569				
PFTeDA	10.000	713.1 -> 669.0	2599	0.20	µg/L		100
		713.1 -> 168.9	219				
PFTrDA	9.669	663.0 -> 619.0	3140	0.17	µg/L		97
		663.0 -> 168.9	366				
PFUnDA	8.854	563.1 -> 519.0	3767	0.19	µg/L		95
		563.1 -> 269.1	616				
11Cl-PF3OUdS	9.721	630.9 -> 450.9	5091	0.32	µg/L		96
		632.9 -> 452.9	1536				
9Cl-PF3ONS	8.906	530.8 -> 351.0	8737	0.32	µg/L		100
		532.8 -> 353.0	2722				
ADONA	6.959	376.9 -> 250.9	18157	0.32	µg/L		98
		376.9 -> 84.8	5063				
HFPO-DA	6.169	284.9 -> 168.9	1373	0.37	µg/L		100
		284.9 -> 184.9	161				
3:3FTCA	3.958	241.0 -> 177.0	1064	1.06	µg/L		99
		241.0 -> 117.0	140				
5:3FTCA	6.374	341.0 -> 237.1	23550	5.64	µg/L		97
		341.0 -> 217.0	16894				
7:3FTCA	7.761	441.0 -> 316.9	17076	6.05	µg/L		93
		441.0 -> 336.9	36593				
EtFOSA	10.997	526.0 -> 219.0	2186	0.33	µg/L		94
		526.0 -> 169.0	3063				
EtFOSE	10.943	630.0 -> 58.9	6071	0.90	µg/L		100
MeFOSA	10.777	511.9 -> 219.0	1802	0.34	µg/L	m	70
		511.9 -> 169.0	2753				
MeFOSE	10.709	616.1 -> 58.9	4291	0.85	µg/L	m	100
PFDoDS	10.127	699.1 -> 79.9	268	0.14	µg/L		78
		699.1 -> 98.8	114				
NFDHA	5.673	295.0 -> 201.0	1060	0.40	µg/L		99
		295.0 -> 84.9	278				
PFMBA	4.988	279.0 -> 85.1	3618	0.34	µg/L		100
PFMPA	3.667	229.0 -> 84.9	2878	0.35	µg/L		100
PFEESA	6.288	314.8 -> 134.9	8963	0.32	µg/L		100
		314.8 -> 82.9	313				

 # = Qualifier out of range, m = manually integrated, + = Area summed

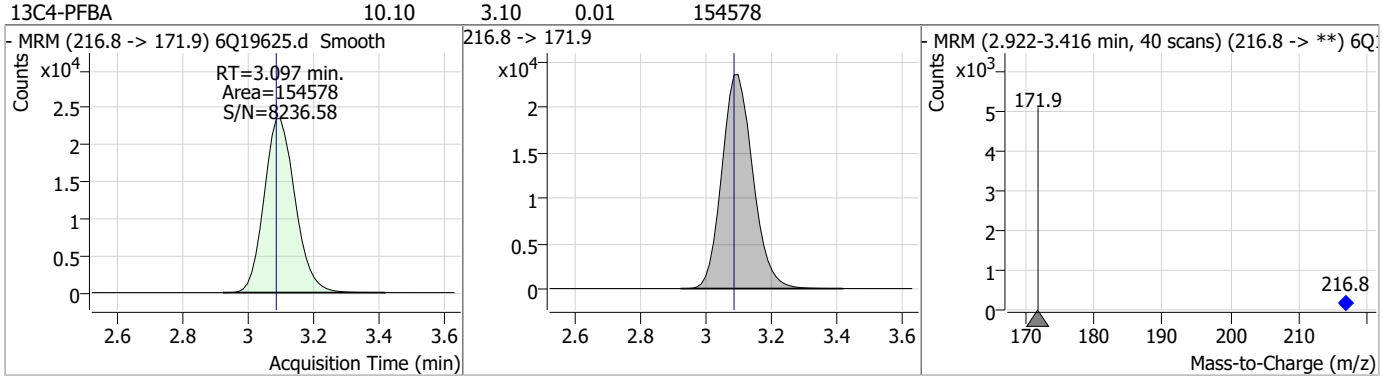
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

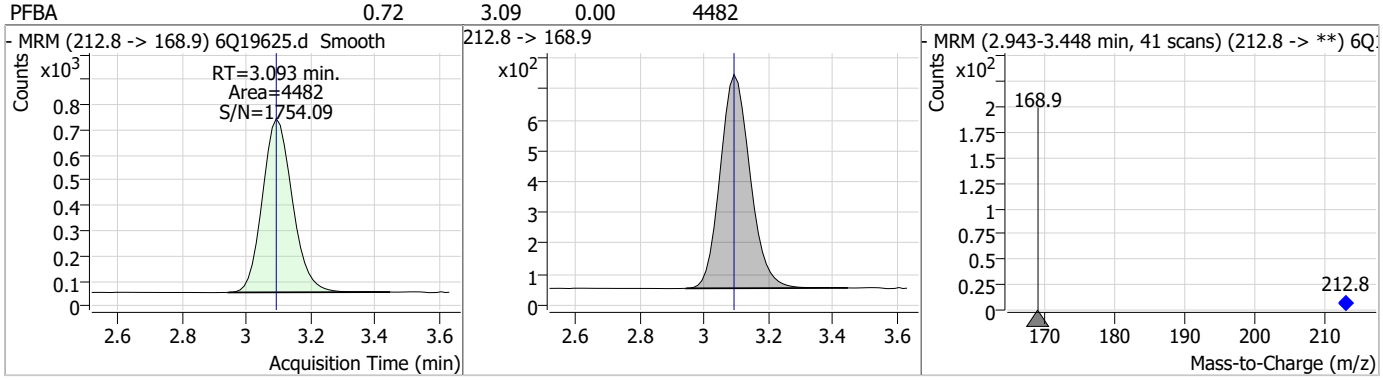
Perfluorinated Compounds by LC/MS/MS



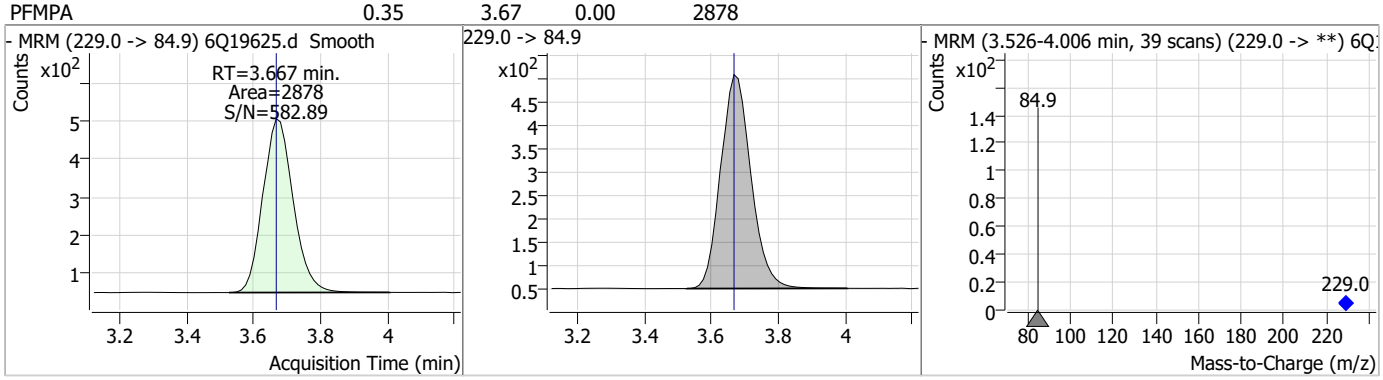
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.10	3.10	0.01	154578				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.72	3.09	0.00	4482				

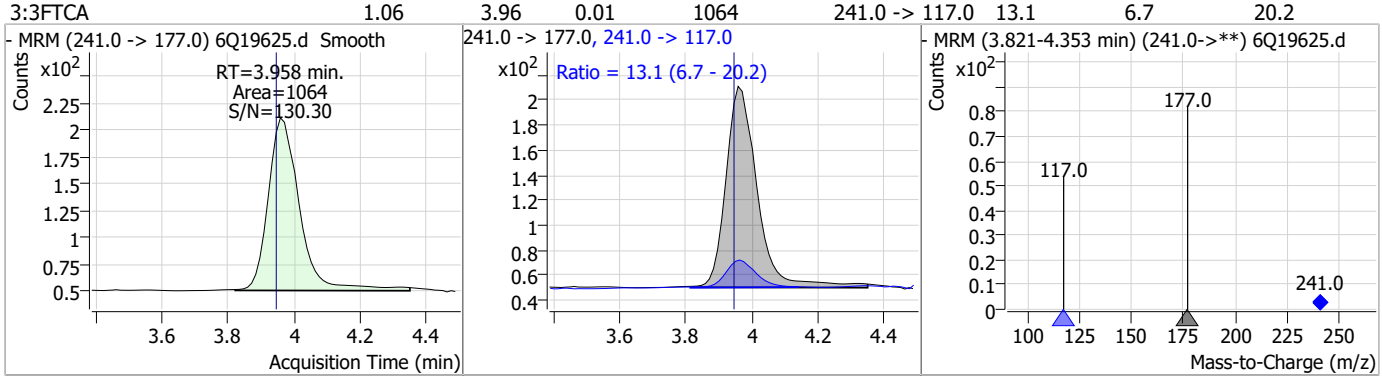


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	0.35	3.67	0.00	2878				

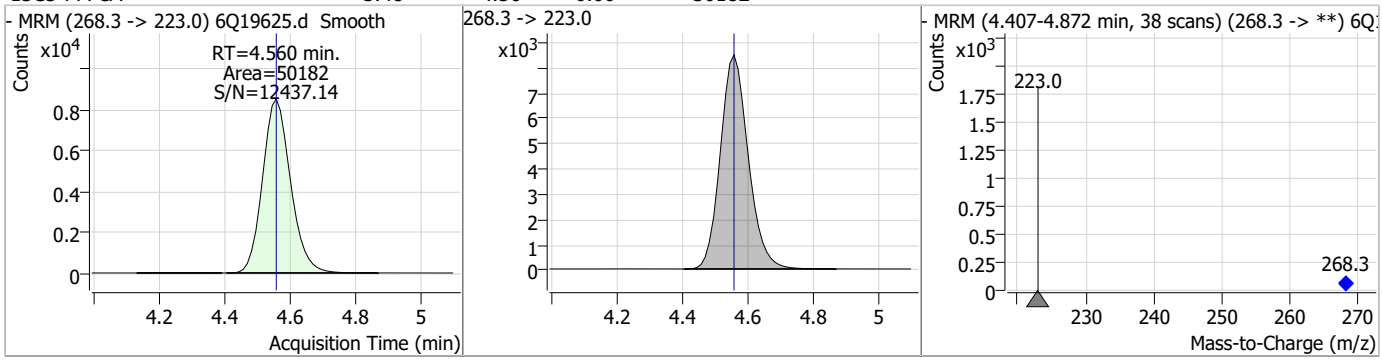


Perfluorinated Compounds by LC/MS/MS

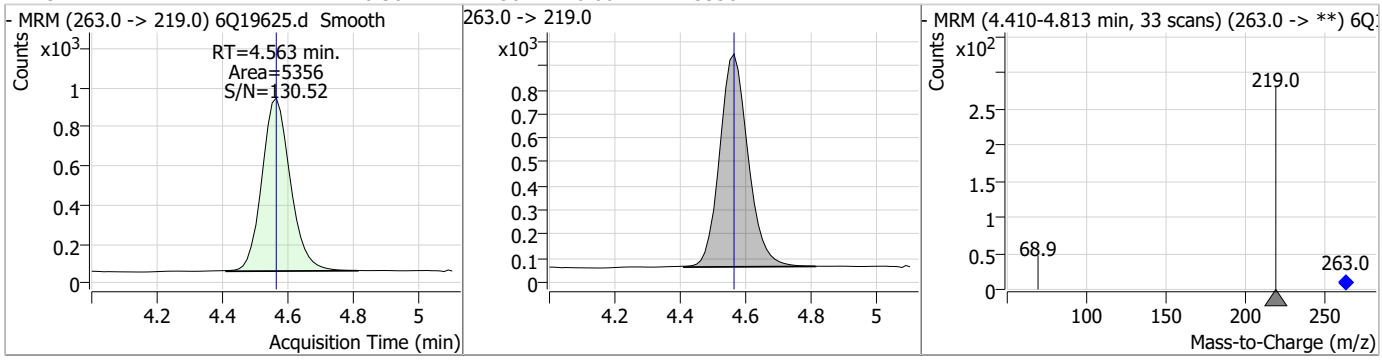
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.06	3.96	0.01	1064	241.0 -> 117.0	13.1	6.7	20.2



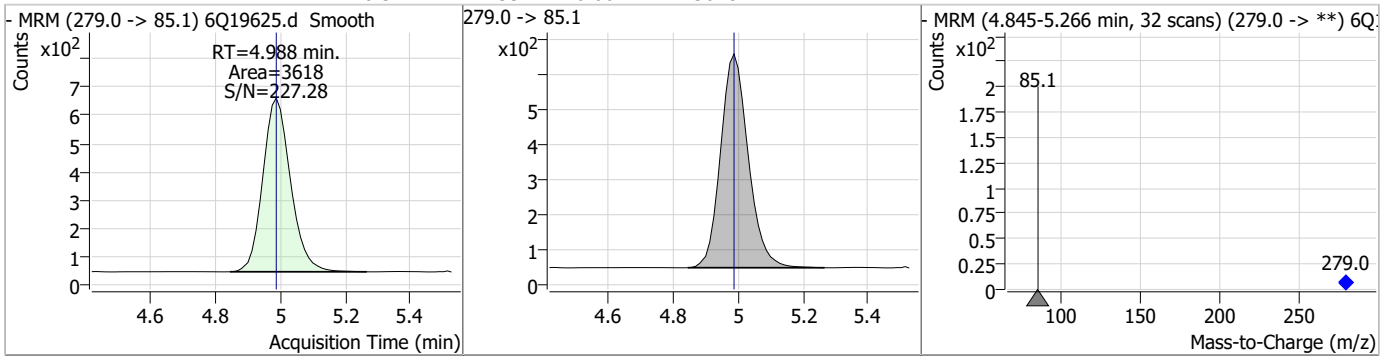
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.48	4.56	0.00	50182				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.36	4.56	0.00	5356				

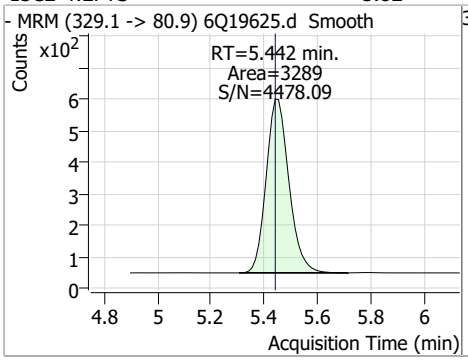


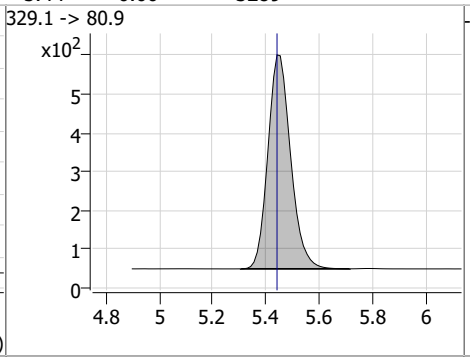
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.34	4.99	0.00	3618				

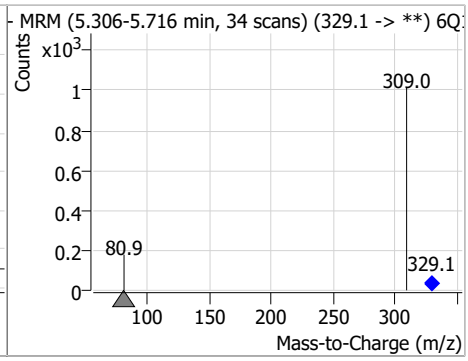


Perfluorinated Compounds by LC/MS/MS

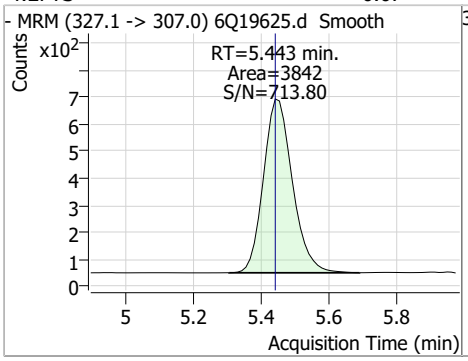
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.82	5.44	0.00	3289				

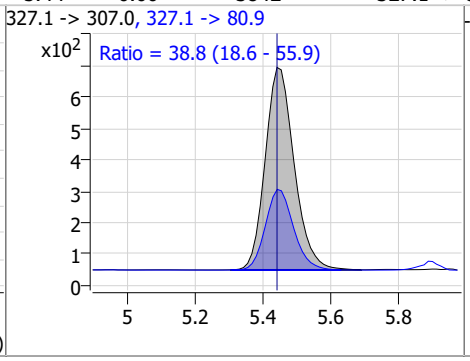


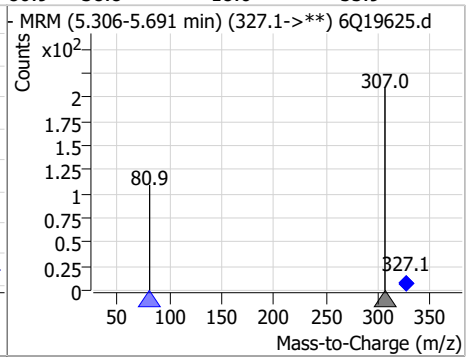




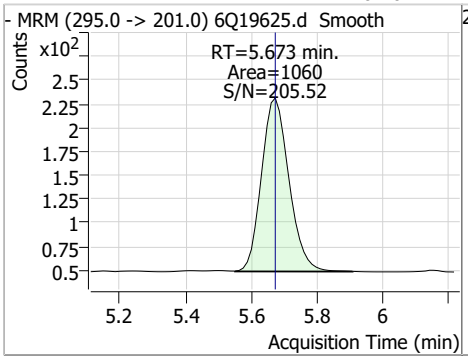
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	0.67	5.44	0.00	3842	327.1 -> 80.9	38.8	18.6	55.9

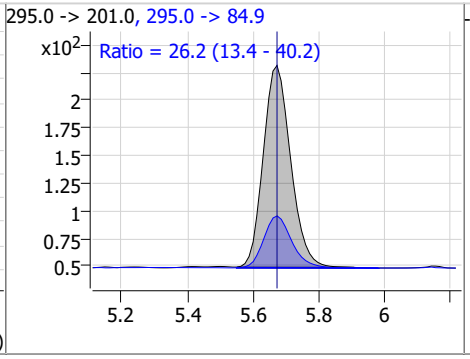


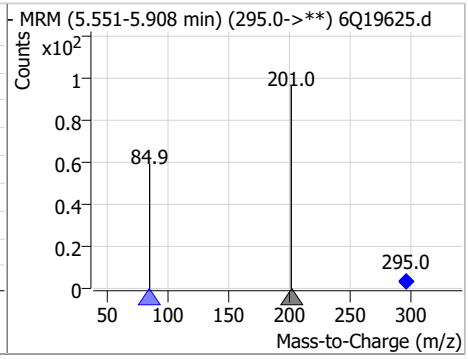




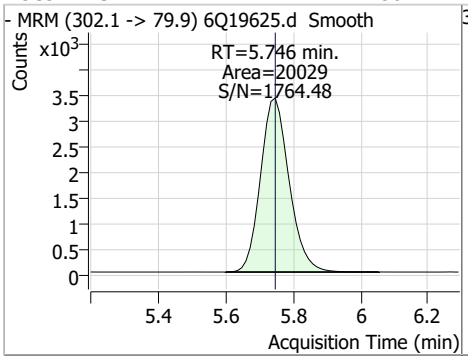
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	0.40	5.67	0.00	1060	295.0 -> 84.9	26.2	13.4	40.2

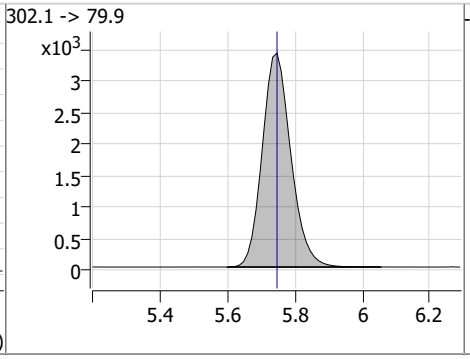


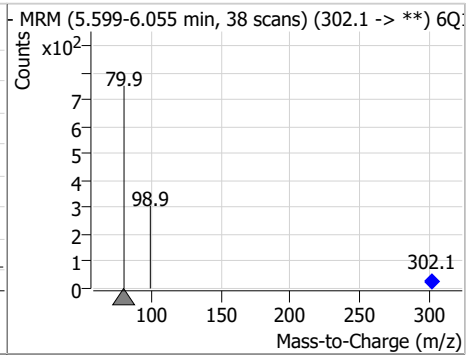




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.56	5.75	0.00	20029				

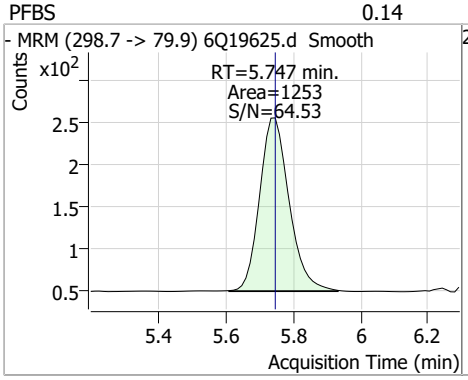


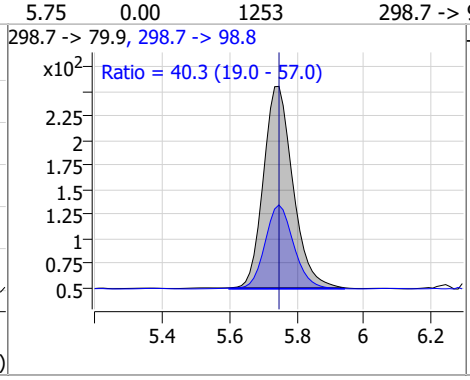


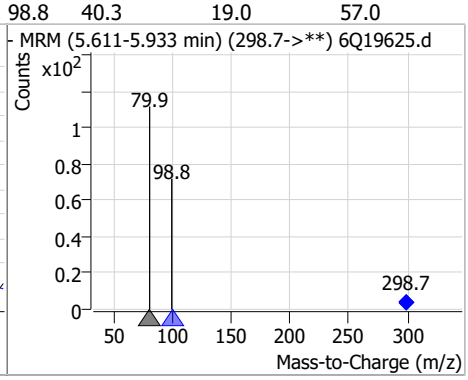


Perfluorinated Compounds by LC/MS/MS

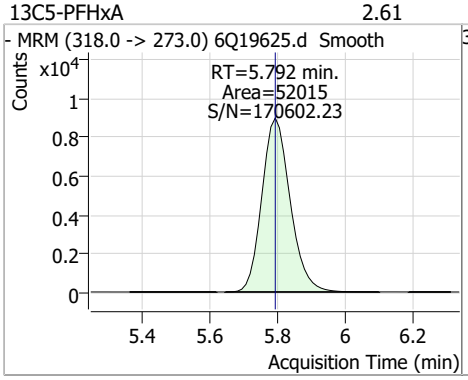
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.14	5.75	0.00	1253	298.7 -> 98.8	40.3	19.0	57.0

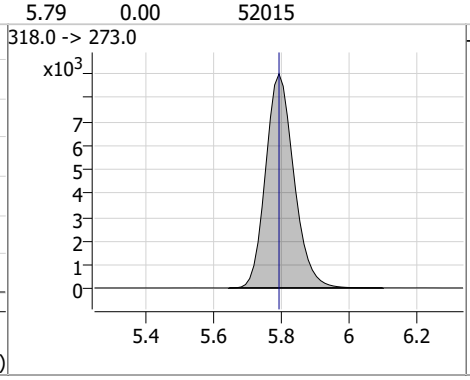


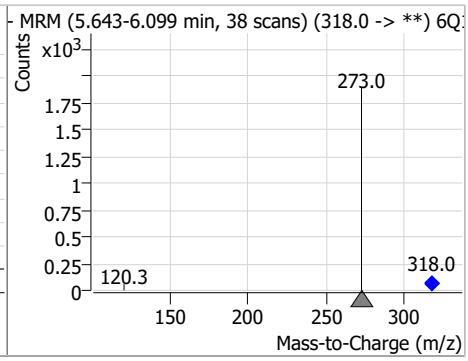




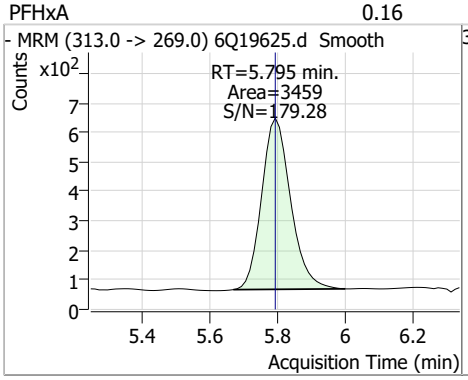
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.61	5.79	0.00	52015				

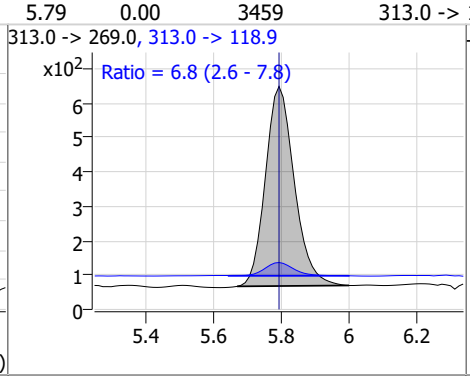


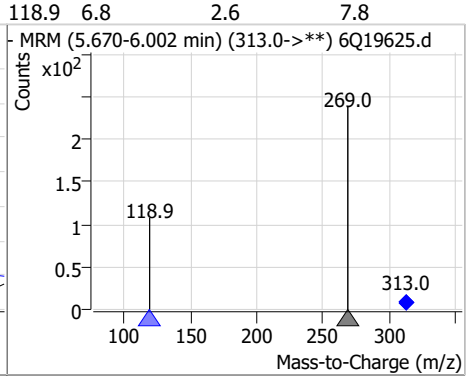




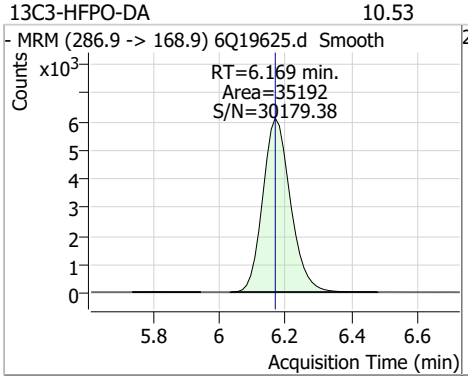
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.16	5.79	0.00	3459	313.0 -> 118.9	6.8	2.6	7.8

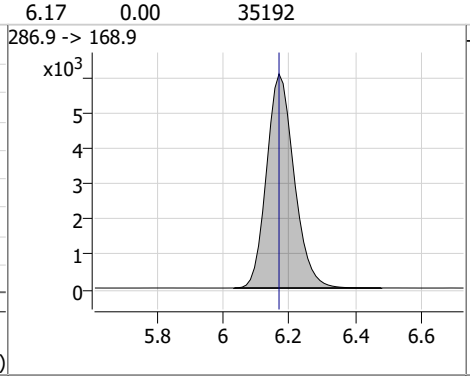


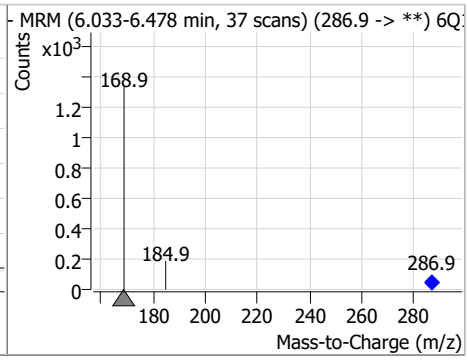




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.53	6.17	0.00	35192				

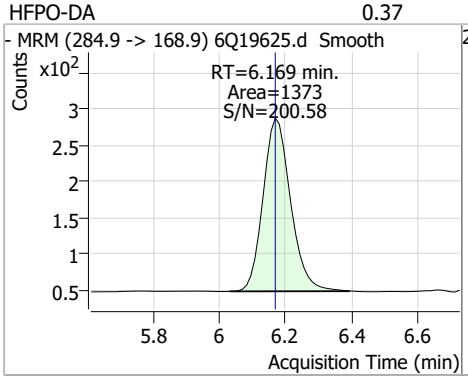


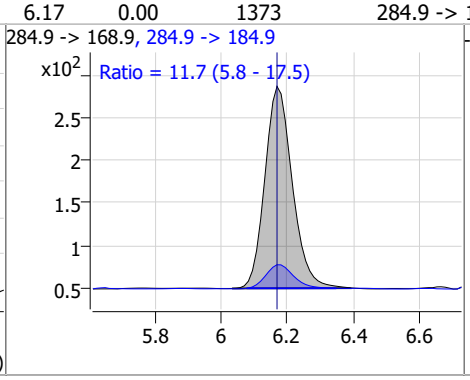


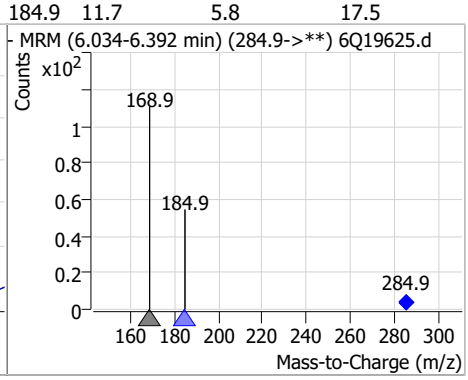


Perfluorinated Compounds by LC/MS/MS

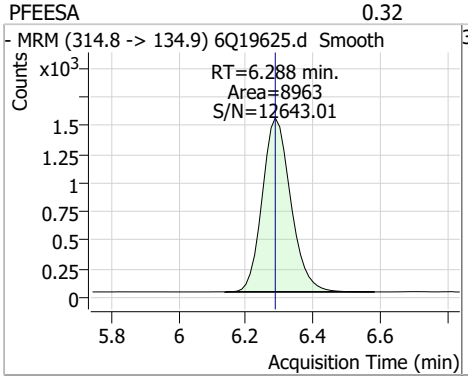
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.37	6.17	0.00	1373	284.9 -> 184.9	11.7	5.8	17.5

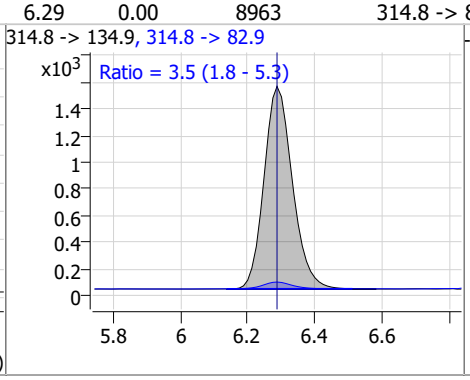


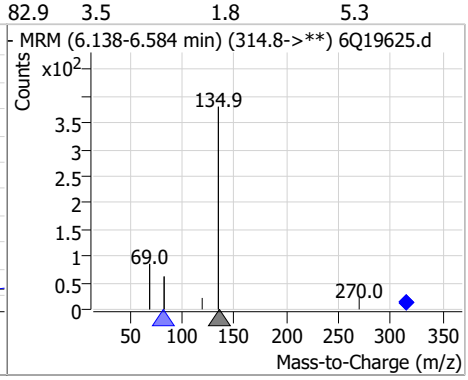




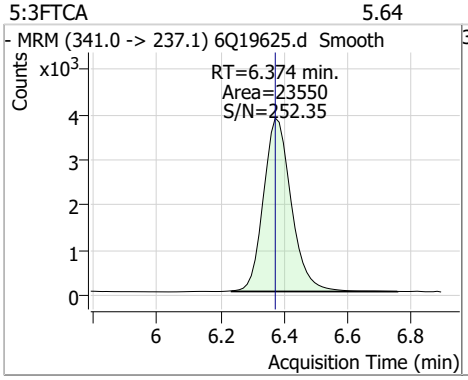
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.32	6.29	0.00	8963	314.8 -> 82.9	3.5	1.8	5.3

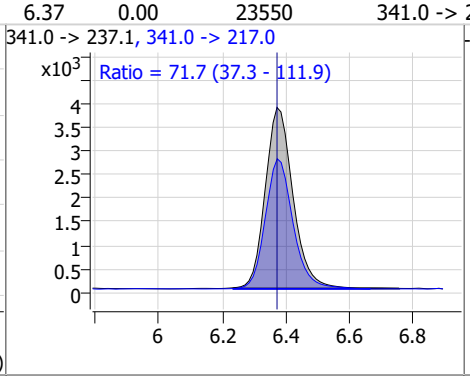


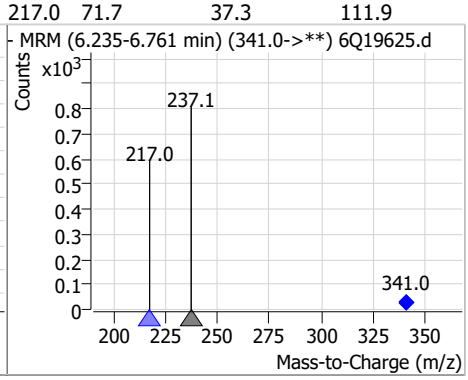




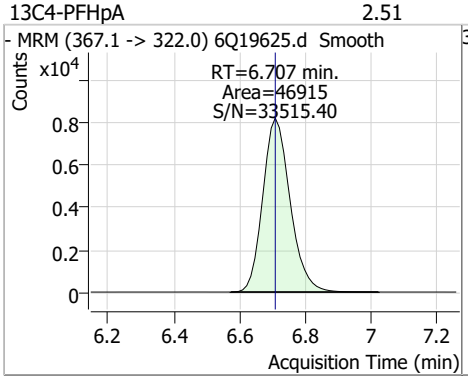
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.64	6.37	0.00	23550	341.0 -> 217.0	71.7	37.3	111.9

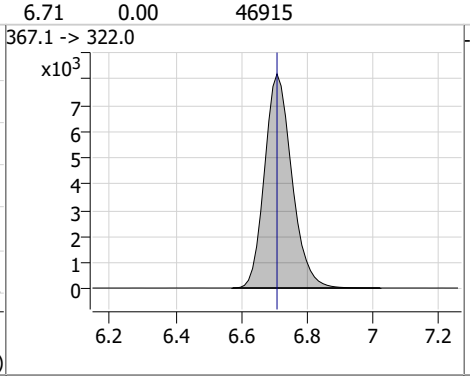


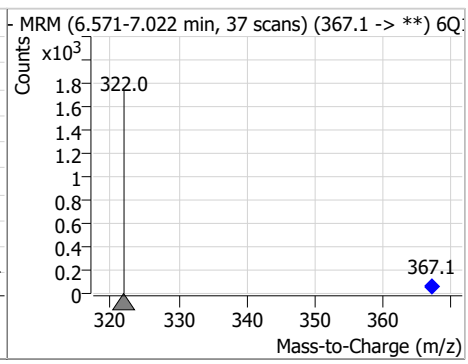




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.51	6.71	0.00	46915				

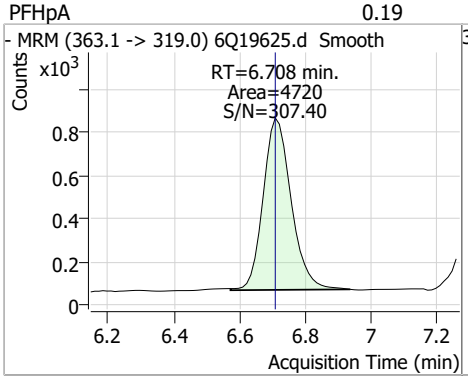


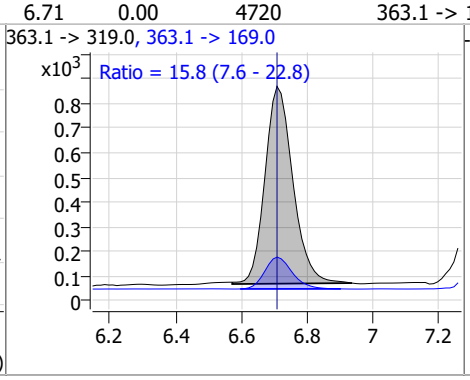


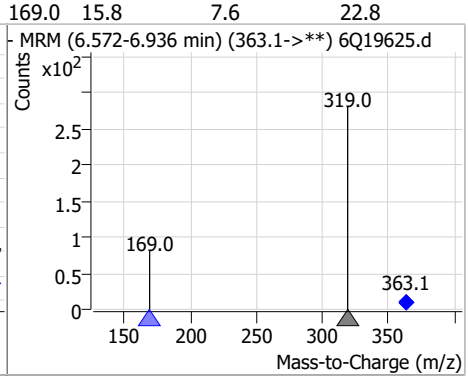


Perfluorinated Compounds by LC/MS/MS

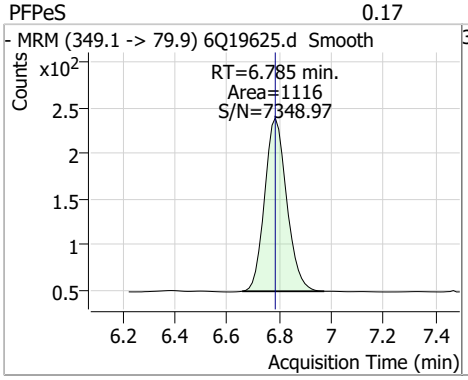
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.19	6.71	0.00	4720	363.1 -> 169.0	15.8	7.6	22.8

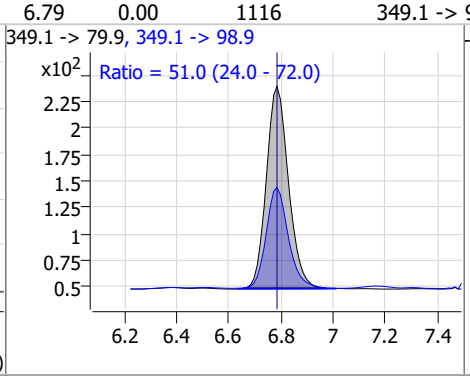


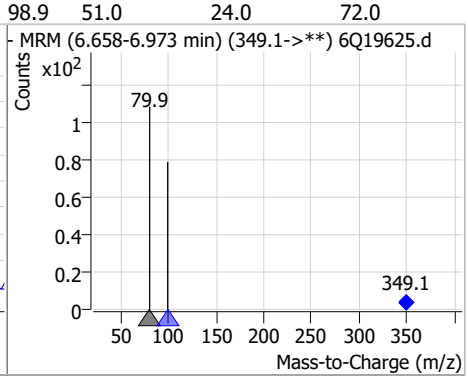




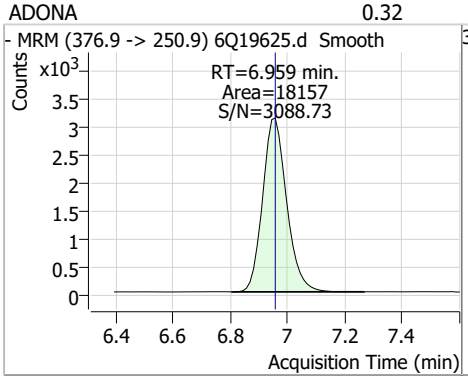
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.17	6.79	0.00	1116	349.1 -> 98.9	51.0	24.0	72.0

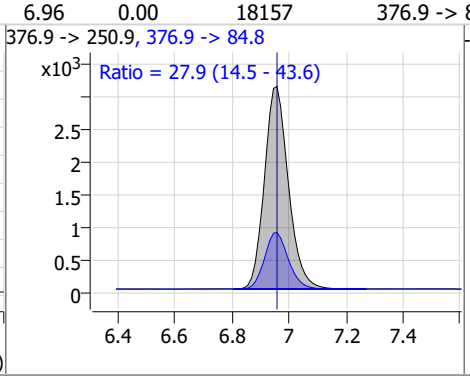


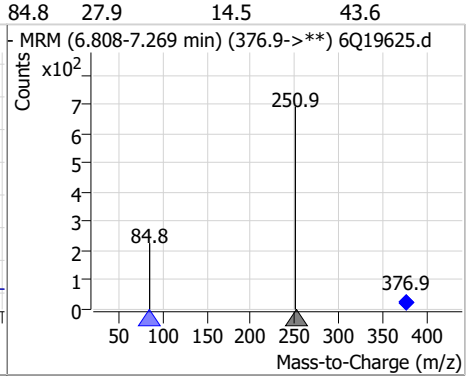




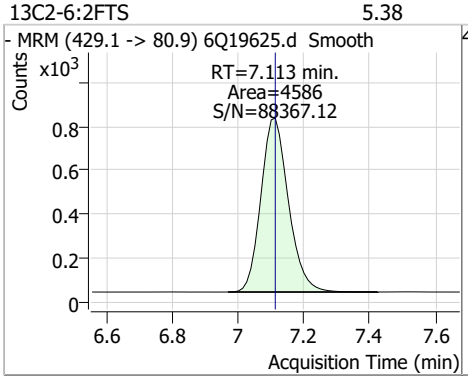
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.32	6.96	0.00	18157	376.9 -> 84.8	27.9	14.5	43.6

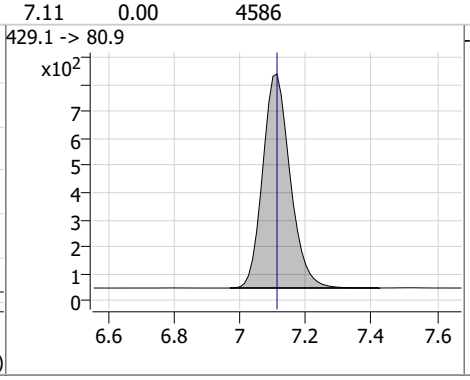


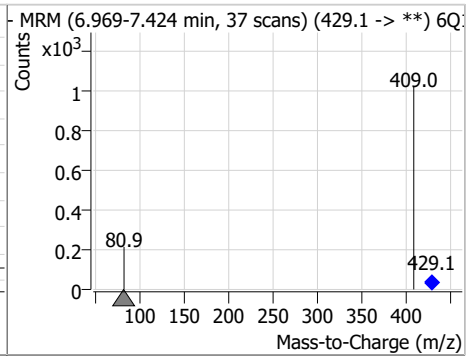




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.38	7.11	0.00	4586				

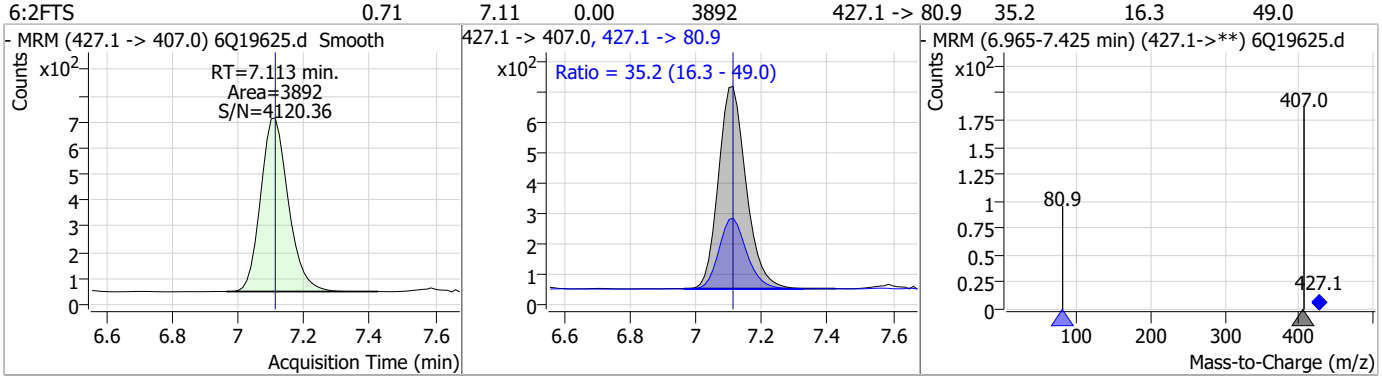




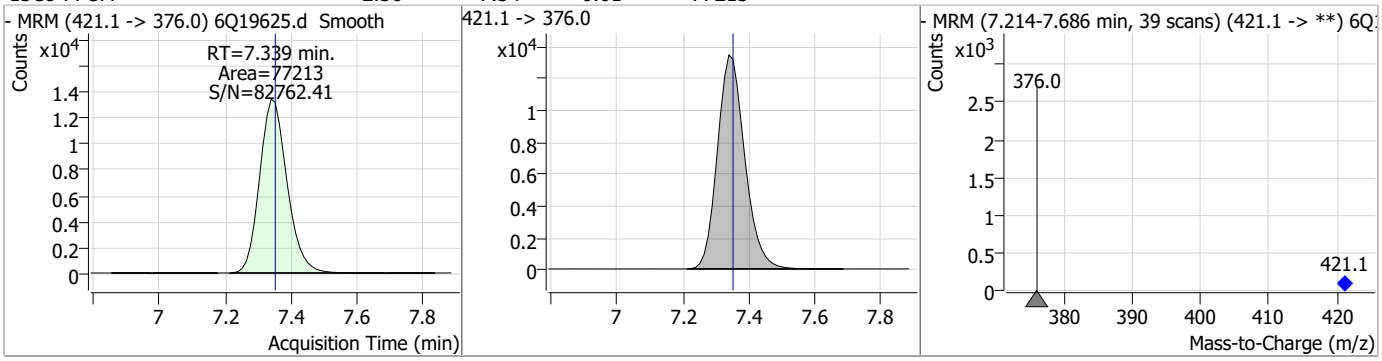


Perfluorinated Compounds by LC/MS/MS

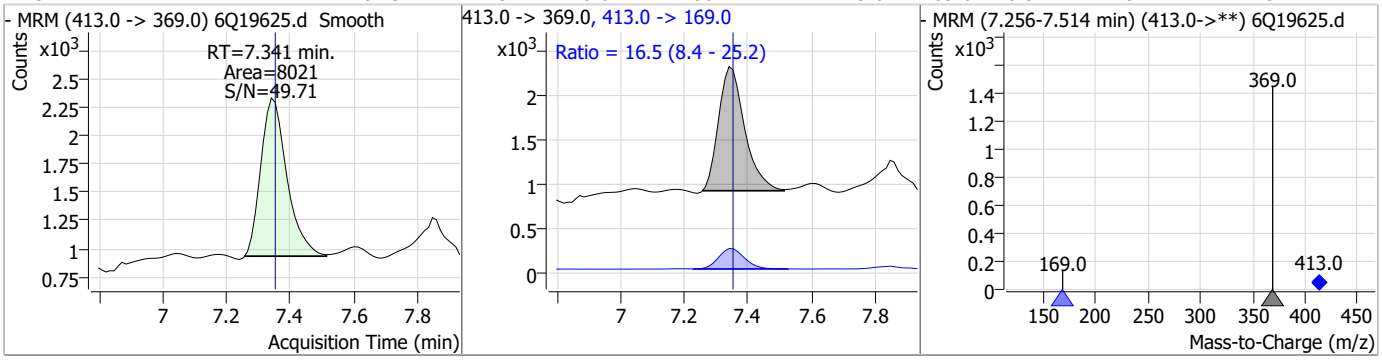
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.71	7.11	0.00	3892	427.1 -> 80.9	35.2	16.3	49.0



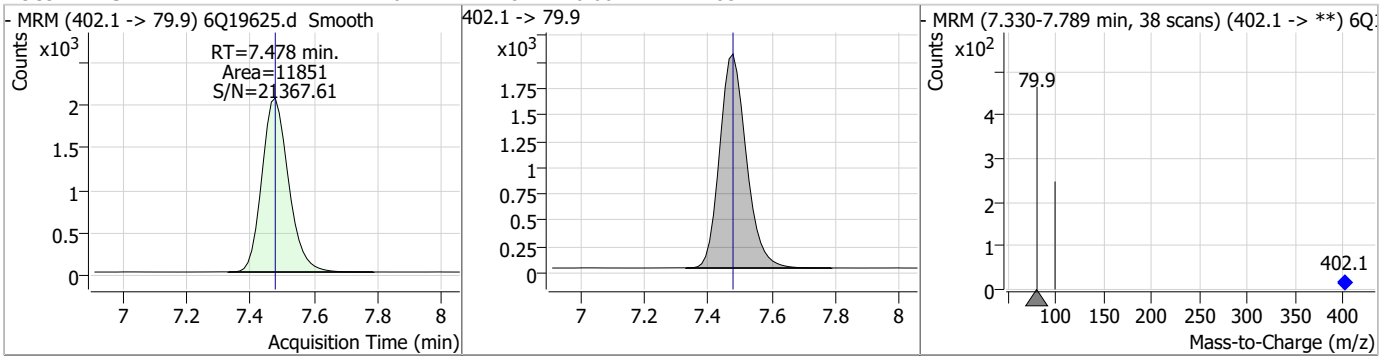
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.56	7.34	-0.01	77213				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.19	7.34	-0.01	8021	413.0 -> 169.0	16.5	8.4	25.2

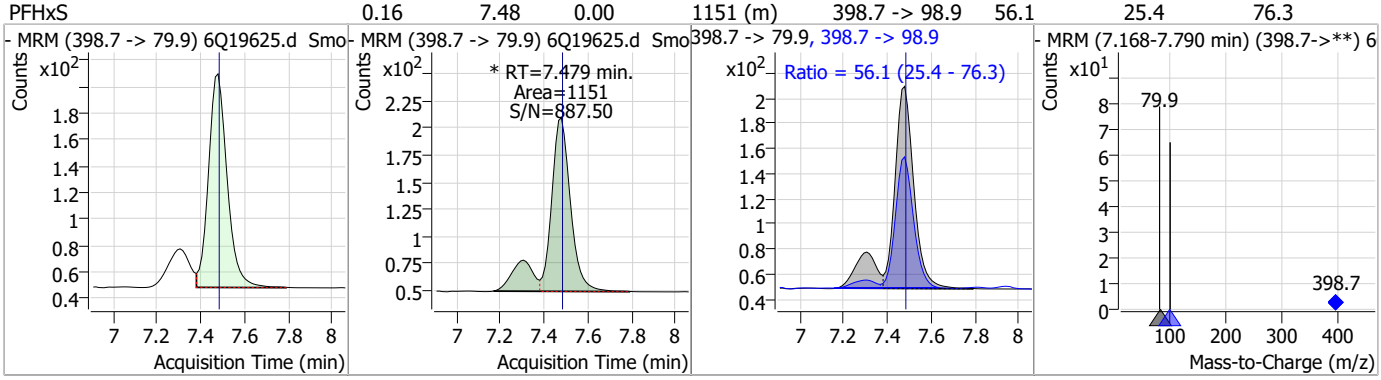


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.40	7.48	0.00	11851				

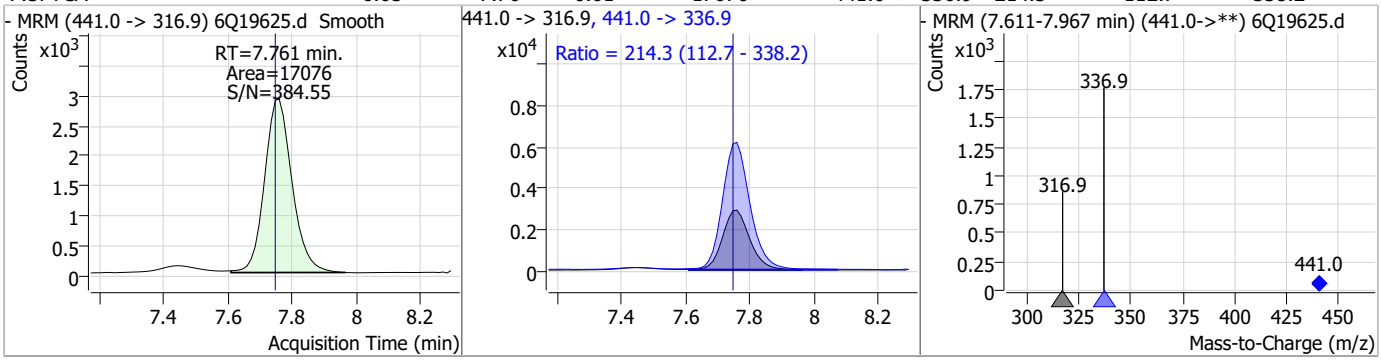


Perfluorinated Compounds by LC/MS/MS

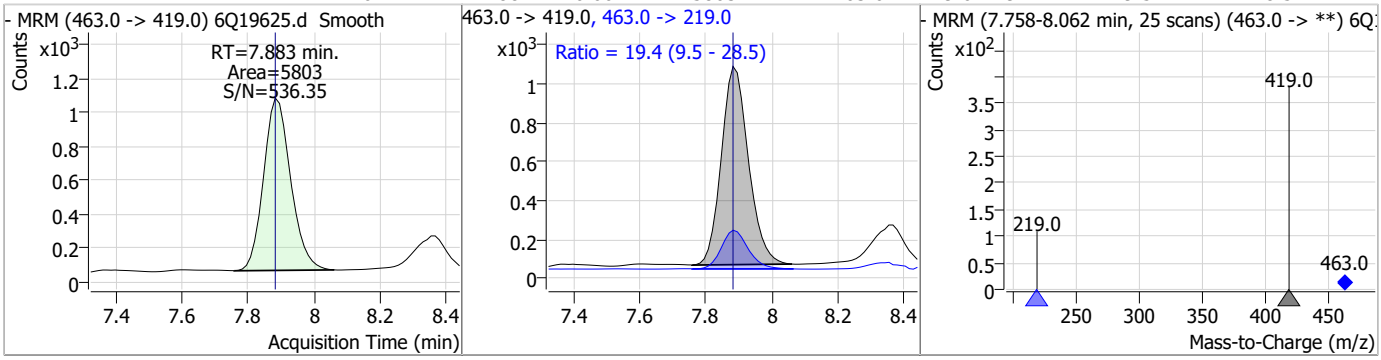
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.16	7.48	0.00	1151 (m)	398.7 -> 98.9	56.1	25.4	76.3



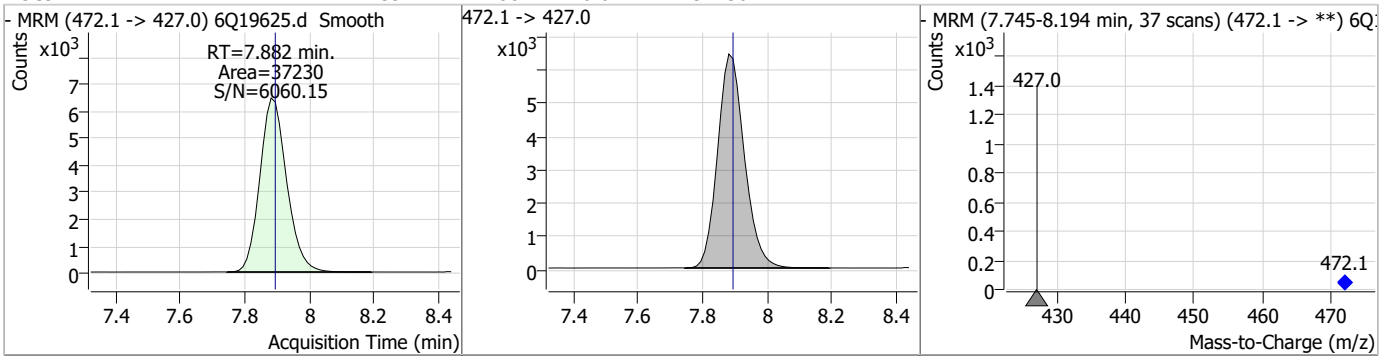
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	6.05	7.76	0.01	17076	441.0 -> 336.9	214.3	112.7	338.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.17	7.88	0.00	5803	463.0 -> 219.0	19.4	9.5	28.5

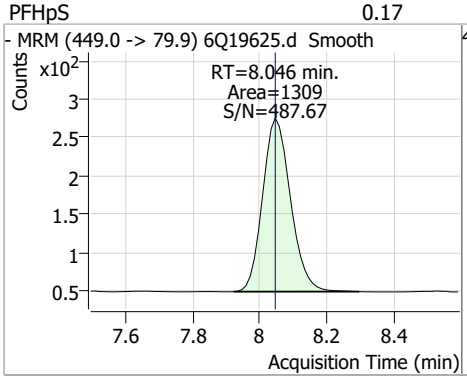


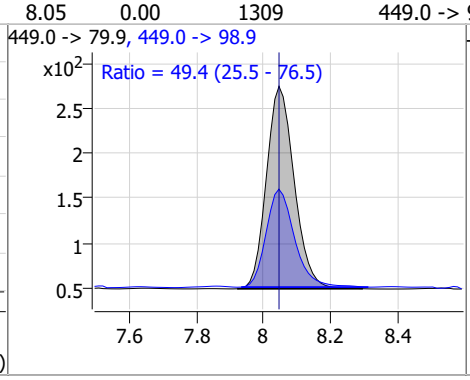
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.39	7.88	-0.01	37230				

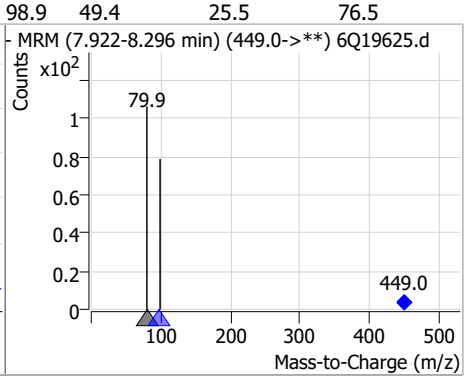


Perfluorinated Compounds by LC/MS/MS

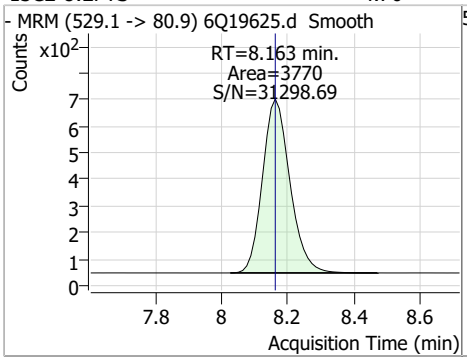
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.17	8.05	0.00	1309	449.0 -> 98.9	49.4	25.5	76.5

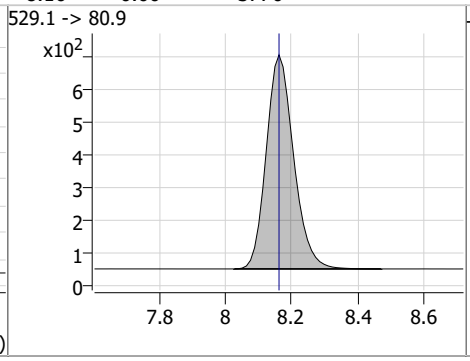


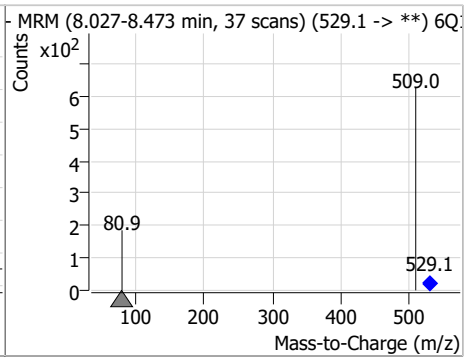




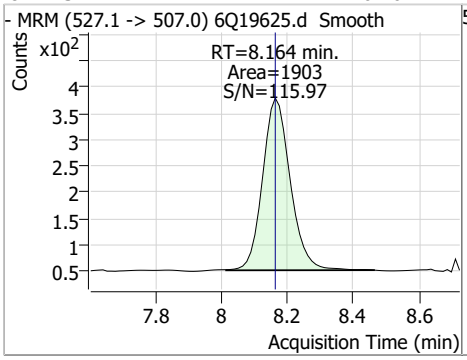
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.70	8.16	0.00	3770				

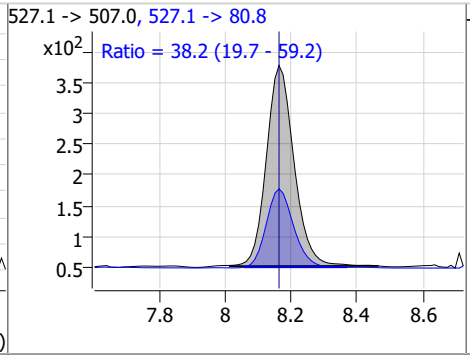


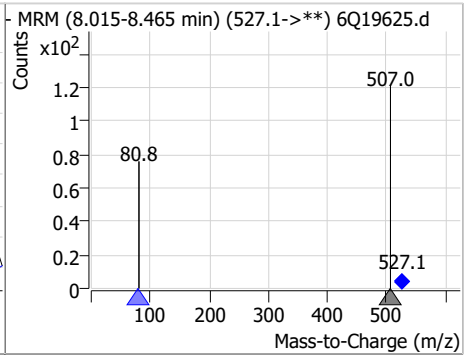




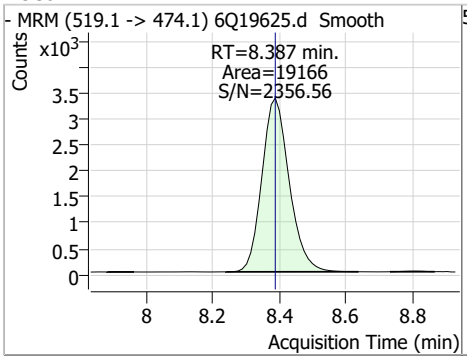
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.76	8.16	0.00	1903	527.1 -> 80.8	38.2	19.7	59.2

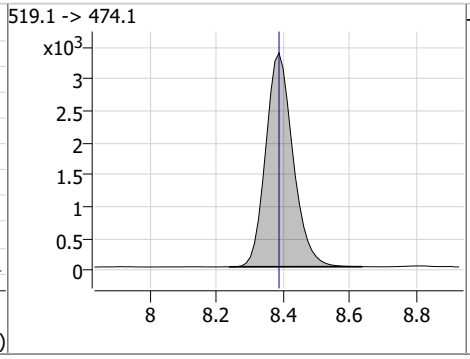


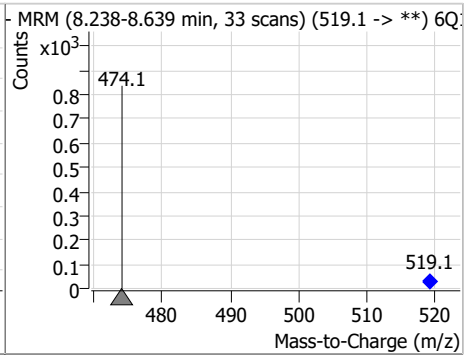




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.12	8.39	0.00	19166				

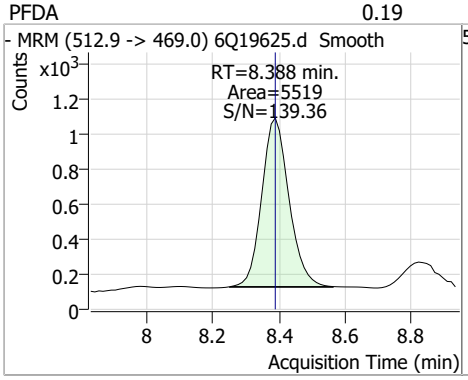


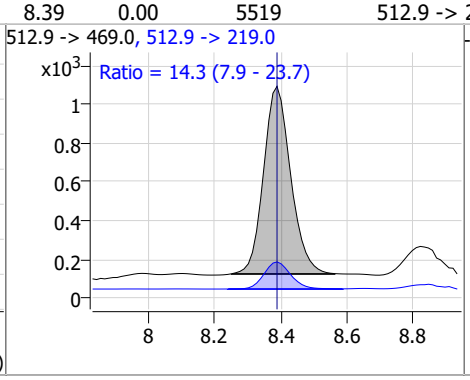


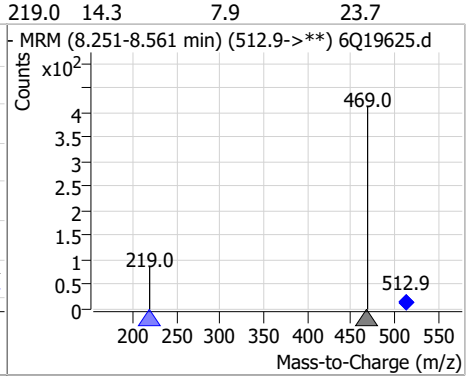


Perfluorinated Compounds by LC/MS/MS

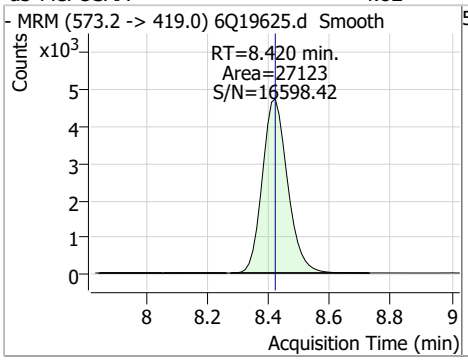
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.19	8.39	0.00	5519	512.9 -> 219.0	14.3	7.9	23.7

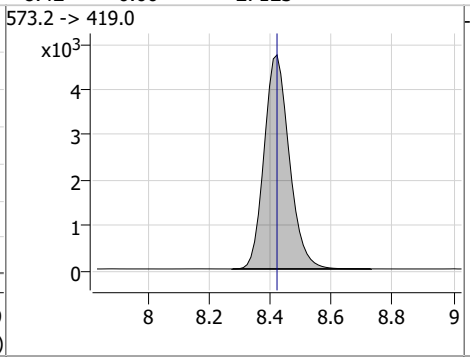


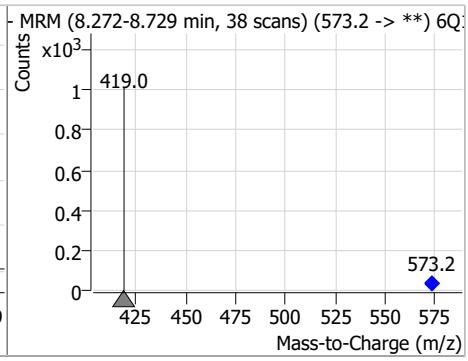




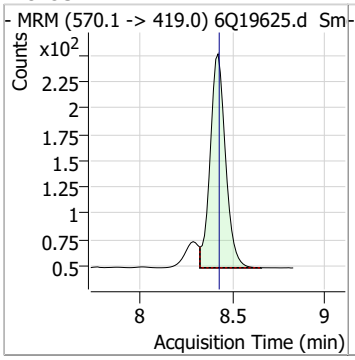
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.82	8.42	0.00	27123				

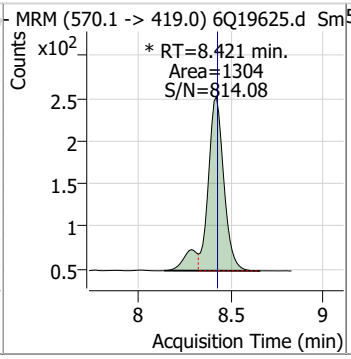


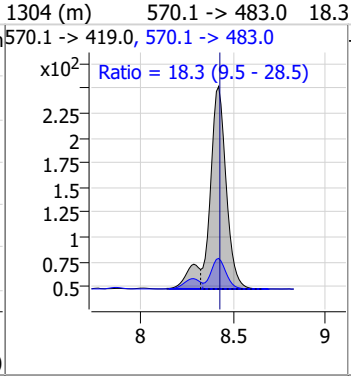


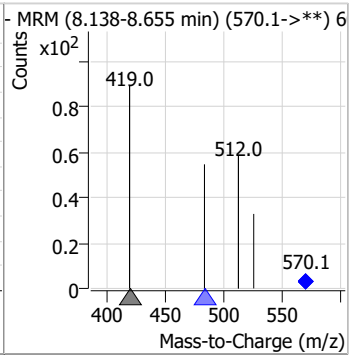


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.19	8.42	0.00	1304 (m)	570.1 -> 483.0	18.3	9.5	28.5

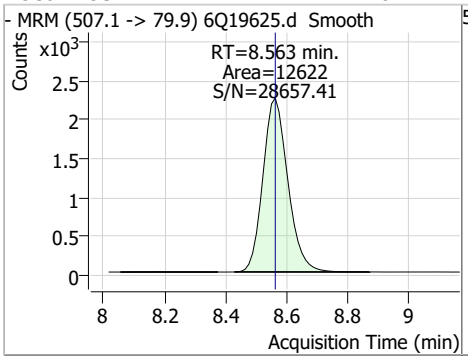


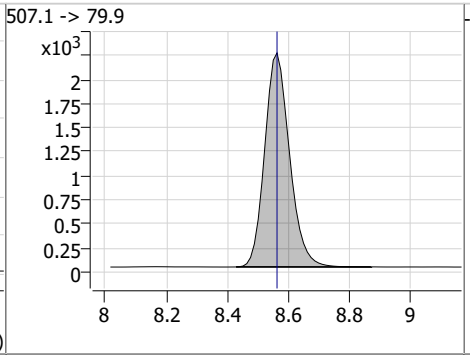


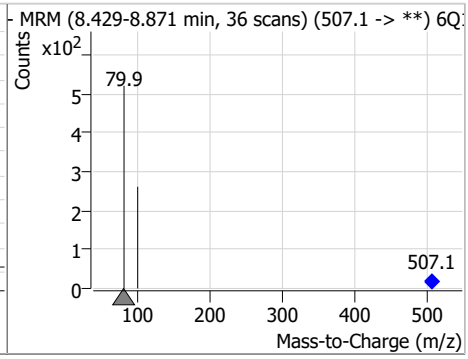




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.81	8.56	0.00	12622				

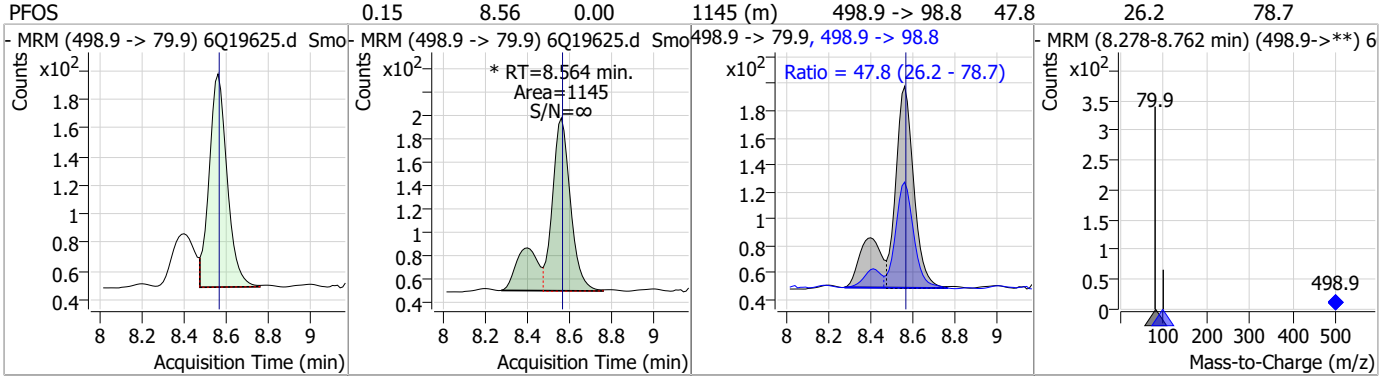




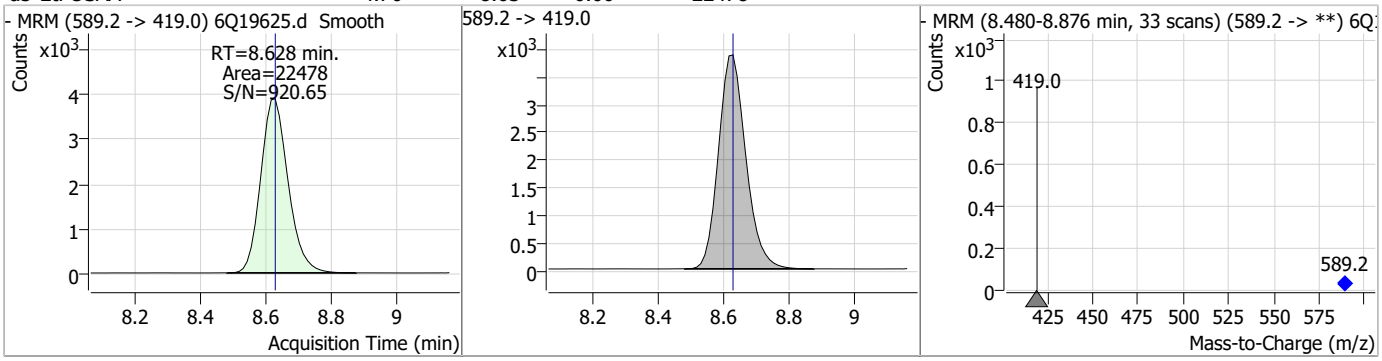


Perfluorinated Compounds by LC/MS/MS

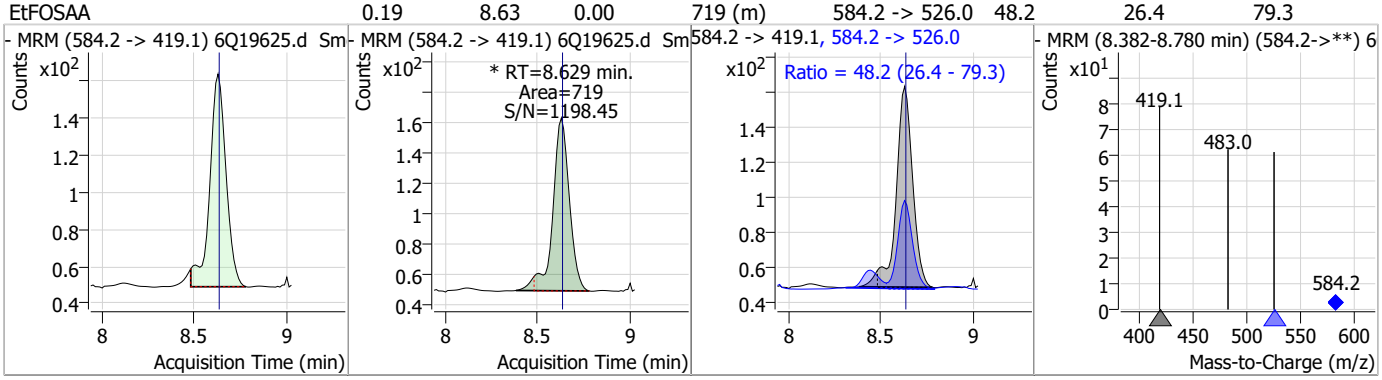
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.15	8.56	0.00	1145 (m)	498.9 -> 98.8	47.8	26.2	78.7



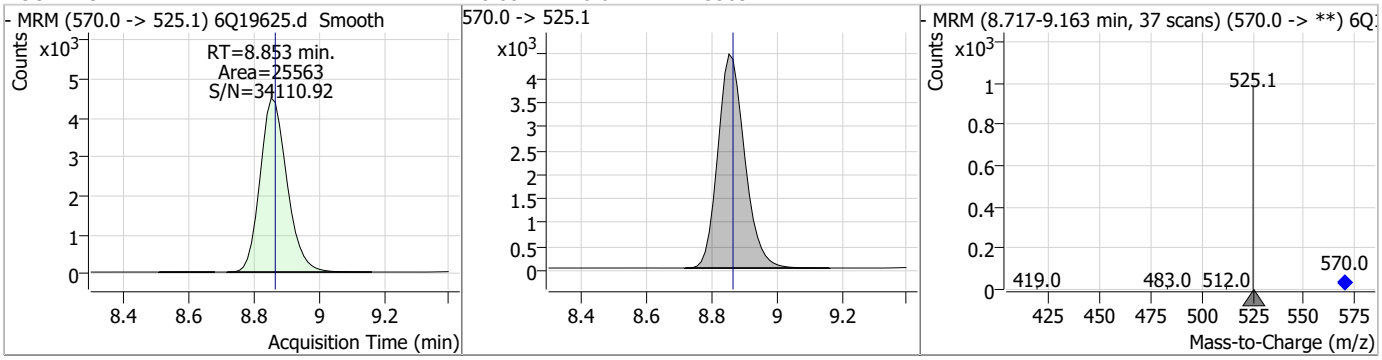
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.70	8.63	0.00	22478				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.19	8.63	0.00	719 (m)	584.2 -> 526.0	48.2	26.4	79.3

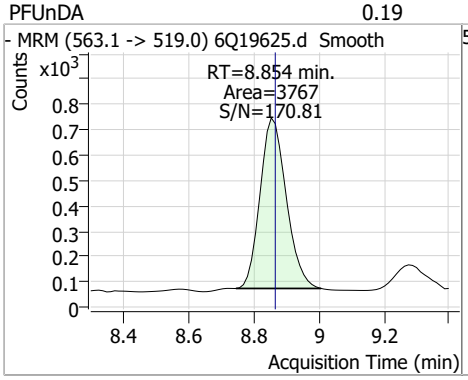


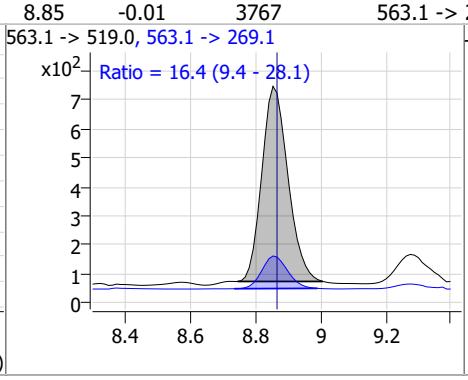
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.11	8.85	-0.01	25563				

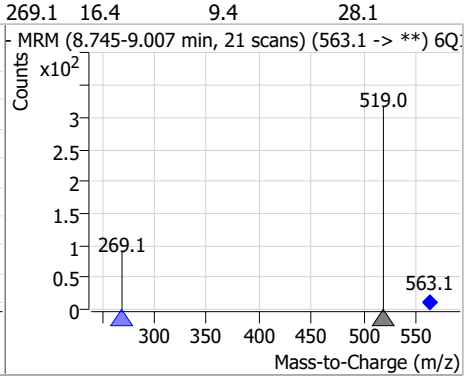


Perfluorinated Compounds by LC/MS/MS

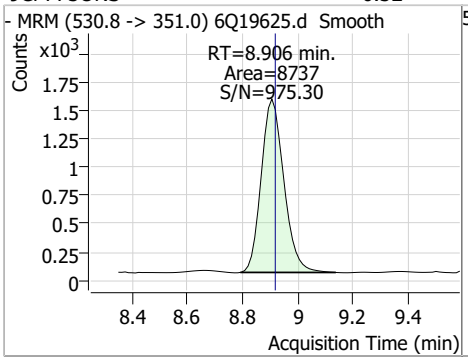
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.19	8.85	-0.01	3767	563.1 -> 269.1	16.4	9.4	28.1

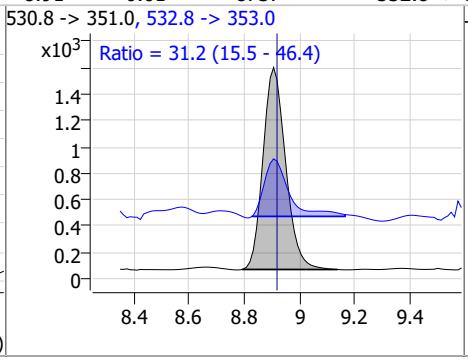


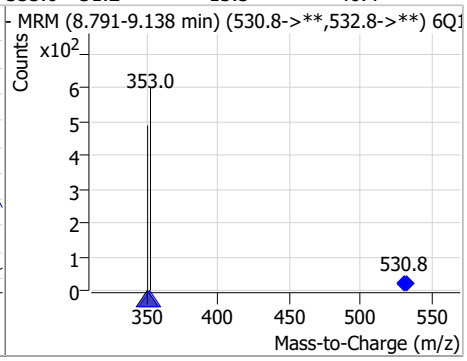




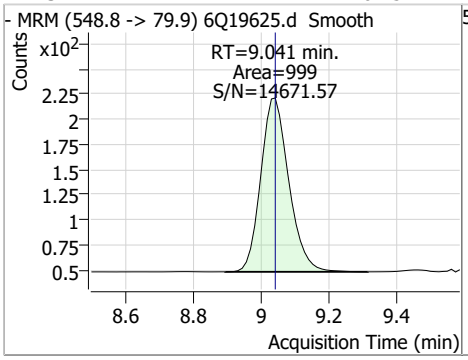
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.32	8.91	-0.01	8737	532.8 -> 353.0	31.2	15.5	46.4

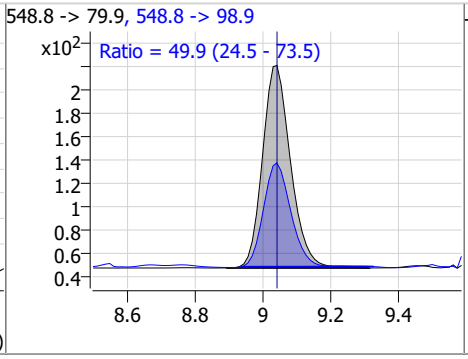


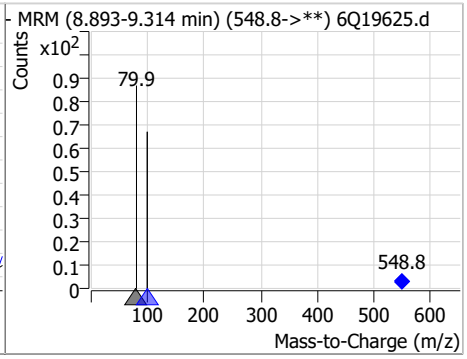




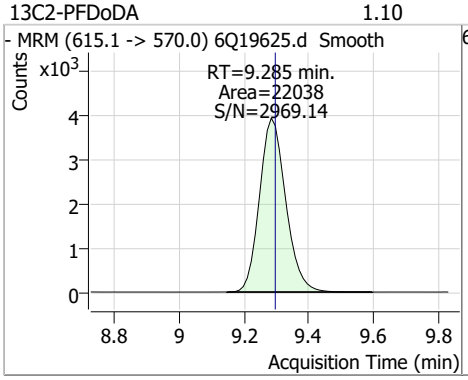
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.15	9.04	0.00	999	548.8 -> 98.9	49.9	24.5	73.5

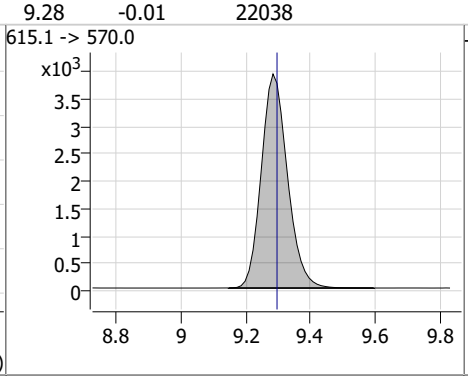


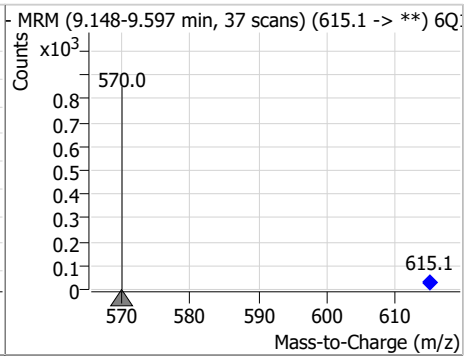




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.10	9.28	-0.01	22038				

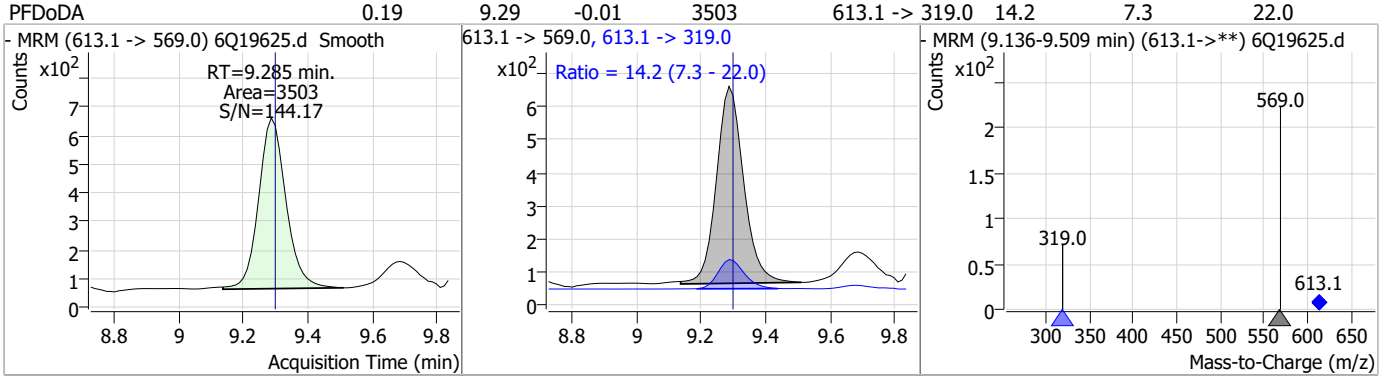




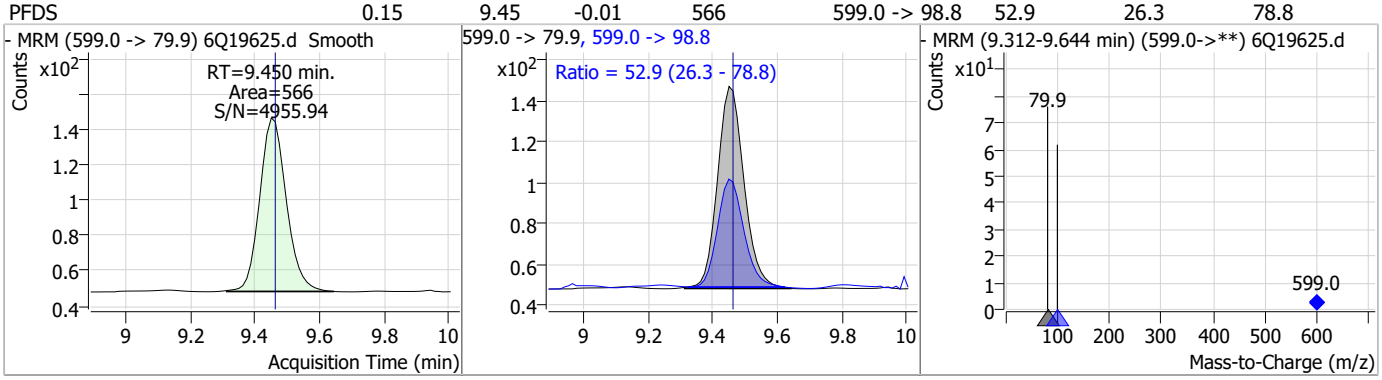


Perfluorinated Compounds by LC/MS/MS

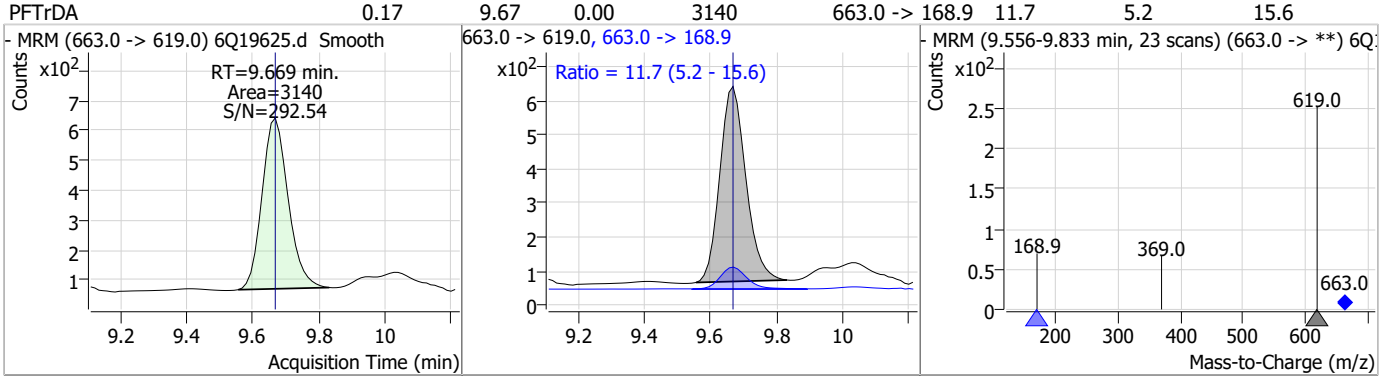
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.19	9.29	-0.01	3503	613.1 -> 319.0	14.2	7.3	22.0



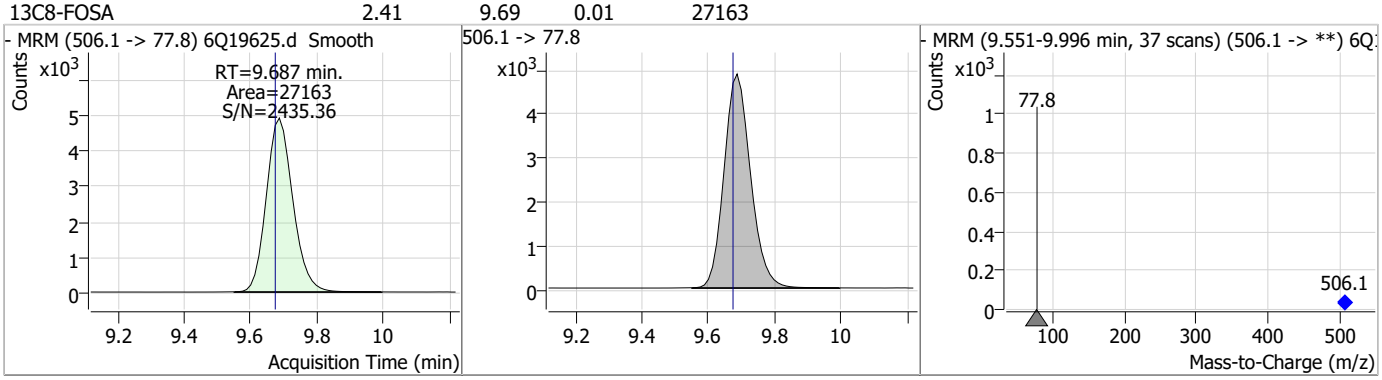
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.15	9.45	-0.01	566	599.0 -> 98.8	52.9	26.3	78.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.17	9.67	0.00	3140	663.0 -> 168.9	11.7	5.2	15.6

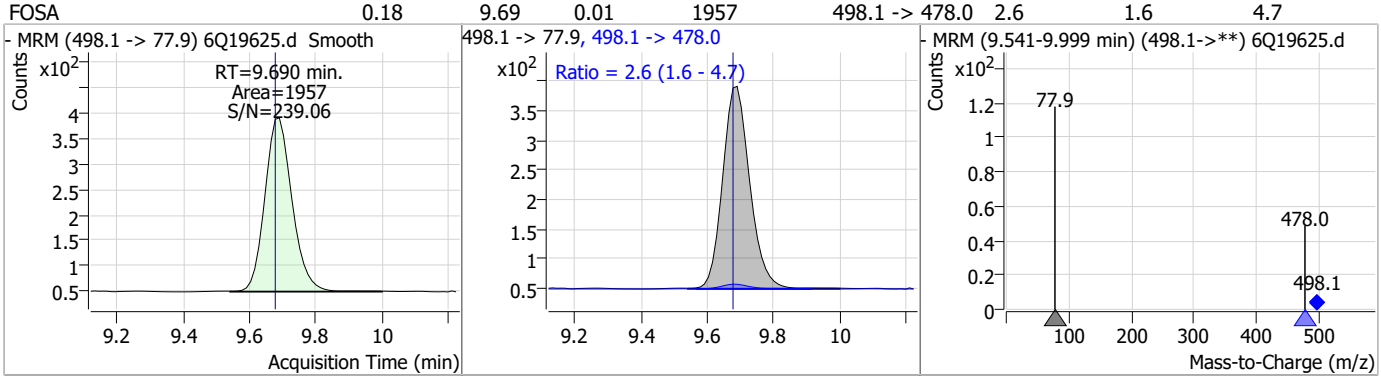


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.41	9.69	0.01	27163				

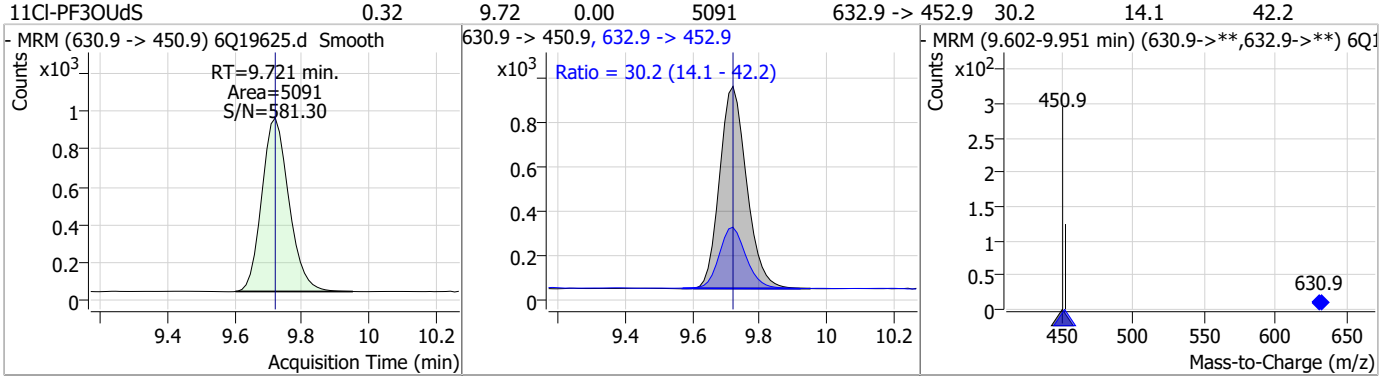


Perfluorinated Compounds by LC/MS/MS

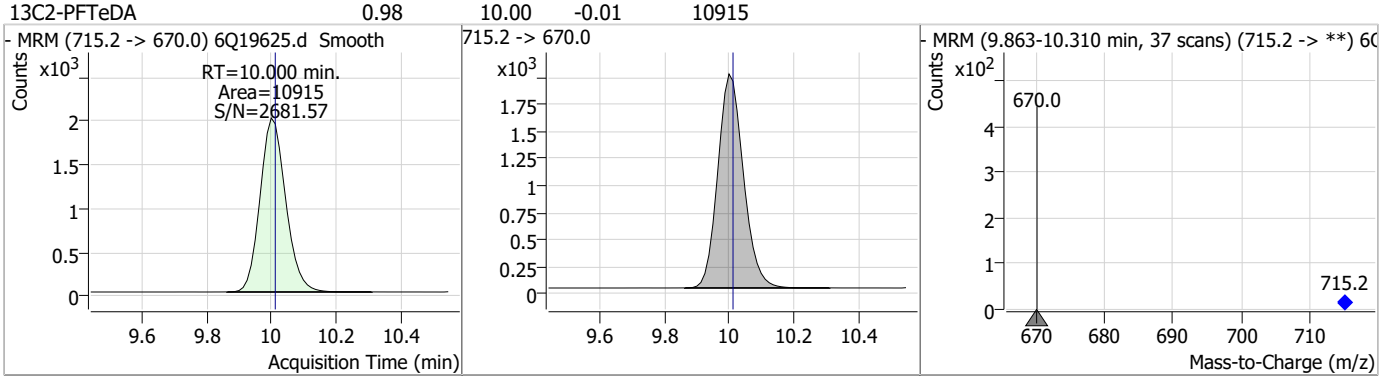
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.18	9.69	0.01	1957	498.1 -> 478.0	2.6	1.6	4.7



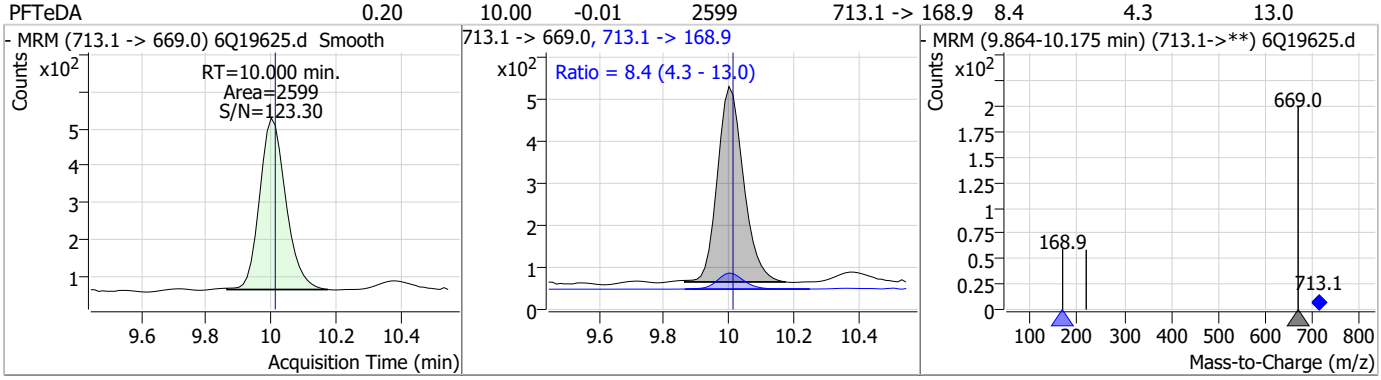
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.32	9.72	0.00	5091	632.9 -> 452.9	30.2	14.1	42.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.98	10.00	-0.01	10915				

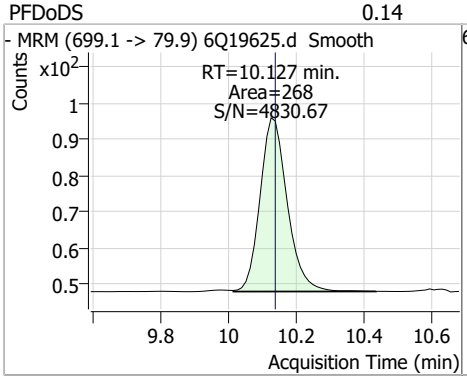


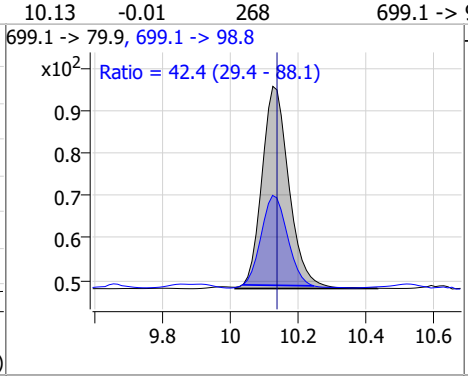
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.20	10.00	-0.01	2599	713.1 -> 168.9	8.4	4.3	13.0

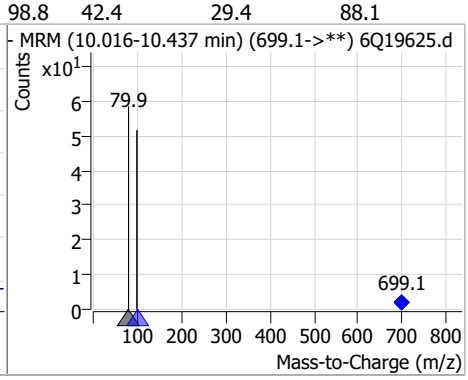


Perfluorinated Compounds by LC/MS/MS

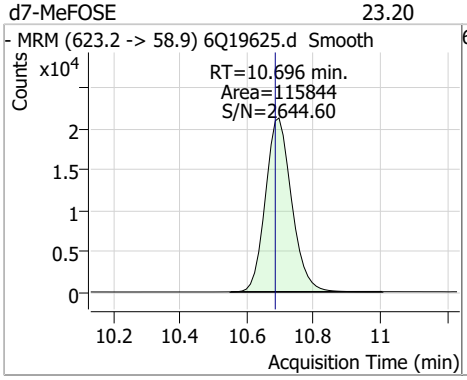
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.14	10.13	-0.01	268	699.1 -> 98.8	42.4	29.4	88.1

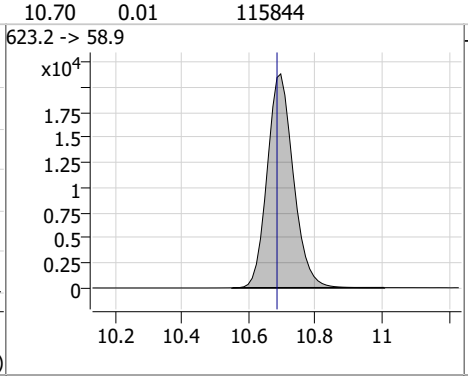


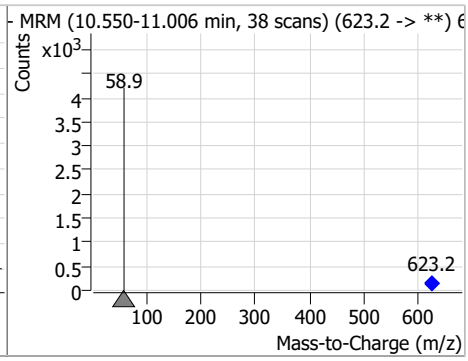




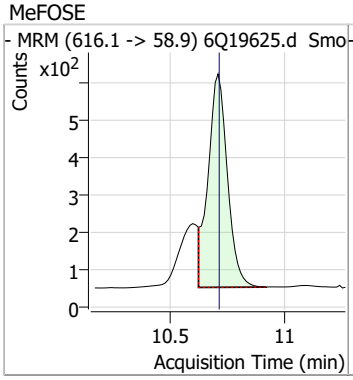
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.20	10.70	0.01	115844				

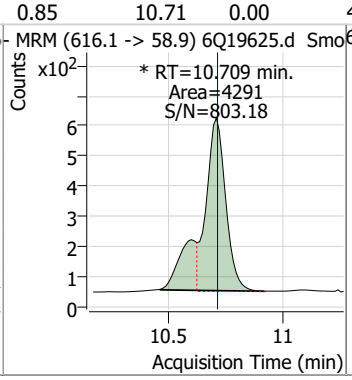


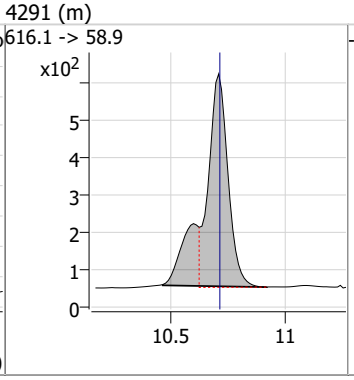


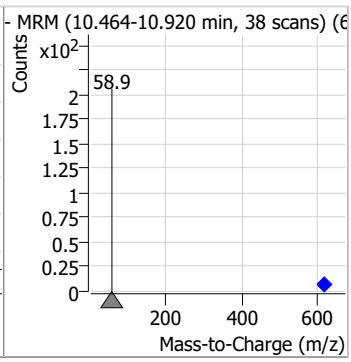


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	0.85	10.71	0.00	4291 (m)				

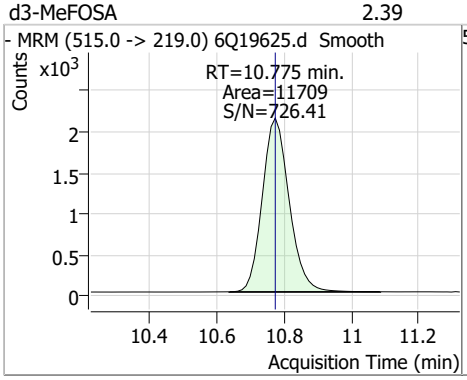


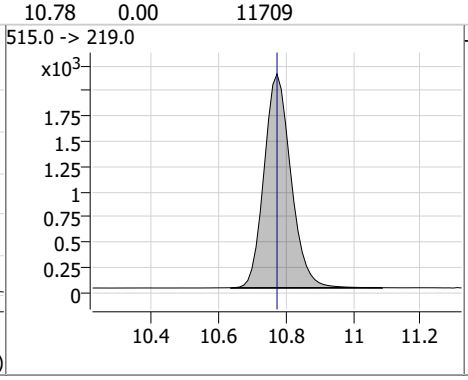


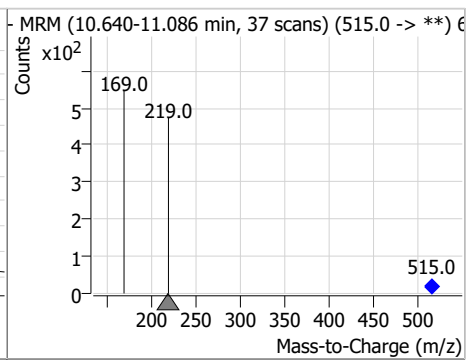




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.39	10.78	0.00	11709				

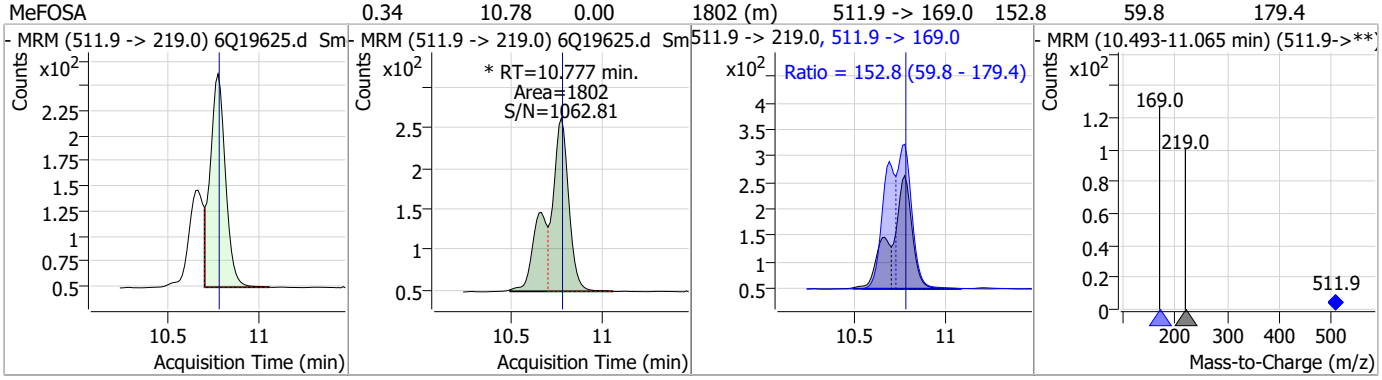




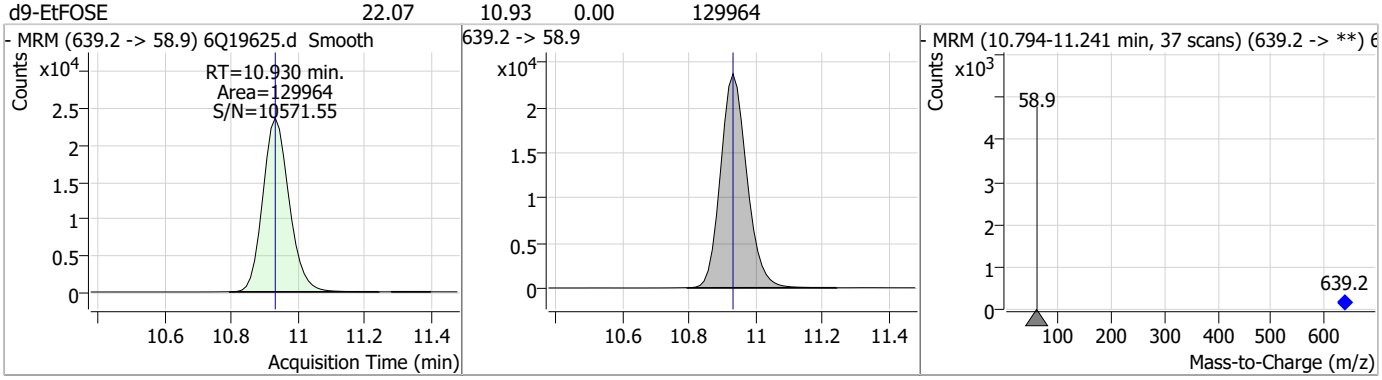


Perfluorinated Compounds by LC/MS/MS

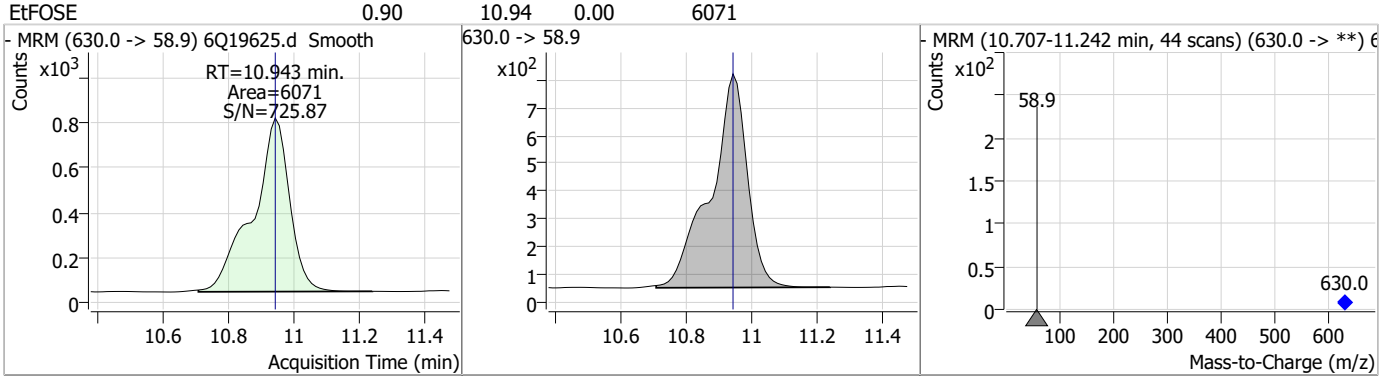
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.34	10.78	0.00	1802 (m)	511.9 -> 169.0	152.8	59.8	179.4



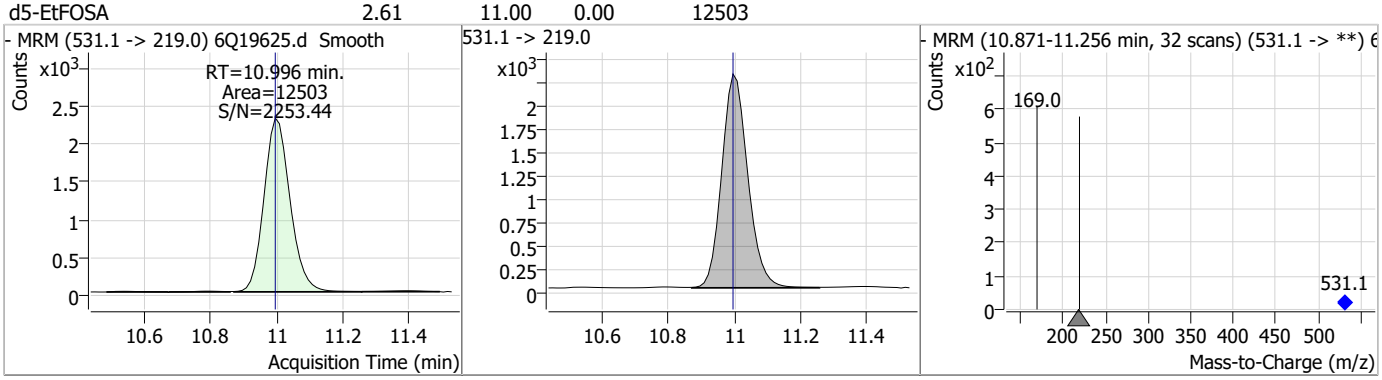
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.07	10.93	0.00	129964				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	0.90	10.94	0.00	6071				

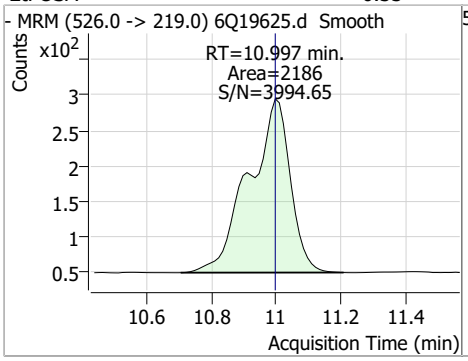


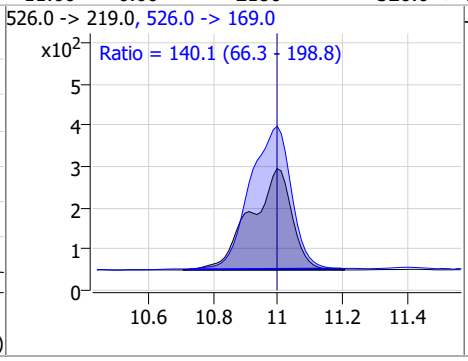
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.61	11.00	0.00	12503				

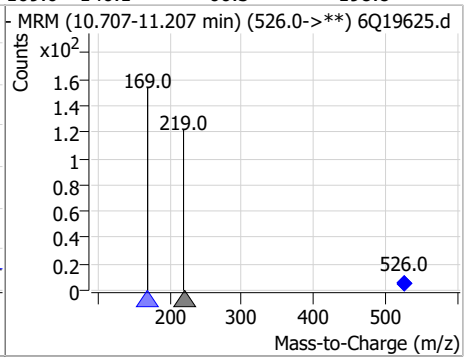


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.33	11.00	0.00	2186	526.0 -> 169.0	140.1	66.3	198.8







Manual Integration Approval Summary

Sample Number: S6Q292-CC288
Lab FileID: 6Q19625.D
Injection Time: 06/20/23 15:39
Method: EPA DRAFT 1633
Analyst approved: 06/21/23 13:43 Martha Valls
Supervisor approved: 06/21/23 16:17 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.48	Split peak
MeFOSAA	2355-31-9		8.42	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.56	Split peak
EtFOSAA	2991-50-6		8.63	Split peak
MeFOSE	24448-09-7		10.71	Split peak
MeFOSA	31506-32-8		10.78	Split peak

SGS ORLANDO

LCMS6-6Q ANALYSIS LOG

DATE:	06/13/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS6-6Q

METHODS:	1633
PROC. METH:	1633_061323_S6Q288
CAL DATE:	06/13/23
ANALYST:	M.Valls
RUN BATCH:	S6Q288

ELUENT A LOT #:	ACN 220811
ELUENT B LOT #:	HPLC WATER LOT: 230470 W/5% Methanol 224279 2mM AMAC: 11387
IC/CC STD LOT #:	LCMS 2124-D
ICV STD LOT #:	LCMS 2124D/2125B
ISTD/ID STD LOT #:	11851/11850

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q19290.d	P1-B9	CCB	1633full.m	Sample		OP97215,S6Q288,500,,,5.0,1,water	✓
2	6Q19291.d	P1-B9	CCB	1633full.m	Sample		OP97215,S6Q288,500,,,5.0,1,water	✓
3	6Q19292.d	P1-B3	RT TDCA	1633full.m	Sample		OP97215,S6Q288,500,,,5.0,1,water	✓
4	6Q19293.d	P1-B4	RT BR-LN	1633full.m	Sample		OP97215,S6Q288,500,,,5.0,1,water	✓
5	6Q19294.d	P1-A1	ic288-0	1633full.m	Sample		OP97215,S6Q288,500,,,5.0,1,water	Check Tune File
6	6Q19295.d	P1-A2	ic288-1	1633full.m	Calibration	1.6/500	OP97215,S6Q288,500,,,5.0,1,water	✓
7	6Q19296.d	P1-A3	ic288-2	1633full.m	Calibration	3.2/500	OP97215,S6Q288,500,,,5.0,1,water	✓
8	6Q19297.d	P1-A4	ic288-3	1633full.m	Calibration	10/500	OP97215,S6Q288,500,,,5.0,1,water	✓
9	6Q19298.d	P1-A5	icc288-4	1633full.m	Calibration	20/500	OP97215,S6Q288,500,,,5.0,1,water	✓
10	6Q19299.d	P1-A6	ic288-5	1633full.m	Calibration	40/500	OP97215,S6Q288,500,,,5.0,1,water	✓
11	6Q19300.d	P1-A7	ic288-6	1633full.m	Calibration	100/500	OP97215,S6Q288,500,,,5.0,1,water	✓
12	6Q19301.d	P1-A8	ic288-7	1633full.m	Calibration	200/500	OP97215,S6Q288,500,,,5.0,1,water	✓
13	6Q19302.d	P1-A9	ic288-8	1633full.m	Calibration	1x	OP97215,S6Q288,500,,,5.0,1,water	✓, MeFOSA, 9Cl dropped
14	6Q19303.d	P1-A1	iblk	1633full.m	Sample		OP97215,S6Q288,500,,,5.0,1,water	✓
15	6Q19304.d	P1-B1	icv288-4	1633full.m	QC	20/500	OP97215,S6Q288,500,,,5.0,1,water	Prepped by NG
16	6Q19305.d	P1-B2	icv288-20	1633full.m	QC	100/500	OP97215,S6Q288,500,,,5.0,1,water	✓
17	6Q19306.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97215,S6Q288,500,,,5.0,1,water	✓
18	6Q19307.d	P1-A2	cc288-1.0LL	1633full.m	QC	1.6/500	OP97215,S6Q288,500,,,5.0,1,water	✓
19	6Q19308.d	P3-A1	op97303-bs	1633full.m	Sample		OP97303,S6Q288,500,,,5.0,1,water	✓
20	6Q19309.d	P3-A2	op97303-llbs:2	1633full.m	Sample		OP97303,S6Q288,500,,,5.0,1,water	✓
21	6Q19310.d	P3-A3	op97303-mb	1633full.m	Sample		OP97303,S6Q288,500,,,5.0,1,water	✓
22	6Q19311.d	P3-A4	FC6266-1	1633full.m	Sample		OP97303,S6Q288,460,,,5.0,1,water	✓
23	6Q19312.d	P3-A5	FC6266-2	1633full.m	Sample		OP97303,S6Q288,60,,,5.0,1,water	✓
24	6Q19313.d	P3-A6	FC6266-3	1633full.m	Sample		OP97303,S6Q288,530,,,5.0,1,water	✓
25	6Q19314.d	P3-A7	op97303-ms	1633full.m	Sample		OP97303,S6Q288,520,,,5.0,1,water	✓
26	6Q19315.d	P3-A8	op97303-msd	1633full.m	Sample		OP97303,S6Q288,510,,,5.0,1,water	✓
27	6Q19316.d	P3-A9	FC6266-4	1633full.m	Sample		OP97303,S6Q288,510,,,5.0,1,water	✓
28	6Q19317.d	P3-B1	FC6266-5	1633full.m	Sample		OP97303,S6Q288,510,,,5.0,1,water	✓
29	6Q19318.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97215,S6Q288,500,,,5.0,1,water	✓
30	6Q19319.d	P1-A1	iccb	1633full.m	Sample		OP97215,S6Q288,500,,,5.0,1,water	✓
31	6Q19320.d	P3-B2	FC6266-6	1633full.m	Sample		OP97303,S6Q288,480,,,5.0,1,water	✓
32	6Q19321.d	P3-B3	FC6266-7	1633full.m	Sample		OP97303,S6Q288,500,,,5.0,1,water	✓
33	6Q19322.d	P3-B4	FC6459-1	1633full.m	Sample		OP97303,S6Q288,570,,,5.0,1,water	rr1x
34	6Q19323.d	P3-B5	FC6459-1A	1633full.m	Sample		OP97303,S6Q288,570,,,5.0,1,water	rr1x
35	6Q19324.d	P3-B6	FC6439-1	1633full.m	Sample		OP97303,S6Q288,490,,,5.0,1,water	✓

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

36	6Q19325.d	P3-B7	FC6439-2	1633full.m	Sample		OP97303,S6Q288,510,,,5.0,1,water	✓
37	6Q19326.d	P1-A5	ecc288-4	1633full.m	QC	20/500	OP97215,S6Q288,500,,,5.0,1,water	✓
38	6Q19327.d	P1-A1	iccb	1633full.m	Sample		OP97215,S6Q288,500,,,5.0,1,water	✓

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LCMS6-6Q ANALYSIS LOG

DATE:	06/14/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS6-6Q

METHODS:	1633
PROC. METH:	1633_061323_S6Q288
CAL DATE:	06/13/23
ANALYST:	M.Valls
RUN BATCH:	S6Q289

ELUENT A LOT #:	ACN 220811
ELUENT B LOT #:	HPLC WATER LOT: 230470 W/5% Methanol 224279 2mM AMAC: 11387
IC/CC STD LOT #:	LCMS 2124-D
ICV STD LOT #:	LCMS 2124D/2125B
ISTD/ID STD LOT #:	11851/11850

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q19328.d	P1-B9	CCB	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓
2	6Q19329.d	P1-B9	CCB	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓
3	6Q19330.d	P1-B3	RT TDCA	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓
4	6Q19331.d	P1-B4	RT BR-LN	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓
5	6Q19332.d	P1-A9	High Std	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓
6	6Q19333.d	P1-A1	iblk	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓
7	6Q19334.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97215,S6Q289,500,,,5.0,1,water	✓
8	6Q19335.d	P1-A2	cc288-1.0LL	1633full.m	QC	1.6/500	OP97215,S6Q289,500,,,5.0,1,water	PfPeS high.
9	6Q19336.d	P4-A1	FC6459-1	1633full.m	Sample		OP97303,S6Q289,570,,,5.0,1,water	✓
10	6Q19337.d	P4-A2	FC6459-1A	1633full.m	Sample		OP97303,S6Q289,570,,,5.0,1,water	✓
11	6Q19338.d	P4-A3	op97308-bs	1633full.m	Sample		OP97308,S6Q289,5.00,,,5.0,1,soil	rr sample
12	6Q19339.d	P4-A4	op97308-llbs:2	1633full.m	Sample		OP97308,S6Q289,5.00,,,5.0,1,soil	↓
13	6Q19340.d	P4-A5	op97308-mb	1633full.m	Sample		OP97308,S6Q289,5.00,,,5.0,1,soil	↓
14	6Q19341.d	P4-A6	JD66386-2A	1633full.m	Sample		OP97308,S6Q289,4.97,,,5.0,1,soil	↓
15	6Q19342.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97215,S6Q289,500,,,5.0,1,water	✓
16	6Q19343.d	P1-A2	cc288-1.0LL	1633full.m	QC	1.6/500	OP97215,S6Q289,500,,,5.0,1,water	✓
17	6Q19344.d	P1-A1	iccb	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓
18	6Q19345.d	P4-A3	op97308-bs	1633full.m	Sample		OP97308,S6Q289,5.00,,,5.0,1,soil	✓
19	6Q19346.d	P4-A4	op97308-llbs:2	1633full.m	Sample		OP97308,S6Q289,5.00,,,5.0,1,soil	✓
20	6Q19347.d	P4-A5	op97308-mb	1633full.m	Sample		OP97308,S6Q289,5.00,,,5.0,1,soil	✓
21	6Q19348.d	P4-A6	JD66386-2A	1633full.m	Sample		OP97308,S6Q289,4.97,,,5.0,1,soil	✓
22	6Q19349.d	P4-A7	JD66386-4A	1633full.m	Sample		OP97308,S6Q289,4.98,,,5.0,1,soil	✓
23	6Q19350.d	P4-A8	JD66386-6A	1633full.m	Sample		OP97308,S6Q289,5.02,,,5.0,1,soil	✓
24	6Q19351.d	P4-A9	JD66386-8A	1633full.m	Sample		OP97308,S6Q289,4.99,,,5.0,1,soil	✓
25	6Q19352.d	P4-B1	JD66386-10A	1633full.m	Sample		OP97308,S6Q289,4.96,,,5.0,1,soil	✓
26	6Q19353.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97215,S6Q289,500,,,5.0,1,water	✓
27	6Q19354.d	P1-A1	iccb	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓
28	6Q19355.d	P4-B2	JD66386-12A	1633full.m	Sample		OP97308,S6Q289,5.03,,,5.0,1,soil	✓
29	6Q19356.d	P4-B3	JD66386-14A	1633full.m	Sample		OP97308,S6Q289,5.00,,,5.0,1,soil	✓
30	6Q19357.d	P4-B4	JD66386-16A	1633full.m	Sample		OP97308,S6Q289,5.03,,,5.0,1,soil	✓
31	6Q19358.d	P4-B5	JD66386-18A	1633full.m	Sample		OP97308,S6Q289,4.98,,,5.0,1,soil	✓
32	6Q19359.d	P4-B6	op97308-ms	1633full.m	Sample		OP97308,S6Q289,5.00,,,5.0,1,soil	✓
33	6Q19360.d	P4-B7	op97308-msd	1633full.m	Sample		OP97308,S6Q289,5.02,,,5.0,1,soil	✓
34	6Q19361.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97215,S6Q289,500,,,5.0,1,water	✓
35	6Q19362.d	P1-A1	iccb	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

36	6Q19363.d	P4-B8	op97325-bs	1633full.m	Sample		OP97325,S6Q289,500,,,5.0,1,water	✓
37	6Q19364.d	P4-B9	op97325-llbs:3	1633full.m	Sample		OP97325,S6Q289,500,,,5.0,1,water	✓
38	6Q19365.d	P4-C1	op97325-mb	1633full.m	Sample		OP97325,S6Q289,500,,,5.0,1,water	✓
39	6Q19366.d	P4-C2	FC6803-1	1633full.m	Sample		OP97325,S6Q289,550,,,5.0,1,water	✓
40	6Q19367.d	P4-C3	op97325-ms	1633full.m	Sample		OP97325,S6Q289,540,,,5.0,1,water	✓
41	6Q19368.d	P4-C4	FC6803-2	1633full.m	Sample		OP97325,S6Q289,560,,,5.0,1,water	✓
42	6Q19369.d	P4-C5	op97325-dup	1633full.m	Sample		OP97325,S6Q289,560,,,5.0,1,water	✓
43	6Q19370.d	P4-C6	FC6803-3	1633full.m	Sample		OP97325,S6Q289,570,,,5.0,1,water	✓
44	6Q19371.d	P4-C7	FC6803-4	1633full.m	Sample		OP97325,S6Q289,530,,,5.0,1,water	rr5x surr high, pfba low.
45	6Q19372.d	P4-C8	FC6803-5	1633full.m	Sample		OP97325,S6Q289,560,,,5.0,1,water	✓
46	6Q19373.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97215,S6Q289,500,,,5.0,1,water	✓
47	6Q19374.d	P1-A1	iccb	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓
48	6Q19375.d	P4-C9	FC6803-6	1633full.m	Sample		OP97325,S6Q289,550,,,5.0,1,water	✓
49	6Q19376.d	P1-A5	ecc288-4	1633full.m	QC	20/500	OP97215,S6Q289,500,,,5.0,1,water	✓
50	6Q19377.d	P1-A1	iccb	1633full.m	Sample		OP97215,S6Q289,500,,,5.0,1,water	✓

SGS ORLANDO

LCMS6-6Q ANALYSIS LOG

DATE:	06/19/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS6-6Q

METHODS:	1633
PROC. METH:	1633_061323_S6Q288
CAL DATE:	06/13/23
ANALYST:	M.Valls
RUN BATCH:	S6Q292

ELUENT A LOT #:	ACN 220811
ELUENT B LOT #:	HPLC WATER LOT: 230470 W/5% Methanol 224279 2mM AMAC: 11387
IC/CC STD LOT #:	LCMS 2124-D
ICV STD LOT #:	LCMS 2124D/2125B
ISTD/ID STD LOT #:	11851/11850

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q19524.d	P1-B9	CCB	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
2	6Q19525.d	P1-B9	CCB	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
3	6Q19526.d	P1-B3	RT TDCA	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
4	6Q19527.d	P1-B4	RT BR-LN	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
5	6Q19528.d	P1-A9	High Std	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
6	6Q19529.d	P1-A1	iblk	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
7	6Q19530.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
8	6Q19531.d	P1-A2	cc288-1.0LL	1633full.m	QC	1.6/500	OP97325,S6Q292,500,,,5.0,1,water	✓
9	6Q19532.d	P2-A1	op97328-bs	1633full.m	Sample		OP97328,S6Q292,5.00,,,5.0,1,soil	✓
10	6Q19533.d	P2-A2	op97328-llbs:3	1633full.m	Sample		OP97328,S6Q292,5.00,,,5.0,1,soil	✓
11	6Q19534.d	P2-A3	op97328-mb	1633full.m	Sample		OP97328,S6Q292,5.00,,,5.0,1,soil	✓
12	6Q19535.d	P2-A4	FC6443-20	1633full.m	Sample		OP97328,S6Q292,4.95,,,5.0,1,soil	✓
13	6Q19536.d	P2-A5	op97328-ms	1633full.m	Sample		OP97328,S6Q292,5.00,,,5.0,1,soil	✓
14	6Q19537.d	P2-A6	op97328-msd	1633full.m	Sample		OP97328,S6Q292,4.96,,,5.0,1,soil	✓
15	6Q19538.d	P2-A7	FC6443-21	1633full.m	Sample		OP97328,S6Q292,5.02,,,5.0,1,soil	✓
16	6Q19539.d	P2-A8	FC6443-22	1633full.m	Sample		OP97328,S6Q292,5.04,,,5.0,1,soil	✓
17	6Q19540.d	P2-A9	FC6443-23	1633full.m	Sample		OP97328,S6Q292,5.03,,,5.0,1,soil	✓
18	6Q19541.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
19	6Q19542.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
20	6Q19543.d	P4-A1	op97386-bs	1633full.m	Sample		OP97386,S6Q292,500,,,5.0,1,water	✓
21	6Q19544.d	P4-A2	op97386-llbs:2	1633full.m	Sample		OP97386,S6Q292,500,,,5.0,1,water	✓
22	6Q19545.d	P4-A3	op97386-mb	1633full.m	Sample		OP97386,S6Q292,500,,,5.0,1,water	✓
23	6Q19546.d	P4-A4	LA91413-1	1633full.m	Sample		OP97386,S6Q292,0.5,,,5.0,1,water	rr10x
24	6Q19547.d	P1-A1	ccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	Instrument error.
25	6Q19548.d	P4-A5	LA91413-2	1633full.m	Sample		OP97386,S6Q292,60,,,5.0,1,water	rr10x
26	6Q19549.d	P4-A6	LA91413-3	1633full.m	Sample		OP97386,S6Q292,60,,,5.0,1,water	rr10x
27	6Q19550.d	P4-A7	FC6580-7A	1633full.m	Sample		OP97386,S6Q292,530,,,5.0,1,water	rr1x co
28	6Q19551.d	P4-A8	op97386-ms	1633full.m	Sample		OP97386,S6Q292,500,,,5.0,1,water	✓
29	6Q19552.d	P4-A9	FC6580-8A	1633full.m	Sample		OP97386,S6Q292,550,,,5.0,1,water	✓
30	6Q19553.d	P4-B1	op97386-dup	1633full.m	Sample		OP97386,S6Q292,550,,,5.0,1,water	✓
31	6Q19554.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
32	6Q19555.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
33	6Q19556.d	P4-B2	JD66772-1	1633full.m	Sample		OP97386,S6Q292,60,,,5.0,1,water	✓
34	6Q19557.d	P4-B3	FC6504-1	1633full.m	Sample		OP97386,S6Q292,60,,,5.0,1,water	rr, IST fail
35	6Q19558.d	P4-B4	FC6504-2	1633full.m	Sample		OP97386,S6Q292,560,,,5.0,1,water	✓

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

36	6Q19559.d	P4-B5	FC6505-1	1633full.m	Sample		OP97386,S6Q292,560,,,5.0,1,water	rr5x, pfba low, surr high
37	6Q19560.d	P4-B6	FC6505-2	1633full.m	Sample		OP97386,S6Q292,500,,,5.0,1,water	✓
38	6Q19561.d	P4-B7	FC6580-9	1633full.m	Sample		OP97386,S6Q292,550,,,5.0,1,water	✓
39	6Q19562.d	P4-B8	FC6580-10	1633full.m	Sample		OP97386,S6Q292,530,,,5.0,1,water	✓
40	6Q19563.d	P4-B9	FC6580-11	1633full.m	Sample		OP97386,S6Q292,530,,,5.0,1,water	✓
41	6Q19564.d	P4-C1	FC6580-12	1633full.m	Sample		OP97386,S6Q292,530,,,5.0,1,water	✓
42	6Q19565.d	P4-C2	FC6580-6A	1633full.m	Sample		OP97386,S6Q292,550,,,5.0,1,water	✓
43	6Q19566.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
44	6Q19567.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
45	6Q19568.d	P2-B1	FC6803-4	1633full.m	Sample	100/500	OP97325,S6Q292,530,,,5.0,5,water	pfba low
46	6Q19569.d	P2-B2	FC6342-10	1633full.m	Sample	100/500	OP97344,S6Q292,60,,,5.0,5,water	✓
47	6Q19570.d	P2-B3	op97348-bs	1633full.m	Sample		OP97348,S6Q292,5.00,,,5.0,1,soil	✓
48	6Q19571.d	P2-B4	op97348-llbs:2	1633full.m	Sample		OP97348,S6Q292,5.00,,,5.0,1,soil	✓
49	6Q19572.d	P2-B5	op97348-mb	1633full.m	Sample		OP97348,S6Q292,5.00,,,5.0,1,soil	✓
50	6Q19573.d	P2-B6	DA55919-20	1633full.m	Sample		OP97348,S6Q292,4.98,,,5.0,1,soil	✓
51	6Q19574.d	P2-B7	FC6347-1	1633full.m	Sample		OP97348,S6Q292,5.01,,,5.0,1,soil	✓
52	6Q19575.d	P2-B8	FC6347-2	1633full.m	Sample		OP97348,S6Q292,4.98,,,5.0,1,soil	✓
53	6Q19576.d	P2-B9	FC6347-3	1633full.m	Sample		OP97348,S6Q292,4.95,,,5.0,1,soil	✓
54	6Q19577.d	P2-C1	FC6347-4	1633full.m	Sample		OP97348,S6Q292,5.01,,,5.0,1,soil	✓
55	6Q19578.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
56	6Q19579.d	P1-A2	cc288-1.0LL	1633full.m	QC	1.6/500	OP97325,S6Q292,500,,,5.0,1,water	✓
57	6Q19580.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
58	6Q19581.d	P2-C2	FC6347-5	1633full.m	Sample		OP97348,S6Q292,5.04,,,5.0,1,soil	✓
59	6Q19582.d	P2-C3	FC6347-6	1633full.m	Sample		OP97348,S6Q292,5.02,,,5.0,1,soil	✓
60	6Q19583.d	P2-C4	FC6347-7	1633full.m	Sample		OP97348,S6Q292,5.00,,,5.0,1,soil	✓
61	6Q19584.d	P2-C5	op97348-ms	1633full.m	Sample		OP97348,S6Q292,5.04,,,5.0,1,soil	✓
62	6Q19585.d	P2-C6	op97348-msd	1633full.m	Sample		OP97348,S6Q292,5.04,,,5.0,1,soil	✓
63	6Q19586.d	P2-C7	FC6347-8	1633full.m	Sample		OP97348,S6Q292,5.05,,,5.0,1,soil	✓
64	6Q19587.d	P2-C8	FC6347-9	1633full.m	Sample		OP97348,S6Q292,5.02,,,5.0,1,soil	✓
65	6Q19588.d	P2-C9	FC6347-10	1633full.m	Sample		OP97348,S6Q292,4.98,,,5.0,1,soil	✓
66	6Q19589.d	P2-D1	FC6347-11	1633full.m	Sample		OP97348,S6Q292,4.99,,,5.0,1,soil	✓
67	6Q19590.d	P2-D2	FC6347-12	1633full.m	Sample		OP97348,S6Q292,4.98,,,5.0,1,soil	✓
68	6Q19591.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
69	6Q19592.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
70	6Q19593.d	P2-D3	FC6347-14	1633full.m	Sample		OP97348,S6Q292,5.01,,,5.0,1,soil	✓
71	6Q19594.d	P2-D4	FC6444-9	1633full.m	Sample	100/500	OP97345,S6Q292,60,,,5.0,5,water	✓
72	6Q19595.d	P2-D5	op97385-bs	1633full.m	Sample		OP97385,S6Q292,500,,,5.0,1,water	✓
73	6Q19596.d	P2-D6	op97385-llbs:3	1633full.m	Sample		OP97385,S6Q292,500,,,5.0,1,water	✓
74	6Q19597.d	P2-D7	op97385-mb	1633full.m	Sample		OP97385,S6Q292,500,,,5.0,1,water	✓
75	6Q19598.d	P2-D8	FC6803-4	1633full.m	Sample		OP97385,S6Q292,520,,,5.0,1,water	✓
76	6Q19599.d	P2-D9	FC6803-4	1633full.m	Sample		OP97385,S6Q292,66,,,5.0,1,water	✓
77	6Q19600.d	P2-E1	FC6444-20	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
78	6Q19601.d	P2-E2	FC6444-21	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓

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79	6Q19602.d	P2-E3	FC6444-22	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
80	6Q19603.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
81	6Q19604.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
82	6Q19605.d	P2-E4	FC6444-23	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
83	6Q19606.d	P2-E5	op97385-ms	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
84	6Q19607.d	P2-E6	FC6444-24	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
85	6Q19608.d	P2-E7	op97385-dup	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
86	6Q19609.d	P2-E8	FC6444-25	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
87	6Q19610.d	P2-E9	FC6444-26	1633full.m	Sample		OP97385,S6Q292,530,,,5.0,1,water	✓
88	6Q19611.d	P2-F1	FC6444-27	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
89	6Q19612.d	P2-F2	FC6444-28	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
90	6Q19613.d	P2-F3	FC6444-29	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
91	6Q19614.d	P4-C5	LA91413-3	1633full.m	Sample		OP97386,S6Q292,60,,,5.0,10,water	✓
92	6Q19615.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
93	6Q19616.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
94	6Q19617.d	P4-C3	LA91413-1	1633full.m	Sample		OP97386,S6Q292,0.5,,,5.0,10,water	✓
95	6Q19618.d	P4-C4	LA91413-2	1633full.m	Sample		OP97386,S6Q292,60,,,5.0,10,water	✓
96	6Q19619.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
97	6Q19620.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
98	6Q19621.d	P1-B3	RT TDCA	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
99	6Q19622.d	P1-B4	RT BR-LN	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
100	6Q19623.d	P1-A9	High Std	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
101	6Q19624.d	P1-A1	iblk	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
102	6Q19625.d	P1-A2	cc288-1.0LL	1633full.m	QC	1.6/500	OP97325,S6Q292,500,,,5.0,1,water	✓
103	6Q19626.d	P2-F4	FC6444-30	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
104	6Q19627.d	P2-F5	FC6444-31	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
105	6Q19628.d	P2-F6	FC6444-32	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
106	6Q19629.d	P2-F7	FC6444-33	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	✓
107	6Q19630.d	P1-A1	ccb	1633full.m	Sample		OP97385,S6Q292,60,,,5.0,1,water	ALS error around 5:00
108	6Q19631.d	P4-A7	FC6580-7A	1633full.m	Sample		OP97386,S6Q292,530,,,5.0,1,water	✓
109	6Q19632.d	P4-B3	FC6504-1	1633full.m	Sample		OP97386,S6Q292,60,,,5.0,1,water	Redo, pfba low
110	6Q19633.d	P4-F1	FC6505-1	1633full.m	Sample		OP97386,S6Q292,560,,,5.0,5,water	Redo, pfba low
111	6Q19634.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
112	6Q19635.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
113	6Q19636.d	P4-C6	op97406-bs	1633full.m	Sample		OP97406,S6Q292,500,,,5.0,1,water	✓
114	6Q19637.d	P4-C7	op97406-llbs:3	1633full.m	Sample		OP97406,S6Q292,500,,,5.0,1,water	✓
115	6Q19638.d	P4-C8	op97406-mb	1633full.m	Sample		OP97406,S6Q292,500,,,5.0,1,water	✓
116	6Q19639.d	P4-C9	FC6740-2	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
117	6Q19640.d	P4-D1	FC6740-3	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
118	6Q19641.d	P4-D2	FC6740-4	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
119	6Q19642.d	P4-D3	FC6740-5	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
120	6Q19643.d	P4-D4	FC6740-6	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
121	6Q19644.d	P4-D5	FC6740-7	1633full.m	Sample		OP97406,S6Q292,530,,,5.0,1,water	rr1x co

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

122	6Q19645.d	P4-D6	FC6740-8	1633full.m	Sample		OP97406,S6Q292,510,,,5.0,1,water	rr10x + Redo lower volume
123	6Q19646.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
124	6Q19647.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
125	6Q19648.d	P4-D7	FC6740-9	1633full.m	Sample		OP97406,S6Q292,510,,,5.0,1,water	rr10x + Redo lower volume
126	6Q19649.d	P4-D8	FC6740-10	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
127	6Q19650.d	P4-D9	op97406-ms	1633full.m	Sample		OP97406,S6Q292,560,,,5.0,1,water	rr10x + Redo lower volume
128	6Q19651.d	P4-E1	op97406-msd	1633full.m	Sample		OP97406,S6Q292,560,,,5.0,1,water	rr10x + Redo lower volume
129	6Q19652.d	P4-E2	FC6740-11	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
130	6Q19653.d	P4-E3	FC6740-12	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
131	6Q19654.d	P4-E4	FC6740-14	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
132	6Q19655.d	P4-E5	FC6740-15	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
133	6Q19656.d	P4-E6	FC6740-16	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
134	6Q19657.d	P4-E7	FC6740-17	1633full.m	Sample		OP97406,S6Q292,570,,,5.0,1,water	rr10x + Redo lower volume
135	6Q19658.d	P1-A5	cc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
136	6Q19659.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓
137	6Q19660.d	P4-E8	FC6740-18	1633full.m	Sample		OP97406,S6Q292,550,,,5.0,1,water	✓
138	6Q19661.d	P1-A5	ecc288-4	1633full.m	QC	20/500	OP97325,S6Q292,500,,,5.0,1,water	✓
139	6Q19662.d	P1-A1	iccb	1633full.m	Sample		OP97325,S6Q292,500,,,5.0,1,water	✓

Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2122A-E	1633 spike Cal std.	11771 11799A	PFAC MxH	wellington	4/19/28	4.27.24 5.15.24	1-4 ppm	250uL	4ml	62.5 125 250ppb	1633 mix	5/15/23	10/28/23	MV
↓	↓	LCMS 2097A	Br-LN Et+Me	SGS labs	NA	10/28/23	2ppm 5ppm	250uL	↓	125 312.5 ppb	(2688ml)	↓	↓	↓
↓	↓	11772 11801A	PFAC MxF	wellington	3/24/26	4.27.24 5.15.24	2ppm	250uL	↓	125ppb	↓	↓	↓	↓
↓	↓	11774 11802A	PFAC MxG	↓	12.01.27 12.01.27	4.27.24 5.15.24	2ppm	250uL	↓	125ppb	↓	↓	↓	↓
↓	↓	11738 11803A	PFAC MxJ	↓	9/14/26 3.28.28	4.27.24 5.15.24	4-20 ppm	312uL	↓	312/1160 ppb	↓	↓	↓	↓
LCMS 2123A-B	PFC Spike	11750	PFOA-DOD (28comps)	Absolute	03/13/28	05/16/24	1.0ppm	2mL	5mL	95% MeOH 5% H2O	400ppb	05/16/23	11/16/23	NG
↓	↓	11432	N-Me-FOSA-m	Wellington Labs	02/28/27	03/13/24	50ppm	40uL	↓	↓	↓	↓	↓	NG
↓	↓	11513	FBSA-I	↓	11/10/26	04/18/24	↓	↓	↓	↓	↓	↓	↓	NG
↓	↓	11514	FHxSA-I	↓	12/29/26	04/18/24	↓	↓	↓	↓	↓	↓	↓	NG
↓	↓	11332	PFECHS	↓	03/28/27	04/18/24	↓	↓	↓	↓	↓	↓	↓	NG
LCMS ~~2123~~ 2124	1633 spike Cal std.	11799B	PFAC MxH	wellington	4/19/28	5/22/~~23~~ 24 MV	1-4 ppm	250uL	4ml	62.5 125 250ppb	1633 mix	5/22/23	10/28/23	MV
↓	↓	LCMS 2097A ~~11801B~~ MV	Br-LN Et+Me	SGS labs	NA	10/28/23	2ppm 5ppm	↓	↓	125 312.5 ppb	(2688ml)	↓	↓	↓
↓	↓	11801B	PFAC MxF	wellington	3/24/26	5/22/~~23~~ 24 MV	2ppm	↓	↓	125ppb	↓	↓	↓	↓
↓	↓	11802B	PFAC MxG	↓	12/1/27	5/22/24	2ppm	↓	↓	125ppb	↓	↓	↓	↓
↓	↓	11803B	PFAC Mx J	↓	3/28/28	5/22/24	4-20 ppm	312uL	↓	312/1160 ppb	↓	↓	↓	↓
						NA MV Continue next page 5/22/23								

Margin notes: * exed & essed on 3Q105? (beside LCMS 2123A-B rows); A-D (beside LCMS 2124)

* based on date opened as specified in each SGS - Orlando SOP.

Organic Standards Preparation Log

*tested & used on S3Q 1027

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2095A-J	(10ppb) PFC ID Surr	A-J 11669	MPFAC-24ES	Wellington Labs	01/18/28	03/28/24	1.0ppm	2.4mL	~50mL	0.5ppm	95% MeOH 5% H2O	03/28/23	09/28/23	NG
↓	↓	11585	M3HFPO-DA	↓	11/08/25	01/26/24	50ppm	48uL	↓	↓	↓	↓	↓	NG
↓	↓	11431	d-N-MeFOSAA-M	↓	05/06/27	03/13/24	50ppm	48uL	↓	↓	↓	↓	↓	NG
LCMS 2096A-B	1633 spike Cal std.	11672	PFAC-MxH	Wellington	8/8/27	3/23/24	1-4 ppm	250uL	4ml	62.5 125 250ppb	1633 mix	3/30/23	9/30/23	MU
↓	↓	11686	PFAC-MxI	↓	2/27/28	3/30/24	1-10 ppm	250uL	↓	62.5 625ppb	↓	↓	↓	↓
↓	↓	11674A 11674B	PFAC-MxF	↓	1/11/25	3/23/24 3/30/24	2ppm	500uL	↓	250ppb	↓	↓	↓	↓
↓	↓	11660 11675	PFAC-MxG	↓	12/1/27	3/6/24 3/30/24	2ppm	250uL	↓	125ppb	↓	↓	↓	↓
↓	↓	11642B	PFAC-MxJ	↓	9/14/26	3/23/24	4-20 ppm	312uL	↓	312/1160 ppb	↓	↓	↓	↓
LCMS 2097A-B	BR-LN metet for 1633	11497	br-N metosa	wellington	08/23/27	10/28/23	50ppm	200uL	5ml.	2ppm ~~5ppm~~ MV	1633 mix	4/6/23	10/28/23	MV
↓	↓	11498	br-N Etfosa	↓	10/07/27	10/28/23	50ppm	200uL	↓	2ppm	↓	↓	↓	↓
↓	↓	11495	br-N metose	↓	10/07/27 ~~10/28~~ MV	10/28/23	50ppm	500uL	↓	5ppm	↓	↓	↓	↓
↓	↓	11494	br-N etfose	↓	10/7/27	10/28/23	50ppm	500uL	↓	5ppm	↓	↓	↓	↓

n/a MV

* based on date opened as specified in each SGS - Orlando SOP.

Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2125A-B	Full List 40 Spike (Cal std)	11750	PFOA 28Comp.	Absolute	3/13/28	5/16/24	1.0ppm	400uL	4.0mL	100ppb	95%MeOH 5%H2O (2,400mL)	5/22/23	8/23/23	MW
↓	↓	LCMS 2067	40 List Add on #1	SGS std.	—	8/23/23	1.0ppm	400uL	↓	↓	↓	↓	↓	↓
↓	↓	LCMS 2117	40 List Add on #2	↓	—	11/8/23	1.0ppm	400uL	↓	↓	↓	↓	↓	↓
↓	↓	LCMS 2101	FOSE std.	↓	—	~~7/24/23~~ 9/19/23 MW	5.0ppm	~~80uL~~ 400uL MW	↓	500ppb	↓	↓	↓	↓
LCMS 2126A-J	PFC ID Surr (10 ppb)	11804 A-J	MPFAC-24ES	Wellington Labs	01/18/28	05/23/24	1.0ppm	~~2.4mL~~ 1.2mL	~2.5mL	0.5ppm	95%MeOH 5%H2O	05/23/23	11/23/23	NG
↓	↓	11635A	M3HFPO-DA	↓	11/08/25	04/24/24	50ppm	~~48uL~~ 24uL	↓	↓	↓	↓	↓	NG
↓	↓	11431	d-N-MeFOSAA	↓	03/06/27	03/13/24	50ppm	~~48uL~~ 24uL	↓	↓	↓	↓	↓	NG
LCMS 2127A-E	1633 spike Cal std.	11799B 11807	PFAC MxH	Wellington	4/19/28	5/22/24 5/24/24	1-4 ppm	250uL	4mL	62.5 125 250ppb	1633 mix (2688mL)	5/24/23	10/28/23	MW
↓	↓	LCMS 2097AB	Br-LN Et-Me	SGS Labs	N/A	10/28/23	2ppm 5ppm	↓	↓	125 312.5ppb	↓	↓	↓	↓
↓	↓	11801B 11808	PFAC MxF	Wellington	3/24/26	5/22/24 5/24/24	2ppm	↓	↓	125ppb	↓	↓	↓	↓
↓	↓	11802B 11809	PFAC MxG	↓	12/1/27	5/22/24 5/24/24	2ppm	↓	↓	125ppb	↓	↓	↓	↓
↓	↓	11803B 11810	PFAC MxJ	↓	3/28/28	5/22/24 5/24/24	4-20 ppm	312uL	↓	312 1160ppb	↓	↓	↓	↓
LCMS 2128A-J	PFC ID Surr (10 PPB)	F-J 11819	MPFAC-24ES	Wellington Labs	01/18/28	06/01/24	1.0ppm	1.2mL	~2.5mL	0.5ppm	95%MeOH 5%H2O	06/01/23	12/01/23	NG
↓	↓	11635A	M3HFPO-DA	↓	11/08/25	04/24/24	50ppm	24uL	↓	↓	↓	↓	↓	NG
↓	↓	11584	d-N-MeFOSAA	↓	11/11/27	06/01/24	50ppm	24uL	↓	↓	↓	↓	↓	NG
						NG 06/01/23								

*based on date opened as specified in each SGS - Orlando SOP.

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* used & used on Q SU7 [margin note, partly illegible]

Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2067	40 List std. ADD-ON #1	10726A	10:2 FTS	Wellington	3/3/26	3/21/23	50ppm	80mL	4.0mL	1ppm	95% meOH 5% H2O	2/8/23	3/21/23 8/23/23	MV
		10840	L-PFDoS		7/9/26	10/18/23							8/23/23	
		10829	N-MeFOSA		8/3/26	8/23/23								
		10837	N-EtFOSA		8/3/26	8/23/23								
		10842	PFHxDA		9/3/26	10/18/23								
		10841	PFODA		5/7/26	10/18/23								
		11116B	3:3FTCA PFPrPA		2/3/27	2/8/24								
		10685A	5:3FTCA PFPePA		11/4/25	8/23/23								
		11116A	7:3FTCA PFHpPA		11/12/25	2/8/24								
		11332	PFECHS		3/2/27	10/18/23								
		10762B	PFEESA		5/13/25	10/18/23								
		10763B	PFMBA PF5OHxA		3/31/25	10/18/23								
		10764	PFMPA PF4OPeA		3/31/25	2/8/24								
		10765B	NFHDA 3,6-OPFHpA		3/31/25	10/18/23								
					NG 02/10/23									

*** based on date opened as specified in each SGS - Orlando SOP.**

Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	Exp. Date	Initials
LCMS 2115	List 40 Surr Add-on #3 isotope mix	11523	d7-N-Metose	Wellington	1/27/27	5/9/24	50ppm	200NL	2mL	(1:5) 5ppm	95% MeOH + 5% H2O	5/9/23	8/23/23 Stress	MV
↓	↓	11460	d9-N Etfose	↓	1/27/27	12/6/23	↓	200NL	↓	5ppm	↓	↓	↓	↓
↓	↓	11115	M2-PFHxDA	↓	11/23/28	8/23/23	↓	40NL	↓	1ppm	↓	↓	↓	↓
↓	↓	10836	D-N-Etfosa	↓	12/30/25	8/23/23	↓	40NL	↓	1ppm	↓	↓	↓	↓
LCMS 2116	Full List (40) Spike (cal std)	11653	PFOA DOD 28 Comp.	Absolute	11/9/27	4/18/24	1.0ppm	400NL	4.0mL	100ppb	95% MeOH 5% H2O	5/9/23	8/23/23	MV
↓	↓	LCMS 2067	40 List Add on #1	Sgs std.	—	8/23/23	1.0ppm	400NL	↓	↓	(2,400ml)	↓	↓	↓
↓	↓	LCMS 2117	40 List Add on #2	↓	—	~~5/mw~~ 11/8/23	1.0ppm	400NL	↓	↓	↓	↓	↓	↓
↓	↓	LCMS 2054	Fose Std.	↓	—	7/24/23	5.0ppm	400NL	↓	500ppb	↓	↓	↓	↓
LCMS 2117	40 List Add on #2	11250	FBSA-I	Wellington	11/10/26	11/8/23	50ppm	80NL	4.0mL	1ppm	95% MeOH 5% H2O	5/9/23	11/8/23	MV
↓	↓	11249	FHxSA-I	↓	2/29/26	11/3/23	50ppm	80NL	↓	↓	↓	↓	↓	↓
↓	↓	11140B	L-PFPrS	↓	7/12/26	5/9/24	50ppm	80NL	↓	↓	↓	↓	↓	↓
LCMS 2118A	PFC ID Surr (10ppb)	11775A	MPFAC 24ES	Wellington	1/18/28	5/10/24	1.0ppm	2.4mL	5.0mL	0.5ppm	95% MeOH 5% H2O	5/10/23	11/10/23	MV
↓	↓	1635A	M3HPO-DA	↓	11/8/25	4/24/24	50ppm	48NL	↓	↓	↓	↓	↓	↓
↓	↓	11431	d-n metosa-m	↓	5/6/27	3/13/24	50ppm	48NL	↓	↓	↓	↓	↓	↓
					DG 05/12/23									

* based on date opened as specified in each SGS - Orlando SOP.

Organic Standards Preparation Log

SGS - Orlando Std. #	Name Description	Parent Std. #	Parent Name	Parent Vendor	Vendor Exp. Date	Lab* Exp. Date	Parent Conc.	Vol. Used	Final Vol.	Final Conc.	Diluent Lot	Prep. Date	**Exp. Date**	Initials
LCMS 2098A-C	1633 spike Cal std.	11672A 11672B	PFAC MxH	Wellington	8/8/27	3/23/24 4/6/24	1-4 ppm	250NL	4mL	62.5 125 250ppb	1633 mix	4/6/23	10/6/23	MV
		LCMS 2097	Br-In Et, Me	Sgs labs	N/A	10/28/23	2ppm 5ppm	250NL		125ppb 312.5ppb				
		116746	PFAC MxF	Wellington	1/11/25	3/30/24	2ppm	250NL ~~500NL~~ mw		mw ~~350ppb~~ 125ppb				
		11675	PFAC MxG		12/1/27	3/30/24	2ppm	250NL		125ppb				
		11642B	PFAC MxJ		9/14/26	3/23/24	4-20 ppm	312NL		312/1160 ppb				
LCMS 2099	537.1 DW Std. (Internal)	11070	M3PF-PEA	Wellington Labs	07/22/25	04/06/24	50ppm	80uL	4mL	1.0ppm	96% MeOH 4% H_2O	04/06/23	08/15/23	NG
		10436A	M2 6:2 FTS		11/05/25	04/06/24		80uL		1.0ppm				NG
		10512B	d3-N-MeFOSAA		10/22/25	08/15/23		160uL		2.0ppm				NG
		10498A	MPFOS		11/02/25	03/22/24		80uL		1.0ppm				NG
		11069	M2PFOA		12/07/26	03/22/24		80uL		1.0ppm				NG
LCMS 2100	Full List (40) List 40 spike (Cal std)	11626	PFOA Dap 28 Comp.	Absolute	11/9/27 ~~4/11/24~~ mw	4/11/24	1.0ppm	400NL	4.0mL	100ppb	95% MeOH 5% H_2O (2,4CO31)	4/11/23	7/24/23	MV
		LCMS 2067	40 List ADD ON #1	Sgs std.	—	8/23/23	1.0ppm	400NL						
		LCMS 2076	40 List ADD ON #2		—	5/12/23	1.0ppm	400NL						
		LCMS 2054	Fose std.		—	7/24/23	5.0ppm	400NL		500ppb				
LCMS 2101	Fose std.	11336	N-et Fose	Wellington	5/13/27	9/19/23	50ppm	200NL	2.0mL	5ppm	95% meOH 5% H_2O	4/11/23	9/19/23	MV
		11338	N-me fose		5/13/27	9/19/23	50ppm	200NL						

* based on date opened as specified in each SGS - Orlando SOP.

(1,000)

10685A

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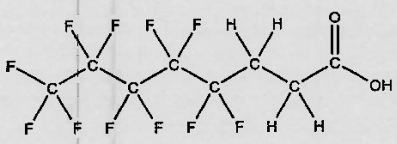
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FPePA
COMPOUND: 3-Perfluoropentyl propanoic acid
LOT NUMBER: FPePA1120

STRUCTURE:

CAS #: 914637-49-3



MOLECULAR FORMULA:	$C_8H_5F_{11}O_2$	**MOLECULAR WEIGHT:**	342.11
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/11/2020		
EXPIRY DATE: (mm/dd/yyyy)	11/11/2025		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 5:3 telomer acid ($C_8H_3F_{11}O_2$) as an impurity determined by ^{19}F NMR.

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Certified By: _____ **Date:** 11/27/2020 (mm/dd/yyyy)
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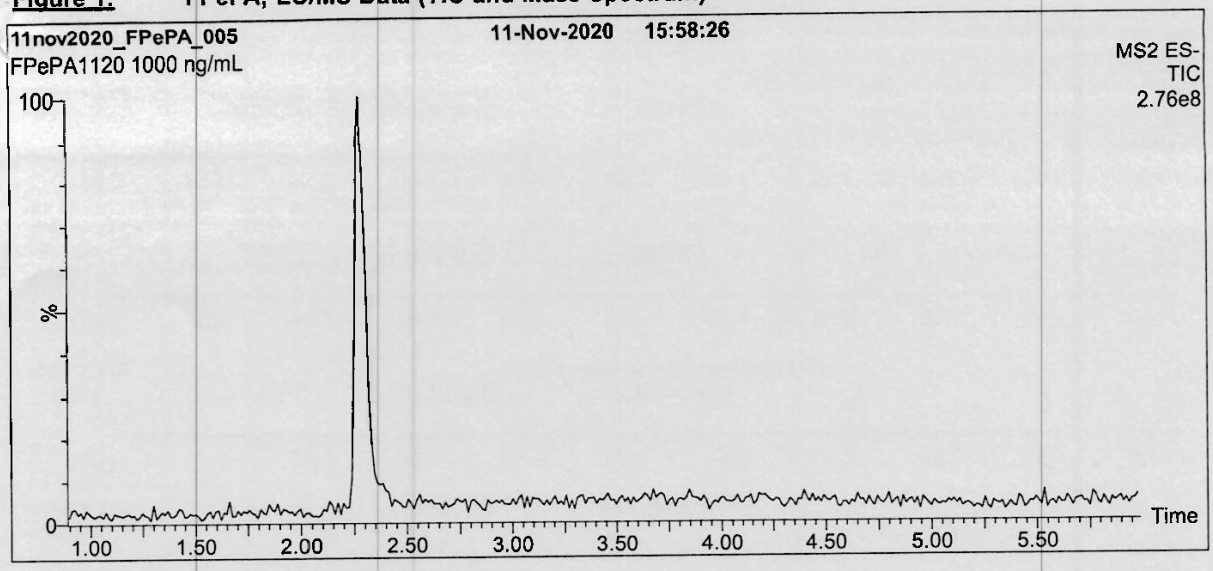
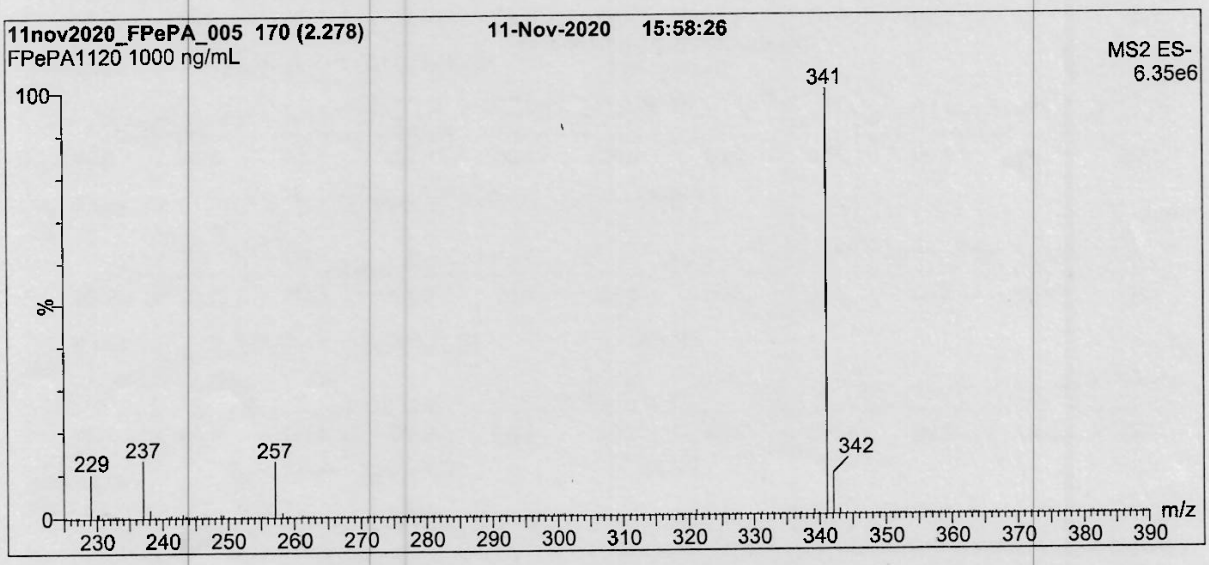
Figure 1: FPePA; LC/MS Data (TIC and Mass Spectrum)





Conditions for Figure 1:

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% H_2O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 18.50
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

10726 A

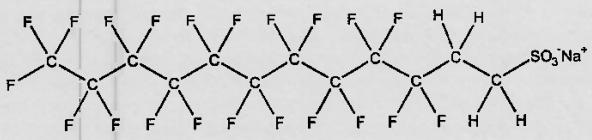
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 10:2FTS **LOT NUMBER:** 102FTS0221

COMPOUND: Sodium 1H,1H,2H,2H-perfluorododecanesulfonate

STRUCTURE: **CAS #:** 108026-35-3



MOLECULAR FORMULA:	$C_{12}H_4F_{21}SO_3Na$	**MOLECULAR WEIGHT:**	650.18
CONCENTRATION:	50.0 ± 2.5 µg/mL (Na salt) 48.3 ± 2.4 µg/mL (10:2FTS acid) 48.2 ± 2.4 µg/mL (10:2FTS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	03/03/2021		
EXPIRY DATE: (mm/dd/yyyy)	03/03/2026		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: B.G. Chittim, General Manager **Date:** 03/05/2021 (mm/dd/yyyy)

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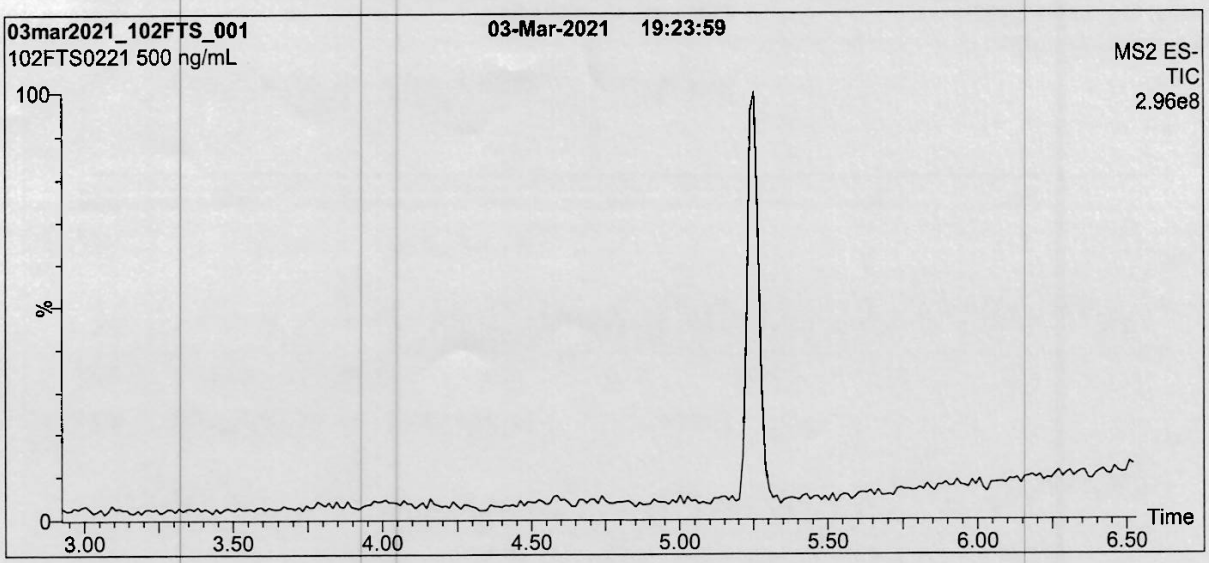
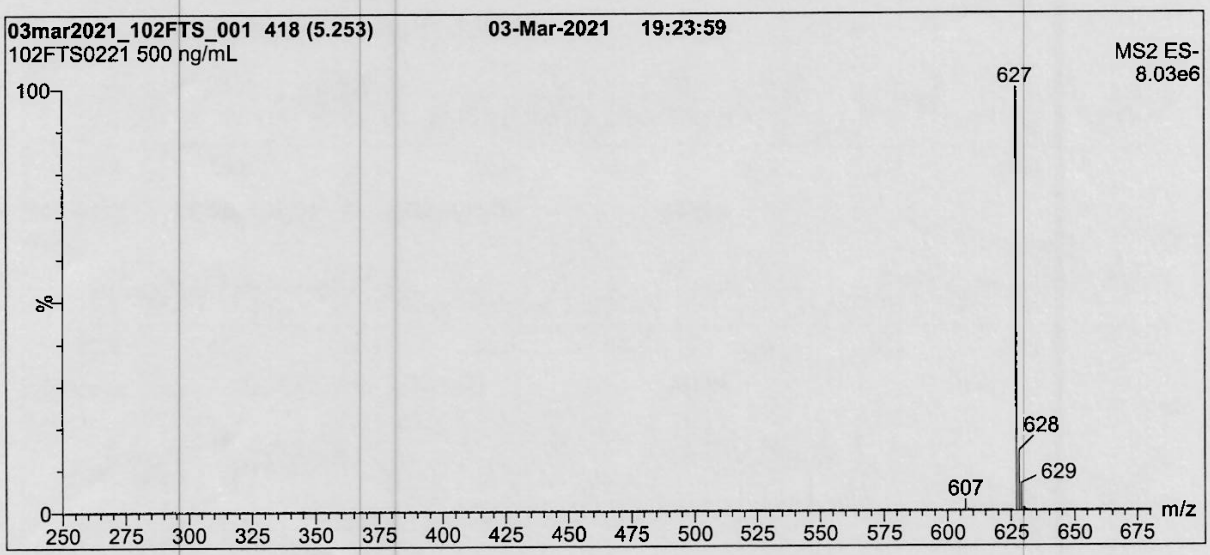
Figure 1: **10:2FTS; LC/MS Data (Full Scan and Mass Spectrum)**





Conditions for Figure 1:

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% H_2O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 3 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

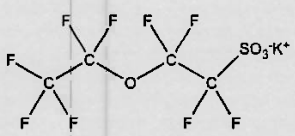
10762 A-B

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

rec'd 8/20/21 VPH

PRODUCT CODE:	PFEESA	**LOT NUMBER:**	PFEESA0520
COMPOUND:	Potassium perfluoro(2-ethoxyethane)sulfonate		
STRUCTURE:		**CAS #:**	117205-07-9



MOLECULAR FORMULA:	$C_4F_9SO_4K$	**MOLECULAR WEIGHT:**	354.19
CONCENTRATION:	50.0 ± 2.5 µg/ml (K salt)	**SOLVENT(S):**	Methanol
	44.6 ± 2.2 µg/ml (PFEESA acid)		
	44.5 ± 2.2 µg/ml (PFEESA anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/13/2020		
EXPIRY DATE: (mm/dd/yyyy)	05/13/2025		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.2% of perfluoro-n-octanoic acid (PFOA).

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Certified By: _____ **Date:** 05/29/2020 (mm/dd/yyyy)
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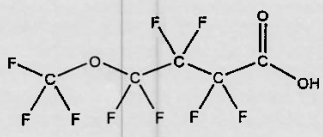
CERTIFICATE OF ANALYSIS
DOCUMENTATION

re-id with 8/20/21

PRODUCT CODE:	PF5OHxA	**LOT NUMBER:**	PF5OHxA0320
COMPOUND:	Perfluoro-5-oxahexanoic acid		
SYNONYM:	Perfluoro-4-methoxybutanoic acid (PFMBA)		
STRUCTURE:		**CAS #:**	863090-89-5



MOLECULAR FORMULA:	$C_5HF_9O_3$	**MOLECULAR WEIGHT:**	280.05
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	03/31/2020		
EXPIRY DATE: (mm/dd/yyyy)	03/31/2025		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/21/2020 (mm/dd/yyyy)
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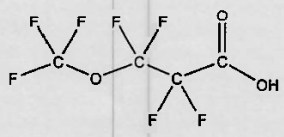
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

rec'd WGH 8/20/21

PRODUCT CODE:	PF4OPeA	**LOT NUMBER:**	PF4OPeA0320
COMPOUND:	Perfluoro-4-oxapentanoic acid		
SYNONYM:	Perfluoro-3-methoxypropanoic acid (PFMPA)		
STRUCTURE:		**CAS #:**	377-73-1



MOLECULAR FORMULA:	$C_4HF_7O_3$	**MOLECULAR WEIGHT:**	230.04
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	03/31/2020		
EXPIRY DATE: (mm/dd/yyyy)	03/31/2025		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/21/2020 (mm/dd/yyyy)
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10765 A-13

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

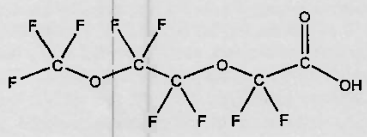
recd WFH 8/20/21

PRODUCT CODE: 3,6-OPFHpA
COMPOUND: Perfluoro-3,6-dioxaheptanoic acid

LOT NUMBER: 36OPFHpA0320

STRUCTURE:

CAS #: 151772-58-6



MOLECULAR FORMULA: $C_5HF_9O_4$
CONCENTRATION: 50.0 ± 2.5 µg/ml

MOLECULAR WEIGHT: 296.04
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 03/31/2020
EXPIRY DATE: (mm/dd/yyyy) 03/31/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: B.G. Chittim, General Manager **Date:** 05/27/2020 (mm/dd/yyyy)

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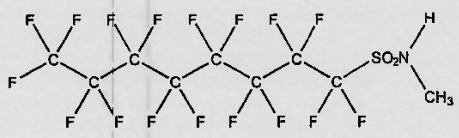
10829

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-MeFOSA-M	**LOT NUMBER:**	NMeFOSA0721M
COMPOUND:	N-methylperfluoro-1-octanesulfonamide		
STRUCTURE:		**CAS #:**	31506-32-8



rec'd WFM 10/5/21

MOLECULAR FORMULA:	$C_{9}H_{4}F_{17}NO_{2}S$	**MOLECULAR WEIGHT:**	513.17
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	08/03/2021		
EXPIRY DATE: (mm/dd/yyyy)	08/03/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: _____ **Date:** 08/04/2021 (mm/dd/yyyy)
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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

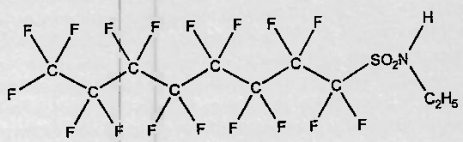
10837

PRODUCT CODE: N-EtFOSA-M
COMPOUND: N-ethylperfluoro-1-octanesulfonamide

LOT NUMBER: NEtFOSA0821M

CAS #: 4151-50-2

STRUCTURE:



MOLECULAR FORMULA:	$C_{10}H_8F_{17}NO_2S$	**MOLECULAR WEIGHT:**	527.20
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	08/12/2021		
EXPIRY DATE: (mm/dd/yyyy)	08/12/2026		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: _____ **Date:** 08/16/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA

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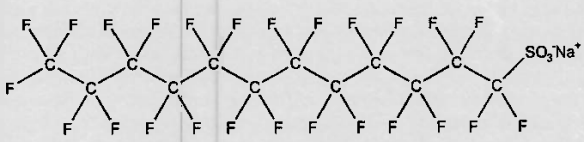
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

10840

PRODUCT CODE: L-PFDoS
COMPOUND: Sodium perfluoro-1-dodecanesulfonate
LOT NUMBER: LPFDoS0721

STRUCTURE:
CAS #: 1260224-54-1



MOLECULAR FORMULA:	$C_{12}F_{25}SO_3Na$
MOLECULAR WEIGHT:	722.14
CONCENTRATION:	50.0 ± 2.5 µg/mL (Na salt) 48.5 ± 2.4 µg/mL (PFDoS acid) 48.4 ± 2.4 µg/mL (PFDoS anion)
SOLVENT(S):	Methanol
CHEMICAL PURITY:	>98%
LAST TESTED: (mm/dd/yyyy)	07/09/2021
EXPIRY DATE: (mm/dd/yyyy)	07/09/2026
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~0.2% of perfluoro-n-dodecanoic acid (PFDoA).

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Certified By: _____ **Date:** 07/16/2021 (mm/dd/yyyy)
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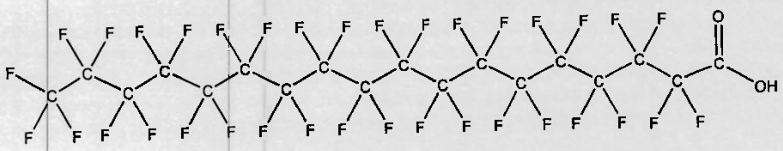
CERTIFICATE OF ANALYSIS DOCUMENTATION

10847 NG 01/18/23

PRODUCT CODE: PFODA
COMPOUND: Perfluoro-n-octadecanoic acid
LOT NUMBER: PFODA0821
CAS #: 16517-11-6

STRUCTURE:



MOLECULAR FORMULA: $C_{18}HF_{35}O_2$
CONCENTRATION: 50.0 ± 2.5 µg/mL
MOLECULAR WEIGHT: 914.14
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 09/03/2021
EXPIRY DATE: (mm/dd/yyyy) 09/03/2026
RECOMMENDED STORAGE: Store ampoule at ambient temperature in a dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- The solubility of this product in methanol is very sensitive to storage conditions and solvent composition. The stated validity period applies to the sealed ampoules stored at ambient temperature.

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Certified By: B.G. Chittim, General Manager
Date: 09/28/2021 (mm/dd/yyyy)

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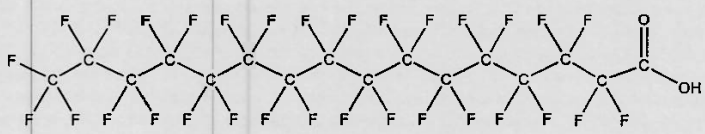
CERTIFICATE OF ANALYSIS
DOCUMENTATION

1084 2 NG 01/18/23

PRODUCT CODE: PFHxDA
LOT NUMBER: PFHxDA0421
COMPOUND: Perfluoro-n-hexadecanoic acid

STRUCTURE:
CAS #: 67905-19-5



MOLECULAR FORMULA: $C_{16}HF_{31}O_2$
MOLECULAR WEIGHT: 814.13
CONCENTRATION: 50.0 ± 2.5 µg/mL
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/07/2021
EXPIRY DATE: (mm/dd/yyyy) 05/07/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: B.G. Chittim, General Manager **Date:** 05/25/2021 (mm/dd/yyyy)

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#1116 A-B MW

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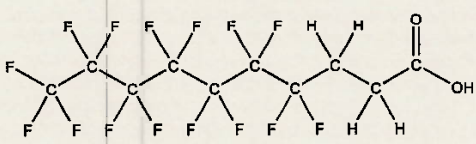
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	FHpPA	**LOT NUMBER:**	FHpPA1020
COMPOUND:	3-Perfluoroheptyl propanoic acid		
STRUCTURE:		**CAS #:**	812-70-4



MOLECULAR FORMULA:	$C_{10}H_5F_{15}O_2$	**MOLECULAR WEIGHT:**	442.12
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/12/2020		
EXPIRY DATE: (mm/dd/yyyy)	11/12/2025		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: _____ **Date:** 11/27/2020 (mm/dd/yyyy)
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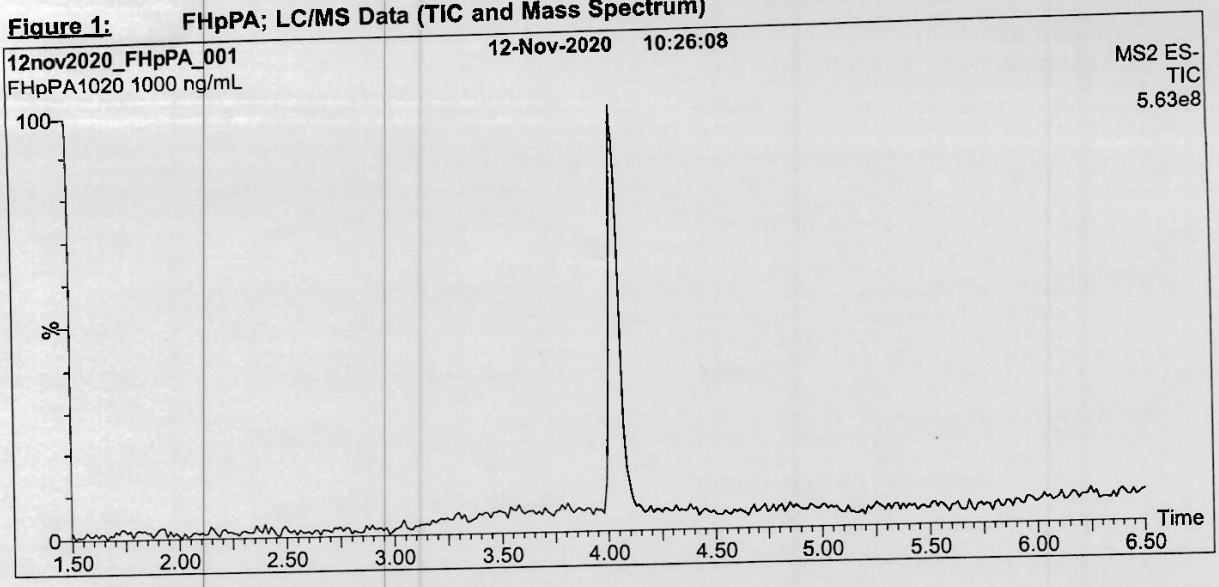
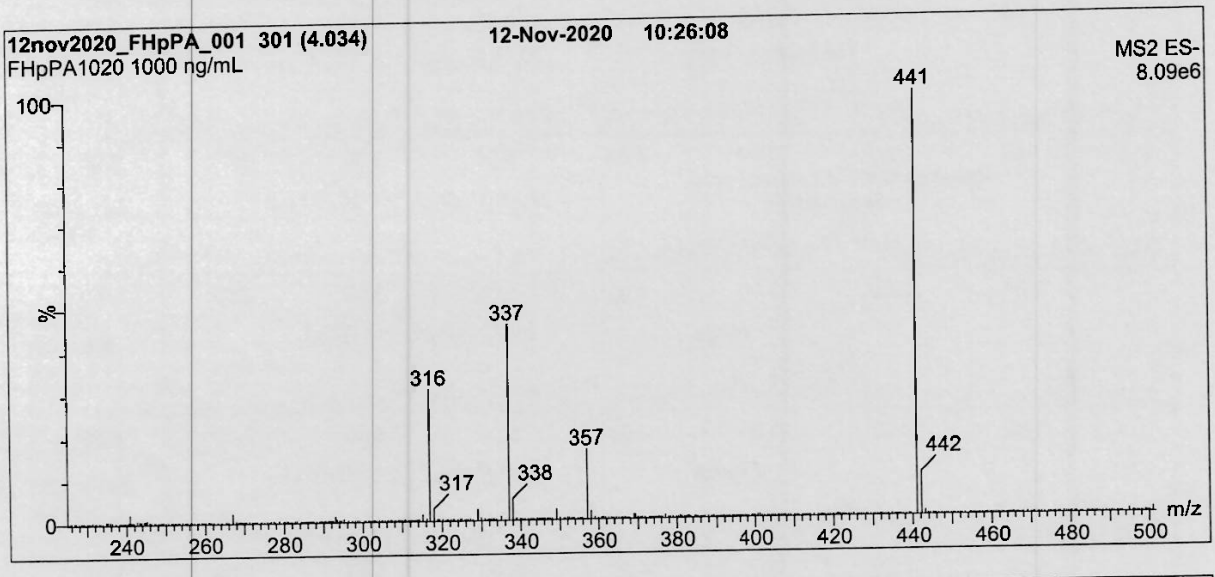
Figure 1: **FHpPA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% H_2O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µL/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 28.50
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

FPrPA(3:3FTCA) 11116 B

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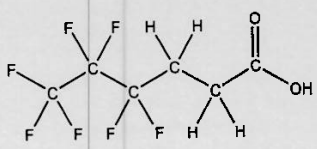
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FPrPA
COMPOUND: 3-Perfluoropropyl propanoic acid

LOT NUMBER: FPrPA0122

CAS #: 356-02-5

STRUCTURE:



MOLECULAR FORMULA:	$C_6H_5F_7O_2$	**MOLECULAR WEIGHT:**	242.09
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	02/03/2022		
EXPIRY DATE: (mm/dd/yyyy)	02/03/2027		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 3:3 telomer acid ($C_6H_3F_7O_2$) as an impurity determined by ^{19}F NMR.

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Certified By: B.G. Chittim, General Manager **Date:** 02/04/2022 (mm/dd/yyyy)

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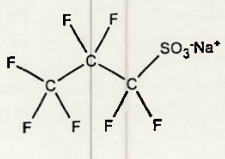
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: L-PFPrS
COMPOUND: Sodium perfluoro-1-propanesulfonate

LOT NUMBER: LPFPrS0721

CAS #: Not available

STRUCTURE:



MOLECULAR FORMULA:	$C_3F_7SO_3Na$
MOLECULAR WEIGHT:	272.07
CONCENTRATION:	50.0 ± 2.5 µg/mL (Na salt) 46.0 ± 2.3 µg/mL (PFPrS acid) 45.8 ± 2.3 µg/mL (PFPrS anion)
SOLVENT(S):	Methanol
CHEMICAL PURITY:	>98%
LAST TESTED: (mm/dd/yyyy)	07/12/2021
EXPIRY DATE: (mm/dd/yyyy)	07/12/2026
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: _____ **Date:** 08/04/2021 (mm/dd/yyyy)
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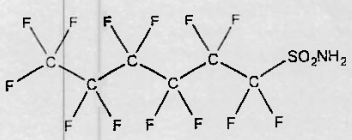
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FHxSA-I
COMPOUND: Perfluoro-1-hexanesulfonamide

LOT NUMBER: FHxSA1221I

CAS #: 41997-13-1

STRUCTURE:



MOLECULAR FORMULA:	$C_6H_2F_{13}NO_2S$
CONCENTRATION:	50.0 ± 2.5 µg/mL
CHEMICAL PURITY:	>98%
LAST TESTED: (mm/dd/yyyy)	12/29/2021
EXPIRY DATE: (mm/dd/yyyy)	12/29/2026
RECOMMENDED STORAGE:	Refrigerate ampoule

MOLECULAR WEIGHT: 399.13
SOLVENT(S): Isopropanol

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: _____ **Date:** 01/10/2022 (mm/dd/yyyy)
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11250 KA 8/11/22

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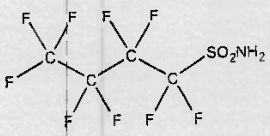
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FBSA-I
COMPOUND: Perfluoro-1-butanesulfonamide

LOT NUMBER: FBSA11211

CAS #: 30334-69-1

STRUCTURE:



MOLECULAR FORMULA:	$C_4H_2F_9NO_2S$	**MOLECULAR WEIGHT:**	299.11
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Isopropanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/10/2021		
EXPIRY DATE: (mm/dd/yyyy)	11/10/2026		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: _____ **Date:** 11/10/2021 (mm/dd/yyyy)
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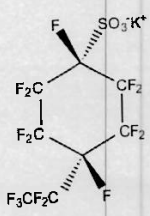
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFECHS
LOT NUMBER: PFECHS0222

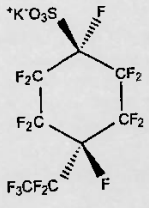
COMPOUND: Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

CAS #: 335-24-0

STRUCTURE:



cis-isomer



trans-isomer

MOLECULAR FORMULA:	$C_8F_{15}SO_3K$
MOLECULAR WEIGHT:	500.22
CONCENTRATION:	50.0 ± 2.5 µg/mL (K salt) 46.2 ± 2.3 µg/mL (PFECHS acid) 46.1 ± 2.3 µg/mL (PFECHS anion)
SOLVENT(S):	Methanol
CHEMICAL PURITY:	>98%
LAST TESTED: (mm/dd/yyyy)	03/28/2022
EXPIRY DATE: (mm/dd/yyyy)	03/28/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains a mixture of the *cis*/*trans* isomers of PFECHS at a ratio of 1:1.27 (*cis*:*trans*).

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Certified By: B.G. Chittim, General Manager **Date:** 03/30/2022 (mm/dd/yyyy)

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11336

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

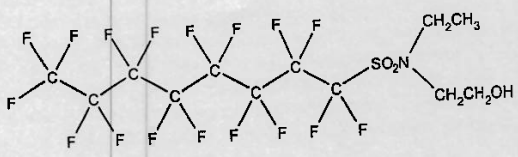
PRODUCT CODE: N-EtFOSE-M

COMPOUND: 2-(N-ethylperfluoro-1-octanesulfonamido)ethanol

LOT NUMBER: NEtFOSE0622M

CAS #: 1691-99-2

STRUCTURE:



MOLECULAR FORMULA:	$C_{12}H_{10}F_{17}NO_3S$	**MOLECULAR WEIGHT:**	571.25
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/13/2022 (HRGC/LRMS) 05/13/2022 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	05/13/2027		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

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Certified By: B.G. Chittim, General Manager **Date:** 07/13/2022 (mm/dd/yyyy)

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Form#:27, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

11338

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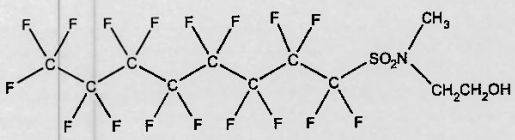
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSE-M
LOT NUMBER: NMeFOSE0522M
COMPOUND: 2-(N-methylperfluoro-1-octanesulfonamido)ethanol

STRUCTURE:
CAS #: 24448-09-7



MOLECULAR FORMULA:	$C_{11}H_8F_{17}NO_3S$	**MOLECULAR WEIGHT:**	557.22
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/13/2022 (HRGC/LRMS)		
	05/13/2022 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	05/13/2027		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

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Certified By: B.G. Chittim, General Manager **Date:** 06/14/2022 (mm/dd/yyyy)

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11494

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSE

2-(N-Methylperfluorooctanesulfonamido)ethanol
Isomeric Mix

PRODUCT CODE:	br-NMeFOSE
LOT NUMBER:	brNMeFOSE0922
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	09/02/2022
LAST TESTED: (mm/dd/yyyy)	09/07/2022 (HRGC/LRMS)
	10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-methylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
Figure 3: LC/MS Data (SIR)
Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 24448-09-7 (for linear isomer).

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSE

2-(N-Ethylperfluorooctanesulfonamido)ethanol
Isomeric Mix

PRODUCT CODE:	br-NEtFOSE
LOT NUMBER:	brNEtFOSE1022
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	09/12/2022
LAST TESTED: (mm/dd/yyyy)	09/12/2022 (HRGC/LRMS)
	10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-ethylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
Figure 3: LC/MS Data (SIR)
Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 1691-99-2 (for linear isomer).

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

7.9.1
7

br-NMeFOSA

N-Methylperfluorooctanesulfonamide
Isomeric Mix

PRODUCT CODE:	br-NMeFOSA
LOT NUMBER:	brNMeFOSA0822
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	08/18/2022
LAST TESTED: (mm/dd/yyyy)	08/23/2022
EXPIRY DATE: (mm/dd/yyyy)	08/23/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 31506-32-8 (for linear isomer).

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSA

N-Ethylperfluorooctanesulfonamide
Isomeric Mix

PRODUCT CODE:	br-NEtFOSA
LOT NUMBER:	brNEtFOSA0922
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	08/23/2022
LAST TESTED: (mm/dd/yyyy)	10/07/2022
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-ethylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 4151-50-2 (for linear isomer).

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Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

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11750
RAC #: 04/17/23

CERTIFIED WEIGHT REPORT

Part Number:	64029A				
Lot Number:	031323	Solvent(s):	Lot#		
Description:	PFDA - DOD	Methanol (1 mM KOH)	102722	(98%)	
	28 components	2-Propanol	32500	(2%)	
Expiration Date:	031328				
Recommended Storage:	Freezer (0 °C)				
Nominal Concentration (µg/mL):	1.0				
NIST Test ID#:	6UTB	5E-05	Balance Uncertainty		
Volume(s) shown below were combined and diluted to (mL):		100.0	0.021	Flask Uncertainty	

Formulated By: Prashant Chauhan 031323 DATE

Reviewed By: Pedro L. Rentas 031323 DATE

Note: All assigned values are anion concentrations.

	Compound	Part Number	Lot Number	Dilution Factor	Initial Vol. (mL)	Uncertainty Pipette (mL)	Initial Conc.(µg/mL)	Final Conc.(µg/mL)	Expanded Uncertainty (+/-) µg/mL	SDS Information (Solvent Safety Info. On Attached pg.) Free Acid CAS#	OSHA PEL (TWA)	LD50
1.	Perfluoro-n-butanoic acid (PFBA)	99542	110422	0.02	2.00	0.017	50.1	1.00	0.02	375-22-4	N/A	N/A
2.	Perfluoro-n-pentanoic acid (PFPeA)	99543	011723	0.02	2.00	0.017	50.3	1.01	0.02	2706-90-3	N/A	N/A
3.	Perfluorohexanoic acid (PFHxA)	99199	071122	0.02	2.00	0.017	50.2	1.00	0.02	307-24-4	N/A	N/A
4.	Perfluoroheptanoic acid (PFHpA)	99197	110922	0.02	2.00	0.017	50.1	1.00	0.02	375-85-9	N/A	N/A
5.	Perfluorooctanoic acid (br-PFOA)*	99202	080522	0.02	2.00	0.017	50.2	1.00	0.02	335-67-1 (L)	N/A	ipr-rat 189mg/kg
6.	Perfluorononanoic acid (PFNA)	99200	110922	0.02	2.00	0.017	50.1	1.00	0.02	375-95-1	N/A	N/A
7.	Perfluorodecanoic acid (PFDA)	99195	110922	0.02	2.00	0.017	50.0	1.00	0.02	335-76-2	N/A	orl-rat 57mg/kg
8.	Perfluoroundecanoic acid (PFUnA)	99205	071522	0.02	2.00	0.017	50.2	1.00	0.02	2058-94-8	N/A	N/A
9.	Perfluorododecanoic acid (PFDoA)	99196	071522	0.02	2.00	0.017	50.1	1.00	0.02	307-55-1	N/A	N/A
10.	Perfluorotridecanoic acid (PFTrDA)	99204	110922	0.02	2.00	0.017	50.1	1.00	0.02	72629-94-8	N/A	N/A
11.	Perfluorotetradecanoic acid (PFTeDA)	99203	033022	0.02	2.00	0.017	50.1	1.00	0.02	376-06-7	N/A	N/A
12.	Perfluoro-1-octanesulfonamide (FOSA)	3677	FOSA0322I	0.02	2.00	0.017	50.0	1.00	0.05	754-91-6	N/A	N/A
13.	N-Methylperfluorooctanesulfonamidoacetic acid (br-NMeFOSAA)*	4162	brNMeFOSAA0422	0.02	2.00	0.017	50.0	1.00	0.05	2355-31-9 (L)	N/A	N/A
14.	N-Ethylperfluorooctanesulfonamidoacetic acid (br-NEtFOSAA)*	4163	brNEtFOSAA1121	0.02	2.00	0.017	50.0	1.00	0.05	2991-50-6 (L)	N/A	N/A
15.	Perfluorobutanesulfonic acid (PFBS)	99194	080522	0.02	2.00	0.017	50.2	1.00	0.02	375-73-5	N/A	N/A
16.	Perfluoro-1-pentanesulfonic acid (PFPeS)	99544	091522	0.02	2.00	0.017	50.1	1.00	0.02	2706-91-4	N/A	N/A
17.	Perfluorohexanesulfonic acid (br-PFHxS)*	99198	030923	0.02	2.00	0.017	50.0	1.00	0.02	355-46-4 (L)	N/A	N/A
18.	Perfluoro-1-heptanesulfonic acid (PFHpS)	3672	LPFHpS0822	0.021	2.10	0.017	47.6	1.00	0.05	375-92-8	N/A	N/A
19.	Heptadecafluorooctanesulfonic acid (br-PFOS)*	99201	030923	0.02	2.00	0.017	50.1	1.00	0.02	1763-23-1 (L)	N/A	N/A
20.	Perfluoro-1-nonanesulfonic acid (PFNS)	3957	LPFNS1122	0.021	2.10	0.017	48.0	1.01	0.05	68259-12-1	N/A	N/A
21.	Perfluoro-1-decanesulfonic acid (PFDS)	3671	LPFDS1122	0.021	2.10	0.017	48.2	1.01	0.05	335-77-3	N/A	N/A
22.	1H,1H,2H,2H-Perfluorohexane sulfonic acid (4:2FTS)	65271	080522	0.02	2.00	0.017	50.2	1.00	0.05	757124-72-4	N/A	N/A
23.	1H,1H,2H,2H-Perfluorooctane sulfonic acid (6:2FTS)	65272	031023	0.02	2.00	0.017	50.2	1.00	0.05	27619-97-2	N/A	N/A
24.	1H,1H,2H,2H-Perfluorodecane sulfonic acid (8:2FTS)	3662	82FTS0822	0.021	2.10	0.017	47.8	1.01	0.05	39108-34-4	N/A	N/A
25.	2-(Heptafluoropropoxy)-2,3,3,3-tetrafluoropropionic acid (HFPO-DA)	99666	080522	0.02	2.00	0.017	50.1	1.00	0.02	13252-13-6	N/A	N/A
26.	11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	4165	11ClPF3OUdS0522	0.021	2.12	0.017	47.1	1.00	0.05	763051-92-9	N/A	N/A
27.	9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	4164	9ClPF3ONS1022	0.021	2.14	0.017	46.8	1.00	0.05	756426-58-1	N/A	N/A
28.	Dodecafluoro-3H-4,8-dioxanonanoic acid (ADONA)	4103	NaDONA0922	0.021	2.12	0.017	47.1	1.00	0.05	919005-14-4	N/A	N/A
	Perfluorooctanoic acid (linear)*	99202	080522	0.02	2.00	0.004	49.6	0.99	0.010	335-67-1 (L)	N/A	ipr-rat 189mg/kg
	Perfluorooctanoic acid (branched isomer)*	99202	080522	0.02	2.00	0.004	0.6	0.01	0.001	335-67-1 (L)	N/A	ipr-rat 189mg/kg
	Perfluorohexanesulfonic acid (linear)*	99198	030923	0.02	2.00	0.017	44.0	0.88	0.02	355-46-4 (L)	N/A	N/A
	Perfluorohexanesulfonic acid (branched isomer)*	99198	030923	0.02	2.00	0.017	6.0	0.12	0.0020	355-46-4 (L)	N/A	N/A
	Heptadecafluorooctanesulfonic acid (linear)*	99201	030923	0.02	2.00	0.017	38.1	0.76	0.02	1763-23-1 (L)	N/A	N/A
	Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	030923	0.02	2.00	0.017	7.5	0.15	0.003	1763-23-1 (L)	N/A	N/A
	Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	030923	0.02	2.00	0.017	4.0	0.08	0.002	1763-23-1 (L)	N/A	N/A
	Heptadecafluorooctanesulfonic acid (branched isomer)*	99201	030923	0.02	2.00	0.017	0.5	0.010	0.0002	1763-23-1 (L)	N/A	N/A
	N-Methylperfluoro-1-octanesulfonamidoacetic acid (linear)*	4162	brNMeFOSAA0422	0.02	2.00	0.017	36.0	0.72	0.04	2355-31-9 (L)	N/A	N/A
	N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSAA0422	0.02	2.00	0.017	6.5	0.13	0.011	2355-31-9 (L)	N/A	N/A
	N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSAA0422	0.02	2.00	0.017	5.0	0.10	0.005	2355-31-9 (L)	N/A	N/A
	N-Methylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4162	brNMeFOSAA0422	0.02	2.00	0.017	2.5	0.05	0.0009	2355-31-9 (L)	N/A	N/A
	N-Ethylperfluoro-1-octanesulfonamidoacetic acid (linear)*	4163	brNEtFOSAA1121	0.02	2.00	0.017	36.6	0.73	0.04	2991-50-6 (L)	N/A	N/A
	N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEtFOSAA1121	0.02	2.00	0.017	7.7	0.15	0.009	2991-50-6 (L)	N/A	N/A
	N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEtFOSAA1121	0.02	2.00	0.017	5.3	0.11	0.005	2991-50-6 (L)	N/A	N/A
	N-Ethylperfluoro-1-octanesulfonamidoacetic acid (branched)*	4163	brNEtFOSAA1121	0.02	2.00	0.017	0.4	0.007	0.0006	2991-50-6 (L)	N/A	N/A

*Concentrations for branched and linear isomers are based on LCMS chromatographic analysis only.

A qualitative standard (Sect. 3.19) is available for PFOA that contains the linear and branched isomers (Wellington Labs, Cat. No. T-PFOA, or equivalent). This qualitative PFOA standard must be purchased and used to identify the retention times of the branched PFOA isomers, but the linear only PFOA standard must be used for quantitation (Sect. 12.2) until a quantitative PFOA standard containing the branched and linear isomers becomes commercially available.1

- The certified value is the concentration calculated from gravimetric and volumetric measurements unless otherwise stated.
- Standards are prepared gravimetrically using balances that are calibrated with weights traceable to NIST (see above).
- Standards are certified (+/-) 0.5 % of the stated value, unless otherwise stated.
- All Standards, after opening ampule, should be stored with caps tight and under appropriate laboratory conditions.
- Uncertainty References: Taylor, B.N. and Kuyat, C.E., "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Result," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

11799 A-B
rec'd: 05/15/23

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PFAC-MXH

Native PFAS
Solution/Mixture

PRODUCT CODE:	PFAC-MXH
LOT NUMBER:	PFACMXH0423
SOLVENT(S):	Methanol/Isopropanol (2%)/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	04/06/2023
LAST TESTED: (mm/dd/yyyy)	04/19/2023
EXPIRY DATE: (mm/dd/yyyy)	04/19/2028
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

PFAC-MXH is a solution/mixture of 11 native linear perfluoroalkylcarboxylic acids (C_4-C_{14}), eight native perfluoroalkanesulfonates (C_4, C_5, C_7, C_9, C_{10} and C_{12} linear; C_6 and C_8 linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide. The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Table B: Isomeric Components and Percent Composition of N-MeFOSAA
Table C: Isomeric Components and Percent Composition of N-EtFOSAA
Table D: Isomeric Components and Percent Composition of PFHxSK
Table E: Isomeric Components and Percent Composition of PFOSK
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Table A: **PFAC-MXH; Components and Concentrations (ng/mL, ± 5% in methanol/isopropanol (2%)/water (<1%))**

Compound	Acronym	Concentration* (ng/mL)	Peak Assignment in Figure 1
Perfluoro-n-butanoic acid	PFBA	4000	1
Perfluoro-n-pentanoic acid	PFPeA	2000	2
Perfluoro-n-hexanoic acid	PFHxA	1000	5
Perfluoro-n-heptanoic acid	PFHpA	1000	7
Perfluoro-n-octanoic acid	PFOA	1000	11
Perfluoro-n-nonanoic acid	PFNA	1000	14
Perfluoro-n-decanoic acid	PFDA	1000	18
Perfluoro-n-undecanoic acid	PFUdA	1000	23
Perfluoro-n-dodecanoic acid	PFDoA	1000	26
Perfluoro-n-tridecanoic acid	PFTrDA	1000	27
Perfluoro-n-tetradecanoic acid	PFTeDA	1000	29
Perfluoro-1-octanesulfonamide	FOSA	1000	24
N-Methylperfluorooctanesulfonamidoacetic acid [a]	N-MeFOSAA: linear isomer	760	20
	N-MeFOSAA: ∑ branched isomers	240	17
N-Ethylperfluorooctanesulfonamidoacetic acid [b]	N-EtFOSAA: linear isomer	775	22
	N-EtFOSAA: ∑ branched isomers	225	21

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Potassium perfluoro-1-butanesulfonate	L-PFBS	1000	887	3
Sodium perfluoro-1-pentanesulfonate	L-PFPeS	1000	941	6
Potassium perfluorohexanesulfonate [c]	PFHxSK: linear isomer	811	741	9
	PFHxSK: ∑ branched isomers	189	173	8
Sodium perfluoro-1-heptanesulfonate	L-PFHpS	1000	953	12
Potassium perfluorooctanesulfonate [d]	PFOSK: linear isomer	788	732	15
	PFOSK: ∑ branched isomers	211	196	13
Sodium perfluoro-1-nonanesulfonate	L-PFNS	1000	962	19
Sodium perfluoro-1-decanesulfonate	L-PFDS	1000	965	25
Sodium perfluoro-1-dodecanesulfonate	L-PFDoS	1000	970	28
Sodium 1H,1H,2H,2H-perfluorohexanesulfonate	4:2FTS	4000	3750	4
Sodium 1H,1H,2H,2H-perfluorooctanesulfonate	6:2FTS	4000	3800	10
Sodium 1H,1H,2H,2H-perfluorodecanesulfonate	8:2FTS	4000	3840	16

[a] See Table B for percent composition of linear and branched N-MeFOSAA isomers.
[b] See Table C for percent composition of linear and branched N-EtFOSAA isomers.
[c] See Table D for percent composition of linear and branched PFHxSK isomers.
[d] See Table E for percent composition of linear and branched PFOSK isomers.

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 05/11/2023 (mm/dd/yyyy)

B.G. Chittim, General Manager

11801A-B
rec'd: 05/15/23

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PFAC-MXF

Native Replacement PFAS Solution/Mixture

PRODUCT CODE:	PFAC-MXF
LOT NUMBER:	PFACMXF0323
SOLVENT(S):	Methanol / Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	03/23/2023
LAST TESTED: (mm/dd/yyyy)	03/24/2023
EXPIRY DATE: (mm/dd/yyyy)	03/24/2026
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonanoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and hexafluoropropylene oxide dimer acid (GenX, HFPO-DA). The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

Table A: **PFAC-MXF; Components and Concentrations (ng/mL; ± 5% in Methanol/Water (<1%))**

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)propanoic acid	HFPO-DA	2000		A
Compound	**Acronym**	**Concentration* (ng/mL)**		**Peak Assignment in Figure 1**
		as the salt	**as the acid**	
Sodium dodecafluoro-3H-4,8-dioxanonanoate	NaDONA	2000	1890	B
Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	9Cl-PF3ONS	2000	1870	C
Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate	11Cl-PF3OUdS	2000	1890	D

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 03/29/2023
B.G. Chittim, General Manager (mm/dd/yyyy)

11802 A-B
rec'd: 05/15/23

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PFAC-MXG

Native Perfluoroalkyl Ether Carboxylic Acids and Sulfonate Solution/Mixture

PRODUCT CODE:	PFAC-MXG
LOT NUMBER:	PFACMXG1122
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	11/30/2022
LAST TESTED: (mm/dd/yyyy)	12/01/2022
EXPIRY DATE: (mm/dd/yyyy)	12/01/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

The individual components all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Table A: PFAC-MXG; Components and Concentrations (ng/mL; ± 5% in methanol/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxaheptanoic acid	3,6-OPFHpA	2000		D
Compound	**Acronym**	**Concentration* (ng/mL)**		**Peak Assignment in Figure 1**
		as the salt	**as the acid**	
Potassium perfluoro(2-ethoxyethane)sulfonate	PFEESA	2000	1780	C

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 12/09/2022
(mm/dd/yyyy)
B.G. Chittim, General Manager

Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

PFACMXG1122 (3 of 5)
rev0

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rec'd: 05/15/23

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

7.9.1
7

PFAC-MXJ

Native X:3 Fluorotelomer Carboxylic Acid Solution/Mixture

PRODUCT CODE:	PFAC-MXJ
LOT NUMBER:	PFACMXJ0323
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	03/27/2023
LAST TESTED: (mm/dd/yyyy)	03/28/2023
EXPIRY DATE: (mm/dd/yyyy)	03/28/2028
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

PFAC-MXJ is a solution/mixture of three native X:3 fluorotelomer carboxylic acids. The components and their concentrations are given in Table A.

The individual components have a chemical purity of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Table A: PFAC-MXJ; Components and Concentrations (µg/mL; ± 5% in methanol)

Compound	Acronym	Concentration (µg/mL)
3-Perfluoropropyl propanoic acid	FPrPA	4.00
3-Perfluoropentyl propanoic acid	FPePA	20.0
3-Perfluoroheptyl propanoic acid	FHpPA	20.0

Certified By: _____ **Date:** 04/12/2023
(mm/dd/yyyy)
B.G. Chittim, General Manager

PFACMXJ0323 (3 of 5)
rev0

11850 A-5
rec'd: 06/01/23

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

MPFAC-HIF-ES

Mass-Labelled PFAS Extraction Standard Solution/Mixture

PRODUCT CODE:	MPFAC-HIF-ES
LOT NUMBER:	MPFACHIFES1022
SOLVENT(S):	Methanol/Isopropanol (1%)/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	10/28/2022
LAST TESTED: (mm/dd/yyyy)	11/23/2022
EXPIRY DATE: (mm/dd/yyyy)	11/23/2025
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

MPFAC-HIF-ES is a solution/mixture of ten mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4-C_{12}, C_{14}), three mass-labelled (^{13}C) perfluoroalkanesulfonates (C_4, C_6, and C_8), three mass-labelled (one ^{13}C and two ^{2}H) perfluoro-1-octanesulfonamides, three mass-labelled (^{13}C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (^{2}H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (^{2}H) perfluorooctanesulfonamidoethanols, and mass-labelled (^{13}C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ^{13}C-labelled components all have chemical purities >98% and isotopic purities of ≥99%. The individual ^{2}H-labelled components all have chemical purities >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Table A: **MPFAC-HIF-ES; Components and Concentrations (ng/mL, ± 5% in methanol/isopropanol (1%)/water (<1%))**

Compound	Acronym	Concentration (ng/mL)	Peak Assignment in Figure 1
Perfluoro-n-($^{13}C_4$)butanoic acid	MPFBA	2000	1
Perfluoro-n-($^{13}C_5$)pentanoic acid	M5PFPeA	1000	2
Perfluoro-n-(1,2,3,4,6-$^{13}C_5$)hexanoic acid	M5PFHxA	500	5
Perfluoro-n-(1,2,3,4-$^{13}C_4$)heptanoic acid	M4PFHpA	500	7
Perfluoro-n-($^{13}C_8$)octanoic acid	M8PFOA	500	10
Perfluoro-n-($^{13}C_9$)nonanoic acid	M9PFNA	250	11
Perfluoro-n-(1,2,3,4,5,6-$^{13}C_6$)decanoic acid	M6PFDA	250	14
Perfluoro-n-(1,2,3,4,5,6,7-$^{13}C_7$)undecanoic acid	M7PFUdA	250	18
Perfluoro-n-(1,2-$^{13}C_2$)dodecanoic acid	MPFDoA	250	19
Perfluoro-n-(1,2-$^{13}C_2$)tetradecanoic acid	M2PFTeDA	250	22
Perfluoro-1-($^{13}C_8$)octanesulfonamide	M8FOSA	500	17
N-methyl-d_3-perfluoro-1-octanesulfonamide	d-N-MeFOSA	500	21
N-ethyl-d_5-perfluoro-1-octanesulfonamide	d-N-EtFOSA	500	24
N-methyl-d_3-perfluoro-1-octanesulfonamidoacetic acid	d3-N-MeFOSAA	1000	15
N-ethyl-d_5-perfluoro-1-octanesulfonamidoacetic acid	d5-N-EtFOSAA	1000	16
2-(N-methyl-d_3-perfluoro-1-octanesulfonamido)ethan-d_4-ol	d7-N-MeFOSE	5000	20
2-(N-ethyl-d_5-perfluoro-1-octanesulfonamido)ethan-d_4-ol	d9-N-EtFOSE	5000	23
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)($^{13}C_3$)propanoic acid	M3HFPO-DA	2000	6

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-(2,3,4-$^{13}C_3$)butanesulfonate	M3PFBS	500	466	3
Sodium perfluoro-1-(1,2,3-$^{13}C_3$)hexanesulfonate	M3PFHxS	500	474	8
Sodium perfluoro-1-($^{13}C_8$)octanesulfonate	M8PFOS	500	479	12
Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)hexanesulfonate	M2-4:2FTS	1000	938	4
Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)octanesulfonate	M2-6:2FTS	1000	951	9
Sodium 1H,1H,2H,2H-perfluoro-(1,2-$^{13}C_2$)decanesulfonate	M2-8:2FTS	1000	960	13

* Concentrations have been rounded to three significant figures.

Certified By: _____ **Date:** 11/24/2022 (mm/dd/yyyy)

B.G. Chittim, General Manager

Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

MPFACHIFES1022 (3 of 7)
rev0

7.9.1

7

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

MPFAC-HIF-IS

Mass-Labelled PFAS Injection Standard Solution/Mixture

PRODUCT CODE:	MPFAC-HIF-IS
LOT NUMBER:	MPFACHIFIS1122
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	11/28/2022
LAST TESTED: (mm/dd/yyyy)	11/29/2022
EXPIRY DATE: (mm/dd/yyyy)	11/29/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

MPFAC-HIF-IS is a solution/mixture of five mass-labelled (^{13}C) perfluoroalkylcarboxylic acids (C_4, C_6, C_8-C_{10}) and two mass-labelled (^{18}O and ^{13}C) perfluoroalkanesulfonates (C_6 and C_8). The components and their concentrations are given in Table A.

The individual mass-labelled perfluoroalkylcarboxylic acids and mass-labelled perfluoroalkanesulfonates all have chemical purities of >98% and isotopic purities of ≥99% per ^{13}C or >94% per ^{18}O.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Table A: **MPFAC-HIF-IS; Components and Concentrations (ng/mL, ± 5% in methanol/water (<1%))**

Compound	Acronym	Concentration (ng/mL)	Peak Assignment in Figure 1
Perfluoro-n-(2,3,4-$^{13}C_3$)butanoic acid	M3PFBA	1000	1
Perfluoro-n-(1,2-$^{13}C_2$)hexanoic acid	MPFHxA	500	2
Perfluoro-n-(1,2,3,4-$^{13}C_4$)octanoic acid	MPFOA	500	4
Perfluoro-n-(1,2,3,4,5-$^{13}C_5$)nonanoic acid	MPFNA	250	5
Perfluoro-n-(1,2-$^{13}C_2$)decanoic acid	MPFDA	250	7

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Sodium perfluoro-1-hexane($^{18}O_2$)sulfonate	MPFHxS	500	474	3
Sodium perfluoro-1-(1,2,3,4-$^{13}C_4$)octanesulfonate	MPFOS	500	479	6

* Concentrations have been rounded to three significant figures.

Certified By: B.G. Chittim, General Manager **Date:** 12/05/2022 (mm/dd/yyyy)

SGS - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time Started: 06/13/23 13:00 {mm/dd/yy 24:00}

Date/Time Finished: 06/14/23 9:45 {mm/dd/yy 24:00}

Method: EPA 1633 Draft (QSM) List 40

Balance ID: _____

Batch# OP97325 Ext. By: GH Conc. By: _____ Vialed By: _____

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount (ul)	Spike Amount (ul)	Final Volume (ml)	Manifold ID	Comments
OP 97325 MB		500	7	N/A	25		5	A6	
OP 97325 BS		500	7	N/A		200			
OP 97325 LLBS		500	7	N/A		60			
FC6803-1	2	550	6						
2	2	560	6						
3	2	570	6						
4	2	530	7						
5	2	560	6						
6	2	550	6	N/A	25		5	A6	
OP FC6803-1 MS	3	540	6	N/A	25	200	5	A6	
OP MSD									
OP FC6803-2 DUP	3	560	6	N/A	25		5	A6	

Comments:

EIS (SURR) ID: 11821 F-H Conc: 250-5000ng/mL Exp. Date: 06/05/24 Inj. By: GH Ver. By: AG

SPIKE 1 ID: LCMS 2127A Conc: VARIED Exp. Date: 10/28/23 Inj. By: GH Ver. By: AG

SPIKE 2 ID: _____ Conc: _____ Exp. Date: _____ Inj. By: _____ Ver. By: _____

NIS (ISTD) ID: 11851A-C Conc: 250-1000 ng/mL Exp. Date: 06/06/24 Inj. By: MW Ver. By: NG

TurboVap Temp (Therm ID): _____

Observed Temp °C: _____ Corr. Temp °C: _____

N-Evap Temp (Therm ID): _____

Observed Temp °C: _____ Corr. Temp °C: _____

Methanol Lot # 224279

Water Lot# OP97000

Acetic Acid# 194003

0.1M Formic PF437

1% NH4OH MeOH PF438

0.3M Formic Acid PF432

3% NH4OH Sol _____

5% Formic Acid _____

SPE Lot # 67362233-03

Syringe filter Lot # _____

pH paper Lot# 215322

Carbon Lot# 99687

Relinquished By: Gabriella Hadley Date: 06/13/23

Accepted By: MW Date: 6/14/23

1633 AQ extraction 042222 xls NF

SGS - ORLANDO

GH 06/16/23 Date/Time Started (mm/dd/yy 24:00) 06/16/23 13:00

Date/Time Finished (mm/dd/yy 24:00) 06/19/23 14:40

Batch# OP97385 Ext. By GH

SPE LIQUID SAMPLE PREP REPORT

Method EPA 1633 Draft (QSM) List 4.0

Balance ID _____ Conc. By _____ Vialed By _____

Sample ID	Bottle Number	Amount Extracted (ml)	Initial pH	Adjusted pH	Surrogate Amount (ul)	Spike Amount (ul)	Final Volume (ml)	Manifold ID	Comments
OP 97385 MB		500	7	N/A	25		5	A4	
OP 97385 BS		500	7	N/A		200			
OP 97385 LLBS		500	7	N/A		60			
FC6444-20	2	60	7						
21	2	60							
22	2	60							
23	2	60							
24	2	60							
25	2	60							
26	1	530							
27	2	60						A4	
28	2	60						A6	
29	2	60							
30	2	60							
31	2	60							
32	2	60							
33	2	60							
GH 06/16/23 FC6803-4 Re	3	520							
FC6803-4 Re	1	6666	7	N/A	25		5	A6	
OP FC6444-23 MS	3	60	7	N/A	25	200	5	A4	
OP MSD									
OP FC6444-24 DUP	3	60	7	N/A	25		5	A4	

Comments:

EIS (SURR) ID 11821 I-S Conc: 250-5000 ng/ml Exp. Date 06/05/24 Inj. By: GH Ver. By CM

SPIKE 1 ID LCMS2127B Conc: VARIED Exp. Date: 10/28/23 Inj. By: GH Ver. By CM

SPIKE 2 ID: _____ Conc: _____ Exp. Date: _____ Inj. By: _____ Ver. By _____

NIS (ISTD) ID 11851E-6 Conc: 250-1000 ng/ml Exp. Date 06/15/24 Inj. By: MW Ver. By NG

TurboVap Temp (Therm ID): _____

Observed Temp °C: _____ Corr. Temp °C: _____

N-Evap Temp (Therm ID): _____

Observed Temp °C: _____ Corr. Temp °C: _____

Methanol Lot # 224279

Water Lot# OP97000

Acetic Acid# 194003

0.1M Formic PF443

1% NH4OH MeOH PF444

0.3M Formic Acid PF432

3% NH4OH Sol _____

5% Formic Acid _____

SPE Lot # 6694383-02

Syringe filter Lot # _____

pH paper Lot# 215322

Carbon Lot# 99687

Relinquished By: Gdaniella Nales Date 06/16/23

Accepted By: MW Date 06/19/23

1633 AQ extraction 042222 xls NF