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

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC8547

Sampling Date: 08/04/23

Report to:

AECOM, Inc
7595 Technology Way
Denver, CO 80237
katie.abbott@aecom.com; mark.kromis@aecom.com;
watson.tanji@aecom.com; kristin.rutherford@aecom.com
ATTN: Katie Abbott

Total number of pages in report: 876

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 unless noted in the narrative, comments or footnotes.

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

This report shall not be reproduced, except in its entirety, without the written approval of SGS.
Test results relate only to samples analyzed.

SGS is the sole authority for authorizing edits or modifications to this document.
Unauthorized modification of this report is strictly prohibited.
Review standard terms at: http://www.sgs.com/en/terms-and-conditions

Please share your ideas about
how we can serve you better at:
EHS.US.CustomerCare@sgs.com

Sections: 1 2 3 4 5 6 7

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **5**
Section 4: Sample Results **6**
4.1: FC8547-1: AF-RHMW04-WGN01LF-2308 7
4.2: FC8547-2: AF-RHMW17S-WGN01LF-2308 10
4.3: FC8547-3: AF-RHMW17S-WQEB01-2308 13
4.4: FC8547-4: AF-RHMW17-WGN01LF-2308 16
4.5: FC8547-5: AF-RHMW06-WGN01LF-2308 19
4.6: FC8547-6: AF-RHMW17D-WGN01LF-2308 22
4.7: FC8547-7: AF-RHMW17D-WQFB01-2308 25
Section 5: Misc. Forms **28**
5.1: Chain of Custody 29
5.2: QC Evaluation: DOD QSM5.x Limits 35
Section 6: MS Semi-volatiles - QC Data Summaries **36**
6.1: Method Blank Summary 37
6.2: Blank Spike Summary 47
6.3: Matrix Spike Summary 51
6.4: Duplicate Summary 53
6.5: Injection Standard Area Summaries 55
6.6: TDCA Retention Time Checks 61
6.7: Ion Ratio Summaries 68
6.8: Isotope Dilution Standard Recovery Summaries 69
6.9: Initial and Continuing Calibration Summaries 72
6.10: Run Sequence Reports 95
Section 7: MS Semi-volatiles - Raw Data **103**
7.1: Samples 104
7.2: Method Blanks 198
7.3: Blank Spikes 266
7.4: Matrix Spikes 310
7.5: Duplicates 332
7.6: Retention Time Markers 343
7.7: Initial and Continuing Calibrations 421
7.8: Instrument Run Logs 819
7.9: Standard Prep Logs 828
7.10: Sample Prep Logs 876

SGS North America Inc.

Sample Summary

AECOM, INC.

Job No: FC8547

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
FC8547-1	08/04/23	09:30	JV	08/08/23	AQ	Ground Water	AF-RHMW04-WGN01LF-2308
FC8547-2	08/04/23	09:55	JV	08/08/23	AQ	Ground Water	AF-RHMW17S-WGN01LF-2308
FC8547-3	08/04/23	10:20	JVTN	08/08/23	AQ	Equipment Blank	AF-RHMW17S-WQEB01-2308
FC8547-4	08/04/23	11:25	JV	08/08/23	AQ	Ground Water	AF-RHMW17-WGN01LF-2308
FC8547-5	08/04/23	11:40	TN	08/08/23	AQ	Ground Water	AF-RHMW06-WGN01LF-2308
FC8547-6	08/04/23	13:05	JV	08/08/23	AQ	Ground Water	AF-RHMW17D-WGN01LF-2308
FC8547-7	08/04/23	12:25	JV	08/08/23	AQ	Field Blank Water	AF-RHMW17D-WQFB01-2308

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC. **Job No:** FC8547

Site: N6274223F0104 RH Fire Suppression System **Report Date** 8/16/2023 4:35:22 PM

On 08/08/2023, 6 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 4.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC8547 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:** OP98380

Sample(s) FC8547-2MS, FC8547-4DUP were used as the QC samples indicated.

Sample(s) FC8547-6 have surrogates outside control limits.

FC8547-6: Dilution required (ID recovery standard failure).

FC8547-6 for 13C2-4:2FTS: 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: FC8547
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 08/04/23

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
FC8547-1	**AF-RHMW04-WGN01LF-2308**					
No hits reported in this sample.						
FC8547-2	**AF-RHMW17S-WGN01LF-2308**					
Perfluorobutanoic acid		6.8 J	14	3.5	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid		1.4 J	3.5	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid		1.0 J	3.5	1.8	ng/l	EPA DRAFT 1633
FC8547-3	**AF-RHMW17S-WQEB01-2308**					
No hits reported in this sample.						
FC8547-4	**AF-RHMW17-WGN01LF-2308**					
No hits reported in this sample.						
FC8547-5	**AF-RHMW06-WGN01LF-2308**					
No hits reported in this sample.						
FC8547-6	**AF-RHMW17D-WGN01LF-2308**					
No hits reported in this sample.						
FC8547-7	**AF-RHMW17D-WQFB01-2308**					
No hits reported in this sample.						

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW04-WGN01LF-2308		
Lab Sample ID:	FC8547-1	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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	6Q22812.D	1	08/13/23 19:55	MV	08/11/23 09:00	OP98380	S6Q331
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	1.8 U	7.3	1.8	0.85	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	0.91 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	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-RHMW04-WGN01LF-2308		
Lab Sample ID:	FC8547-1	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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 carboxylate	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	109%		20-150%
	13C5-PFPeA	118%		20-150%
	13C5-PFHxA	117%		20-150%
	13C4-PFHpA	118%		20-150%
	13C8-PFOA	115%		20-150%
	13C9-PFNA	107%		20-150%
	13C6-PFDA	116%		20-150%
	13C7-PFUnDA	102%		20-150%
	13C2-PFDoDA	99%		20-150%
	13C2-PFTeDA	91%		20-150%
	13C3-PFBS	112%		20-150%
	13C3-PFHxS	103%		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-RHMW04-WGN01LF-2308		
Lab Sample ID:	FC8547-1	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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	105%		20-150%
	13C8-FOSA	73%		20-150%
	d3-MeFOSA	80%		20-150%
	d5-EtFOSA	84%		20-150%
	d3-MeFOSAA	93%		20-150%
	d5-EtFOSAA	86%		20-150%
	d7-MeFOSE	78%		20-150%
	d9-EtFOSE	89%		20-150%
	13C2-4:2FTS	105%		20-180%
	13C2-6:2FTS	115%		20-180%
	13C2-8:2FTS	102%		20-180%
	13C3-HFPO-DA	117%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW17S-WGN01LF-2308		
Lab Sample ID:	FC8547-2	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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	6Q22813.D	1	08/13/23 20:09	MV	08/11/23 09:00	OP98380	S6Q331
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	6.8	14	3.5	1.7	ng/l	J
2706-90-3	Perfluoropentanoic acid	1.8 U	7.0	1.8	0.82	ng/l	
307-24-4	Perfluorohexanoic acid	1.4	3.5	1.8	0.44	ng/l	J
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	1.0	3.5	1.8	0.47	ng/l	J
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-WGN01LF-2308		
Lab Sample ID:	FC8547-2	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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 carboxylate	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	86%		20-150%
	13C5-PFPeA	113%		20-150%
	13C5-PFHxA	111%		20-150%
	13C4-PFHpA	113%		20-150%
	13C8-PFOA	112%		20-150%
	13C9-PFNA	103%		20-150%
	13C6-PFDA	113%		20-150%
	13C7-PFUnDA	112%		20-150%
	13C2-PFDoDA	103%		20-150%
	13C2-PFTeDA	87%		20-150%
	13C3-PFBS	105%		20-150%
	13C3-PFHxS	106%		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-2308		
Lab Sample ID:	FC8547-2	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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	108%		20-150%
	13C8-FOSA	78%		20-150%
	d3-MeFOSA	76%		20-150%
	d5-EtFOSA	75%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	96%		20-150%
	d7-MeFOSE	79%		20-150%
	d9-EtFOSE	85%		20-150%
	13C2-4:2FTS	91%		20-180%
	13C2-6:2FTS	102%		20-180%
	13C2-8:2FTS	93%		20-180%
	13C3-HFPO-DA	103%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW17S-WQEB01-2308		
Lab Sample ID:	FC8547-3	**Date Sampled:**	08/04/23
Matrix:	AQ - Equipment Blank	**Date Received:**	08/08/23
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	6Q22815.D	1	08/13/23 20:38	MV	08/11/23 09:00	OP98380	S6Q331
Run #2							

	Initial Volume	Final Volume
Run #1	530 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.8 U	15	3.8	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.5	1.9	0.89	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
335-67-1	Perfluorooctanoic acid	0.94 U	3.8	0.94	0.47	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.8	1.9	0.58	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.8	1.9	0.57	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.8	1.9	0.79	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.8	1.9	0.47	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.8	1.9	0.47	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.8 U	4.7	3.8	1.1	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.8	1.9	0.66	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.8	1.9	0.47	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.8	1.9	0.51	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.8	1.9	0.54	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.8	1.9	0.60	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.8 U	4.7	3.8	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.3	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.5 U	19	7.5	3.9	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	3.8	1.9	0.63	ng/l	
31506-32-8	MeFOSA	3.8 U	7.5	3.8	0.94	ng/l	
4151-50-2	EtFOSA	3.8 U	7.5	3.8	0.94	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-WQEB01-2308		
Lab Sample ID:	FC8547-3	**Date Sampled:**	08/04/23
Matrix:	AQ - Equipment Blank	**Date Received:**	08/08/23
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	3.8 U	4.7	3.8	0.94	ng/l	
2991-50-6	EtFOSAA	3.8 U	4.7	3.8	1.3	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	19 U	38	19	4.1	ng/l	
1691-99-2	EtFOSE	19 U	38	19	7.0	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.9 U	3.8	1.9	0.94	ng/l	
919005-14-4	ADONA	3.8 U	7.5	3.8	1.8	ng/l	
377-73-1	PFMPA	1.9 U	7.5	1.9	0.94	ng/l	
863090-89-5	PFMBA	3.8 U	7.5	3.8	1.1	ng/l	
151772-58-6	NFDHA	3.8 U	7.5	3.8	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.8 U	7.5	3.8	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.8 U	7.5	3.8	1.7	ng/l	
113507-82-7	PFEESA	1.9 U	7.5	1.9	0.74	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.4 U	19	9.4	4.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	94	19	8.2	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	94	19	7.4	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	126%		20-150%
	13C5-PFPeA	125%		20-150%
	13C5-PFHxA	130%		20-150%
	13C4-PFHpA	127%		20-150%
	13C8-PFOA	128%		20-150%
	13C9-PFNA	114%		20-150%
	13C6-PFDA	132%		20-150%
	13C7-PFUnDA	114%		20-150%
	13C2-PFDoDA	107%		20-150%
	13C2-PFTeDA	101%		20-150%
	13C3-PFBS	126%		20-150%
	13C3-PFHxS	122%		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-WQEB01-2308		
Lab Sample ID:	FC8547-3	**Date Sampled:**	08/04/23
Matrix:	AQ - Equipment Blank	**Date Received:**	08/08/23
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	120%		20-150%
	13C8-FOSA	88%		20-150%
	d3-MeFOSA	99%		20-150%
	d5-EtFOSA	103%		20-150%
	d3-MeFOSAA	111%		20-150%
	d5-EtFOSAA	105%		20-150%
	d7-MeFOSE	101%		20-150%
	d9-EtFOSE	110%		20-150%
	13C2-4:2FTS	119%		20-180%
	13C2-6:2FTS	126%		20-180%
	13C2-8:2FTS	108%		20-180%
	13C3-HFPO-DA	120%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW17-WGN01LF-2308		
Lab Sample ID:	FC8547-4	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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	6Q22816.D	1	08/13/23 20:52	MV	08/11/23 09:00	OP98380	S6Q331
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-RHMW17-WGN01LF-2308		
Lab Sample ID:	FC8547-4	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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 carboxylate	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	104%		20-150%
	13C5-PFPeA	117%		20-150%
	13C5-PFHxA	125%		20-150%
	13C4-PFHpA	120%		20-150%
	13C8-PFOA	117%		20-150%
	13C9-PFNA	109%		20-150%
	13C6-PFDA	112%		20-150%
	13C7-PFUnDA	106%		20-150%
	13C2-PFDoDA	101%		20-150%
	13C2-PFTeDA	94%		20-150%
	13C3-PFBS	107%		20-150%
	13C3-PFHxS	104%		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-2308		
Lab Sample ID:	FC8547-4	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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	84%		20-150%
	d3-MeFOSA	87%		20-150%
	d5-EtFOSA	90%		20-150%
	d3-MeFOSAA	93%		20-150%
	d5-EtFOSAA	89%		20-150%
	d7-MeFOSE	88%		20-150%
	d9-EtFOSE	96%		20-150%
	13C2-4:2FTS	103%		20-180%
	13C2-6:2FTS	114%		20-180%
	13C2-8:2FTS	95%		20-180%
	13C3-HFPO-DA	110%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW06-WGN01LF-2308		
Lab Sample ID:	FC8547-5	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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	6Q22820.D	1	08/13/23 21:49	MV	08/11/23 09:00	OP98380	S6Q331
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-RHMW06-WGN01LF-2308		
Lab Sample ID:	FC8547-5	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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 carboxylate	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	121%		20-150%
	13C5-PFPeA	129%		20-150%
	13C5-PFHxA	128%		20-150%
	13C4-PFHpA	132%		20-150%
	13C8-PFOA	124%		20-150%
	13C9-PFNA	122%		20-150%
	13C6-PFDA	110%		20-150%
	13C7-PFUnDA	106%		20-150%
	13C2-PFDoDA	106%		20-150%
	13C2-PFTeDA	92%		20-150%
	13C3-PFBS	129%		20-150%
	13C3-PFHxS	123%		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-RHMW06-WGN01LF-2308		
Lab Sample ID:	FC8547-5	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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	116%		20-150%
	13C8-FOSA	85%		20-150%
	d3-MeFOSA	93%		20-150%
	d5-EtFOSA	100%		20-150%
	d3-MeFOSAA	105%		20-150%
	d5-EtFOSAA	89%		20-150%
	d7-MeFOSE	93%		20-150%
	d9-EtFOSE	101%		20-150%
	13C2-4:2FTS	127%		20-180%
	13C2-6:2FTS	136%		20-180%
	13C2-8:2FTS	108%		20-180%
	13C3-HFPO-DA	129%		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

SGS North America Inc.

Report of Analysis

Client Sample ID:	AF-RHMW17D-WGN01LF-2308		
Lab Sample ID:	FC8547-6	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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	6Q22821.D	1	08/13/23 22:04	MV	08/11/23 09:00	OP98380	S6Q331
Run #2 [a]	6Q22895.D	5	08/14/23 21:49	MV	08/11/23 09:00	OP98380	S6Q332

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

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	36 U [b]	89	36	14	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-WGN01LF-2308		
Lab Sample ID:	FC8547-6	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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 carboxylate	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	122%	119%	20-150%
	13C5-PFPeA	126%	124%	20-150%
	13C5-PFHxA	127%	125%	20-150%
	13C4-PFHpA	130%	127%	20-150%
	13C8-PFOA	127%	122%	20-150%
	13C9-PFNA	129%	115%	20-150%
	13C6-PFDA	122%	115%	20-150%
	13C7-PFUnDA	113%	113%	20-150%
	13C2-PFDoDA	106%	102%	20-150%
	13C2-PFTeDA	87%	92%	20-150%
	13C3-PFBS	128%	114%	20-150%
	13C3-PFHxS	125%	105%	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-WGN01LF-2308		
Lab Sample ID:	FC8547-6	**Date Sampled:**	08/04/23
Matrix:	AQ - Ground Water	**Date Received:**	08/08/23
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	127%	50%	20-150%
	13C8-FOSA	90%	36%	20-150%
	d3-MeFOSA	93%	39%	20-150%
	d5-EtFOSA	97%	41%	20-150%
	d3-MeFOSAA	132%	53%	20-150%
	d5-EtFOSAA	129%	48%	20-150%
	d7-MeFOSE	94%	39%	20-150%
	d9-EtFOSE	104%	43%	20-150%
	13C2-4:2FTS	204% [c]	113%	20-180%
	13C2-6:2FTS	124%	99%	20-180%
	13C2-8:2FTS	92%	99%	20-180%
	13C3-HFPO-DA	110%	122%	20-150%

(a) Dilution required (ID recovery standard failure).
(b) Result is from Run# 2
(c) 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-WQFB01-2308		
Lab Sample ID:	FC8547-7	**Date Sampled:**	08/04/23
Matrix:	AQ - Field Blank Water	**Date Received:**	08/08/23
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	6Q22822.D	1	08/13/23 22:18	MV	08/11/23 09:00	OP98380	S6Q331
Run #2							

	Initial Volume	Final Volume
Run #1	540 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.7 U	15	3.7	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.4	1.9	0.87	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
335-67-1	Perfluorooctanoic acid	0.93 U	3.7	0.93	0.46	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.78	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.65	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	0.50	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.53	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.59	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	
PERFLUOROOCTANE SULFONAMIDES							
754-91-6	PFOSA	1.9 U	3.7	1.9	0.62	ng/l	
31506-32-8	MeFOSA	3.7 U	7.4	3.7	0.93	ng/l	
4151-50-2	EtFOSA	3.7 U	7.4	3.7	0.93	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-WQFB01-2308		
Lab Sample ID:	FC8547-7	**Date Sampled:**	08/04/23
Matrix:	AQ - Field Blank Water	**Date Received:**	08/08/23
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	3.7 U	4.6	3.7	0.93	ng/l	
2991-50-6	EtFOSAA	3.7 U	4.6	3.7	1.2	ng/l	
PERFLUOROOCTANE SULFONAMIDO ETHANOLS							
24448-09-7	MeFOSE	19 U	37	19	4.1	ng/l	
1691-99-2	EtFOSE	19 U	37	19	6.9	ng/l	
PER and POLYFLUOROETHER CARBOXYLIC ACIDS							
13252-13-6	HFPO-DA (GenX)	1.9 U	3.7	1.9	0.93	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.7	ng/l	
377-73-1	PFMPA	1.9 U	7.4	1.9	0.93	ng/l	
863090-89-5	PFMBA	3.7 U	7.4	3.7	1.1	ng/l	
151772-58-6	NFDHA	3.7 U	7.4	3.7	1.1	ng/l	
PER and POLYFLUOROETHER SULFONIC ACIDS							
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.6	ng/l	
113507-82-7	PFEESA	1.9 U	7.4	1.9	0.72	ng/l	
FLUOROTELOMER CARBOXYLIC ACIDS							
356-02-5	3:3 Fluorotelomer carboxylate	9.3 U	19	9.3	4.2	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	93	19	8.1	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	19 U	93	19	7.3	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	128%		20-150%
	13C5-PFPeA	129%		20-150%
	13C5-PFHxA	131%		20-150%
	13C4-PFHpA	130%		20-150%
	13C8-PFOA	132%		20-150%
	13C9-PFNA	119%		20-150%
	13C6-PFDA	125%		20-150%
	13C7-PFUnDA	105%		20-150%
	13C2-PFDoDA	95%		20-150%
	13C2-PFTeDA	84%		20-150%
	13C3-PFBS	128%		20-150%
	13C3-PFHxS	124%		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-WQFB01-2308		
Lab Sample ID:	FC8547-7	**Date Sampled:**	08/04/23
Matrix:	AQ - Field Blank Water	**Date Received:**	08/08/23
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	121%		20-150%
	13C8-FOSA	83%		20-150%
	d3-MeFOSA	88%		20-150%
	d5-EtFOSA	93%		20-150%
	d3-MeFOSAA	102%		20-150%
	d5-EtFOSAA	91%		20-150%
	d7-MeFOSE	89%		20-150%
	d9-EtFOSE	99%		20-150%
	13C2-4:2FTS	122%		20-180%
	13C2-6:2FTS	136%		20-180%
	13C2-8:2FTS	107%		20-180%
	13C3-HFPO-DA	124%		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

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

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL: 407-425-6700 FAX: 407-425-0707
www.sgs.com

COC #: 2308AFSG08
PAGE 1 OF 1
SGS - ORLANDO JOB # : FC8547
SGS - ORLANDO Quote #
SKIFF #

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: Jocelyn Vo Sampler 2: Tyler Nishizawa

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	LAB USE ONLY
1	AF-RHMW04-WGN01LF-2308	8/1/23	0930	JV	GW	3		X							X	

INITIAL ASSESSMENT
LABEL VERIFICATION

Turnaround Time (Business days)

10 Day (Business)
7 Day
5 Day
3 Day *RUSH*
2 Day *RUSH*
1 Day *RUSH*
Other
Approved By: / Date:
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: 016-78556192

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 Tyler Nishizawa AECOM	8/4/23 1250	2 Brittany Tamirez / AECOM	3 Brittany Tamirez / AECOM	08/07/23 1025	4
Relinquished by/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
5		6 08/09/23 945	7		8

Lab Use Only : Cooler Temperature (s) Celsius (corrected): 4.8 IR#1

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

PFAS_COCs_ALL_082023.xls Rev 031318

FC8547: Chain of Custody
Page 1 of 6

SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL: 407-425-6700 FAX: 407-425-0707
www.sgs.com

COC #: 2308AFSG12
PAGE 1 OF 1

SGS - ORLANDO JOB # :
SGS - ORLANDO Quote #
SKIFF # FC8547

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: [illegible] Sampler 2:

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-2308	8/4/23	0945	JV	GW	3		X								X	
3	AF-RHMW17S-WQEB01-2308	8/4/23	1020	JV	GW	3		X								X	

EM 8/4/23

8/4/23

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 ANB: 016-785560192

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	AECOM	8/4/23 1700	2 Ali Martin / AECOM	3 Ali Martin / AECOM	08/07/23 1020	4
5	Relinquished by/Affiliation	Date Time:	Received By/Affiliation 08/8/23 945	Relinquished By/Affiliation 7	Date Time:	Received By/Affiliation 8

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

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

PFAS_COCs_ALL_082023.xls Rev 031318

5.1 5

FC8547: Chain of Custody
Page 2 of 6

SGS

SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL: 407-425-6700 FAX: 407-425-0707
www.sgs.com

COC #: 2308AFSG10

SGS - ORLANDO JOB # :

PAGE 1 OF 1

SGS - ORLANDO Quote # | SKIFF # FC8547

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 Manager:** Watson Tanji **Email:** watson.tanji@aecom.com	**Project #** 60697810
Phone #: 303-796-4624 / 808-954-4512	**Fax #**
Sampler(s) Name(s) (Printed) **Sampler 1:** Jorge Vincenzo **Sampler 2:**	**Client Purchase Order #**

Analytical Information

EM 8/4/23

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:	CONTAINER INFORMATION MATRIX	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-2308	8/4/23	1125	JV	GW	3		X								X	

8/4/23

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: 016-78556192

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 JV /AECOM	8/4/23 1400	2 Eli Martin /AECOM	3 Eli Martin /AECOM	08/07/23 1020	4
Relinquished by/Affiliation	**Date Time:**	**Received By/Affiliation**	**Relinquished By/Affiliation**	**Date Time:**	**Received By/Affiliation**
5		6 08/08/23 945	7		8

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

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

PFAS_COCs_ALL_082023.xls Rev 031318

5.1

5

FC8547: Chain of Custody
Page 3 of 6

SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL. 407-425-6700 FAX: 407-425-0707
www.sgs.com

COC #: 2308AFSG09
PAGE 1 OF 1
SGS - ORLANDO JOB # :
SGS - ORLANDO Quote # | SKIFF # FC8547

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: Jaclyn Vo Sampler 2: Tyler Nishikawa

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
5	AF-RHMW06-WGN01LF-2308	8/4/23	1140	TN	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: 016-78556192

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	Tyler Nishikawa AECOM	8/4/23 1250	2 Brittany Tamirez AECOM	3 Brittany Tamirez AECOM	08/07/23 1020	4
5	Relinquished by/Affiliation	Date Time:	6 08/08/23 745	7	Date Time:	8

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

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

PFAS_COCs_ALL_082023.xls Rev 031318

FC8547: Chain of Custody
Page 4 of 6

SGS North America Inc - Orlando
Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL: 407-425-6700 FAX: 407-425-0707
www.sgs.com

COC #: 2308AFSG11
PAGE 1 OF 1
SGS - ORLANDO JOB # : FC8547
SGS - ORLANDO Quote #
SKIFF #

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: [illegible] Sampler 2:

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

8/4/23 EN

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	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	LAB USE ONLY
6	AF-RHMW17D-WGN01LF-2308	8/4/23	1705	JV	GW	3		X								X
7	AF-RHMW17D-WQFB01-2308	8/4/23	1705	JV	GW	3		X								X
			1225	EN 8/4/23												

8/4/23

Turnaround Time (Business days)

10 Day (Business) Approved By: / Date:
7 Day
[5] 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
Sample labels are wrong. Samples collected on 08/04/23.
United AWB 016-78556192

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	AECOM	8/4/23 1400	2 Eli Martin/AECOM	3 Eli Martin/AECOM	08/07/23 1620	4
	Relinquished by/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
5			6 08/08/23 945	7		8

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

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

PFAS_COCs_ALL_082023.xls Rev 031318

SGS Sample Receipt Summary

Job Number: FC8547 **Client:** AECOM **Project:** N6274223F0104 RH Fire Suppression System

Date / Time Received: 8/8/2023 9:45:00 AM **Delivery Method:** United Cargo/Airspace **Airbill #'s:** United Cargo AWB #: 016-78556192

Therm ID: IR 1; **Therm CF:** -0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (4.8);

Cooler Temps (Corrected) °C: Cooler 1: (4.6);

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: 8/8/2023 9:45:00 AM Reviewer: SP Date: 8/10/2023

FC8547: Chain of Custody
Page 6 of 6

QC Evaluation: DOD QSM5.x Limits

Job Number: FC8547
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 08/04/23

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 FC8547

MS Semi-volatiles

6

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: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-IBLK	6Q22793.D	1	08/13/23	MV	n/a	n/a	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

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: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-IBLK	6Q22793.D	1	08/13/23	MV	n/a	n/a	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

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	100%	20-150%
	13C5-PFHxA	101%	20-150%
	13C4-PFHpA	98%	20-150%
	13C8-PFOA	104%	20-150%
	13C9-PFNA	94%	20-150%
	13C6-PFDA	98%	20-150%
	13C7-PFUnDA	99%	20-150%
	13C2-PFDoDA	105%	20-150%
	13C2-PFTeDA	98%	20-150%
	13C3-PFBS	100%	20-150%
	13C3-PFHxS	98%	20-150%
	13C8-PFOS	99%	20-150%
	13C8-FOSA	89%	20-150%
	d3-MeFOSAA	81%	20-150%
	d5-EtFOSAA	79%	20-150%
	13C2-4:2FTS	87%	20-180%
	13C2-6:2FTS	89%	20-180%
	13C2-8:2FTS	86%	20-180%

Instrument Blank

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q332-IBLK	6Q22852.D	1	08/14/23	MV	n/a	n/a	S6Q332

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

FC8547-6

CAS No.	Compound	Result	RL	MDL	Units	Q
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	103%	20-150%
	13C5-PFHxA	101%	20-150%
	13C4-PFHpA	99%	20-150%
	13C8-PFOA	103%	20-150%
	13C9-PFNA	106%	20-150%
	13C6-PFDA	113%	20-150%
	13C7-PFUnDA	106%	20-150%
	13C2-PFDoDA	107%	20-150%
	13C2-PFTeDA	101%	20-150%
	13C3-PFBS	95%	20-150%
	13C3-PFHxS	98%	20-150%
	13C8-PFOS	97%	20-150%
	13C8-FOSA	89%	20-150%
	d3-MeFOSA	93%	20-150%
	d5-EtFOSA	92%	20-150%
	d3-MeFOSAA	91%	20-150%
	d5-EtFOSAA	85%	20-150%
	d7-MeFOSE	98%	20-150%
	d9-EtFOSE	99%	20-150%
	13C2-4:2FTS	99%	20-180%
	13C2-6:2FTS	101%	20-180%
	13C2-8:2FTS	85%	20-180%
	13C3-HFPO-DA	106%	20-150%

Continuing Calibration Blank

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-ICCB	6Q22807.D	1	08/13/23	MV	n/a	n/a	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4

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: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-ICCB	6Q22807.D	1	08/13/23	MV	n/a	n/a	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4

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	101%	20-150%
	13C5-PFPeA	103%	20-150%
	13C5-PFHxA	102%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	93%	20-150%
	13C9-PFNA	100%	20-150%
	13C6-PFDA	101%	20-150%
	13C7-PFUnDA	100%	20-150%
	13C2-PFDoDA	101%	20-150%
	13C2-PFTeDA	95%	20-150%
	13C3-PFBS	100%	20-150%
	13C3-PFHxS	93%	20-150%
	13C8-PFOS	108%	20-150%
	13C8-FOSA	101%	20-150%
	d3-MeFOSAA	100%	20-150%
	d5-EtFOSAA	94%	20-150%
	13C2-4:2FTS	92%	20-180%
	13C2-6:2FTS	93%	20-180%
	13C2-8:2FTS	98%	20-180%

Continuing Calibration Blank

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-ICCB	6Q22819.D	1	08/13/23	MV	n/a	n/a	S6Q331

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

FC8547-5, FC8547-6, FC8547-7

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: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q331-ICCB	6Q22819.D	1	08/13/23	MV	n/a	n/a	S6Q331

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

FC8547-5, FC8547-6, FC8547-7

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	102%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	101%	20-150%
	13C8-PFOA	104%	20-150%
	13C9-PFNA	100%	20-150%
	13C6-PFDA	99%	20-150%
	13C7-PFUnDA	107%	20-150%
	13C2-PFDoDA	105%	20-150%
	13C2-PFTeDA	98%	20-150%
	13C3-PFBS	101%	20-150%
	13C3-PFHxS	100%	20-150%
	13C8-PFOS	96%	20-150%
	13C8-FOSA	95%	20-150%
	d3-MeFOSAA	95%	20-150%
	d5-EtFOSAA	86%	20-150%
	13C2-4:2FTS	101%	20-180%
	13C2-6:2FTS	100%	20-180%
	13C2-8:2FTS	96%	20-180%

Continuing Calibration Blank

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q332-ICCB	6Q22887.D	1	08/14/23	MV	n/a	n/a	S6Q332

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

FC8547-6

CAS No.	Compound	Result	RL	MDL	Units	Q
757124-72-4	4:2 Fluorotelomer sulfonate	ND	0.020	0.0032	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	101%	20-150%
	13C5-PFPeA	102%	20-150%
	13C5-PFHxA	99%	20-150%
	13C4-PFHpA	97%	20-150%
	13C8-PFOA	107%	20-150%
	13C9-PFNA	101%	20-150%
	13C6-PFDA	102%	20-150%
	13C7-PFUnDA	101%	20-150%
	13C2-PFDoDA	102%	20-150%
	13C2-PFTeDA	106%	20-150%
	13C3-PFBS	101%	20-150%
	13C3-PFHxS	99%	20-150%
	13C8-PFOS	93%	20-150%
	13C8-FOSA	100%	20-150%
	d3-MeFOSA	95%	20-150%
	d5-EtFOSA	100%	20-150%
	d3-MeFOSAA	96%	20-150%
	d5-EtFOSAA	76%	20-150%
	d7-MeFOSE	113%	20-150%
	d9-EtFOSE	120%	20-150%
	13C2-4:2FTS	103%	20-180%
	13C2-6:2FTS	108%	20-180%
	13C2-8:2FTS	85%	20-180%
	13C3-HFPO-DA	104%	20-150%

Method Blank Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-MB	6Q22811.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

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: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-MB	6Q22811.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

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	113%	20-150%
	13C5-PFPeA	116%	20-150%
	13C5-PFHxA	118%	20-150%
	13C4-PFHpA	111%	20-150%
	13C8-PFOA	118%	20-150%
	13C9-PFNA	109%	20-150%
	13C6-PFDA	114%	20-150%
	13C7-PFUnDA	108%	20-150%
	13C2-PFDoDA	110%	20-150%
	13C2-PFTeDA	91%	20-150%
	13C3-PFBS	115%	20-150%
	13C3-PFHxS	116%	20-150%
	13C8-PFOS	119%	20-150%
	13C8-FOSA	71%	20-150%
	d3-MeFOSA	75%	20-150%
	d5-EtFOSA	84%	20-150%
	d3-MeFOSAA	110%	20-150%
	d5-EtFOSAA	98%	20-150%
	d7-MeFOSE	70%	20-150%
	d9-EtFOSE	80%	20-150%
	13C2-4:2FTS	118%	20-180%
	13C2-6:2FTS	120%	20-180%
	13C2-8:2FTS	108%	20-180%
	13C3-HFPO-DA	116%	20-150%

Blank Spike Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-LLBS	6Q22810.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0336	112	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0177	118	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0102	136	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0085	113	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0088	117	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0089	119	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0081	108	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0089	119	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0087	116	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0092	123	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0088	117	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0071	107	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0087	123	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0081	118	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0083	116	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0080	115	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0076	105	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0075	104	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0078	107	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0281	0.0338	120	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0321	113	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0367	127	40-150
754-91-6	PFOSA	0.0075	0.0091	121	40-150
31506-32-8	MeFOSA	0.015	0.0169	113	40-150
4151-50-2	EtFOSA	0.015	0.0154	103	40-150
2355-31-9	MeFOSAA	0.0075	0.0093	124	40-150
2991-50-6	EtFOSAA	0.0075	0.0089	119	40-150
24448-09-7	MeFOSE	0.0375	0.0425	113	40-150
1691-99-2	EtFOSE	0.0375	0.0432	115	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0174	116	40-150
919005-14-4	ADONA	0.0142	0.0173	122	40-150
377-73-1	PFMPA	0.015	0.0174	116	40-150
863090-89-5	PFMBA	0.015	0.0174	116	40-150
151772-58-6	NFDHA	0.015	0.0175	117	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.014	0.0168	120	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0142	0.0158	111	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-LLBS	6Q22810.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0154	115	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0332	89	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.188	0.190	101	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.198	106	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	113%	20-150%
	13C5-PFPeA	116%	20-150%
	13C5-PFHxA	115%	20-150%
	13C4-PFHpA	119%	20-150%
	13C8-PFOA	117%	20-150%
	13C9-PFNA	105%	20-150%
	13C6-PFDA	120%	20-150%
	13C7-PFUnDA	118%	20-150%
	13C2-PFDoDA	109%	20-150%
	13C2-PFTeDA	102%	20-150%
	13C3-PFBS	117%	20-150%
	13C3-PFHxS	108%	20-150%
	13C8-PFOS	111%	20-150%
	13C8-FOSA	70%	20-150%
	d3-MeFOSA	71%	20-150%
	d5-EtFOSA	82%	20-150%
	d3-MeFOSAA	95%	20-150%
	d5-EtFOSAA	91%	20-150%
	d7-MeFOSE	75%	20-150%
	d9-EtFOSE	85%	20-150%
	13C2-4:2FTS	107%	20-180%
	13C2-6:2FTS	116%	20-180%
	13C2-8:2FTS	111%	20-180%
	13C3-HFPO-DA	112%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-BS	6Q22809.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.115	115	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0583	117	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0303	121	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0296	118	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0266	106	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0289	116	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0278	111	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0296	118	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0280	112	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0295	118	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0283	113	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0250	113	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0276	117	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0265	116	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0273	115	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0289	125	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0262	109	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0273	113	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0271	112	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.0938	0.112	119	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.104	109	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.102	106	40-150
754-91-6	PFOSA	0.025	0.0282	113	40-150
31506-32-8	MeFOSA	0.05	0.0551	110	40-150
4151-50-2	EtFOSA	0.05	0.0553	111	40-150
2355-31-9	MeFOSAA	0.025	0.0290	116	40-150
2991-50-6	EtFOSAA	0.025	0.0276	110	40-150
24448-09-7	MeFOSE	0.125	0.139	111	40-150
1691-99-2	EtFOSE	0.125	0.138	110	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0578	116	40-150
919005-14-4	ADONA	0.0473	0.0533	113	40-150
377-73-1	PFMPA	0.05	0.0590	118	40-150
863090-89-5	PFMBA	0.05	0.0580	116	40-150
151772-58-6	NFDHA	0.05	0.0567	113	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0468	0.0529	113	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0473	0.0539	114	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-BS	6Q22809.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0526	118	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.107	86	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.625	0.591	95	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.592	95	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	115%	20-150%
	13C5-PFPeA	120%	20-150%
	13C5-PFHxA	120%	20-150%
	13C4-PFHpA	119%	20-150%
	13C8-PFOA	121%	20-150%
	13C9-PFNA	113%	20-150%
	13C6-PFDA	109%	20-150%
	13C7-PFUnDA	107%	20-150%
	13C2-PFDoDA	100%	20-150%
	13C2-PFTeDA	101%	20-150%
	13C3-PFBS	118%	20-150%
	13C3-PFHxS	116%	20-150%
	13C8-PFOS	116%	20-150%
	13C8-FOSA	68%	20-150%
	d3-MeFOSA	72%	20-150%
	d5-EtFOSA	75%	20-150%
	d3-MeFOSAA	100%	20-150%
	d5-EtFOSAA	101%	20-150%
	d7-MeFOSE	72%	20-150%
	d9-EtFOSE	85%	20-150%
	13C2-4:2FTS	110%	20-180%
	13C2-6:2FTS	121%	20-180%
	13C2-8:2FTS	117%	20-180%
	13C3-HFPO-DA	122%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-MS	6Q22814.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331
FC8547-2	6Q22813.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	FC8547-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.0068	J	0.0893	0.119	126	40-150
2706-90-3	Perfluoropentanoic acid	0.0070	U	0.0446	0.0498	112	40-150
307-24-4	Perfluorohexanoic acid	0.0014	J	0.0223	0.0273	116	40-150
375-85-9	Perfluoroheptanoic acid	0.0035	U	0.0223	0.0273	122	40-150
335-67-1	Perfluorooctanoic acid	0.0035	U	0.0223	0.0275	123	40-150
375-95-1	Perfluorononanoic acid	0.0035	U	0.0223	0.0274	123	40-150
335-76-2	Perfluorodecanoic acid	0.0035	U	0.0223	0.0261	117	40-150
2058-94-8	Perfluoroundecanoic acid	0.0035	U	0.0223	0.0287	129	40-150
307-55-1	Perfluorododecanoic acid	0.0035	U	0.0223	0.0271	121	40-150
72629-94-8	Perfluorotridecanoic acid	0.0035	U	0.0223	0.0233	104	40-150
376-06-7	Perfluorotetradecanoic acid	0.0035	U	0.0223	0.0266	119	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0035	U	0.0198	0.0237	120	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0044	U	0.021	0.0268	128	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0035	U	0.0204	0.0249	122	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0035	U	0.0213	0.0255	120	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0010	J	0.0207	0.0271	126	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0035	U	0.0215	0.0247	115	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0035	U	0.0215	0.0229	106	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0044	U	0.0217	0.0234	108	40-150
757124-72-4	4:2 Fluorotelomer sulfonate	0.018	U	0.0837	0.103	123	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018	U	0.0848	0.0957	113	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018	U	0.0857	0.0974	114	40-150
754-91-6	PFOSA	0.0035	U	0.0223	0.0263	118	40-150
31506-32-8	MeFOSA	0.0070	U	0.0446	0.0540	121	40-150
4151-50-2	EtFOSA	0.0070	U	0.0446	0.0501	112	40-150
2355-31-9	MeFOSAA	0.0044	U	0.0223	0.0271	121	40-150
2991-50-6	EtFOSAA	0.0044	U	0.0223	0.0280	125	40-150
24448-09-7	MeFOSE	0.035	U	0.112	0.139	125	40-150
1691-99-2	EtFOSE	0.035	U	0.112	0.133	119	40-150
13252-13-6	HFPO-DA (GenX)	0.0035	U	0.0446	0.0485	109	40-150
919005-14-4	ADONA	0.0070	U	0.0422	0.0521	123	40-150
377-73-1	PFMPA	0.0070	U	0.0446	0.0491	110	40-150
863090-89-5	PFMBA	0.0070	U	0.0446	0.0525	118	40-150
151772-58-6	NFDHA	0.0070	U	0.0446	0.0499	112	40-150
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0070	U	0.0417	0.0514	123	40-150
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0070	U	0.0422	0.0491	116	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-MS	6Q22814.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331
FC8547-2	6Q22813.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	FC8547-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0070	U	0.0397	0.0470	118	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.018	U	0.112	0.123	110	40-150
914637-49-3	5:3 Fluorotelomer carboxylate	0.088	U	0.558	0.561	101	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.088	U	0.558	0.606	109	40-150

CAS No.	ID Standard Recoveries	MS	FC8547-2	Limits
	13C4-PFBA	78%	86%	20-150%
	13C5-PFPeA	109%	113%	20-150%
	13C5-PFHxA	114%	111%	20-150%
	13C4-PFHpA	113%	113%	20-150%
	13C8-PFOA	116%	112%	20-150%
	13C9-PFNA	106%	103%	20-150%
	13C6-PFDA	112%	113%	20-150%
	13C7-PFUnDA	110%	112%	20-150%
	13C2-PFDoDA	110%	103%	20-150%
	13C2-PFTeDA	96%	87%	20-150%
	13C3-PFBS	109%	105%	20-150%
	13C3-PFHxS	104%	106%	20-150%
	13C8-PFOS	110%	108%	20-150%
	13C8-FOSA	74%	78%	20-150%
	d3-MeFOSA	72%	76%	20-150%
	d5-EtFOSA	81%	75%	20-150%
	d3-MeFOSAA	107%	105%	20-150%
	d5-EtFOSAA	103%	96%	20-150%
	d7-MeFOSE	74%	79%	20-150%
	d9-EtFOSE	84%	85%	20-150%
	13C2-4:2FTS	93%	91%	20-180%
	13C2-6:2FTS	101%	102%	20-180%
	13C2-8:2FTS	96%	93%	20-180%
	13C3-HFPO-DA	111%	103%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-DUP	6Q22817.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331
FC8547-4	6Q22816.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	FC8547-4 ug/l	Q	DUP ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.014 U		ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0070 U		ND		nc	30
307-24-4	Perfluorohexanoic acid	0.0035 U		ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.0035 U		ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0035 U		ND		nc	30
375-95-1	Perfluorononanoic acid	0.0035 U		ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0035 U		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0035 U		ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0035 U		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0035 U		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0035 U		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0035 U		ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0044 U		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0035 U		ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0035 U		ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0035 U		ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0035 U		ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0035 U		ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0044 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	0.0035 U		ND		nc	30
31506-32-8	MeFOSA	0.0070 U		ND		nc	30
4151-50-2	EtFOSA	0.0070 U		ND		nc	30
2355-31-9	MeFOSAA	0.0044 U		ND		nc	30
2991-50-6	EtFOSAA	0.0044 U		ND		nc	30
24448-09-7	MeFOSE	0.035 U		ND		nc	30
1691-99-2	EtFOSE	0.035 U		ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0035 U		ND		nc	30
919005-14-4	ADONA	0.0070 U		ND		nc	30
377-73-1	PFMPA	0.0070 U		ND		nc	30
863090-89-5	PFMBA	0.0070 U		ND		nc	30
151772-58-6	NFDHA	0.0070 U		ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0070 U		ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0070 U		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP98380-DUP	6Q22817.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331
FC8547-4	6Q22816.D	1	08/13/23	MV	08/11/23	OP98380	S6Q331

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

FC8547-1, FC8547-2, FC8547-3, FC8547-4, FC8547-5, FC8547-6, FC8547-7

CAS No.	Compound	FC8547-4 ug/l	Q	DUP ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0070	U	ND		nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.018	U	ND		nc	30
914637-49-3	5:3 Fluorotelomer carboxylate	0.088	U	ND		nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.088	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FC8547-4	Limits
	13C4-PFBA	101%	104%	20-150%
	13C5-PFPeA	116%	117%	20-150%
	13C5-PFHxA	116%	125%	20-150%
	13C4-PFHpA	119%	120%	20-150%
	13C8-PFOA	110%	117%	20-150%
	13C9-PFNA	100%	109%	20-150%
	13C6-PFDA	105%	112%	20-150%
	13C7-PFUnDA	100%	106%	20-150%
	13C2-PFDoDA	92%	101%	20-150%
	13C2-PFTeDA	84%	94%	20-150%
	13C3-PFBS	115%	107%	20-150%
	13C3-PFHxS	107%	104%	20-150%
	13C8-PFOS	102%	106%	20-150%
	13C8-FOSA	74%	84%	20-150%
	d3-MeFOSA	80%	87%	20-150%
	d5-EtFOSA	87%	90%	20-150%
	d3-MeFOSAA	93%	93%	20-150%
	d5-EtFOSAA	80%	89%	20-150%
	d7-MeFOSE	72%	88%	20-150%
	d9-EtFOSE	82%	96%	20-150%
	13C2-4:2FTS	107%	103%	20-180%
	13C2-6:2FTS	114%	114%	20-180%
	13C2-8:2FTS	96%	95%	20-180%
	13C3-HFPO-DA	118%	110%	20-150%

* = Outside of Control Limits.

Injection Standard Area Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q331-CC330	**Injection Date:**	08/13/23
Lab File ID:	6Q22806.D	**Injection Time:**	18:29
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]	79487	3.00	64872	5.67	109102	7.24	57898	7.77	37915	8.25
Check Std [c]	68104	3.00	55216	5.66	90138	7.23	49097	7.76	31225	8.24
Upper Limit [d]	158974	3.40	129744	6.06	218204	7.63	115796	8.16	75830	8.64
Lower Limit [e]	31795	2.60	25949	5.26	43641	6.83	23159	7.36	15166	7.84

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]
S6Q331-ICCB	60924	3.03	46817	5.67	84437	7.23	43385	7.76	28768	8.24	1
ZZZZZZ	54229	3.03	41435	5.67	70785	7.23	38707	7.76	24688	8.24	1
OP98380-BS	51020	3.03	38714	5.67	66581	7.23	35376	7.76	23967	8.25	1
OP98380-LLBS	51302	3.03	39454	5.67	66691	7.24	36802	7.76	22370	8.24	1
OP98380-MB	47992	3.03	36988	5.67	63904	7.23	34606	7.76	22035	8.25	1
FC8547-1	51423	3.03	39082	5.67	69088	7.24	37468	7.76	22924	8.25	1
FC8547-2	46311	3.03	39012	5.67	68271	7.23	37814	7.76	23183	8.25	1
OP98380-MS	46746	3.03	39655	5.67	63690	7.23	36493	7.76	23033	8.25	1
FC8547-3	49393	3.03	39593	5.67	67589	7.23	36758	7.76	22270	8.25	1
FC8547-4	50205	3.03	38912	5.67	65823	7.24	36157	7.76	23336	8.25	1
OP98380-DUP	50970	3.03	38803	5.67	69426	7.23	38466	7.76	23635	8.24	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: S6Q330-ICC330 6Q22643.D 08/10/23 14:20. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -60 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 = -60% of initial standard area; Retention time -0.4 minutes of check standard.

Injection Standard Area Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q331-CC330	**Injection Date:**	08/13/23
Lab File ID:	6Q22806.D	**Injection Time:**	18:29
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal [b]	11379	7.35	19178	8.43
Check Std [c]	9685	7.34	17044	8.40
Upper Limit [d]	22758	7.74	38356	8.80
Lower Limit [e]	4552	6.94	7671	8.00

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF [a]
S6Q331-ICCB	9197	7.35	14605	8.40	1
ZZZZZZ	7703	7.35	13424	8.41	1
OP98380-BS	7310	7.34	12577	8.41	1
OP98380-LLBS	7457	7.35	13045	8.40	1
OP98380-MB	6903	7.34	11540	8.41	1
FC8547-1	7520	7.35	12834	8.41	1
FC8547-2	7451	7.35	13283	8.40	1
OP98380-MS	7373	7.35	12495	8.41	1
FC8547-3	7393	7.35	11854	8.41	1
FC8547-4	7603	7.35	12615	8.41	1
OP98380-DUP	7376	7.35	12971	8.41	1

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

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q330-ICC330 6Q22643.D 08/10/23 14:20. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -60 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 = -60% of initial standard area; Retention time -0.4 minutes of check standard.

Injection Standard Area Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q331-CC330	**Injection Date:**	08/13/23
Lab File ID:	6Q22818.D	**Injection Time:**	21:21
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]	79487	3.00	64872	5.67	109102	7.24	57898	7.77	37915	8.25
Check Std [c]	68971	3.00	54888	5.67	89497	7.23	51371	7.76	33737	8.24
Upper Limit [d]	158974	3.40	129744	6.07	218204	7.63	115796	8.16	75830	8.64
Lower Limit [e]	31795	2.60	25949	5.27	43641	6.83	23159	7.36	15166	7.84

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]
S6Q331-ICCB	61764	3.03	48273	5.67	78526	7.23	44277	7.76	28124	8.24	1
FC8547-5	51707	3.03	40026	5.67	68078	7.24	36702	7.76	24175	8.25	1
FC8547-6	48573	3.03	39624	5.67	66834	7.23	35530	7.76	24619	8.24	1
FC8547-7	51433	3.03	40101	5.67	66628	7.23	37303	7.76	23609	8.24	1
OP98330-BS [f]	53270	3.03	40372	5.67	67930	7.23	37689	7.76	22064	8.24	1
OP98330-LLBS	52650	3.03	41116	5.67	67371	7.23	39102	7.76	23649	8.24	1
OP98330-MB	52100	3.03	39737	5.67	68888	7.23	37635	7.76	22845	8.25	1
ZZZZZZ	57199	3.03	43087	5.67	70754	7.23	39502	7.76	25246	8.25	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: S6Q330-ICC330 6Q22643.D 08/10/23 14:20. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -60 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 = -60% of initial standard area; Retention time -0.4 minutes of check standard.
(f) Insufficient sample for MS/MSD.

Injection Standard Area Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q331-CC330	**Injection Date:**	08/13/23
Lab File ID:	6Q22818.D	**Injection Time:**	21:21
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal [b]	11379	7.35	19178	8.43
Check Std [c]	10232	7.35	16903	8.40
Upper Limit [d]	22758	7.75	38356	8.80
Lower Limit [e]	4552	6.95	7671	8.00

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF [a]
S6Q331-ICCB	8891	7.34	15386	8.40	1
FC8547-5	7403	7.35	13157	8.41	1
FC8547-6	7228	7.34	12652	8.40	1
FC8547-7	7522	7.35	13067	8.40	1
OP98330-BS [f]	7472	7.35	12887	8.40	1
OP98330-LLBS	7676	7.35	12785	8.40	1
OP98330-MB	7552	7.35	12180	8.41	1
ZZZZZZ	8354	7.35	13839	8.40	1

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

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q330-ICC330 6Q22643.D 08/10/23 14:20. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -60 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 = -60% of initial standard area; Retention time -0.4 minutes of check standard.
(f) Insufficient sample for MS/MSD.

Injection Standard Area Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q332-CC330	**Injection Date:**	08/14/23
Lab File ID:	6Q22886.D	**Injection Time:**	19:34
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]	79487	3.00	64872	5.67	109102	7.24	57898	7.77	37915	8.25
Check Std [c]	72599	3.00	56668	5.66	98454	7.23	53837	7.76	34393	8.24
Upper Limit [d]	158974	3.40	129744	6.06	218204	7.63	115796	8.16	75830	8.64
Lower Limit [e]	31795	2.60	25949	5.26	43641	6.83	23159	7.36	15166	7.84

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]
S6Q332-ICCB	76347	3.03	59745	5.67	96586	7.23	56178	7.76	36976	8.24	1
ZZZZZZ	51104	3.03	43526	5.67	71774	7.23	39075	7.76	25370	8.24	1
ZZZZZZ	52095	3.03	42692	5.67	71014	7.23	39626	7.76	25345	8.24	1
ZZZZZZ	49843	3.03	41278	5.67	68548	7.23	36830	7.76	23159	8.24	1
ZZZZZZ	49549	3.03	40032	5.67	68139	7.23	38517	7.76	24306	8.24	1
ZZZZZZ	50109	3.03	40277	5.66	71888	7.23	41177	7.76	25058	8.24	1
ZZZZZZ	50872	3.03	40288	5.67	70149	7.23	39015	7.76	22522	8.24	1
ZZZZZZ	54092	3.03	42933	5.67	70796	7.23	41930	7.76	26414	8.24	1
FC8547-6 [f]	52590	3.00	40485	5.66	70435	7.23	38575	7.76	24220	8.24	5
FC8220-13	54240	2.99	45505	5.66	75245	7.23	42015	7.75	29700	8.24	5
ZZZZZZ	52035	2.99	42625	5.66	73595	7.23	40115	7.76	27990	8.24	5
ZZZZZZ	55985	3.00	46265	5.66	73910	7.23	41690	7.76	28550	8.24	5

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: S6Q330-ICC330 6Q22643.D 08/10/23 14:20. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -60 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 = -60% of initial standard area; Retention time -0.4 minutes of check standard.
(f) Dilution required (ID recovery standard failure).

Injection Standard Area Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q332-CC330	**Injection Date:**	08/14/23
Lab File ID:	6Q22886.D	**Injection Time:**	19:34
Instrument ID:	GCMS6Q	**Method:**	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal [b]	11379	7.35	19178	8.43
Check Std [c]	10568	7.34	17939	8.40
Upper Limit [d]	22758	7.74	38356	8.80
Lower Limit [e]	4552	6.94	7671	8.00

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF [a]
S6Q332-ICCB	10951	7.34	19610	8.40	1
ZZZZZZ	8087	7.34	12782	8.40	1
ZZZZZZ	8480	7.34	13448	8.40	1
ZZZZZZ	7546	7.34	12475	8.40	1
ZZZZZZ	7977	7.35	11985	8.41	1
ZZZZZZ	7871	7.35	12578	8.40	1
ZZZZZZ	7414	7.34	12179	8.40	1
ZZZZZZ	7966	7.34	13688	8.40	1
FC8547-6 [f]	8440	7.34	31710	8.39	5
FC8220-13	8135	7.34	12895	8.40	5
ZZZZZZ	8110	7.34	13720	8.40	5
ZZZZZZ	8290	7.34	14090	8.40	5

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

(a) Sample areas corrected for dilution where applicable.
(b) Initial Cal is: S6Q330-ICC330 6Q22643.D 08/10/23 14:20. Area is AVERAGE of initial cal points.
(c) Check Std Limit = -60 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 = -60% of initial standard area; Retention time -0.4 minutes of check standard.
(f) Dilution required (ID recovery standard failure).

TDCA Retention Time Check

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q330-RT
Lab File ID: 6Q22637.D
Instrument ID: GCMS6Q
Injection Date: 08/10/23
Injection Time: 12:54

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.415	--	--
TDCA	6.951	1.464	1.000
TCDCA	6.789	1.626	1.000
TUDCA	5.961	2.454	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
S6Q330-IC330	6Q22639.D	08/10/23	13:23	00:29	Mass Calibration Verification
S6Q330-IC330	6Q22640.D	08/10/23	13:37	00:43	Initial cal 1
S6Q330-IC330	6Q22641.D	08/10/23	13:52	00:58	Initial cal 2
S6Q330-IC330	6Q22642.D	08/10/23	14:06	01:12	Initial cal 3
S6Q330-ICC330	6Q22643.D	08/10/23	14:20	01:26	Initial cal 4
S6Q330-IC330	6Q22644.D	08/10/23	14:35	01:41	Initial cal 5
S6Q330-IC330	6Q22645.D	08/10/23	14:49	01:55	Initial cal 6
S6Q330-IC330	6Q22646.D	08/10/23	15:03	02:09	Initial cal 7
S6Q330-IC330	6Q22647.D	08/10/23	15:18	02:24	Initial cal 8
S6Q330-IBLK	6Q22648.D	08/10/23	15:32	02:38	Instrument Blank
S6Q330-IBLK	6Q22648.D	08/10/23	15:32	02:38	Instrument Blank
S6Q330-ICV330	6Q22649.D	08/10/23	15:46	02:52	Initial cal verification 4
S6Q330-ICV330	6Q22650.D	08/10/23	16:01	03:07	Initial cal verification 20
S6Q330-CC330	6Q22651.D	08/10/23	16:15	03:21	Continuing cal 4
S6Q330-CC330	6Q22652.D	08/10/23	16:29	03:35	Continuing cal 1.0LL
OP98337-BS	6Q22653.D	08/10/23	16:44	03:50	Blank Spike
OP98337-BSD	6Q22654.D	08/10/23	16:58	04:04	Blank Spike Duplicate
OP98337-LLBS	6Q22655.D	08/10/23	17:12	04:18	Blank Spike
OP98337-MB	6Q22656.D	08/10/23	17:27	04:33	Method Blank
ZZZZZZ	6Q22657.D	08/10/23	17:41	04:47	(unrelated sample)
ZZZZZZ	6Q22659.D	08/10/23	18:10	05:16	(unrelated sample)
ZZZZZZ	6Q22660.D	08/10/23	18:24	05:30	(unrelated sample)
S6Q330-CC330	6Q22662.D	08/10/23	18:53	05:59	Continuing cal 4
S6Q330-ICCB	6Q22663.D	08/10/23	19:07	06:13	Continuing Calibration Blank
ZZZZZZ	6Q22664.D	08/10/23	19:21	06:27	(unrelated sample)
ZZZZZZ	6Q22665.D	08/10/23	19:36	06:42	(unrelated sample)
ZZZZZZ	6Q22666.D	08/10/23	19:50	06:56	(unrelated sample)
FC8439-4	6Q22667.D	08/10/23	20:04	07:10	(used for QC only; not part of job FC8547)
ZZZZZZ	6Q22669.D	08/10/23	20:33	07:39	(unrelated sample)
ZZZZZZ	6Q22670.D	08/10/23	20:48	07:54	(unrelated sample)
FC7717-4	6Q22671.D	08/10/23	21:02	08:08	(used for QC only; not part of job FC8547)
ZZZZZZ	6Q22672.D	08/10/23	21:16	08:22	(unrelated sample)
ZZZZZZ	6Q22673.D	08/10/23	21:31	08:37	(unrelated sample)
S6Q330-CC330	6Q22674.D	08/10/23	21:45	08:51	Continuing cal 4

TDCA Retention Time Check

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q330-RT	**Injection Date:**	08/10/23
Lab File ID:	6Q22637.D	**Injection Time:**	12:54
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q330-ICCB	6Q22675.D	08/10/23	21:59	09:05	Continuing Calibration Blank
ZZZZZZ	6Q22676.D	08/10/23	22:14	09:20	(unrelated sample)
ZZZZZZ	6Q22677.D	08/10/23	22:28	09:34	(unrelated sample)
ZZZZZZ	6Q22679.D	08/10/23	22:57	10:03	(unrelated sample)
ZZZZZZ	6Q22680.D	08/10/23	23:11	10:17	(unrelated sample)
ZZZZZZ	6Q22681.D	08/10/23	23:25	10:31	(unrelated sample)
ZZZZZZ	6Q22682.D	08/10/23	23:40	10:46	(unrelated sample)
ZZZZZZ	6Q22683.D	08/10/23	23:54	11:00	(unrelated sample)
ZZZZZZ	6Q22684.D	08/11/23	00:08	11:14	(unrelated sample)
S6Q330-CC330	6Q22685.D	08/11/23	00:23	11:29	Continuing cal 4
S6Q330-ICCB	6Q22686.D	08/11/23	00:37	11:43	Continuing Calibration Blank
OP98277-BS	6Q22687.D	08/11/23	00:51	11:57	Blank Spike
OP98277-LLBS	6Q22688.D	08/11/23	01:06	12:12	Blank Spike
OP98277-MB	6Q22689.D	08/11/23	01:20	12:26	Method Blank
ZZZZZZ	6Q22690.D	08/11/23	01:34	12:40	(unrelated sample)
ZZZZZZ	6Q22691.D	08/11/23	01:49	12:55	(unrelated sample)
ZZZZZZ	6Q22692.D	08/11/23	02:03	13:09	(unrelated sample)
ZZZZZZ	6Q22693.D	08/11/23	02:17	13:23	(unrelated sample)
FC8066-5	6Q22694.D	08/11/23	02:32	13:38	(used for QC only; not part of job FC8547)
OP98277-MS	6Q22695.D	08/11/23	02:46	13:52	Matrix Spike
OP98277-MSD	6Q22696.D	08/11/23	03:00	14:06	Matrix Spike Duplicate
S6Q330-CC330	6Q22697.D	08/11/23	03:15	14:21	Continuing cal 4
S6Q330-ICCB	6Q22698.D	08/11/23	03:29	14:35	Continuing Calibration Blank
ZZZZZZ	6Q22699.D	08/11/23	03:43	14:49	(unrelated sample)
ZZZZZZ	6Q22700.D	08/11/23	03:58	15:04	(unrelated sample)
ZZZZZZ	6Q22701.D	08/11/23	04:12	15:18	(unrelated sample)
ZZZZZZ	6Q22702.D	08/11/23	04:26	15:32	(unrelated sample)
ZZZZZZ	6Q22703.D	08/11/23	04:41	15:47	(unrelated sample)
ZZZZZZ	6Q22704.D	08/11/23	04:55	16:01	(unrelated sample)
ZZZZZZ	6Q22705.D	08/11/23	05:09	16:15	(unrelated sample)
ZZZZZZ	6Q22706.D	08/11/23	05:24	16:30	(unrelated sample)
ZZZZZZ	6Q22707.D	08/11/23	05:38	16:44	(unrelated sample)
S6Q330-CC330	6Q22708.D	08/11/23	05:52	16:58	Continuing cal 4
S6Q330-ICCB	6Q22709.D	08/11/23	06:07	17:13	Continuing Calibration Blank
OP98222-BS	6Q22710.D	08/11/23	06:21	17:27	Blank Spike
OP98222-LLBS	6Q22711.D	08/11/23	06:35	17:41	Blank Spike
OP98222-MB	6Q22712.D	08/11/23	06:50	17:56	Method Blank
ZZZZZZ	6Q22713.D	08/11/23	07:04	18:10	(unrelated sample)
FC7822-1	6Q22714.D	08/11/23	07:18	18:24	(used for QC only; not part of job FC8547)
OP98222-MS	6Q22715.D	08/11/23	07:33	18:39	Matrix Spike
FC7822-2	6Q22716.D	08/11/23	07:47	18:53	(used for QC only; not part of job FC8547)
OP98222-DUP	6Q22717.D	08/11/23	08:01	19:07	Duplicate
ZZZZZZ	6Q22718.D	08/11/23	08:16	19:22	(unrelated sample)
ZZZZZZ	6Q22719.D	08/11/23	08:30	19:36	(unrelated sample)

TDCA Retention Time Check

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q330-RT	**Injection Date:**	08/10/23
Lab File ID:	6Q22637.D	**Injection Time:**	12:54
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q330-CC330	6Q22720.D	08/11/23	08:44	19:50	Continuing cal 4
S6Q330-ICCB	6Q22721.D	08/11/23	08:59	20:05	Continuing Calibration Blank
ZZZZZZ	6Q22722.D	08/11/23	09:13	20:19	(unrelated sample)
ZZZZZZ	6Q22723.D	08/11/23	09:27	20:33	(unrelated sample)
ZZZZZZ	6Q22725.D	08/11/23	09:56	21:02	(unrelated sample)
ZZZZZZ	6Q22726.D	08/11/23	10:10	21:16	(unrelated sample)
ZZZZZZ	6Q22727.D	08/11/23	10:25	21:31	(unrelated sample)
ZZZZZZ	6Q22728.D	08/11/23	10:39	21:45	(unrelated sample)
ZZZZZZ	6Q22729.D	08/11/23	10:53	21:59	(unrelated sample)
ZZZZZZ	6Q22730.D	08/11/23	11:08	22:14	(unrelated sample)
ZZZZZZ	6Q22731.D	08/11/23	11:22	22:28	(unrelated sample)
S6Q330-CC330	6Q22732.D	08/11/23	11:36	22:42	Continuing cal 4
S6Q330-ICCB	6Q22733.D	08/11/23	11:51	22:57	Continuing Calibration Blank

TDCA Retention Time Check

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q331-RT
Lab File ID: 6Q22790.D
Instrument ID: GCMS6Q
Injection Date: 08/13/23
Injection Time: 14:39

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.403	--	--
TDCA	6.938	1.465	1.000
TCDCA	6.777	1.626	1.000
TUDCA	5.949	2.454	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
S6Q331-IBLK	6Q22793.D	08/13/23	15:22	00:43	Instrument Blank
S6Q331-IBLK	6Q22793.D	08/13/23	15:22	00:43	Instrument Blank
S6Q331-CC330	6Q22794.D	08/13/23	15:36	00:57	Continuing cal 4
S6Q331-CC330	6Q22795.D	08/13/23	15:51	01:12	Continuing cal 1.0LL
OP98352-BS	6Q22796.D	08/13/23	16:05	01:26	Blank Spike
OP98352-LLBS	6Q22797.D	08/13/23	16:20	01:41	Blank Spike
OP98352-MB	6Q22798.D	08/13/23	16:34	01:55	Method Blank
ZZZZZZ	6Q22799.D	08/13/23	16:48	02:09	(unrelated sample)
ZZZZZZ	6Q22800.D	08/13/23	17:02	02:23	(unrelated sample)
ZZZZZZ	6Q22801.D	08/13/23	17:17	02:38	(unrelated sample)
FC7997-2	6Q22802.D	08/13/23	17:31	02:52	(used for QC only; not part of job FC8547)
OP98352-MS	6Q22803.D	08/13/23	17:45	03:06	Matrix Spike
OP98352-MSD	6Q22804.D	08/13/23	18:00	03:21	Matrix Spike Duplicate
ZZZZZZ	6Q22805.D	08/13/23	18:14	03:35	(unrelated sample)
S6Q331-CC330	6Q22806.D	08/13/23	18:29	03:50	Continuing cal 4
S6Q331-ICCB	6Q22807.D	08/13/23	18:43	04:04	Continuing Calibration Blank
ZZZZZZ	6Q22808.D	08/13/23	18:57	04:18	(unrelated sample)
OP98380-BS	6Q22809.D	08/13/23	19:12	04:33	Blank Spike
OP98380-LLBS	6Q22810.D	08/13/23	19:26	04:47	Blank Spike
OP98380-MB	6Q22811.D	08/13/23	19:40	05:01	Method Blank
FC8547-1	6Q22812.D	08/13/23	19:55	05:16	AF-RHMW04-WGN01LF-2308
FC8547-2	6Q22813.D	08/13/23	20:09	05:30	AF-RHMW17S-WGN01LF-2308
OP98380-MS	6Q22814.D	08/13/23	20:23	05:44	Matrix Spike
FC8547-3	6Q22815.D	08/13/23	20:38	05:59	AF-RHMW17S-WQEB01-2308
FC8547-4	6Q22816.D	08/13/23	20:52	06:13	AF-RHMW17-WGN01LF-2308
OP98380-DUP	6Q22817.D	08/13/23	21:06	06:27	Duplicate
S6Q331-CC330	6Q22818.D	08/13/23	21:21	06:42	Continuing cal 4
S6Q331-ICCB	6Q22819.D	08/13/23	21:35	06:56	Continuing Calibration Blank
FC8547-5	6Q22820.D	08/13/23	21:49	07:10	AF-RHMW06-WGN01LF-2308
FC8547-6	6Q22821.D	08/13/23	22:04	07:25	AF-RHMW17D-WGN01LF-2308
FC8547-7	6Q22822.D	08/13/23	22:18	07:39	AF-RHMW17D-WQFB01-2308
OP98330-BS	6Q22823.D	08/13/23	22:32	07:53	Blank Spike
OP98330-LLBS	6Q22824.D	08/13/23	22:47	08:08	Blank Spike
OP98330-MB	6Q22825.D	08/13/23	23:01	08:22	Method Blank

TDCA Retention Time Check

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q331-RT	**Injection Date:**	08/13/23
Lab File ID:	6Q22790.D	**Injection Time:**	14:39
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	6Q22826.D	08/13/23	23:15	08:36	(unrelated sample)
S6Q331-CC330	6Q22827.D	08/13/23	23:30	08:51	Continuing cal 4
S6Q331-ICCB	6Q22828.D	08/13/23	23:44	09:05	Continuing Calibration Blank
OP98302-BS	6Q22829.D	08/13/23	23:58	09:19	Blank Spike
OP98302-LLBS	6Q22830.D	08/14/23	00:13	09:34	Blank Spike
OP98302-MB	6Q22831.D	08/14/23	00:27	09:48	Method Blank
ZZZZZZ	6Q22833.D	08/14/23	00:56	10:17	(unrelated sample)
FC8220-11	6Q22834.D	08/14/23	01:10	10:31	(used for QC only; not part of job FC8547)
OP98302-MS	6Q22835.D	08/14/23	01:24	10:45	Matrix Spike
FC8220-13	6Q22836.D	08/14/23	01:39	11:00	(used for QC only; not part of job FC8547)
OP98302-DUP	6Q22837.D	08/14/23	01:53	11:14	Duplicate
ZZZZZZ	6Q22838.D	08/14/23	02:07	11:28	(unrelated sample)
S6Q331-CC330	6Q22839.D	08/14/23	02:22	11:43	Continuing cal 4
S6Q331-ICCB	6Q22840.D	08/14/23	02:36	11:57	Continuing Calibration Blank
ZZZZZZ	6Q22841.D	08/14/23	02:50	12:11	(unrelated sample)
ZZZZZZ	6Q22842.D	08/14/23	03:05	12:26	(unrelated sample)
ZZZZZZ	6Q22843.D	08/14/23	03:19	12:40	(unrelated sample)
ZZZZZZ	6Q22844.D	08/14/23	03:33	12:54	(unrelated sample)
S6Q331-ECC330	6Q22845.D	08/14/23	03:48	13:09	Ending cal 4
S6Q331-ICCB	6Q22846.D	08/14/23	04:02	13:23	Continuing Calibration Blank

TDCA Retention Time Check

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q332-RT
Lab File ID: 6Q22849.D
Instrument ID: GCMS6Q
Injection Date: 08/14/23
Injection Time: 10:32

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.403	--	--
TDCA	6.926	1.477	1.000
TCDCA	6.777	1.626	1.000
TUDCA	5.949	2.454	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
S6Q332-IBLK	6Q22852.D	08/14/23	11:15	00:43	Instrument Blank
S6Q332-IBLK	6Q22852.D	08/14/23	11:15	00:43	Instrument Blank
S6Q332-CC330	6Q22853.D	08/14/23	11:29	00:57	Continuing cal 4
S6Q332-CC330	6Q22854.D	08/14/23	11:44	01:12	Continuing cal 1.0LL
OP98329-BS	6Q22855.D	08/14/23	12:04	01:32	Blank Spike
OP98329-LLBS	6Q22856.D	08/14/23	12:19	01:47	Blank Spike
OP98329-MB	6Q22857.D	08/14/23	12:33	02:01	Method Blank
ZZZZZZ	6Q22858.D	08/14/23	12:47	02:15	(unrelated sample)
ZZZZZZ	6Q22860.D	08/14/23	13:16	02:44	(unrelated sample)
ZZZZZZ	6Q22861.D	08/14/23	13:35	03:03	(unrelated sample)
ZZZZZZ	6Q22862.D	08/14/23	13:49	03:17	(unrelated sample)
ZZZZZZ	6Q22863.D	08/14/23	14:04	03:32	(unrelated sample)
ZZZZZZ	6Q22864.D	08/14/23	14:18	03:46	(unrelated sample)
S6Q332-CC330	6Q22865.D	08/14/23	14:33	04:01	Continuing cal 4
S6Q332-ICCB	6Q22866.D	08/14/23	14:47	04:15	Continuing Calibration Blank
S6Q332-CC330	6Q22877.D	08/14/23	17:25	06:53	Continuing cal 4
S6Q332-ICCB	6Q22878.D	08/14/23	17:39	07:07	Continuing Calibration Blank
S6Q332-CC330	6Q22886.D	08/14/23	19:34	09:02	Continuing cal 4
S6Q332-ICCB	6Q22887.D	08/14/23	19:54	09:22	Continuing Calibration Blank
ZZZZZZ	6Q22888.D	08/14/23	20:08	09:36	(unrelated sample)
ZZZZZZ	6Q22889.D	08/14/23	20:23	09:51	(unrelated sample)
ZZZZZZ	6Q22890.D	08/14/23	20:37	10:05	(unrelated sample)
ZZZZZZ	6Q22891.D	08/14/23	20:51	10:19	(unrelated sample)
ZZZZZZ	6Q22892.D	08/14/23	21:06	10:34	(unrelated sample)
ZZZZZZ	6Q22893.D	08/14/23	21:20	10:48	(unrelated sample)
ZZZZZZ	6Q22894.D	08/14/23	21:34	11:02	(unrelated sample)
FC8547-6	6Q22895.D	08/14/23	21:49	11:17	AF-RHMW17D-WGN01LF-2308
FC8220-13	6Q22896.D	08/14/23	22:03	11:31	(used for QC only; not part of job FC8547)
ZZZZZZ	6Q22897.D	08/14/23	22:17	11:45	(unrelated sample)
ZZZZZZ	6Q22898.D	08/14/23	22:32	12:00	(unrelated sample)
S6Q332-CC330	6Q22899.D	08/14/23	22:46	12:14	Continuing cal 4
S6Q332-ICCB	6Q22900.D	08/14/23	23:00	12:28	Continuing Calibration Blank
OP98378-BS	6Q22901.D	08/14/23	23:15	12:43	Blank Spike
OP98378-LLBS	6Q22902.D	08/14/23	23:29	12:57	Blank Spike

TDCA Retention Time Check

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q332-RT	**Injection Date:**	08/14/23
Lab File ID:	6Q22849.D	**Injection Time:**	10:32
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
OP98378-MB	6Q22903.D	08/14/23	23:43	13:11	Method Blank
ZZZZZZ	6Q22904.D	08/14/23	23:58	13:26	(unrelated sample)
ZZZZZZ	6Q22905.D	08/15/23	00:12	13:40	(unrelated sample)
FC8049-1	6Q22906.D	08/15/23	00:26	13:54	(used for QC only; not part of job FC8547)
OP98378-MS	6Q22907.D	08/15/23	00:41	14:09	Matrix Spike
ZZZZZZ	6Q22908.D	08/15/23	00:55	14:23	(unrelated sample)
FC8049-3	6Q22909.D	08/15/23	01:09	14:37	(used for QC only; not part of job FC8547)
OP98378-DUP	6Q22910.D	08/15/23	01:24	14:52	Duplicate
S6Q332-CC330	6Q22911.D	08/15/23	01:38	15:06	Continuing cal 4
S6Q332-ICCB	6Q22912.D	08/15/23	01:52	15:20	Continuing Calibration Blank
ZZZZZZ	6Q22914.D	08/15/23	02:21	15:49	(unrelated sample)
ZZZZZZ	6Q22915.D	08/15/23	02:35	16:03	(unrelated sample)
ZZZZZZ	6Q22916.D	08/15/23	02:50	16:18	(unrelated sample)
ZZZZZZ	6Q22917.D	08/15/23	03:04	16:32	(unrelated sample)
OP98377-BS	6Q22918.D	08/15/23	03:18	16:46	Blank Spike
OP98377-LLBS	6Q22919.D	08/15/23	03:33	17:01	Blank Spike
OP98377-MB	6Q22920.D	08/15/23	03:47	17:15	Method Blank
ZZZZZZ	6Q22921.D	08/15/23	04:01	17:29	(unrelated sample)
ZZZZZZ	6Q22922.D	08/15/23	04:16	17:44	(unrelated sample)
S6Q332-ECC330	6Q22923.D	08/15/23	04:30	17:58	Ending cal 4
S6Q332-ICCB	6Q22924.D	08/15/23	04:44	18:12	Continuing Calibration Blank

Ion Ratio Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q331 **Method:** EPA DRAFT 1633

Lab Sample ID	Lab File ID	Ion Ratios PFBA	PFHxA	PFOS
S6Q330-ICC330	6Q22643.D	0	5.3	52.8
FC8547-1	6Q22812.D			
FC8547-2	6Q22813.D	0	8.6	52.9
FC8547-3	6Q22815.D			
FC8547-4	6Q22816.D			
FC8547-5	6Q22820.D			
FC8547-6	6Q22821.D			
FC8547-7	6Q22822.D			

Isotope Dilution Standard Recovery Summary

Job Number: FC8547
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
FC8547-1	6Q22812.D	109	118	117	118	115	107	116	102
FC8547-2	6Q22813.D	86	113	111	113	112	103	113	112
FC8547-3	6Q22815.D	126	125	130	127	128	114	132	114
FC8547-4	6Q22816.D	104	117	125	120	117	109	112	106
FC8547-5	6Q22820.D	121	129	128	132	124	122	110	106
FC8547-6	6Q22895.D	119	124	125	127	122	115	115	113
FC8547-6	6Q22821.D	122	126	127	130	127	129	122	113
FC8547-7	6Q22822.D	128	129	131	130	132	119	125	105
OP98380-BS	6Q22809.D	115	120	120	119	121	113	109	107
OP98380-DUP	6Q22817.D	101	116	116	119	110	100	105	100
OP98380-LLBS	6Q22810.D	113	116	115	119	117	105	120	118
OP98380-MB	6Q22811.D	113	116	118	111	118	109	114	108
OP98380-MS	6Q22814.D	78	109	114	113	116	106	112	110
S6Q331-IBLK	6Q22793.D	100	100	101	98	104	94	98	99
S6Q331-ICCB	6Q22807.D	101	103	102	104	93	100	101	100
S6Q331-ICCB	6Q22819.D	100	102	99	101	104	100	99	107
S6Q332-IBLK	6Q22852.D	100	103	101	99	103	106	113	106
S6Q332-ICCB	6Q22887.D	101	102	99	97	107	101	102	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: FC8547
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
FC8547-1	6Q22812.D	99	91	112	103	105	73	80	84
FC8547-2	6Q22813.D	103	87	105	106	108	78	76	75
FC8547-3	6Q22815.D	107	101	126	122	120	88	99	103
FC8547-4	6Q22816.D	101	94	107	104	106	84	87	90
FC8547-5	6Q22820.D	106	92	129	123	116	85	93	100
FC8547-6	6Q22895.D	102	92	114	105	50	36	39	41
FC8547-6	6Q22821.D	106	87	128	125	127	90	93	97
FC8547-7	6Q22822.D	95	84	128	124	121	83	88	93
OP98380-BS	6Q22809.D	100	101	118	116	116	68	72	75
OP98380-DUP	6Q22817.D	92	84	115	107	102	74	80	87
OP98380-LLBS	6Q22810.D	109	102	117	108	111	70	71	82
OP98380-MB	6Q22811.D	110	91	115	116	119	71	75	84
OP98380-MS	6Q22814.D	110	96	109	104	110	74	72	81
S6Q331-IBLK	6Q22793.D	105	98	100	98	99	89		
S6Q331-ICCB	6Q22807.D	101	95	100	93	108	101		
S6Q331-ICCB	6Q22819.D	105	98	101	100	96	95		
S6Q332-IBLK	6Q22852.D	107	101	95	98	97	89	93	92
S6Q332-ICCB	6Q22887.D	102	106	101	99	93	100	95	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: FC8547
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
FC8547-1	6Q22812.D	93	86	78	89	105	115	102	117
FC8547-2	6Q22813.D	105	96	79	85	91	102	93	103
FC8547-3	6Q22815.D	111	105	101	110	119	126	108	120
FC8547-4	6Q22816.D	93	89	88	96	103	114	95	110
FC8547-5	6Q22820.D	105	89	93	101	127	136	108	129
FC8547-6	6Q22895.D	53	48	39	43	113	99	99	122
FC8547-6	6Q22821.D	132	129	94	104	204* [a]	124	92	110
FC8547-7	6Q22822.D	102	91	89	99	122	136	107	124
OP98380-BS	6Q22809.D	100	101	72	85	110	121	117	122
OP98380-DUP	6Q22817.D	93	80	72	82	107	114	96	118
OP98380-LLBS	6Q22810.D	95	91	75	85	107	116	111	112
OP98380-MB	6Q22811.D	110	98	70	80	118	120	108	116
OP98380-MS	6Q22814.D	107	103	74	84	93	101	96	111
S6Q331-IBLK	6Q22793.D	81	79			87	89	86	
S6Q331-ICCB	6Q22807.D	100	94			92	93	98	
S6Q331-ICCB	6Q22819.D	95	86			101	100	96	
S6Q332-IBLK	6Q22852.D	91	85	98	99	99	101	85	106
S6Q332-ICCB	6Q22887.D	96	76	113	120	103	108	85	104

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%

(a) Outside control limits.

Initial Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q330-ICC330
Lab FileID: 6Q22643.D

Initial Calibration Report

Method Path	D:\MassHunter\Methods
Method File	1633_081023_S6Q330.quantmethod.xml
Batch Name	D:\MassHunter\Data\081023_1633_S6Q330\QuantResults\s6q330.batch.bin
Last Calib Update	8/10/2023 4:07:14 PM

Level Name	Calibration Files	Acq. Date-Time	Level Last Update Time
1	D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d	8/10/2023 1:37:43 PM	8/10/2023 4:07:14 PM
2	D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d	8/10/2023 1:52:03 PM	8/10/2023 4:07:14 PM
3	D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d	8/10/2023 2:06:22 PM	8/10/2023 4:07:14 PM
4	D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d	8/10/2023 2:20:43 PM	8/10/2023 4:07:14 PM
5	D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d	8/10/2023 2:35:04 PM	8/10/2023 4:07:14 PM
6	D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d	8/10/2023 2:49:29 PM	8/10/2023 4:07:14 PM
7	D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d	8/10/2023 3:03:50 PM	8/10/2023 4:07:14 PM
8	D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d	8/10/2023 3:18:11 PM	8/10/2023 4:07:14 PM

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I M4-PFBA				---------- ISTD ----------							
T PFBA	Avg RF	0.3437	0.3187	0.2896	0.3160	0.2979	0.3285	0.3136	0.2916	0.3124	5.992
T 3:3FTCA	Avg RF	0.0525	0.0494	0.0454	0.0482	0.0459	0.0507	0.0506	0.0525	0.0494	5.539
I M5-PFPeA				---------- ISTD ----------							
T PFMPA	Avg RF	0.6675	0.6365	0.5857	0.6272	0.5905	0.6636	0.6260	0.5906	0.6235	5.191
T PFPeA	Avg RF	1.1737	1.1175	1.0464	1.1158	1.0393	1.1741	1.1025	1.0422	1.1014	5.018
T PFMBA	Avg RF	0.8407	0.7896	0.7407	0.7847	0.7426	0.8264	0.7749	0.7328	0.7790	5.121
I M5-PFHxA				---------- ISTD ----------							
T NFDHA	Avg RF	0.1030	0.1048	0.0866	0.0887	0.0869	0.0962	0.0941	0.0838	0.0930	8.457
T PFHxA	Avg RF	0.8137	0.7418	0.6408	0.7396	0.6976	0.7698	0.7660	0.6810	0.7313	7.577
T PFEESA	Avg RF	1.0477	0.9868	0.9494	0.9504	0.9118	1.0476	1.0404	0.9244	0.9823	5.753
T 5:3FTCA	Avg RF	0.1574	0.1582	0.1393	0.1525	0.1405	0.1614	0.1569	0.1371	0.1504	6.528
T 7:3FTCA	Avg RF	0.1220	0.1191	0.1021	0.1085	0.1046	0.1178	0.1119	0.1039	0.1112	6.890
I M4-PFHpA				---------- ISTD ----------							
T PFHpA	Avg RF	1.0625	1.0248	0.8945	0.9831	0.9355	1.0972	0.9650	0.9247	0.9859	7.156
I M8-PFOA				---------- ISTD ----------							
T PFOA	Avg RF	1.0696	0.9845	0.9628	1.0820	0.9658	1.0872	1.0354	0.9871	1.0218	5.176
I M9-PFNA				---------- ISTD ----------							
T PFNA	Avg RF	0.9990	0.8281	0.8094	0.7868	0.8348	0.8710	0.9058	0.8378	0.8591	7.819
I M6-PFDA				---------- ISTD ----------							
T PFDA	Avg RF	1.7119	1.5082	1.4031	1.5175	1.3877	1.4061	1.4158	1.4985	1.4811	7.234
I M7-PFUnDA				---------- ISTD ----------							
T PFUnDA	Avg RF	0.7606	0.7005	0.7249	0.7162	0.6862	0.7549	0.7325	0.6842	0.7200	4.020
I M2-PFDoDA				---------- ISTD ----------							

Generated at 4:07 PM on 8/10/2023

Initial Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q330-ICC330
Lab FileID: 6Q22643.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
T PFDoDA	Avg RF	0.8625	0.8217	0.8129	0.8024	0.8267	0.9158	0.7900	0.7202	0.8190	6.884
T PFTrDA	Avg RF	0.9129	0.8235	0.8445	0.9193	0.8433	0.9075	0.8109	0.7000	0.8452	8.565
I M2-PFTeDA						ISTD					
T PFTeDA	Avg RF	1.3882	1.2376	1.1459	1.1803	1.1522	1.3606	1.1994	1.0480	1.2140	9.326
I M8-FOSA						ISTD					
T FOSA	Avg RF	0.8776	0.7907	0.7284	0.7892	0.7519	0.8466	0.7551	0.7372	0.7846	6.794
I M3-PFBS						ISTD					
T PFBS	Avg RF	0.8402	0.8129	0.7641	0.8970	0.7625	0.8735	0.8298	0.7552	0.8169	6.526
I M3-PFHxS						ISTD					
T PFPeS	Avg RF	1.0878	1.0075	1.0064	0.9848	1.0313	1.0414	1.0663	0.9627	1.0235	4.060
T PFHxS	Avg RF	1.3792	1.2024	0.9869	1.0240	1.0300	1.1121	1.0695	1.0205	1.1031	11.832
I M8-PFOS						ISTD					
T PFHpS	Avg RF	1.2456	1.1271	1.1099	1.1678	1.0093	1.1296	1.2001	1.1462	1.1419	6.085
T PFOS	Avg RF	1.1112	1.1249	1.0531	1.1139	0.9973	1.0501	1.0953	1.0515	1.0747	4.072
T PFNS	Avg RF	1.1120	1.0230	1.0274	1.0897	0.9254	1.0043	1.0422	1.0253	1.0312	5.450
T PFDS	Avg RF	0.6681	0.6732	0.5646	0.6180	0.5144	0.5843	0.5840	0.5929	0.5999	8.786
T PFDoDS	Avg RF	0.2794	0.2860	0.2771	0.2897	0.2553	0.2788	0.2973	0.2711	0.2793	4.532
I M2-4:2FTS						ISTD					
T 4:2FTS	Avg RF	6.9430	7.1440	6.0893	6.4297	6.2264	7.0163	6.5706	5.3276	6.4684	9.234
I M2-6:2FTS						ISTD					
T 6:2FTS	Avg RF	4.6097	4.8819	4.1028	4.5384	4.4461	4.7780	4.5454	3.8770	4.4724	7.471
I M2-8:2FTS						ISTD					
T 8:2FTS	Avg RF	2.8892	3.1293	2.4826	2.8499	2.5162	2.6241	2.5420	2.3723	2.6757	9.550
I M3-MeFOSAA						ISTD					
T MeFOSAA	Avg RF	1.0831	1.0573	0.9142	0.9102	0.8925	0.9951	0.9230	0.8722	0.9560	8.287
I M3-HFPO-DA						ISTD					
T HFPO-DA	Avg RF	0.9861	0.9929	0.7854	0.8594	0.7581	0.8907	0.7933	0.7415	0.8509	11.606
T ADONA	Avg RF	13.05	13.22	11.93	13.02	12.05	14.19	12.91	11.52	12.74	6.721
T 9Cl-PF3ONS	Avg RF	5.9949	6.0608	5.3035	6.0224	5.7794	6.4412	5.6240	4.9266	5.7691	8.287
T 11Cl-PF3OUdS	Avg RF	3.7243	3.8193	3.3370	3.4829	3.4885	3.9418	3.5878	3.1696	3.5689	7.131
I M5-EtFOSAA						ISTD					
T EtFOSAA	Avg RF	0.7423	0.6189	0.5862	0.6190	0.5577	0.6528	0.6360	0.6278	0.6301	8.602
I M7-MeFOSE						ISTD					
T MeFOSE	Avg RF	0.9646	0.9010	0.9099	0.9258	0.8990	1.0088	0.9864	0.8816	0.9346	4.949
I M9-EtFOSE						ISTD					
T EtFOSE	Avg RF	1.0574	1.0198	0.9304	0.9822	0.9922	1.0697	1.0441	1.0086	1.0131	4.479

Initial Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q330-ICC330
Lab FileID: 6Q22643.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	1.1759	1.1824	0.9796	1.1079	1.0395	1.1464	1.1495	1.0276	1.1011	6.917
I M3-MeFOSA						ISTD					
T MeFOSA	Avg RF	1.0065	0.9676	0.8600	0.9512	0.9115	0.9837	0.9369	0.7953	0.9266	7.515
I 13C4-PFOS						ISTD					
S d3-MeFOSAA	Avg RF	1.0208	0.8551	0.8610	0.9503	0.9037	0.8873	0.9321	0.8268	0.9046	6.871
S 13C8-PFOS	Avg RF	0.7713	0.6797	0.7153	0.7050	0.7694	0.7734	0.7621	0.6802	0.7320	5.652
S d5-EtFOSAA	Avg RF	0.8882	0.8437	0.8757	0.8392	0.8489	0.8352	0.8347	0.7155	0.8351	6.248
S 13C8-FOSA	Avg RF	2.0202	1.8423	1.8793	1.9110	1.8041	1.8107	1.9637	1.8653	1.8871	3.976
S d7-MeFOSE	Avg RF	0.7486	0.6653	0.6639	0.6710	0.6621	0.6523	0.6905	0.6517	0.6757	4.715
S d3-MeFOSA	Avg RF	0.8325	0.7235	0.7672	0.7478	0.7372	0.7542	0.8051	0.8120	0.7724	5.097
S d9-EtFOSE	Avg RF	0.9976	0.8565	0.9057	0.9422	0.8703	0.8925	0.9295	0.8194	0.9017	6.148
S d5-EtFOSA	Avg RF	0.8537	0.7208	0.8069	0.7682	0.7625	0.7663	0.7927	0.7550	0.7783	5.104
I 13C3-PFBA						ISTD					
S 13C4-PFBA	Avg RF	1.1811	1.1759	1.1793	1.1813	1.1771	1.1925	1.1909	1.1698	1.1810	0.640
I 18O2-PFHxS						ISTD					
S 13C2-4:2FTS	Avg RF	0.1598	0.1474	0.1641	0.1676	0.1563	0.1386	0.1363	0.1248	0.1494	10.125
S 13C3-PFBS	Avg RF	2.1096	2.1112	2.2143	2.1763	2.1919	2.0330	2.1069	2.0345	2.1222	3.207
S 13C2-6:2FTS	Avg RF	0.2193	0.2146	0.2509	0.2448	0.2196	0.2002	0.1957	0.1798	0.2156	11.143
S 13C3-PFHxS	Avg RF	1.2807	1.3086	1.4240	1.5478	1.3919	1.3498	1.3507	1.3390	1.3741	6.050
S 13C2-8:2FTS	Avg RF	0.2190	0.2024	0.2290	0.2323	0.2226	0.2034	0.2059	0.1742	0.2111	8.936
I 13C4-PFOA						ISTD					
S 13C8-PFOA	Avg RF	0.9028	0.9578	0.9514	0.8803	0.9267	0.9324	0.9111	0.9227	0.9231	2.746
I 13C2-PFDA						ISTD					
S 13C6-PFDA	Avg RF	0.7451	0.6938	0.6877	0.6573	0.7157	0.7909	0.7387	0.6176	0.7058	7.680
S 13C7-PFUnDA	Avg RF	0.9555	0.9615	0.9170	0.8973	0.9570	0.9624	0.9616	0.8569	0.9337	4.227
S 13C2-PFDoDA	Avg RF	0.8562	0.8838	0.8065	0.7958	0.8159	0.8755	0.8699	0.8526	0.8445	4.001
S 13C2-PFTeDA	Avg RF	0.4796	0.4727	0.4966	0.4695	0.4884	0.5012	0.5043	0.4739	0.4858	2.828
I 13C5-PFNA						ISTD					
S 13C9-PFNA	Avg RF	0.7616	0.7895	0.7797	0.8809	0.8189	0.8175	0.8409	0.7973	0.8108	4.651
I 13C2-PFHxA						ISTD					
S 13C5-PFPeA	Avg RF	0.4735	0.4790	0.4605	0.4776	0.4839	0.4684	0.4692	0.4546	0.4708	2.076
S 13C5-PFHxA	Avg RF	1.0049	1.0244	1.0495	1.0601	1.0621	1.0339	1.0033	1.0173	1.0319	2.270
S 13C3-HFPO-DA	Avg RF	0.1639	0.1596	0.1598	0.1615	0.1649	0.1557	0.1639	0.1649	0.1618	2.006
S 13C4-PFHpA	Avg RF	1.0225	1.0245	0.9903	1.0072	1.0301	0.9779	1.0346	0.9879	1.0094	2.147

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

Generated at 4:07 PM on 8/10/2023

Initial Calibration Verification

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q330-ICV330
Lab FileID: 6Q22649.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\081023_1633_S6Q330\s6q330.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d
2:D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d
3:D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d
4:D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d
5:D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d
6:D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d
7:D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d
8:D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d

Data File: 6Q22649
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.439	8.8	108.8
13C2-6:2FTS	5.000	5.362	7.2	107.2
13C2-8:2FTS	5.000	5.853	17.1	117.1
13C2-PFDoDA	1.250	1.178	-5.7	94.3
13C2-PFTeDA	1.250	1.240	-0.8	99.2
13C3-PFBS	2.500	2.427	-2.9	97.1
13C3-PFHxS	2.500	2.383	-4.7	95.3
13C4-PFBA	10.000	10.088	0.9	100.9
13C4-PFHpA	2.500	2.498	-0.1	99.9
13C5-PFHxA	2.500	2.459	-1.6	98.4
13C5-PFPeA	5.000	4.956	-0.9	99.1
13C6-PFDA	1.250	1.223	-2.1	97.9
13C7-PFUnDA	1.250	1.260	0.8	100.8
13C8-FOSA	2.500	2.461	-1.6	98.4
13C8-PFOA	2.500	2.562	2.5	102.5
13C8-PFOS	2.500	2.539	1.6	101.6
13C9-PFNA	1.250	1.322	5.8	105.8
4:2FTS	9.375	9.083	-3.1	96.9
6:2FTS	9.500	9.119	-4.0	96.0
8:2FTS	9.600	8.717	-9.2	90.8
d3-MeFOSAA	5.000	4.952	-1.0	99.0
EtFOSAA	2.500	2.381	-4.8	95.2
FOSA	2.500	2.356	-5.8	94.2
MeFOSAA	2.500	2.383	-4.7	95.3
PFBA	10.000	9.286	-7.1	92.9
PFBS	2.218	2.348	5.9	105.9
PFDA	2.500	2.413	-3.5	96.5
PFDoDA	2.500	2.435	-2.6	97.4
PFDS	2.413	2.127	-11.8	88.2
PFHpA	2.500	2.386	-4.6	95.4
PFHpS	2.383	2.309	-3.1	96.9
PFHxA	2.500	2.471	-1.2	98.8
PFHxS	2.285	2.214	-3.1	96.9
PFNA	2.500	2.240	-10.4	89.6
PFNS	2.405	2.141	-11.0	89.0
PFOA	2.500	2.307	-7.7	92.3
PFOS	2.320	2.096	-9.6	90.4

Initial Calibration Verification

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q330-ICV330
Lab FileID: 6Q22649.D

PFPeA	5.000	4.806	-3.9	96.1
PFPeS	2.353	2.411	2.4	102.4
PFTeDA	2.500	2.297	-8.1	91.9
PFTrDA	2.500	2.568	2.7	102.7
PFUnDA	2.500	2.362	-5.5	94.5
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	4.390	-7.1	92.9
13C3-HFPO-DA	10.000	9.783	-2.2	97.8
9Cl-PF3ONS	4.675	4.325	-7.5	92.5
ADONA	4.725	4.548	-3.7	96.3
HFPO-DA	5.000	4.486	-10.3	89.7
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.262	-9.8	90.2
5:3FTCA	62.400	60.691	-2.7	97.3
7:3FTCA	62.400	61.922	-0.8	99.2
d3-MeFOSA	2.500	2.487	-0.5	99.5
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.696	-6.1	93.9
EtFOSE	12.500	11.796	-5.6	94.4
MeFOSA	5.000	4.658	-6.8	93.2
MeFOSE	12.500	10.971	-12.2	87.8
PFDoDS	2.425	2.308	-4.8	95.2
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.859	-2.8	97.2
d7-MeFOSE	25.000	25.588	2.4	102.4
d9-EtFOSE	25.000	24.890	-0.4	99.6
d5-EtFOSA	2.500	2.472	-1.1	98.9
NFDHA	5.000	4.807	-3.9	96.1
PFMBA	5.000	4.753	-4.9	95.1
PFMPA	5.000	4.772	-4.6	95.4
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.282	-3.8	96.2

CC Criteria: +/- 30%

Initial Calibration Verification

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q330-ICV330
Lab FileID: 6Q22650.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\081023_1633_S6Q330\s6q330.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d
2:D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d
3:D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d
4:D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d
5:D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d
6:D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d
7:D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d
8:D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d

Data File: 6Q22650
Type : QC
Level : 20

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.350	7.0	107.0
13C2-6:2FTS	5.000	5.196	3.9	103.9
13C2-8:2FTS	5.000	5.605	12.1	112.1
13C2-PFDoDA	1.250	1.221	-2.3	97.7
13C2-PFTeDA	1.250	1.234	-1.3	98.7
13C3-PFBS	2.500	2.453	-1.9	98.1
13C3-PFHxS	2.500	2.661	6.5	106.5
13C4-PFBA	10.000	10.087	0.9	100.9
13C4-PFHpA	2.500	2.525	1.0	101.0
13C5-PFHxA	2.500	2.554	2.2	102.2
13C5-PFPeA	5.000	5.111	2.2	102.2
13C6-PFDA	1.250	1.243	-0.6	99.4
13C7-PFUnDA	1.250	1.218	-2.6	97.4
13C8-FOSA	2.500	2.517	0.7	100.7
13C8-PFOA	2.500	2.468	-1.3	98.7
13C8-PFOS	2.500	2.689	7.6	107.6
13C9-PFNA	1.250	1.266	1.3	101.3
4:2FTS	20.000	20.173	0.9	100.9
6:2FTS	20.000	21.021	5.1	105.1
8:2FTS	20.000	18.827	-5.9	94.1
d3-MeFOSAA	5.000	5.063	1.3	101.3
EtFOSAA	20.000	19.214	-3.9	96.1
FOSA	20.000	19.075	-4.6	95.4
MeFOSAA	20.000	18.695	-6.5	93.5
PFBA	20.000	18.362	-8.2	91.8
PFBS	20.000	21.372	6.9	106.9
PFDA	20.000	19.256	-3.7	96.3
PFDoDA	20.000	17.002	-15.0	85.0
PFDS	20.000	18.707	-6.5	93.5
PFHpA	20.000	18.346	-8.3	91.7
PFHpS	20.000	17.658	-11.7	88.3
PFHxA	20.000	19.622	-1.9	98.1
PFHxS	20.000	17.983	-10.1	89.9
PFNA	20.000	19.694	-1.5	98.5
PFNS	20.000	18.301	-8.5	91.5
PFOA	20.000	17.570	-12.1	87.9
PFOS	20.000	17.137	-14.3	85.7

Initial Calibration Verification

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q330-ICV330
Lab FileID: 6Q22650.D

PFPeA	20.000	19.830	-0.8	99.2
PFPeS	20.000	19.408	-3.0	97.0
PFTeDA	20.000	18.377	-8.1	91.9
PFTrDA	20.000	16.387	-18.1	81.9
PFUnDA	20.000	19.064	-4.7	95.3
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	20.000	19.657	-1.7	98.3
13C3-HFPO-DA	10.000	9.820	-1.8	98.2
9Cl-PF3ONS	20.000	21.365	6.8	106.8
ADONA	20.000	18.832	-5.8	94.2
HFPO-DA	20.000	18.355	-8.2	91.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	20.000	18.117	-9.4	90.6
5:3FTCA	20.000	19.612	-1.9	98.1
7:3FTCA	20.000	18.613	-6.9	93.1
d3-MeFOSA	2.500	2.447	-2.1	97.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	20.000	16.466	-17.7	82.3
EtFOSE	100.000	99.142	-0.9	99.1
MeFOSA	20.000	17.595	-12.0	88.0
MeFOSE	100.000	106.677	6.7	106.7
PFDoDS	20.000	16.994	-15.0	85.0
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.872	-2.6	97.4
d7-MeFOSE	25.000	25.032	0.1	100.1
d9-EtFOSE	25.000	24.856	-0.6	99.4
d5-EtFOSA	2.500	2.629	5.2	105.2
NFDHA	20.000	19.141	-4.3	95.7
PFMBA	20.000	19.151	-4.2	95.8
PFMPA	20.000	19.291	-3.5	96.5
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	20.000	17.540	-12.3	87.7

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q331-CC330
Lab FileID: 6Q22795.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\081323_1633_S6Q331\s6q331.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d
2:D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d
3:D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d
4:D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d
5:D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d
6:D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d
7:D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d
8:D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d

Data File: 6Q22795
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	4.377	-12.5	87.5
13C2-6:2FTS	5.000	4.696	-6.1	93.9
13C2-8:2FTS	5.000	4.139	-17.2	82.8
13C2-PFDoDA	1.250	1.375	10.0	110.0
13C2-PFTeDA	1.250	1.385	10.8	110.8
13C3-PFBS	2.500	2.521	0.8	100.8
13C3-PFHxS	2.500	2.564	2.6	102.6
13C4-PFBA	10.000	9.933	-0.7	99.3
13C4-PFHpA	2.500	2.463	-1.5	98.5
13C5-PFHxA	2.500	2.435	-2.6	97.4
13C5-PFPeA	5.000	4.999	0.0	100.0
13C6-PFDA	1.250	1.380	10.4	110.4
13C7-PFUnDA	1.250	1.418	13.5	113.5
13C8-FOSA	2.500	2.241	-10.3	89.7
13C8-PFOA	2.500	2.572	2.9	102.9
13C8-PFOS	2.500	2.178	-12.9	87.1
13C9-PFNA	1.250	1.234	-1.3	98.7
4:2FTS	0.750	0.818	9.1	109.1
6:2FTS	0.760	0.798	5.1	105.1
8:2FTS	0.768	0.810	5.4	105.4
d3-MeFOSAA	5.000	4.342	-13.2	86.8
EtFOSAA	0.200	0.180	-10.2	89.8
FOSA	0.200	0.222	11.0	111.0
MeFOSAA	0.200	0.216	8.2	108.2
PFBA	0.800	0.840	5.1	105.1
PFBS	0.177	0.191	8.1	108.1
PFDA	0.200	0.192	-3.9	96.1
PFDoDA	0.200	0.200	-0.1	99.9
PFDS	0.193	0.210	8.8	108.8
PFHpA	0.200	0.225	12.6	112.6
PFHpS	0.191	0.242	26.6	126.6
PFHxA	0.200	0.234	16.9	116.9
PFHxS	0.183	0.196	7.0	107.0
PFNA	0.200	0.212	5.8	105.8
PFNS	0.192	0.207	7.8	107.8
PFOA	0.200	0.213	6.6	106.6
PFOS	0.186	0.212	14.2	114.2

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q331-CC330
Lab FileID: 6Q22795.D

PFPeA	0.400	0.438	9.5	109.5
PFPeS	0.188	0.211	12.2	112.2
PFTeDA	0.200	0.212	6.2	106.2
PFTrDA	0.200	0.201	0.7	100.7
PFUnDA	0.200	0.206	2.9	102.9
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	0.378	0.406	7.5	107.5
13C3-HFPO-DA	10.000	10.319	3.2	103.2
9Cl-PF3ONS	0.374	0.380	1.6	101.6
ADONA	0.378	0.390	3.1	103.1
HFPO-DA	0.400	0.422	5.4	105.4
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	1.023	2.5	102.5
5:3FTCA	4.992	5.309	6.4	106.4
7:3FTCA	4.992	5.142	3.0	103.0
d3-MeFOSA	2.500	2.292	-8.3	91.7
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.463	15.7	115.7
EtFOSE	1.000	1.127	12.7	112.7
MeFOSA	0.400	0.438	9.4	109.4
MeFOSE	1.000	1.076	7.6	107.6
PFDoDS	0.194	0.221	13.7	113.7
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.156	-16.9	83.1
d7-MeFOSE	25.000	29.950	19.8	119.8
d9-EtFOSE	25.000	29.876	19.5	119.5
d5-EtFOSA	2.500	2.239	-10.4	89.6
NFDHA	0.400	0.430	7.5	107.5
PFMBA	0.400	0.433	8.3	108.3
PFMPA	0.400	0.424	6.0	106.0
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	0.356	0.410	15.2	115.2

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q331-CC330
Lab FileID: 6Q22806.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\081323_1633_S6Q331\s6q331.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d
2:D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d
3:D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d
4:D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d
5:D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d
6:D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d
7:D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d
8:D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d

Data File: 6Q22806
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.060	1.2	101.2
13C2-6:2FTS	5.000	4.943	-1.1	98.9
13C2-8:2FTS	5.000	5.340	6.8	106.8
13C2-PFDoDA	1.250	1.280	2.4	102.4
13C2-PFTeDA	1.250	1.215	-2.8	97.2
13C3-PFBS	2.500	2.629	5.2	105.2
13C3-PFHxS	2.500	2.535	1.4	101.4
13C4-PFBA	10.000	10.039	0.4	100.4
13C4-PFHpA	2.500	2.544	1.7	101.7
13C5-PFHxA	2.500	2.449	-2.0	98.0
13C5-PFPeA	5.000	5.029	0.6	100.6
13C6-PFDA	1.250	1.341	7.3	107.3
13C7-PFUnDA	1.250	1.406	12.5	112.5
13C8-FOSA	2.500	2.407	-3.7	96.3
13C8-PFOA	2.500	2.603	4.1	104.1
13C8-PFOS	2.500	2.693	7.7	107.7
13C9-PFNA	1.250	1.269	1.5	101.5
4:2FTS	9.375	9.514	1.5	101.5
6:2FTS	9.500	10.172	7.1	107.1
8:2FTS	9.600	8.278	-13.8	86.2
d3-MeFOSAA	5.000	4.824	-3.5	96.5
EtFOSAA	2.500	2.429	-2.9	97.1
FOSA	2.500	2.461	-1.5	98.5
MeFOSAA	2.500	2.307	-7.7	92.3
PFBA	10.000	9.879	-1.2	98.8
PFBS	2.218	2.256	1.7	101.7
PFDA	2.500	2.259	-9.7	90.3
PFDoDA	2.500	2.444	-2.3	97.7
PFDS	2.413	2.278	-5.6	94.4
PFHpA	2.500	2.475	-1.0	99.0
PFHpS	2.383	2.258	-5.2	94.8
PFHxA	2.500	2.560	2.4	102.4
PFHxS	2.285	2.416	5.7	105.7
PFNA	2.500	2.482	-0.7	99.3
PFNS	2.405	2.214	-7.9	92.1
PFOA	2.500	2.459	-1.6	98.4
PFOS	2.320	2.402	3.6	103.6

Continuing Calibration Summary

Job Number: FC8547 **Sample:** S6Q331-CC330
Account: AECOMCOD AECOM, INC. **Lab FileID:** 6Q22806.D
Project: N6274223F0104 RH Fire Suppression System

PFPeA	5.000	5.056	1.1	101.1
PFPeS	2.353	2.619	11.3	111.3
PFTeDA	2.500	2.565	2.6	102.6
PFTrDA	2.500	2.604	4.2	104.2
PFUnDA	2.500	2.262	-9.5	90.5
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	4.861	2.9	102.9
13C3-HFPO-DA	10.000	9.794	-2.1	97.9
9Cl-PF3ONS	4.675	4.918	5.2	105.2
ADONA	4.725	4.986	5.5	105.5
HFPO-DA	5.000	5.100	2.0	102.0
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.172	-2.5	97.5
5:3FTCA	62.400	62.670	0.4	100.4
7:3FTCA	62.400	62.281	-0.2	99.8
d3-MeFOSA	2.500	2.435	-2.6	97.4
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.186	3.7	103.7
EtFOSE	12.500	12.436	-0.5	99.5
MeFOSA	5.000	5.003	0.1	100.1
MeFOSE	12.500	12.795	2.4	102.4
PFDoDS	2.425	2.308	-4.8	95.2
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.707	-5.9	94.1
d7-MeFOSE	25.000	26.951	7.8	107.8
d9-EtFOSE	25.000	28.439	13.8	113.8
d5-EtFOSA	2.500	2.370	-5.2	94.8
NFDHA	5.000	5.074	1.5	101.5
PFMBA	5.000	5.118	2.4	102.4
PFMPA	5.000	5.020	0.4	100.4
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.881	9.7	109.7

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q331-CC330
Lab FileID: 6Q22818.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\081323_1633_S6Q331\s6q331.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d
2:D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d
3:D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d
4:D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d
5:D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d
6:D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d
7:D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d
8:D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d

Data File: 6Q22818
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	4.666	-6.7	93.3
13C2-6:2FTS	5.000	5.040	0.8	100.8
13C2-8:2FTS	5.000	4.629	-7.4	92.6
13C2-PFDoDA	1.250	1.227	-1.8	98.2
13C2-PFTeDA	1.250	1.175	-6.0	94.0
13C3-PFBS	2.500	2.468	-1.3	98.7
13C3-PFHxS	2.500	2.422	-3.1	96.9
13C4-PFBA	10.000	10.010	0.1	100.1
13C4-PFHpA	2.500	2.607	4.3	104.3
13C5-PFHxA	2.500	2.513	0.5	100.5
13C5-PFPeA	5.000	5.092	1.8	101.8
13C6-PFDA	1.250	1.204	-3.7	96.3
13C7-PFUnDA	1.250	1.252	0.2	100.2
13C8-FOSA	2.500	2.365	-5.4	94.6
13C8-PFOA	2.500	2.656	6.3	106.3
13C8-PFOS	2.500	2.632	5.3	105.3
13C9-PFNA	1.250	1.249	-0.1	99.9
4:2FTS	9.375	9.991	6.6	106.6
6:2FTS	9.500	9.061	-4.6	95.4
8:2FTS	9.600	9.593	-0.1	99.9
d3-MeFOSAA	5.000	4.888	-2.2	97.8
EtFOSAA	2.500	2.566	2.6	102.6
FOSA	2.500	2.665	6.6	106.6
MeFOSAA	2.500	2.593	3.7	103.7
PFBA	10.000	9.949	-0.5	99.5
PFBS	2.218	2.353	6.1	106.1
PFDA	2.500	2.478	-0.9	99.1
PFDoDA	2.500	2.321	-7.2	92.8
PFDS	2.413	2.336	-3.2	96.8
PFHpA	2.500	2.454	-1.9	98.1
PFHpS	2.383	2.356	-1.1	98.9
PFHxA	2.500	2.664	6.6	106.6
PFHxS	2.285	2.278	-0.3	99.7
PFNA	2.500	2.389	-4.5	95.5
PFNS	2.405	2.253	-6.3	93.7
PFOA	2.500	2.433	-2.7	97.3
PFOS	2.320	2.380	2.6	102.6

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q331-CC330
Lab FileID: 6Q22818.D

PFPeA	5.000	5.148	3.0	103.0
PFPeS	2.353	2.477	5.3	105.3
PFTeDA	2.500	2.514	0.6	100.6
PFTrDA	2.500	2.391	-4.4	95.6
PFUnDA	2.500	2.501	0.0	100.0
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	4.725	4.950	4.8	104.8
13C3-HFPO-DA	10.000	10.104	1.0	101.0
9Cl-PF3ONS	4.675	4.921	5.3	105.3
ADONA	4.725	4.958	4.9	104.9
HFPO-DA	5.000	4.881	-2.4	97.6
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.249	-1.9	98.1
5:3FTCA	62.400	59.864	-4.1	95.9
7:3FTCA	62.400	60.524	-3.0	97.0
d3-MeFOSA	2.500	2.445	-2.2	97.8
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.006	0.1	100.1
EtFOSE	12.500	13.301	6.4	106.4
MeFOSA	5.000	4.981	-0.4	99.6
MeFOSE	12.500	12.952	3.6	103.6
PFDoDS	2.425	2.574	6.1	106.1
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.287	-14.3	85.7
d7-MeFOSE	25.000	26.581	6.3	106.3
d9-EtFOSE	25.000	26.811	7.2	107.2
d5-EtFOSA	2.500	2.529	1.2	101.2
NFDHA	5.000	5.149	3.0	103.0
PFMBA	5.000	5.100	2.0	102.0
PFMPA	5.000	5.113	2.3	102.3
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.906	10.3	110.3

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q331-CC330
Lab FileID: 6Q22827.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\081323_1633_S6Q331\s6q331.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d
2:D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d
3:D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d
4:D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d
5:D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d
6:D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d
7:D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d
8:D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d

Data File: 6Q22827
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.128	2.6	102.6
13C2-6:2FTS	5.000	5.340	6.8	106.8
13C2-8:2FTS	5.000	4.547	-9.1	90.9
13C2-PFDoDA	1.250	1.262	1.0	101.0
13C2-PFTeDA	1.250	1.226	-1.9	98.1
13C3-PFBS	2.500	2.540	1.6	101.6
13C3-PFHxS	2.500	2.465	-1.4	98.6
13C4-PFBA	10.000	10.010	0.1	100.1
13C4-PFHpA	2.500	2.537	1.5	101.5
13C5-PFHxA	2.500	2.503	0.1	100.1
13C5-PFPeA	5.000	5.049	1.0	101.0
13C6-PFDA	1.250	1.200	-4.0	96.0
13C7-PFUnDA	1.250	1.269	1.5	101.5
13C8-FOSA	2.500	2.533	1.3	101.3
13C8-PFOA	2.500	2.616	4.6	104.6
13C8-PFOS	2.500	2.680	7.2	107.2
13C9-PFNA	1.250	1.263	1.0	101.0
4:2FTS	9.375	9.509	1.4	101.4
6:2FTS	9.500	9.209	-3.1	96.9
8:2FTS	9.600	10.967	14.2	114.2
d3-MeFOSAA	5.000	5.065	1.3	101.3
EtFOSAA	2.500	2.688	7.5	107.5
FOSA	2.500	2.483	-0.7	99.3
MeFOSAA	2.500	2.458	-1.7	98.3
PFBA	10.000	9.987	-0.1	99.9
PFBS	2.218	2.276	2.6	102.6
PFDA	2.500	2.519	0.8	100.8
PFDoDA	2.500	2.406	-3.8	96.2
PFDS	2.413	2.324	-3.7	96.3
PFHpA	2.500	2.538	1.5	101.5
PFHpS	2.383	2.359	-1.0	99.0
PFHxA	2.500	2.624	4.9	104.9
PFHxS	2.285	2.367	3.6	103.6
PFNA	2.500	2.419	-3.2	96.8
PFNS	2.405	2.370	-1.4	98.6
PFOA	2.500	2.359	-5.6	94.4
PFOS	2.320	2.397	3.3	103.3

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q331-CC330
Lab FileID: 6Q22827.D

PFPeA	5.000	5.076	1.5	101.5
PFPeS	2.353	2.497	6.1	106.1
PFTeDA	2.500	2.491	-0.4	99.6
PFTrDA	2.500	2.501	0.0	100.0
PFUnDA	2.500	2.550	2.0	102.0
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	4.725	4.976	5.3	105.3
13C3-HFPO-DA	10.000	10.215	2.1	102.1
9Cl-PF3ONS	4.675	4.693	0.4	100.4
ADONA	4.725	4.973	5.3	105.3
HFPO-DA	5.000	4.826	-3.5	96.5
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.188	-2.3	97.7
5:3FTCA	62.400	60.126	-3.6	96.4
7:3FTCA	62.400	60.722	-2.7	97.3
d3-MeFOSA	2.500	2.459	-1.6	98.4
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.116	2.3	102.3
EtFOSE	12.500	12.847	2.8	102.8
MeFOSA	5.000	5.173	3.5	103.5
MeFOSE	12.500	12.632	1.1	101.1
PFDoDS	2.425	2.541	4.8	104.8
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.517	-9.7	90.3
d7-MeFOSE	25.000	26.864	7.5	107.5
d9-EtFOSE	25.000	27.278	9.1	109.1
d5-EtFOSA	2.500	2.432	-2.7	97.3
NFDHA	5.000	4.976	-0.5	99.5
PFMBA	5.000	5.133	2.7	102.7
PFMPA	5.000	5.074	1.5	101.5
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.637	4.2	104.2

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q332-CC330
Lab FileID: 6Q22854.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\081423_1633_S6Q332\S6Q332.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d
2:D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d
3:D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d
4:D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d
5:D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d
6:D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d
7:D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d
8:D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d

Data File: 6Q22854
Type : QC
Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.125	2.5	102.5
13C2-6:2FTS	5.000	5.586	11.7	111.7
13C2-8:2FTS	5.000	4.671	-6.6	93.4
13C2-PFDoDA	1.250	1.240	-0.8	99.2
13C2-PFTeDA	1.250	1.255	0.4	100.4
13C3-PFBS	2.500	2.539	1.6	101.6
13C3-PFHxS	2.500	2.529	1.2	101.2
13C4-PFBA	10.000	10.053	0.5	100.5
13C4-PFHpA	2.500	2.632	5.3	105.3
13C5-PFHxA	2.500	2.588	3.5	103.5
13C5-PFPeA	5.000	5.237	4.7	104.7
13C6-PFDA	1.250	1.355	8.4	108.4
13C7-PFUnDA	1.250	1.293	3.4	103.4
13C8-FOSA	2.500	2.586	3.4	103.4
13C8-PFOA	2.500	2.675	7.0	107.0
13C8-PFOS	2.500	2.590	3.6	103.6
13C9-PFNA	1.250	1.209	-3.3	96.7
4:2FTS	0.750	0.808	7.8	107.8
6:2FTS	0.760	0.753	-1.0	99.0
8:2FTS	0.768	0.813	5.9	105.9
d3-MeFOSAA	5.000	4.890	-2.2	97.8
EtFOSAA	0.200	0.227	13.7	113.7
FOSA	0.200	0.215	7.3	107.3
MeFOSAA	0.200	0.207	3.7	103.7
PFBA	0.800	0.842	5.3	105.3
PFBS	0.177	0.211	19.1	119.1
PFDA	0.200	0.212	6.2	106.2
PFDoDA	0.200	0.218	8.8	108.8
PFDS	0.193	0.205	6.0	106.0
PFHpA	0.200	0.201	0.5	100.5
PFHpS	0.191	0.194	1.5	101.5
PFHxA	0.200	0.237	18.4	118.4
PFHxS	0.183	0.204	11.7	111.7
PFNA	0.200	0.218	8.8	108.8
PFNS	0.192	0.200	4.2	104.2
PFOA	0.200	0.197	-1.5	98.5
PFOS	0.186	0.215	15.4	115.4

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q332-CC330
Lab FileID: 6Q22854.D

PFPeA	0.400	0.438	9.6	109.6
PFPeS	0.188	0.215	14.4	114.4
PFTeDA	0.200	0.209	4.6	104.6
PFTrDA	0.200	0.206	2.9	102.9
PFUnDA	0.200	0.216	8.2	108.2
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	0.378	0.408	8.0	108.0
13C3-HFPO-DA	10.000	11.038	10.4	110.4
9Cl-PF3ONS	0.374	0.410	9.5	109.5
ADONA	0.378	0.384	1.5	101.5
HFPO-DA	0.400	0.392	-2.0	98.0
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	1.049	5.1	105.1
5:3FTCA	4.992	5.355	7.3	107.3
7:3FTCA	4.992	4.892	-2.0	98.0
d3-MeFOSA	2.500	2.475	-1.0	99.0
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.399	-0.2	99.8
EtFOSE	1.000	1.063	6.3	106.3
MeFOSA	0.400	0.401	0.3	100.3
MeFOSE	1.000	1.082	8.2	108.2
PFDoDS	0.194	0.227	16.8	116.8
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.365	-12.7	87.3
d7-MeFOSE	25.000	26.895	7.6	107.6
d9-EtFOSE	25.000	28.596	14.4	114.4
d5-EtFOSA	2.500	2.621	4.8	104.8
NFDHA	0.400	0.437	9.3	109.3
PFMBA	0.400	0.433	8.3	108.3
PFMPA	0.400	0.437	9.2	109.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	0.356	0.398	11.7	111.7

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q332-CC330
Lab FileID: 6Q22865.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\081423_1633_S6Q332\S6Q332.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d
2:D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d
3:D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d
4:D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d
5:D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d
6:D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d
7:D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d
8:D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d

Data File: 6Q22865
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	4.827	-3.5	96.5
13C2-6:2FTS	5.000	4.888	-2.2	97.8
13C2-8:2FTS	5.000	4.153	-16.9	83.1
13C2-PFDoDA	1.250	1.335	6.8	106.8
13C2-PFTeDA	1.250	1.272	1.8	101.8
13C3-PFBS	2.500	2.521	0.8	100.8
13C3-PFHxS	2.500	2.539	1.5	101.5
13C4-PFBA	10.000	9.974	-0.3	99.7
13C4-PFHpA	2.500	2.607	4.3	104.3
13C5-PFHxA	2.500	2.508	0.3	100.3
13C5-PFPeA	5.000	5.126	2.5	102.5
13C6-PFDA	1.250	1.379	10.3	110.3
13C7-PFUnDA	1.250	1.287	2.9	102.9
13C8-FOSA	2.500	2.391	-4.3	95.7
13C8-PFOA	2.500	2.500	0.0	100.0
13C8-PFOS	2.500	2.522	0.9	100.9
13C9-PFNA	1.250	1.272	1.8	101.8
4:2FTS	9.375	9.994	6.6	106.6
6:2FTS	9.500	9.555	0.6	100.6
8:2FTS	9.600	9.487	-1.2	98.8
d3-MeFOSAA	5.000	4.891	-2.2	97.8
EtFOSAA	2.500	2.402	-3.9	96.1
FOSA	2.500	2.464	-1.4	98.6
MeFOSAA	2.500	2.337	-6.5	93.5
PFBA	10.000	10.042	0.4	100.4
PFBS	2.218	2.320	4.6	104.6
PFDA	2.500	2.395	-4.2	95.8
PFDoDA	2.500	2.421	-3.2	96.8
PFDS	2.413	2.354	-2.5	97.5
PFHpA	2.500	2.412	-3.5	96.5
PFHpS	2.383	2.457	3.1	103.1
PFHxA	2.500	2.590	3.6	103.6
PFHxS	2.285	2.263	-1.0	99.0
PFNA	2.500	2.532	1.3	101.3
PFNS	2.405	2.422	0.7	100.7
PFOA	2.500	2.699	7.9	107.9
PFOS	2.320	2.404	3.6	103.6

Continuing Calibration Summary

Job Number: FC8547 **Sample:** S6Q332-CC330
Account: AECOMCOD AECOM, INC. **Lab FileID:** 6Q22865.D
Project: N6274223F0104 RH Fire Suppression System

PFPeA	5.000	5.150	3.0	103.0
PFPeS	2.353	2.386	1.4	101.4
PFTeDA	2.500	2.444	-2.2	97.8
PFTrDA	2.500	2.326	-6.9	93.1
PFUnDA	2.500	2.540	1.6	101.6
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	4.651	-1.6	98.4
13C3-HFPO-DA	10.000	10.820	8.2	108.2
9Cl-PF3ONS	4.675	4.626	-1.0	99.0
ADONA	4.725	4.754	0.6	100.6
HFPO-DA	5.000	4.769	-4.6	95.4
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.114	-2.9	97.1
5:3FTCA	62.400	63.467	1.7	101.7
7:3FTCA	62.400	60.712	-2.7	97.3
d3-MeFOSA	2.500	2.254	-9.8	90.2
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.052	1.0	101.0
EtFOSE	12.500	13.145	5.2	105.2
MeFOSA	5.000	5.247	4.9	104.9
MeFOSE	12.500	12.367	-1.1	98.9
PFDoDS	2.425	2.398	-1.1	98.9
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.459	-10.8	89.2
d7-MeFOSE	25.000	25.203	0.8	100.8
d9-EtFOSE	25.000	25.513	2.1	102.1
d5-EtFOSA	2.500	2.368	-5.3	94.7
NFDHA	5.000	5.243	4.9	104.9
PFMBA	5.000	5.058	1.2	101.2
PFMPA	5.000	5.139	2.8	102.8
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.789	7.6	107.6

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q332-CC330
Lab FileID: 6Q22886.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\081423_1633_S6Q332\S6Q332.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d
2:D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d
3:D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d
4:D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d
5:D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d
6:D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d
7:D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d
8:D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d

Data File: 6Q22886
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.371	7.4	107.4
13C2-6:2FTS	5.000	5.367	7.3	107.3
13C2-8:2FTS	5.000	4.703	-5.9	94.1
13C2-PFDoDA	1.250	1.290	3.2	103.2
13C2-PFTeDA	1.250	1.265	1.2	101.2
13C3-PFBS	2.500	2.499	0.0	100.0
13C3-PFHxS	2.500	2.429	-2.9	97.1
13C4-PFBA	10.000	10.011	0.1	100.1
13C4-PFHpA	2.500	2.481	-0.8	99.2
13C5-PFHxA	2.500	2.610	4.4	104.4
13C5-PFPeA	5.000	5.160	3.2	103.2
13C6-PFDA	1.250	1.313	5.0	105.0
13C7-PFUnDA	1.250	1.299	3.9	103.9
13C8-FOSA	2.500	2.537	1.5	101.5
13C8-PFOA	2.500	2.462	-1.5	98.5
13C8-PFOS	2.500	2.473	-1.1	98.9
13C9-PFNA	1.250	1.206	-3.6	96.4
4:2FTS	9.375	9.379	0.0	100.0
6:2FTS	9.500	9.673	1.8	101.8
8:2FTS	9.600	9.506	-1.0	99.0
d3-MeFOSAA	5.000	5.055	1.1	101.1
EtFOSAA	2.500	2.490	-0.4	99.6
FOSA	2.500	2.460	-1.6	98.4
MeFOSAA	2.500	2.459	-1.6	98.4
PFBA	10.000	9.972	-0.3	99.7
PFBS	2.218	2.281	2.8	102.8
PFDA	2.500	2.318	-7.3	92.7
PFDoDA	2.500	2.597	3.9	103.9
PFDS	2.413	2.480	2.8	102.8
PFHpA	2.500	2.641	5.7	105.7
PFHpS	2.383	2.478	4.0	104.0
PFHxA	2.500	2.525	1.0	101.0
PFHxS	2.285	2.421	5.9	105.9
PFNA	2.500	2.499	0.0	100.0
PFNS	2.405	2.575	7.1	107.1
PFOA	2.500	2.463	-1.5	98.5
PFOS	2.320	2.547	9.8	109.8

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q332-CC330
Lab FileID: 6Q22886.D

PFPeA	5.000	5.196	3.9	103.9
PFPeS	2.353	2.505	6.5	106.5
PFTeDA	2.500	2.635	5.4	105.4
PFTrDA	2.500	2.623	4.9	104.9
PFUnDA	2.500	2.593	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	5.106	8.1	108.1
13C3-HFPO-DA	10.000	10.269	2.7	102.7
9Cl-PF3ONS	4.675	5.030	7.6	107.6
ADONA	4.725	4.919	4.1	104.1
HFPO-DA	5.000	5.152	3.0	103.0
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.002	-3.8	96.2
5:3FTCA	62.400	61.326	-1.7	98.3
7:3FTCA	62.400	59.105	-5.3	94.7
d3-MeFOSA	2.500	2.502	0.1	100.1
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.973	-0.5	99.5
EtFOSE	12.500	12.271	-1.8	98.2
MeFOSA	5.000	4.997	-0.1	99.9
MeFOSE	12.500	12.702	1.6	101.6
PFDoDS	2.425	2.690	10.9	110.9
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.667	-6.7	93.3
d7-MeFOSE	25.000	29.465	17.9	117.9
d9-EtFOSE	25.000	31.203	24.8	124.8
d5-EtFOSA	2.500	2.554	2.2	102.2
NFDHA	5.000	5.026	0.5	100.5
PFMBA	5.000	5.091	1.8	101.8
PFMPA	5.000	5.046	0.9	100.9
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.597	3.3	103.3

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q332-CC330
Lab FileID: 6Q22899.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\081423_1633_S6Q332\S6Q332.batch.bin

Level ID:Calibration File
1:D:\MassHunter\Data\081023_1633_S6Q330\6Q22640.d
2:D:\MassHunter\Data\081023_1633_S6Q330\6Q22641.d
3:D:\MassHunter\Data\081023_1633_S6Q330\6Q22642.d
4:D:\MassHunter\Data\081023_1633_S6Q330\6Q22643.d
5:D:\MassHunter\Data\081023_1633_S6Q330\6Q22644.d
6:D:\MassHunter\Data\081023_1633_S6Q330\6Q22645.d
7:D:\MassHunter\Data\081023_1633_S6Q330\6Q22646.d
8:D:\MassHunter\Data\081023_1633_S6Q330\6Q22647.d

Data File: 6Q22899
Type : QC
Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	4.928	-1.4	98.6
13C2-6:2FTS	5.000	5.118	2.4	102.4
13C2-8:2FTS	5.000	4.880	-2.4	97.6
13C2-PFDoDA	1.250	1.334	6.7	106.7
13C2-PFTeDA	1.250	1.220	-2.4	97.6
13C3-PFBS	2.500	2.466	-1.4	98.6
13C3-PFHxS	2.500	2.326	-7.0	93.0
13C4-PFBA	10.000	9.985	-0.1	99.9
13C4-PFHpA	2.500	2.433	-2.7	97.3
13C5-PFHxA	2.500	2.455	-1.8	98.2
13C5-PFPeA	5.000	5.186	3.7	103.7
13C6-PFDA	1.250	1.354	8.3	108.3
13C7-PFUnDA	1.250	1.305	4.4	104.4
13C8-FOSA	2.500	2.354	-5.8	94.2
13C8-PFOA	2.500	2.596	3.8	103.8
13C8-PFOS	2.500	2.695	7.8	107.8
13C9-PFNA	1.250	1.263	1.0	101.0
4:2FTS	9.375	9.867	5.2	105.2
6:2FTS	9.500	9.828	3.5	103.5
8:2FTS	9.600	8.971	-6.5	93.5
d3-MeFOSAA	5.000	4.785	-4.3	95.7
EtFOSAA	2.500	2.424	-3.0	97.0
FOSA	2.500	2.608	4.3	104.3
MeFOSAA	2.500	2.440	-2.4	97.6
PFBA	10.000	10.101	1.0	101.0
PFBS	2.218	2.382	7.4	107.4
PFDA	2.500	2.252	-9.9	90.1
PFDoDA	2.500	2.246	-10.1	89.9
PFDS	2.413	2.180	-9.6	90.4
PFHpA	2.500	2.655	6.2	106.2
PFHpS	2.383	2.271	-4.7	95.3
PFHxA	2.500	2.645	5.8	105.8
PFHxS	2.285	2.448	7.1	107.1
PFNA	2.500	2.524	0.9	100.9
PFNS	2.405	2.228	-7.4	92.6
PFOA	2.500	2.388	-4.5	95.5
PFOS	2.320	2.209	-4.8	95.2

Continuing Calibration Summary

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q332-CC330
Lab FileID: 6Q22899.D

PFPeA	5.000	4.962	-0.8	99.2
PFPeS	2.353	2.582	9.7	109.7
PFTeDA	2.500	2.706	8.2	108.2
PFTrDA	2.500	2.436	-2.6	97.4
PFUnDA	2.500	2.520	0.8	100.8
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	4.790	1.4	101.4
13C3-HFPO-DA	10.000	10.489	4.9	104.9
9Cl-PF3ONS	4.675	4.549	-2.7	97.3
ADONA	4.725	4.730	0.1	100.1
HFPO-DA	5.000	4.876	-2.5	97.5
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.040	-3.5	96.5
5:3FTCA	62.400	64.471	3.3	103.3
7:3FTCA	62.400	61.407	-1.6	98.4
d3-MeFOSA	2.500	2.419	-3.2	96.8
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.013	0.3	100.3
EtFOSE	12.500	13.282	6.3	106.3
MeFOSA	5.000	4.821	-3.6	96.4
MeFOSE	12.500	12.902	3.2	103.2
PFDoDS	2.425	2.316	-4.5	95.5
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.423	-11.5	88.5
d7-MeFOSE	25.000	25.313	1.3	101.3
d9-EtFOSE	25.000	25.917	3.7	103.7
d5-EtFOSA	2.500	2.349	-6.1	93.9
NFDHA	5.000	5.372	7.4	107.4
PFMBA	5.000	5.009	0.2	100.2
PFMPA	5.000	5.056	1.1	101.1
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.914	10.4	110.4

CC Criteria: +/- 30%

Run Sequence Report

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q330 **Method:** EPA DRAFT 1633 **Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q330-RT	6Q22637.D	08/10/23 12:54	n/a	Retention Time Marker
S6Q330-RT	6Q22638.D	08/10/23 13:09	n/a	Retention Time Marker
S6Q330-IC330	6Q22639.D	08/10/23 13:23	n/a	Mass Calibration Verification
S6Q330-IC330	6Q22640.D	08/10/23 13:37	n/a	Initial cal 1
S6Q330-IC330	6Q22641.D	08/10/23 13:52	n/a	Initial cal 2
S6Q330-IC330	6Q22642.D	08/10/23 14:06	n/a	Initial cal 3
S6Q330-ICC330	6Q22643.D	08/10/23 14:20	n/a	Initial cal 4
S6Q330-IC330	6Q22644.D	08/10/23 14:35	n/a	Initial cal 5
S6Q330-IC330	6Q22645.D	08/10/23 14:49	n/a	Initial cal 6
S6Q330-IC330	6Q22646.D	08/10/23 15:03	n/a	Initial cal 7
S6Q330-IC330	6Q22647.D	08/10/23 15:18	n/a	Initial cal 8
S6Q330-IBLK	6Q22648.D	08/10/23 15:32	n/a	Instrument Blank
S6Q330-IBLK	6Q22648.D	08/10/23 15:32	n/a	Instrument Blank
S6Q330-ICV330	6Q22649.D	08/10/23 15:46	n/a	Initial cal verification 4
S6Q330-ICV330	6Q22650.D	08/10/23 16:01	n/a	Initial cal verification 20
S6Q330-CC330	6Q22651.D	08/10/23 16:15	n/a	Continuing cal 4
S6Q330-CC330	6Q22652.D	08/10/23 16:29	n/a	Continuing cal 1.0LL
OP98337-BS	6Q22653.D	08/10/23 16:44	OP98337	Blank Spike
OP98337-BSD	6Q22654.D	08/10/23 16:58	OP98337	Blank Spike Duplicate
OP98337-LLBS	6Q22655.D	08/10/23 17:12	OP98337	Blank Spike
OP98337-MB	6Q22656.D	08/10/23 17:27	OP98337	Method Blank
ZZZZZZ	6Q22657.D	08/10/23 17:41	OP98337	(unrelated sample)
ZZZZZZ	6Q22659.D	08/10/23 18:10	OP98248	(unrelated sample)
ZZZZZZ	6Q22660.D	08/10/23 18:24	OP98248	(unrelated sample)
S6Q330-CC330	6Q22662.D	08/10/23 18:53	n/a	Continuing cal 4
S6Q330-ICCB	6Q22663.D	08/10/23 19:07	n/a	Continuing Calibration Blank
ZZZZZZ	6Q22664.D	08/10/23 19:21	OP98181	(unrelated sample)
ZZZZZZ	6Q22665.D	08/10/23 19:36	OP98181	(unrelated sample)
ZZZZZZ	6Q22666.D	08/10/23 19:50	OP98297	(unrelated sample)
FC8439-4	6Q22667.D	08/10/23 20:04	OP98297	(used for QC only; not part of job FC8547)
ZZZZZZ	6Q22669.D	08/10/23 20:33	OP98297	(unrelated sample)
ZZZZZZ	6Q22670.D	08/10/23 20:48	OP98297	(unrelated sample)
FC7717-4	6Q22671.D	08/10/23 21:02	OP98159	(used for QC only; not part of job FC8547)
ZZZZZZ	6Q22672.D	08/10/23 21:16	OP98159	(unrelated sample)
ZZZZZZ	6Q22673.D	08/10/23 21:31	OP98159	(unrelated sample)
S6Q330-CC330	6Q22674.D	08/10/23 21:45	n/a	Continuing cal 4
S6Q330-ICCB	6Q22675.D	08/10/23 21:59	n/a	Continuing Calibration Blank
ZZZZZZ	6Q22676.D	08/10/23 22:14	OP98159	(unrelated sample)
ZZZZZZ	6Q22677.D	08/10/23 22:28	OP98159	(unrelated sample)
ZZZZZZ	6Q22679.D	08/10/23 22:57	OP98159	(unrelated sample)
ZZZZZZ	6Q22680.D	08/10/23 23:11	OP98159	(unrelated sample)
ZZZZZZ	6Q22681.D	08/10/23 23:25	OP98159	(unrelated sample)
ZZZZZZ	6Q22682.D	08/10/23 23:40	OP98138	(unrelated sample)
ZZZZZZ	6Q22683.D	08/10/23 23:54	OP98155	(unrelated sample)
ZZZZZZ	6Q22684.D	08/11/23 00:08	OP98155	(unrelated sample)
S6Q330-CC330	6Q22685.D	08/11/23 00:23	n/a	Continuing cal 4

Run Sequence Report

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q330 **Method:** EPA DRAFT 1633 **Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q330-ICCB	6Q22686.D	08/11/23 00:37	n/a	Continuing Calibration Blank
OP98277-BS	6Q22687.D	08/11/23 00:51	OP98277	Blank Spike
OP98277-LLBS	6Q22688.D	08/11/23 01:06	OP98277	Blank Spike
OP98277-MB	6Q22689.D	08/11/23 01:20	OP98277	Method Blank
ZZZZZZ	6Q22690.D	08/11/23 01:34	OP98277	(unrelated sample)
ZZZZZZ	6Q22691.D	08/11/23 01:49	OP98277	(unrelated sample)
ZZZZZZ	6Q22692.D	08/11/23 02:03	OP98277	(unrelated sample)
ZZZZZZ	6Q22693.D	08/11/23 02:17	OP98277	(unrelated sample)
FC8066-5	6Q22694.D	08/11/23 02:32	OP98277	(used for QC only; not part of job FC8547)
OP98277-MS	6Q22695.D	08/11/23 02:46	OP98277	Matrix Spike
OP98277-MSD	6Q22696.D	08/11/23 03:00	OP98277	Matrix Spike Duplicate
S6Q330-CC330	6Q22697.D	08/11/23 03:15	n/a	Continuing cal 4
S6Q330-ICCB	6Q22698.D	08/11/23 03:29	n/a	Continuing Calibration Blank
ZZZZZZ	6Q22699.D	08/11/23 03:43	OP98277	(unrelated sample)
ZZZZZZ	6Q22700.D	08/11/23 03:58	OP98277	(unrelated sample)
ZZZZZZ	6Q22701.D	08/11/23 04:12	OP98277	(unrelated sample)
ZZZZZZ	6Q22702.D	08/11/23 04:26	OP98277	(unrelated sample)
ZZZZZZ	6Q22703.D	08/11/23 04:41	OP98277	(unrelated sample)
ZZZZZZ	6Q22704.D	08/11/23 04:55	OP98277	(unrelated sample)
ZZZZZZ	6Q22705.D	08/11/23 05:09	OP98277	(unrelated sample)
ZZZZZZ	6Q22706.D	08/11/23 05:24	OP98277	(unrelated sample)
ZZZZZZ	6Q22707.D	08/11/23 05:38	OP98277	(unrelated sample)
S6Q330-CC330	6Q22708.D	08/11/23 05:52	n/a	Continuing cal 4
S6Q330-ICCB	6Q22709.D	08/11/23 06:07	n/a	Continuing Calibration Blank
OP98222-BS	6Q22710.D	08/11/23 06:21	OP98222	Blank Spike
OP98222-LLBS	6Q22711.D	08/11/23 06:35	OP98222	Blank Spike
OP98222-MB	6Q22712.D	08/11/23 06:50	OP98222	Method Blank
ZZZZZZ	6Q22713.D	08/11/23 07:04	OP98222	(unrelated sample)
FC7822-1	6Q22714.D	08/11/23 07:18	OP98222	(used for QC only; not part of job FC8547)
OP98222-MS	6Q22715.D	08/11/23 07:33	OP98222	Matrix Spike
FC7822-2	6Q22716.D	08/11/23 07:47	OP98222	(used for QC only; not part of job FC8547)
OP98222-DUP	6Q22717.D	08/11/23 08:01	OP98222	Duplicate
ZZZZZZ	6Q22718.D	08/11/23 08:16	OP98222	(unrelated sample)
ZZZZZZ	6Q22719.D	08/11/23 08:30	OP98222	(unrelated sample)
S6Q330-CC330	6Q22720.D	08/11/23 08:44	n/a	Continuing cal 4
S6Q330-ICCB	6Q22721.D	08/11/23 08:59	n/a	Continuing Calibration Blank
ZZZZZZ	6Q22722.D	08/11/23 09:13	OP98222	(unrelated sample)
ZZZZZZ	6Q22723.D	08/11/23 09:27	OP98222	(unrelated sample)
ZZZZZZ	6Q22724.D	08/11/23 09:42	OP98222	(unrelated sample)
ZZZZZZ	6Q22725.D	08/11/23 09:56	OP98222	(unrelated sample)
ZZZZZZ	6Q22726.D	08/11/23 10:10	OP98222	(unrelated sample)
ZZZZZZ	6Q22727.D	08/11/23 10:25	OP98222	(unrelated sample)
ZZZZZZ	6Q22728.D	08/11/23 10:39	OP98222	(unrelated sample)
ZZZZZZ	6Q22729.D	08/11/23 10:53	OP98222	(unrelated sample)
ZZZZZZ	6Q22730.D	08/11/23 11:08	OP98222	(unrelated sample)
ZZZZZZ	6Q22731.D	08/11/23 11:22	OP98222	(unrelated sample)

Run Sequence Report

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q330	**Method:** EPA DRAFT 1633	**Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q330-CC330	6Q22732.D	08/11/23 11:36	n/a	Continuing cal 4
S6Q330-ICCB	6Q22733.D	08/11/23 11:51	n/a	Continuing Calibration Blank
S6Q330-RT	6Q22734.D	08/11/23 12:05	n/a	Retention Time Marker
S6Q330-RT	6Q22735.D	08/11/23 12:19	n/a	Retention Time Marker
S6Q330-IBLK	6Q22737.D	08/11/23 12:48	n/a	Instrument Blank
S6Q330-IBLK	6Q22737.D	08/11/23 12:48	n/a	Instrument Blank
S6Q330-CC330	6Q22738.D	08/11/23 13:02	n/a	Continuing cal 4
S6Q330-CC330	6Q22739.D	08/11/23 13:17	n/a	Continuing cal 1.0LL
ZZZZZZ	6Q22740.D	08/11/23 13:31	OP98222	(unrelated sample)
OP98223-BS	6Q22741.D	08/11/23 13:45	OP98223	Blank Spike
OP98223-LLBS	6Q22742.D	08/11/23 14:00	OP98223	Blank Spike
OP98223-MB	6Q22743.D	08/11/23 14:14	OP98223	Method Blank
ZZZZZZ	6Q22744.D	08/11/23 14:28	OP98223	(unrelated sample)
ZZZZZZ	6Q22745.D	08/11/23 14:43	OP98223	(unrelated sample)
ZZZZZZ	6Q22746.D	08/11/23 14:57	OP98223	(unrelated sample)
ZZZZZZ	6Q22747.D	08/11/23 15:11	OP98223	(unrelated sample)
ZZZZZZ	6Q22748.D	08/11/23 15:26	OP98223	(unrelated sample)
ZZZZZZ	6Q22749.D	08/11/23 15:40	OP98223	(unrelated sample)
S6Q330-CC330	6Q22750.D	08/11/23 15:54	n/a	Continuing cal 4
S6Q330-ICCB	6Q22751.D	08/11/23 16:09	n/a	Continuing Calibration Blank
ZZZZZZ	6Q22752.D	08/11/23 16:23	OP98223	(unrelated sample)
FC7824-8	6Q22753.D	08/11/23 16:37	OP98223	(used for QC only; not part of job FC8547)
OP98223-MS	6Q22754.D	08/11/23 16:52	OP98223	Matrix Spike
FC7824-9	6Q22755.D	08/11/23 17:06	OP98223	(used for QC only; not part of job FC8547)
OP98223-DUP	6Q22756.D	08/11/23 17:20	OP98223	Duplicate
S6Q330-CC330	6Q22757.D	08/11/23 17:35	n/a	Continuing cal 4
S6Q330-ICCB	6Q22758.D	08/11/23 17:49	n/a	Continuing Calibration Blank
OP98278-BS	6Q22759.D	08/11/23 18:03	OP98278	Blank Spike
OP98278-LLBS	6Q22760.D	08/11/23 18:18	OP98278	Blank Spike
OP98278-MB	6Q22761.D	08/11/23 18:32	OP98278	Method Blank
ZZZZZZ	6Q22762.D	08/11/23 18:46	OP98278	(unrelated sample)
ZZZZZZ	6Q22763.D	08/11/23 19:01	OP98278	(unrelated sample)
ZZZZZZ	6Q22764.D	08/11/23 19:15	OP98278	(unrelated sample)
ZZZZZZ	6Q22765.D	08/11/23 19:29	OP98278	(unrelated sample)
FC7901-6	6Q22766.D	08/11/23 19:44	OP98278	(used for QC only; not part of job FC8547)
OP98278-MS	6Q22767.D	08/11/23 19:58	OP98278	Matrix Spike
OP98278-MSD	6Q22768.D	08/11/23 20:12	OP98278	Matrix Spike Duplicate
S6Q330-CC330	6Q22769.D	08/11/23 20:27	n/a	Continuing cal 4
S6Q330-ICCB	6Q22770.D	08/11/23 20:41	n/a	Continuing Calibration Blank
ZZZZZZ	6Q22771.D	08/11/23 20:55	OP98278	(unrelated sample)
ZZZZZZ	6Q22772.D	08/11/23 21:10	OP98278	(unrelated sample)
ZZZZZZ	6Q22773.D	08/11/23 21:24	OP98278	(unrelated sample)
ZZZZZZ	6Q22774.D	08/11/23 21:38	OP98278	(unrelated sample)
S6Q330-CC330	6Q22775.D	08/11/23 21:53	n/a	Continuing cal 4
S6Q330-ICCB	6Q22776.D	08/11/23 22:08	n/a	Continuing Calibration Blank
OP98280-BS	6Q22777.D	08/11/23 22:22	OP98280	Blank Spike

Run Sequence Report

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q330	**Method:** EPA DRAFT 1633	**Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
OP98280-LLBS	6Q22778.D	08/11/23 22:36	OP98280	Blank Spike
OP98280-MB	6Q22779.D	08/11/23 22:51	OP98280	Method Blank
ZZZZZZ	6Q22780.D	08/11/23 23:05	OP98280	(unrelated sample)
FC7902-2	6Q22781.D	08/11/23 23:19	OP98280	(used for QC only; not part of job FC8547)
OP98280-MS	6Q22782.D	08/11/23 23:34	OP98280	Matrix Spike
OP98280-MSD	6Q22783.D	08/11/23 23:48	OP98280	Matrix Spike Duplicate
ZZZZZZ	6Q22784.D	08/12/23 00:02	OP98280	(unrelated sample)
ZZZZZZ	6Q22785.D	08/12/23 00:17	OP98280	(unrelated sample)
S6Q330-ECC330	6Q22786.D	08/12/23 00:31	n/a	Ending cal 4
S6Q330-ICCB	6Q22787.D	08/12/23 00:45	n/a	Continuing Calibration Blank

Run Sequence Report

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q331 **Method:** EPA DRAFT 1633 **Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q331-RT	6Q22790.D	08/13/23 14:39	n/a	Retention Time Marker
S6Q331-RT	6Q22791.D	08/13/23 14:54	n/a	Retention Time Marker
S6Q331-IBLK	6Q22793.D	08/13/23 15:22	n/a	Instrument Blank
S6Q331-IBLK	6Q22793.D	08/13/23 15:22	n/a	Instrument Blank
S6Q331-CC330	6Q22794.D	08/13/23 15:36	n/a	Continuing cal 4
S6Q331-CC330	6Q22795.D	08/13/23 15:51	n/a	Continuing cal 1.0LL
OP98352-BS	6Q22796.D	08/13/23 16:05	OP98352	Blank Spike
OP98352-LLBS	6Q22797.D	08/13/23 16:20	OP98352	Blank Spike
OP98352-MB	6Q22798.D	08/13/23 16:34	OP98352	Method Blank
ZZZZZZ	6Q22799.D	08/13/23 16:48	OP98352	(unrelated sample)
ZZZZZZ	6Q22800.D	08/13/23 17:02	OP98352	(unrelated sample)
ZZZZZZ	6Q22801.D	08/13/23 17:17	OP98352	(unrelated sample)
FC7997-2	6Q22802.D	08/13/23 17:31	OP98352	(used for QC only; not part of job FC8547)
OP98352-MS	6Q22803.D	08/13/23 17:45	OP98352	Matrix Spike
OP98352-MSD	6Q22804.D	08/13/23 18:00	OP98352	Matrix Spike Duplicate
ZZZZZZ	6Q22805.D	08/13/23 18:14	OP98352	(unrelated sample)
S6Q331-CC330	6Q22806.D	08/13/23 18:29	n/a	Continuing cal 4
S6Q331-ICCB	6Q22807.D	08/13/23 18:43	n/a	Continuing Calibration Blank
ZZZZZZ	6Q22808.D	08/13/23 18:57	OP98352	(unrelated sample)
OP98380-BS	6Q22809.D	08/13/23 19:12	OP98380	Blank Spike
OP98380-LLBS	6Q22810.D	08/13/23 19:26	OP98380	Blank Spike
OP98380-MB	6Q22811.D	08/13/23 19:40	OP98380	Method Blank
FC8547-1	6Q22812.D	08/13/23 19:55	OP98380	AF-RHMW04-WGN01LF-2308
FC8547-2	6Q22813.D	08/13/23 20:09	OP98380	AF-RHMW17S-WGN01LF-2308
OP98380-MS	6Q22814.D	08/13/23 20:23	OP98380	Matrix Spike
FC8547-3	6Q22815.D	08/13/23 20:38	OP98380	AF-RHMW17S-WQEB01-2308
FC8547-4	6Q22816.D	08/13/23 20:52	OP98380	AF-RHMW17-WGN01LF-2308
OP98380-DUP	6Q22817.D	08/13/23 21:06	OP98380	Duplicate
S6Q331-CC330	6Q22818.D	08/13/23 21:21	n/a	Continuing cal 4
S6Q331-ICCB	6Q22819.D	08/13/23 21:35	n/a	Continuing Calibration Blank
FC8547-5	6Q22820.D	08/13/23 21:49	OP98380	AF-RHMW06-WGN01LF-2308
FC8547-6	6Q22821.D	08/13/23 22:04	OP98380	AF-RHMW17D-WGN01LF-2308
FC8547-7	6Q22822.D	08/13/23 22:18	OP98380	AF-RHMW17D-WQFB01-2308
OP98330-BS	6Q22823.D	08/13/23 22:32	OP98330	Blank Spike
OP98330-LLBS	6Q22824.D	08/13/23 22:47	OP98330	Blank Spike
OP98330-MB	6Q22825.D	08/13/23 23:01	OP98330	Method Blank
ZZZZZZ	6Q22826.D	08/13/23 23:15	OP98330	(unrelated sample)
S6Q331-CC330	6Q22827.D	08/13/23 23:30	n/a	Continuing cal 4
S6Q331-ICCB	6Q22828.D	08/13/23 23:44	n/a	Continuing Calibration Blank
OP98302-BS	6Q22829.D	08/13/23 23:58	OP98302	Blank Spike
OP98302-LLBS	6Q22830.D	08/14/23 00:13	OP98302	Blank Spike
OP98302-MB	6Q22831.D	08/14/23 00:27	OP98302	Method Blank
ZZZZZZ	6Q22833.D	08/14/23 00:56	OP98302	(unrelated sample)
FC8220-11	6Q22834.D	08/14/23 01:10	OP98302	(used for QC only; not part of job FC8547)
OP98302-MS	6Q22835.D	08/14/23 01:24	OP98302	Matrix Spike
FC8220-13	6Q22836.D	08/14/23 01:39	OP98302	(used for QC only; not part of job FC8547)

Run Sequence Report

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q331	**Method:** EPA DRAFT 1633	**Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
OP98302-DUP	6Q22837.D	08/14/23 01:53	OP98302	Duplicate
ZZZZZZ	6Q22838.D	08/14/23 02:07	OP98302	(unrelated sample)
S6Q331-CC330	6Q22839.D	08/14/23 02:22	n/a	Continuing cal 4
S6Q331-ICCB	6Q22840.D	08/14/23 02:36	n/a	Continuing Calibration Blank
ZZZZZZ	6Q22841.D	08/14/23 02:50	OP98302	(unrelated sample)
ZZZZZZ	6Q22842.D	08/14/23 03:05	OP98302	(unrelated sample)
ZZZZZZ	6Q22843.D	08/14/23 03:19	OP98302	(unrelated sample)
ZZZZZZ	6Q22844.D	08/14/23 03:33	OP98302	(unrelated sample)
S6Q331-ECC330	6Q22845.D	08/14/23 03:48	n/a	Ending cal 4
S6Q331-ICCB	6Q22846.D	08/14/23 04:02	n/a	Continuing Calibration Blank

Run Sequence Report

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q332 **Method:** EPA DRAFT 1633 **Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q332-RT	6Q22849.D	08/14/23 10:32	n/a	Retention Time Marker
S6Q332-RT	6Q22850.D	08/14/23 10:46	n/a	Retention Time Marker
S6Q332-IBLK	6Q22852.D	08/14/23 11:15	n/a	Instrument Blank
S6Q332-IBLK	6Q22852.D	08/14/23 11:15	n/a	Instrument Blank
S6Q332-CC330	6Q22853.D	08/14/23 11:29	n/a	Continuing cal 4
S6Q332-CC330	6Q22854.D	08/14/23 11:44	n/a	Continuing cal 1.0LL
OP98329-BS	6Q22855.D	08/14/23 12:04	OP98329	Blank Spike
OP98329-LLBS	6Q22856.D	08/14/23 12:19	OP98329	Blank Spike
OP98329-MB	6Q22857.D	08/14/23 12:33	OP98329	Method Blank
ZZZZZZ	6Q22858.D	08/14/23 12:47	OP98329	(unrelated sample)
ZZZZZZ	6Q22860.D	08/14/23 13:16	OP98329	(unrelated sample)
ZZZZZZ	6Q22861.D	08/14/23 13:35	OP98329	(unrelated sample)
ZZZZZZ	6Q22862.D	08/14/23 13:49	OP98329	(unrelated sample)
ZZZZZZ	6Q22863.D	08/14/23 14:04	OP98329	(unrelated sample)
ZZZZZZ	6Q22864.D	08/14/23 14:18	OP98329	(unrelated sample)
S6Q332-CC330	6Q22865.D	08/14/23 14:33	n/a	Continuing cal 4
S6Q332-ICCB	6Q22866.D	08/14/23 14:47	n/a	Continuing Calibration Blank
S6Q332-CC330	6Q22877.D	08/14/23 17:25	n/a	Continuing cal 4
S6Q332-ICCB	6Q22878.D	08/14/23 17:39	n/a	Continuing Calibration Blank
S6Q332-CC330	6Q22886.D	08/14/23 19:34	n/a	Continuing cal 4
S6Q332-ICCB	6Q22887.D	08/14/23 19:54	n/a	Continuing Calibration Blank
ZZZZZZ	6Q22888.D	08/14/23 20:08	OP98329	(unrelated sample)
ZZZZZZ	6Q22889.D	08/14/23 20:23	OP98329	(unrelated sample)
ZZZZZZ	6Q22890.D	08/14/23 20:37	OP98329	(unrelated sample)
ZZZZZZ	6Q22891.D	08/14/23 20:51	OP98329	(unrelated sample)
ZZZZZZ	6Q22892.D	08/14/23 21:06	OP98329	(unrelated sample)
ZZZZZZ	6Q22893.D	08/14/23 21:20	OP98329	(unrelated sample)
ZZZZZZ	6Q22894.D	08/14/23 21:34	OP98329	(unrelated sample)
FC8547-6	6Q22895.D	08/14/23 21:49	OP98380	AF-RHMW17D-WGN01LF-2308
FC8220-13	6Q22896.D	08/14/23 22:03	OP98302	(used for QC only; not part of job FC8547)
ZZZZZZ	6Q22897.D	08/14/23 22:17	OP98302	(unrelated sample)
ZZZZZZ	6Q22898.D	08/14/23 22:32	OP98222	(unrelated sample)
S6Q332-CC330	6Q22899.D	08/14/23 22:46	n/a	Continuing cal 4
S6Q332-ICCB	6Q22900.D	08/14/23 23:00	n/a	Continuing Calibration Blank
OP98378-BS	6Q22901.D	08/14/23 23:15	OP98378	Blank Spike
OP98378-LLBS	6Q22902.D	08/14/23 23:29	OP98378	Blank Spike
OP98378-MB	6Q22903.D	08/14/23 23:43	OP98378	Method Blank
ZZZZZZ	6Q22904.D	08/14/23 23:58	OP98378	(unrelated sample)
ZZZZZZ	6Q22905.D	08/15/23 00:12	OP98378	(unrelated sample)
FC8049-1	6Q22906.D	08/15/23 00:26	OP98378	(used for QC only; not part of job FC8547)
OP98378-MS	6Q22907.D	08/15/23 00:41	OP98378	Matrix Spike
ZZZZZZ	6Q22908.D	08/15/23 00:55	OP98378	(unrelated sample)
FC8049-3	6Q22909.D	08/15/23 01:09	OP98378	(used for QC only; not part of job FC8547)
OP98378-DUP	6Q22910.D	08/15/23 01:24	OP98378	Duplicate
S6Q332-CC330	6Q22911.D	08/15/23 01:38	n/a	Continuing cal 4
S6Q332-ICCB	6Q22912.D	08/15/23 01:52	n/a	Continuing Calibration Blank

Run Sequence Report

Job Number: FC8547
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q332	**Method:** EPA DRAFT 1633	**Instrument ID:** GCMS6Q

Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	6Q22914.D	08/15/23 02:21	OP98378	(unrelated sample)
ZZZZZZ	6Q22915.D	08/15/23 02:35	OP98378	(unrelated sample)
ZZZZZZ	6Q22916.D	08/15/23 02:50	OP98378	(unrelated sample)
ZZZZZZ	6Q22917.D	08/15/23 03:04	OP98378	(unrelated sample)
OP98377-BS	6Q22918.D	08/15/23 03:18	OP98377	Blank Spike
OP98377-LLBS	6Q22919.D	08/15/23 03:33	OP98377	Blank Spike
OP98377-MB	6Q22920.D	08/15/23 03:47	OP98377	Method Blank
ZZZZZZ	6Q22921.D	08/15/23 04:01	OP98377	(unrelated sample)
ZZZZZZ	6Q22922.D	08/15/23 04:16	OP98377	(unrelated sample)
S6Q332-ECC330	6Q22923.D	08/15/23 04:30	n/a	Ending cal 4
S6Q332-ICCB	6Q22924.D	08/15/23 04:44	n/a	Continuing Calibration Blank

MS Semi-volatiles

Raw Data

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22812.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 7:55:02 PM
Sample Name : FC8547-1
Vial : P6-B6
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98380,S6Q331,550,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	131867	10.00	µg/L	0.012
M5-PFPeA	4.447	268.3 -> 223.0	43266	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	47252	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	46543	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	73290	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	32377	1.25	µg/L	-0.012
M6-PFDA	8.250	519.1 -> 474.1	18774	1.25	µg/L	-0.012
M7-PFUnDA	8.705	570.0 -> 525.1	21905	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	19144	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	10182	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	17724	2.50	µg/L	0.000
M3-PFBS	5.599	302.1 -> 79.9	17879	2.50	µg/L	-0.011
M3-PFHxS	7.355	402.1 -> 79.9	10617	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	9905	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	2365	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3738	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3236	5.00	µg/L	-0.025
M3-MeFOSAA	8.297	573.2 -> 419.0	21568	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	29697	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	18343	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	67308	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	102867	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	8410	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	7883	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	12834	2.50	µg/L	-0.012
13C3-PFBA	3.026	216.0 -> 172.0	51423	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	7520	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	69088	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	22924	1.25	µg/L	0.000
13C5-PFNA	7.758	468.0 -> 423.0	37468	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	39082	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2365	5.27	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.3%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3738	5.76	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.3%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3236	5.10	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.9%		
13C2-PFDoDA	9.135	615.1 -> 570.0	19144	1.24	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C2-PFTeDA	9.839	715.2 -> 670.0	10182	1.14	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.4%		
13C3-PFBS	5.599	302.1 -> 79.9	17879	2.80	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.0%		
13C3-PFHxS	7.355	402.1 -> 79.9	10617	2.57	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 = 102.7%	
13C4-PFBA	3.022	216.8 -> 171.9	131867	10.86 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.6%	
13C4-PFHpA	6.596	367.1 -> 322.0	46543	2.95 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 118.0%	
13C5-PFHxA	5.668	318.0 -> 273.0	47252	2.93 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 117.2%	
13C5-PFPeA	4.447	268.3 -> 223.0	43266	5.88 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.6%	
13C6-PFDA	8.250	519.1 -> 474.1	18774	1.45 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 116.0%	
13C7-PFUnDA	8.705	570.0 -> 525.1	21905	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C8-FOSA	9.662	506.1 -> 77.8	17724	1.83 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 73.2%	
13C8-PFOA	7.226	421.1 -> 376.0	73290	2.87 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.9%	
13C8-PFOS	8.414	507.1 -> 79.9	9905	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.4%	
13C9-PFNA	7.758	472.1 -> 427.0	32377	1.33 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.6%	
d3-MeFOSAA	8.297	573.2 -> 419.0	21568	4.64 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.9%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	29697	11.74 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 117.4%	
d3-MeFOSA	10.763	515.0 -> 219.0	7883	1.99 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 79.5%	
d5-EtFOSAA	8.492	589.2 -> 419.0	18343	4.28 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 85.6%	
d7-MeFOSE	10.672	623.2 -> 58.9	67308	19.40 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 77.6%	
d9-EtFOSE	10.918	639.2 -> 58.9	102867	22.22 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 88.9%	
d5-EtFOSA	10.983	531.1 -> 219.0	8410	2.11 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 84.2%	
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

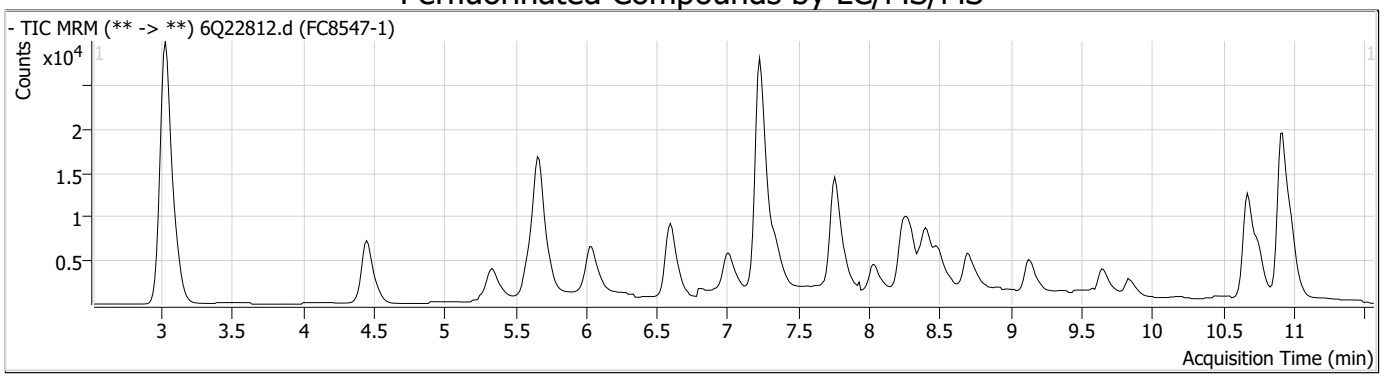
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	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

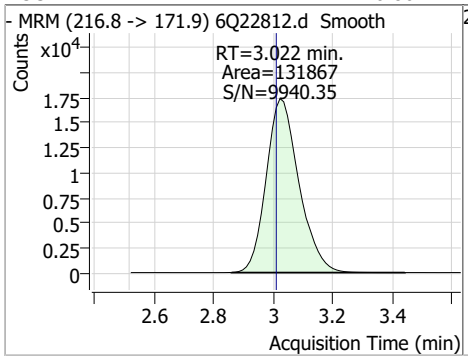
Perfluorinated Compounds by LC/MS/MS

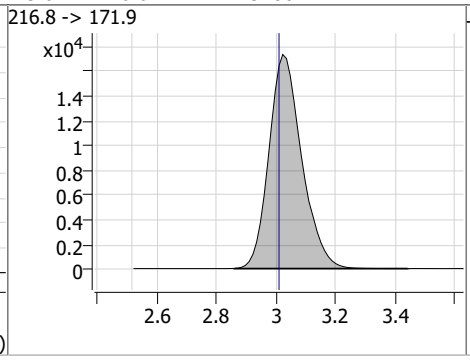
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

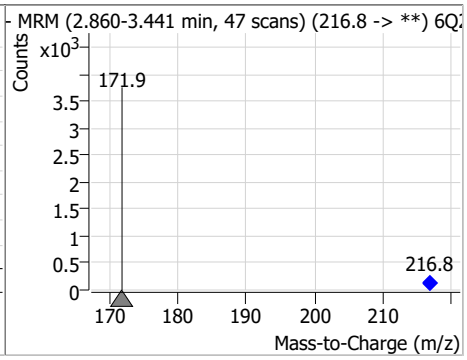
Perfluorinated Compounds by LC/MS/MS



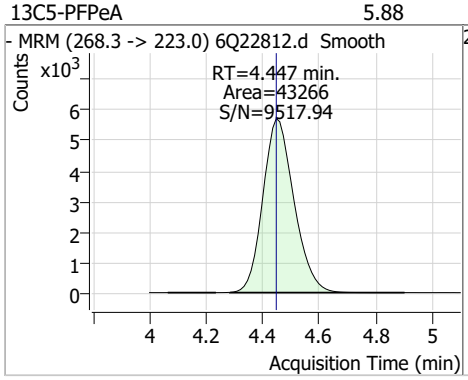
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.86	3.02	0.01	131867				

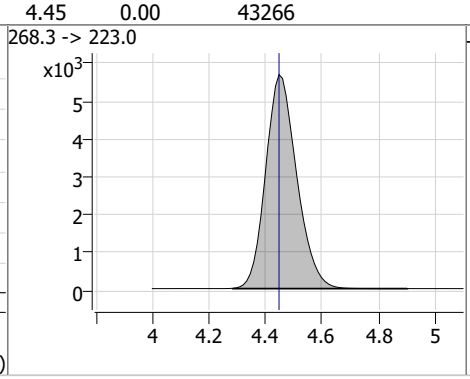


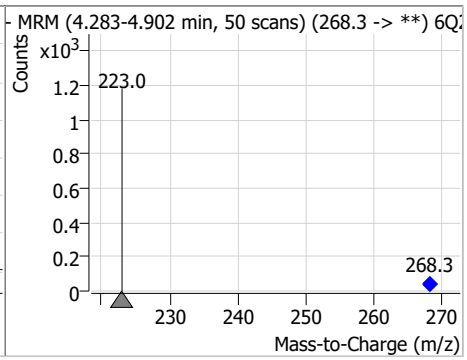




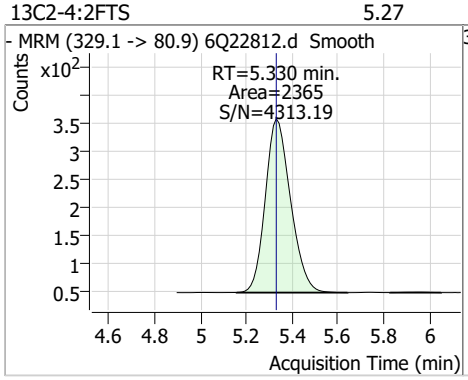
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.88	4.45	0.00	43266				

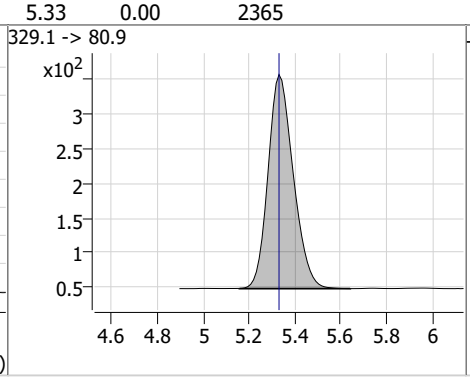


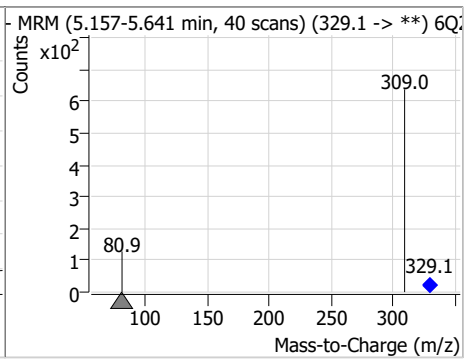




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.27	5.33	0.00	2365				

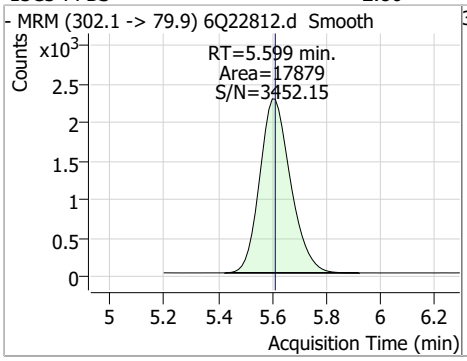


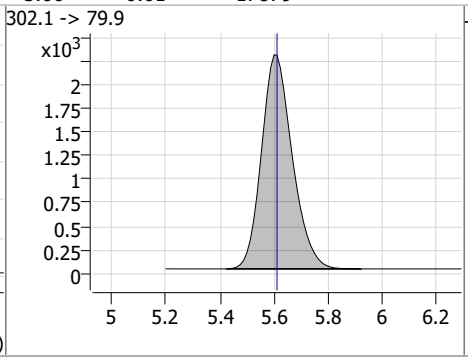


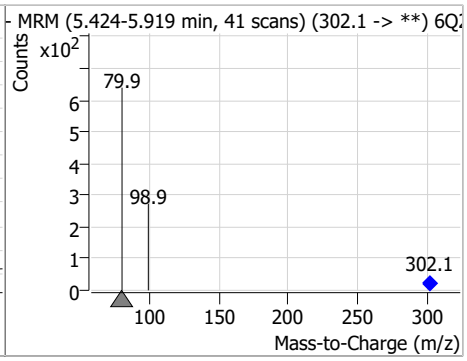


Perfluorinated Compounds by LC/MS/MS

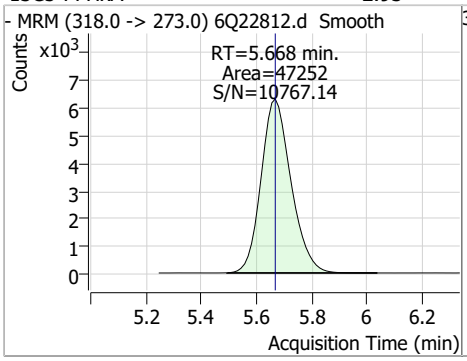
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.80	5.60	-0.01	17879				

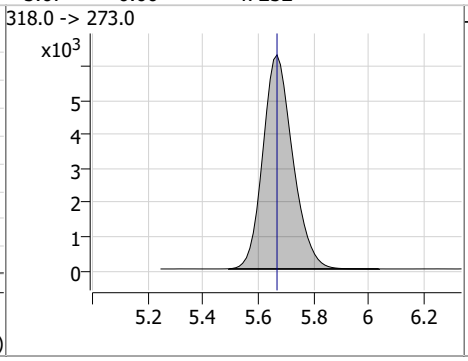


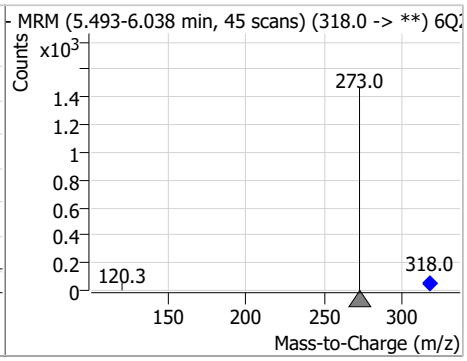




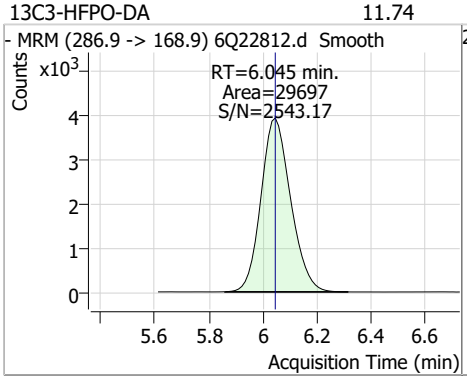
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.93	5.67	0.00	47252				

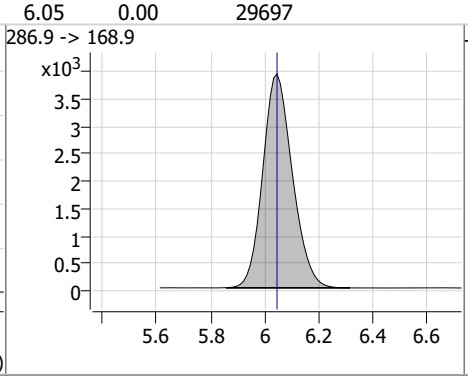


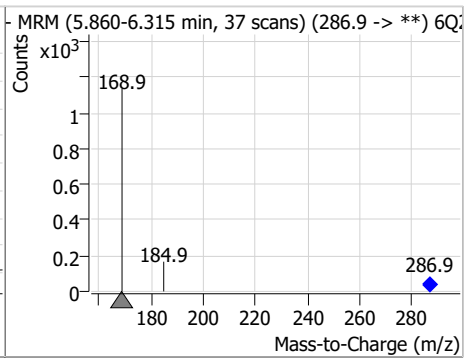




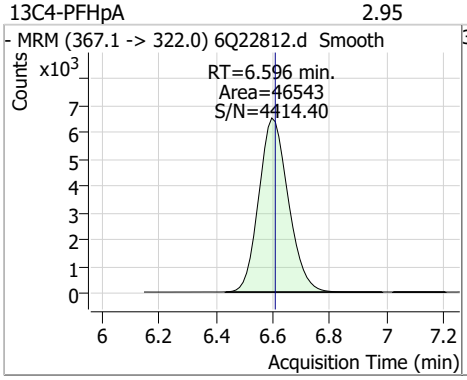
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.74	6.05	0.00	29697				

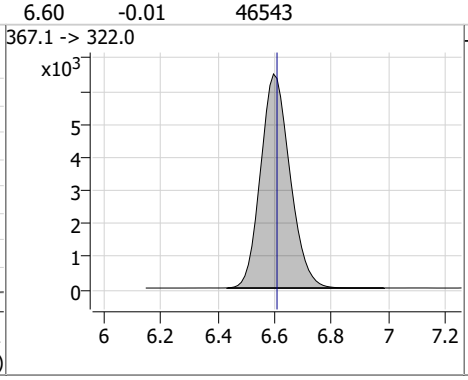


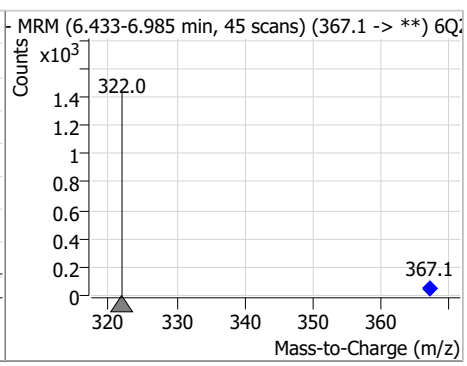




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.95	6.60	-0.01	46543				

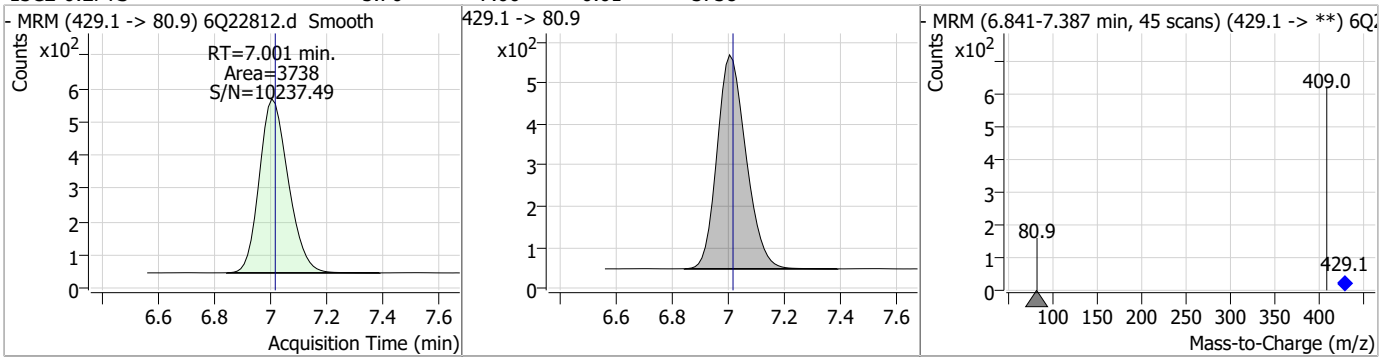




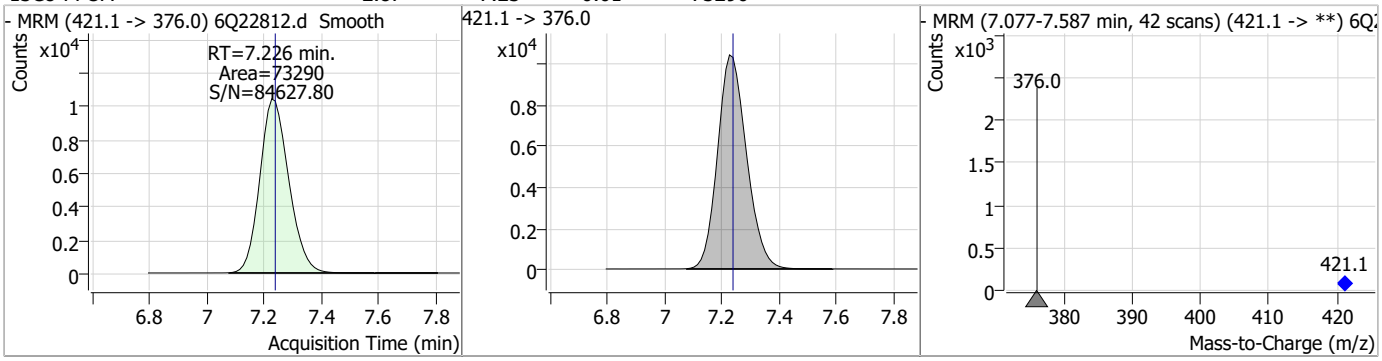


Perfluorinated Compounds by LC/MS/MS

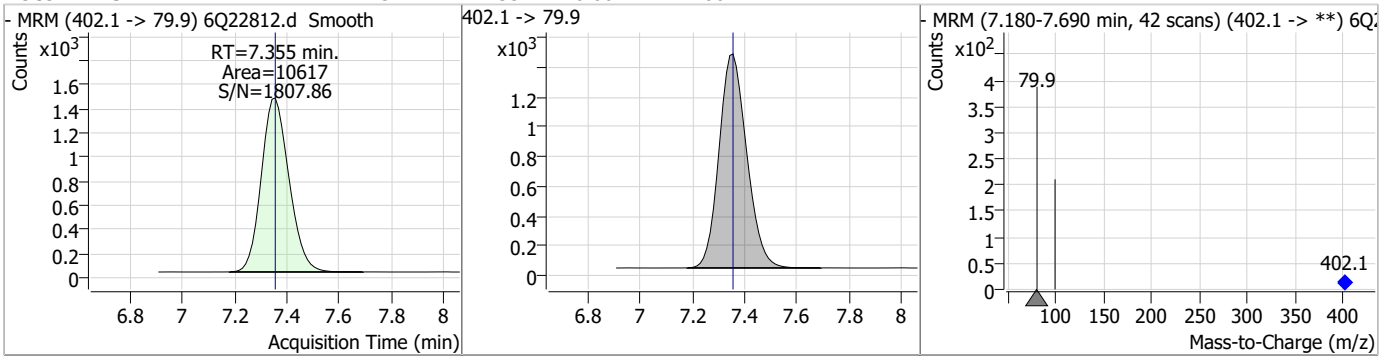
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.76	7.00	-0.01	3738				



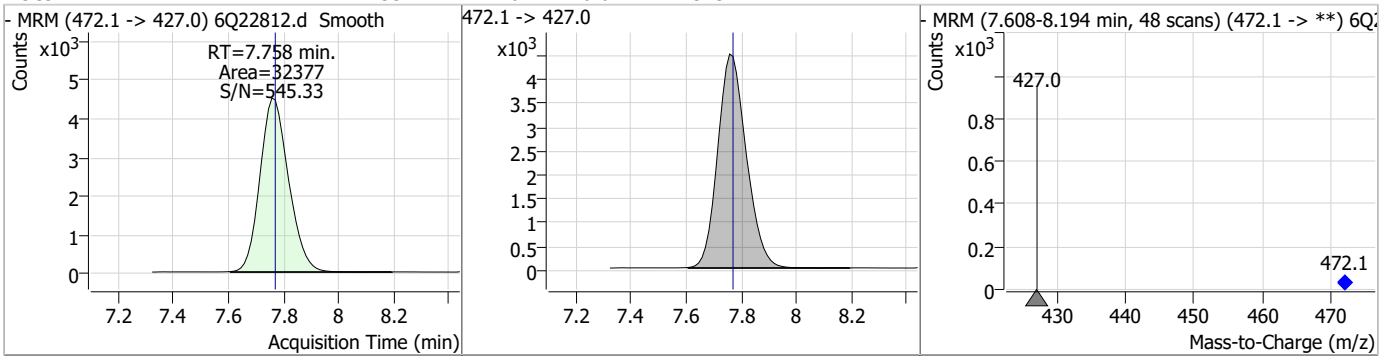
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.87	7.23	-0.01	73290				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.57	7.35	0.00	10617				

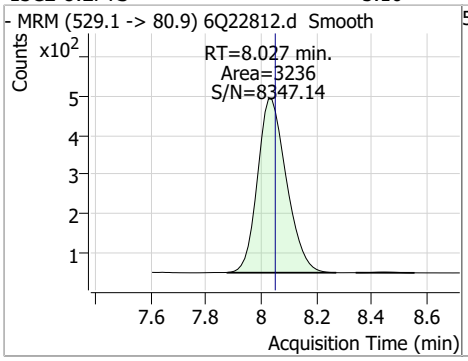


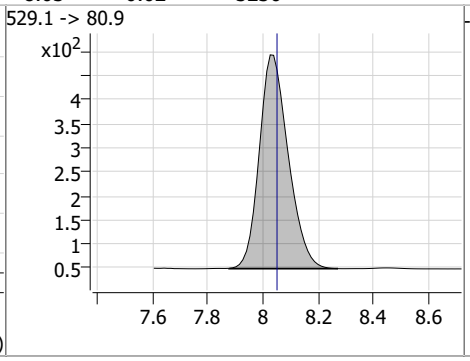
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.33	7.76	-0.01	32377				

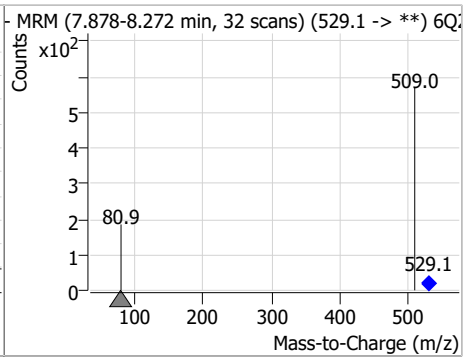


Perfluorinated Compounds by LC/MS/MS

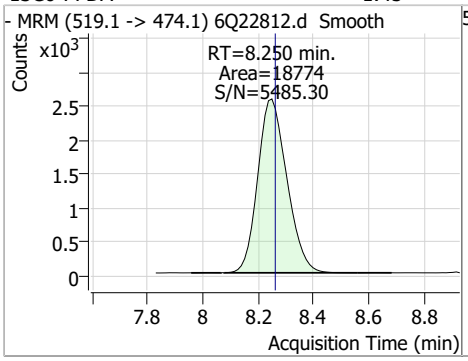
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.10	8.03	-0.02	3236				

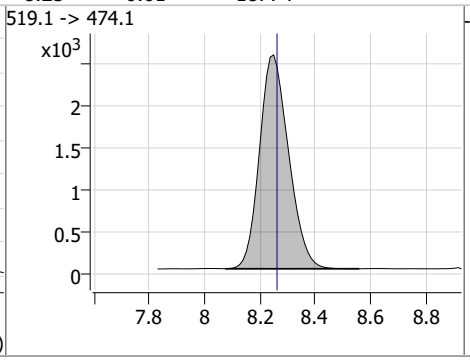


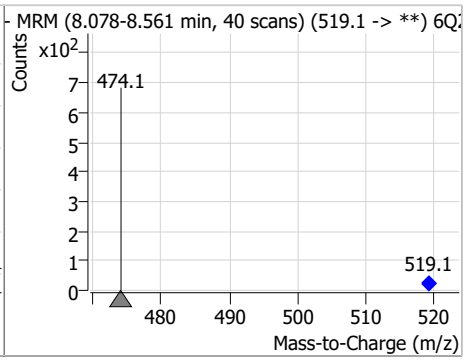




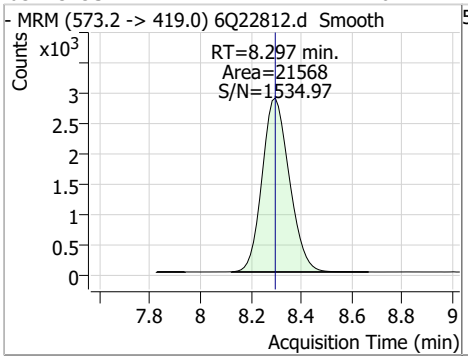
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.45	8.25	-0.01	18774				

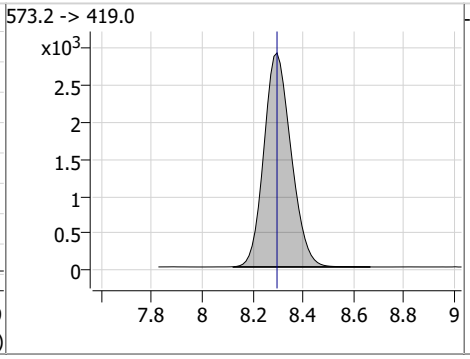


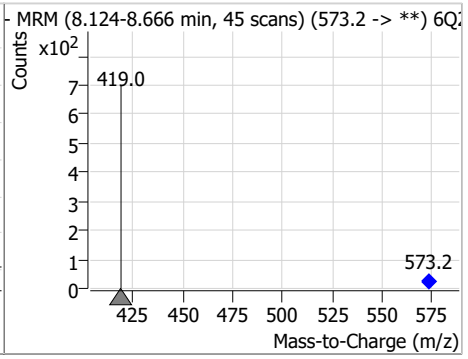




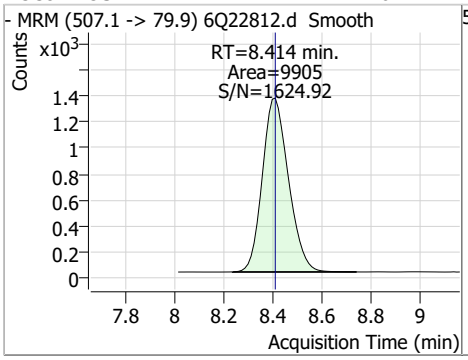
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.64	8.30	0.00	21568				

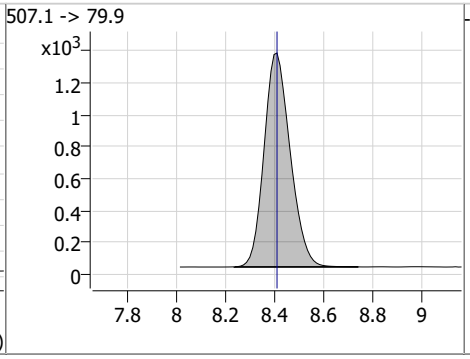


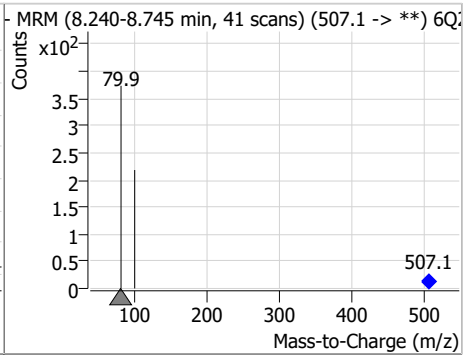




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.64	8.41	0.00	9905				

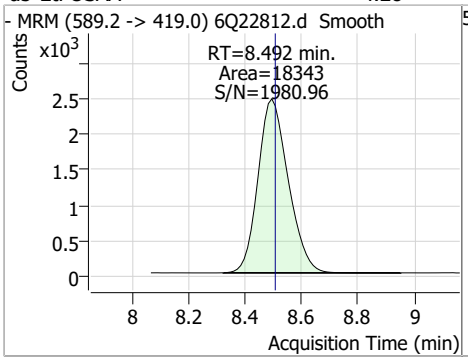


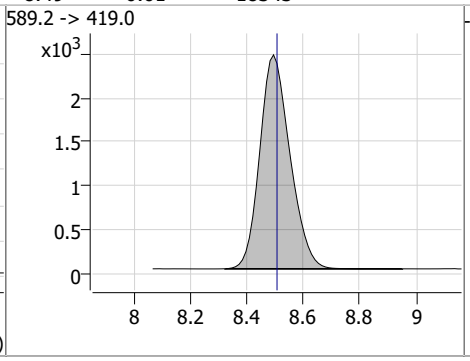


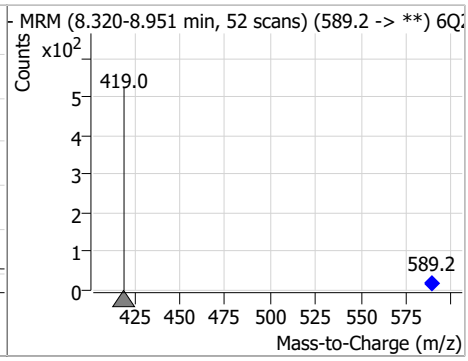


Perfluorinated Compounds by LC/MS/MS

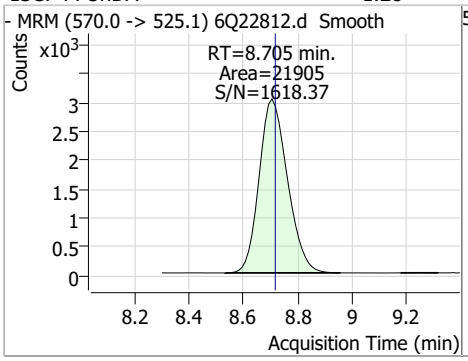
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.28	8.49	-0.01	18343				

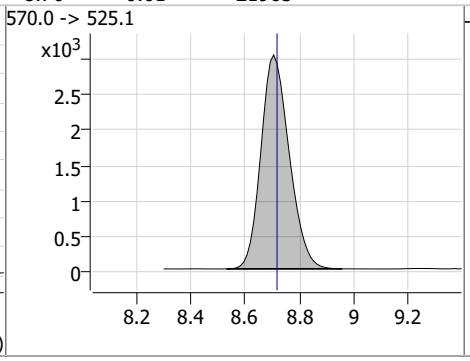


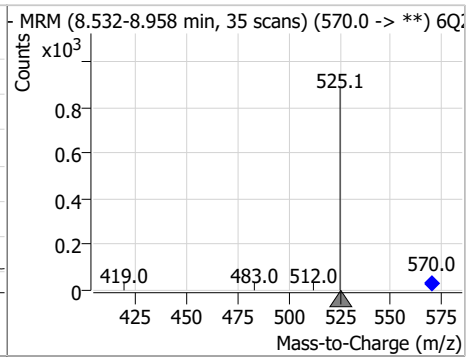




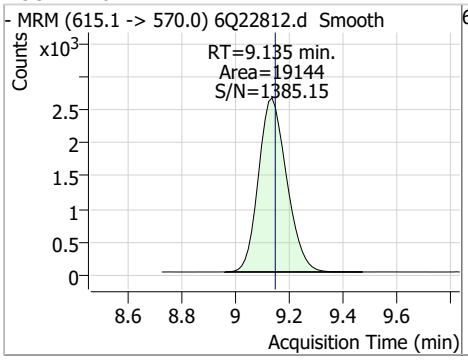
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.28	8.70	-0.01	21905				

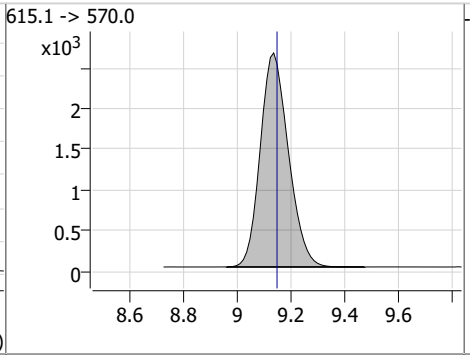


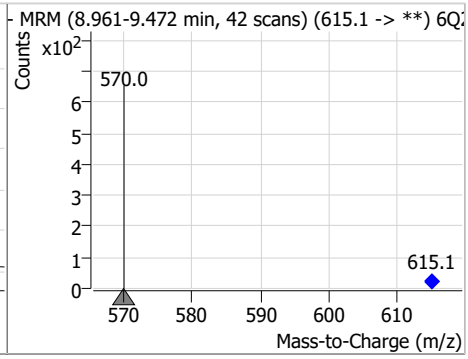




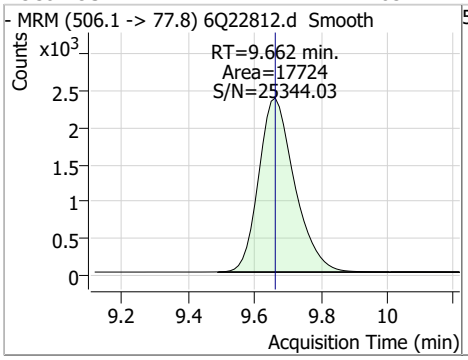
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.24	9.14	-0.01	19144				

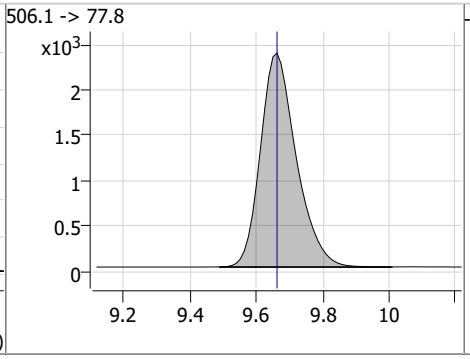


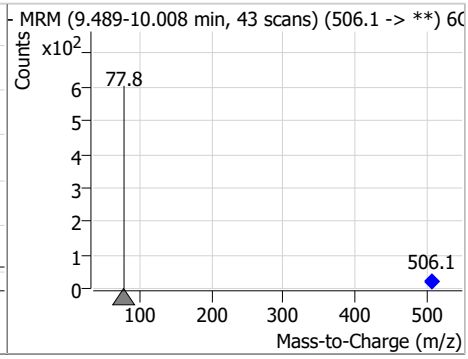




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.83	9.66	0.00	17724				

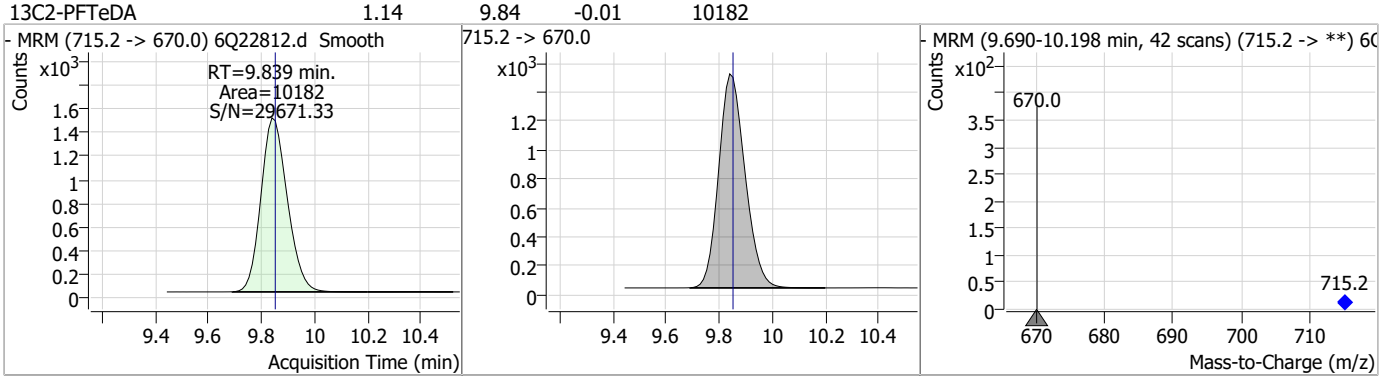




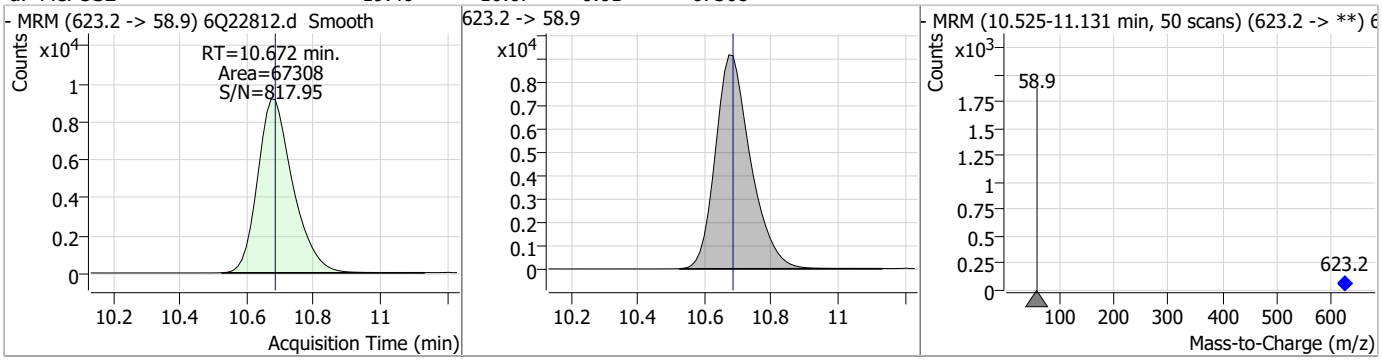


Perfluorinated Compounds by LC/MS/MS

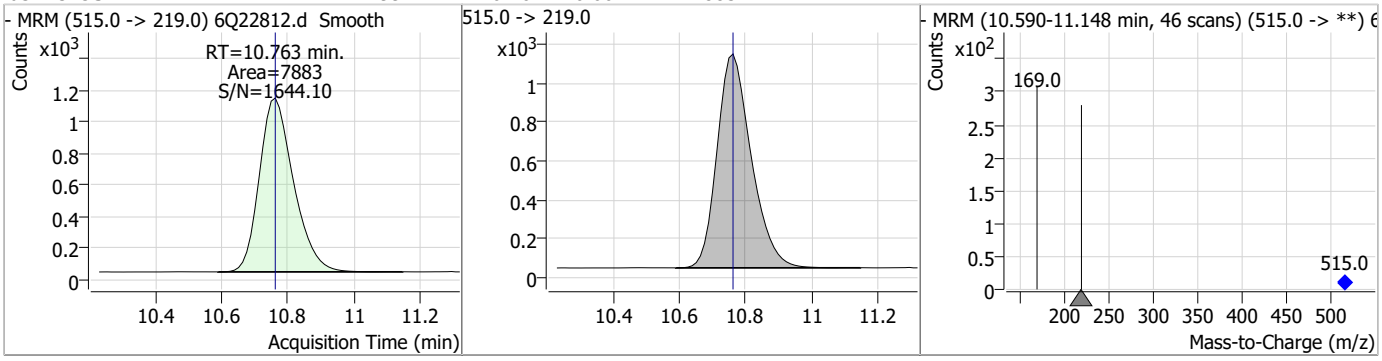
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.14	9.84	-0.01	10182				



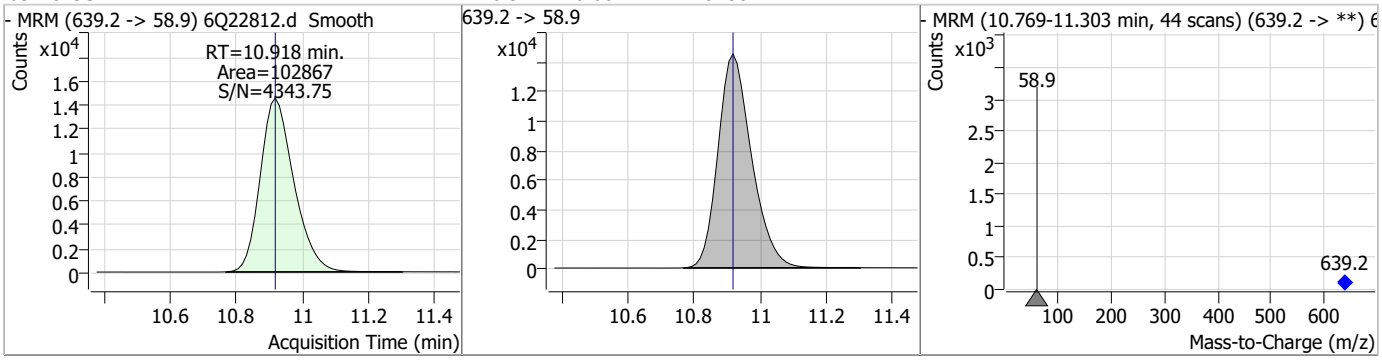
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	19.40	10.67	-0.01	67308				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.99	10.76	0.00	7883				

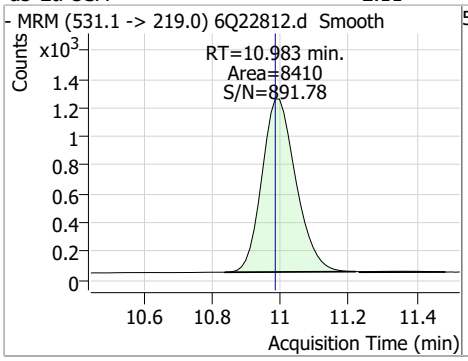


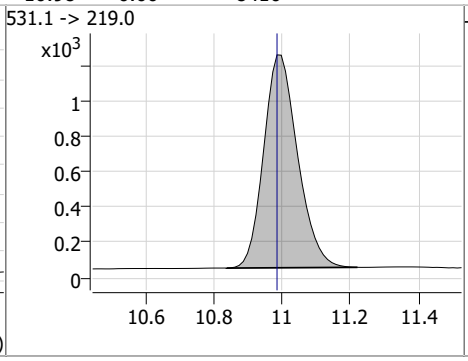
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.22	10.92	0.00	102867				

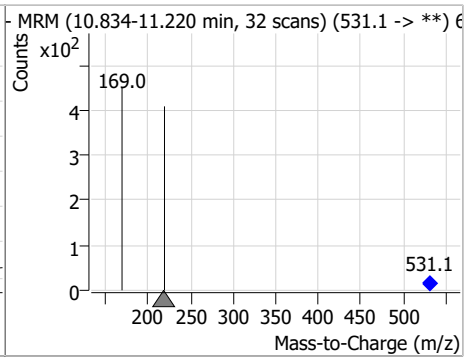


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.11	10.98	0.00	8410				







Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/15/23 13:05

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22813.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 8:09:22 PM
Sample Name : FC8547-2
Vial : P6-B7
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98380,S6Q331,570,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	94326	10.00	µg/L	0.012
M5-PFPeA	4.447	268.3 -> 223.0	41596	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	44585	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	44458	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	70646	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	31520	1.25	µg/L	-0.012
M6-PFDA	8.250	519.1 -> 474.1	18485	1.25	µg/L	-0.012
M7-PFUnDA	8.705	570.0 -> 525.1	24267	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	20143	1.25	µg/L	-0.012
M2-PFTeDA	9.851	715.2 -> 670.0	9845	1.25	µg/L	0.000
M8-FOSA	9.662	506.1 -> 77.8	19617	2.50	µg/L	0.000
M3-PFBS	5.599	302.1 -> 79.9	16668	2.50	µg/L	-0.011
M3-PFHxS	7.355	402.1 -> 79.9	10868	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	10498	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	2036	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3290	5.00	µg/L	-0.012
M2-8:2FTS	8.039	529.1 -> 80.9	2912	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	25242	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	25999	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	21262	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	70783	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	101778	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	7793	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	7751	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	13283	2.50	µg/L	-0.025
13C3-PFBA	3.026	216.0 -> 172.0	46311	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	7451	2.50	µg/L	0.000
13C4-PFOA	7.227	417.1 -> 372.0	68271	2.50	µg/L	-0.012
13C2-PFDA	8.251	515.1 -> 470.1	23183	1.25	µg/L	0.000
13C5-PFNA	7.758	468.0 -> 423.0	37814	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	39012	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2036	4.57	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.5%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3290	5.12	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C2-8:2FTS	8.039	529.1 -> 80.9	2912	4.63	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.6%		
13C2-PFDoDA	9.135	615.1 -> 570.0	20143	1.29	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.9%		
13C2-PFTeDA	9.851	715.2 -> 670.0	9845	1.09	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 87.4%		
13C3-PFBS	5.599	302.1 -> 79.9	16668	2.64	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.4%		
13C3-PFHxS	7.355	402.1 -> 79.9	10868	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 = 106.1%		
13C4-PFBA	3.022	216.8 -> 171.9	94326	8.62 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 86.2%		
13C4-PFHpA	6.596	367.1 -> 322.0	44458	2.82 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.9%		
13C5-PFHxA	5.668	318.0 -> 273.0	44585	2.77 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.7%		
13C5-PFPeA	4.447	268.3 -> 223.0	41596	5.66 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.2%		
13C6-PFDA	8.250	519.1 -> 474.1	18485	1.41 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.0%		
13C7-PFUnDA	8.705	570.0 -> 525.1	24267	1.40 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.1%		
13C8-FOSA	9.662	506.1 -> 77.8	19617	1.96 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.3%		
13C8-PFOA	7.226	421.1 -> 376.0	70646	2.80 µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 112.1%		
13C8-PFOS	8.414	507.1 -> 79.9	10498	2.70 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.0%		
13C9-PFNA	7.758	472.1 -> 427.0	31520	1.29 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.8%		
d3-MeFOSAA	8.297	573.2 -> 419.0	25242	5.25 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.0%		
13C3-HFPO-DA	6.045	286.9 -> 168.9	25999	10.30 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.0%		
d3-MeFOSA	10.763	515.0 -> 219.0	7751	1.89 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.5%		
d5-EtFOSAA	8.492	589.2 -> 419.0	21262	4.79 µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.8%		
d7-MeFOSE	10.672	623.2 -> 58.9	70783	19.72 µg/L		-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 78.9%		
d9-EtFOSE	10.918	639.2 -> 58.9	101778	21.24 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 85.0%		
d5-EtFOSA	10.983	531.1 -> 219.0	7793	1.88 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.4%		
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	3.006	212.8 -> 168.9	2299	0.78 µg/L	m	100
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

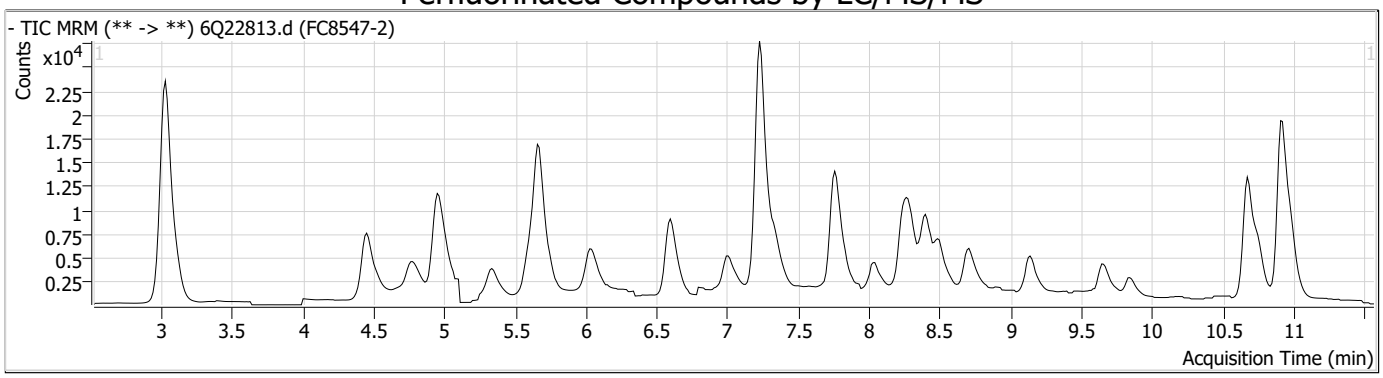
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	5.670	313.0 -> 269.0	2036	0.16	µg/L	#	90
		313.0 -> 118.9	175				
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	8.231	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	8.403	498.9 -> 79.9	532	0.12	µg/L		100
		498.9 -> 98.8	282				
PFPeA	4.776	263.0 -> 219.0	0		µg/L	m	1
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

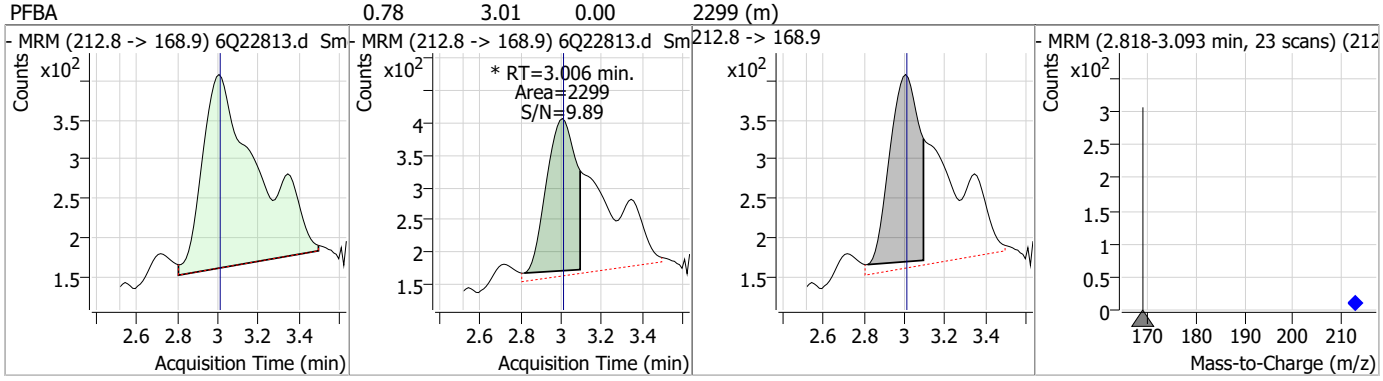
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

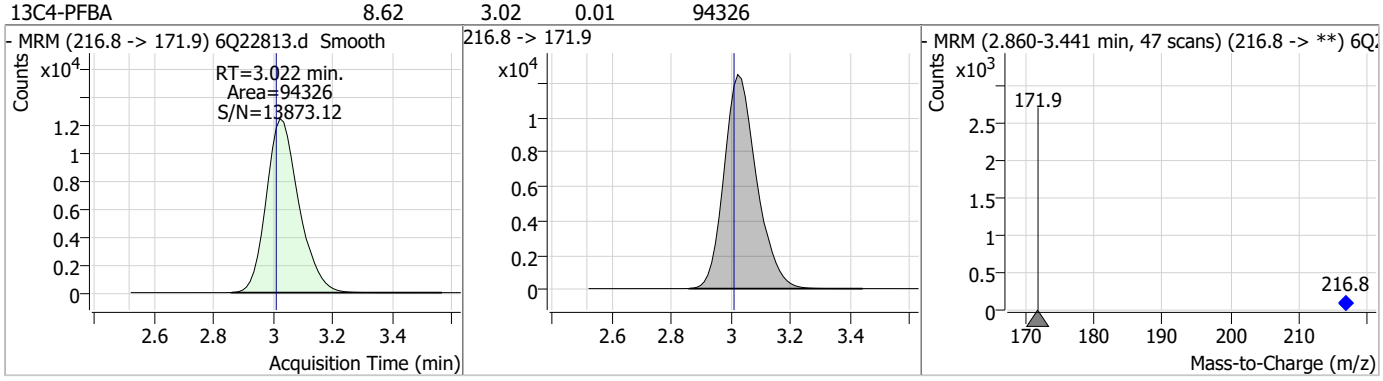
Perfluorinated Compounds by LC/MS/MS



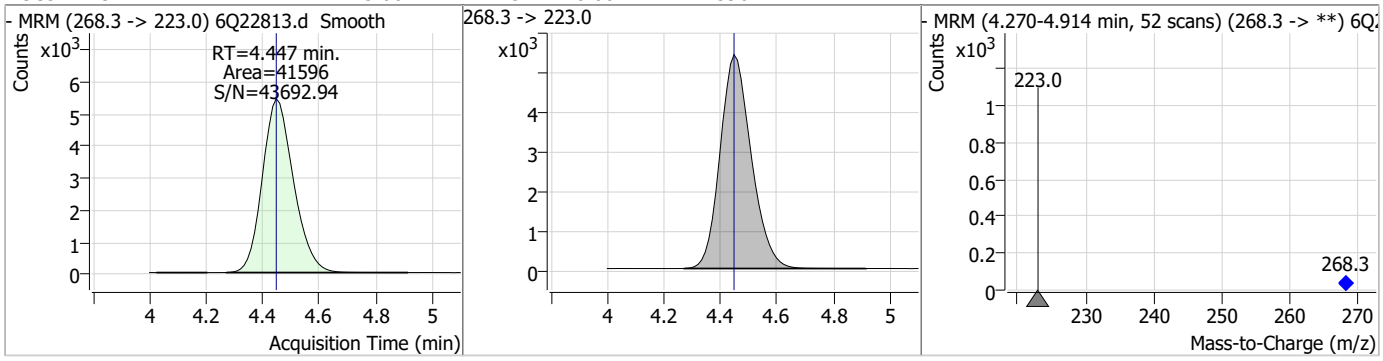
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.78	3.01	0.00	2299 (m)				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	8.62	3.02	0.01	94326				

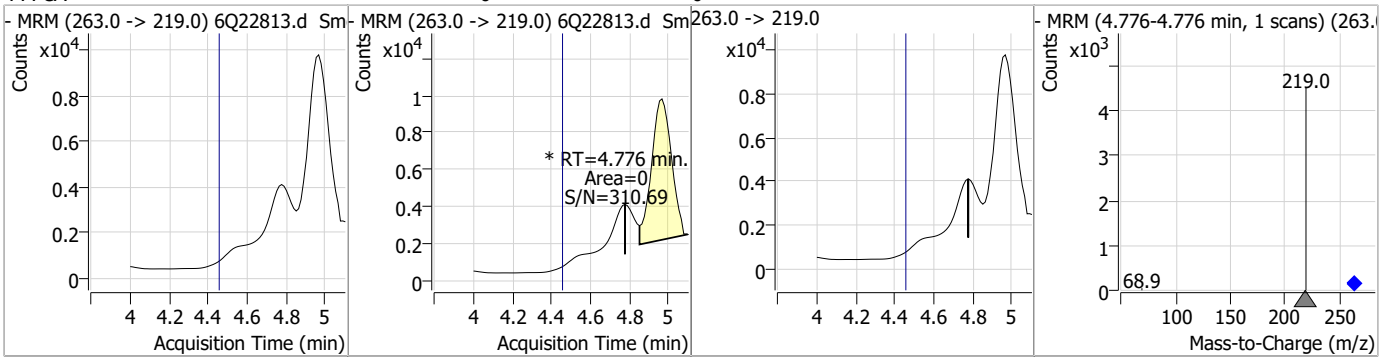


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.66	4.45	0.00	41596				

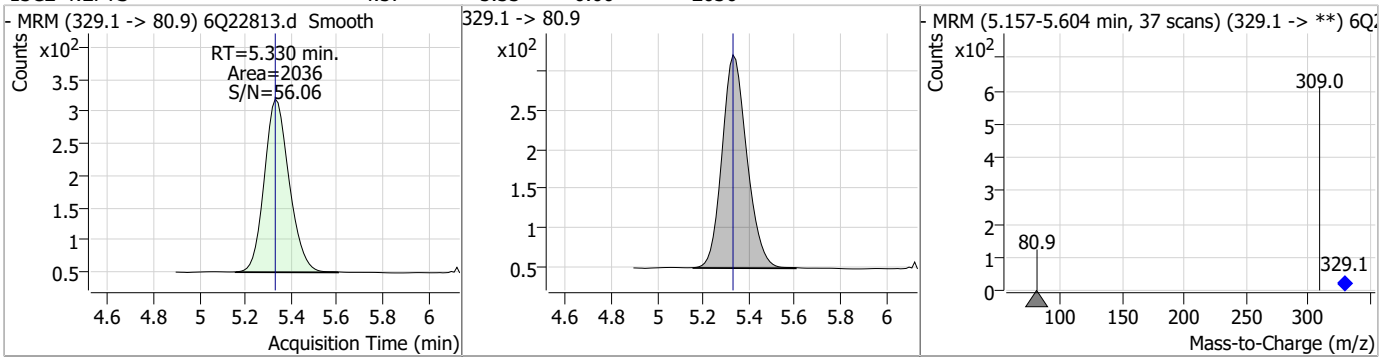


Perfluorinated Compounds by LC/MS/MS

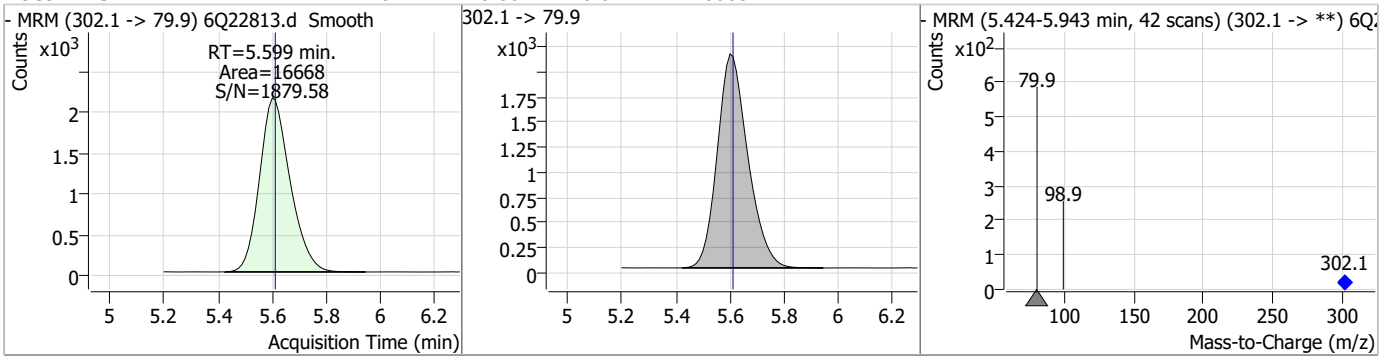
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA		0		0				



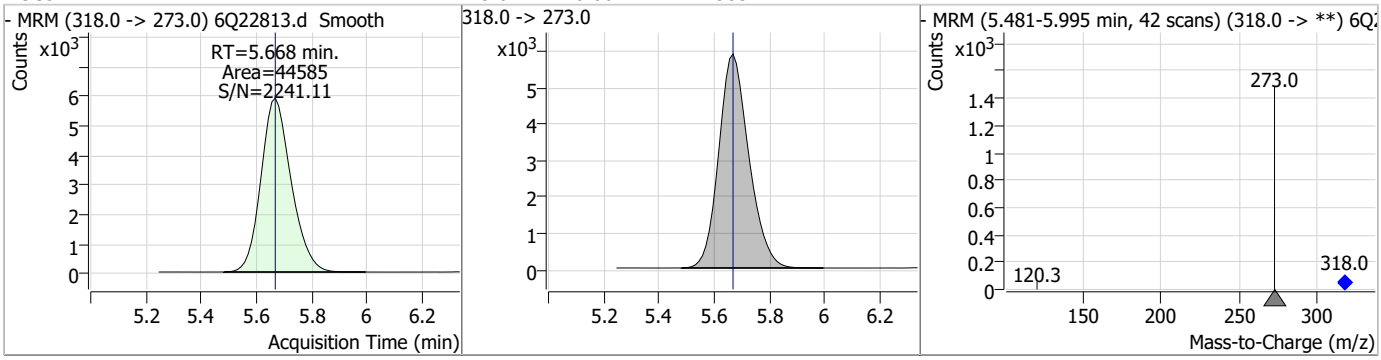
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.57	5.33	0.00	2036				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.64	5.60	-0.01	16668				

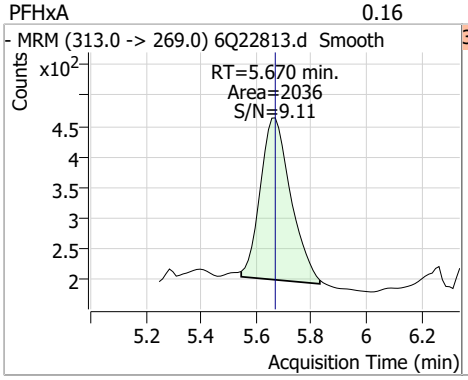


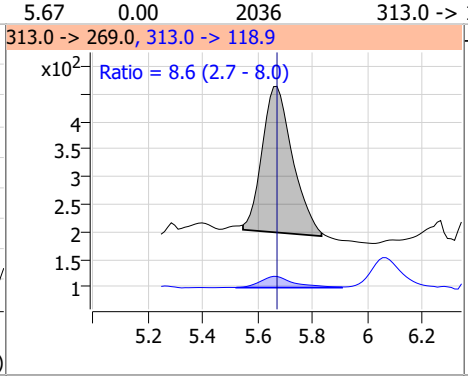
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.77	5.67	0.00	44585				

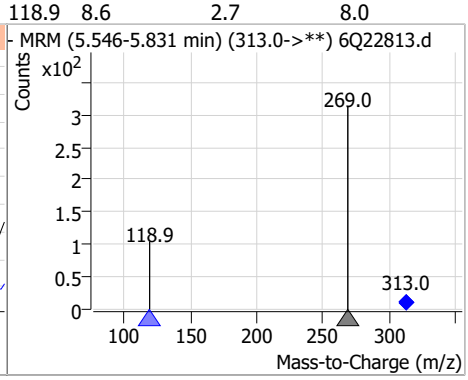


Perfluorinated Compounds by LC/MS/MS

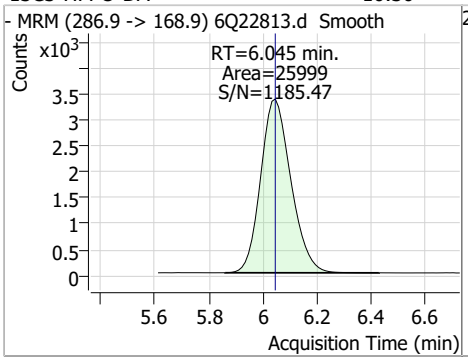
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.16	5.67	0.00	2036	313.0 -> 118.9	8.6	2.7	8.0

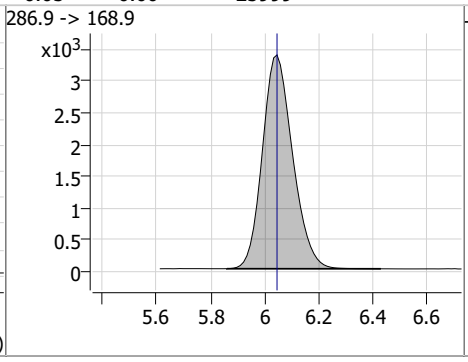


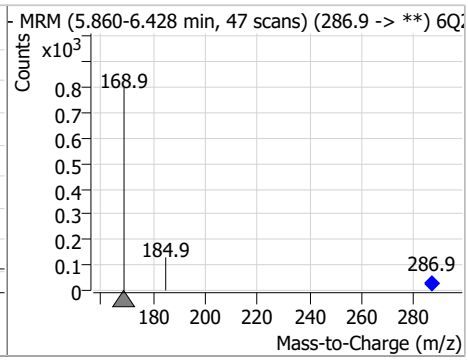




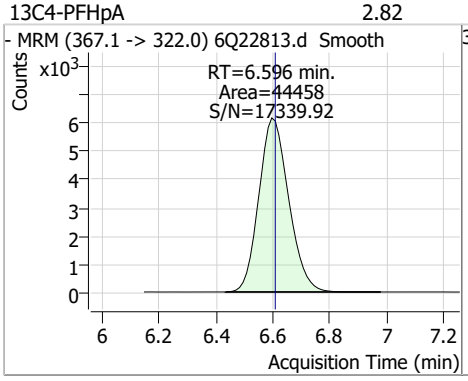
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.30	6.05	0.00	25999				

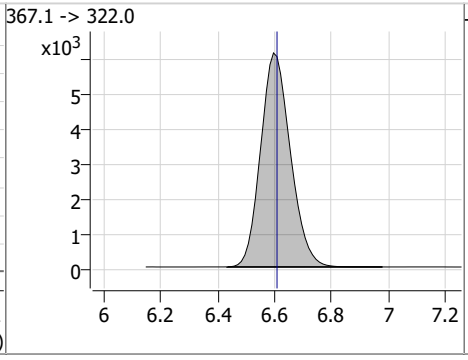


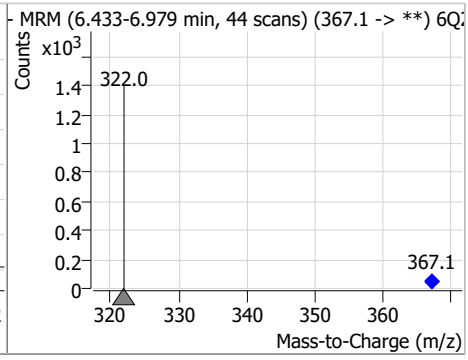




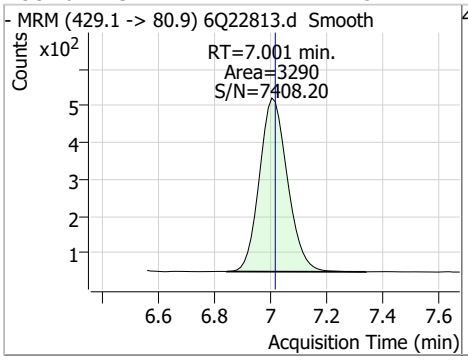
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.82	6.60	-0.01	44458				

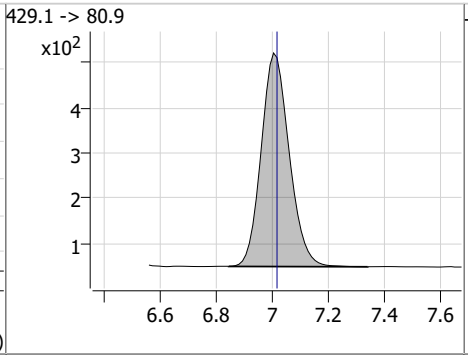


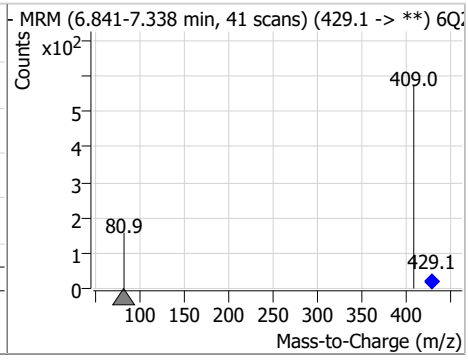




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.12	7.00	-0.01	3290				

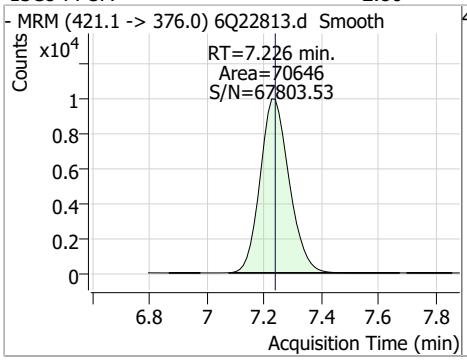


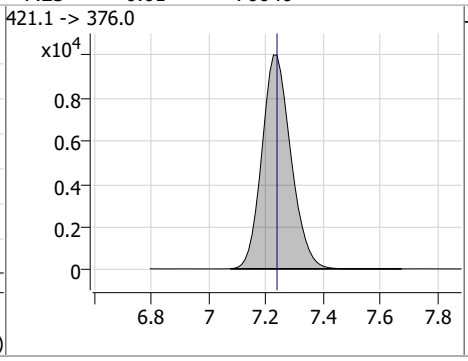


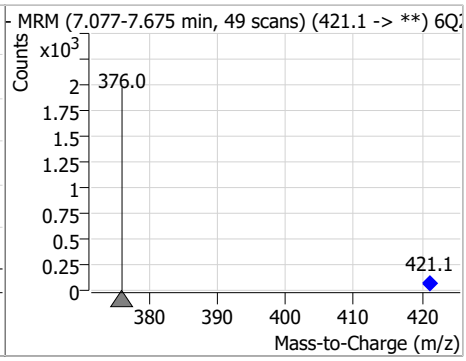


Perfluorinated Compounds by LC/MS/MS

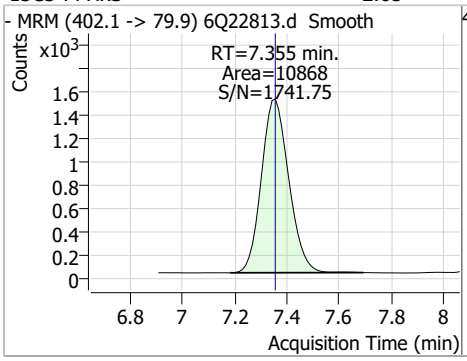
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.80	7.23	-0.01	70646				

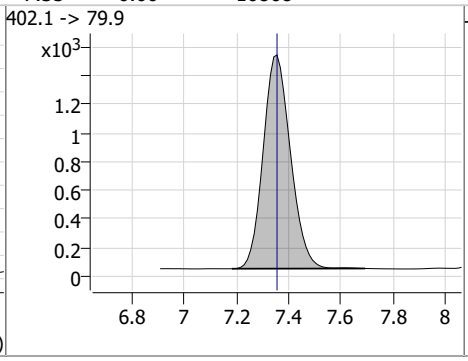


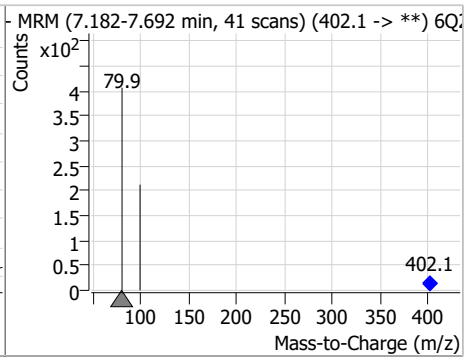




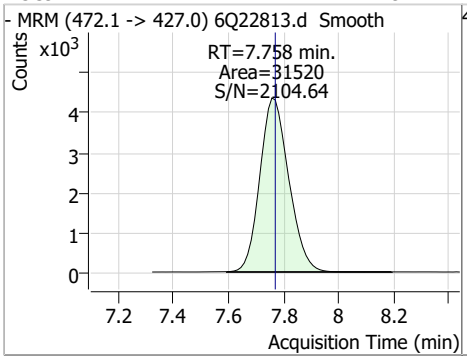
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.65	7.35	0.00	10868				

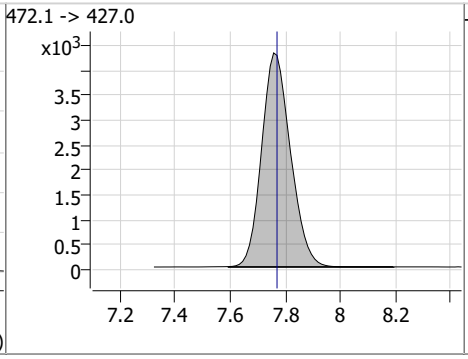


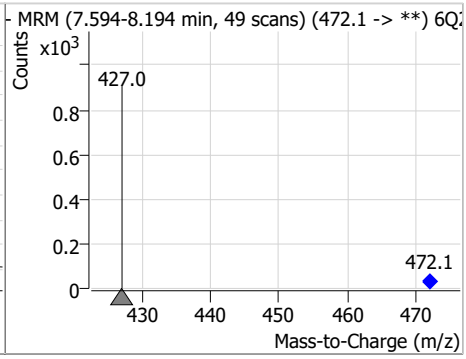




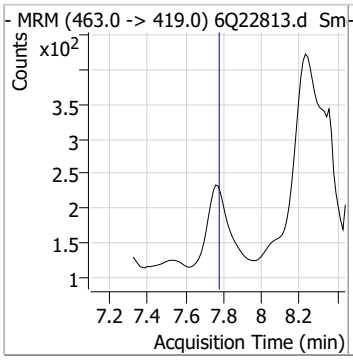
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.29	7.76	-0.01	31520				

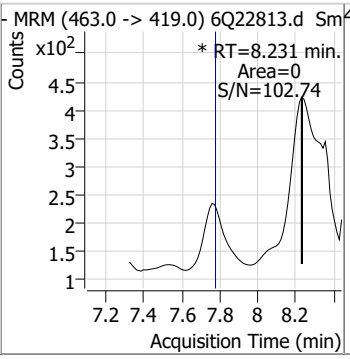


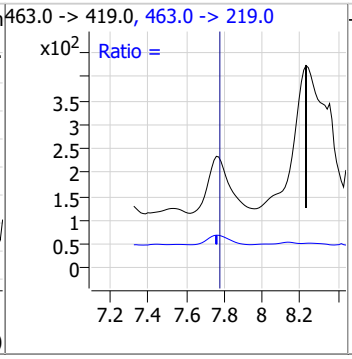


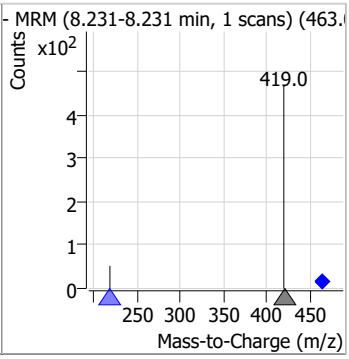


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA		0		0	463.0 -> 219.0		9.5	28.5



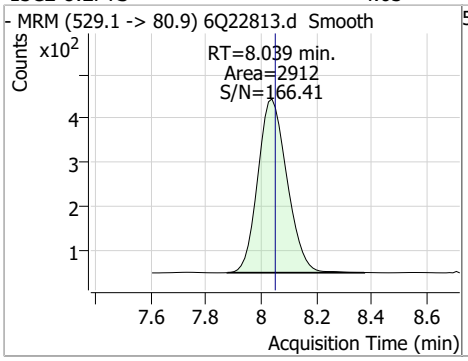


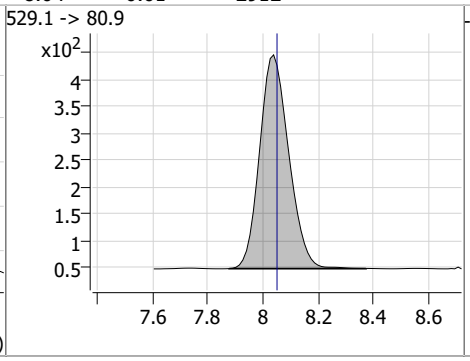


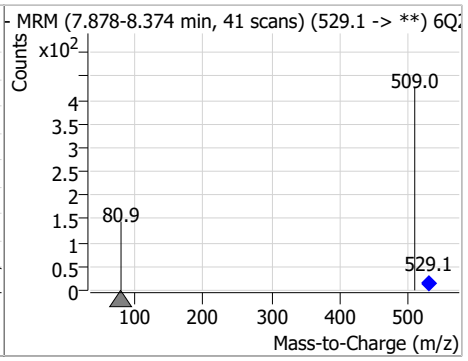


Perfluorinated Compounds by LC/MS/MS

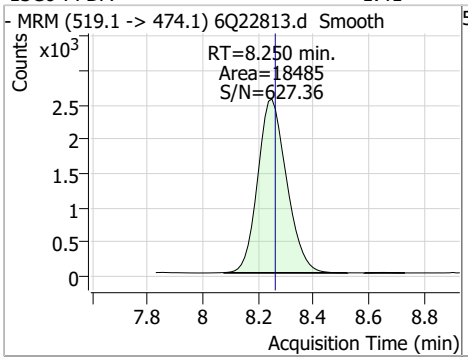
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.63	8.04	-0.01	2912				

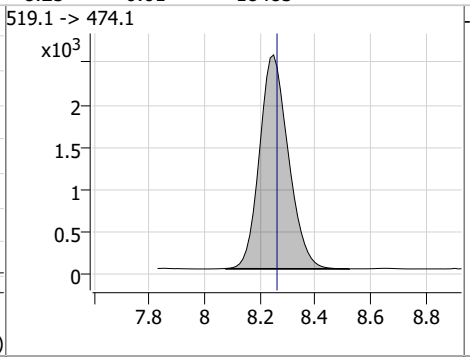


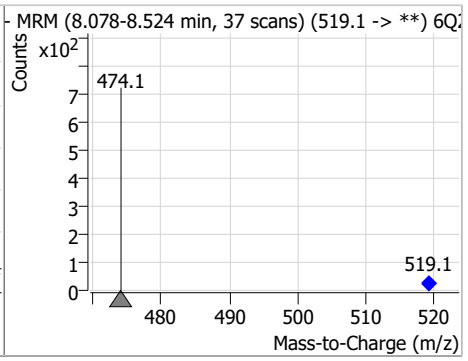




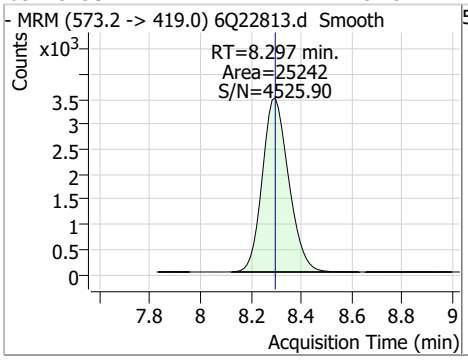
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.41	8.25	-0.01	18485				

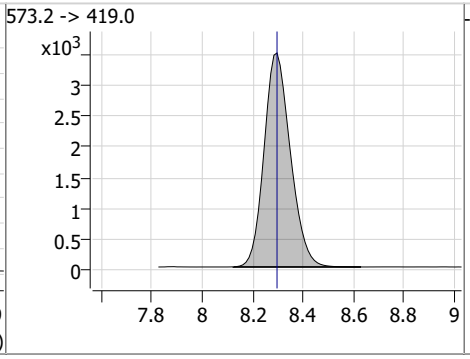


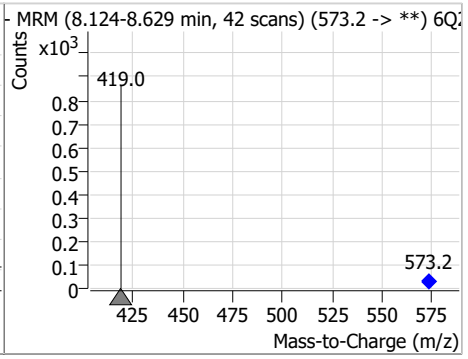




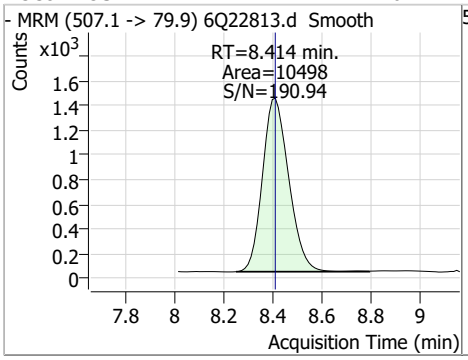
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.25	8.30	0.00	25242				

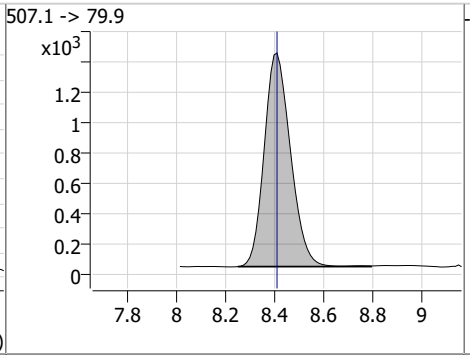


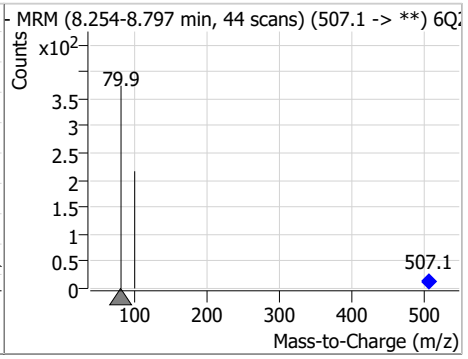




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.70	8.41	0.00	10498				

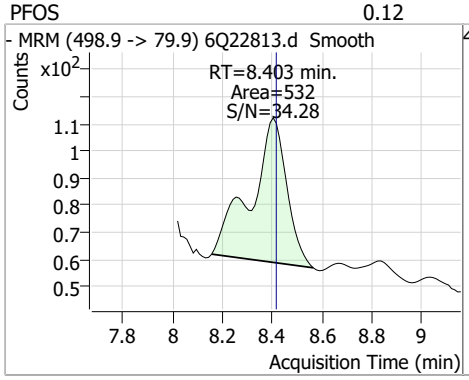


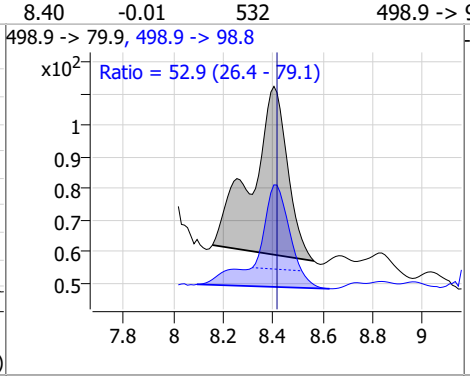


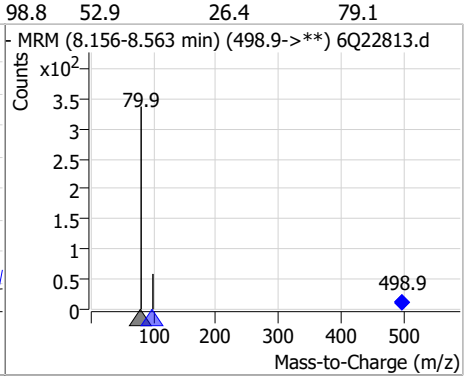


Perfluorinated Compounds by LC/MS/MS

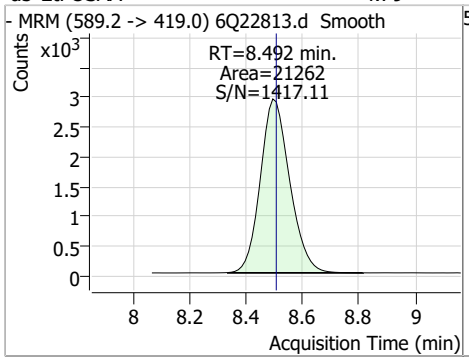
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.12	8.40	-0.01	532	498.9 -> 98.8	52.9	26.4	79.1

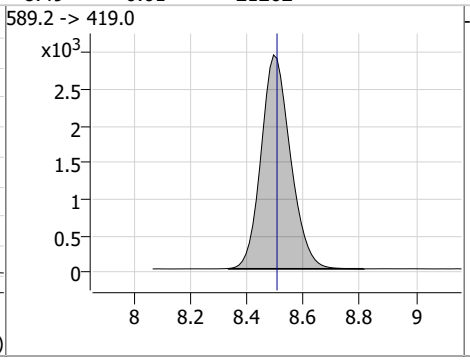


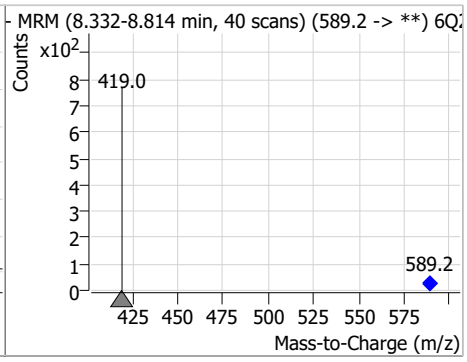




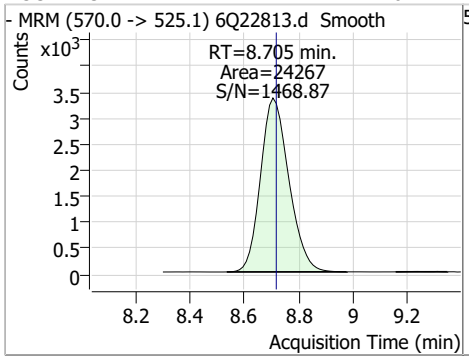
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.79	8.49	-0.01	21262				

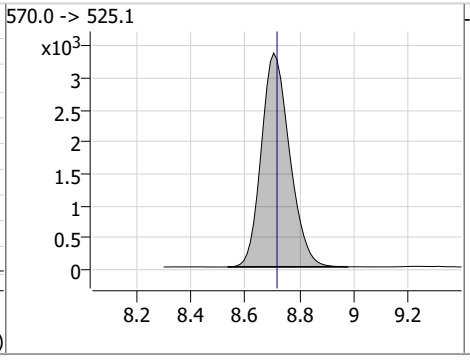


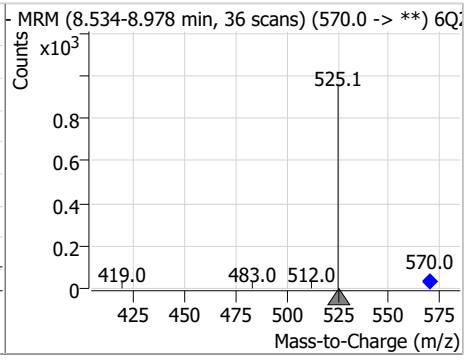




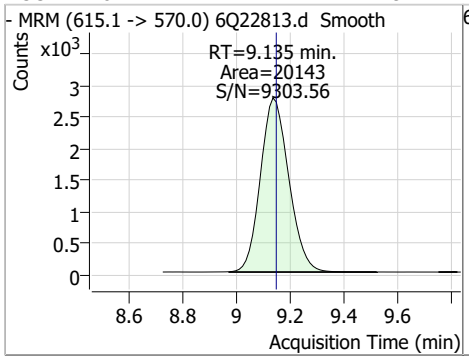
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.40	8.70	-0.01	24267				

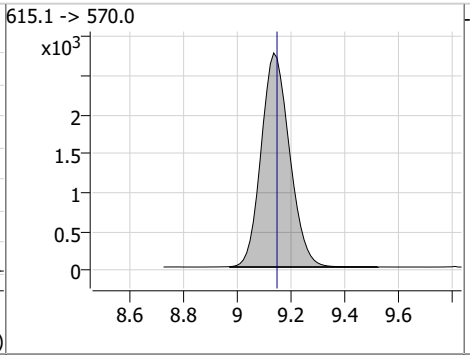


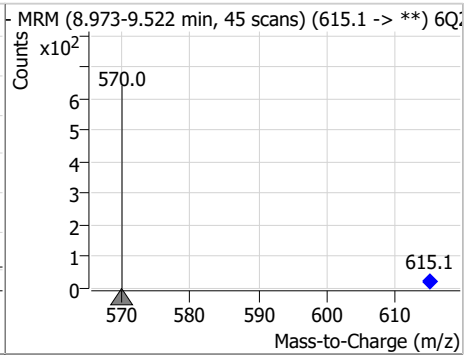




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.29	9.14	-0.01	20143				

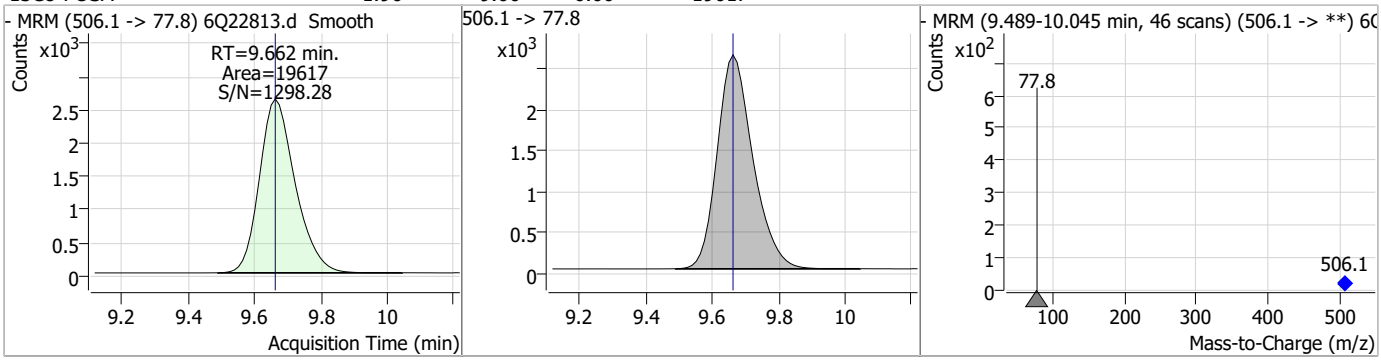




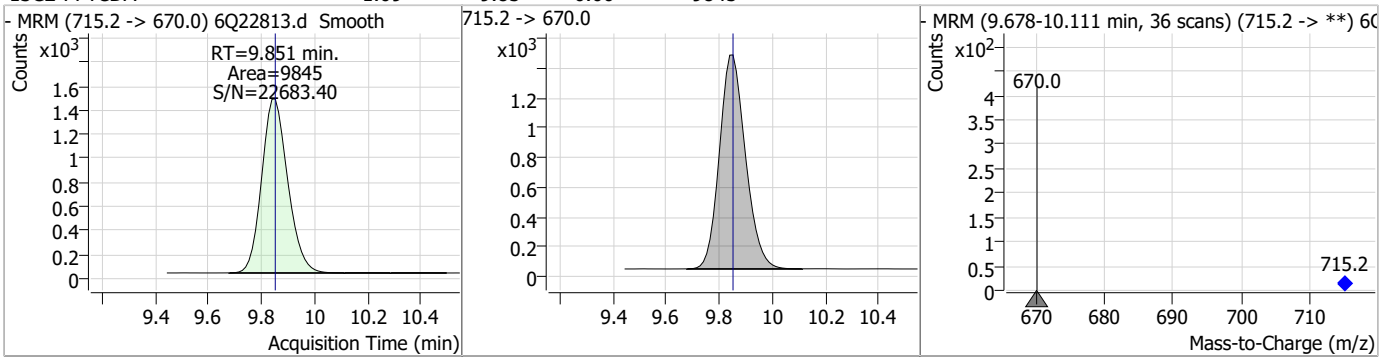


Perfluorinated Compounds by LC/MS/MS

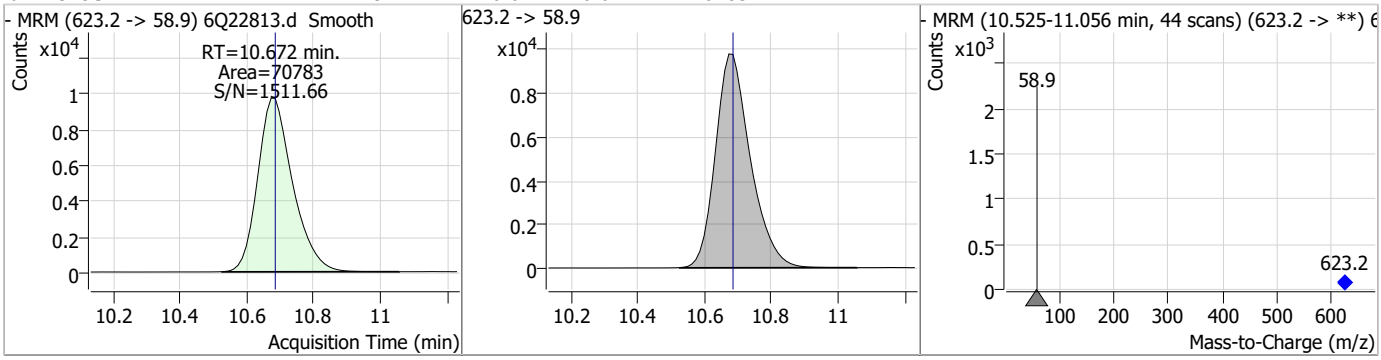
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.96	9.66	0.00	19617				



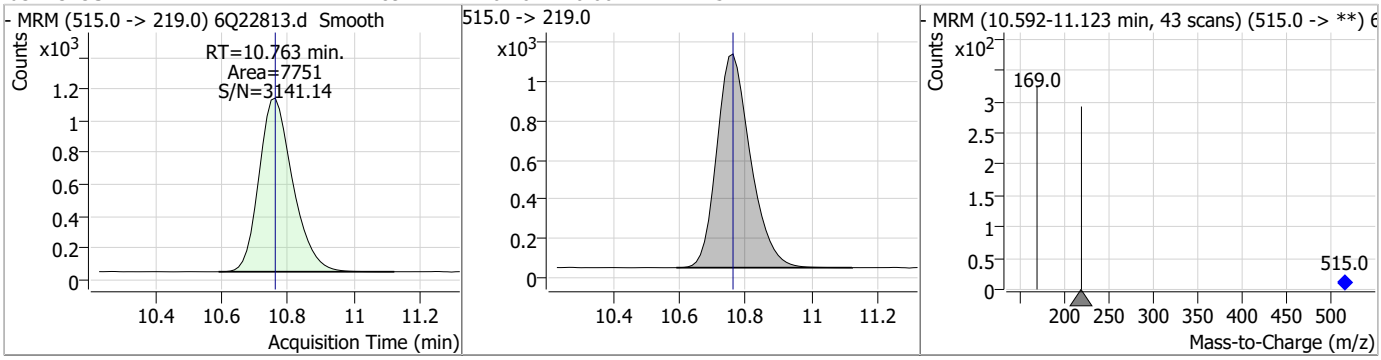
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.09	9.85	0.00	9845				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	19.72	10.67	-0.01	70783				

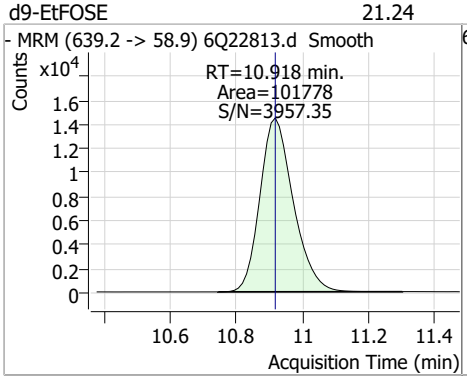


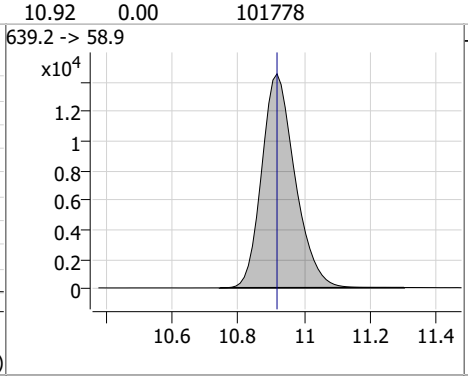
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.89	10.76	0.00	7751				

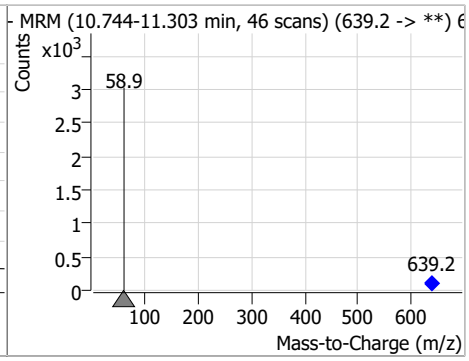


Perfluorinated Compounds by LC/MS/MS

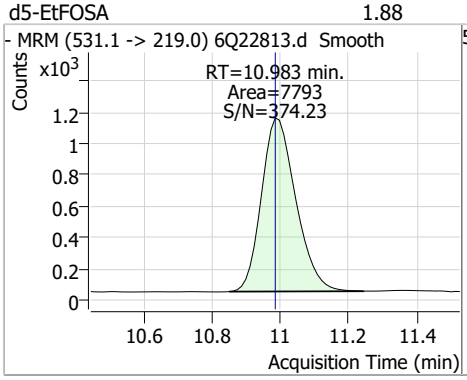
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	21.24	10.92	0.00	101778				

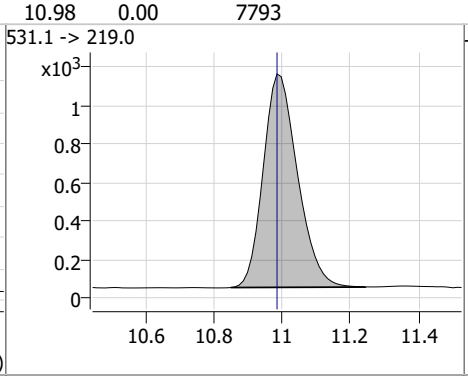


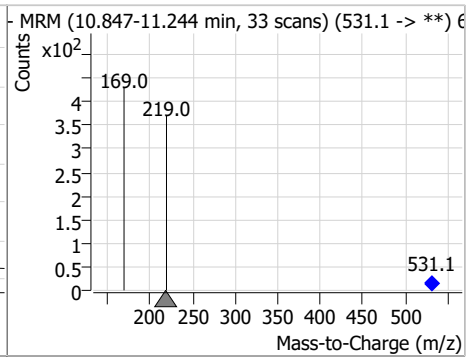




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.88	10.98	0.00	7793				







Manual Integration Approval Summary

Sample Number:	FC8547-2	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22813.D	**Analyst approved:**	08/14/23 11:02 Martha Valls
Injection Time:	08/13/23 20:09	**Supervisor approved:**	08/15/23 13:05 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanoic acid	375-22-4		3.01	Poorly defined baseline

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22815.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 8:38:06 PM
Sample Name : FC8547-3
Vial : P6-B9
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98380,S6Q331,530,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	147179	10.00	µg/L	0.012
M5-PFPeA	4.447	268.3 -> 223.0	46570	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	53264	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	50886	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	80090	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	33922	1.25	µg/L	-0.012
M6-PFDA	8.250	519.1 -> 474.1	20681	1.25	µg/L	-0.012
M7-PFUnDA	8.705	570.0 -> 525.1	23762	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	20217	1.25	µg/L	-0.012
M2-PFTeDA	9.851	715.2 -> 670.0	10968	1.25	µg/L	0.000
M8-FOSA	9.662	506.1 -> 77.8	19789	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	19784	2.50	µg/L	0.000
M3-PFHxS	7.342	402.1 -> 79.9	12359	2.50	µg/L	-0.012
M8-PFOS	8.414	507.1 -> 79.9	10404	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	2626	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4027	5.00	µg/L	-0.012
M2-8:2FTS	8.039	529.1 -> 80.9	3361	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	23775	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	30777	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	20807	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	80742	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	117069	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	9539	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	9022	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	11854	2.50	µg/L	-0.012
13C3-PFBA	3.026	216.0 -> 172.0	49393	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	7393	2.50	µg/L	0.000
13C4-PFOA	7.227	417.1 -> 372.0	67589	2.50	µg/L	-0.012
13C2-PFDA	8.251	515.1 -> 470.1	22270	1.25	µg/L	0.000
13C5-PFNA	7.758	468.0 -> 423.0	36758	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	39593	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2626	5.95	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.9%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4027	6.32	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 126.3%		
13C2-8:2FTS	8.039	529.1 -> 80.9	3361	5.38	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.7%		
13C2-PFDoDA	9.135	615.1 -> 570.0	20217	1.34	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.5%		
13C2-PFTeDA	9.851	715.2 -> 670.0	10968	1.27	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C3-PFBS	5.610	302.1 -> 79.9	19784	3.15	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 126.1%		
13C3-PFHxS	7.342	402.1 -> 79.9	12359	3.04	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 = 121.7%	
13C4-PFBA	3.022	216.8 -> 171.9	147179	12.62 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 126.2%	
13C4-PFHpA	6.596	367.1 -> 322.0	50886	3.18 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 127.3%	
13C5-PFHxA	5.668	318.0 -> 273.0	53264	3.26 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 130.4%	
13C5-PFPeA	4.447	268.3 -> 223.0	46570	6.25 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 124.9%	
13C6-PFDA	8.250	519.1 -> 474.1	20681	1.64 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 131.6%	
13C7-PFUnDA	8.705	570.0 -> 525.1	23762	1.43 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 114.3%	
13C8-FOSA	9.662	506.1 -> 77.8	19789	2.21 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.5%	
13C8-PFOA	7.226	421.1 -> 376.0	80090	3.21 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 128.4%	
13C8-PFOS	8.414	507.1 -> 79.9	10404	3.00 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 119.9%	
13C9-PFNA	7.758	472.1 -> 427.0	33922	1.42 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.8%	
d3-MeFOSAA	8.297	573.2 -> 419.0	23775	5.54 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.9%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	30777	12.01 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 120.1%	
d3-MeFOSA	10.763	515.0 -> 219.0	9022	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.5%	
d5-EtFOSAA	8.492	589.2 -> 419.0	20807	5.25 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.1%	
d7-MeFOSE	10.672	623.2 -> 58.9	80742	25.20 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
d9-EtFOSE	10.918	639.2 -> 58.9	117069	27.38 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 109.5%	
d5-EtFOSA	10.983	531.1 -> 219.0	9539	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.4%	

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

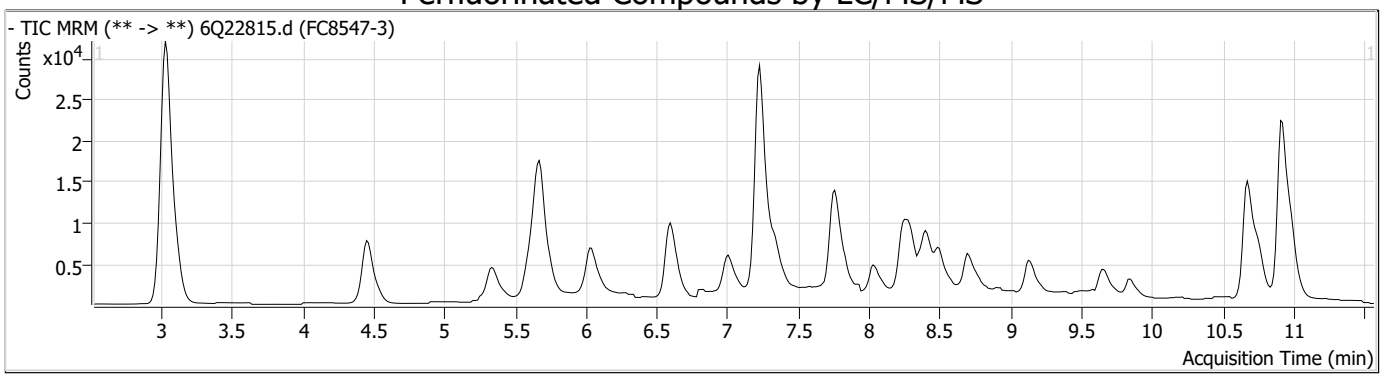
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	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

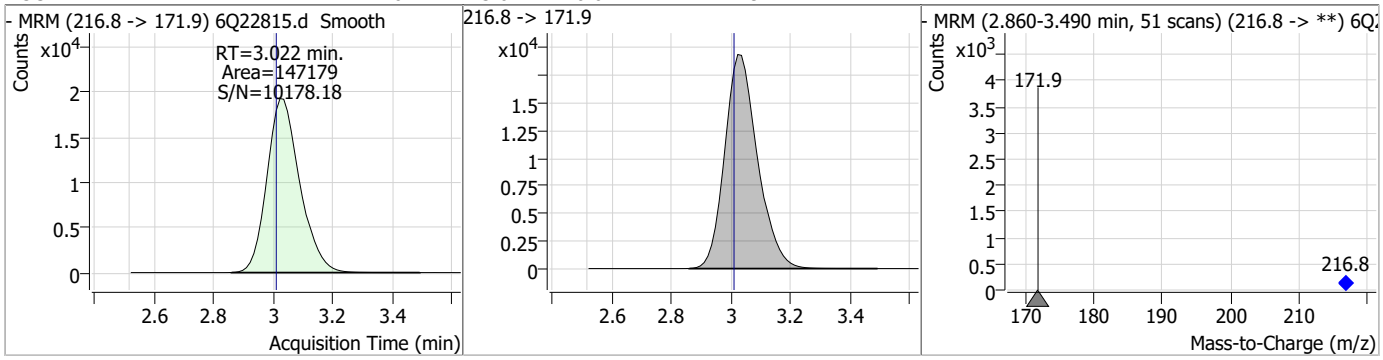
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

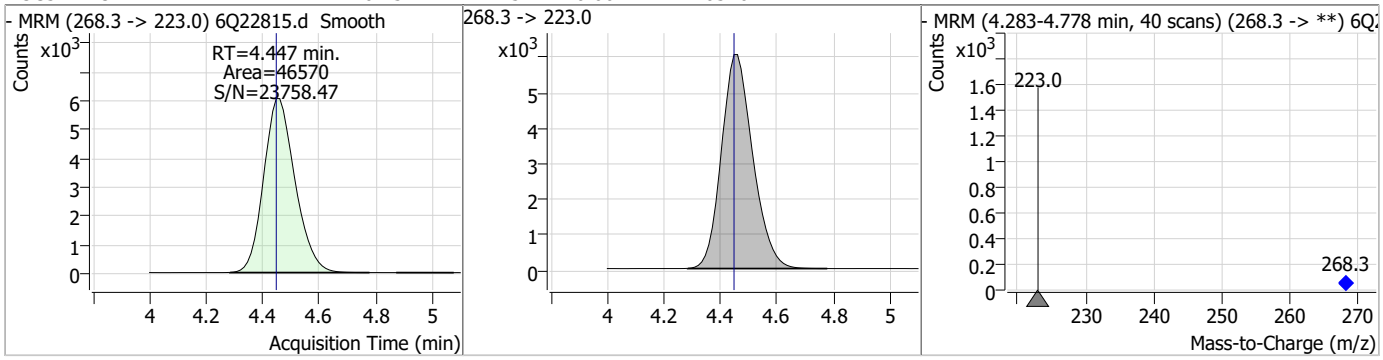
Perfluorinated Compounds by LC/MS/MS



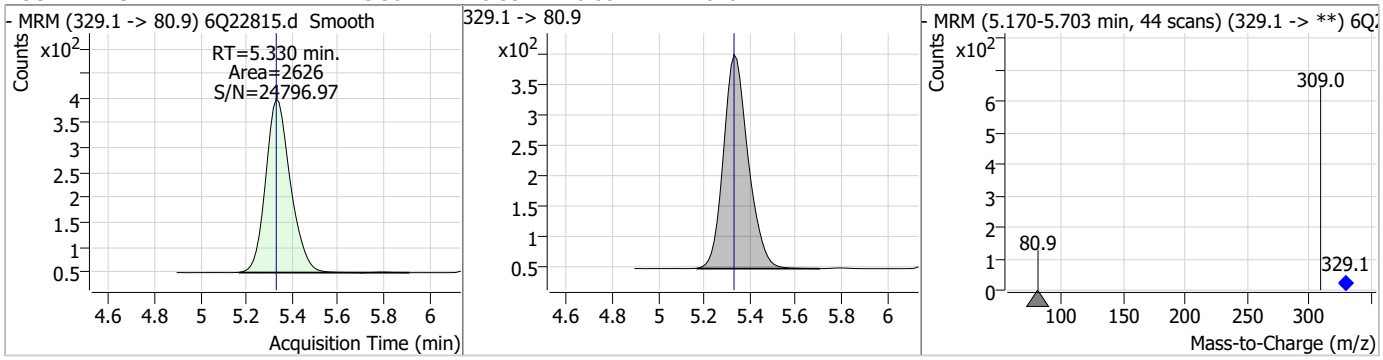
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	12.62	3.02	0.01	147179				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	6.25	4.45	0.00	46570				

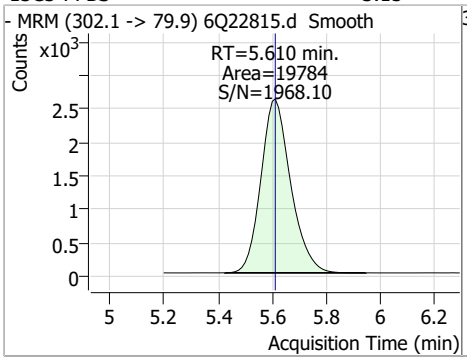


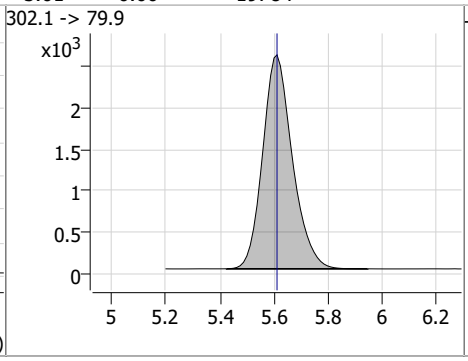
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.95	5.33	0.00	2626				

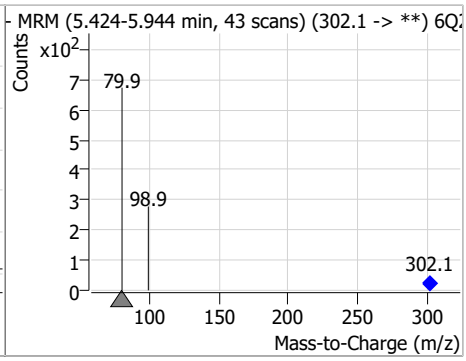


Perfluorinated Compounds by LC/MS/MS

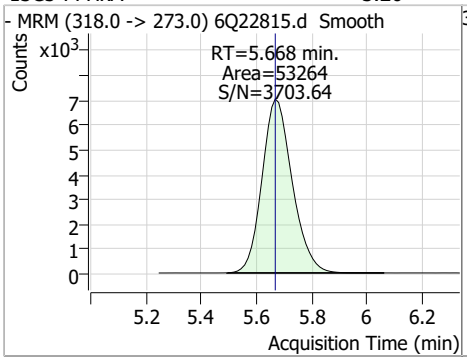
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.15	5.61	0.00	19784				

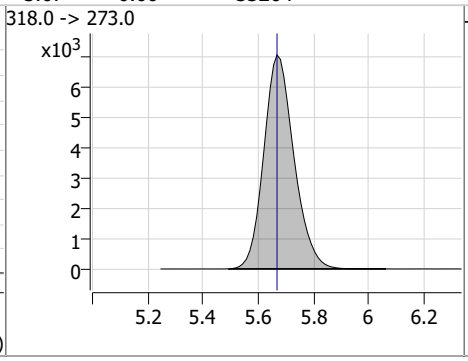


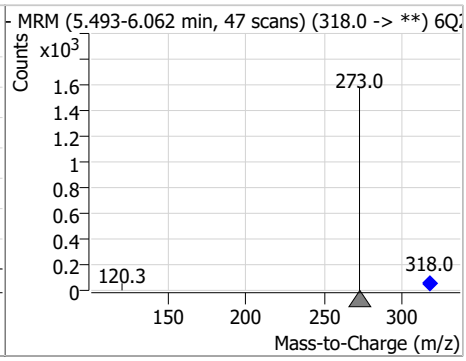




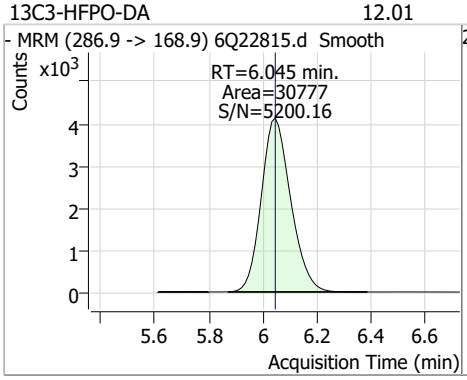
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.26	5.67	0.00	53264				

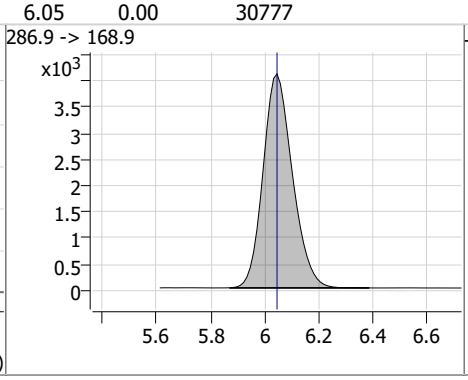


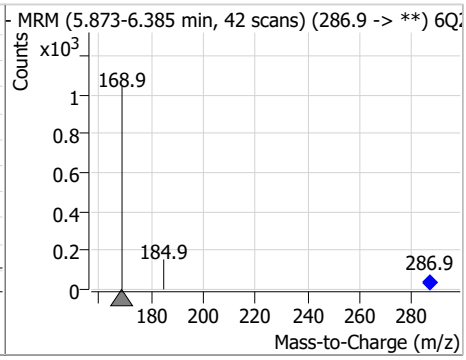




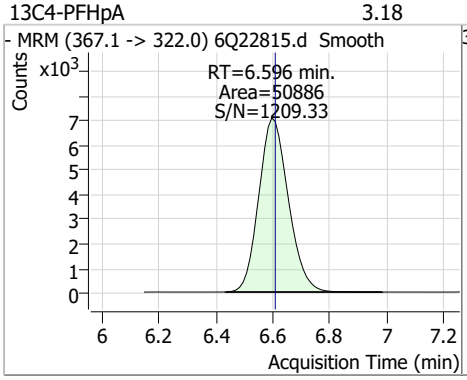
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	12.01	6.05	0.00	30777				

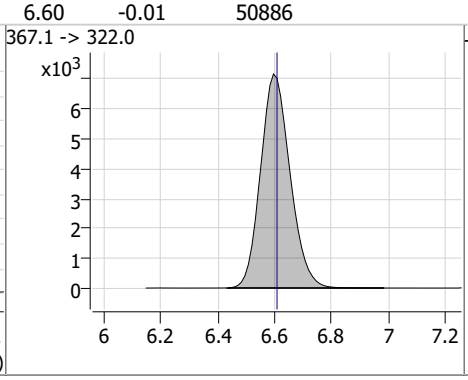


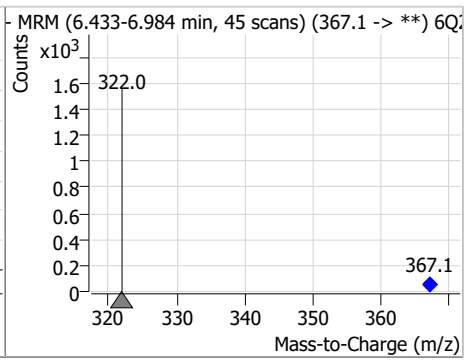




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.18	6.60	-0.01	50886				

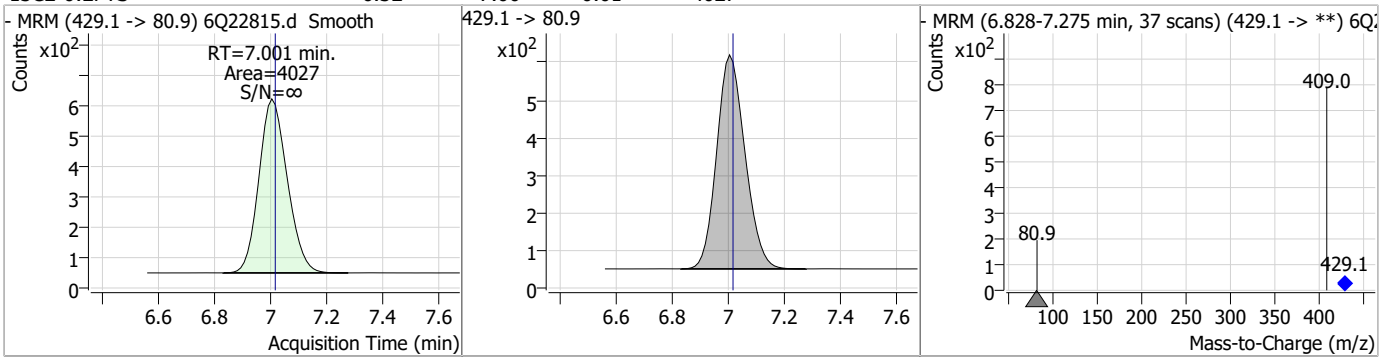




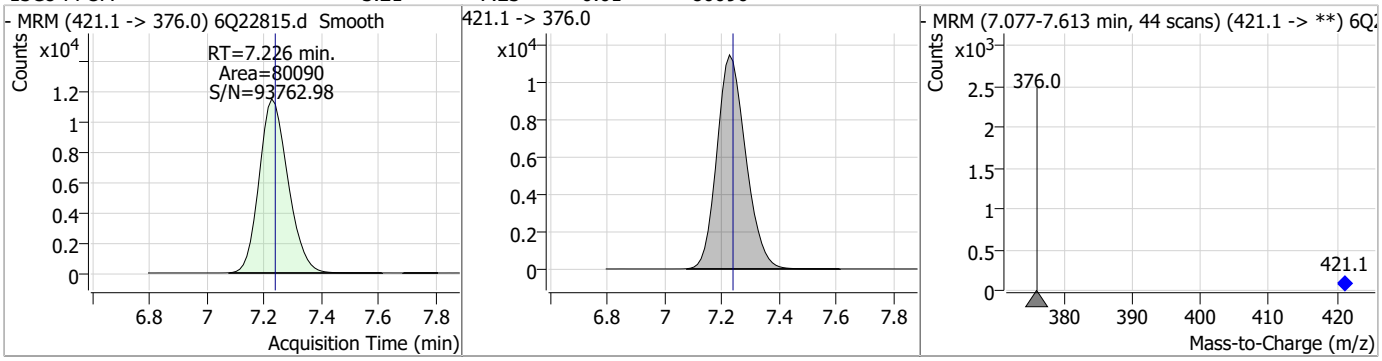


Perfluorinated Compounds by LC/MS/MS

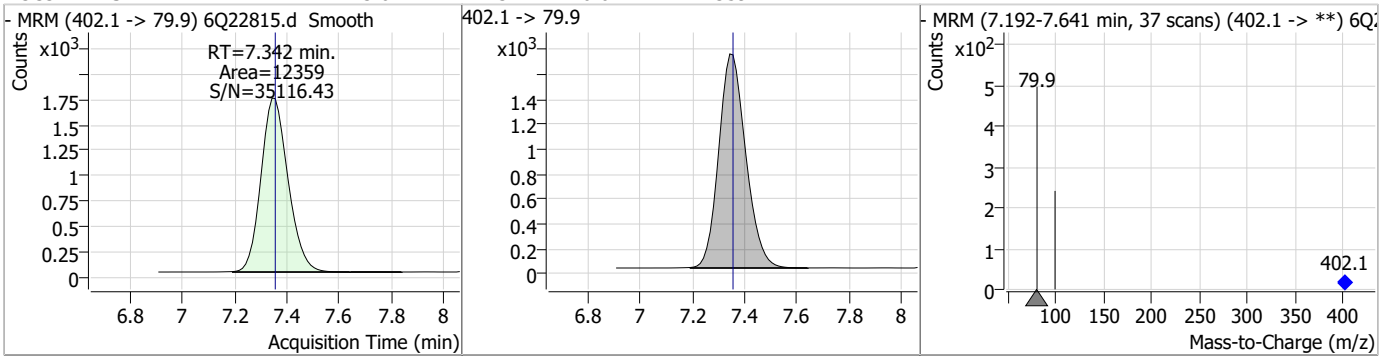
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.32	7.00	-0.01	4027				



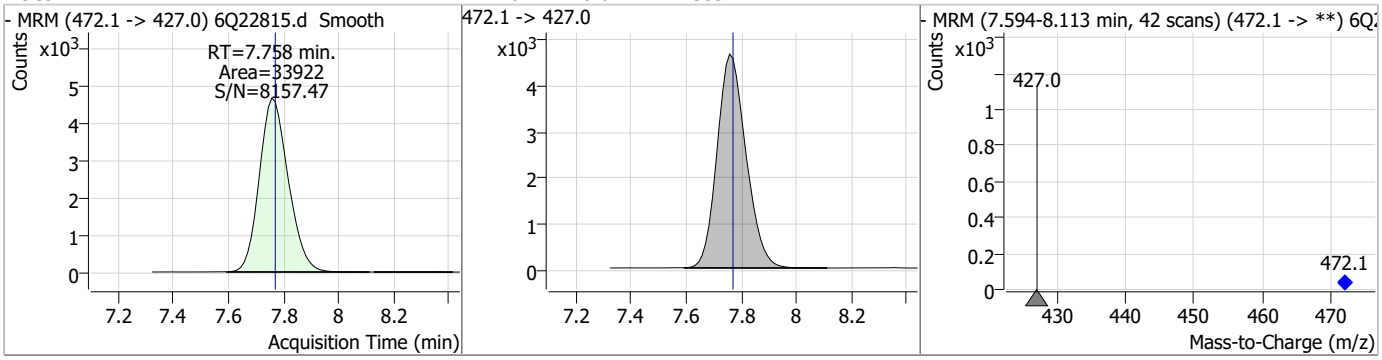
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	3.21	7.23	-0.01	80090				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.04	7.34	-0.01	12359				

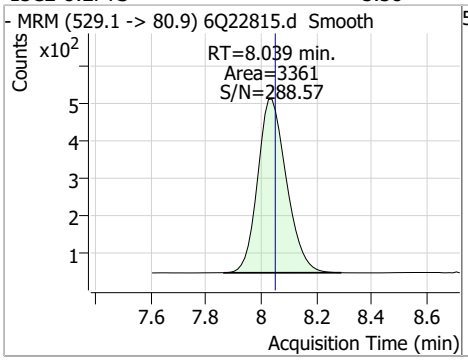


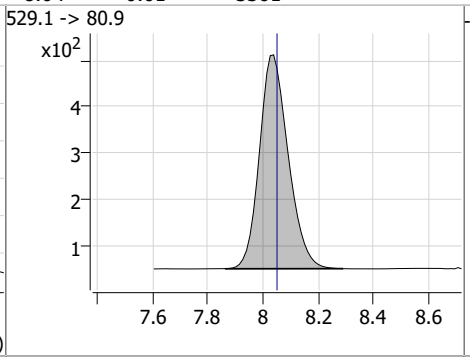
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.42	7.76	-0.01	33922				

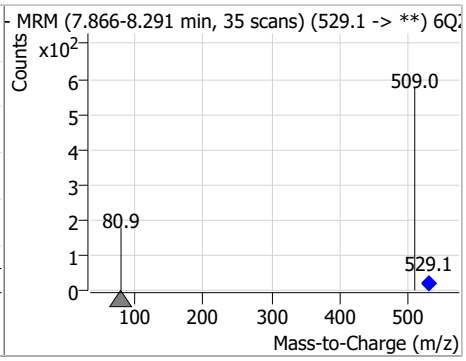


Perfluorinated Compounds by LC/MS/MS

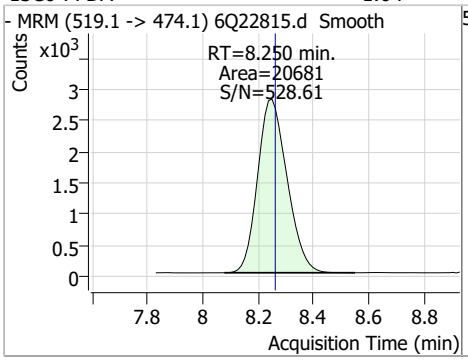
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.38	8.04	-0.01	3361				

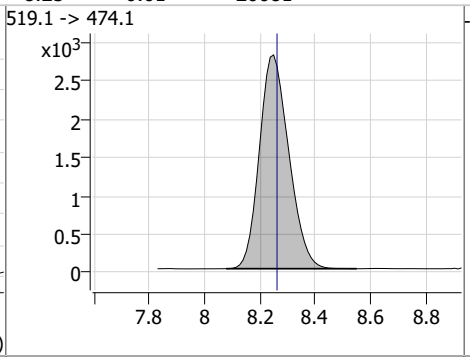


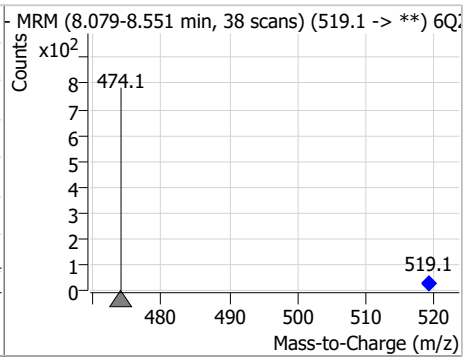




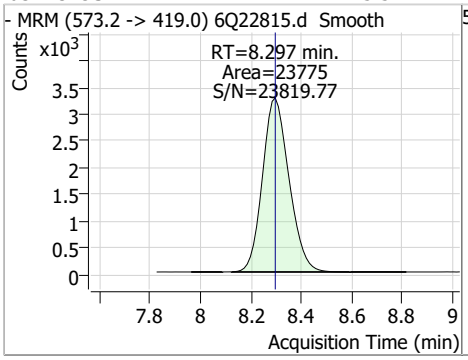
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.64	8.25	-0.01	20681				

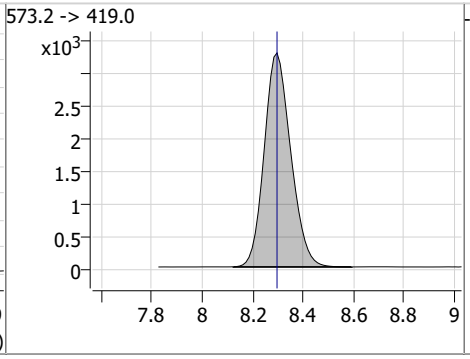


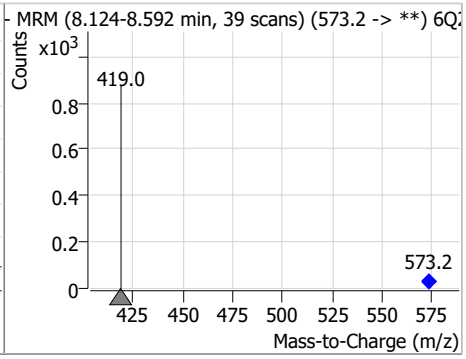




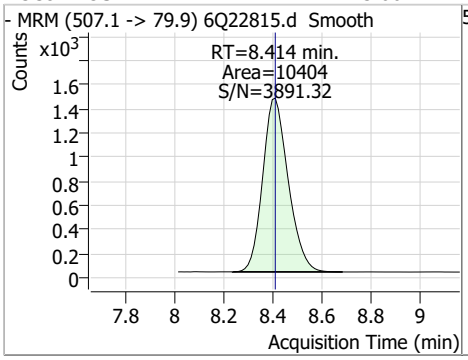
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.54	8.30	0.00	23775				

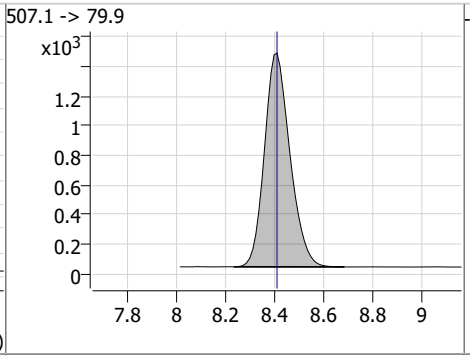


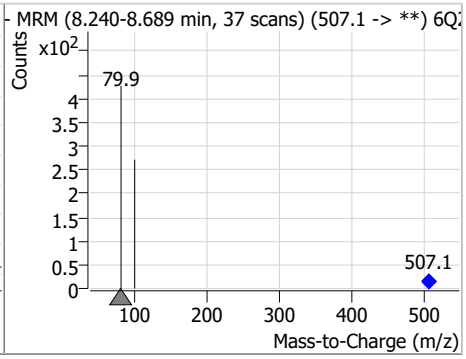




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	3.00	8.41	0.00	10404				

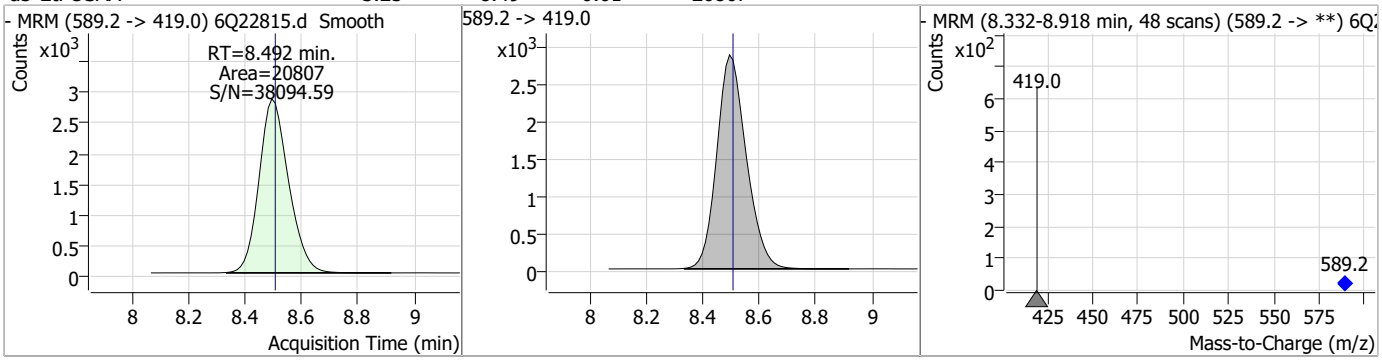




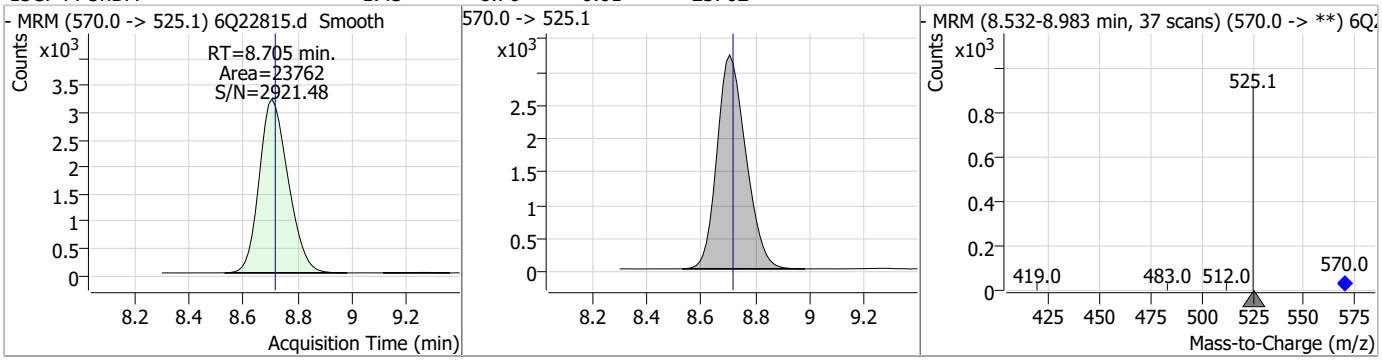


Perfluorinated Compounds by LC/MS/MS

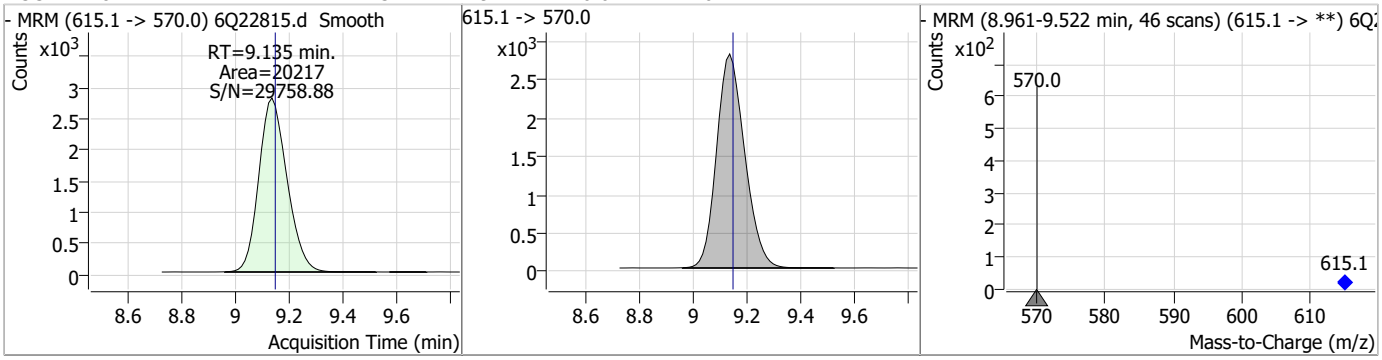
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.25	8.49	-0.01	20807				



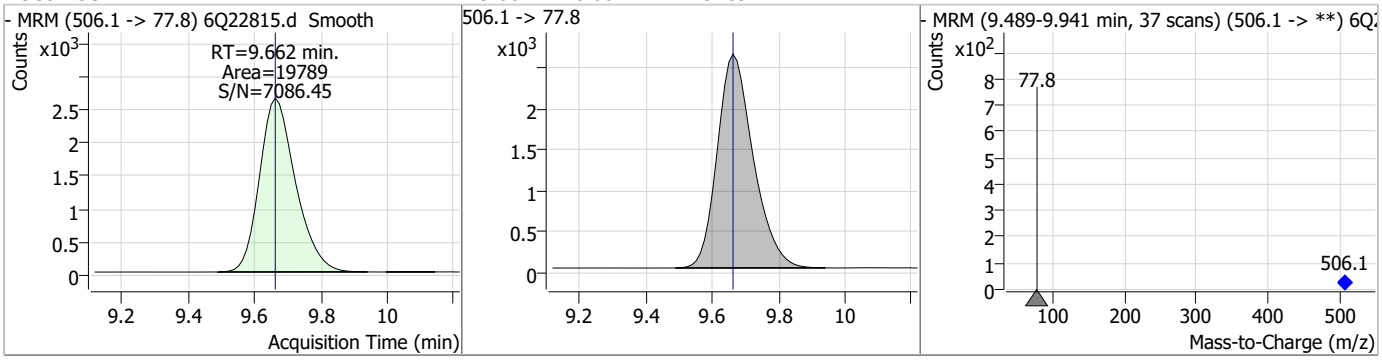
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.43	8.70	-0.01	23762				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.34	9.14	-0.01	20217				

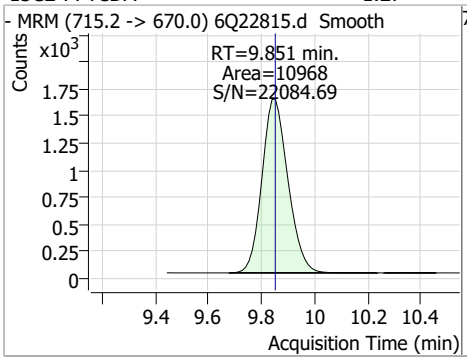


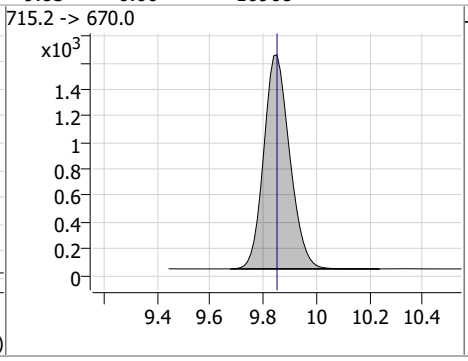
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.21	9.66	0.00	19789				

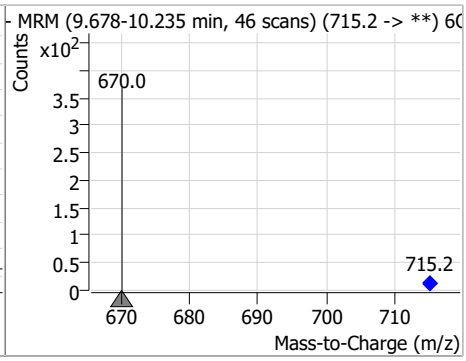


Perfluorinated Compounds by LC/MS/MS

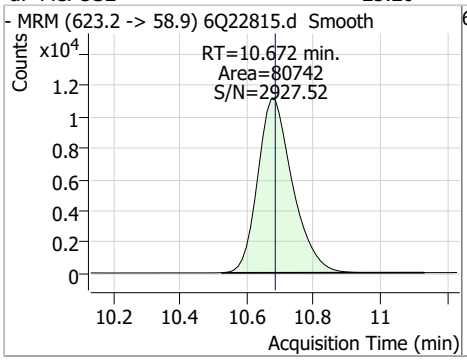
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.27	9.85	0.00	10968				

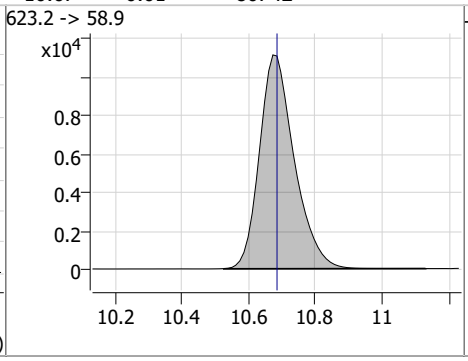


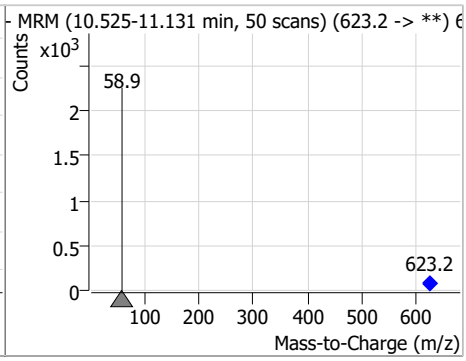




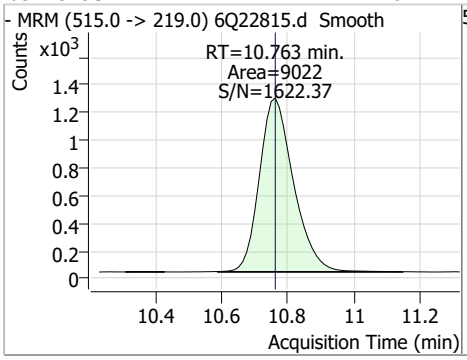
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.20	10.67	-0.01	80742				

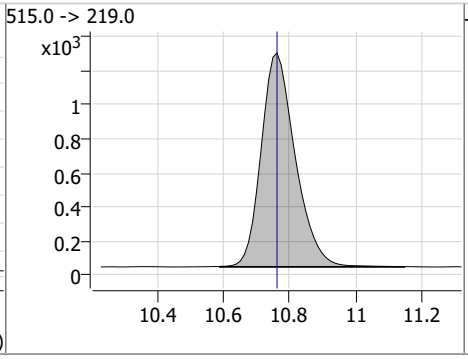


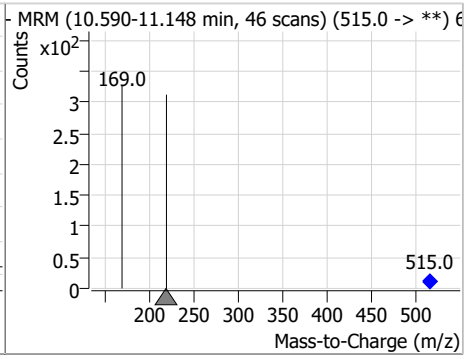




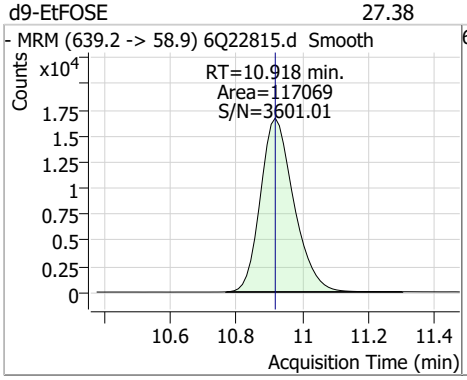
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.46	10.76	0.00	9022				

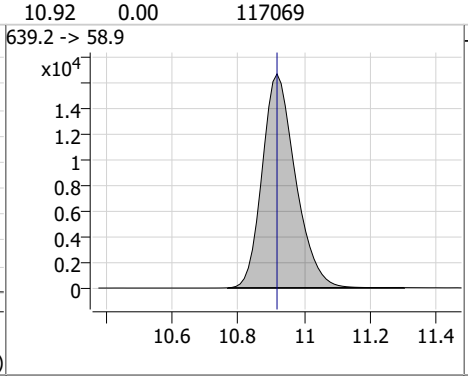


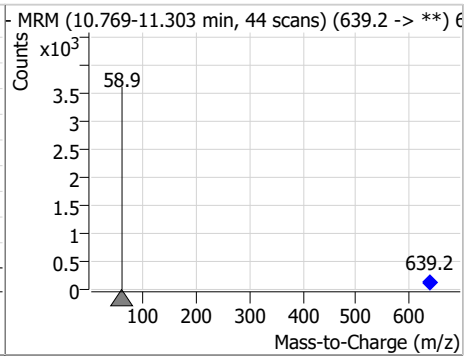




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	27.38	10.92	0.00	117069				

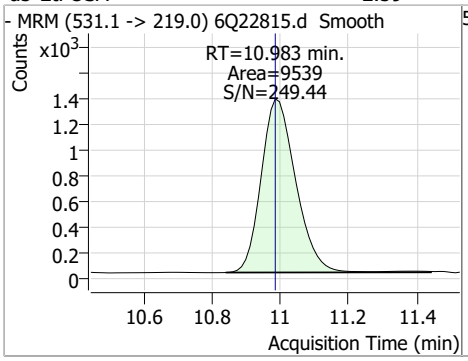


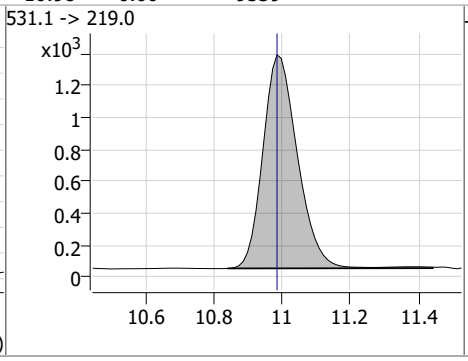


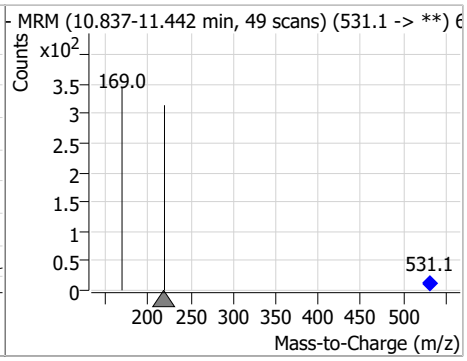


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.59	10.98	0.00	9539				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q22816.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	8/13/2023 8:52:28 PM
Sample Name	:	FC8547-4
Vial	:	P6-C1
DA Method File	:	1633_081023_S6Q330.quantmethod.xml
Batch Name	:	s6q331.batch.bin
Sample Information	:	OP98380,S6Q331,570,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	123553	10.00	µg/L	0.012
M5-PFPeA	4.459	268.3 -> 223.0	42929	5.00	µg/L	0.012
M5-PFHxA	5.668	318.0 -> 273.0	50113	2.50	µg/L	0.000
M4-PFHpA	6.608	367.1 -> 322.0	47194	2.50	µg/L	0.000
M8-PFOA	7.239	421.1 -> 376.0	71045	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	32016	1.25	µg/L	0.000
M6-PFDA	8.250	519.1 -> 474.1	18453	1.25	µg/L	-0.012
M7-PFUnDA	8.705	570.0 -> 525.1	23167	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	19962	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	10636	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	20010	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	17275	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	10908	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	9746	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	2348	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3733	5.00	µg/L	-0.012
M2-8:2FTS	8.039	529.1 -> 80.9	3038	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	21319	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	27648	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	18704	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	74701	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	109298	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	8804	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	8433	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	12615	2.50	µg/L	-0.012
13C3-PFBA	3.026	216.0 -> 172.0	50205	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	7603	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	65823	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	23336	1.25	µg/L	0.000
13C5-PFNA	7.758	468.0 -> 423.0	36157	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	38912	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2348	5.17	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.4%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3733	5.69	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.9%		
13C2-8:2FTS	8.039	529.1 -> 80.9	3038	4.73	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.6%		
13C2-PFDoDA	9.135	615.1 -> 570.0	19962	1.27	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.3%		
13C2-PFTeDA	9.839	715.2 -> 670.0	10636	1.17	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.8%		
13C3-PFBS	5.610	302.1 -> 79.9	17275	2.68	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.1%		
13C3-PFHxS	7.355	402.1 -> 79.9	10908	2.61	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 = 104.4%	
13C4-PFBA	3.022	216.8 -> 171.9	123553	10.42 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.2%	
13C4-PFHpA	6.608	367.1 -> 322.0	47194	3.00 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 120.2%	
13C5-PFHxA	5.668	318.0 -> 273.0	50113	3.12 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 124.8%	
13C5-PFPeA	4.459	268.3 -> 223.0	42929	5.86 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.2%	
13C6-PFDA	8.250	519.1 -> 474.1	18453	1.40 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.0%	
13C7-PFUnDA	8.705	570.0 -> 525.1	23167	1.33 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.3%	
13C8-FOSA	9.662	506.1 -> 77.8	20010	2.10 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 84.1%	
13C8-PFOA	7.239	421.1 -> 376.0	71045	2.92 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 116.9%	
13C8-PFOS	8.414	507.1 -> 79.9	9746	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.5%	
13C9-PFNA	7.770	472.1 -> 427.0	32016	1.37 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.2%	
d3-MeFOSAA	8.297	573.2 -> 419.0	21319	4.67 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.4%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	27648	10.98 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.8%	
d3-MeFOSA	10.763	515.0 -> 219.0	8433	2.16 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.5%	
d5-EtFOSAA	8.492	589.2 -> 419.0	18704	4.44 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.8%	
d7-MeFOSE	10.685	623.2 -> 58.9	74701	21.91 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 87.6%	
d9-EtFOSE	10.918	639.2 -> 58.9	109298	24.02 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.1%	
d5-EtFOSA	10.983	531.1 -> 219.0	8804	2.24 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.7%	
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	-	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

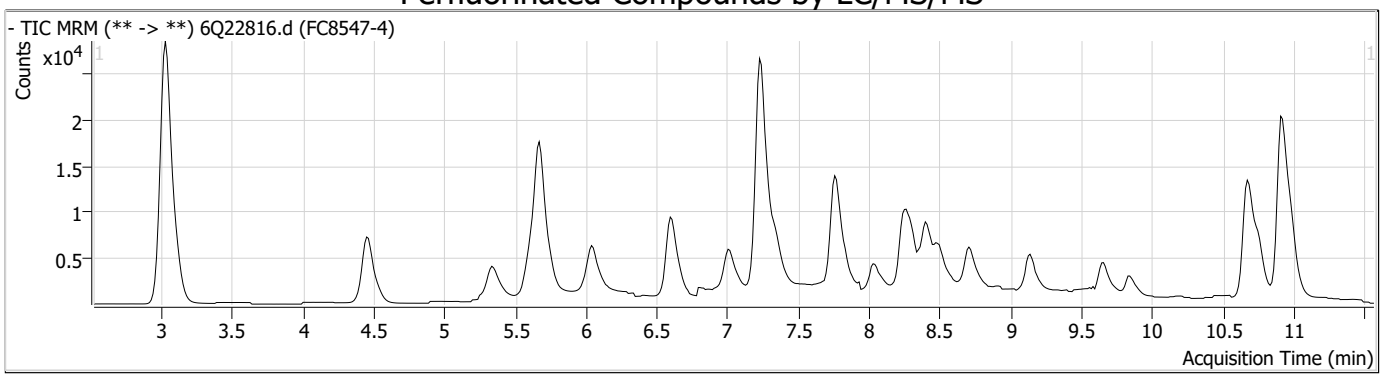
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	7.278	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

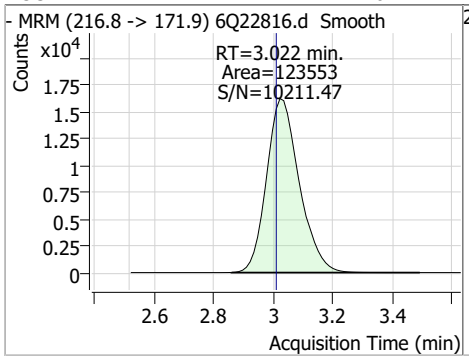
Perfluorinated Compounds by LC/MS/MS

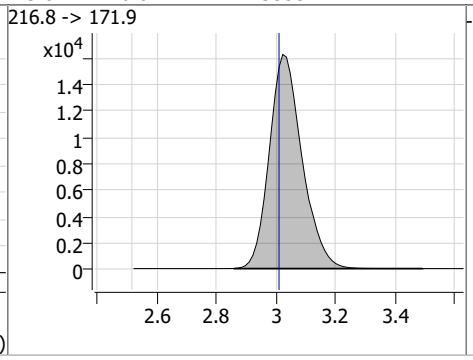
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

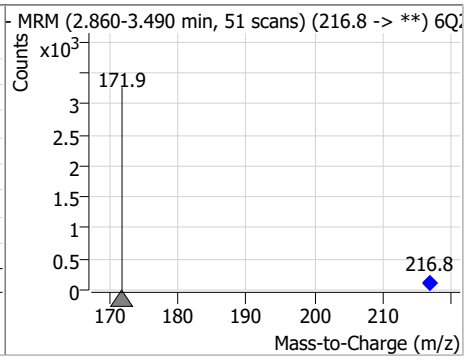
Perfluorinated Compounds by LC/MS/MS



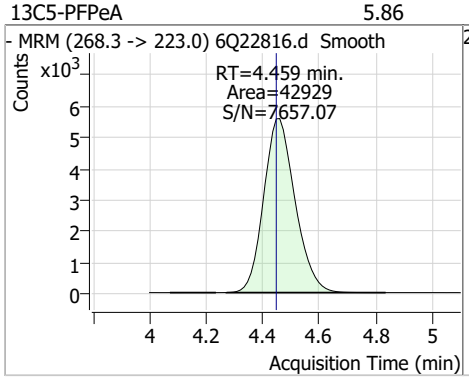
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.42	3.02	0.01	123553				

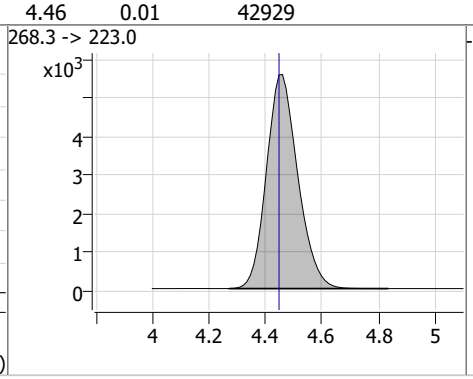


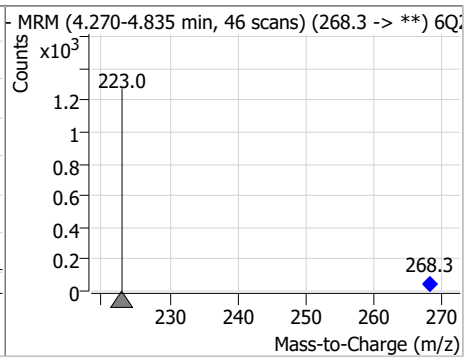




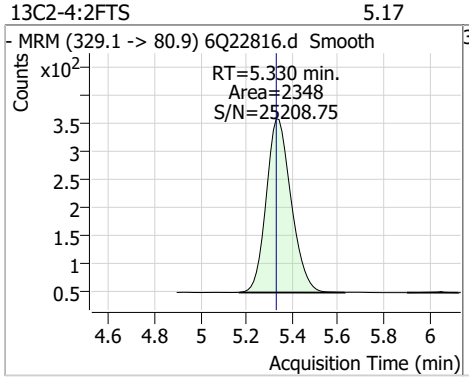
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.86	4.46	0.01	42929				

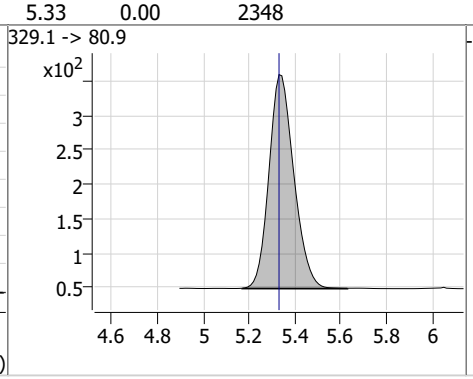


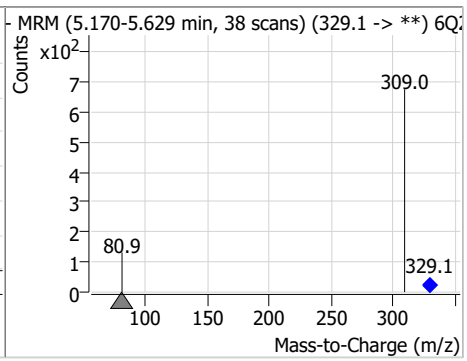




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.17	5.33	0.00	2348				

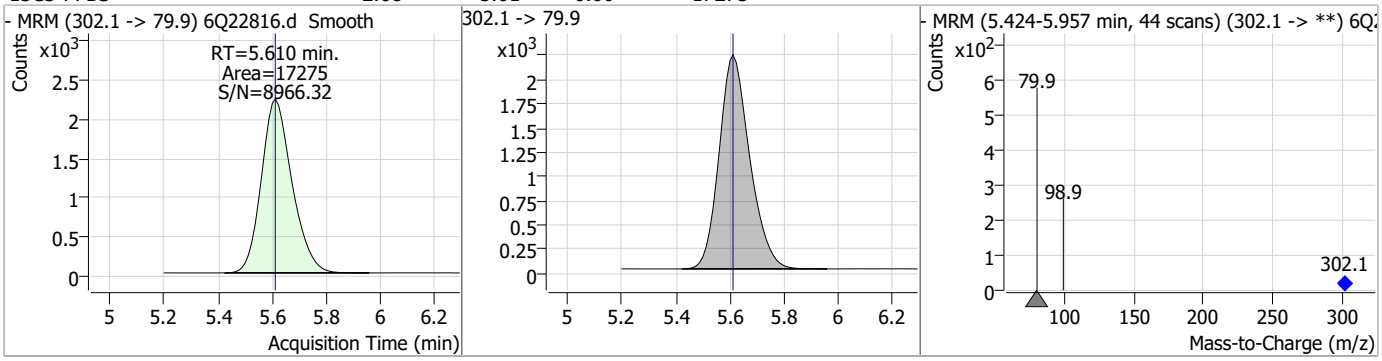




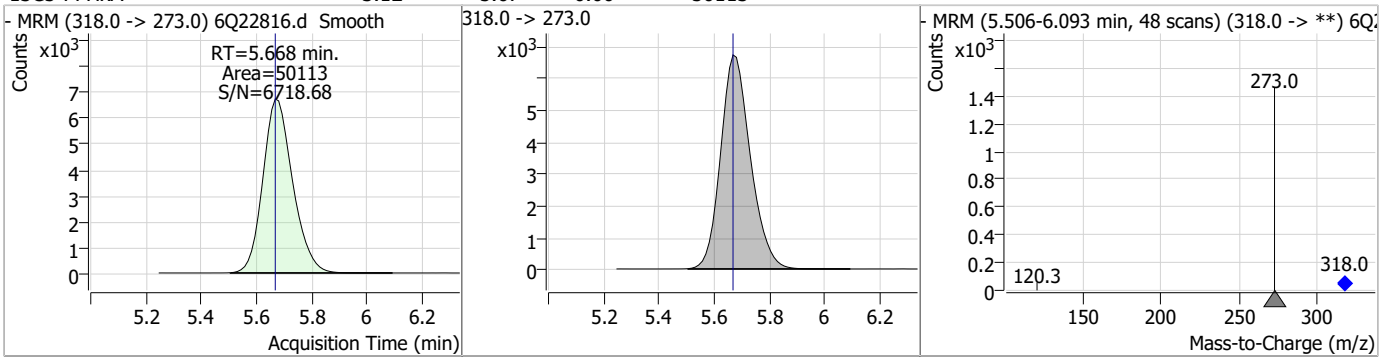


Perfluorinated Compounds by LC/MS/MS

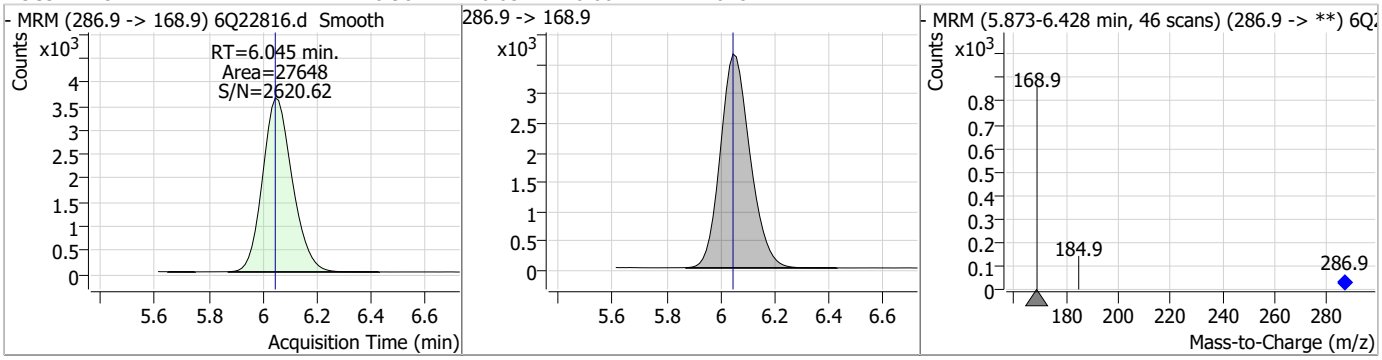
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.68	5.61	0.00	17275				



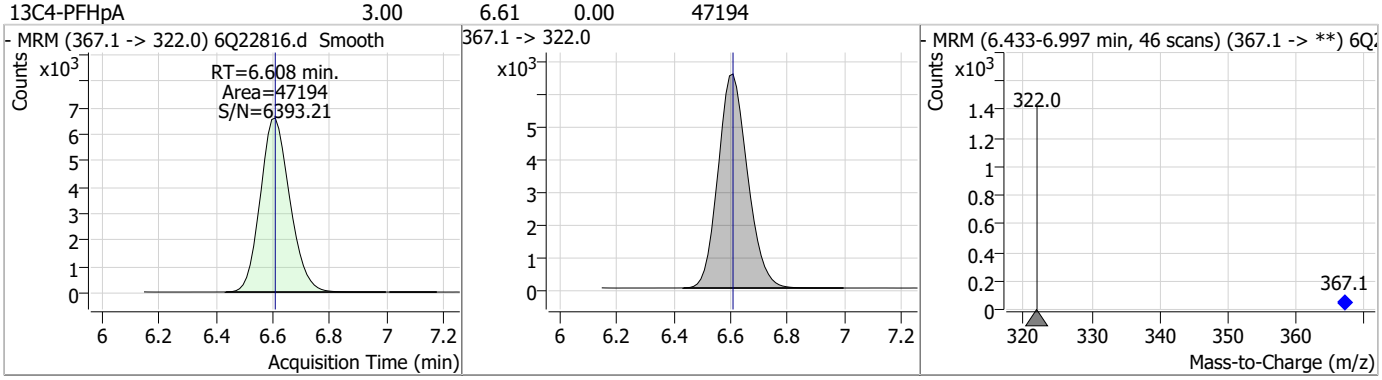
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.12	5.67	0.00	50113				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.98	6.05	0.00	27648				

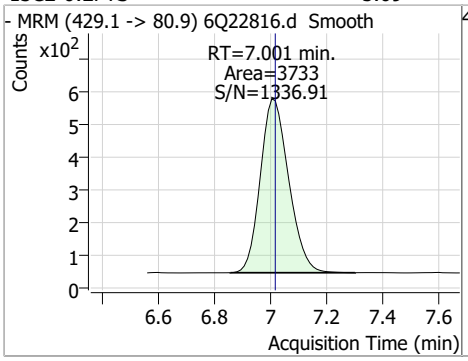


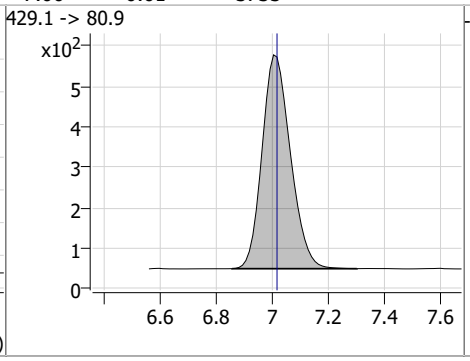
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.00	6.61	0.00	47194				

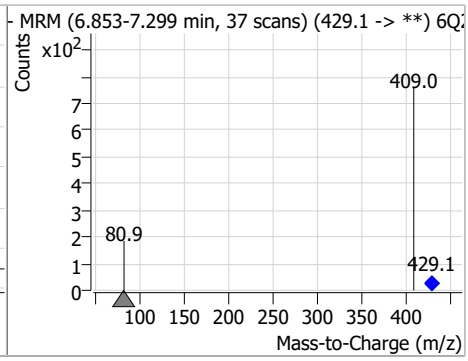


Perfluorinated Compounds by LC/MS/MS

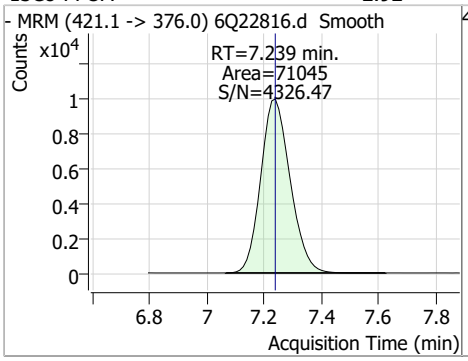
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.69	7.00	-0.01	3733				

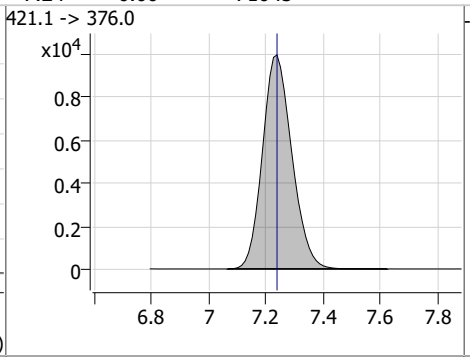


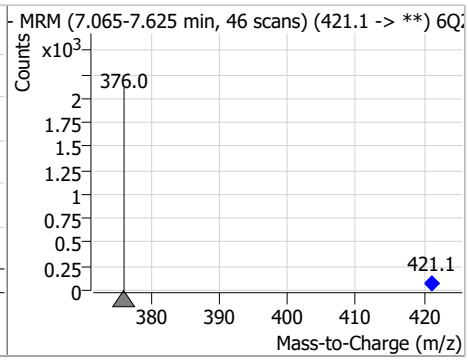




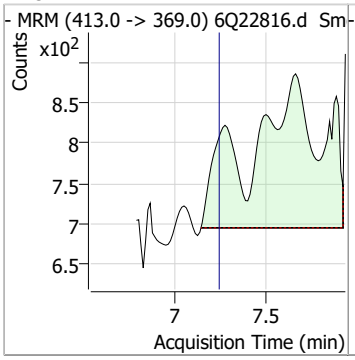
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.92	7.24	0.00	71045				

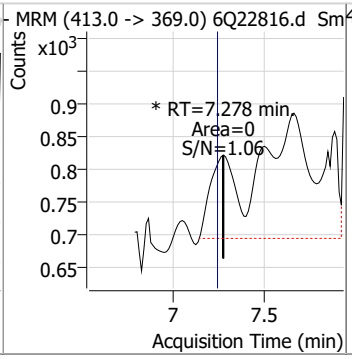


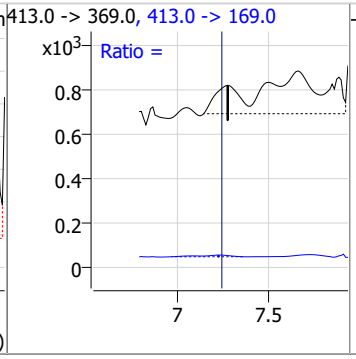


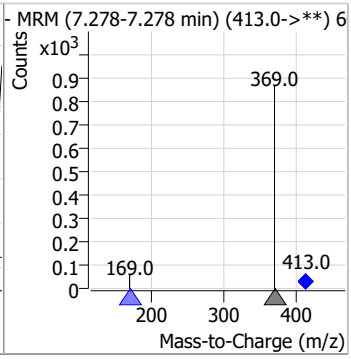


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA		0		0	413.0 -> 169.0		8.1	24.3

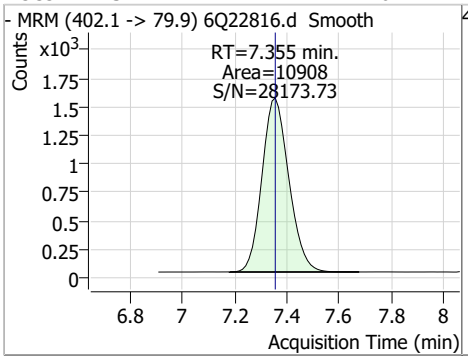


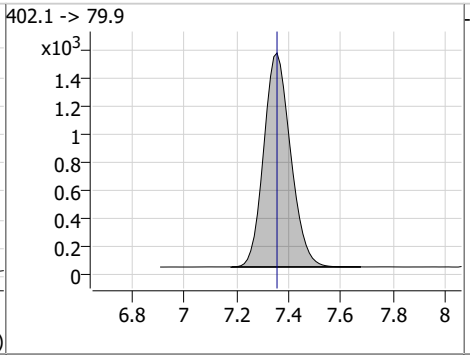


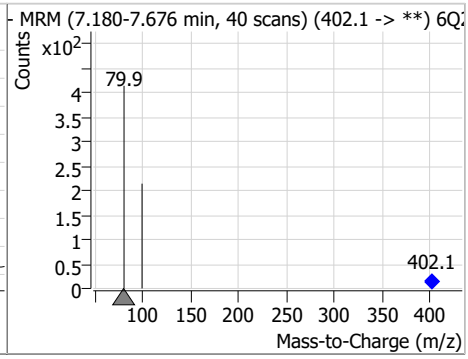




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.61	7.35	0.00	10908				

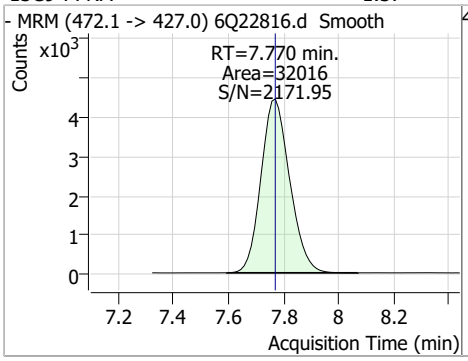


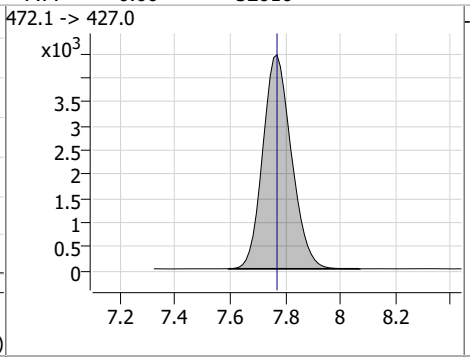


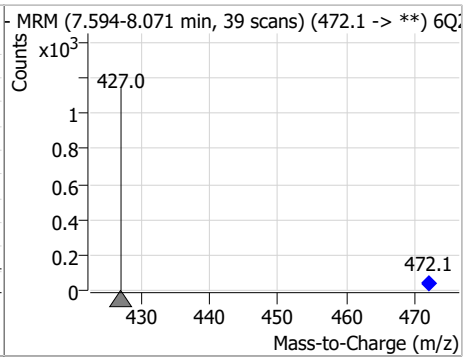


Perfluorinated Compounds by LC/MS/MS

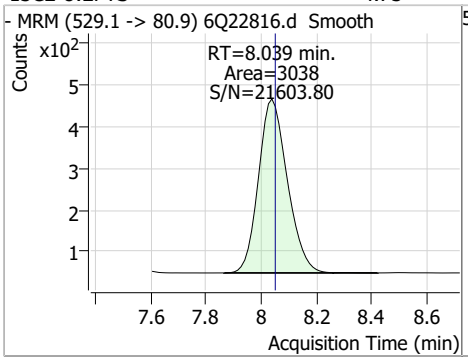
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.37	7.77	0.00	32016				

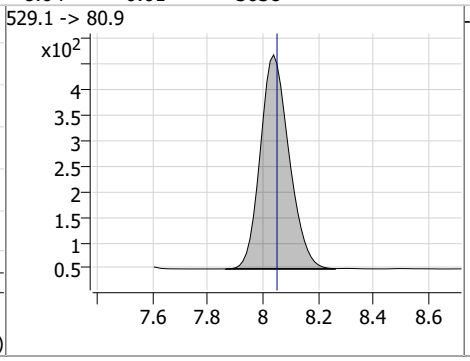


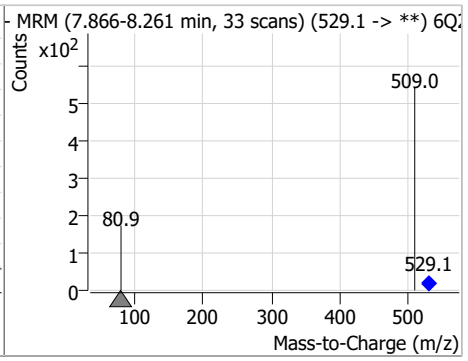




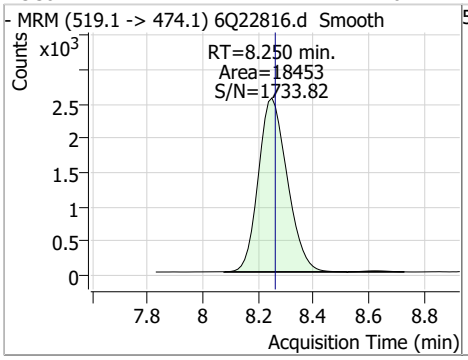
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.73	8.04	-0.01	3038				

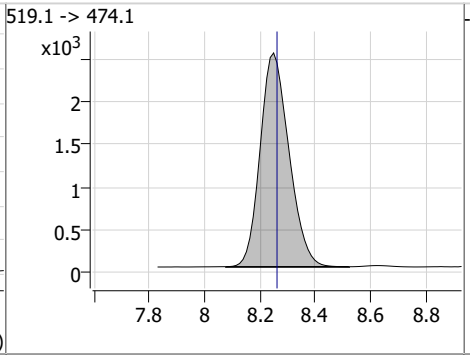


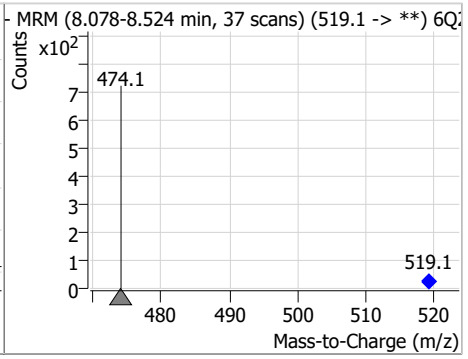




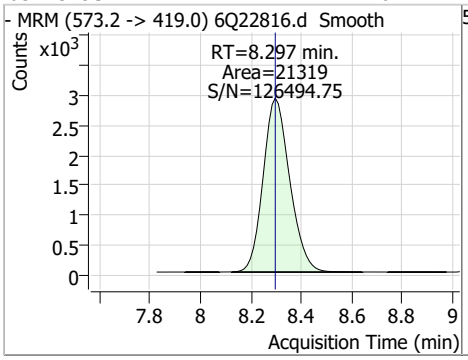
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.40	8.25	-0.01	18453				

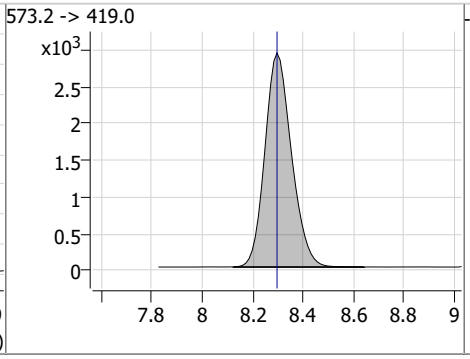


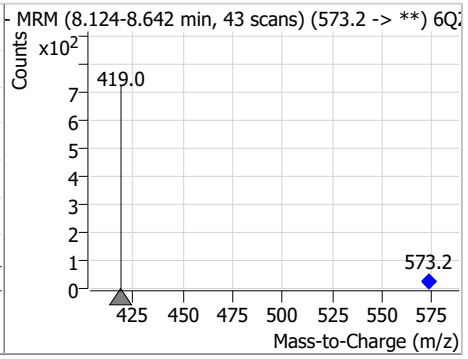




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.67	8.30	0.00	21319				

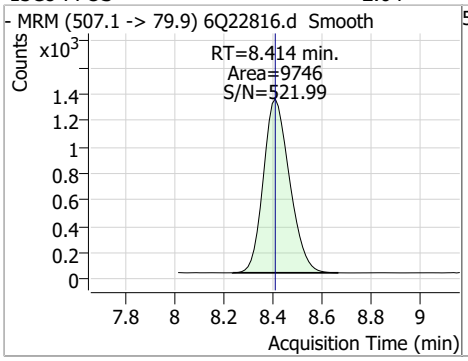


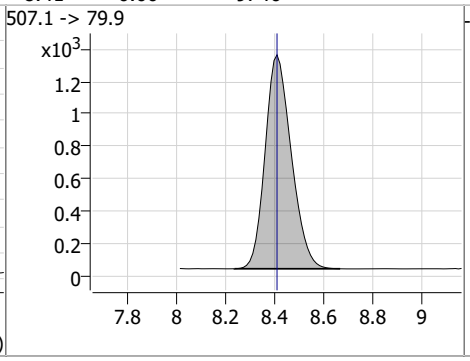


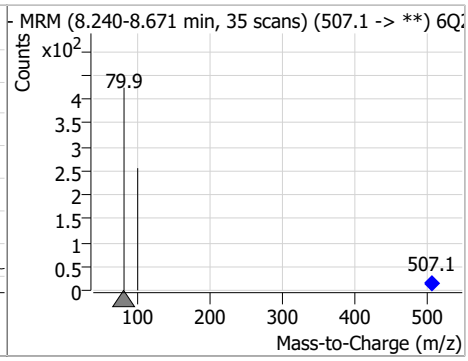


Perfluorinated Compounds by LC/MS/MS

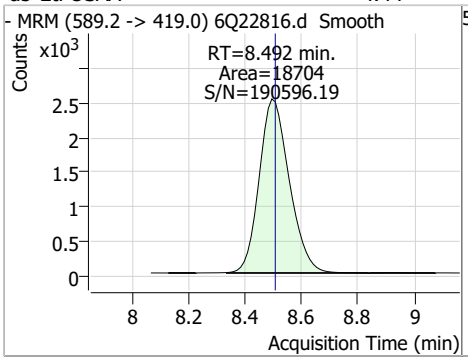
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.64	8.41	0.00	9746				

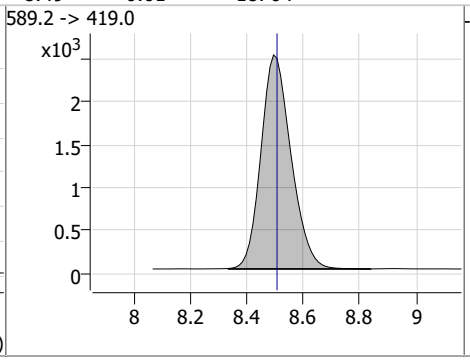


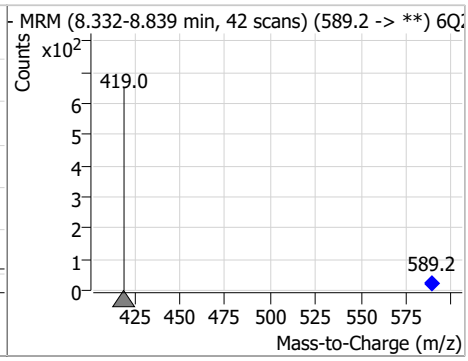




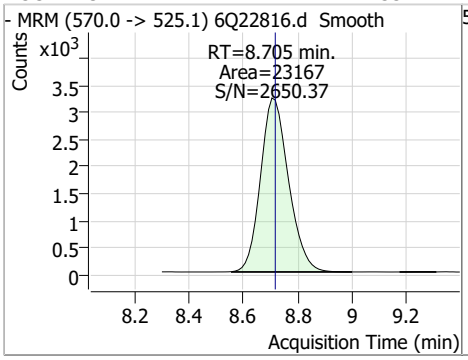
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.44	8.49	-0.01	18704				

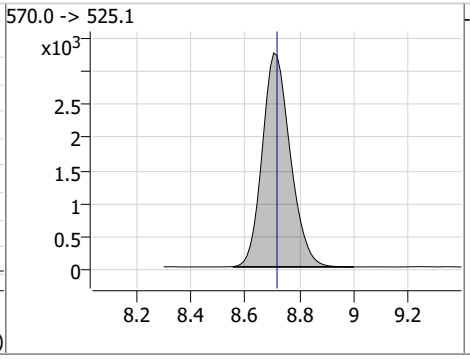


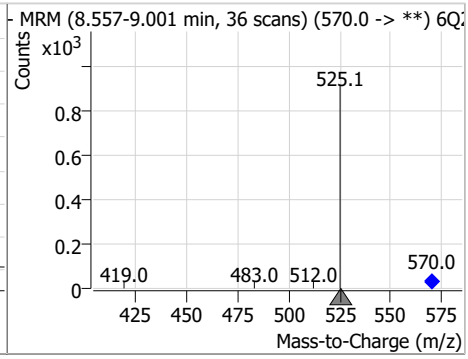




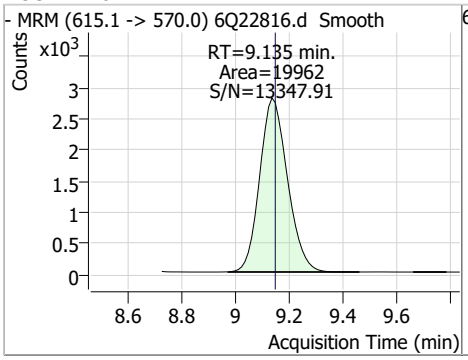
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.33	8.70	-0.01	23167				

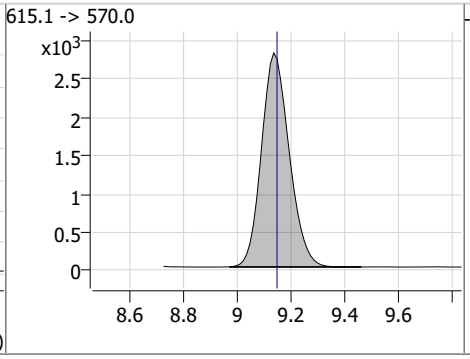


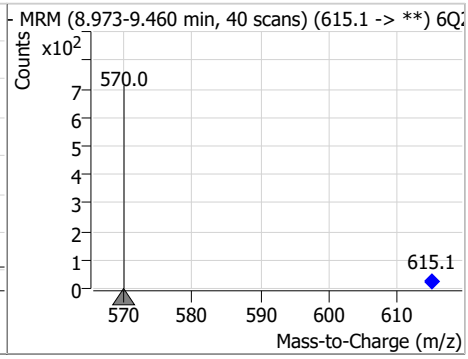




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.27	9.14	-0.01	19962				

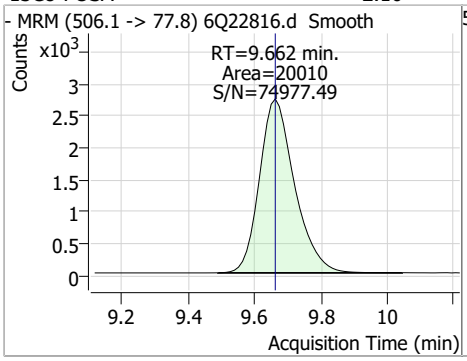


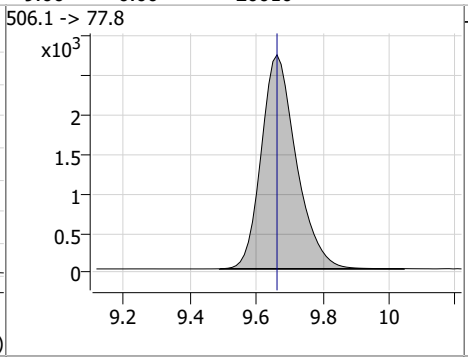


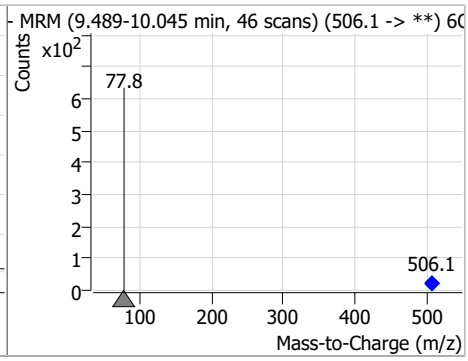


Perfluorinated Compounds by LC/MS/MS

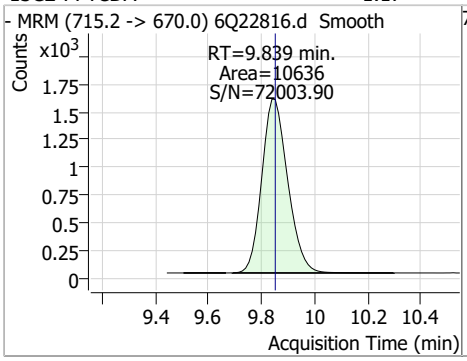
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.10	9.66	0.00	20010				

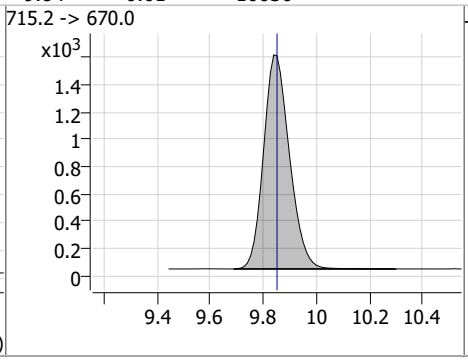


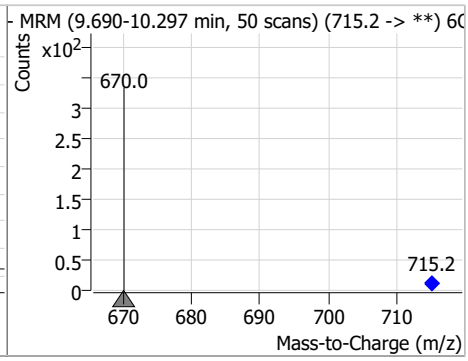




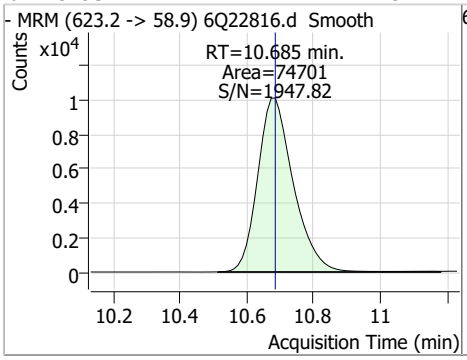
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.17	9.84	-0.01	10636				

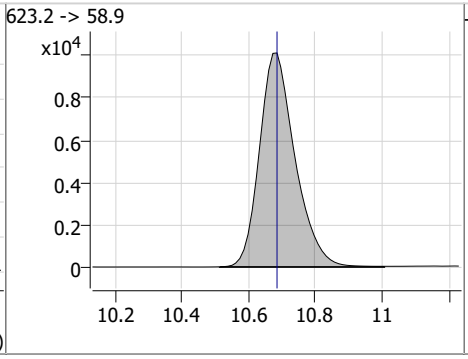


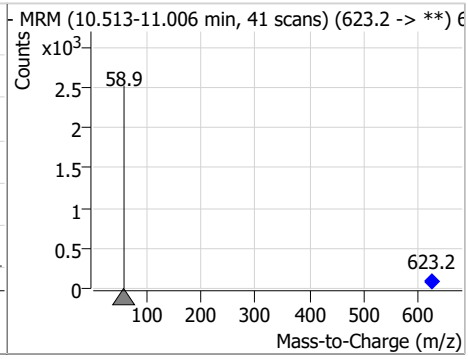




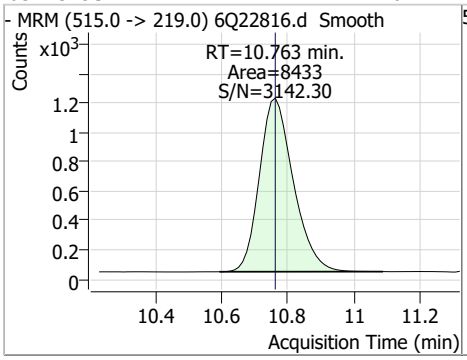
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	21.91	10.68	0.00	74701				

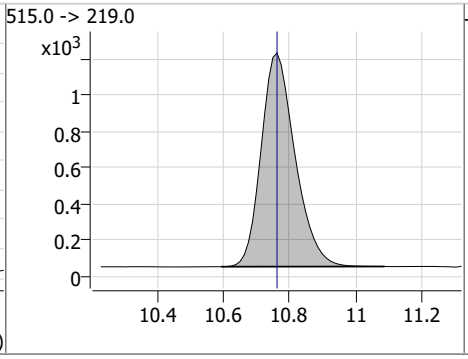


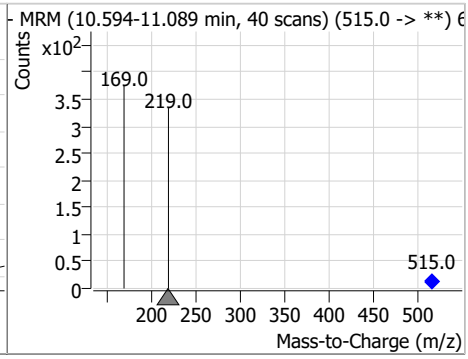




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.16	10.76	0.00	8433				

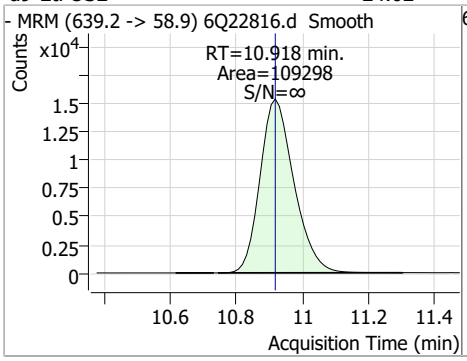


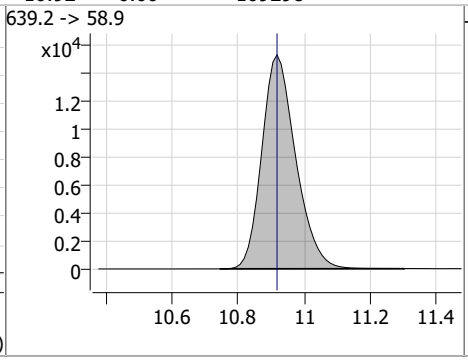


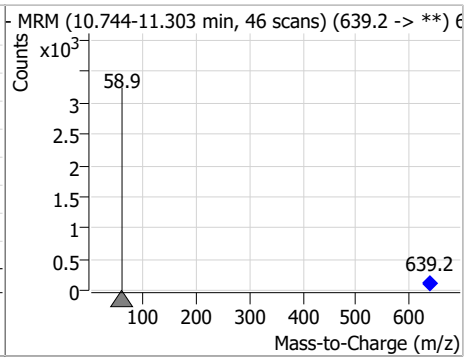


Perfluorinated Compounds by LC/MS/MS

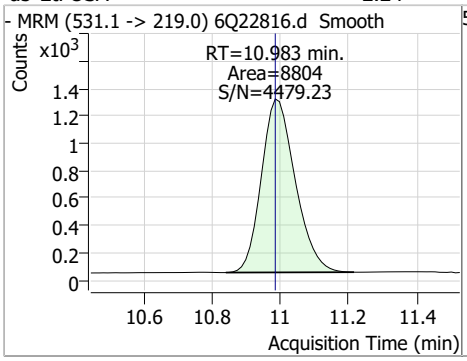
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.02	10.92	0.00	109298				

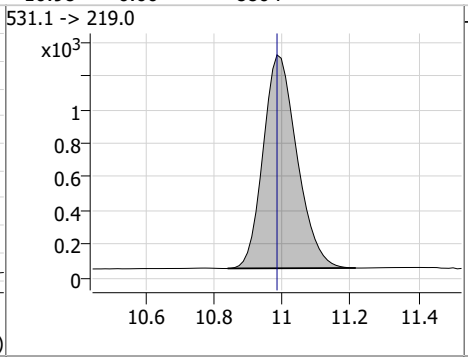


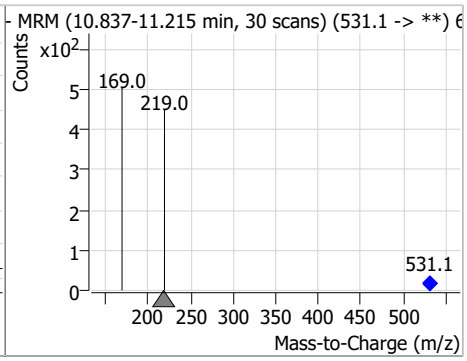




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.24	10.98	0.00	8804				







Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22820.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 9:49:49 PM
Sample Name : FC8547-5
Vial : P6-C3
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98380,S6Q331,570,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	147705	10.00	µg/L	0.012
M5-PFPeA	4.447	268.3 -> 223.0	48532	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	52849	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	53443	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	77914	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	36264	1.25	µg/L	-0.012
M6-PFDA	8.250	519.1 -> 474.1	18837	1.25	µg/L	-0.012
M7-PFUnDA	8.705	570.0 -> 525.1	23967	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	21620	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	10838	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	21179	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	20215	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	12550	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	11174	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	2816	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4335	5.00	µg/L	-0.012
M2-8:2FTS	8.039	529.1 -> 80.9	3374	5.00	µg/L	-0.012
M3-MeFOSAA	8.284	573.2 -> 419.0	25031	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	33373	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	19473	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	82488	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	119550	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	10223	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	9473	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	13157	2.50	µg/L	-0.012
13C3-PFBA	3.026	216.0 -> 172.0	51707	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	7403	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	68078	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	24175	1.25	µg/L	0.000
13C5-PFNA	7.758	468.0 -> 423.0	36702	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	40026	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2816	6.37	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 127.3%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4335	6.79	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 135.8%		
13C2-8:2FTS	8.039	529.1 -> 80.9	3374	5.40	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.0%		
13C2-PFDoDA	9.135	615.1 -> 570.0	21620	1.32	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.9%		
13C2-PFTeDA	9.839	715.2 -> 670.0	10838	1.15	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.3%		
13C3-PFBS	5.610	302.1 -> 79.9	20215	3.22	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 128.7%		
13C3-PFHxS	7.355	402.1 -> 79.9	12550	3.08	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 = 123.4%	
13C4-PFBA	3.022	216.8 -> 171.9	147705	12.09 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 120.9%	
13C4-PFHpA	6.596	367.1 -> 322.0	53443	3.31 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 132.3%	
13C5-PFHxA	5.668	318.0 -> 273.0	52849	3.20 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 127.9%	
13C5-PFPeA	4.447	268.3 -> 223.0	48532	6.44 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 128.8%	
13C6-PFDA	8.250	519.1 -> 474.1	18837	1.38 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.4%	
13C7-PFUnDA	8.705	570.0 -> 525.1	23967	1.33 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C8-FOSA	9.662	506.1 -> 77.8	21179	2.13 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 85.3%	
13C8-PFOA	7.226	421.1 -> 376.0	77914	3.10 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 124.0%	
13C8-PFOS	8.414	507.1 -> 79.9	11174	2.90 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 116.0%	
13C9-PFNA	7.758	472.1 -> 427.0	36264	1.52 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 121.9%	
d3-MeFOSAA	8.284	573.2 -> 419.0	25031	5.26 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	33373	12.88 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 128.8%	
d3-MeFOSA	10.763	515.0 -> 219.0	9473	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.2%	
d5-EtFOSAA	8.492	589.2 -> 419.0	19473	4.43 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.6%	
d7-MeFOSE	10.672	623.2 -> 58.9	82488	23.20 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 92.8%	
d9-EtFOSE	10.918	639.2 -> 58.9	119550	25.19 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
d5-EtFOSA	10.983	531.1 -> 219.0	10223	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
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

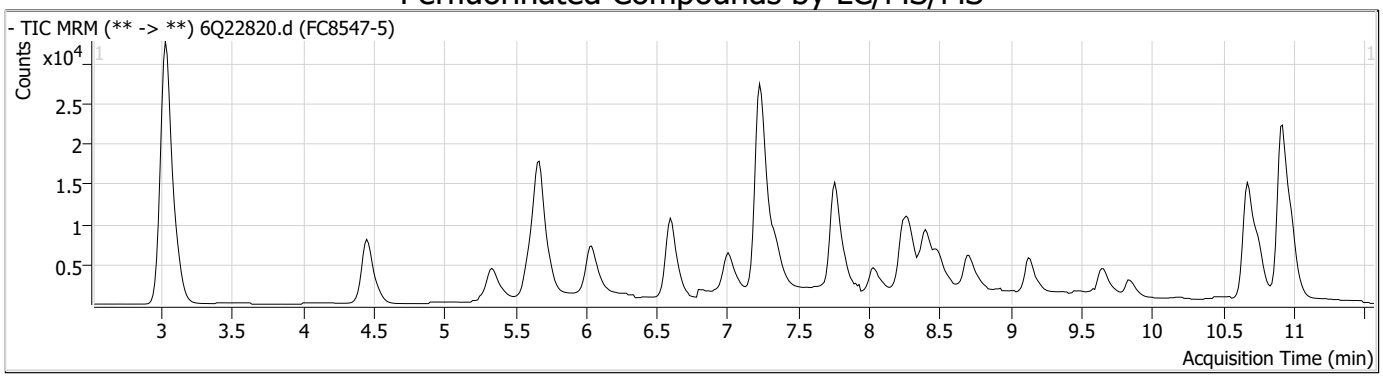
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	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

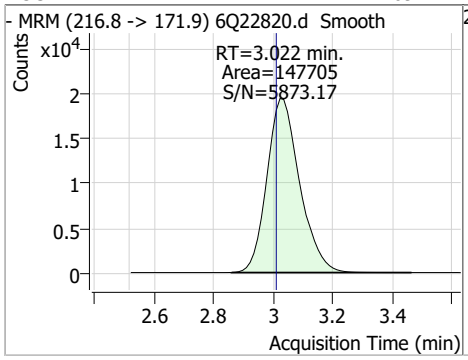
Perfluorinated Compounds by LC/MS/MS

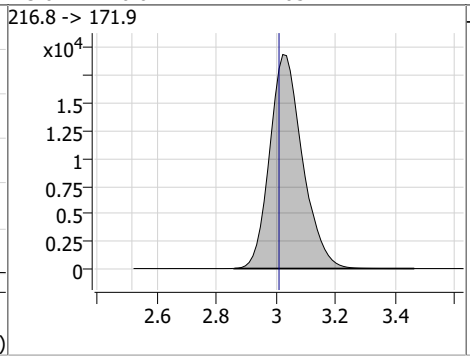
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

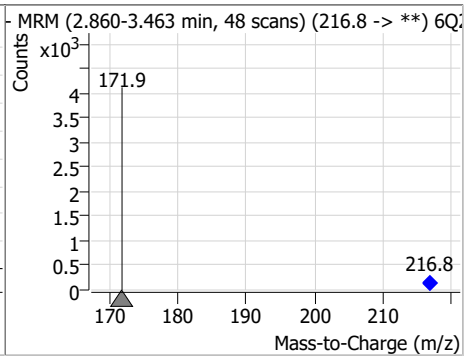
Perfluorinated Compounds by LC/MS/MS



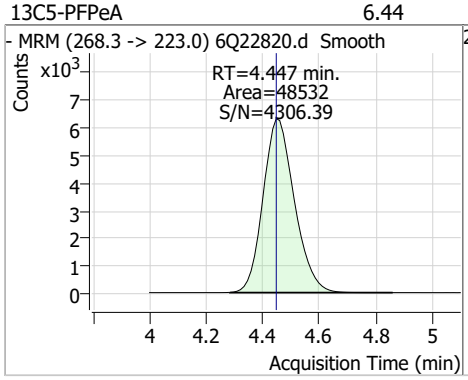
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	12.09	3.02	0.01	147705				

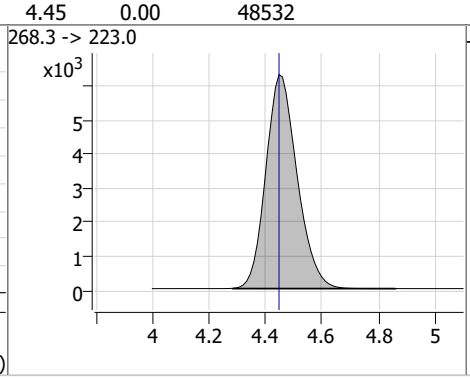


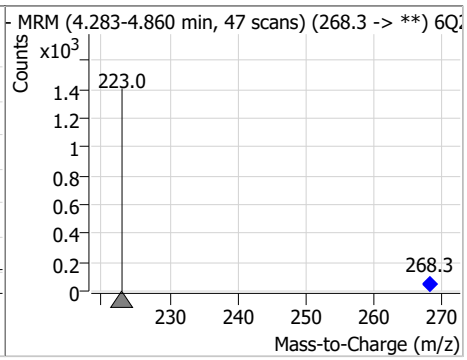




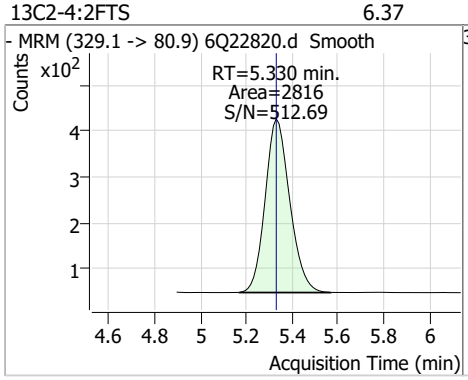
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	6.44	4.45	0.00	48532				

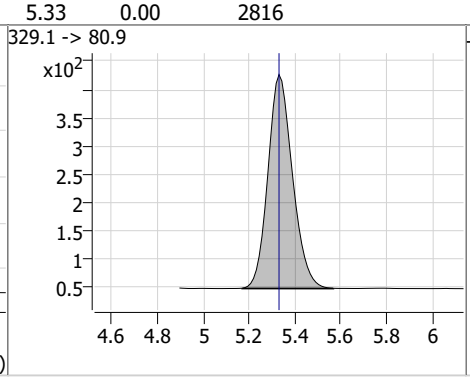


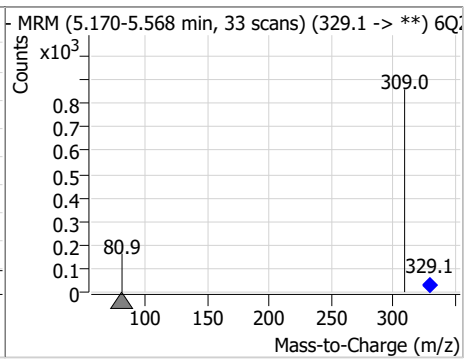




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.37	5.33	0.00	2816				

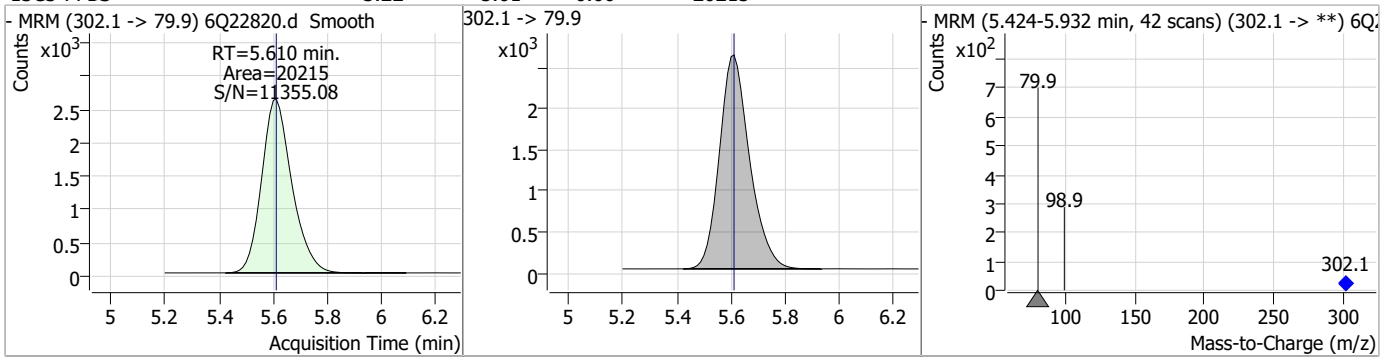




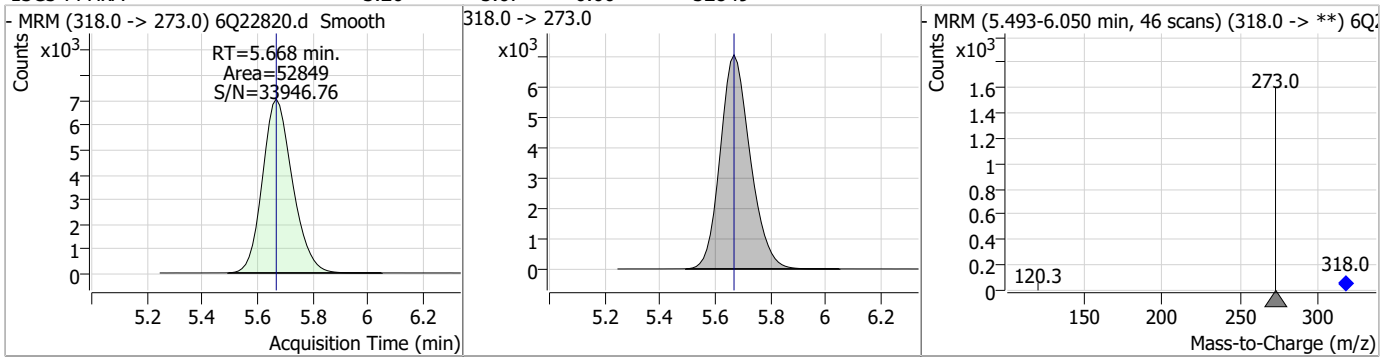


Perfluorinated Compounds by LC/MS/MS

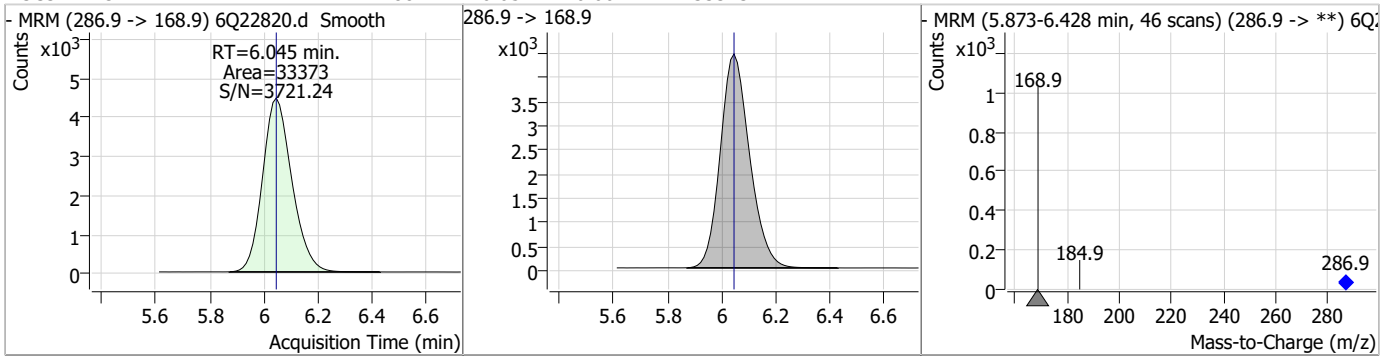
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.22	5.61	0.00	20215				



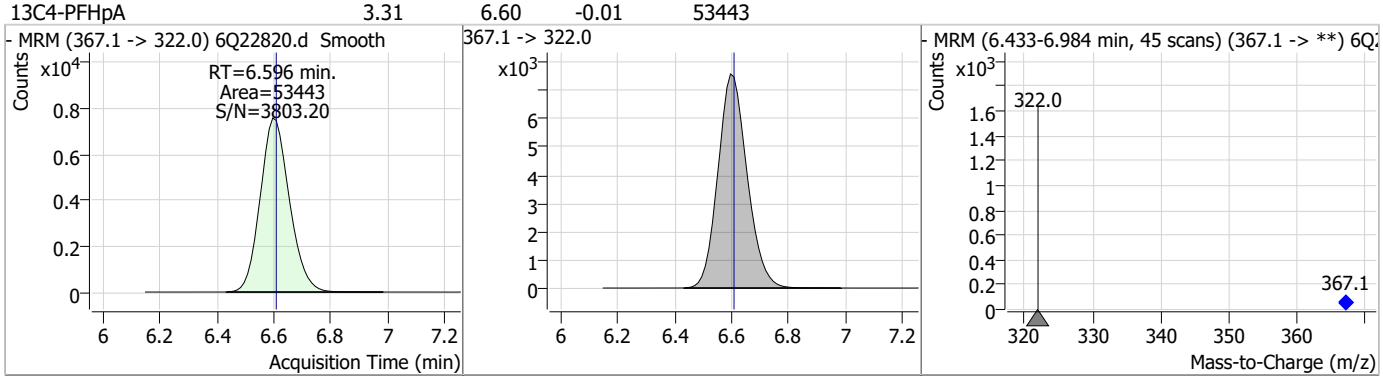
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.20	5.67	0.00	52849				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	12.88	6.05	0.00	33373				

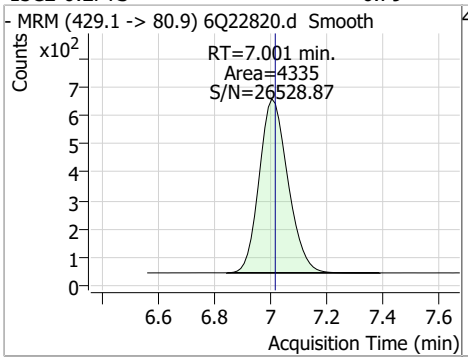


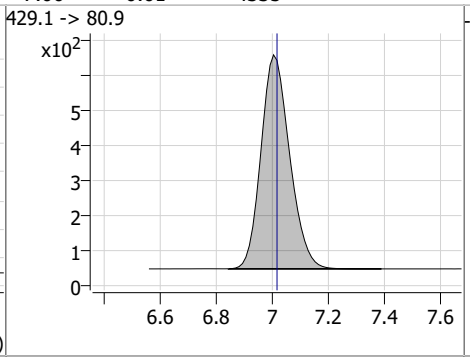
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.31	6.60	-0.01	53443				

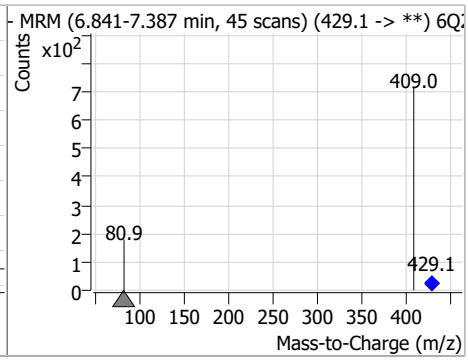


Perfluorinated Compounds by LC/MS/MS

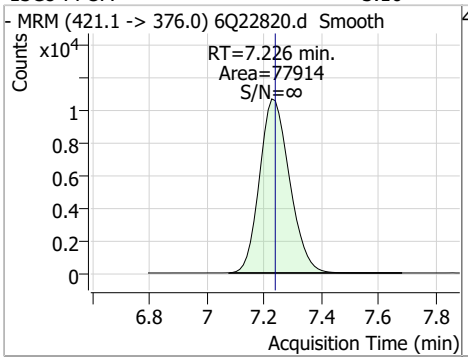
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.79	7.00	-0.01	4335				

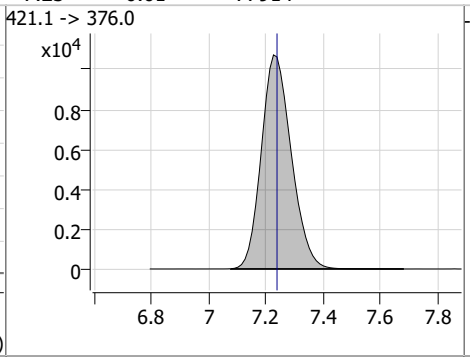


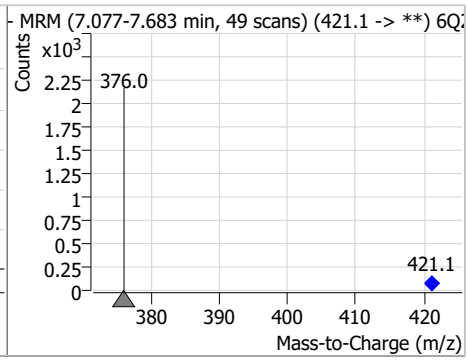




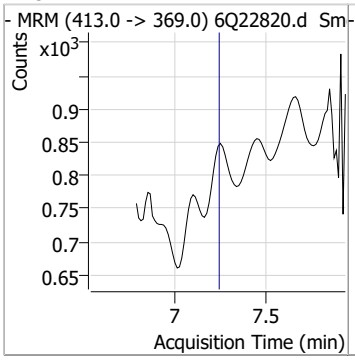
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	3.10	7.23	-0.01	77914				

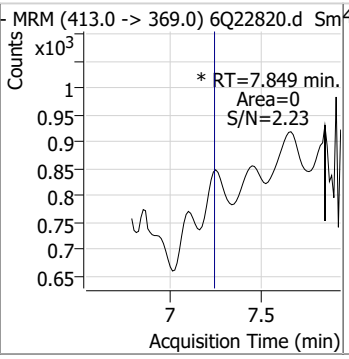


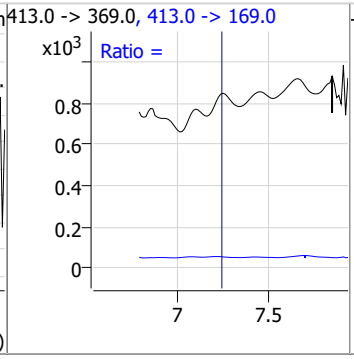


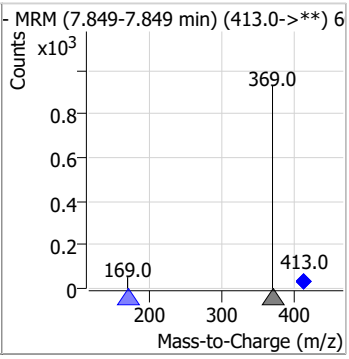


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA		0		0	413.0 -> 169.0		8.1	24.3

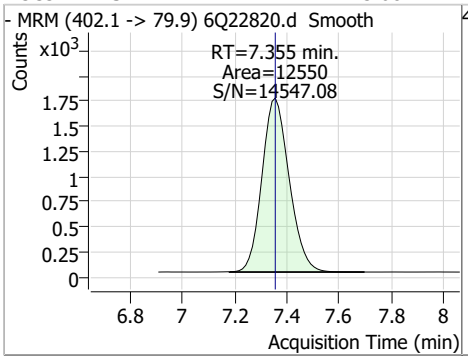


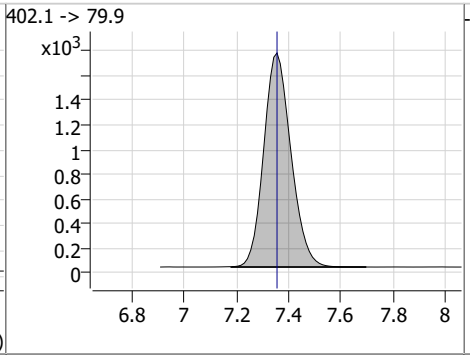


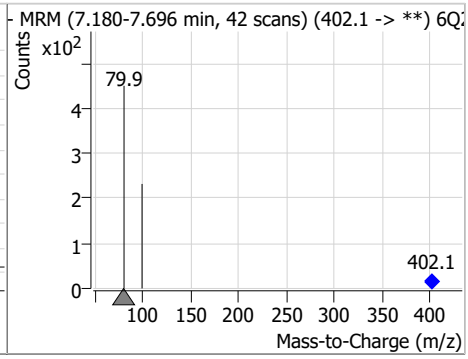




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.08	7.35	0.00	12550				

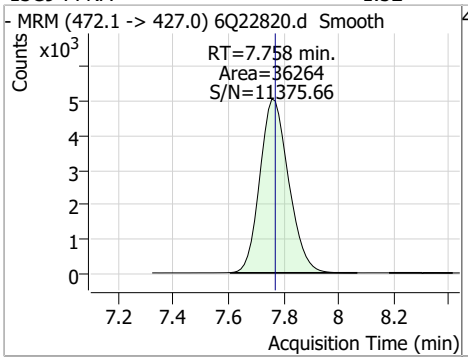


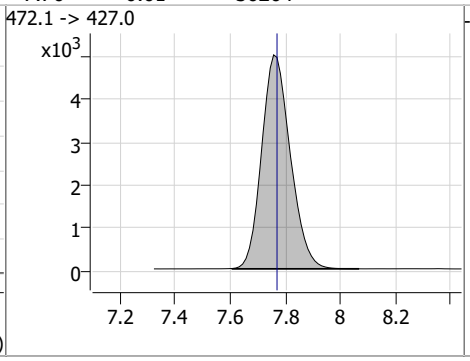


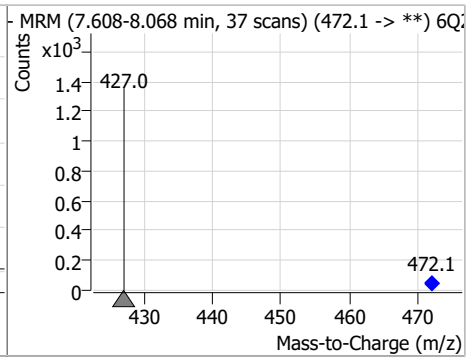


Perfluorinated Compounds by LC/MS/MS

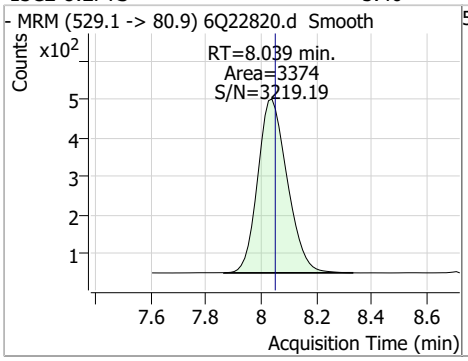
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.52	7.76	-0.01	36264				

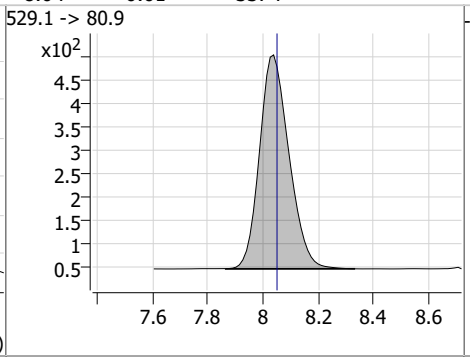


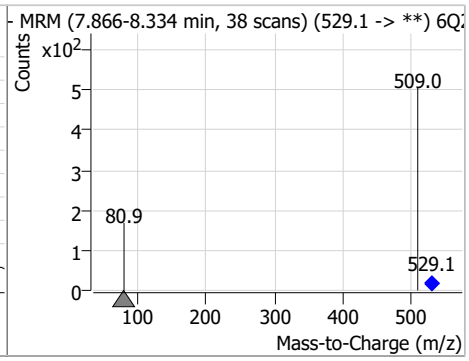




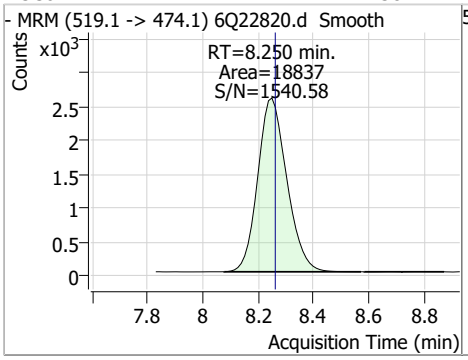
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.40	8.04	-0.01	3374				

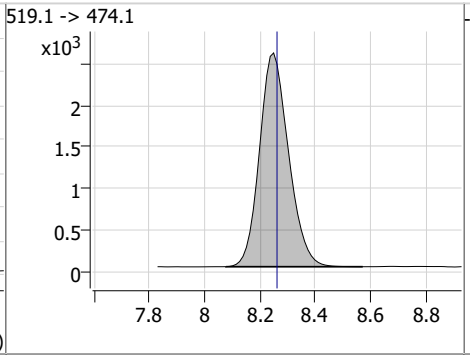


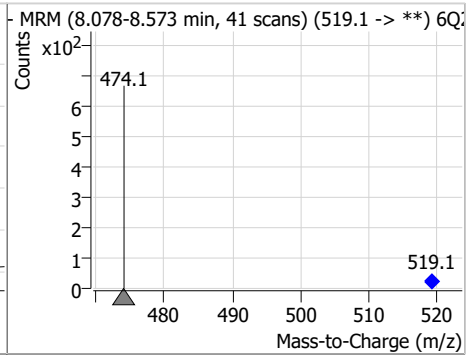




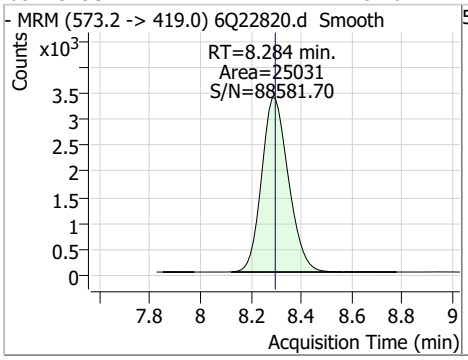
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.38	8.25	-0.01	18837				

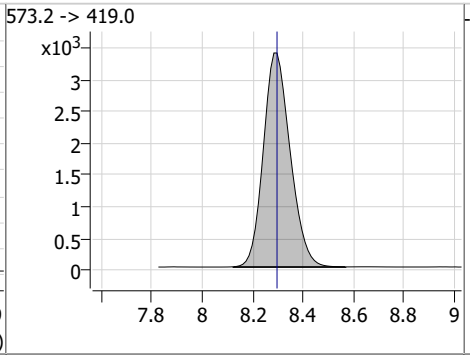


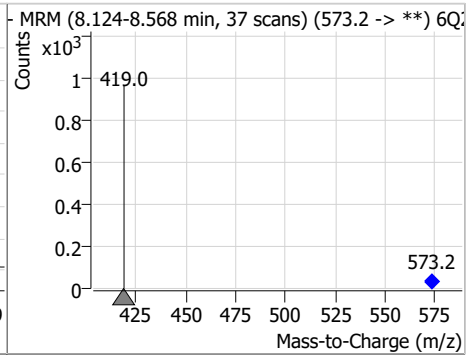




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.26	8.28	-0.01	25031				

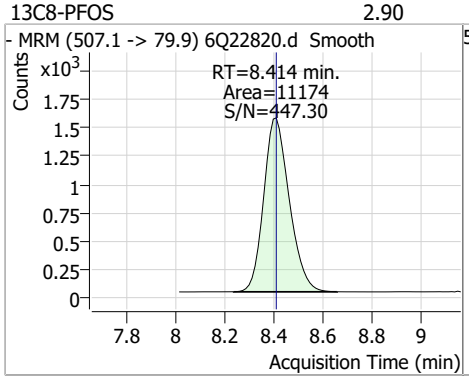


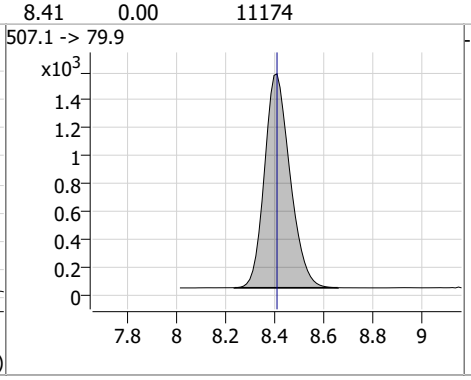


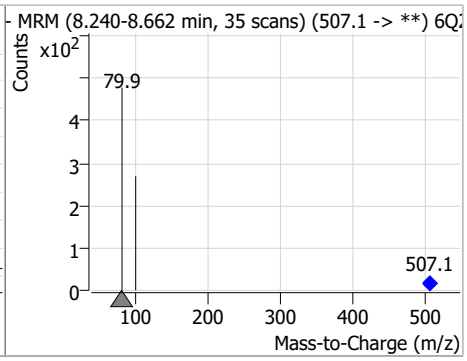


Perfluorinated Compounds by LC/MS/MS

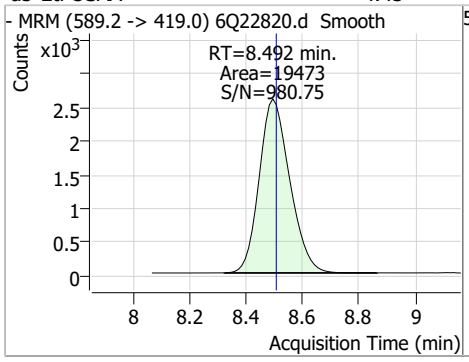
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.90	8.41	0.00	11174				

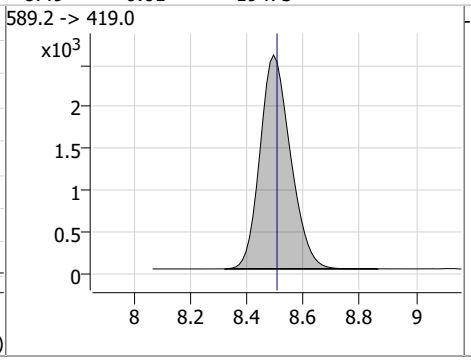


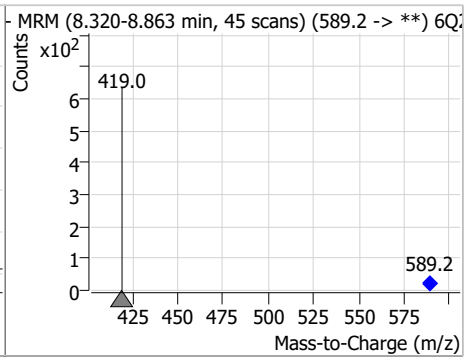




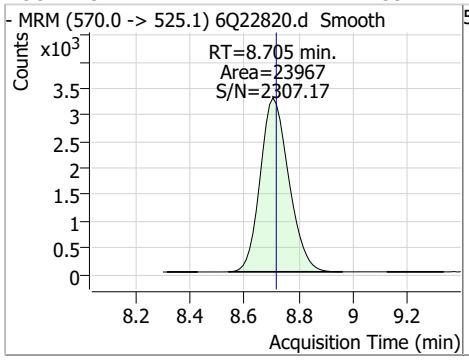
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.43	8.49	-0.01	19473				

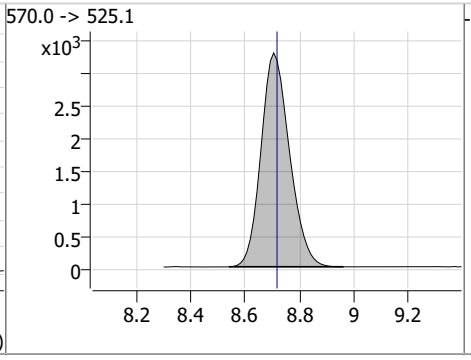


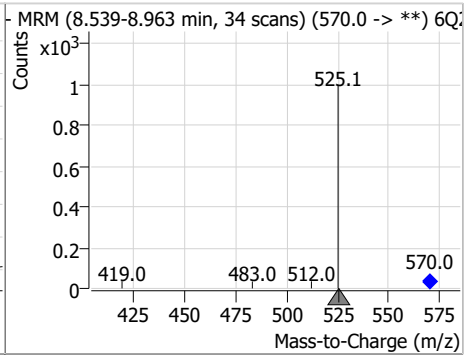




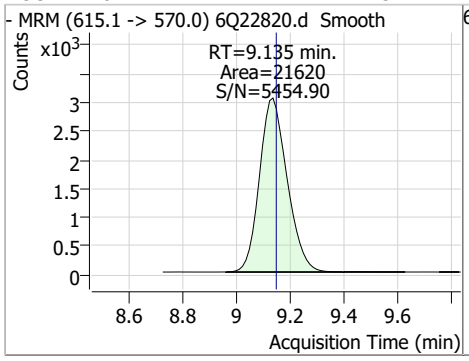
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.33	8.70	-0.01	23967				

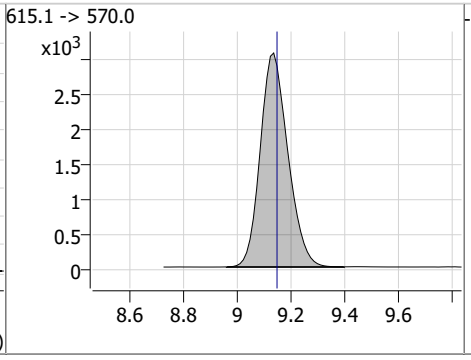


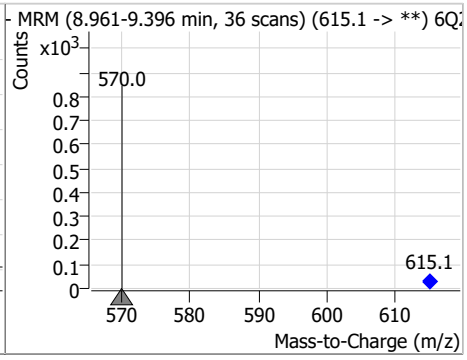




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.32	9.14	-0.01	21620				

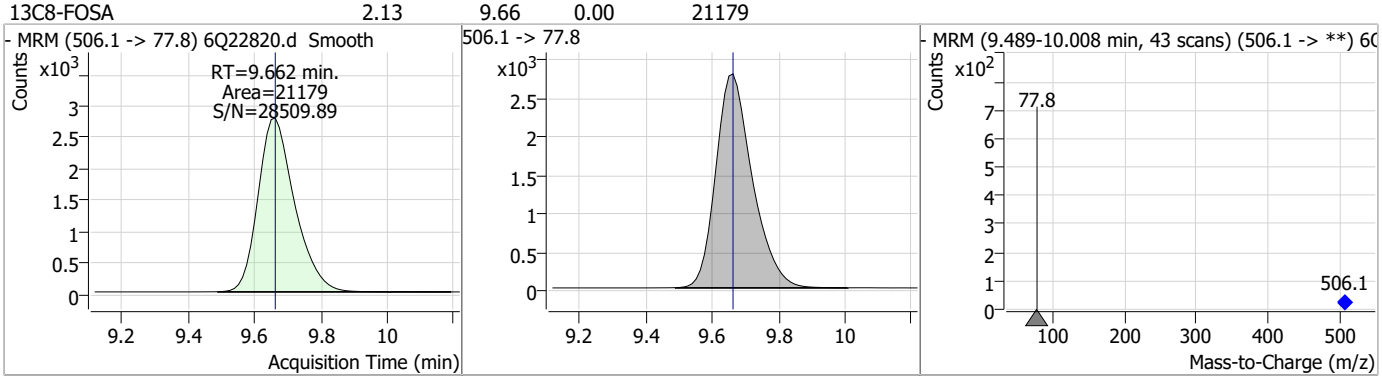




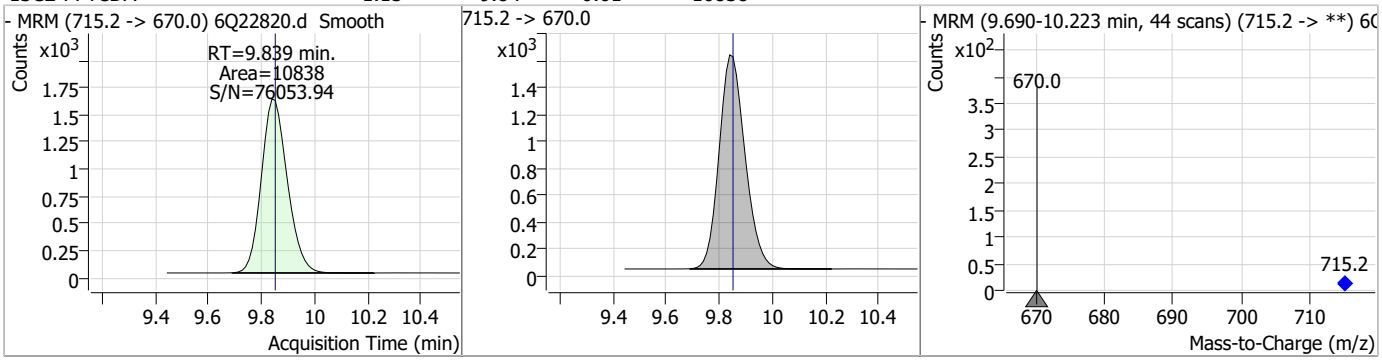


Perfluorinated Compounds by LC/MS/MS

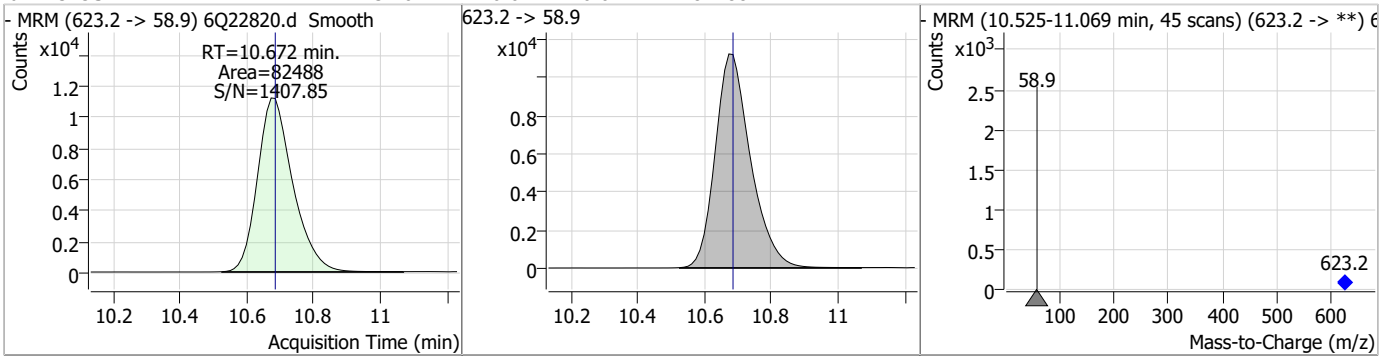
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.13	9.66	0.00	21179				



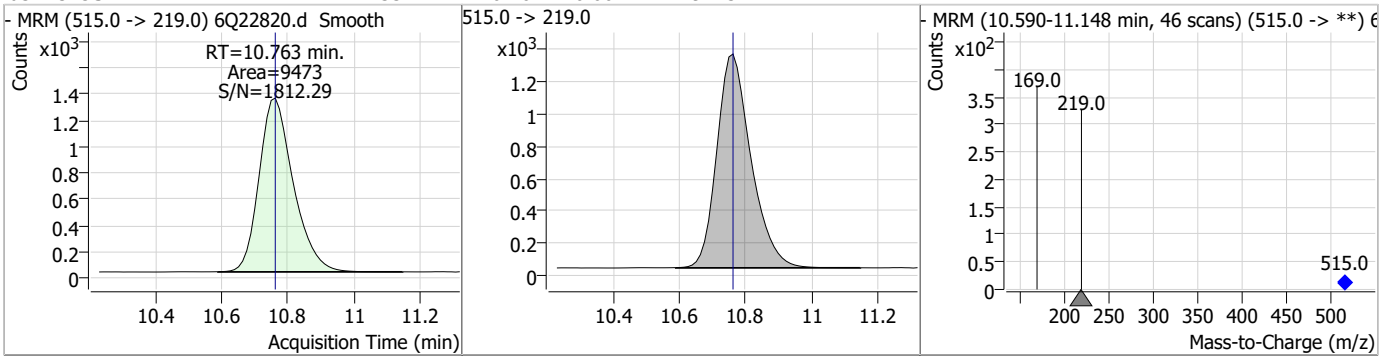
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.15	9.84	-0.01	10838				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.20	10.67	-0.01	82488				

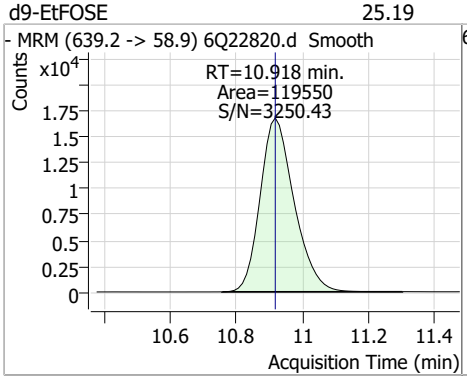


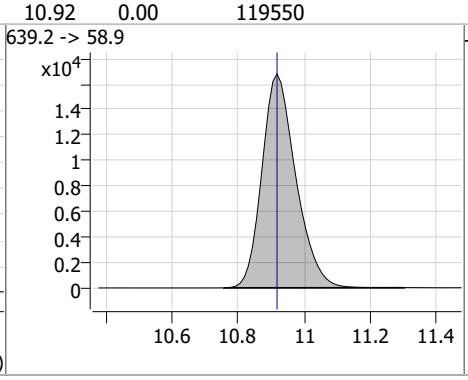
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.33	10.76	0.00	9473				

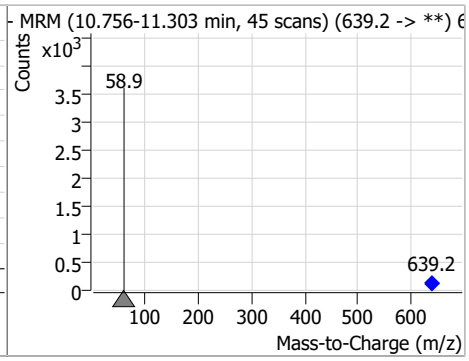


Perfluorinated Compounds by LC/MS/MS

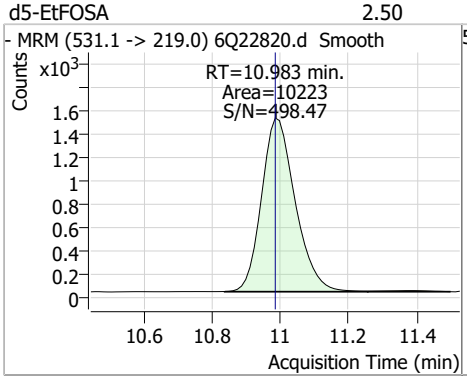
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.19	10.92	0.00	119550				

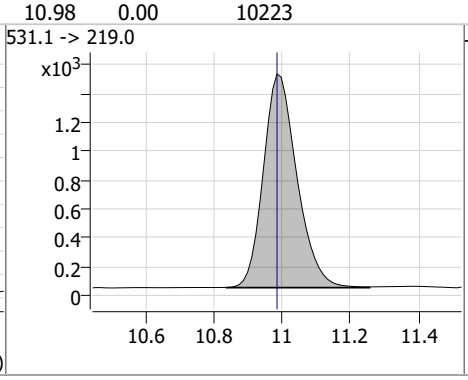


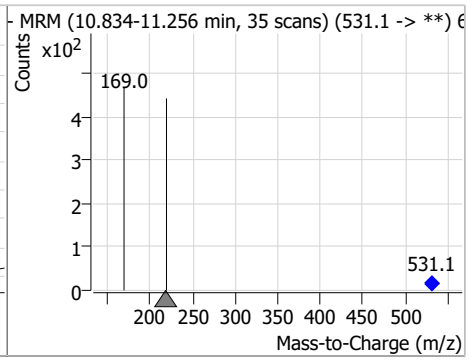




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.50	10.98	0.00	10223				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q22821.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	8/13/2023 10:04:08 PM
Sample Name	:	FC8547-6
Vial	:	P6-C4
DA Method File	:	1633_081023_S6Q330.quantmethod.xml
Batch Name	:	s6q331.batch.bin
Sample Information	:	OP98380,S6Q331,560,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	140532	10.00	µg/L	0.012
M5-PFPeA	4.447	268.3 -> 223.0	47059	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	52133	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	51896	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	78619	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	37128	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	21207	1.25	µg/L	-0.025
M7-PFUnDA	8.692	570.0 -> 525.1	25907	1.25	µg/L	-0.025
M2-PFDoDA	9.123	615.1 -> 570.0	21993	1.25	µg/L	-0.025
M2-PFTeDA	9.839	715.2 -> 670.0	10359	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	21368	2.50	µg/L	0.000
M3-PFBS	5.599	302.1 -> 79.9	19677	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	12369	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	11721	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	4414	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3851	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	2806	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	30223	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	28168	10.00	µg/L	0.000
M5-EtFOSAA	8.480	589.2 -> 419.0	27329	5.00	µg/L	-0.025
M7-MeFOSE	10.672	623.2 -> 58.9	80640	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	119189	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	9555	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	9082	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	12652	2.50	µg/L	-0.025
13C3-PFBA	3.026	216.0 -> 172.0	48573	5.00	µg/L	0.025
18O2-PFHxS	7.341	403.0 -> 83.9	7228	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	66834	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	24619	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	35530	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	39624	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	4414	10.22	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 204.4%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3851	6.18	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 123.5%		
13C2-8:2FTS	8.027	529.1 -> 80.9	2806	4.60	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.9%		
13C2-PFDoDA	9.123	615.1 -> 570.0	21993	1.32	µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.8%		
13C2-PFTeDA	9.839	715.2 -> 670.0	10359	1.08	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 86.6%		
13C3-PFBS	5.599	302.1 -> 79.9	19677	3.21	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 128.3%		
13C3-PFHxS	7.342	402.1 -> 79.9	12369	3.11	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 = 124.5%		
13C4-PFBA	3.022	216.8 -> 171.9	140532	12.25	µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 122.5%		
13C4-PFHpA	6.596	367.1 -> 322.0	51896	3.24	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 129.8%		
13C5-PFHxA	5.668	318.0 -> 273.0	52133	3.19	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 127.5%		
13C5-PFPeA	4.447	268.3 -> 223.0	47059	6.31	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 126.1%		
13C6-PFDA	8.238	519.1 -> 474.1	21207	1.53	µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 122.0%		
13C7-PFUnDA	8.692	570.0 -> 525.1	25907	1.41	µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.7%		
13C8-FOSA	9.662	506.1 -> 77.8	21368	2.24	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.5%		
13C8-PFOA	7.226	421.1 -> 376.0	78619	3.19	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 127.4%		
13C8-PFOS	8.401	507.1 -> 79.9	11721	3.16	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 126.6%		
13C9-PFNA	7.758	472.1 -> 427.0	37128	1.61	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 128.9%		
d3-MeFOSAA	8.284	573.2 -> 419.0	30223	6.60	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 132.0%		
13C3-HFPO-DA	6.045	286.9 -> 168.9	28168	10.99	µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.9%		
d3-MeFOSA	10.763	515.0 -> 219.0	9082	2.32	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.9%		
d5-EtFOSAA	8.480	589.2 -> 419.0	27329	6.47	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 129.3%		
d7-MeFOSE	10.672	623.2 -> 58.9	80640	23.58	µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.3%		
d9-EtFOSE	10.918	639.2 -> 58.9	119189	26.12	µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.5%		
d5-EtFOSA	10.983	531.1 -> 219.0	9555	2.43	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%		
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	9.535	613.1 -> 569.0	0	µg/L	m	1
		613.1 -> 319.0	0			
PFDS	9.250	599.0 -> 79.9	0	µg/L	m	1

Perfluorinated Compounds by LC/MS/MS

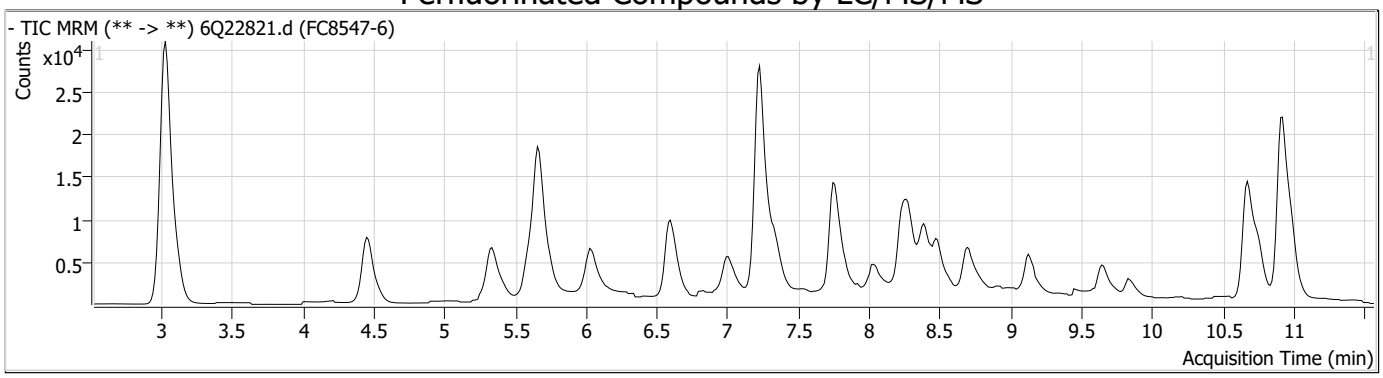
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	0				
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	8.369	449.0 -> 79.9	0		µg/L	m	1
		449.0 -> 98.9	0				
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	7.888	398.7 -> 79.9	0		µg/L	m	1
		398.7 -> 98.9	0				
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	8.968	548.8 -> 79.9	0		µg/L	m	1
		548.8 -> 98.9	0				
PFOA	7.252	413.0 -> 369.0	0		µg/L	m	1
		413.0 -> 169.0	0				
PFOS	8.118	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	-	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

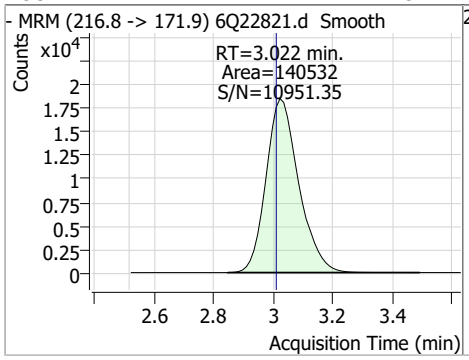
Perfluorinated Compounds by LC/MS/MS

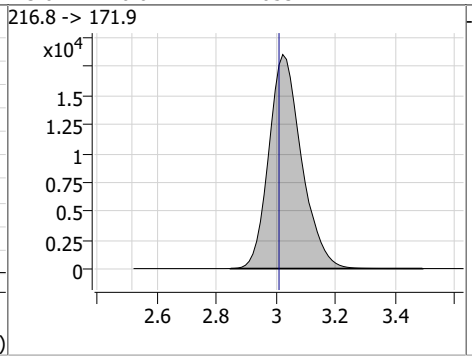
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

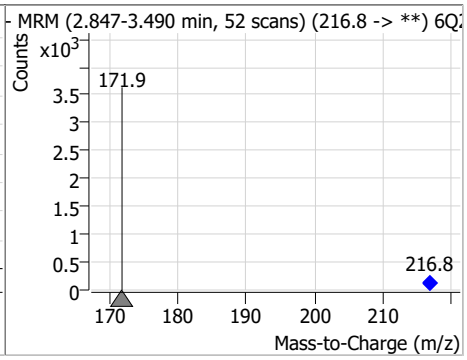
Perfluorinated Compounds by LC/MS/MS



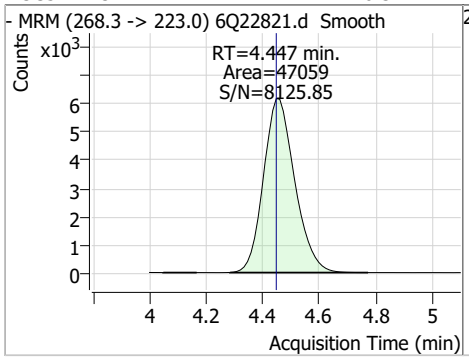
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	12.25	3.02	0.01	140532				

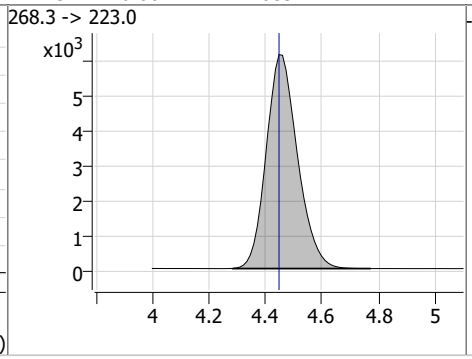


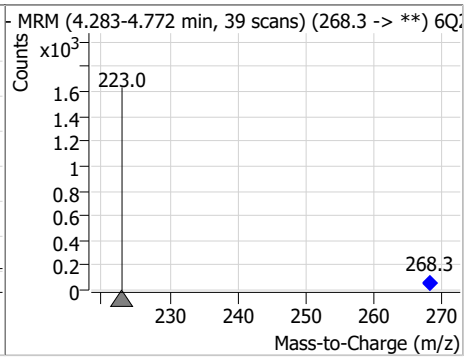




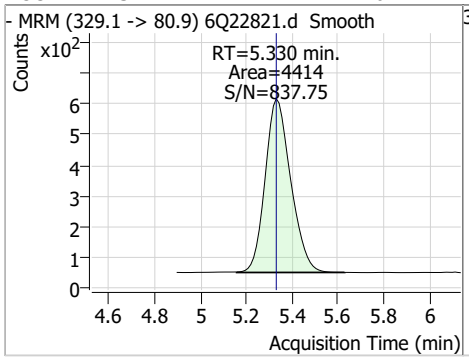
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	6.31	4.45	0.00	47059				

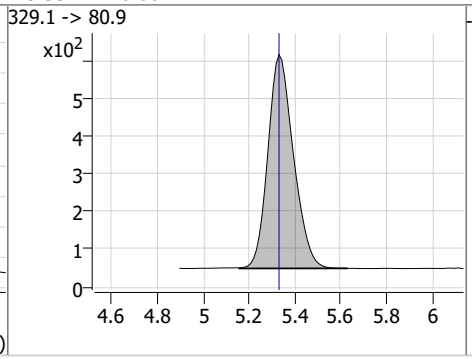


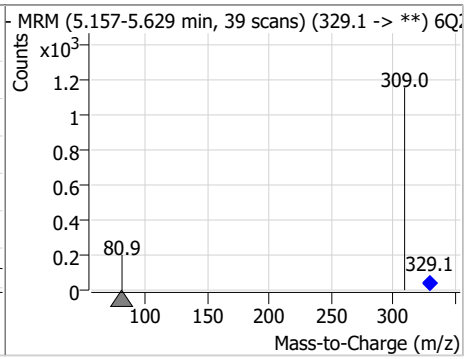




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	10.22	5.33	0.00	4414				

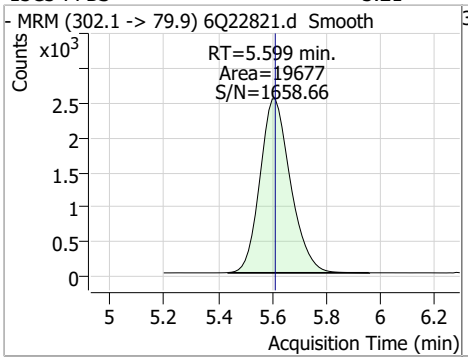


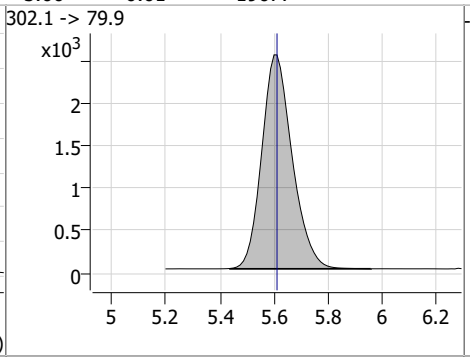


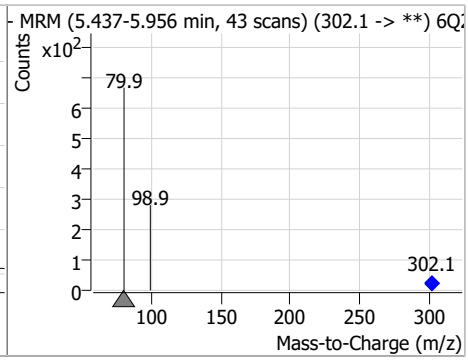


Perfluorinated Compounds by LC/MS/MS

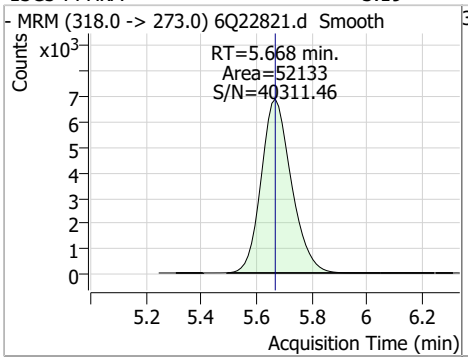
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.21	5.60	-0.01	19677				

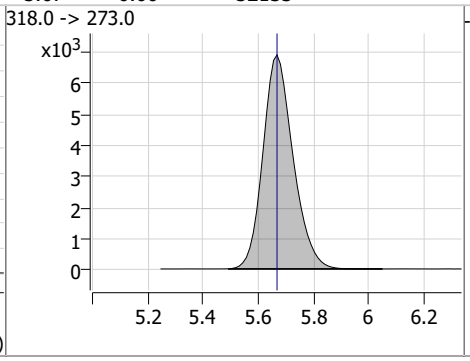


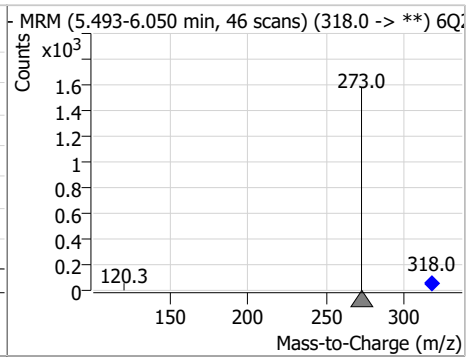




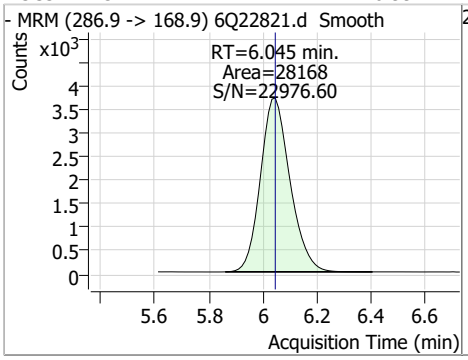
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.19	5.67	0.00	52133				

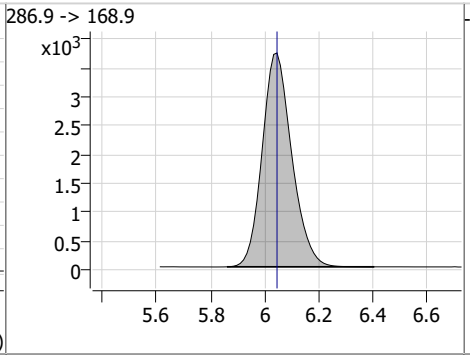


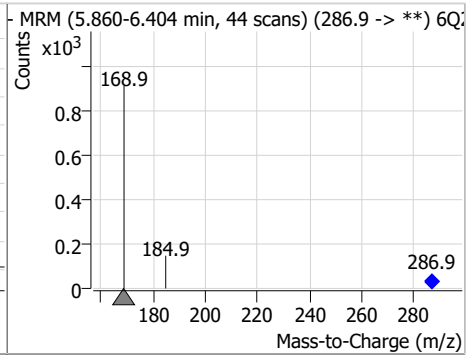




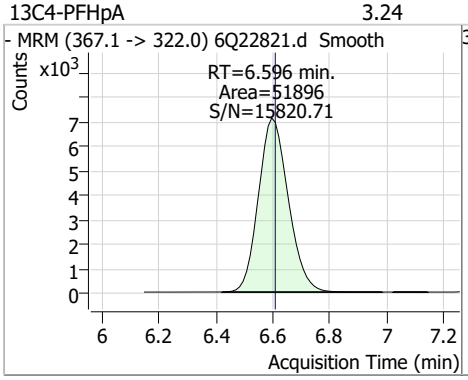
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.99	6.05	0.00	28168				

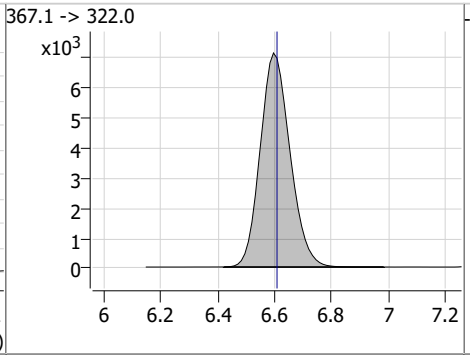


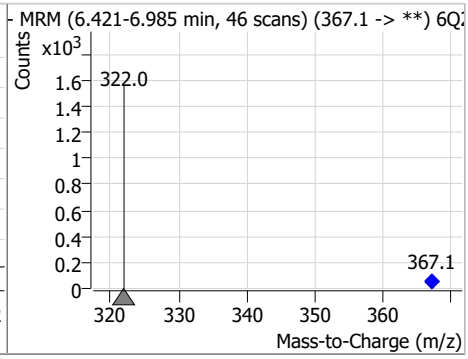




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.24	6.60	-0.01	51896				

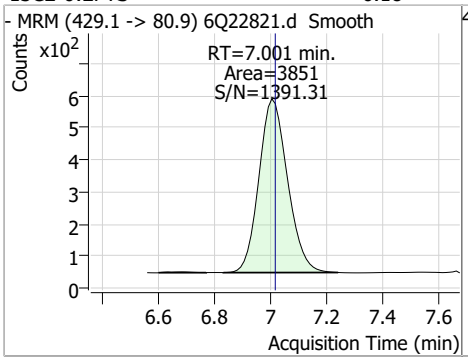


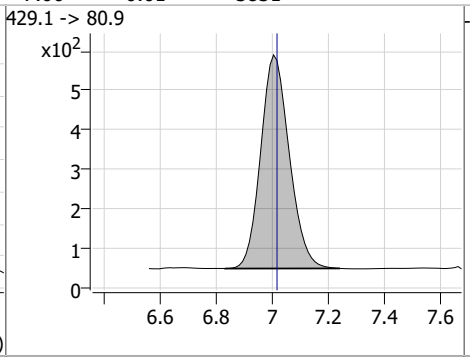


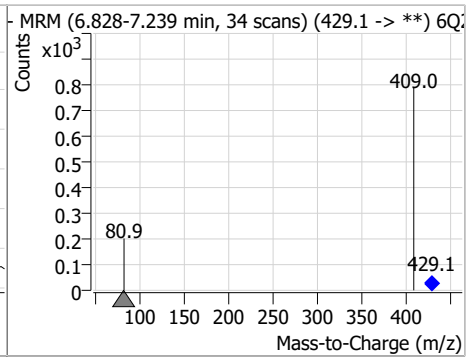


Perfluorinated Compounds by LC/MS/MS

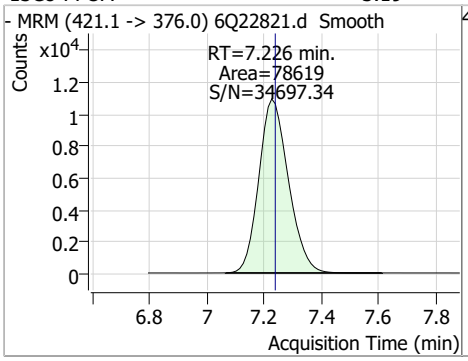
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.18	7.00	-0.01	3851				

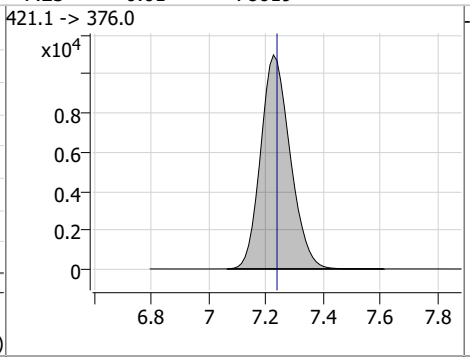


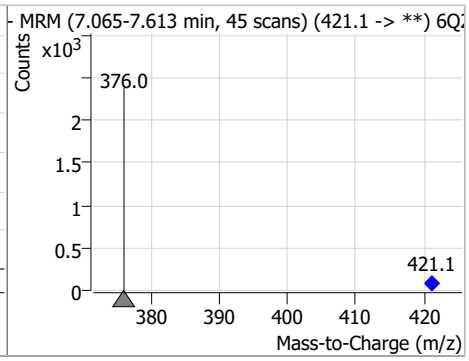




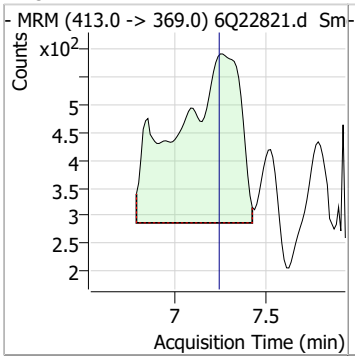
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	3.19	7.23	-0.01	78619				

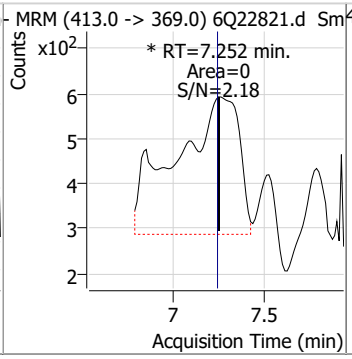


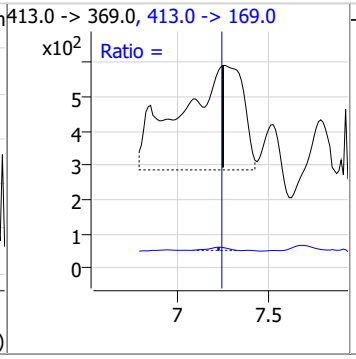


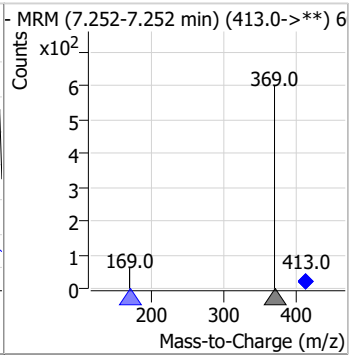


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA		0		0	413.0 -> 169.0		8.1	24.3

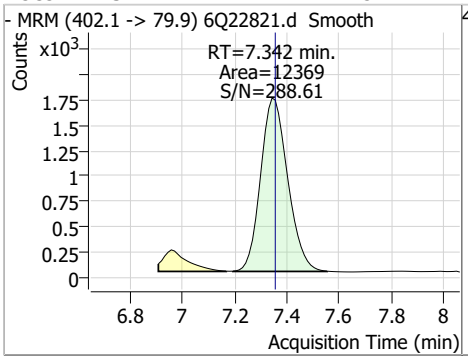


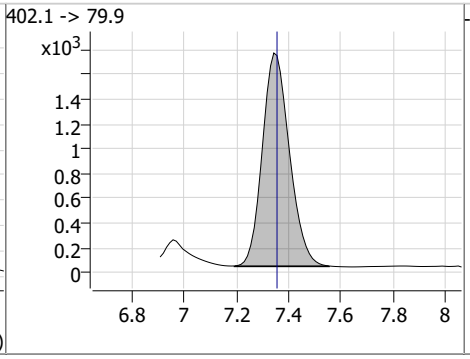


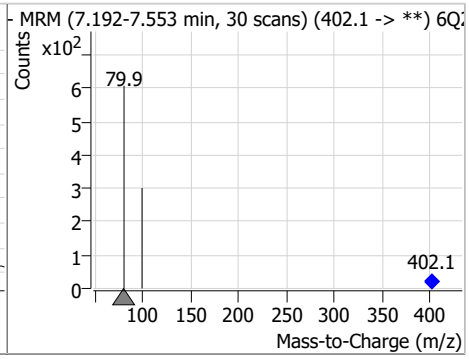




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.11	7.34	-0.01	12369				

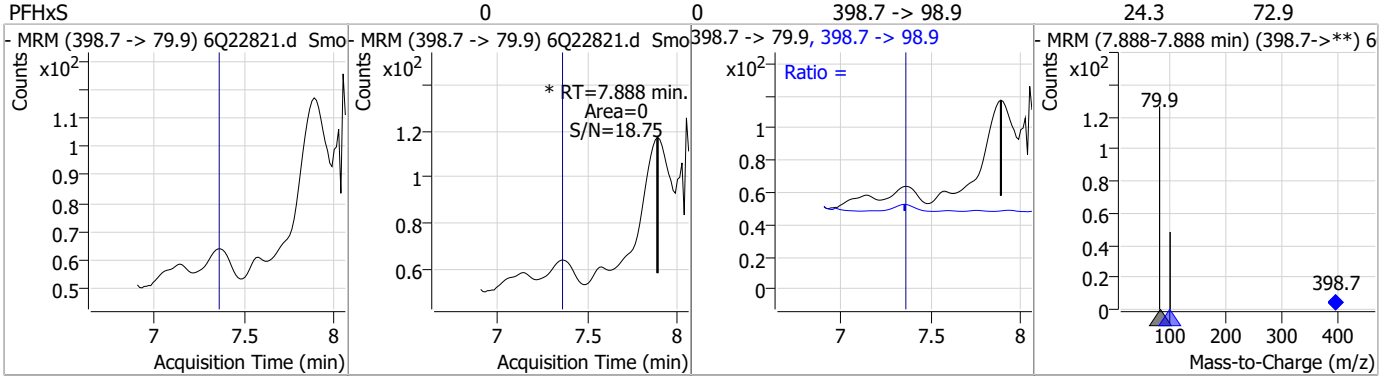




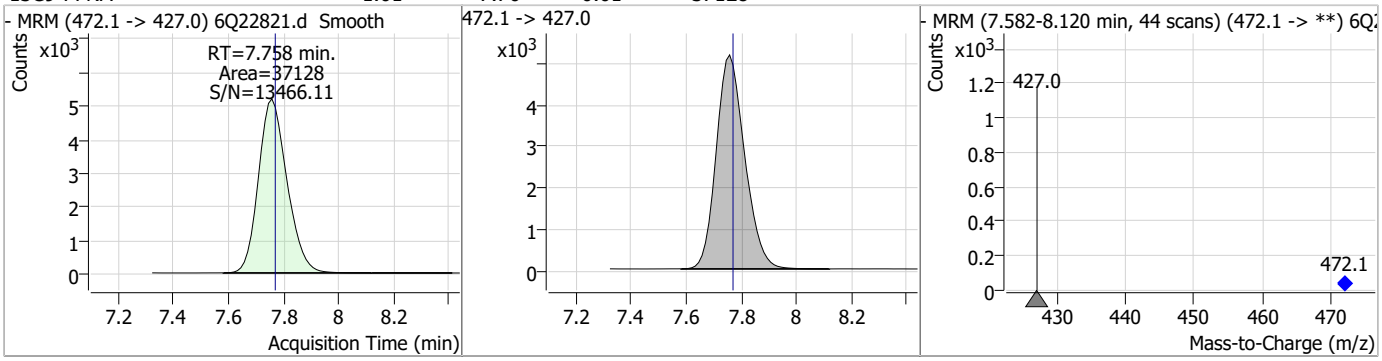


Perfluorinated Compounds by LC/MS/MS

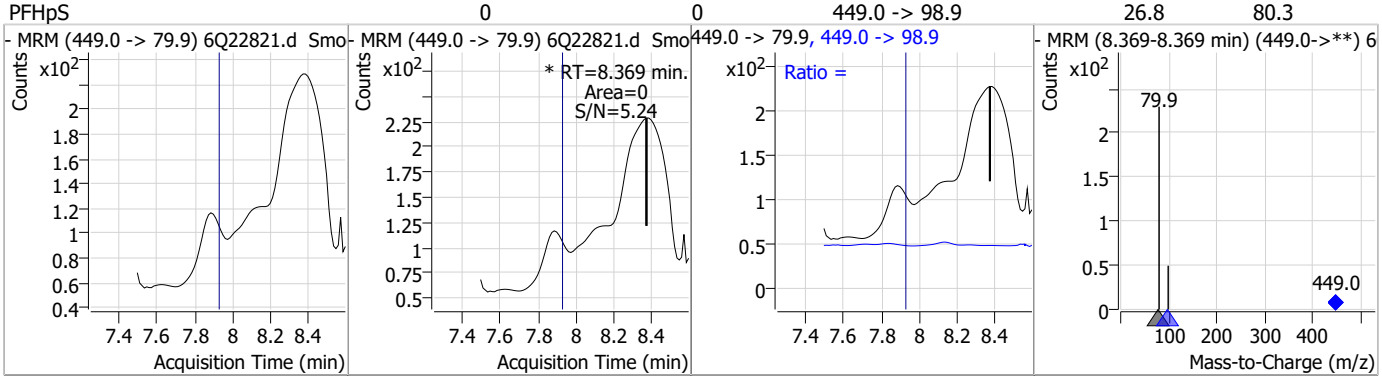
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS		0		0	398.7 -> 98.9		24.3	72.9



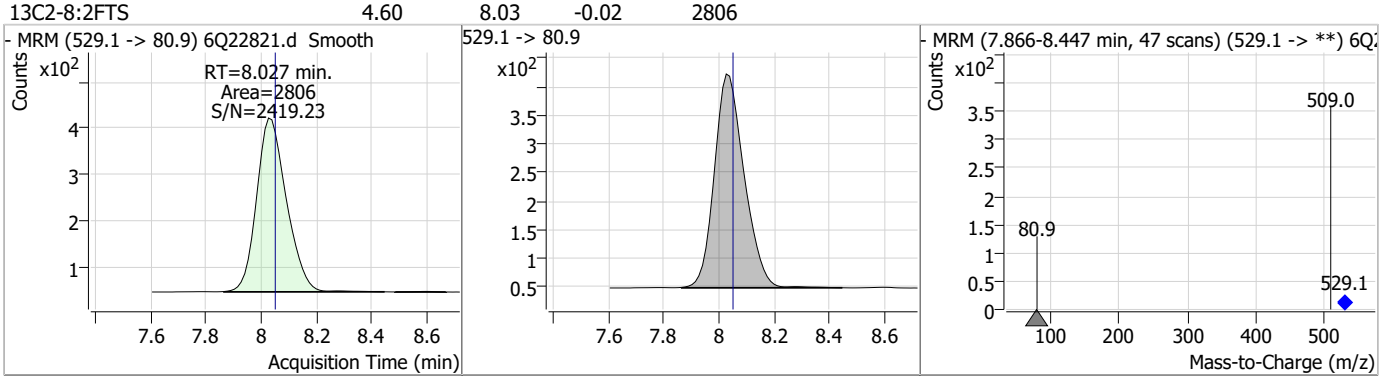
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.61	7.76	-0.01	37128				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS		0		0	449.0 -> 98.9		26.8	80.3

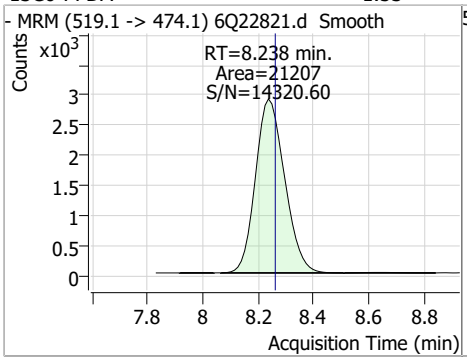


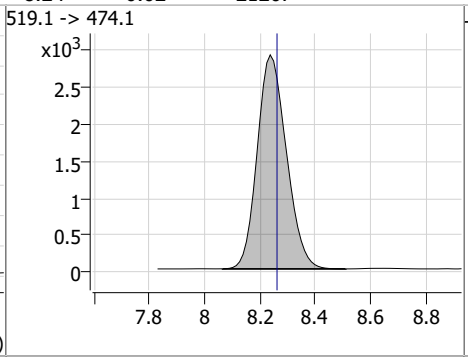
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.60	8.03	-0.02	2806				

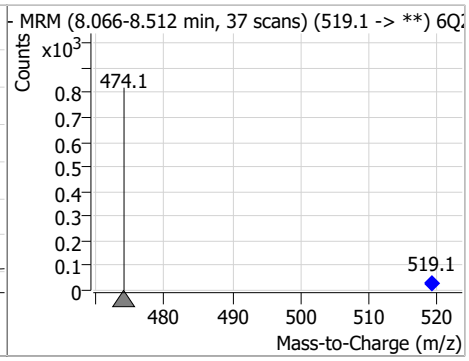


Perfluorinated Compounds by LC/MS/MS

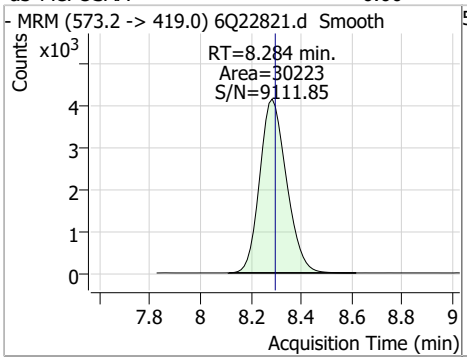
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.53	8.24	-0.02	21207				

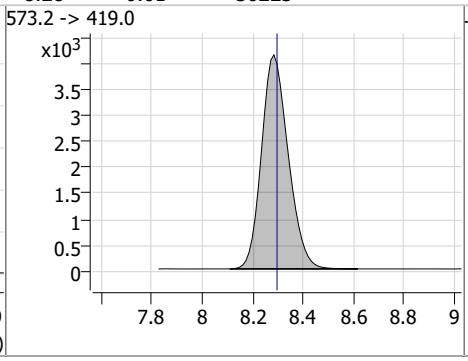


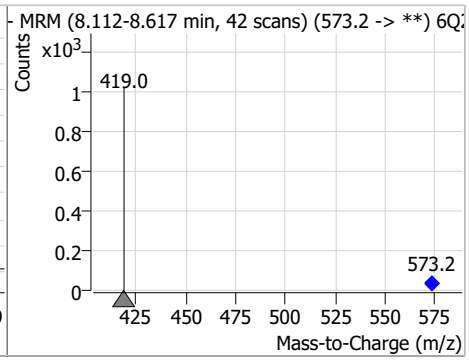




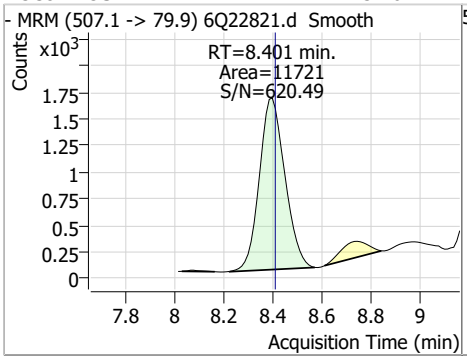
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	6.60	8.28	-0.01	30223				

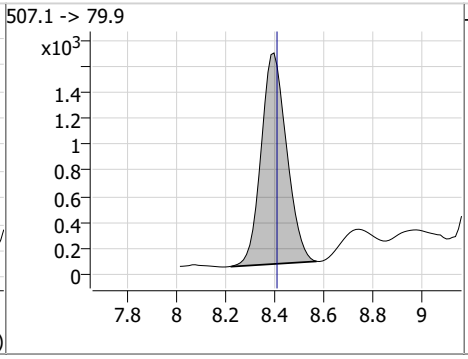


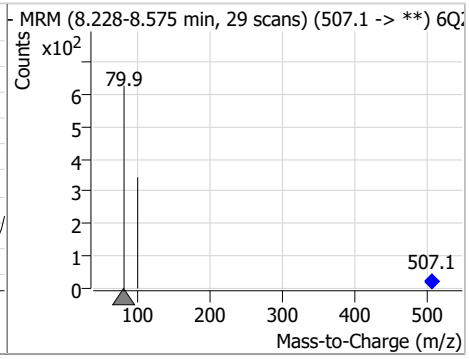




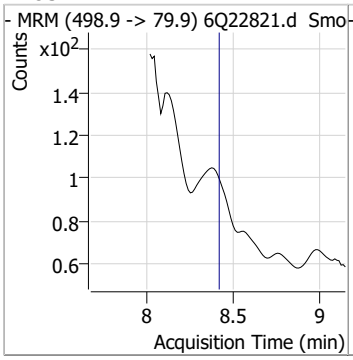
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	3.16	8.40	-0.01	11721				

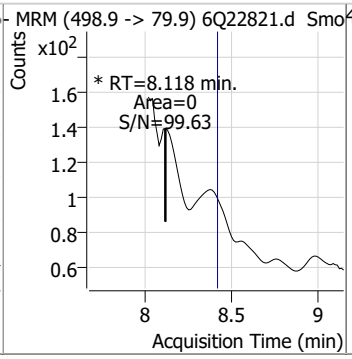


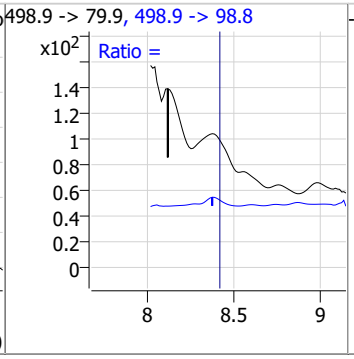


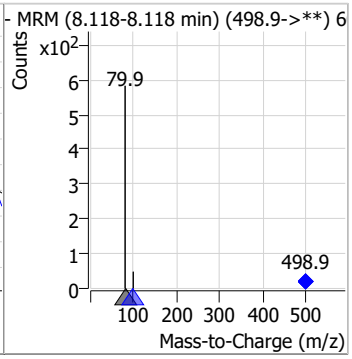


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS		0		0	498.9 -> 98.8		26.4	79.1



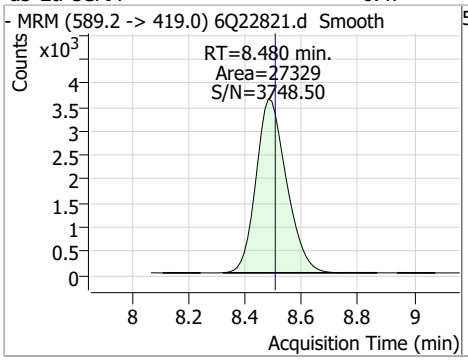


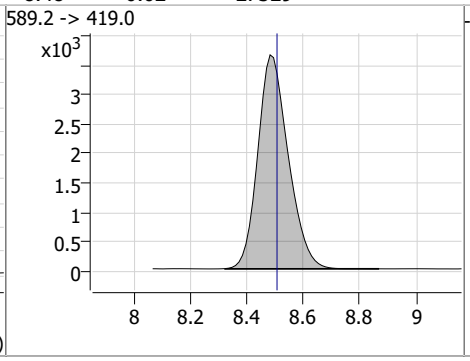


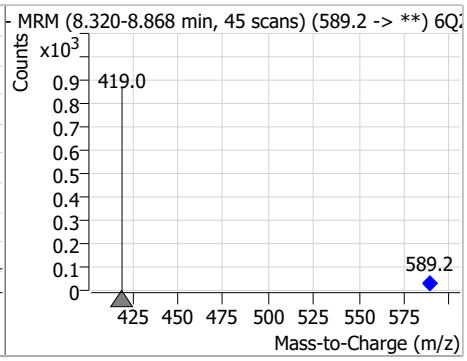


Perfluorinated Compounds by LC/MS/MS

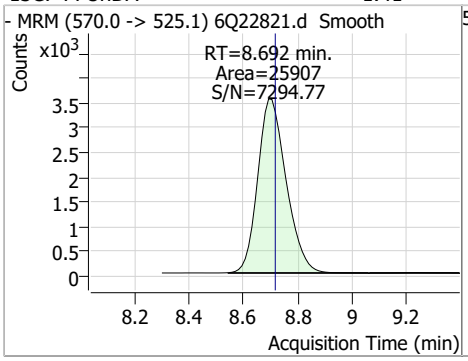
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	6.47	8.48	-0.02	27329				

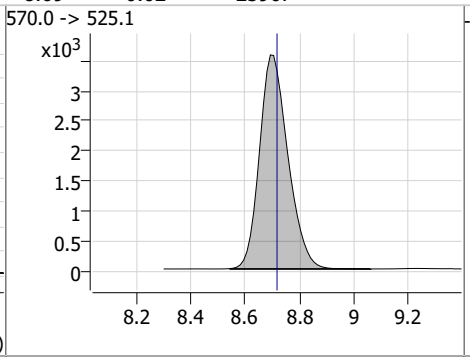


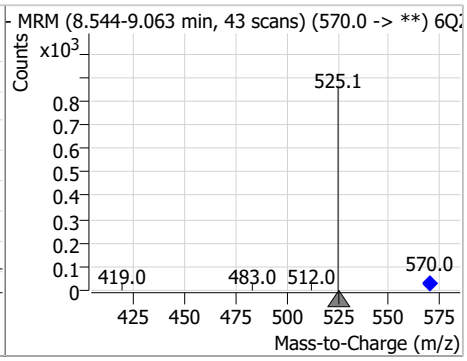




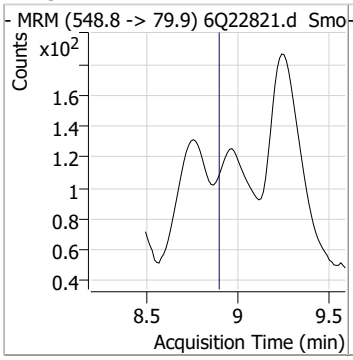
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.41	8.69	-0.02	25907				

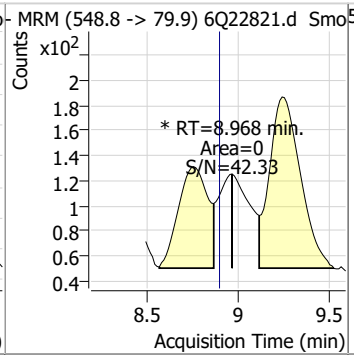


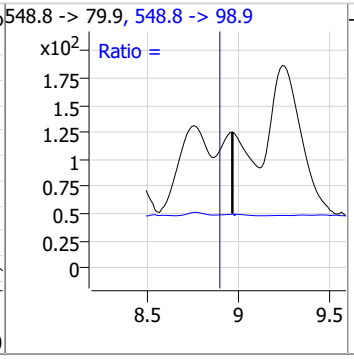


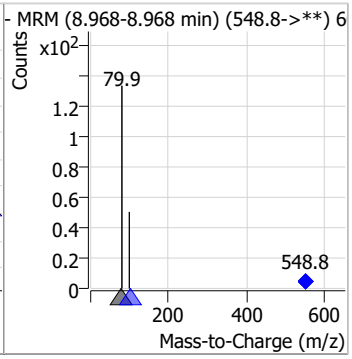


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS		0		0	548.8 -> 98.9		26.7	80.2

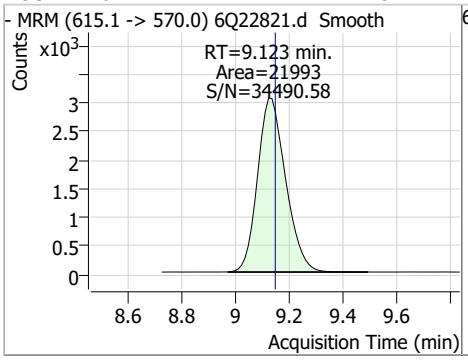


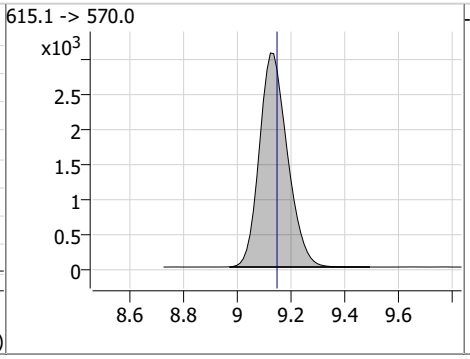


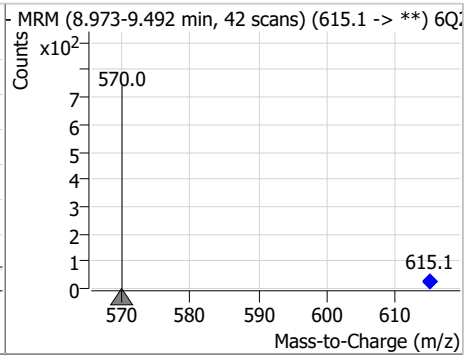




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.32	9.12	-0.02	21993				

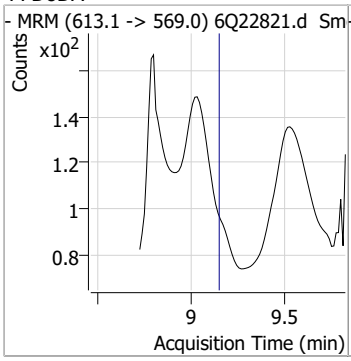


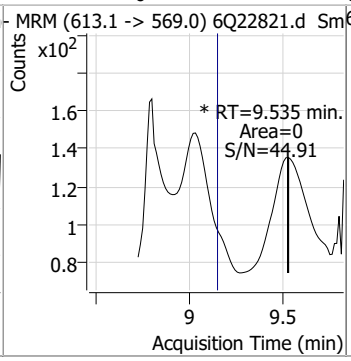


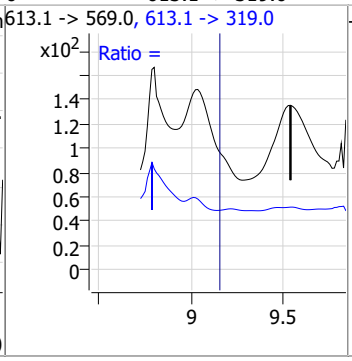


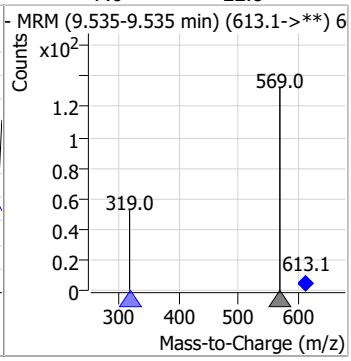
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA		0		0	613.1 -> 319.0		7.6	22.8

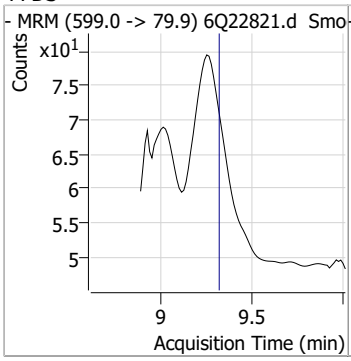


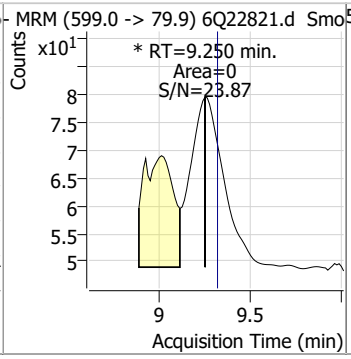


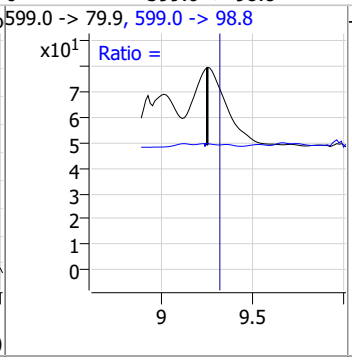


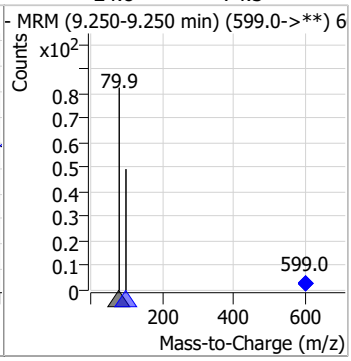


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS		0		0	599.0 -> 98.8		24.8	74.3

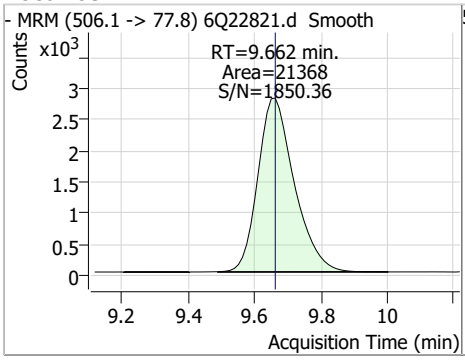


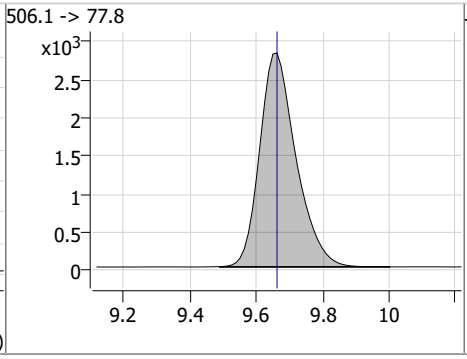


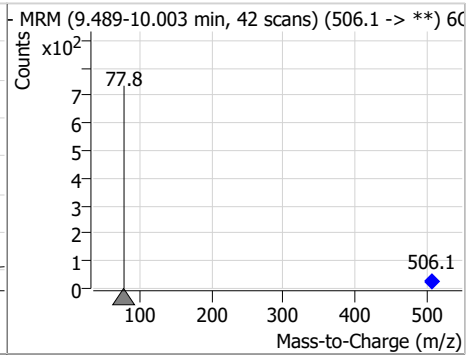




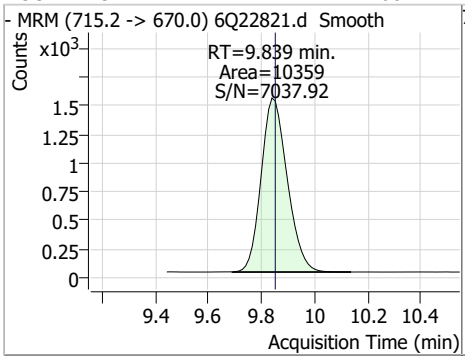
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.24	9.66	0.00	21368				

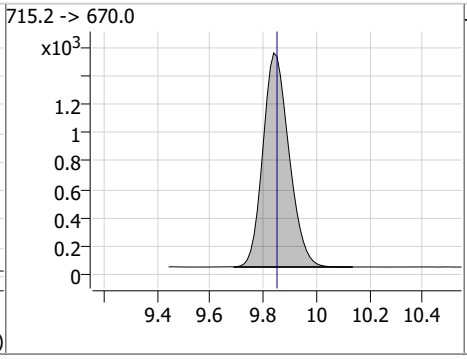


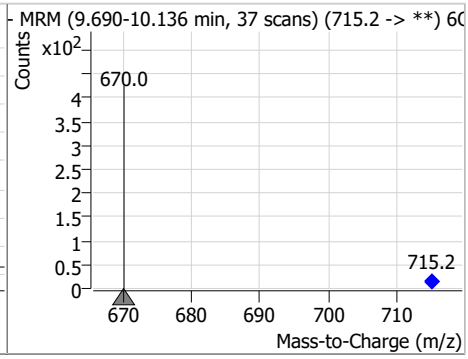




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.08	9.84	-0.01	10359				

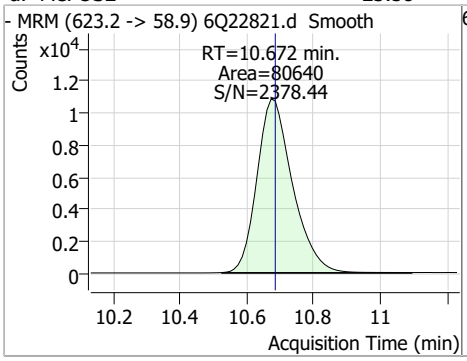


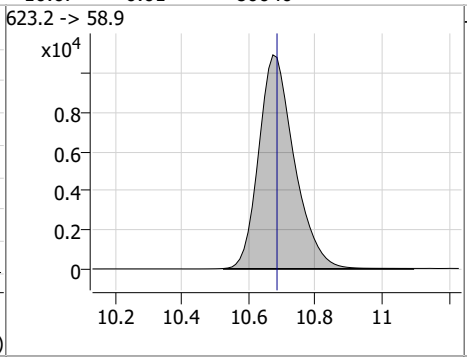


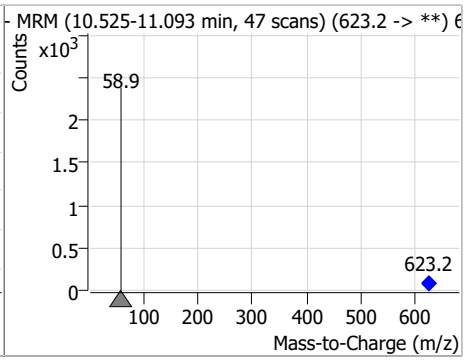


Perfluorinated Compounds by LC/MS/MS

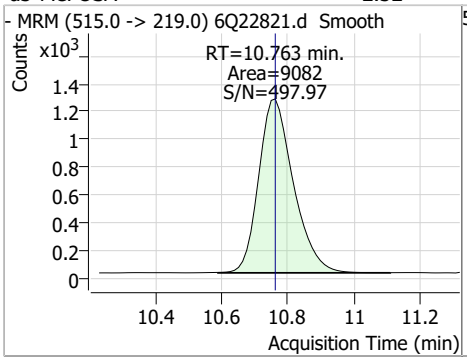
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.58	10.67	-0.01	80640				

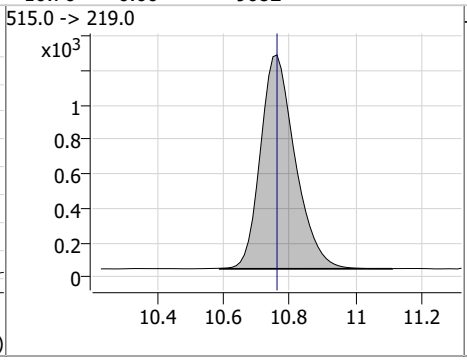


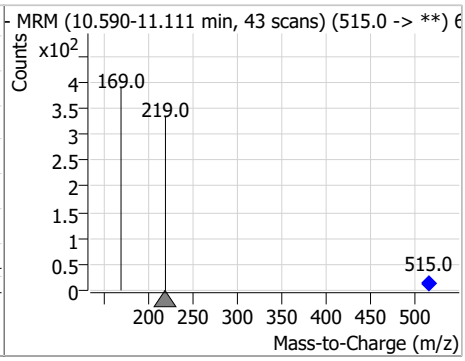




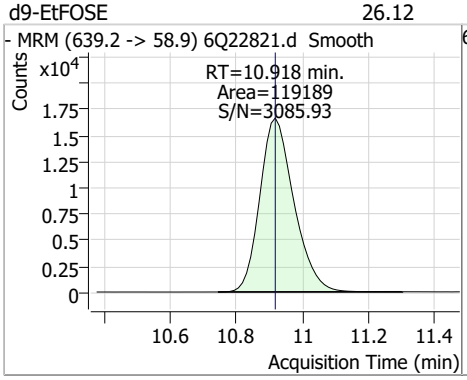
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.32	10.76	0.00	9082				

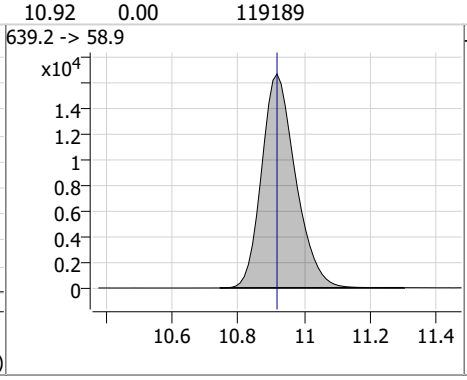


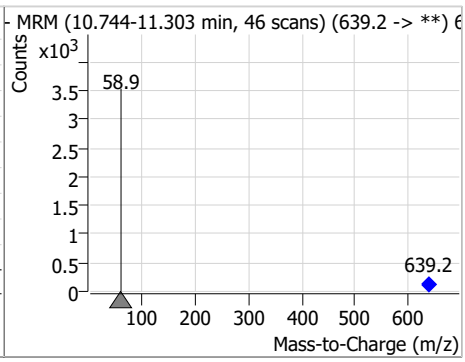




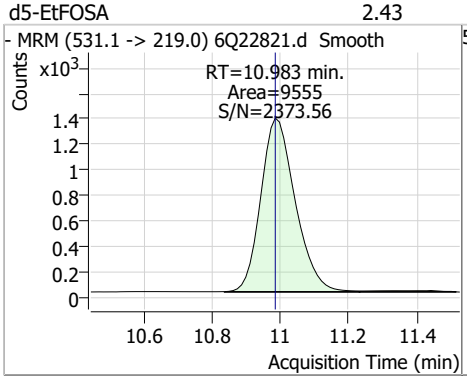
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.12	10.92	0.00	119189				

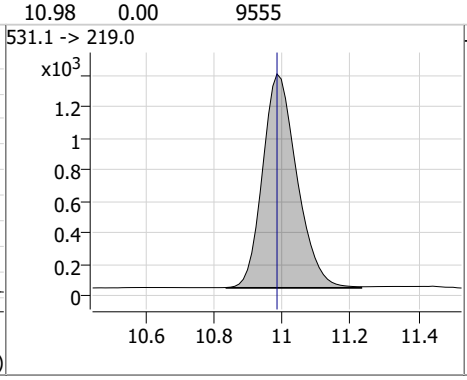


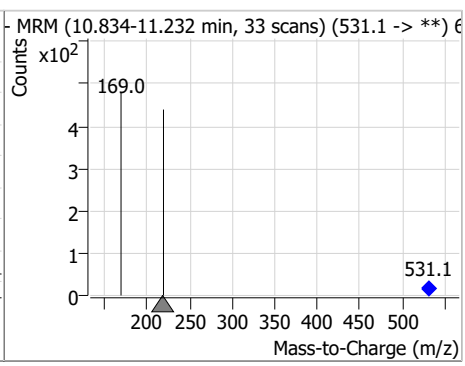




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.43	10.98	0.00	9555				







Manual Integrations APPROVED (compounds with "m" flag)
Norman Farmer 08/16/23 15:46

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22895.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/14/2023 9:49:14 PM
Sample Name : FC8547-6
Vial : P2-C6
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : S6Q332.batch.bin
Sample Information : OP98380,S6Q332,560,,,5.0,5,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	29562	2.00	µg/L	-0.012
M5-PFPeA	4.434	268.3 -> 223.0	9485	1.00	µg/L	-0.012
M5-PFHxA	5.655	318.0 -> 273.0	10406	0.50	µg/L	-0.012
M4-PFHpA	6.596	367.1 -> 322.0	10378	0.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	15837	0.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	7182	0.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	3946	0.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	5124	0.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	4193	0.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	2165	0.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	4351	0.50	µg/L	0.000
M3-PFBS	5.599	302.1 -> 79.9	4078	0.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	2440	0.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	2334	0.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	570	1.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	724	1.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	703	1.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	6133	1.00	µg/L	-0.012
M3-HFPO-DA	6.033	286.9 -> 168.9	6413	2.00	µg/L	-0.012
M5-EtFOSAA	8.492	589.2 -> 419.0	5129	1.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	16666	5.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	24614	5.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	2029	0.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	1934	0.50	µg/L	0.000
13C4-PFOS	8.390	502.8 -> 79.9	6342	0.50	µg/L	-0.037
13C3-PFBA	3.001	216.0 -> 172.0	10518	1.00	µg/L	0.000
18O2-PFHxS	7.341	403.0 -> 83.9	1688	0.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	14087	0.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	4844	0.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	7715	0.25	µg/L	-0.012
13C2-PFHxA	5.656	315.1 -> 270.0	8097	0.50	µg/L	-0.012
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	570	1.13	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 22.6%		
13C2-6:2FTS	7.001	429.1 -> 80.9	724	0.99	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 19.9%		
13C2-8:2FTS	8.027	529.1 -> 80.9	703	0.99	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 19.7%		
13C2-PFDoDA	9.135	615.1 -> 570.0	4193	0.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 20.5%		
13C2-PFTeDA	9.839	715.2 -> 670.0	2165	0.23	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 18.4%		
13C3-PFBS	5.599	302.1 -> 79.9	4078	0.57	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 22.8%		
13C3-PFHxS	7.342	402.1 -> 79.9	2440	0.53	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 = 21.0%			
13C4-PFBA	2.997	216.8 -> 171.9	29562	2.38	µg/L		-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 23.8%			
13C4-PFHpA	6.596	367.1 -> 322.0	10378	0.63	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 25.4%			
13C5-PFHxA	5.655	318.0 -> 273.0	10406	0.62	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 24.9%			
13C5-PFPeA	4.434	268.3 -> 223.0	9485	1.24	µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 24.9%			
13C6-PFDA	8.238	519.1 -> 474.1	3946	0.29	µg/L		-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 23.1%			
13C7-PFUnDA	8.705	570.0 -> 525.1	5124	0.28	µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 22.7%			
13C8-FOSA	9.662	506.1 -> 77.8	4351	0.18	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 7.3%			
13C8-PFOA	7.226	421.1 -> 376.0	15837	0.61	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 24.4%			
13C8-PFOS	8.401	507.1 -> 79.9	2334	0.25	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 10.1%			
13C9-PFNA	7.758	472.1 -> 427.0	7182	0.29	µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 23.0%			
d3-MeFOSAA	8.284	573.2 -> 419.0	6133	0.53	µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 10.7%			
13C3-HFPO-DA	6.033	286.9 -> 168.9	6413	2.45	µg/L		-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 24.5%			
d3-MeFOSA	10.763	515.0 -> 219.0	1934	0.20	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 7.9%			
d5-EtFOSAA	8.492	589.2 -> 419.0	5129	0.48	µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 9.7%			
d7-MeFOSE	10.672	623.2 -> 58.9	16666	1.94	µg/L		-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 7.8%			
d9-EtFOSE	10.918	639.2 -> 58.9	24614	2.15	µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 8.6%			
d5-EtFOSA	10.983	531.1 -> 219.0	2029	0.21	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 8.2%			
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	8.661	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

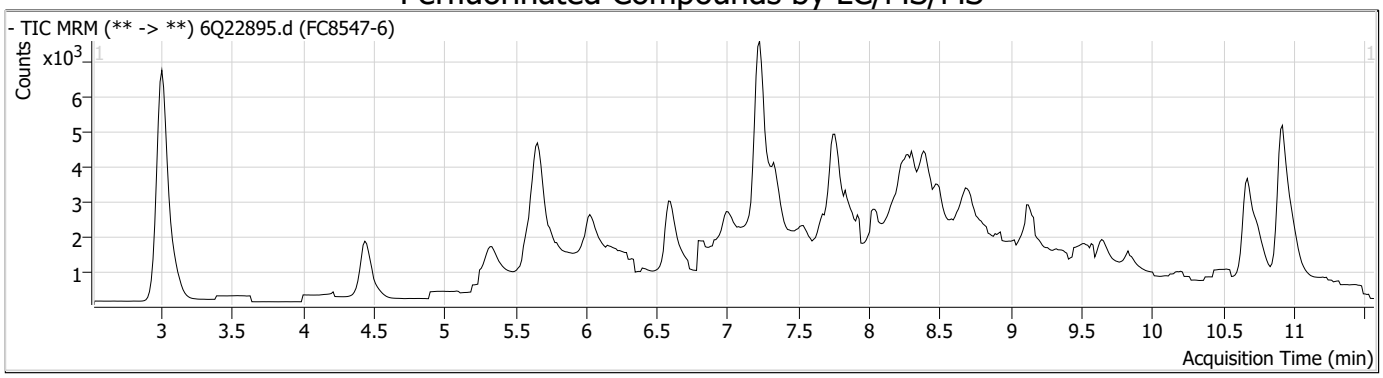
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	7.170	363.1 -> 319.0	0		µg/L	m	1
		363.1 -> 169.0	0				
PFHpS	8.381	449.0 -> 79.9	0		µg/L	m	1
		449.0 -> 98.9	0				
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	8.182	463.0 -> 419.0	0		µg/L	m	1
		463.0 -> 219.0	0				
PFNS	9.240	548.8 -> 79.9	0		µg/L	m	1
		548.8 -> 98.9	0				
PFOA	7.328	413.0 -> 369.0	0		µg/L	m	1
		413.0 -> 169.0					
PFOS	8.341	498.9 -> 79.9	1523	0.30	µg/L	#m	29
		498.9 -> 98.8	40				
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					
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

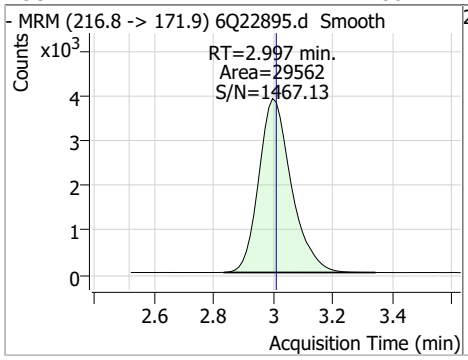
Perfluorinated Compounds by LC/MS/MS

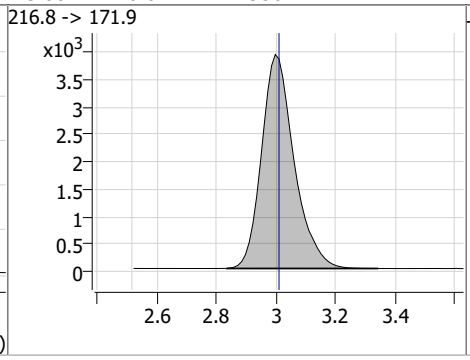
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

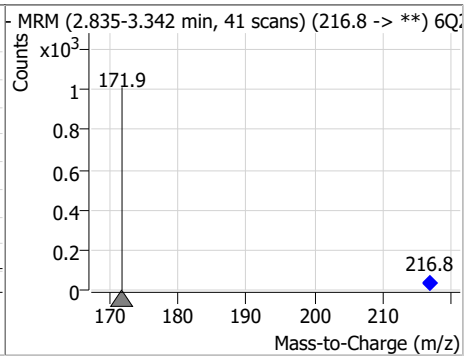
Perfluorinated Compounds by LC/MS/MS



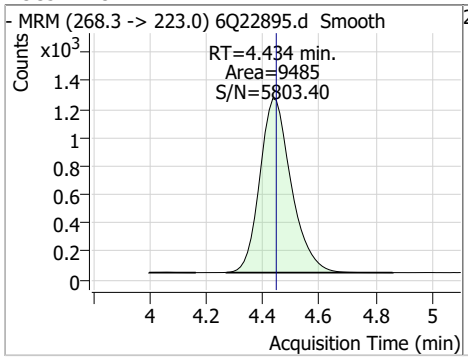
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	2.38	3.00	-0.01	29562				

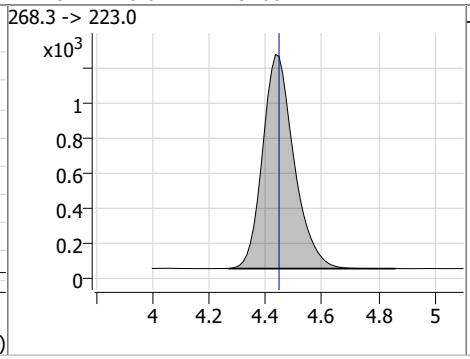


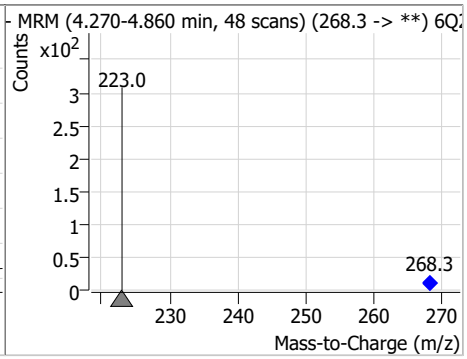




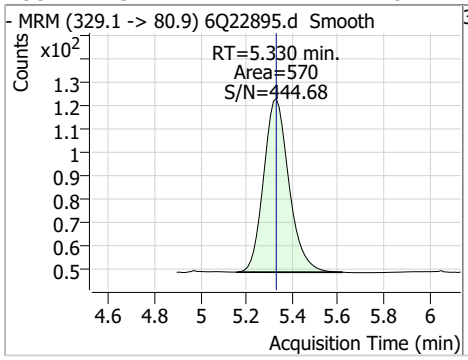
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	1.24	4.43	-0.01	9485				

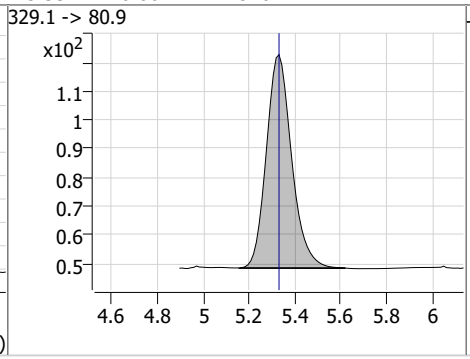


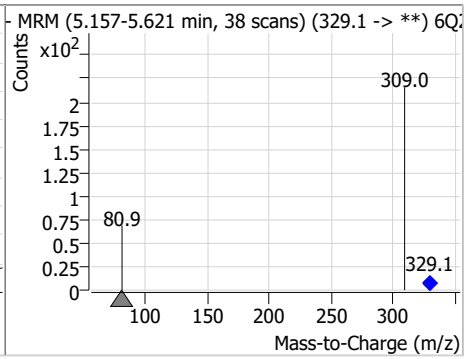




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	1.13	5.33	0.00	570				

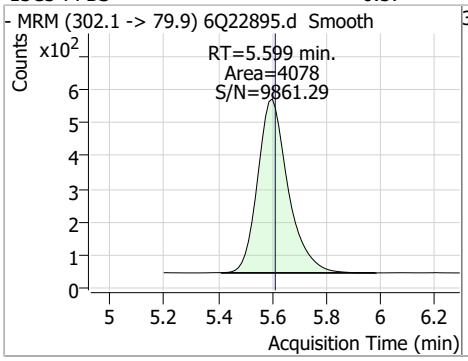


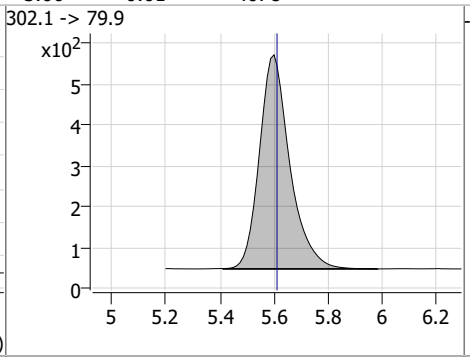


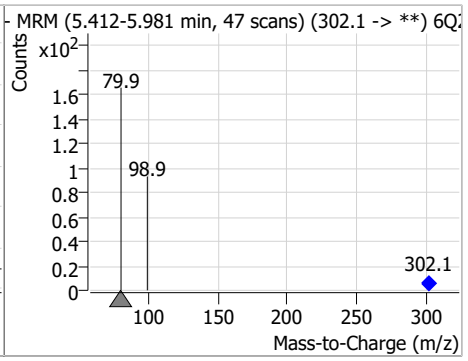


Perfluorinated Compounds by LC/MS/MS

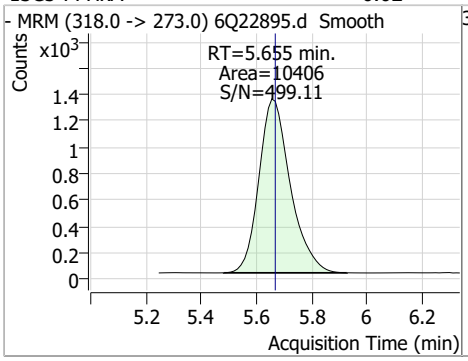
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	0.57	5.60	-0.01	4078				

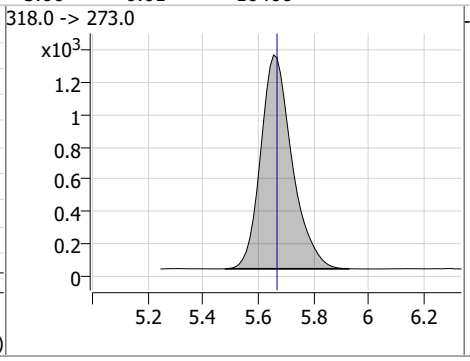


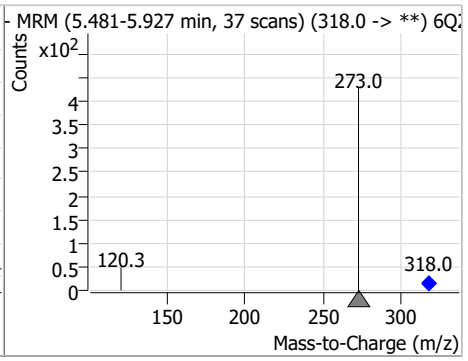




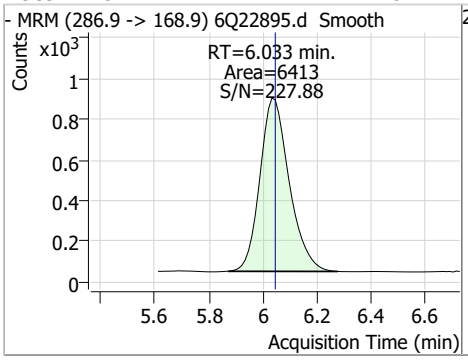
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	0.62	5.66	-0.01	10406				

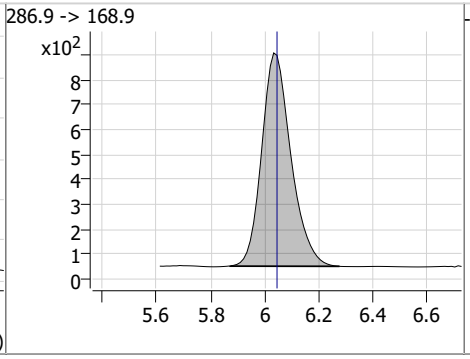


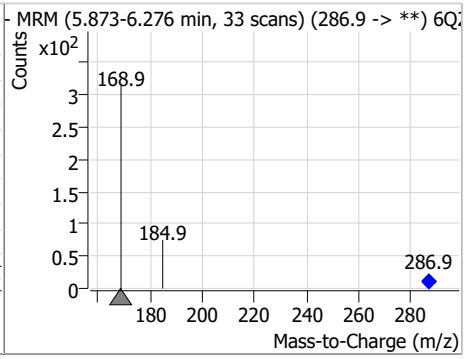




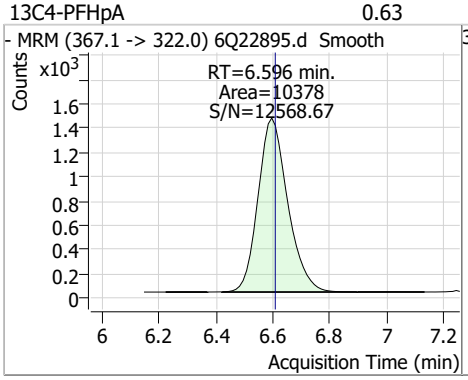
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	2.45	6.03	-0.01	6413				

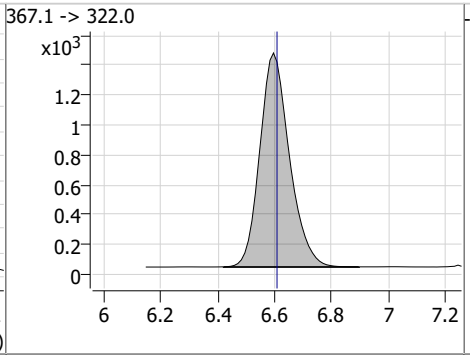


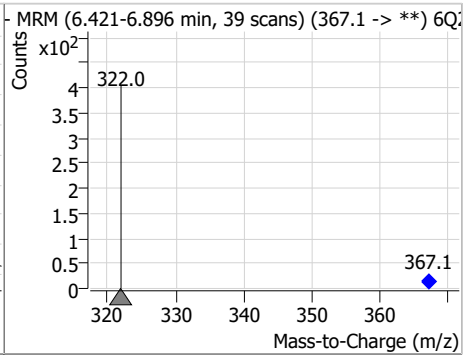




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	0.63	6.60	-0.01	10378				

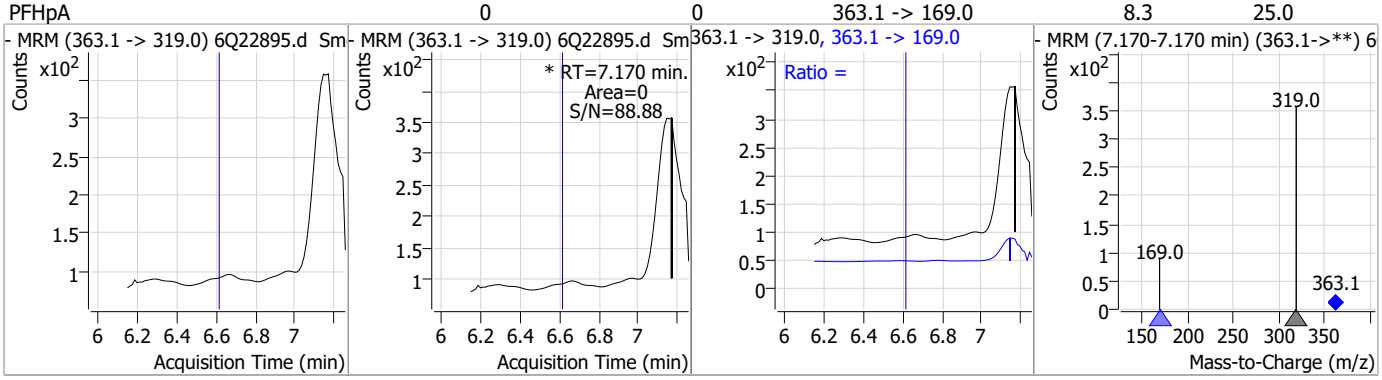




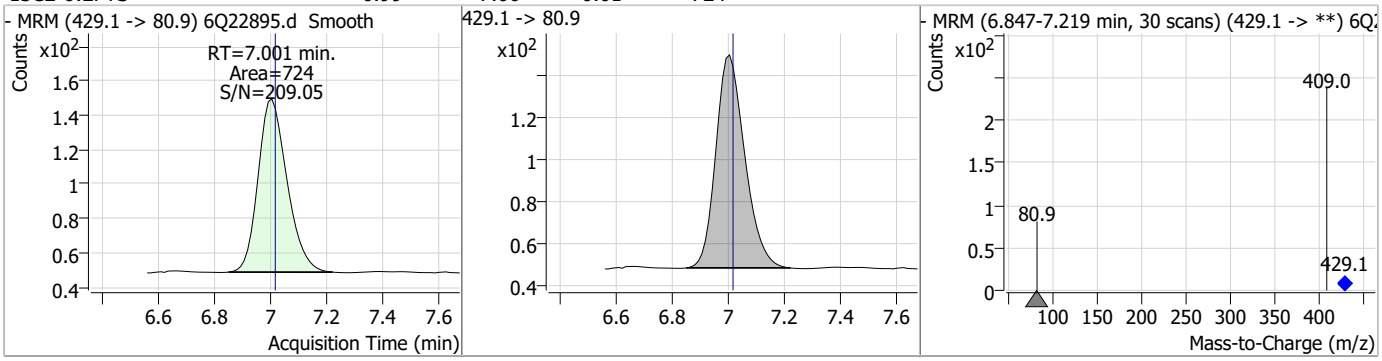


Perfluorinated Compounds by LC/MS/MS

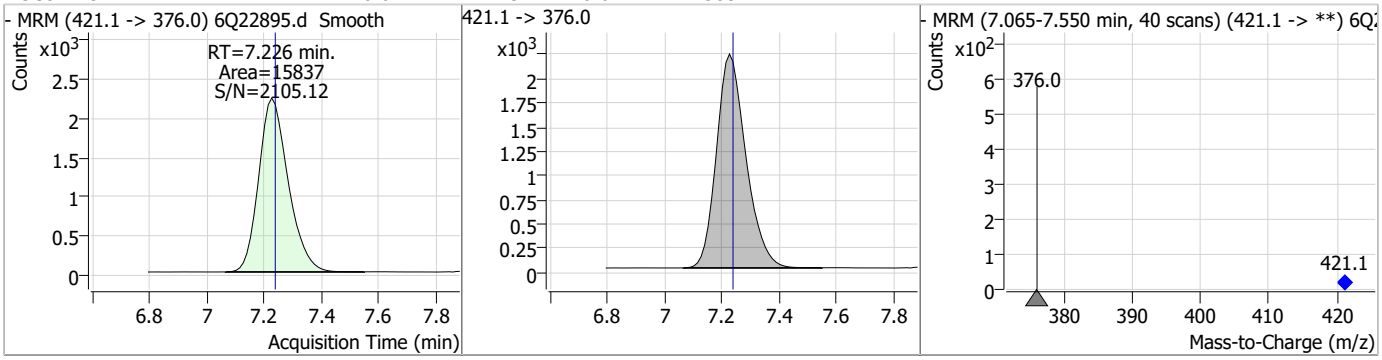
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA		0		0	363.1 -> 169.0		8.3	25.0



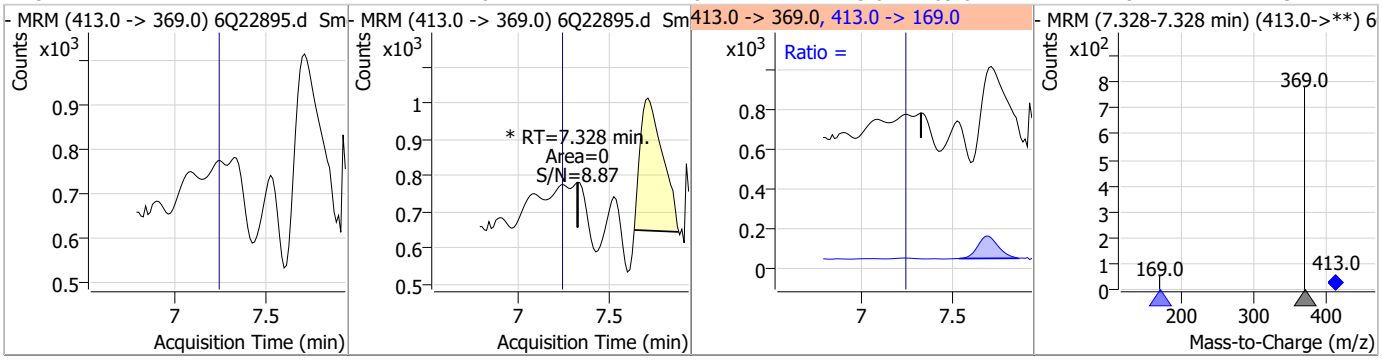
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	0.99	7.00	-0.01	724				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	0.61	7.23	-0.01	15837				

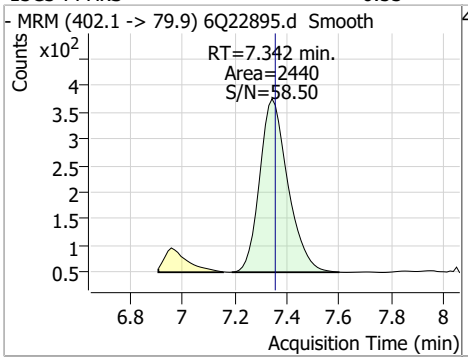


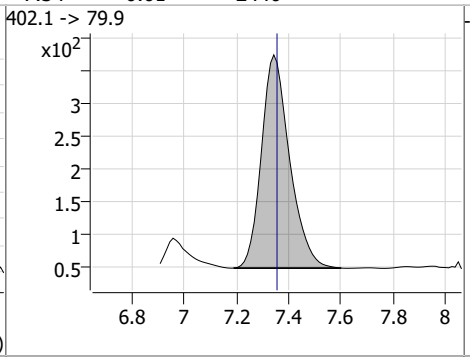
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA		0		0	413.0 -> 169.0		8.1	24.3

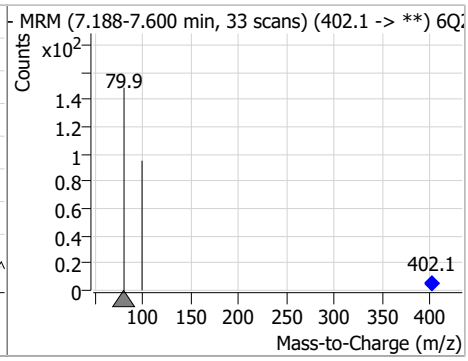


Perfluorinated Compounds by LC/MS/MS

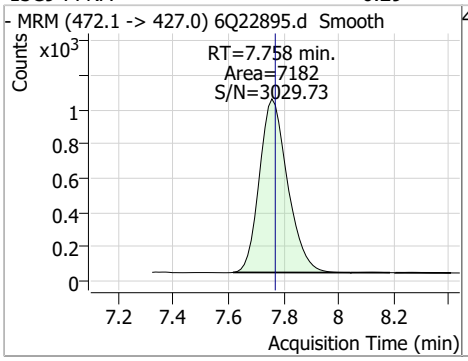
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	0.53	7.34	-0.01	2440				

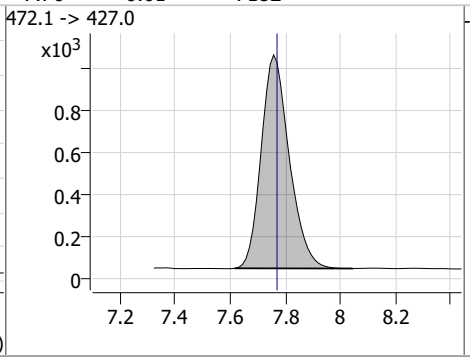


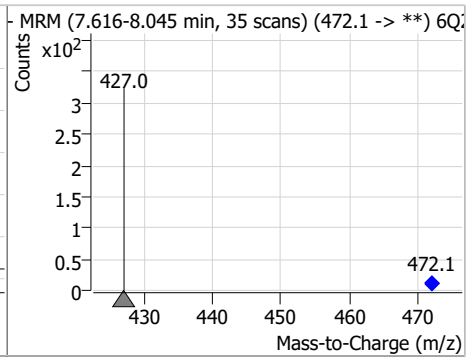




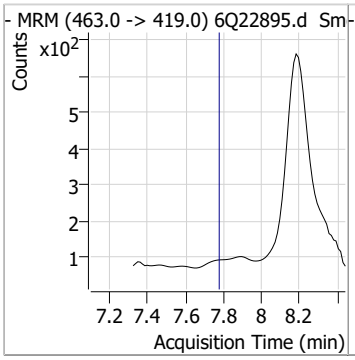
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	0.29	7.76	-0.01	7182				

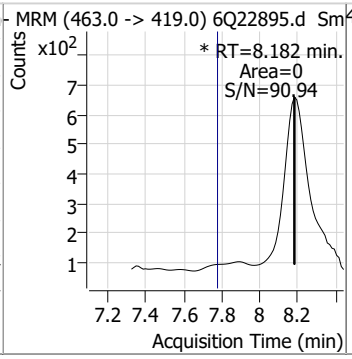


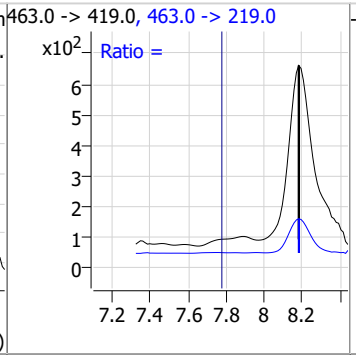


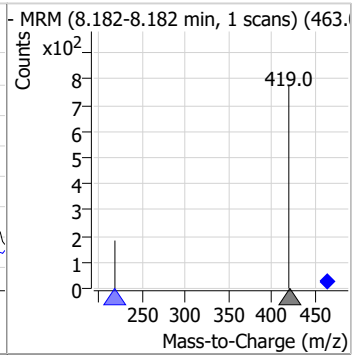


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA		0		0	463.0 -> 219.0		9.5	28.5

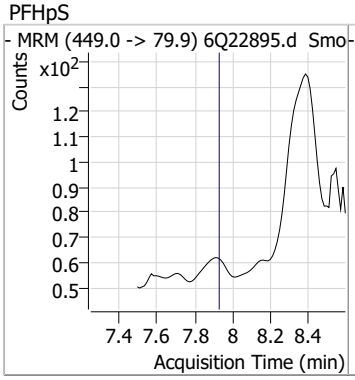


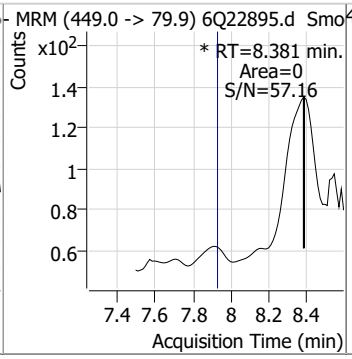


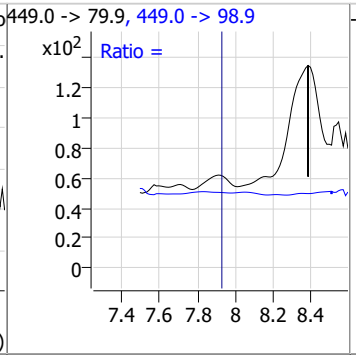


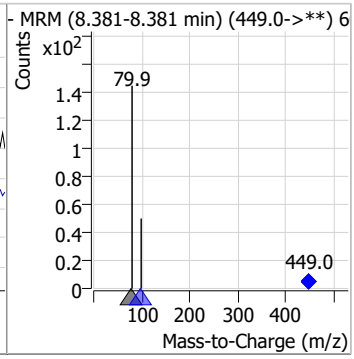


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS		0		0	449.0 -> 98.9		26.8	80.3



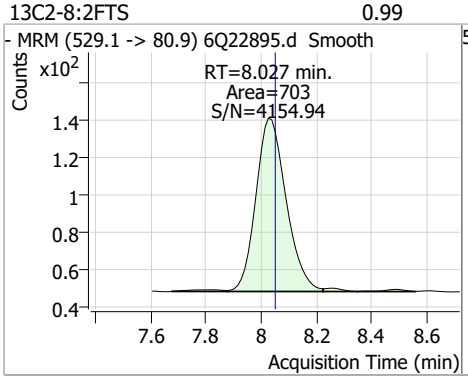


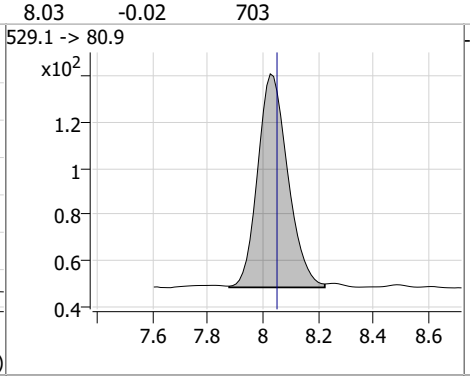


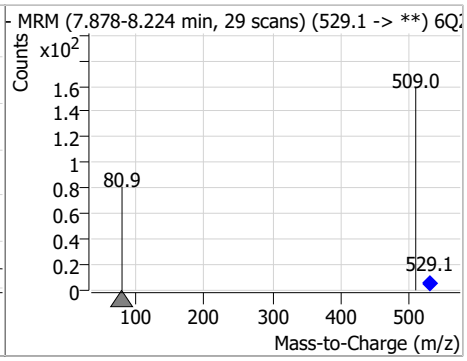


Perfluorinated Compounds by LC/MS/MS

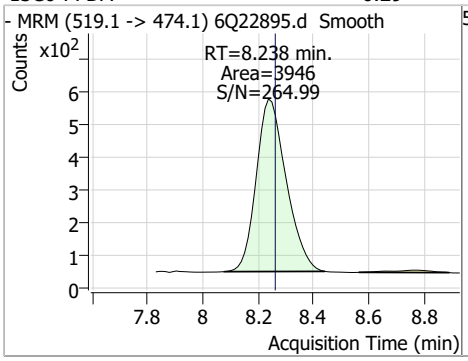
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	0.99	8.03	-0.02	703				

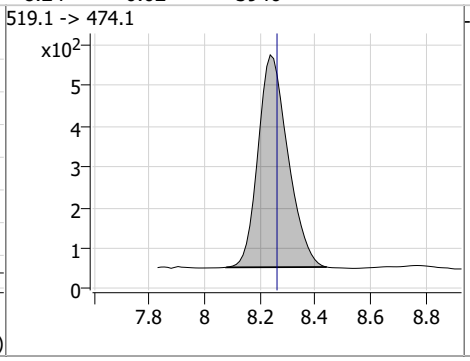


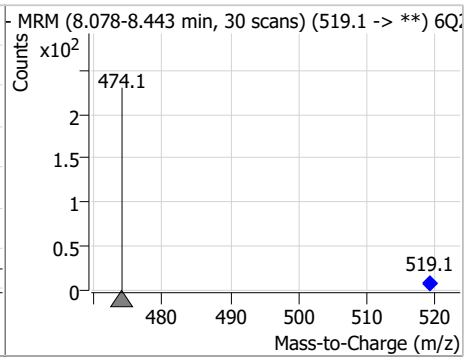




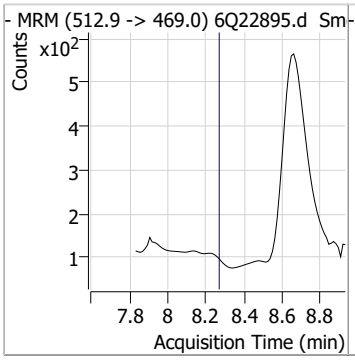
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	0.29	8.24	-0.02	3946				

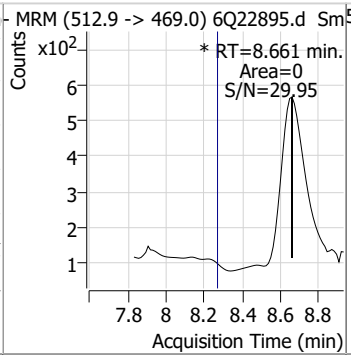


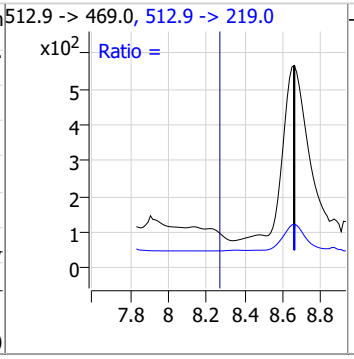


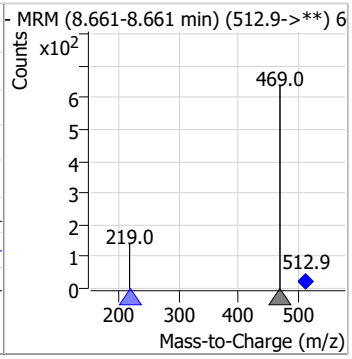


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0		0		512.9 -> 219.0		7.2	21.7

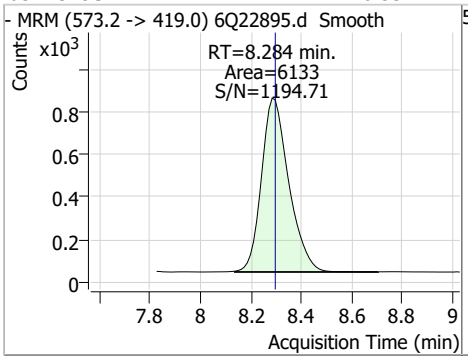


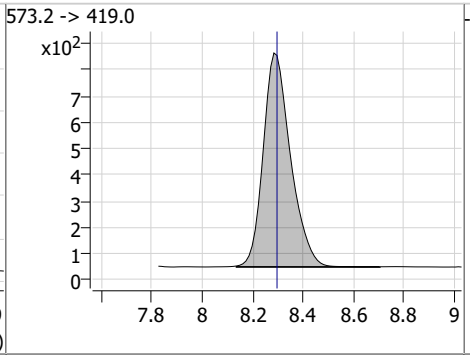


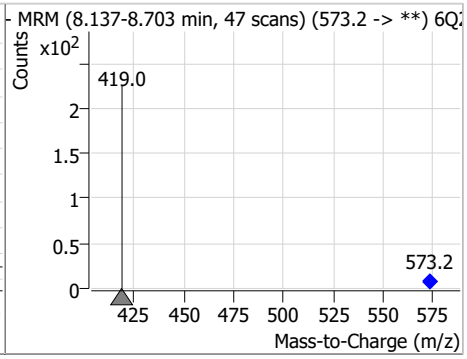




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	0.53	8.28	-0.01	6133				

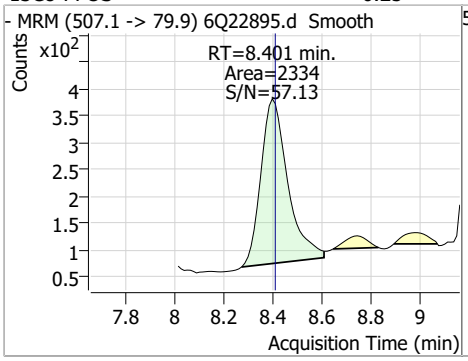


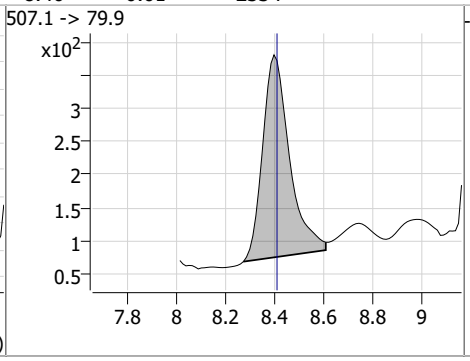


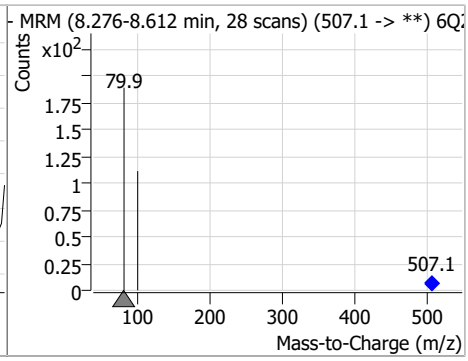


Perfluorinated Compounds by LC/MS/MS

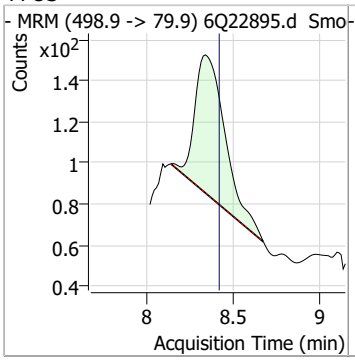
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	0.25	8.40	-0.01	2334				

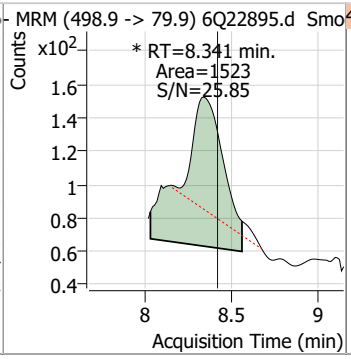


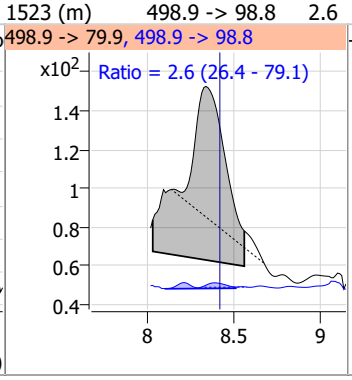


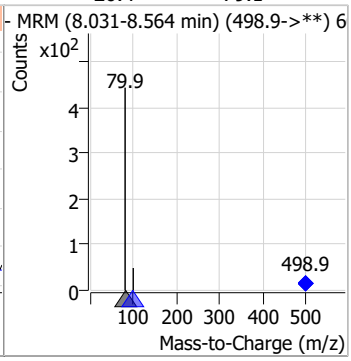


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.30	8.34	-0.07	1523 (m)	498.9 -> 98.8	2.6	26.4	79.1

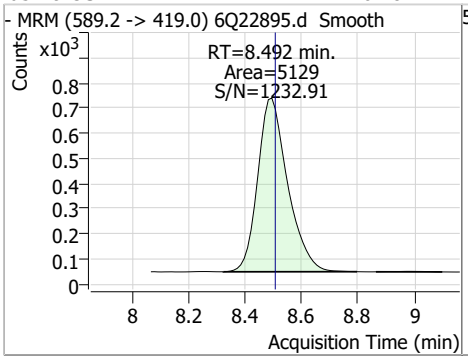


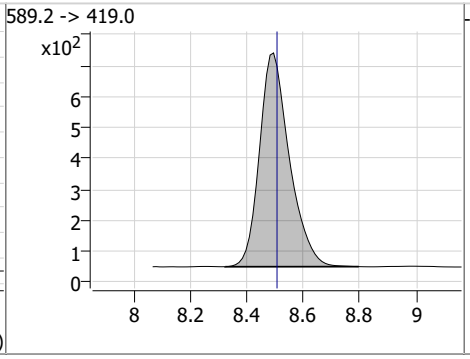


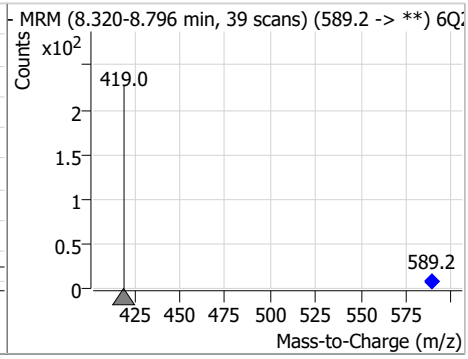




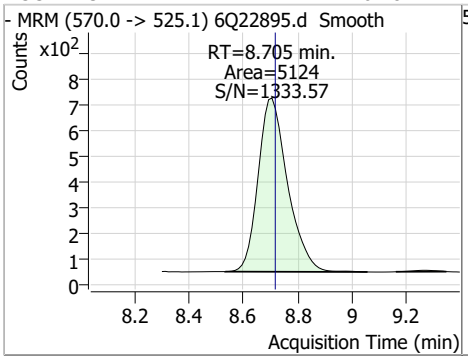
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	0.48	8.49	-0.01	5129				

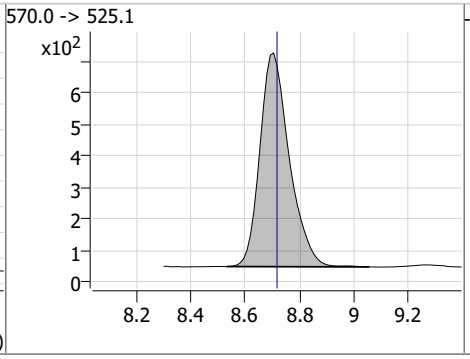


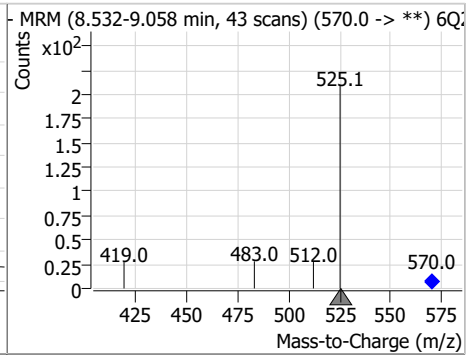




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	0.28	8.70	-0.01	5124				

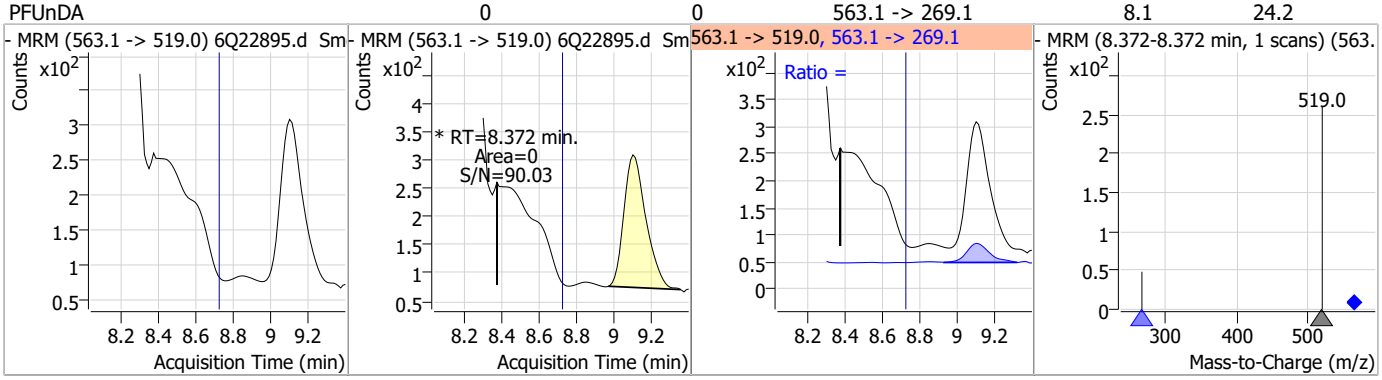




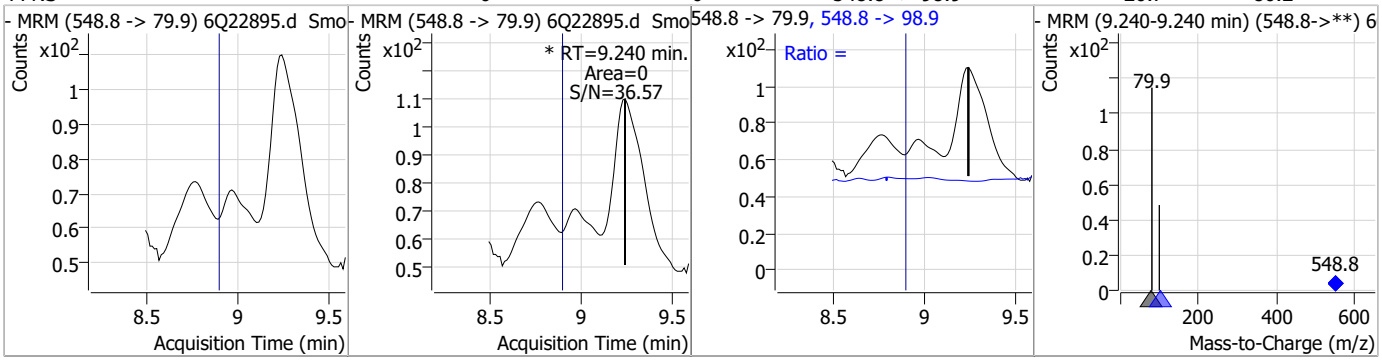


Perfluorinated Compounds by LC/MS/MS

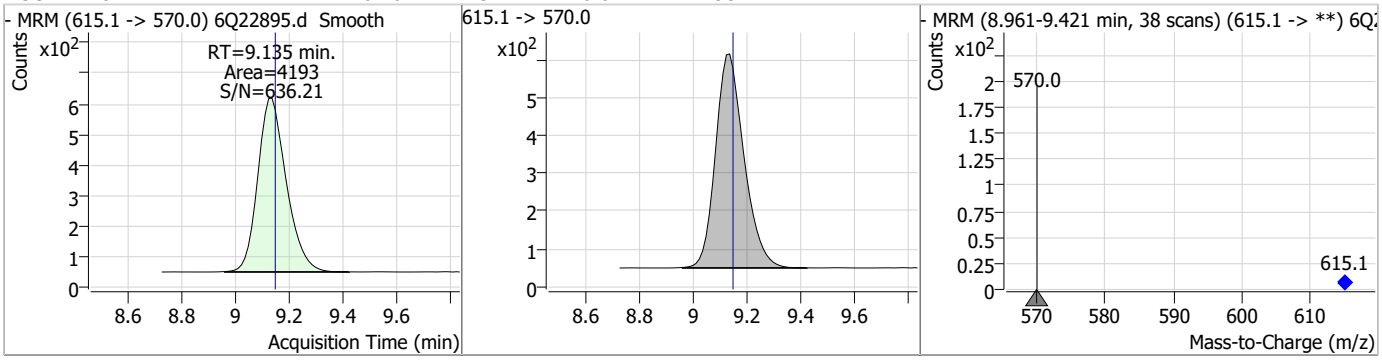
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA		0		0	563.1 -> 269.1		8.1	24.2



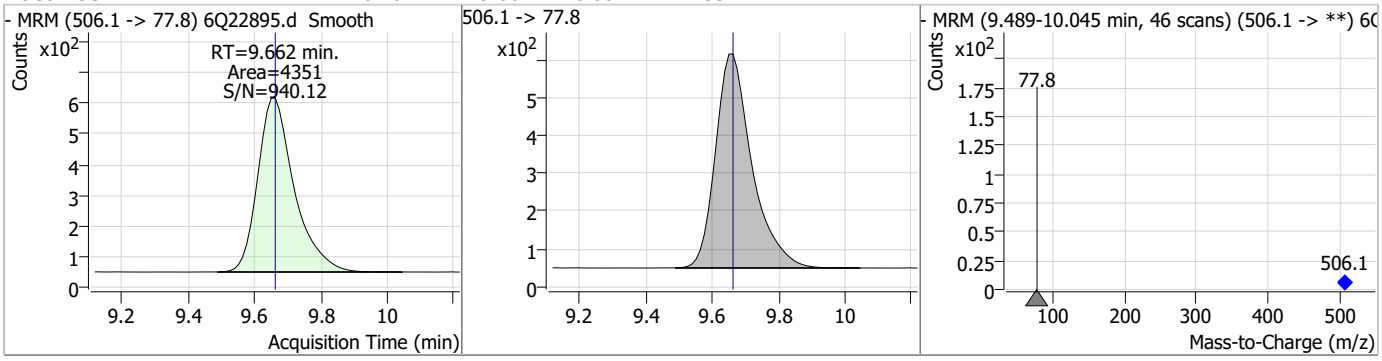
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS		0		0	548.8 -> 98.9		26.7	80.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	0.26	9.14	-0.01	4193				

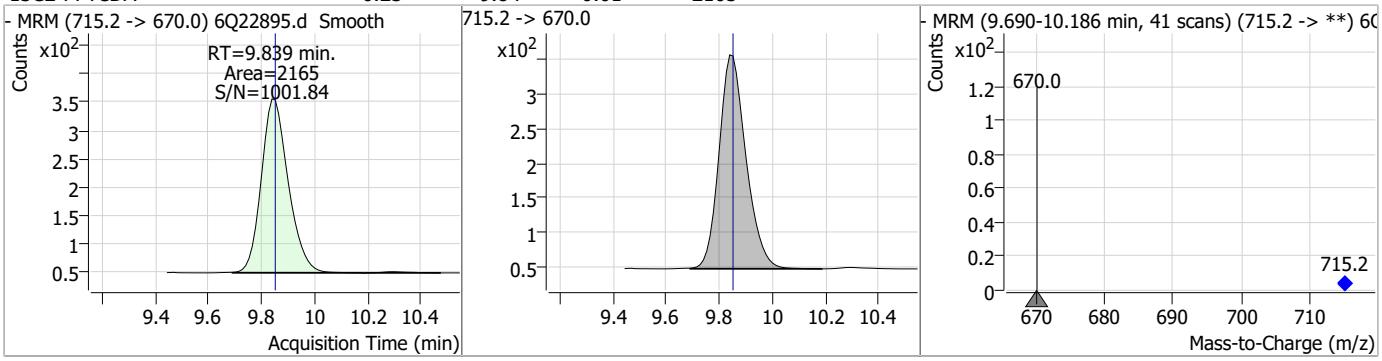


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	0.18	9.66	0.00	4351				

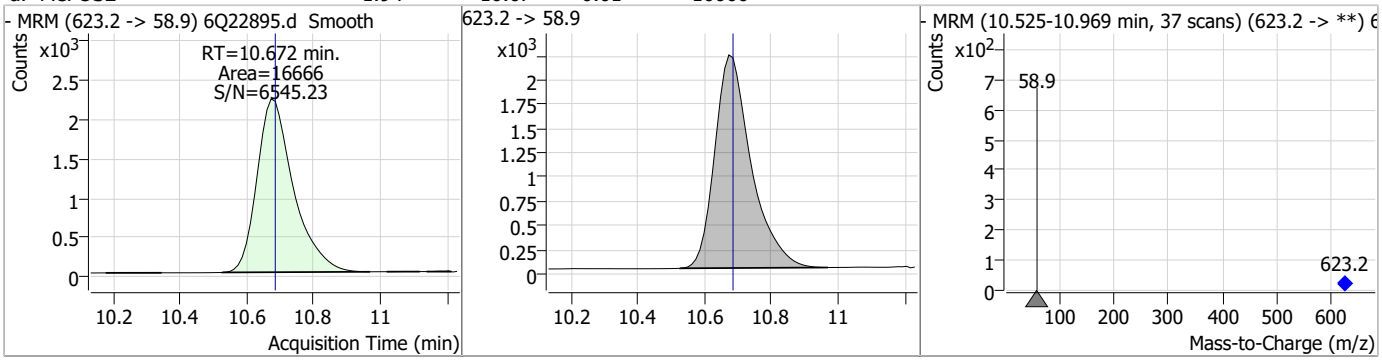


Perfluorinated Compounds by LC/MS/MS

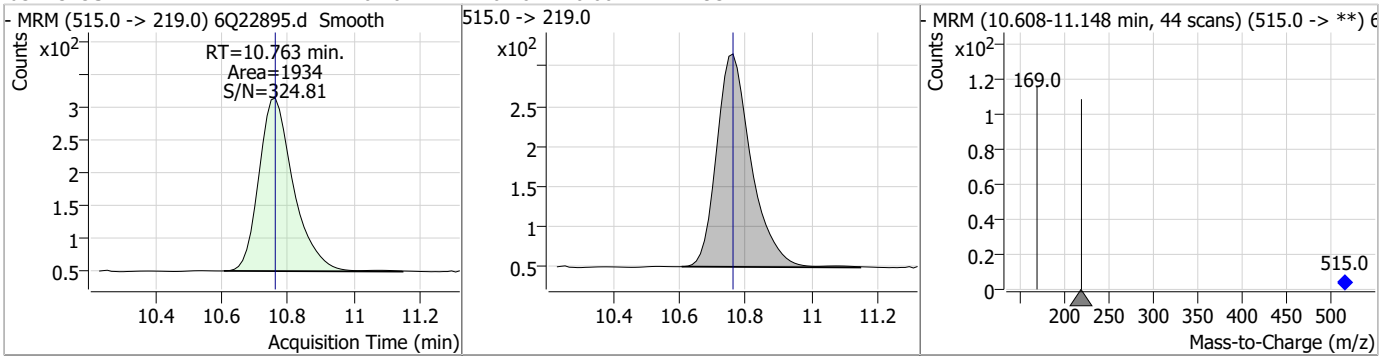
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	0.23	9.84	-0.01	2165				



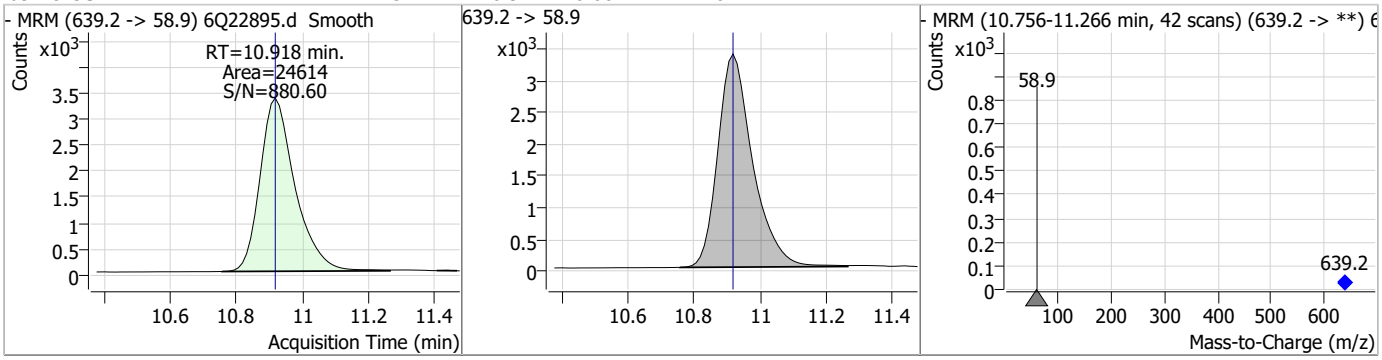
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	1.94	10.67	-0.01	16666				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	0.20	10.76	0.00	1934				

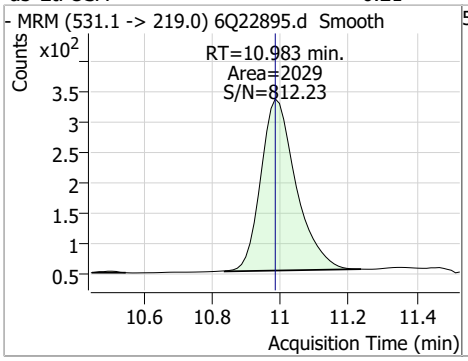


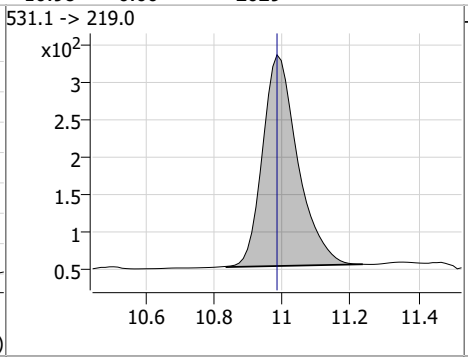
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	2.15	10.92	0.00	24614				

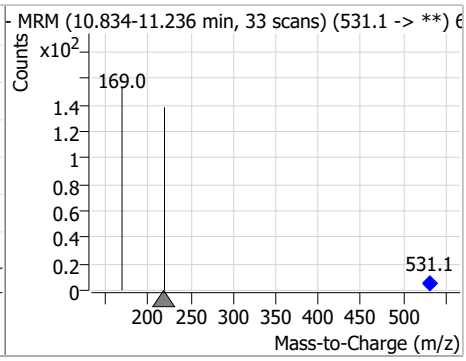


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	0.21	10.98	0.00	2029				







Manual Integration Approval Summary

Sample Number:	FC8547-6	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22895.D	**Analyst approved:**	08/15/23 14:06 Martha Valls
Injection Time:	08/14/23 21:49	**Supervisor approved:**	08/16/23 15:46 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.34	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q22822.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	8/13/2023 10:18:28 PM
Sample Name	:	FC8547-7
Vial	:	P6-C5
DA Method File	:	1633_081023_S6Q330.quantmethod.xml
Batch Name	:	s6q331.batch.bin
Sample Information	:	OP98380,S6Q331,540,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.035	216.8 -> 171.9	155803	10.00	µg/L	0.025
M5-PFPeA	4.459	268.3 -> 223.0	48888	5.00	µg/L	0.012
M5-PFHxA	5.668	318.0 -> 273.0	54030	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	52502	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	81464	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	35917	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	20891	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	23184	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	19039	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	9635	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	20570	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	20501	2.50	µg/L	0.000
M3-PFHxS	7.342	402.1 -> 79.9	12796	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	11593	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	2732	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4419	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3400	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	23996	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	32222	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	19959	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	78393	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	116149	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	9493	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	8851	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	13067	2.50	µg/L	-0.025
13C3-PFBA	3.026	216.0 -> 172.0	51433	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	7522	2.50	µg/L	0.000
13C4-PFOA	7.227	417.1 -> 372.0	66628	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	23609	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	37303	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	40101	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2732	6.08	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 121.6%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4419	6.81	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 136.2%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3400	5.35	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.1%		
13C2-PFDoDA	9.135	615.1 -> 570.0	19039	1.19	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.5%		
13C2-PFTeDA	9.839	715.2 -> 670.0	9635	1.05	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 84.0%		
13C3-PFBS	5.610	302.1 -> 79.9	20501	3.21	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 128.4%		
13C3-PFHxS	7.342	402.1 -> 79.9	12796	3.10	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 = 123.8%	
13C4-PFBA	3.035	216.8 -> 171.9	155803	12.83 µg/L	0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 128.3%	
13C4-PFHpA	6.596	367.1 -> 322.0	52502	3.24 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 129.7%	
13C5-PFHxA	5.668	318.0 -> 273.0	54030	3.26 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 130.6%	
13C5-PFPeA	4.459	268.3 -> 223.0	48888	6.47 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 129.5%	
13C6-PFDA	8.238	519.1 -> 474.1	20891	1.57 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 125.4%	
13C7-PFUnDA	8.705	570.0 -> 525.1	23184	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C8-FOSA	9.662	506.1 -> 77.8	20570	2.09 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.4%	
13C8-PFOA	7.226	421.1 -> 376.0	81464	3.31 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 132.4%	
13C8-PFOS	8.401	507.1 -> 79.9	11593	3.03 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 121.2%	
13C9-PFNA	7.758	472.1 -> 427.0	35917	1.48 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 118.8%	
d3-MeFOSAA	8.284	573.2 -> 419.0	23996	5.08 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	32222	12.42 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 124.2%	
d3-MeFOSA	10.763	515.0 -> 219.0	8851	2.19 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.7%	
d5-EtFOSAA	8.492	589.2 -> 419.0	19959	4.57 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.5%	
d7-MeFOSE	10.672	623.2 -> 58.9	78393	22.20 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 88.8%	
d9-EtFOSE	10.918	639.2 -> 58.9	116149	24.65 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.6%	
d5-EtFOSA	10.983	531.1 -> 219.0	9493	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.4%	
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

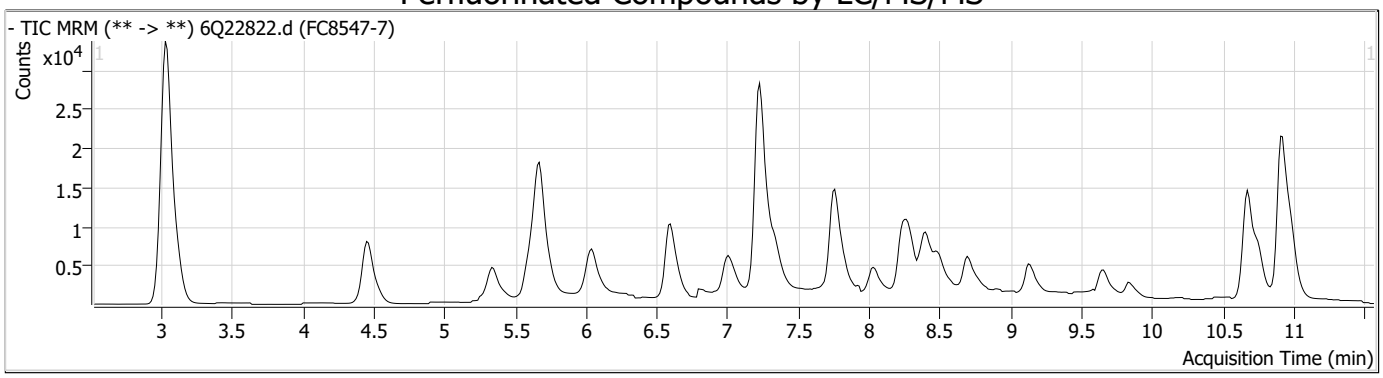
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	-	363.1 -> 319.0	-	N.D.			
		363.1 -> 169.0					
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	-	463.0 -> 419.0	-	N.D.			
		463.0 -> 219.0					
PFNS	-	548.8 -> 79.9	-	N.D.			
		548.8 -> 98.9					
PFOA	7.725	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

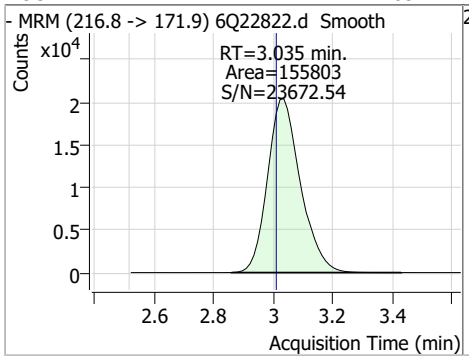
Perfluorinated Compounds by LC/MS/MS

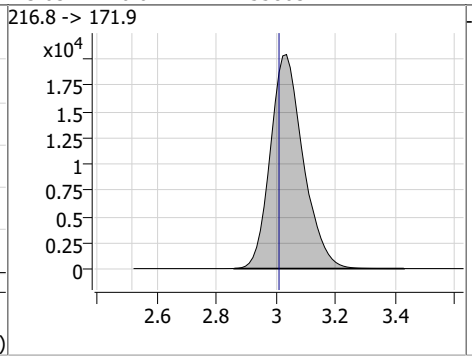
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

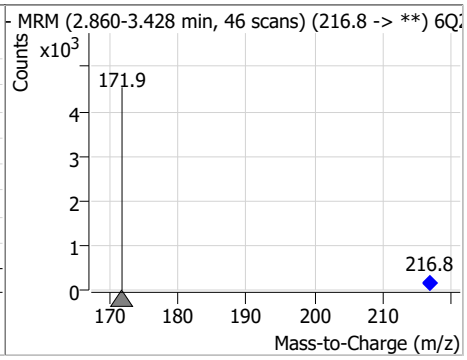
Perfluorinated Compounds by LC/MS/MS



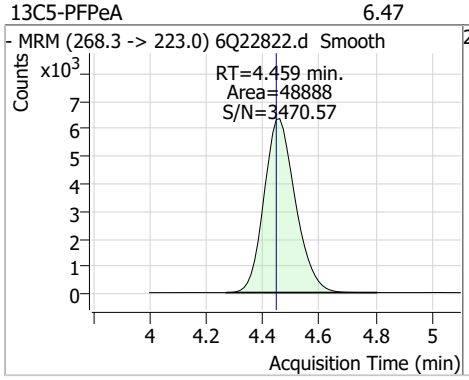
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	12.83	3.03	0.02	155803				

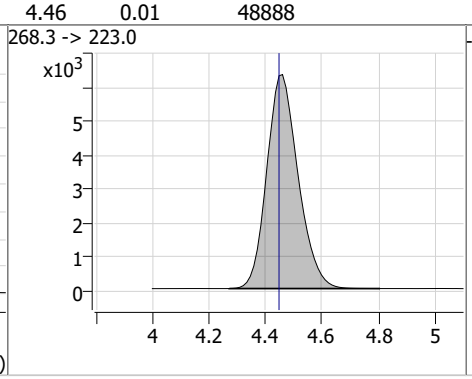


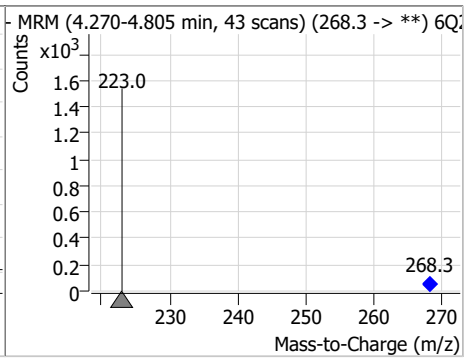




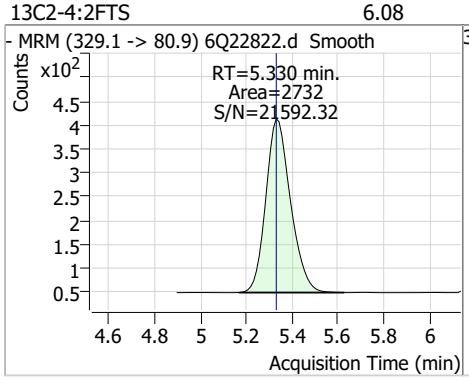
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	6.47	4.46	0.01	48888				

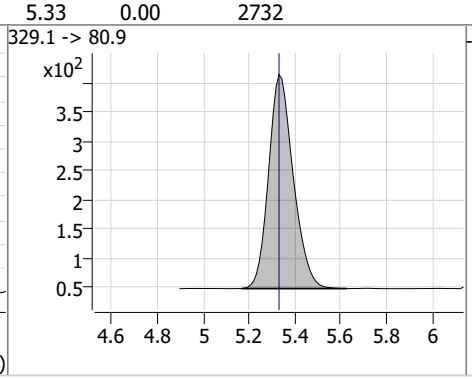


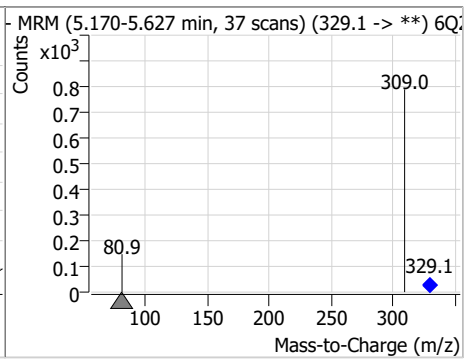




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	6.08	5.33	0.00	2732				

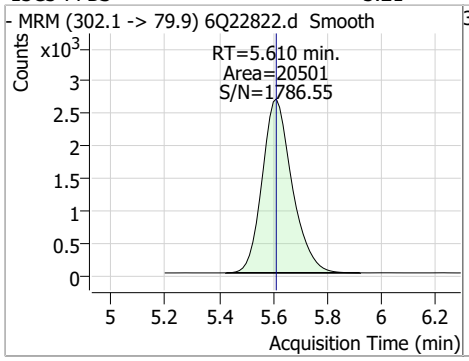


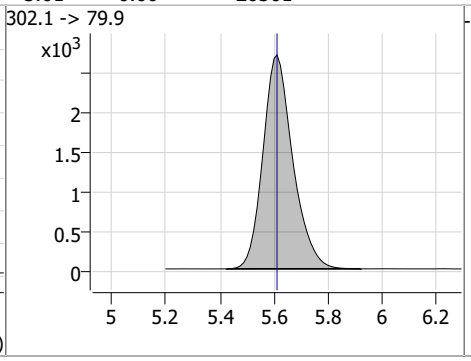


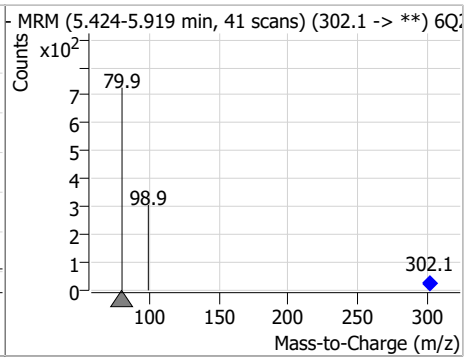


Perfluorinated Compounds by LC/MS/MS

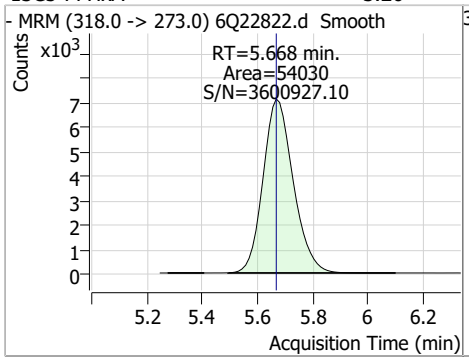
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	3.21	5.61	0.00	20501				

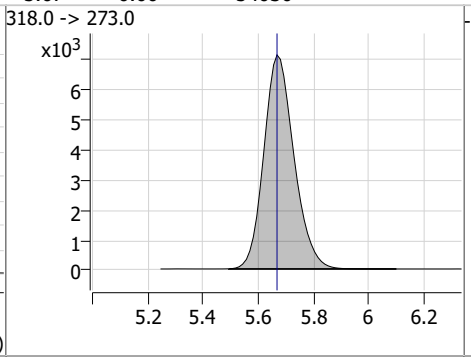


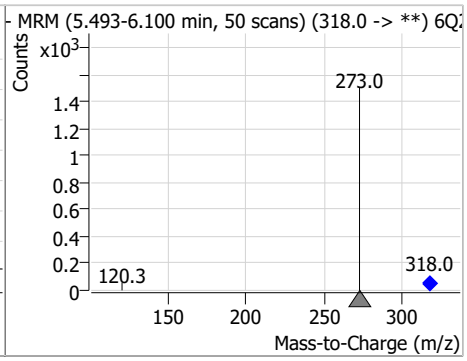




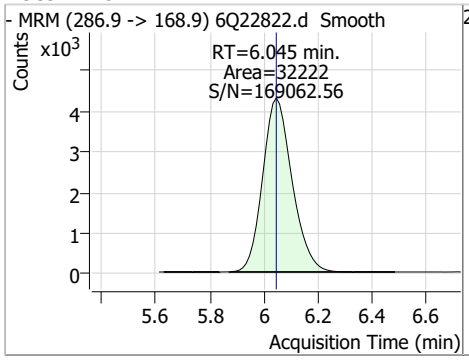
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.26	5.67	0.00	54030				

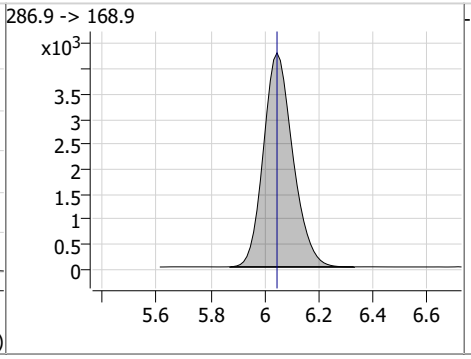


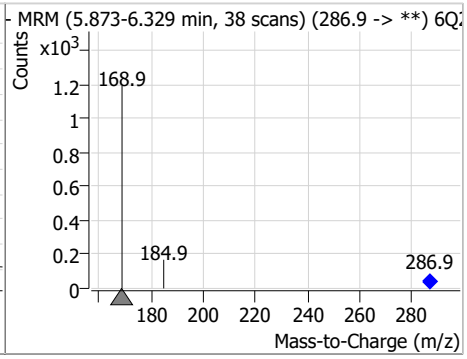




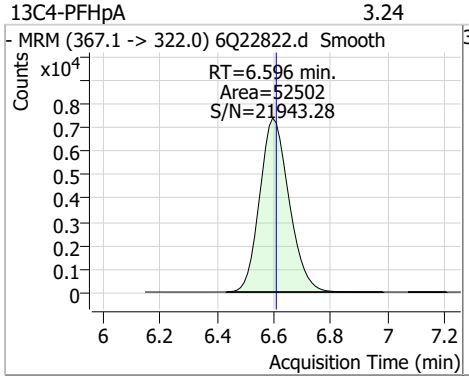
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	12.42	6.05	0.00	32222				

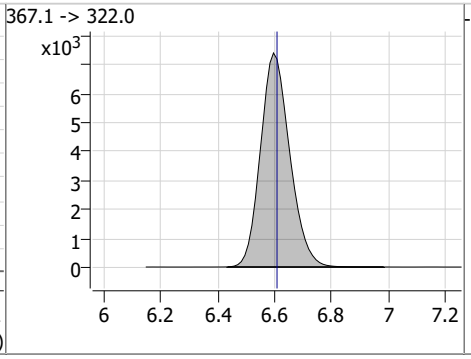


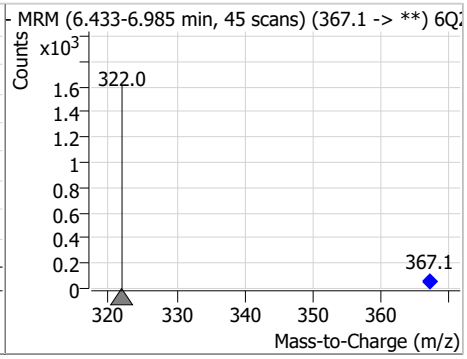




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	3.24	6.60	-0.01	52502				

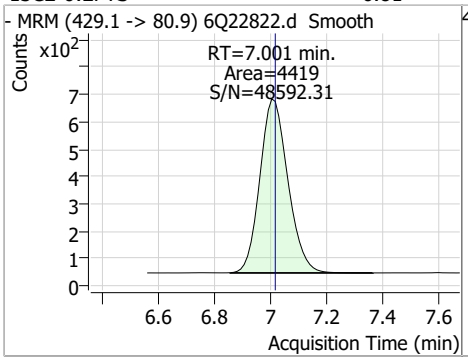


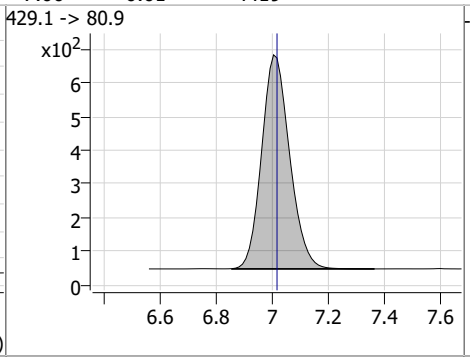


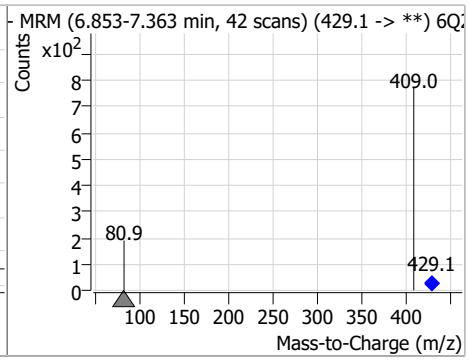


Perfluorinated Compounds by LC/MS/MS

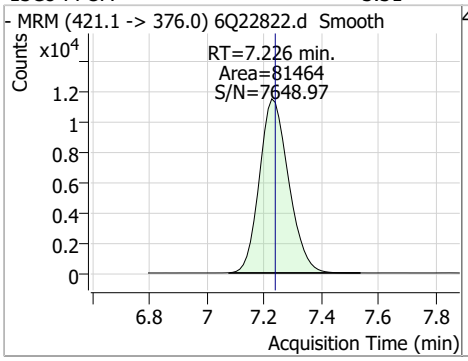
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.81	7.00	-0.01	4419				

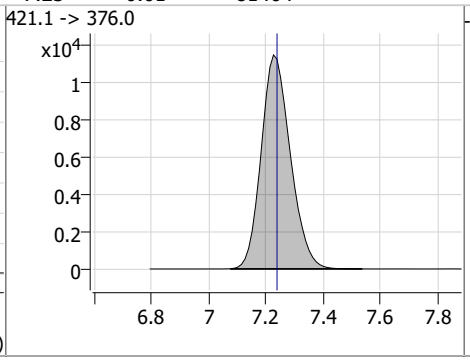


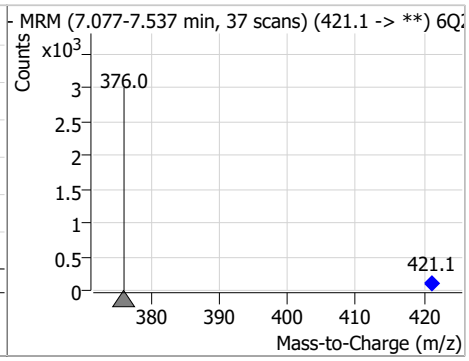




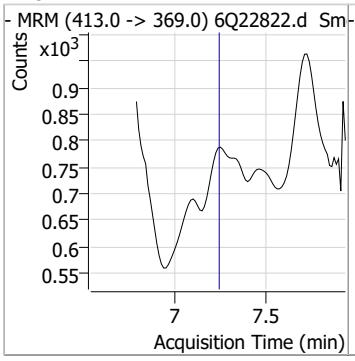
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	3.31	7.23	-0.01	81464				

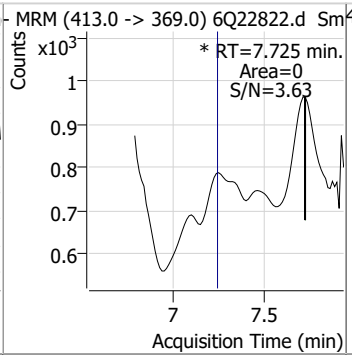


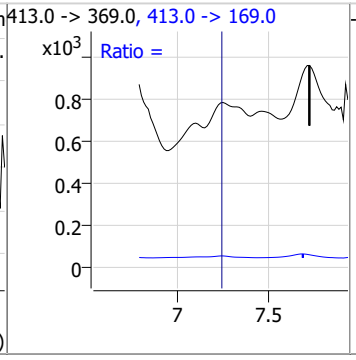


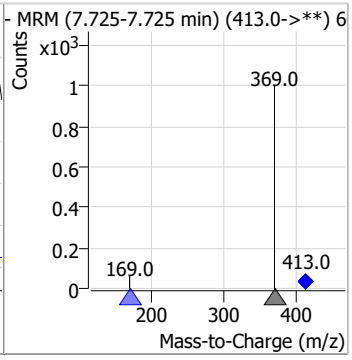


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA		0		0	413.0 -> 169.0		8.1	24.3

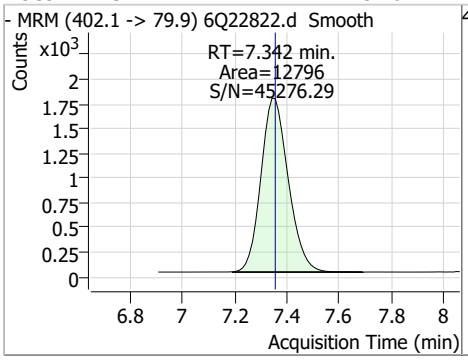


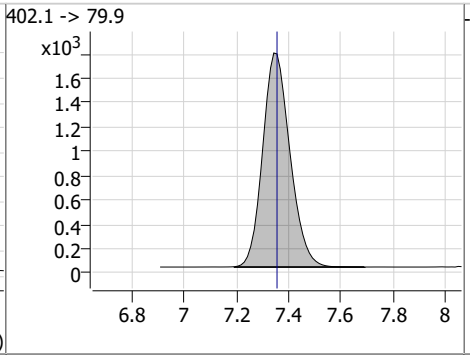


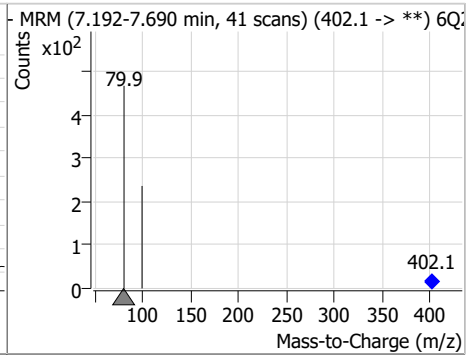




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	3.10	7.34	-0.01	12796				

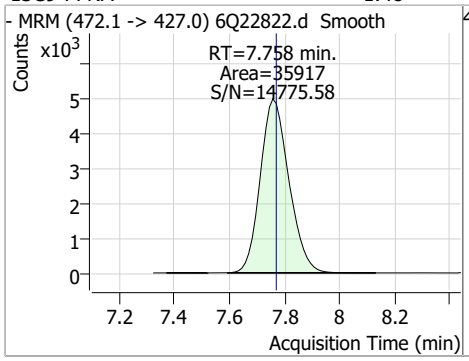


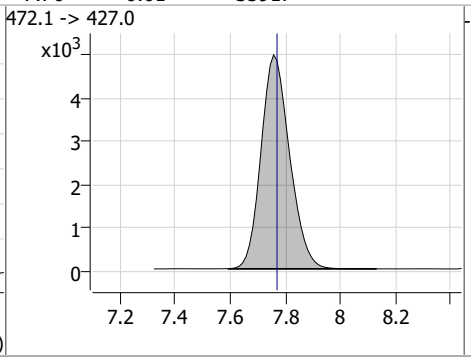


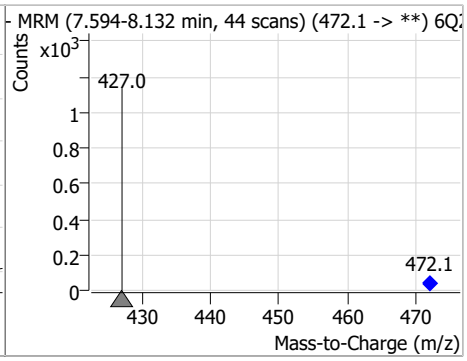


Perfluorinated Compounds by LC/MS/MS

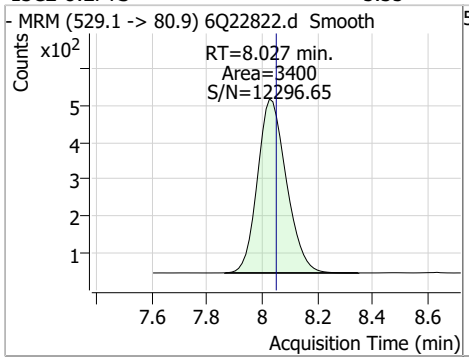
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.48	7.76	-0.01	35917				

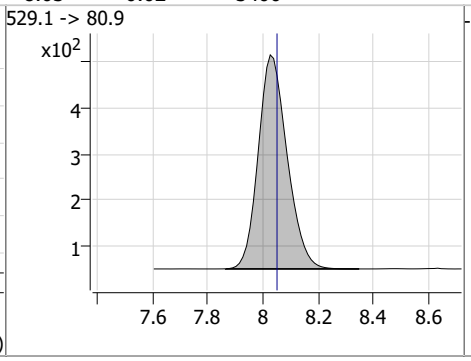


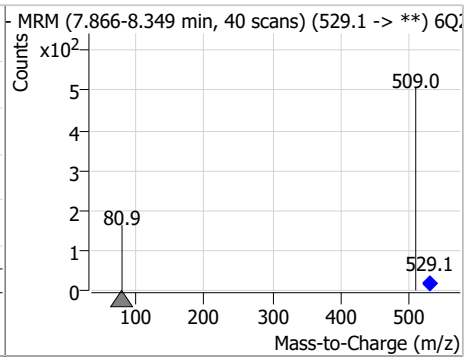




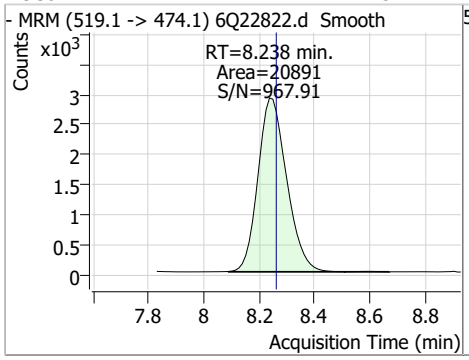
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.35	8.03	-0.02	3400				

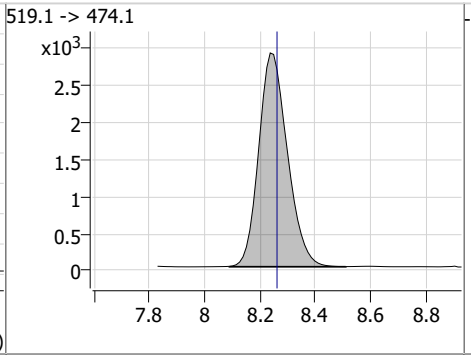


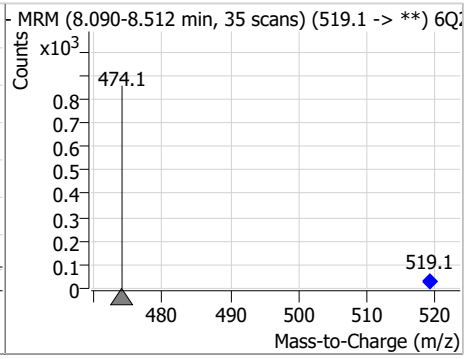




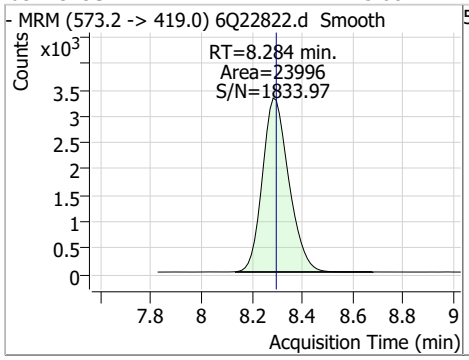
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.57	8.24	-0.02	20891				

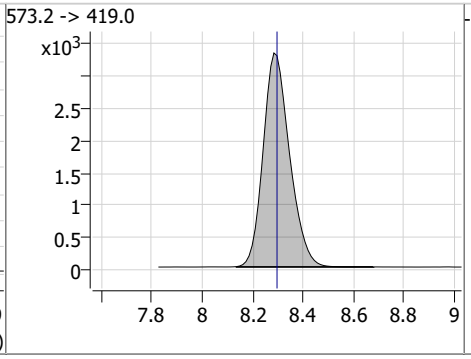


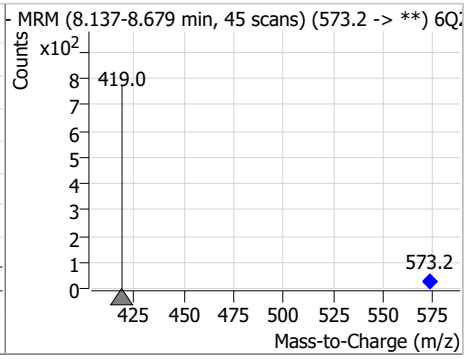




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.08	8.28	-0.01	23996				

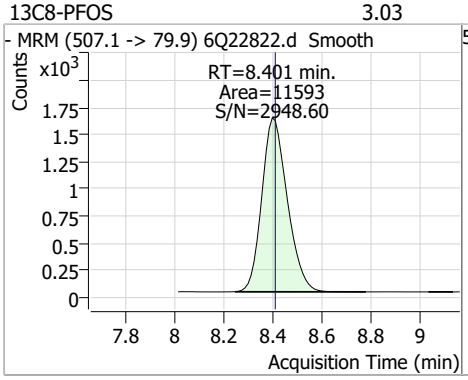


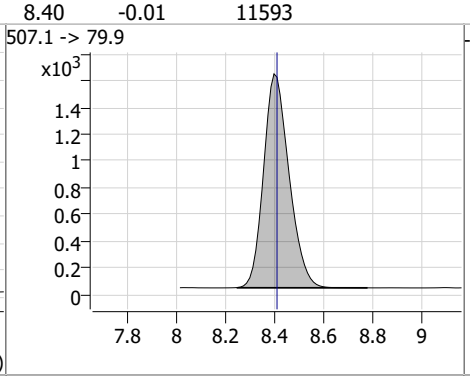


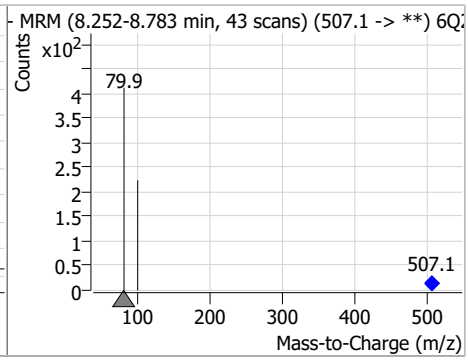


Perfluorinated Compounds by LC/MS/MS

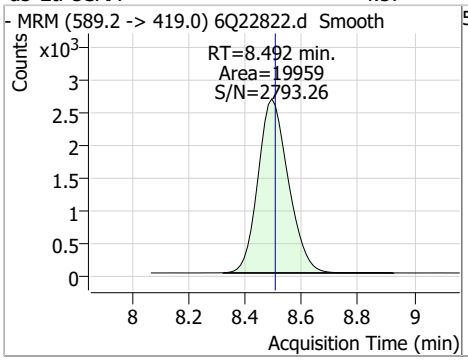
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	3.03	8.40	-0.01	11593				

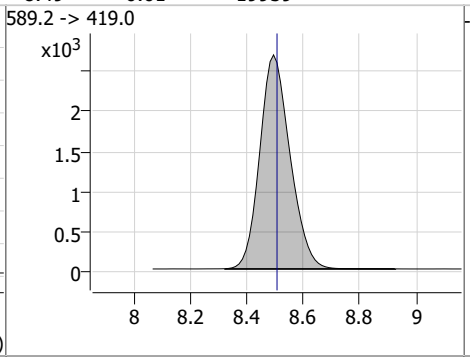


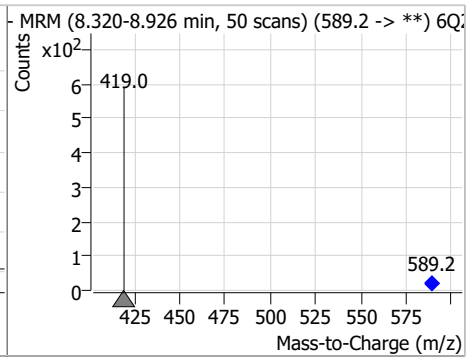




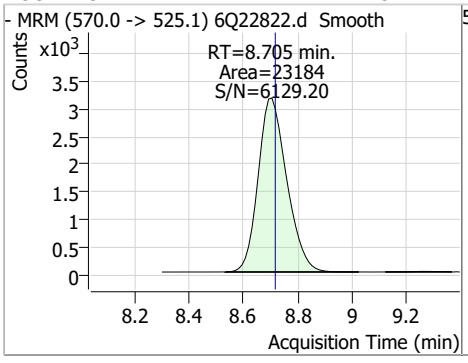
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.57	8.49	-0.01	19959				

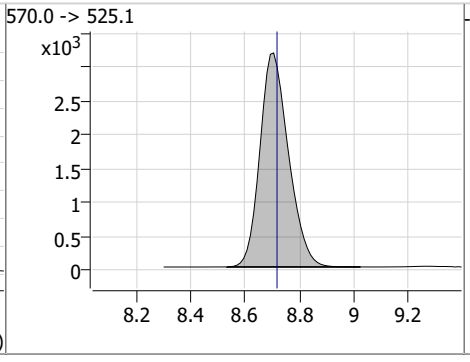


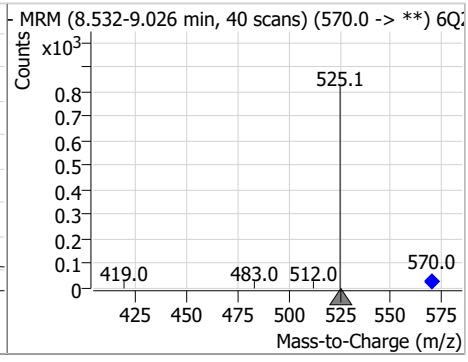




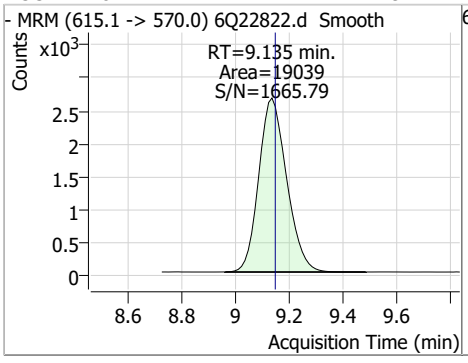
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.31	8.70	-0.01	23184				

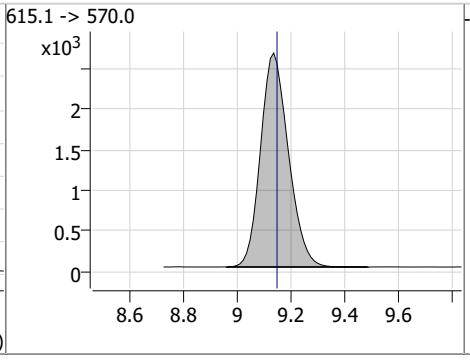


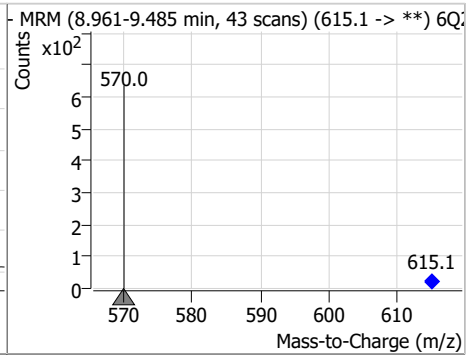




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.19	9.14	-0.01	19039				

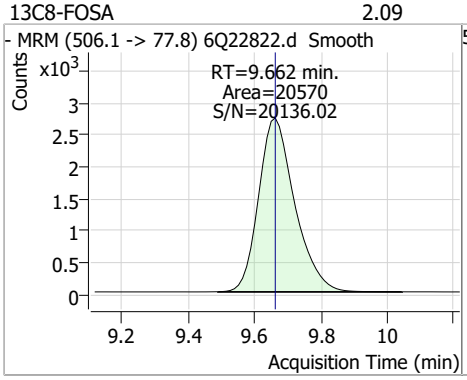


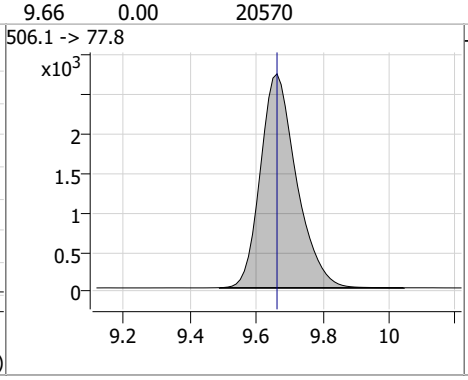


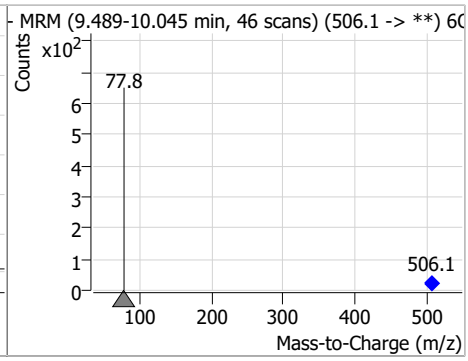


Perfluorinated Compounds by LC/MS/MS

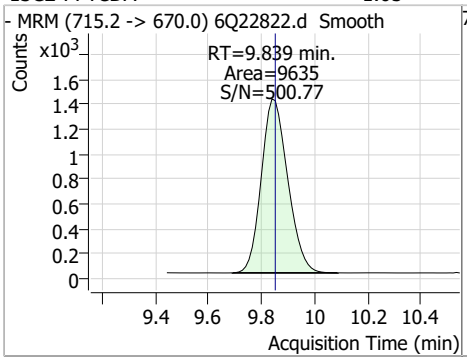
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.09	9.66	0.00	20570				

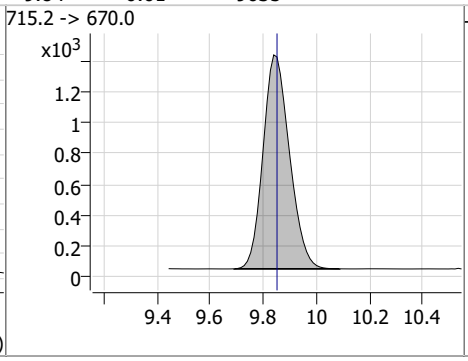


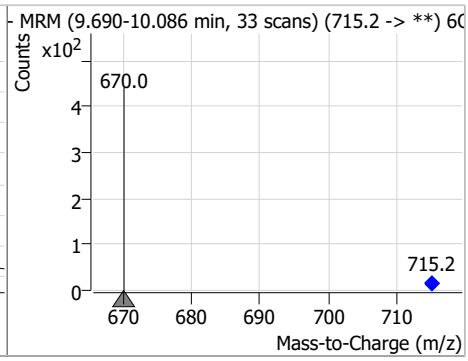




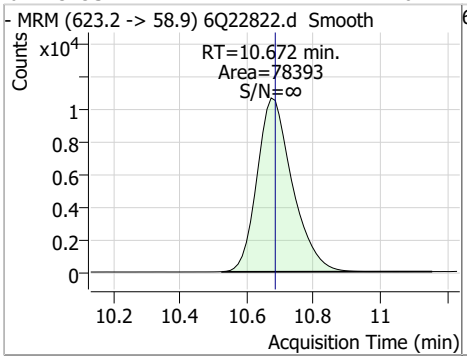
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.05	9.84	-0.01	9635				

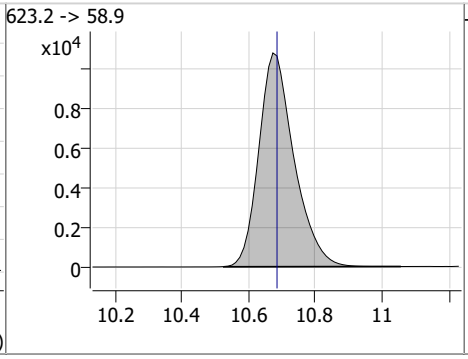


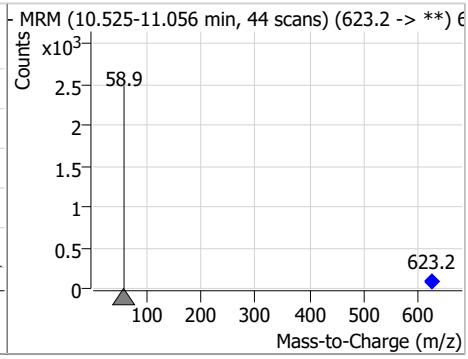




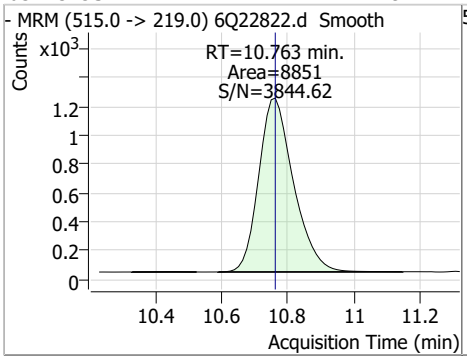
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	22.20	10.67	-0.01	78393				

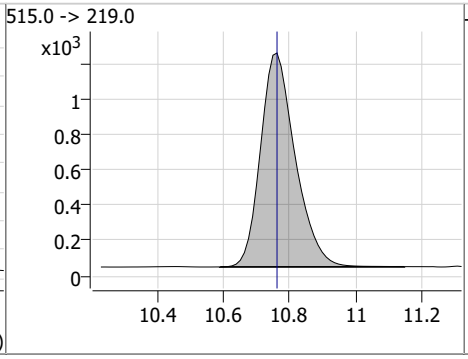


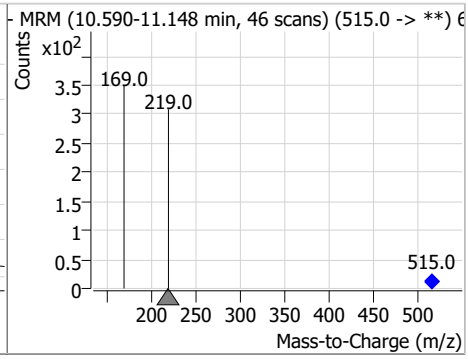




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.19	10.76	0.00	8851				

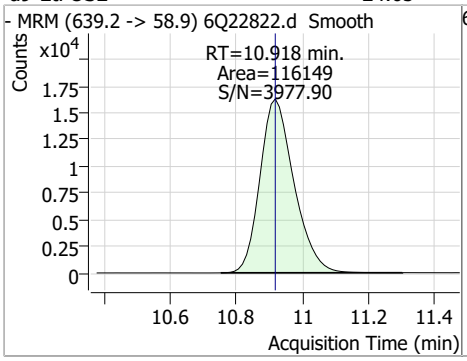


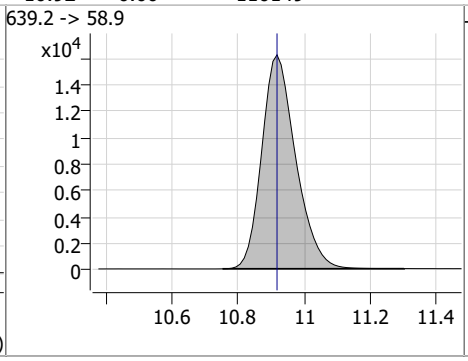


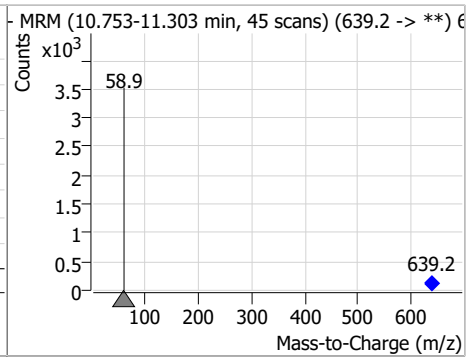


Perfluorinated Compounds by LC/MS/MS

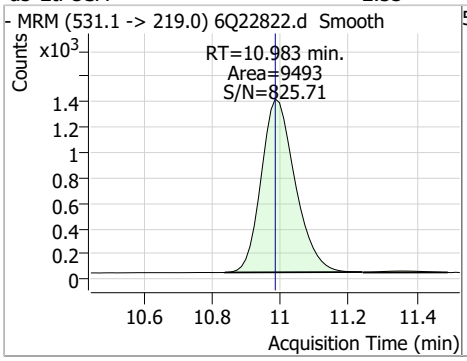
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.65	10.92	0.00	116149				

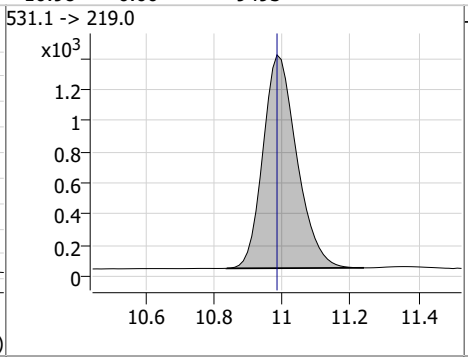


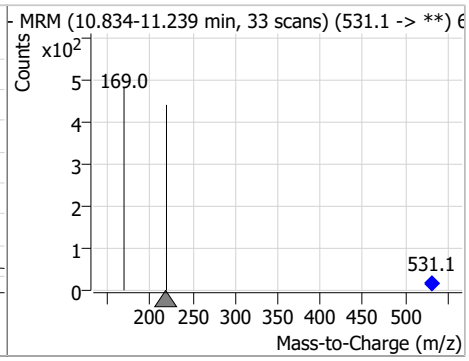




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.33	10.98	0.00	9493				







Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22811.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 7:40:42 PM
Sample Name : op98380-mb
Vial : P6-B5
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98380,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	127573	10.00	µg/L	0.012
M5-PFPeA	4.459	268.3 -> 223.0	40463	5.00	µg/L	0.012
M5-PFHxA	5.668	318.0 -> 273.0	44977	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	41376	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	69359	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	30602	1.25	µg/L	-0.012
M6-PFDA	8.250	519.1 -> 474.1	17743	1.25	µg/L	-0.012
M7-PFUnDA	8.705	570.0 -> 525.1	22178	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	20439	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	9783	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	15398	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	16783	2.50	µg/L	0.000
M3-PFHxS	7.342	402.1 -> 79.9	10984	2.50	µg/L	-0.012
M8-PFOS	8.414	507.1 -> 79.9	10072	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	2440	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3561	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3135	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	23016	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	27775	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	18884	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	54736	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	83601	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	7541	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	6692	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	11540	2.50	µg/L	-0.012
13C3-PFBA	3.026	216.0 -> 172.0	47992	5.00	µg/L	0.025
18O2-PFHxS	7.341	403.0 -> 83.9	6903	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	63904	2.50	µg/L	-0.012
13C2-PFDA	8.251	515.1 -> 470.1	22035	1.25	µg/L	0.000
13C5-PFNA	7.758	468.0 -> 423.0	34606	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	36988	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2440	5.92	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.4%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3561	5.98	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.6%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3135	5.38	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.6%		
13C2-PFDoDA	9.135	615.1 -> 570.0	20439	1.37	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.8%		
13C2-PFTeDA	9.839	715.2 -> 670.0	9783	1.14	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.4%		
13C3-PFBS	5.610	302.1 -> 79.9	16783	2.86	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.6%		
13C3-PFHxS	7.342	402.1 -> 79.9	10984	2.90	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 = 115.8%	
13C4-PFBA	3.022	216.8 -> 171.9	127573	11.25 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 112.5%	
13C4-PFHpA	6.596	367.1 -> 322.0	41376	2.77 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.8%	
13C5-PFHxA	5.668	318.0 -> 273.0	44977	2.95 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 117.8%	
13C5-PFPeA	4.459	268.3 -> 223.0	40463	5.81 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.2%	
13C6-PFDA	8.250	519.1 -> 474.1	17743	1.43 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 114.1%	
13C7-PFUnDA	8.705	570.0 -> 525.1	22178	1.35 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.8%	
13C8-FOSA	9.662	506.1 -> 77.8	15398	1.77 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 70.7%	
13C8-PFOA	7.226	421.1 -> 376.0	69359	2.94 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 117.6%	
13C8-PFOS	8.414	507.1 -> 79.9	10072	2.98 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 119.2%	
13C9-PFNA	7.758	472.1 -> 427.0	30602	1.36 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.1%	
d3-MeFOSAA	8.284	573.2 -> 419.0	23016	5.51 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.2%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	27775	11.60 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 116.0%	
d3-MeFOSA	10.763	515.0 -> 219.0	6692	1.88 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.1%	
d5-EtFOSAA	8.492	589.2 -> 419.0	18884	4.90 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.0%	
d7-MeFOSE	10.672	623.2 -> 58.9	54736	17.55 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 70.2%	
d9-EtFOSE	10.918	639.2 -> 58.9	83601	20.08 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 80.3%	
d5-EtFOSA	10.983	531.1 -> 219.0	7541	2.10 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 84.0%	
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

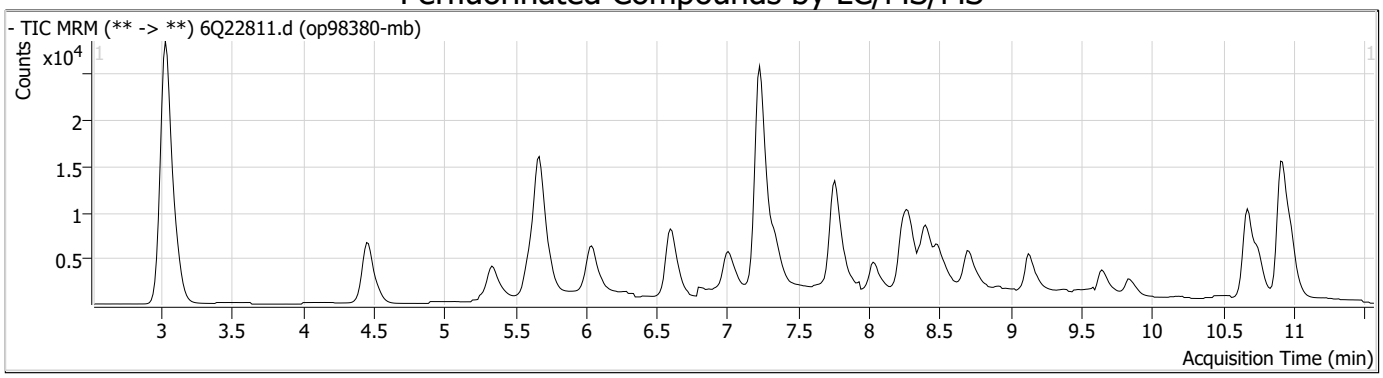
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	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

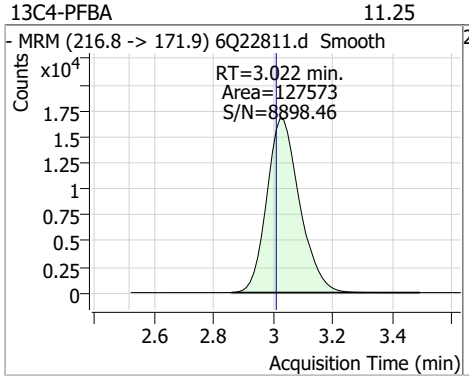
Perfluorinated Compounds by LC/MS/MS

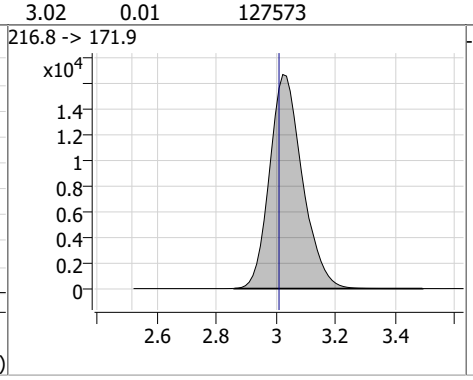
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

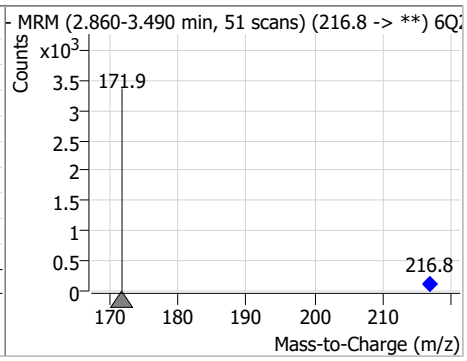
Perfluorinated Compounds by LC/MS/MS



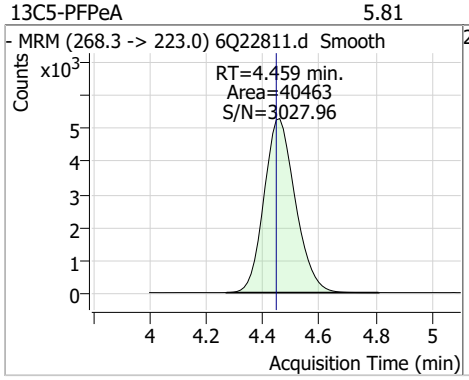
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	11.25	3.02	0.01	127573				

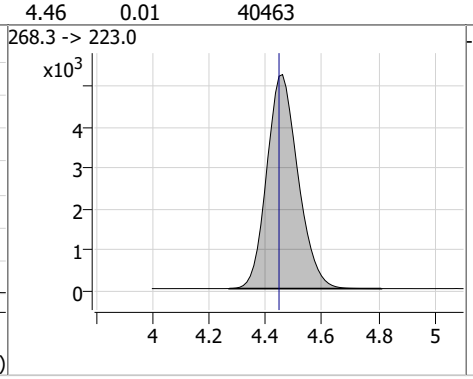


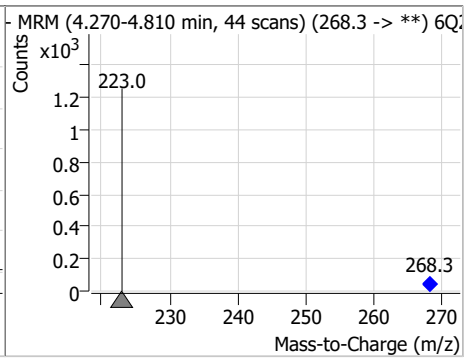




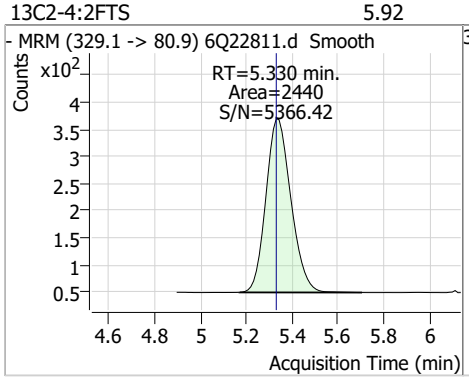
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.81	4.46	0.01	40463				

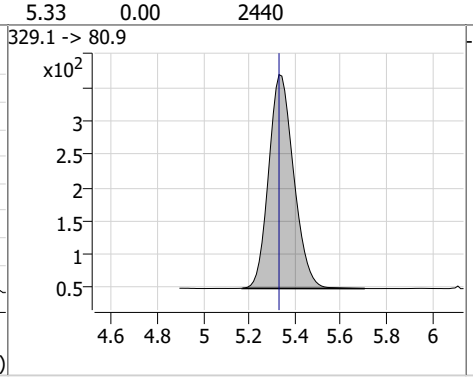


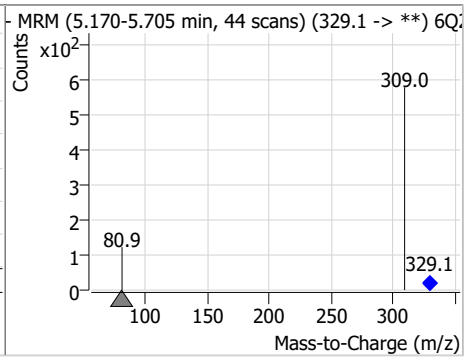




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.92	5.33	0.00	2440				

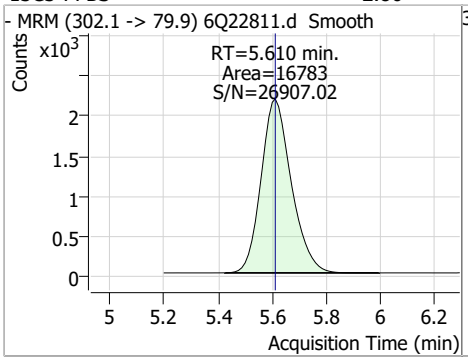


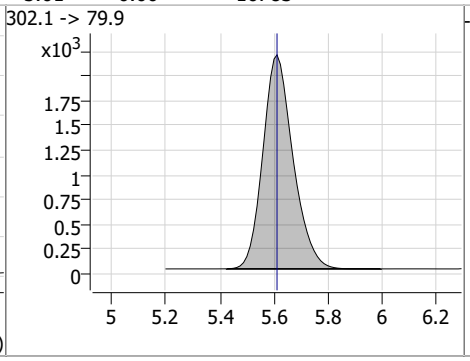


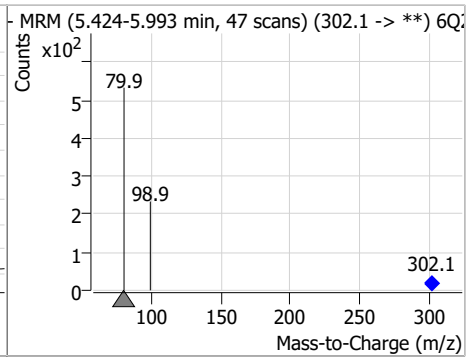


Perfluorinated Compounds by LC/MS/MS

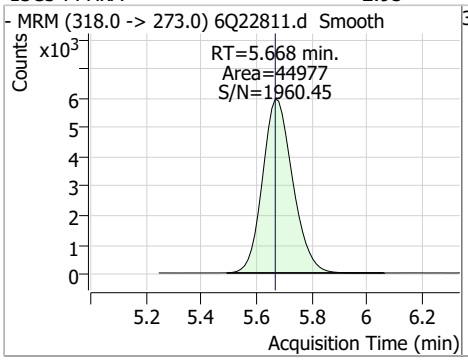
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.86	5.61	0.00	16783				

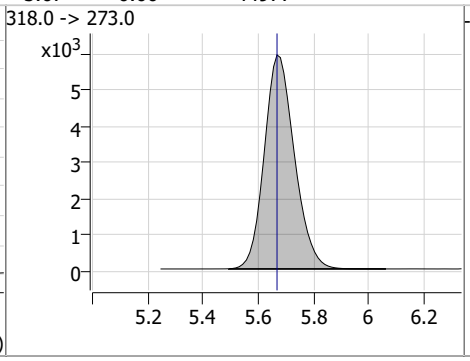


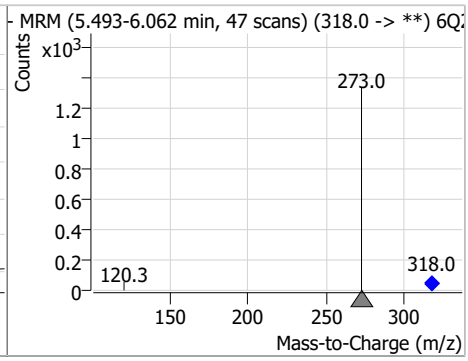




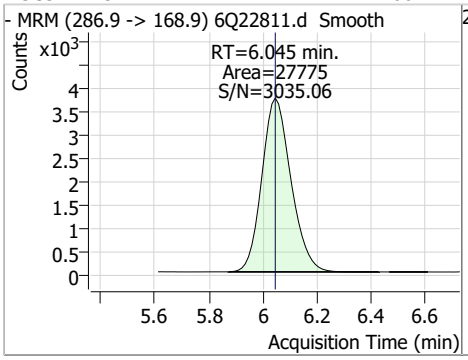
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.95	5.67	0.00	44977				

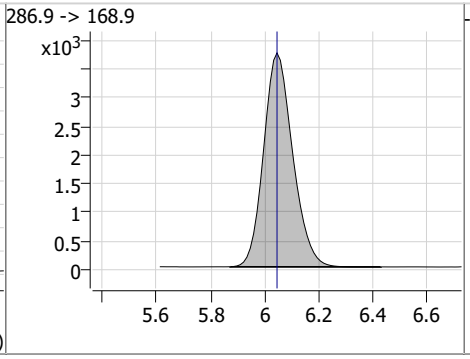


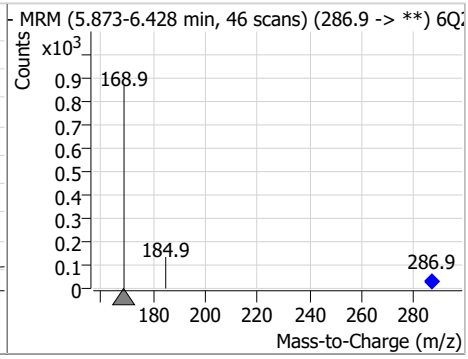




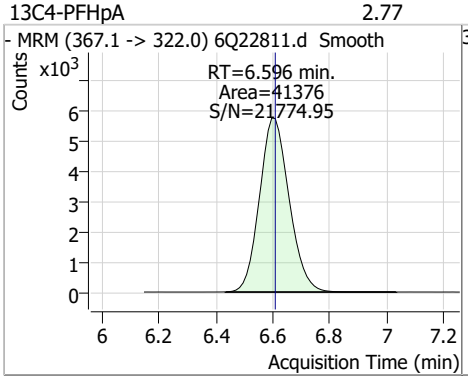
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.60	6.05	0.00	27775				

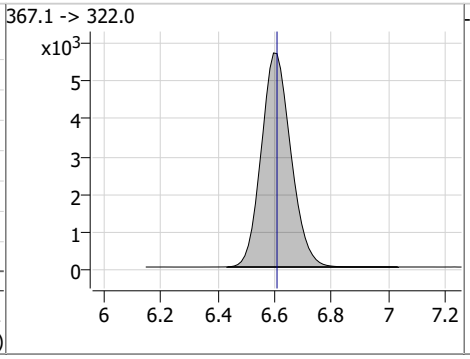


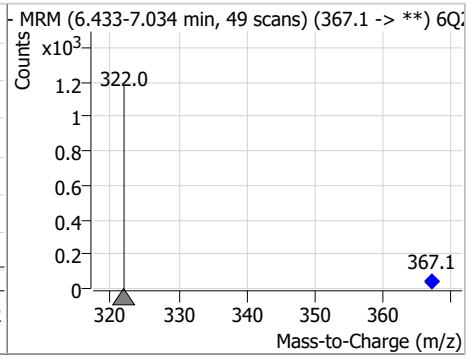




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.77	6.60	-0.01	41376				

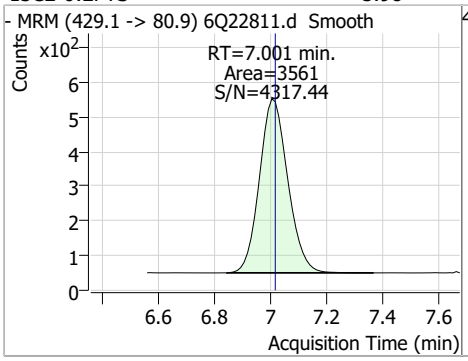


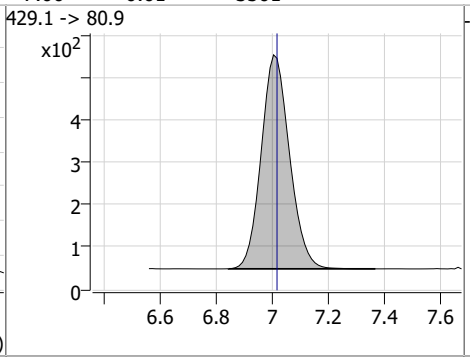


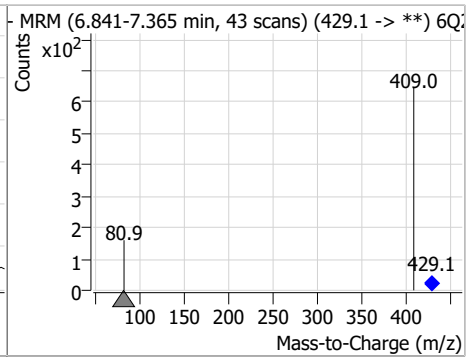


Perfluorinated Compounds by LC/MS/MS

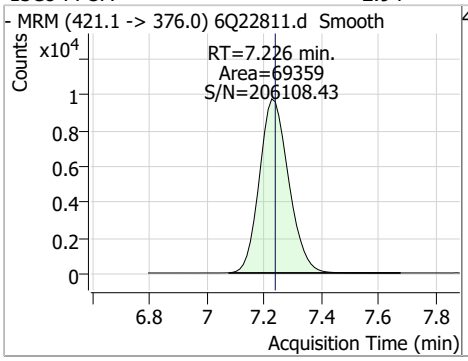
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.98	7.00	-0.01	3561				

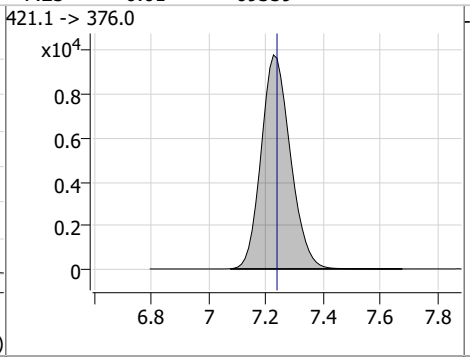


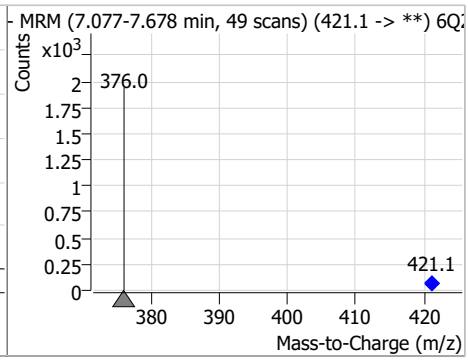




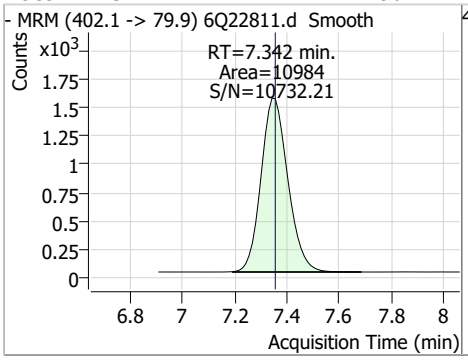
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.94	7.23	-0.01	69359				

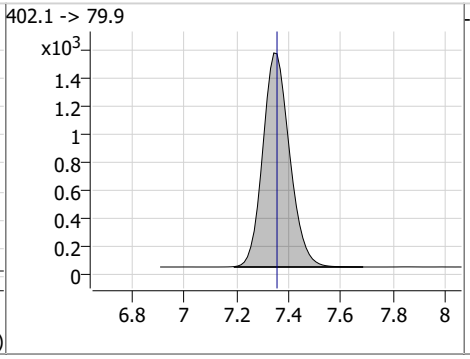


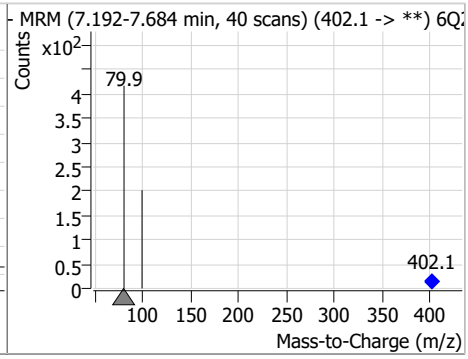




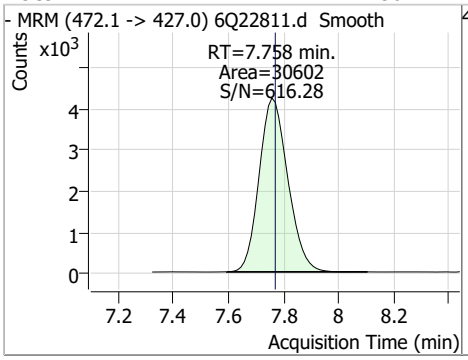
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.90	7.34	-0.01	10984				

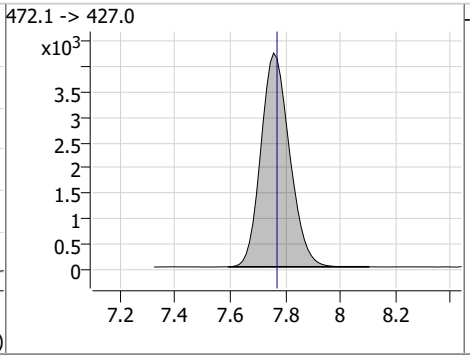


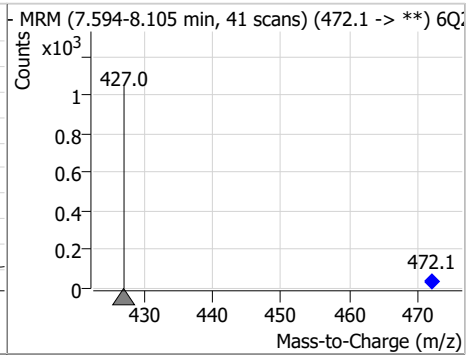




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.36	7.76	-0.01	30602				

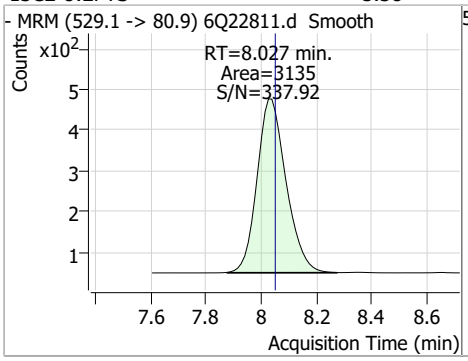


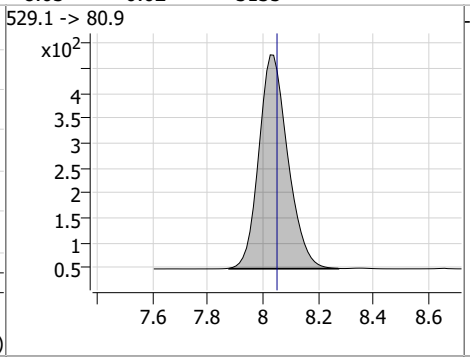


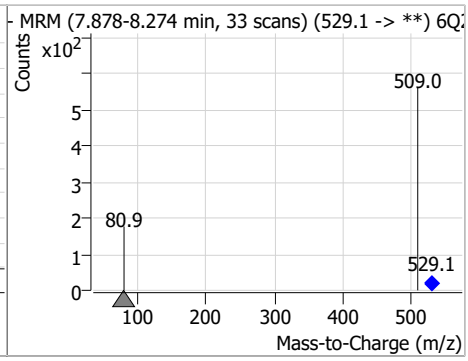


Perfluorinated Compounds by LC/MS/MS

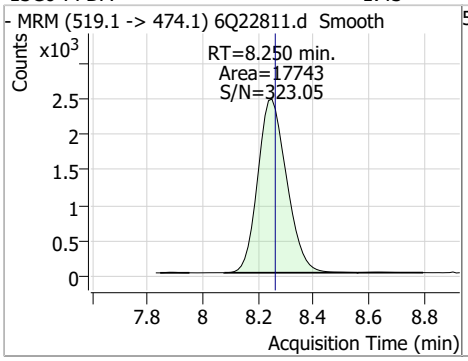
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.38	8.03	-0.02	3135				

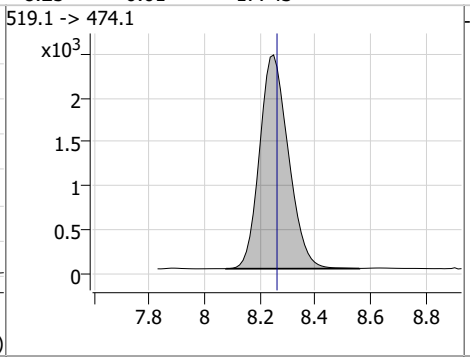


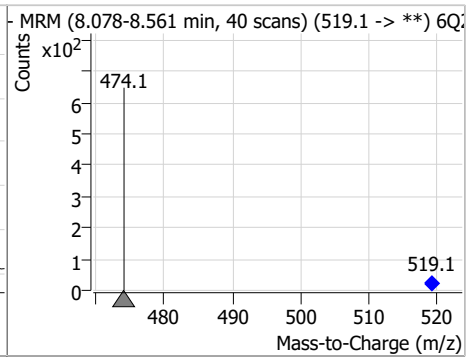




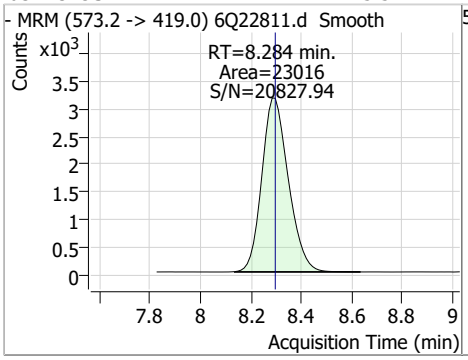
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.43	8.25	-0.01	17743				

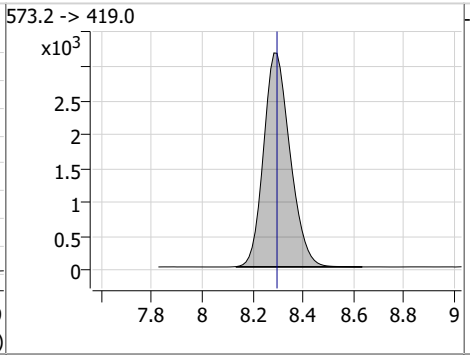


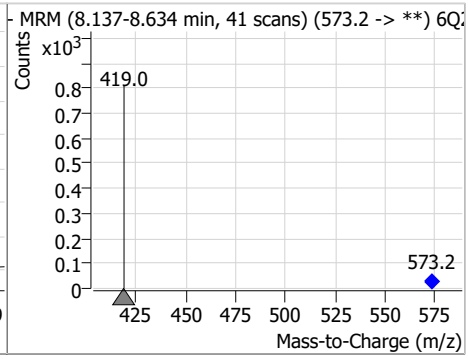




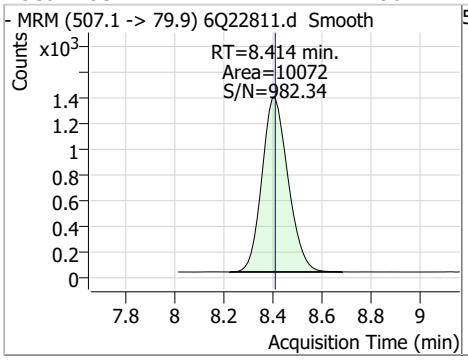
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.51	8.28	-0.01	23016				

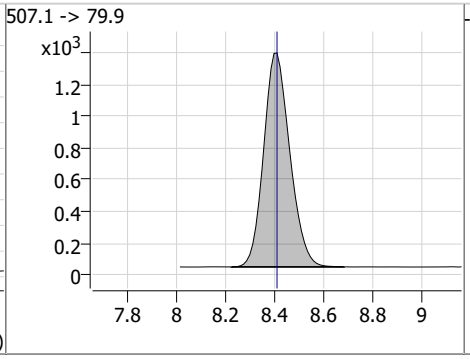


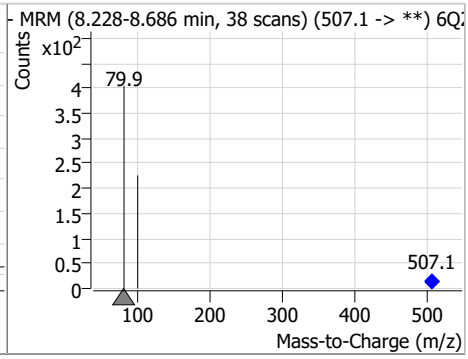




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.98	8.41	0.00	10072				

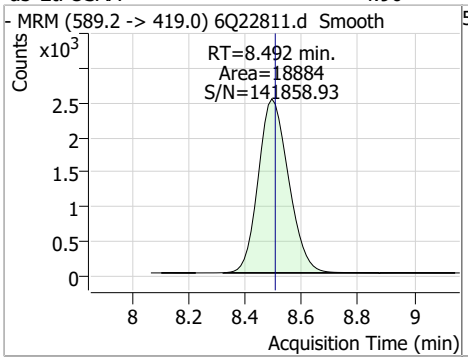


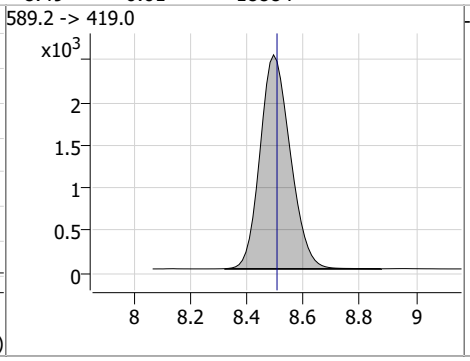


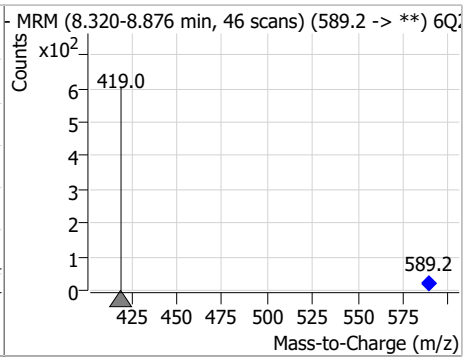


Perfluorinated Compounds by LC/MS/MS

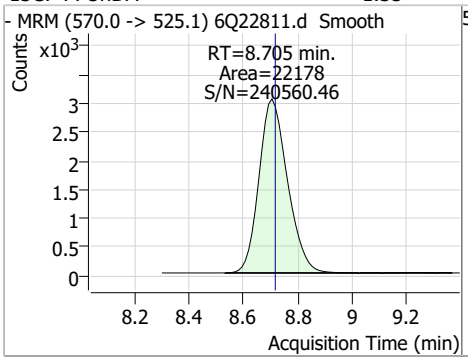
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.90	8.49	-0.01	18884				

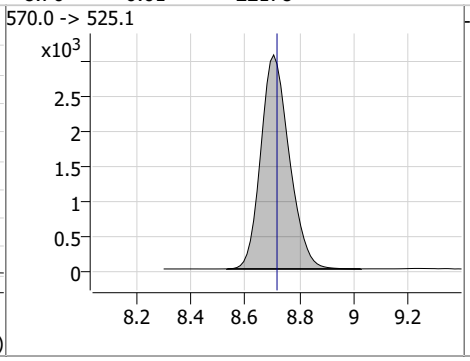


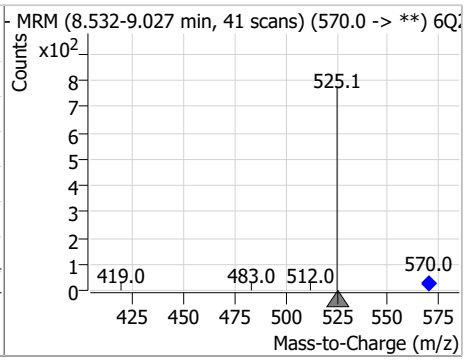




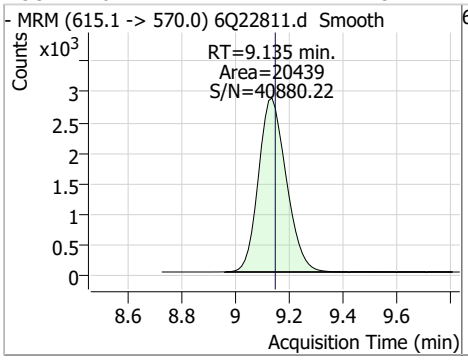
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.35	8.70	-0.01	22178				

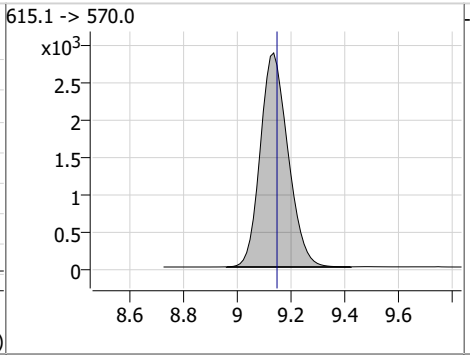


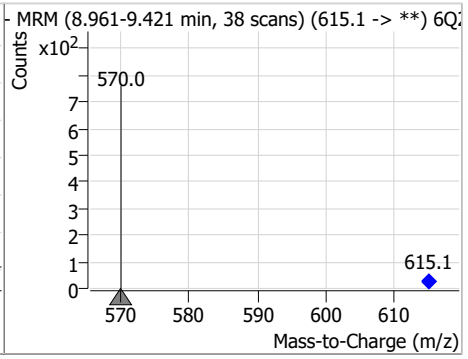




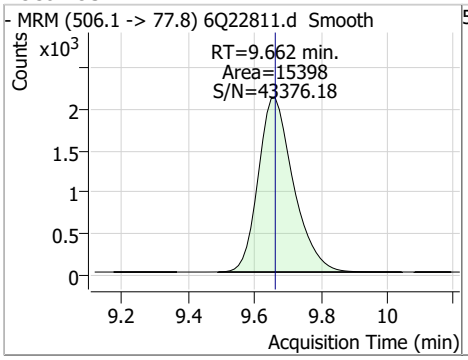
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.37	9.14	-0.01	20439				

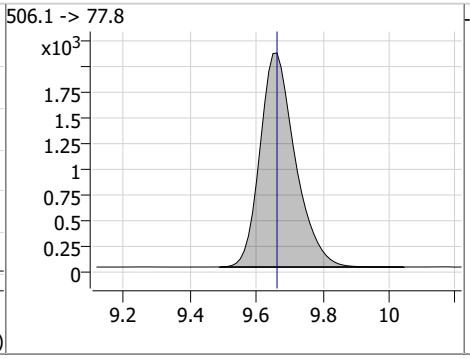


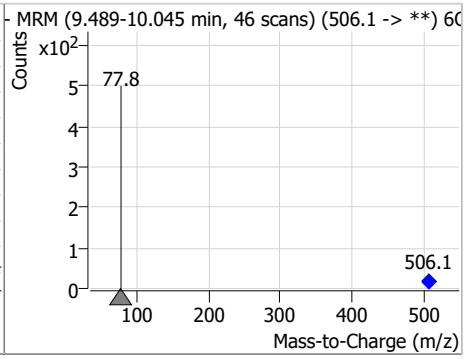




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.77	9.66	0.00	15398				

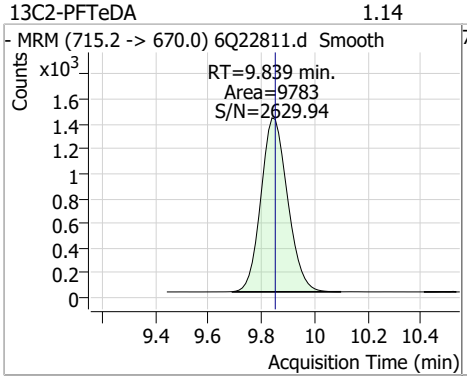


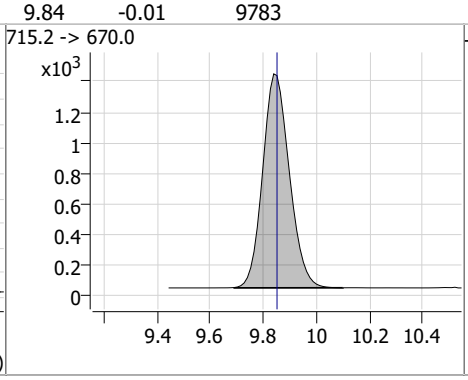


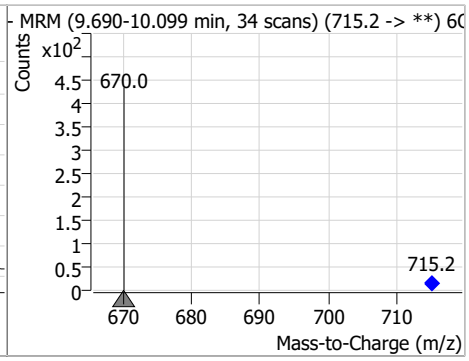


Perfluorinated Compounds by LC/MS/MS

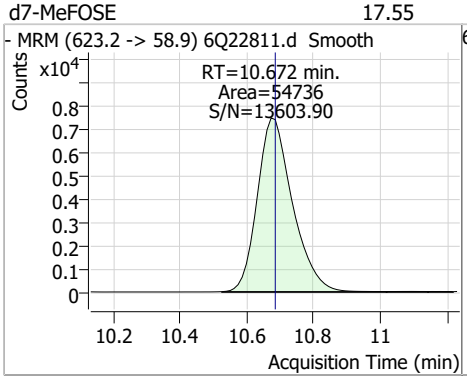
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.14	9.84	-0.01	9783				

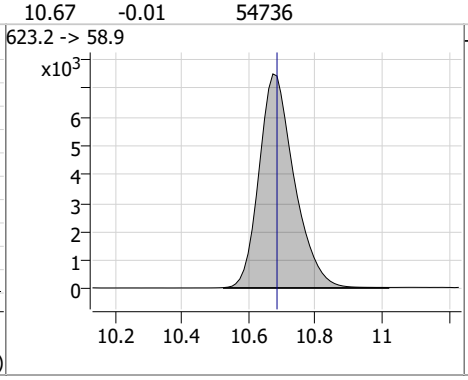


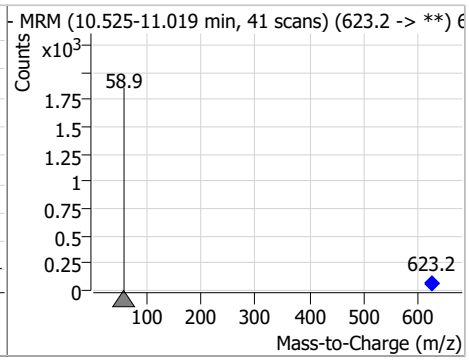




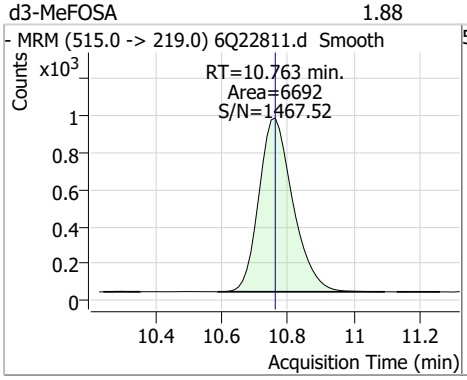
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	17.55	10.67	-0.01	54736				

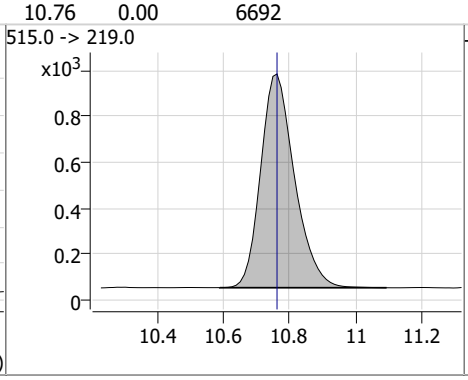


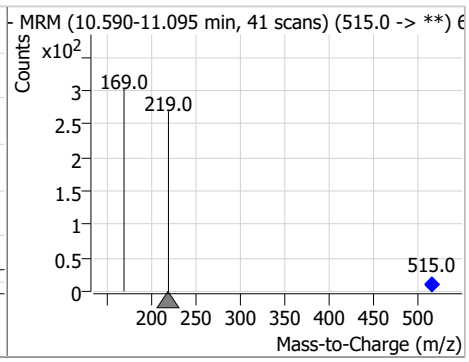




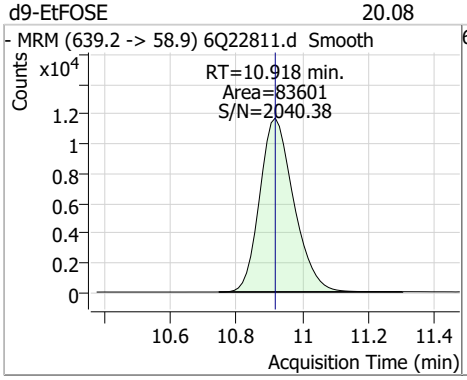
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.88	10.76	0.00	6692				

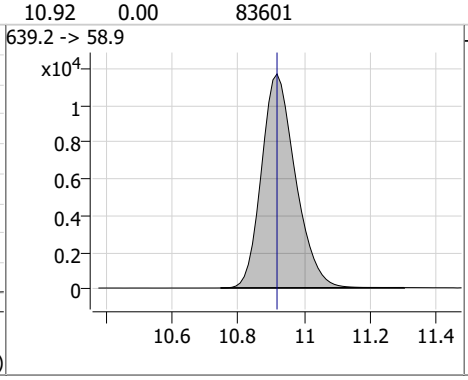


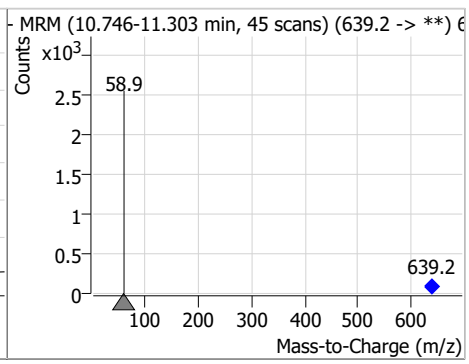




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	20.08	10.92	0.00	83601				

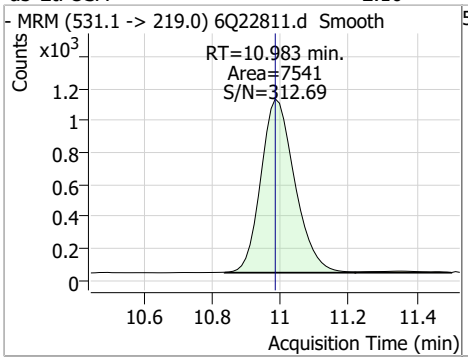


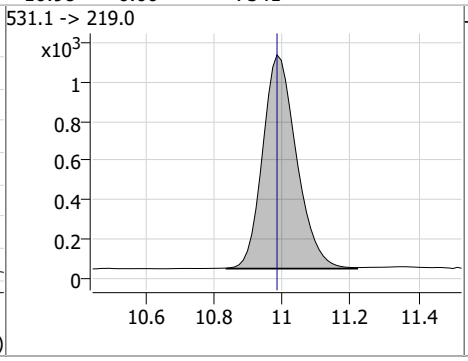


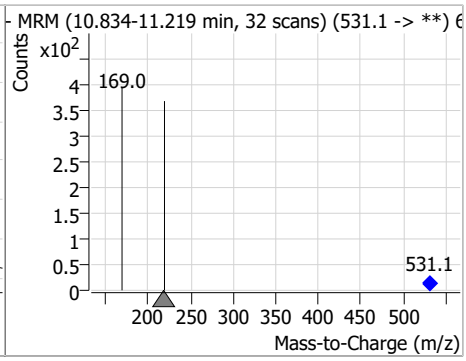


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.10	10.98	0.00	7541				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q22793.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	8/13/2023 3:22:40 PM
Sample Name	:	IBLK
Vial	:	P1-A1
DA Method File	:	1633_081023_S6Q330.quantmethod.xml
Batch Name	:	s6q331.batch.bin
Sample Information	:	OP98201,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	164616	10.00	µg/L	-0.012
M5-PFPeA	4.447	268.3 -> 223.0	53163	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	59154	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	56206	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	87406	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	39265	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	22581	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	30221	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	28937	1.25	µg/L	-0.012
M2-PFTeDA	9.851	715.2 -> 670.0	15620	1.25	µg/L	0.000
M8-FOSA	9.662	506.1 -> 77.8	32276	2.50	µg/L	0.000
M3-PFBS	5.599	302.1 -> 79.9	21457	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	13497	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	13905	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	2624	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3865	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3641	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	28319	5.00	µg/L	-0.012
M3-HFPO-DA	6.033	286.9 -> 168.9	37120	10.00	µg/L	-0.012
M5-EtFOSAA	8.492	589.2 -> 419.0	25414	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	138573	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	185315	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	12501	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	12993	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	19285	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	69361	5.00	µg/L	0.000
18O2-PFHxS	7.341	403.0 -> 83.9	10075	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	91143	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	32775	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	51772	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	56674	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2624	4.36	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 87.2%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3865	4.45	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 89.0%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3641	4.28	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 85.6%		
13C2-PFDoDA	9.135	615.1 -> 570.0	28937	1.31	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.5%		
13C2-PFTeDA	9.851	715.2 -> 670.0	15620	1.23	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.1%		
13C3-PFBS	5.599	302.1 -> 79.9	21457	2.51	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C3-PFHxS	7.342	402.1 -> 79.9	13497	2.44	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 = 97.5%	
13C4-PFBA	2.997	216.8 -> 171.9	164616	10.05 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C4-PFHpA	6.596	367.1 -> 322.0	56206	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C5-PFHxA	5.668	318.0 -> 273.0	59154	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C5-PFPeA	4.447	268.3 -> 223.0	53163	4.98 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C6-PFDA	8.238	519.1 -> 474.1	22581	1.22 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C7-PFUnDA	8.705	570.0 -> 525.1	30221	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C8-FOSA	9.662	506.1 -> 77.8	32276	2.22 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.7%	
13C8-PFOA	7.226	421.1 -> 376.0	87406	2.60 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.9%	
13C8-PFOS	8.401	507.1 -> 79.9	13905	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.5%	
13C9-PFNA	7.758	472.1 -> 427.0	39265	1.17 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.5%	
d3-MeFOSAA	8.284	573.2 -> 419.0	28319	4.06 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 81.2%	
13C3-HFPO-DA	6.033	286.9 -> 168.9	37120	10.12 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.2%	
d3-MeFOSA	10.763	515.0 -> 219.0	12993	2.18 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.2%	
d5-EtFOSAA	8.492	589.2 -> 419.0	25414	3.95 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 78.9%	
d7-MeFOSE	10.685	623.2 -> 58.9	138573	26.59 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.3%	
d9-EtFOSE	10.918	639.2 -> 58.9	185315	26.64 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.6%	
d5-EtFOSA	10.983	531.1 -> 219.0	12501	2.08 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.3%	
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

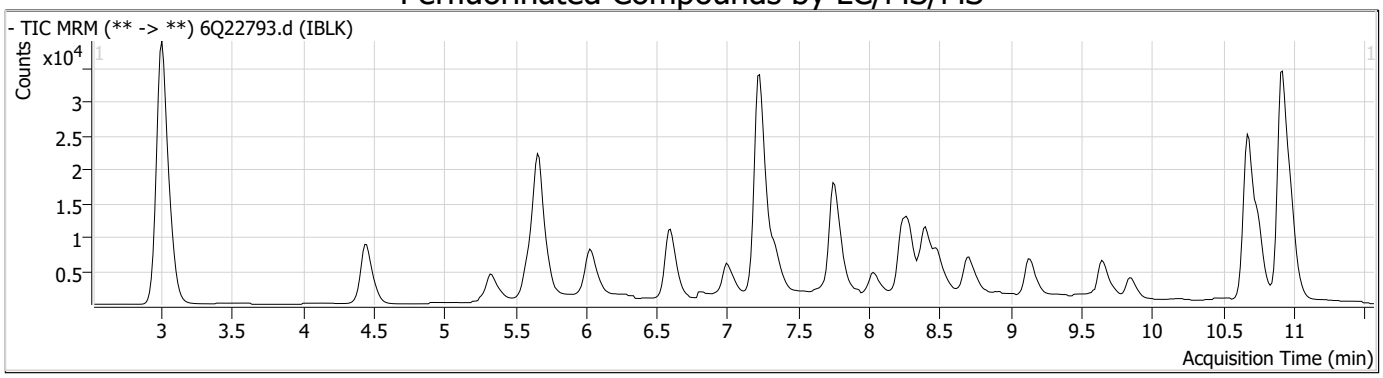
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	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

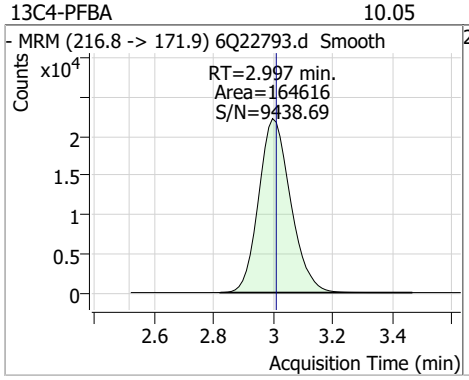
Perfluorinated Compounds by LC/MS/MS

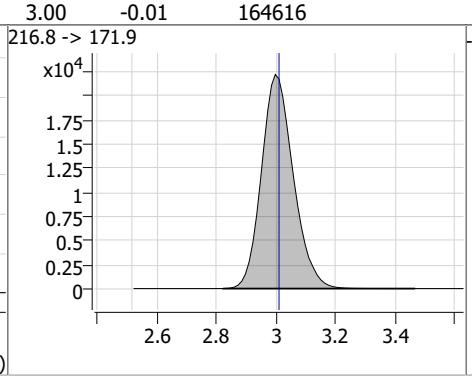
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

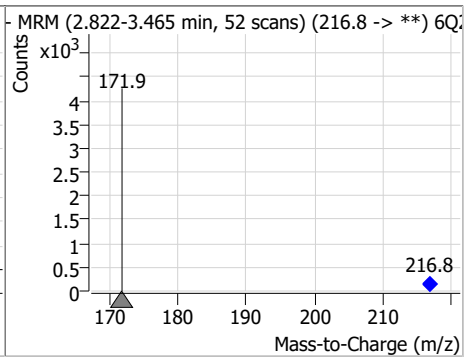
Perfluorinated Compounds by LC/MS/MS



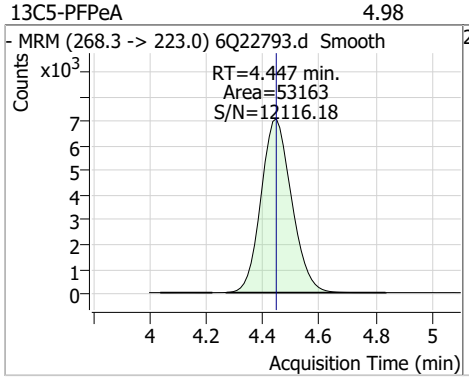
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.05	3.00	-0.01	164616				

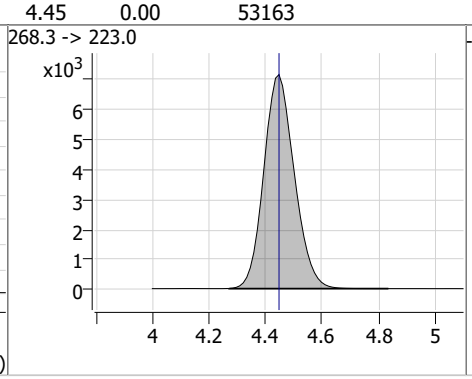


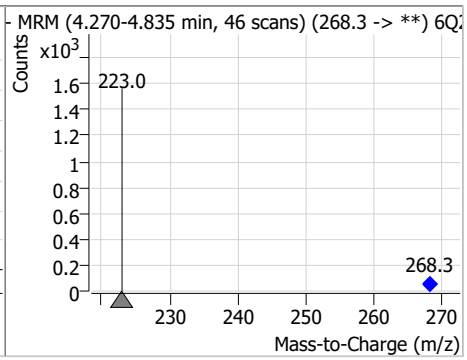




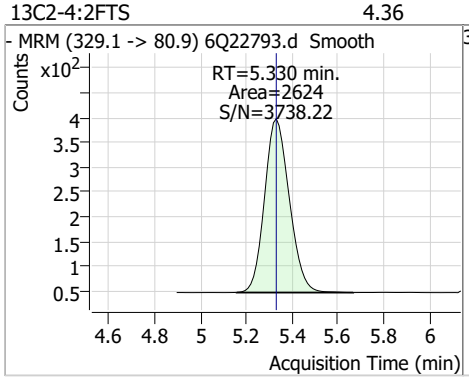
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.98	4.45	0.00	53163				

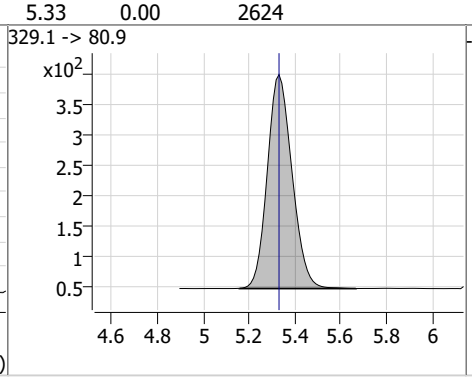


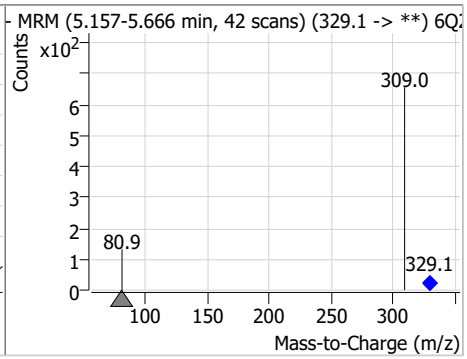




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.36	5.33	0.00	2624				

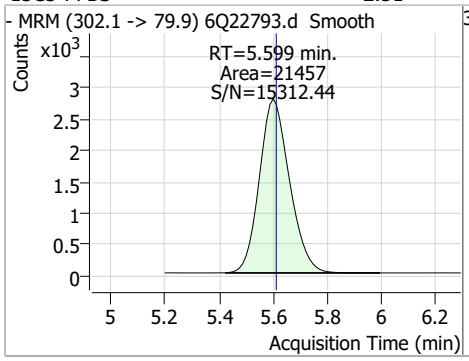


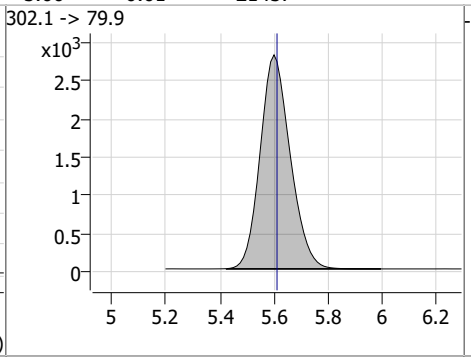


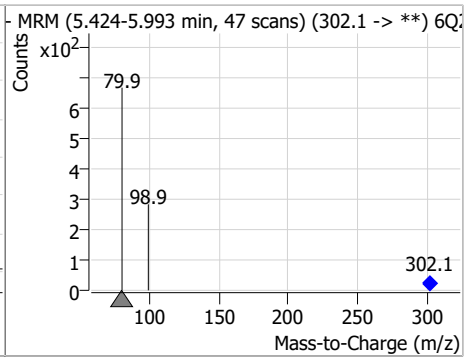


Perfluorinated Compounds by LC/MS/MS

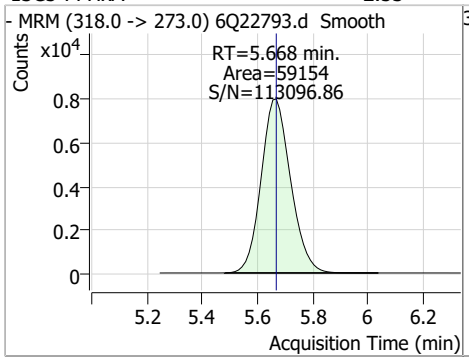
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.51	5.60	-0.01	21457				

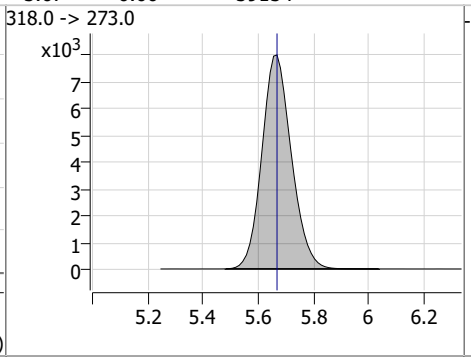


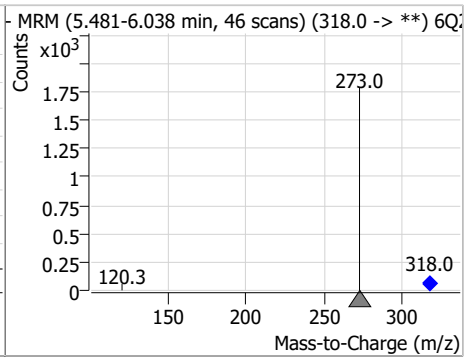




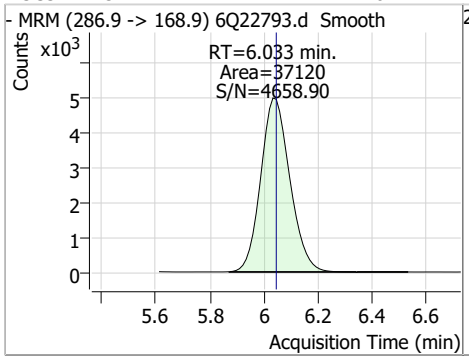
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.53	5.67	0.00	59154				

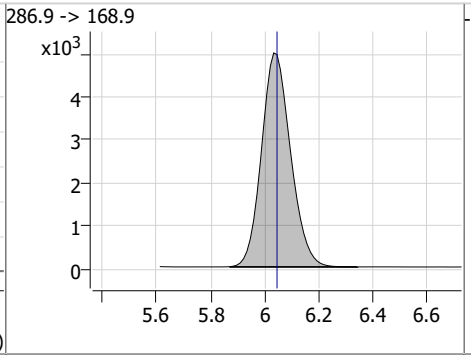


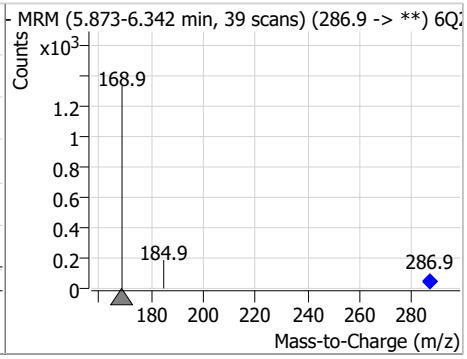




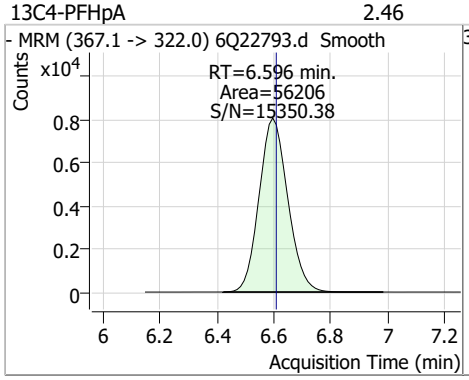
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.12	6.03	-0.01	37120				

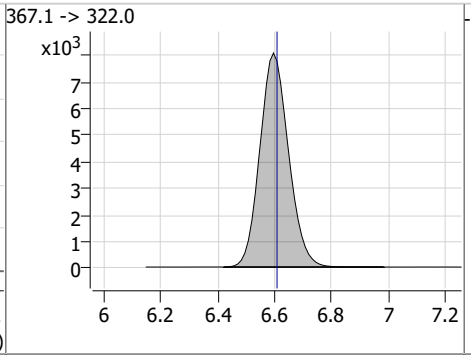


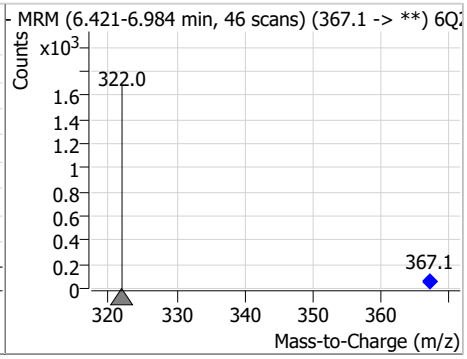




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.46	6.60	-0.01	56206				

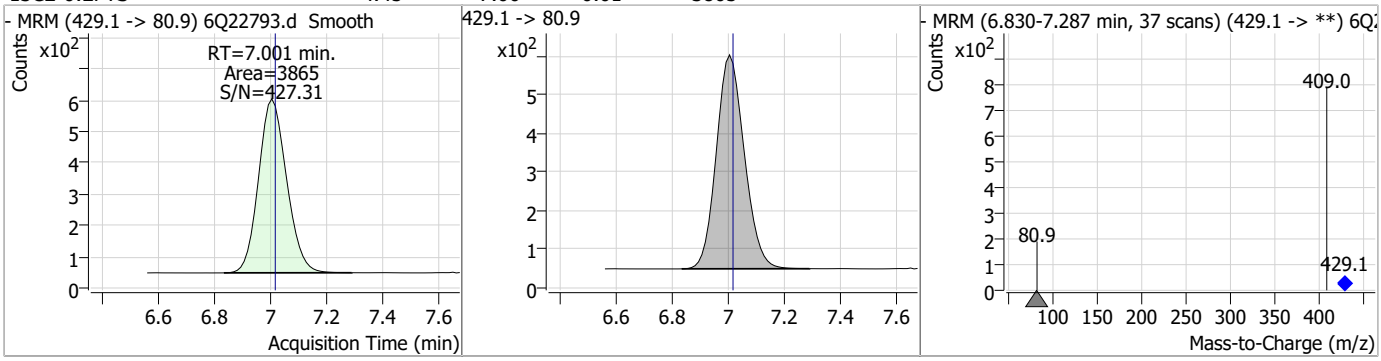




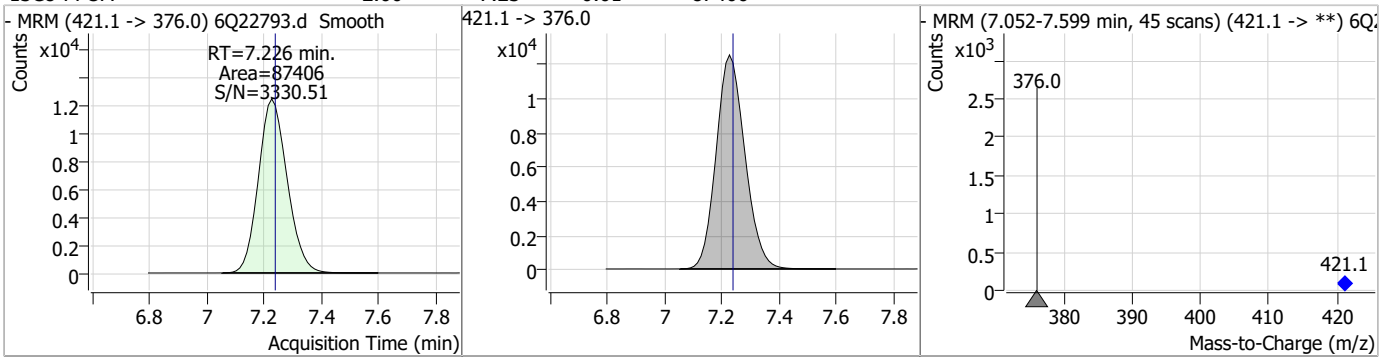


Perfluorinated Compounds by LC/MS/MS

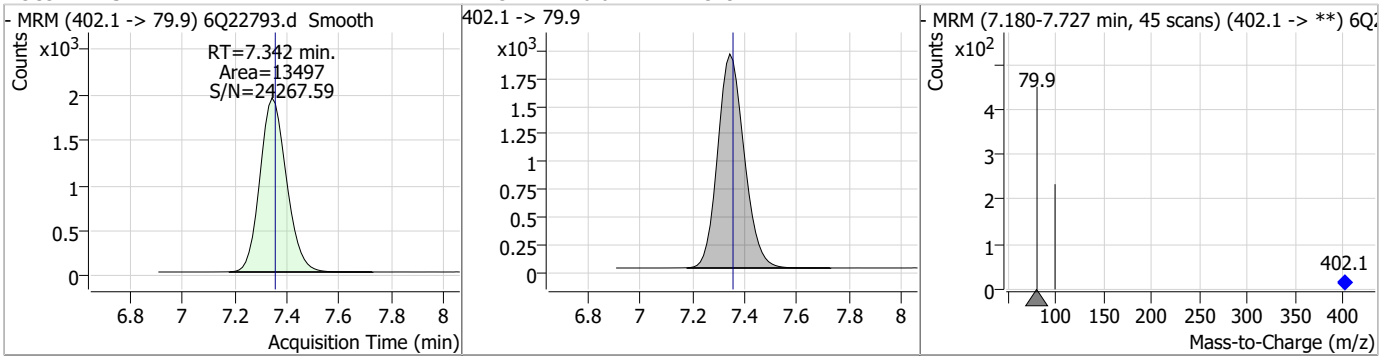
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.45	7.00	-0.01	3865				



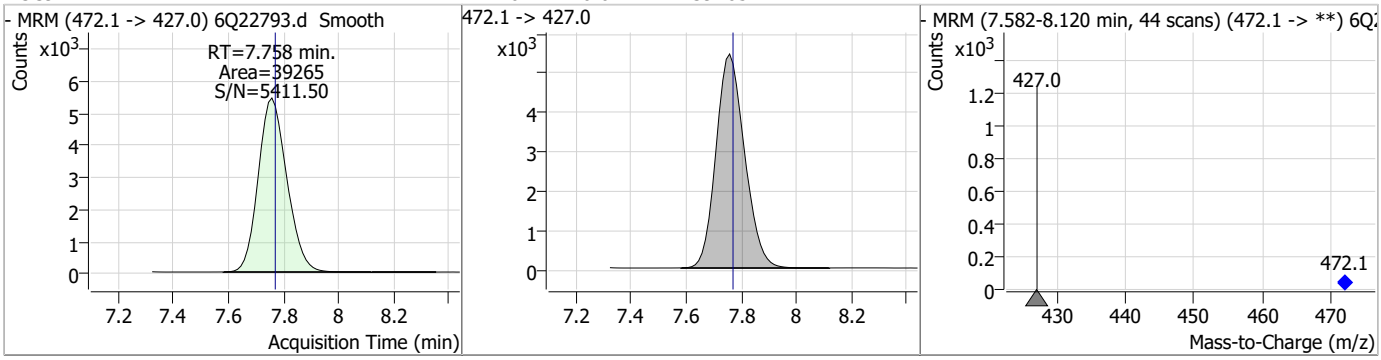
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.60	7.23	-0.01	87406				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.44	7.34	-0.01	13497				

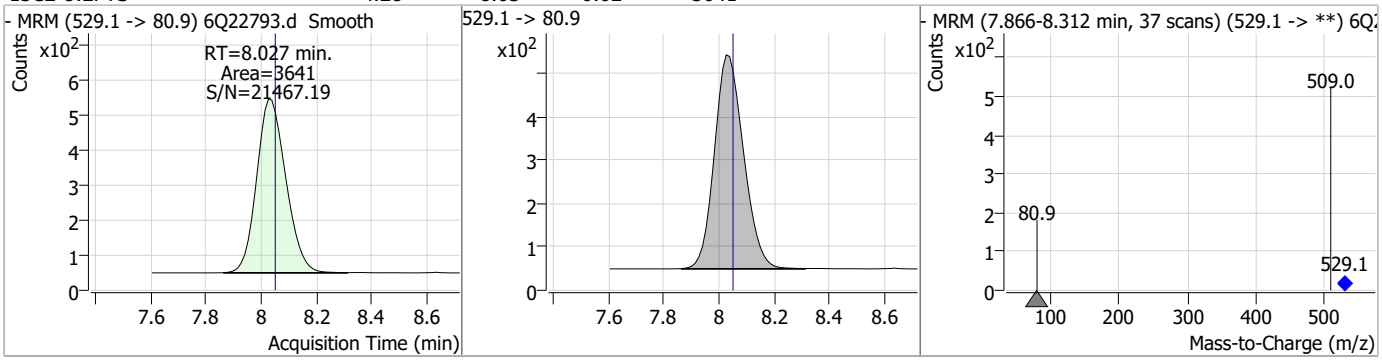


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.17	7.76	-0.01	39265				

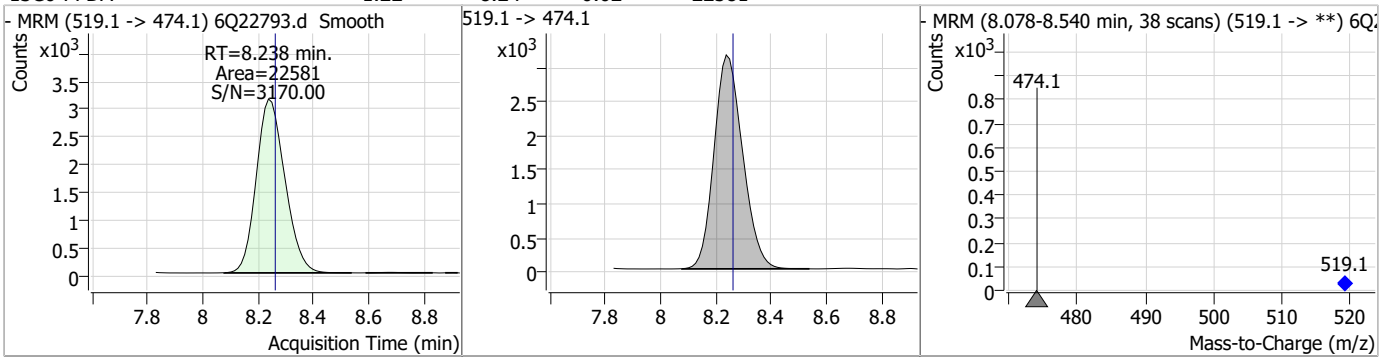


Perfluorinated Compounds by LC/MS/MS

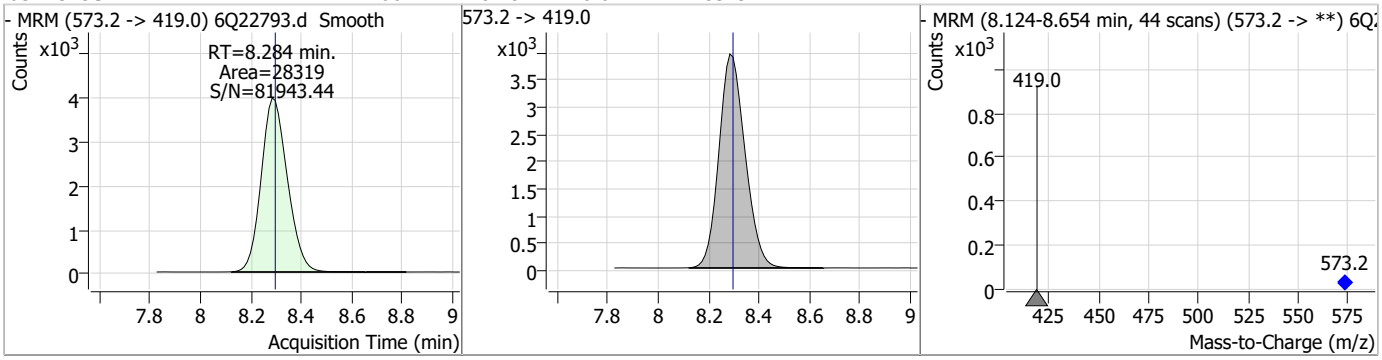
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.28	8.03	-0.02	3641				



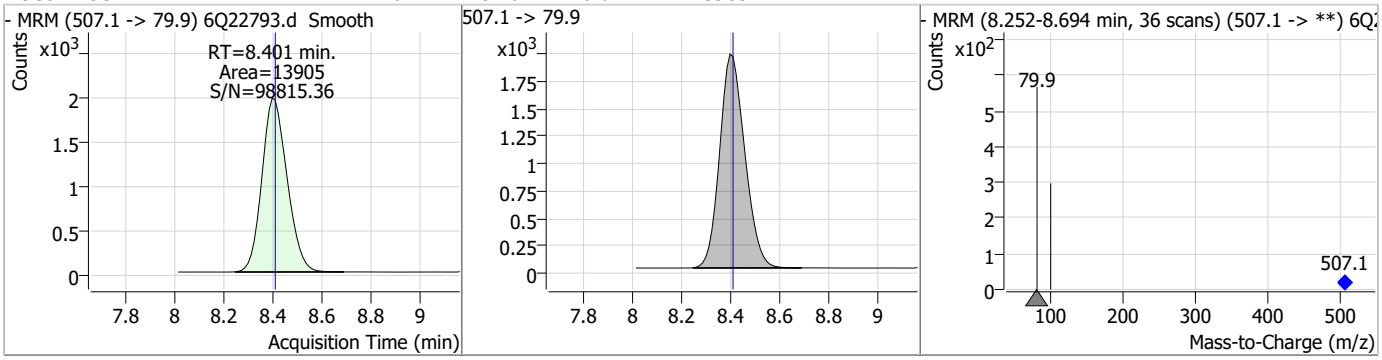
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.22	8.24	-0.02	22581				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.06	8.28	-0.01	28319				

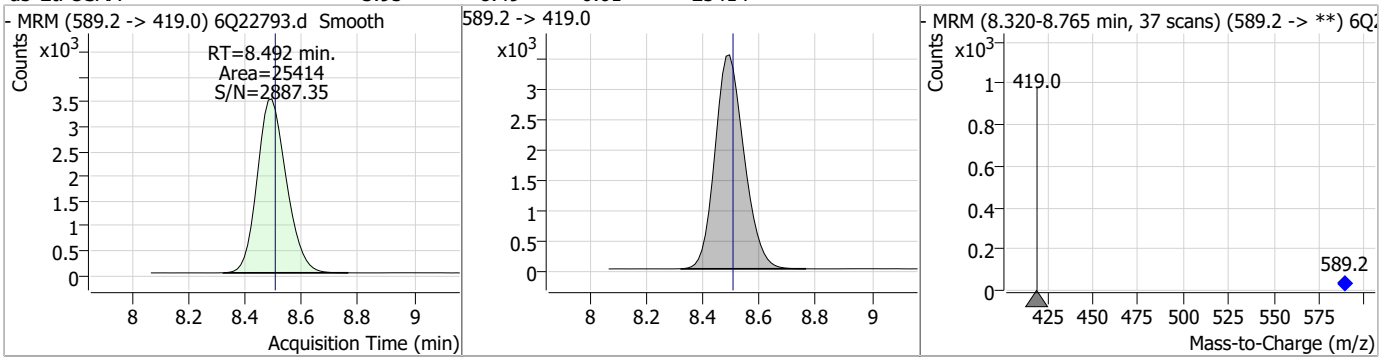


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.46	8.40	-0.01	13905				

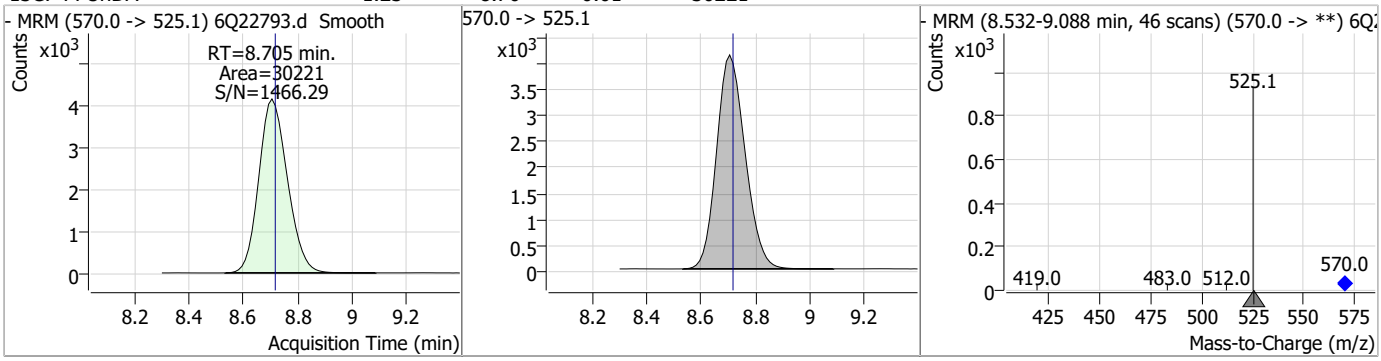


Perfluorinated Compounds by LC/MS/MS

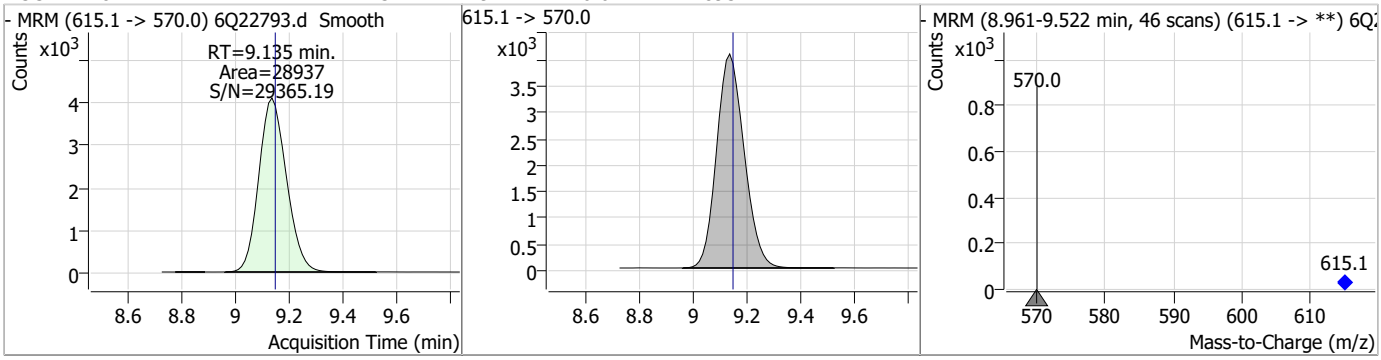
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	3.95	8.49	-0.01	25414				



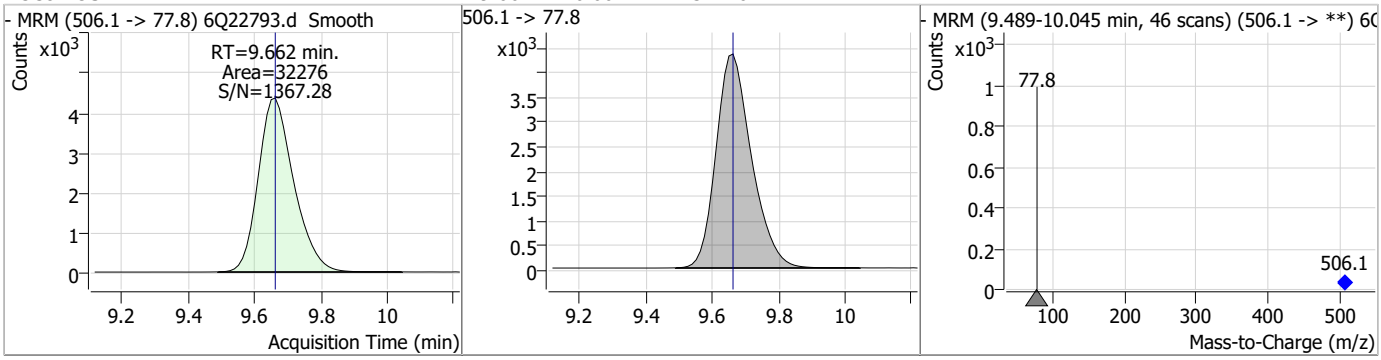
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.23	8.70	-0.01	30221				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.31	9.14	-0.01	28937				

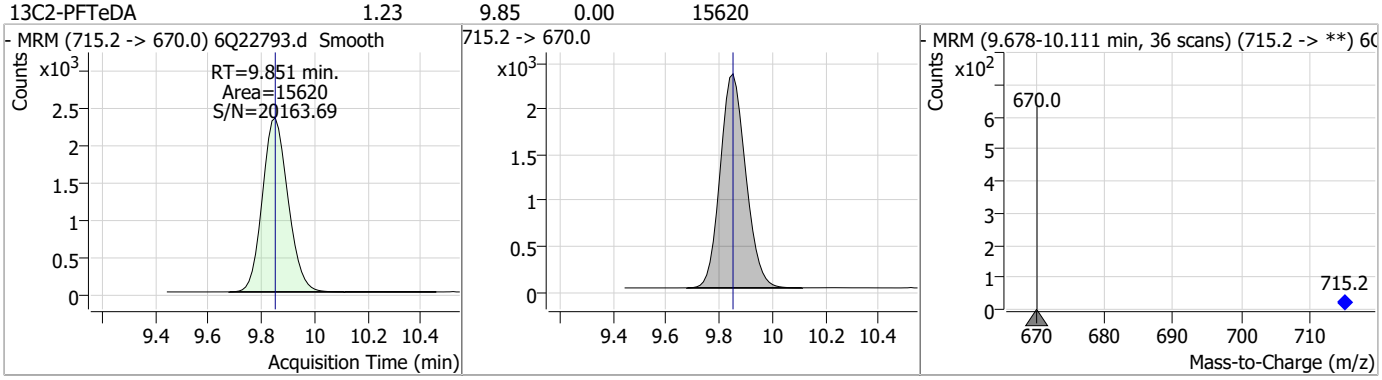


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.22	9.66	0.00	32276				

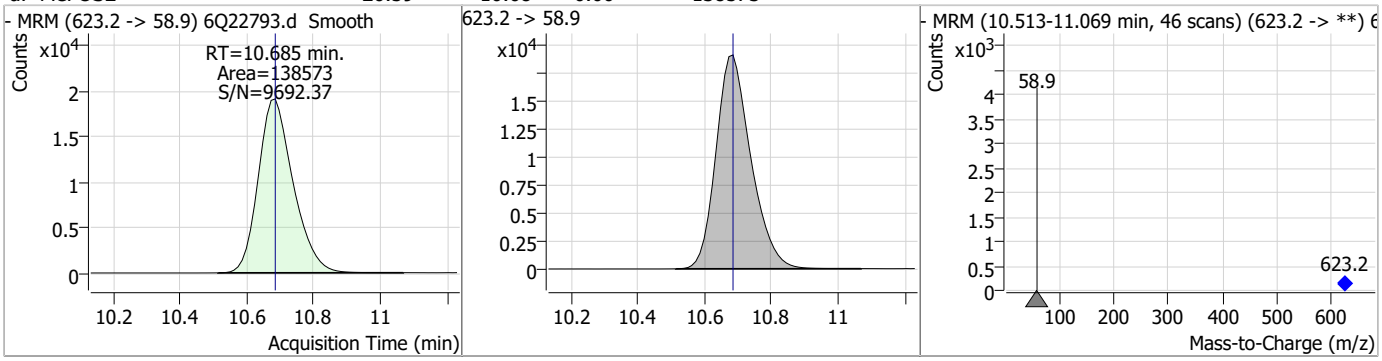


Perfluorinated Compounds by LC/MS/MS

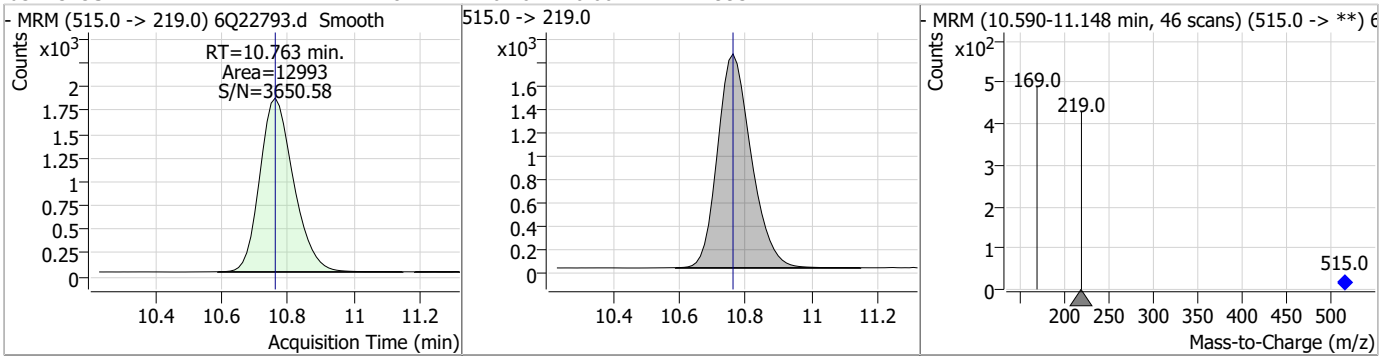
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.23	9.85	0.00	15620				



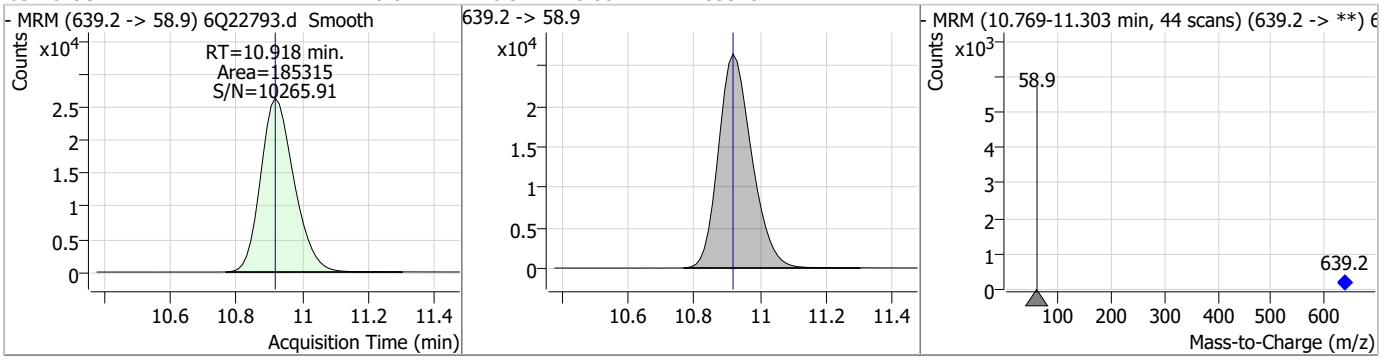
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.59	10.68	0.00	138573				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.18	10.76	0.00	12993				

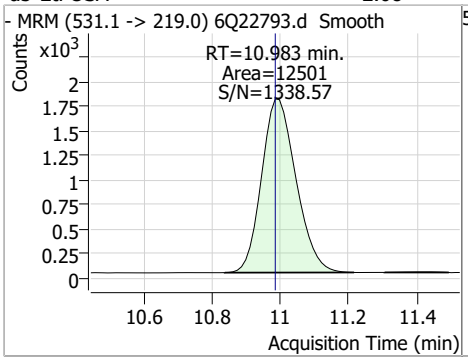


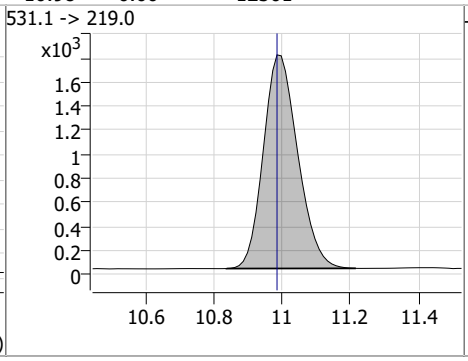
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.64	10.92	0.00	185315				

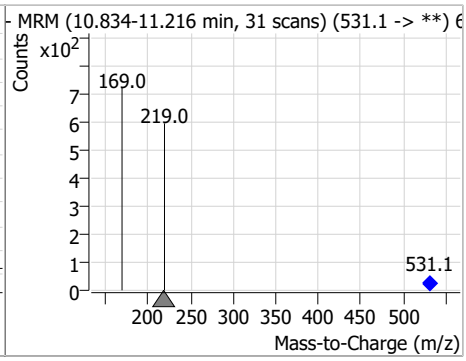


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.08	10.98	0.00	12501				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q22807.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	8/13/2023 6:43:21 PM
Sample Name	:	iccb
Vial	:	P1-B9
DA Method File	:	1633_081023_S6Q330.quantmethod.xml
Batch Name	:	s6q331.batch.bin
Sample Information	:	OP98201,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	145069	10.00	µg/L	0.012
M5-PFPeA	4.447	268.3 -> 223.0	45604	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	49182	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	49352	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	72625	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	35073	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	20570	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	26741	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	24552	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	13287	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	27789	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	19498	2.50	µg/L	0.000
M3-PFHxS	7.342	402.1 -> 79.9	11738	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	11564	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	2523	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3683	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3815	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	26407	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	31663	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	22987	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	111863	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	146837	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	11240	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	11601	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	14605	2.50	µg/L	-0.025
13C3-PFBA	3.026	216.0 -> 172.0	60924	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	9197	2.50	µg/L	0.000
13C4-PFOA	7.227	417.1 -> 372.0	84437	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	28768	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	43385	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	46817	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2523	4.59	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.8%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3683	4.64	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.9%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3815	4.91	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C2-PFDoDA	9.135	615.1 -> 570.0	24552	1.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.1%		
13C2-PFTeDA	9.839	715.2 -> 670.0	13287	1.19	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.1%		
13C3-PFBS	5.610	302.1 -> 79.9	19498	2.50	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C3-PFHxS	7.342	402.1 -> 79.9	11738	2.32	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 = 92.9%	
13C4-PFBA	3.022	216.8 -> 171.9	145069	10.08 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFHpA	6.596	367.1 -> 322.0	49352	2.61 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C5-PFHxA	5.668	318.0 -> 273.0	49182	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C5-PFPeA	4.447	268.3 -> 223.0	45604	5.17 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C6-PFDA	8.238	519.1 -> 474.1	20570	1.27 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C7-PFUnDA	8.705	570.0 -> 525.1	26741	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C8-FOSA	9.662	506.1 -> 77.8	27789	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C8-PFOA	7.226	421.1 -> 376.0	72625	2.33 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.2%	
13C8-PFOS	8.401	507.1 -> 79.9	11564	2.70 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.2%	
13C9-PFNA	7.758	472.1 -> 427.0	35073	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.7%	
d3-MeFOSAA	8.284	573.2 -> 419.0	26407	5.00 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	31663	10.45 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.5%	
d3-MeFOSA	10.763	515.0 -> 219.0	11601	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%	
d5-EtFOSAA	8.492	589.2 -> 419.0	22987	4.71 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.2%	
d7-MeFOSE	10.672	623.2 -> 58.9	111863	28.34 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 113.4%	
d9-EtFOSE	10.918	639.2 -> 58.9	146837	27.88 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 111.5%	
d5-EtFOSA	10.983	531.1 -> 219.0	11240	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%	
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

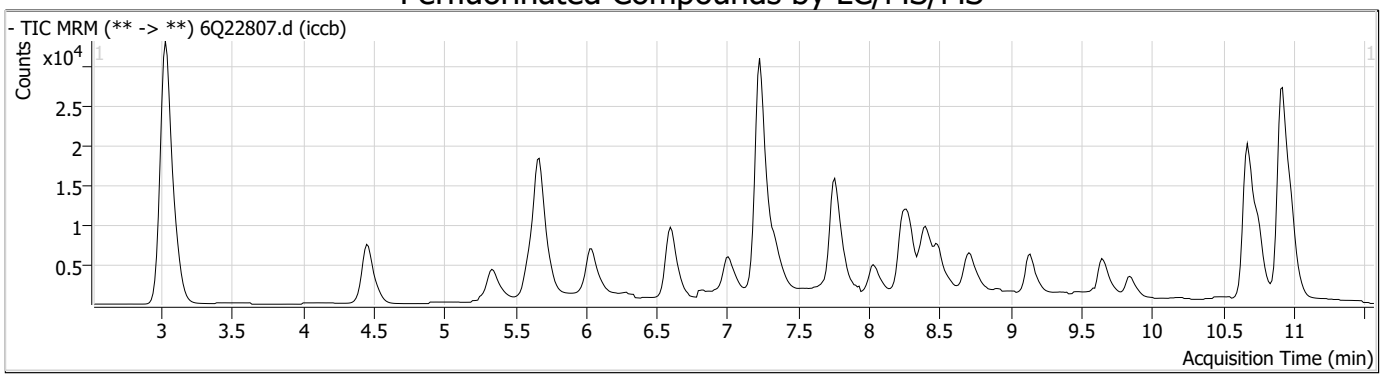
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	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

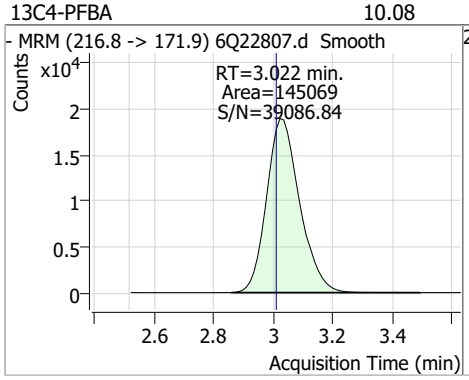
Perfluorinated Compounds by LC/MS/MS

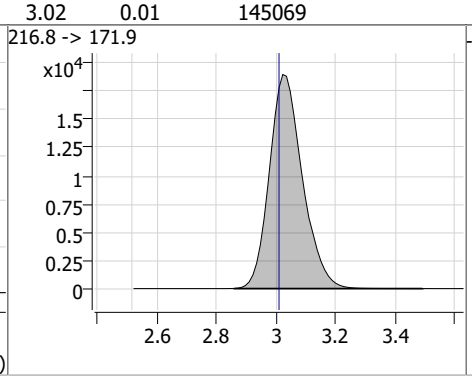
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

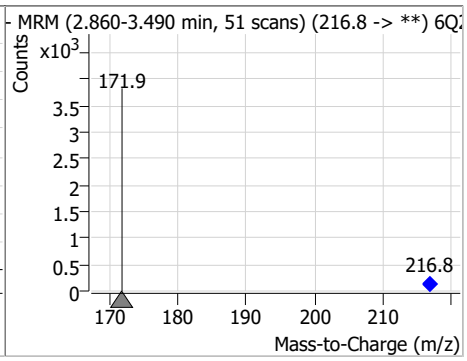
Perfluorinated Compounds by LC/MS/MS



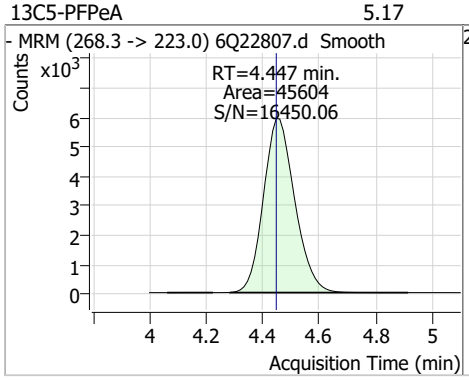
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.08	3.02	0.01	145069				

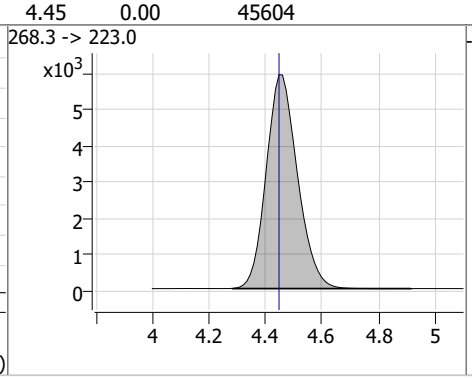


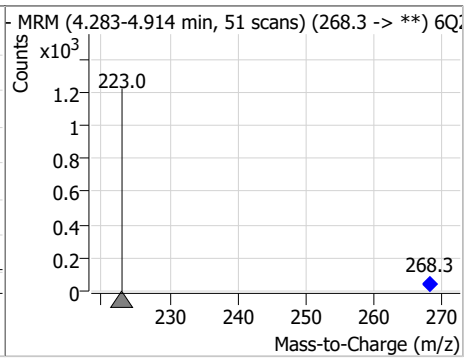




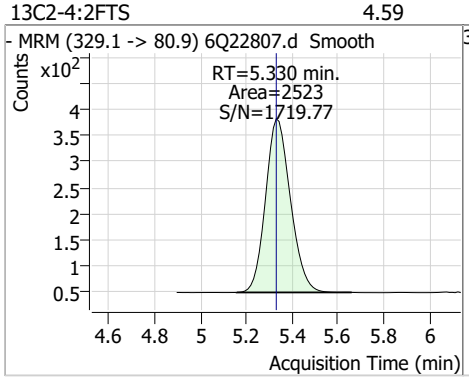
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.17	4.45	0.00	45604				

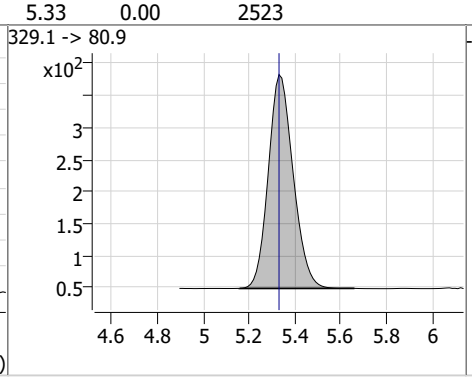


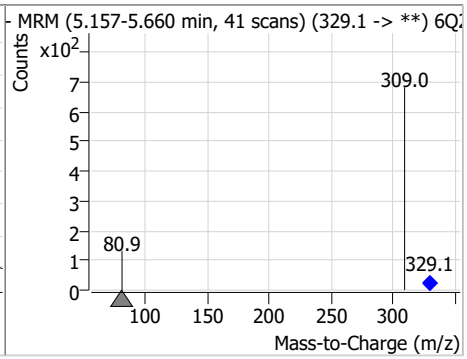




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.59	5.33	0.00	2523				

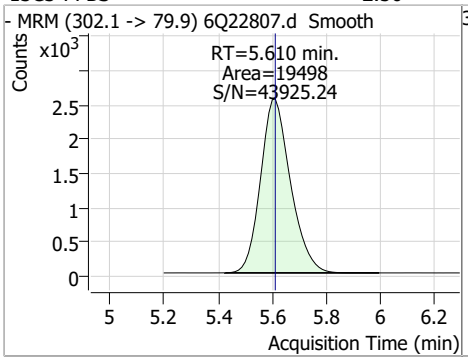


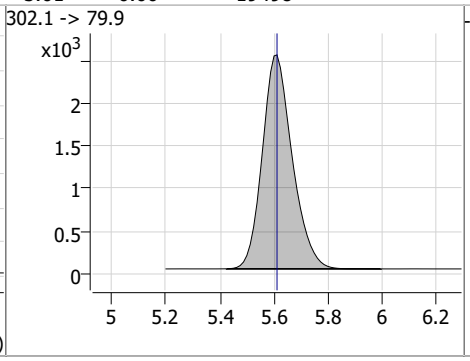


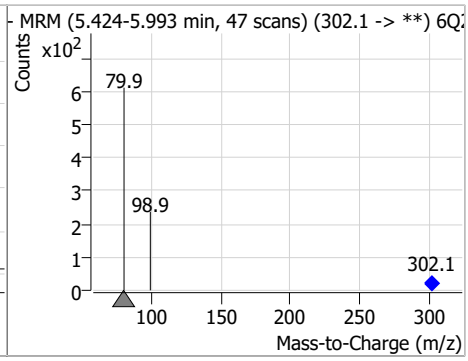


Perfluorinated Compounds by LC/MS/MS

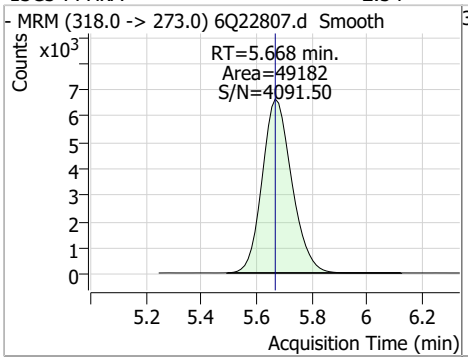
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.50	5.61	0.00	19498				

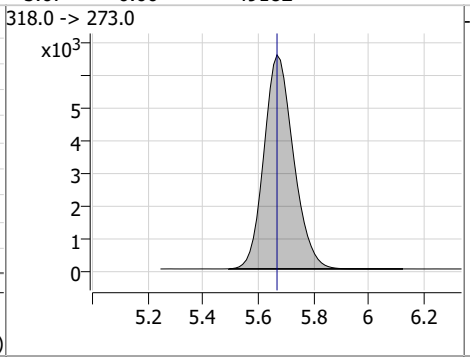


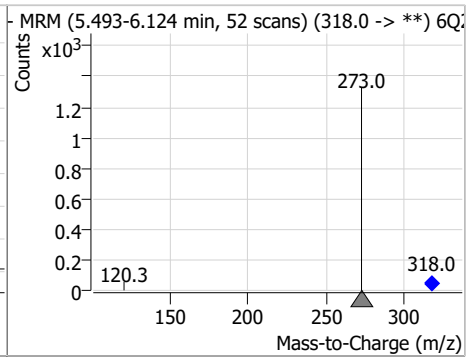




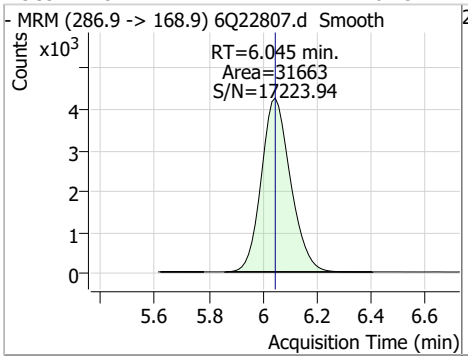
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.54	5.67	0.00	49182				

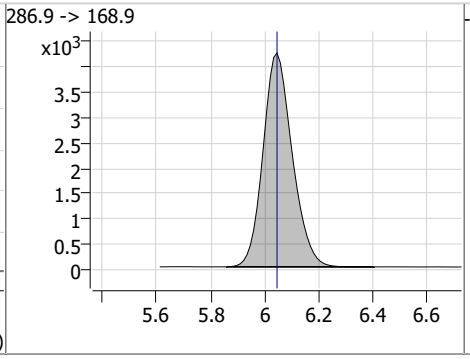


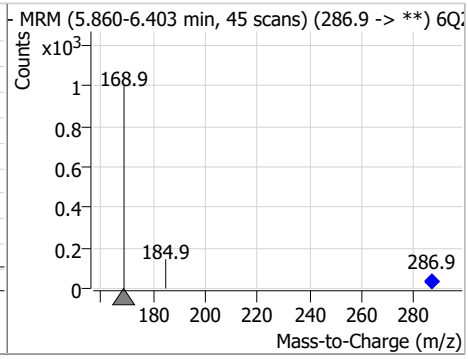




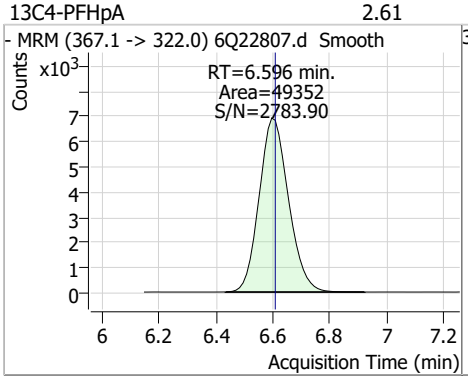
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.45	6.05	0.00	31663				

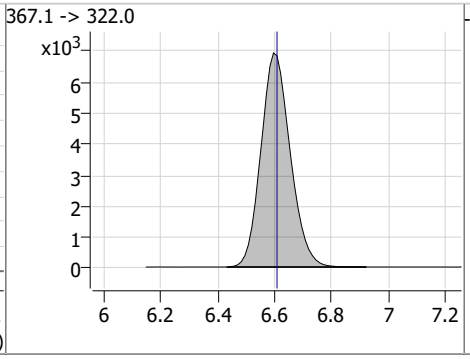


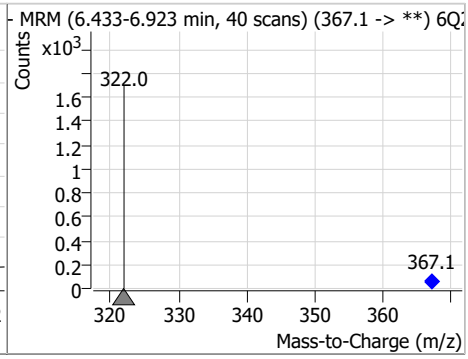




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.61	6.60	-0.01	49352				

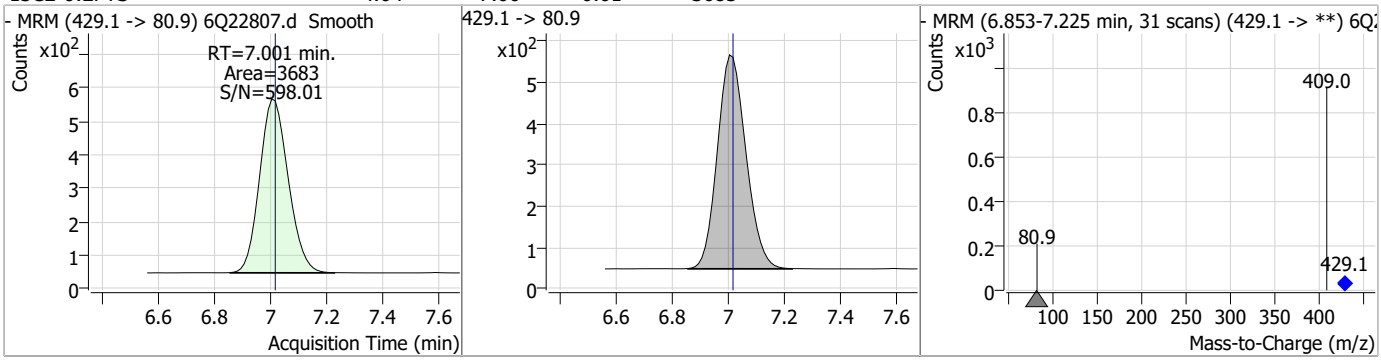




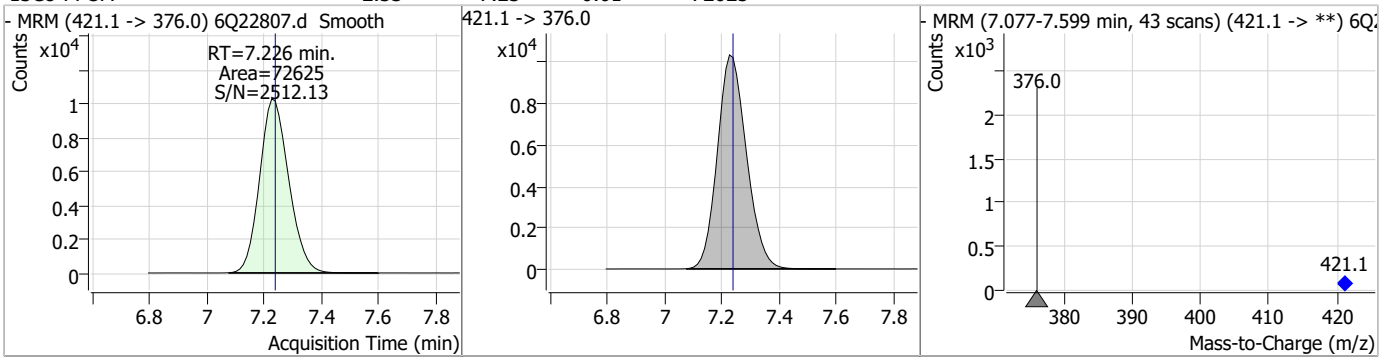


Perfluorinated Compounds by LC/MS/MS

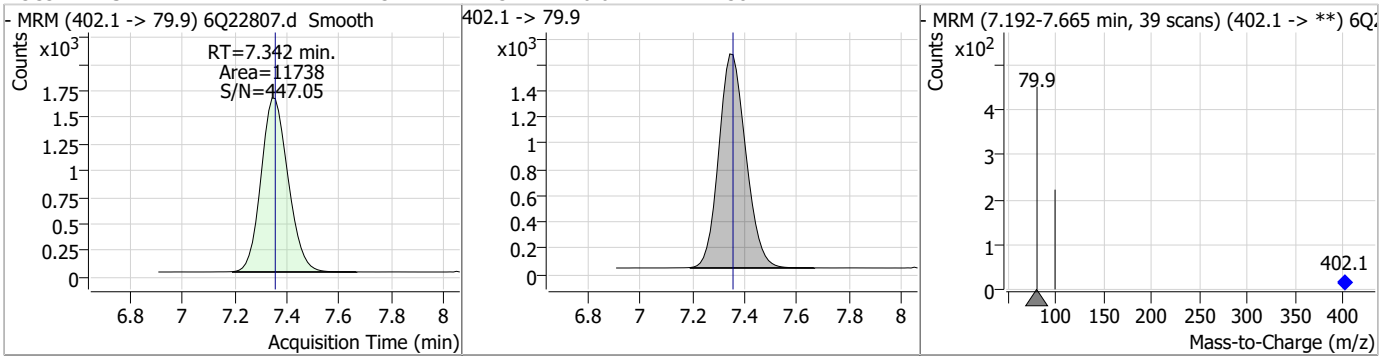
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.64	7.00	-0.01	3683				



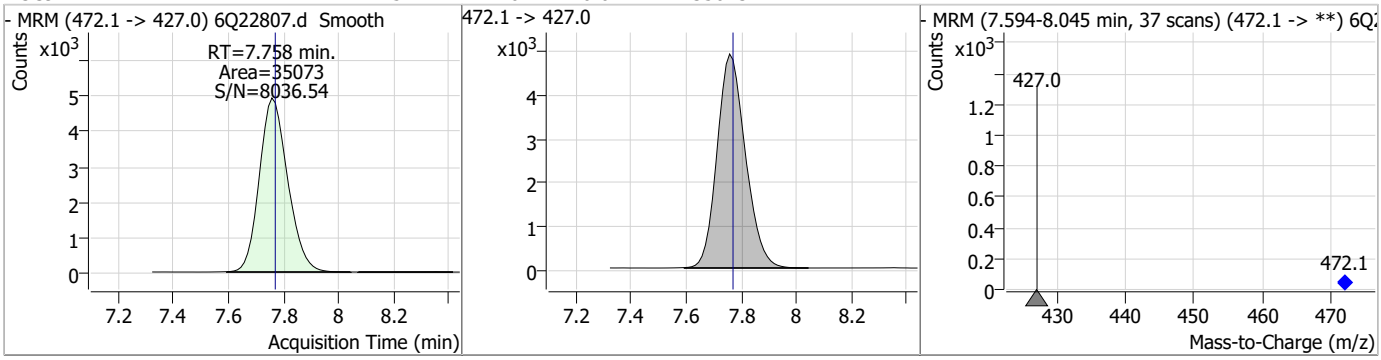
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.33	7.23	-0.01	72625				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.32	7.34	-0.01	11738				

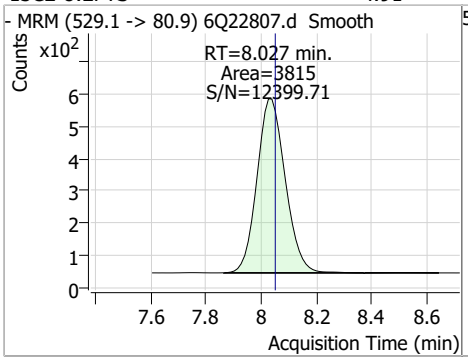


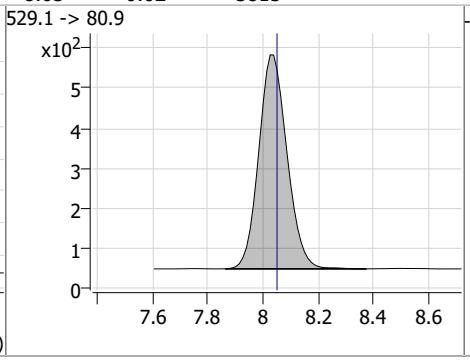
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.76	-0.01	35073				

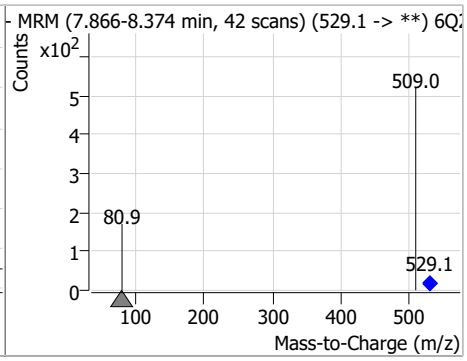


Perfluorinated Compounds by LC/MS/MS

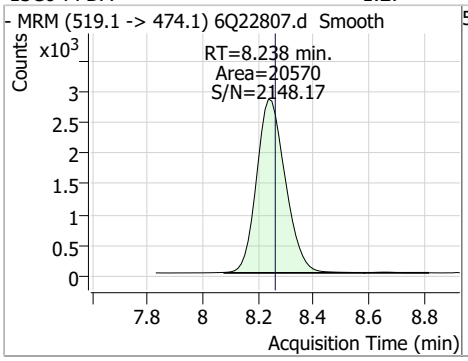
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.91	8.03	-0.02	3815				

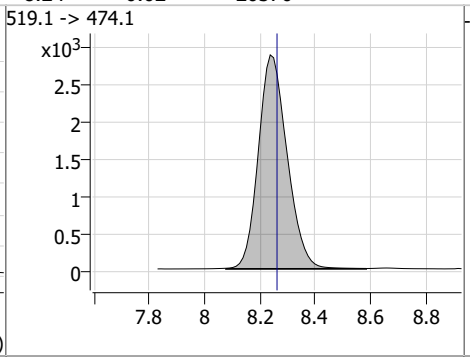


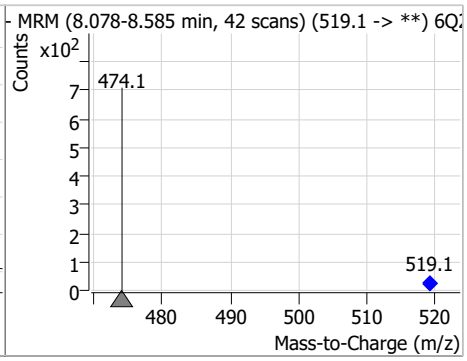




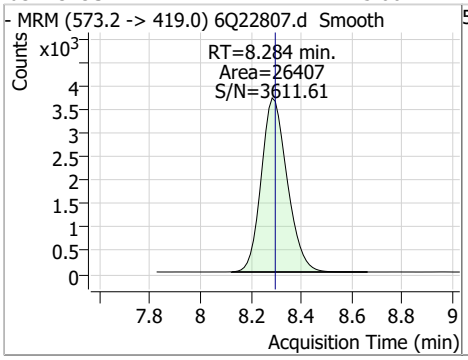
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.27	8.24	-0.02	20570				

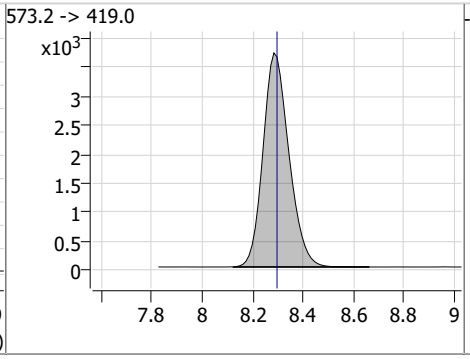


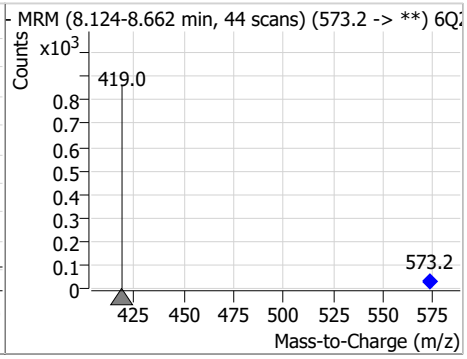




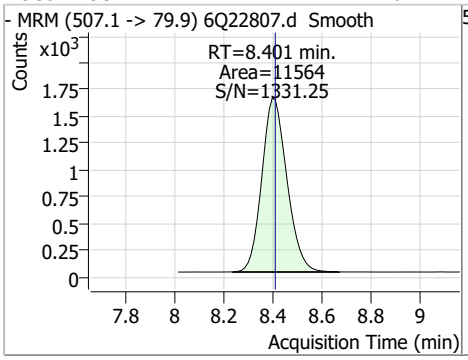
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.00	8.28	-0.01	26407				

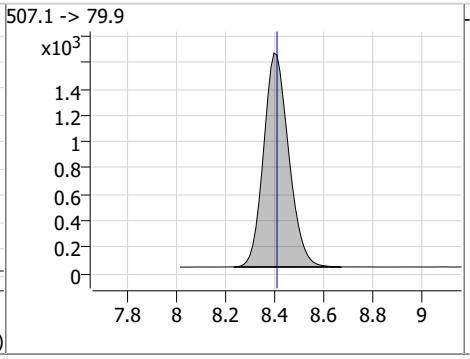


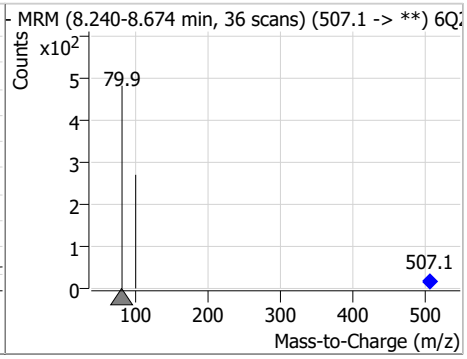




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.70	8.40	-0.01	11564				

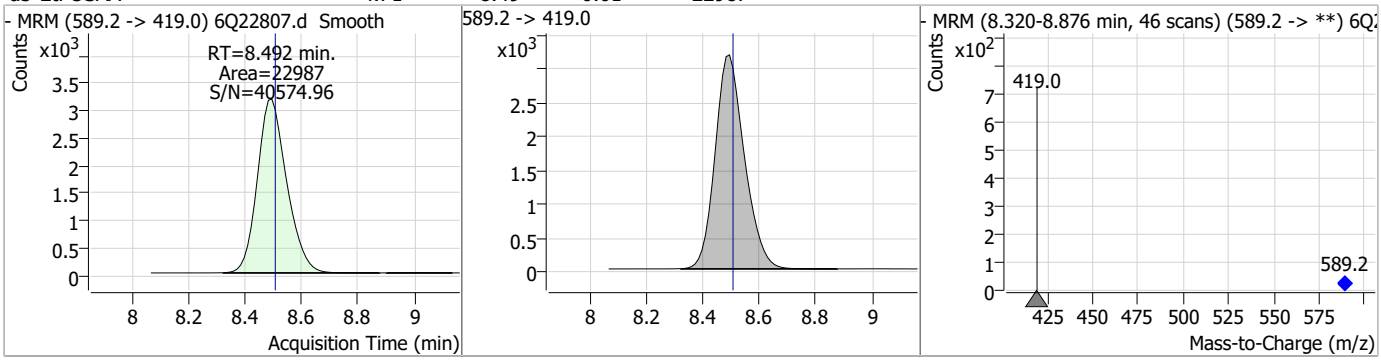




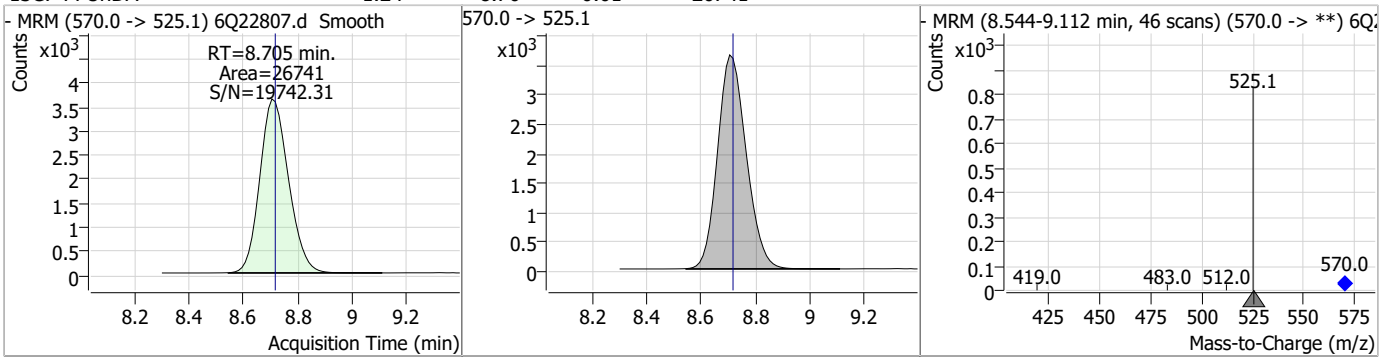


Perfluorinated Compounds by LC/MS/MS

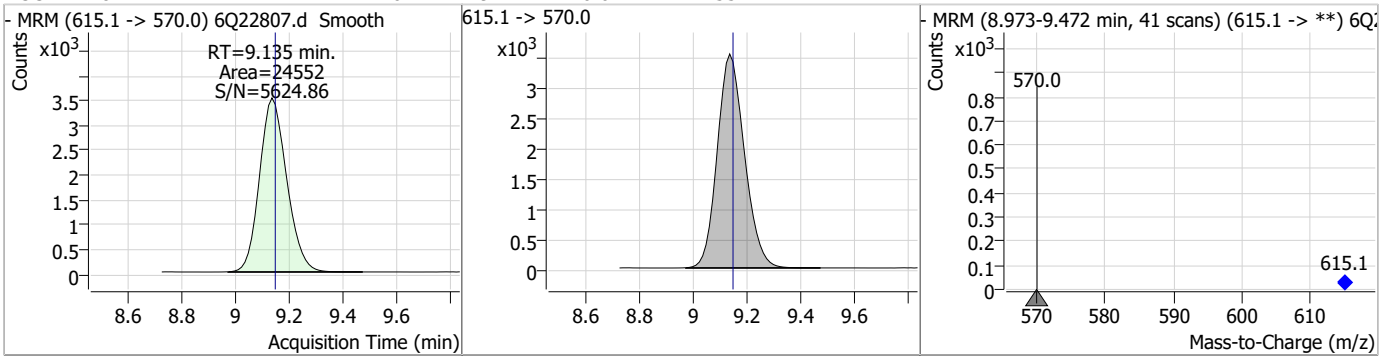
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.71	8.49	-0.01	22987				



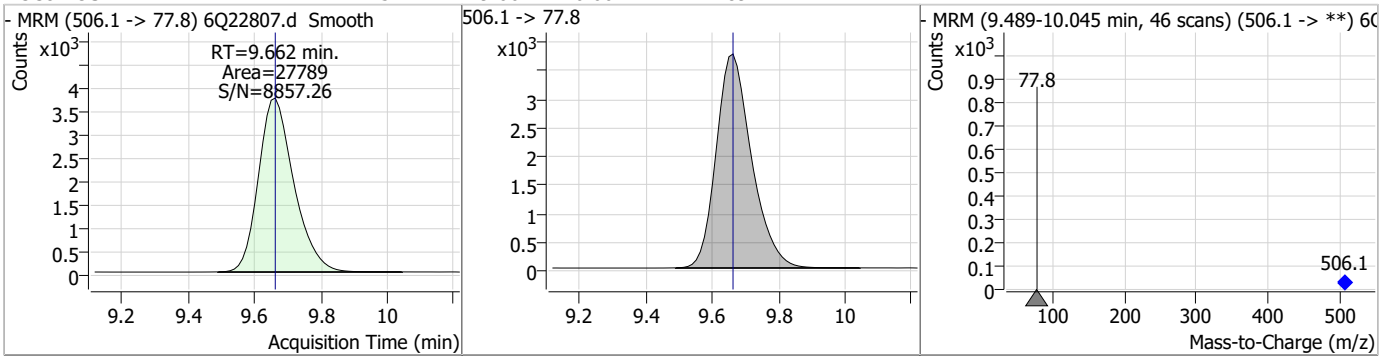
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.24	8.70	-0.01	26741				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.26	9.14	-0.01	24552				

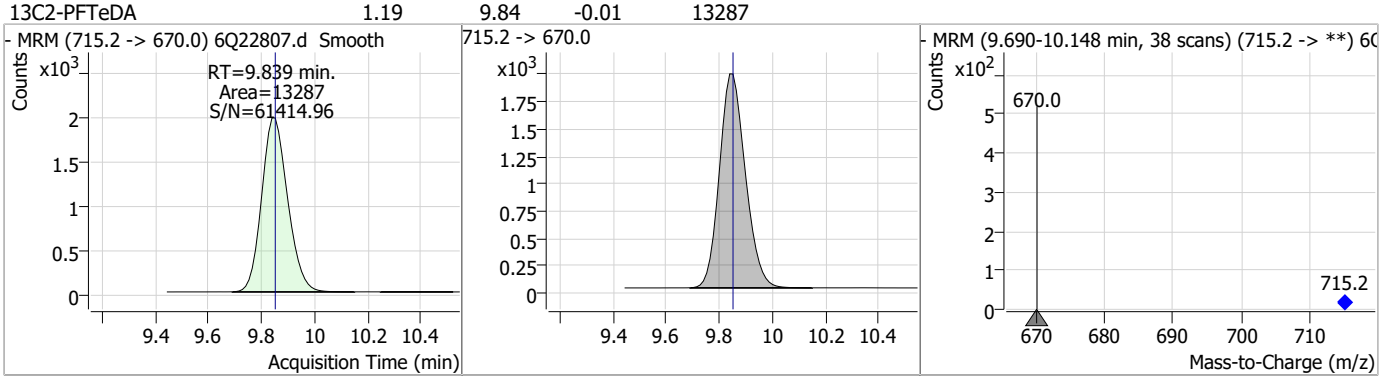


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.52	9.66	0.00	27789				

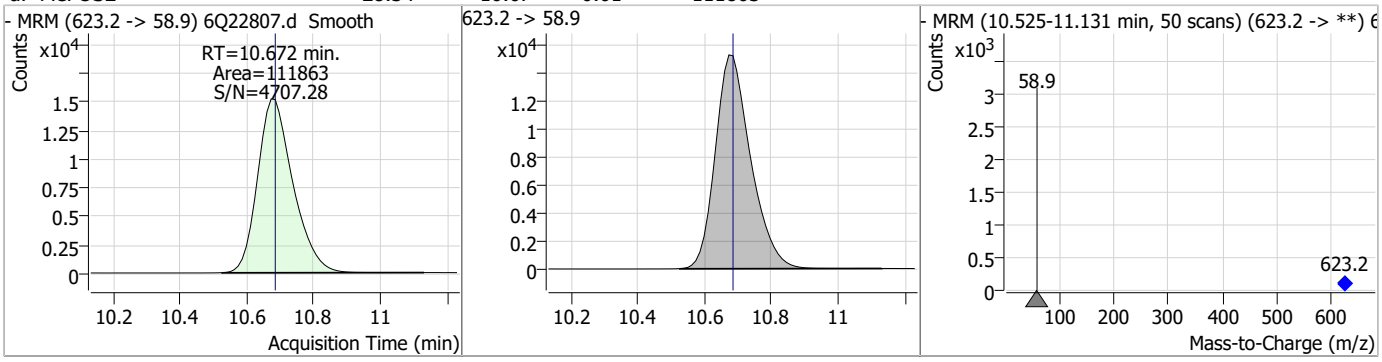


Perfluorinated Compounds by LC/MS/MS

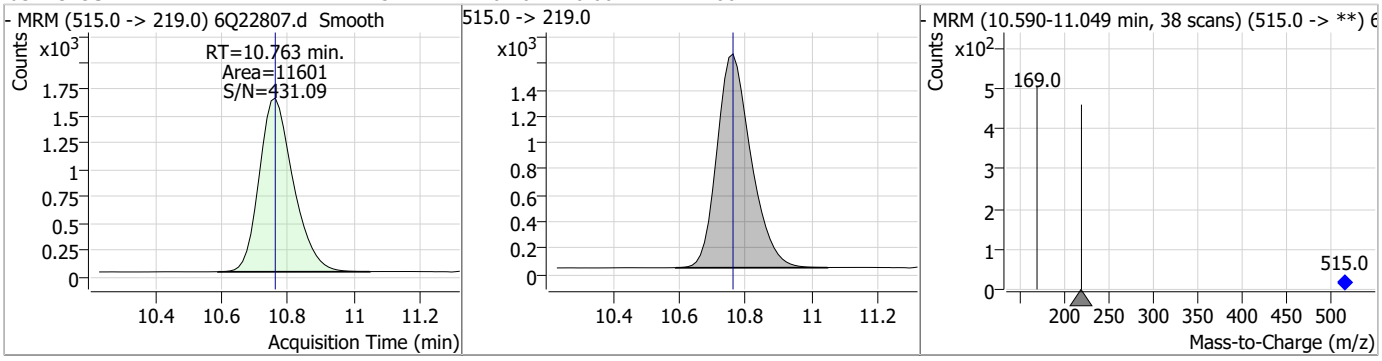
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.19	9.84	-0.01	13287				



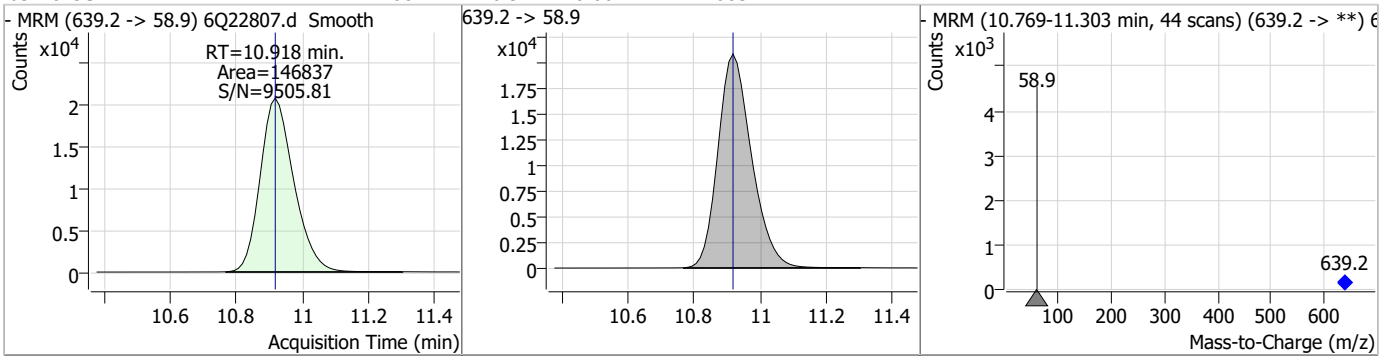
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	28.34	10.67	-0.01	111863				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.57	10.76	0.00	11601				

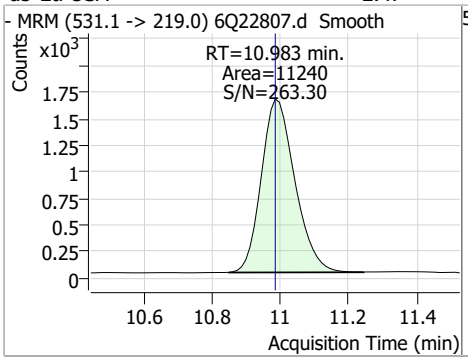


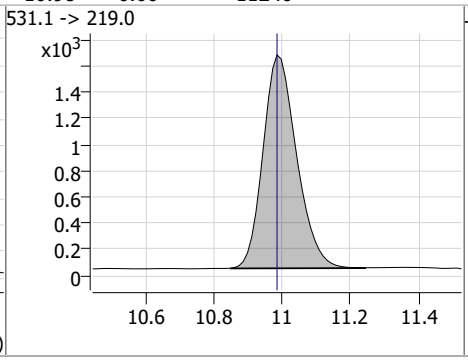
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	27.88	10.92	0.00	146837				

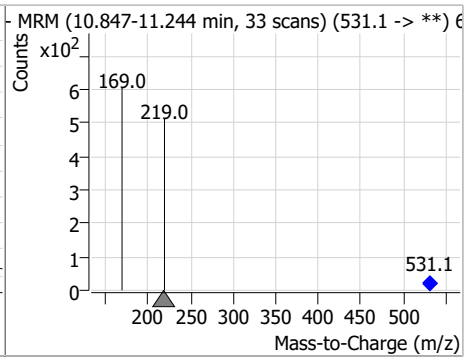


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.47	10.98	0.00	11240				







Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q22819.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	8/13/2023 9:35:29 PM
Sample Name	:	iccb
Vial	:	P1-B9
DA Method File	:	1633_081023_S6Q330.quantmethod.xml
Batch Name	:	s6q331.batch.bin
Sample Information	:	OP98201,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	146334	10.00	µg/L	0.012
M5-PFPeA	4.459	268.3 -> 223.0	46533	5.00	µg/L	0.012
M5-PFHxA	5.668	318.0 -> 273.0	49311	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	49348	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	75577	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	35764	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	19613	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	28142	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	24841	1.25	µg/L	-0.012
M2-PFTeDA	9.851	715.2 -> 670.0	13393	1.25	µg/L	0.000
M8-FOSA	9.662	506.1 -> 77.8	27467	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	19104	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	12169	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	10828	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	2688	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3829	5.00	µg/L	-0.012
M2-8:2FTS	8.039	529.1 -> 80.9	3607	5.00	µg/L	-0.012
M3-MeFOSAA	8.284	573.2 -> 419.0	26408	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	32780	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	22101	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	105819	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	146406	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	12045	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	11399	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	15386	2.50	µg/L	-0.025
13C3-PFBA	3.026	216.0 -> 172.0	61764	5.00	µg/L	0.025
18O2-PFHxS	7.341	403.0 -> 83.9	8891	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	78526	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	28124	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	44277	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	48273	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2688	5.06	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.2%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3829	4.99	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C2-8:2FTS	8.039	529.1 -> 80.9	3607	4.80	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.1%		
13C2-PFDoDA	9.135	615.1 -> 570.0	24841	1.31	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.6%		
13C2-PFTeDA	9.851	715.2 -> 670.0	13393	1.23	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.0%		
13C3-PFBS	5.610	302.1 -> 79.9	19104	2.53	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%		
13C3-PFHxS	7.355	402.1 -> 79.9	12169	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 = 99.6%	
13C4-PFBA	3.022	216.8 -> 171.9	146334	10.03 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C4-PFHpA	6.596	367.1 -> 322.0	49348	2.53 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C5-PFHxA	5.668	318.0 -> 273.0	49311	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C5-PFPeA	4.459	268.3 -> 223.0	46533	5.12 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C6-PFDA	8.238	519.1 -> 474.1	19613	1.24 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C7-PFUnDA	8.705	570.0 -> 525.1	28142	1.34 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.2%	
13C8-FOSA	9.662	506.1 -> 77.8	27467	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.6%	
13C8-PFOA	7.226	421.1 -> 376.0	75577	2.61 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C8-PFOS	8.414	507.1 -> 79.9	10828	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.1%	
13C9-PFNA	7.758	472.1 -> 427.0	35764	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.6%	
d3-MeFOSAA	8.284	573.2 -> 419.0	26408	4.74 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.9%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	32780	10.49 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.9%	
d3-MeFOSA	10.763	515.0 -> 219.0	11399	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%	
d5-EtFOSAA	8.492	589.2 -> 419.0	22101	4.30 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 86.0%	
d7-MeFOSE	10.672	623.2 -> 58.9	105819	25.45 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.8%	
d9-EtFOSE	10.918	639.2 -> 58.9	146406	26.38 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.5%	
d5-EtFOSA	10.983	531.1 -> 219.0	12045	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%	
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

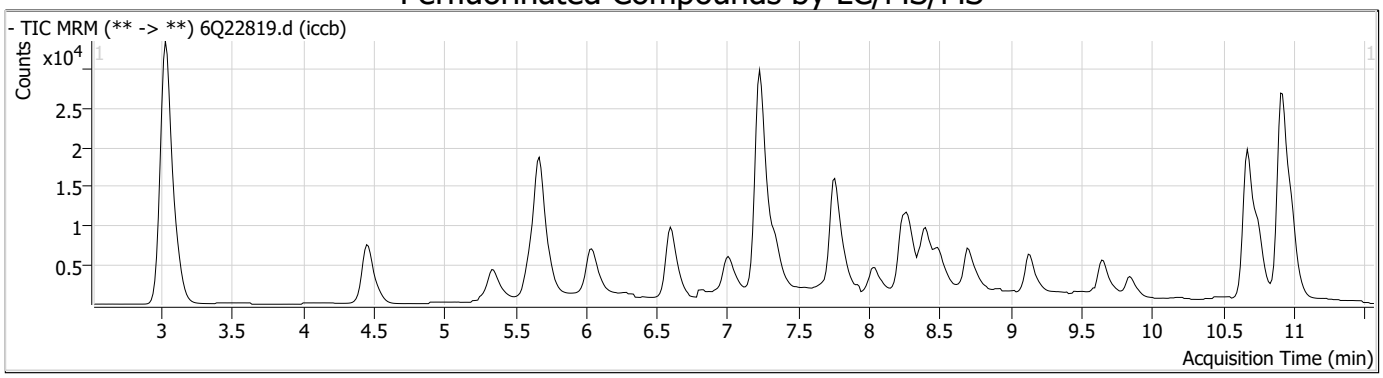
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	N.D.		
		463.0 -> 219.0				
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	-	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

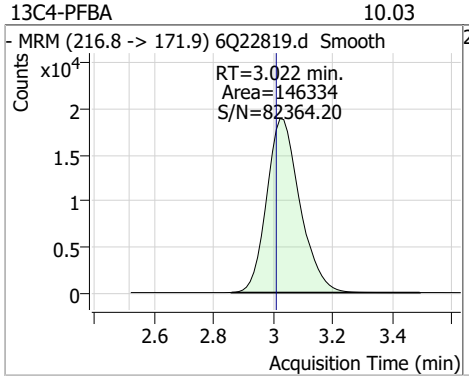
Perfluorinated Compounds by LC/MS/MS

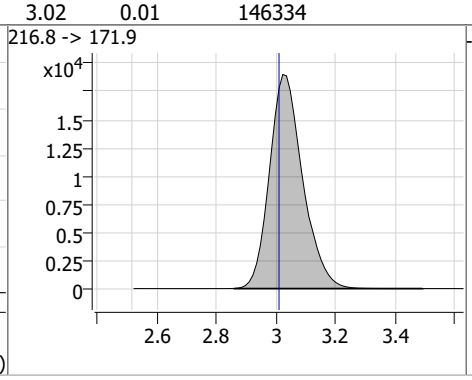
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

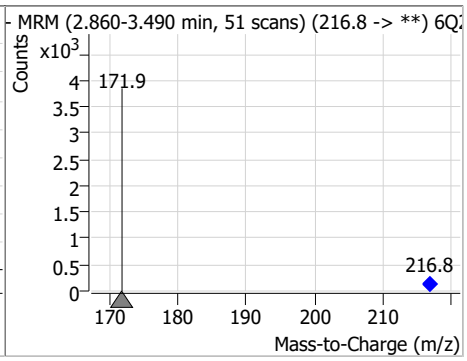
Perfluorinated Compounds by LC/MS/MS



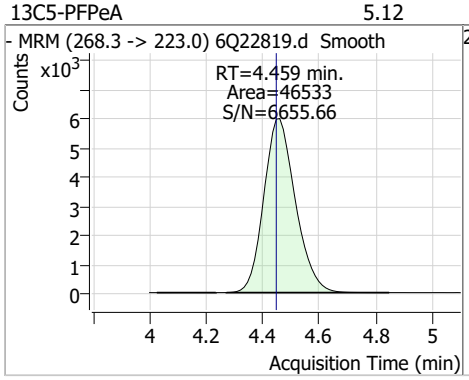
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.03	3.02	0.01	146334				

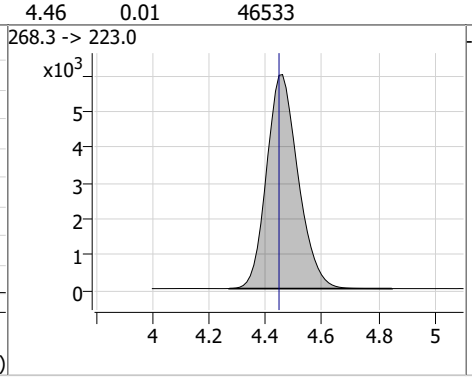


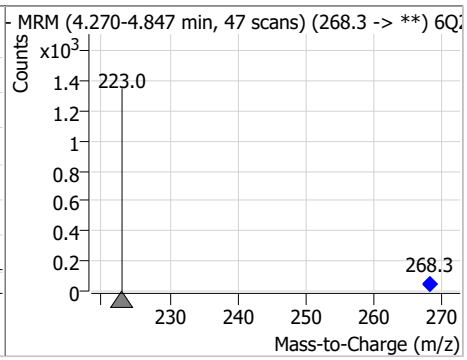




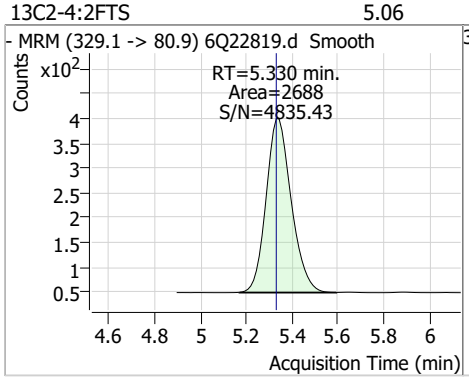
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.12	4.46	0.01	46533				

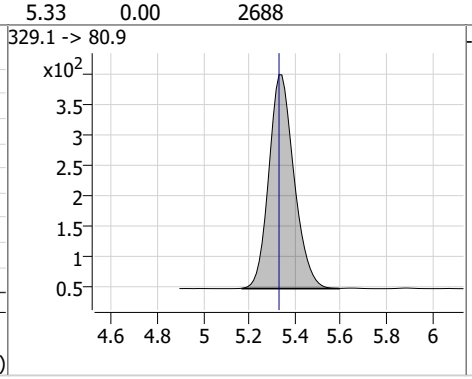


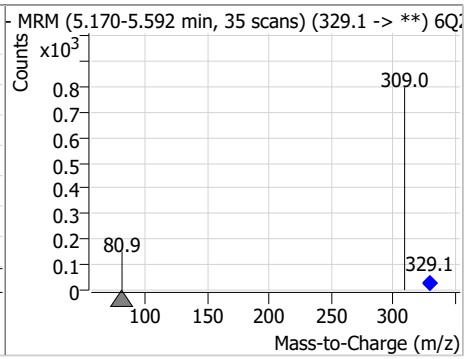




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.06	5.33	0.00	2688				

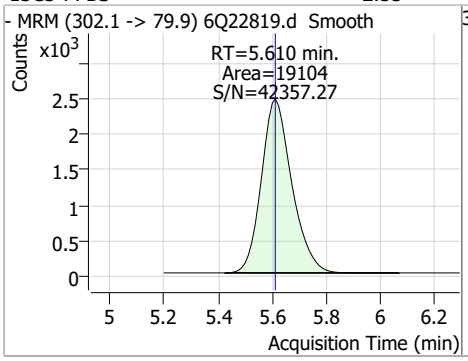


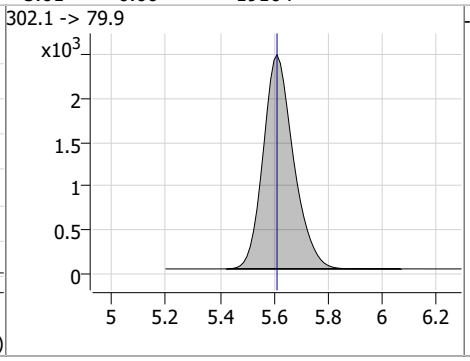


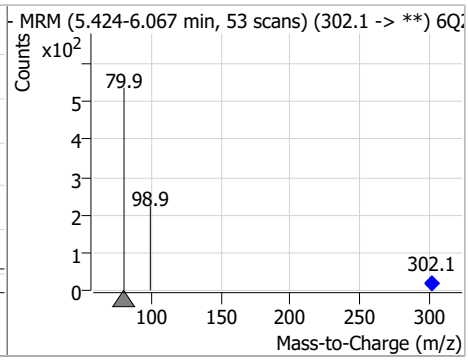


Perfluorinated Compounds by LC/MS/MS

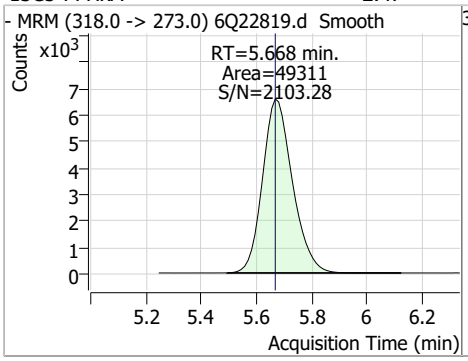
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.53	5.61	0.00	19104				

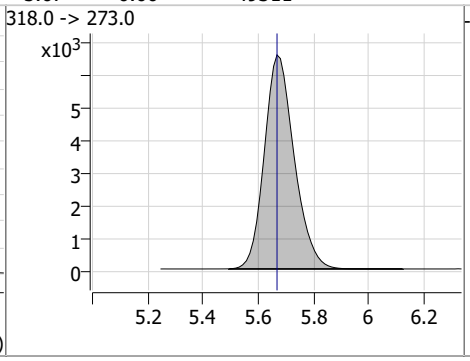


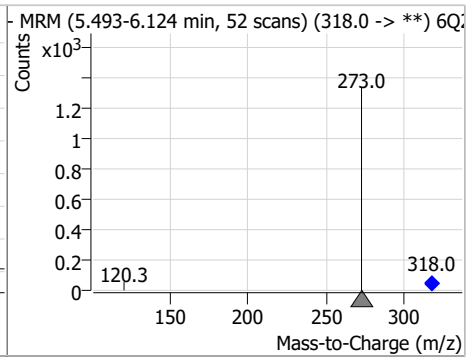




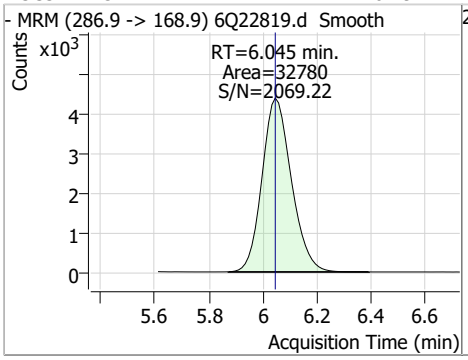
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.67	0.00	49311				

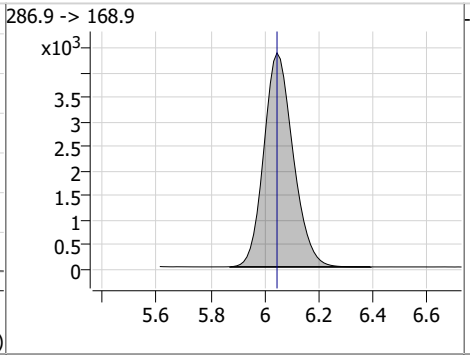


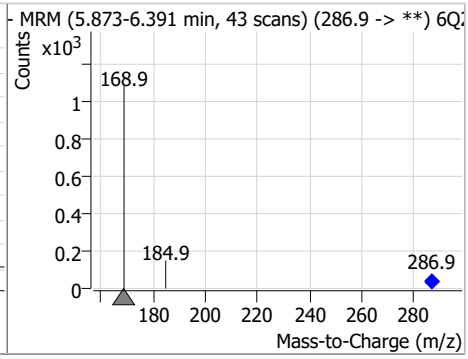




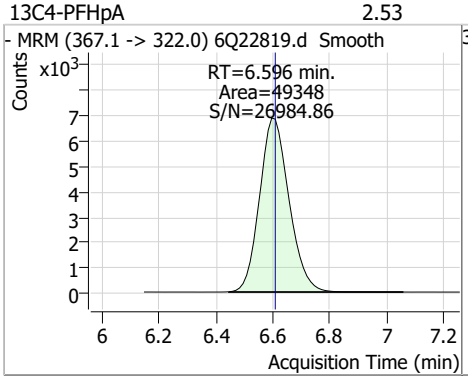
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.49	6.05	0.00	32780				

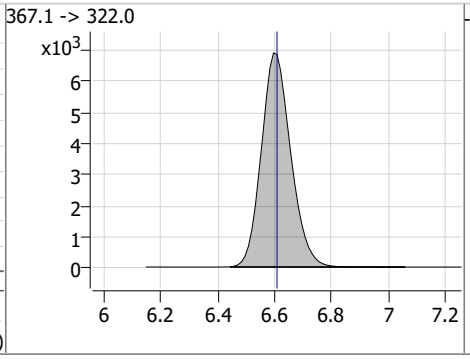


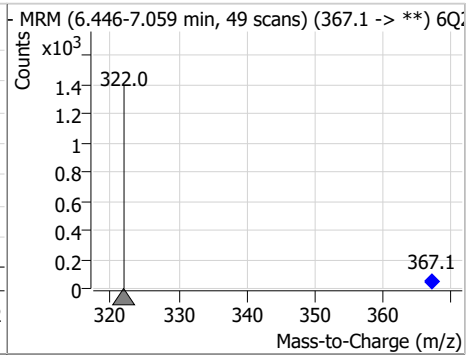




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.53	6.60	-0.01	49348				

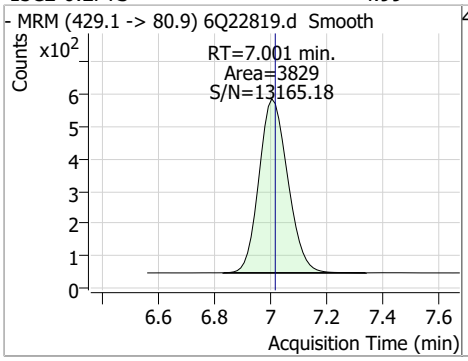


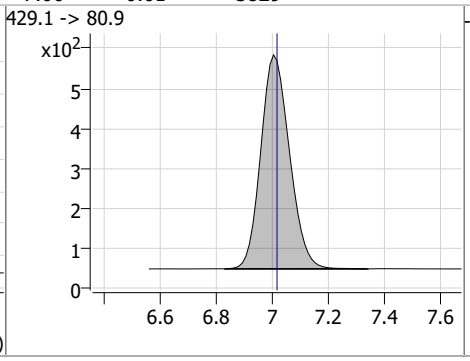


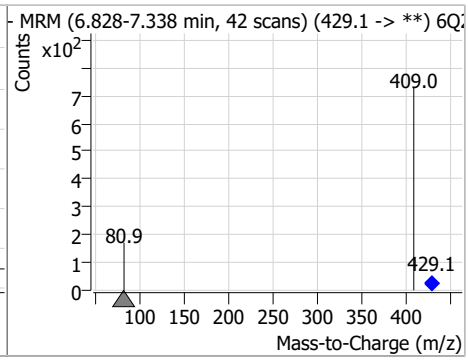


Perfluorinated Compounds by LC/MS/MS

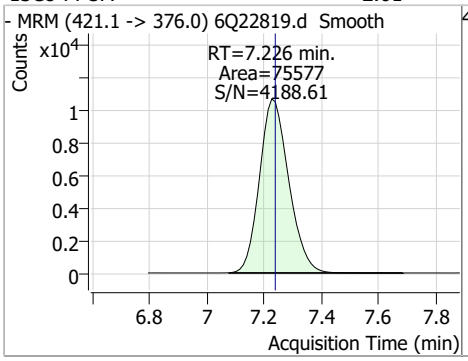
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.99	7.00	-0.01	3829				

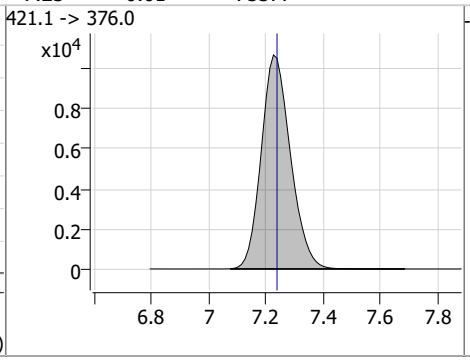


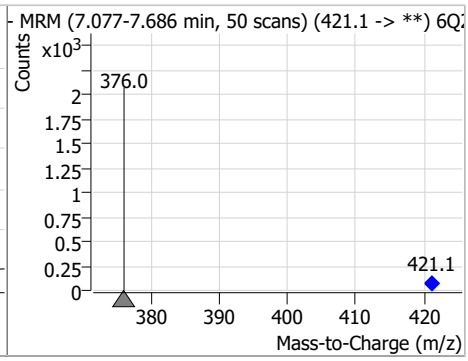




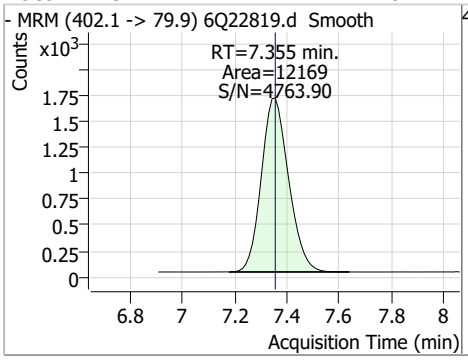
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.61	7.23	-0.01	75577				

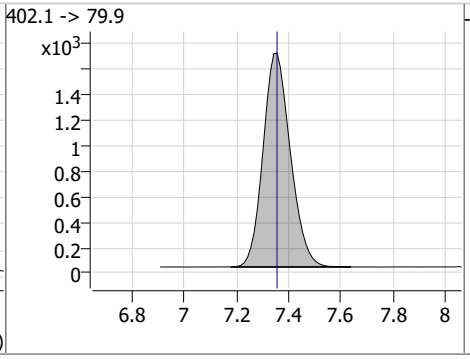


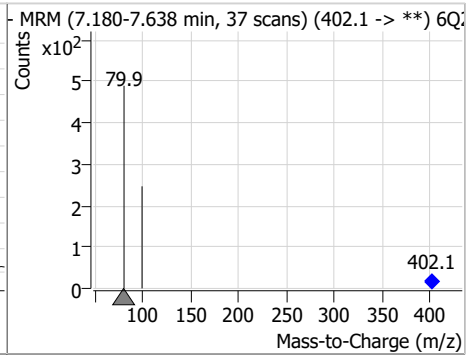




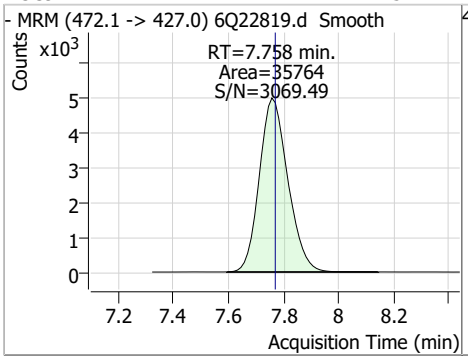
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.49	7.35	0.00	12169				

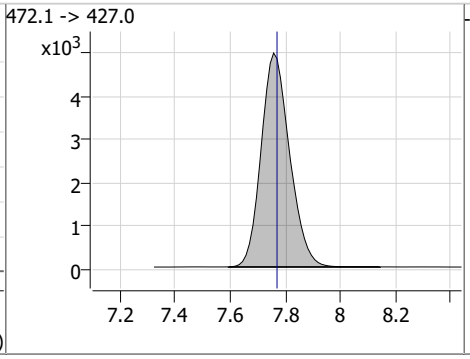


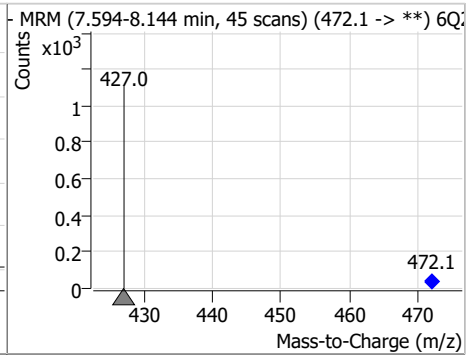




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.76	-0.01	35764				

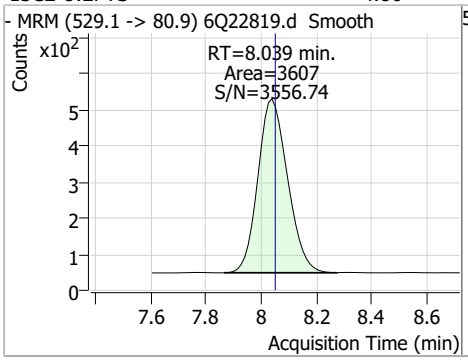


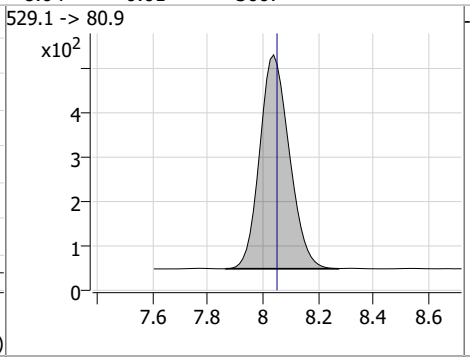


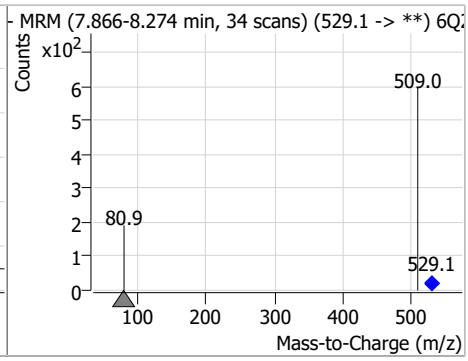


Perfluorinated Compounds by LC/MS/MS

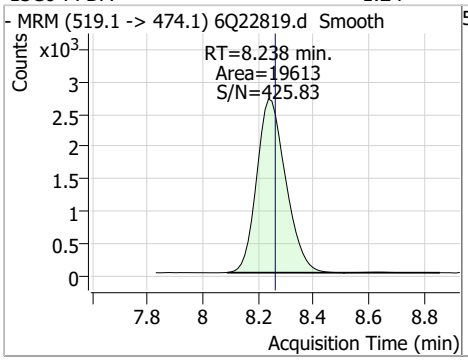
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.80	8.04	-0.01	3607				

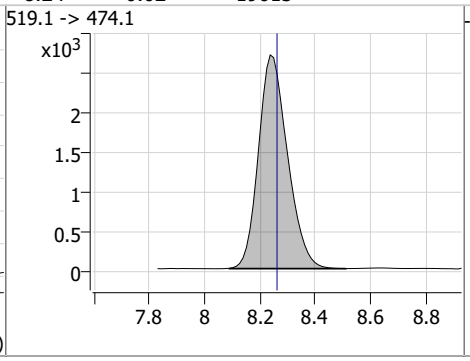


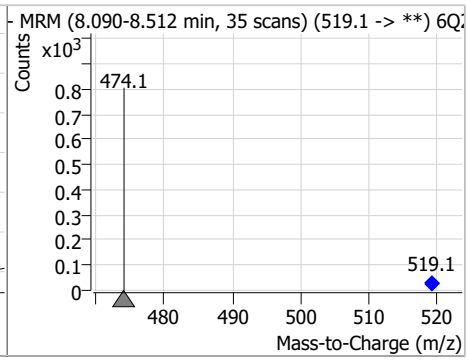




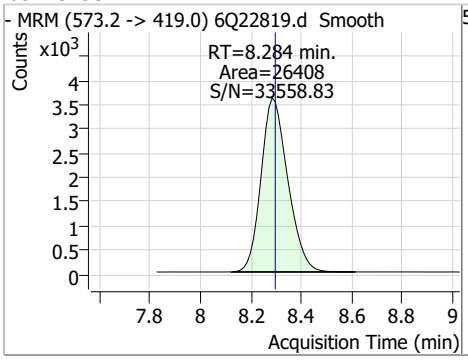
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.24	8.24	-0.02	19613				

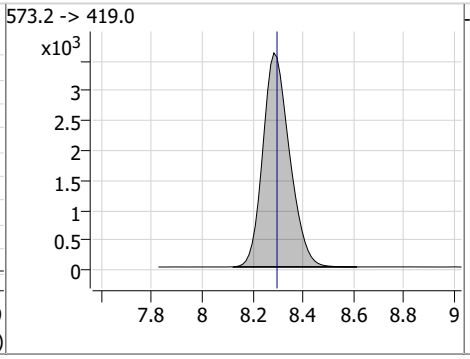


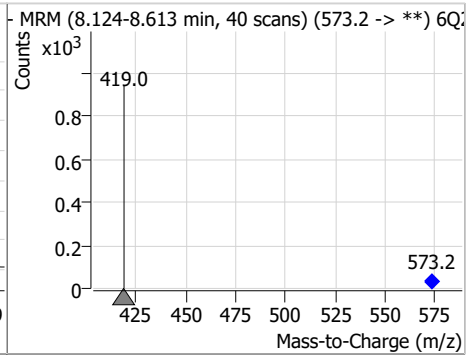




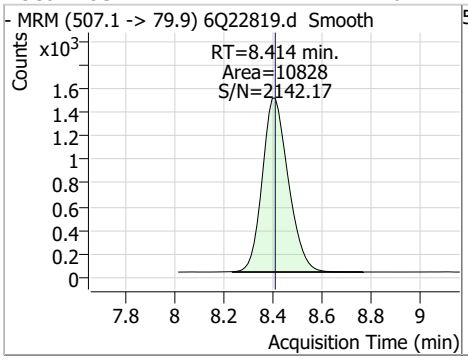
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.74	8.28	-0.01	26408				

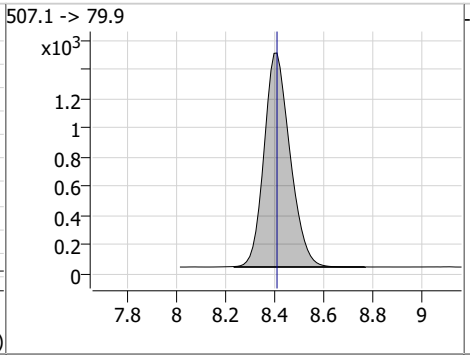


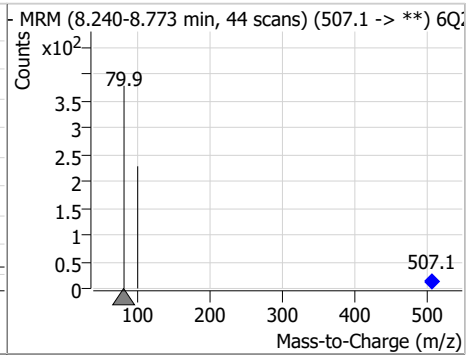




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.40	8.41	0.00	10828				

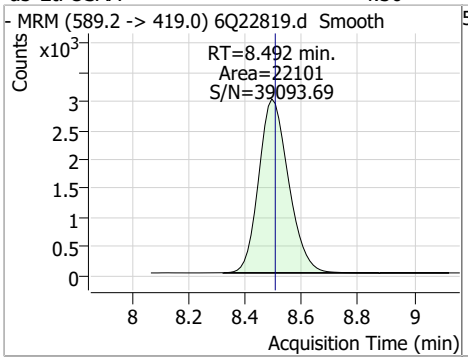


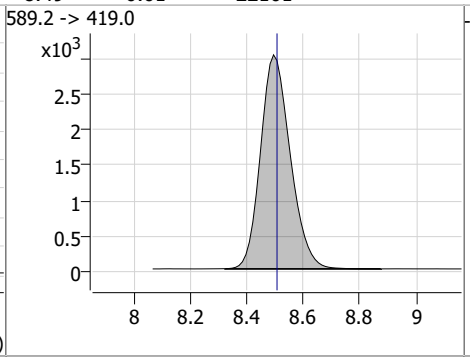


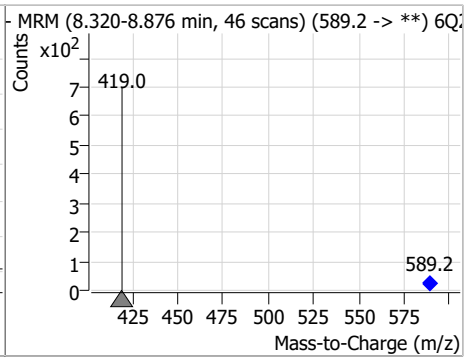


Perfluorinated Compounds by LC/MS/MS

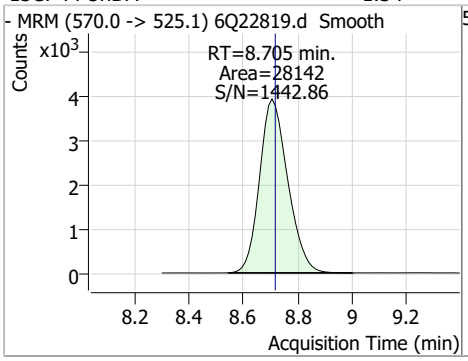
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.30	8.49	-0.01	22101				

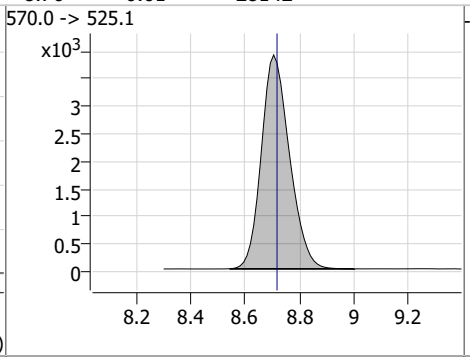


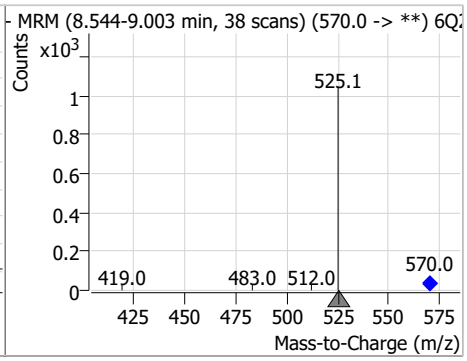




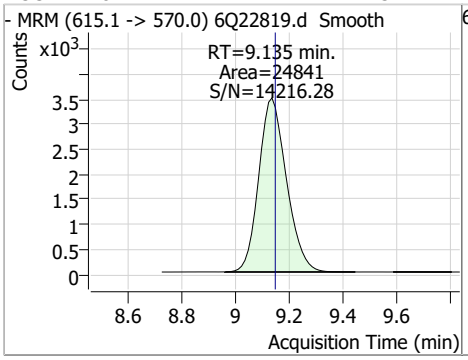
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.34	8.70	-0.01	28142				

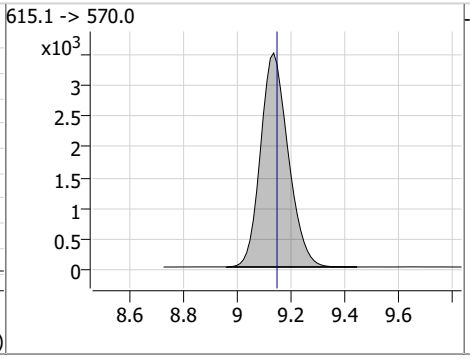


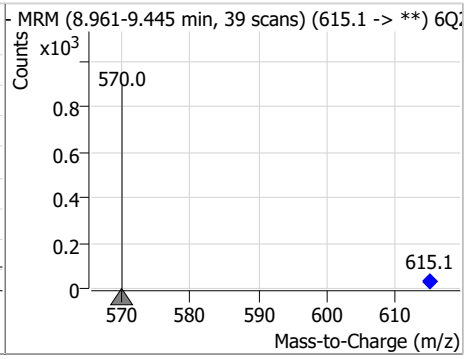




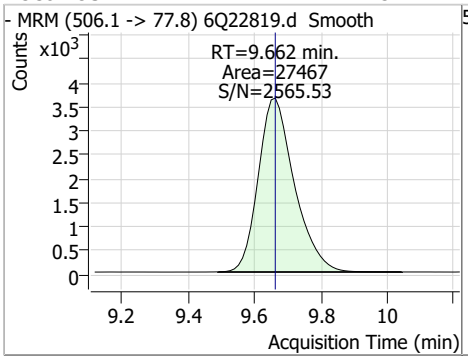
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.31	9.14	-0.01	24841				

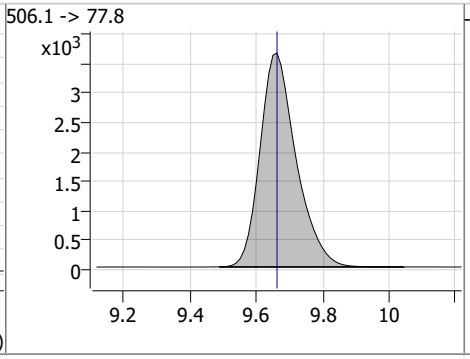


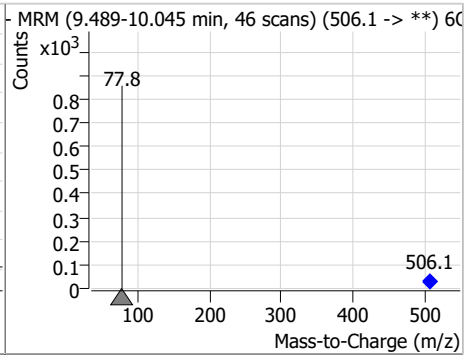




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.37	9.66	0.00	27467				

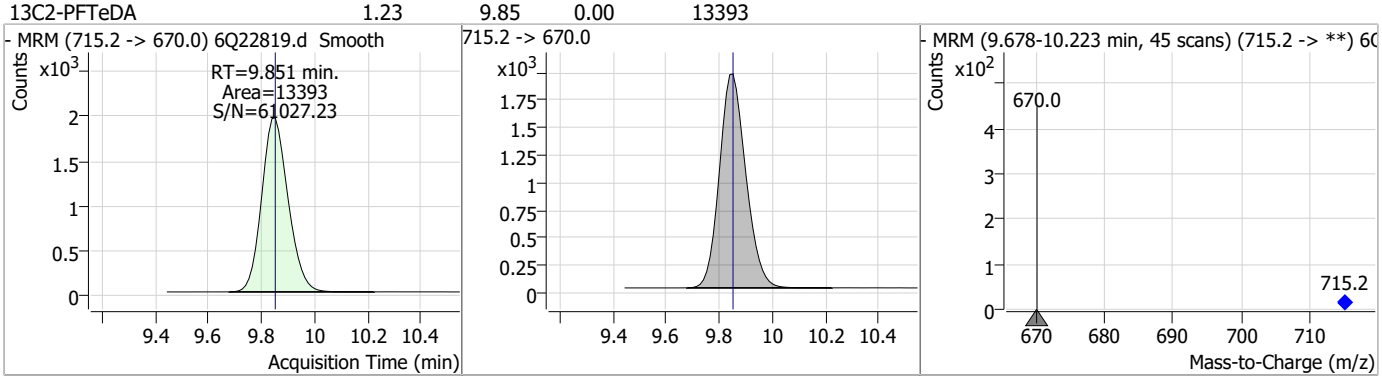




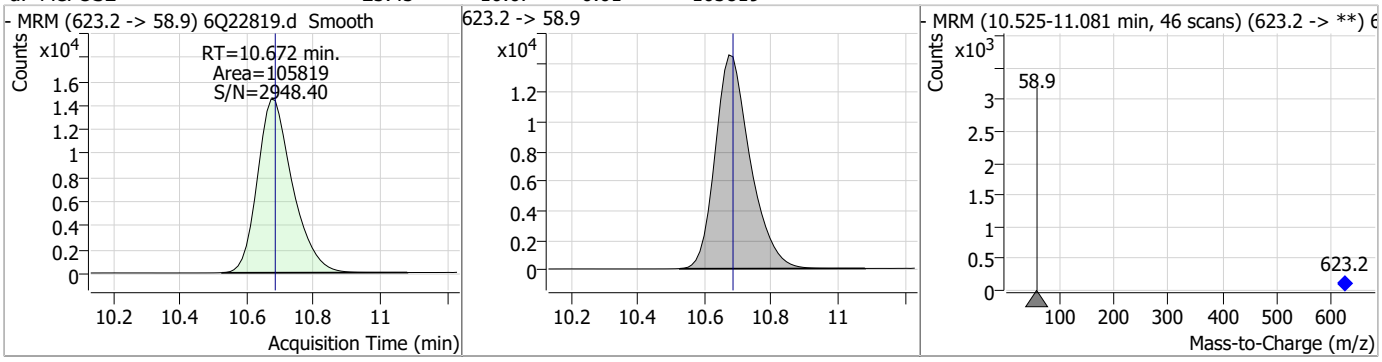


Perfluorinated Compounds by LC/MS/MS

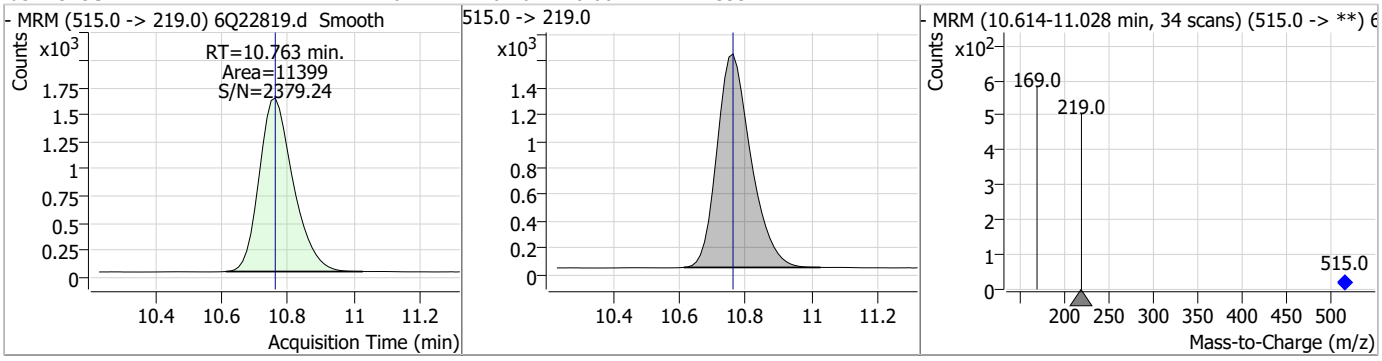
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.23	9.85	0.00	13393				



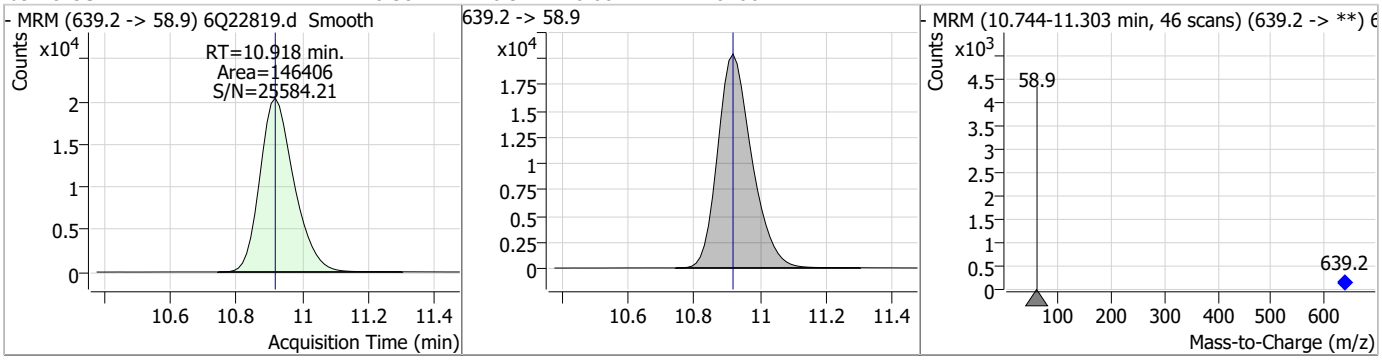
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.45	10.67	-0.01	105819				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.40	10.76	0.00	11399				

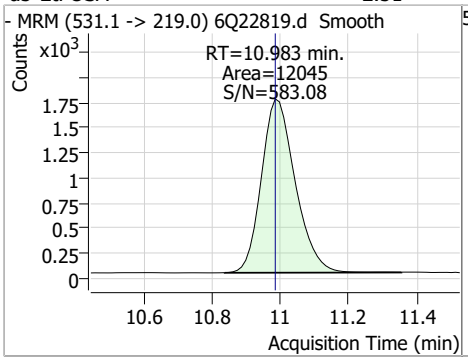


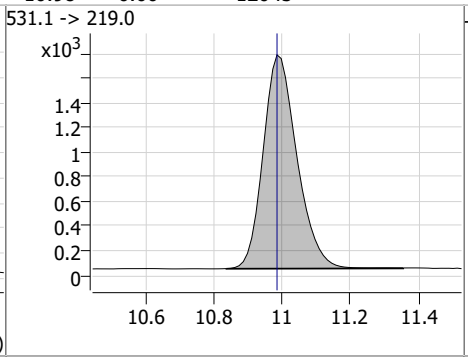
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.38	10.92	0.00	146406				

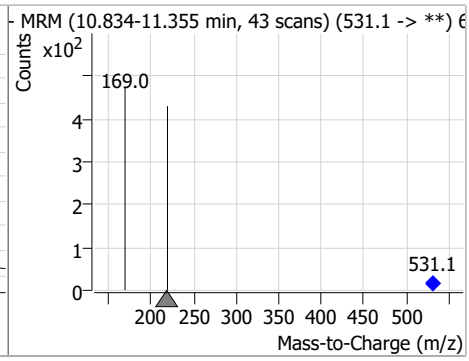


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.51	10.98	0.00	12045				







7.2.4

7

Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q22852.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	8/14/2023 11:15:31 AM
Sample Name	:	IBLK
Vial	:	P1-A1
DA Method File	:	1633_081023_S6Q330.quantmethod.xml
Batch Name	:	S6Q332.batch.bin
Sample Information	:	OP98201,S6Q332,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	179098	10.00	µg/L	-0.012
M5-PFPeA	4.434	268.3 -> 223.0	57369	5.00	µg/L	-0.012
M5-PFHxA	5.655	318.0 -> 273.0	61175	2.50	µg/L	-0.012
M4-PFHpA	6.596	367.1 -> 322.0	59097	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	92167	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	45627	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	27106	1.25	µg/L	-0.025
M7-PFUnDA	8.692	570.0 -> 525.1	33720	1.25	µg/L	-0.025
M2-PFDoDA	9.123	615.1 -> 570.0	30615	1.25	µg/L	-0.025
M2-PFTeDA	9.839	715.2 -> 670.0	16640	1.25	µg/L	-0.012
M8-FOSA	9.650	506.1 -> 77.8	33525	2.50	µg/L	-0.012
M3-PFBS	5.599	302.1 -> 79.9	22680	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	15056	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	14204	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	3299	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4886	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	4043	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	32879	5.00	µg/L	-0.012
M3-HFPO-DA	6.033	286.9 -> 168.9	40579	10.00	µg/L	-0.012
M5-EtFOSAA	8.480	589.2 -> 419.0	28531	5.00	µg/L	-0.025
M7-MeFOSE	10.672	623.2 -> 58.9	132143	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	178562	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	14369	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	14340	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	20008	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	75554	5.00	µg/L	0.000
18O2-PFHxS	7.341	403.0 -> 83.9	11207	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	97338	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	33965	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	52853	1.25	µg/L	-0.012
13C2-PFHxA	5.656	315.1 -> 270.0	58910	2.50	µg/L	-0.012
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	3299	4.93	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4886	5.06	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.1%		
13C2-8:2FTS	8.027	529.1 -> 80.9	4043	4.27	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 85.5%		
13C2-PFDoDA	9.123	615.1 -> 570.0	30615	1.33	µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.7%		
13C2-PFTeDA	9.839	715.2 -> 670.0	16640	1.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C3-PFBS	5.599	302.1 -> 79.9	22680	2.38	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%		
13C3-PFHxS	7.342	402.1 -> 79.9	15056	2.44	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 = 97.8%			
13C4-PFBA	2.997	216.8 -> 171.9	179098	10.04	µg/L		-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%			
13C4-PFHpA	6.596	367.1 -> 322.0	59097	2.48	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%			
13C5-PFHxA	5.655	318.0 -> 273.0	61175	2.52	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%			
13C5-PFPeA	4.434	268.3 -> 223.0	57369	5.17	µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.4%			
13C6-PFDA	8.238	519.1 -> 474.1	27106	1.41	µg/L		-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.1%			
13C7-PFUnDA	8.692	570.0 -> 525.1	33720	1.33	µg/L		-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.3%			
13C8-FOSA	9.650	506.1 -> 77.8	33525	2.22	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.8%			
13C8-PFOA	7.226	421.1 -> 376.0	92167	2.56	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.6%			
13C8-PFOS	8.401	507.1 -> 79.9	14204	2.42	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%			
13C9-PFNA	7.758	472.1 -> 427.0	45627	1.33	µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.5%			
d3-MeFOSAA	8.284	573.2 -> 419.0	32879	4.54	µg/L		-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.8%			
13C3-HFPO-DA	6.033	286.9 -> 168.9	40579	10.64	µg/L		-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.4%			
d3-MeFOSA	10.763	515.0 -> 219.0	14340	2.32	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.8%			
d5-EtFOSAA	8.480	589.2 -> 419.0	28531	4.27	µg/L		-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 85.4%			
d7-MeFOSE	10.672	623.2 -> 58.9	132143	24.44	µg/L		-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.7%			
d9-EtFOSE	10.918	639.2 -> 58.9	178562	24.74	µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.0%			
d5-EtFOSA	10.983	531.1 -> 219.0	14369	2.31	µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.3%			
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	8.648	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

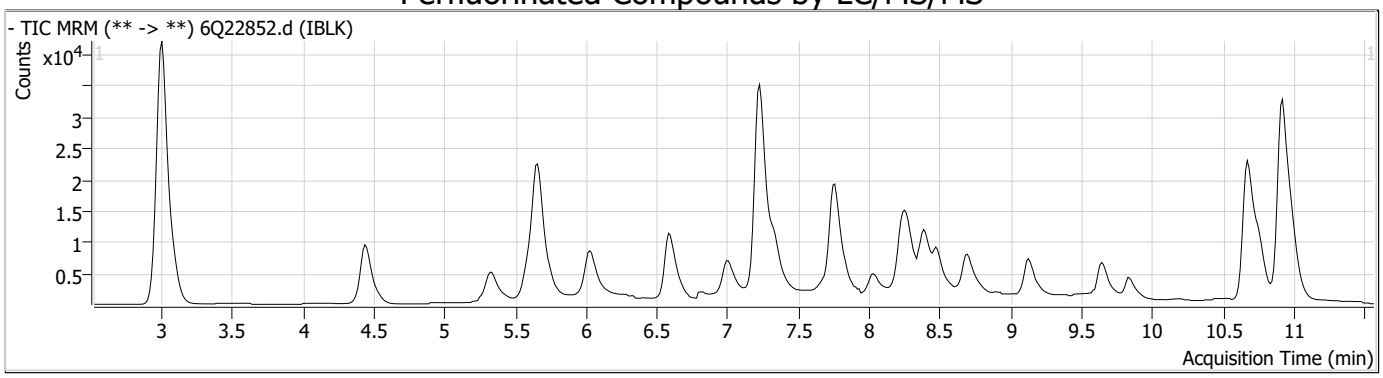
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	7.170	363.1 -> 319.0	0		µg/L	m	1
		363.1 -> 169.0	0				
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	8.182	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	7.700	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

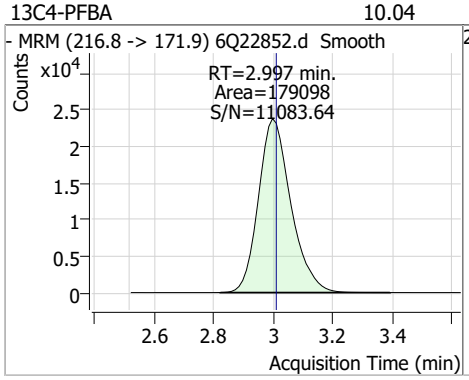
Perfluorinated Compounds by LC/MS/MS

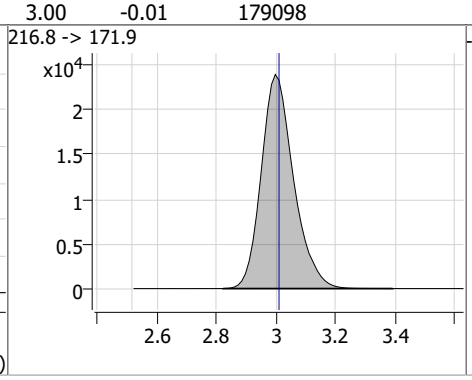
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

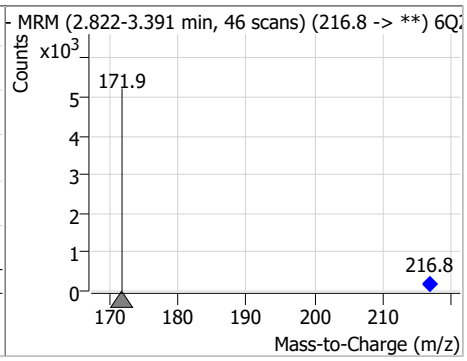
Perfluorinated Compounds by LC/MS/MS



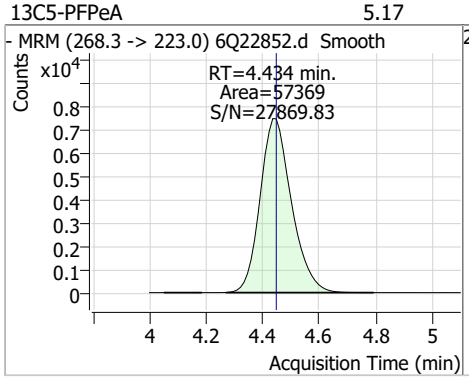
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.04	3.00	-0.01	179098				

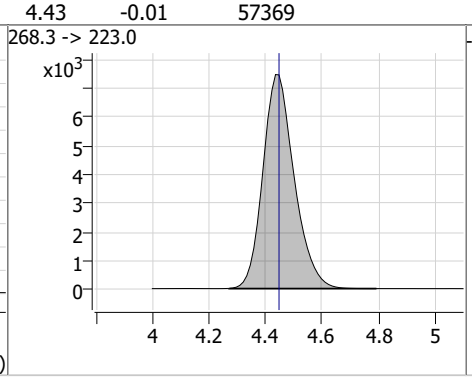


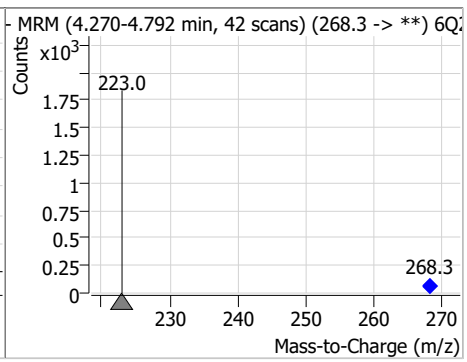




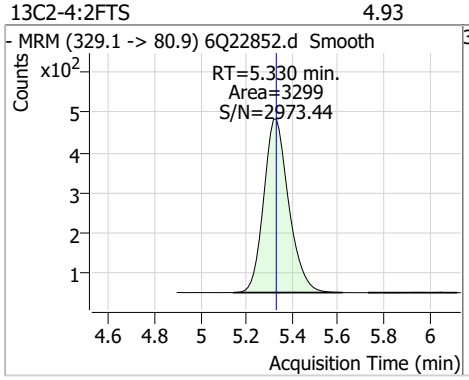
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.17	4.43	-0.01	57369				

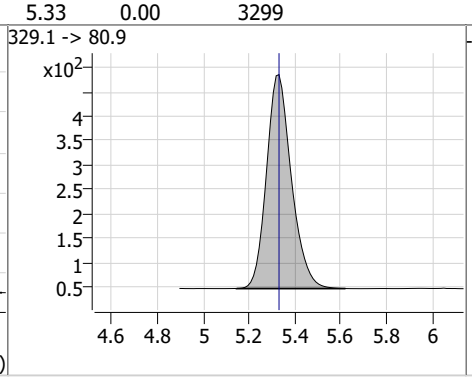


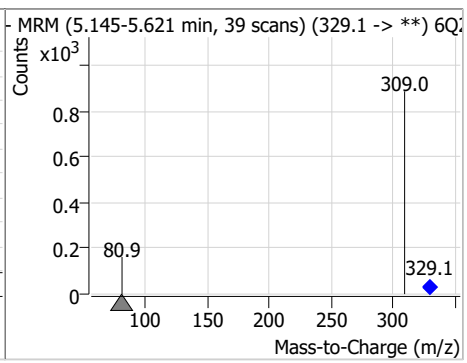




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.93	5.33	0.00	3299				

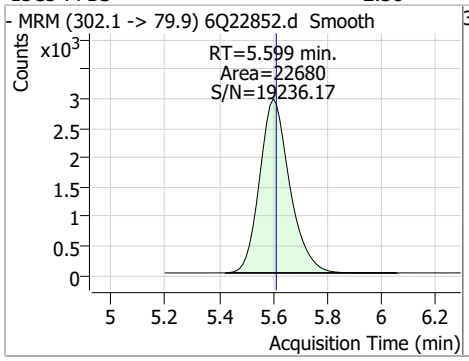


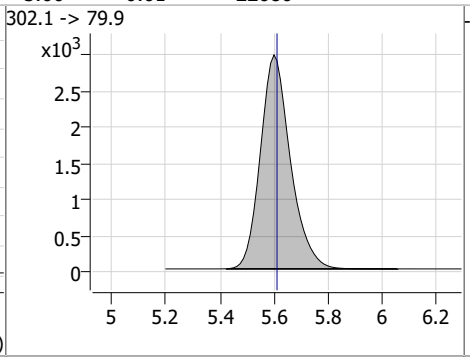


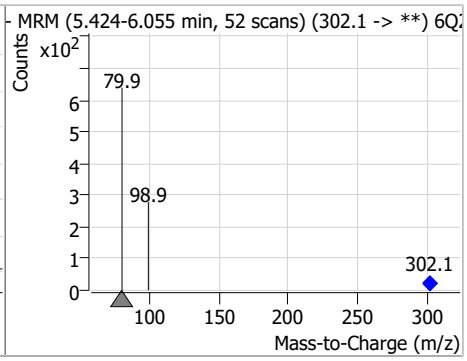


Perfluorinated Compounds by LC/MS/MS

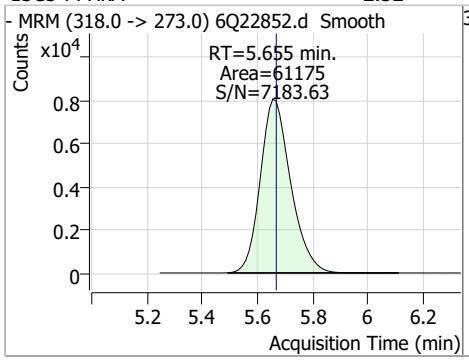
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.38	5.60	-0.01	22680				

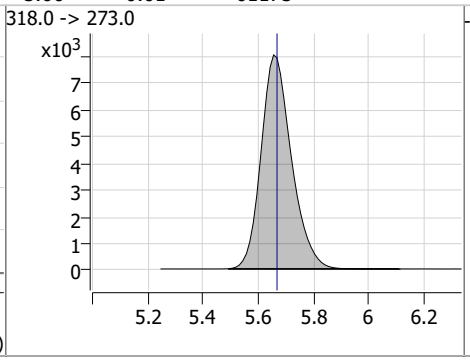


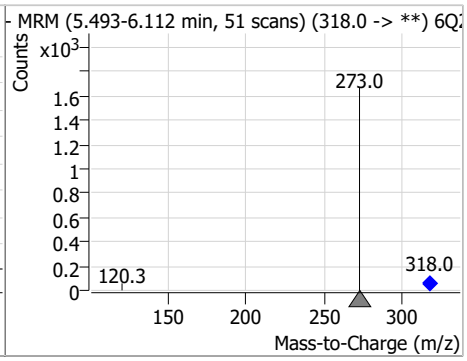




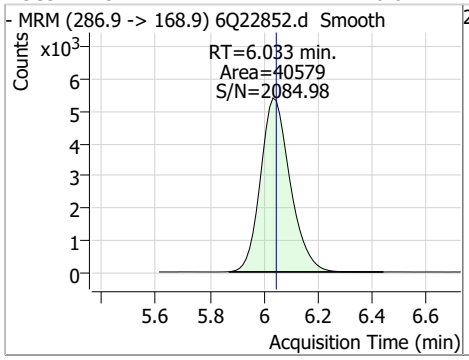
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.52	5.66	-0.01	61175				

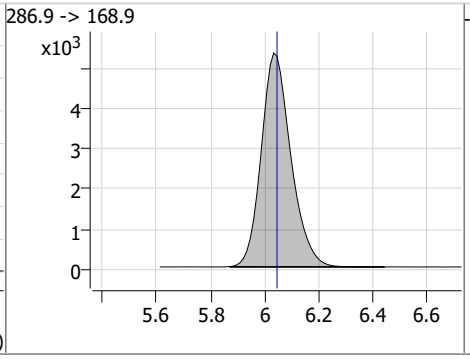


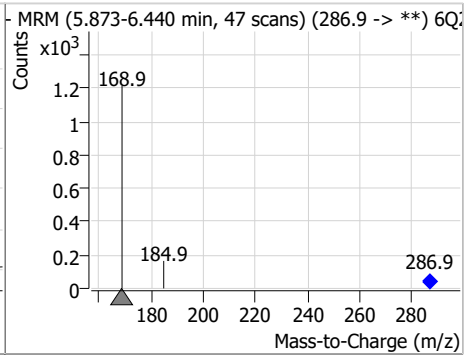




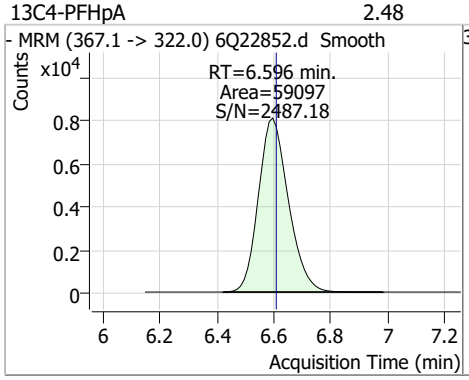
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.64	6.03	-0.01	40579				

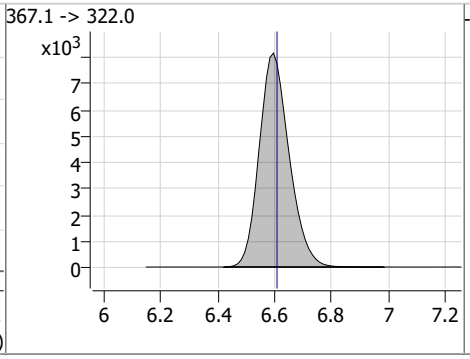


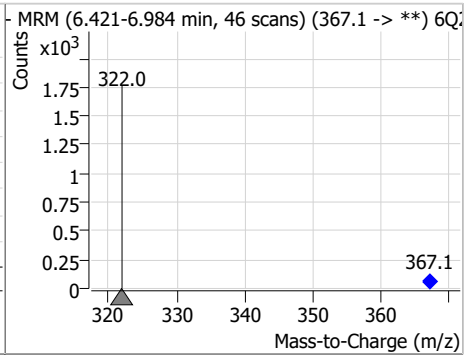




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.48	6.60	-0.01	59097				

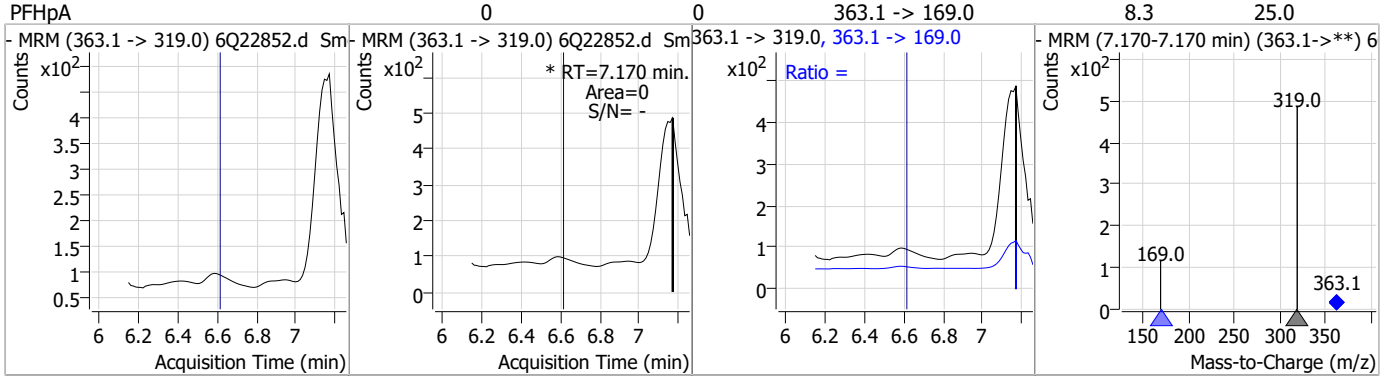




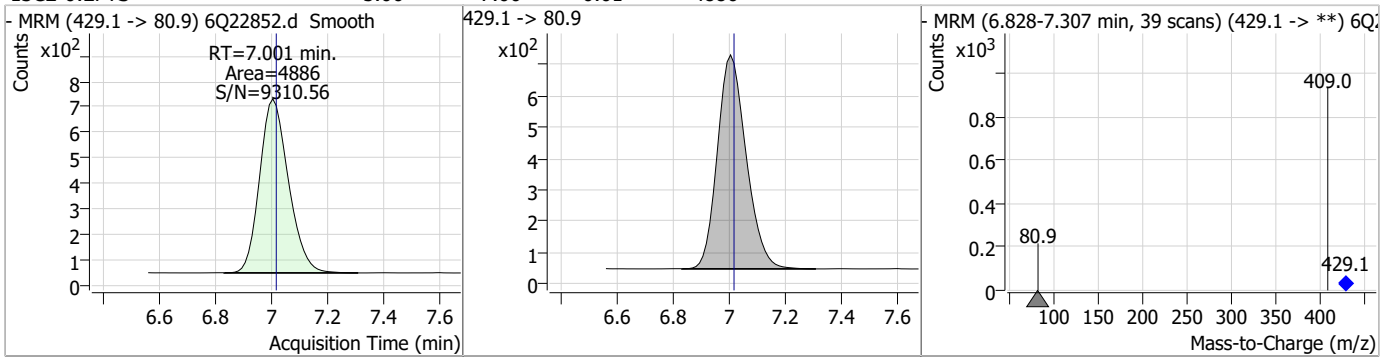


Perfluorinated Compounds by LC/MS/MS

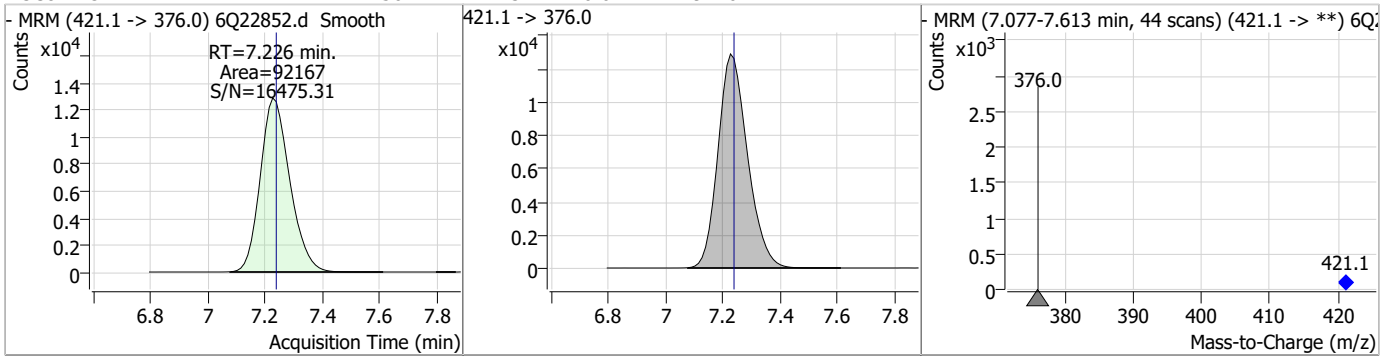
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA		0		0	363.1 -> 169.0		8.3	25.0



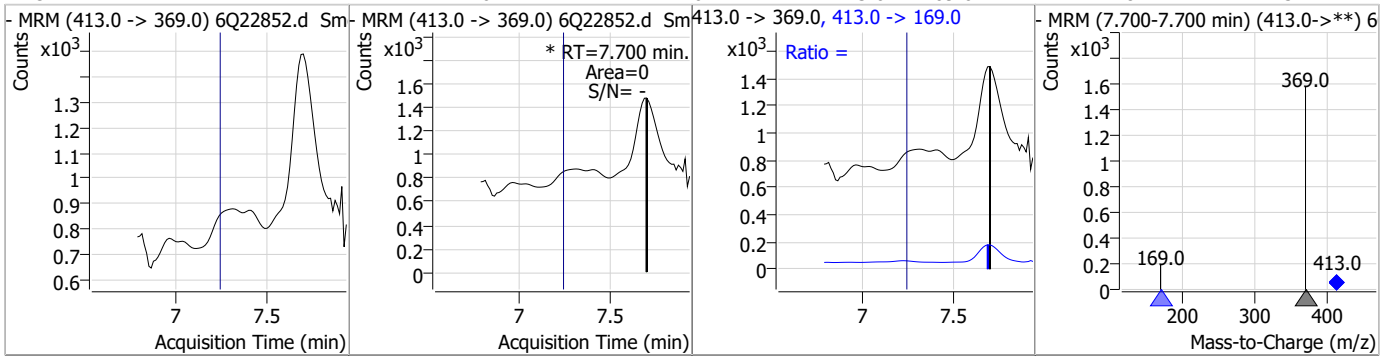
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.06	7.00	-0.01	4886				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.56	7.23	-0.01	92167				

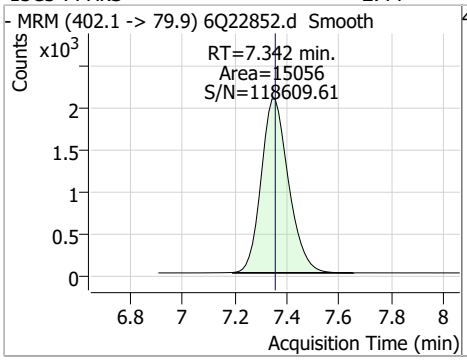


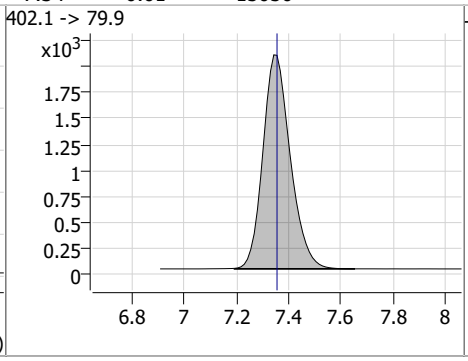
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA		0		0	413.0 -> 169.0		8.1	24.3

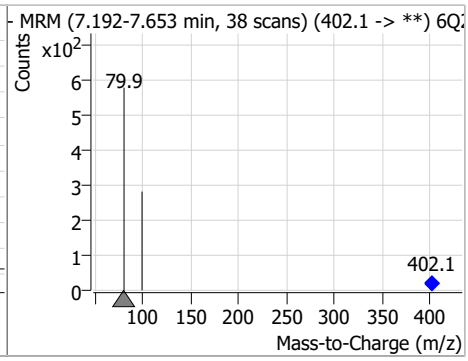


Perfluorinated Compounds by LC/MS/MS

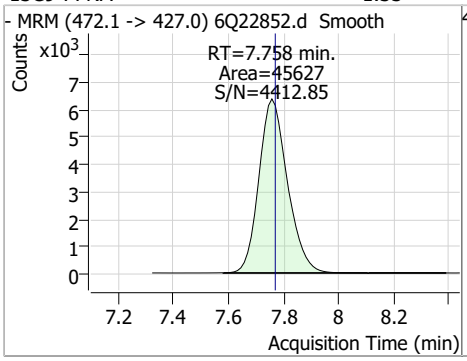
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.44	7.34	-0.01	15056				

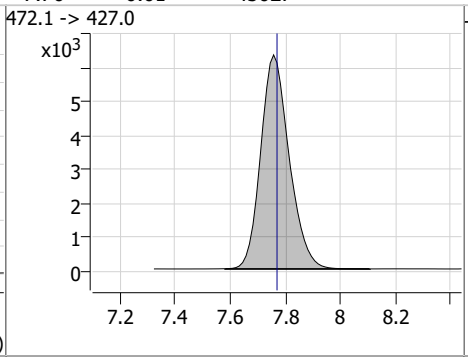


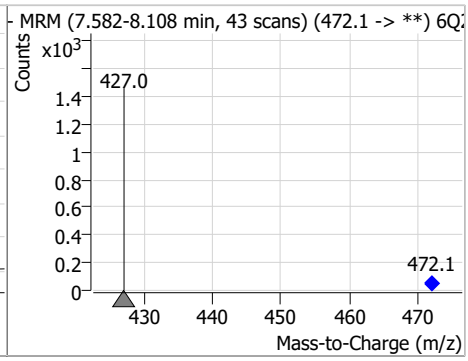




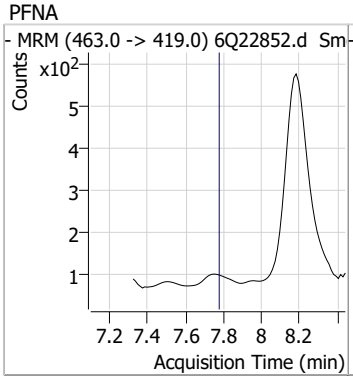
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.33	7.76	-0.01	45627				

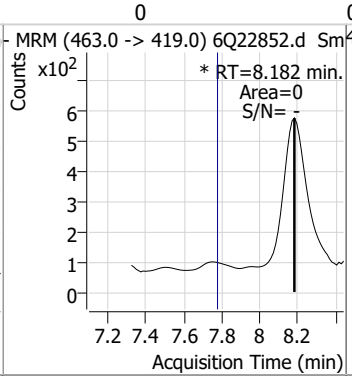


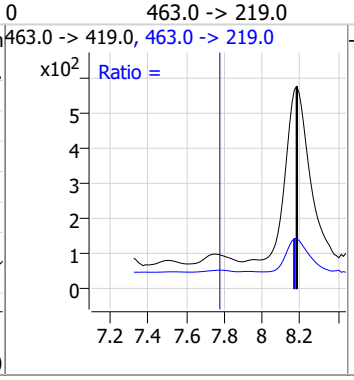


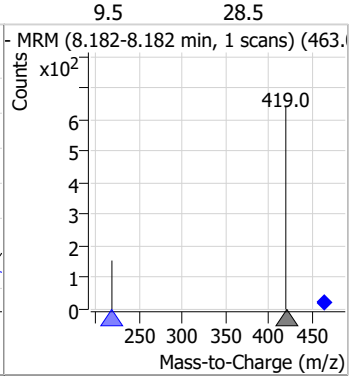


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA		0		0	463.0 -> 219.0		9.5	28.5

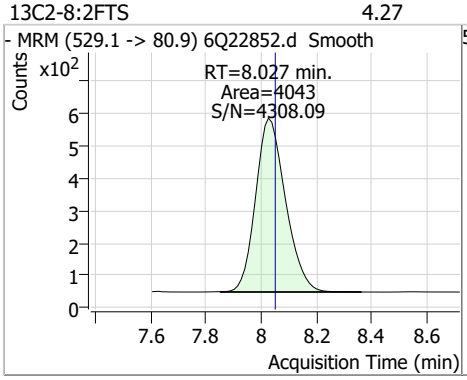


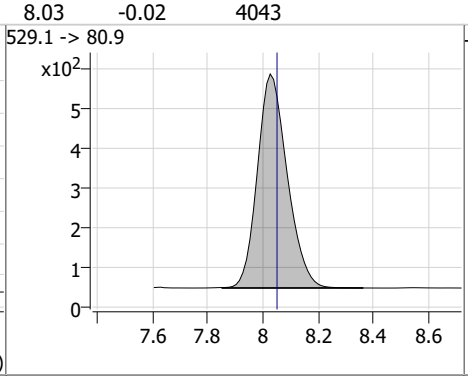


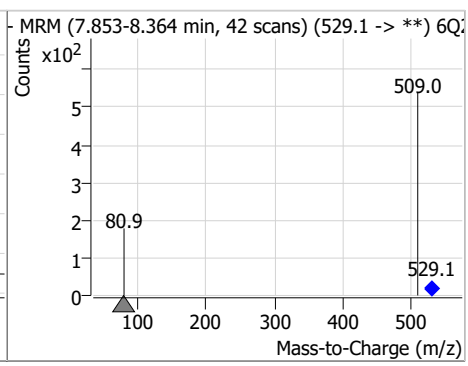




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.27	8.03	-0.02	4043				

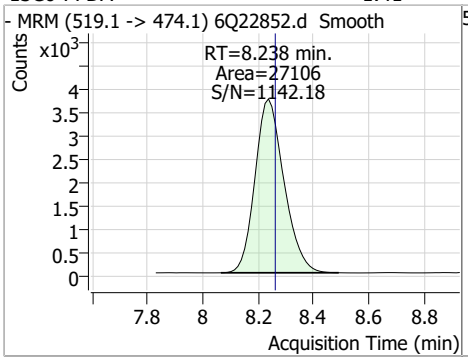


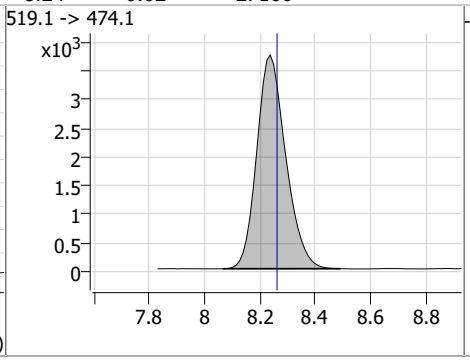


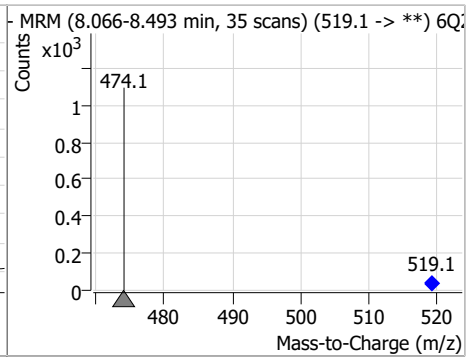


Perfluorinated Compounds by LC/MS/MS

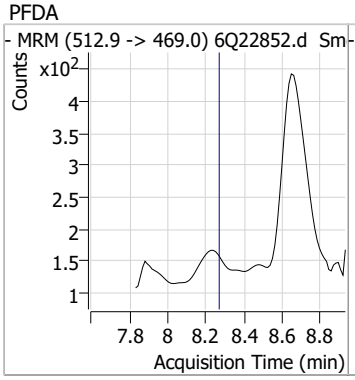
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.41	8.24	-0.02	27106				

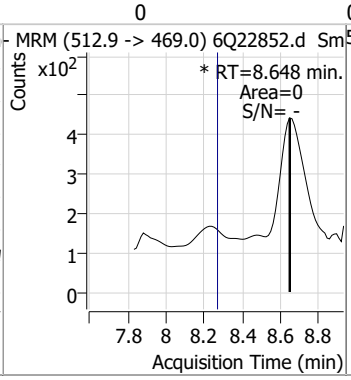


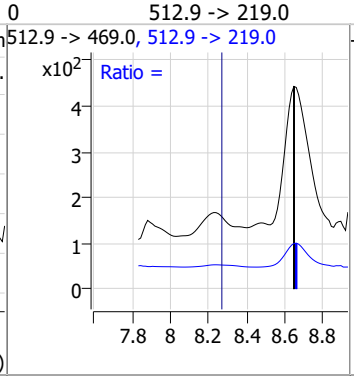


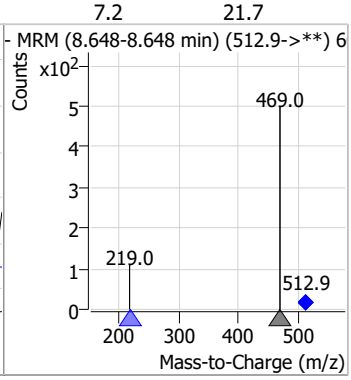


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA		0		0	512.9 -> 219.0		7.2	21.7

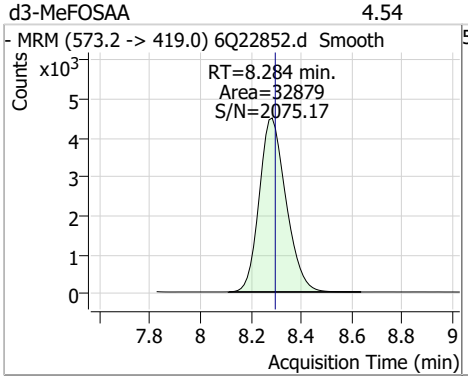


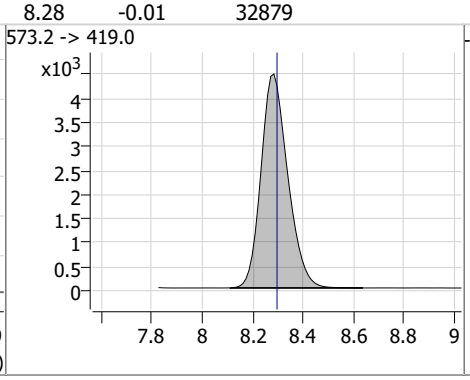


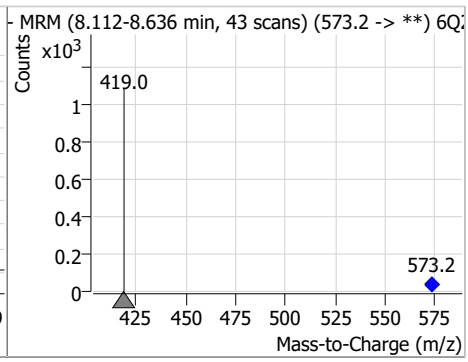




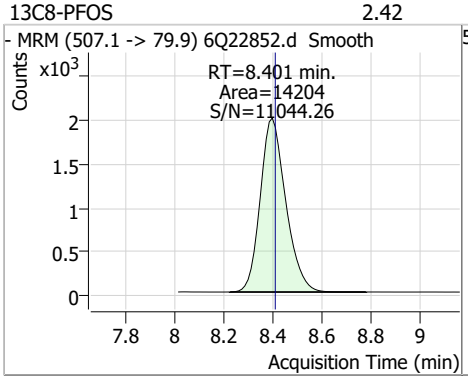
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.54	8.28	-0.01	32879				

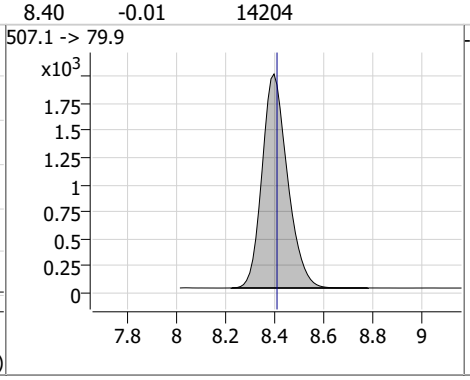


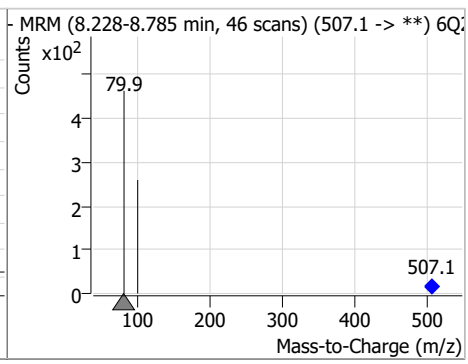




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.42	8.40	-0.01	14204				

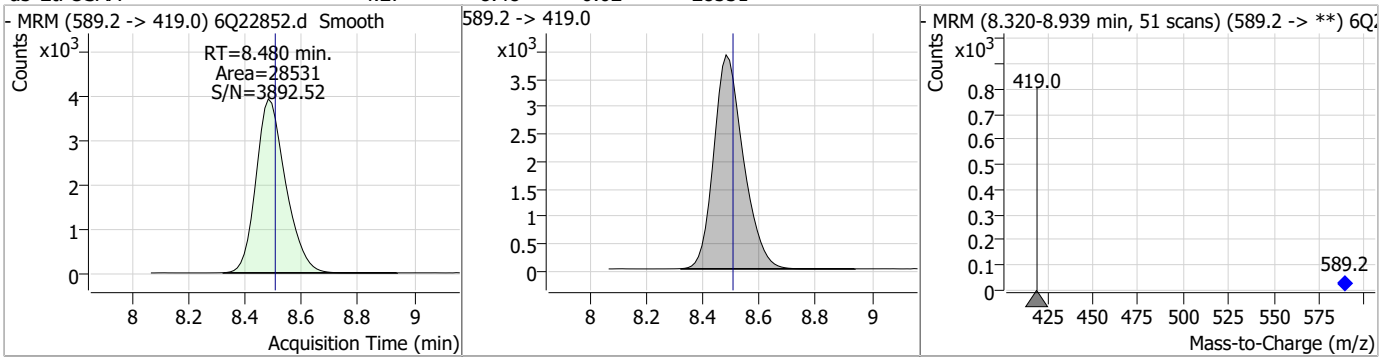




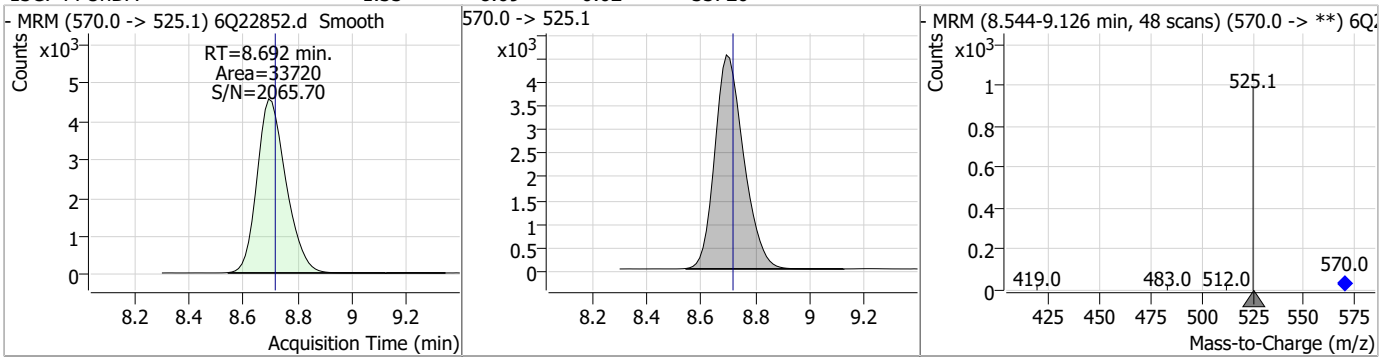


Perfluorinated Compounds by LC/MS/MS

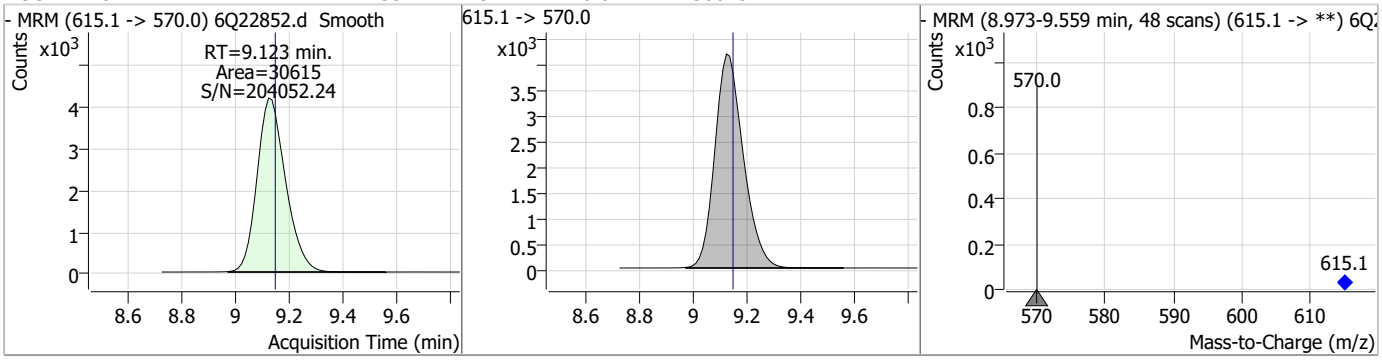
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.27	8.48	-0.02	28531				



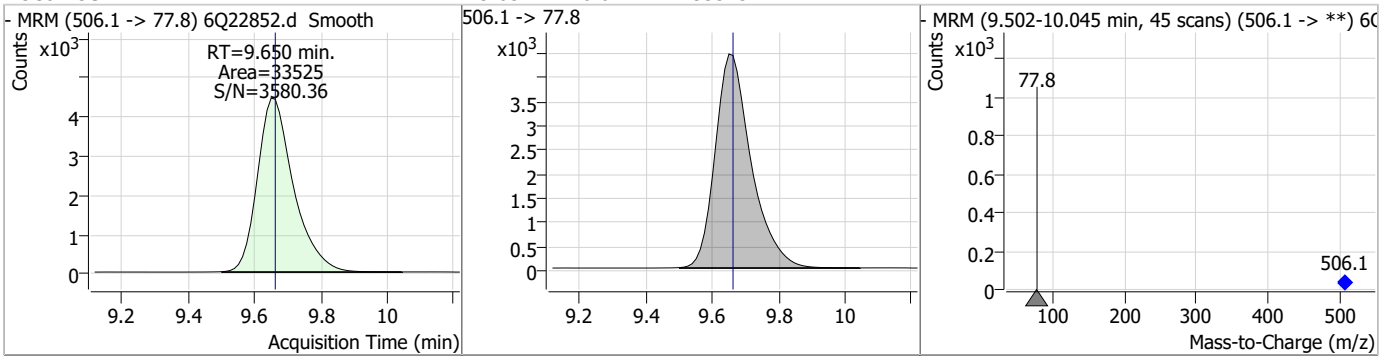
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.33	8.69	-0.02	33720				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.33	9.12	-0.02	30615				

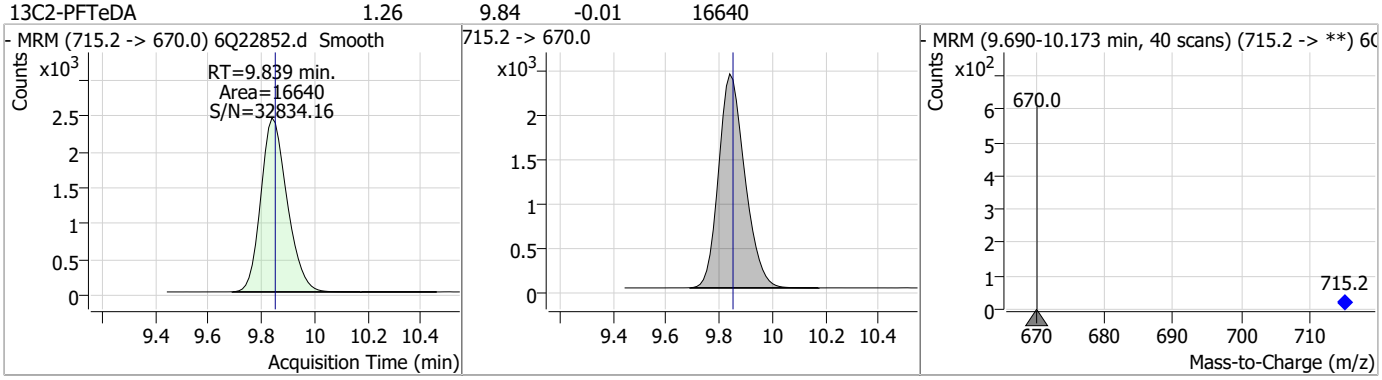


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.22	9.65	-0.01	33525				

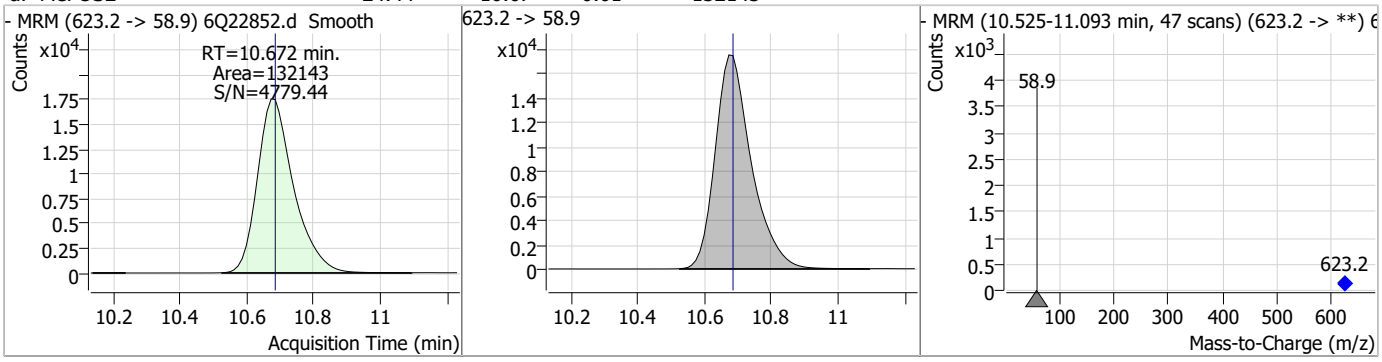


Perfluorinated Compounds by LC/MS/MS

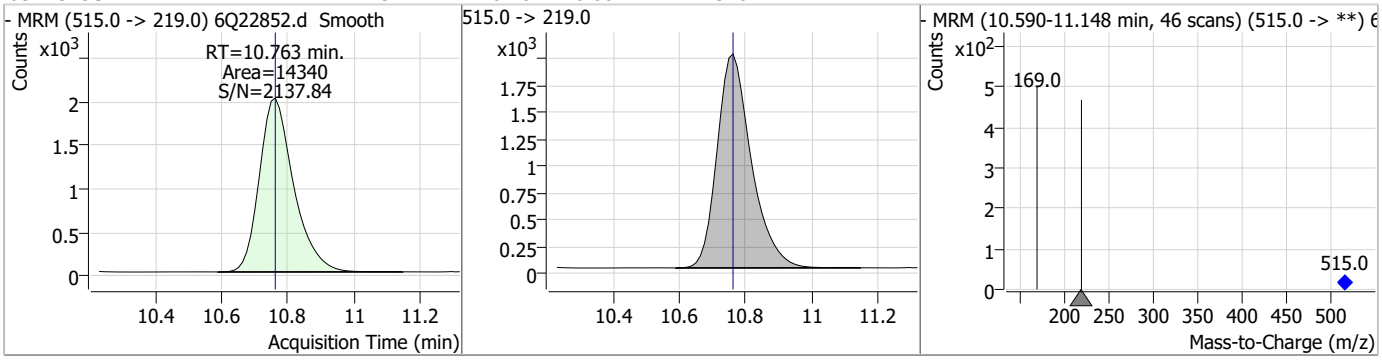
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.26	9.84	-0.01	16640				



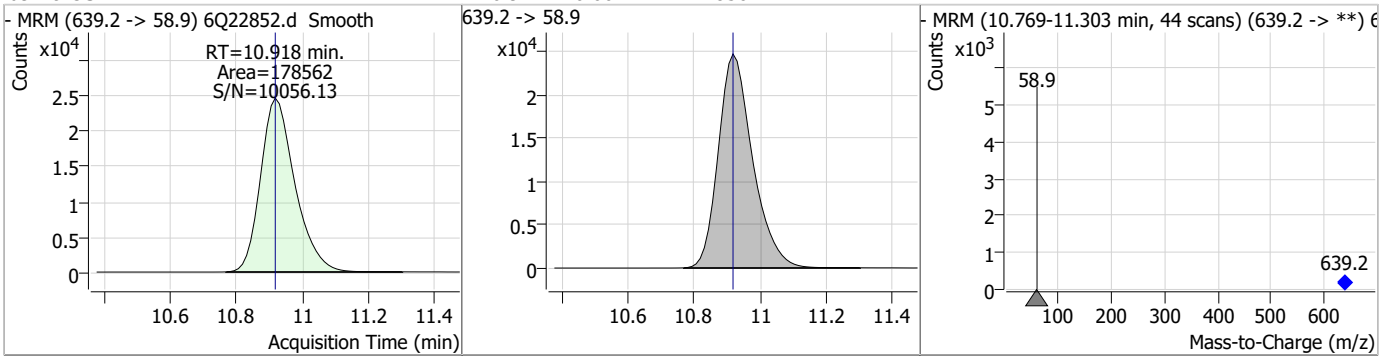
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.44	10.67	-0.01	132143				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.32	10.76	0.00	14340				

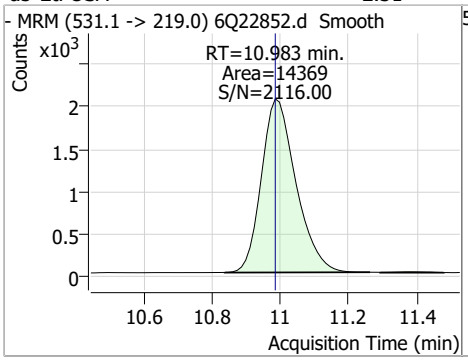


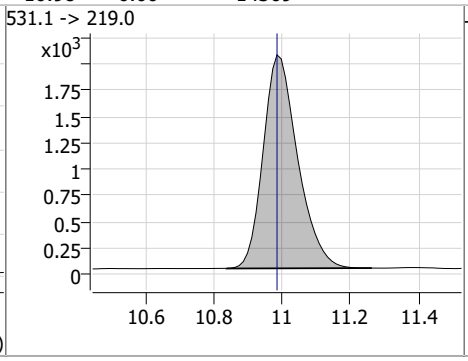
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.74	10.92	0.00	178562				

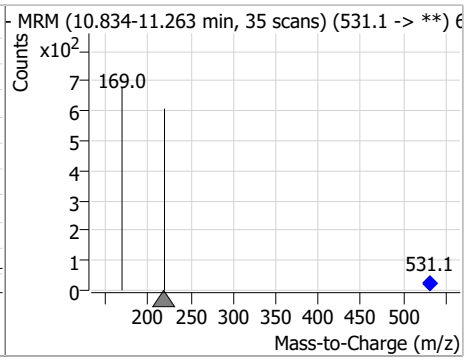


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.31	10.98	0.00	14369				







Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22887.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/14/2023 7:54:30 PM
Sample Name : iccb
Vial : P1-A1
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : S6Q332.batch.bin
Sample Information : OP98201,S6Q332,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	182019	10.00	µg/L	0.012
M5-PFPeA	4.447	268.3 -> 223.0	57431	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	60905	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	58245	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	95039	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	45787	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	26667	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	34881	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	31739	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	19021	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	36969	2.50	µg/L	0.000
M3-PFBS	5.599	302.1 -> 79.9	23377	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	14823	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	13409	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	3372	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	5080	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3910	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	33959	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	40176	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	24929	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	149516	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	211730	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	15293	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	14463	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	19610	2.50	µg/L	-0.025
13C3-PFBA	3.026	216.0 -> 172.0	76347	5.00	µg/L	0.025
18O2-PFHxS	7.341	403.0 -> 83.9	10951	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	96586	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	36976	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	56178	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	59745	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	3372	5.15	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.1%		
13C2-6:2FTS	7.001	429.1 -> 80.9	5080	5.38	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.6%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3910	4.23	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 84.6%		
13C2-PFDoDA	9.135	615.1 -> 570.0	31739	1.27	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.6%		
13C2-PFTeDA	9.839	715.2 -> 670.0	19021	1.32	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.9%		
13C3-PFBS	5.599	302.1 -> 79.9	23377	2.51	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C3-PFHxS	7.342	402.1 -> 79.9	14823	2.46	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 = 98.5%		
13C4-PFBA	3.022	216.8 -> 171.9	182019	10.09	µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C4-PFHpA	6.596	367.1 -> 322.0	58245	2.41	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.6%		
13C5-PFHxA	5.668	318.0 -> 273.0	60905	2.47	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.8%		
13C5-PFPeA	4.447	268.3 -> 223.0	57431	5.10	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.1%		
13C6-PFDA	8.238	519.1 -> 474.1	26667	1.28	µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C7-PFUnDA	8.705	570.0 -> 525.1	34881	1.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.0%		
13C8-FOSA	9.662	506.1 -> 77.8	36969	2.50	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C8-PFOA	7.226	421.1 -> 376.0	95039	2.66	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.6%		
13C8-PFOS	8.401	507.1 -> 79.9	13409	2.34	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.4%		
13C9-PFNA	7.758	472.1 -> 427.0	45787	1.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.5%		
d3-MeFOSAA	8.284	573.2 -> 419.0	33959	4.79	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.7%		
13C3-HFPO-DA	6.045	286.9 -> 168.9	40176	10.39	µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.9%		
d3-MeFOSA	10.763	515.0 -> 219.0	14463	2.39	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.5%		
d5-EtFOSAA	8.492	589.2 -> 419.0	24929	3.81	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 76.1%		
d7-MeFOSE	10.672	623.2 -> 58.9	149516	28.21	µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 112.8%		
d9-EtFOSE	10.918	639.2 -> 58.9	211730	29.94	µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 119.7%		
d5-EtFOSA	10.983	531.1 -> 219.0	15293	2.51	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%		
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	8.661	512.9 -> 469.0	0		µg/L	m 1
		512.9 -> 219.0	0			
PFDoDA	9.510	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

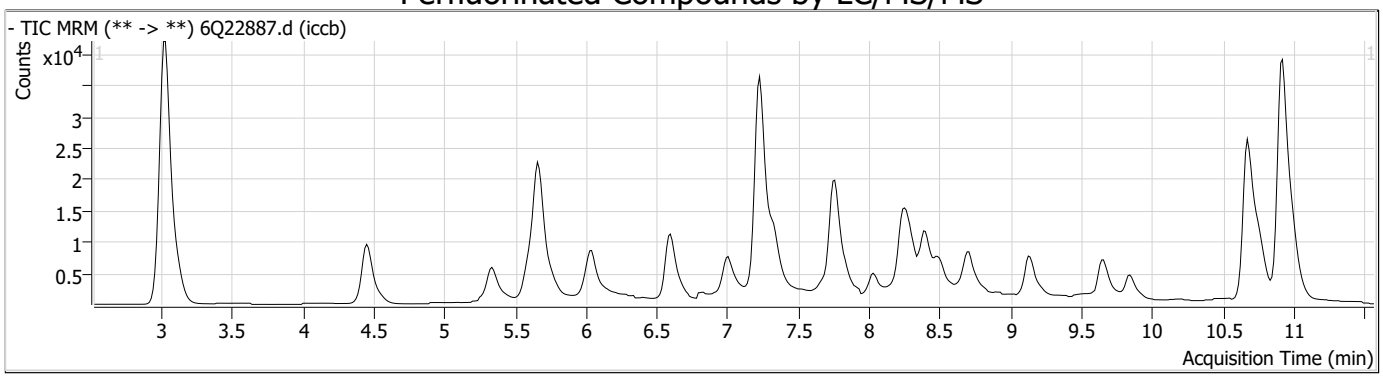
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8					
PFHpA	7.170	363.1 -> 319.0	0		µg/L	m	1
		363.1 -> 169.0	0				
PFHpS	-	449.0 -> 79.9	-	N.D.			
		449.0 -> 98.9					
PFHxA	-	313.0 -> 269.0	-	N.D.			
		313.0 -> 118.9					
PFHxS	-	398.7 -> 79.9	-	N.D.			
		398.7 -> 98.9					
PFNA	8.182	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	7.688	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	9.114	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

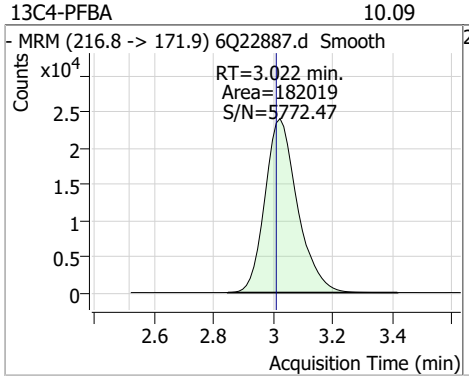
Perfluorinated Compounds by LC/MS/MS

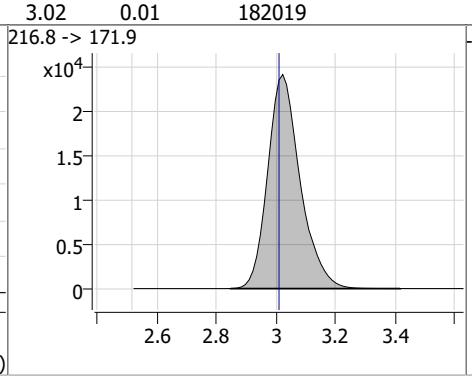
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

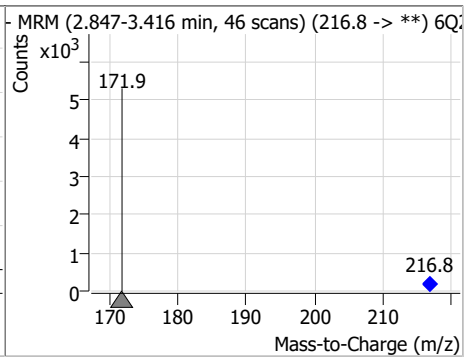
Perfluorinated Compounds by LC/MS/MS



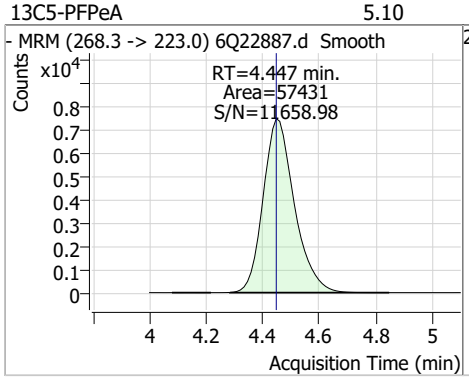
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.09	3.02	0.01	182019				

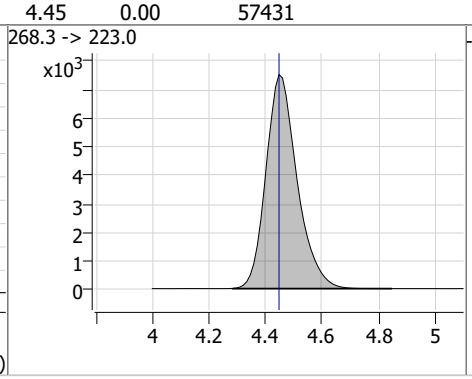


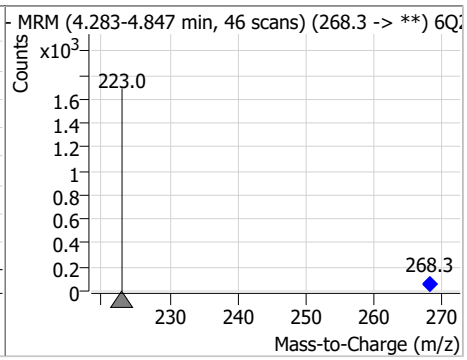




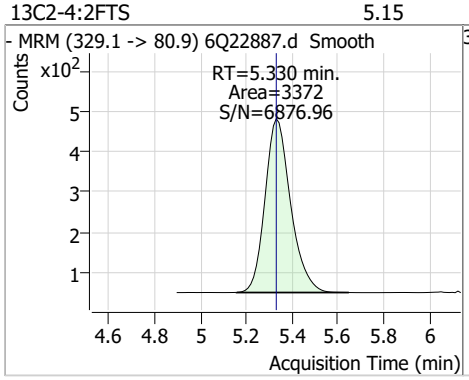
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.10	4.45	0.00	57431				

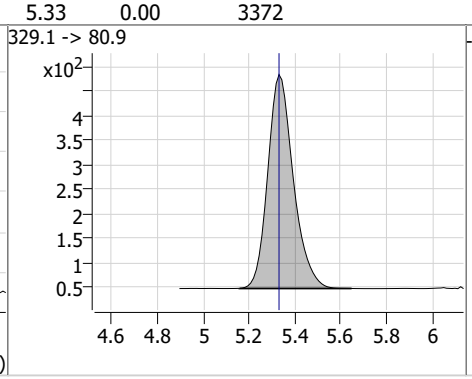


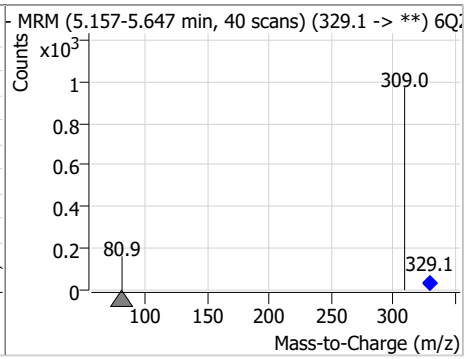




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.15	5.33	0.00	3372				

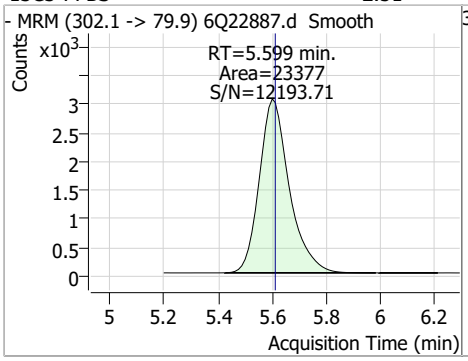


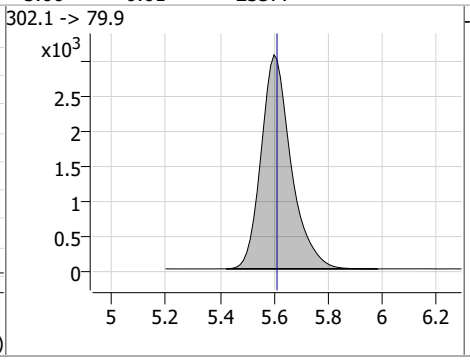


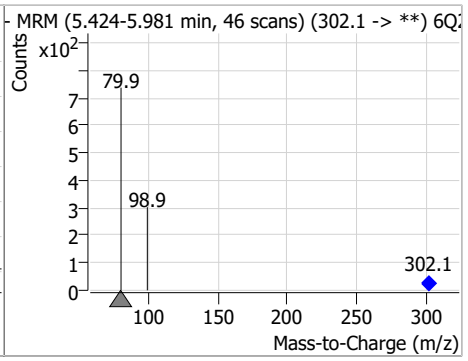


Perfluorinated Compounds by LC/MS/MS

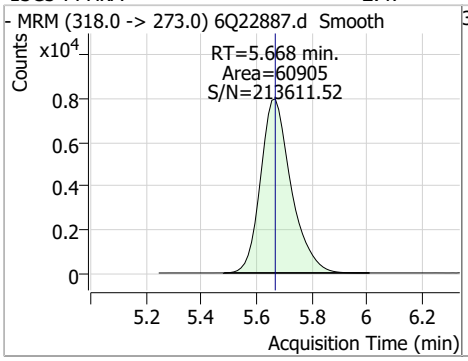
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.51	5.60	-0.01	23377				

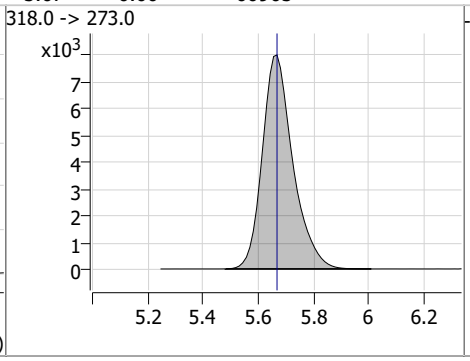


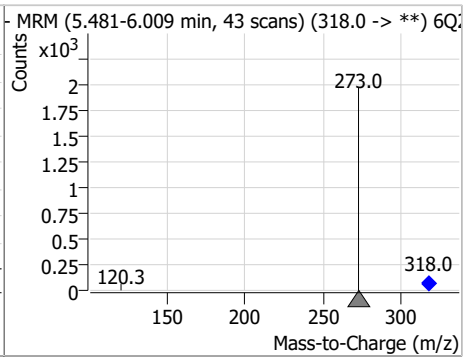




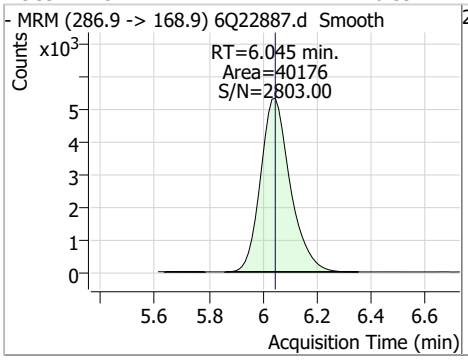
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.67	0.00	60905				

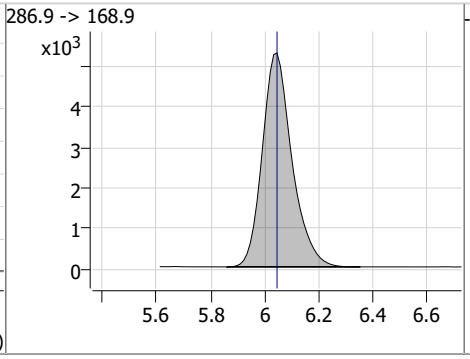


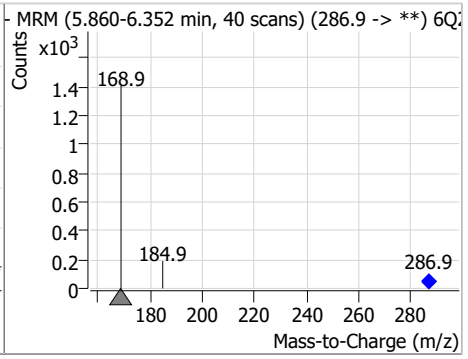




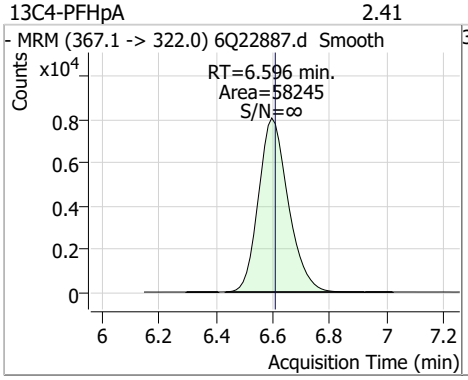
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.39	6.05	0.00	40176				

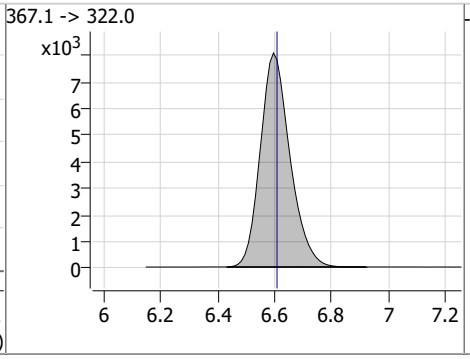


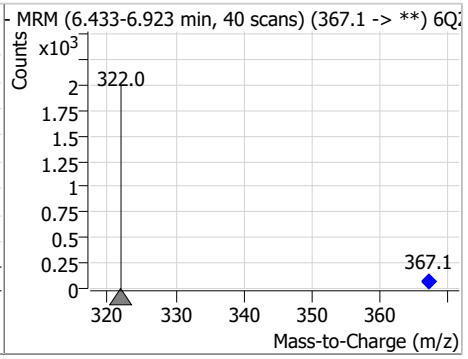




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.41	6.60	-0.01	58245				

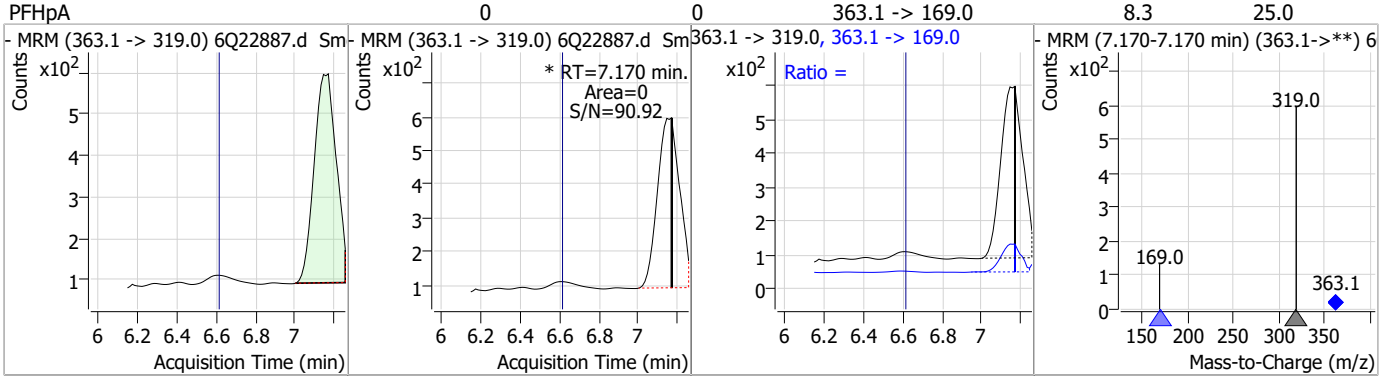




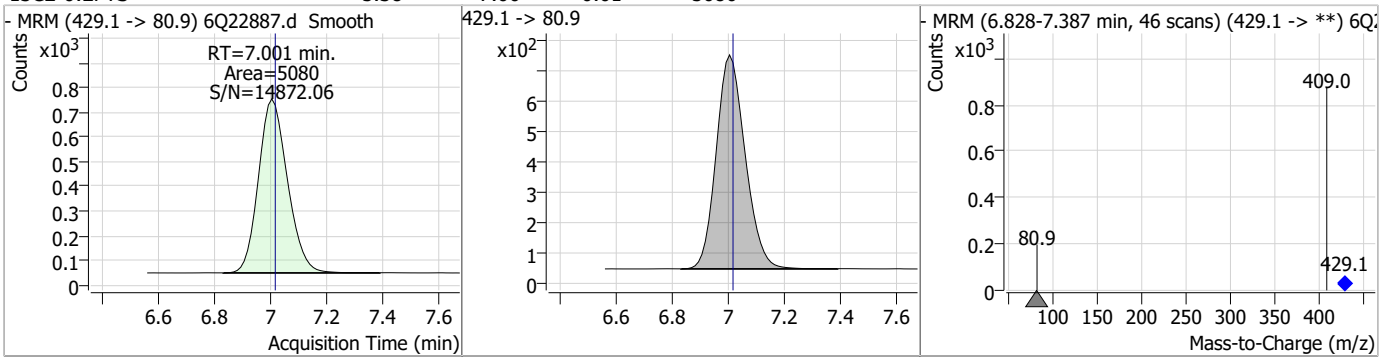


Perfluorinated Compounds by LC/MS/MS

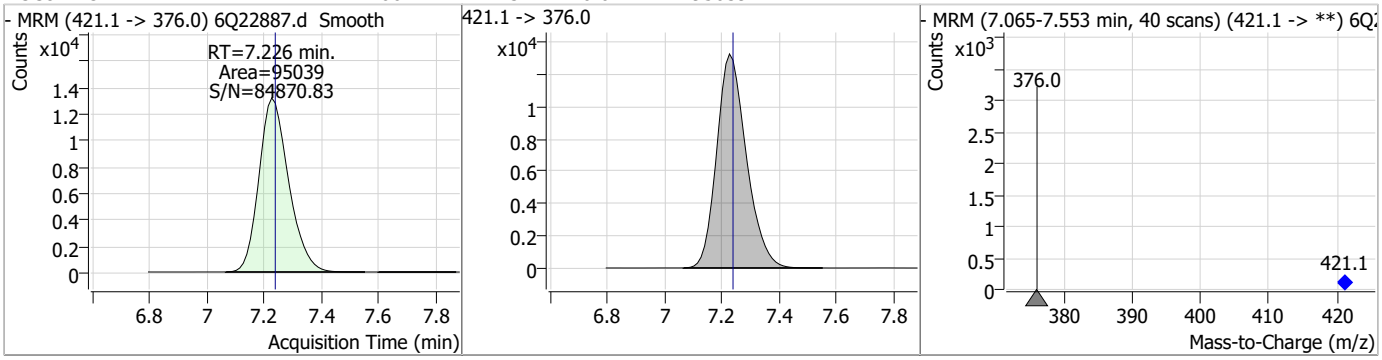
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA		0		0	363.1 -> 169.0		8.3	25.0



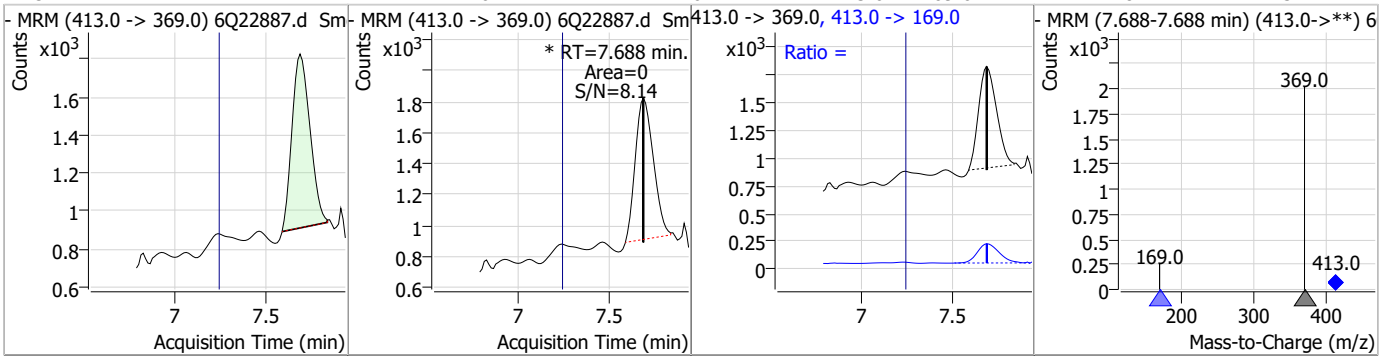
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.38	7.00	-0.01	5080				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.66	7.23	-0.01	95039				

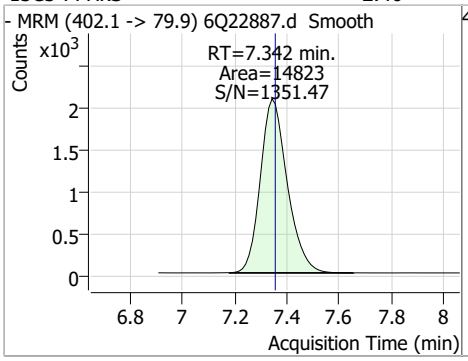


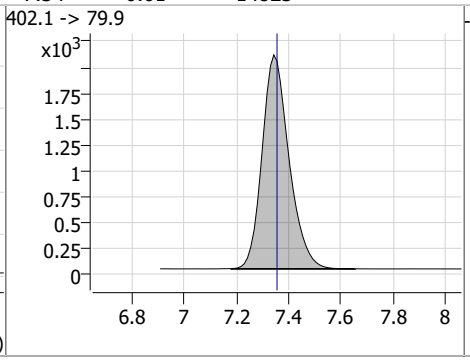
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA		0		0	413.0 -> 169.0		8.1	24.3

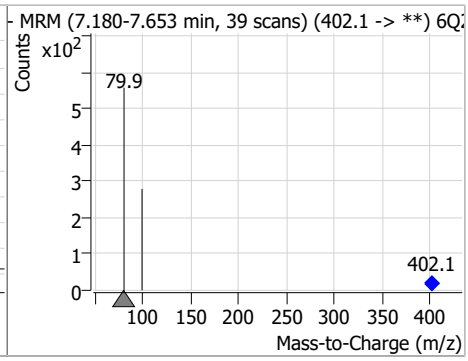


Perfluorinated Compounds by LC/MS/MS

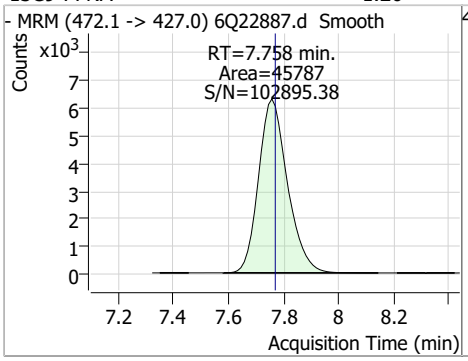
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.46	7.34	-0.01	14823				

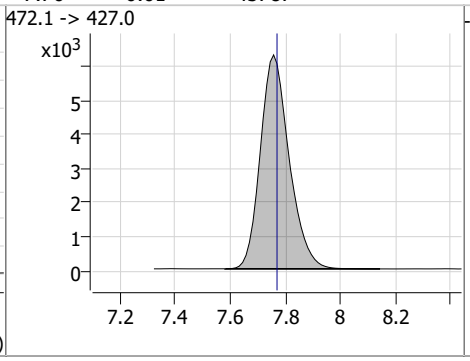


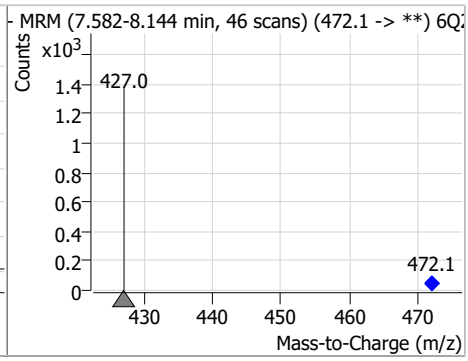




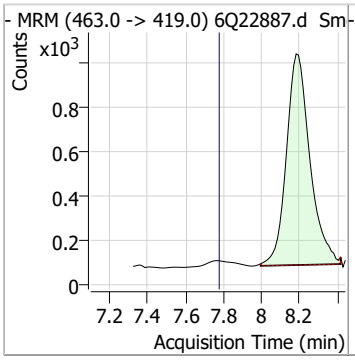
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.26	7.76	-0.01	45787				

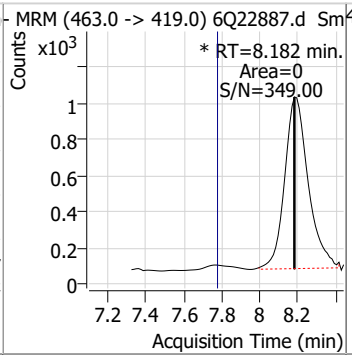


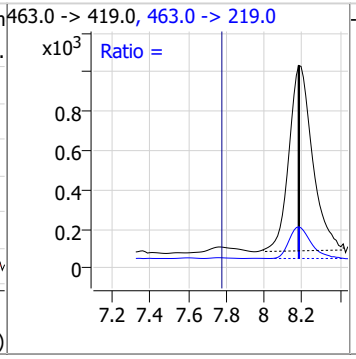


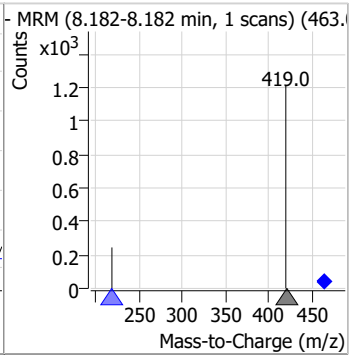


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA		0		0	463.0 -> 219.0		9.5	28.5

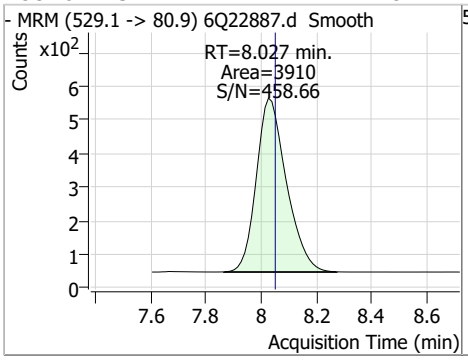


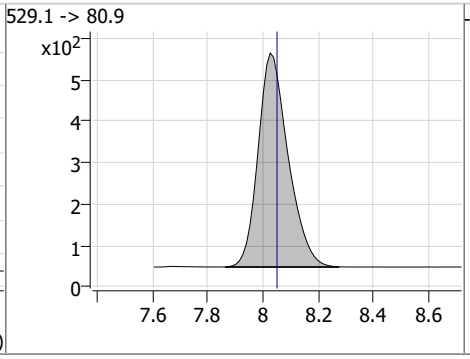


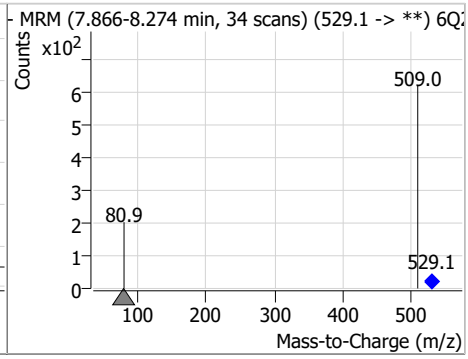




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.23	8.03	-0.02	3910				

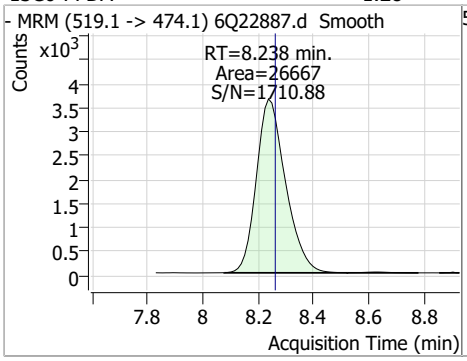


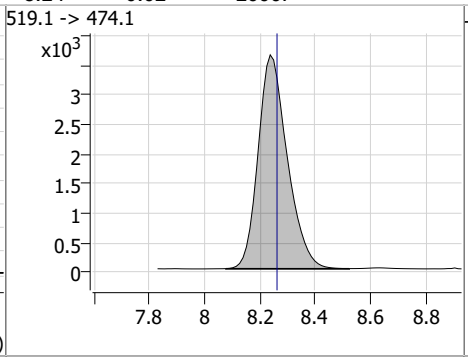


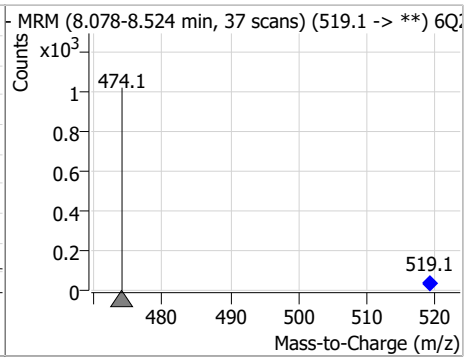


Perfluorinated Compounds by LC/MS/MS

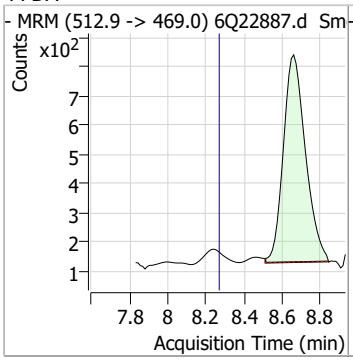
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.28	8.24	-0.02	26667				

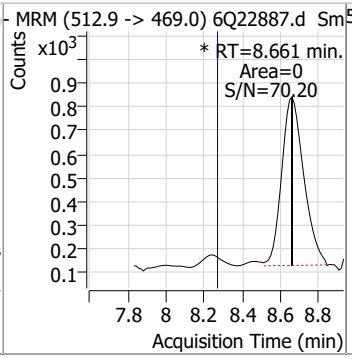


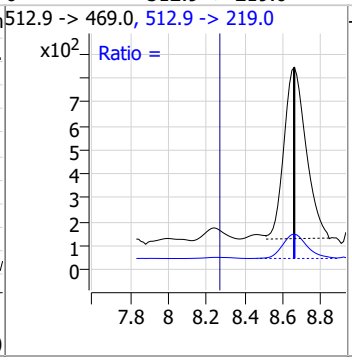


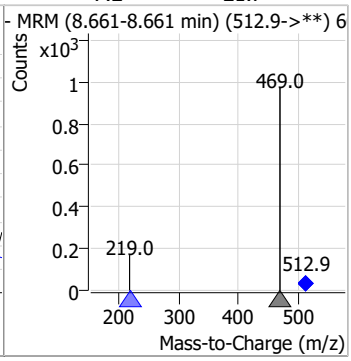


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA		0		0	512.9 -> 219.0		7.2	21.7

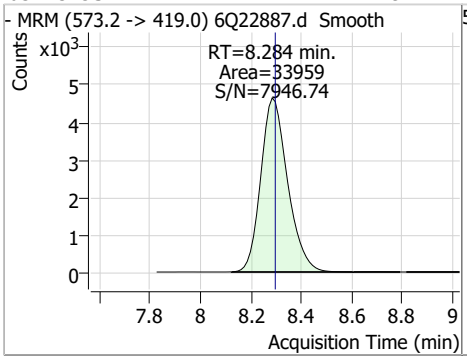


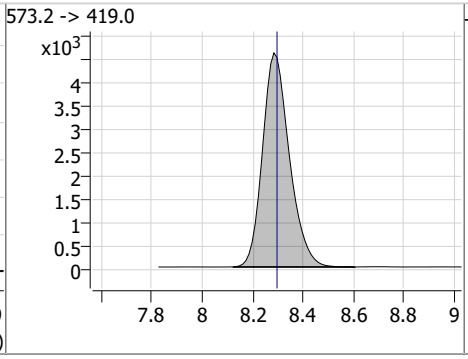


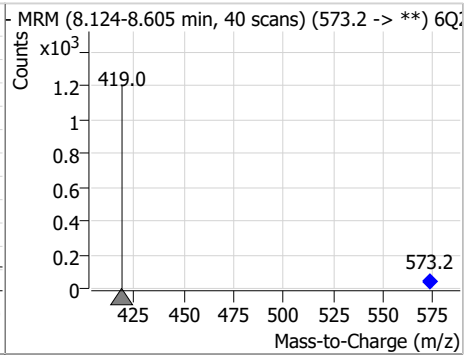




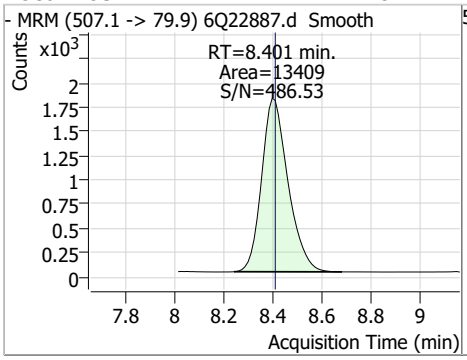
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.79	8.28	-0.01	33959				

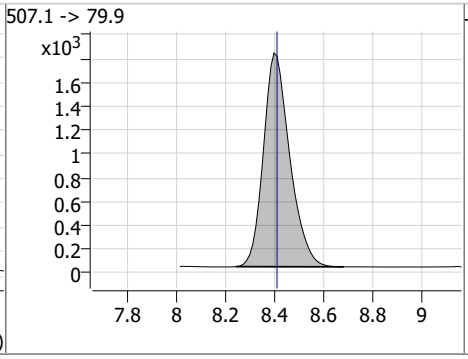


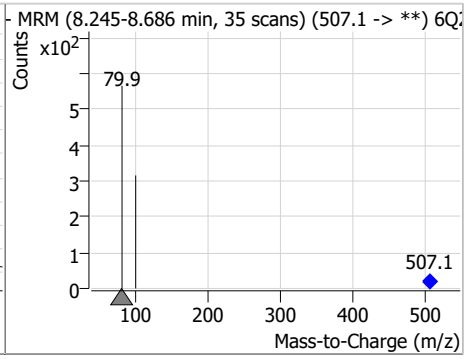




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.34	8.40	-0.01	13409				

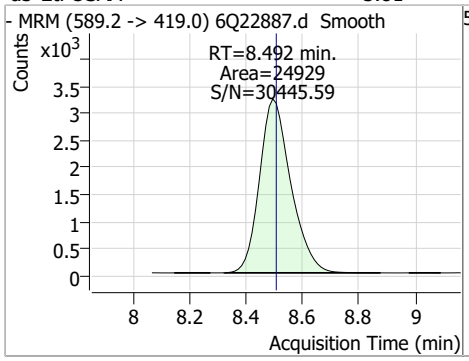


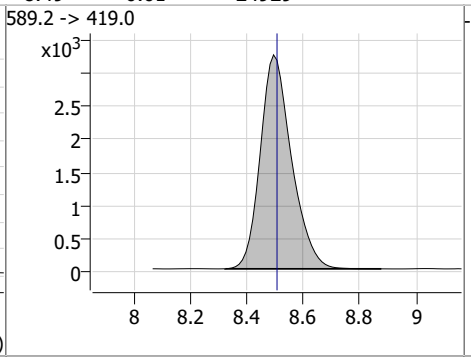


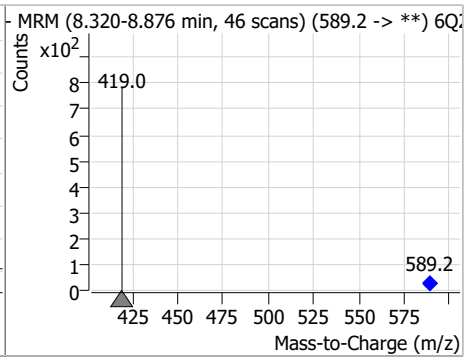


Perfluorinated Compounds by LC/MS/MS

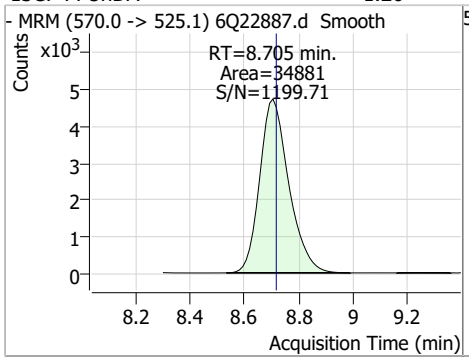
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	3.81	8.49	-0.01	24929				

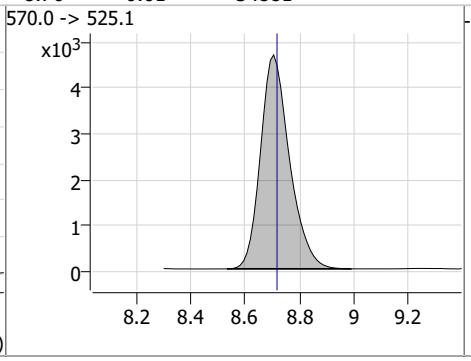


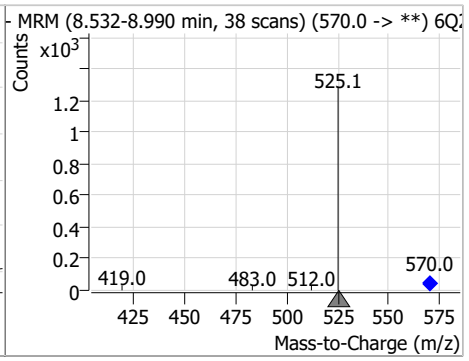




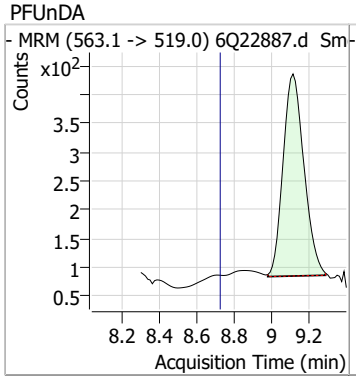
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.26	8.70	-0.01	34881				

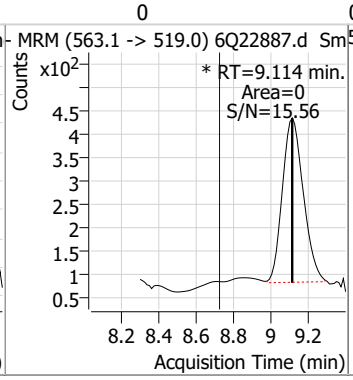


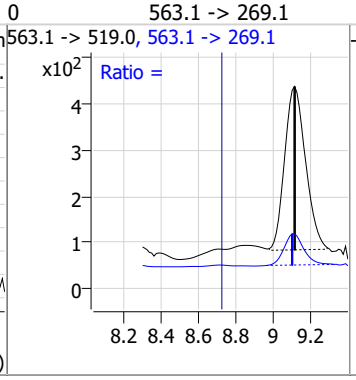


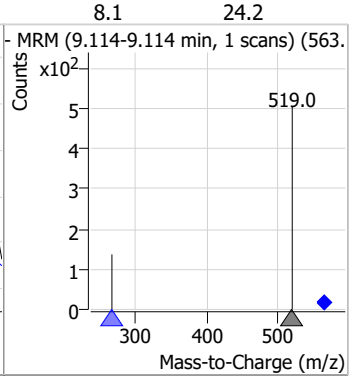


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0		0		563.1 -> 269.1		8.1	24.2

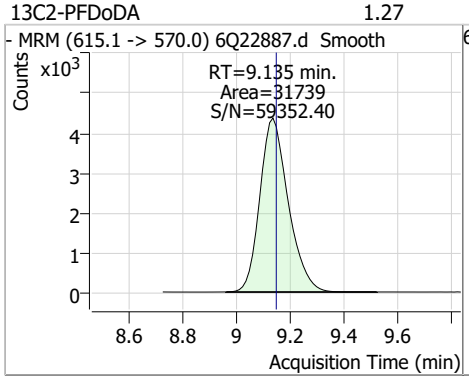


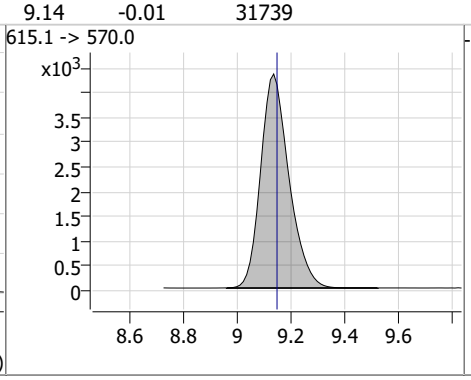


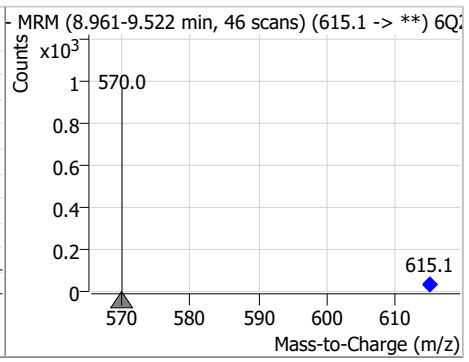




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.27	9.14	-0.01	31739				

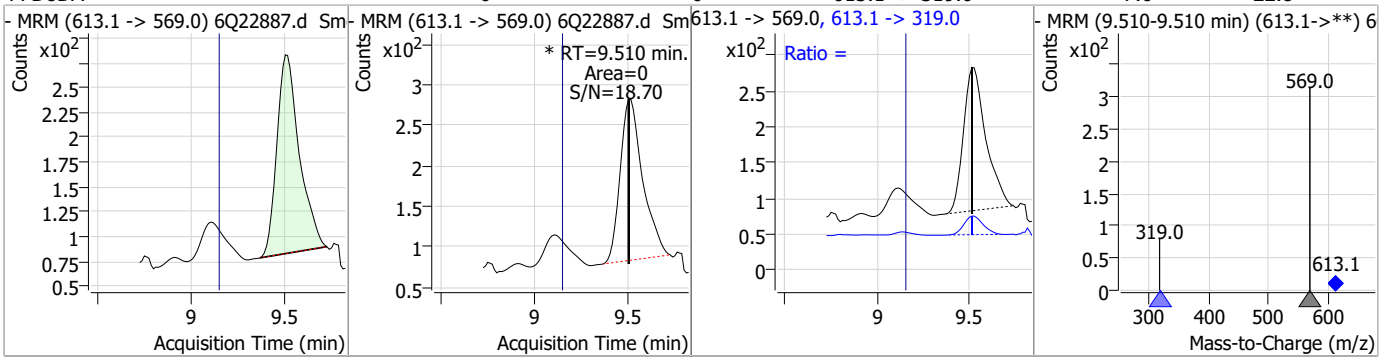




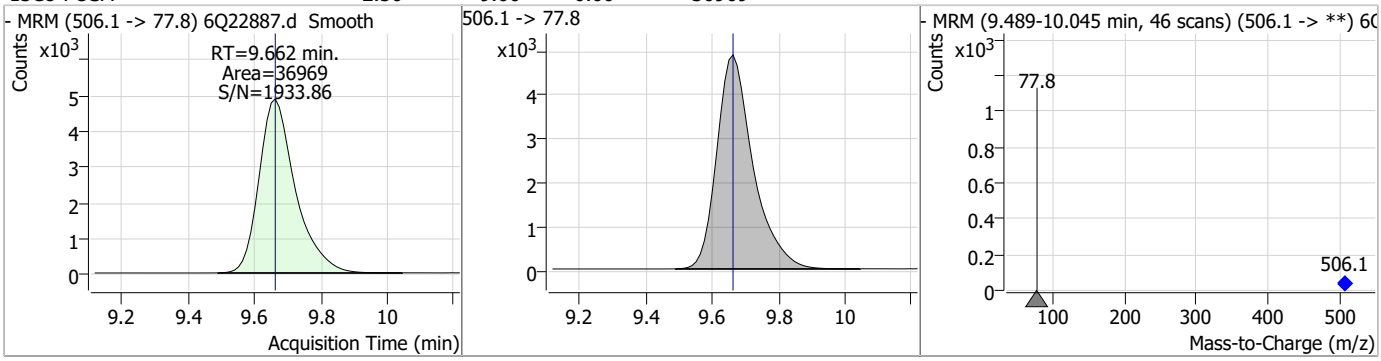


Perfluorinated Compounds by LC/MS/MS

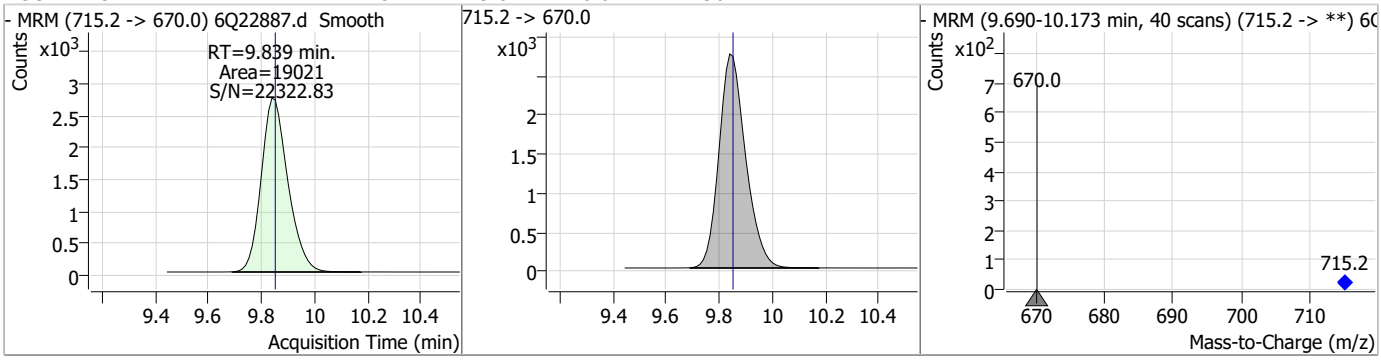
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA		0		0	613.1 -> 319.0		7.6	22.8



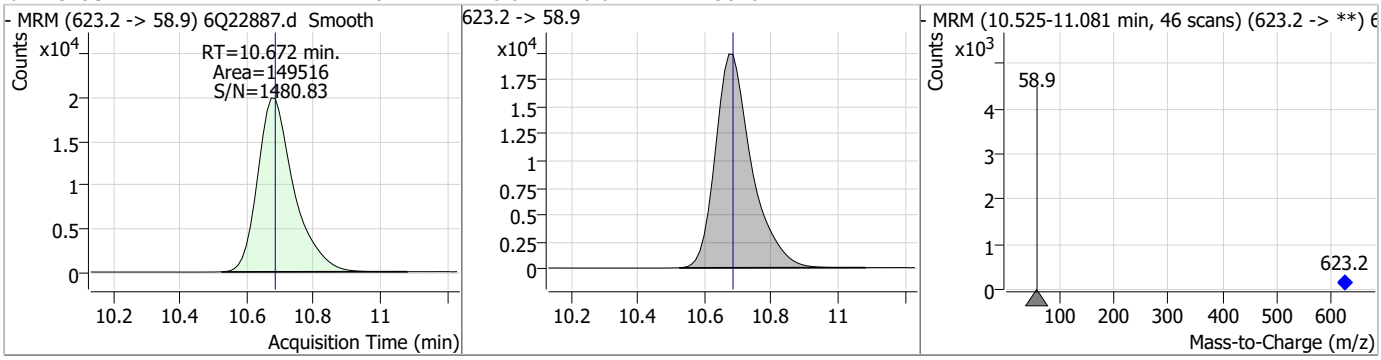
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.50	9.66	0.00	36969				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.32	9.84	-0.01	19021				

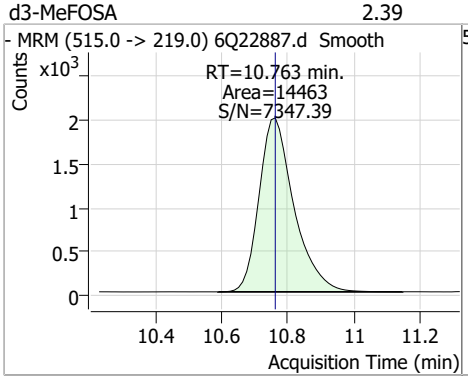


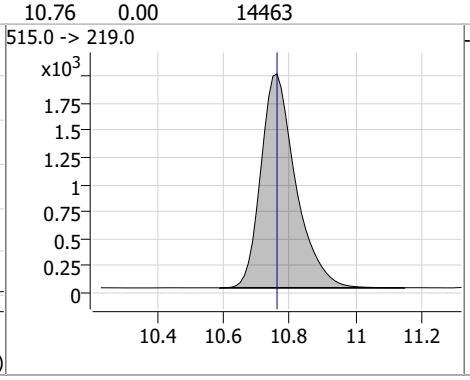
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	28.21	10.67	-0.01	149516				

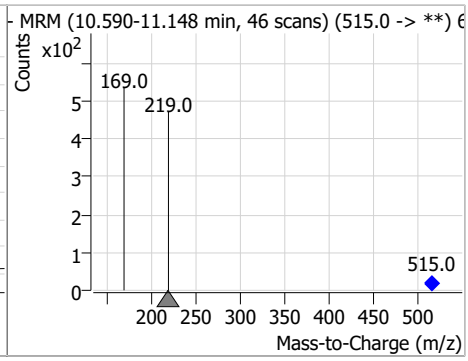


Perfluorinated Compounds by LC/MS/MS

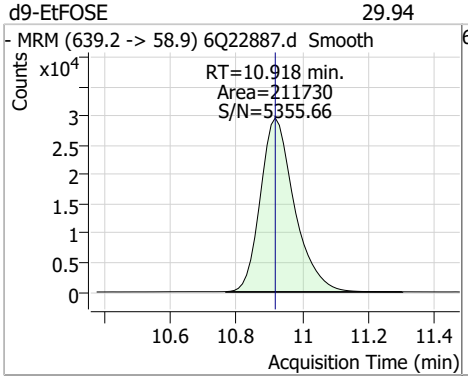
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.39	10.76	0.00	14463				

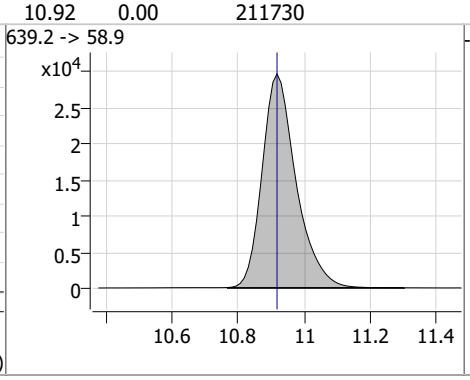


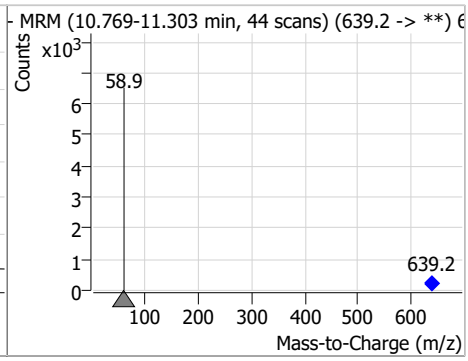




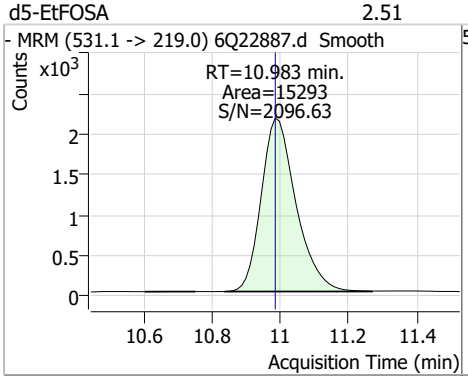
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	29.94	10.92	0.00	211730				

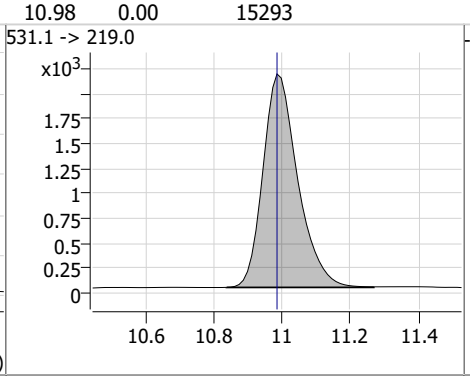


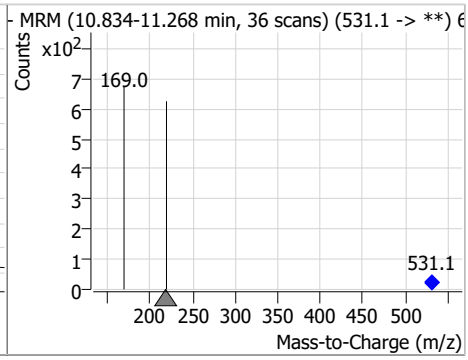




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.51	10.98	0.00	15293				







Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/15/23 13:05

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22809.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 7:12:02 PM
Sample Name : op98380-bs
Vial : P6-B3
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98380,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	138821	10.00	µg/L	0.012
M5-PFPeA	4.447	268.3 -> 223.0	43739	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	48009	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	46344	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	74284	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	32455	1.25	µg/L	-0.012
M6-PFDA	8.250	519.1 -> 474.1	18440	1.25	µg/L	-0.012
M7-PFUnDA	8.705	570.0 -> 525.1	24048	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	20244	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	11709	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	16187	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	18370	2.50	µg/L	0.000
M3-PFHxS	7.342	402.1 -> 79.9	11631	2.50	µg/L	-0.012
M8-PFOS	8.414	507.1 -> 79.9	10670	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	2395	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3829	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3604	5.00	µg/L	-0.025
M3-MeFOSAA	8.297	573.2 -> 419.0	22778	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	30507	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	21172	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	60839	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	96464	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	7389	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	6991	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	12577	2.50	µg/L	-0.012
13C3-PFBA	3.026	216.0 -> 172.0	51020	5.00	µg/L	0.025
18O2-PFHxS	7.341	403.0 -> 83.9	7310	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	66581	2.50	µg/L	-0.012
13C2-PFDA	8.251	515.1 -> 470.1	23967	1.25	µg/L	0.000
13C5-PFNA	7.758	468.0 -> 423.0	35376	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	38714	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2395	5.48	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.7%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3829	6.07	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 121.5%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3604	5.84	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.8%		
13C2-PFDoDA	9.135	615.1 -> 570.0	20244	1.25	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C2-PFTeDA	9.839	715.2 -> 670.0	11709	1.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C3-PFBS	5.610	302.1 -> 79.9	18370	2.96	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 118.4%		
13C3-PFHxS	7.342	402.1 -> 79.9	11631	2.89	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 = 115.8%	
13C4-PFBA	3.022	216.8 -> 171.9	138821	11.52 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 115.2%	
13C4-PFHpA	6.596	367.1 -> 322.0	46344	2.96 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 118.6%	
13C5-PFHxA	5.668	318.0 -> 273.0	48009	3.00 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 120.2%	
13C5-PFPeA	4.447	268.3 -> 223.0	43739	6.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 120.0%	
13C6-PFDA	8.250	519.1 -> 474.1	18440	1.36 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.0%	
13C7-PFUnDA	8.705	570.0 -> 525.1	24048	1.34 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.5%	
13C8-FOSA	9.662	506.1 -> 77.8	16187	1.71 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 68.2%	
13C8-PFOA	7.226	421.1 -> 376.0	74284	3.02 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 120.9%	
13C8-PFOS	8.414	507.1 -> 79.9	10670	2.90 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.9%	
13C9-PFNA	7.758	472.1 -> 427.0	32455	1.41 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.2%	
d3-MeFOSAA	8.297	573.2 -> 419.0	22778	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	30507	12.18 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 121.8%	
d3-MeFOSA	10.763	515.0 -> 219.0	6991	1.80 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 72.0%	
d5-EtFOSAA	8.492	589.2 -> 419.0	21172	5.04 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
d7-MeFOSE	10.672	623.2 -> 58.9	60839	17.90 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 71.6%	
d9-EtFOSE	10.918	639.2 -> 58.9	96464	21.26 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 85.1%	
d5-EtFOSA	10.983	531.1 -> 219.0	7389	1.89 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.5%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	34728	11.21 µg/L	97
		327.1 -> 80.9	14242		
6:2FTS	7.002	427.1 -> 407.0	35552	10.38 µg/L	97
		427.1 -> 80.9	12471		
8:2FTS	8.040	527.1 -> 507.0	19649	10.19 µg/L	93
		527.1 -> 80.8	8001		
EtFOSAA	8.493	584.2 -> 419.1	7355	2.76 µg/L	99
		584.2 -> 526.0	4094		
FOSA	9.652	498.1 -> 77.9	14305	2.82 µg/L	99
		498.1 -> 478.0	434		
MeFOSAA	8.298	570.1 -> 419.0	12640	2.90 µg/L	98
		570.1 -> 483.0	2443		
PFBA	3.031	212.8 -> 168.9	49695	11.46 µg/L	100
PFBS	5.611	298.7 -> 79.9	15015	2.50 µg/L	98
		298.7 -> 98.8	5807		
PFDA	8.251	512.9 -> 469.0	60841	2.78 µg/L	95
		512.9 -> 219.0	10020		
PFDoDA	9.136	613.1 -> 569.0	37087	2.80 µg/L	97
		613.1 -> 319.0	6085		
PFDS	9.299	599.0 -> 79.9	6995	2.73 µg/L	94

Perfluorinated Compounds by LC/MS/MS

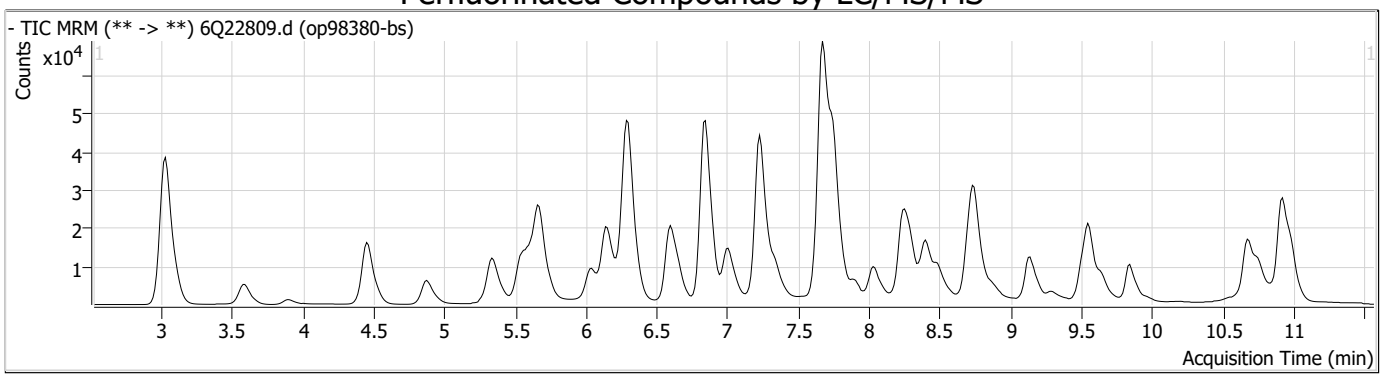
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3171				
PFHpA	6.596	363.1 -> 319.0	54081	2.96	µg/L		99
		363.1 -> 169.0	8765				
PFHpS	7.909	449.0 -> 79.9	13318	2.73	µg/L		95
		449.0 -> 98.9	6675				
PFHxA	5.670	313.0 -> 269.0	42608	3.03	µg/L		100
		313.0 -> 118.9	2253				
PFHxS	7.343	398.7 -> 79.9	13603	2.65	µg/L	m	98
		398.7 -> 98.9	6447				
PFNA	7.758	463.0 -> 419.0	64409	2.89	µg/L		99
		463.0 -> 219.0	12049				
PFNS	8.880	548.8 -> 79.9	11515	2.62	µg/L		98
		548.8 -> 98.9	5984				
PFOA	7.228	413.0 -> 369.0	80853	2.66	µg/L		96
		413.0 -> 169.0	14363				
PFOS	8.415	498.9 -> 79.9	13262	2.89	µg/L	m	89
		498.9 -> 98.8	5966				
PFPeA	4.449	263.0 -> 219.0	56202	5.83	µg/L		100
PFPeS	6.660	349.1 -> 79.9	13123	2.76	µg/L		100
		349.1 -> 98.9	5967				
PFTeDA	9.839	713.1 -> 669.0	32224	2.83	µg/L		100
		713.1 -> 168.9	2802				
PFTrDA	9.507	663.0 -> 619.0	40322	2.95	µg/L		97
		663.0 -> 168.9	4428				
PFUnDA	8.705	563.1 -> 519.0	41032	2.96	µg/L		100
		563.1 -> 269.1	6544				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	58635	5.39	µg/L		92
		632.9 -> 452.9	17430				
9Cl-PF3ONS	8.745	530.8 -> 351.0	93158	5.29	µg/L		99
		532.8 -> 353.0	29293				
ADONA	6.846	376.9 -> 250.9	207275	5.33	µg/L		96
		376.9 -> 84.8	58871				
HFPO-DA	6.046	284.9 -> 168.9	15016	5.78	µg/L		99
		284.9 -> 184.9	1524				
3:3FTCA	3.896	241.0 -> 177.0	7365	10.74	µg/L		99
		241.0 -> 117.0	974				
5:3FTCA	6.298	341.0 -> 237.1	170662	59.09	µg/L		100
		341.0 -> 217.0	121594				
7:3FTCA	7.673	441.0 -> 316.9	126548	59.24	µg/L		98
		441.0 -> 336.9	284380				
EtFOSA	10.985	526.0 -> 219.0	18013	5.53	µg/L		96
		526.0 -> 169.0	23088				
EtFOSE	10.931	630.0 -> 58.9	54089	13.84	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	14283	5.51	µg/L		94
		511.9 -> 169.0	19613				
MeFOSE	10.685	616.1 -> 58.9	31664	13.92	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	3228	2.71	µg/L		97
		699.1 -> 98.8	1720				
NFDHA	5.551	295.0 -> 201.0	10130	5.67	µg/L		100
		295.0 -> 84.9	2873				
PFMBA	4.869	279.0 -> 85.1	39513	5.80	µg/L		100
PFMPA	3.588	229.0 -> 84.9	32165	5.90	µg/L		100
PFEESA	6.151	314.8 -> 134.9	99166	5.26	µg/L		100
		314.8 -> 82.9	3607				

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

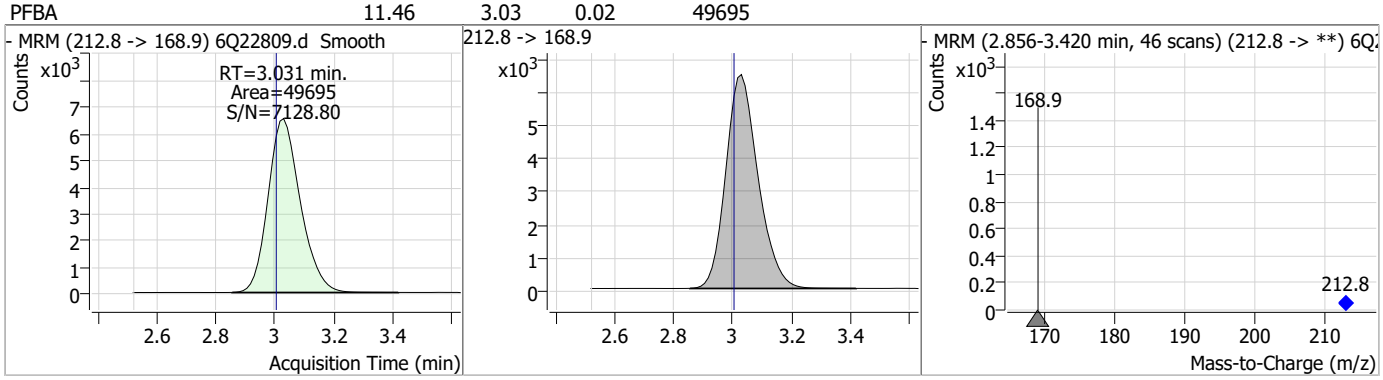
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

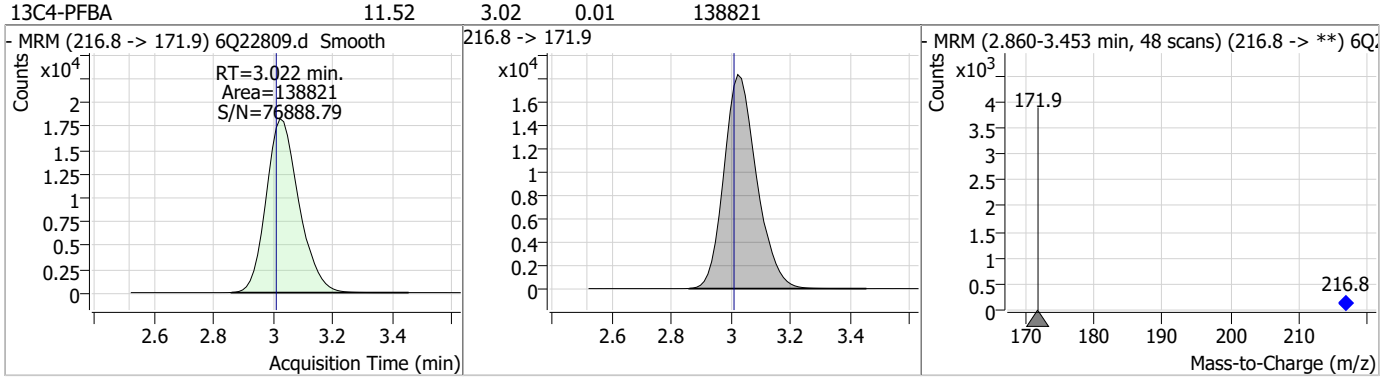
Perfluorinated Compounds by LC/MS/MS



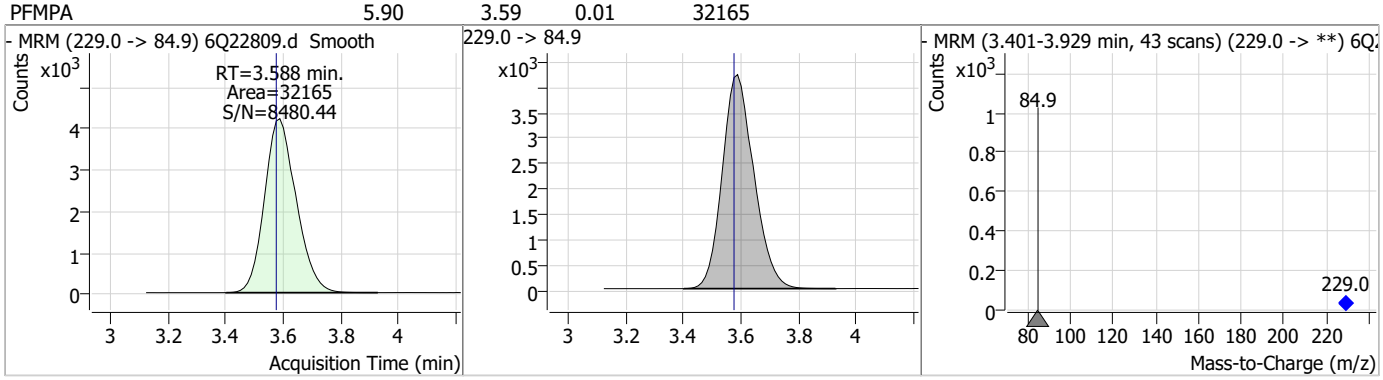
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	11.46	3.03	0.02	49695				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	11.52	3.02	0.01	138821				

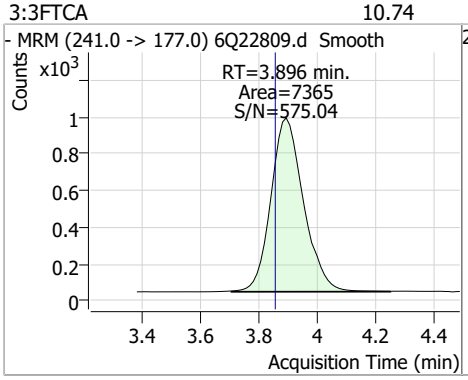


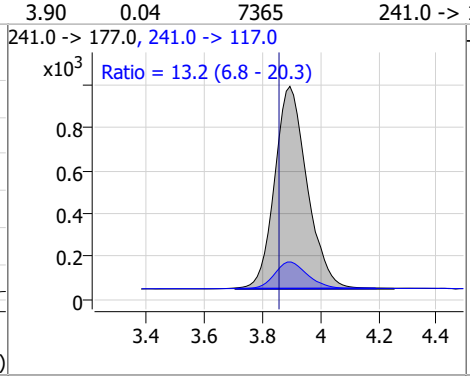
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	5.90	3.59	0.01	32165				

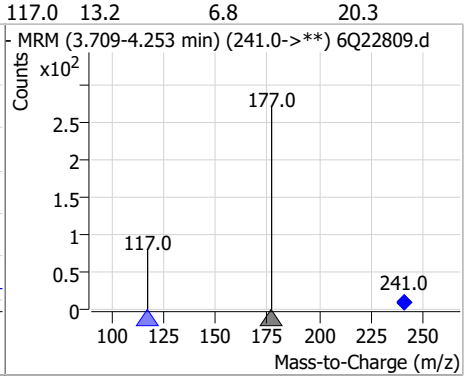


Perfluorinated Compounds by LC/MS/MS

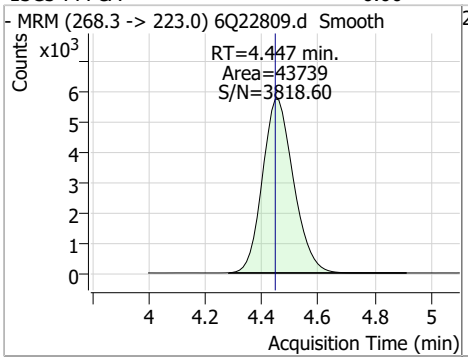
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	10.74	3.90	0.04	7365	241.0 -> 117.0	13.2	6.8	20.3

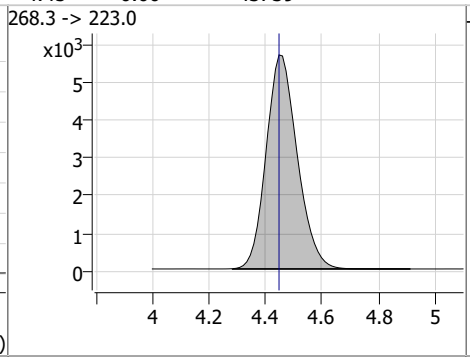


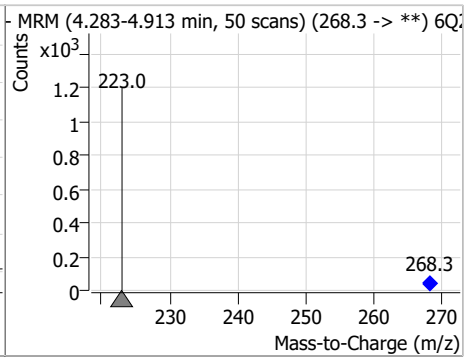




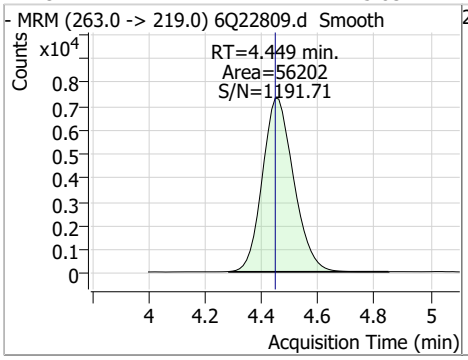
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	6.00	4.45	0.00	43739				

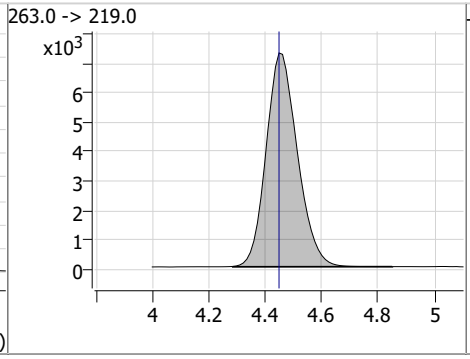


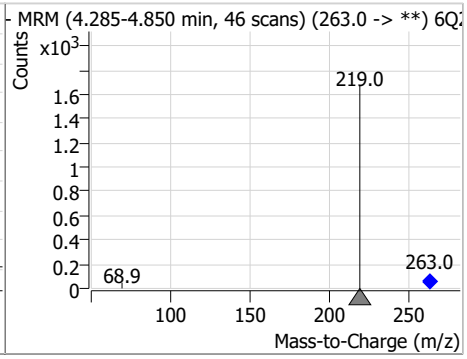




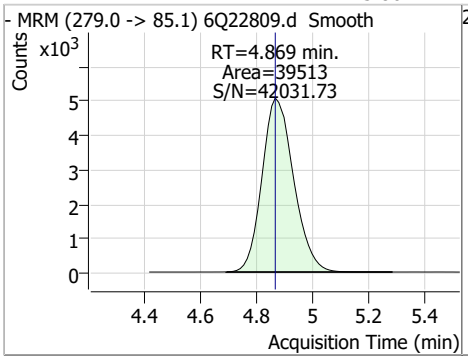
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	5.83	4.45	0.00	56202				

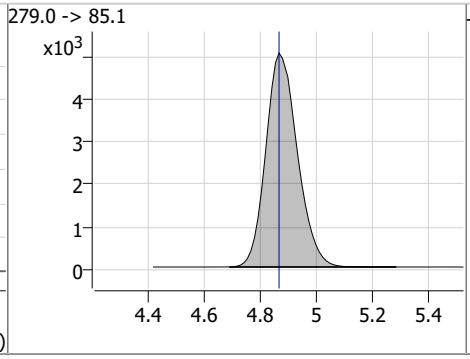


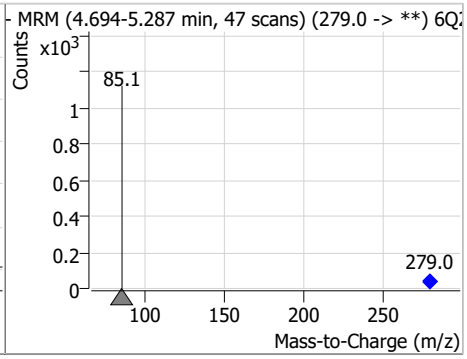




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.80	4.87	0.00	39513				

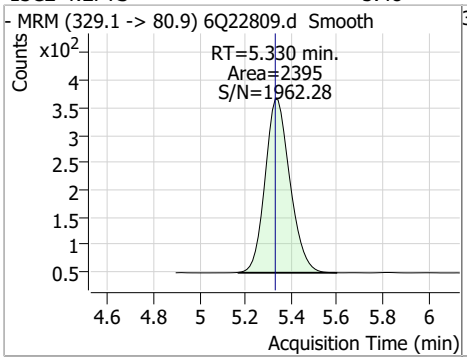


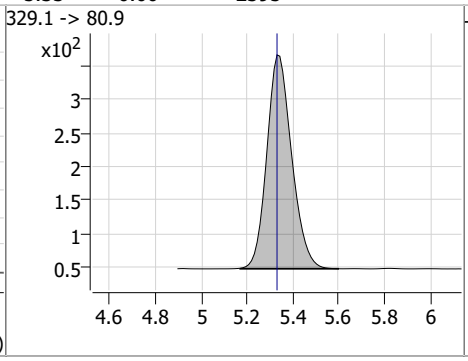


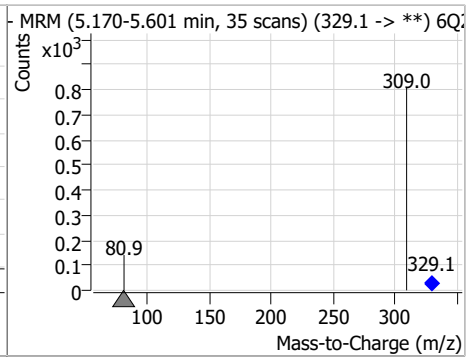


Perfluorinated Compounds by LC/MS/MS

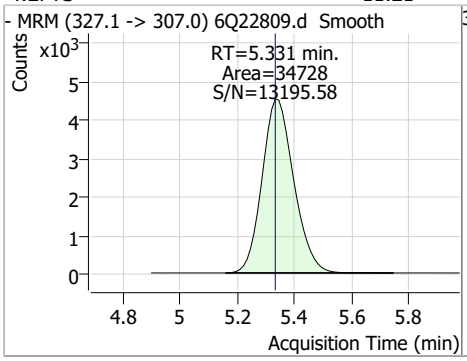
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.48	5.33	0.00	2395				

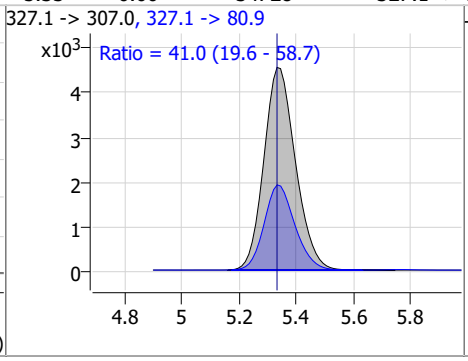


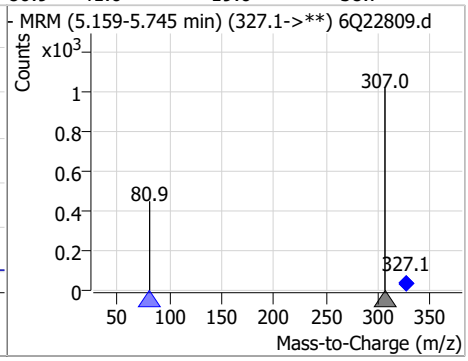




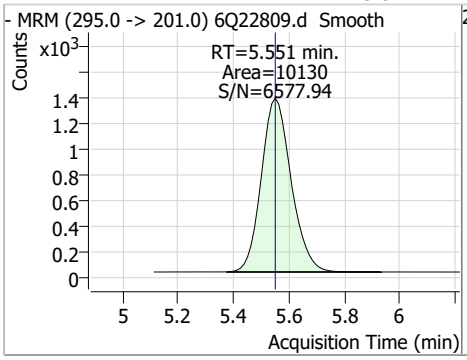
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	11.21	5.33	0.00	34728	327.1 -> 80.9	41.0	19.6	58.7

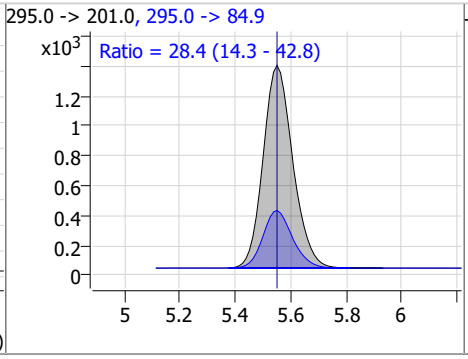


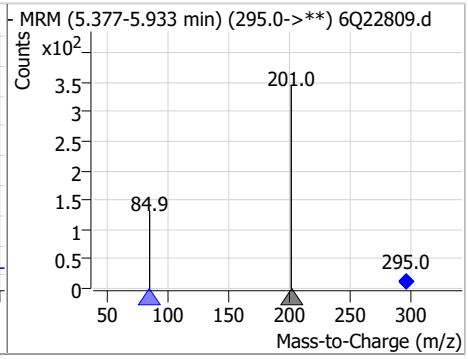




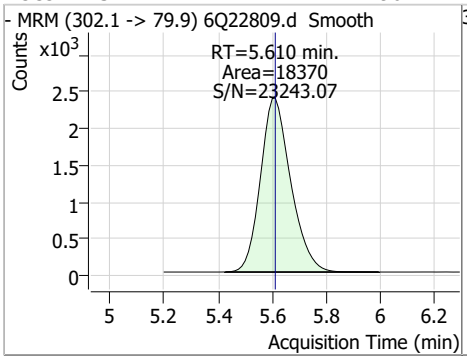
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	5.67	5.55	0.00	10130	295.0 -> 84.9	28.4	14.3	42.8

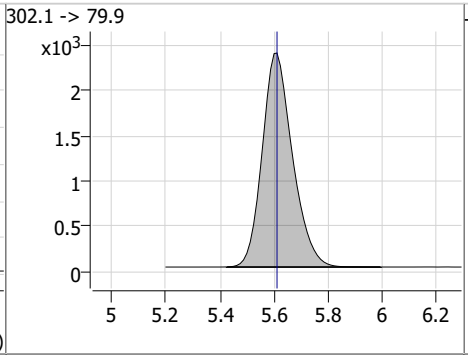


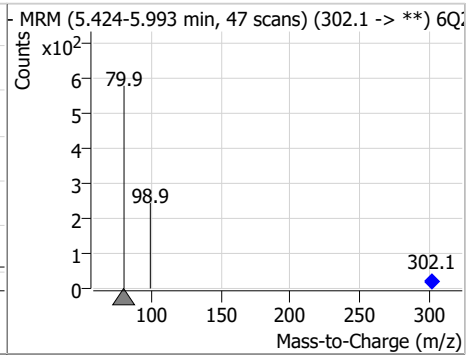




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.96	5.61	0.00	18370				

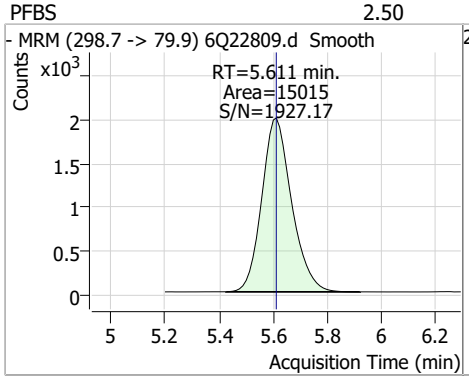


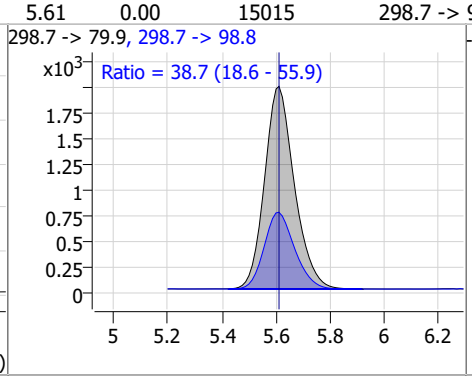


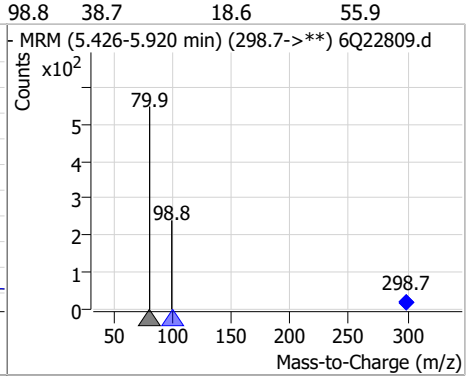


Perfluorinated Compounds by LC/MS/MS

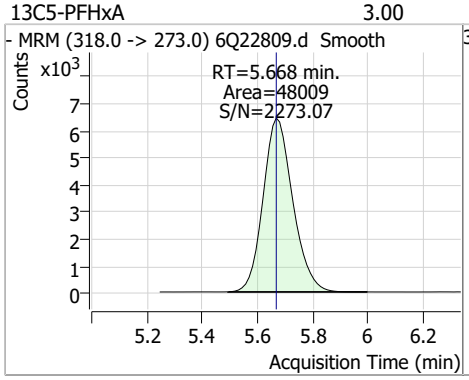
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.50	5.61	0.00	15015	298.7 -> 98.8	38.7	18.6	55.9

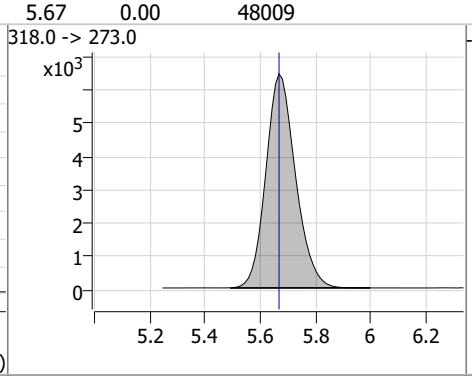


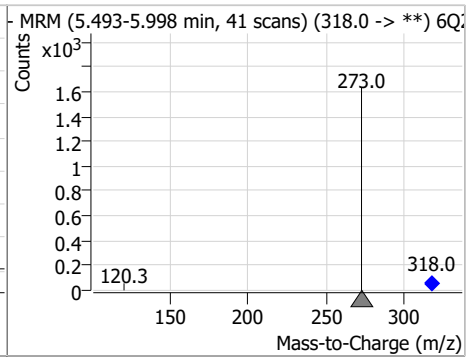




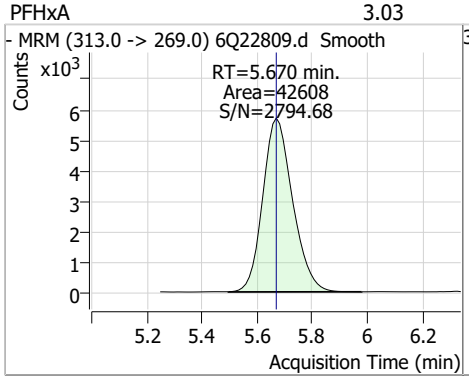
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	3.00	5.67	0.00	48009				

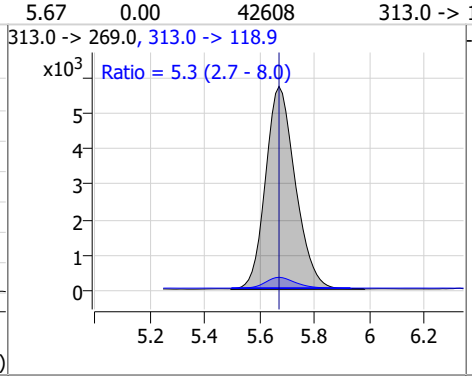


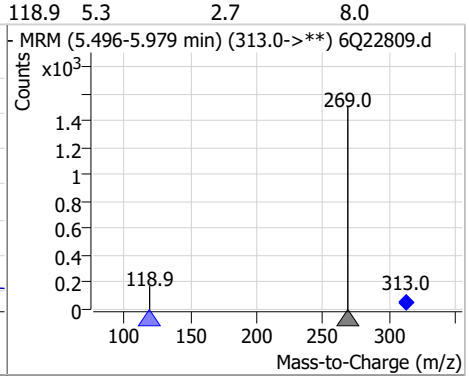




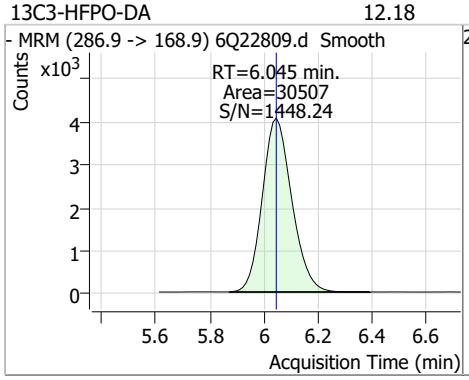
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	3.03	5.67	0.00	42608	313.0 -> 118.9	5.3	2.7	8.0

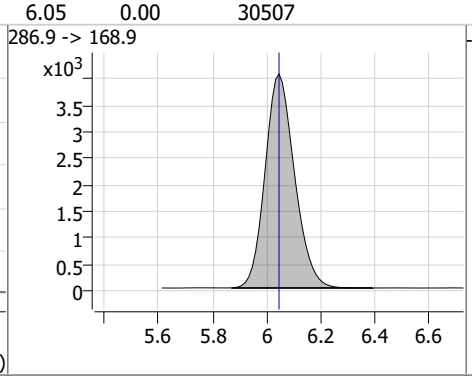


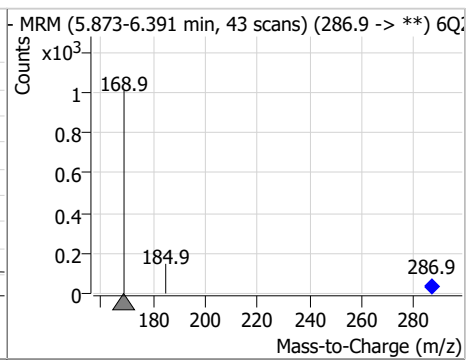




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	12.18	6.05	0.00	30507				

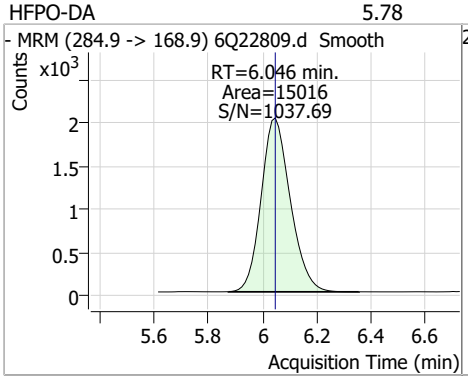


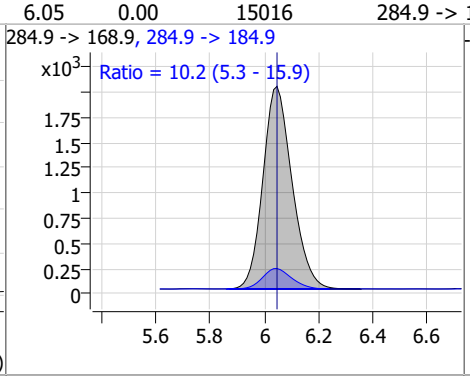


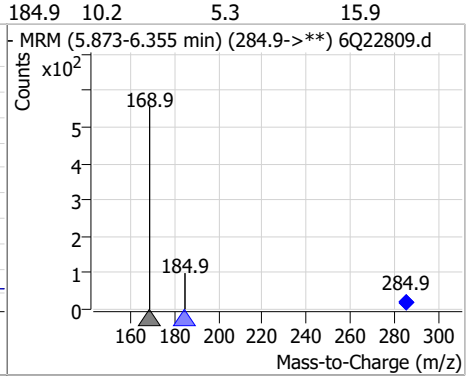


Perfluorinated Compounds by LC/MS/MS

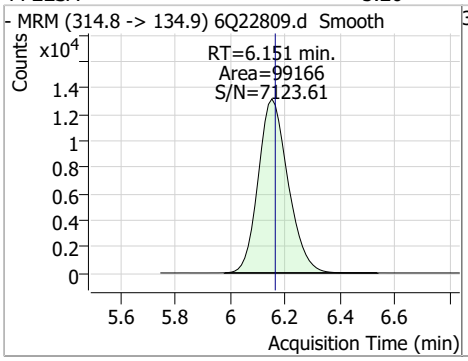
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.78	6.05	0.00	15016	284.9 -> 184.9	10.2	5.3	15.9

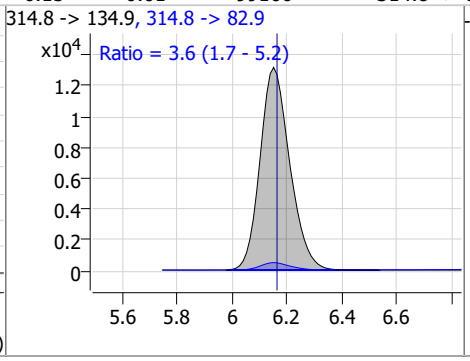


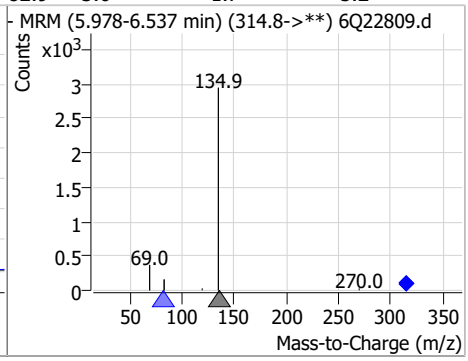




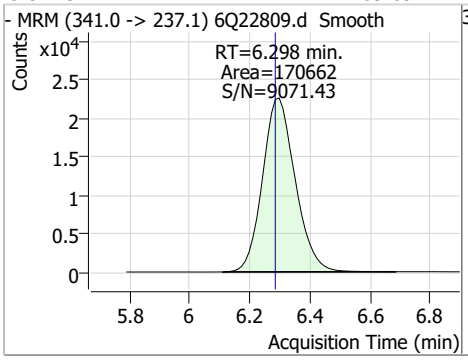
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	5.26	6.15	-0.01	99166	314.8 -> 82.9	3.6	1.7	5.2

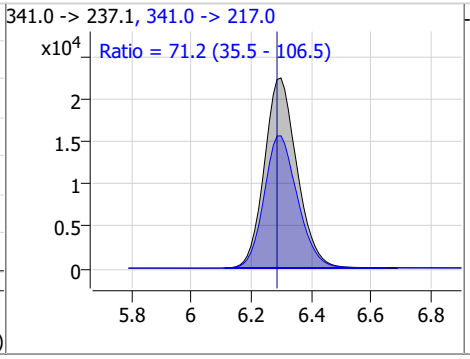


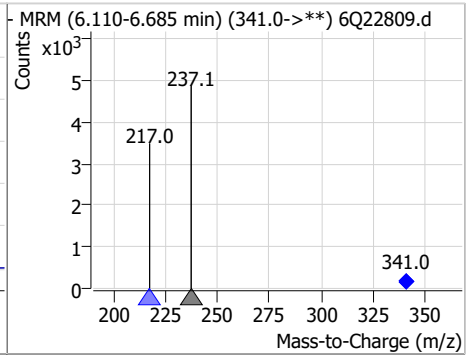




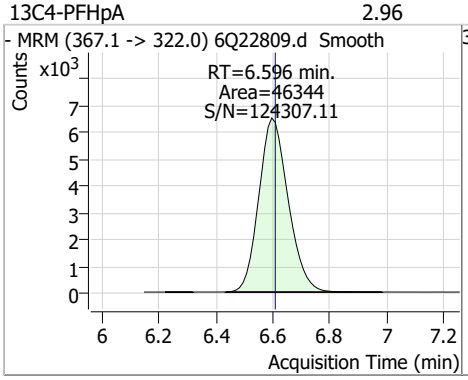
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	59.09	6.30	0.01	170662	341.0 -> 217.0	71.2	35.5	106.5

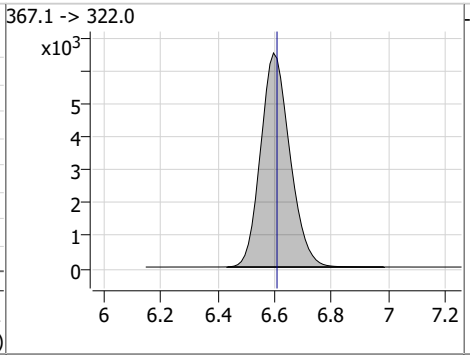


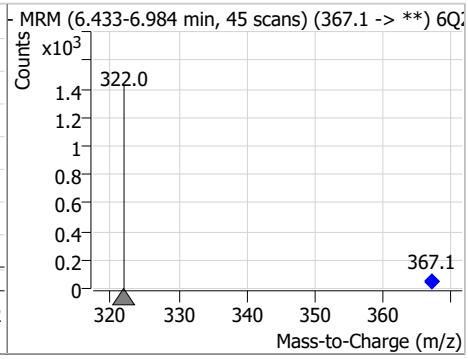




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.96	6.60	-0.01	46344				

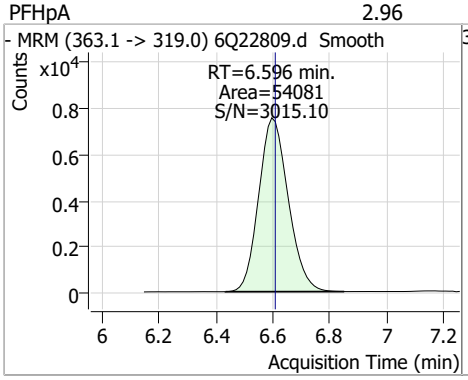


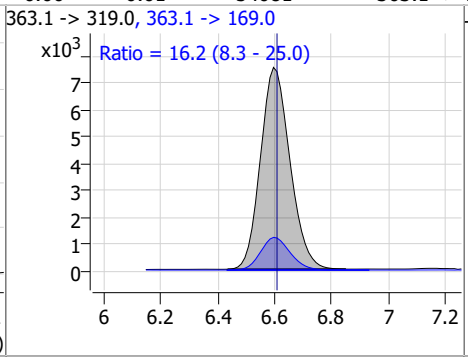


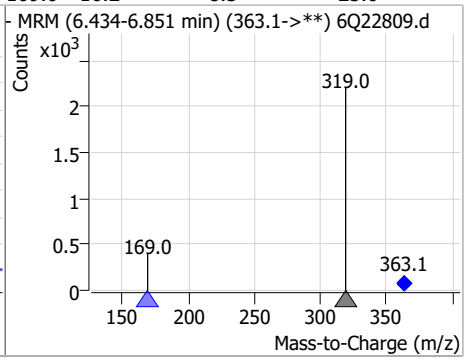


Perfluorinated Compounds by LC/MS/MS

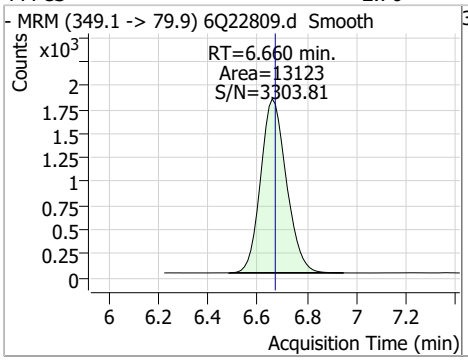
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.96	6.60	-0.01	54081	363.1 -> 169.0	16.2	8.3	25.0

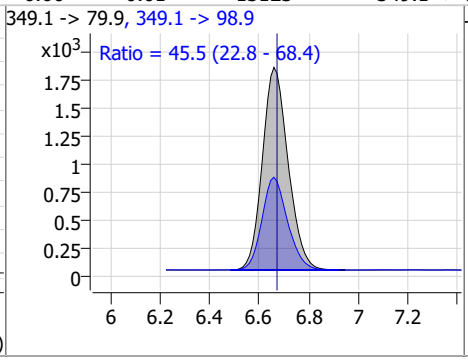


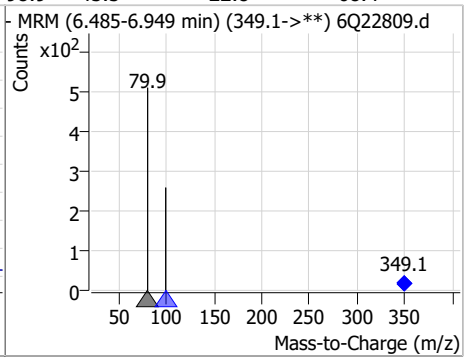




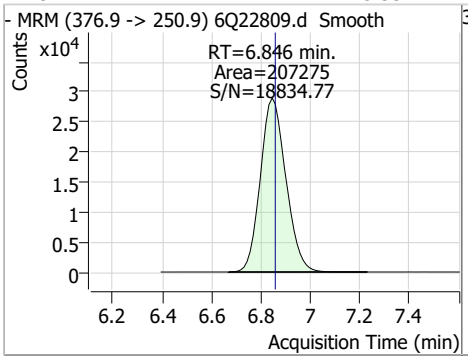
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.76	6.66	-0.01	13123	349.1 -> 98.9	45.5	22.8	68.4

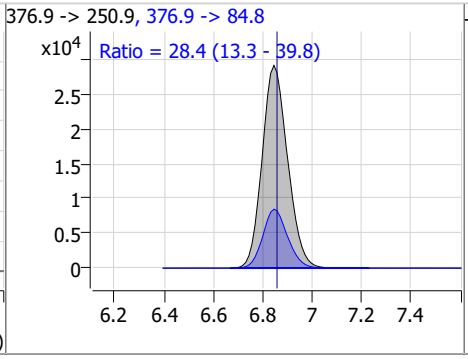


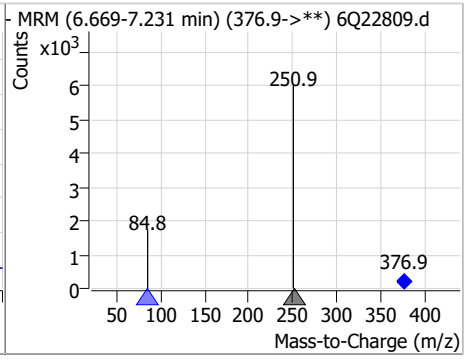




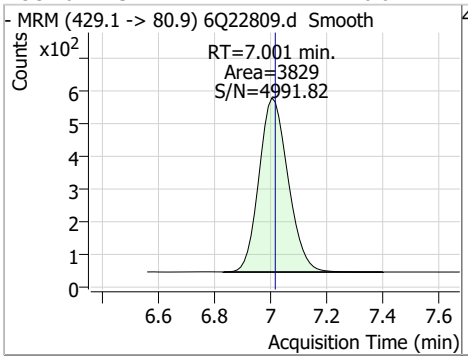
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	5.33	6.85	-0.01	207275	376.9 -> 84.8	28.4	13.3	39.8

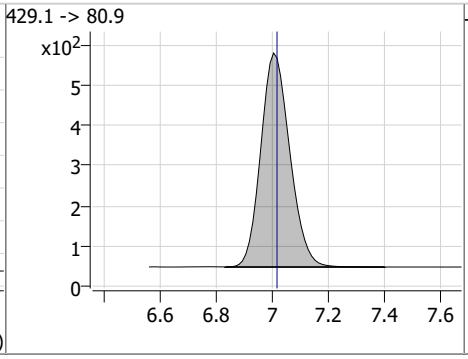


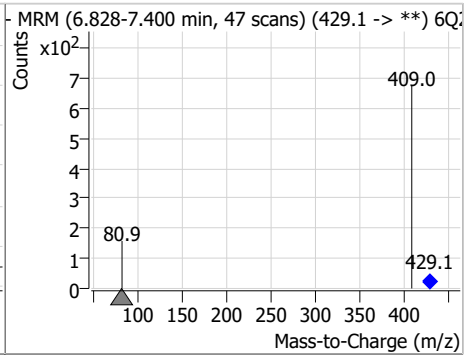




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	6.07	7.00	-0.01	3829				

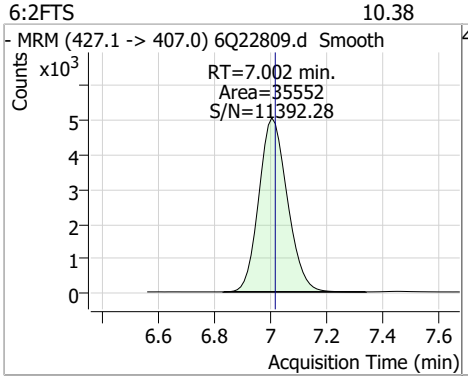


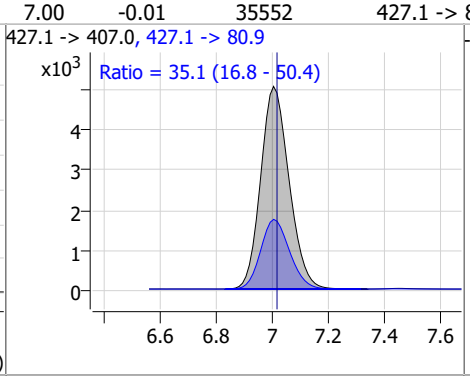


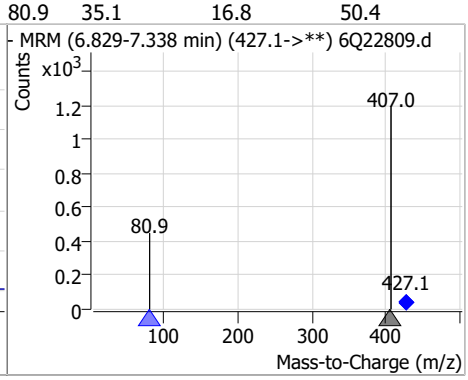


Perfluorinated Compounds by LC/MS/MS

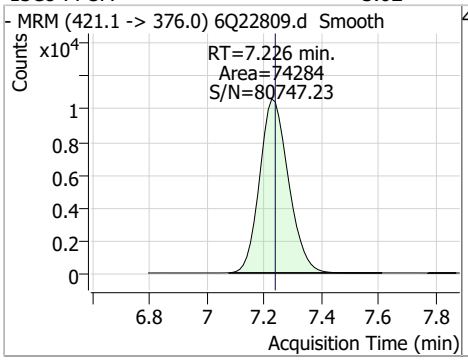
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	10.38	7.00	-0.01	35552	427.1 -> 80.9	35.1	16.8	50.4

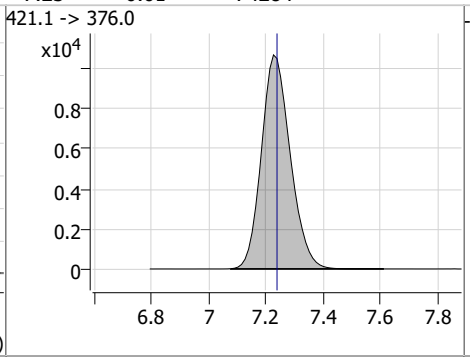


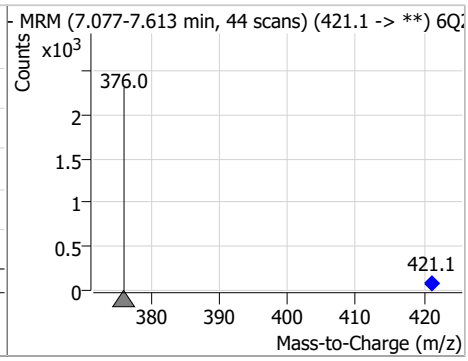




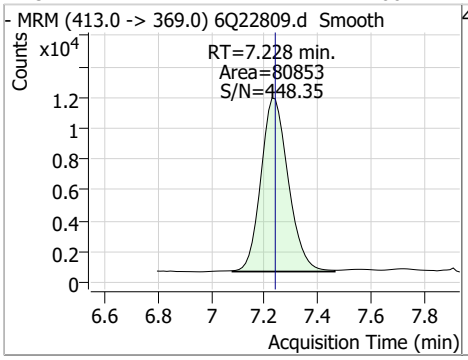
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	3.02	7.23	-0.01	74284				

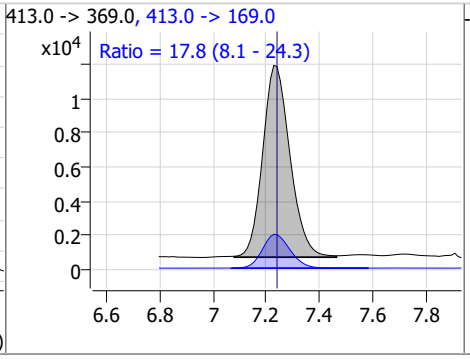


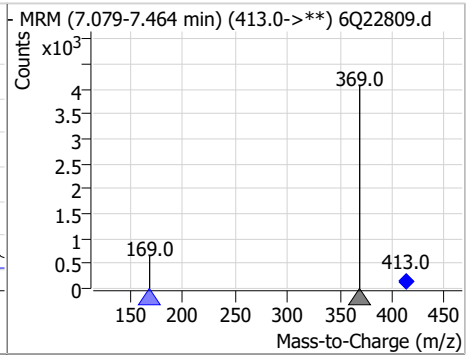




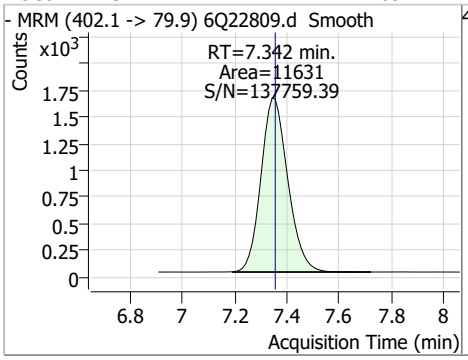
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.66	7.23	-0.01	80853	413.0 -> 169.0	17.8	8.1	24.3

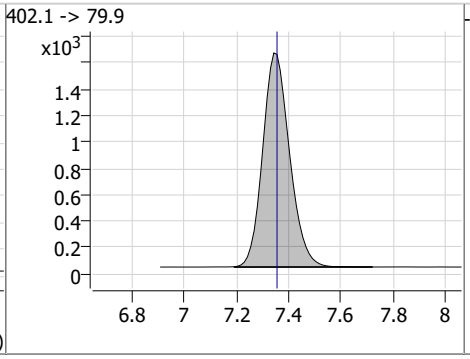


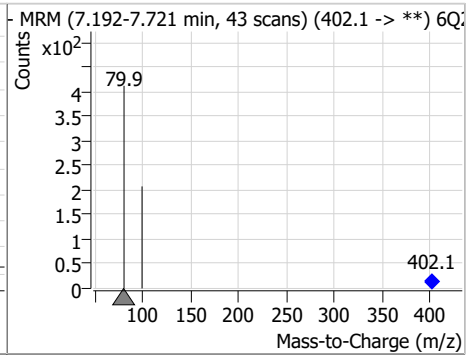




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.89	7.34	-0.01	11631				

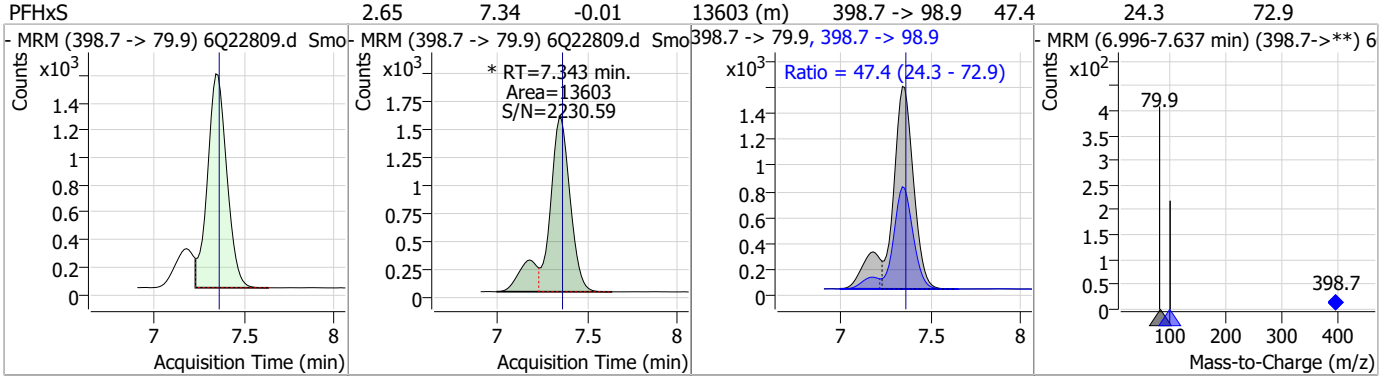




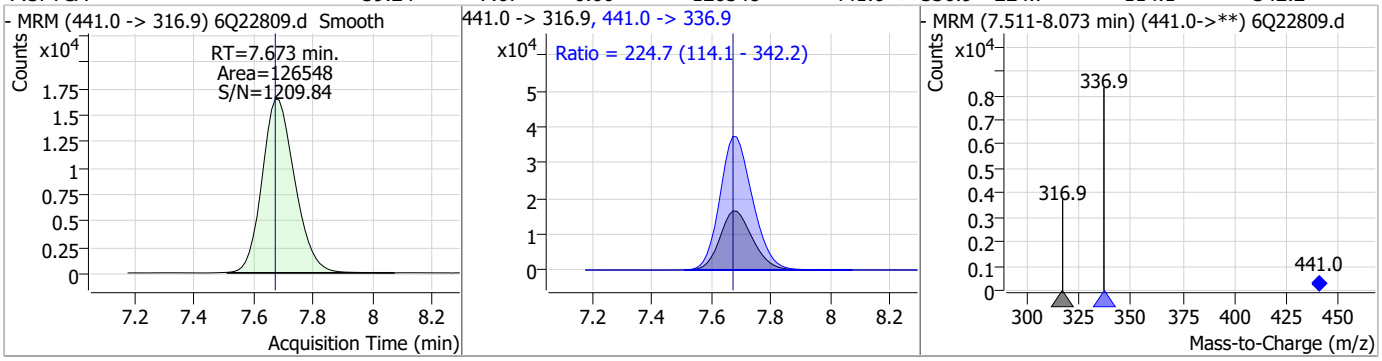


Perfluorinated Compounds by LC/MS/MS

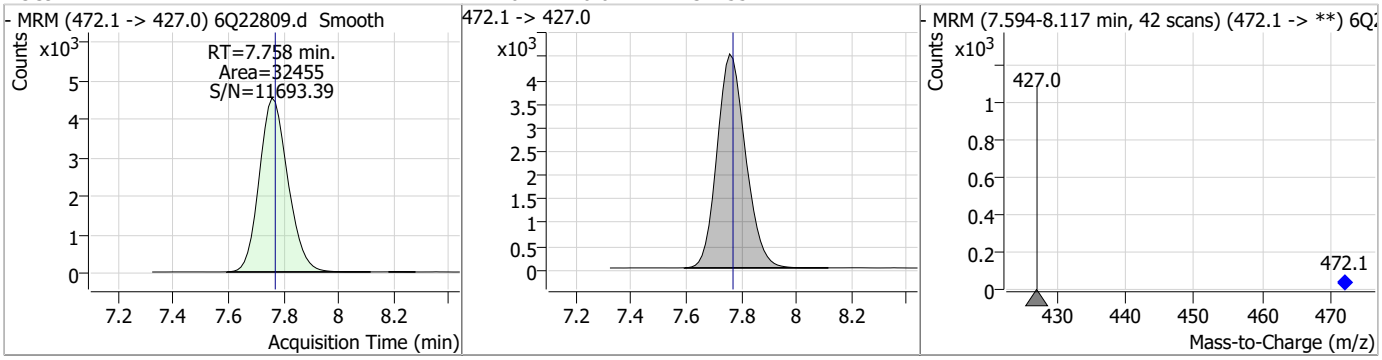
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.65	7.34	-0.01	13603 (m)	398.7 -> 98.9	47.4	24.3	72.9



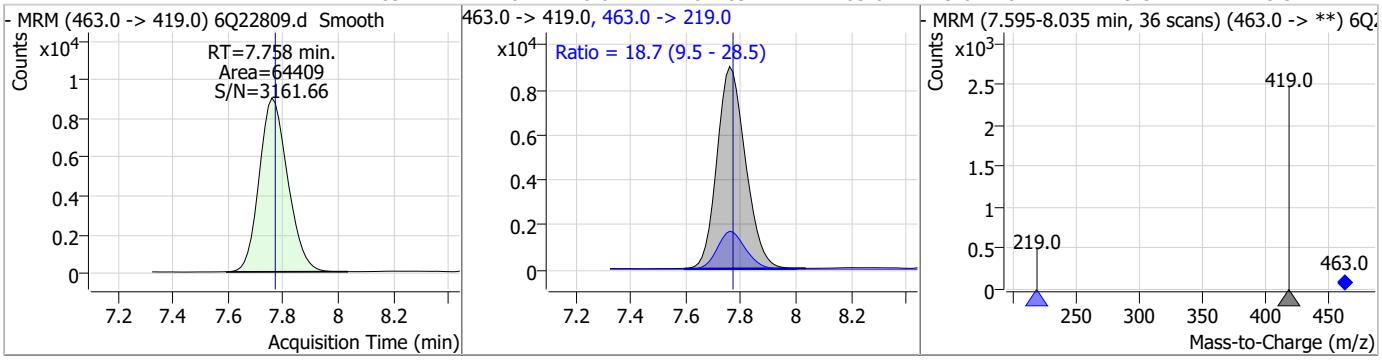
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	59.24	7.67	0.00	126548	441.0 -> 336.9	224.7	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.41	7.76	-0.01	32455				

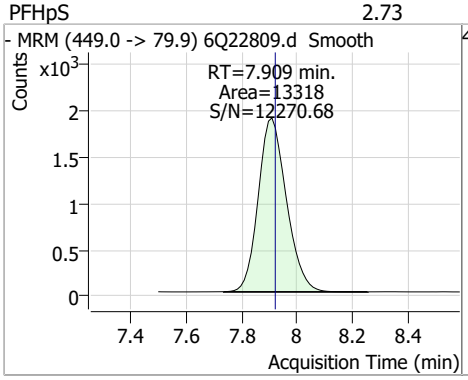


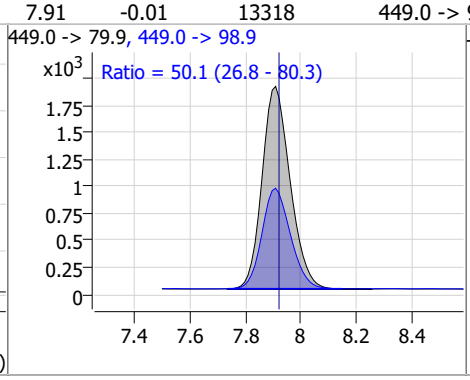
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.89	7.76	-0.01	64409	463.0 -> 219.0	18.7	9.5	28.5

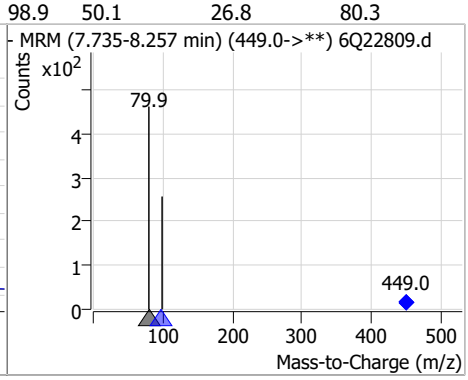


Perfluorinated Compounds by LC/MS/MS

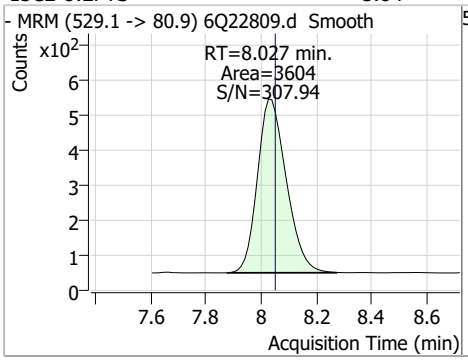
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.73	7.91	-0.01	13318	449.0 -> 98.9	50.1	26.8	80.3

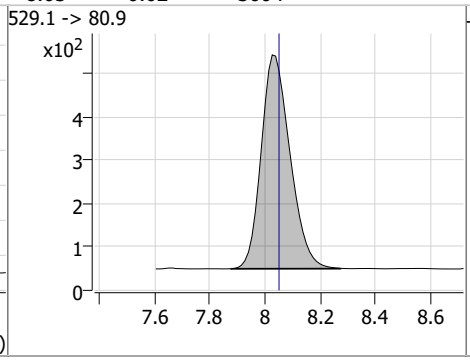


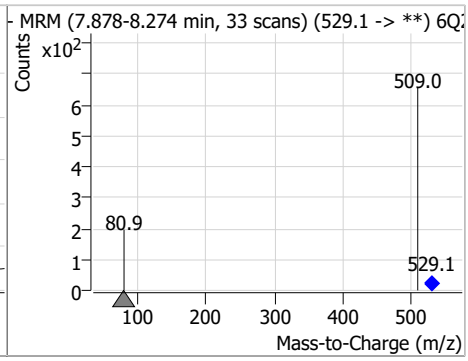




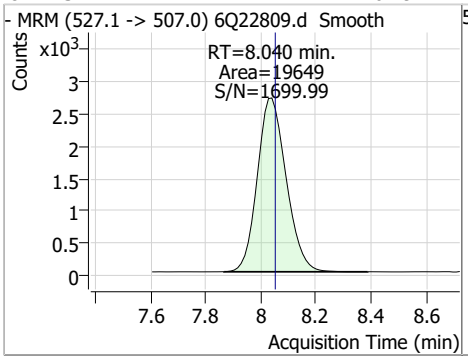
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.84	8.03	-0.02	3604				

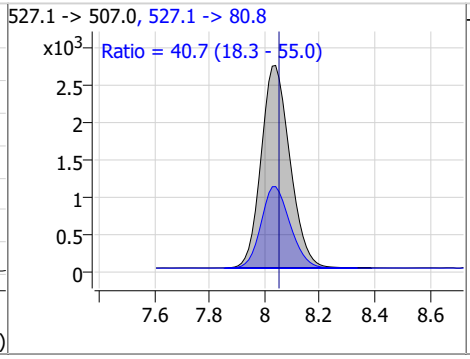


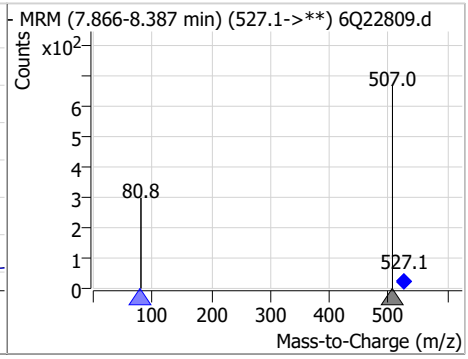




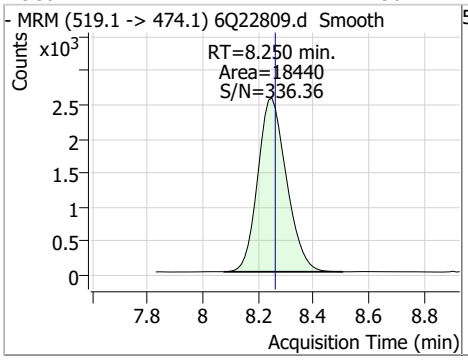
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	10.19	8.04	-0.01	19649	527.1 -> 80.8	40.7	18.3	55.0

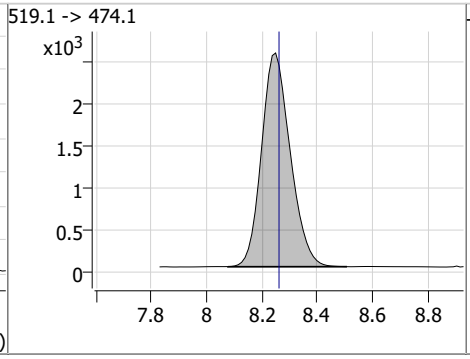


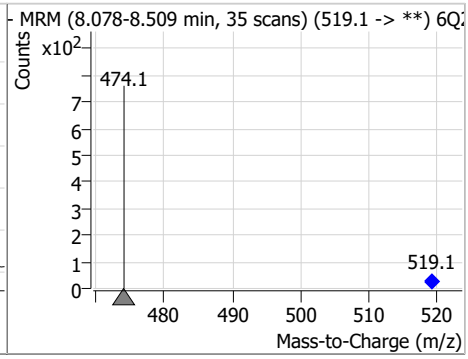




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.36	8.25	-0.01	18440				

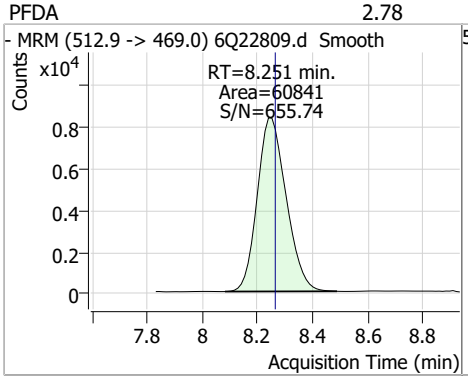


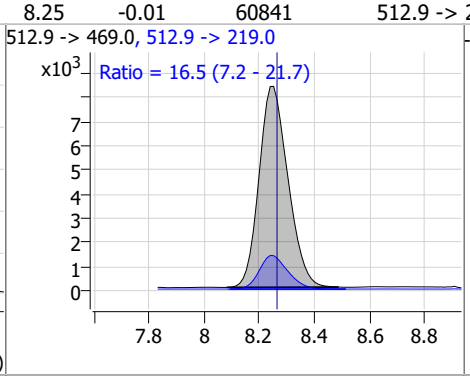


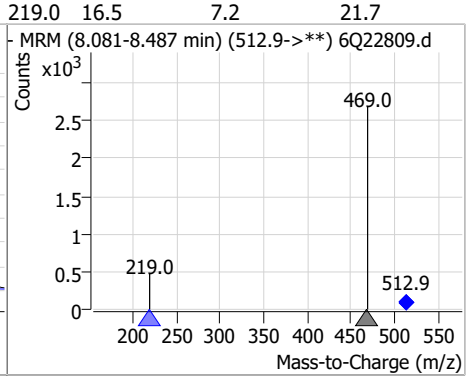


Perfluorinated Compounds by LC/MS/MS

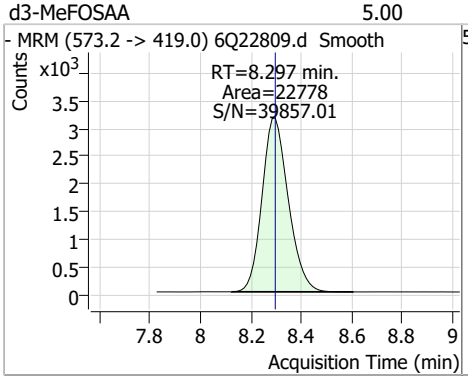
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.78	8.25	-0.01	60841	512.9 -> 219.0	16.5	7.2	21.7

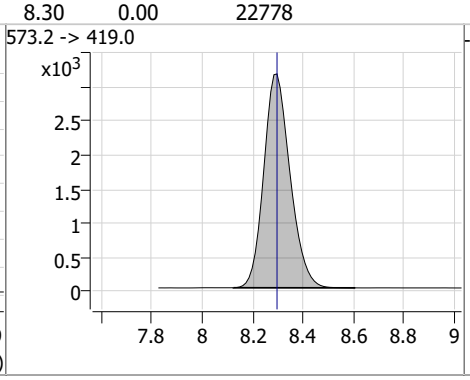


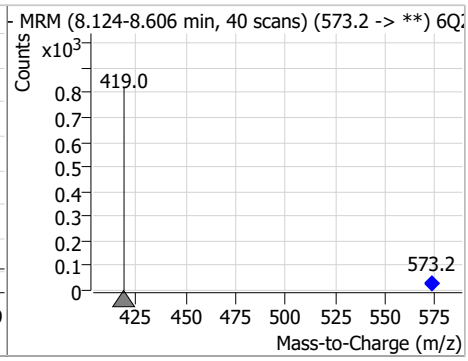




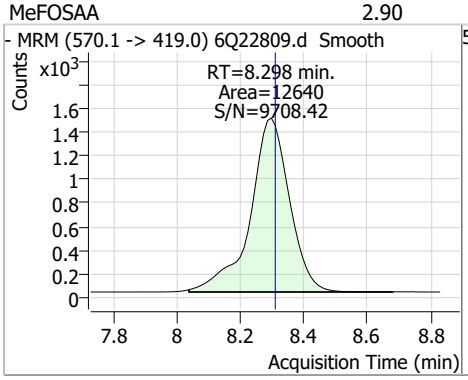
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.00	8.30	0.00	22778				

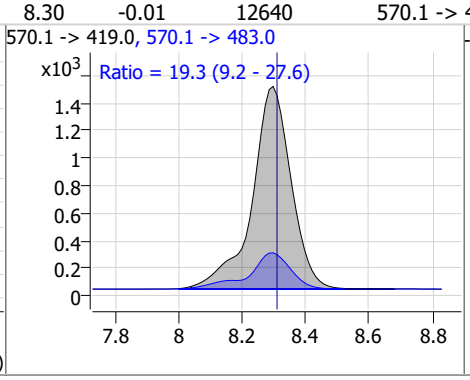


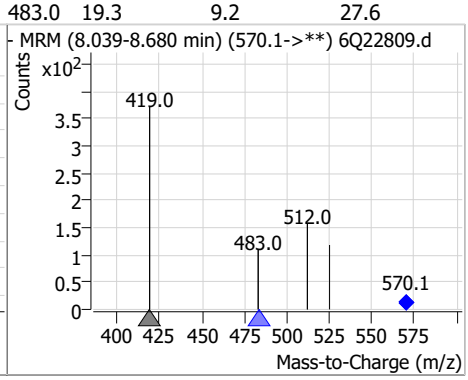




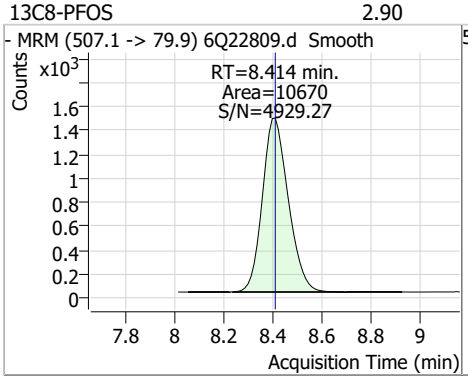
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.90	8.30	-0.01	12640	570.1 -> 483.0	19.3	9.2	27.6

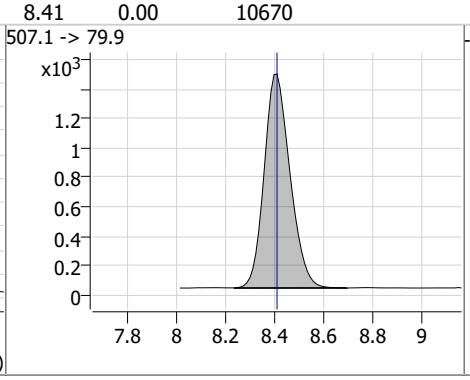


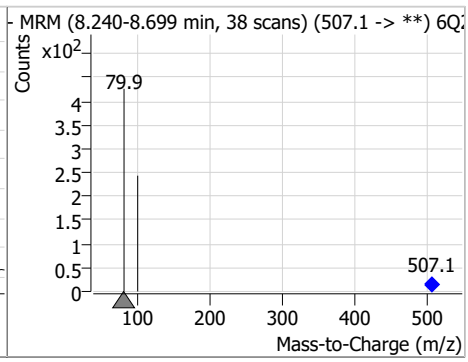




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.90	8.41	0.00	10670				

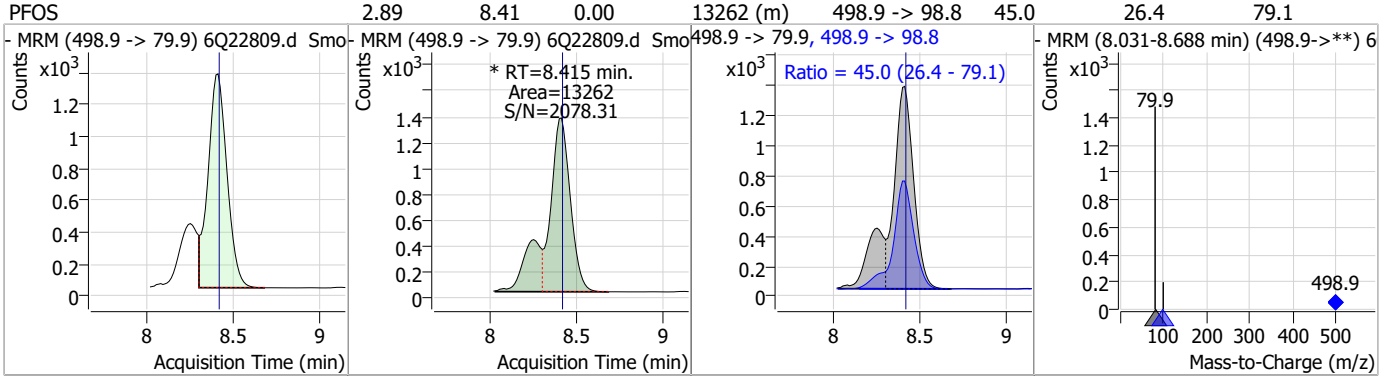




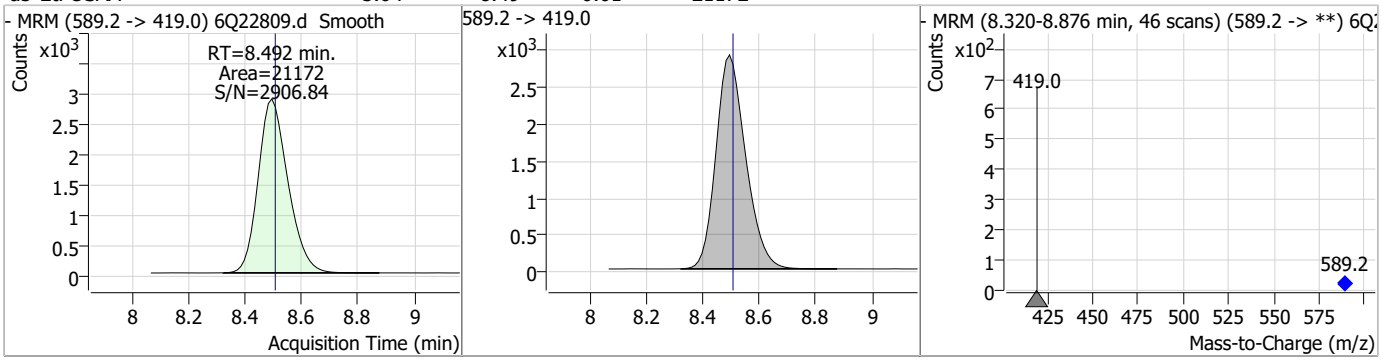


Perfluorinated Compounds by LC/MS/MS

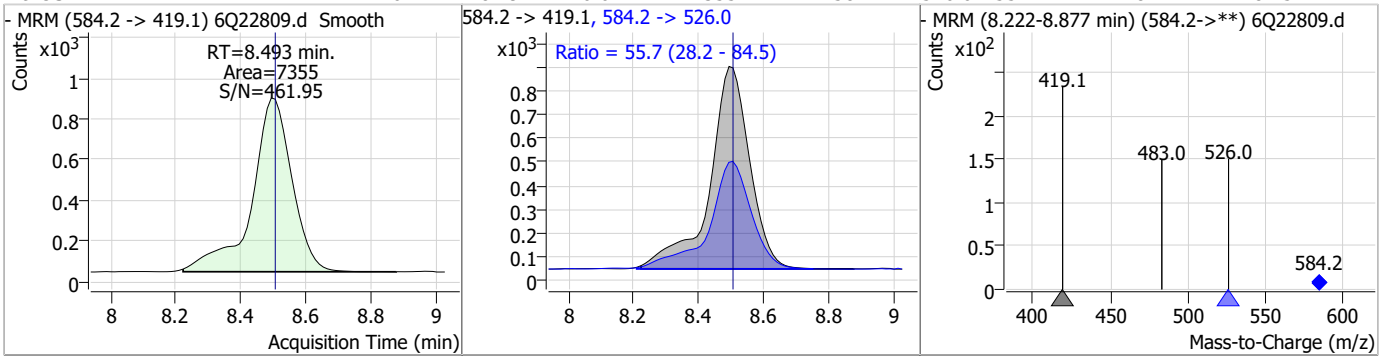
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.89	8.41	0.00	13262 (m)	498.9 -> 98.8	45.0	26.4	79.1



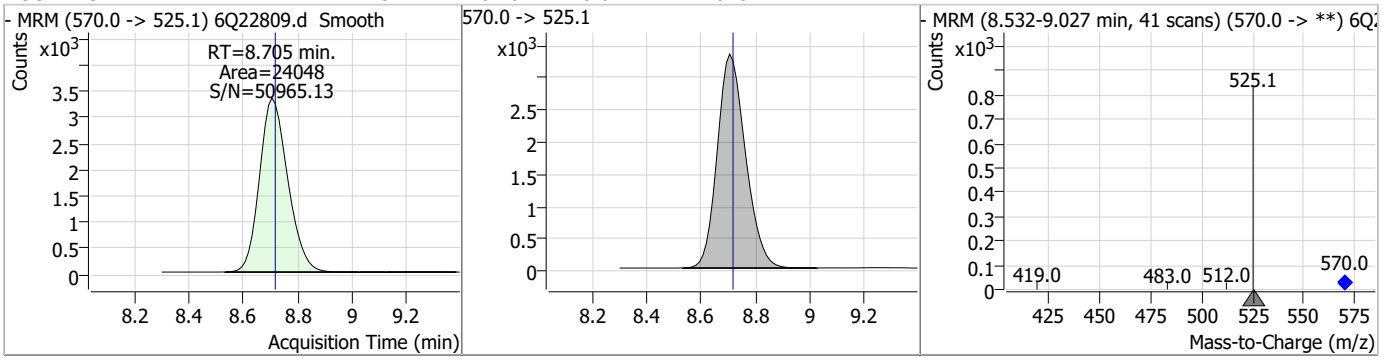
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.04	8.49	-0.01	21172				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.76	8.49	-0.01	7355	584.2 -> 526.0	55.7	28.2	84.5

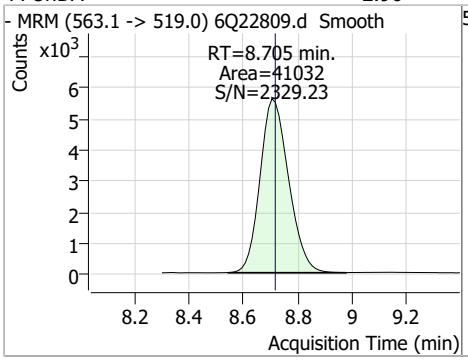


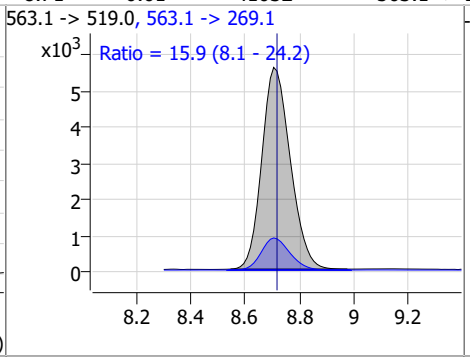
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.34	8.70	-0.01	24048				

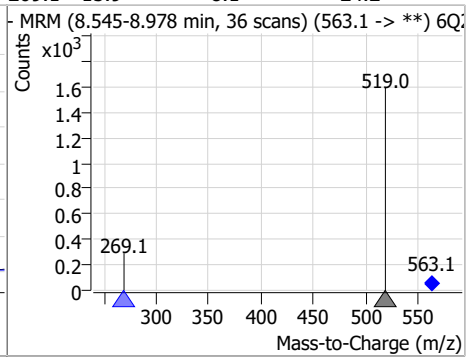


Perfluorinated Compounds by LC/MS/MS

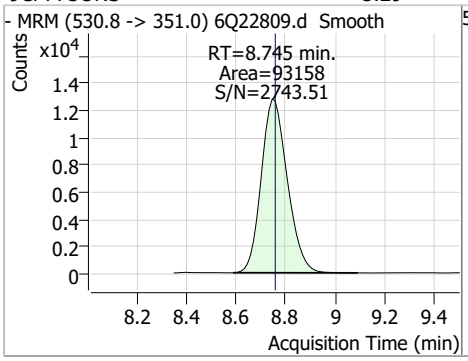
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.96	8.71	-0.01	41032	563.1 -> 269.1	15.9	8.1	24.2

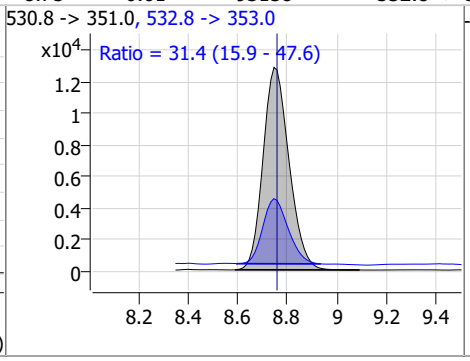


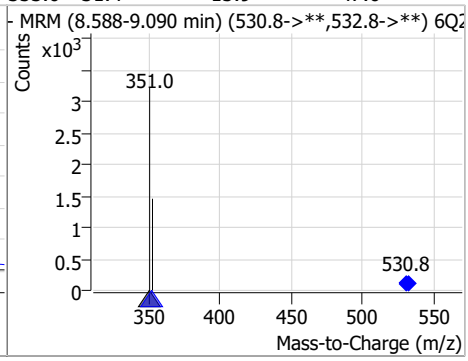




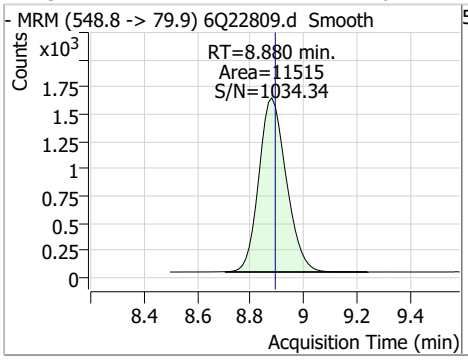
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	5.29	8.75	-0.01	93158	532.8 -> 353.0	31.4	15.9	47.6

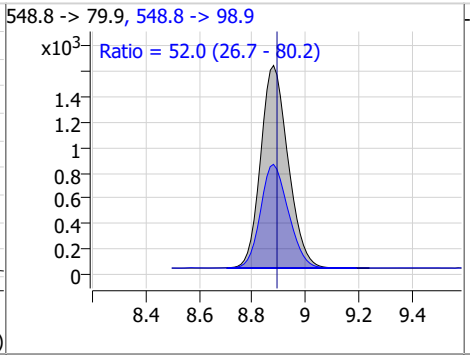


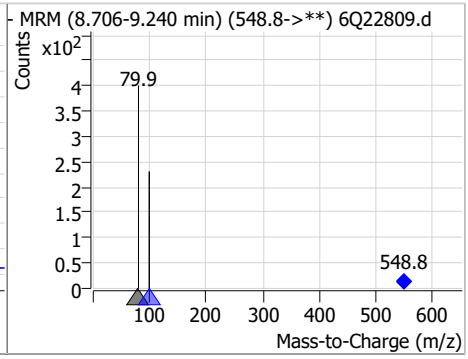




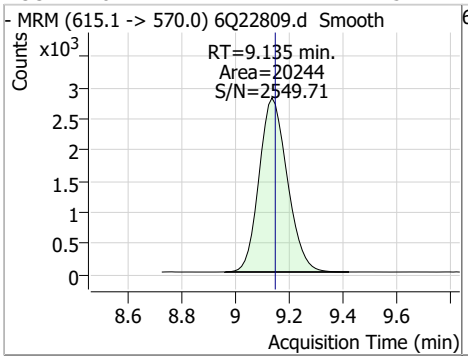
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.62	8.88	-0.01	11515	548.8 -> 98.9	52.0	26.7	80.2

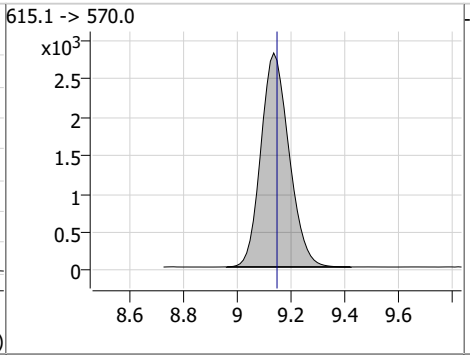


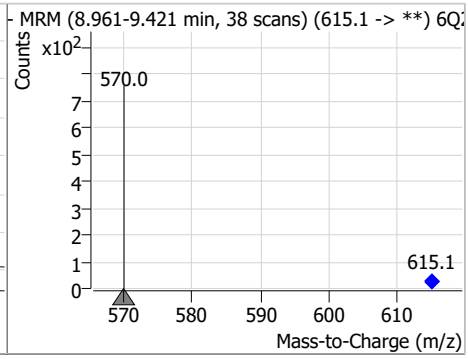




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.25	9.14	-0.01	20244				

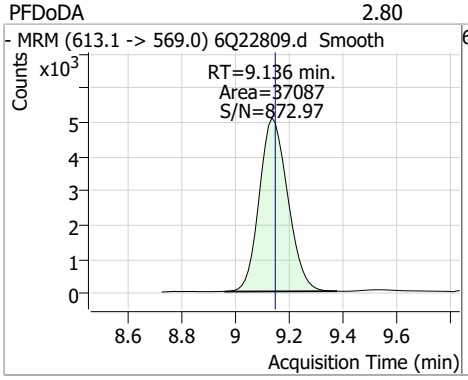


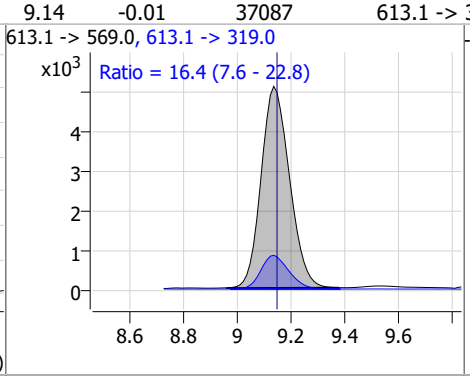


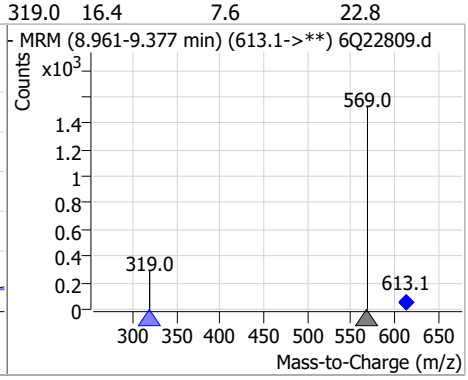


Perfluorinated Compounds by LC/MS/MS

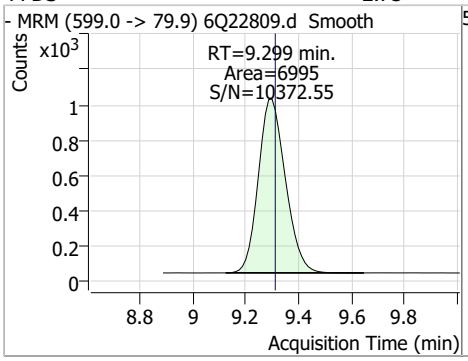
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.80	9.14	-0.01	37087	613.1 -> 319.0	16.4	7.6	22.8

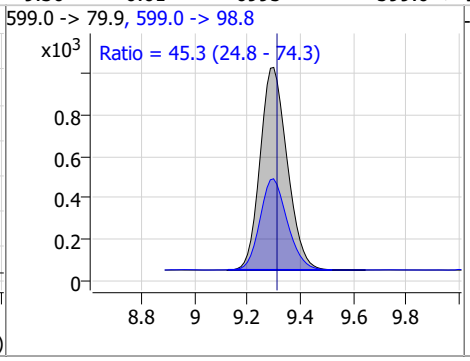


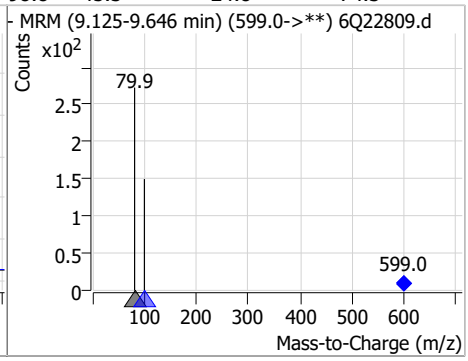




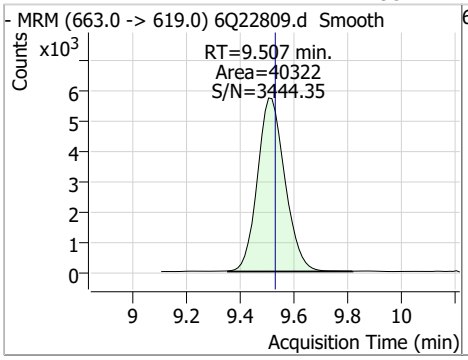
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.73	9.30	-0.01	6995	599.0 -> 98.8	45.3	24.8	74.3

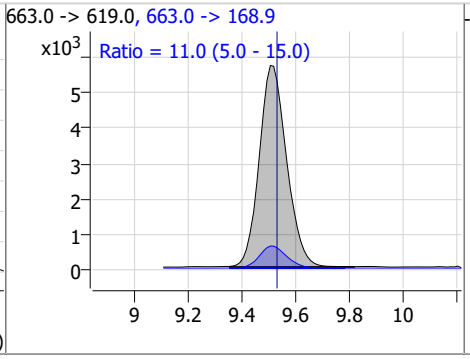


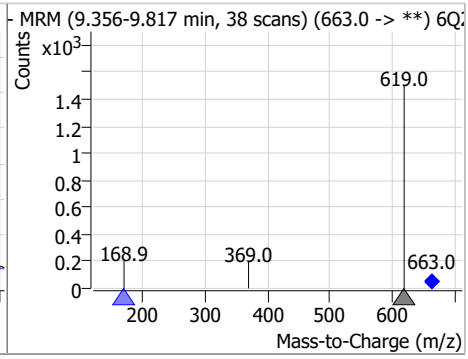




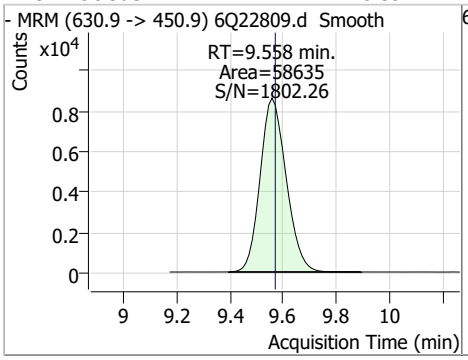
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.95	9.51	-0.02	40322	663.0 -> 168.9	11.0	5.0	15.0

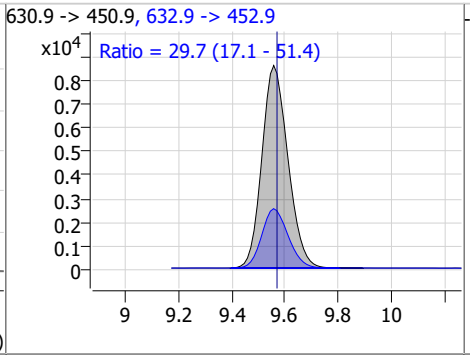


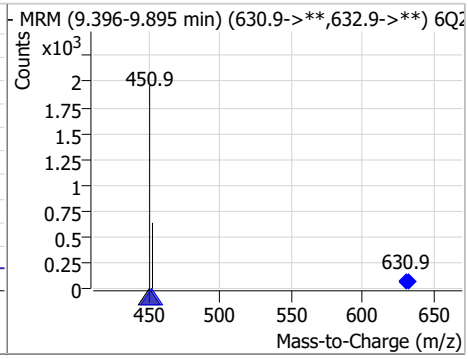




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	5.39	9.56	-0.01	58635	632.9 -> 452.9	29.7	17.1	51.4

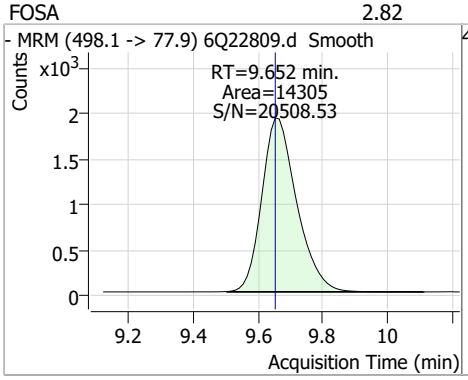


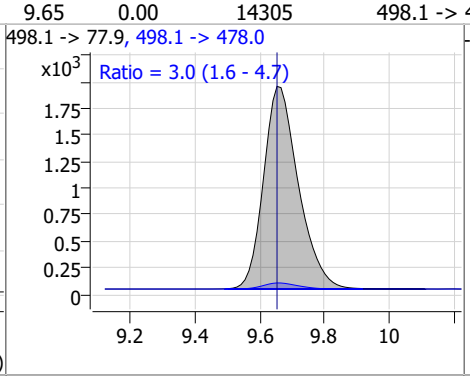


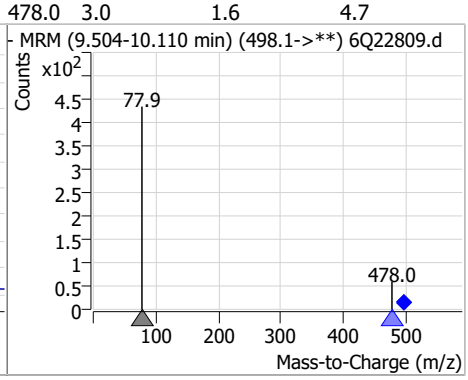


Perfluorinated Compounds by LC/MS/MS

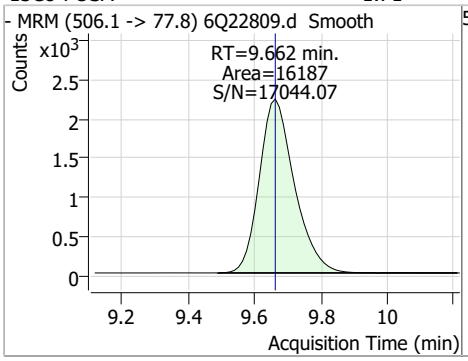
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.82	9.65	0.00	14305	498.1 -> 478.0	3.0	1.6	4.7

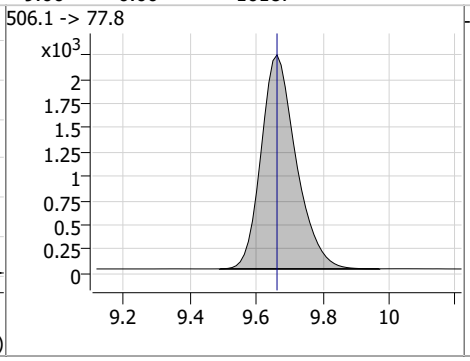


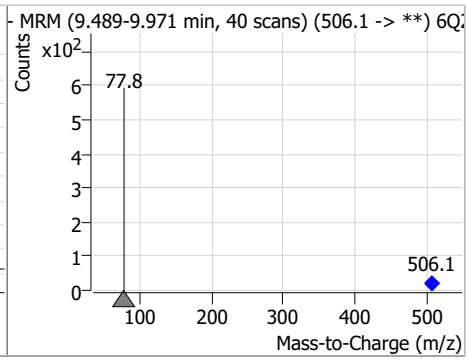




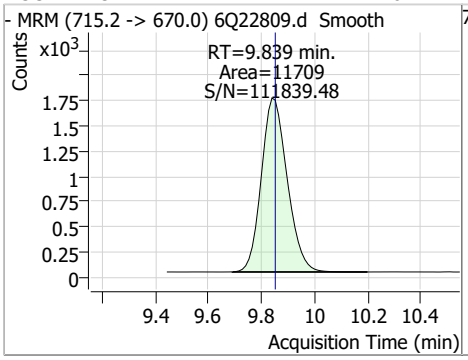
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.71	9.66	0.00	16187				

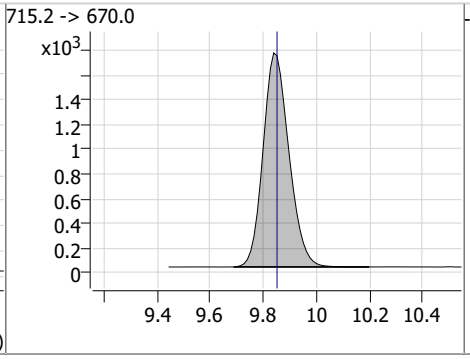


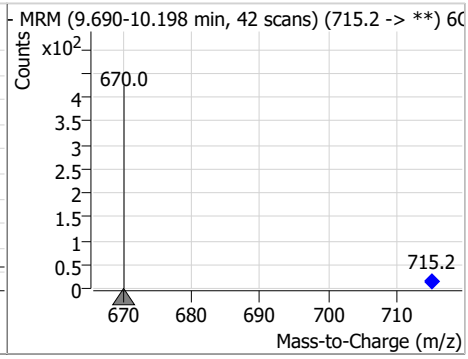




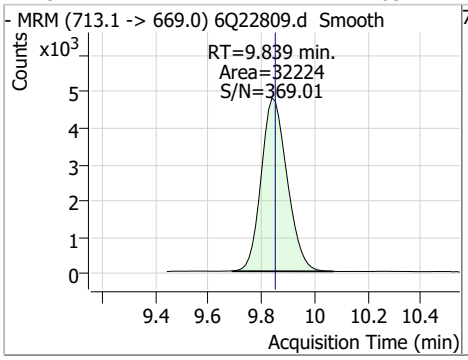
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.26	9.84	-0.01	11709				

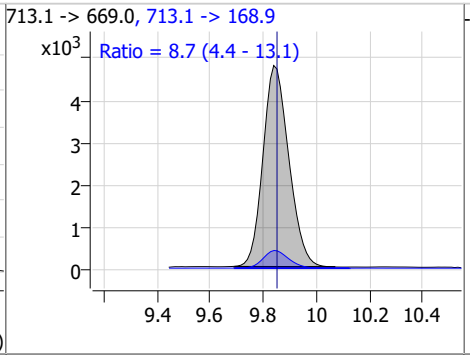


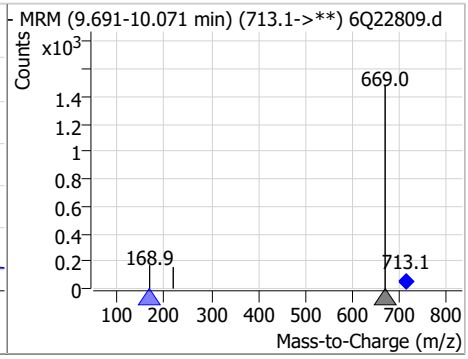




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.83	9.84	-0.01	32224	713.1 -> 168.9	8.7	4.4	13.1

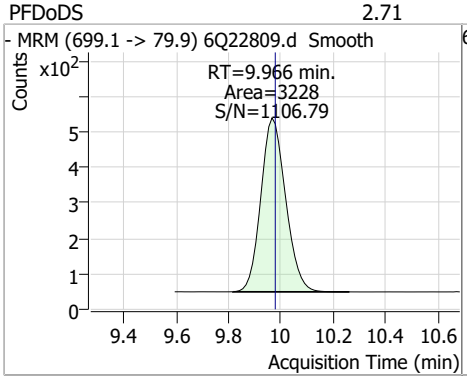


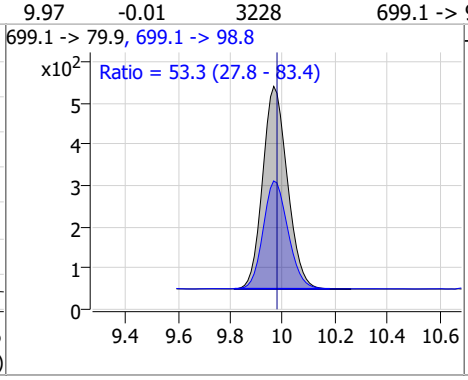


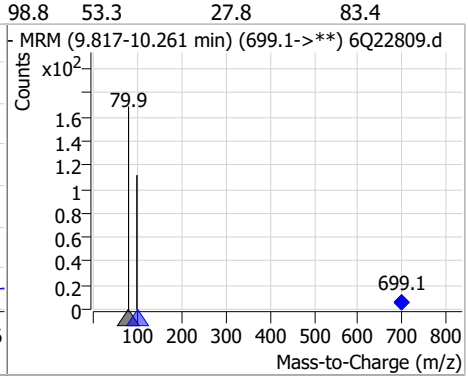


Perfluorinated Compounds by LC/MS/MS

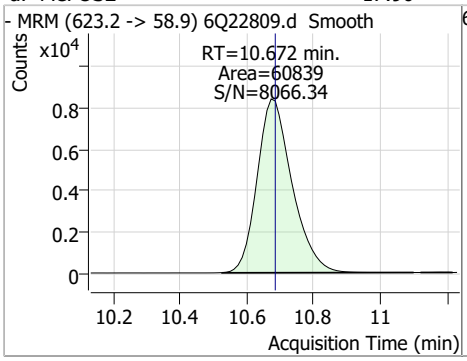
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.71	9.97	-0.01	3228	699.1 -> 98.8	53.3	27.8	83.4

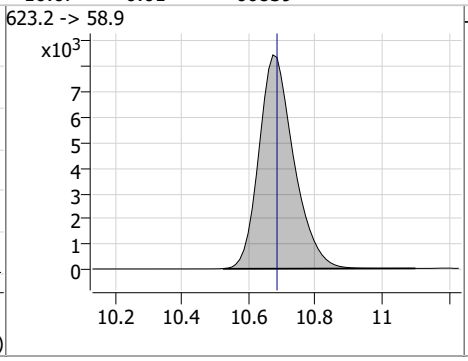


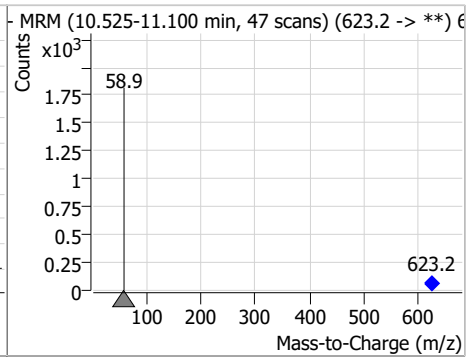




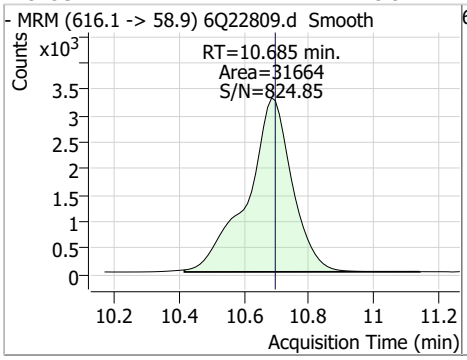
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	17.90	10.67	-0.01	60839				

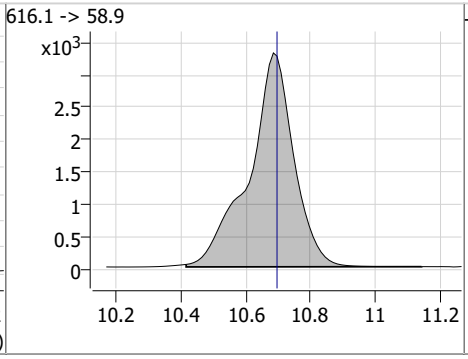


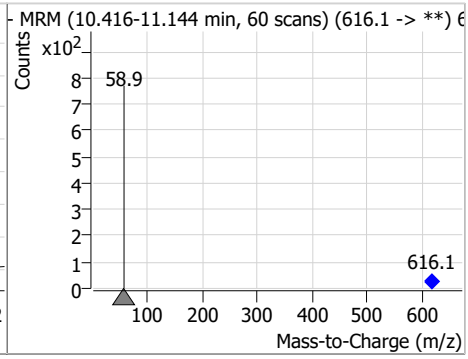




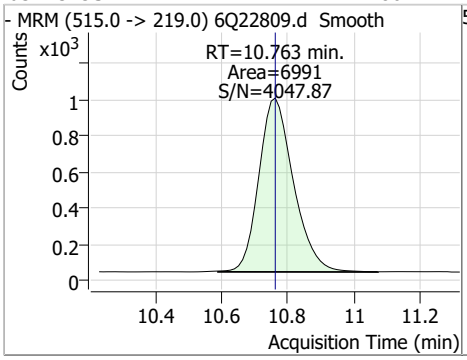
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	13.92	10.69	-0.01	31664				

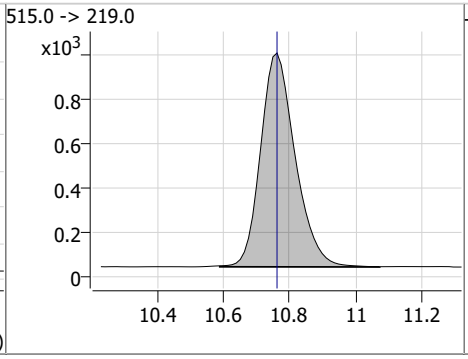


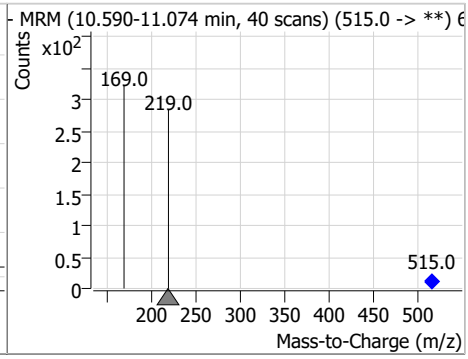




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.80	10.76	0.00	6991				

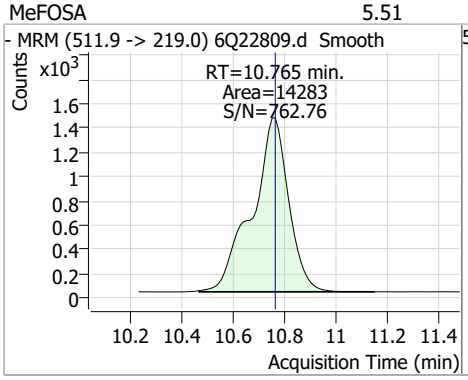


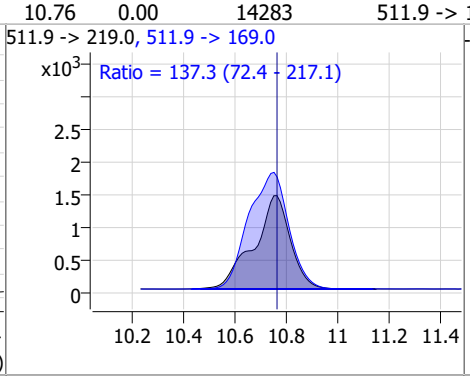


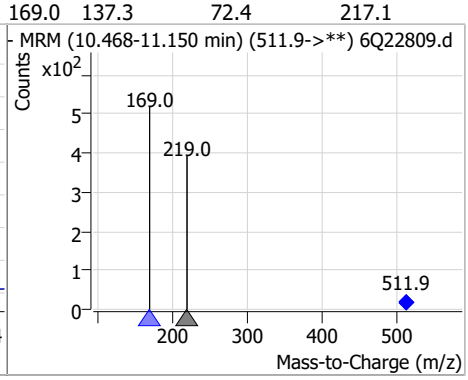


Perfluorinated Compounds by LC/MS/MS

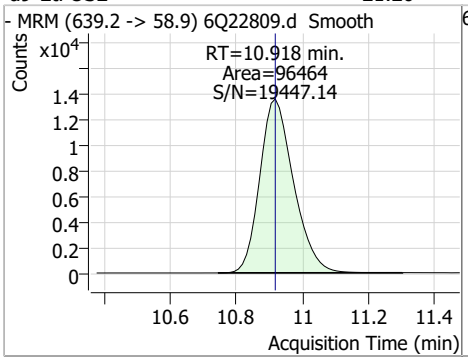
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	5.51	10.76	0.00	14283	511.9 -> 169.0	137.3	72.4	217.1

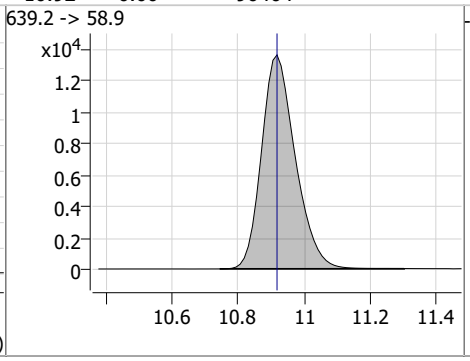


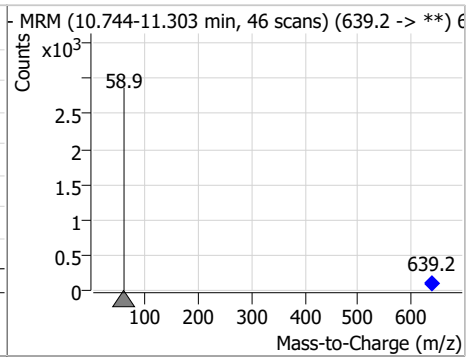




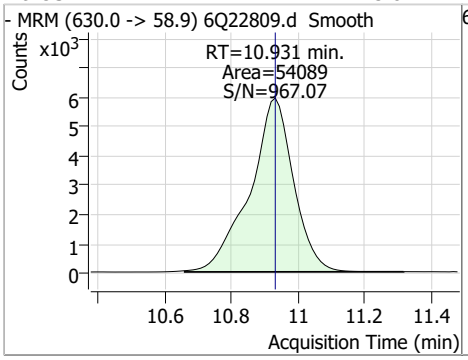
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	21.26	10.92	0.00	96464				

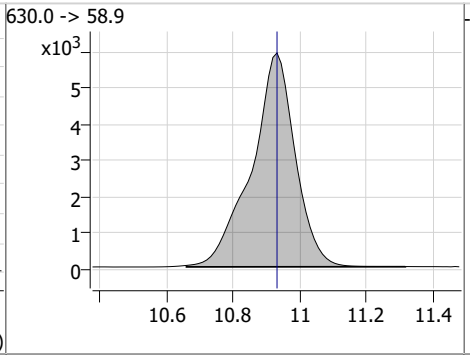


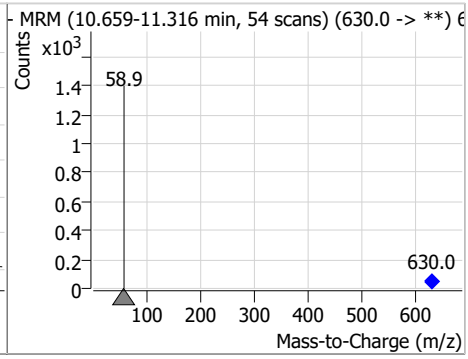




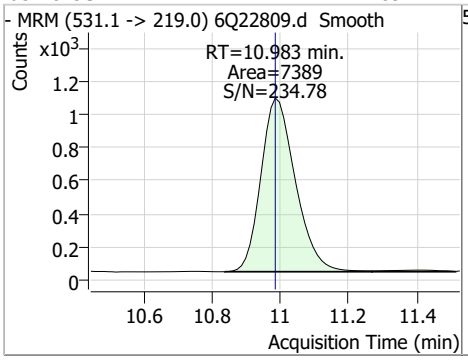
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	13.84	10.93	0.00	54089				

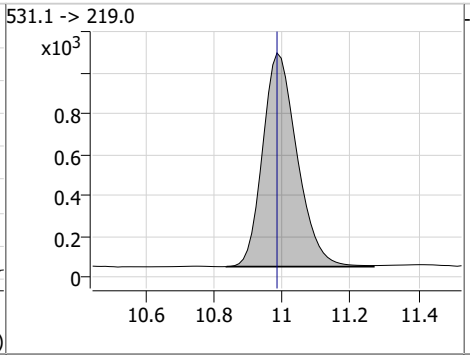


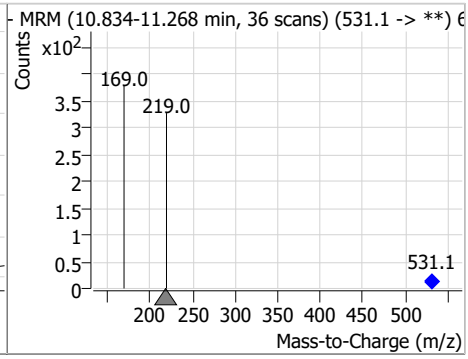




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	1.89	10.98	0.00	7389				

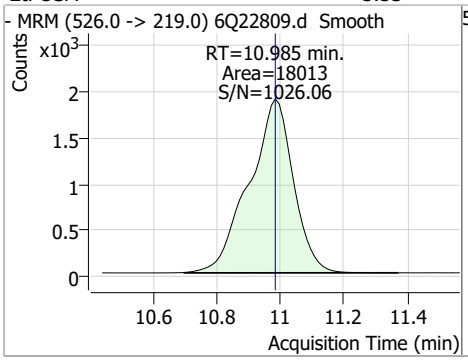


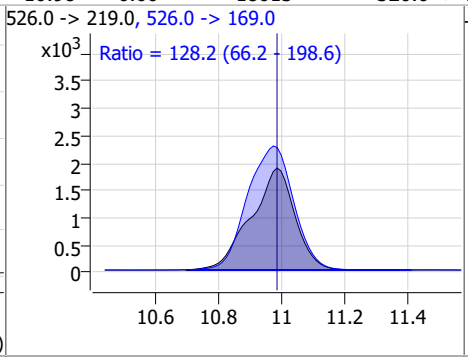


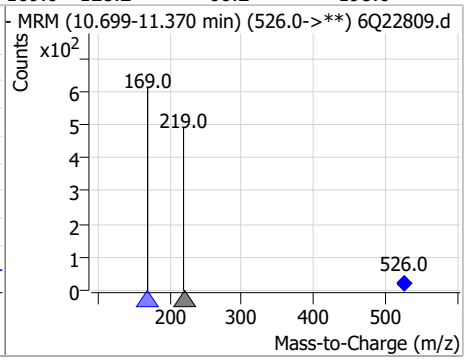


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	5.53	10.98	0.00	18013	526.0 -> 169.0	128.2	66.2	198.6







Manual Integration Approval Summary

Sample Number:	OP98380-BS	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22809.D	**Analyst approved:**	08/14/23 10:35 Martha Valls
Injection Time:	08/13/23 19:12	**Supervisor approved:**	08/15/23 13:05 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/15/23 13:05

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22810.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 7:26:22 PM
Sample Name : op98380-llbs:3
Vial : P6-B4
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98380,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	136721	10.00	µg/L	0.012
M5-PFPeA	4.459	268.3 -> 223.0	43018	5.00	µg/L	0.012
M5-PFHxA	5.668	318.0 -> 273.0	46863	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	47220	2.50	µg/L	-0.012
M8-PFOA	7.239	421.1 -> 376.0	71891	2.50	µg/L	0.000
M9-PFNA	7.758	472.1 -> 427.0	31466	1.25	µg/L	-0.012
M6-PFDA	8.250	519.1 -> 474.1	18909	1.25	µg/L	-0.012
M7-PFUnDA	8.705	570.0 -> 525.1	24735	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	20591	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	11116	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	17255	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	18548	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	11027	2.50	µg/L	0.000
M8-PFOS	8.401	507.1 -> 79.9	10634	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	2388	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3736	5.00	µg/L	-0.012
M2-8:2FTS	8.039	529.1 -> 80.9	3499	5.00	µg/L	-0.012
M3-MeFOSAA	8.284	573.2 -> 419.0	22525	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	28484	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	19869	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	66136	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	100250	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	8279	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	7155	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	13045	2.50	µg/L	-0.025
13C3-PFBA	3.026	216.0 -> 172.0	51302	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	7457	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	66691	2.50	µg/L	0.000
13C2-PFDA	8.239	515.1 -> 470.1	22370	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	36802	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	39454	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2388	5.36	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.2%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3736	5.81	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.2%		
13C2-8:2FTS	8.039	529.1 -> 80.9	3499	5.56	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.1%		
13C2-PFDoDA	9.135	615.1 -> 570.0	20591	1.36	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.0%		
13C2-PFTeDA	9.839	715.2 -> 670.0	11116	1.28	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C3-PFBS	5.610	302.1 -> 79.9	18548	2.93	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 117.2%		
13C3-PFHxS	7.355	402.1 -> 79.9	11027	2.69	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 = 107.6%	
13C4-PFBA	3.022	216.8 -> 171.9	136721	11.28 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 112.8%	
13C4-PFHpA	6.596	367.1 -> 322.0	47220	2.96 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 118.6%	
13C5-PFHxA	5.668	318.0 -> 273.0	46863	2.88 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.1%	
13C5-PFPeA	4.459	268.3 -> 223.0	43018	5.79 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.8%	
13C6-PFDA	8.250	519.1 -> 474.1	18909	1.50 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 119.8%	
13C7-PFUnDA	8.705	570.0 -> 525.1	24735	1.48 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 118.4%	
13C8-FOSA	9.662	506.1 -> 77.8	17255	1.75 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 70.1%	
13C8-PFOA	7.239	421.1 -> 376.0	71891	2.92 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 116.8%	
13C8-PFOS	8.401	507.1 -> 79.9	10634	2.78 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.4%	
13C9-PFNA	7.758	472.1 -> 427.0	31466	1.32 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.5%	
d3-MeFOSAA	8.284	573.2 -> 419.0	22525	4.77 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	28484	11.16 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 111.6%	
d3-MeFOSA	10.763	515.0 -> 219.0	7155	1.78 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 71.0%	
d5-EtFOSAA	8.492	589.2 -> 419.0	19869	4.56 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.2%	
d7-MeFOSE	10.672	623.2 -> 58.9	66136	18.76 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 75.0%	
d9-EtFOSE	10.918	639.2 -> 58.9	100250	21.31 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 85.2%	
d5-EtFOSA	10.983	531.1 -> 219.0	8279	2.04 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 81.5%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	10457	3.38 µg/L	98
		327.1 -> 80.9	4229		
6:2FTS	7.002	427.1 -> 407.0	10740	3.21 µg/L	96
		427.1 -> 80.9	3823		
8:2FTS	8.040	527.1 -> 507.0	6879	3.67 µg/L	97
		527.1 -> 80.8	2392		
EtFOSAA	8.493	584.2 -> 419.1	2227	0.89 µg/L	98
		584.2 -> 526.0	1221		
FOSA	9.652	498.1 -> 77.9	4926	0.91 µg/L	99
		498.1 -> 478.0	145		
MeFOSAA	8.298	570.1 -> 419.0	4009	0.93 µg/L	96
		570.1 -> 483.0	659		
PFBA	3.031	212.8 -> 168.9	14358	3.36 µg/L	100
PFBS	5.611	298.7 -> 79.9	4311	0.71 µg/L	95
		298.7 -> 98.8	1738		
PFDA	8.251	512.9 -> 469.0	18038	0.81 µg/L	97
		512.9 -> 219.0	2804		
PFDoDA	9.136	613.1 -> 569.0	11786	0.87 µg/L	100
		613.1 -> 319.0	1770		
PFDS	9.287	599.0 -> 79.9	1902	0.75 µg/L	98

Perfluorinated Compounds by LC/MS/MS

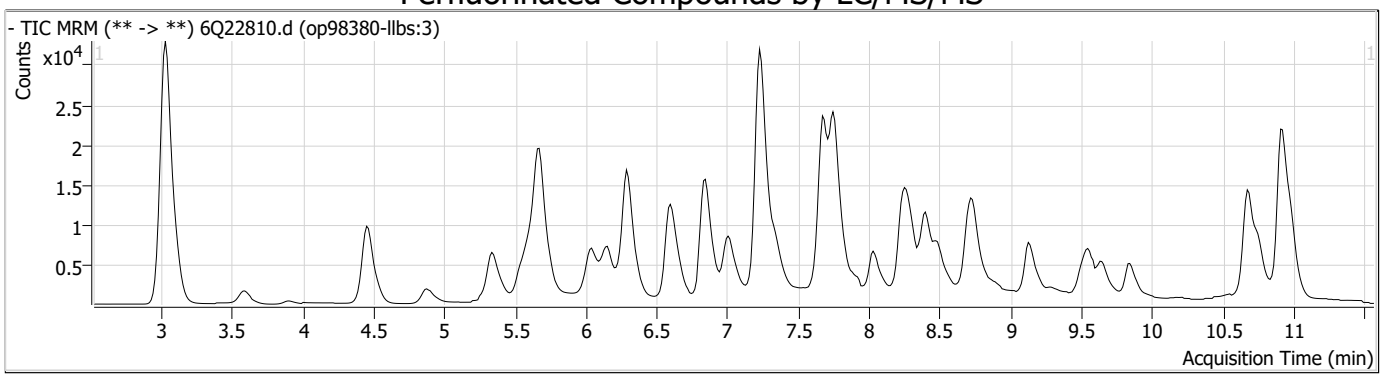
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	915				
PFHpA	6.596	363.1 -> 319.0	15747	0.85	µg/L		99
		363.1 -> 169.0	2676				
PFHpS	7.909	449.0 -> 79.9	4023	0.83	µg/L		95
		449.0 -> 98.9	1995				
PFHxA	5.670	313.0 -> 269.0	14029	1.02	µg/L		100
		313.0 -> 118.9	737				
PFHxS	7.343	398.7 -> 79.9	3932	0.81	µg/L	m	96
		398.7 -> 98.9	2031				
PFNA	7.758	463.0 -> 419.0	19222	0.89	µg/L		99
		463.0 -> 219.0	3732				
PFNS	8.867	548.8 -> 79.9	3334	0.76	µg/L		99
		548.8 -> 98.9	1748				
PFOA	7.240	413.0 -> 369.0	25943	0.88	µg/L		99
		413.0 -> 169.0	4352				
PFOS	8.415	498.9 -> 79.9	3651	0.80	µg/L	m	95
		498.9 -> 98.8	1806				
PFPeA	4.461	263.0 -> 219.0	16769	1.77	µg/L		100
PFPeS	6.660	349.1 -> 79.9	3916	0.87	µg/L		95
		349.1 -> 98.9	1658				
PFTeDA	9.839	713.1 -> 669.0	9546	0.88	µg/L		98
		713.1 -> 168.9	904				
PFTrDA	9.507	663.0 -> 619.0	12803	0.92	µg/L		98
		663.0 -> 168.9	1354				
PFUnDA	8.705	563.1 -> 519.0	12726	0.89	µg/L		100
		563.1 -> 269.1	2058				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	16047	1.58	µg/L		97
		632.9 -> 452.9	5269				
9Cl-PF3ONS	8.745	530.8 -> 351.0	27543	1.68	µg/L		96
		532.8 -> 353.0	8087				
ADONA	6.846	376.9 -> 250.9	62876	1.73	µg/L		99
		376.9 -> 84.8	17085				
HFPO-DA	6.046	284.9 -> 168.9	4207	1.74	µg/L		100
		284.9 -> 184.9	438				
3:3FTCA	3.896	241.0 -> 177.0	2244	3.32	µg/L		98
		241.0 -> 117.0	289				
5:3FTCA	6.298	341.0 -> 237.1	53541	18.99	µg/L		98
		341.0 -> 217.0	38724				
7:3FTCA	7.686	441.0 -> 316.9	41203	19.76	µg/L		88
		441.0 -> 336.9	85828				
EtFOSA	10.985	526.0 -> 219.0	5612	1.54	µg/L		98
		526.0 -> 169.0	7561				
EtFOSE	10.931	630.0 -> 58.9	17562	4.32	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	4471	1.69	µg/L		99
		511.9 -> 169.0	6432				
MeFOSE	10.685	616.1 -> 58.9	10513	4.25	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	925	0.78	µg/L		95
		699.1 -> 98.8	551				
NFDHA	5.551	295.0 -> 201.0	3043	1.75	µg/L		99
		295.0 -> 84.9	857				
PFMBA	4.869	279.0 -> 85.1	11675	1.74	µg/L		100
PFMPA	3.588	229.0 -> 84.9	9352	1.74	µg/L		100
PFEESA	6.151	314.8 -> 134.9	28375	1.54	µg/L		99
		314.8 -> 82.9	1086				

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

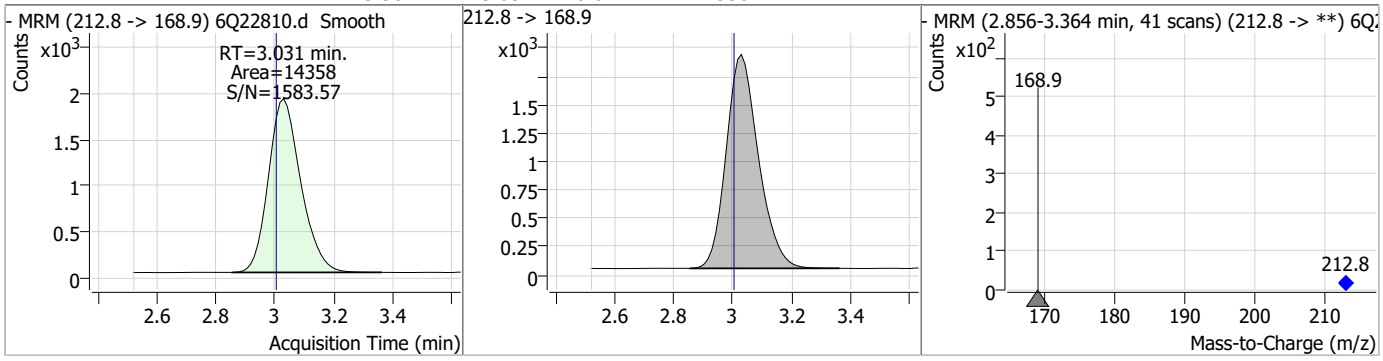
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

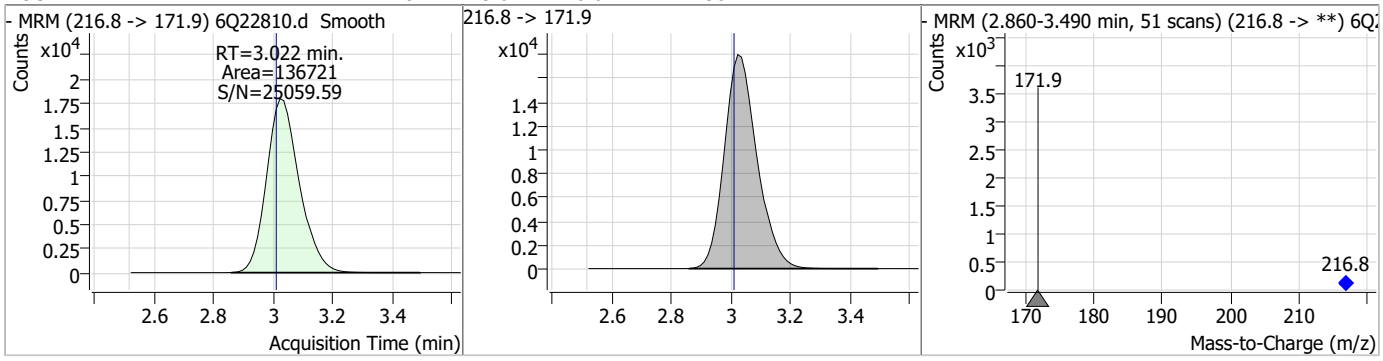
Perfluorinated Compounds by LC/MS/MS



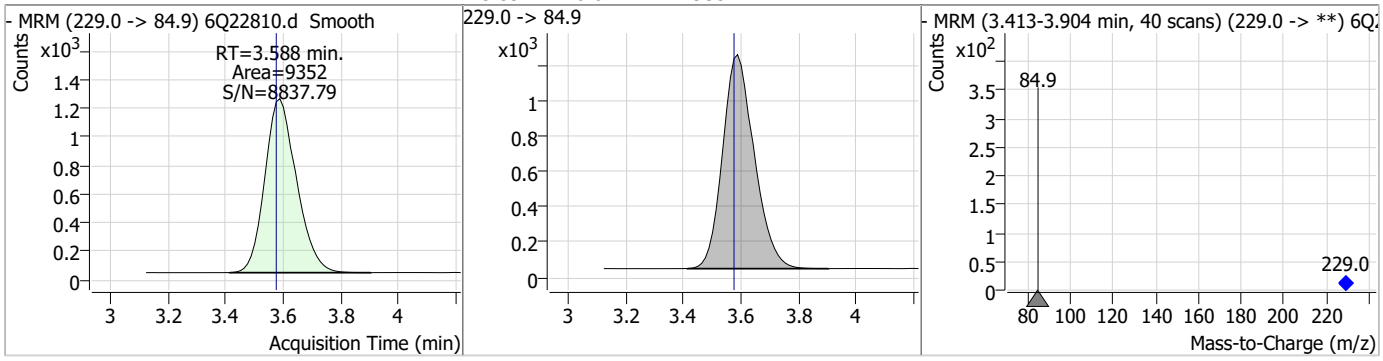
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	3.36	3.03	0.02	14358				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	11.28	3.02	0.01	136721				

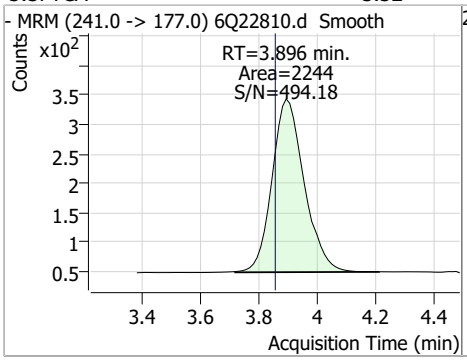


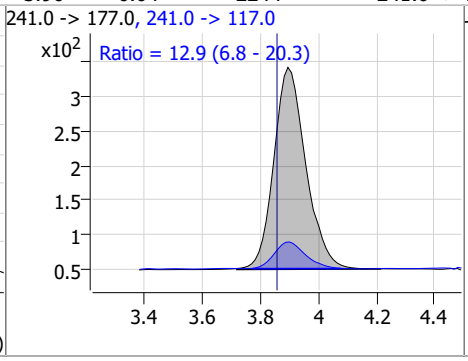
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	1.74	3.59	0.01	9352				

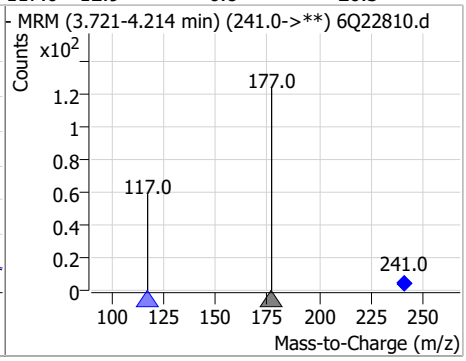


Perfluorinated Compounds by LC/MS/MS

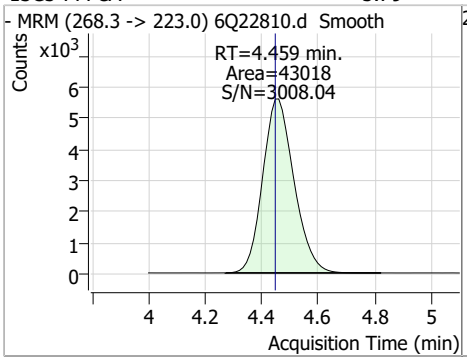
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	3.32	3.90	0.04	2244	241.0 -> 117.0	12.9	6.8	20.3

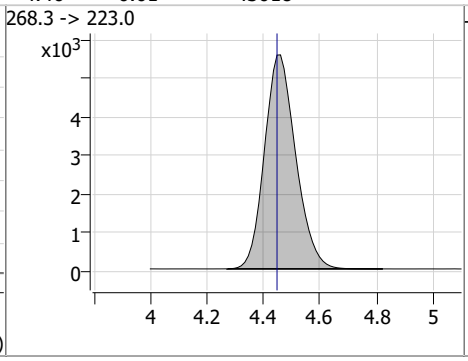


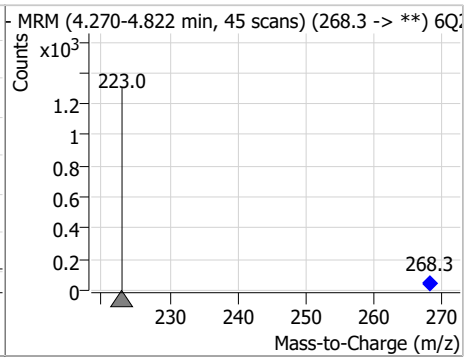




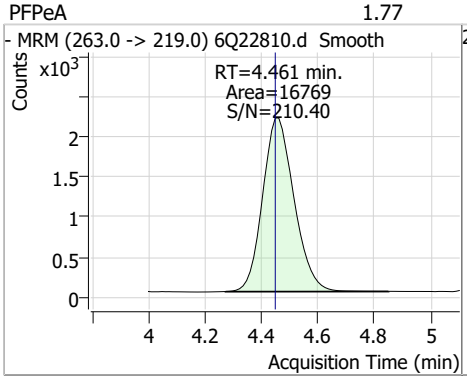
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.79	4.46	0.01	43018				

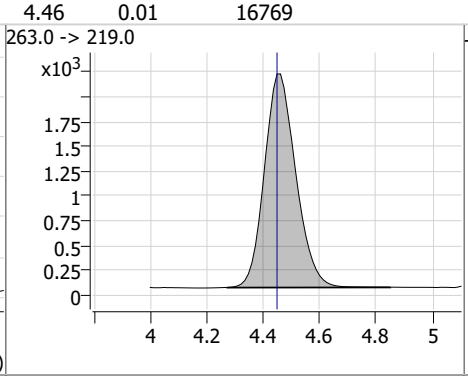


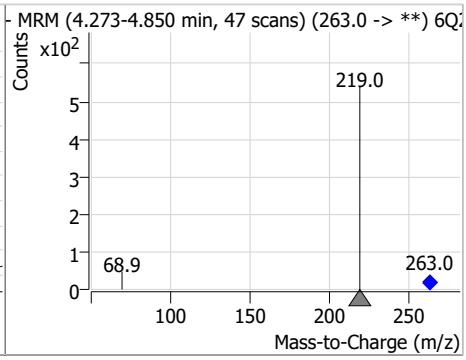




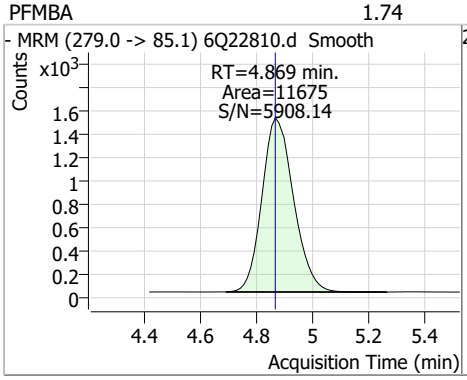
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	1.77	4.46	0.01	16769				

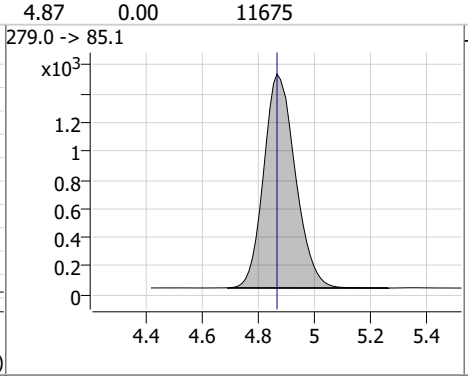


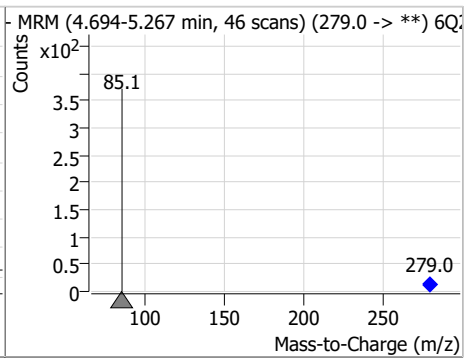




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	1.74	4.87	0.00	11675				

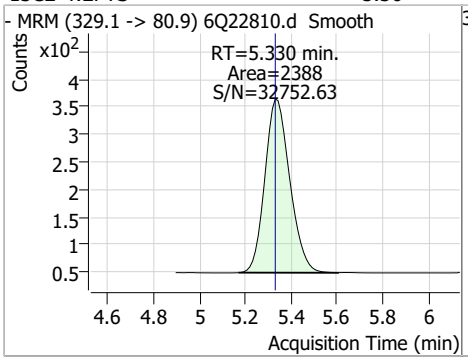


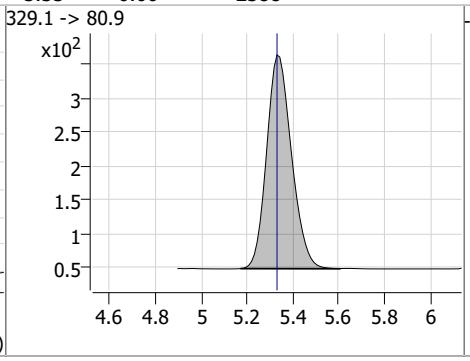


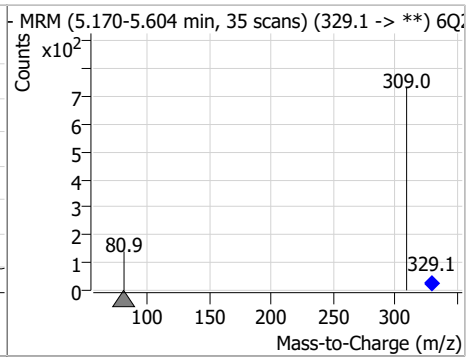


Perfluorinated Compounds by LC/MS/MS

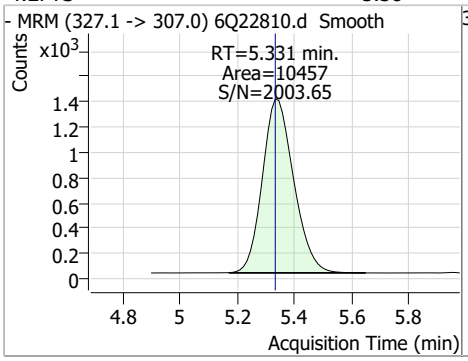
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.36	5.33	0.00	2388				

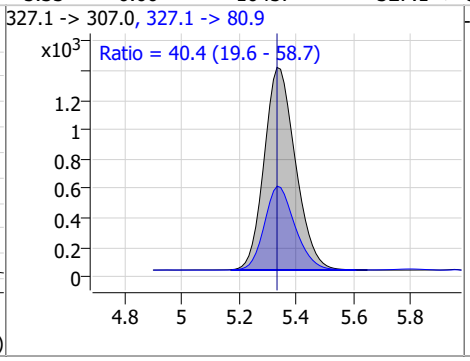


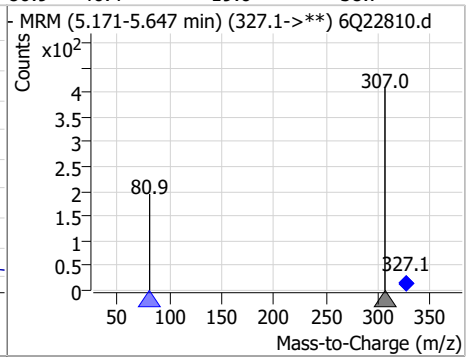




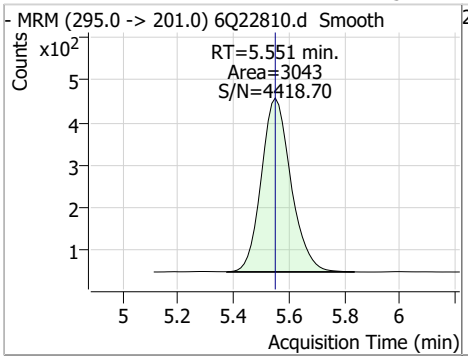
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	3.38	5.33	0.00	10457	327.1 -> 80.9	40.4	19.6	58.7

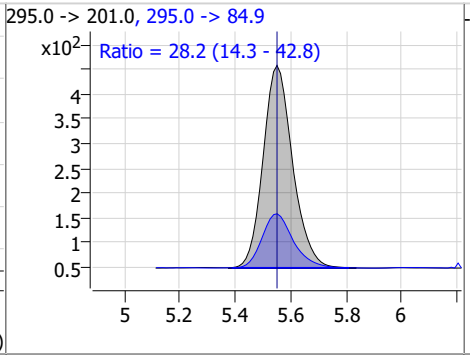


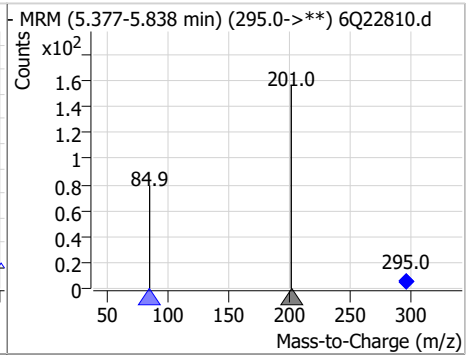




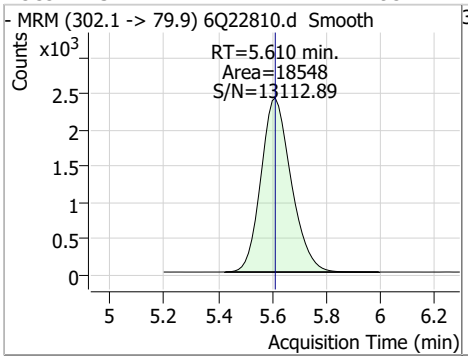
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	1.75	5.55	0.00	3043	295.0 -> 84.9	28.2	14.3	42.8

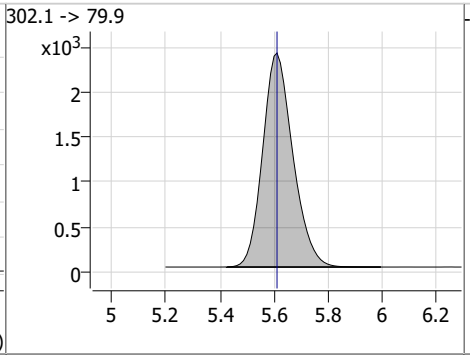


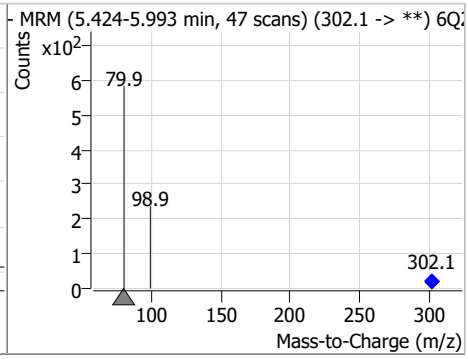




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.93	5.61	0.00	18548				

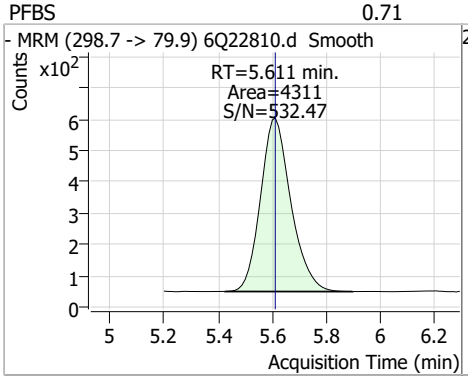


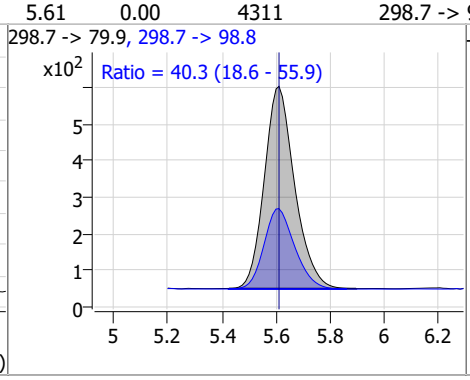


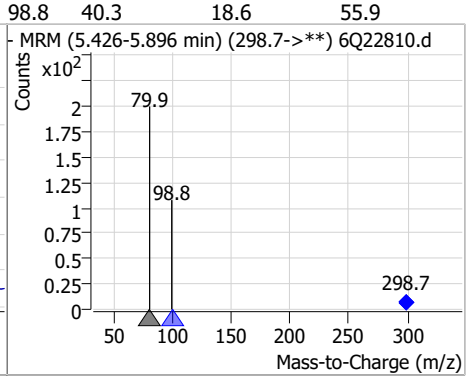


Perfluorinated Compounds by LC/MS/MS

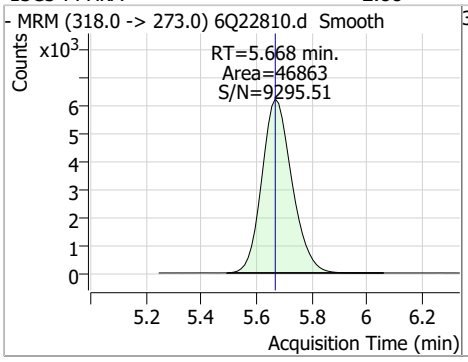
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.71	5.61	0.00	4311	298.7 -> 98.8	40.3	18.6	55.9

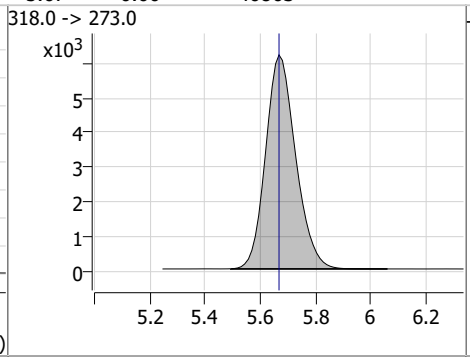


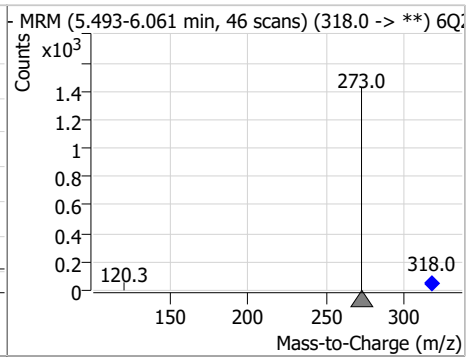




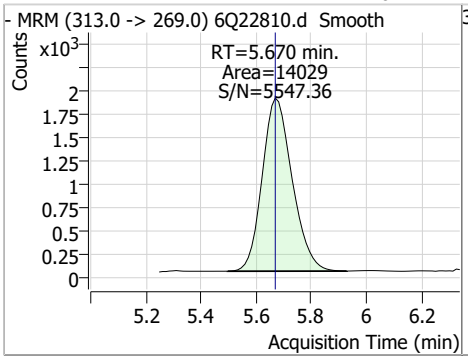
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.88	5.67	0.00	46863				

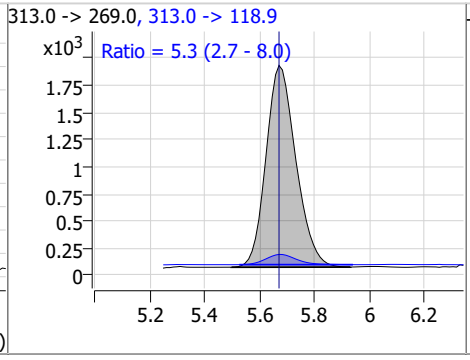


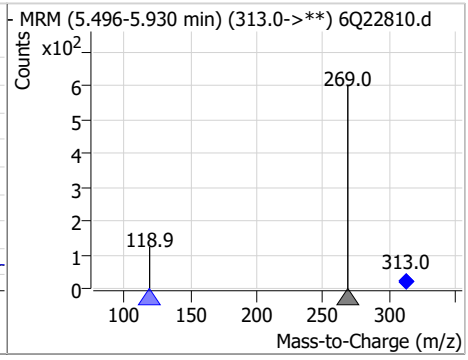




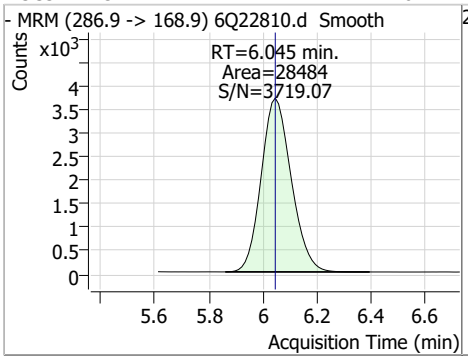
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	1.02	5.67	0.00	14029	313.0 -> 118.9	5.3	2.7	8.0

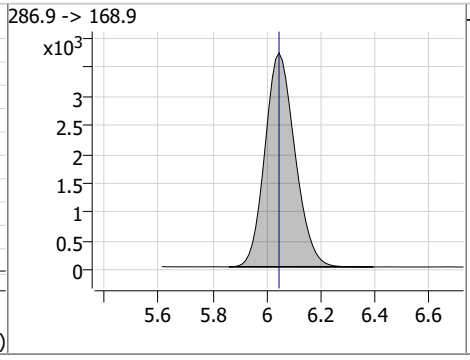


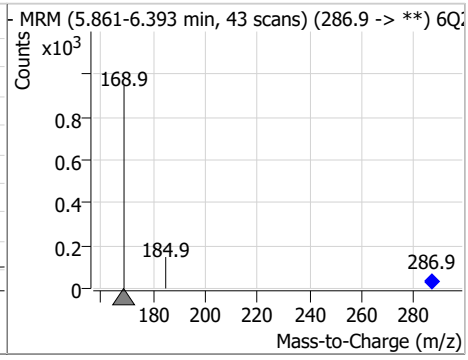




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.16	6.05	0.00	28484				

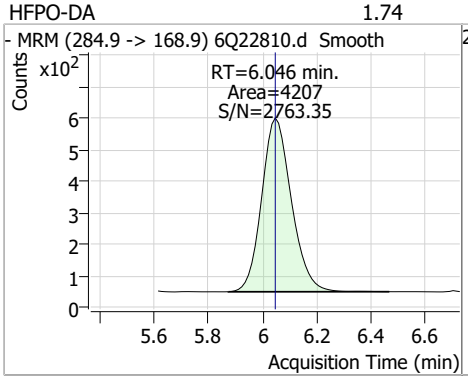


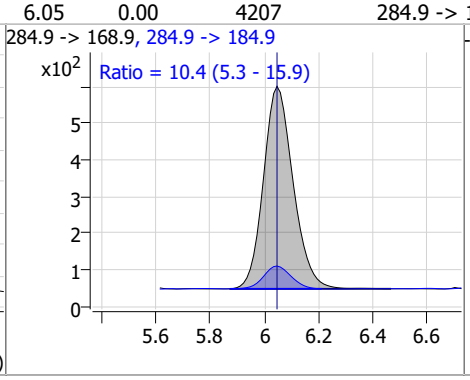


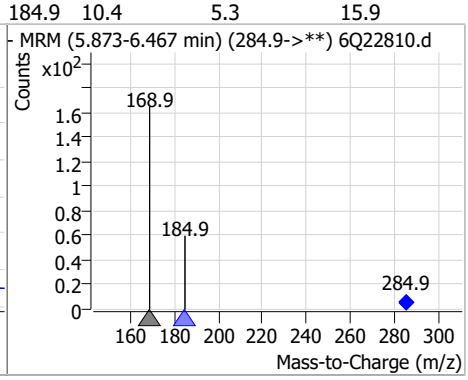


Perfluorinated Compounds by LC/MS/MS

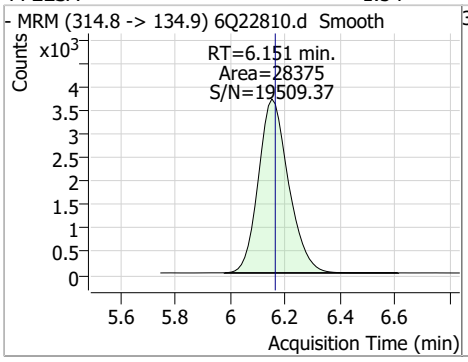
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	1.74	6.05	0.00	4207	284.9 -> 184.9	10.4	5.3	15.9

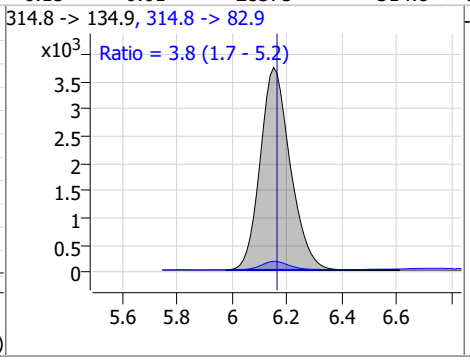


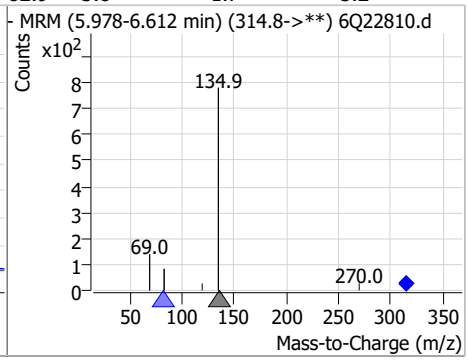




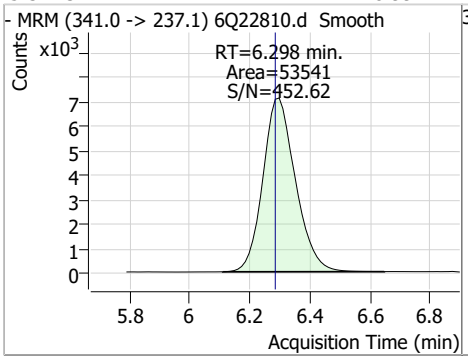
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	1.54	6.15	-0.01	28375	314.8 -> 82.9	3.8	1.7	5.2

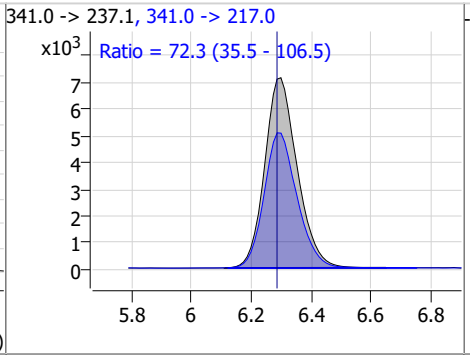


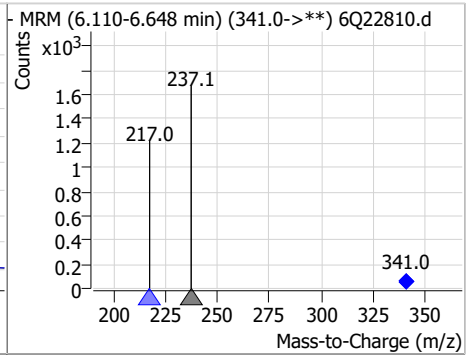




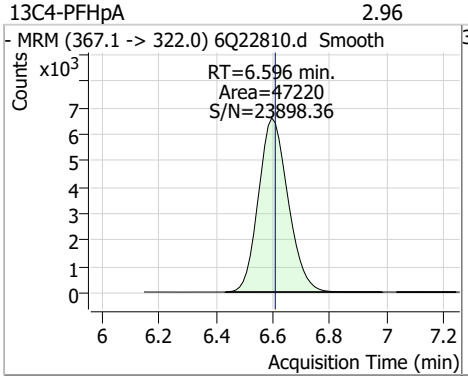
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	18.99	6.30	0.01	53541	341.0 -> 217.0	72.3	35.5	106.5

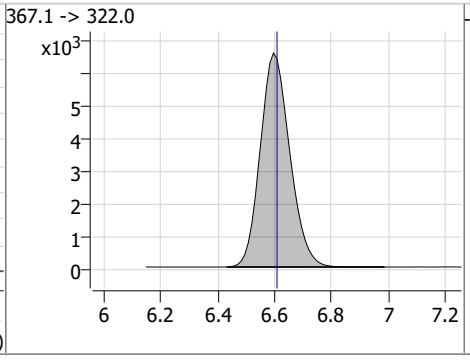


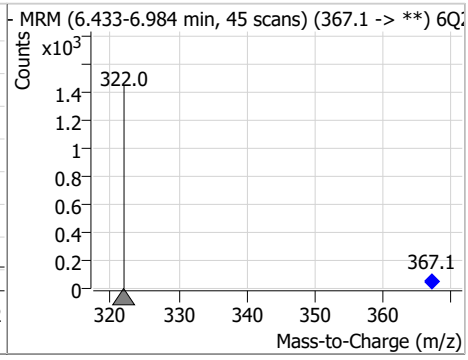




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.96	6.60	-0.01	47220				

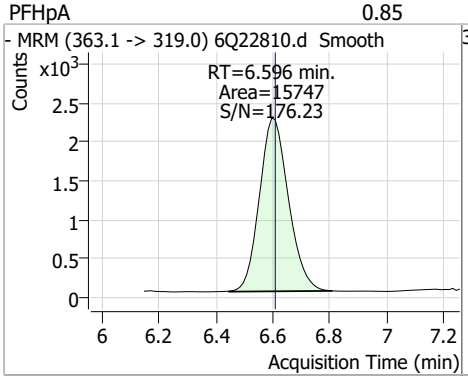


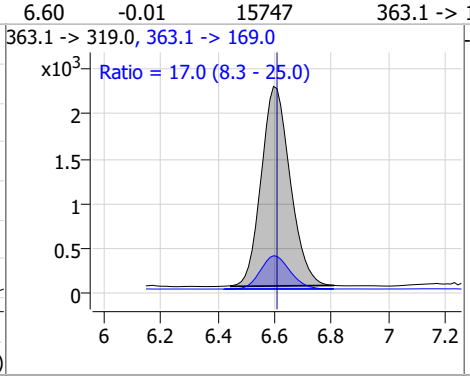


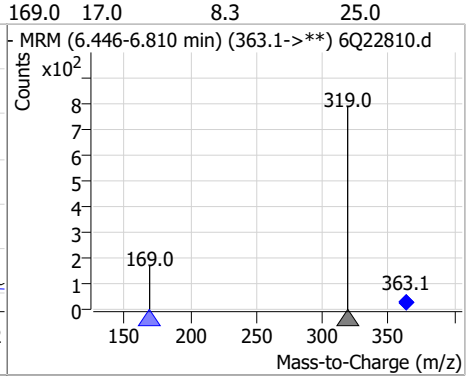


Perfluorinated Compounds by LC/MS/MS

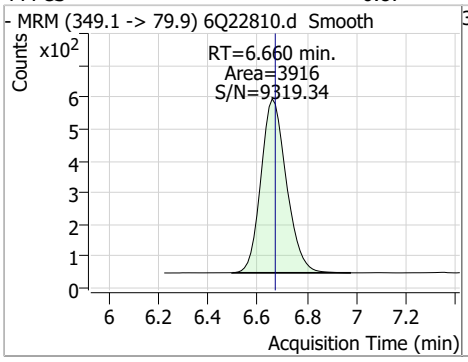
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.85	6.60	-0.01	15747	363.1 -> 169.0	17.0	8.3	25.0

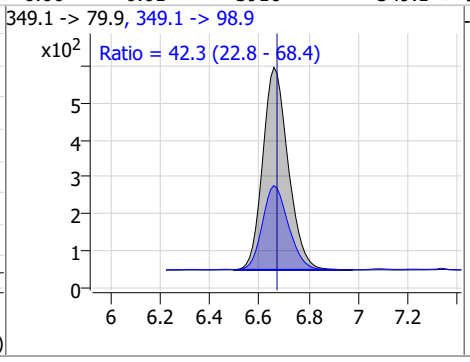


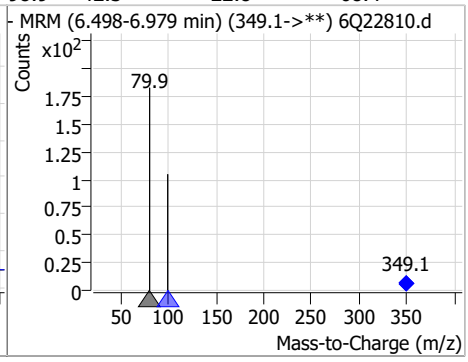




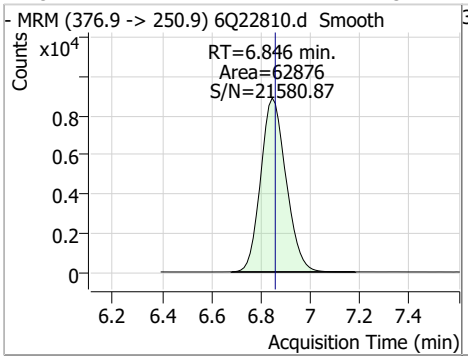
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.87	6.66	-0.01	3916	349.1 -> 98.9	42.3	22.8	68.4

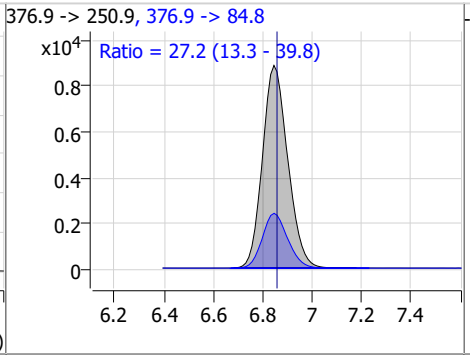


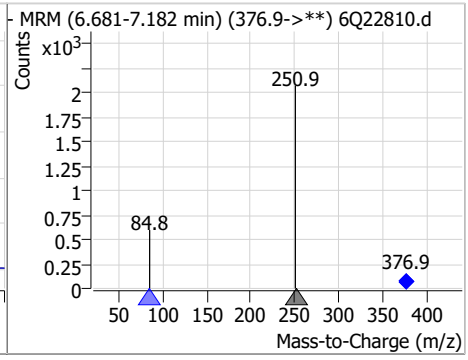




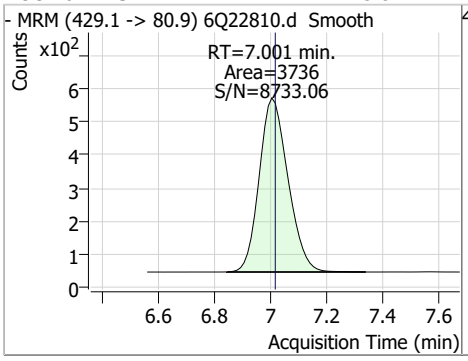
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	1.73	6.85	-0.01	62876	376.9 -> 84.8	27.2	13.3	39.8

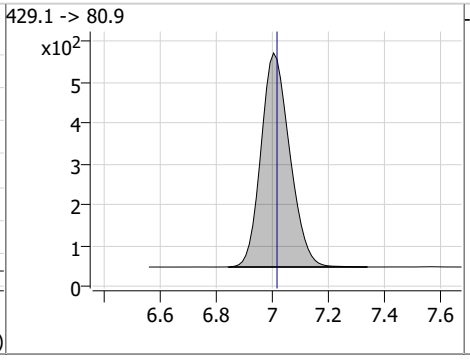


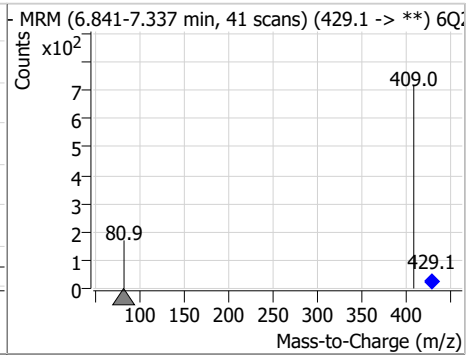




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.81	7.00	-0.01	3736				

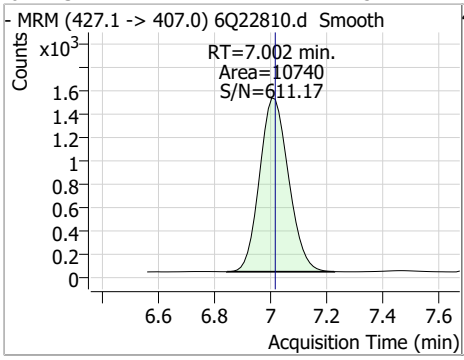


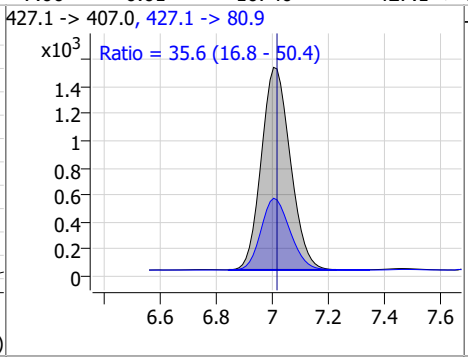


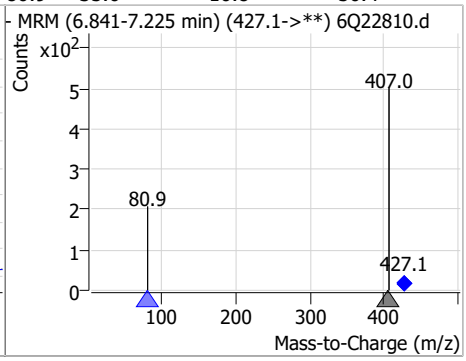


Perfluorinated Compounds by LC/MS/MS

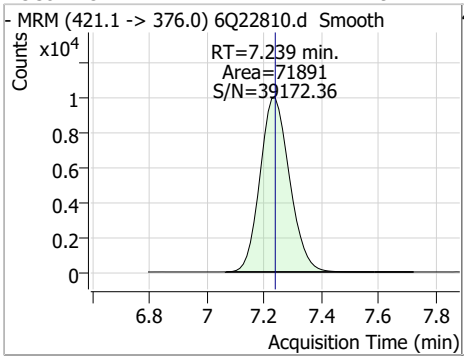
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	3.21	7.00	-0.01	10740	427.1 -> 80.9	35.6	16.8	50.4

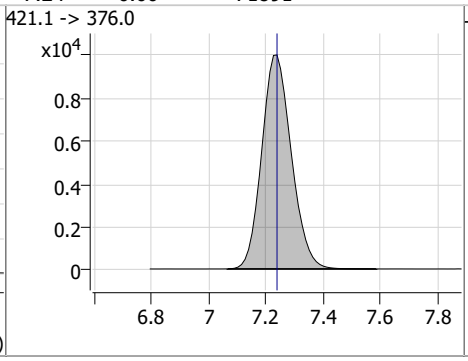


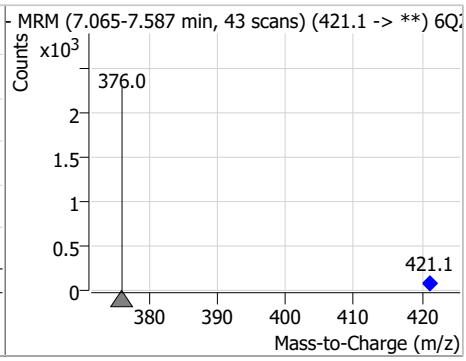




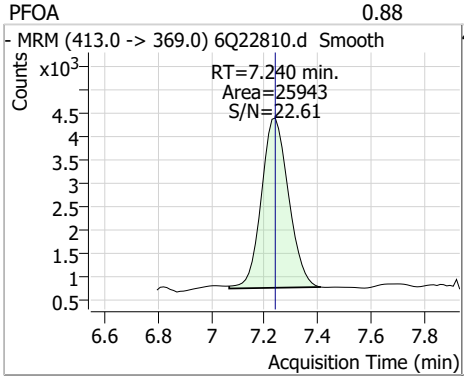
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.92	7.24	0.00	71891				

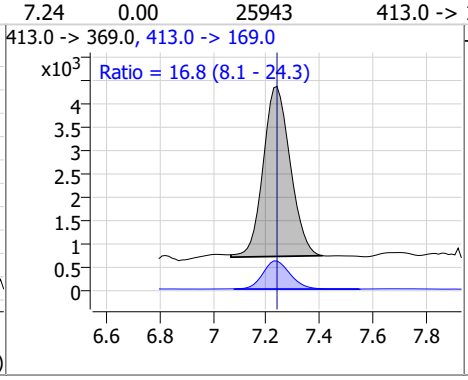


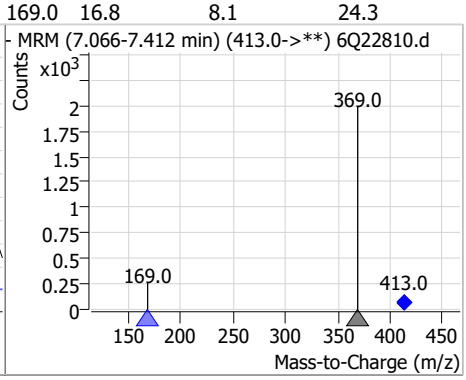




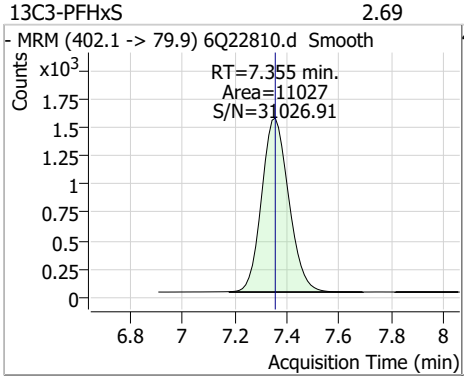
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.88	7.24	0.00	25943	413.0 -> 169.0	16.8	8.1	24.3

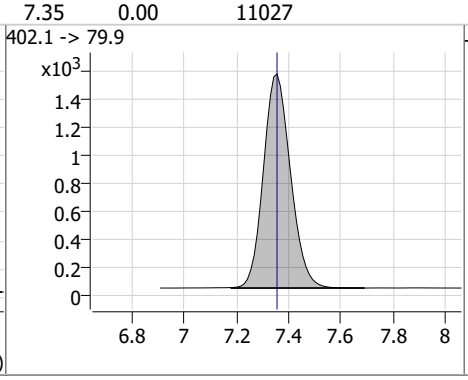


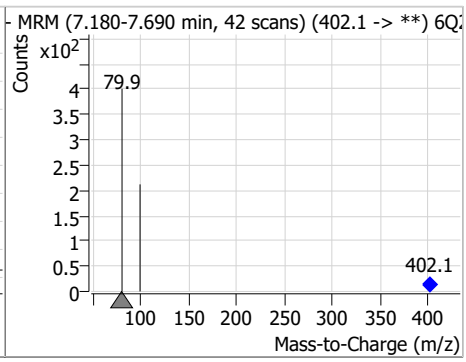




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.69	7.35	0.00	11027				

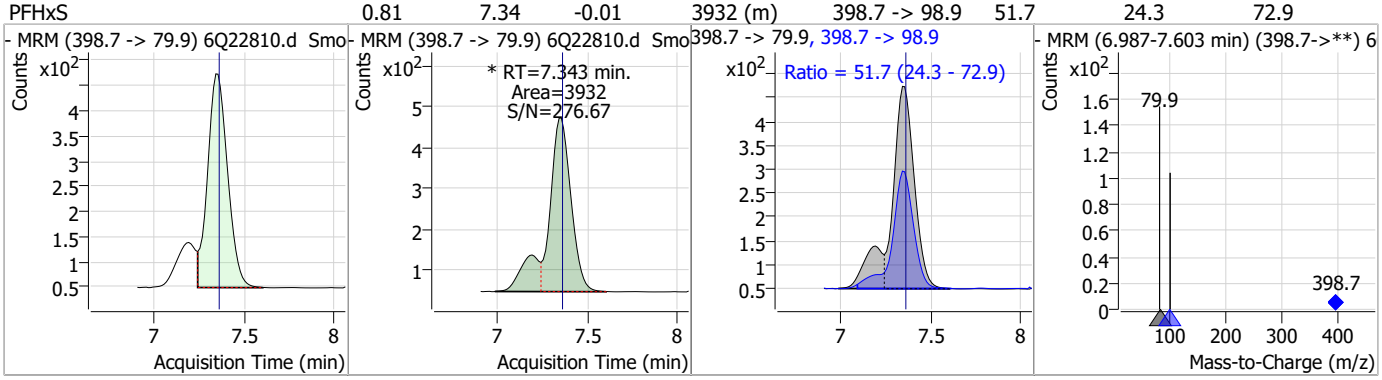




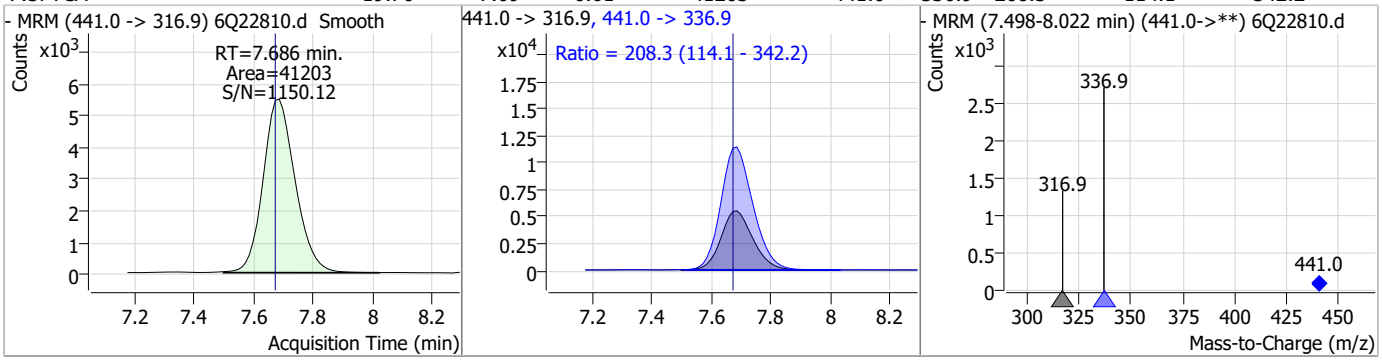


Perfluorinated Compounds by LC/MS/MS

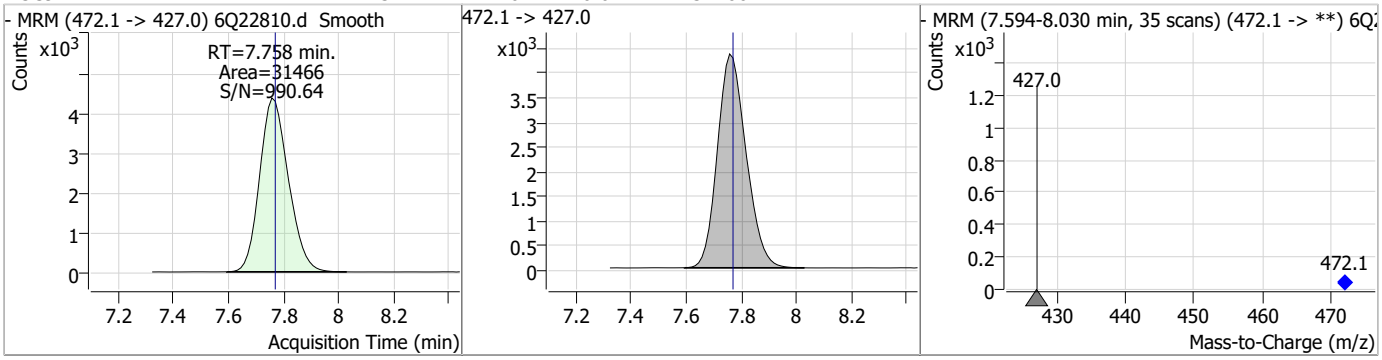
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.81	7.34	-0.01	3932 (m)	398.7 -> 98.9	51.7	24.3	72.9



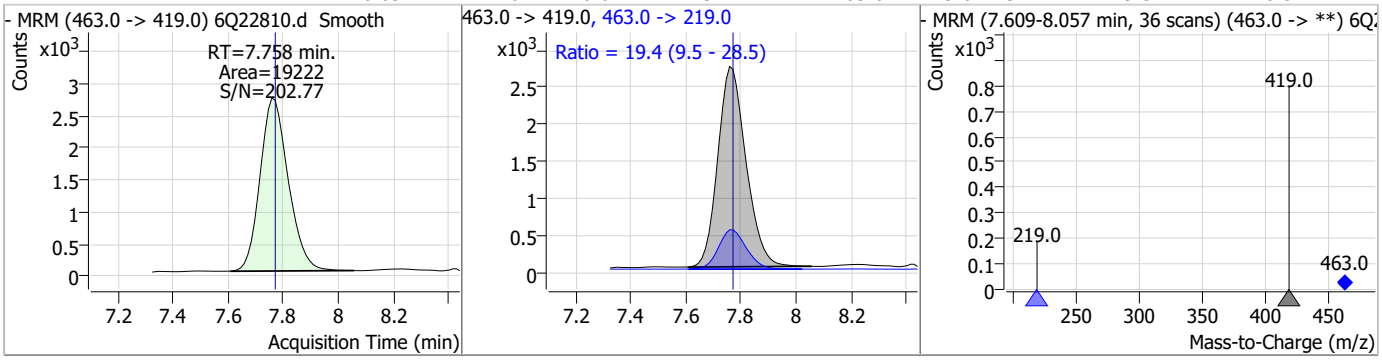
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	19.76	7.69	0.01	41203	441.0 -> 336.9	208.3	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.32	7.76	-0.01	31466				

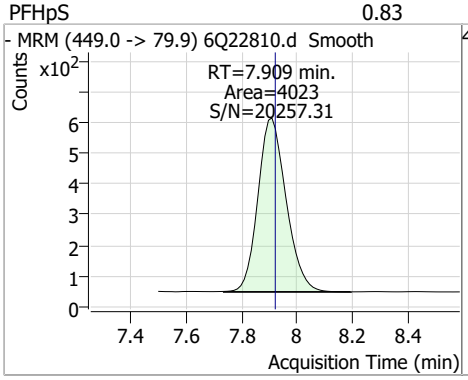


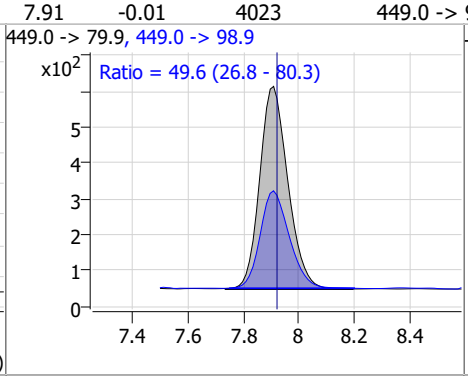
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.89	7.76	-0.01	19222	463.0 -> 219.0	19.4	9.5	28.5

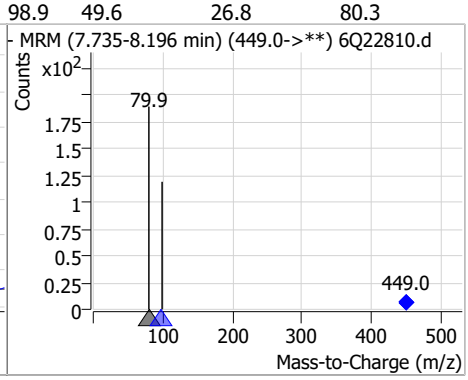


Perfluorinated Compounds by LC/MS/MS

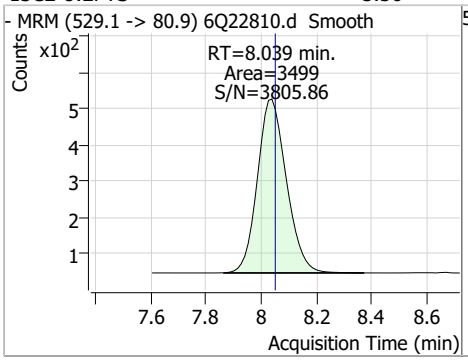
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.83	7.91	-0.01	4023	449.0 -> 98.9	49.6	26.8	80.3

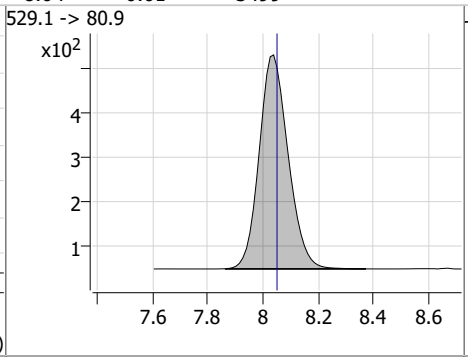


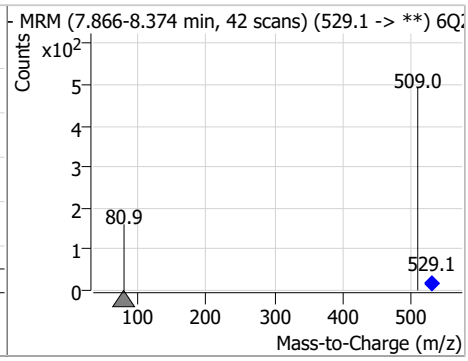




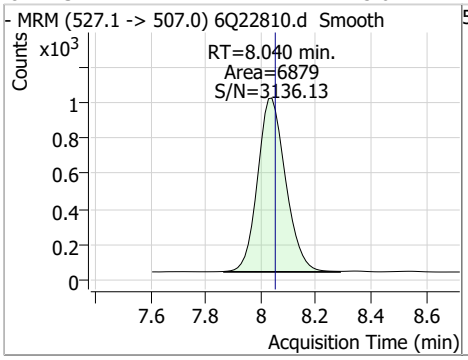
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.56	8.04	-0.01	3499				

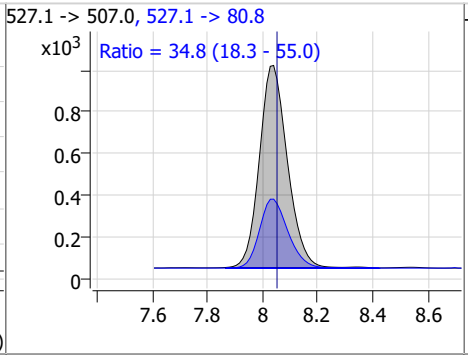


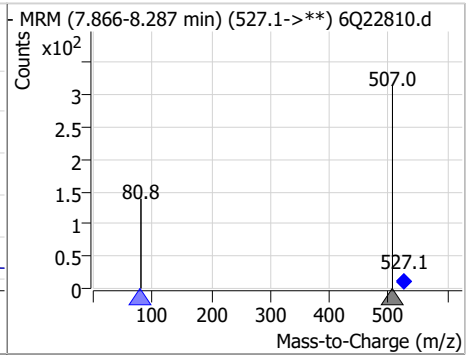




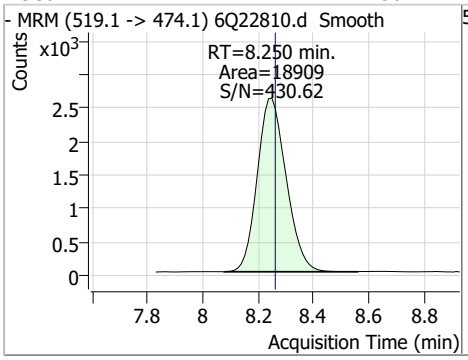
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	3.67	8.04	-0.01	6879	527.1 -> 80.8	34.8	18.3	55.0

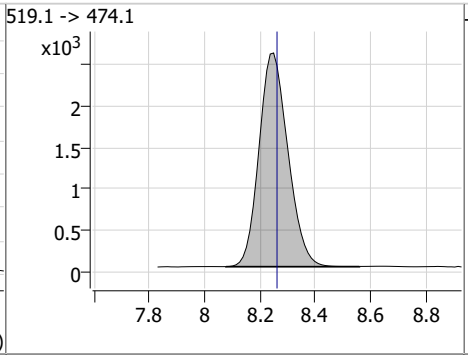


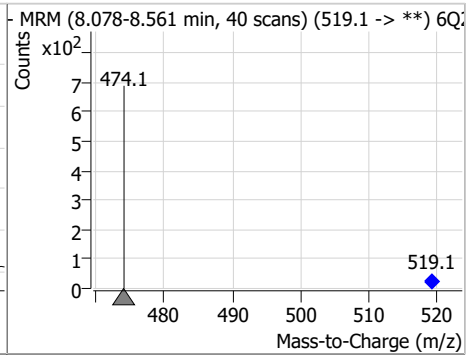




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.50	8.25	-0.01	18909				

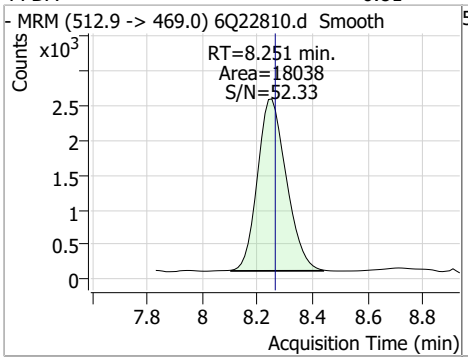


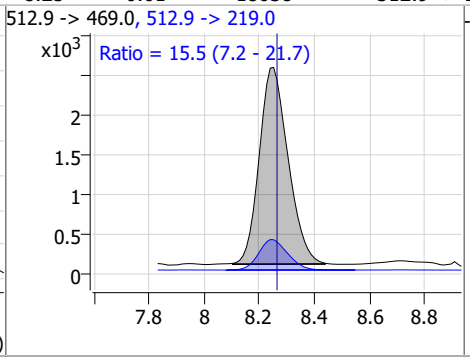


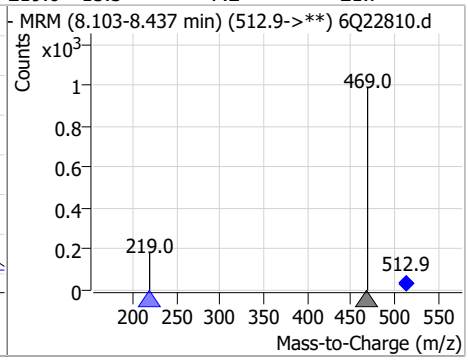


Perfluorinated Compounds by LC/MS/MS

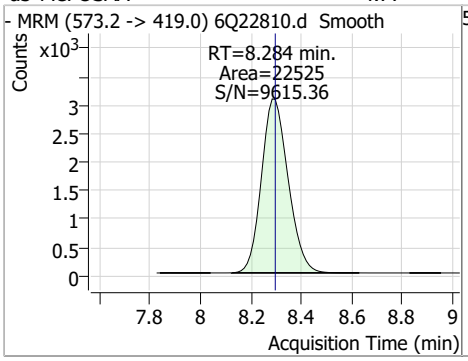
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.81	8.25	-0.01	18038	512.9 -> 219.0	15.5	7.2	21.7

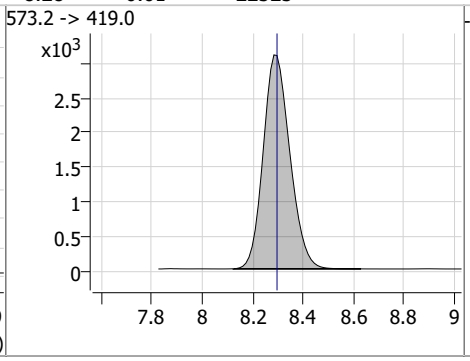


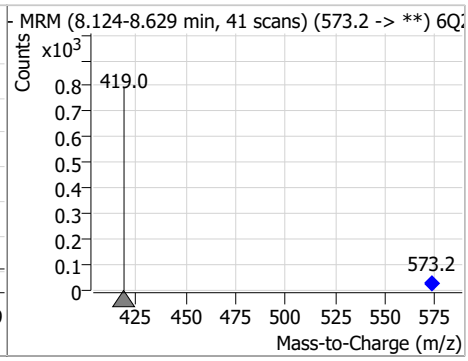




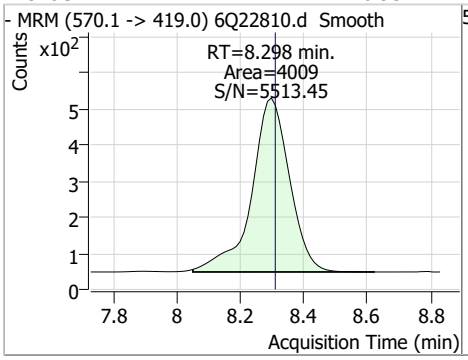
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.77	8.28	-0.01	22525				

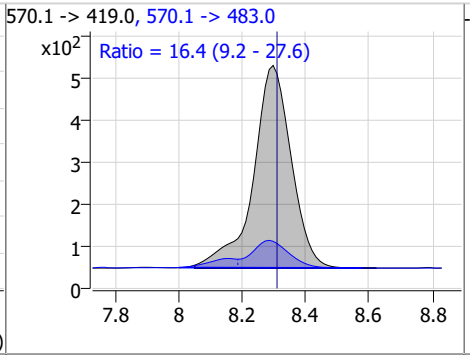


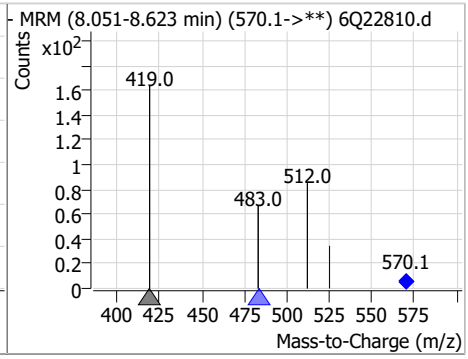




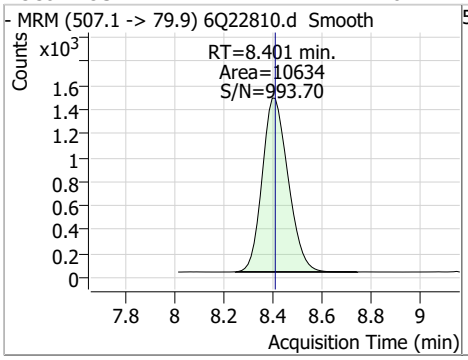
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.93	8.30	-0.01	4009	570.1 -> 483.0	16.4	9.2	27.6

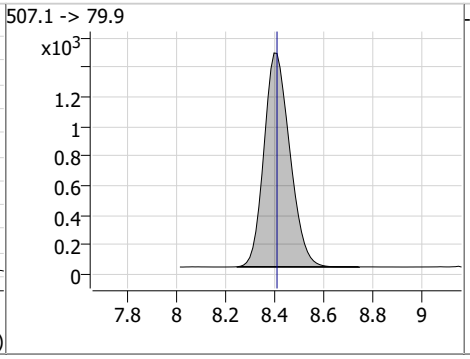


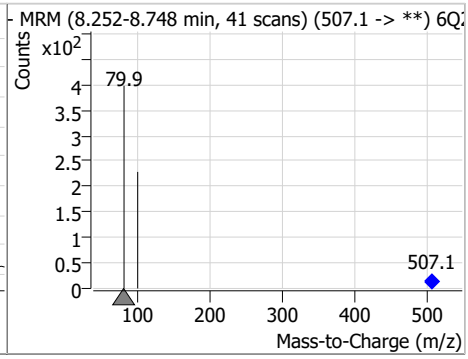




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.78	8.40	-0.01	10634				

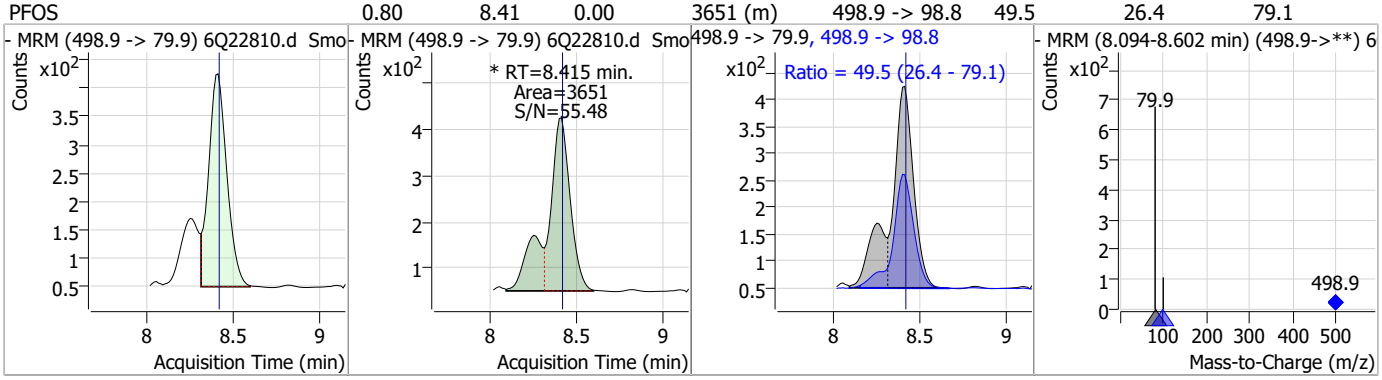




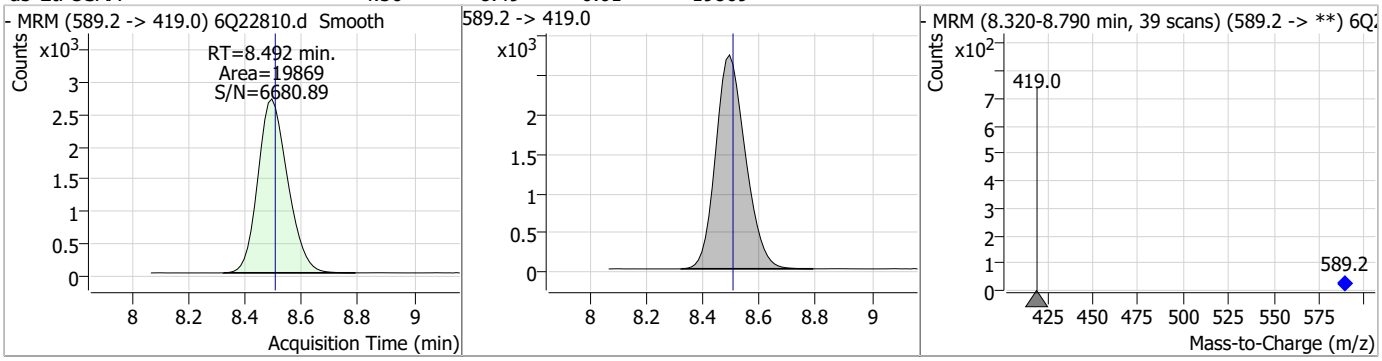


Perfluorinated Compounds by LC/MS/MS

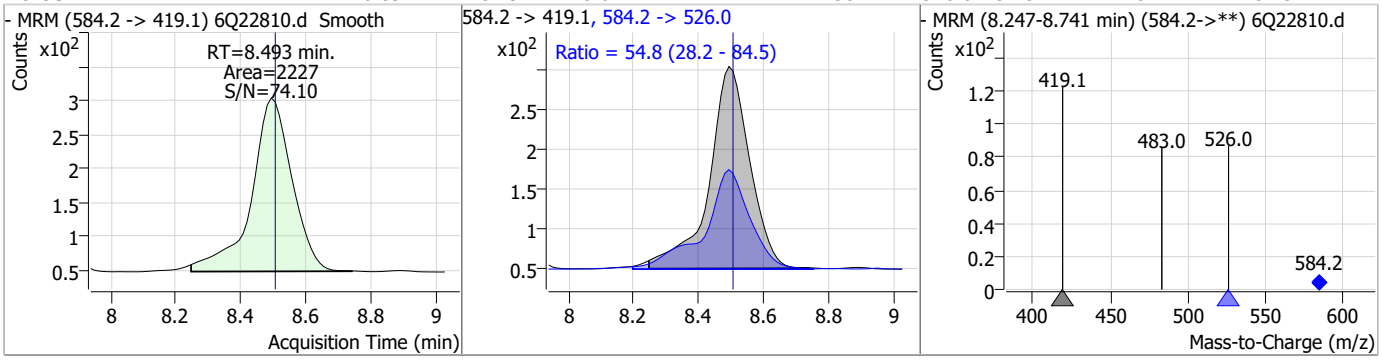
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.80	8.41	0.00	3651 (m)	498.9 -> 98.8	49.5	26.4	79.1



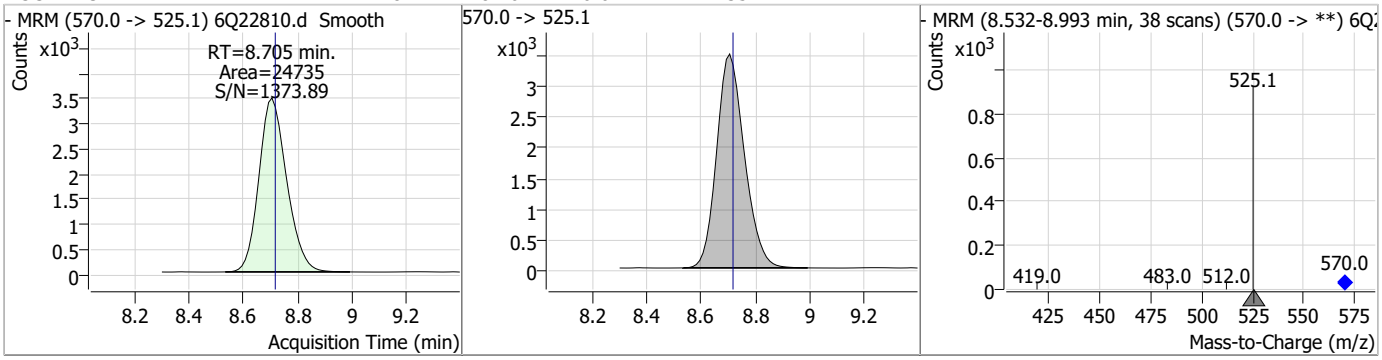
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.56	8.49	-0.01	19869				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.89	8.49	-0.01	2227	584.2 -> 526.0	54.8	28.2	84.5

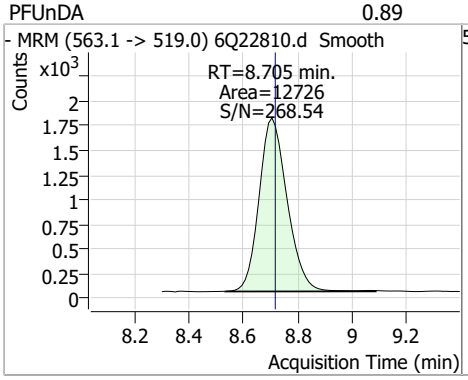


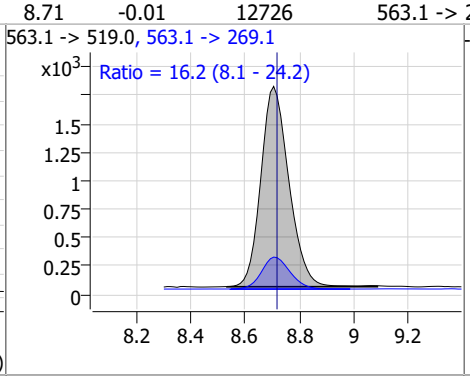
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.48	8.70	-0.01	24735				

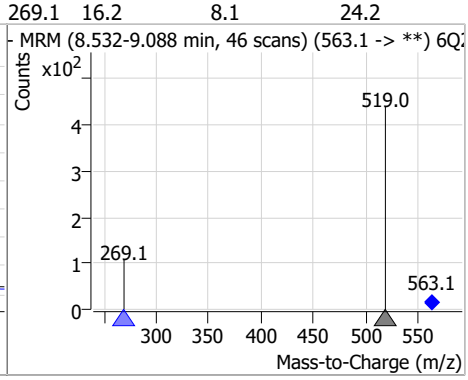


Perfluorinated Compounds by LC/MS/MS

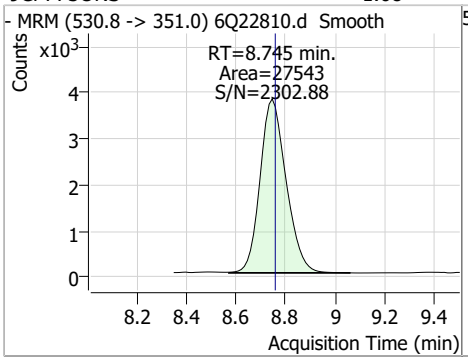
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.89	8.71	-0.01	12726	563.1 -> 269.1	16.2	8.1	24.2

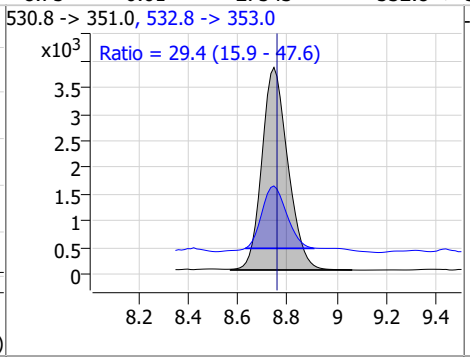


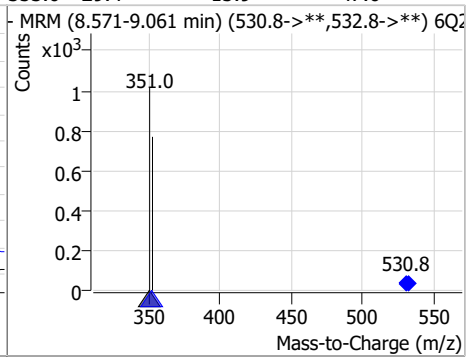




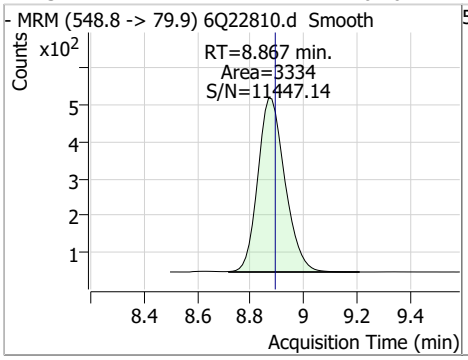
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	1.68	8.75	-0.01	27543	532.8 -> 353.0	29.4	15.9	47.6

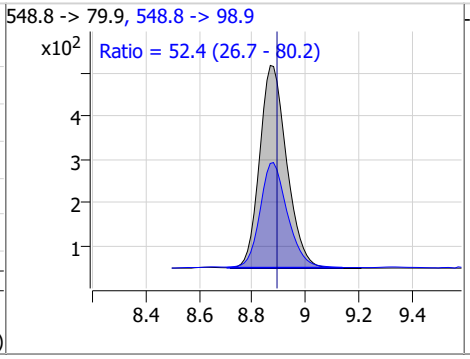


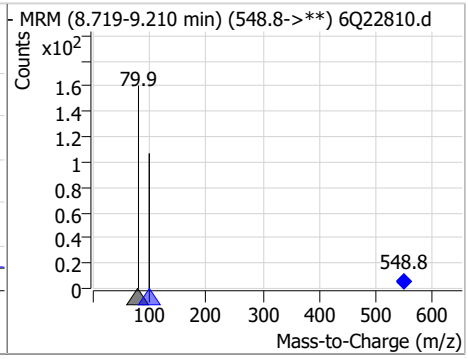




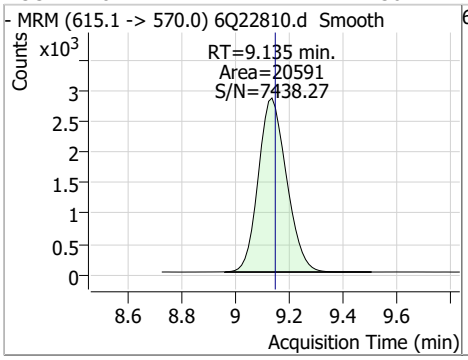
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.76	8.87	-0.03	3334	548.8 -> 98.9	52.4	26.7	80.2

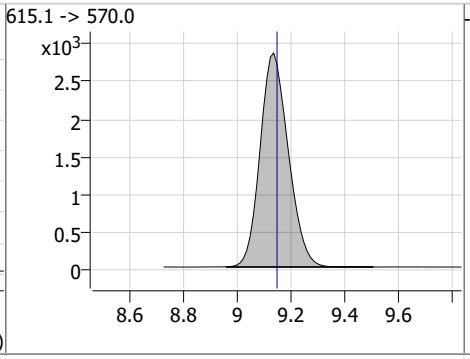


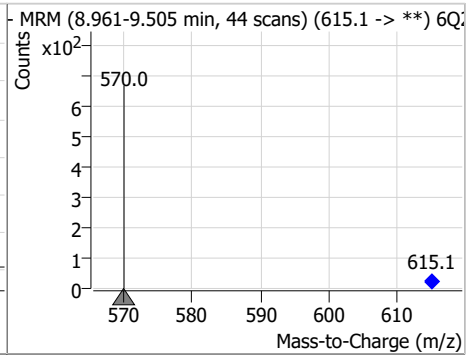




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.36	9.14	-0.01	20591				

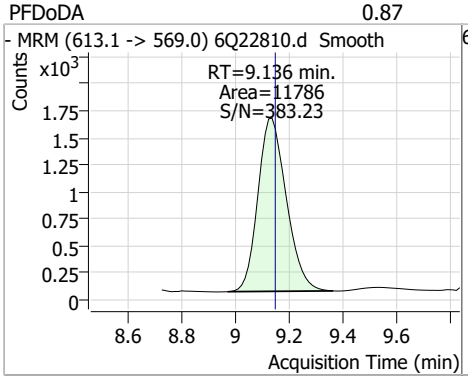


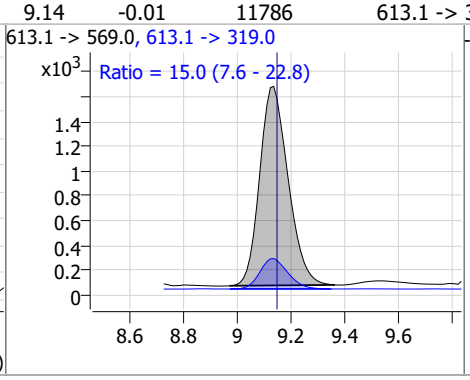


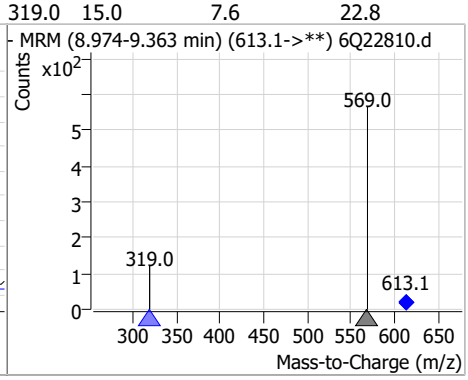


Perfluorinated Compounds by LC/MS/MS

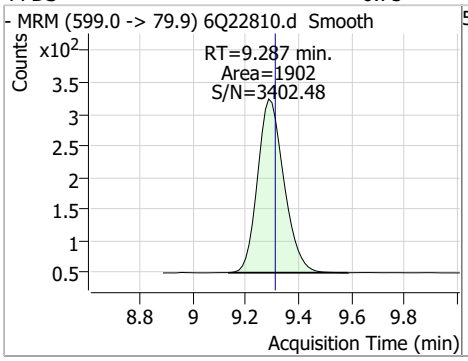
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.87	9.14	-0.01	11786	613.1 -> 319.0	15.0	7.6	22.8

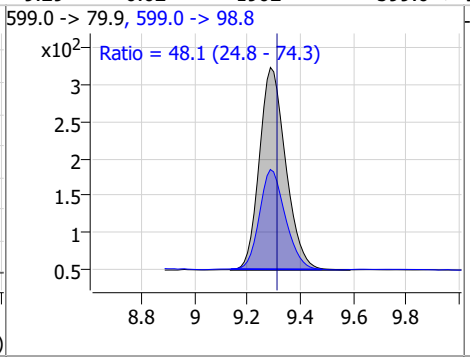


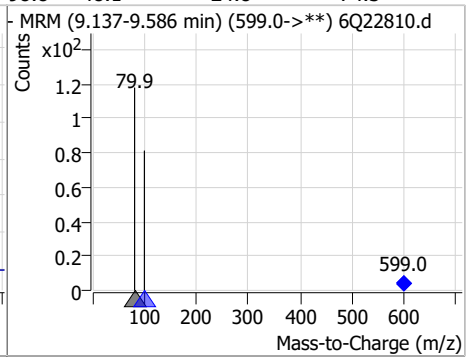




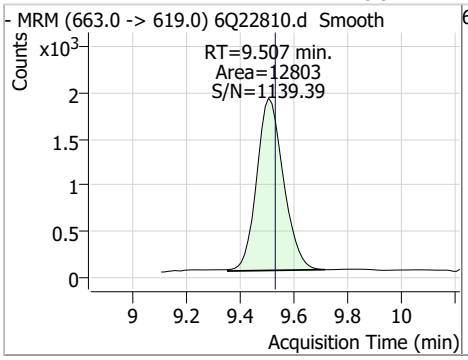
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.75	9.29	-0.02	1902	599.0 -> 98.8	48.1	24.8	74.3

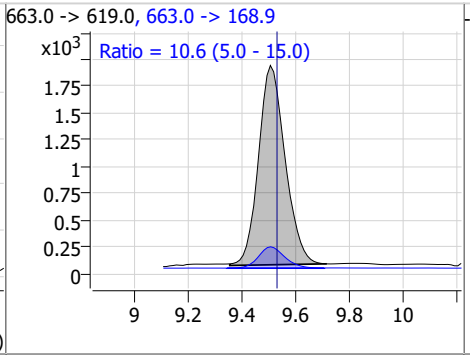


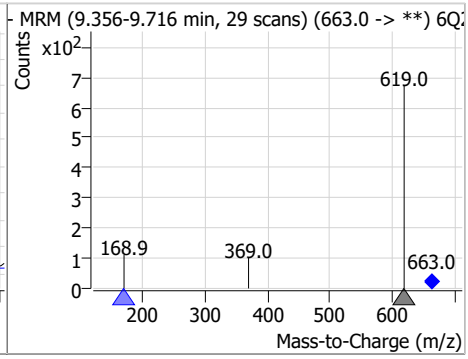




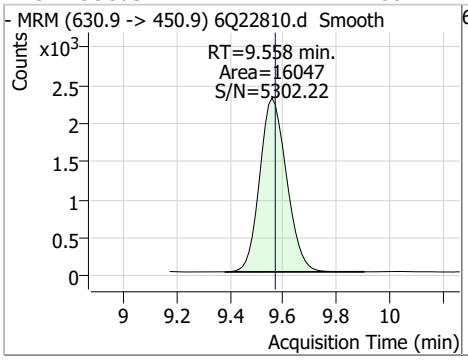
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.92	9.51	-0.02	12803	663.0 -> 168.9	10.6	5.0	15.0

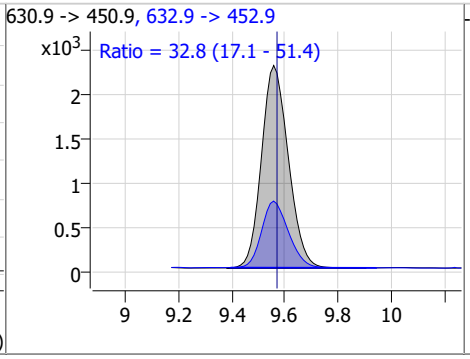


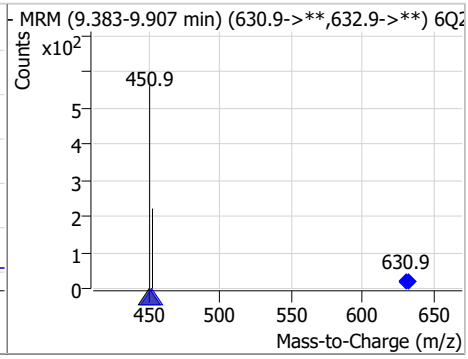




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	1.58	9.56	-0.01	16047	632.9 -> 452.9	32.8	17.1	51.4

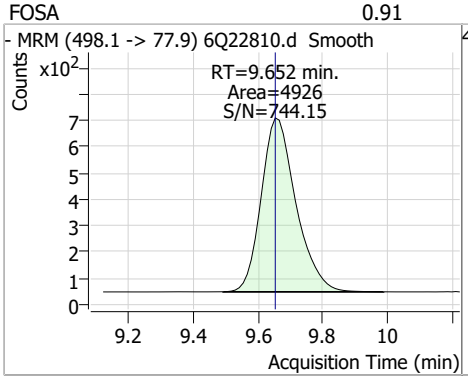


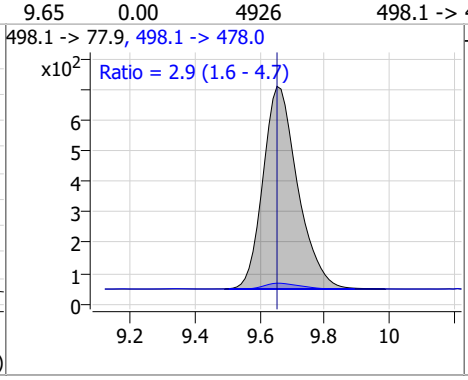


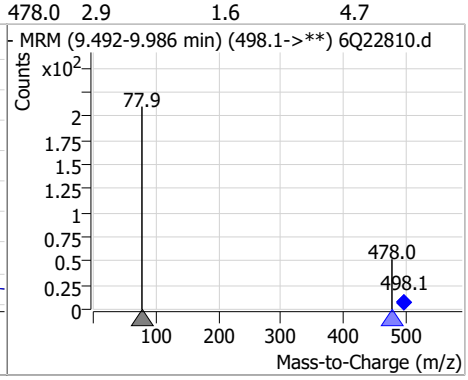


Perfluorinated Compounds by LC/MS/MS

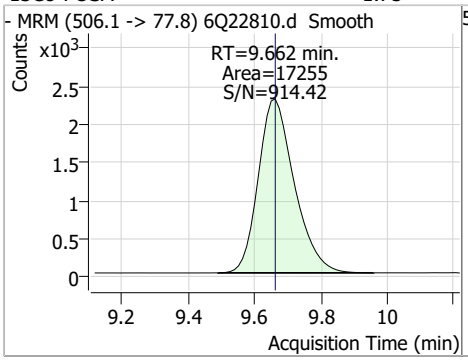
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.91	9.65	0.00	4926	498.1 -> 478.0	2.9	1.6	4.7

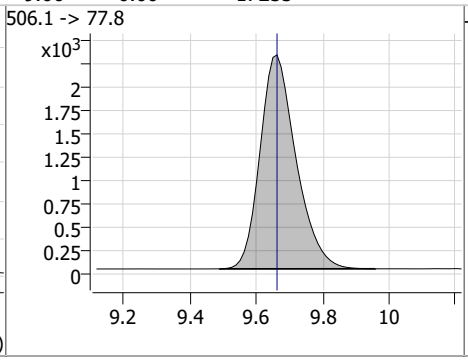


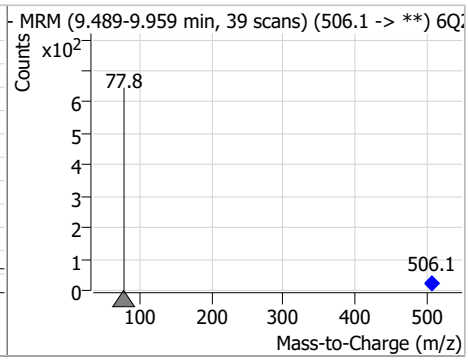




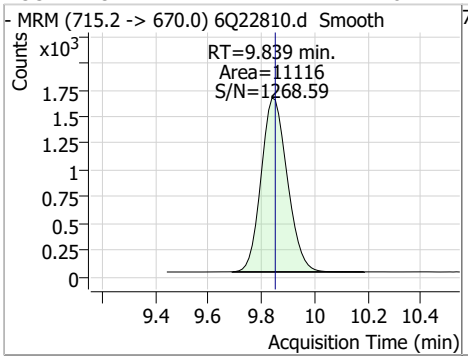
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.75	9.66	0.00	17255				

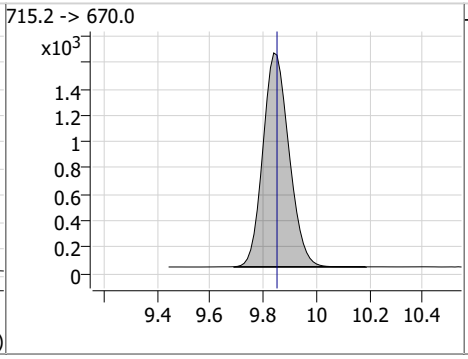


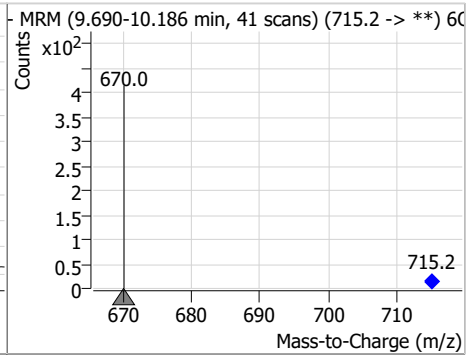




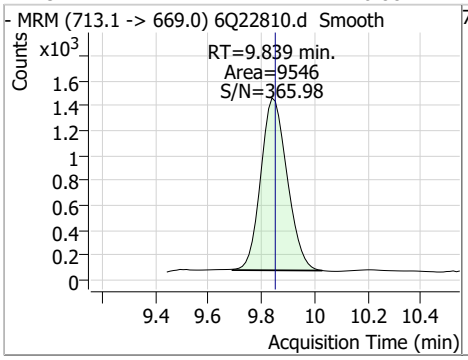
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.28	9.84	-0.01	11116				

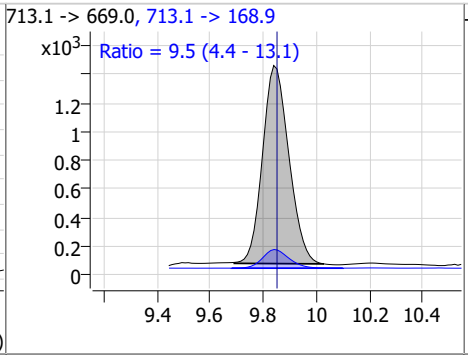


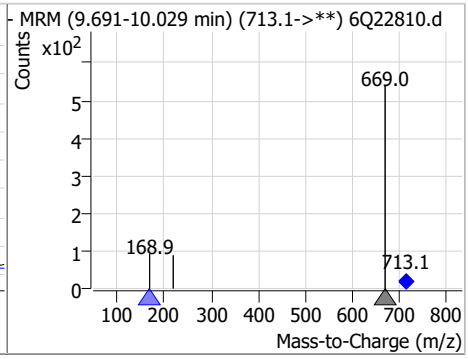




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.88	9.84	-0.01	9546	713.1 -> 168.9	9.5	4.4	13.1

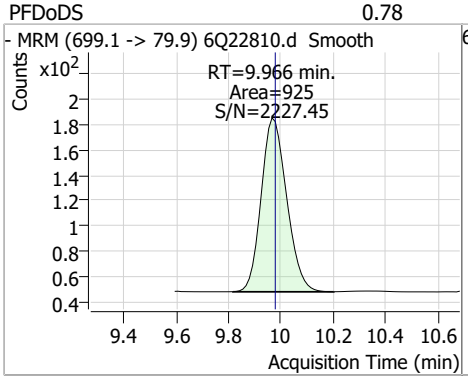


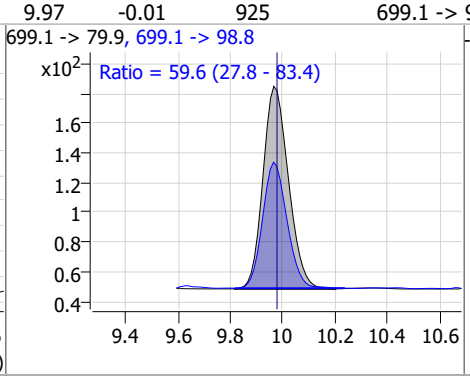


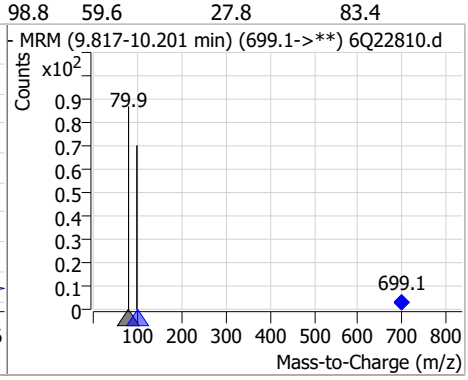


Perfluorinated Compounds by LC/MS/MS

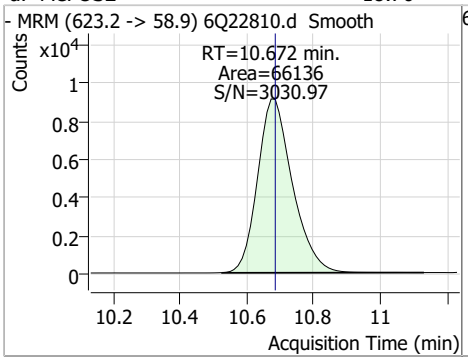
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.78	9.97	-0.01	925	699.1 -> 98.8	59.6	27.8	83.4

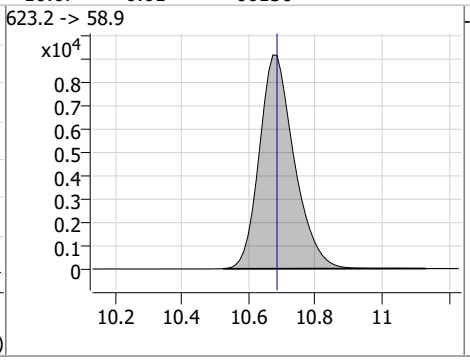


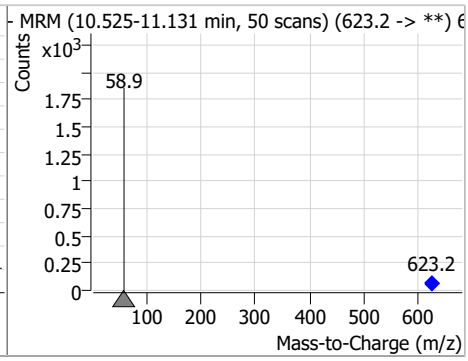




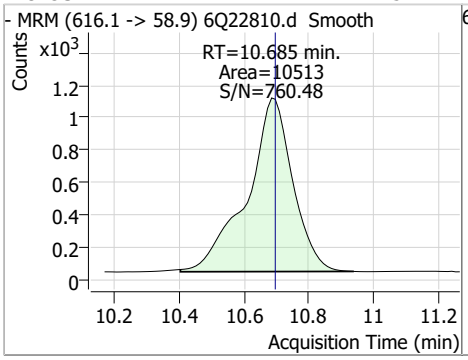
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	18.76	10.67	-0.01	66136				

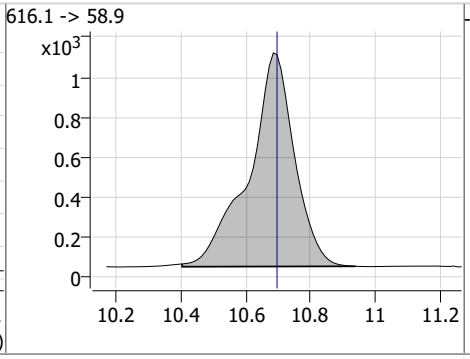


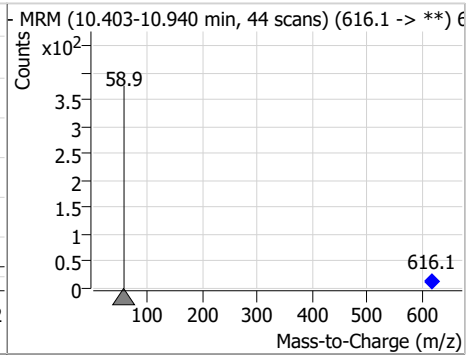




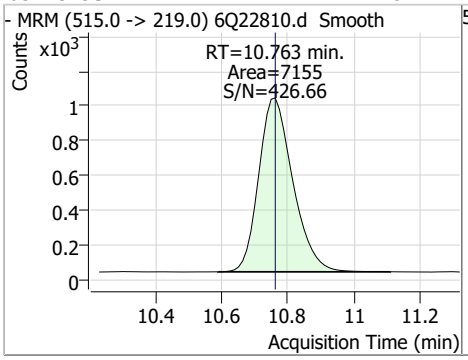
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	4.25	10.69	-0.01	10513				

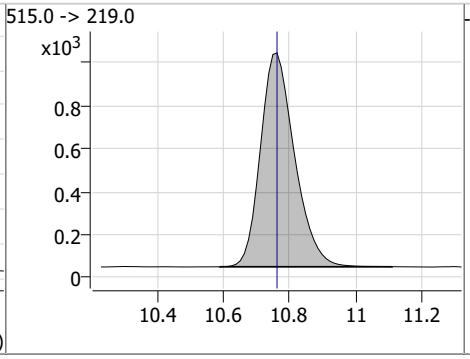


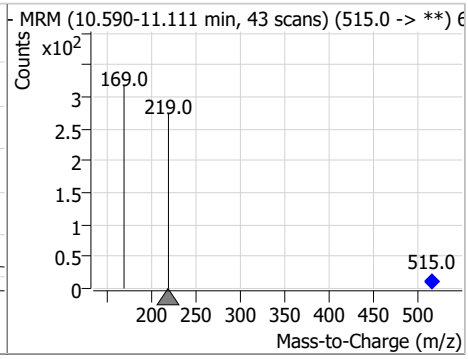




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.78	10.76	0.00	7155				

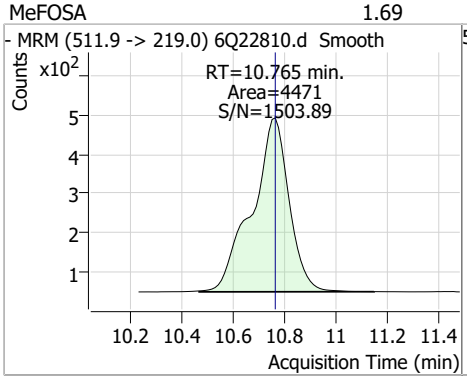


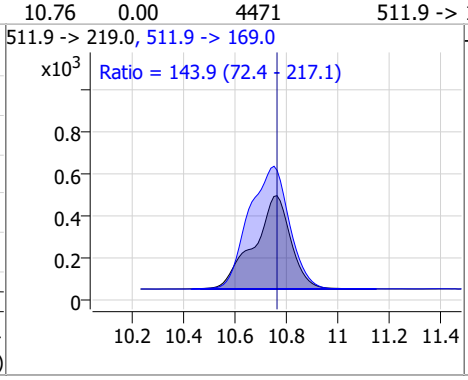


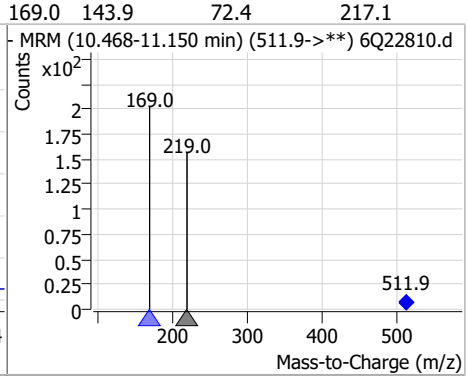


Perfluorinated Compounds by LC/MS/MS

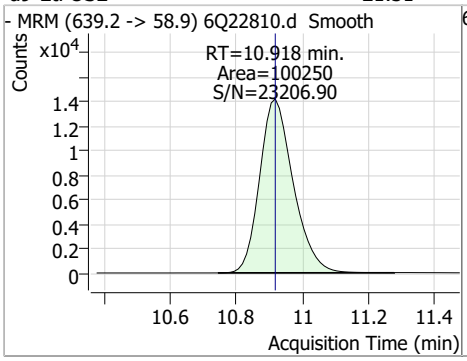
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	1.69	10.76	0.00	4471	511.9 -> 169.0	143.9	72.4	217.1

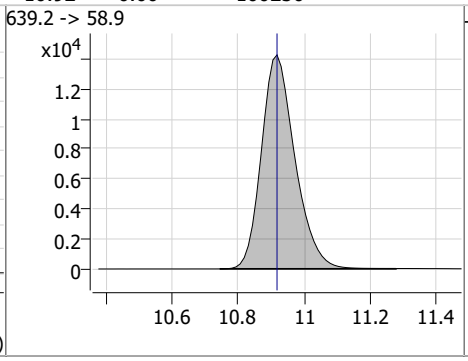


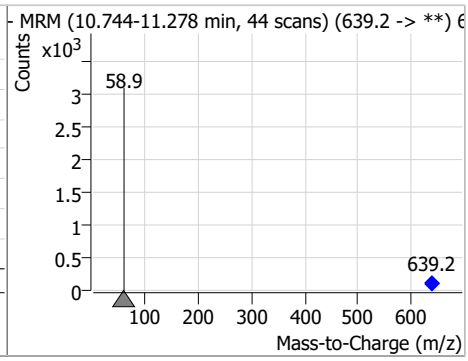




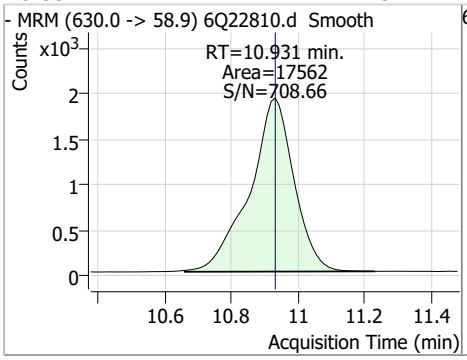
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	21.31	10.92	0.00	100250				

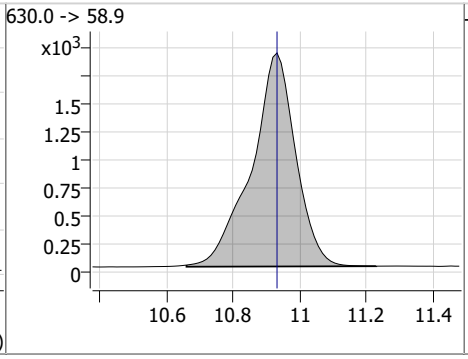


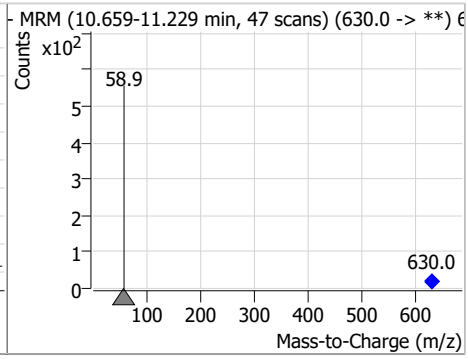




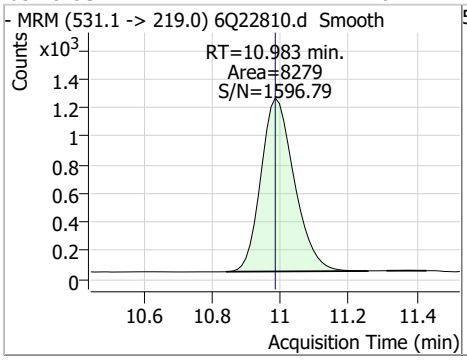
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	4.32	10.93	0.00	17562				

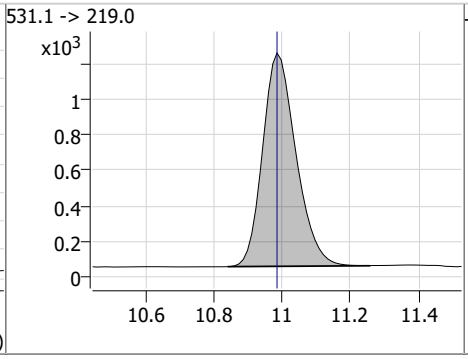


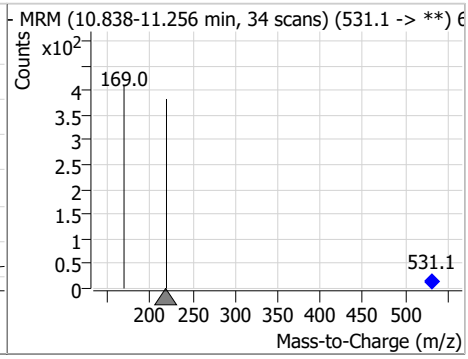




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.04	10.98	0.00	8279				

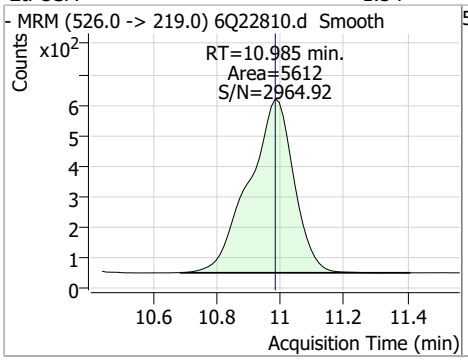


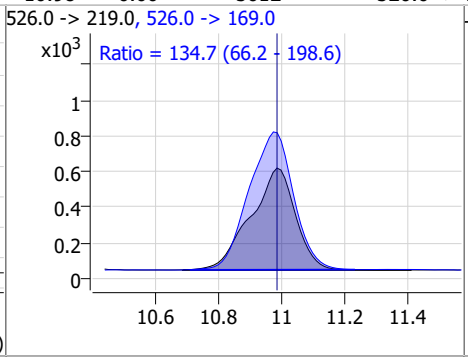


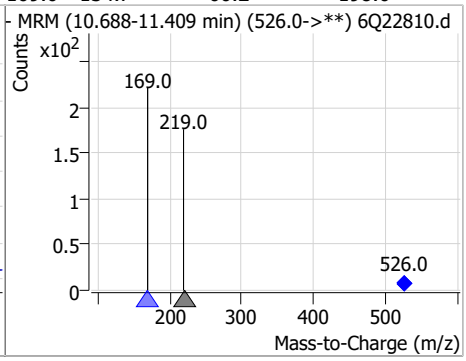


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	1.54	10.98	0.00	5612	526.0 -> 169.0	134.7	66.2	198.6







Manual Integration Approval Summary

Sample Number:	OP98380-LLBS	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22810.D	**Analyst approved:**	08/14/23 10:35 Martha Valls
Injection Time:	08/13/23 19:26	**Supervisor approved:**	08/15/23 13:05 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/15/23 13:05

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22814.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 8:23:42 PM
Sample Name : op98380-ms
Vial : P6-B8
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98380,S6Q331,560,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	86544	10.00	µg/L	0.012
M5-PFPeA	4.447	268.3 -> 223.0	40713	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	46639	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	45420	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	68451	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	31387	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	18287	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	23592	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	21430	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	10709	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	17498	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	17015	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	10556	2.50	µg/L	0.000
M8-PFOS	8.401	507.1 -> 79.9	10031	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	2054	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3210	5.00	µg/L	-0.012
M2-8:2FTS	8.039	529.1 -> 80.9	3003	5.00	µg/L	-0.012
M3-MeFOSAA	8.284	573.2 -> 419.0	24159	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	28397	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	21585	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	62173	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	94606	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	7860	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	6963	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	12495	2.50	µg/L	-0.012
13C3-PFBA	3.026	216.0 -> 172.0	46746	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	7373	2.50	µg/L	0.000
13C4-PFOA	7.227	417.1 -> 372.0	63690	2.50	µg/L	-0.012
13C2-PFDA	8.251	515.1 -> 470.1	23033	1.25	µg/L	0.000
13C5-PFNA	7.758	468.0 -> 423.0	36493	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	39655	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2054	4.66	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.3%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3210	5.05	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.0%		
13C2-8:2FTS	8.039	529.1 -> 80.9	3003	4.82	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.5%		
13C2-PFDoDA	9.135	615.1 -> 570.0	21430	1.38	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.2%		
13C2-PFTeDA	9.839	715.2 -> 670.0	10709	1.20	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.7%		
13C3-PFBS	5.610	302.1 -> 79.9	17015	2.72	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.7%		
13C3-PFHxS	7.355	402.1 -> 79.9	10556	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 = 104.2%	
13C4-PFBA	3.022	216.8 -> 171.9	86544	7.84 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 78.4%	
13C4-PFHpA	6.596	367.1 -> 322.0	45420	2.84 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 113.5%	
13C5-PFHxA	5.668	318.0 -> 273.0	46639	2.85 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.0%	
13C5-PFPeA	4.447	268.3 -> 223.0	40713	5.45 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.0%	
13C6-PFDA	8.238	519.1 -> 474.1	18287	1.41 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.5%	
13C7-PFUnDA	8.705	570.0 -> 525.1	23592	1.37 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.7%	
13C8-FOSA	9.662	506.1 -> 77.8	17498	1.86 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 74.2%	
13C8-PFOA	7.226	421.1 -> 376.0	68451	2.91 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 116.4%	
13C8-PFOS	8.401	507.1 -> 79.9	10031	2.74 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.7%	
13C9-PFNA	7.758	472.1 -> 427.0	31387	1.33 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.1%	
d3-MeFOSAA	8.284	573.2 -> 419.0	24159	5.34 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.9%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	28397	11.07 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 110.7%	
d3-MeFOSA	10.763	515.0 -> 219.0	6963	1.80 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 72.1%	
d5-EtFOSAA	8.492	589.2 -> 419.0	21585	5.17 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.4%	
d7-MeFOSE	10.685	623.2 -> 58.9	62173	18.41 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 73.6%	
d9-EtFOSE	10.918	639.2 -> 58.9	94606	20.99 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 84.0%	
d5-EtFOSA	10.983	531.1 -> 219.0	7860	2.02 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 80.8%	
Target Compounds					QValue
4:2FTS	5.331	327.1 -> 307.0	30757	11.58 µg/L	98
		327.1 -> 80.9	11655		
6:2FTS	7.002	427.1 -> 407.0	30788	10.72 µg/L	97
		427.1 -> 80.9	10791		
8:2FTS	8.040	527.1 -> 507.0	17535	10.91 µg/L	96
		527.1 -> 80.8	6831		
EtFOSAA	8.506	584.2 -> 419.1	8542	3.14 µg/L	89
		584.2 -> 526.0	4095		
FOSA	9.652	498.1 -> 77.9	16200	2.95 µg/L	99
		498.1 -> 478.0	481		
MeFOSAA	8.298	570.1 -> 419.0	14034	3.04 µg/L	99
		570.1 -> 483.0	2644		
PFBA	3.031	212.8 -> 168.9	36097	13.35 µg/L	100
PFBS	5.600	298.7 -> 79.9	14744	2.65 µg/L	97
		298.7 -> 98.8	5798		
PFDA	8.251	512.9 -> 469.0	63384	2.93 µg/L	98
		512.9 -> 219.0	9706		
PFDoDA	9.136	613.1 -> 569.0	42611	3.03 µg/L	100
		613.1 -> 319.0	6503		
PFDS	9.287	599.0 -> 79.9	6187	2.57 µg/L	97

Perfluorinated Compounds by LC/MS/MS

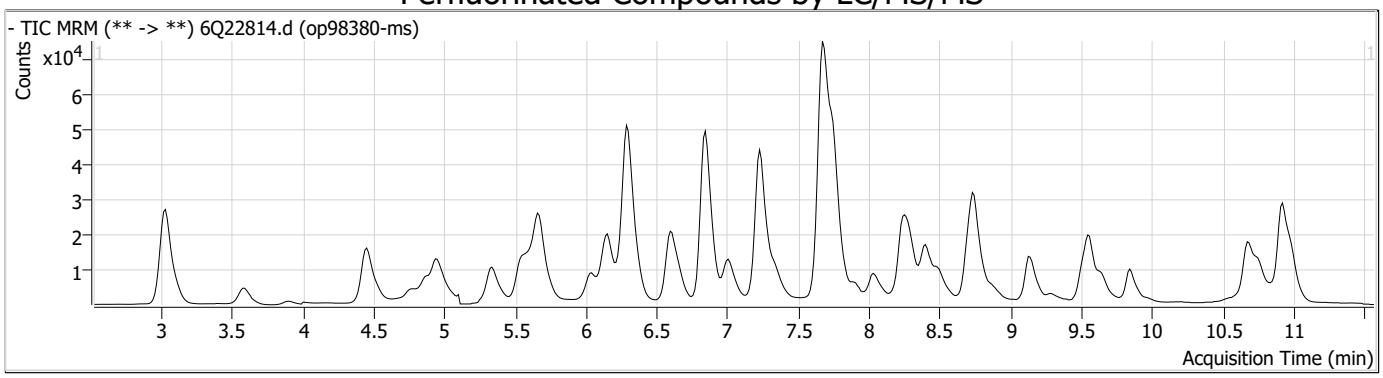
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3198				
PFHpA	6.596	363.1 -> 319.0	54796	3.06	µg/L		97
		363.1 -> 169.0	8527				
PFHpS	7.909	449.0 -> 79.9	13073	2.85	µg/L		96
		449.0 -> 98.9	6619				
PFHxA	5.670	313.0 -> 269.0	41663	3.05	µg/L		99
		313.0 -> 118.9	2410				
PFHxS	7.356	398.7 -> 79.9	13007	2.79	µg/L	m	99
		398.7 -> 98.9	6449				
PFNA	7.758	463.0 -> 419.0	66317	3.07	µg/L		99
		463.0 -> 219.0	12225				
PFNS	8.880	548.8 -> 79.9	11469	2.77	µg/L		95
		548.8 -> 98.9	5700				
PFOA	7.228	413.0 -> 369.0	86062	3.08	µg/L		100
		413.0 -> 169.0	14063				
PFOS	8.415	498.9 -> 79.9	13082	3.03	µg/L	m	95
		498.9 -> 98.8	6433				
PFPeA	4.449	263.0 -> 219.0	49985	5.57	µg/L		100
PFPeS	6.660	349.1 -> 79.9	12964	3.00	µg/L		99
		349.1 -> 98.9	5813				
PFTeDA	9.839	713.1 -> 669.0	30935	2.97	µg/L		100
		713.1 -> 168.9	2641				
PFTrDA	9.519	663.0 -> 619.0	37829	2.61	µg/L		97
		663.0 -> 168.9	4255				
PFUnDA	8.705	563.1 -> 519.0	43639	3.21	µg/L		99
		563.1 -> 269.1	6898				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	55711	5.50	µg/L		92
		632.9 -> 452.9	16553				
9Cl-PF3ONS	8.745	530.8 -> 351.0	94372	5.76	µg/L		99
		532.8 -> 353.0	29261				
ADONA	6.846	376.9 -> 250.9	211154	5.84	µg/L		98
		376.9 -> 84.8	57873				
HFPO-DA	6.046	284.9 -> 168.9	13139	5.44	µg/L		98
		284.9 -> 184.9	1504				
3:3FTCA	3.896	241.0 -> 177.0	5905	13.81	µg/L		98
		241.0 -> 117.0	760				
5:3FTCA	6.298	341.0 -> 237.1	176422	62.87	µg/L		97
		341.0 -> 217.0	129754				
7:3FTCA	7.673	441.0 -> 316.9	140894	67.89	µg/L		98
		441.0 -> 336.9	316228				
EtFOSA	10.985	526.0 -> 219.0	19425	5.61	µg/L		98
		526.0 -> 169.0	25301				
EtFOSE	10.931	630.0 -> 58.9	57273	14.94	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	15598	6.04	µg/L		98
		511.9 -> 169.0	22176				
MeFOSE	10.686	616.1 -> 58.9	36068	15.52	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	2934	2.62	µg/L		96
		699.1 -> 98.8	1541				
NFDHA	5.551	295.0 -> 201.0	9701	5.59	µg/L		95
		295.0 -> 84.9	2505				
PFMBA	4.869	279.0 -> 85.1	37290	5.88	µg/L		100
PFMPA	3.588	229.0 -> 84.9	27929	5.50	µg/L		100
PFEESA	6.151	314.8 -> 134.9	96447	5.26	µg/L		100
		314.8 -> 82.9	3295				

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

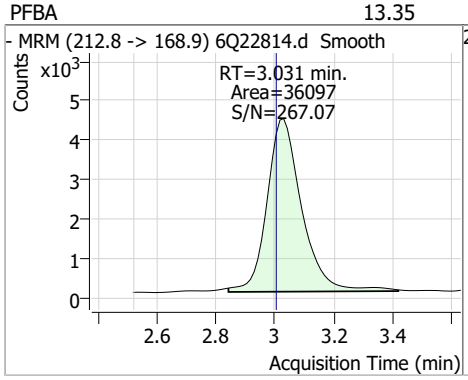
Perfluorinated Compounds by LC/MS/MS

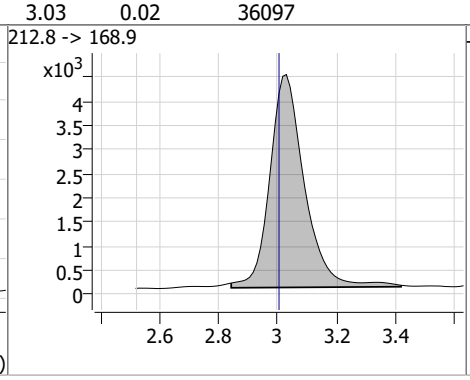
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

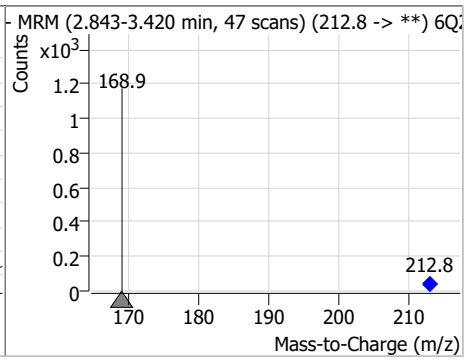
Perfluorinated Compounds by LC/MS/MS



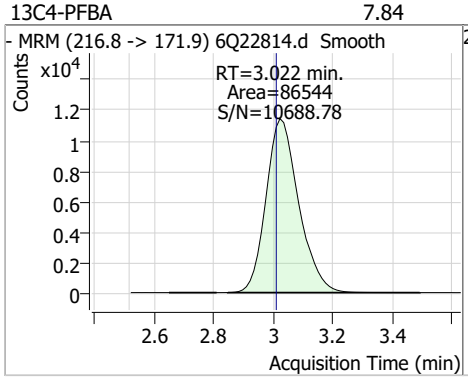
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	13.35	3.03	0.02	36097				

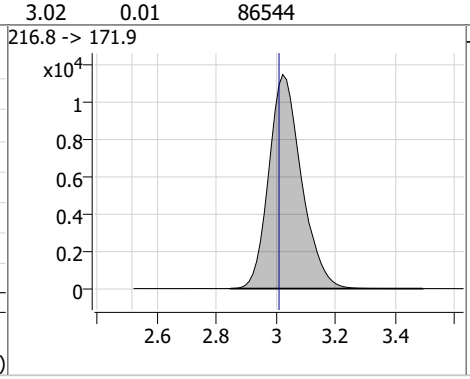


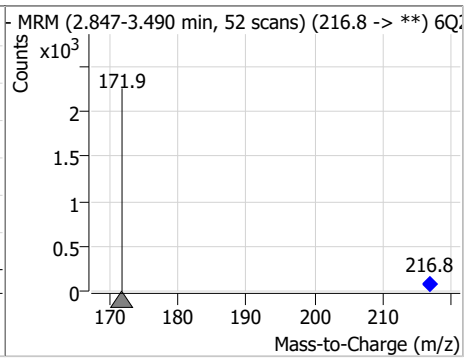




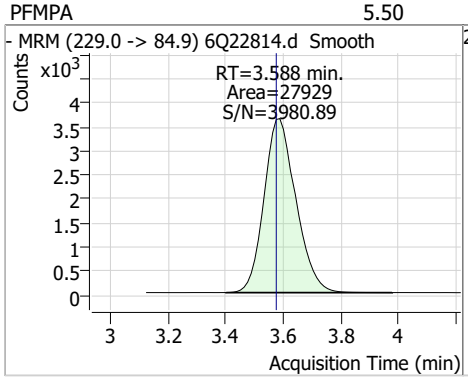
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	7.84	3.02	0.01	86544				

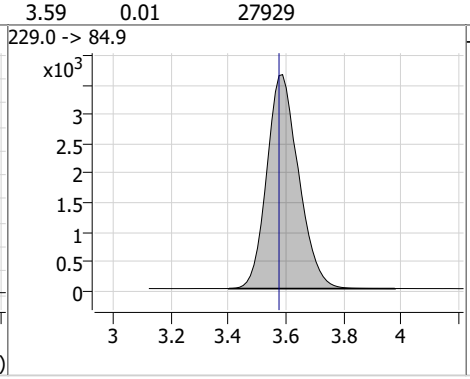


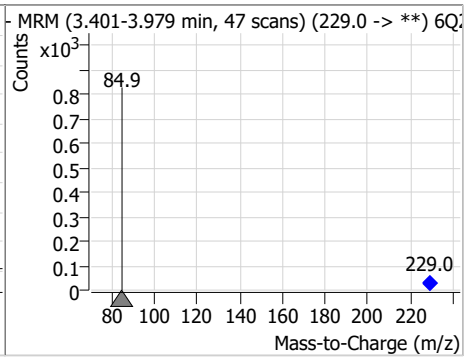




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	5.50	3.59	0.01	27929				

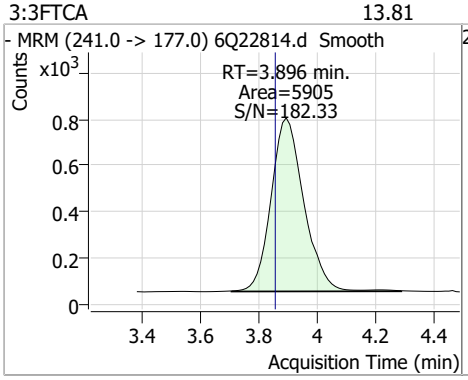


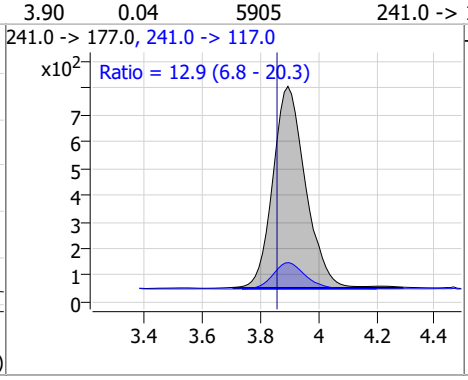


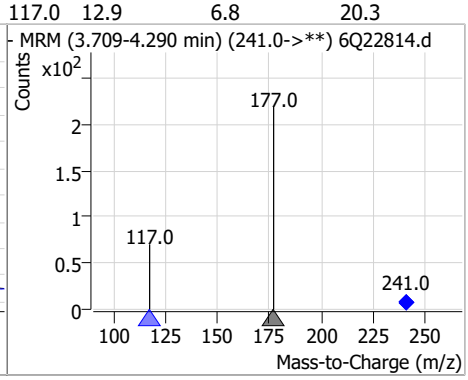


Perfluorinated Compounds by LC/MS/MS

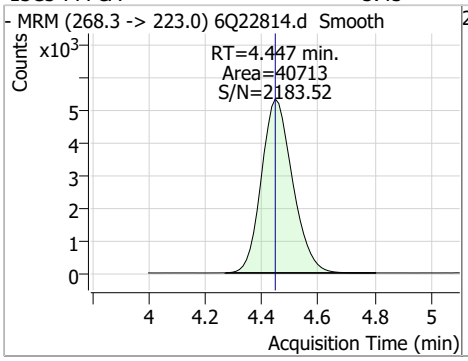
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	13.81	3.90	0.04	5905	241.0 -> 117.0	12.9	6.8	20.3

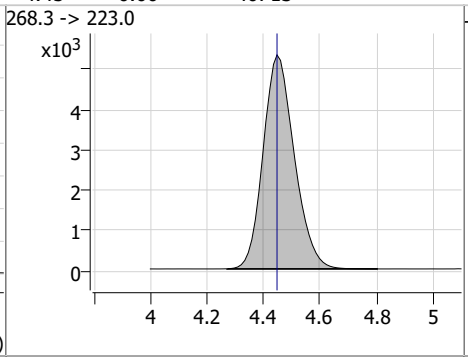


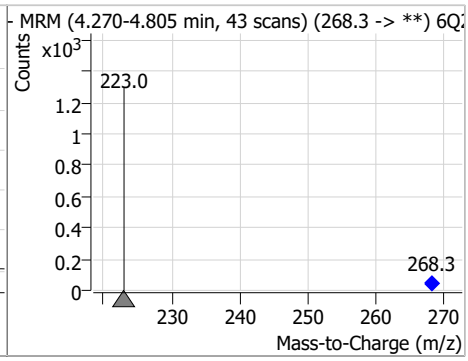




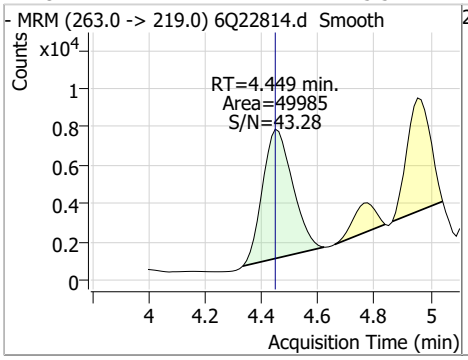
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.45	4.45	0.00	40713				

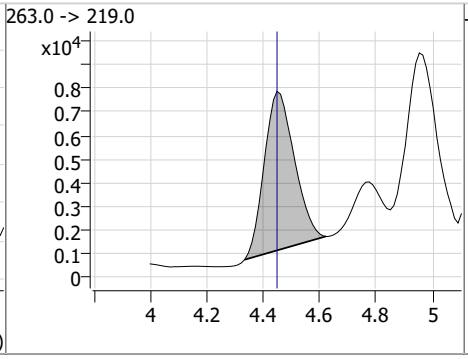


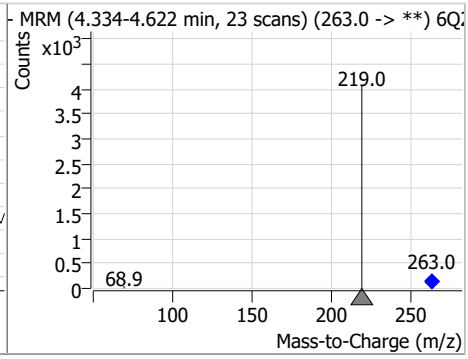




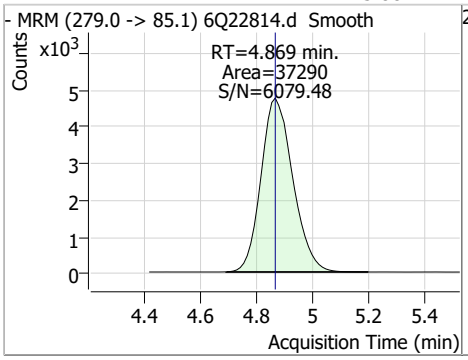
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	5.57	4.45	0.00	49985				

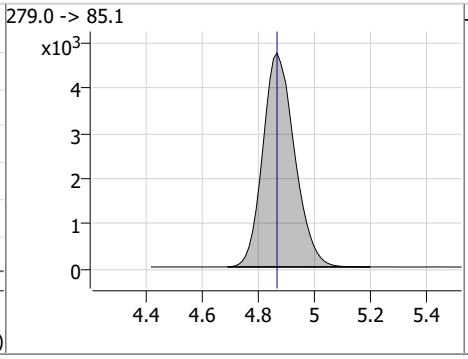


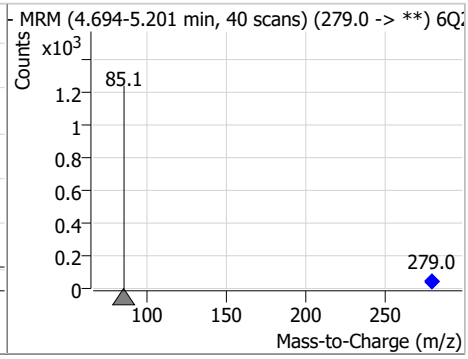




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.88	4.87	0.00	37290				

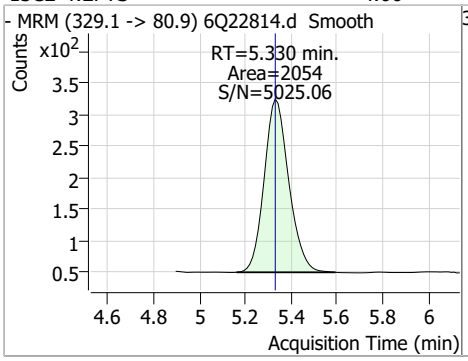


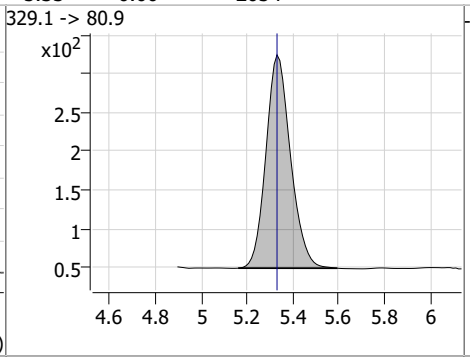


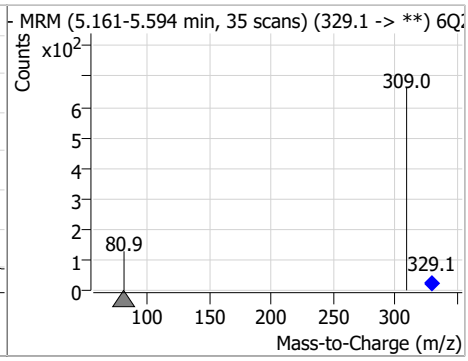


Perfluorinated Compounds by LC/MS/MS

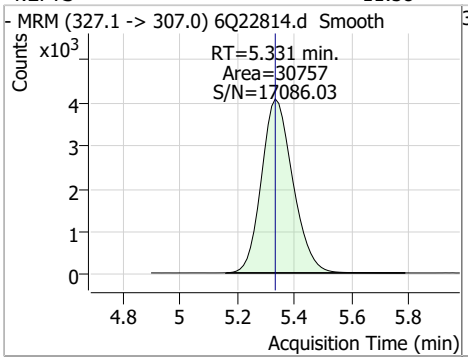
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.66	5.33	0.00	2054				

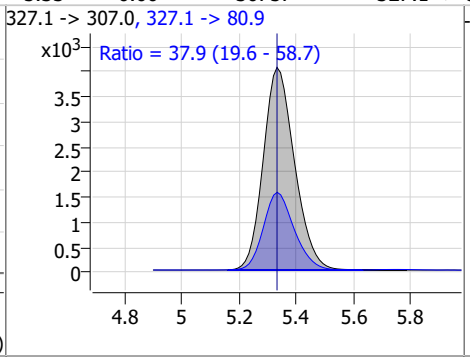


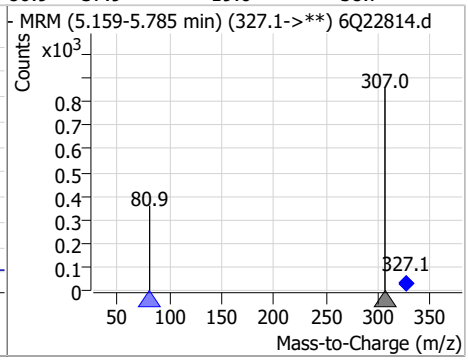




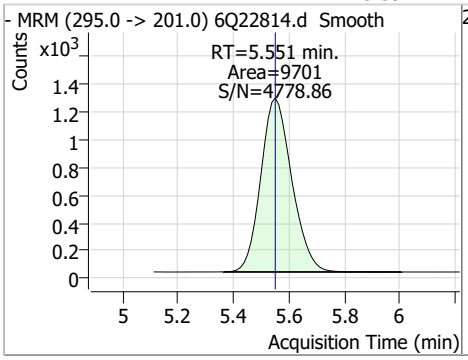
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	11.58	5.33	0.00	30757	327.1 -> 80.9	37.9	19.6	58.7

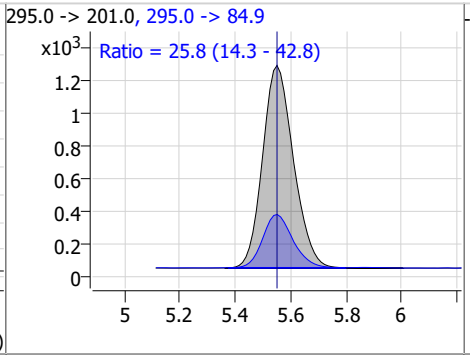


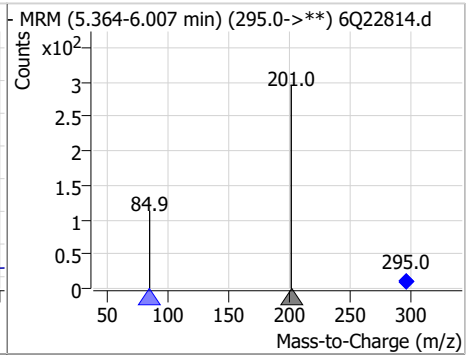




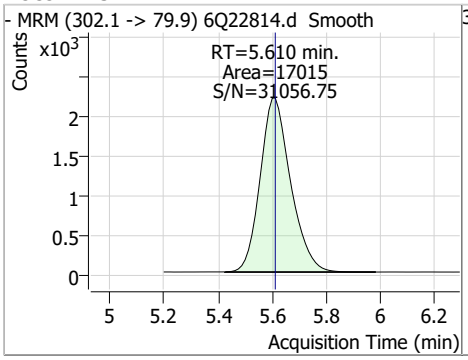
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	5.59	5.55	0.00	9701	295.0 -> 84.9	25.8	14.3	42.8

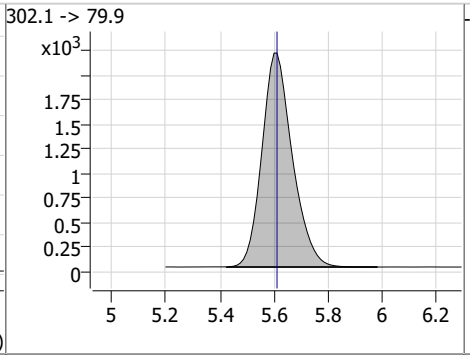


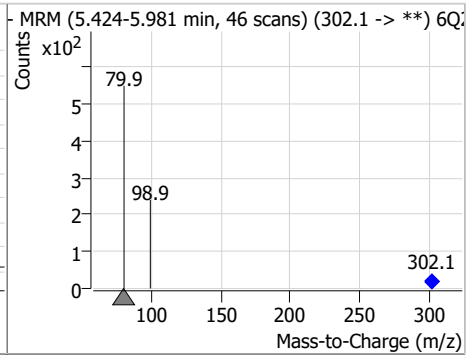




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.72	5.61	0.00	17015				

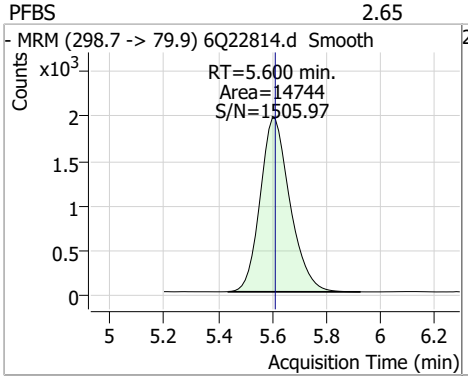


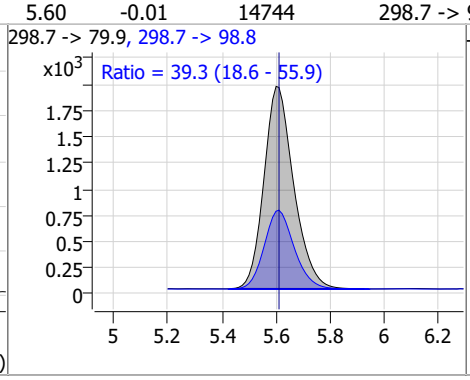


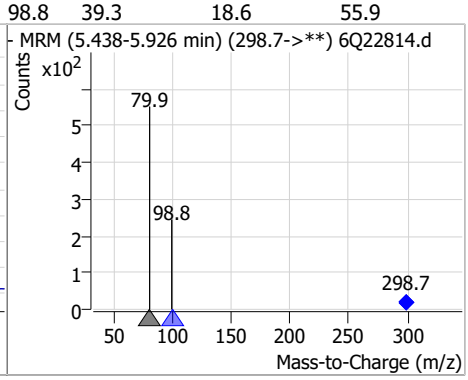


Perfluorinated Compounds by LC/MS/MS

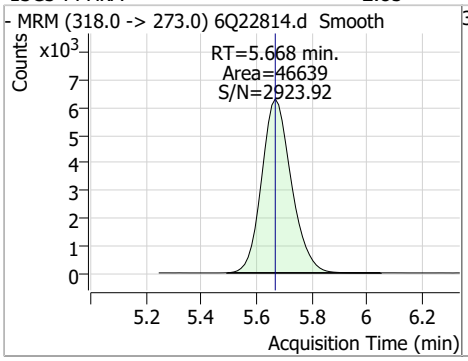
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.65	5.60	-0.01	14744	298.7 -> 98.8	39.3	18.6	55.9

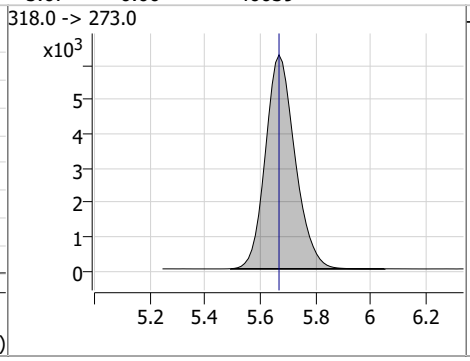


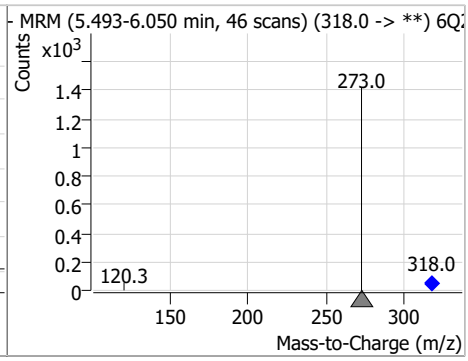




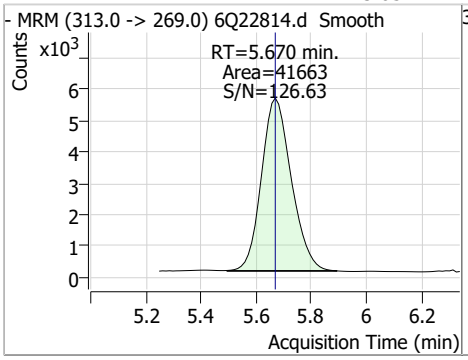
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.85	5.67	0.00	46639				

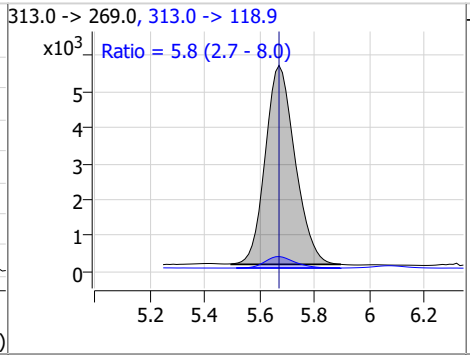


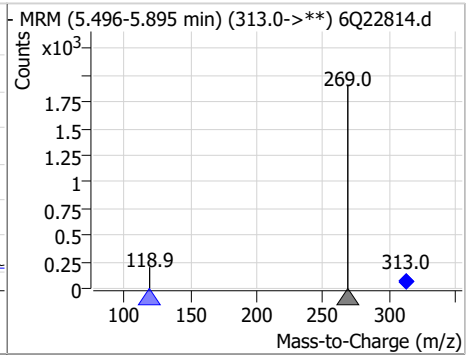




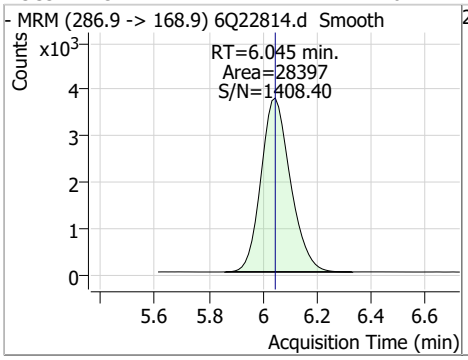
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	3.05	5.67	0.00	41663	313.0 -> 118.9	5.8	2.7	8.0

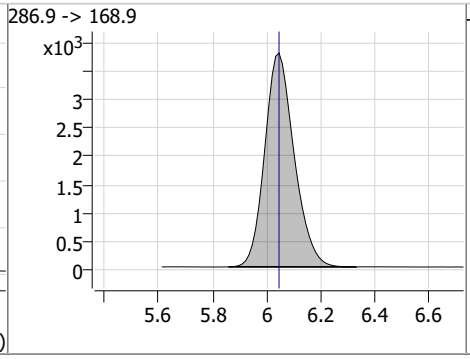


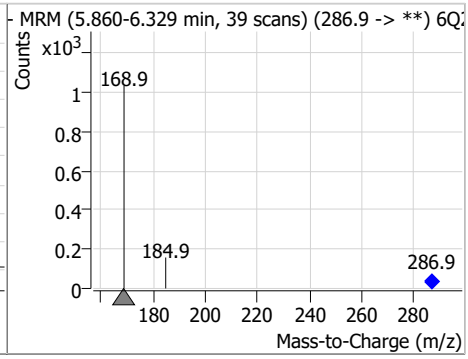




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.07	6.05	0.00	28397				

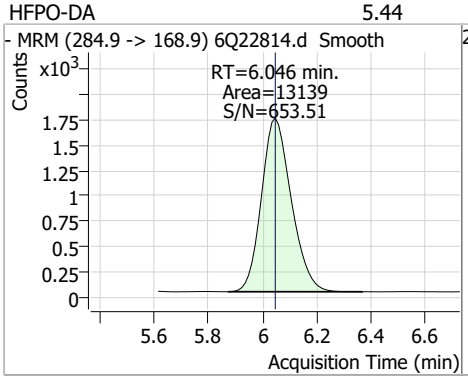


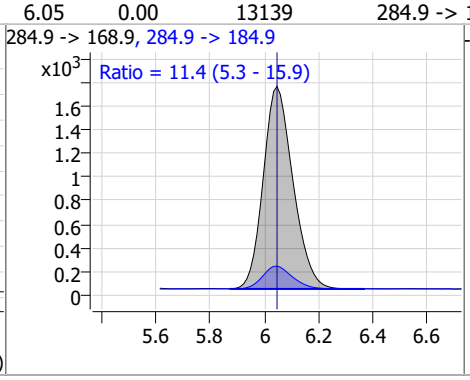


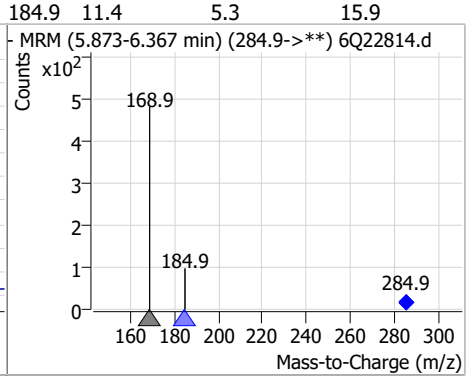


Perfluorinated Compounds by LC/MS/MS

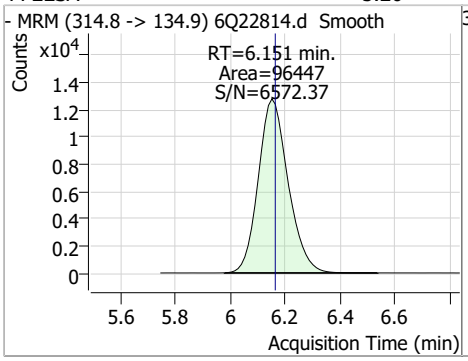
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.44	6.05	0.00	13139	284.9 -> 184.9	11.4	5.3	15.9

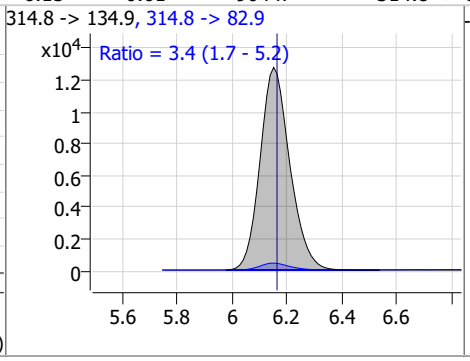


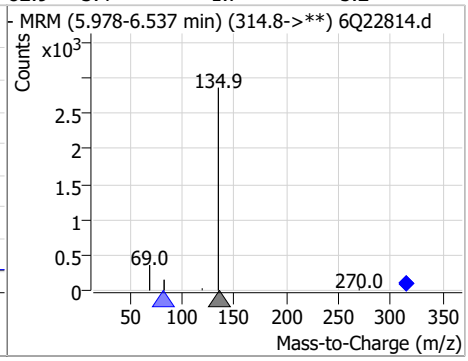




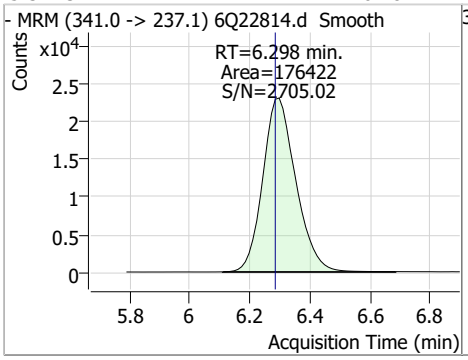
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	5.26	6.15	-0.01	96447	314.8 -> 82.9	3.4	1.7	5.2

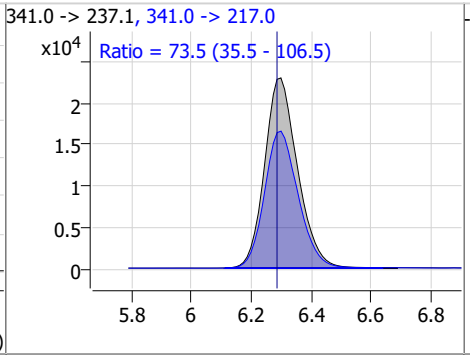


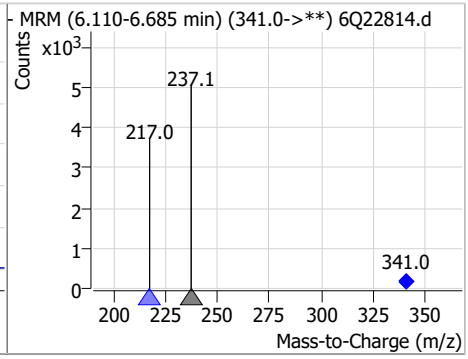




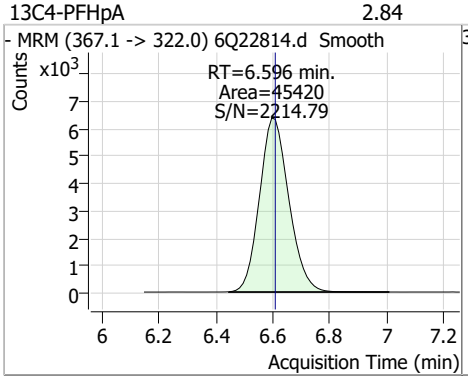
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	62.87	6.30	0.01	176422	341.0 -> 217.0	73.5	35.5	106.5

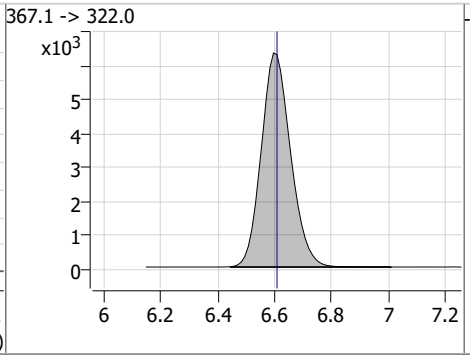


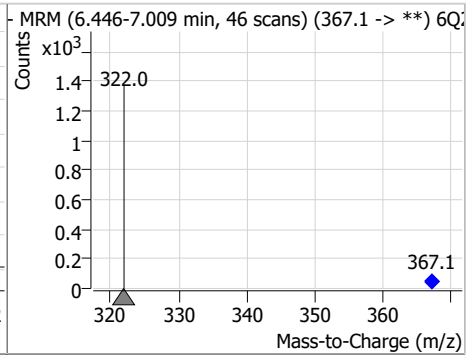




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.84	6.60	-0.01	45420				

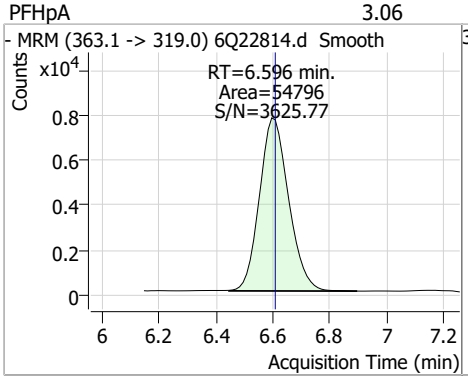


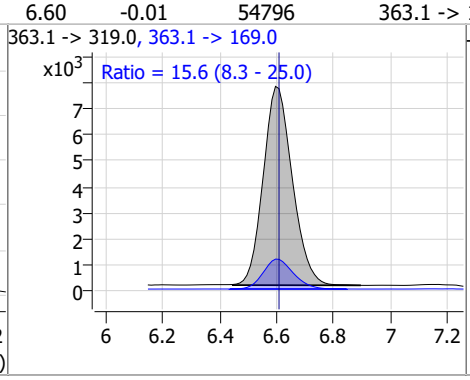


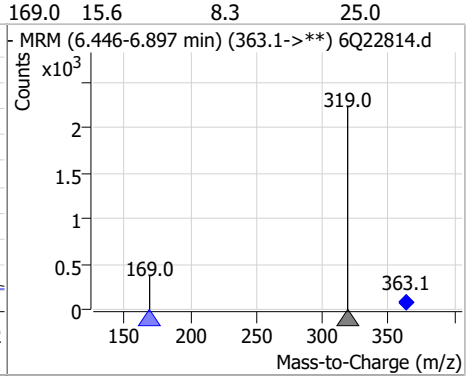


Perfluorinated Compounds by LC/MS/MS

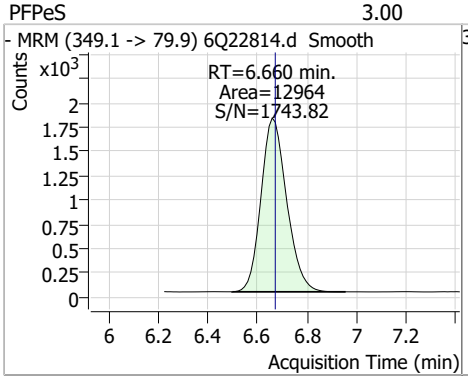
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	3.06	6.60	-0.01	54796	363.1 -> 169.0	15.6	8.3	25.0

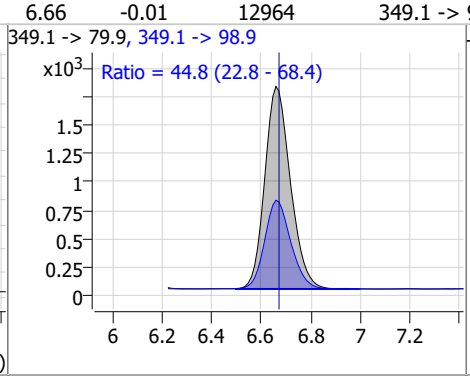


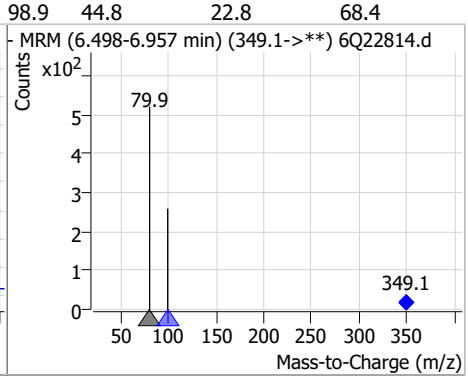




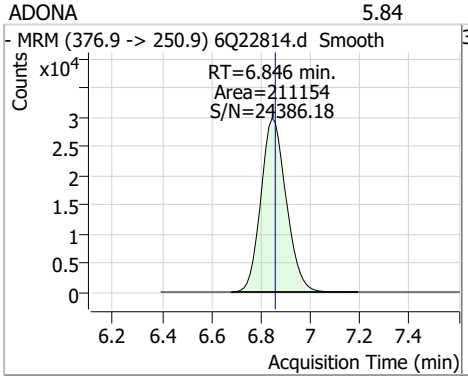
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	3.00	6.66	-0.01	12964	349.1 -> 98.9	44.8	22.8	68.4

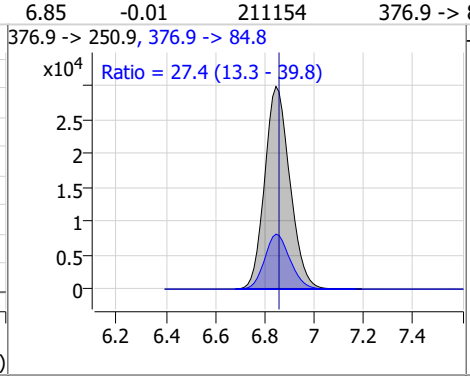


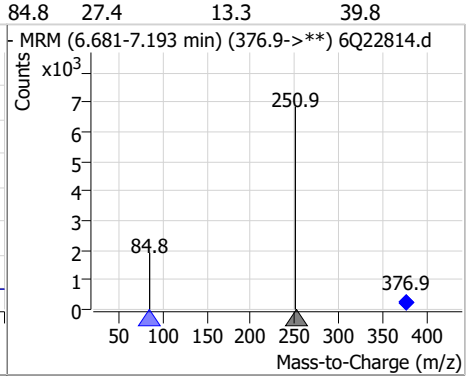




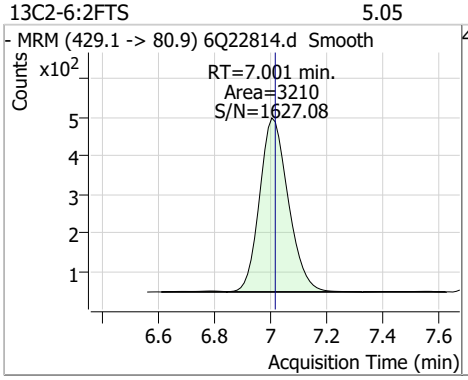
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	5.84	6.85	-0.01	211154	376.9 -> 84.8	27.4	13.3	39.8

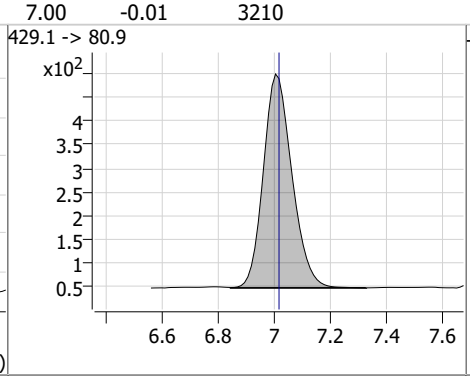


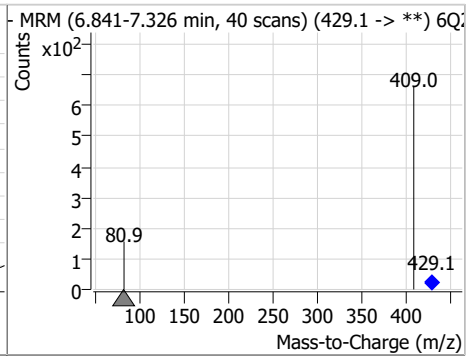




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.05	7.00	-0.01	3210				

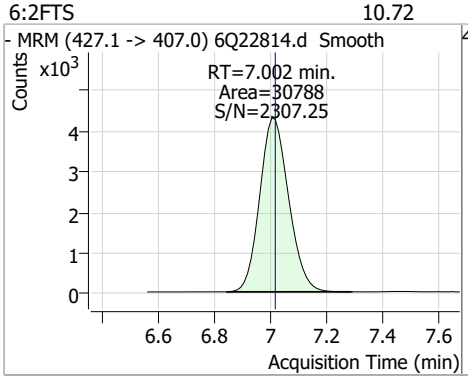


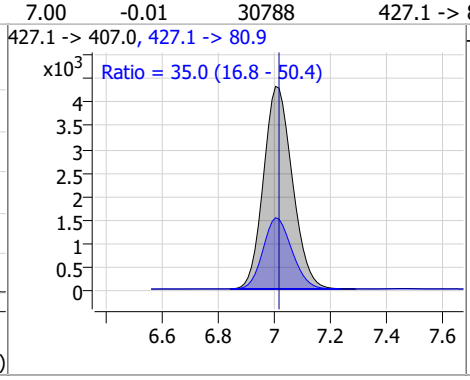


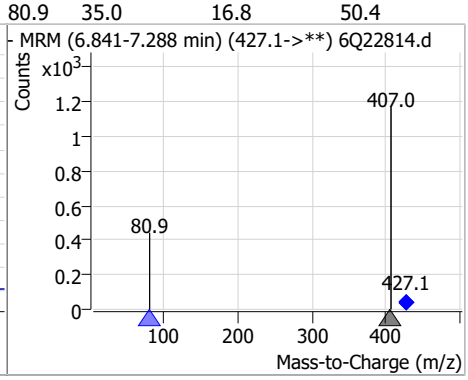


Perfluorinated Compounds by LC/MS/MS

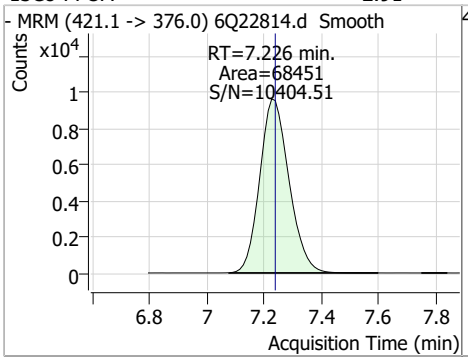
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	10.72	7.00	-0.01	30788	427.1 -> 80.9	35.0	16.8	50.4

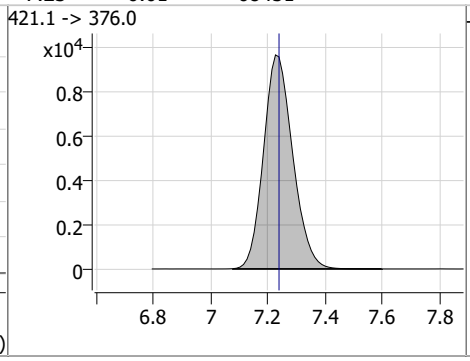


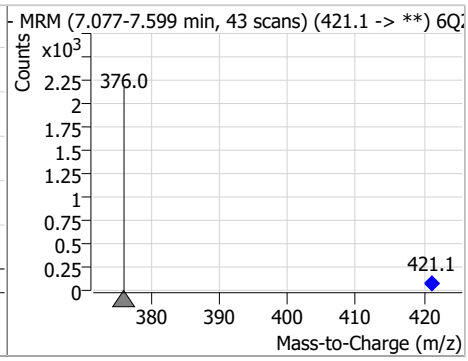




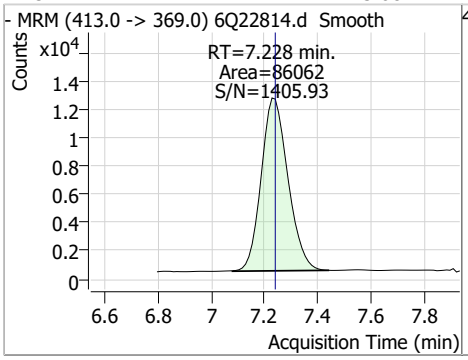
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.91	7.23	-0.01	68451				

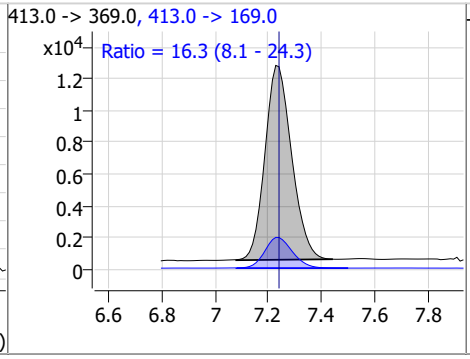


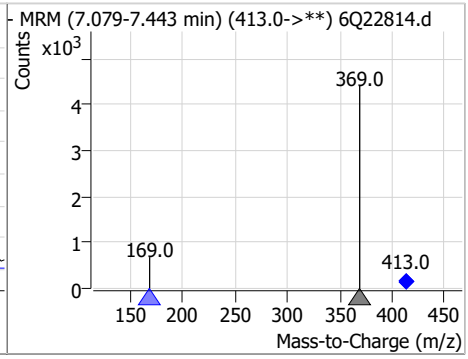




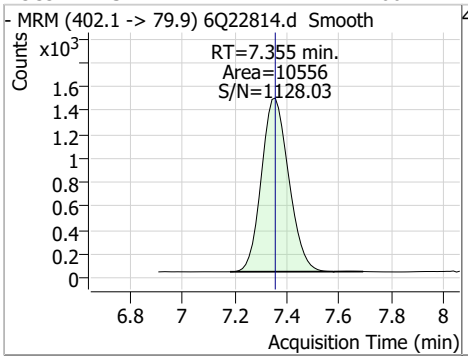
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	3.08	7.23	-0.01	86062	413.0 -> 169.0	16.3	8.1	24.3

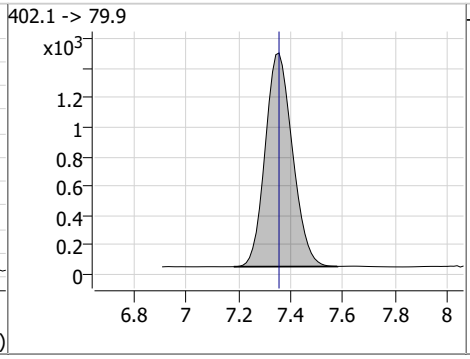


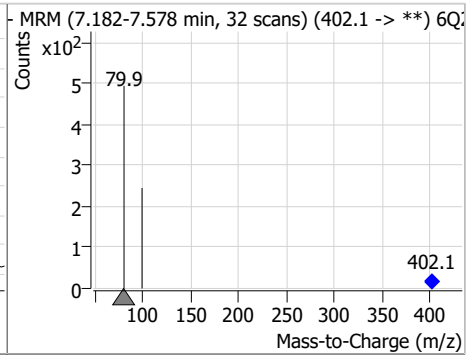




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.60	7.35	0.00	10556				

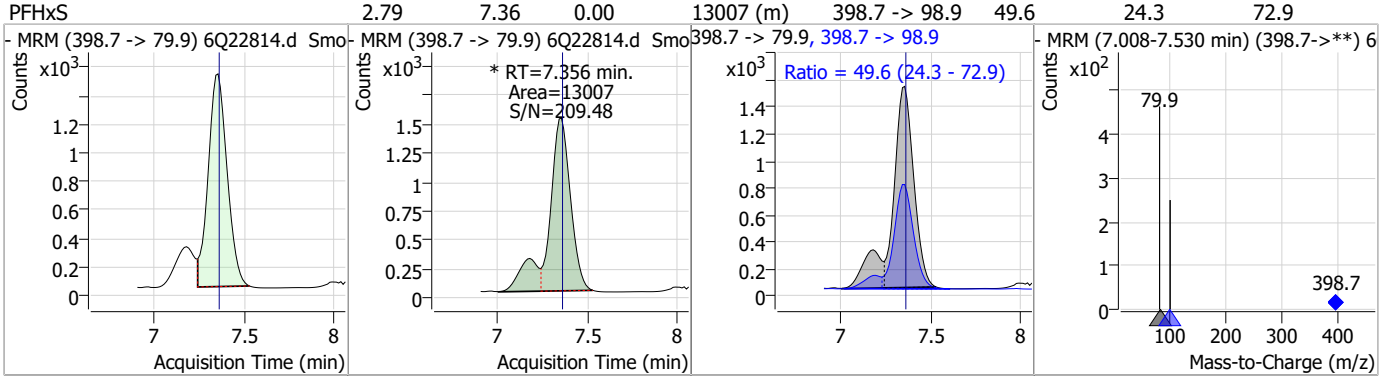




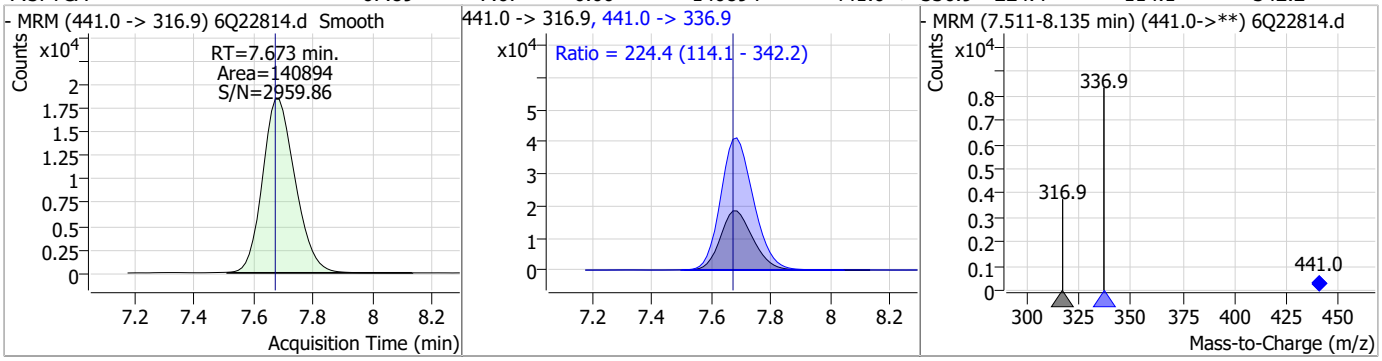


Perfluorinated Compounds by LC/MS/MS

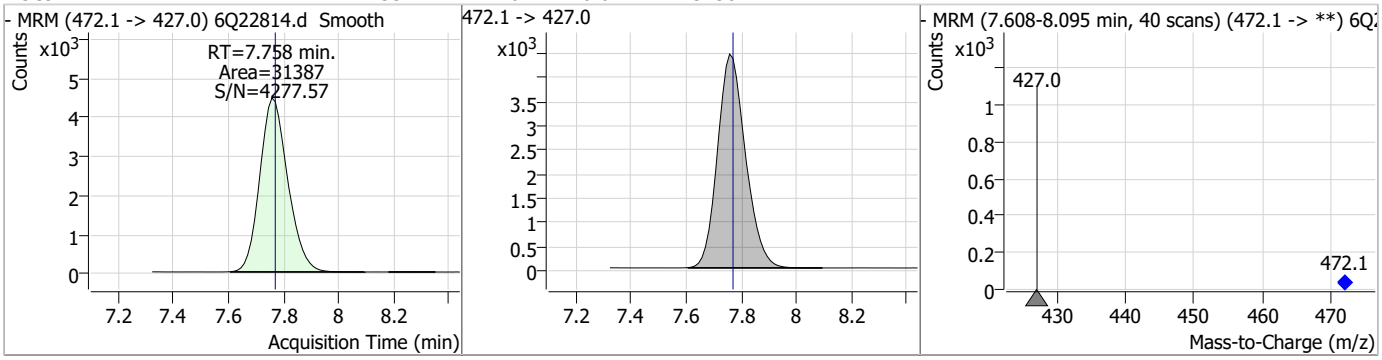
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.79	7.36	0.00	13007 (m)	398.7 -> 98.9	49.6	24.3	72.9



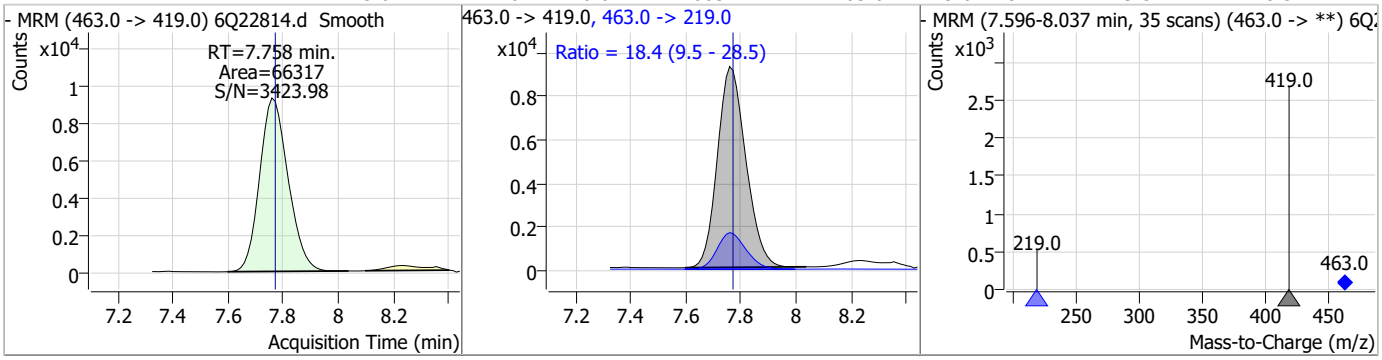
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	67.89	7.67	0.00	140894	441.0 -> 336.9	224.4	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.33	7.76	-0.01	31387				

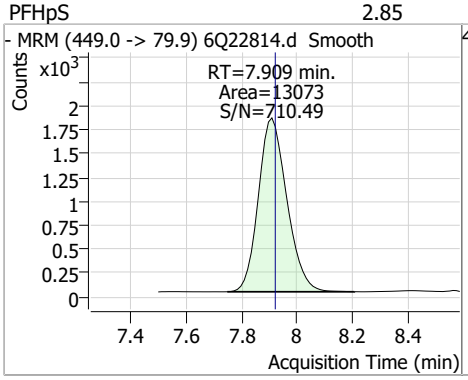


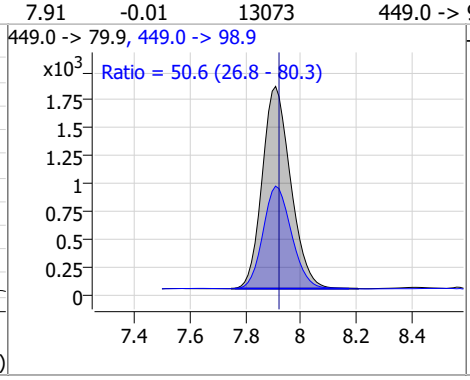
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	3.07	7.76	-0.01	66317	463.0 -> 219.0	18.4	9.5	28.5

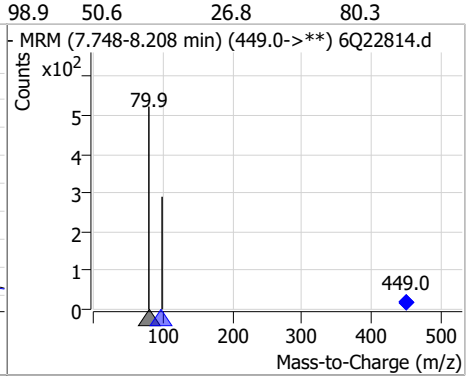


Perfluorinated Compounds by LC/MS/MS

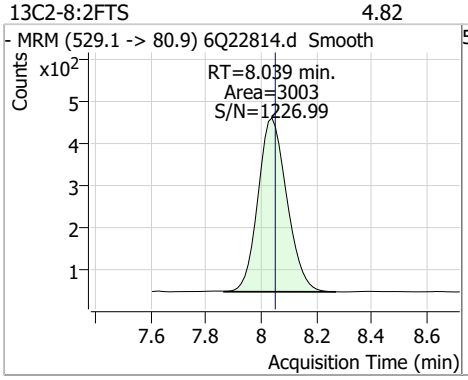
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.85	7.91	-0.01	13073	449.0 -> 98.9	50.6	26.8	80.3

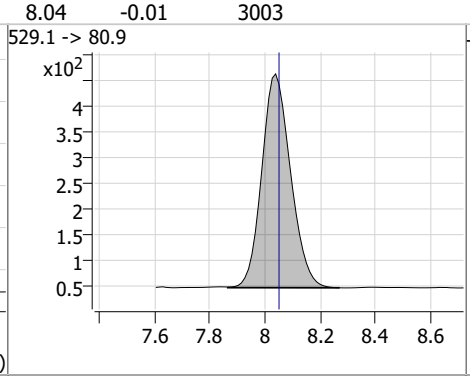


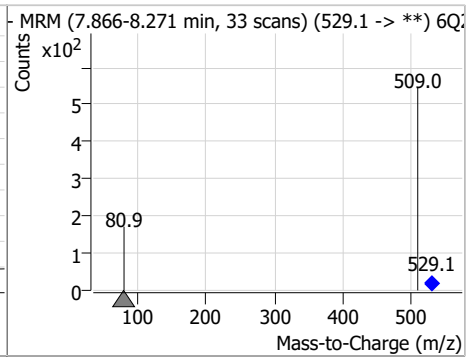




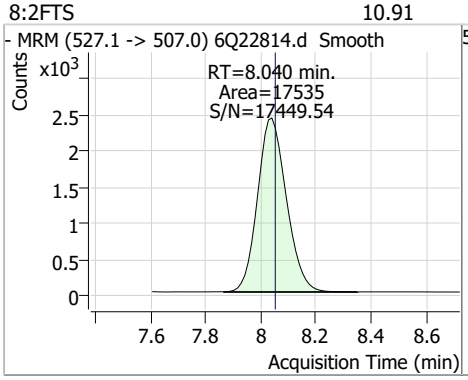
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.82	8.04	-0.01	3003				

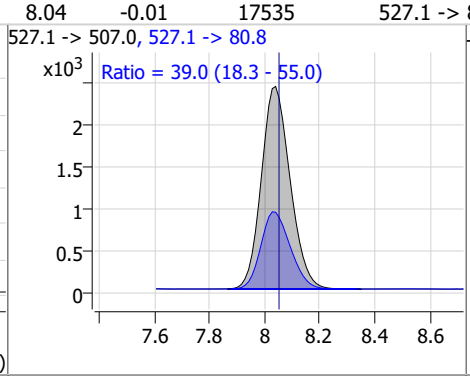


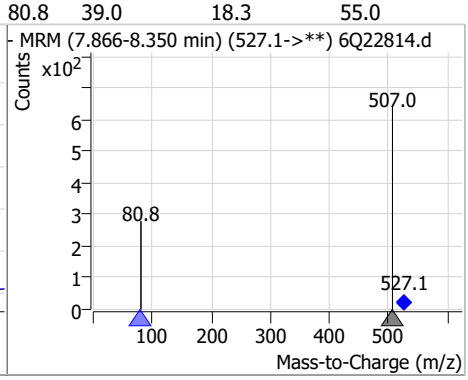




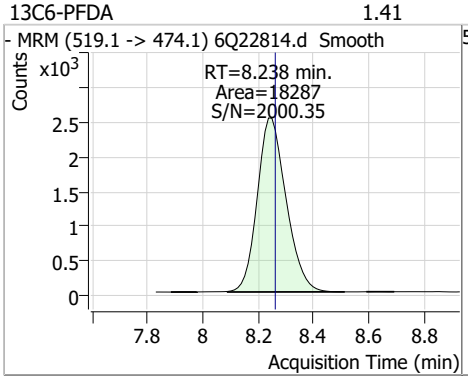
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	10.91	8.04	-0.01	17535	527.1 -> 80.8	39.0	18.3	55.0

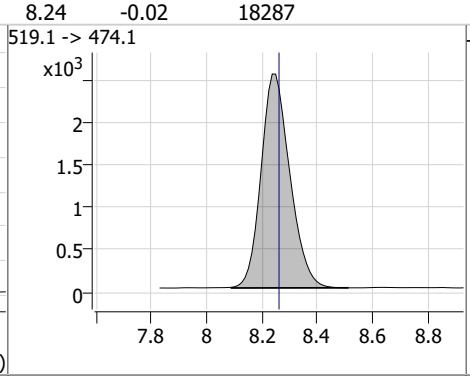


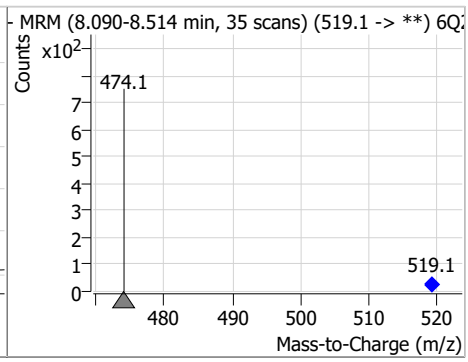




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.41	8.24	-0.02	18287				

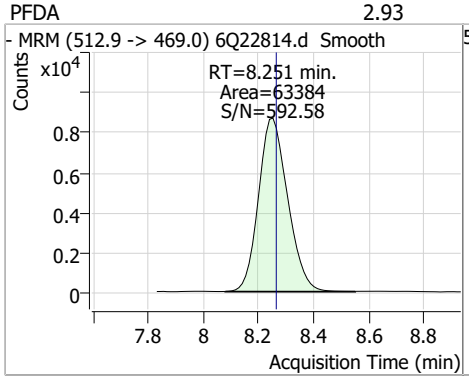


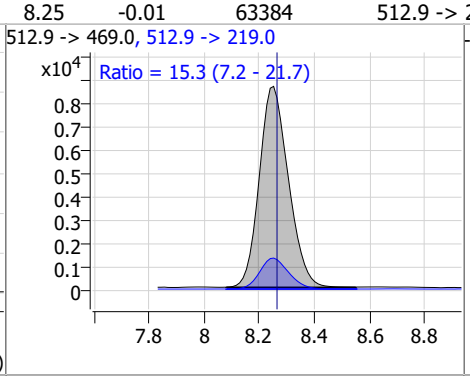


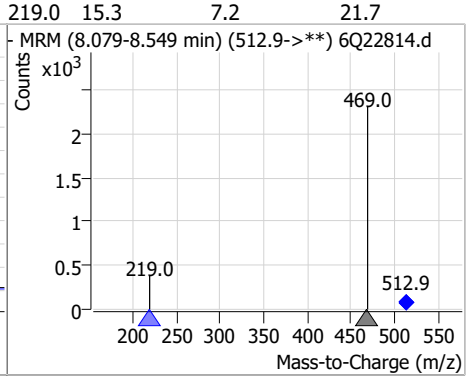


Perfluorinated Compounds by LC/MS/MS

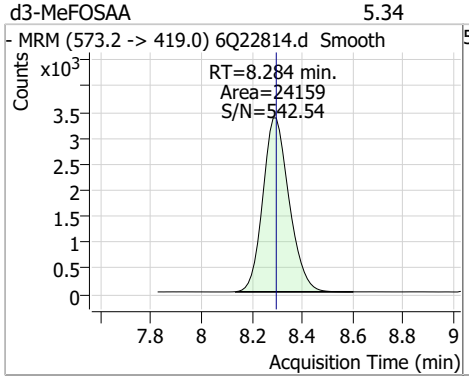
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.93	8.25	-0.01	63384	512.9 -> 219.0	15.3	7.2	21.7

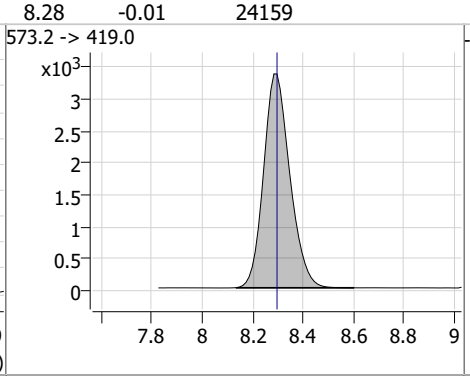


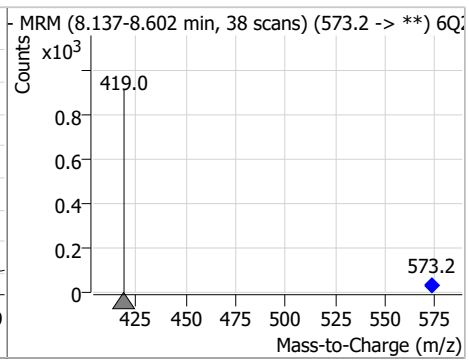




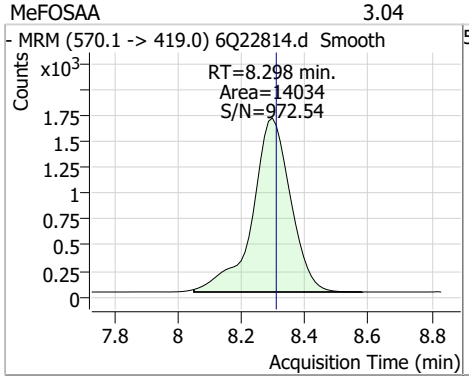
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.34	8.28	-0.01	24159				

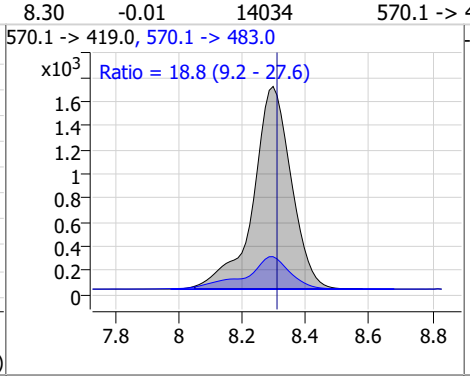


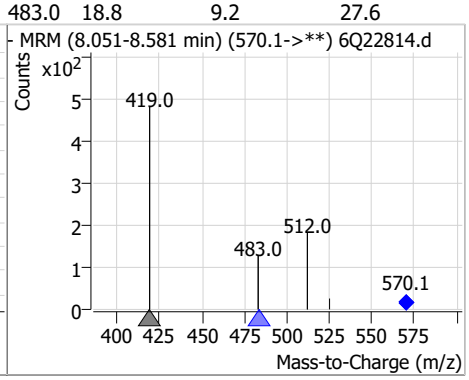




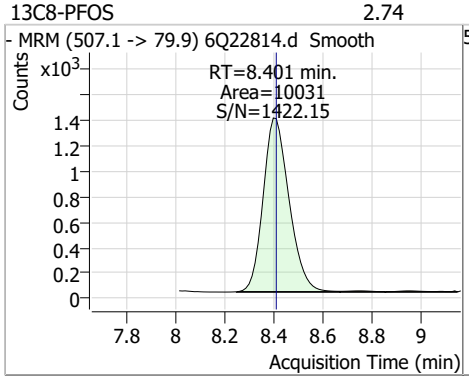
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	3.04	8.30	-0.01	14034	570.1 -> 483.0	18.8	9.2	27.6

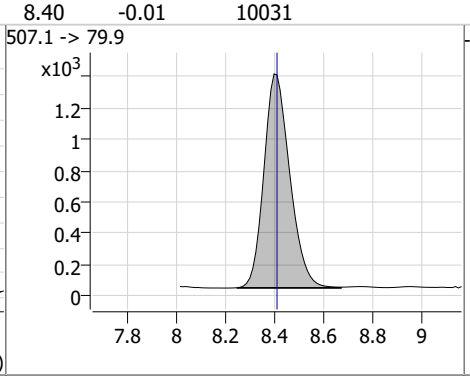


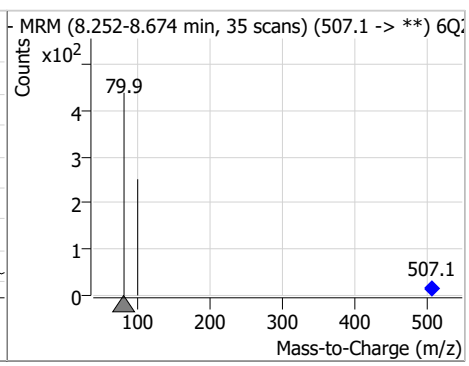




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.74	8.40	-0.01	10031				

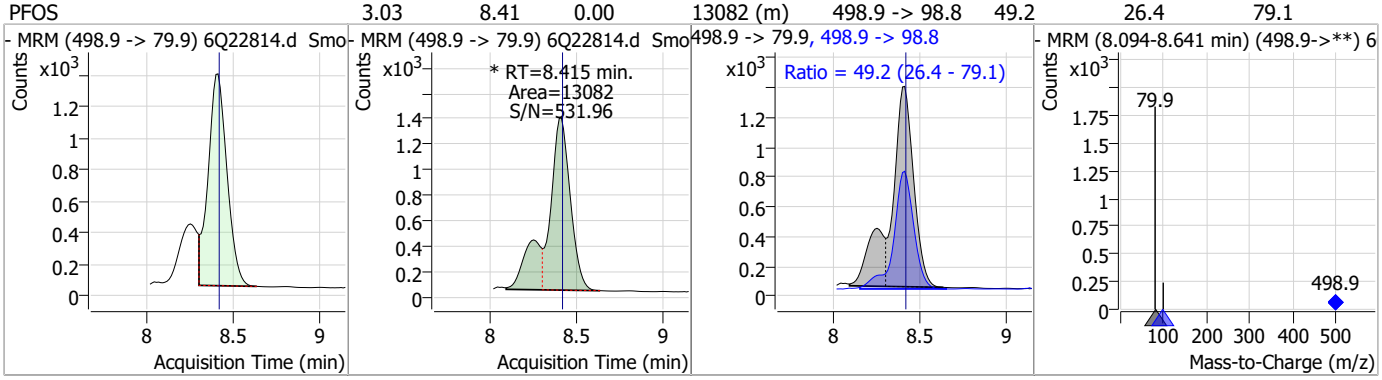




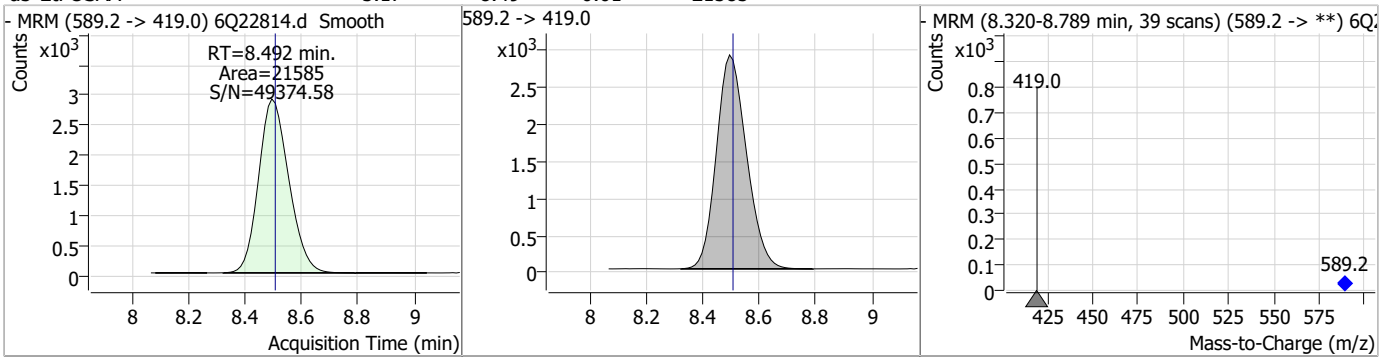


Perfluorinated Compounds by LC/MS/MS

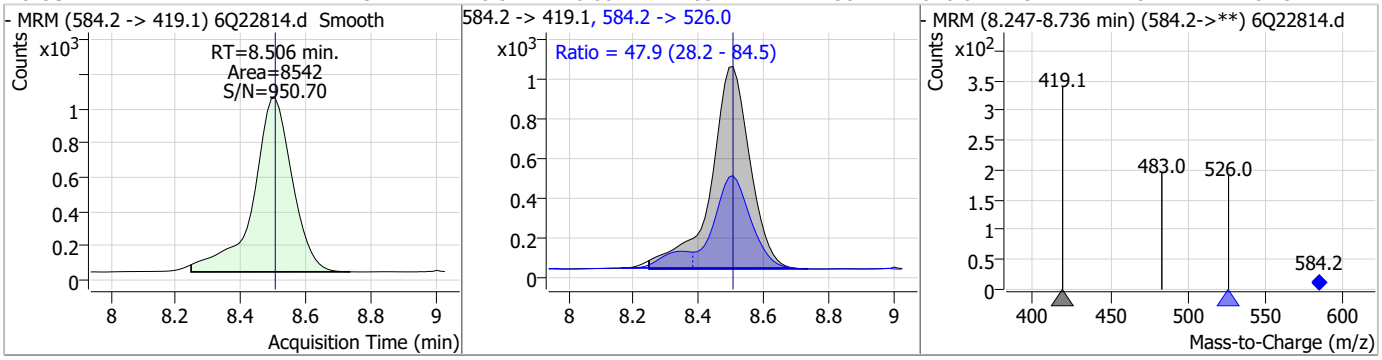
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	3.03	8.41	0.00	13082 (m)	498.9 -> 98.8	49.2	26.4	79.1



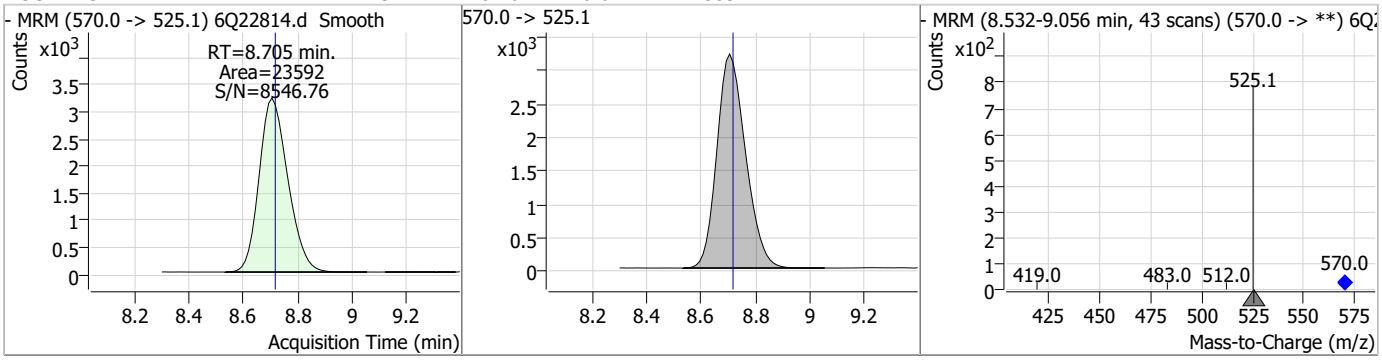
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.17	8.49	-0.01	21585				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	3.14	8.51	0.00	8542	584.2 -> 526.0	47.9	28.2	84.5

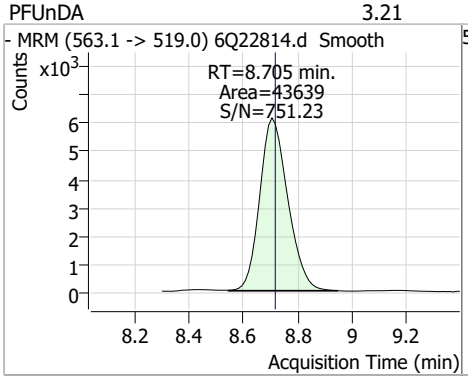


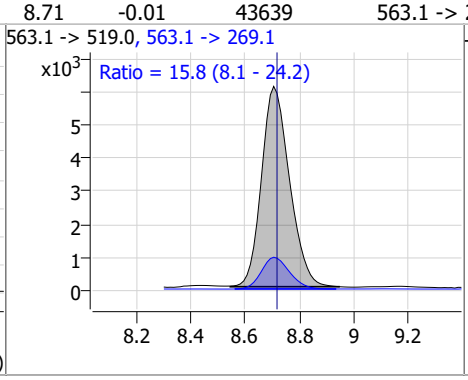
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.37	8.70	-0.01	23592				

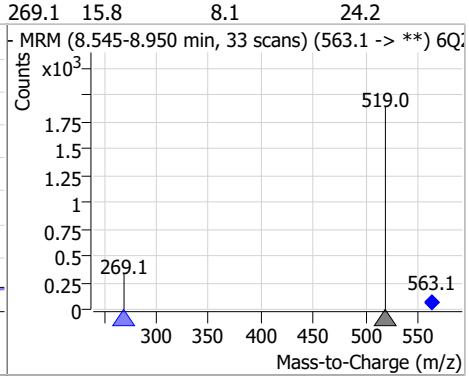


Perfluorinated Compounds by LC/MS/MS

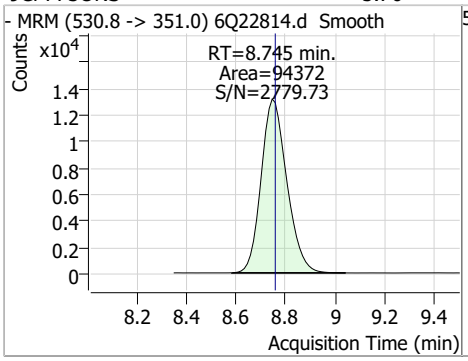
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	3.21	8.71	-0.01	43639	563.1 -> 269.1	15.8	8.1	24.2

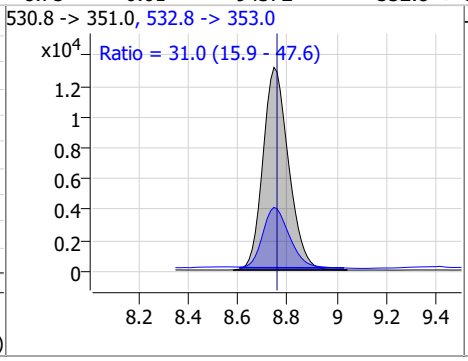


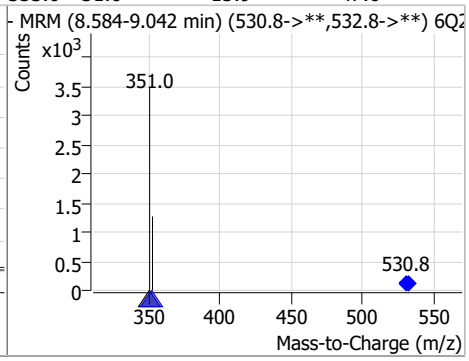




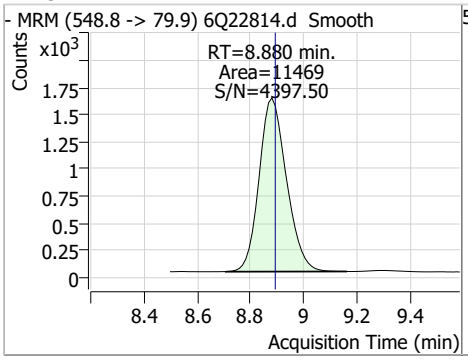
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	5.76	8.75	-0.01	94372	532.8 -> 353.0	31.0	15.9	47.6

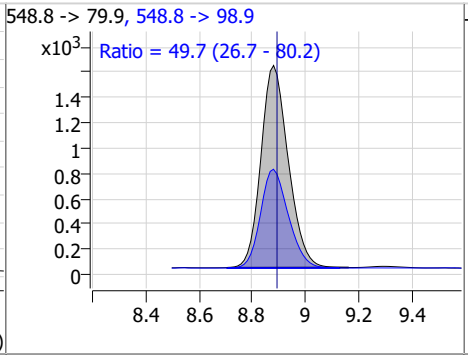


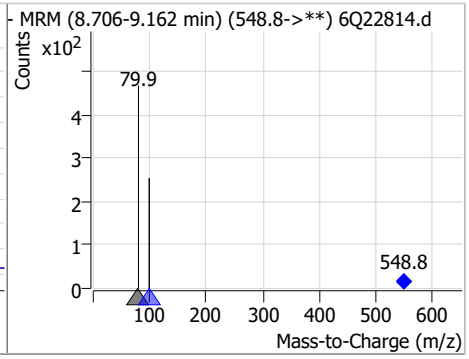




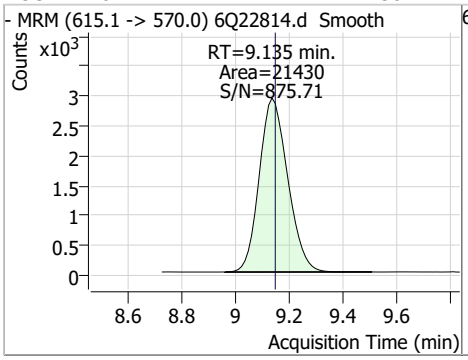
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.77	8.88	-0.01	11469	548.8 -> 98.9	49.7	26.7	80.2

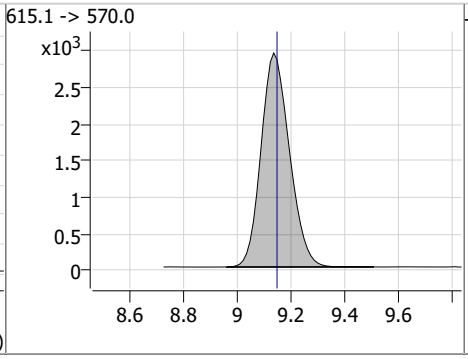


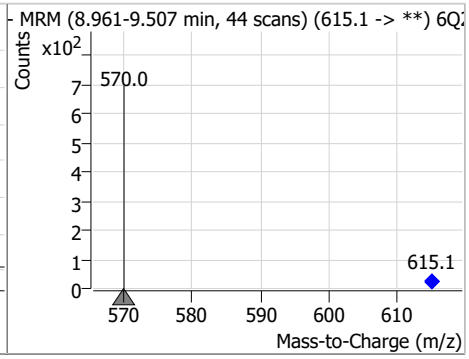




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.38	9.14	-0.01	21430				

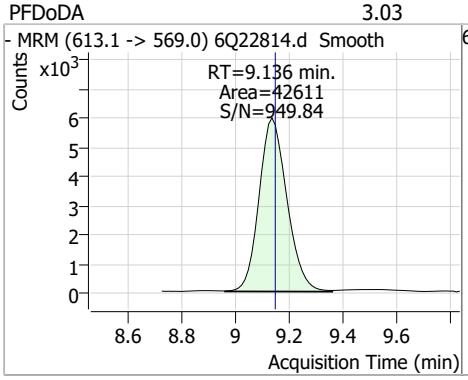


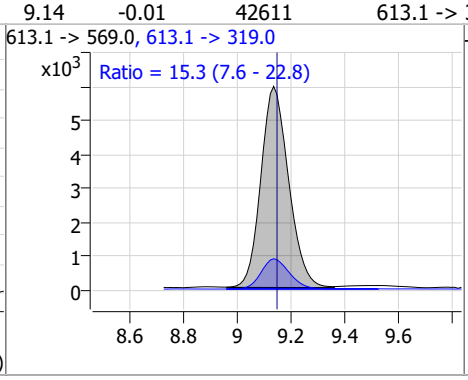


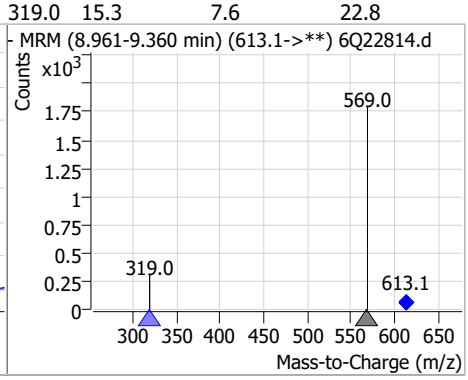


Perfluorinated Compounds by LC/MS/MS

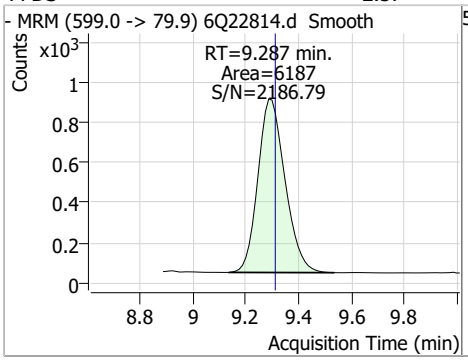
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	3.03	9.14	-0.01	42611	613.1 -> 319.0	15.3	7.6	22.8

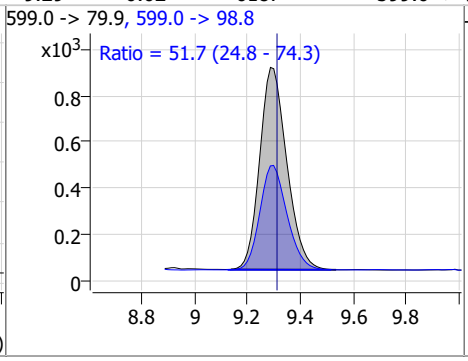


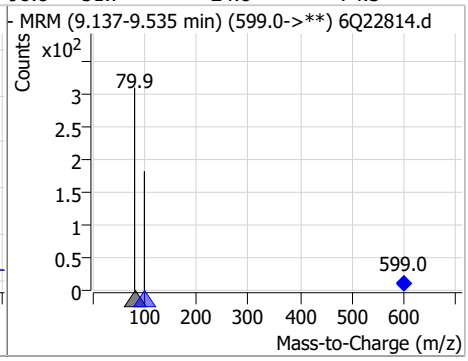




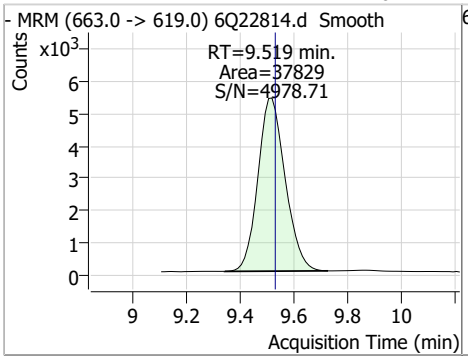
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.57	9.29	-0.02	6187	599.0 -> 98.8	51.7	24.8	74.3

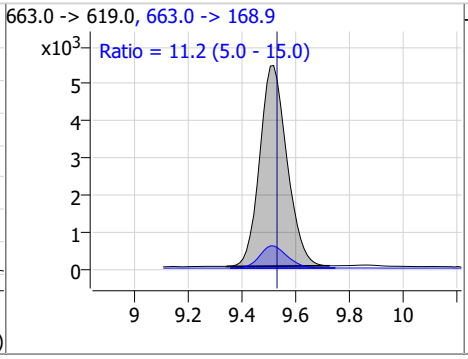


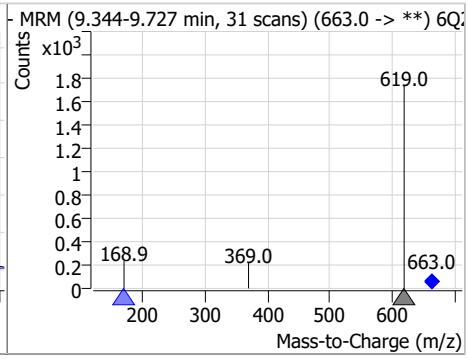




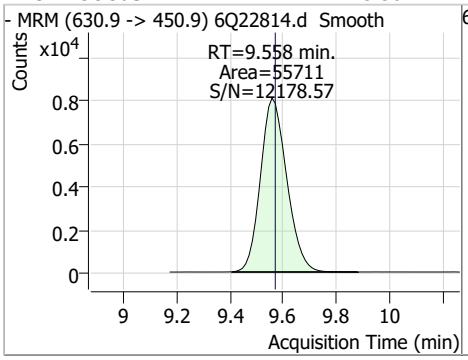
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.61	9.52	-0.01	37829	663.0 -> 168.9	11.2	5.0	15.0

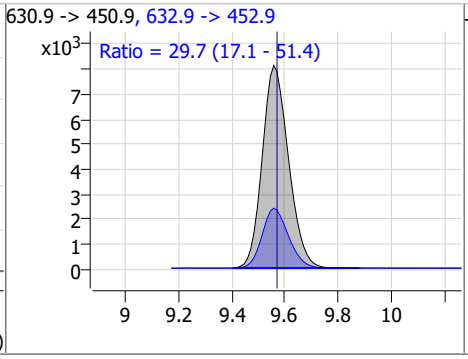


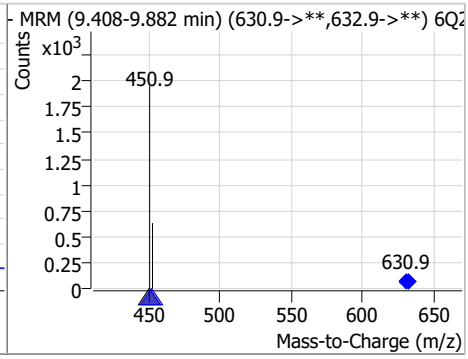




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	5.50	9.56	-0.01	55711	632.9 -> 452.9	29.7	17.1	51.4

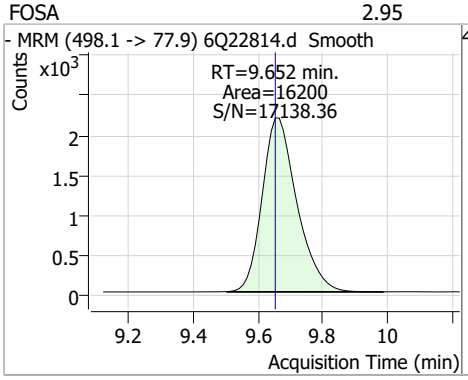


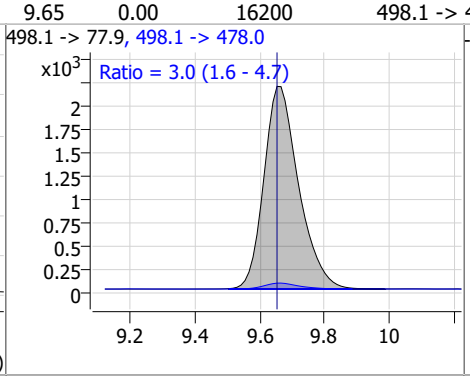


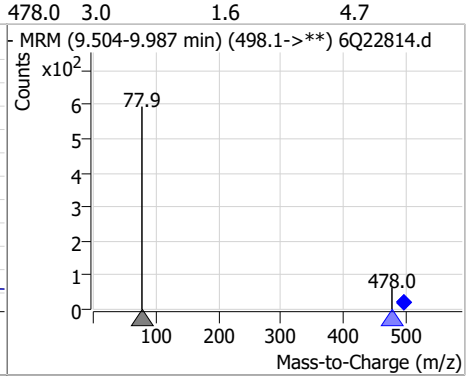


Perfluorinated Compounds by LC/MS/MS

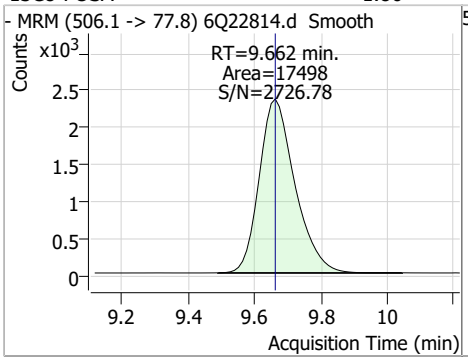
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.95	9.65	0.00	16200	498.1 -> 478.0	3.0	1.6	4.7

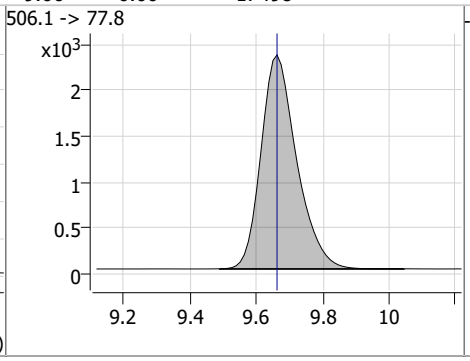


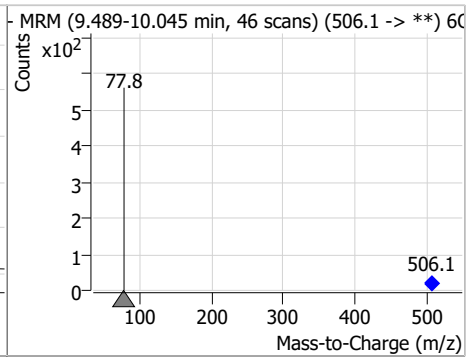




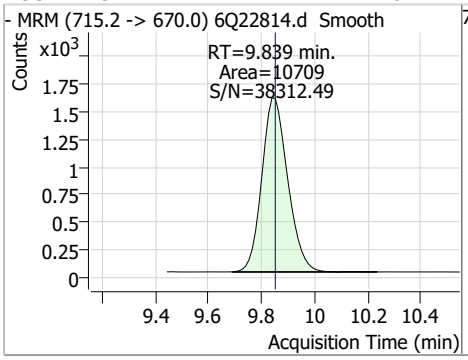
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.86	9.66	0.00	17498				

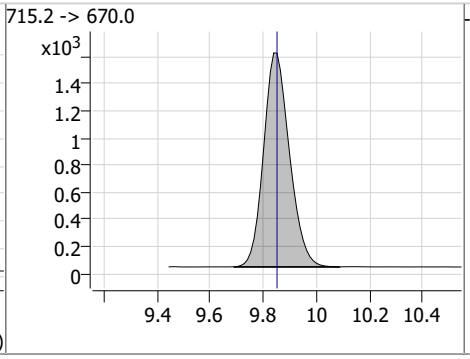


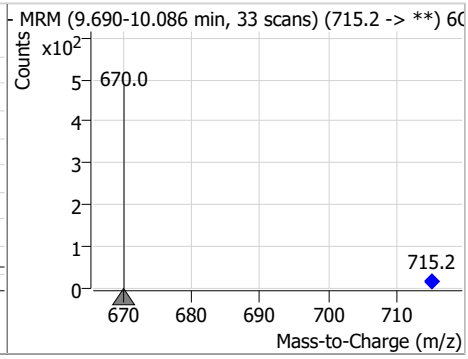




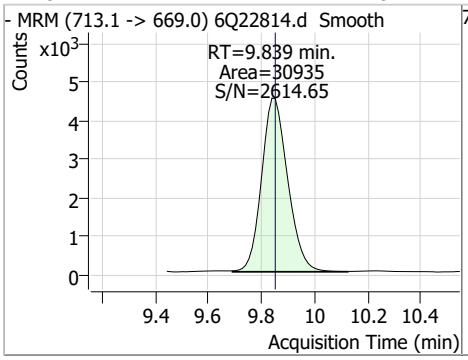
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.20	9.84	-0.01	10709				

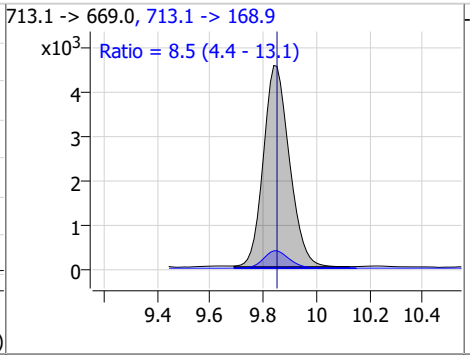


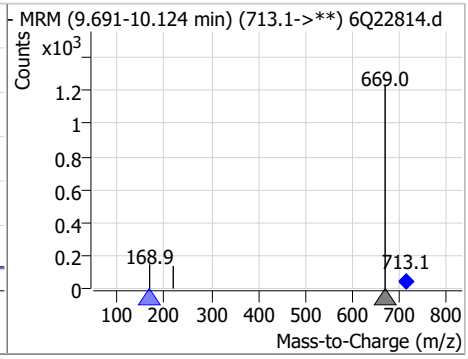




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.97	9.84	-0.01	30935	713.1 -> 168.9	8.5	4.4	13.1

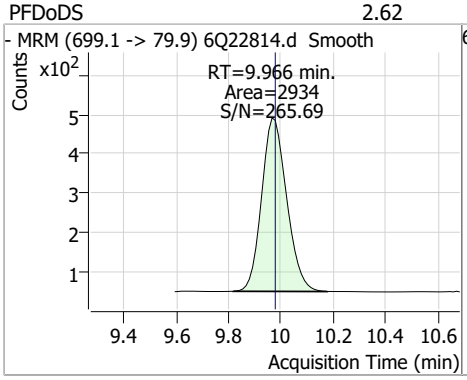


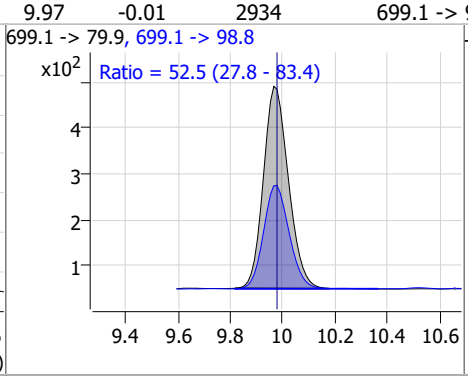


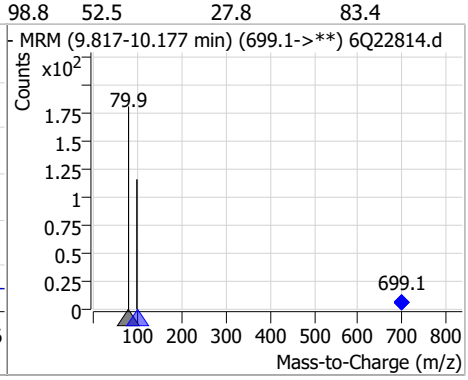


Perfluorinated Compounds by LC/MS/MS

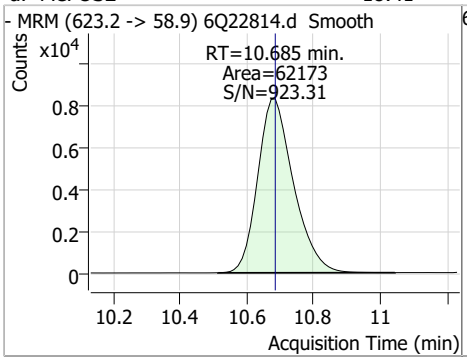
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.62	9.97	-0.01	2934	699.1 -> 98.8	52.5	27.8	83.4

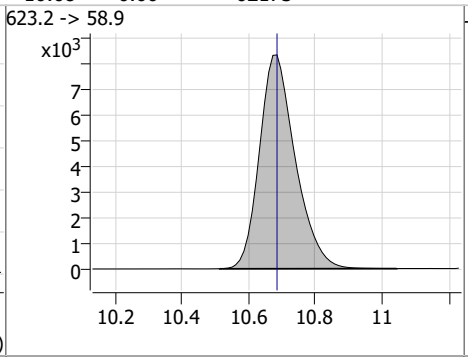


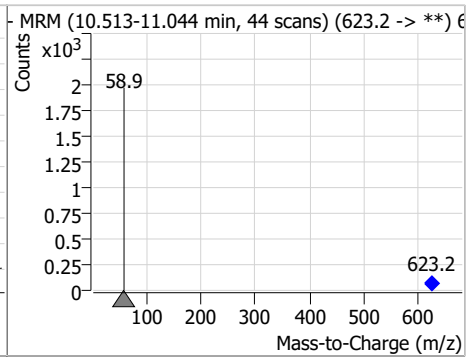




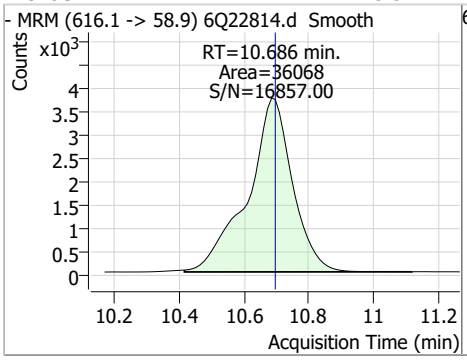
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	18.41	10.68	0.00	62173				

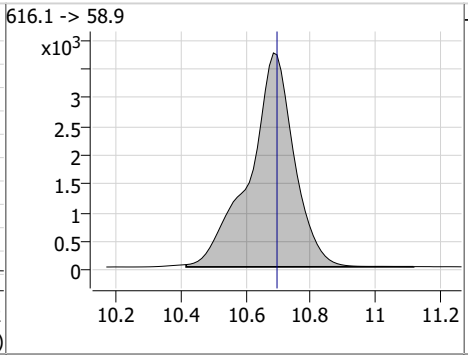


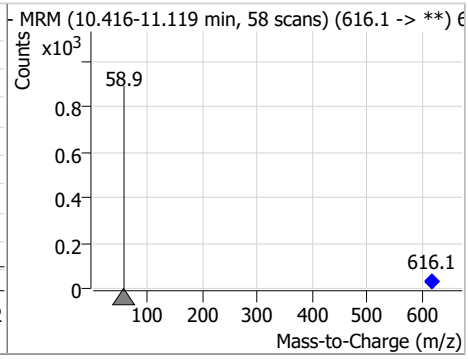




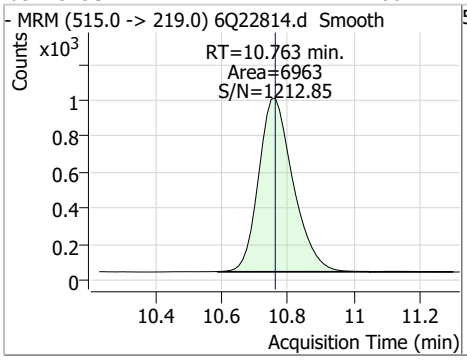
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	15.52	10.69	-0.01	36068				

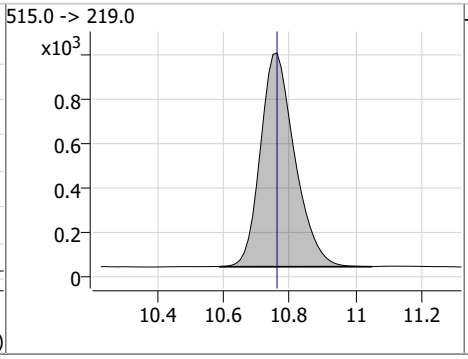


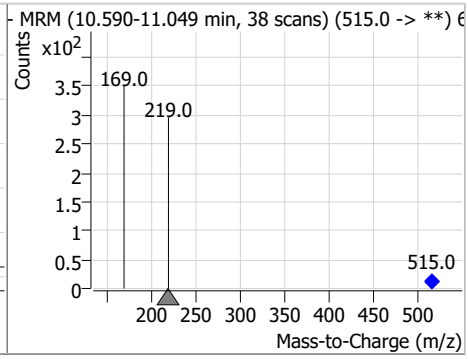




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.80	10.76	0.00	6963				

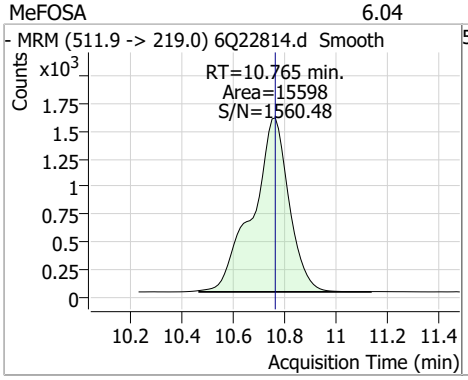


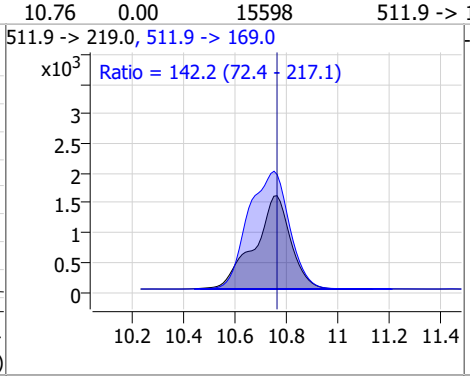


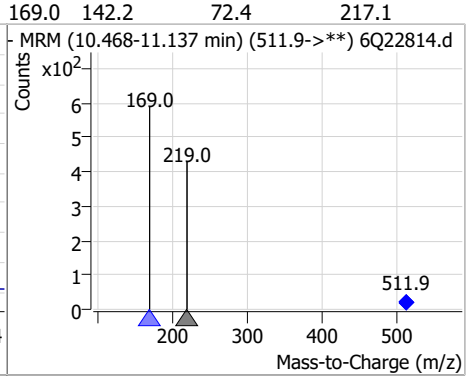


Perfluorinated Compounds by LC/MS/MS

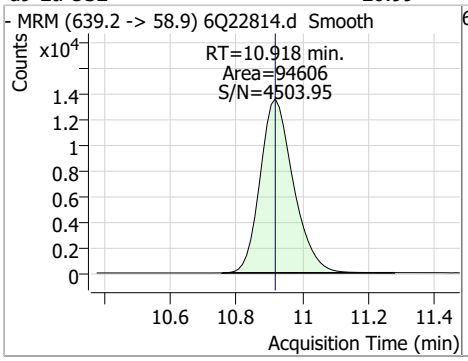
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	6.04	10.76	0.00	15598	511.9 -> 169.0	142.2	72.4	217.1

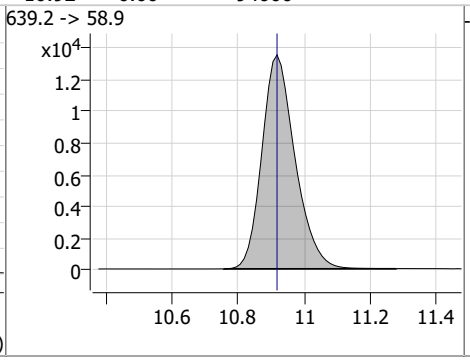


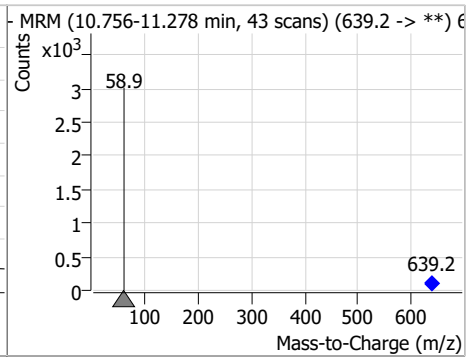




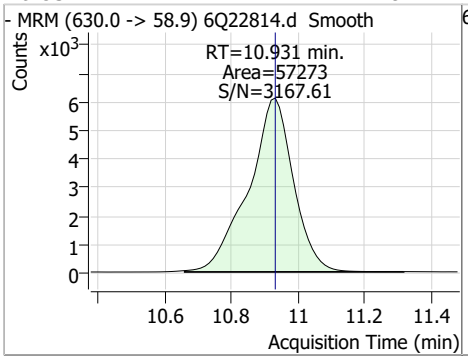
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	20.99	10.92	0.00	94606				

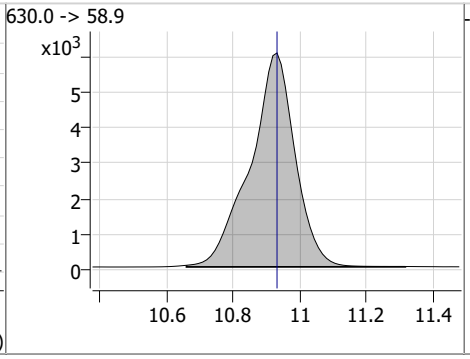


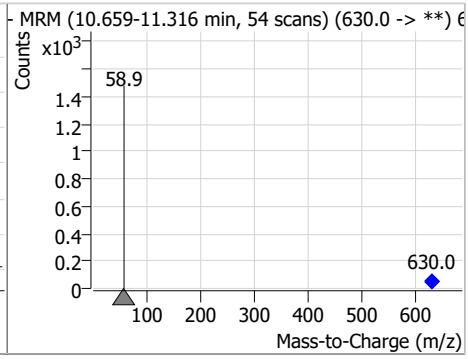




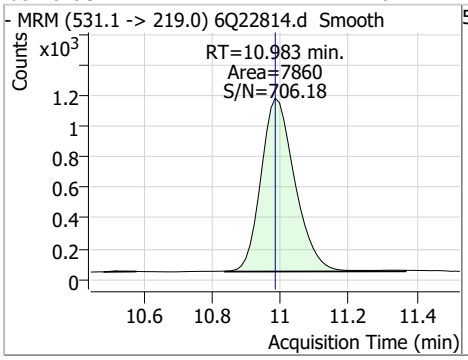
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	14.94	10.93	0.00	57273				

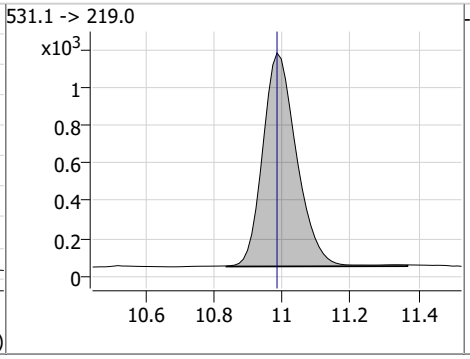


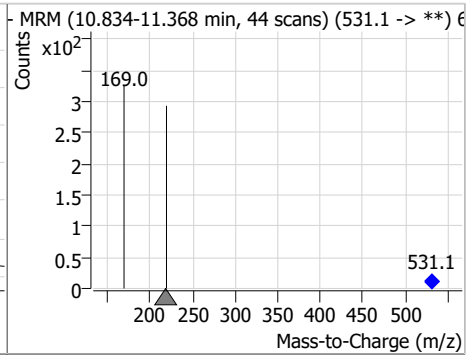




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.02	10.98	0.00	7860				

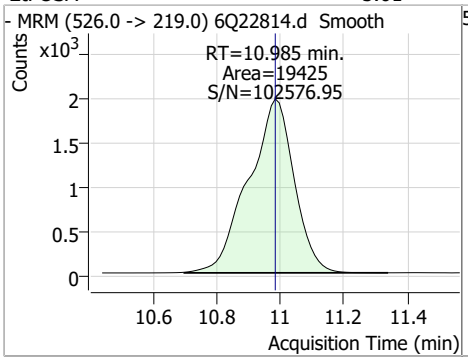


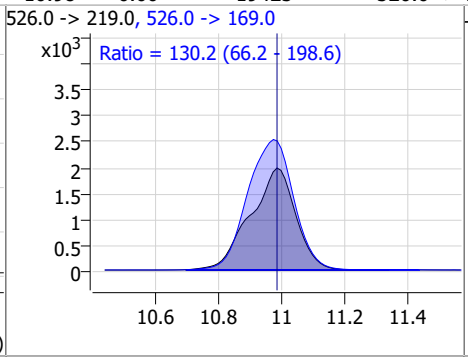


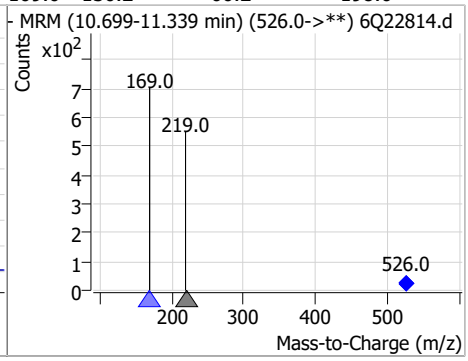


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	5.61	10.98	0.00	19425	526.0 -> 169.0	130.2	66.2	198.6







Manual Integration Approval Summary

Sample Number:	OP98380-MS	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22814.D	**Analyst approved:**	08/14/23 11:02 Martha Valls
Injection Time:	08/13/23 20:23	**Supervisor approved:**	08/15/23 13:05 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22817.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 9:06:48 PM
Sample Name : op98380-dup
Vial : P6-C2
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98380,S6Q331,510,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	121956	10.00	µg/L	0.012
M5-PFPeA	4.459	268.3 -> 223.0	42505	5.00	µg/L	0.012
M5-PFHxA	5.668	318.0 -> 273.0	46423	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	46537	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	70429	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	31122	1.25	µg/L	-0.012
M6-PFDA	8.250	519.1 -> 474.1	17527	1.25	µg/L	-0.012
M7-PFUnDA	8.705	570.0 -> 525.1	22050	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	18284	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	9669	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	18231	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	18046	2.50	µg/L	0.000
M3-PFHxS	7.342	402.1 -> 79.9	10853	2.50	µg/L	-0.012
M8-PFOS	8.414	507.1 -> 79.9	9693	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	2365	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3611	5.00	µg/L	-0.012
M2-8:2FTS	8.039	529.1 -> 80.9	2978	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	21728	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	29514	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	17366	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	62998	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	96169	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	8814	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	7973	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	12971	2.50	µg/L	-0.012
13C3-PFBA	3.026	216.0 -> 172.0	50970	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	7376	2.50	µg/L	0.000
13C4-PFOA	7.227	417.1 -> 372.0	69426	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	23635	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	38466	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	38803	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2365	5.37	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.4%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3611	5.68	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.5%		
13C2-8:2FTS	8.039	529.1 -> 80.9	2978	4.78	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.6%		
13C2-PFDoDA	9.135	615.1 -> 570.0	18284	1.14	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.6%		
13C2-PFTeDA	9.839	715.2 -> 670.0	9669	1.05	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 84.2%		
13C3-PFBS	5.610	302.1 -> 79.9	18046	2.88	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.3%		
13C3-PFHxS	7.342	402.1 -> 79.9	10853	2.68	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 = 107.1%	
13C4-PFBA	3.022	216.8 -> 171.9	121956	10.13 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C4-PFHpA	6.596	367.1 -> 322.0	46537	2.97 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 118.8%	
13C5-PFHxA	5.668	318.0 -> 273.0	46423	2.90 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.9%	
13C5-PFPeA	4.459	268.3 -> 223.0	42505	5.82 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.3%	
13C6-PFDA	8.250	519.1 -> 474.1	17527	1.31 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C7-PFUnDA	8.705	570.0 -> 525.1	22050	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C8-FOSA	9.662	506.1 -> 77.8	18231	1.86 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 74.5%	
13C8-PFOA	7.226	421.1 -> 376.0	70429	2.75 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.9%	
13C8-PFOS	8.414	507.1 -> 79.9	9693	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C9-PFNA	7.758	472.1 -> 427.0	31122	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.8%	
d3-MeFOSAA	8.297	573.2 -> 419.0	21728	4.63 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.6%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	29514	11.75 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 117.5%	
d3-MeFOSA	10.763	515.0 -> 219.0	7973	1.99 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 79.6%	
d5-EtFOSAA	8.492	589.2 -> 419.0	17366	4.01 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 80.2%	
d7-MeFOSE	10.672	623.2 -> 58.9	62998	17.97 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 71.9%	
d9-EtFOSE	10.918	639.2 -> 58.9	96169	20.56 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 82.2%	
d5-EtFOSA	10.983	531.1 -> 219.0	8814	2.18 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.3%	
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

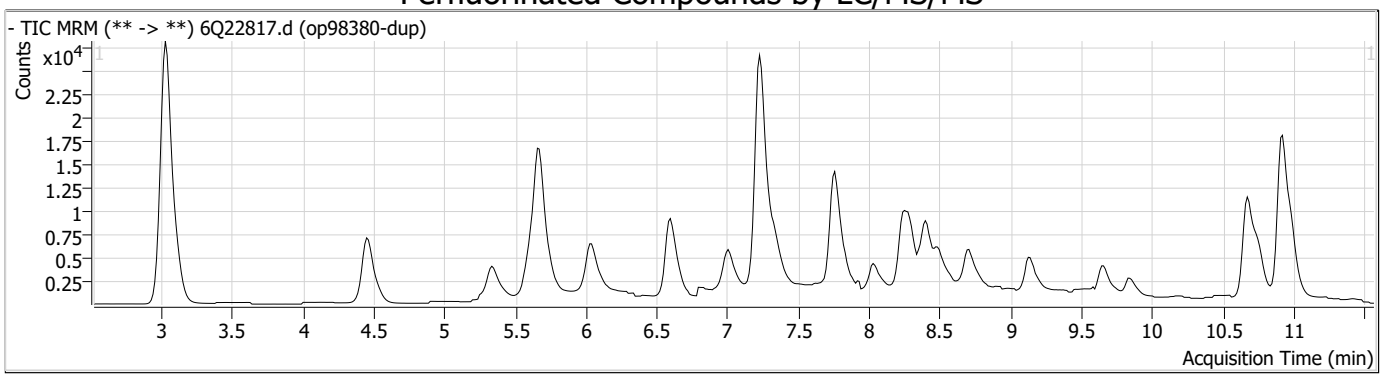
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	-	363.1 -> 319.0	-	N.D.		
		363.1 -> 169.0				
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	-	313.0 -> 269.0	-	N.D.		
		313.0 -> 118.9				
PFHxS	-	398.7 -> 79.9	-	N.D.		
		398.7 -> 98.9				
PFNA	-	463.0 -> 419.0	-	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

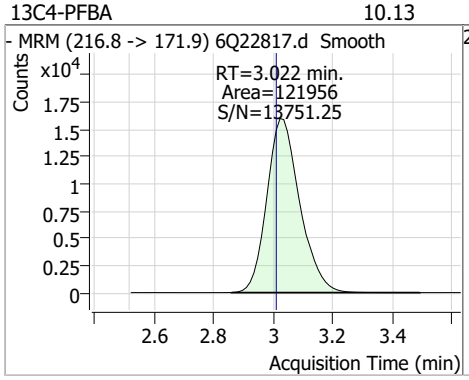
Perfluorinated Compounds by LC/MS/MS

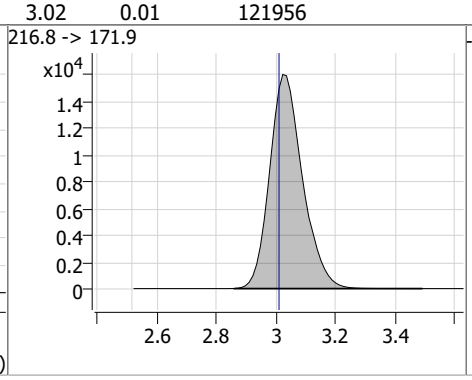
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

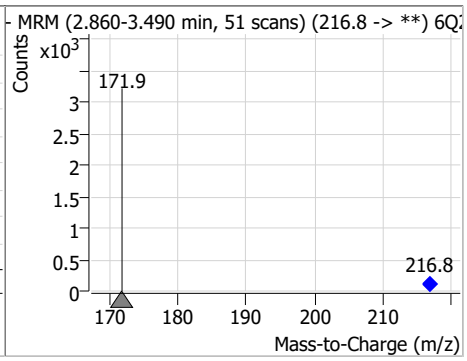
Perfluorinated Compounds by LC/MS/MS



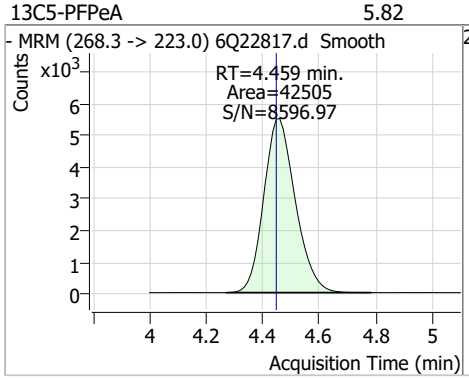
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.13	3.02	0.01	121956				

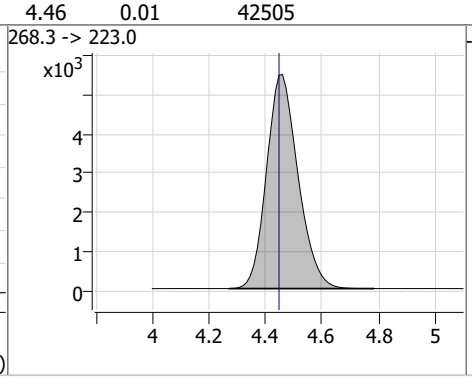


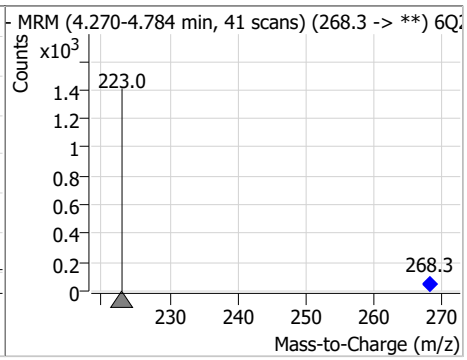




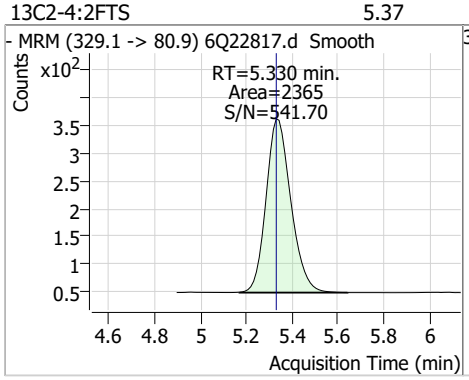
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.82	4.46	0.01	42505				

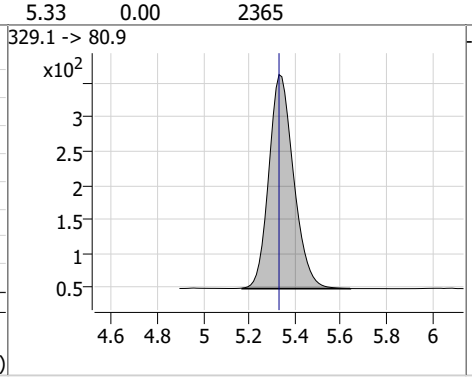


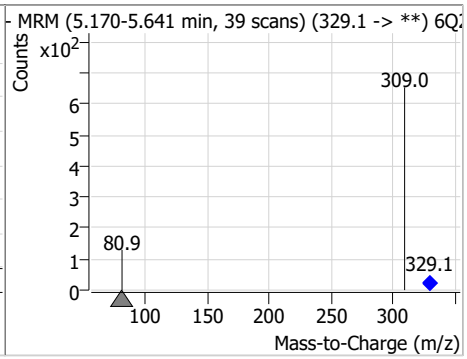




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.37	5.33	0.00	2365				

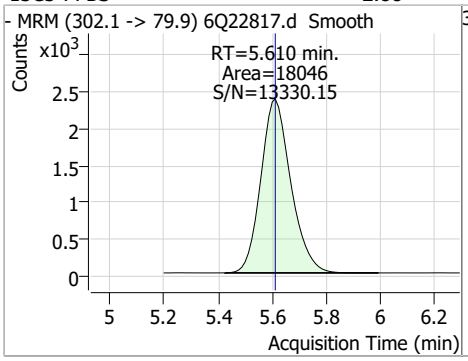


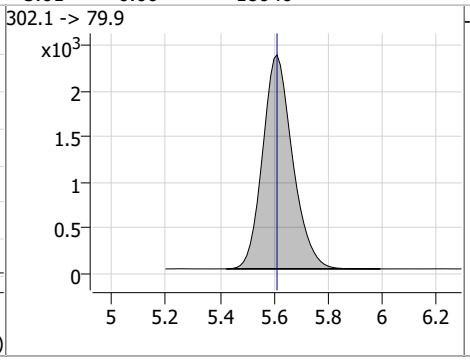


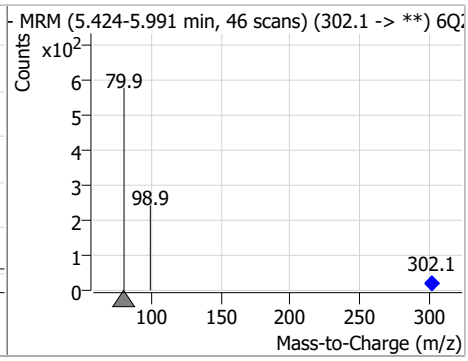


Perfluorinated Compounds by LC/MS/MS

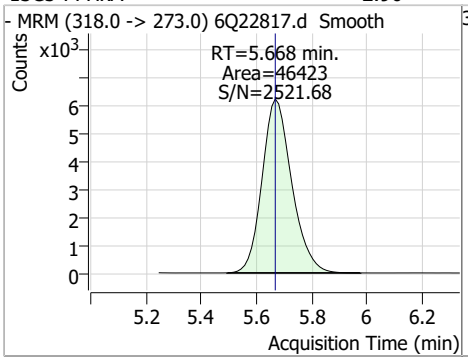
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.88	5.61	0.00	18046				

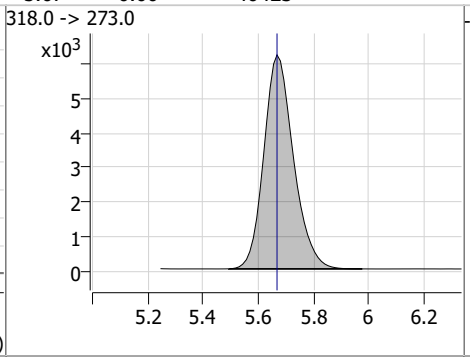


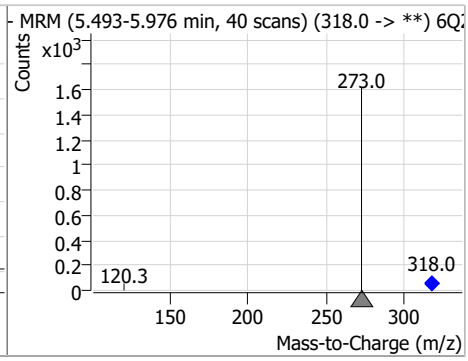




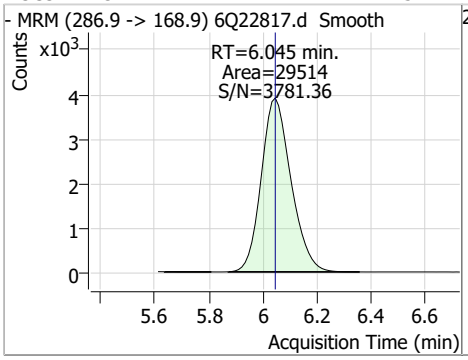
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.90	5.67	0.00	46423				

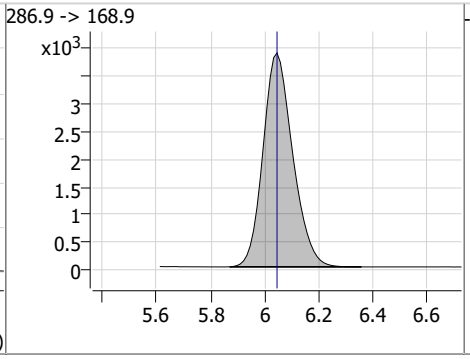


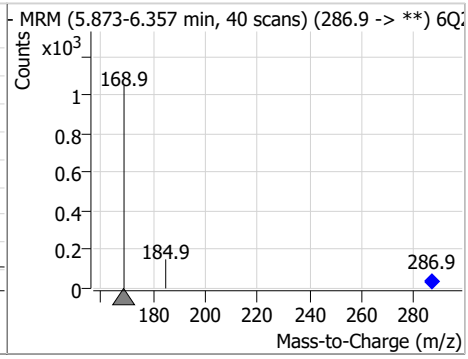




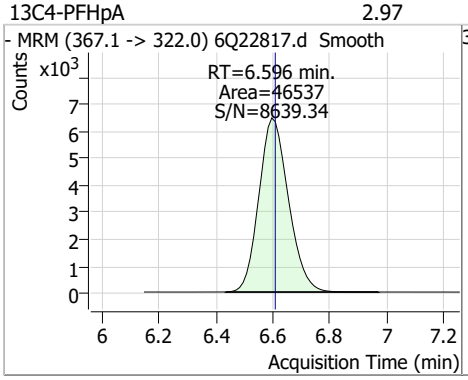
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.75	6.05	0.00	29514				

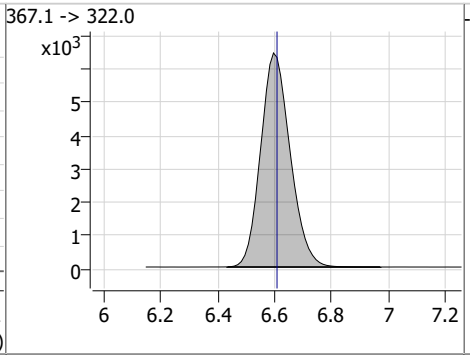


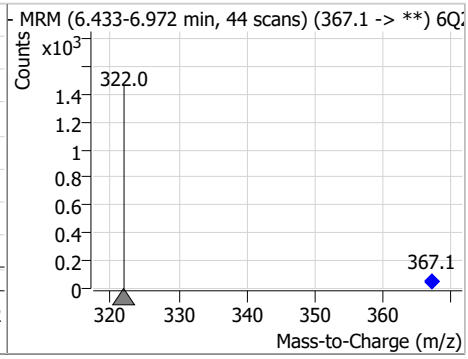




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.97	6.60	-0.01	46537				

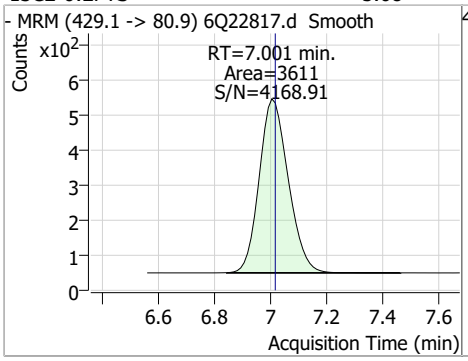


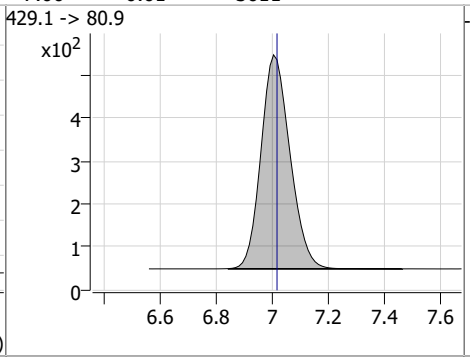


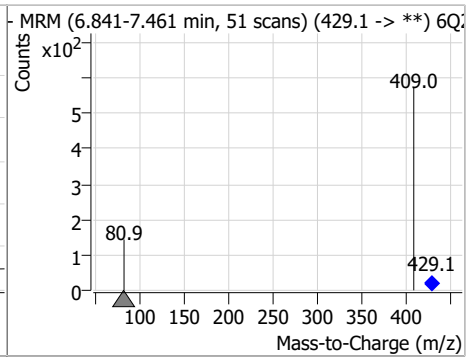


Perfluorinated Compounds by LC/MS/MS

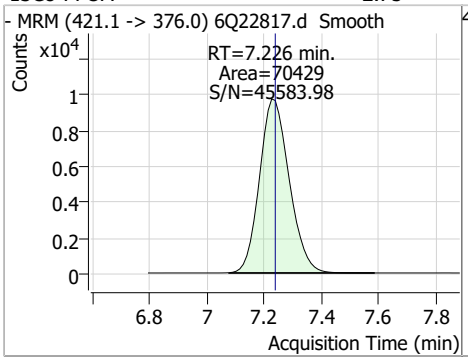
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.68	7.00	-0.01	3611				

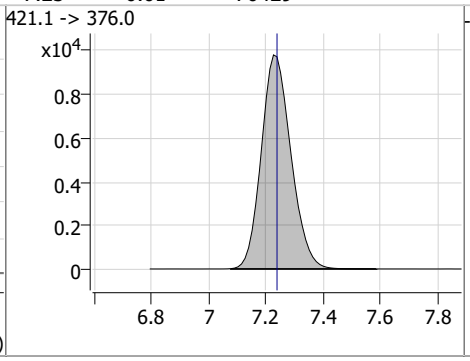


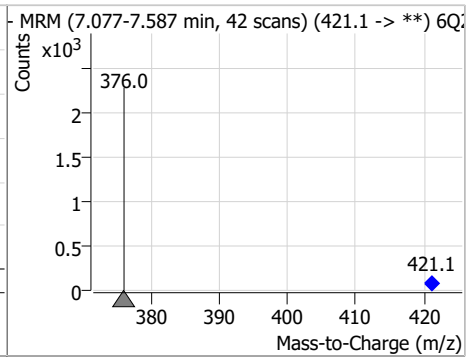




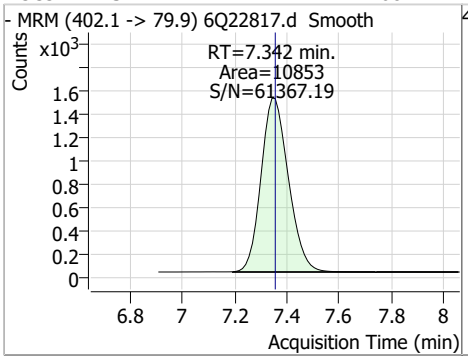
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.75	7.23	-0.01	70429				

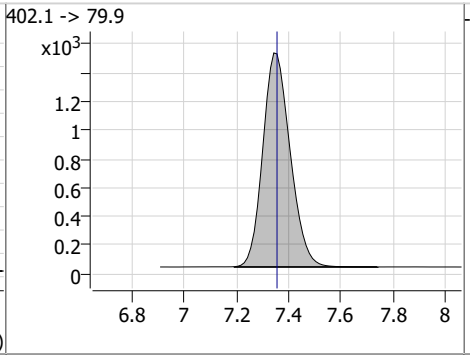


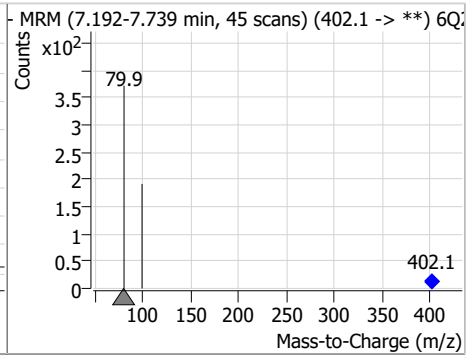




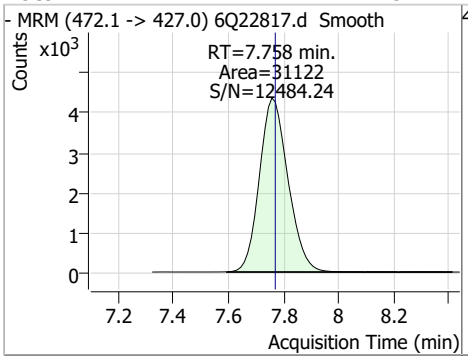
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.68	7.34	-0.01	10853				

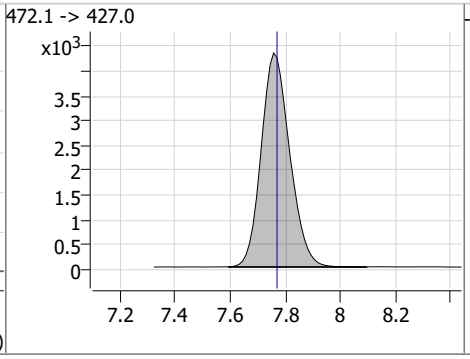


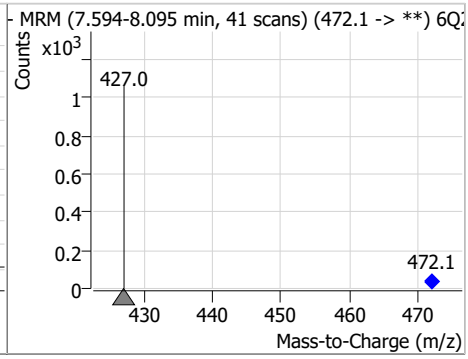




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.76	-0.01	31122				

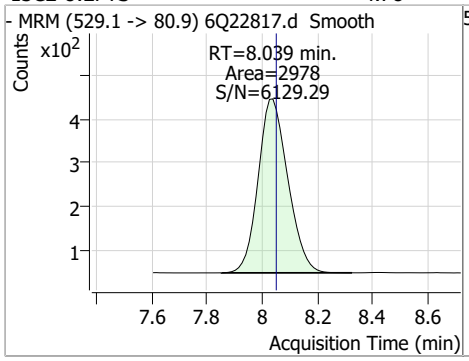


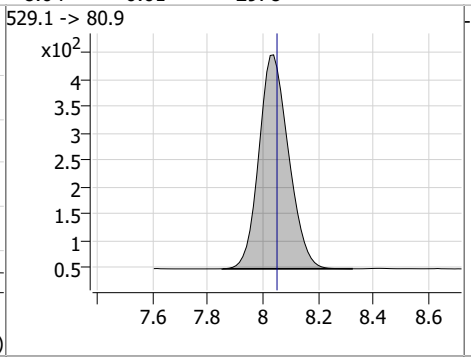


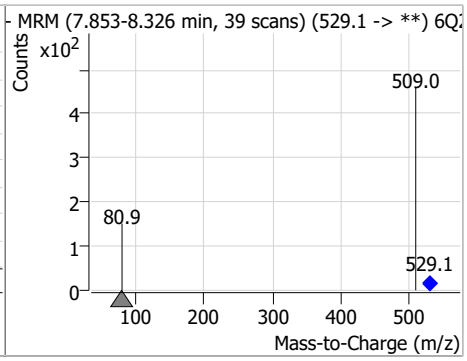


Perfluorinated Compounds by LC/MS/MS

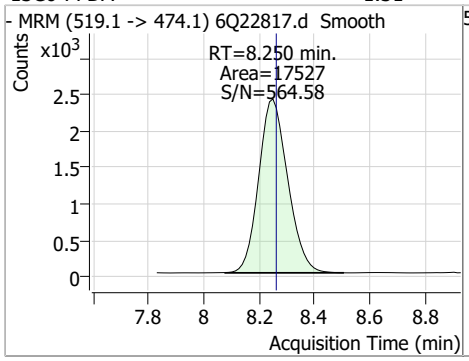
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.78	8.04	-0.01	2978				

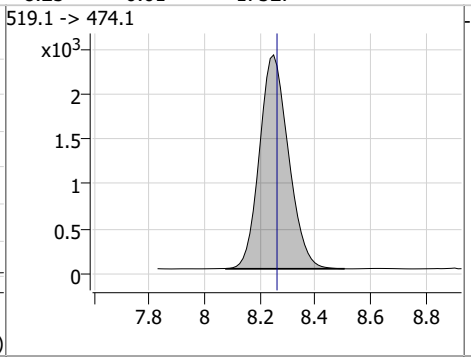


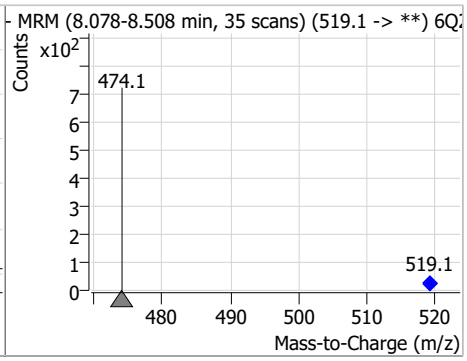




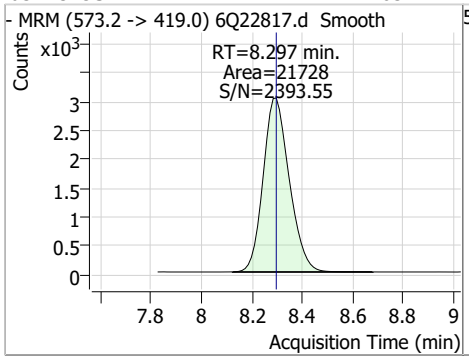
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.31	8.25	-0.01	17527				

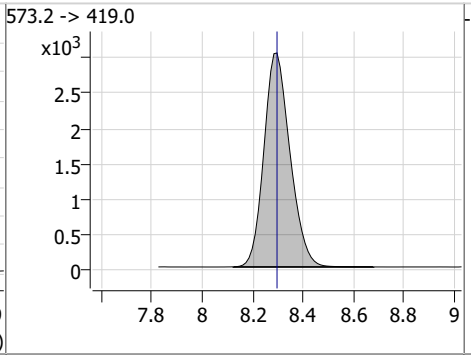


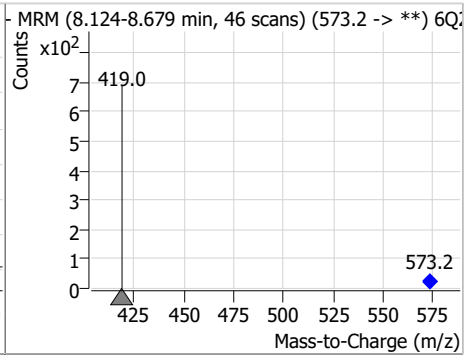




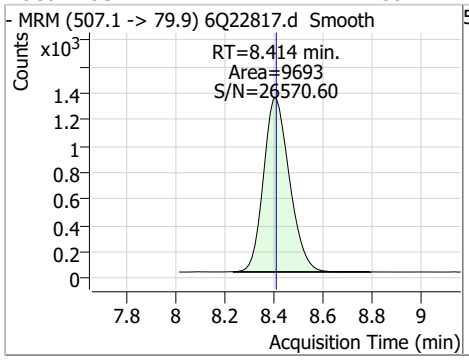
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.63	8.30	0.00	21728				

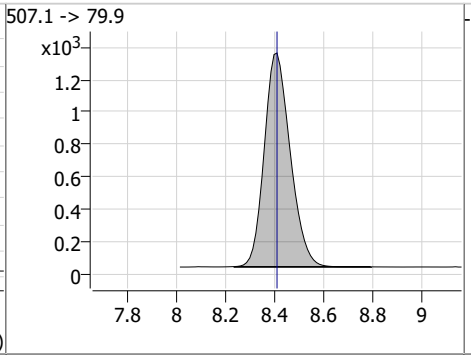


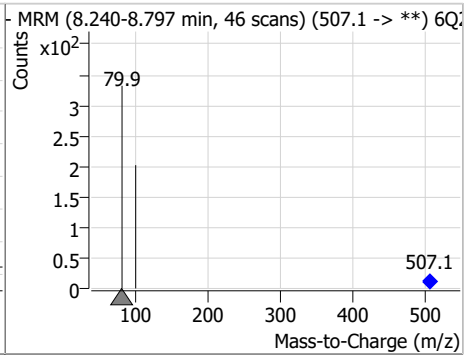




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.55	8.41	0.00	9693				

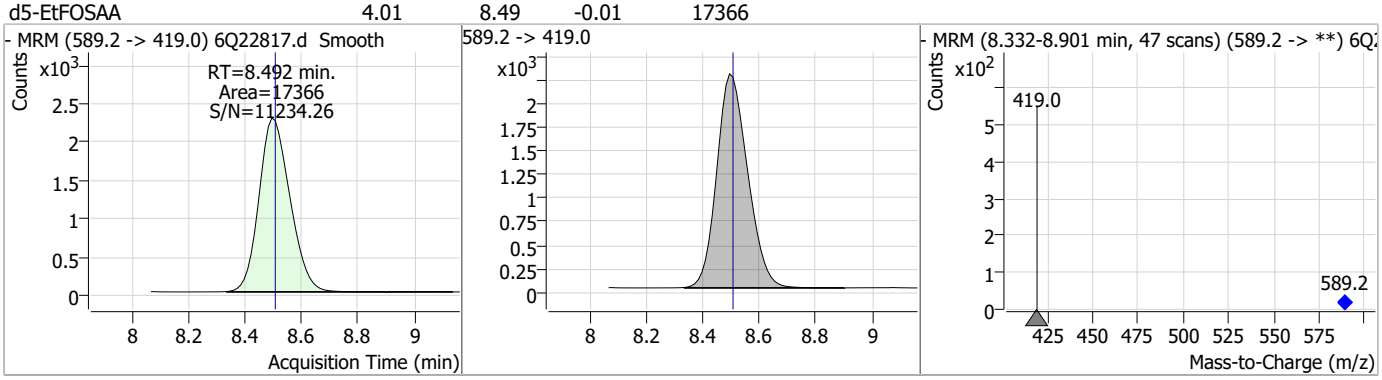




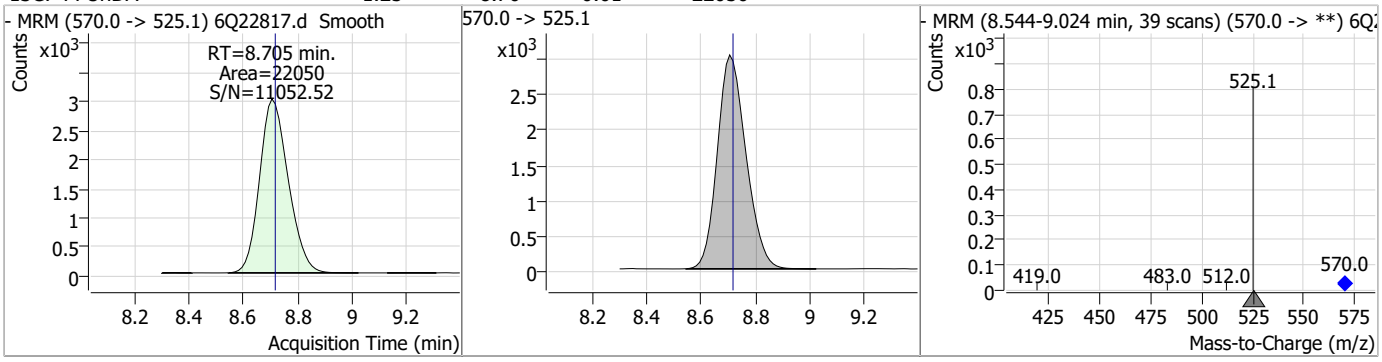


Perfluorinated Compounds by LC/MS/MS

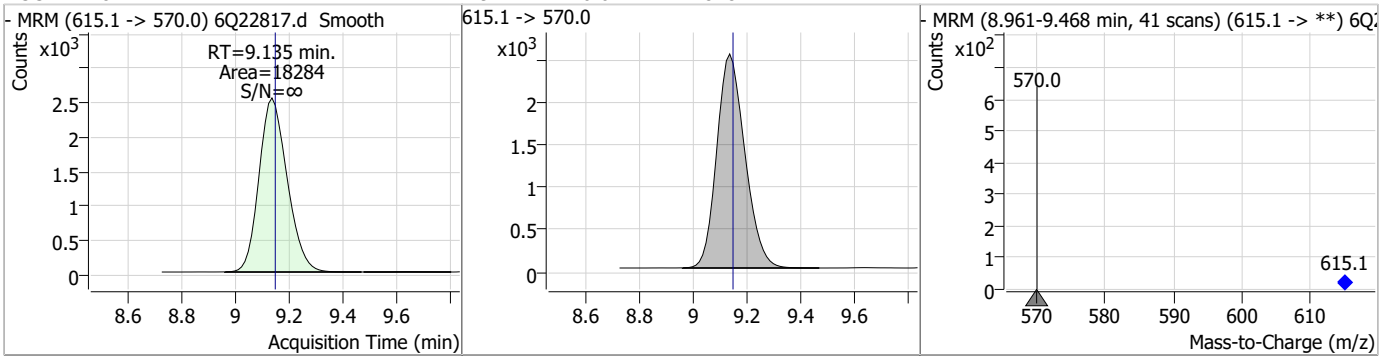
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.01	8.49	-0.01	17366				



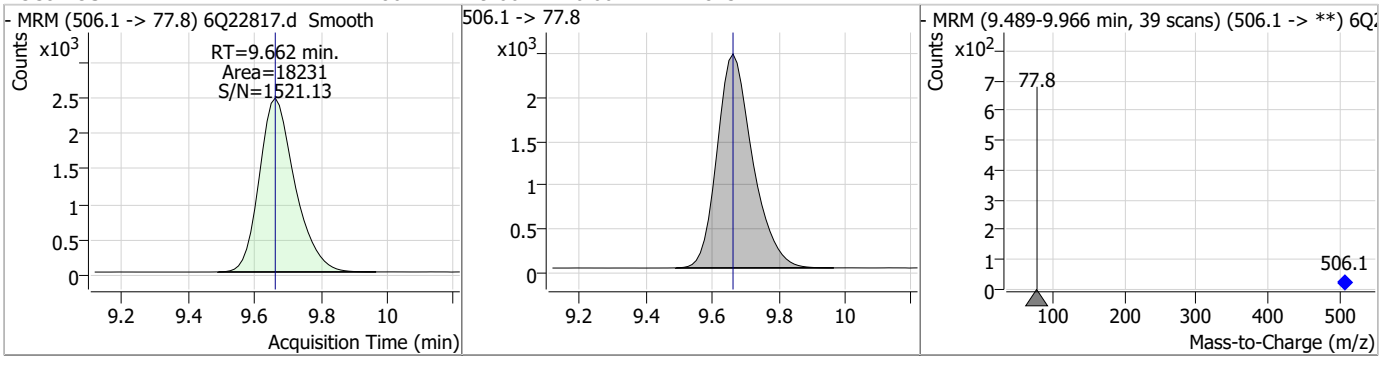
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.25	8.70	-0.01	22050				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.14	9.14	-0.01	18284				

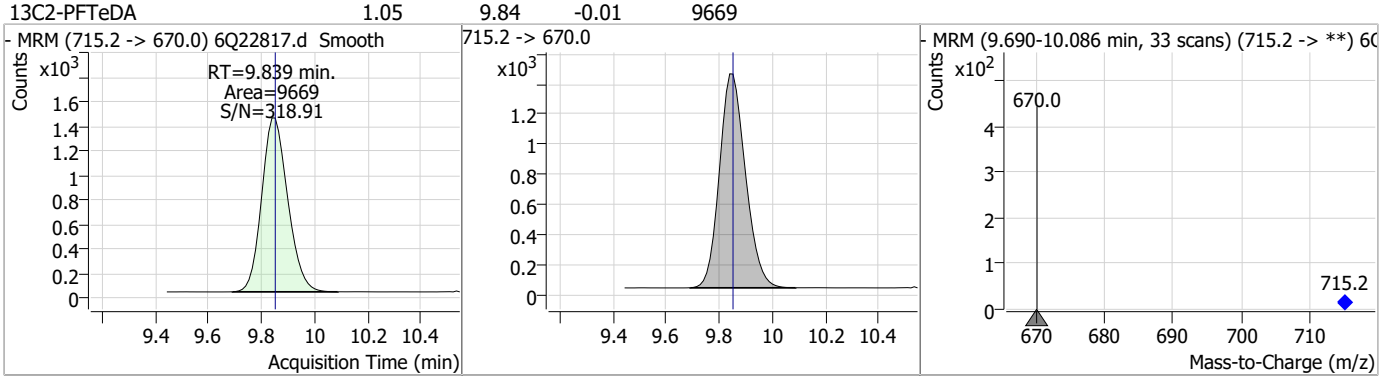


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	1.86	9.66	0.00	18231				

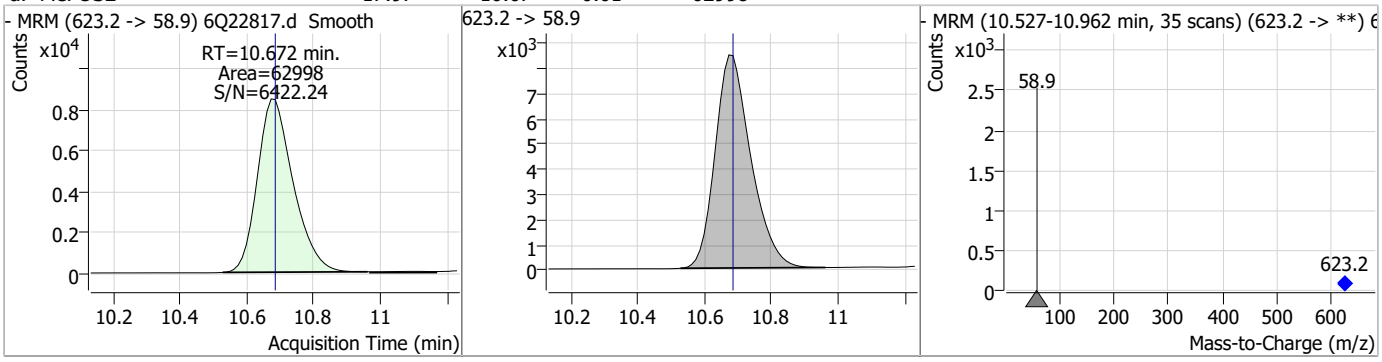


Perfluorinated Compounds by LC/MS/MS

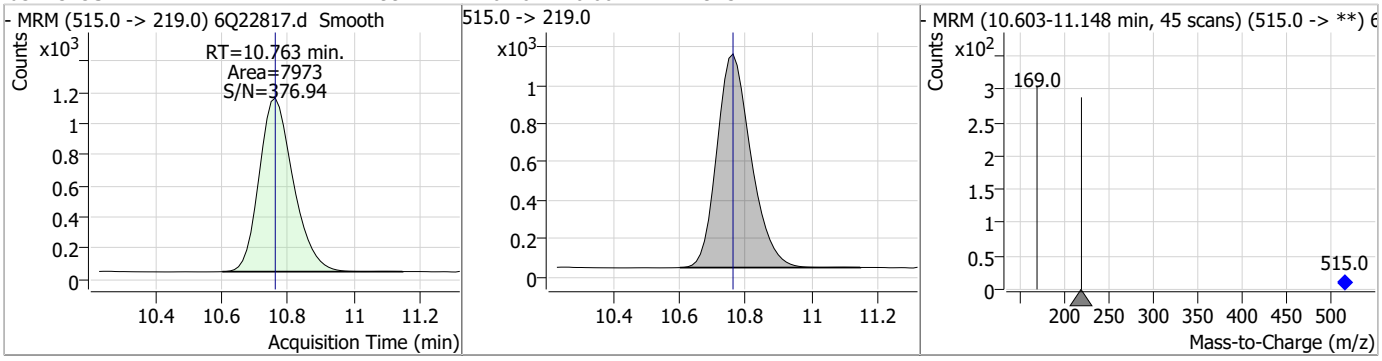
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.05	9.84	-0.01	9669				



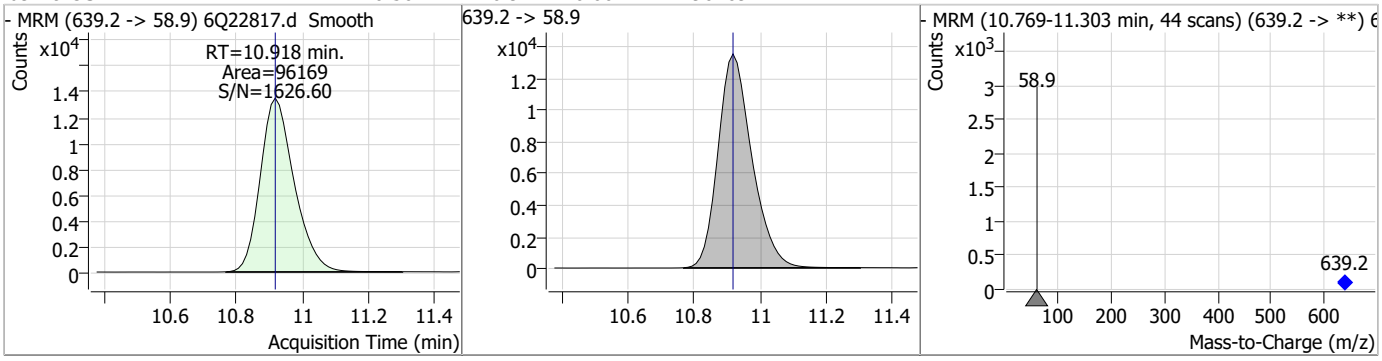
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	17.97	10.67	-0.01	62998				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	1.99	10.76	0.00	7973				

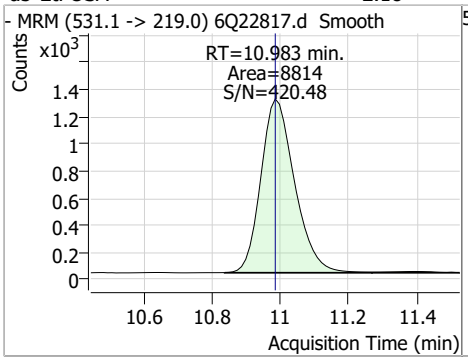


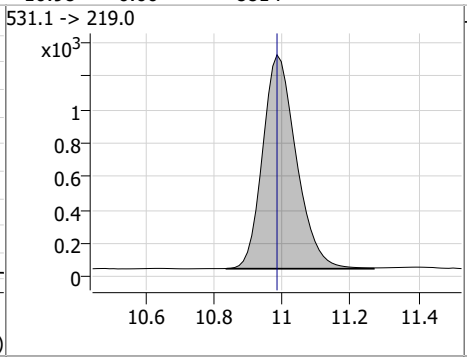
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	20.56	10.92	0.00	96169				

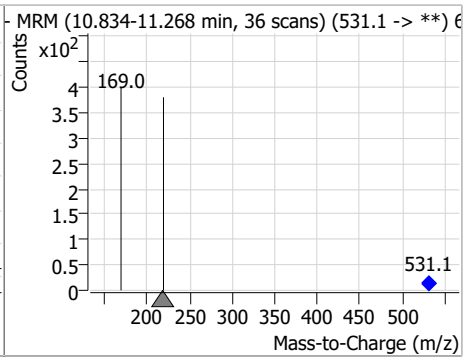


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.18	10.98	0.00	8814				







Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

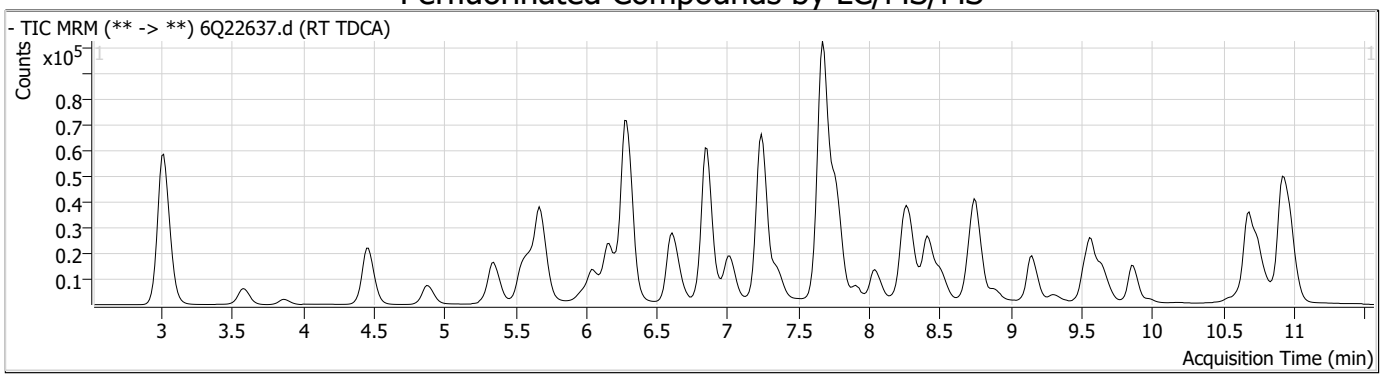
Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22637.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 12:54:43 PM
Sample Name : RT TDCA
Vial : P1-B3
DA Method File : TDCA.quantmethod.xml
Batch Name : s6q330 TDCA.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

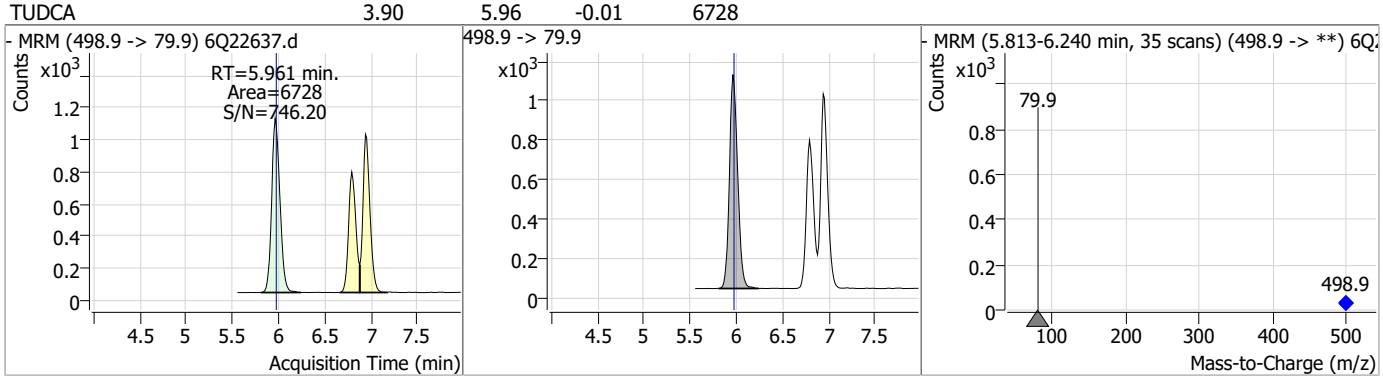
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Internal Standards							
M8-PFOS	8.414	507.1 -> 79.9	19468	2.50	µg/L		-0.012
13C4-PFOS	8.427	502.8 -> 79.9	24714	2.50	µg/L		0.000
System Monitoring Compounds							
13C8-PFOS	8.414	507.1 -> 79.9	19468	2.00	µg/L		-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 79.9%			
Target Compounds							QValue
PFOS	8.415	498.9 -> 79.9	18487	2.78	µg/L	m	99
		498.9 -> 98.8	9328				
TCDCA	6.789	498.9 -> 79.9	3882	4.32	ng/ml		100
TDCA	6.951	498.9 -> 79.9	5108	6.28	ng/ml		100
TUDCA	5.961	498.9 -> 79.9	6728	3.90	ng/ml		100

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

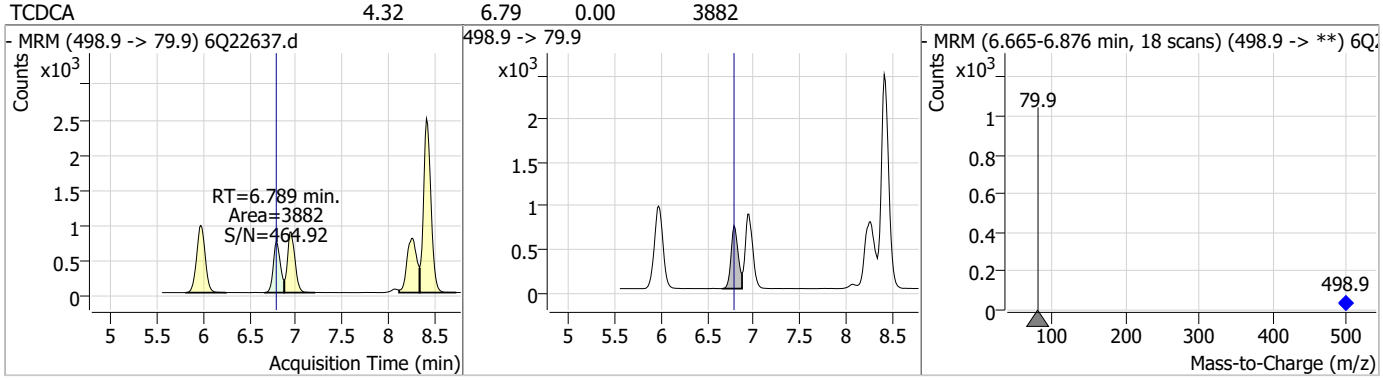
Perfluorinated Compounds by LC/MS/MS



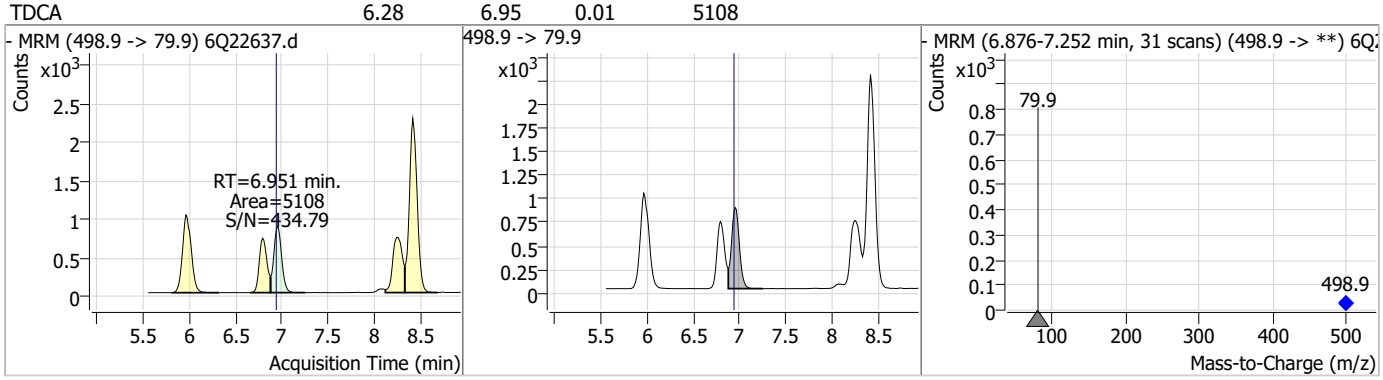
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TUDCA	3.90	5.96	-0.01	6728				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TCDCA	4.32	6.79	0.00	3882				

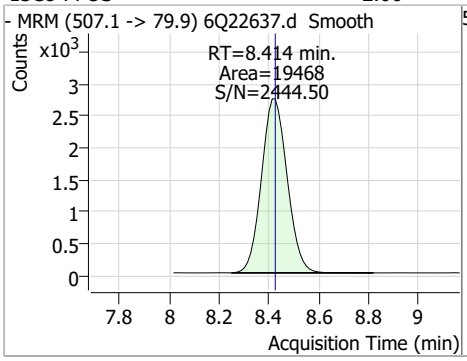


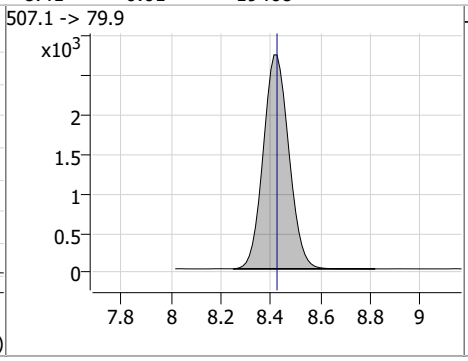
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TDCA	6.28	6.95	0.01	5108				

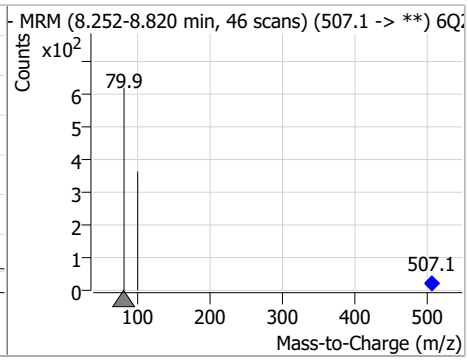


Perfluorinated Compounds by LC/MS/MS

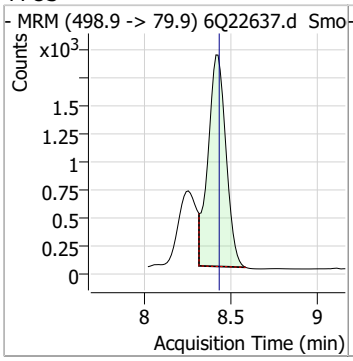
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.00	8.41	-0.01	19468				

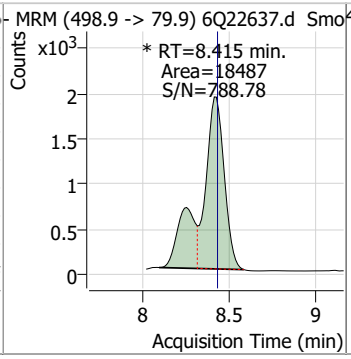


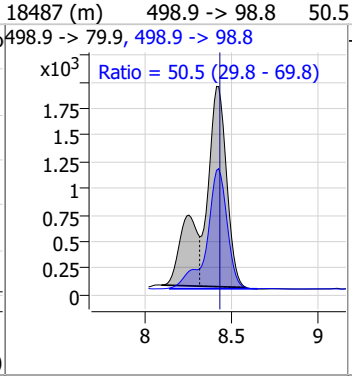


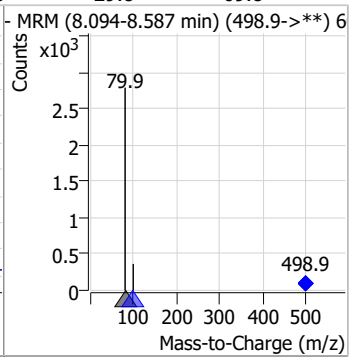


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.78	8.41	-0.01	18487 (m)	498.9 -> 98.8	50.5	29.8	69.8









Manual Integration Approval Summary

Sample Number:	S6Q330-RT	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22637.D	**Analyst approved:**	08/13/23 14:26 Martha Valls
Injection Time:	08/10/23 12:54	**Supervisor approved:**	08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22638.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 1:09:04 PM
Sample Name : RT BR-LN
Vial : P1-B4
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	183251	10.00	µg/L	0.000
M5-PFPeA	4.459	268.3 -> 223.0	59381	5.00	µg/L	0.012
M5-PFHxA	5.680	318.0 -> 273.0	63545	2.50	µg/L	0.012
M4-PFHpA	6.608	367.1 -> 322.0	63985	2.50	µg/L	0.000
M8-PFOA	7.239	421.1 -> 376.0	102182	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	45809	1.25	µg/L	0.000
M6-PFDA	8.263	519.1 -> 474.1	26124	1.25	µg/L	0.000
M7-PFUnDA	8.717	570.0 -> 525.1	33595	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	31989	1.25	µg/L	0.000
M2-PFTeDA	9.863	715.2 -> 670.0	17639	1.25	µg/L	0.012
M8-FOSA	9.662	506.1 -> 77.8	34689	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	23125	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	15292	2.50	µg/L	0.000
M8-PFOS	8.426	507.1 -> 79.9	13388	2.50	µg/L	0.012
M2-4:2FTS	5.343	329.1 -> 80.9	3236	5.00	µg/L	0.012
M2-6:2FTS	7.014	429.1 -> 80.9	4575	5.00	µg/L	0.000
M2-8:2FTS	8.051	529.1 -> 80.9	4535	5.00	µg/L	0.000
M3-MeFOSAA	8.297	573.2 -> 419.0	32922	5.00	µg/L	0.000
M3-HFPO-DA	6.057	286.9 -> 168.9	40354	10.00	µg/L	0.012
M5-EtFOSAA	8.505	589.2 -> 419.0	31812	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	123070	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	160673	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	14631	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	14308	2.50	µg/L	0.000
13C4-PFOS	8.427	502.8 -> 79.9	18331	2.50	µg/L	0.000
13C3-PFBA	3.014	216.0 -> 172.0	77783	5.00	µg/L	0.012
18O2-PFHxS	7.354	403.0 -> 83.9	11078	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	99496	2.50	µg/L	0.000
13C2-PFDA	8.263	515.1 -> 470.1	36804	1.25	µg/L	0.012
13C5-PFNA	7.770	468.0 -> 423.0	52638	1.25	µg/L	0.000
13C2-PFHxA	5.681	315.1 -> 270.0	61457	2.50	µg/L	0.012
System Monitoring Compounds						
13C2-4:2FTS	5.343	329.1 -> 80.9	3236	4.89	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.8%		
13C2-6:2FTS	7.014	429.1 -> 80.9	4575	4.79	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.8%		
13C2-8:2FTS	8.051	529.1 -> 80.9	4535	4.85	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.0%		
13C2-PFDoDA	9.148	615.1 -> 570.0	31989	1.29	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.9%		
13C2-PFTeDA	9.863	715.2 -> 670.0	17639	1.23	µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C3-PFBS	5.610	302.1 -> 79.9	23125	2.46	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%		
13C3-PFHxS	7.355	402.1 -> 79.9	15292	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 = 100.5%		
13C4-PFBA	3.010	216.8 -> 171.9	183251	9.97 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C4-PFHpA	6.608	367.1 -> 322.0	63985	2.58 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%		
13C5-PFHxA	5.680	318.0 -> 273.0	63545	2.50 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%		
13C5-PFPeA	4.459	268.3 -> 223.0	59381	5.13 µg/L		0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.6%		
13C6-PFDA	8.263	519.1 -> 474.1	26124	1.26 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C7-PFUnDA	8.717	570.0 -> 525.1	33595	1.22 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.8%		
13C8-FOSA	9.662	506.1 -> 77.8	34689	2.51 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.3%		
13C8-PFOA	7.239	421.1 -> 376.0	102182	2.78 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.2%		
13C8-PFOS	8.426	507.1 -> 79.9	13388	2.49 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%		
13C9-PFNA	7.770	472.1 -> 427.0	45809	1.34 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.3%		
d3-MeFOSAA	8.297	573.2 -> 419.0	32922	4.96 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C3-HFPO-DA	6.057	286.9 -> 168.9	40354	10.15 µg/L		0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.5%		
d3-MeFOSA	10.763	515.0 -> 219.0	14308	2.53 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%		
d5-EtFOSAA	8.505	589.2 -> 419.0	31812	5.20 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.9%		
d7-MeFOSE	10.685	623.2 -> 58.9	123070	24.84 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.4%		
d9-EtFOSE	10.918	639.2 -> 58.9	160673	24.30 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.2%		
d5-EtFOSA	10.983	531.1 -> 219.0	14631	2.56 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.6%		
Target Compounds						QValue
4:2FTS	5.343	327.1 -> 307.0	204171	48.77 µg/L		99
		327.1 -> 80.9	78431			
6:2FTS	7.014	427.1 -> 407.0	207397	50.68 µg/L		100
		427.1 -> 80.9	70093			
8:2FTS	8.052	527.1 -> 507.0	126263	52.03 µg/L		100
		527.1 -> 80.8	46180			
EtFOSAA	8.518	584.2 -> 419.1	50519	12.60 µg/L	m	96
		584.2 -> 526.0	27129			
FOSA	9.652	498.1 -> 77.9	325295	29.88 µg/L		100
		498.1 -> 478.0	10246			
MeFOSAA	8.310	570.1 -> 419.0	88812	14.11 µg/L		99
		570.1 -> 483.0	16082			
PFBA	3.018	212.8 -> 168.9	300586	52.50 µg/L		100
PFBS	5.611	298.7 -> 79.9	90193	11.94 µg/L		100
		298.7 -> 98.8	33607			
PFDA	8.264	512.9 -> 469.0	404708	13.07 µg/L		99
		512.9 -> 219.0	56994			
PFDoDA	9.148	613.1 -> 569.0	270514	12.91 µg/L		97
		613.1 -> 319.0	37441			
PFDS	9.312	599.0 -> 79.9	43526	13.55 µg/L		95

Perfluorinated Compounds by LC/MS/MS

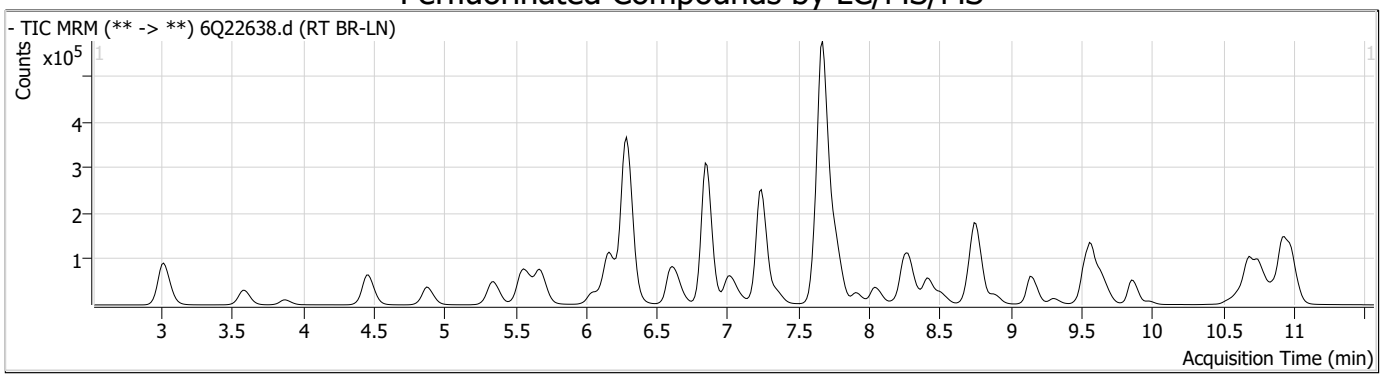
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	20188				
PFHpA	6.609	363.1 -> 319.0	333518	13.22	µg/L		99
		363.1 -> 169.0	53993				
PFHpS	7.922	449.0 -> 79.9	80342	13.14	µg/L		95
		449.0 -> 98.9	40238				
PFHxA	5.682	313.0 -> 269.0	257643	13.86	µg/L		99
		313.0 -> 118.9	13045				
PFHxS	7.356	398.7 -> 79.9	78514	11.64	µg/L	m	97
		398.7 -> 98.9	36445				
PFNA	7.771	463.0 -> 419.0	808257	25.67	µg/L	m	98
		463.0 -> 219.0	160424				
PFNS	8.893	548.8 -> 79.9	69356	12.56	µg/L		99
		548.8 -> 98.9	36721				
PFOA	7.240	413.0 -> 369.0	1052119	25.19	µg/L	m	93
		413.0 -> 169.0	201057				
PFOS	8.427	498.9 -> 79.9	71547	12.43	µg/L	m	99
		498.9 -> 98.8	38061				
PFPeA	4.461	263.0 -> 219.0	345384	26.40	µg/L		100
PFPeS	6.672	349.1 -> 79.9	75270	12.02	µg/L		99
		349.1 -> 98.9	34967				
PFTeDA	9.864	713.1 -> 669.0	225119	13.14	µg/L		99
		713.1 -> 168.9	18486				
PFTrDA	9.532	663.0 -> 619.0	287486	13.29	µg/L		99
		663.0 -> 168.9	30089				
PFUnDA	8.717	563.1 -> 519.0	255600	13.21	µg/L		98
		563.1 -> 269.1	43487				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	368722	25.60	µg/L		92
		632.9 -> 452.9	109828				
9Cl-PF3ONS	8.758	530.8 -> 351.0	604662	25.97	µg/L		98
		532.8 -> 353.0	187099				
ADONA	6.858	376.9 -> 250.9	1333371	25.94	µg/L		99
		376.9 -> 84.8	347510				
HFPO-DA	6.058	284.9 -> 168.9	92915	27.06	µg/L		98
		284.9 -> 184.9	9115				
3:3FTCA	3.871	241.0 -> 177.0	58285	64.38	µg/L		100
		241.0 -> 117.0	7908				
5:3FTCA	6.285	341.0 -> 237.1	1262997	330.36	µg/L		97
		341.0 -> 217.0	931603				
7:3FTCA	7.673	441.0 -> 316.9	900216	318.37	µg/L		95
		441.0 -> 336.9	2127896				
EtFOSA	10.985	526.0 -> 219.0	272383	42.27	µg/L		98
		526.0 -> 169.0	354521				
EtFOSE	10.931	630.0 -> 58.9	567914	87.23	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	227664	42.93	µg/L		97
		511.9 -> 169.0	320727				
MeFOSE	10.697	616.1 -> 58.9	390201	84.81	µg/L		100
PFDoDS	9.990	699.1 -> 79.9	20106	13.44	µg/L		99
		699.1 -> 98.8	10998				
NFDHA	5.564	295.0 -> 201.0	65585	27.74	µg/L		93
		295.0 -> 84.9	16292				
PFMBA	4.869	279.0 -> 85.1	240574	26.00	µg/L		100
PFMPA	3.588	229.0 -> 84.9	196366	26.52	µg/L		100
PFEESA	6.163	314.8 -> 134.9	607107	24.31	µg/L		99
		314.8 -> 82.9	19488				

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

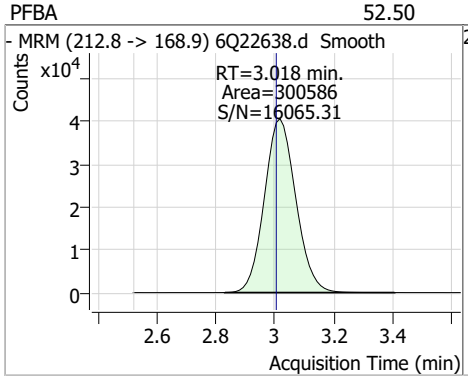
Perfluorinated Compounds by LC/MS/MS

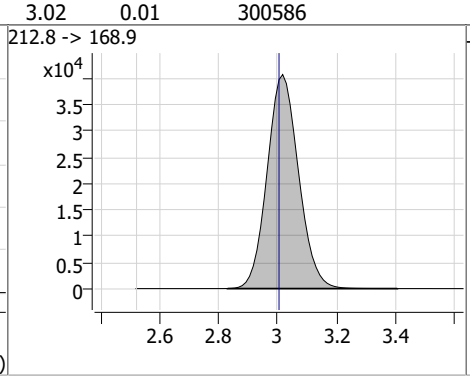
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

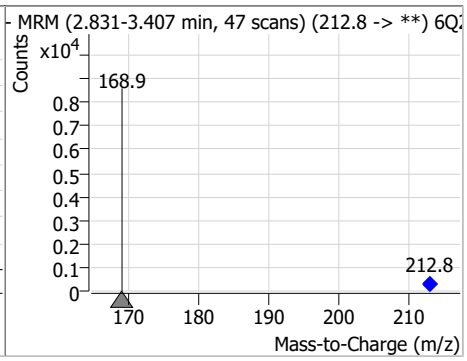
Perfluorinated Compounds by LC/MS/MS



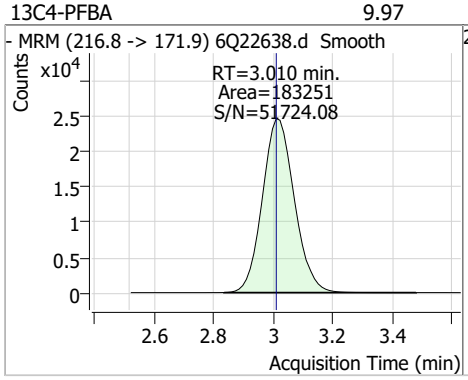
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	52.50	3.02	0.01	300586				

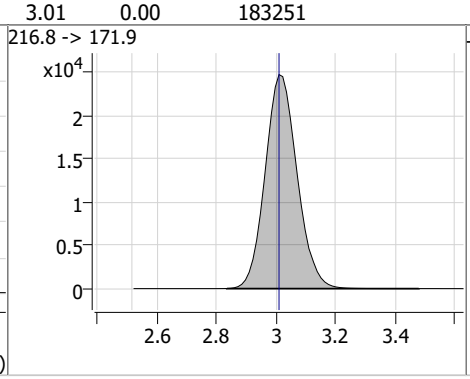


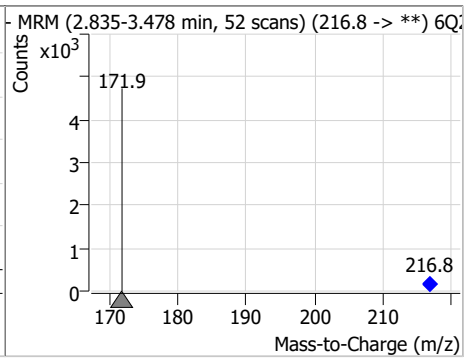




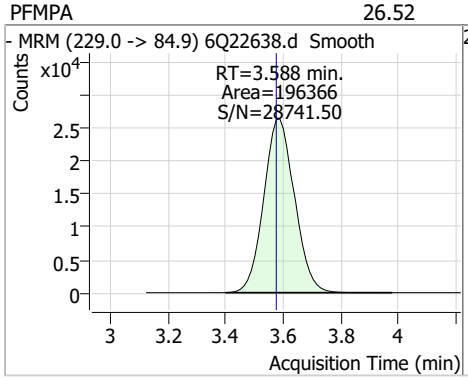
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.97	3.01	0.00	183251				

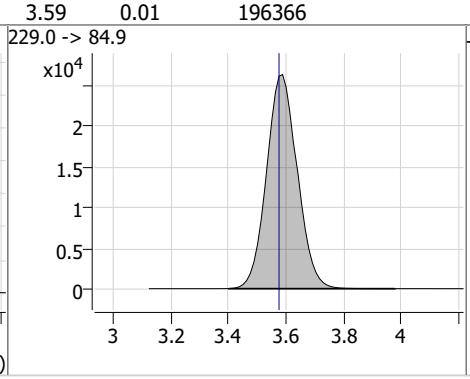


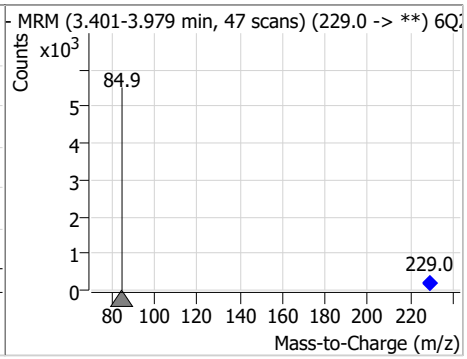




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	26.52	3.59	0.01	196366				

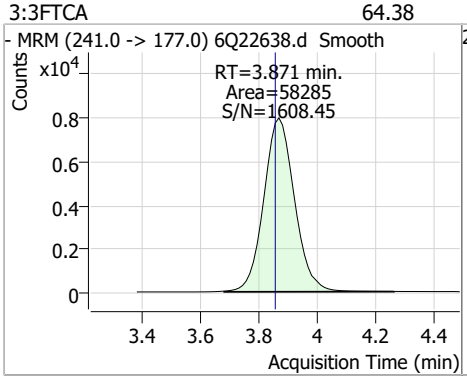


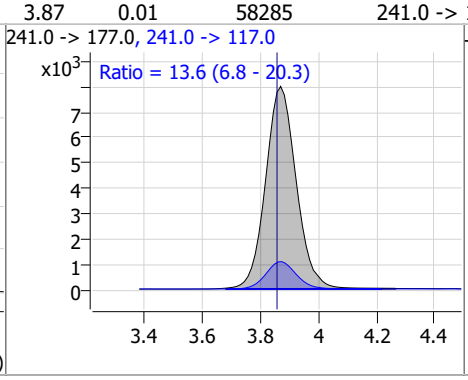


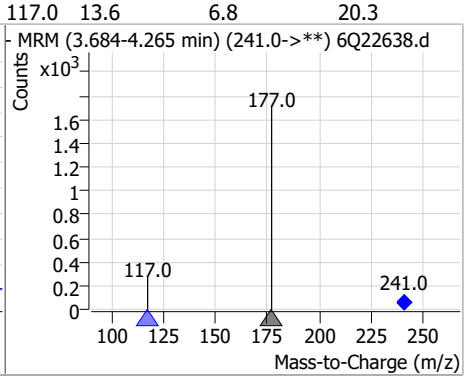


Perfluorinated Compounds by LC/MS/MS

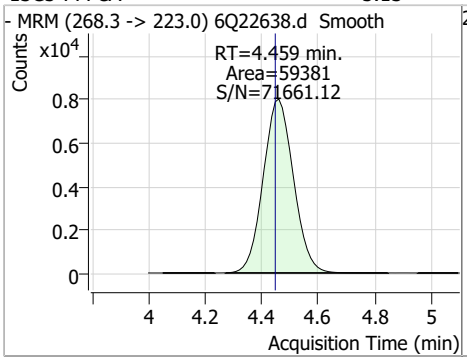
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	64.38	3.87	0.01	58285	241.0 -> 117.0	13.6	6.8	20.3

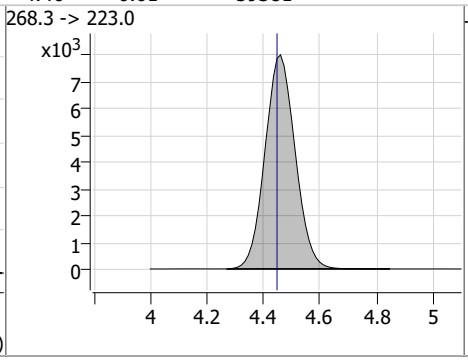


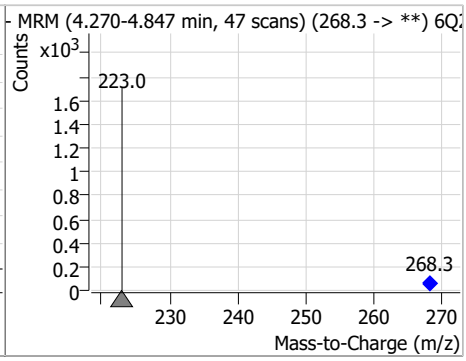




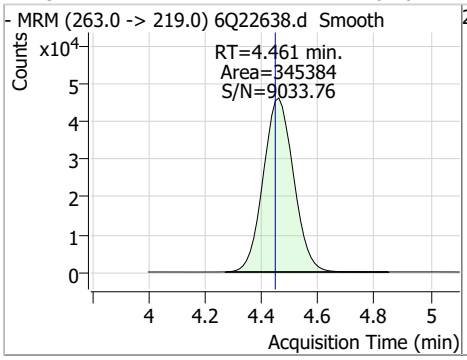
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.13	4.46	0.01	59381				

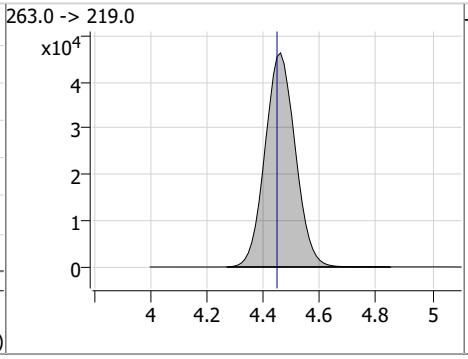


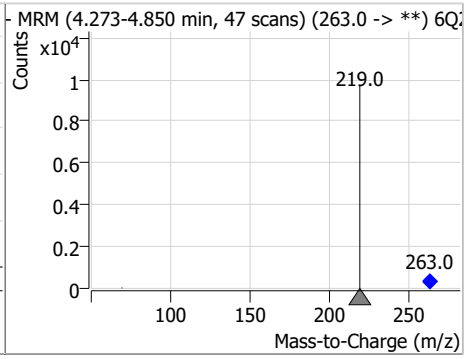




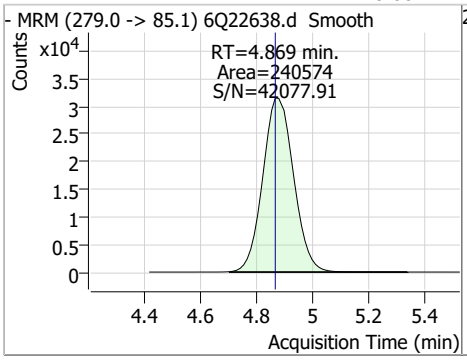
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	26.40	4.46	0.01	345384				

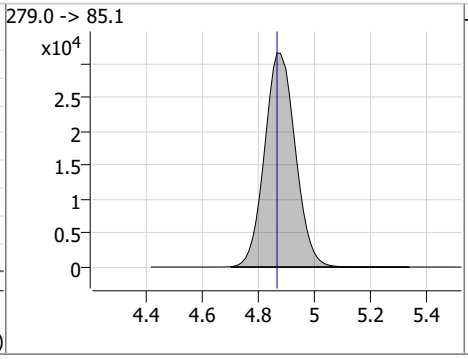


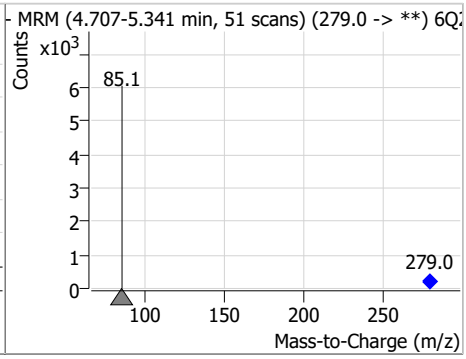




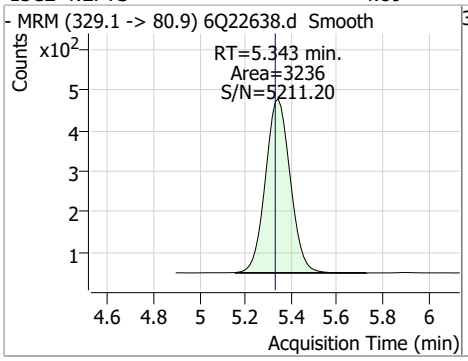
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	26.00	4.87	0.00	240574				

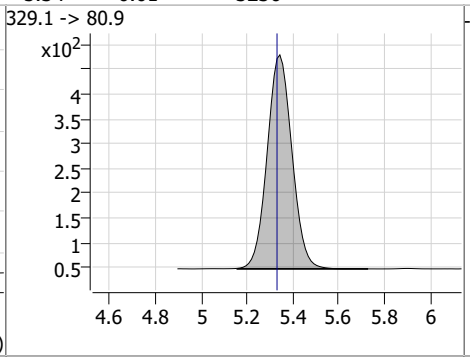


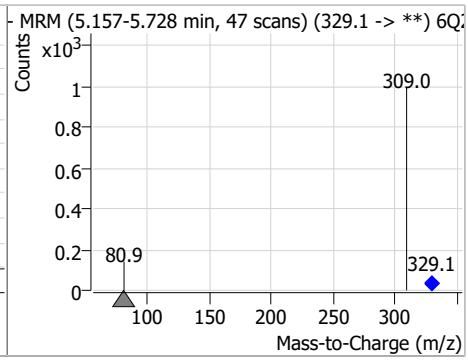




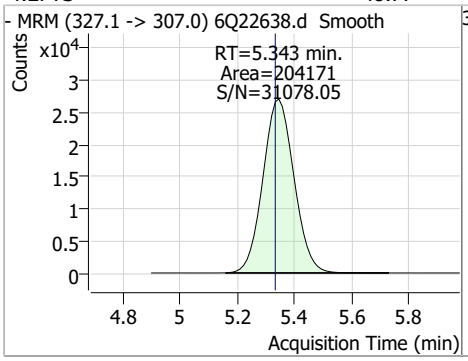
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.89	5.34	0.01	3236				

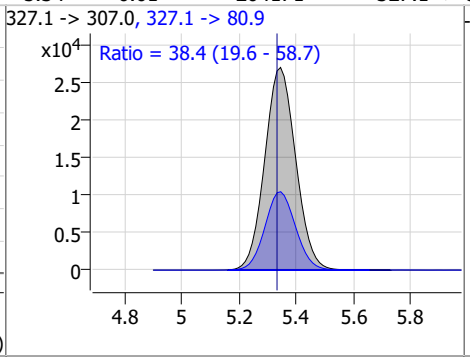


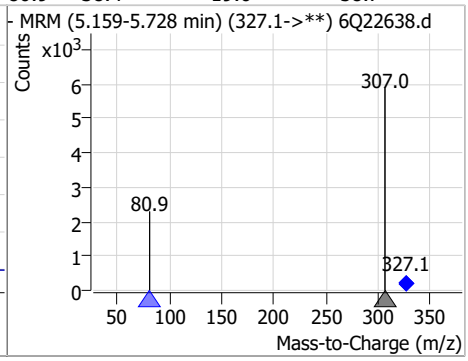




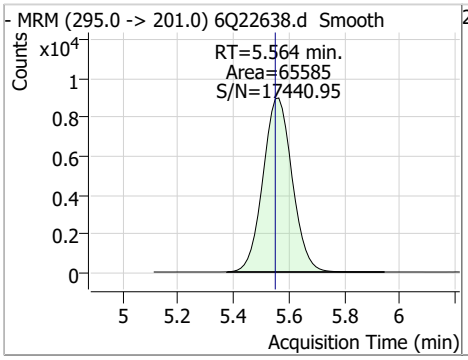
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	48.77	5.34	0.01	204171	327.1 -> 80.9	38.4	19.6	58.7

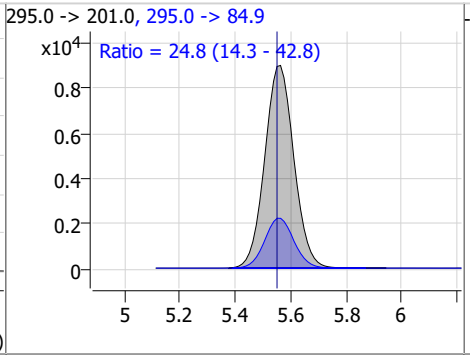


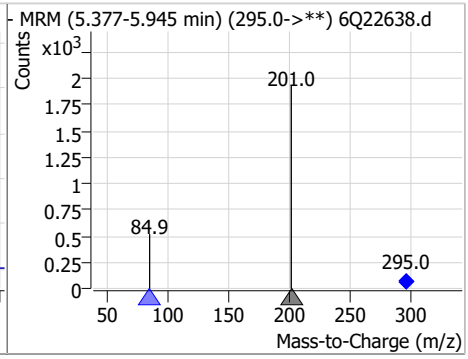




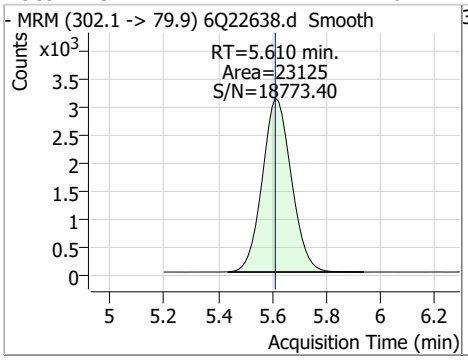
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	27.74	5.56	0.01	65585	295.0 -> 84.9	24.8	14.3	42.8

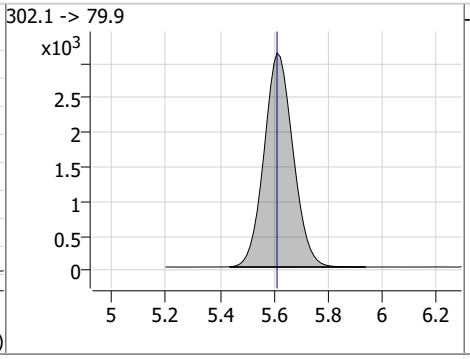


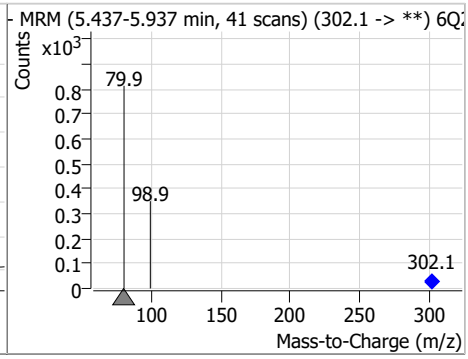




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.46	5.61	0.00	23125				

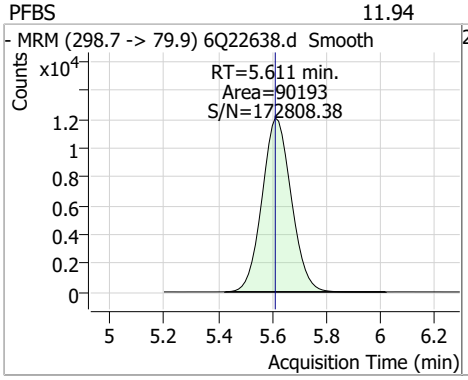


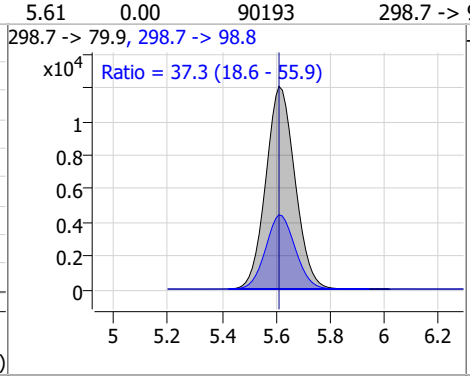


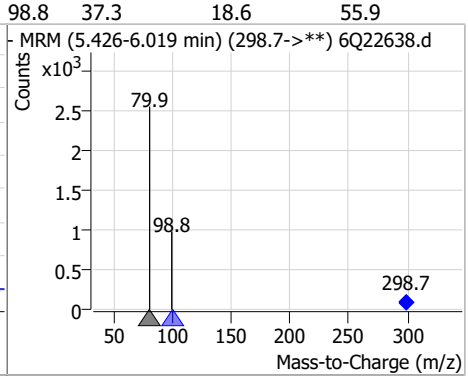


Perfluorinated Compounds by LC/MS/MS

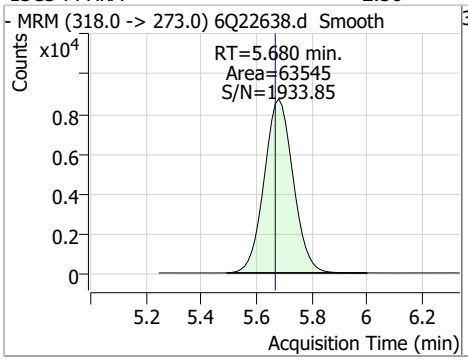
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	11.94	5.61	0.00	90193	298.7 -> 98.8	37.3	18.6	55.9

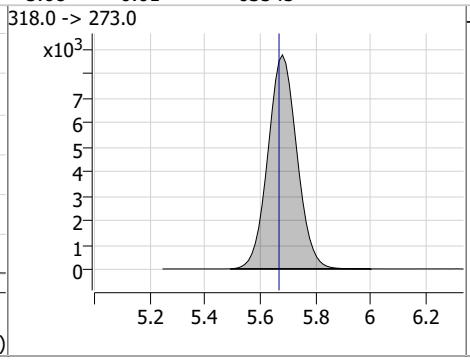


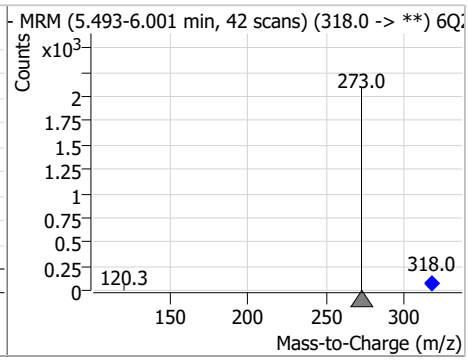




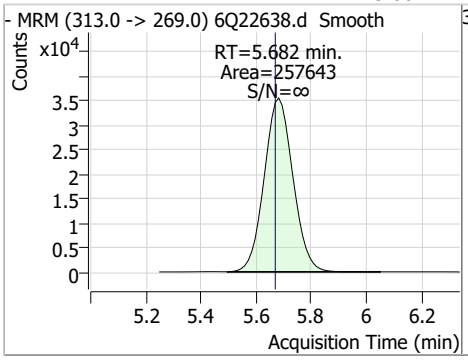
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.50	5.68	0.01	63545				

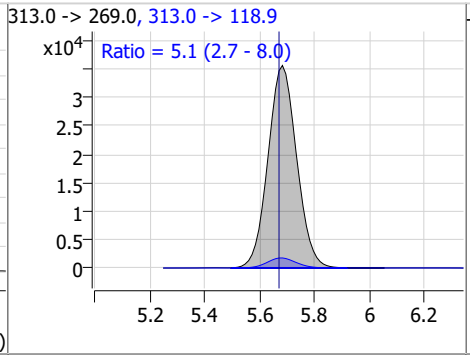


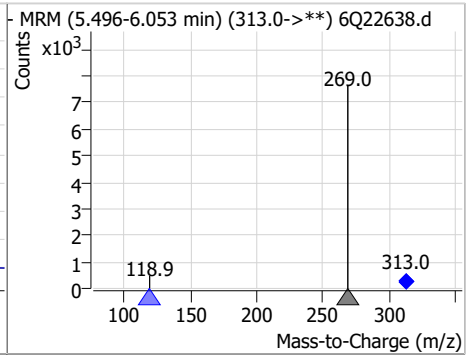




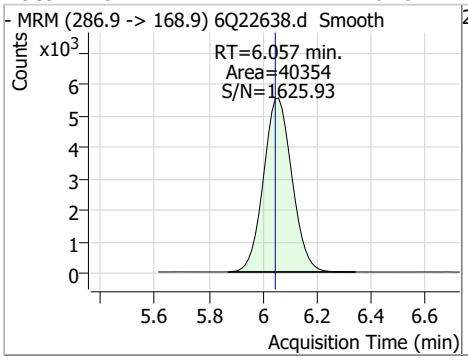
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	13.86	5.68	0.01	257643	313.0 -> 118.9	5.1	2.7	8.0

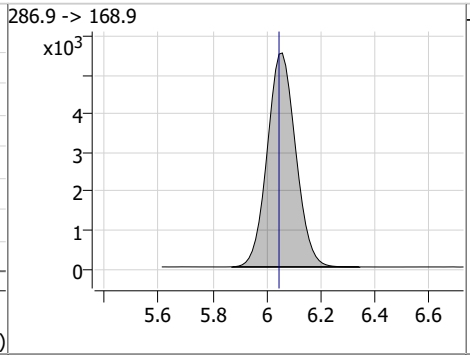


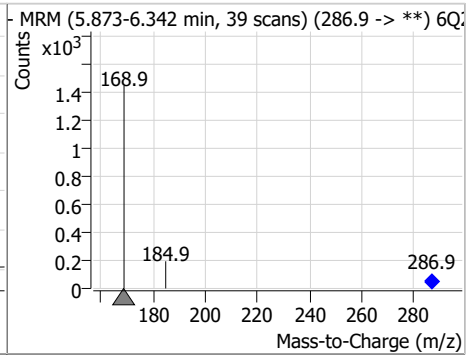




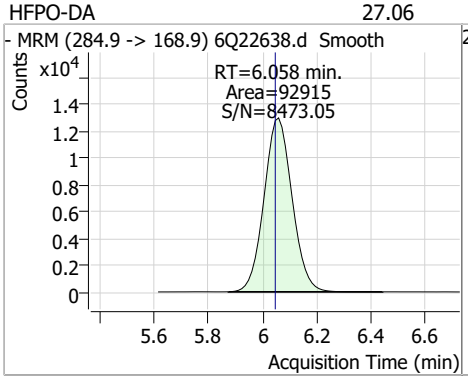
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.15	6.06	0.01	40354				

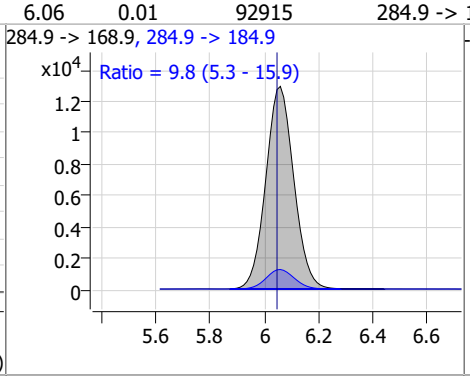


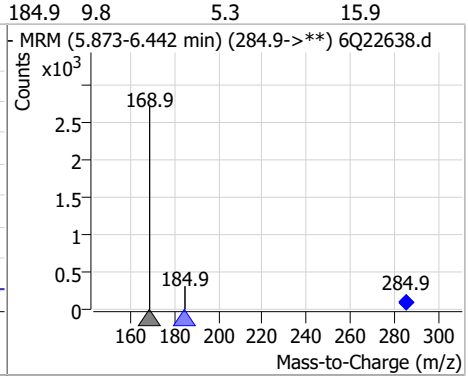




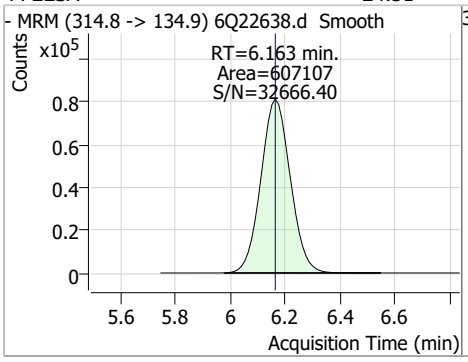
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	27.06	6.06	0.01	92915	284.9 -> 184.9	9.8	5.3	15.9

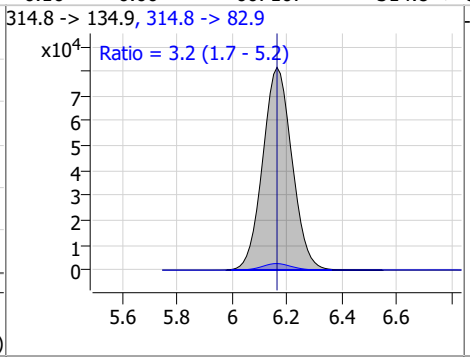


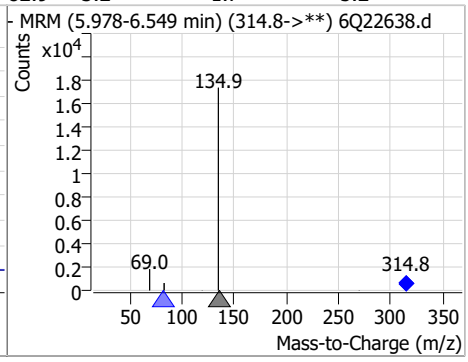




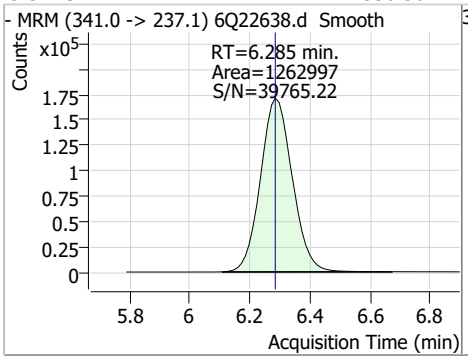
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	24.31	6.16	0.00	607107	314.8 -> 82.9	3.2	1.7	5.2

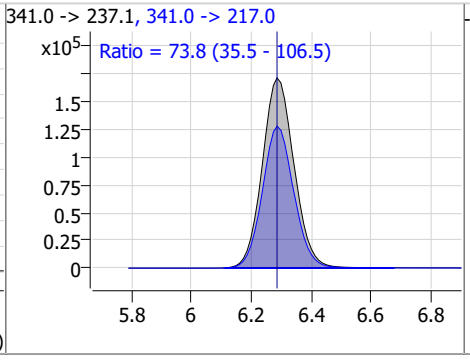


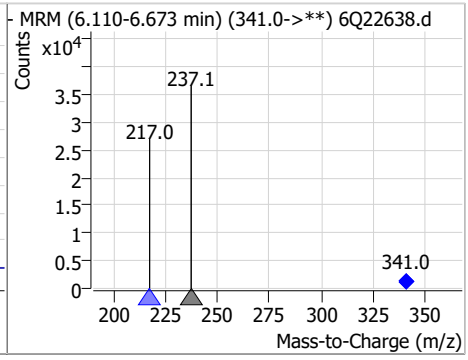




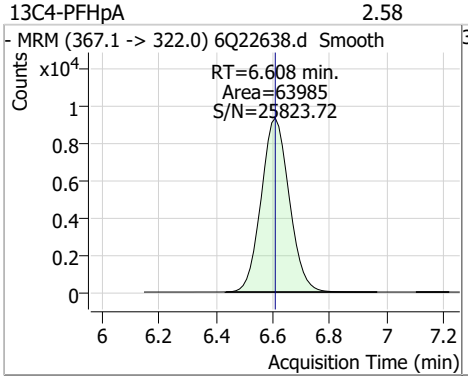
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	330.36	6.28	0.00	1262997	341.0 -> 217.0	73.8	35.5	106.5

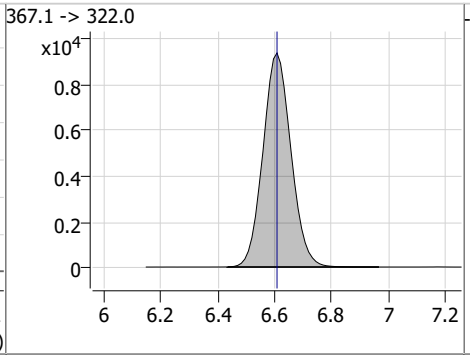


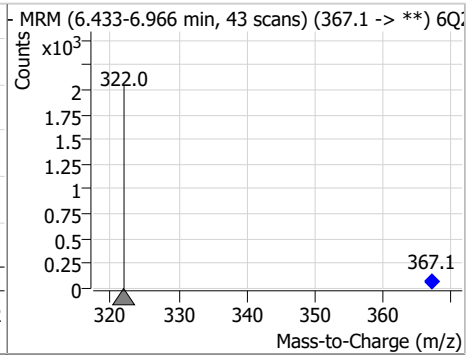




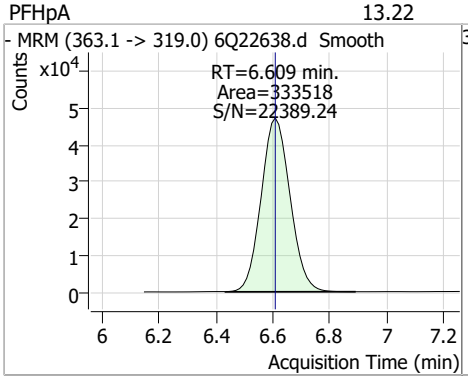
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.58	6.61	0.00	63985				

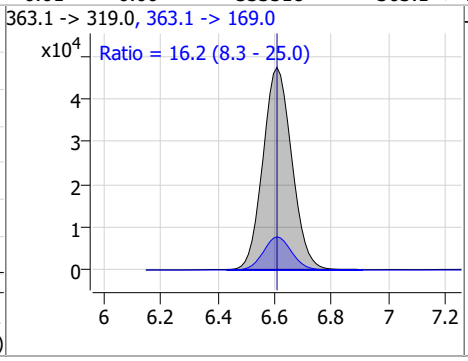


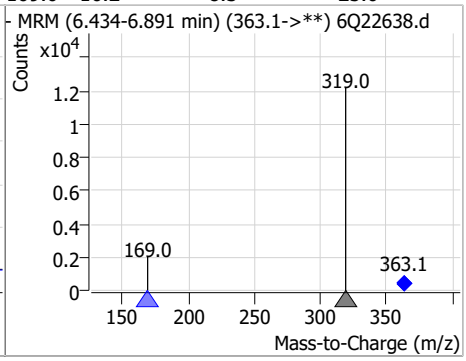




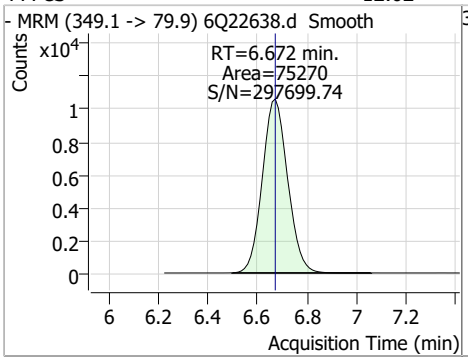
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	13.22	6.61	0.00	333518	363.1 -> 169.0	16.2	8.3	25.0

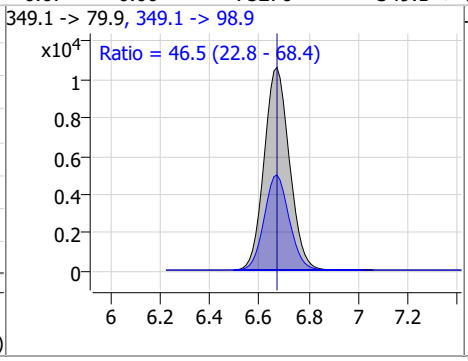


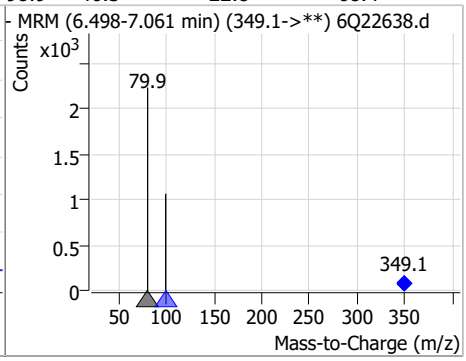




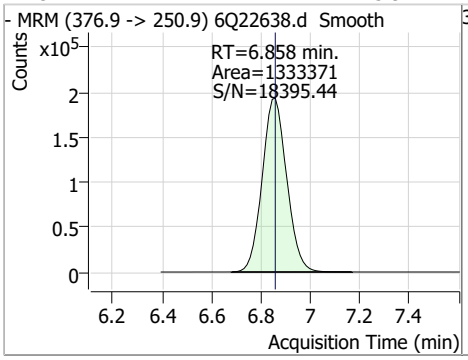
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	12.02	6.67	0.00	75270	349.1 -> 98.9	46.5	22.8	68.4

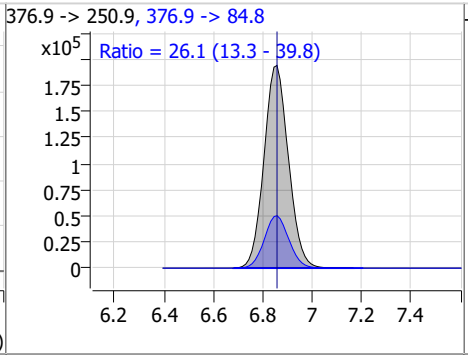


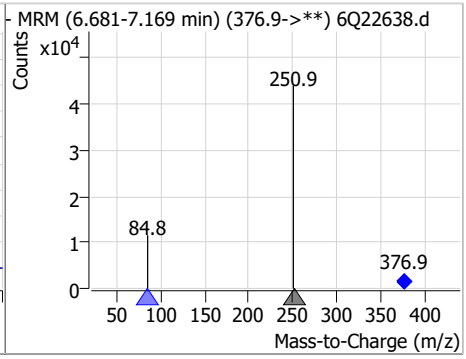




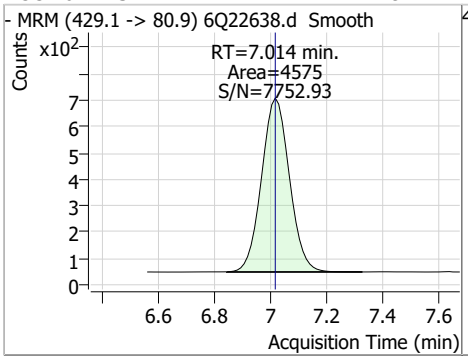
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	25.94	6.86	0.00	1333371	376.9 -> 84.8	26.1	13.3	39.8

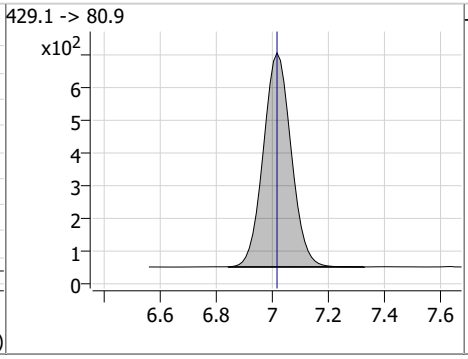


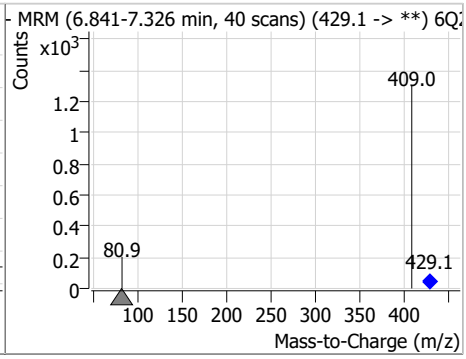




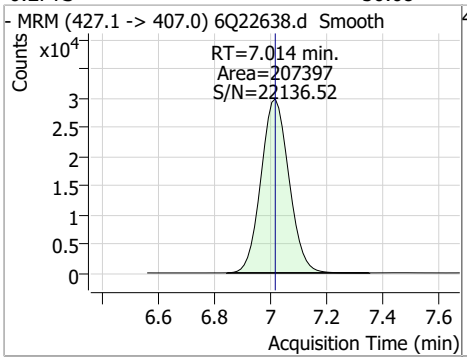
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.79	7.01	0.00	4575				

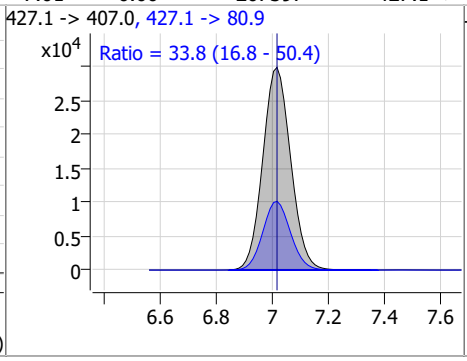


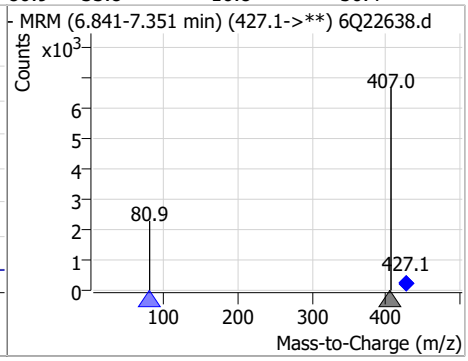




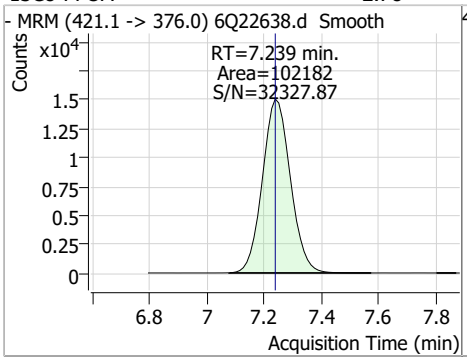
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	50.68	7.01	0.00	207397	427.1 -> 80.9	33.8	16.8	50.4

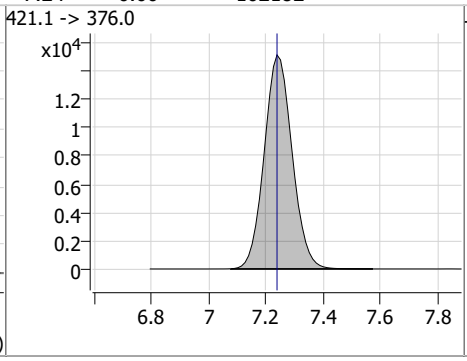


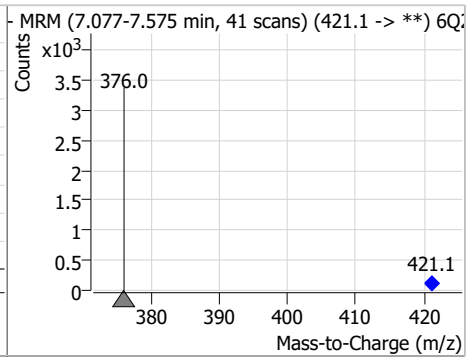




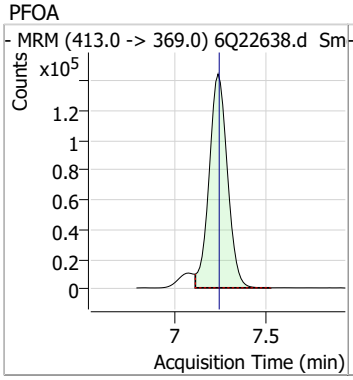
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.78	7.24	0.00	102182				

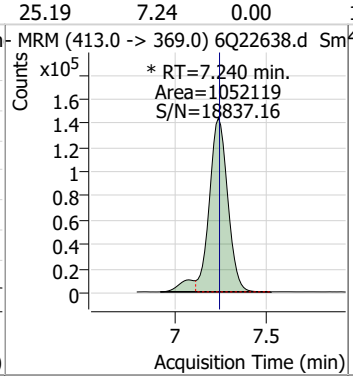


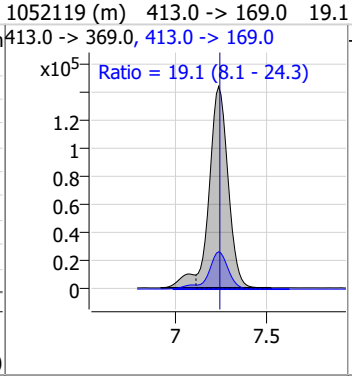


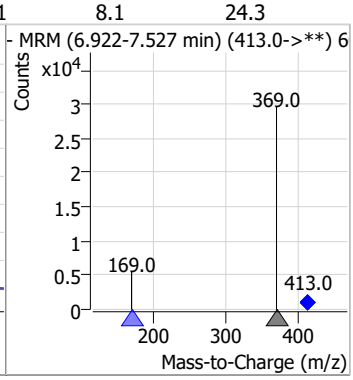


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	25.19	7.24	0.00	1052119 (m)	413.0 -> 169.0	19.1	8.1	24.3

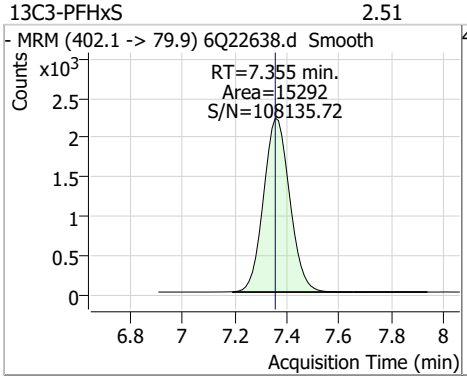


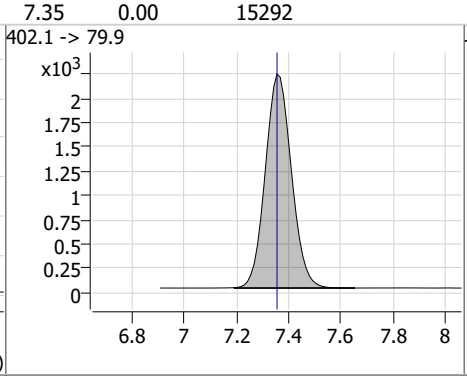


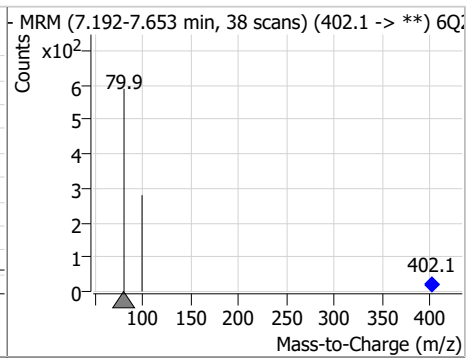




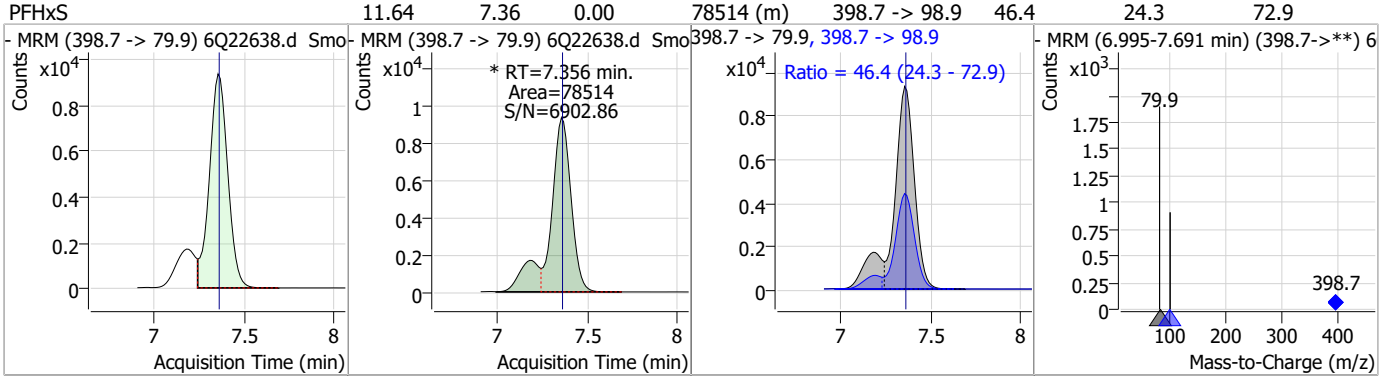
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.51	7.35	0.00	15292				



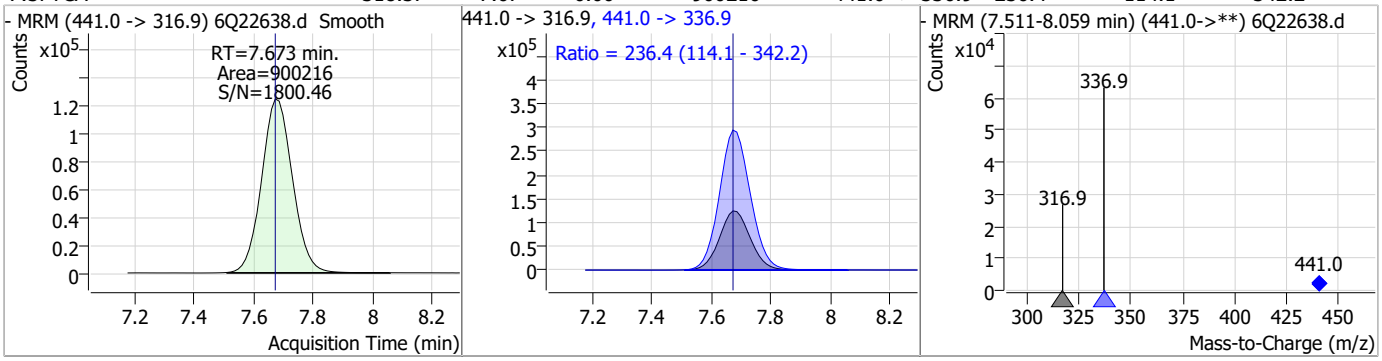




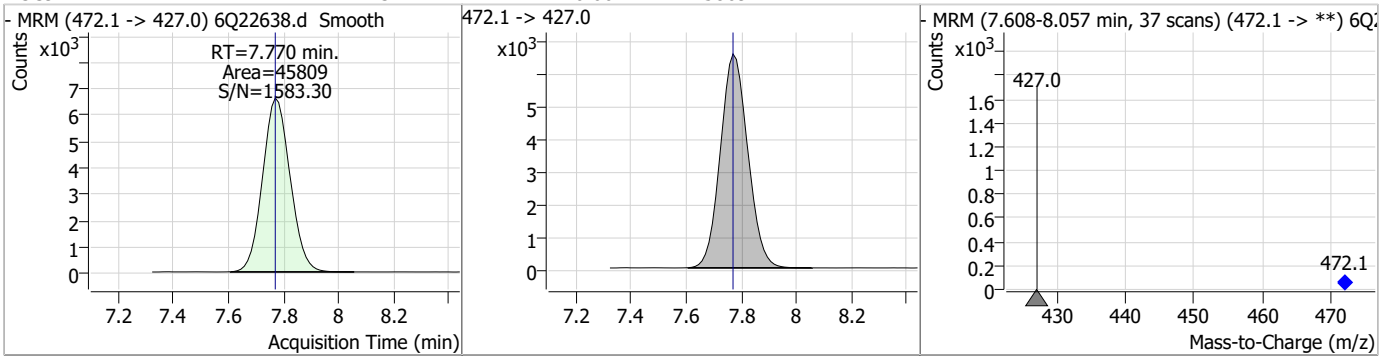
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	11.64	7.36	0.00	78514 (m)	398.7 -> 98.9	46.4	24.3	72.9



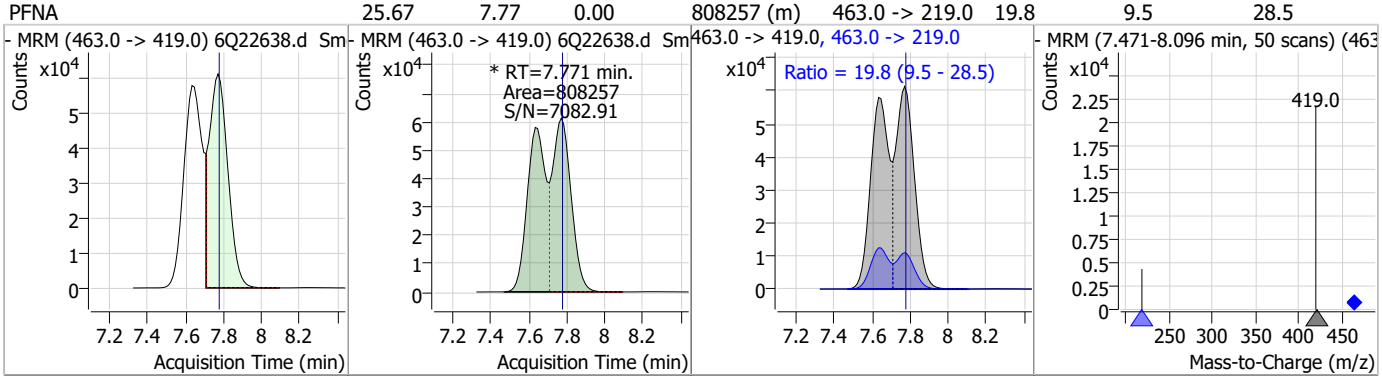
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	318.37	7.67	0.00	900216	441.0 -> 336.9	236.4	114.1	342.2



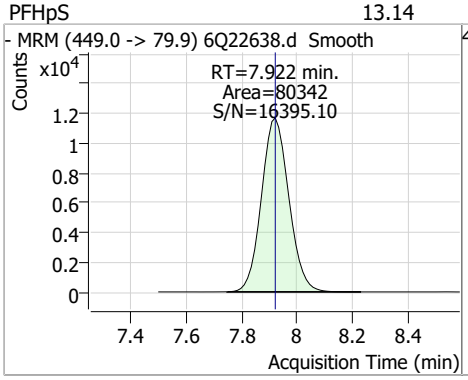
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.34	7.77	0.00	45809				

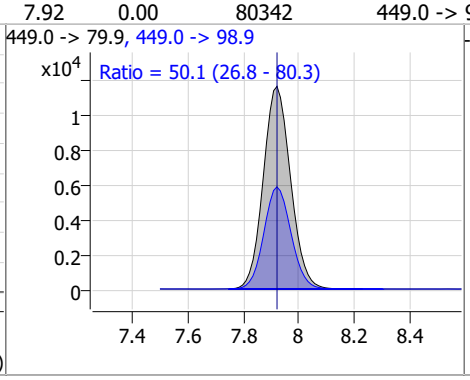


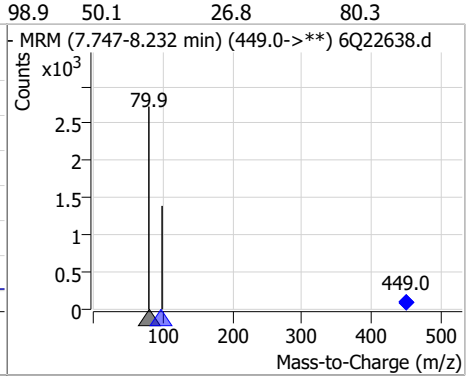
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	25.67	7.77	0.00	808257 (m)	463.0 -> 219.0	19.8	9.5	28.5



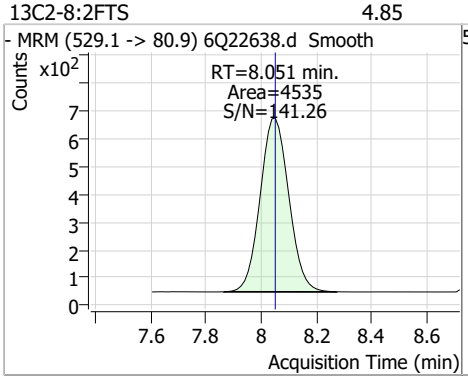
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	13.14	7.92	0.00	80342	449.0 -> 98.9	50.1	26.8	80.3

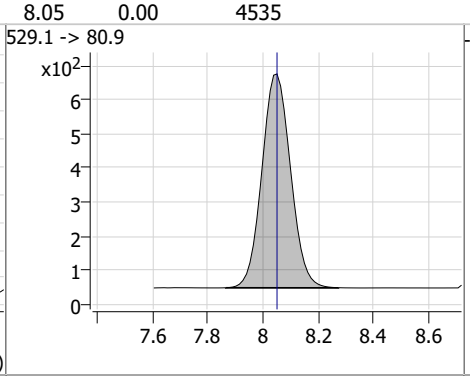


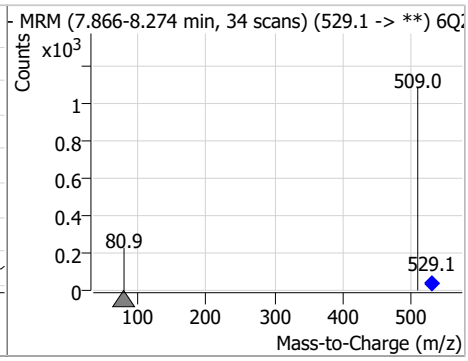




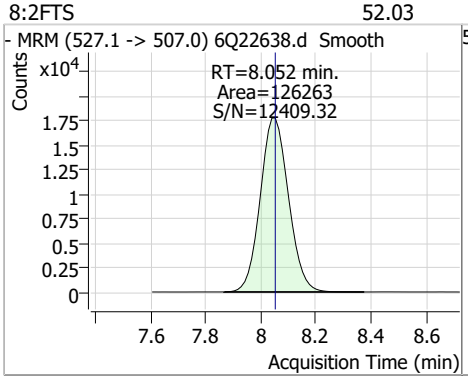
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.85	8.05	0.00	4535				

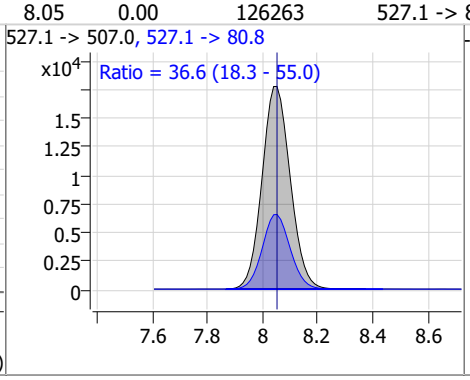


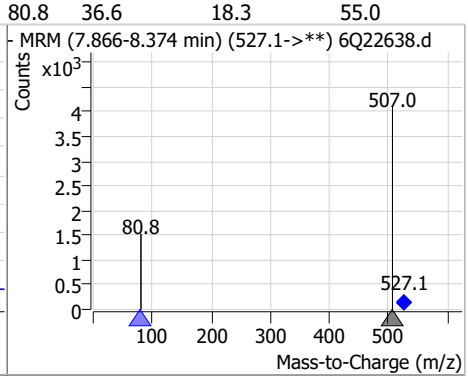




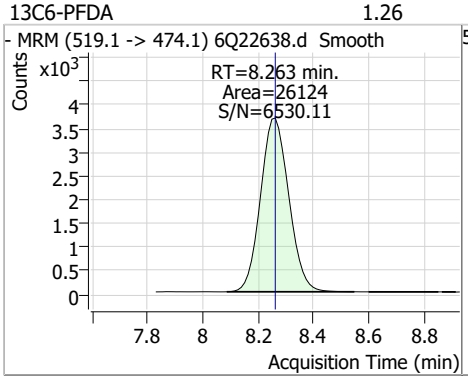
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	52.03	8.05	0.00	126263	527.1 -> 80.8	36.6	18.3	55.0

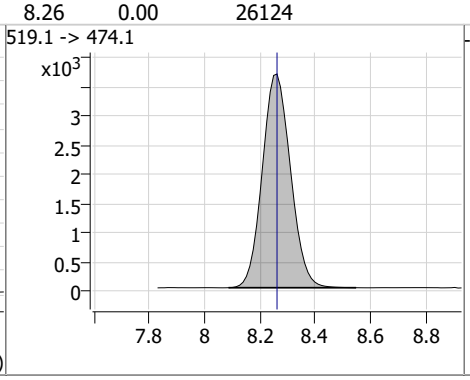


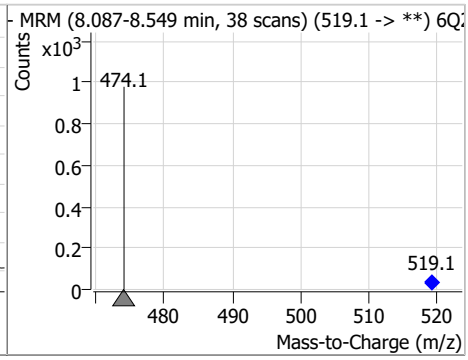




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.26	8.26	0.00	26124				

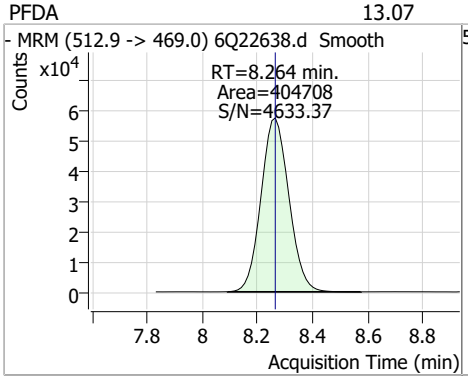


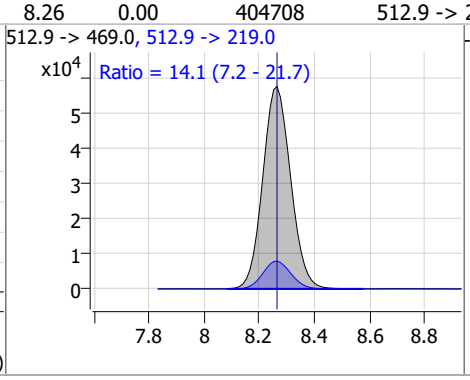


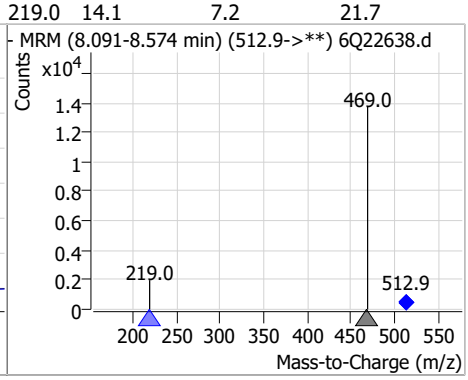


Perfluorinated Compounds by LC/MS/MS

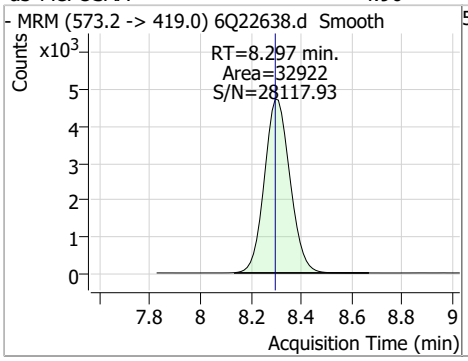
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	13.07	8.26	0.00	404708	512.9 -> 219.0	14.1	7.2	21.7

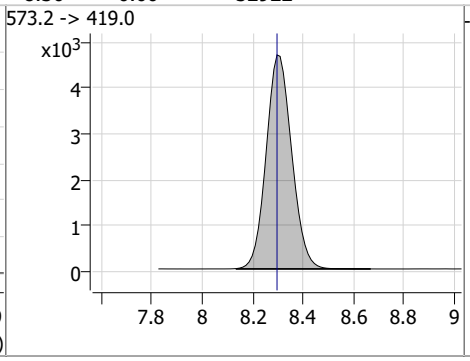


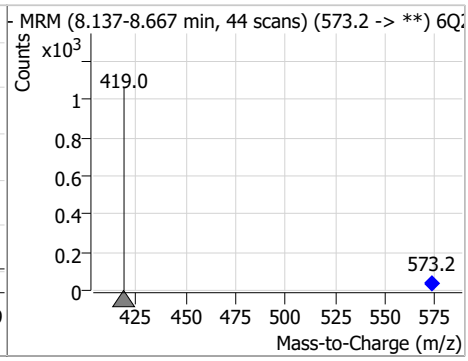




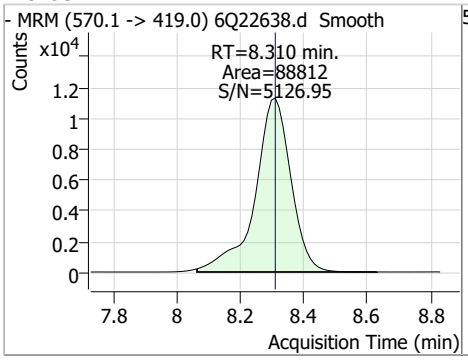
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.96	8.30	0.00	32922				

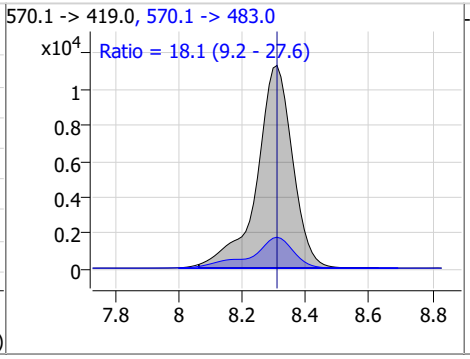


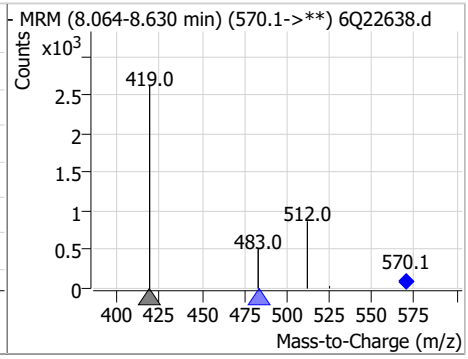




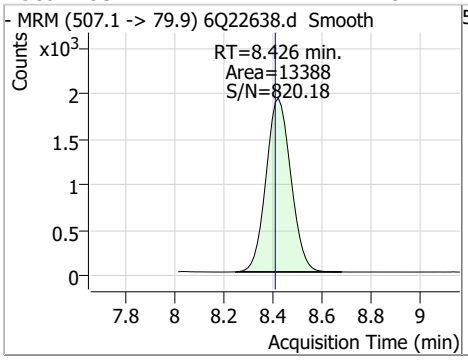
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	14.11	8.31	0.00	88812	570.1 -> 483.0	18.1	9.2	27.6

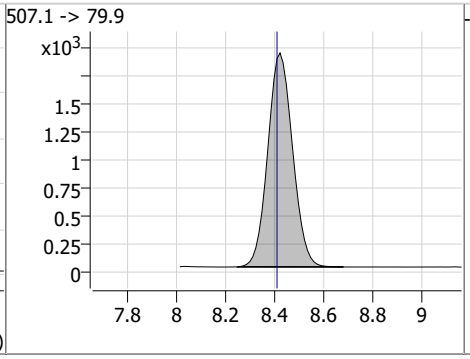


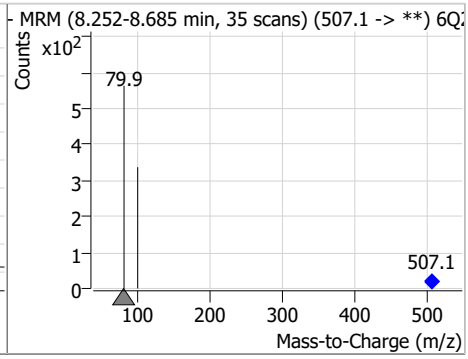




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.49	8.43	0.01	13388				

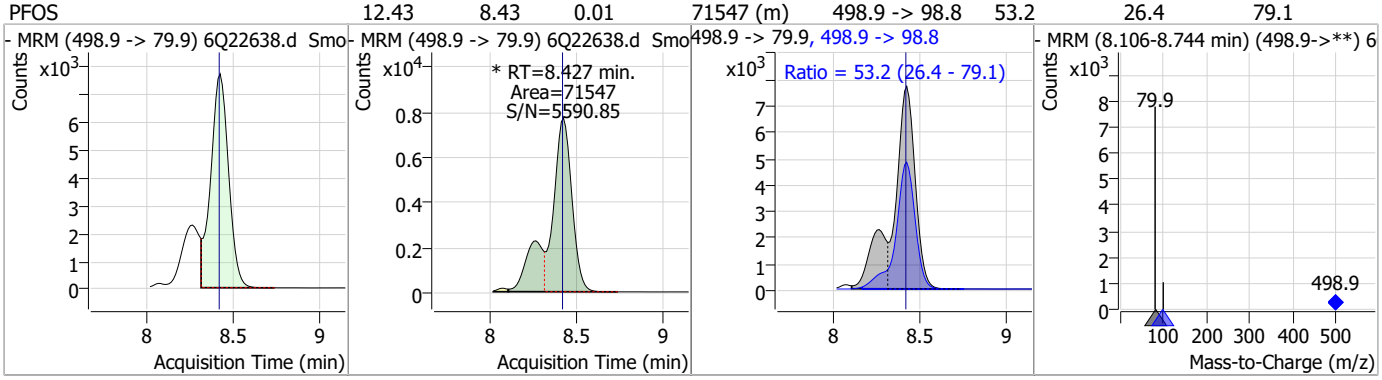




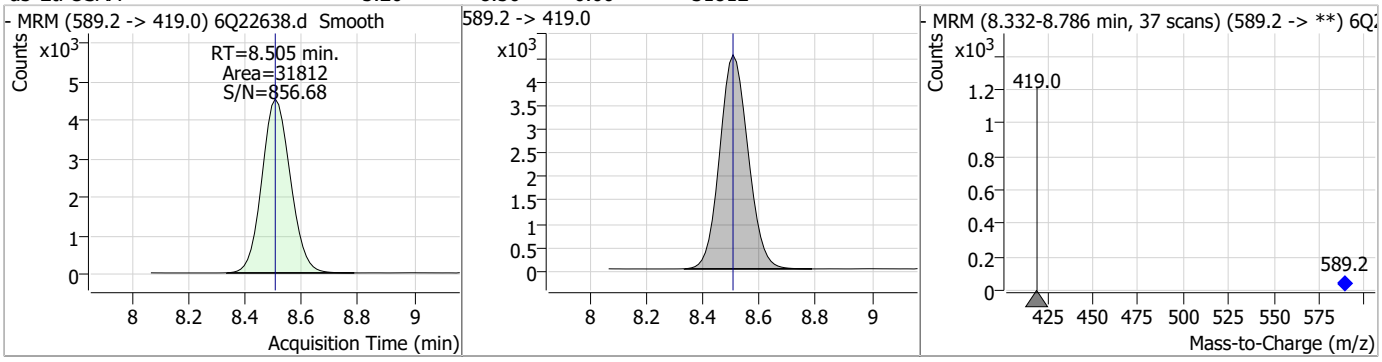


Perfluorinated Compounds by LC/MS/MS

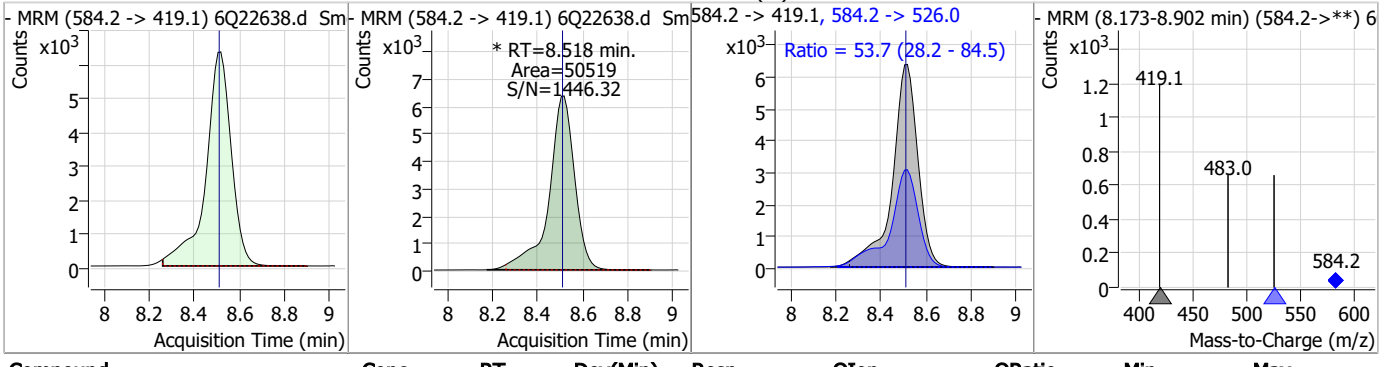
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	12.43	8.43	0.01	71547 (m)	498.9 -> 98.8	53.2	26.4	79.1



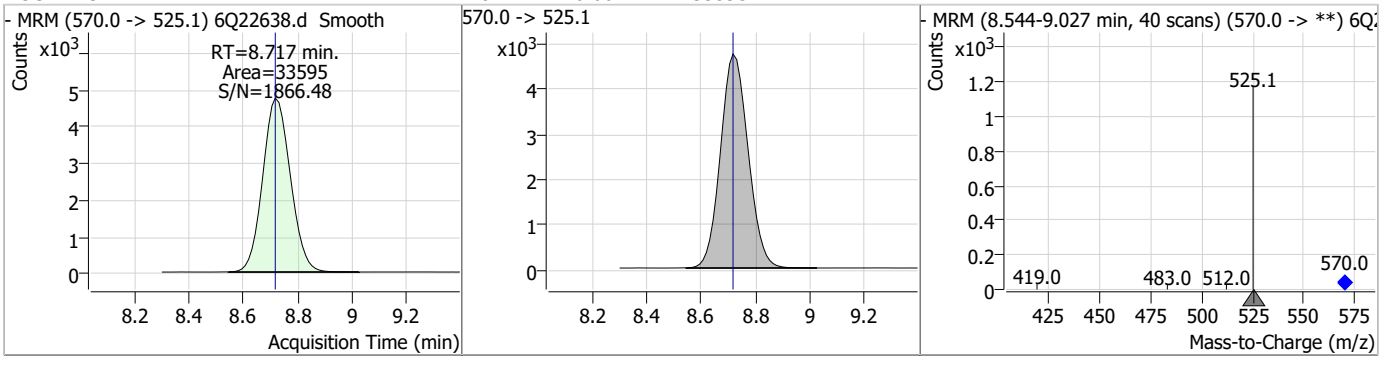
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.20	8.50	0.00	31812				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	12.60	8.52	0.01	50519 (m)	584.2 -> 526.0	53.7	28.2	84.5

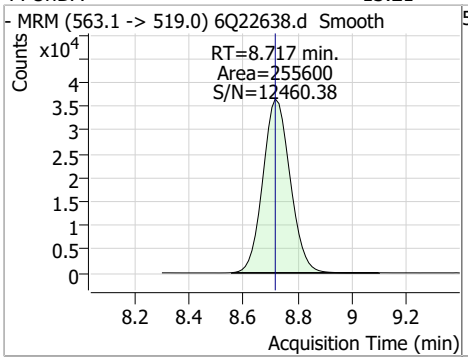


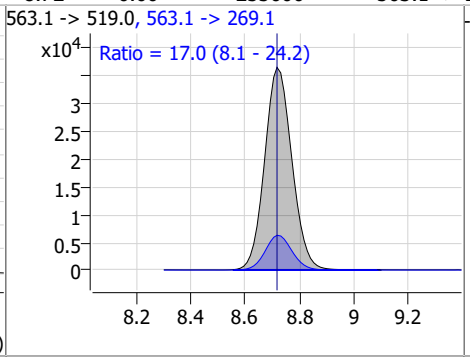
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.22	8.72	0.00	33595				

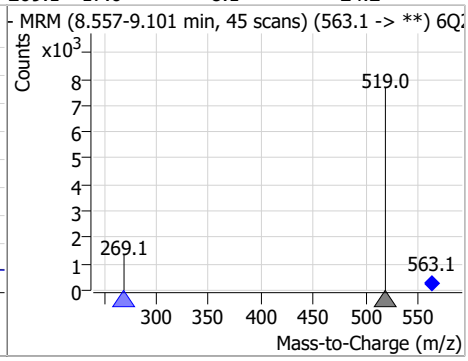


Perfluorinated Compounds by LC/MS/MS

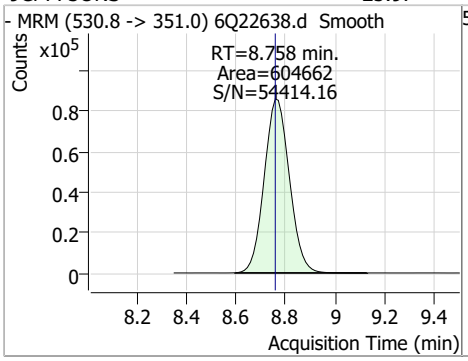
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	13.21	8.72	0.00	255600	563.1 -> 269.1	17.0	8.1	24.2

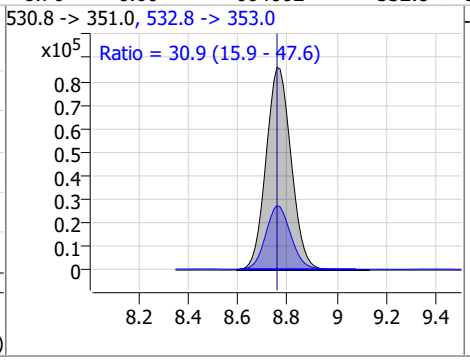


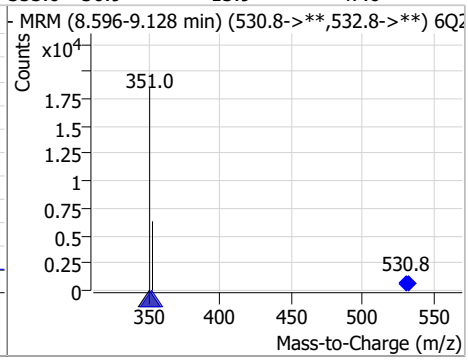




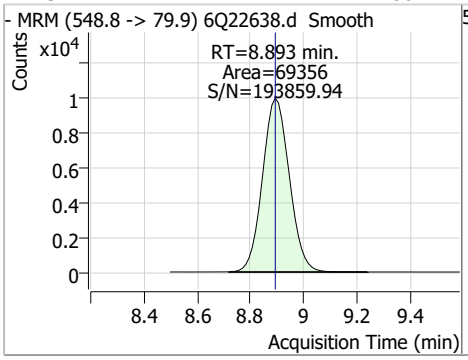
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	25.97	8.76	0.00	604662	532.8 -> 353.0	30.9	15.9	47.6

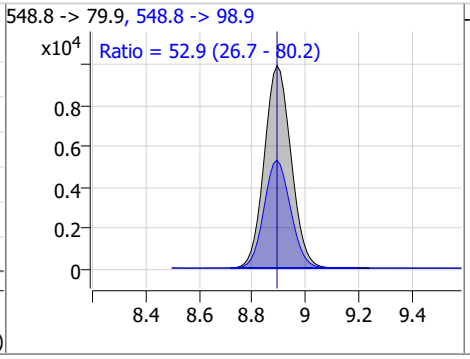


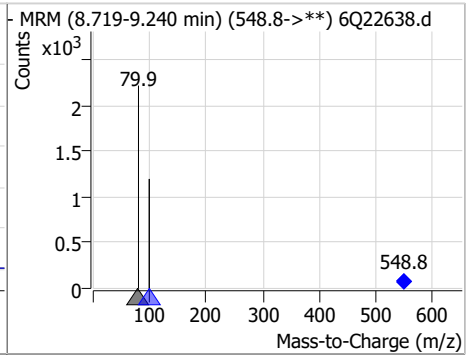




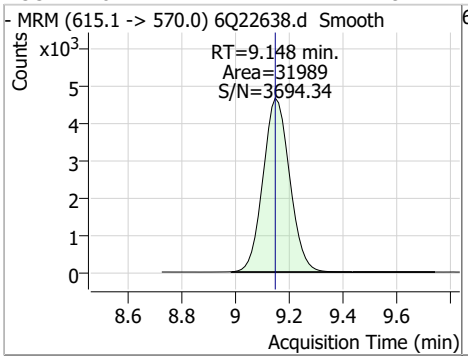
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	12.56	8.89	0.00	69356	548.8 -> 98.9	52.9	26.7	80.2

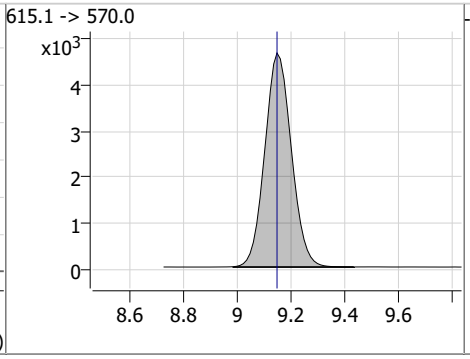


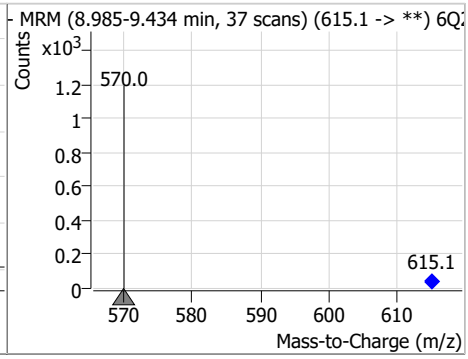




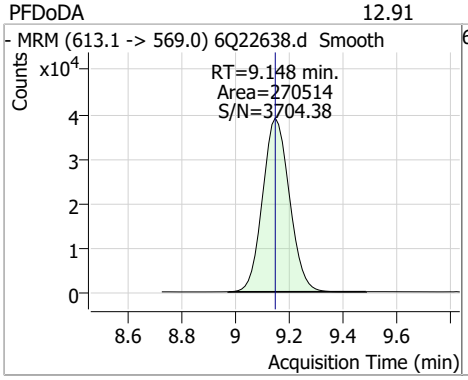
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.29	9.15	0.00	31989				

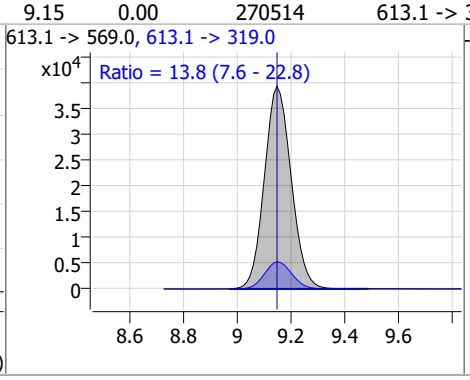


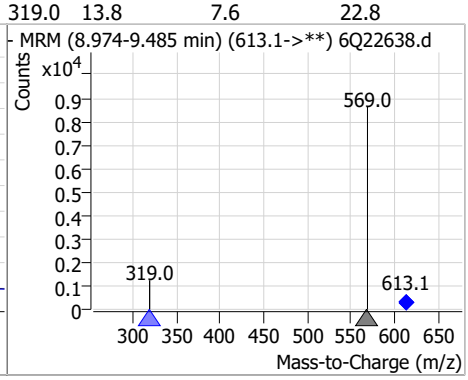




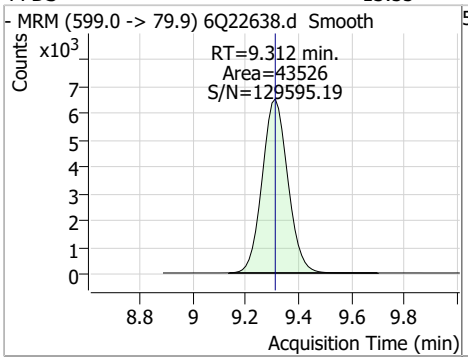
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	12.91	9.15	0.00	270514	613.1 -> 319.0	13.8	7.6	22.8

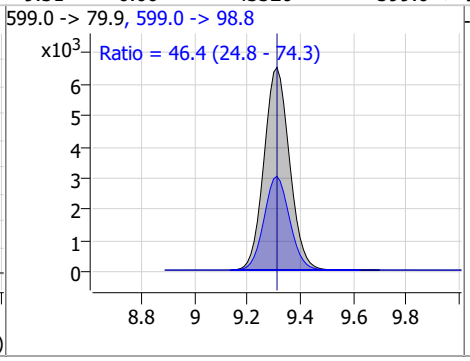


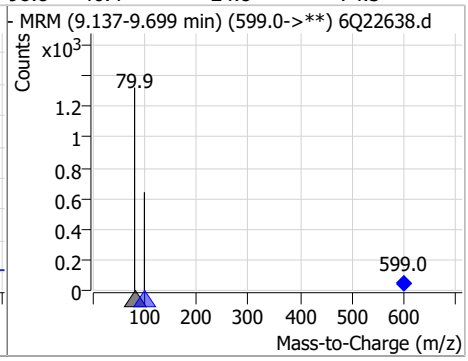




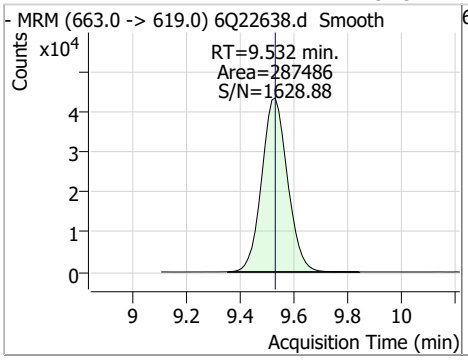
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	13.55	9.31	0.00	43526	599.0 -> 98.8	46.4	24.8	74.3

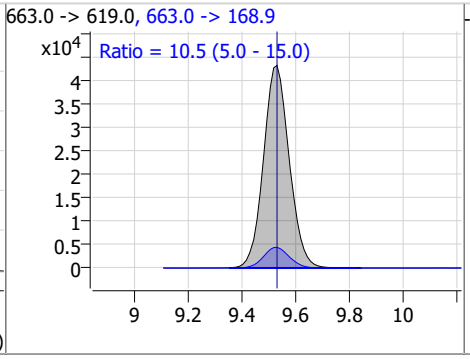


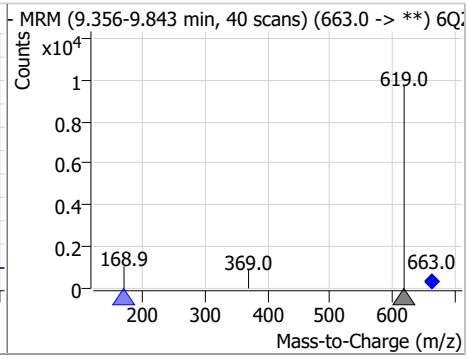




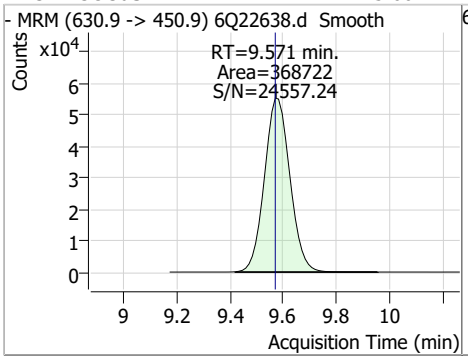
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	13.29	9.53	0.00	287486	663.0 -> 168.9	10.5	5.0	15.0

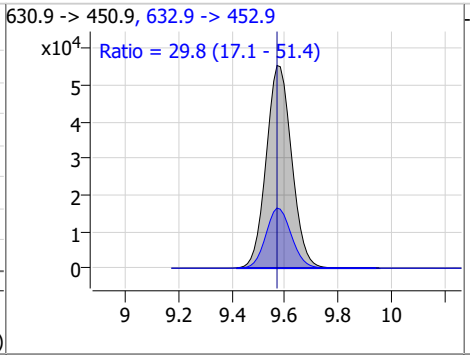


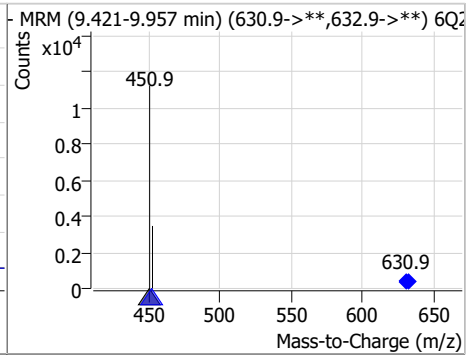




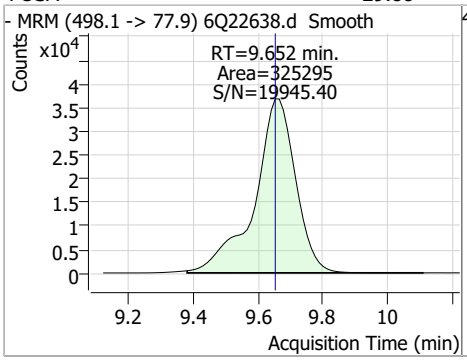
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	25.60	9.57	0.00	368722	632.9 -> 452.9	29.8	17.1	51.4

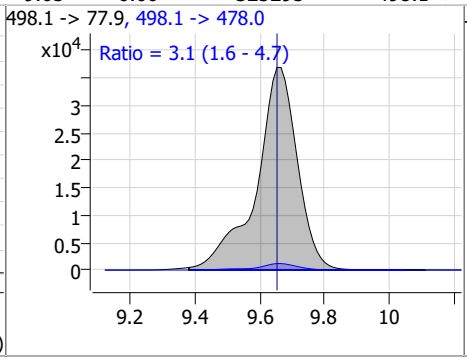


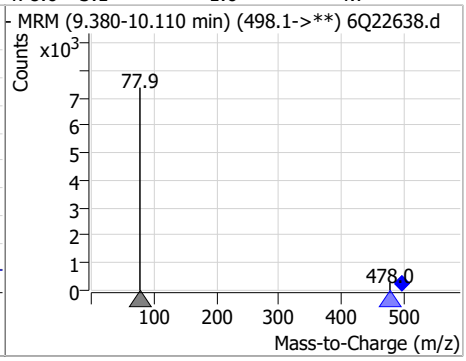




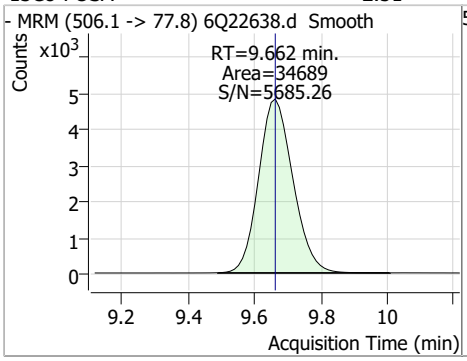
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	29.88	9.65	0.00	325295	498.1 -> 478.0	3.1	1.6	4.7

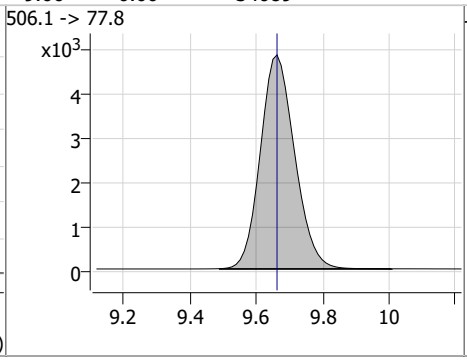


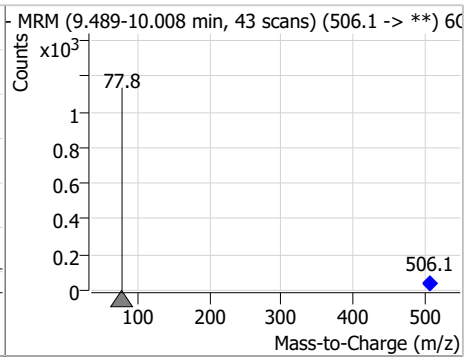




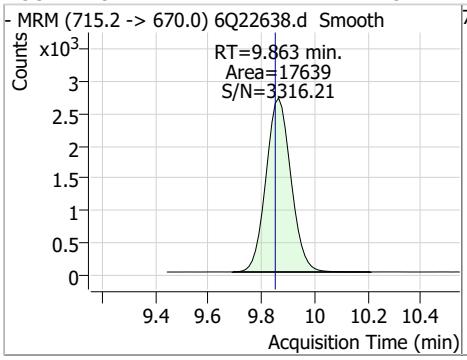
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.51	9.66	0.00	34689				

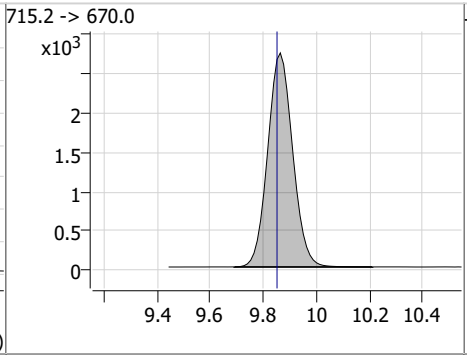


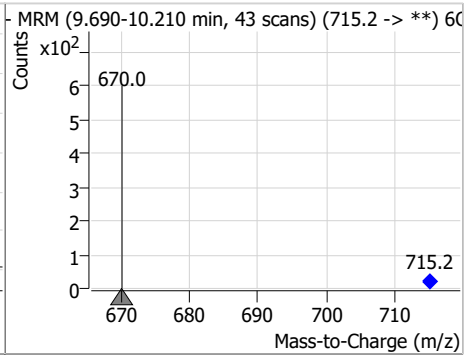




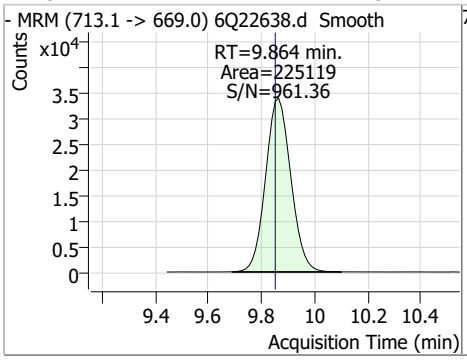
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.23	9.86	0.01	17639				

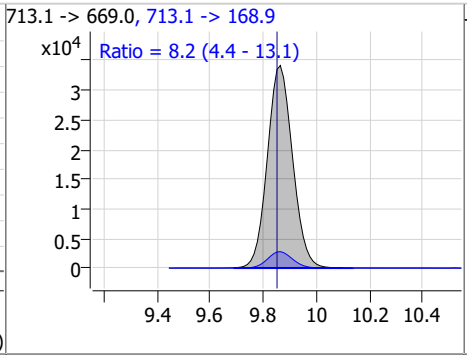


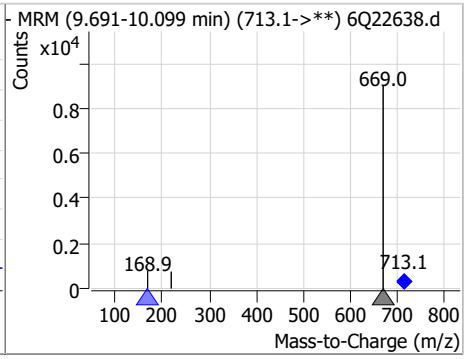




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	13.14	9.86	0.01	225119	713.1 -> 168.9	8.2	4.4	13.1

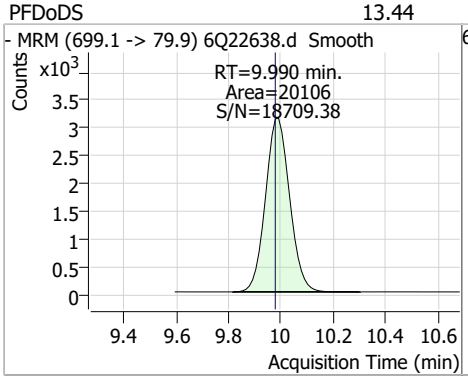


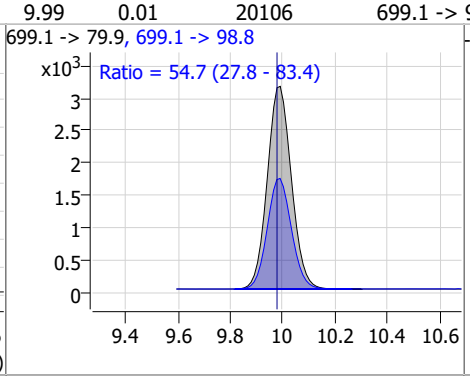


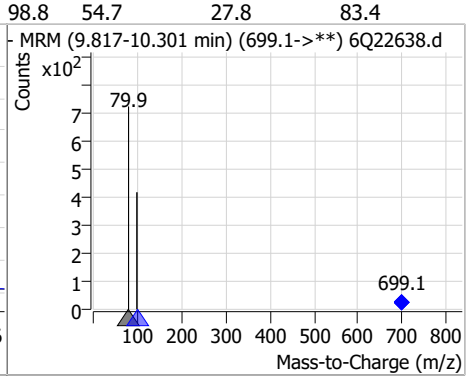


Perfluorinated Compounds by LC/MS/MS

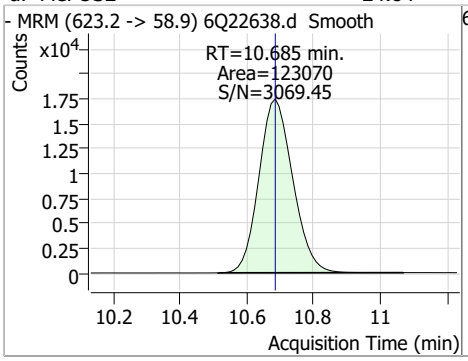
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	13.44	9.99	0.01	20106	699.1 -> 98.8	54.7	27.8	83.4

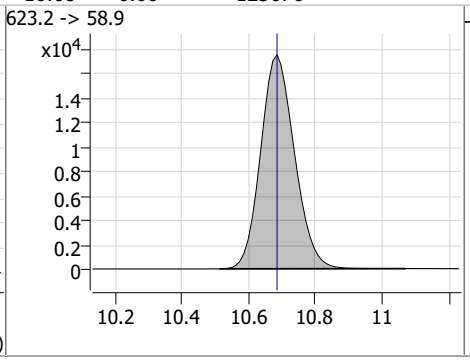


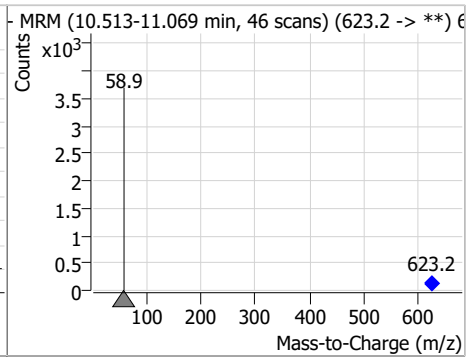




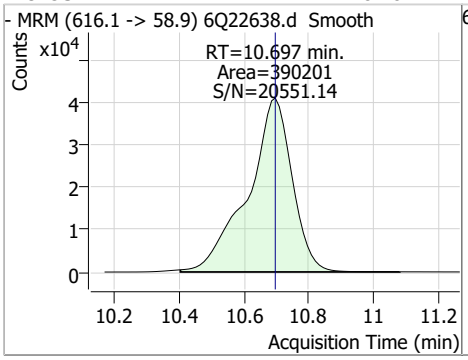
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.84	10.68	0.00	123070				

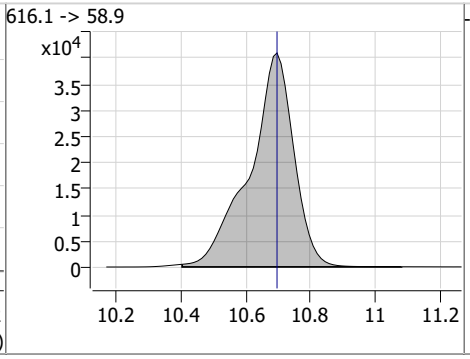


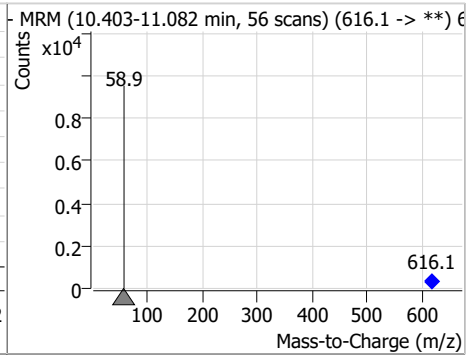




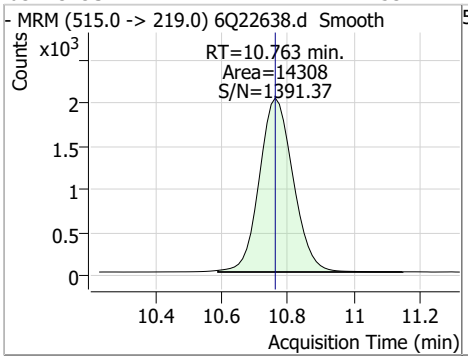
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	84.81	10.70	0.00	390201				

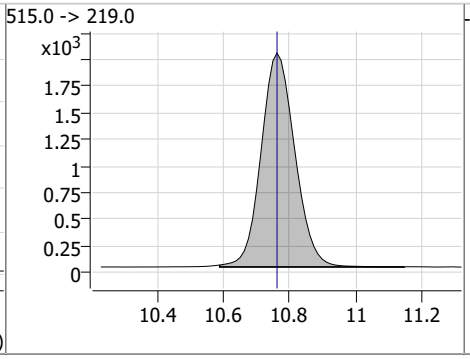


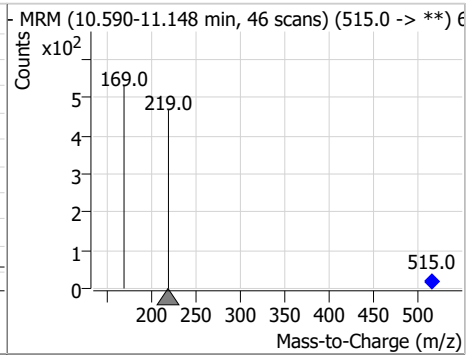




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.53	10.76	0.00	14308				

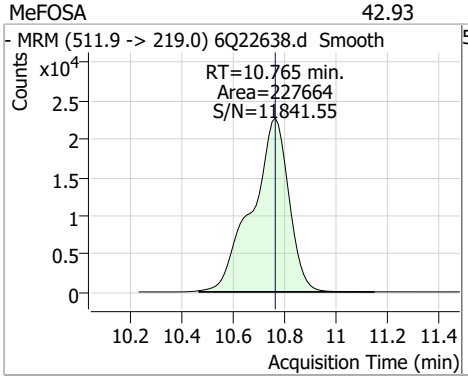


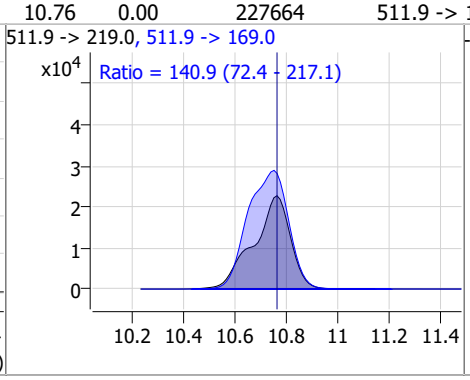


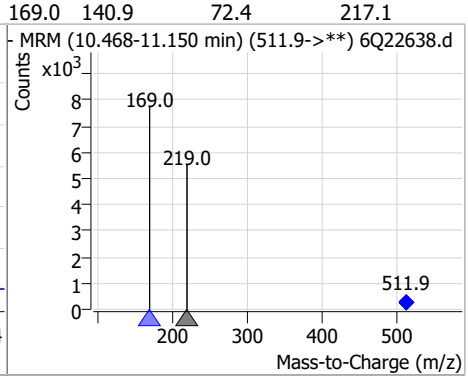


Perfluorinated Compounds by LC/MS/MS

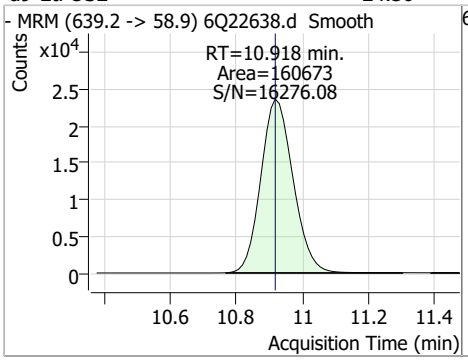
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	42.93	10.76	0.00	227664	511.9 -> 169.0	140.9	72.4	217.1

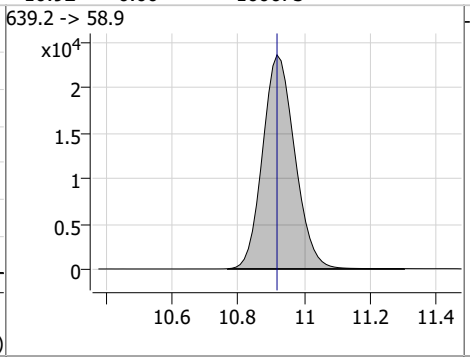


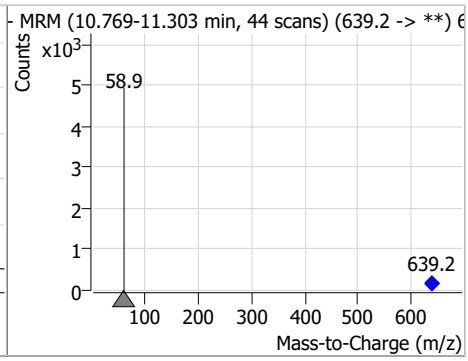




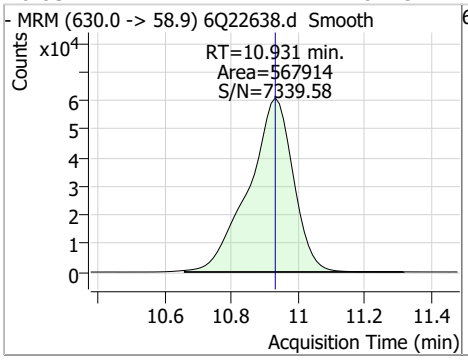
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.30	10.92	0.00	160673				

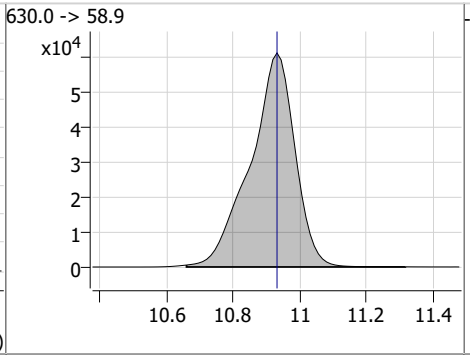


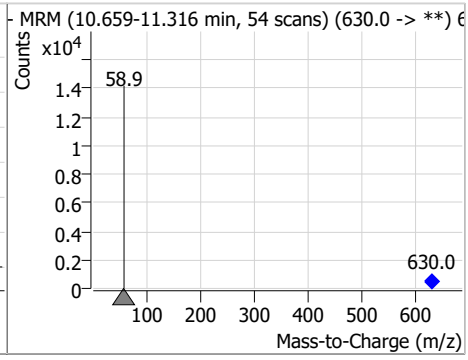




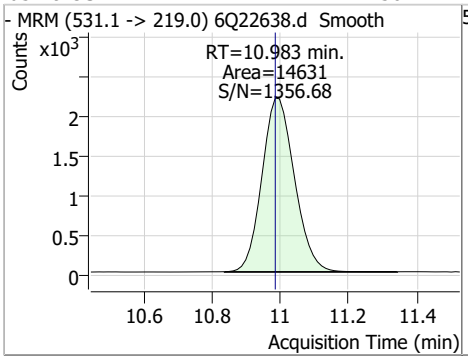
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	87.23	10.93	0.00	567914				

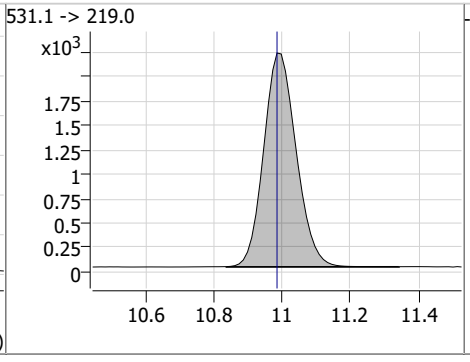


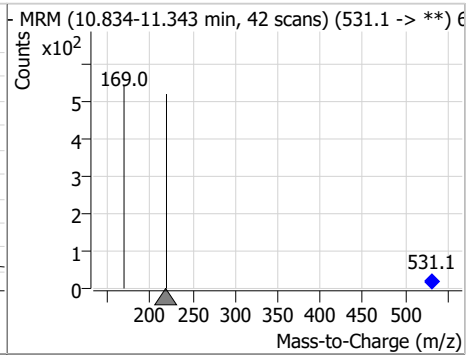




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.56	10.98	0.00	14631				

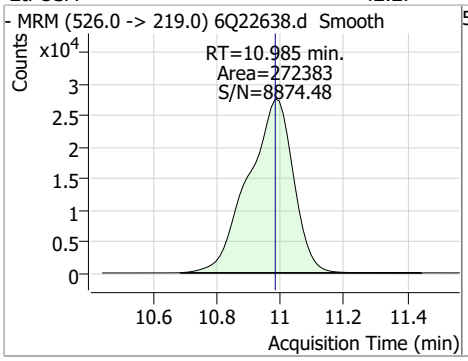


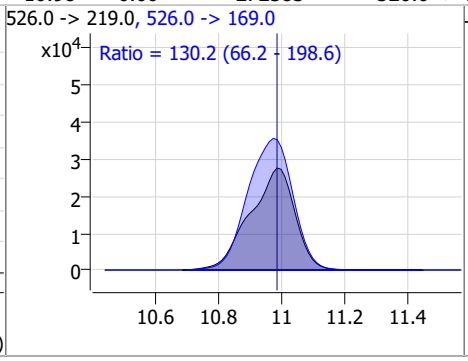


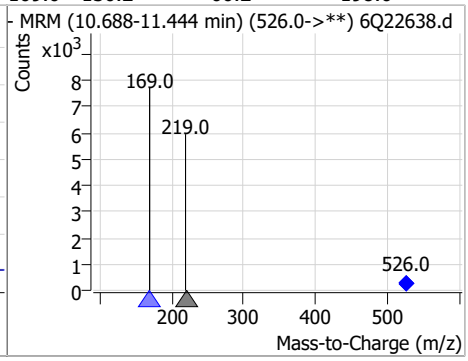


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	42.27	10.98	0.00	272383	526.0 -> 169.0	130.2	66.2	198.6







Manual Integration Approval Summary

Sample Number: S6Q330-RT
Lab FileID: 6Q22638.D
Injection Time: 08/10/23 13:09
Method: EPA DRAFT 1633
Analyst approved: 08/13/23 12:53 Martha Valls
Supervisor approved: 08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.24	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorononanoic acid	375-95-1		7.77	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.43	Split peak
EtFOSAA	2991-50-6		8.52	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/15/23 12:53

Perfluorinated Compounds by LC/MS/MS

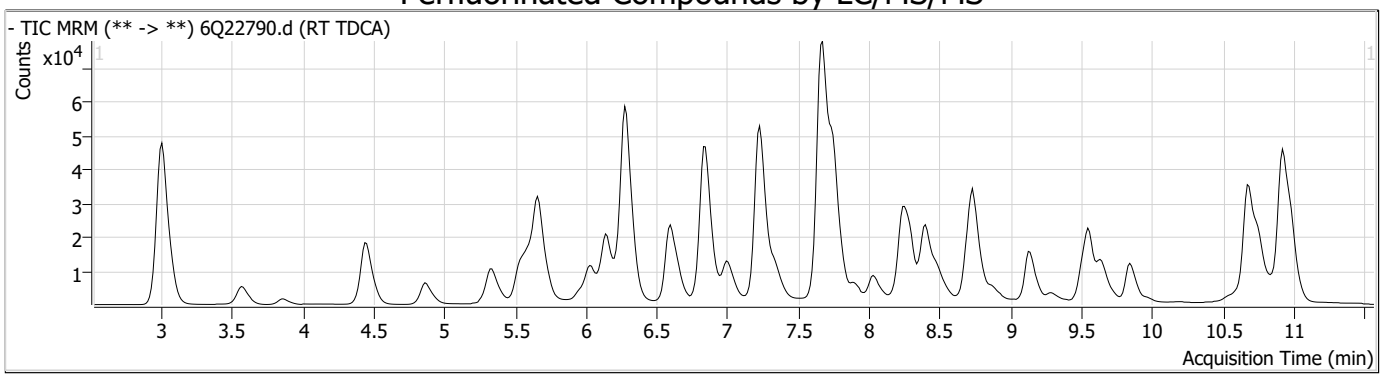
Data File : 6Q22790.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 2:39:42 PM
Sample Name : RT TDCA
Vial : P1-B3
DA Method File : TDCA.quantmethod.xml
Batch Name : s6q331 TDCA.batch.bin
Sample Information : OP98201,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Internal Standards							
M8-PFOS	8.401	507.1 -> 79.9	17653	2.50	µg/L		-0.025
13C4-PFOS	8.402	502.8 -> 79.9	24442	2.50	µg/L		-0.025
System Monitoring Compounds							
13C8-PFOS	8.401	507.1 -> 79.9	17653	1.83	µg/L		-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 73.3%			
Target Compounds							QValue
PFOS	8.403	498.9 -> 79.9	16061	2.66	µg/L	m	98
		498.9 -> 98.8	7823				
TCDCA	6.777	498.9 -> 79.9	3171	3.89	ng/ml		100
TDCA	6.938	498.9 -> 79.9	3899	5.29	ng/ml		100
TUDCA	5.949	498.9 -> 79.9	5011	3.20	ng/ml		100

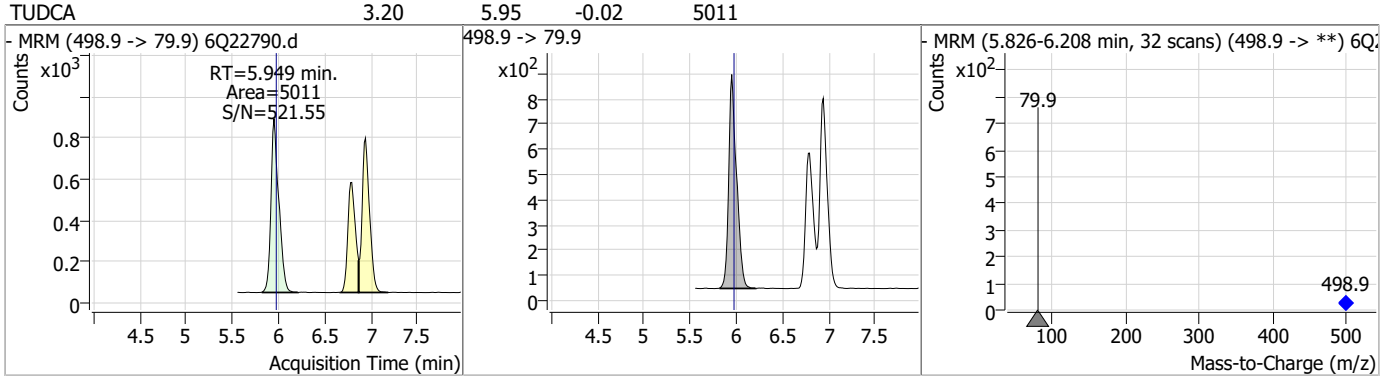
 # = Qualifier out of range, m = manually integrated, + = Area summed

7.6.3
7

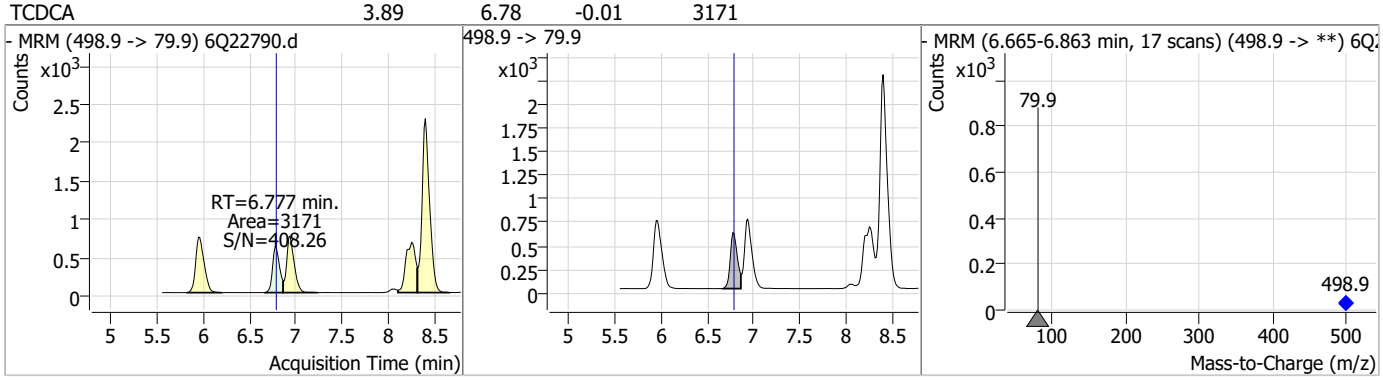
Perfluorinated Compounds by LC/MS/MS



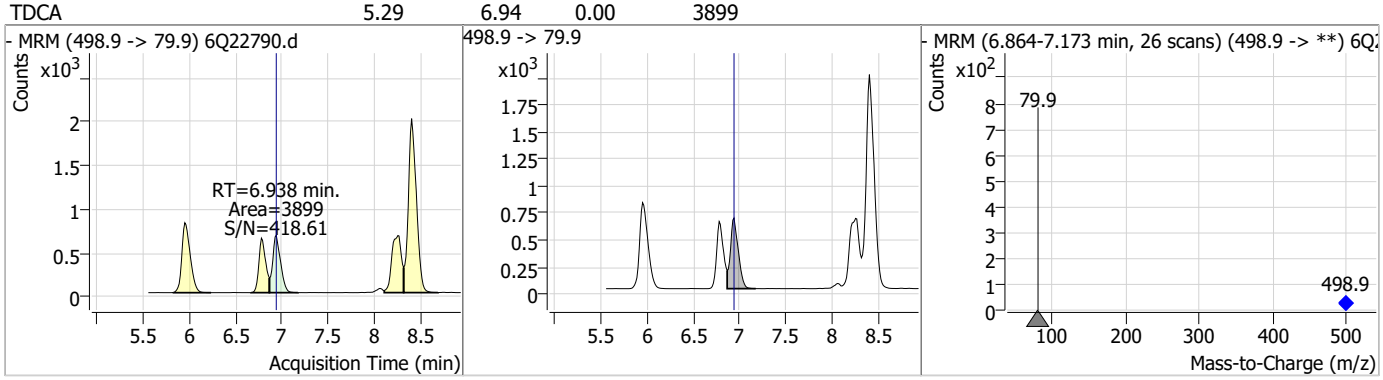
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TUDCA	3.20	5.95	-0.02	5011				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TCDCA	3.89	6.78	-0.01	3171				

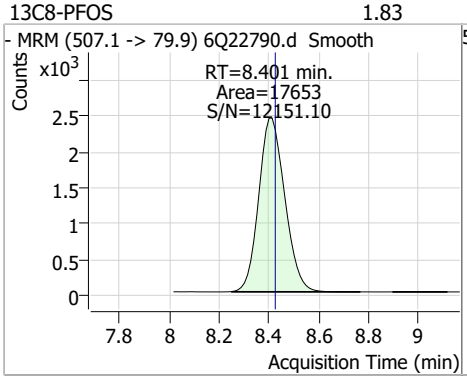


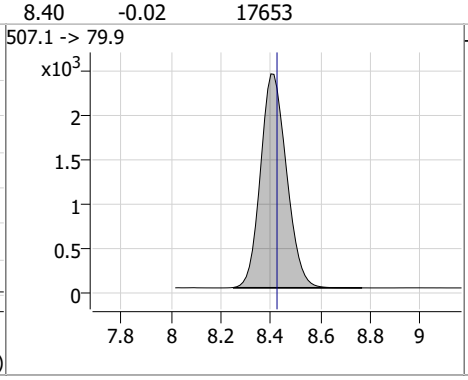
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TDCA	5.29	6.94	0.00	3899				

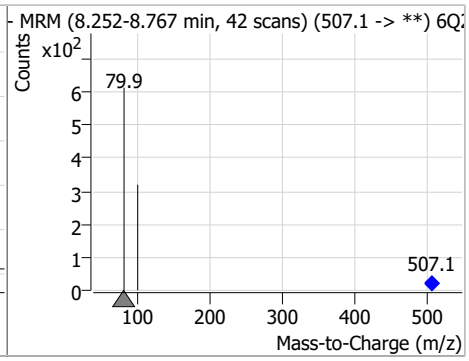


Perfluorinated Compounds by LC/MS/MS

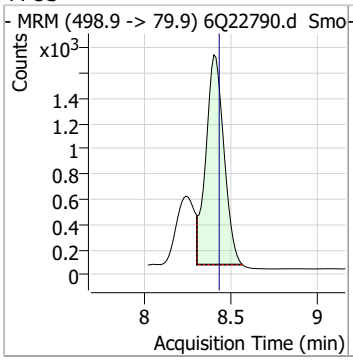
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.83	8.40	-0.02	17653				

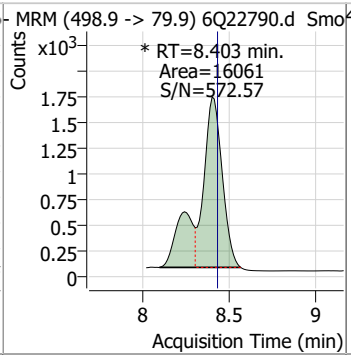


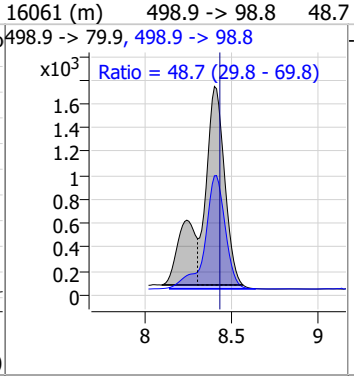


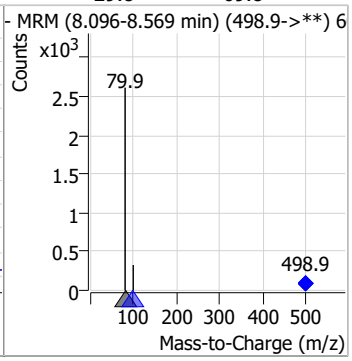


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.66	8.40	-0.02	16061 (m)	498.9 -> 98.8	48.7	29.8	69.8









Manual Integration Approval Summary

Sample Number:	S6Q331-RT	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22790.D	**Analyst approved:**	08/14/23 10:35 Martha Valls
Injection Time:	08/13/23 14:39	**Supervisor approved:**	08/15/23 12:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.40	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/15/23 12:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22791.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 2:54:01 PM
Sample Name : RT BR-LN
Vial : P1-B4
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98201,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	150153	10.00	µg/L	0.000
M5-PFPeA	4.447	268.3 -> 223.0	49288	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	51263	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	50842	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	79339	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	35810	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	22360	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	29916	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	26338	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	15753	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	30821	2.50	µg/L	0.000
M3-PFBS	5.599	302.1 -> 79.9	20184	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	12718	2.50	µg/L	-0.012
M8-PFOS	8.414	507.1 -> 79.9	12346	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	2037	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	3179	5.00	µg/L	-0.012
M2-8:2FTS	8.039	529.1 -> 80.9	3140	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	26093	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	35450	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	23126	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	123671	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	157210	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	11698	2.50	µg/L	0.012
M3-MeFOSA	10.763	515.0 -> 219.0	12416	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	16463	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	63540	5.00	µg/L	0.000
18O2-PFHxS	7.354	403.0 -> 83.9	9783	2.50	µg/L	0.000
13C4-PFOA	7.227	417.1 -> 372.0	88284	2.50	µg/L	-0.012
13C2-PFDA	8.251	515.1 -> 470.1	30110	1.25	µg/L	0.000
13C5-PFNA	7.758	468.0 -> 423.0	45347	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	51206	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2037	3.49	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 69.7%		
13C2-6:2FTS	7.001	429.1 -> 80.9	3179	3.77	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 75.4%		
13C2-8:2FTS	8.039	529.1 -> 80.9	3140	3.80	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 76.0%		
13C2-PFDoDA	9.135	615.1 -> 570.0	26338	1.29	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.6%		
13C2-PFTeDA	9.839	715.2 -> 670.0	15753	1.35	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.7%		
13C3-PFBS	5.599	302.1 -> 79.9	20184	2.43	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%		
13C3-PFHxS	7.342	402.1 -> 79.9	12718	2.37	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 = 94.6%	
13C4-PFBA	3.010	216.8 -> 171.9	150153	10.00 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C4-PFHpA	6.596	367.1 -> 322.0	50842	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C5-PFHxA	5.668	318.0 -> 273.0	51263	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%	
13C5-PFPeA	4.447	268.3 -> 223.0	49288	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C6-PFDA	8.238	519.1 -> 474.1	22360	1.32 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C7-PFUnDA	8.705	570.0 -> 525.1	29916	1.33 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C8-FOSA	9.662	506.1 -> 77.8	30821	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C8-PFOA	7.226	421.1 -> 376.0	79339	2.43 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.3%	
13C8-PFOS	8.414	507.1 -> 79.9	12346	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C9-PFNA	7.758	472.1 -> 427.0	35810	1.22 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.4%	
d3-MeFOSAA	8.297	573.2 -> 419.0	26093	4.38 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 87.6%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	35450	10.70 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 107.0%	
d3-MeFOSA	10.763	515.0 -> 219.0	12416	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%	
d5-EtFOSAA	8.492	589.2 -> 419.0	23126	4.21 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 84.1%	
d7-MeFOSE	10.685	623.2 -> 58.9	123671	27.79 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 111.2%	
d9-EtFOSE	10.918	639.2 -> 58.9	157210	26.48 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.9%	
d5-EtFOSA	10.996	531.1 -> 219.0	11698	2.28 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.3%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	139406	52.90 µg/L	100
		327.1 -> 80.9	54151		
6:2FTS	7.002	427.1 -> 407.0	131091	46.10 µg/L	98
		427.1 -> 80.9	45267		
8:2FTS	8.027	527.1 -> 507.0	77298	45.99 µg/L	97
		527.1 -> 80.8	29526		
EtFOSAA	8.493	584.2 -> 419.1	37425	12.84 µg/L	99
		584.2 -> 526.0	20789		
FOSA	9.652	498.1 -> 77.9	287259	29.70 µg/L	100
		498.1 -> 478.0	8757		
MeFOSAA	8.298	570.1 -> 419.0	62934	12.62 µg/L	97
		570.1 -> 483.0	12453		
PFBA	3.006	212.8 -> 168.9	244080	52.03 µg/L	100
PFBS	5.600	298.7 -> 79.9	77403	11.74 µg/L	98
		298.7 -> 98.8	29809		
PFDA	8.251	512.9 -> 469.0	335178	12.65 µg/L	98
		512.9 -> 219.0	51245		
PFDoDA	9.136	613.1 -> 569.0	214209	12.41 µg/L	100
		613.1 -> 319.0	32419		
PFDS	9.299	599.0 -> 79.9	37153	12.54 µg/L	96

Perfluorinated Compounds by LC/MS/MS

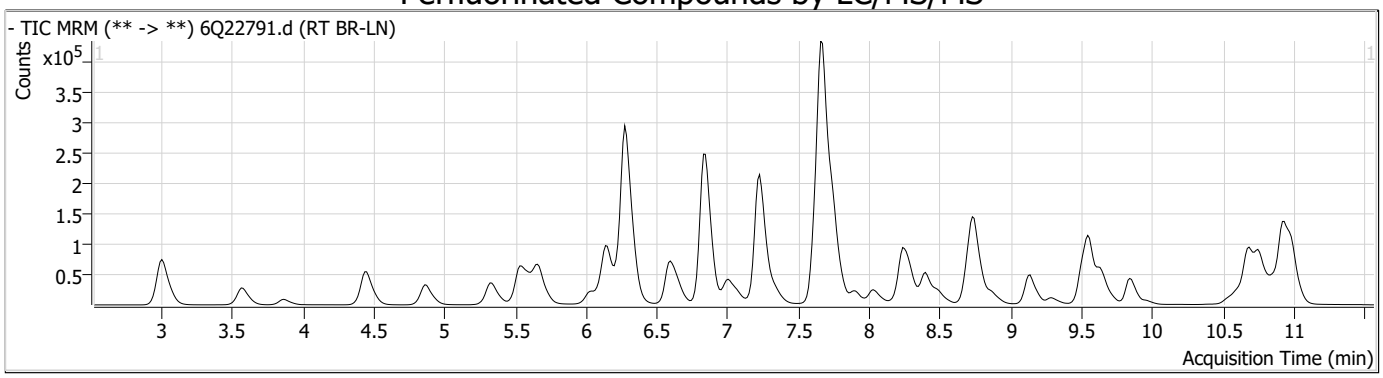
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	17442				
PFHpA	6.596	363.1 -> 319.0	282399	14.08	µg/L		98
		363.1 -> 169.0	44916				
PFHpS	7.909	449.0 -> 79.9	71920	12.75	µg/L		93
		449.0 -> 98.9	35024				
PFHxA	5.670	313.0 -> 269.0	219531	14.64	µg/L		100
		313.0 -> 118.9	11560				
PFHxS	7.343	398.7 -> 79.9	69572	12.40	µg/L	m	99
		398.7 -> 98.9	33461				
PFNA	7.621	463.0 -> 419.0	691124	28.08	µg/L	m	97
		463.0 -> 219.0	140633				
PFNS	8.880	548.8 -> 79.9	63706	12.51	µg/L		95
		548.8 -> 98.9	31736				
PFOA	7.228	413.0 -> 369.0	923814	28.49	µg/L	m	97
		413.0 -> 169.0	159898				
PFOS	8.415	498.9 -> 79.9	67832	12.78	µg/L	m	90
		498.9 -> 98.8	31137				
PFPeA	4.449	263.0 -> 219.0	289579	26.67	µg/L		100
PFPeS	6.660	349.1 -> 79.9	66470	12.77	µg/L		99
		349.1 -> 98.9	29998				
PFTeDA	9.852	713.1 -> 669.0	179476	11.73	µg/L		100
		713.1 -> 168.9	15562				
PFTrDA	9.507	663.0 -> 619.0	224148	12.59	µg/L		98
		663.0 -> 168.9	23736				
PFUnDA	8.705	563.1 -> 519.0	229150	13.30	µg/L		99
		563.1 -> 269.1	35749				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	321954	25.45	µg/L		93
		632.9 -> 452.9	98072				
9Cl-PF3ONS	8.745	530.8 -> 351.0	485113	23.72	µg/L		100
		532.8 -> 353.0	154879				
ADONA	6.846	376.9 -> 250.9	1101631	24.40	µg/L		99
		376.9 -> 84.8	298972				
HFPO-DA	6.046	284.9 -> 168.9	76402	25.33	µg/L		99
		284.9 -> 184.9	8505				
3:3FTCA	3.859	241.0 -> 177.0	48135	64.89	µg/L		99
		241.0 -> 117.0	6357				
5:3FTCA	6.285	341.0 -> 237.1	983491	318.89	µg/L		94
		341.0 -> 217.0	749399				
7:3FTCA	7.673	441.0 -> 316.9	737436	323.28	µg/L		95
		441.0 -> 336.9	1625823				
EtFOSA	10.985	526.0 -> 219.0	232595	45.14	µg/L		100
		526.0 -> 169.0	308730				
EtFOSE	10.931	630.0 -> 58.9	549247	86.22	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	198743	43.19	µg/L		95
		511.9 -> 169.0	276330				
MeFOSE	10.697	616.1 -> 58.9	382346	82.70	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	17238	12.50	µg/L		99
		699.1 -> 98.8	9507				
NFDHA	5.538	295.0 -> 201.0	52010	27.27	µg/L		96
		295.0 -> 84.9	13707				
PFMBA	4.869	279.0 -> 85.1	205404	26.75	µg/L		100
PFMPA	3.576	229.0 -> 84.9	167590	27.27	µg/L		100
PFEESA	6.151	314.8 -> 134.9	511100	25.37	µg/L		99
		314.8 -> 82.9	18904				

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

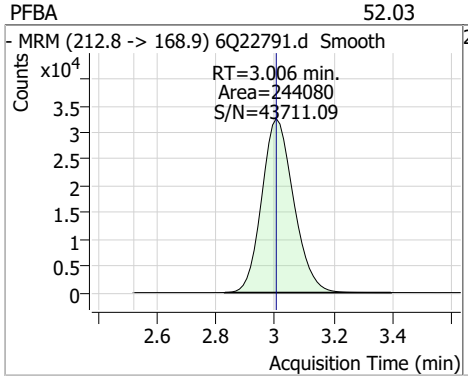
Perfluorinated Compounds by LC/MS/MS

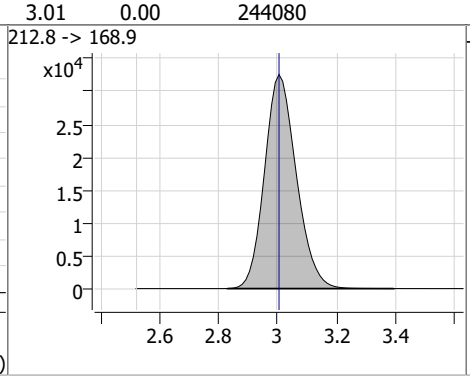
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

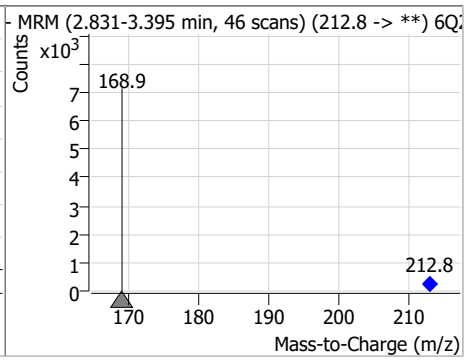
Perfluorinated Compounds by LC/MS/MS



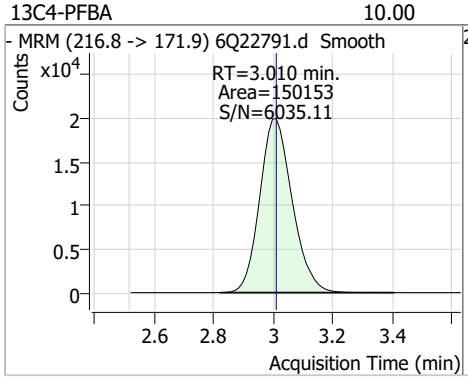
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	52.03	3.01	0.00	244080				

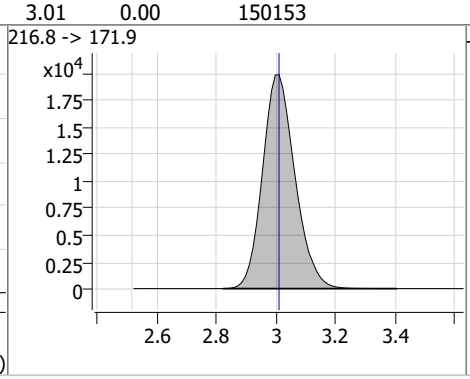


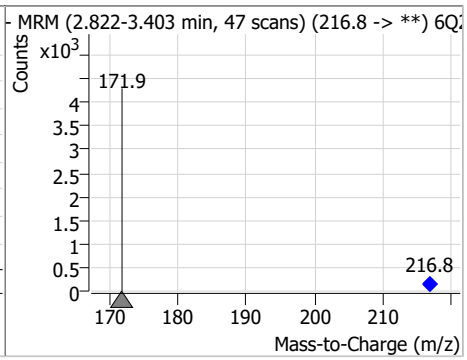




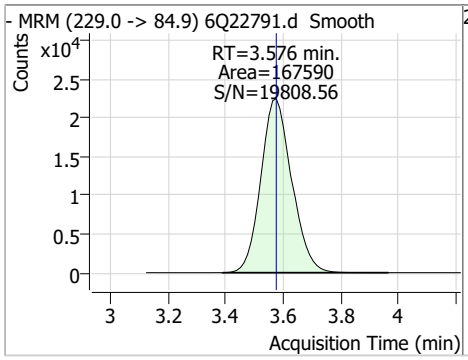
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.00	3.01	0.00	150153				

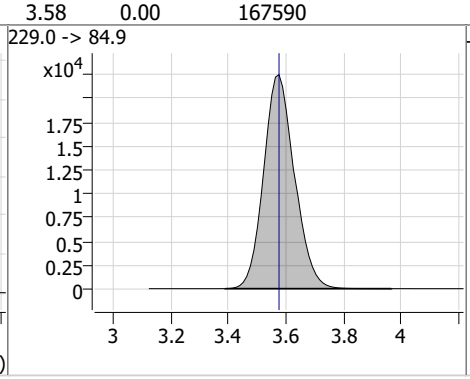


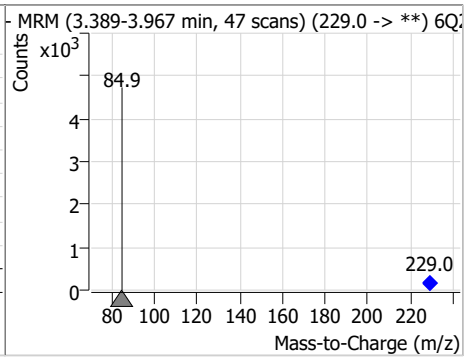




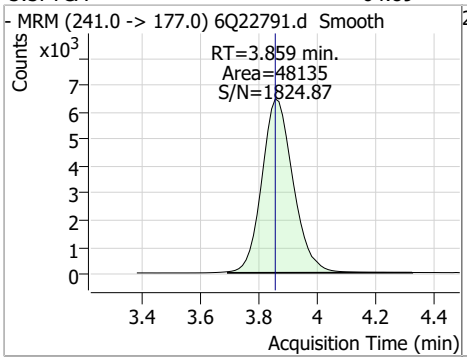
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	27.27	3.58	0.00	167590				

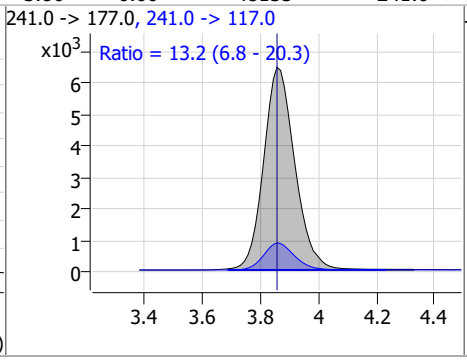


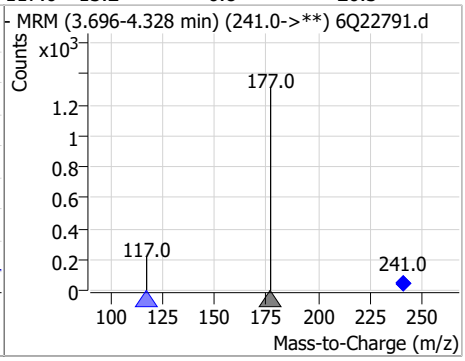




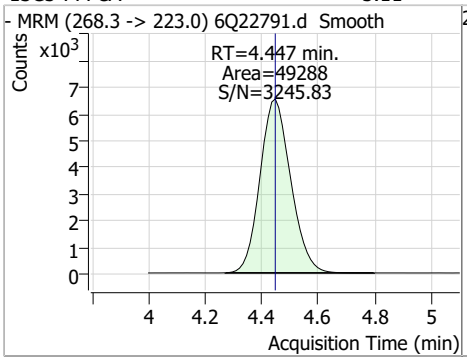
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	64.89	3.86	0.00	48135	241.0 -> 117.0	13.2	6.8	20.3

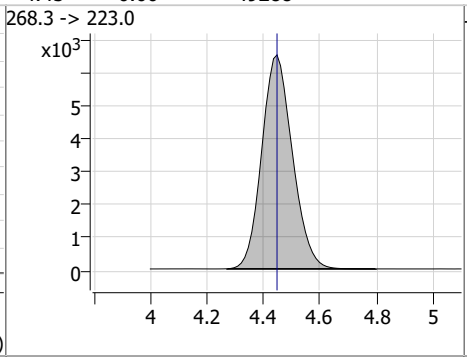


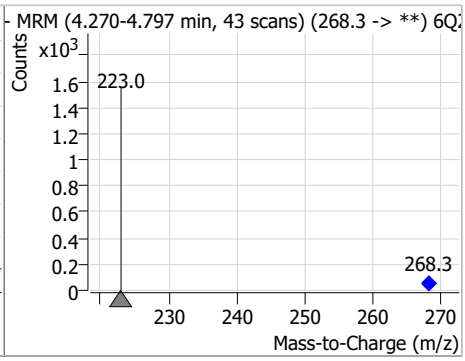




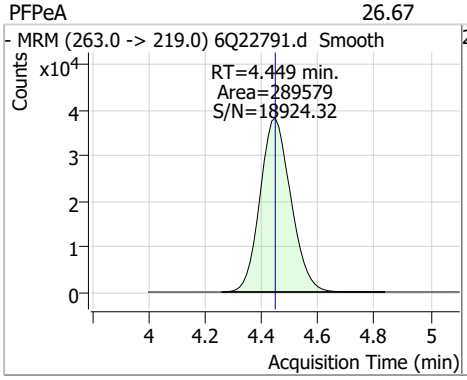
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.11	4.45	0.00	49288				

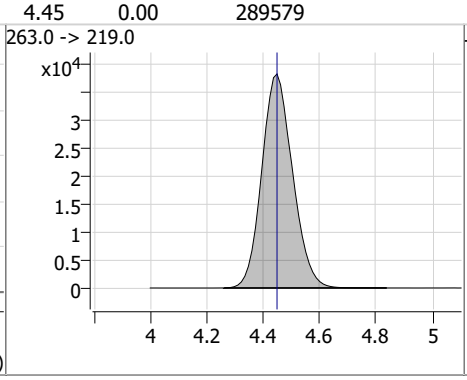


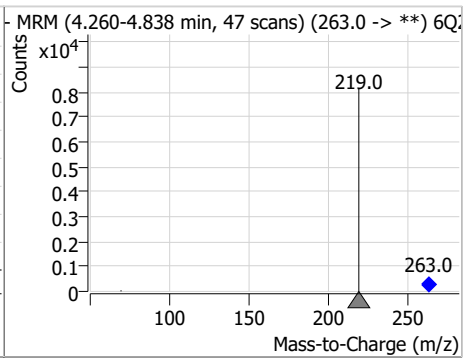




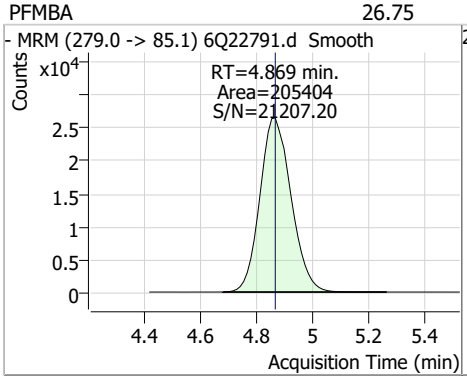
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	26.67	4.45	0.00	289579				

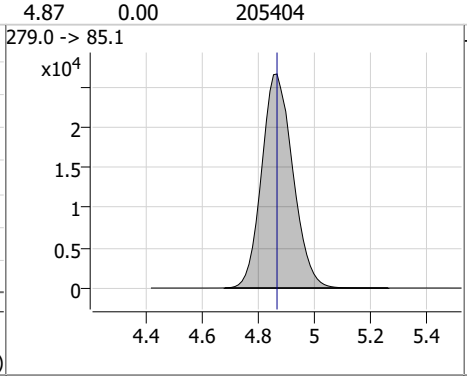


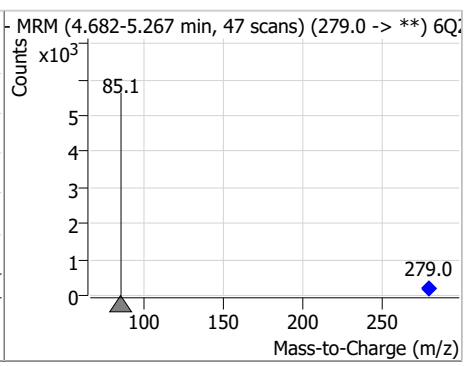




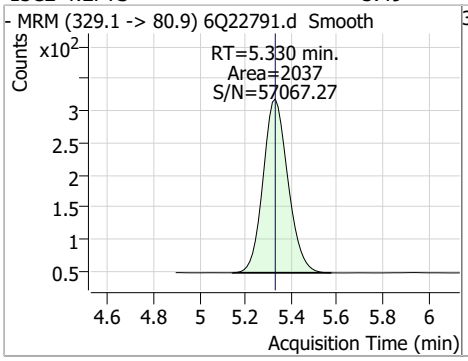
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	26.75	4.87	0.00	205404				

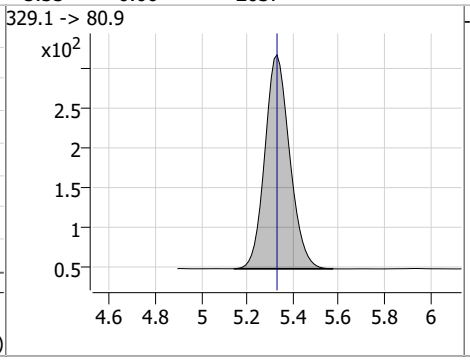


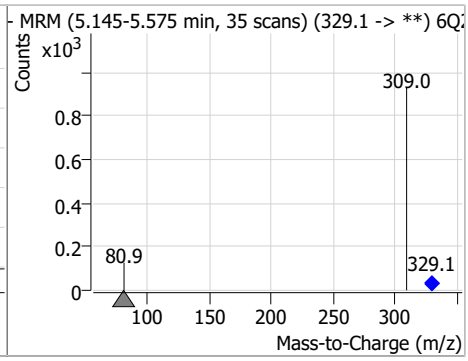




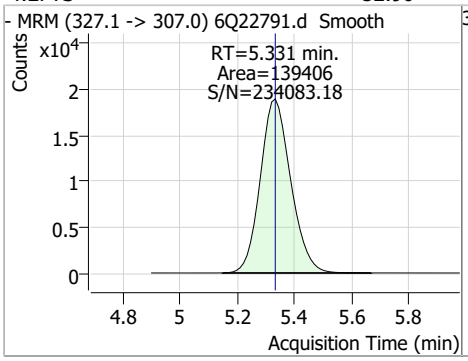
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	3.49	5.33	0.00	2037				

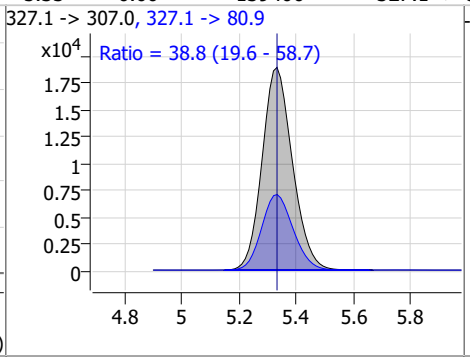


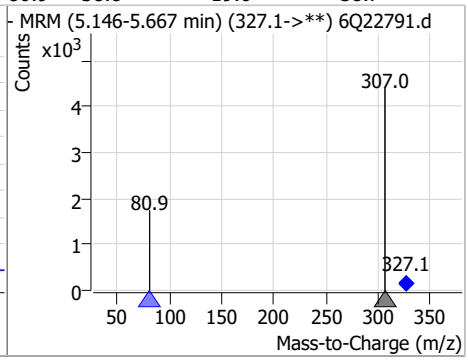




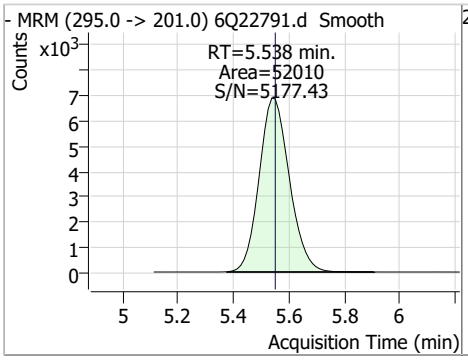
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	52.90	5.33	0.00	139406	327.1 -> 80.9	38.8	19.6	58.7

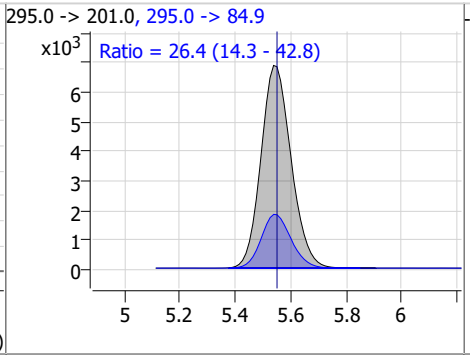


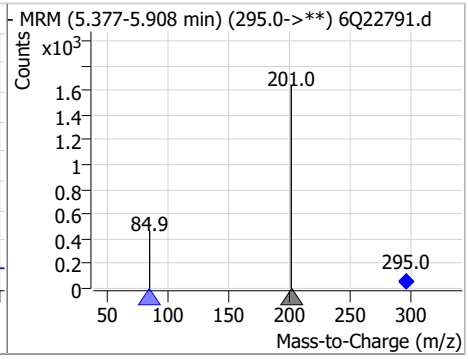




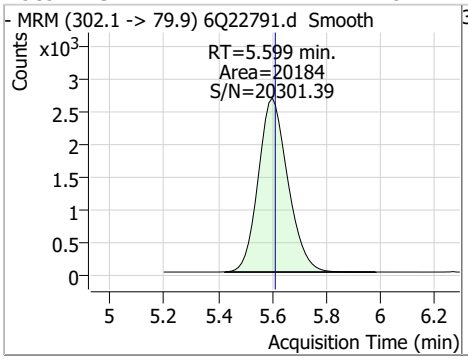
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	27.27	5.54	-0.01	52010	295.0 -> 84.9	26.4	14.3	42.8

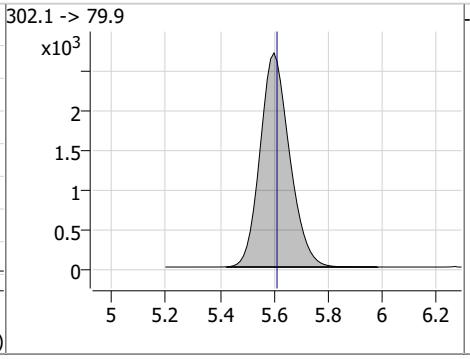


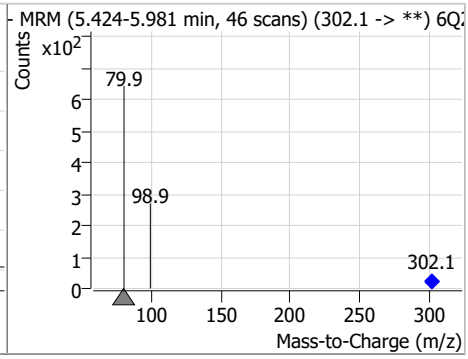




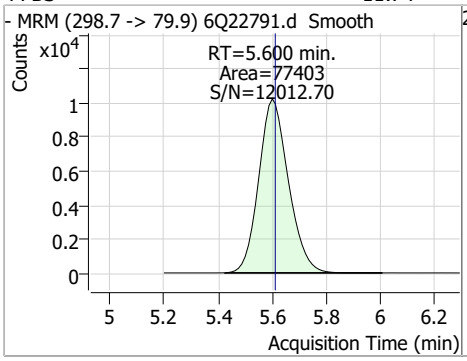
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.43	5.60	-0.01	20184				

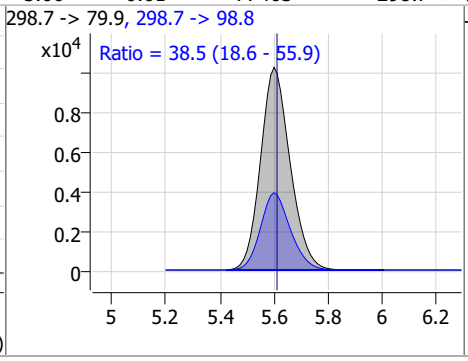


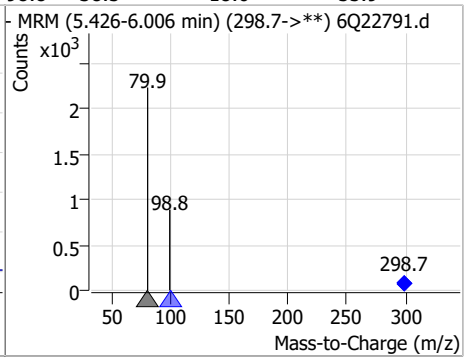




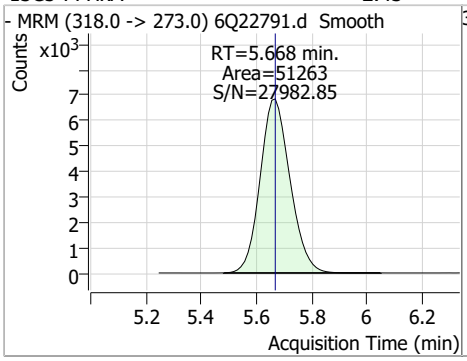
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	11.74	5.60	-0.01	77403	298.7 -> 98.8	38.5	18.6	55.9

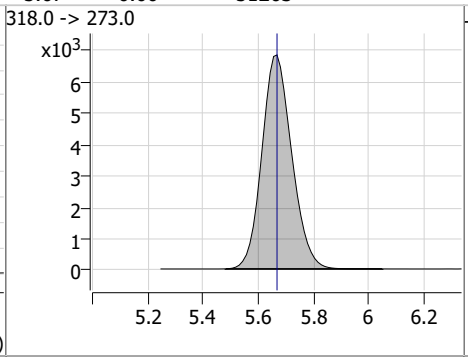


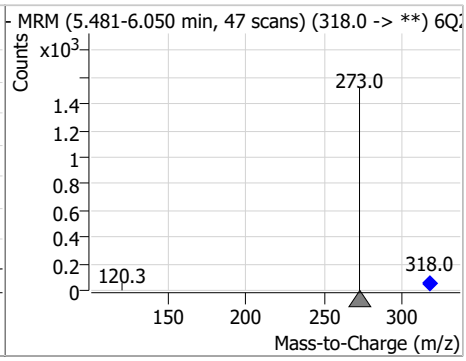




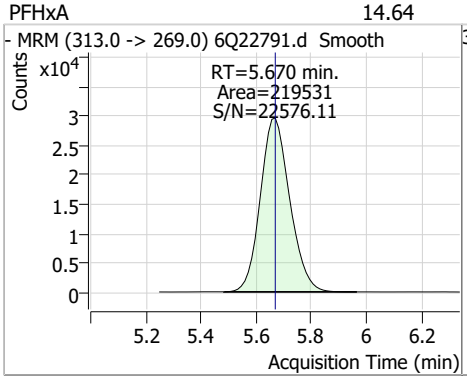
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.43	5.67	0.00	51263				

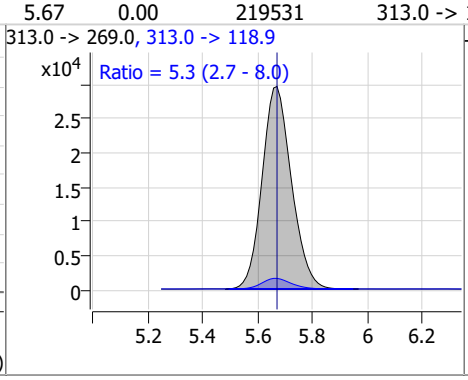


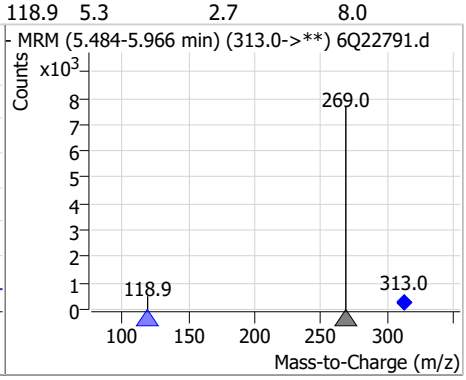




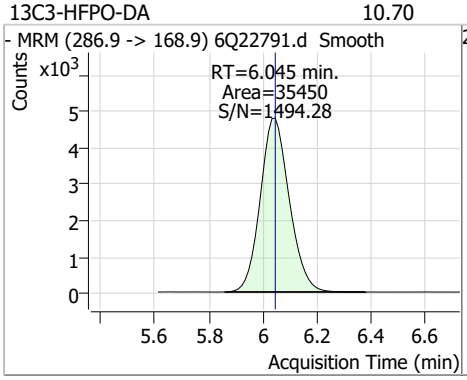
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	14.64	5.67	0.00	219531	313.0 -> 118.9	5.3	2.7	8.0

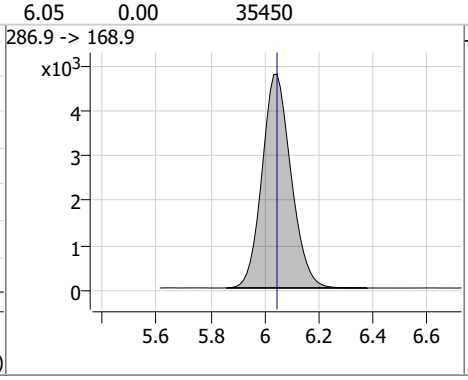


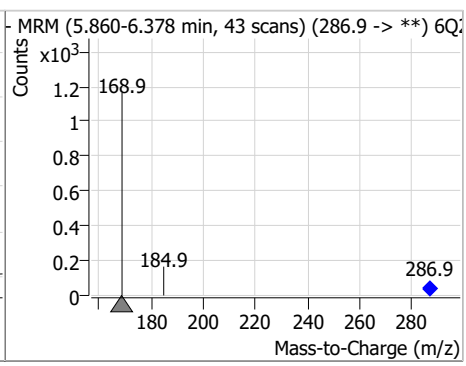




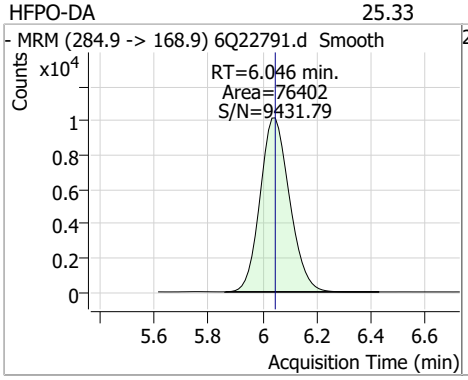
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.70	6.05	0.00	35450				

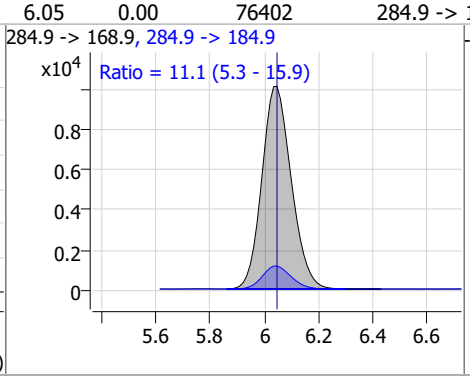


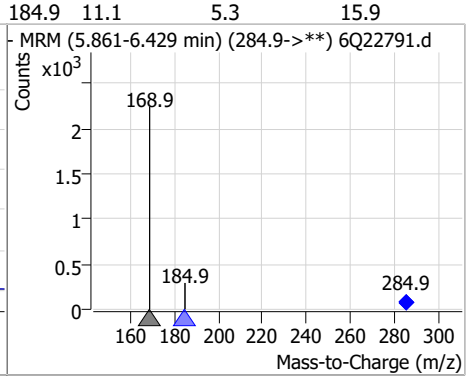




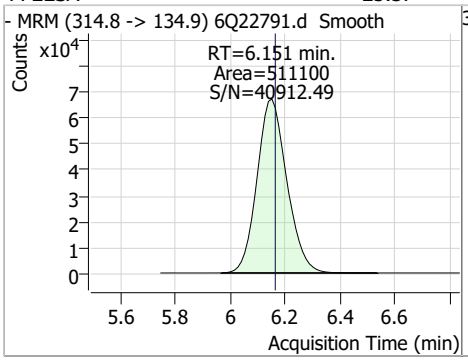
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	25.33	6.05	0.00	76402	284.9 -> 184.9	11.1	5.3	15.9

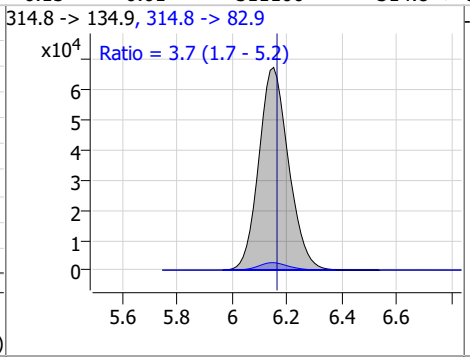


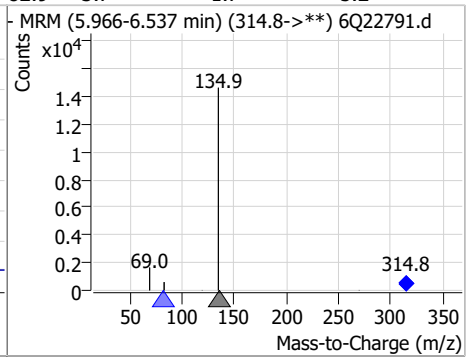




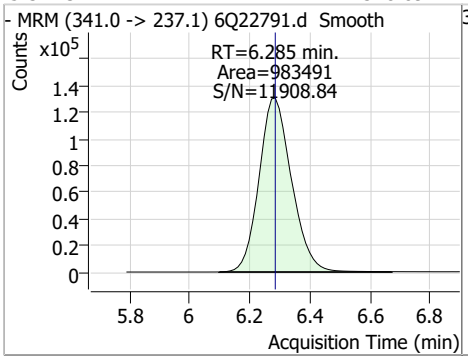
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	25.37	6.15	-0.01	511100	314.8 -> 82.9	3.7	1.7	5.2

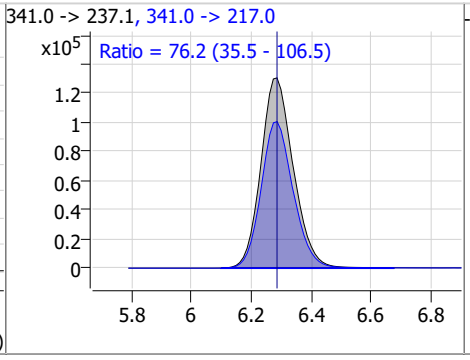


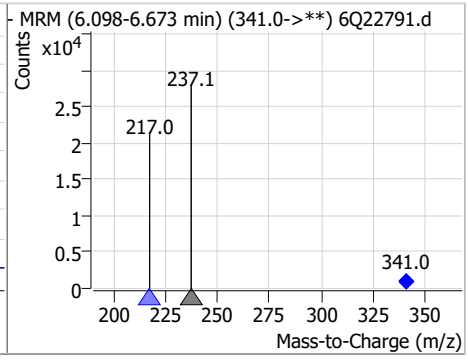




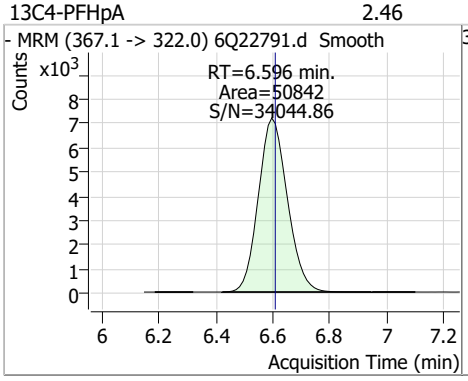
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	318.89	6.28	0.00	983491	341.0 -> 217.0	76.2	35.5	106.5

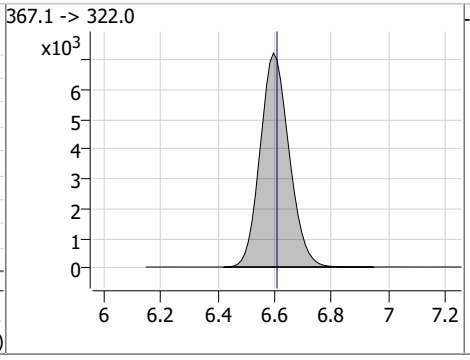


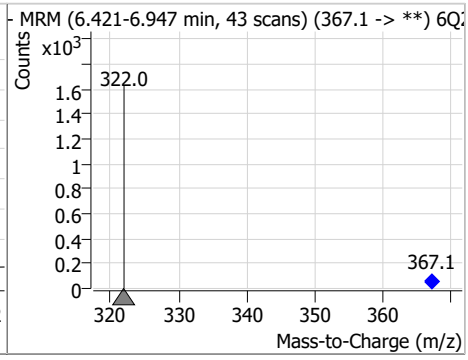




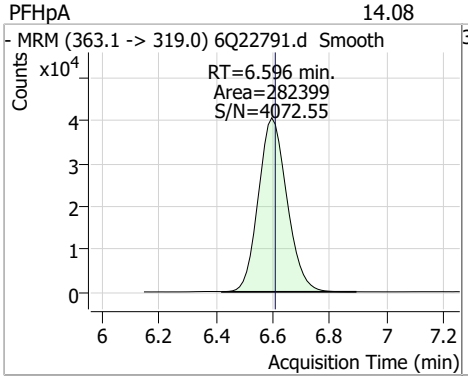
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.46	6.60	-0.01	50842				

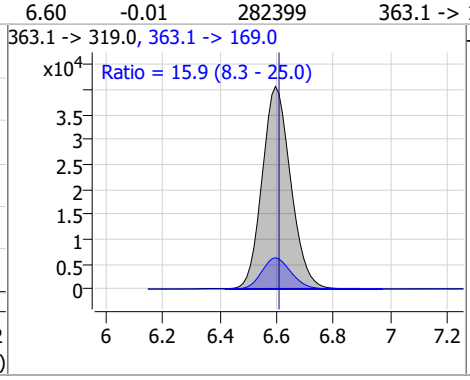


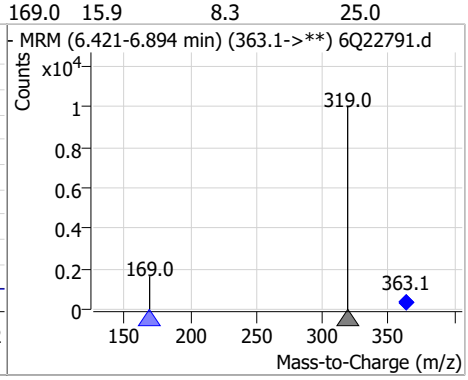




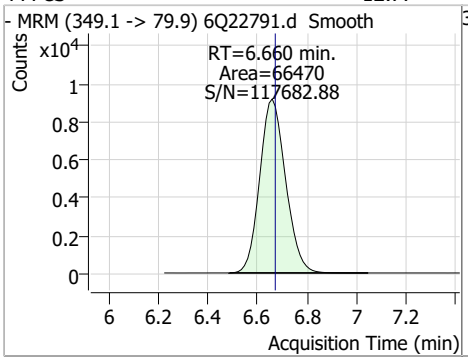
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	14.08	6.60	-0.01	282399	363.1 -> 169.0	15.9	8.3	25.0

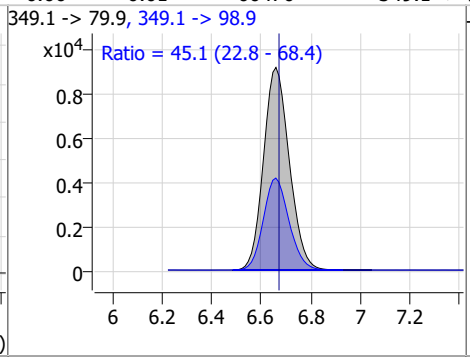


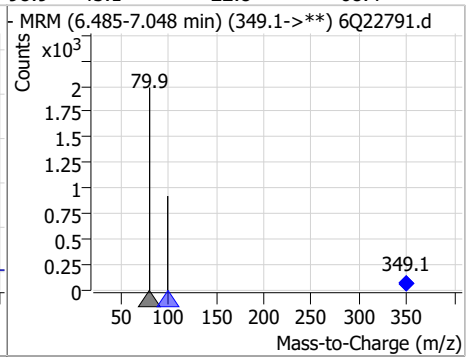




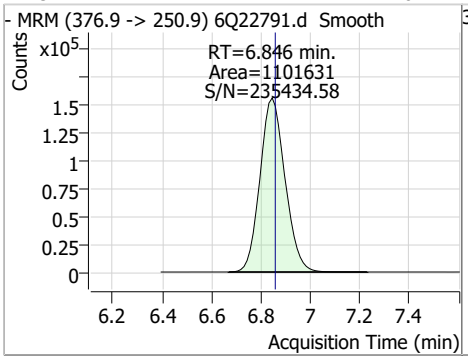
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	12.77	6.66	-0.01	66470	349.1 -> 98.9	45.1	22.8	68.4

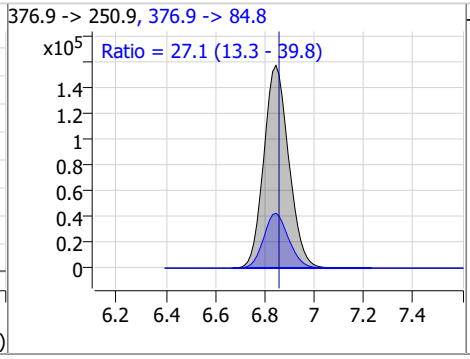


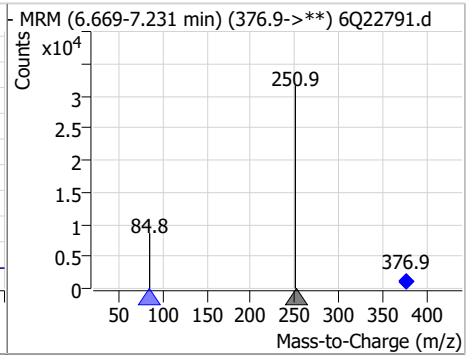




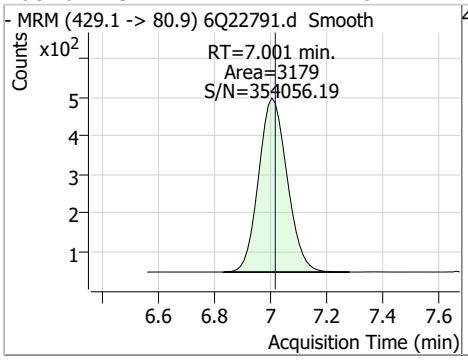
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	24.40	6.85	-0.01	1101631	376.9 -> 84.8	27.1	13.3	39.8

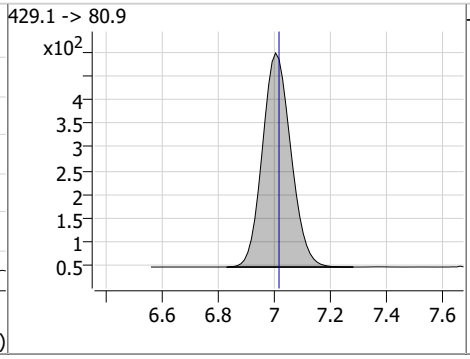


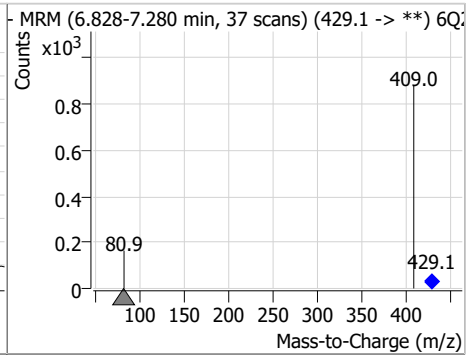




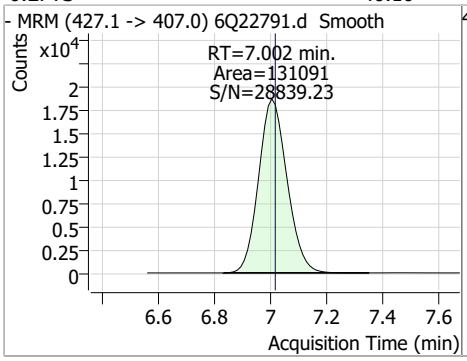
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	3.77	7.00	-0.01	3179				

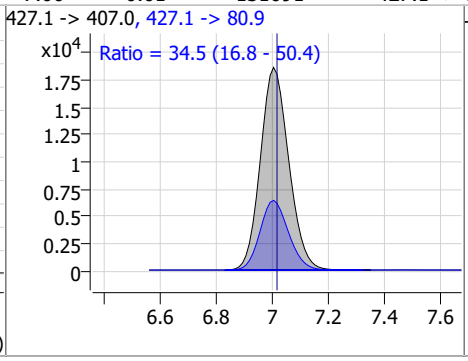


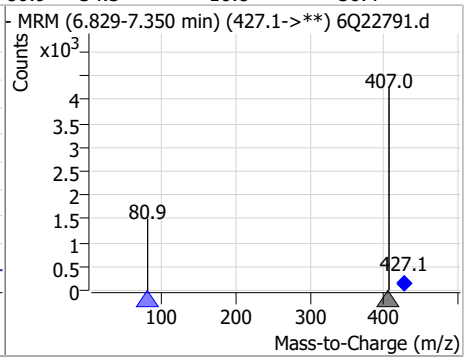




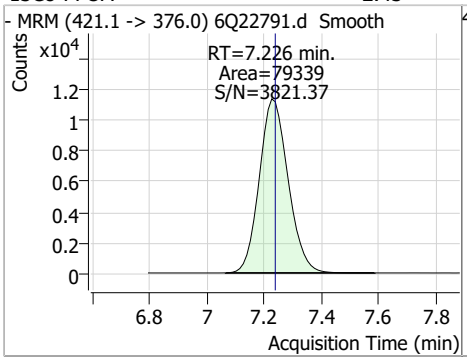
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	46.10	7.00	-0.01	131091	427.1 -> 80.9	34.5	16.8	50.4

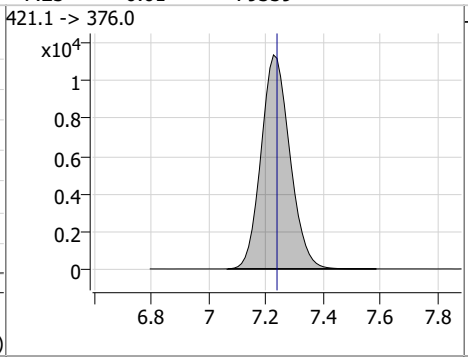


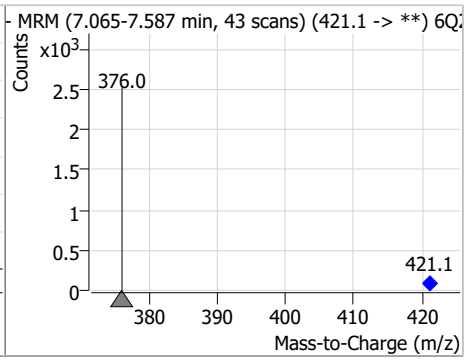




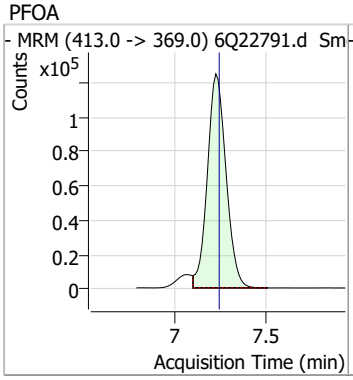
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.43	7.23	-0.01	79339				

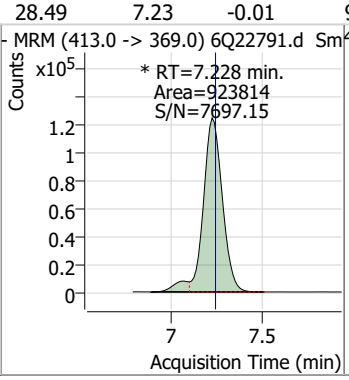


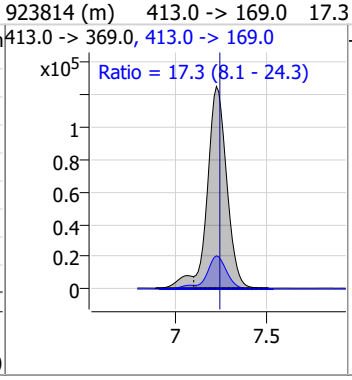


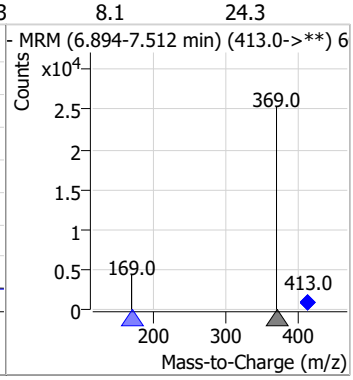


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	28.49	7.23	-0.01	923814 (m)	413.0 -> 169.0	17.3	8.1	24.3

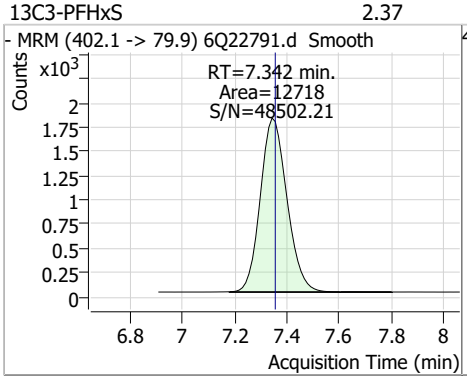


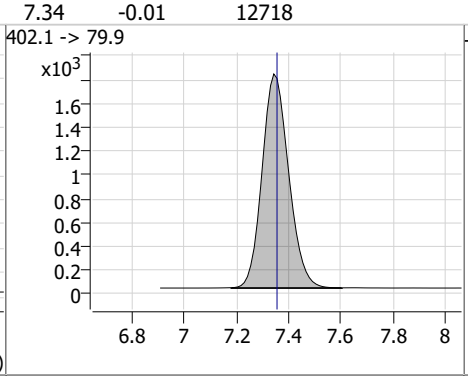


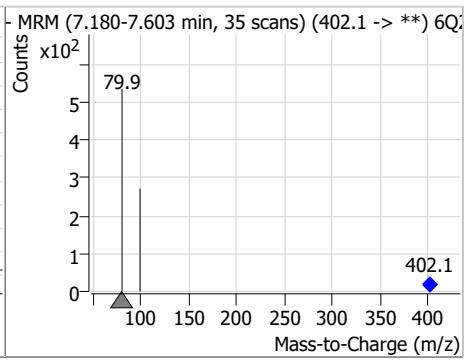




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.37	7.34	-0.01	12718				

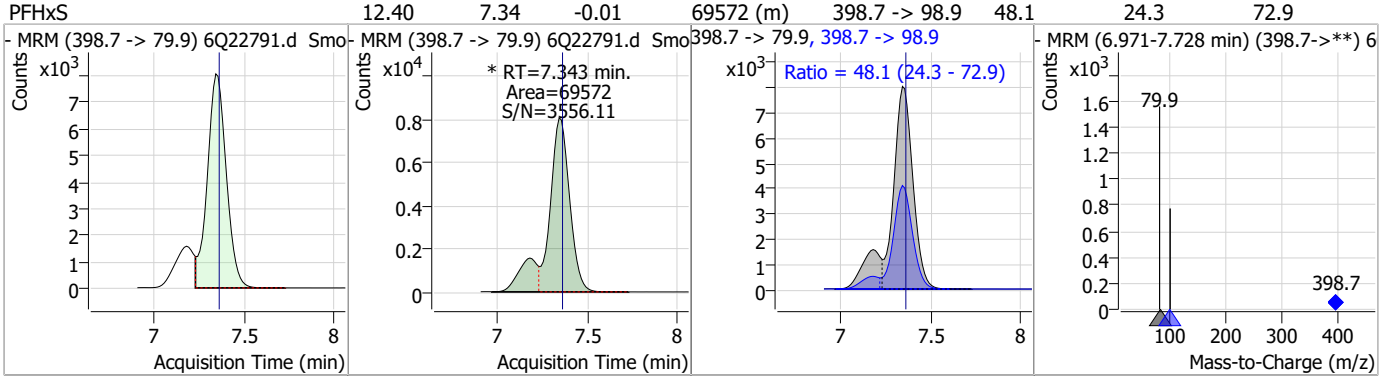




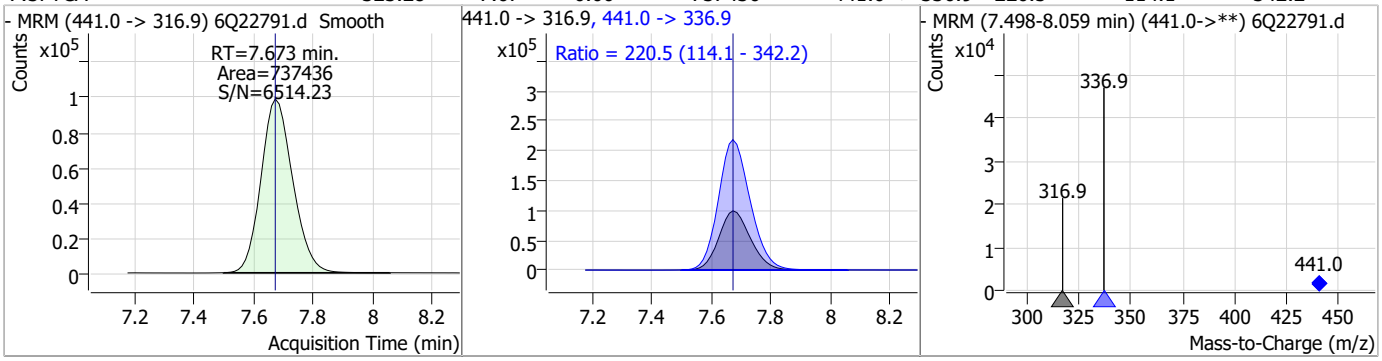


Perfluorinated Compounds by LC/MS/MS

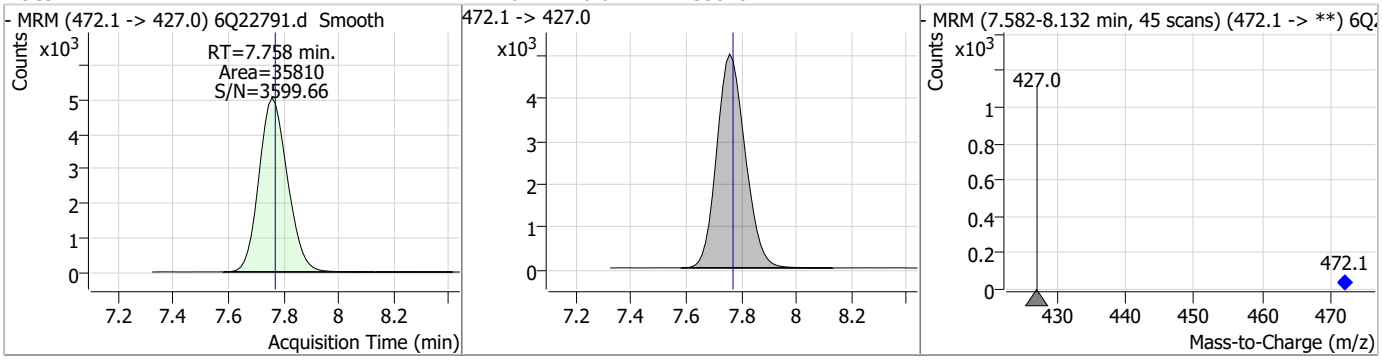
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	12.40	7.34	-0.01	69572 (m)	398.7 -> 98.9	48.1	24.3	72.9



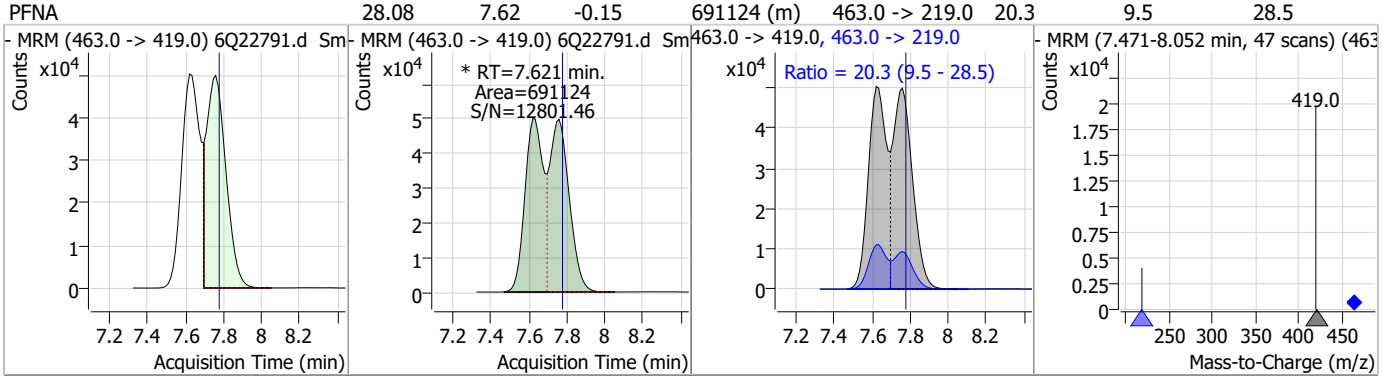
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	323.28	7.67	0.00	737436	441.0 -> 336.9	220.5	114.1	342.2



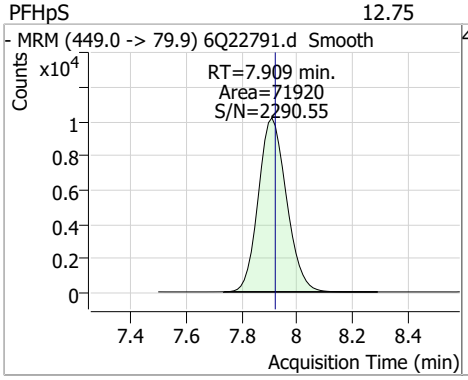
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.22	7.76	-0.01	35810				

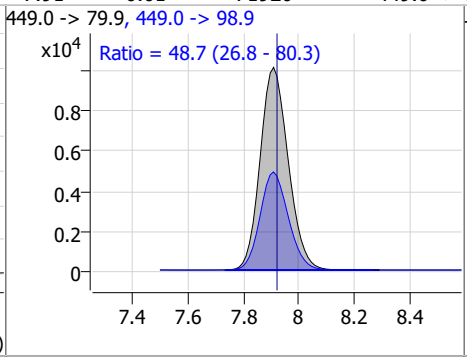


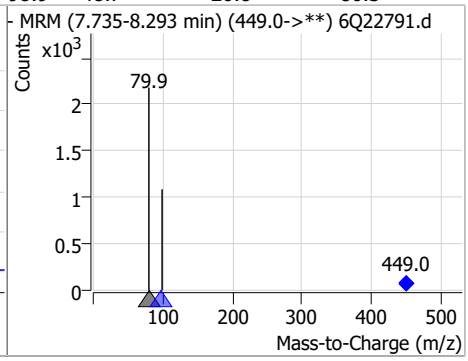
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	28.08	7.62	-0.15	691124 (m)	463.0 -> 219.0	20.3	9.5	28.5



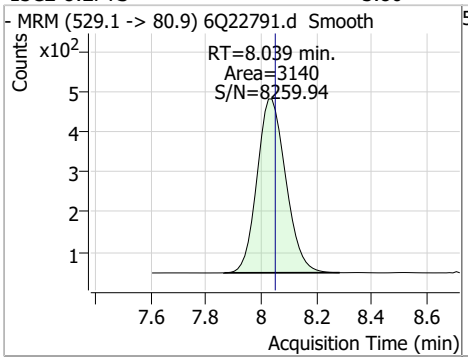
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	12.75	7.91	-0.01	71920	449.0 -> 98.9	48.7	26.8	80.3

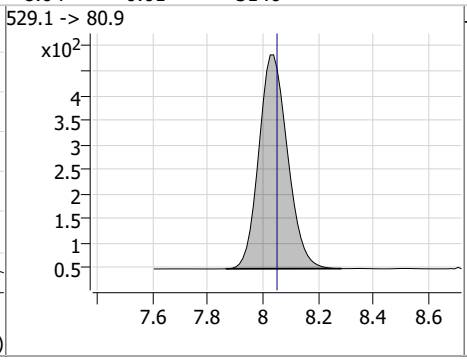


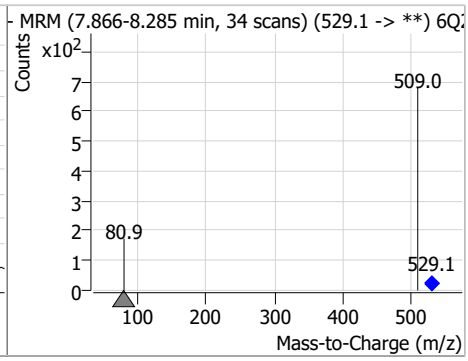




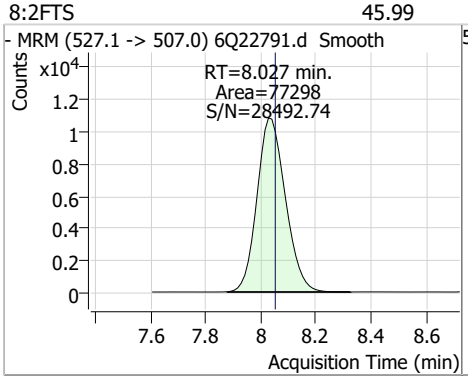
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	3.80	8.04	-0.01	3140				

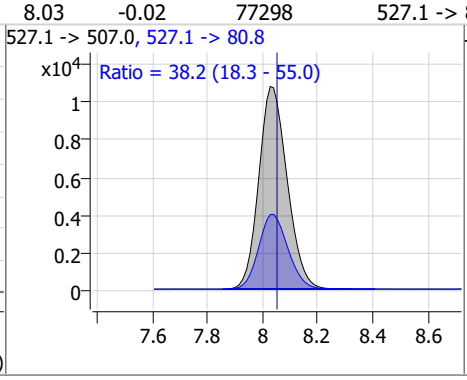


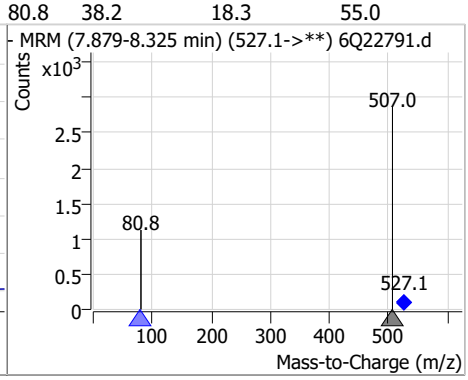




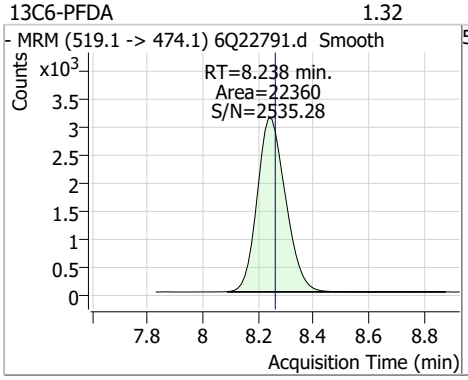
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	45.99	8.03	-0.02	77298	527.1 -> 80.8	38.2	18.3	55.0

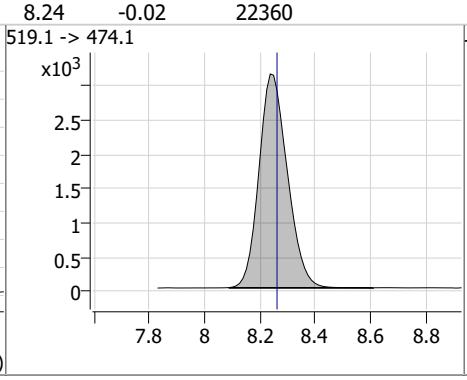


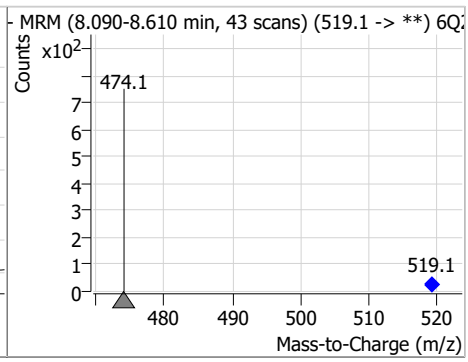




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.32	8.24	-0.02	22360				

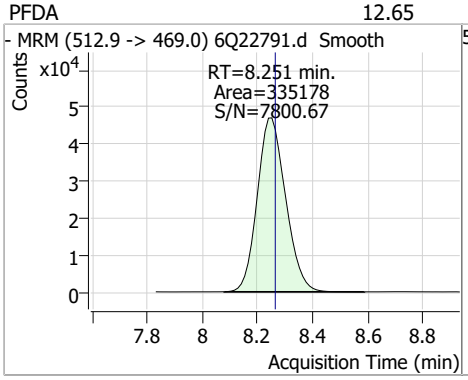


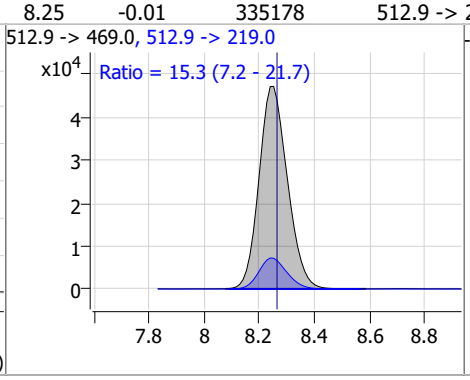


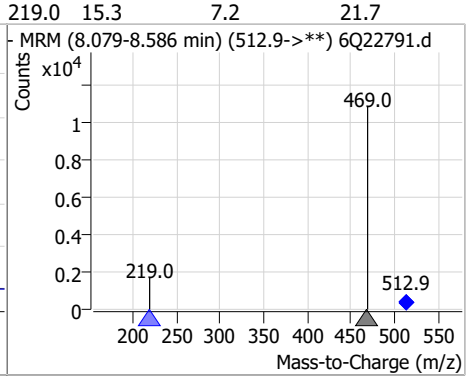


Perfluorinated Compounds by LC/MS/MS

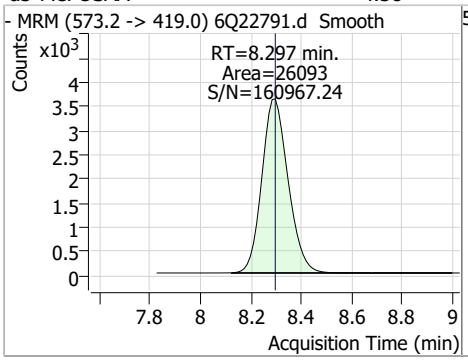
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	12.65	8.25	-0.01	335178	512.9 -> 219.0	15.3	7.2	21.7

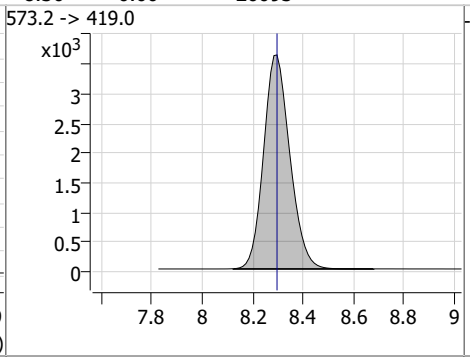


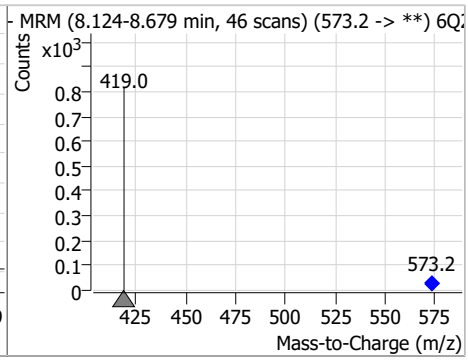




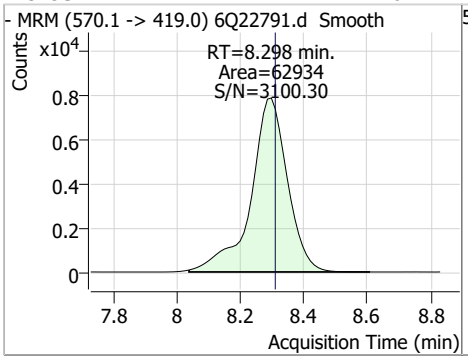
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.38	8.30	0.00	26093				

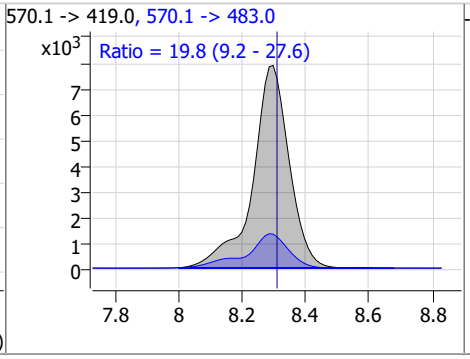


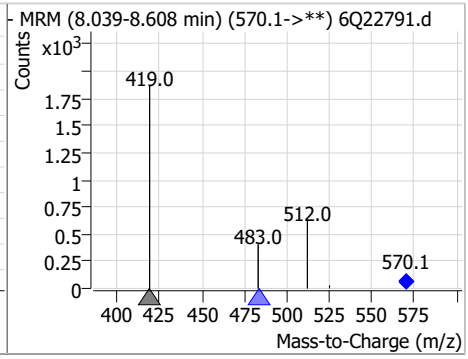




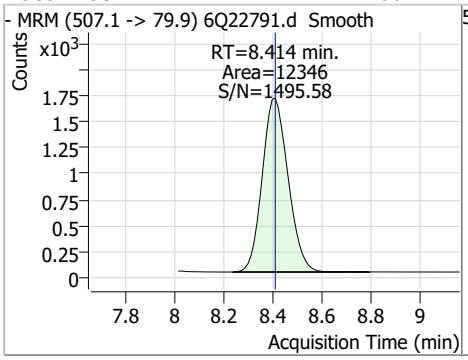
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	12.62	8.30	-0.01	62934	570.1 -> 483.0	19.8	9.2	27.6

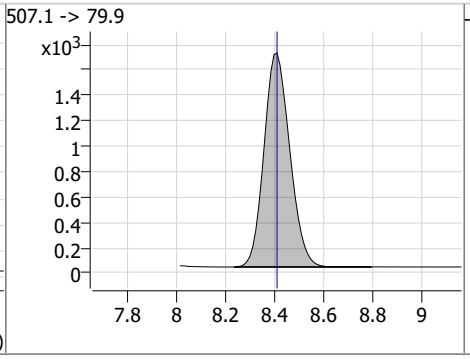


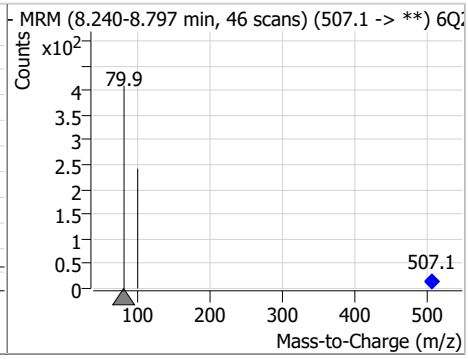




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.56	8.41	0.00	12346				

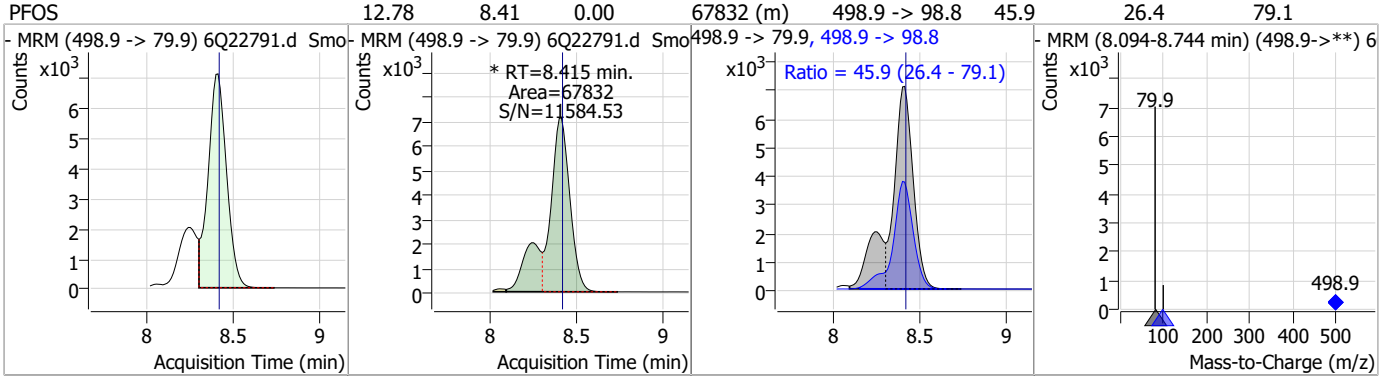




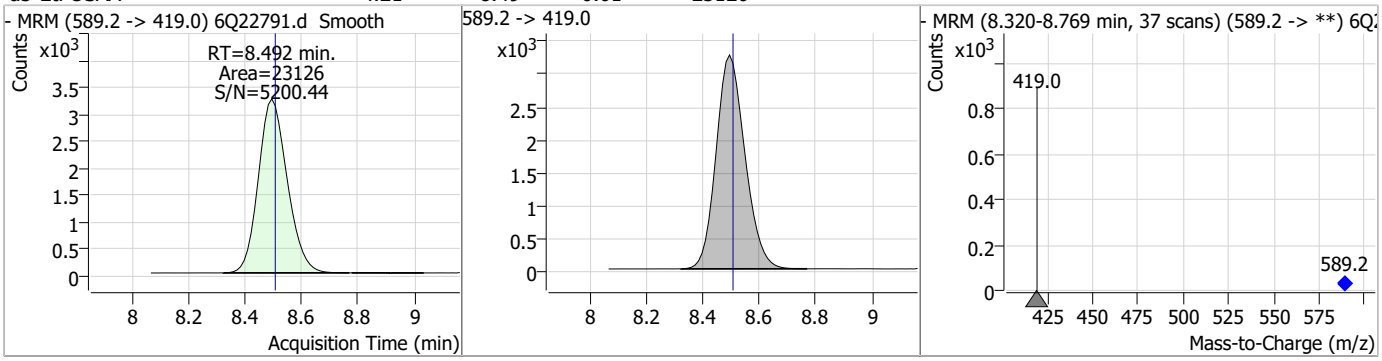


Perfluorinated Compounds by LC/MS/MS

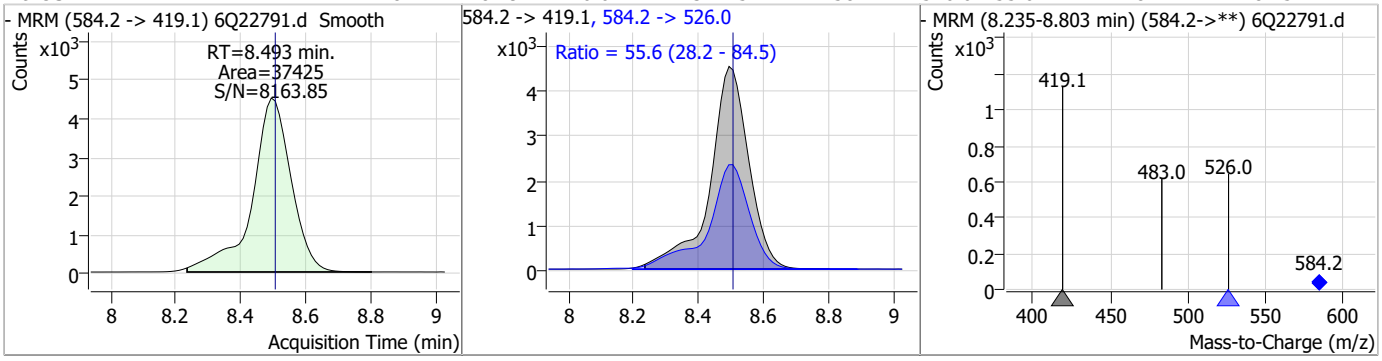
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	12.78	8.41	0.00	67832 (m)	498.9 -> 98.8	45.9	26.4	79.1



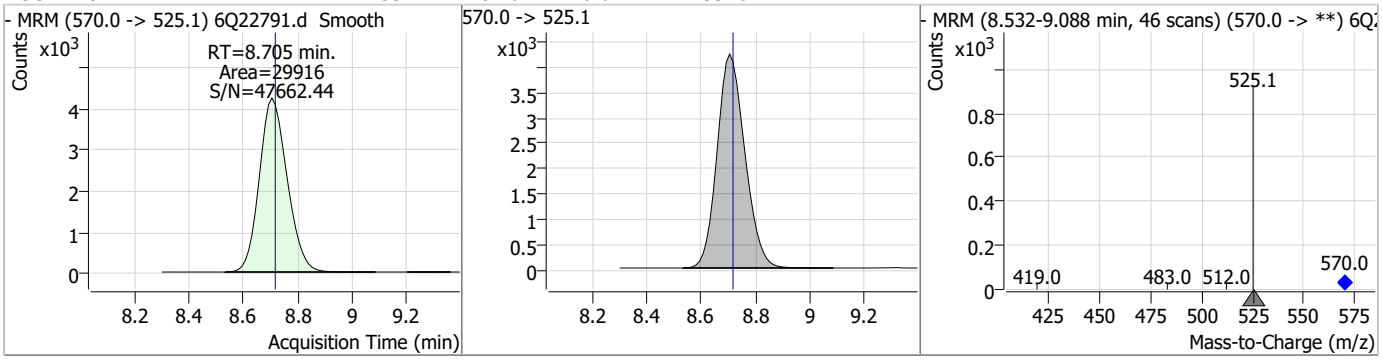
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.21	8.49	-0.01	23126				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	12.84	8.49	-0.01	37425	584.2 -> 526.0	55.6	28.2	84.5

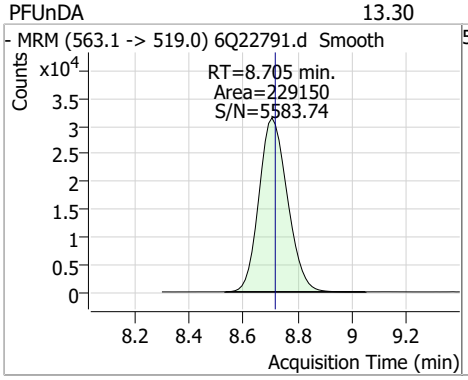


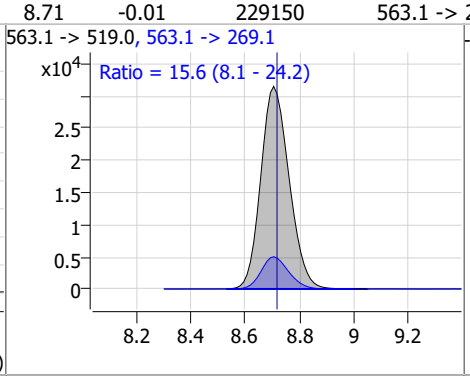
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.33	8.70	-0.01	29916				

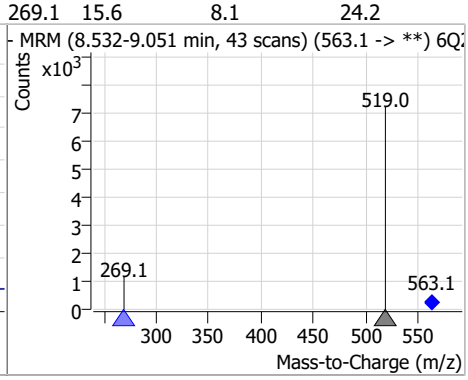


Perfluorinated Compounds by LC/MS/MS

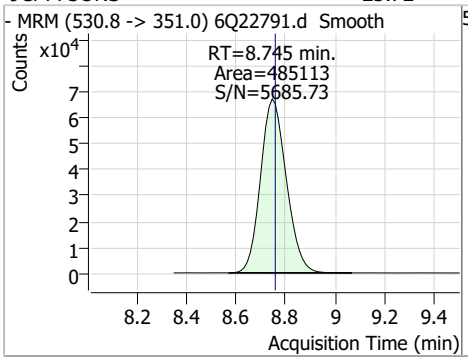
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	13.30	8.71	-0.01	229150	563.1 -> 269.1	15.6	8.1	24.2

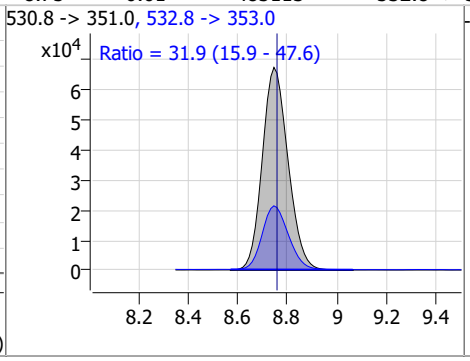


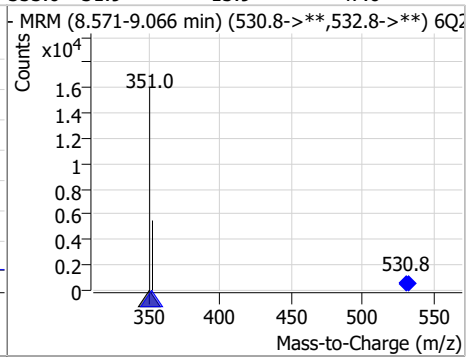




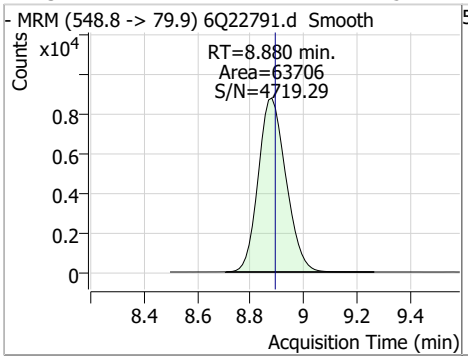
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	23.72	8.75	-0.01	485113	532.8 -> 353.0	31.9	15.9	47.6

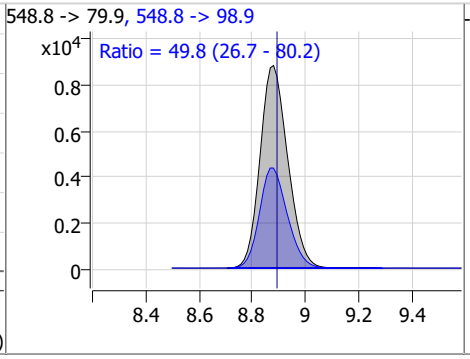


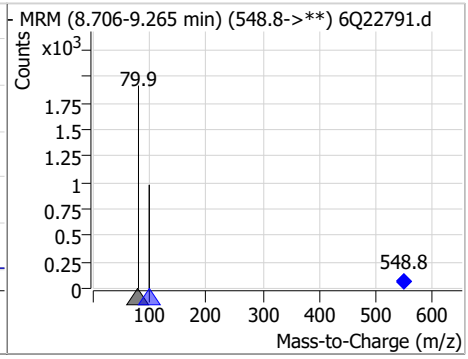




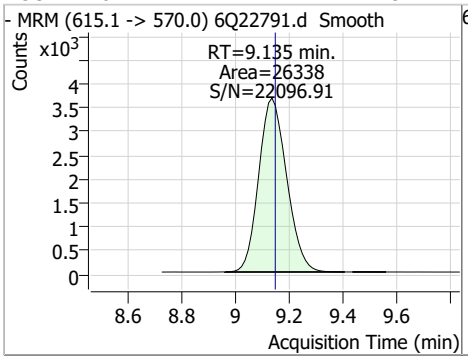
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	12.51	8.88	-0.01	63706	548.8 -> 98.9	49.8	26.7	80.2

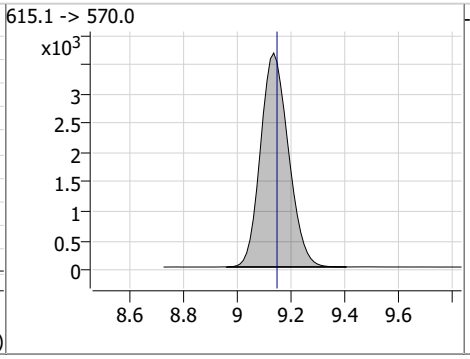


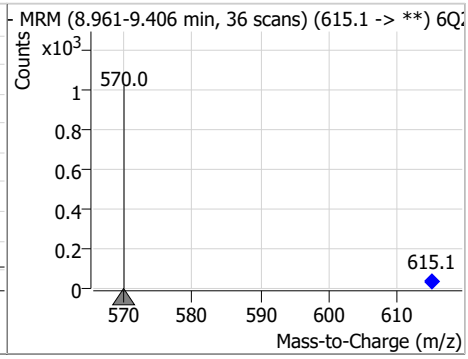




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.29	9.14	-0.01	26338				

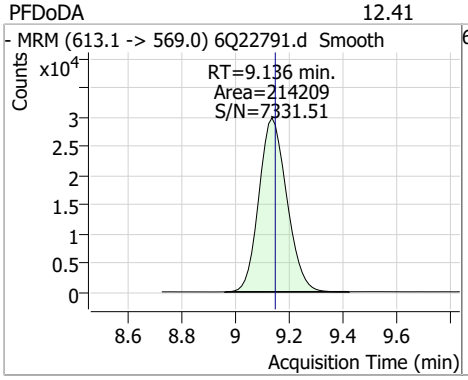


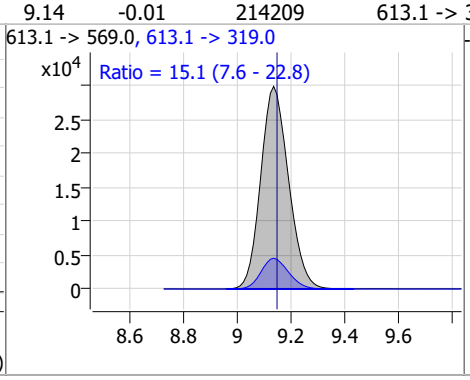


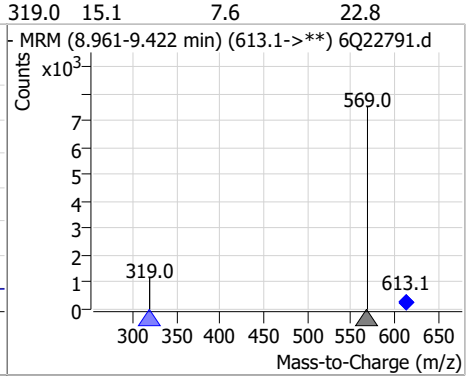


Perfluorinated Compounds by LC/MS/MS

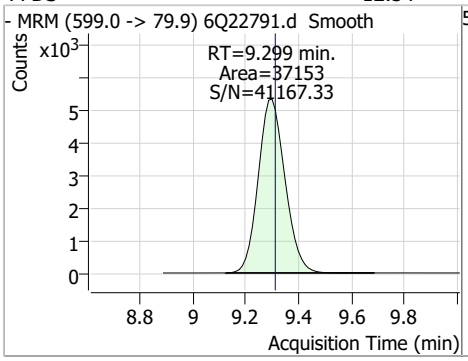
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	12.41	9.14	-0.01	214209	613.1 -> 319.0	15.1	7.6	22.8

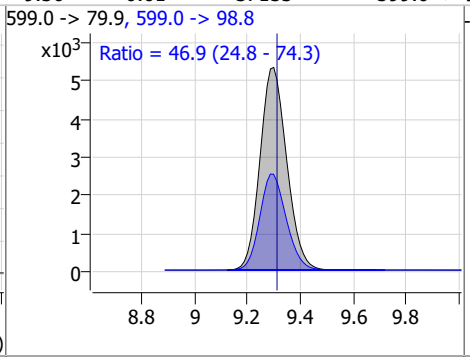


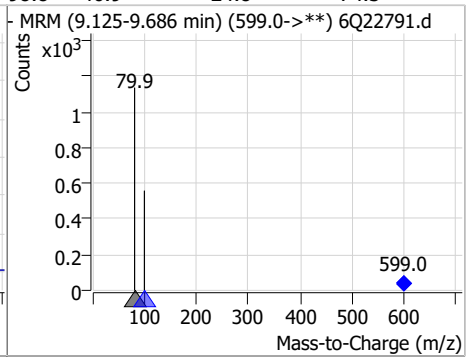




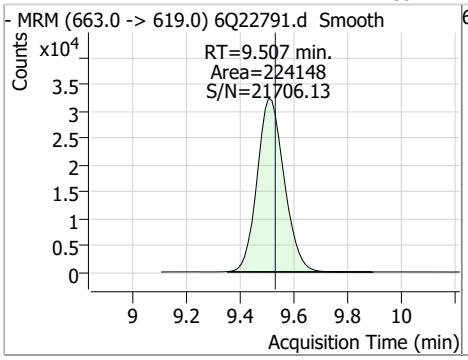
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	12.54	9.30	-0.01	37153	599.0 -> 98.8	46.9	24.8	74.3

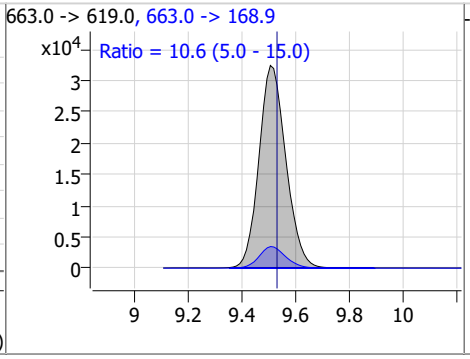


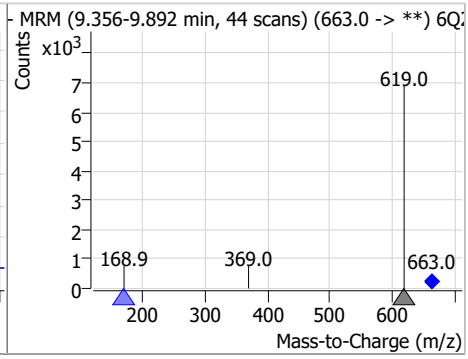




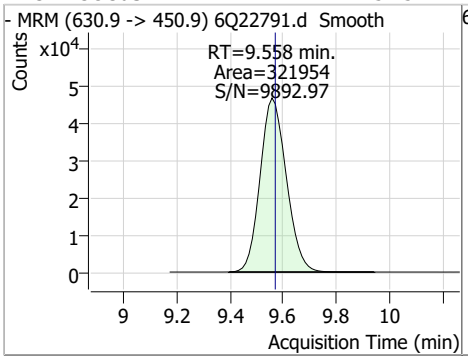
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	12.59	9.51	-0.02	224148	663.0 -> 168.9	10.6	5.0	15.0

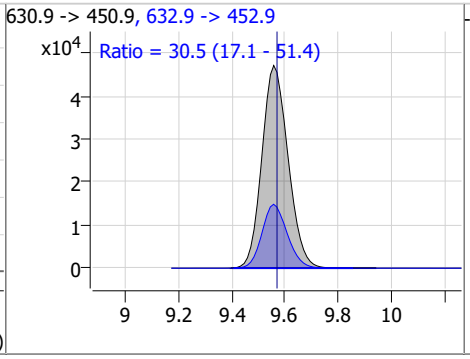


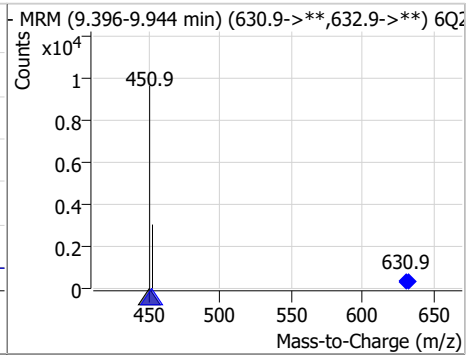




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	25.45	9.56	-0.01	321954	632.9 -> 452.9	30.5	17.1	51.4

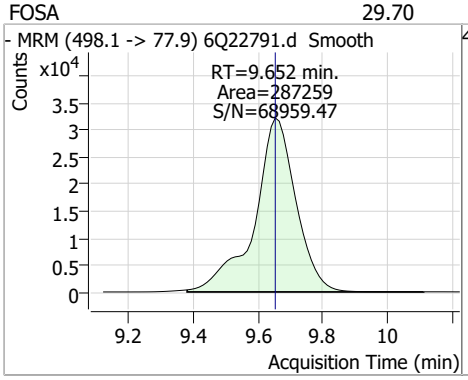


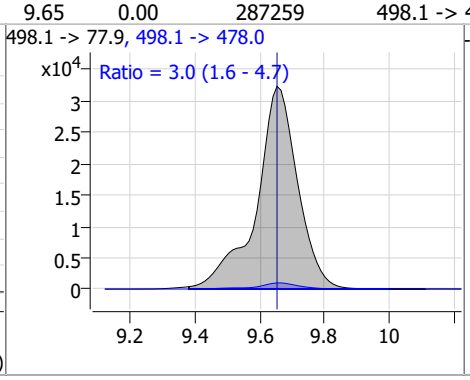


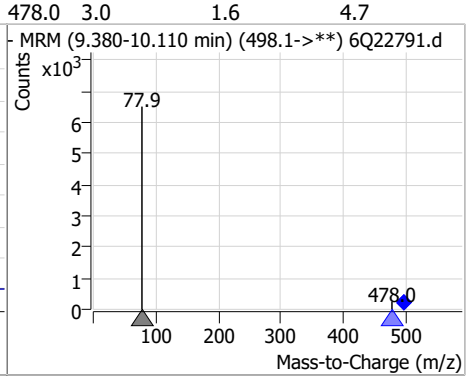


Perfluorinated Compounds by LC/MS/MS

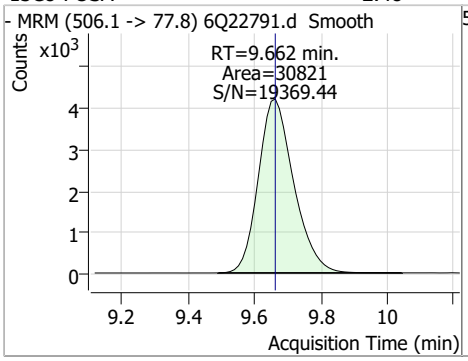
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	29.70	9.65	0.00	287259	498.1 -> 478.0	3.0	1.6	4.7

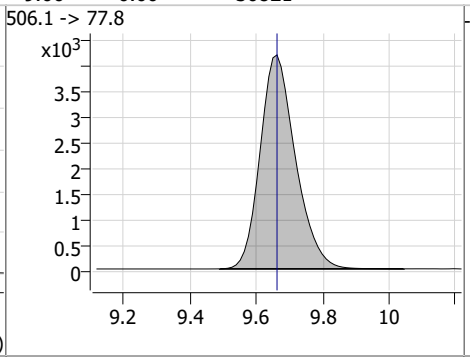


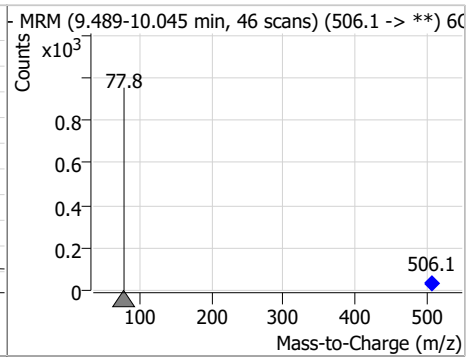




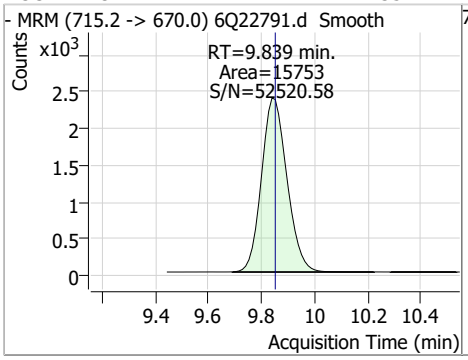
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.48	9.66	0.00	30821				

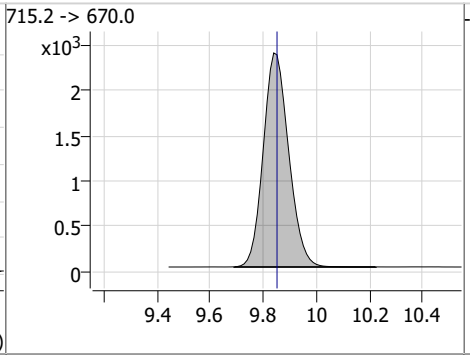


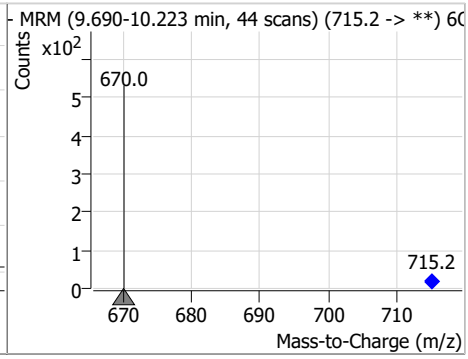




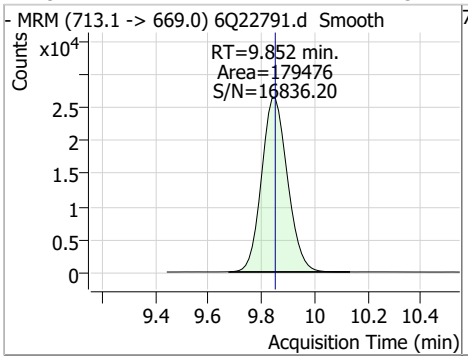
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.35	9.84	-0.01	15753				

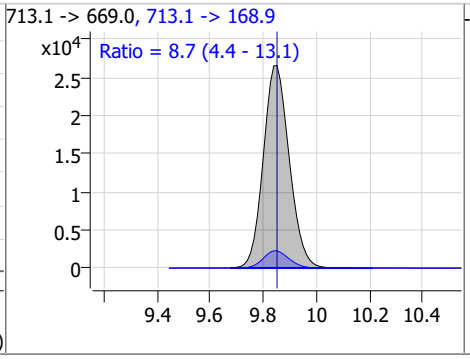


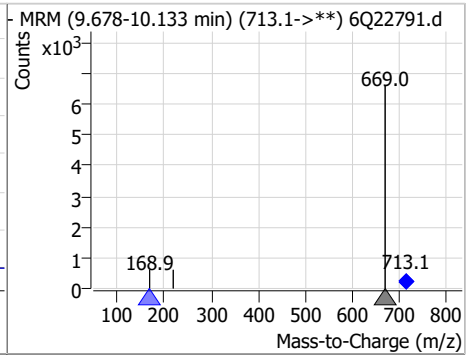




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	11.73	9.85	0.00	179476	713.1 -> 168.9	8.7	4.4	13.1

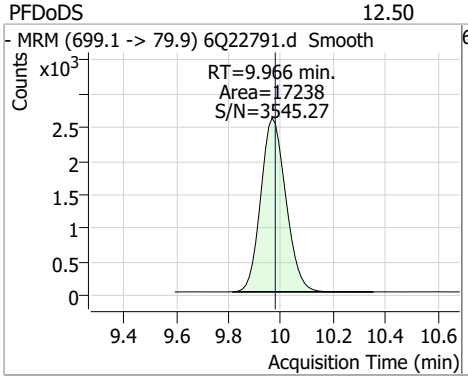


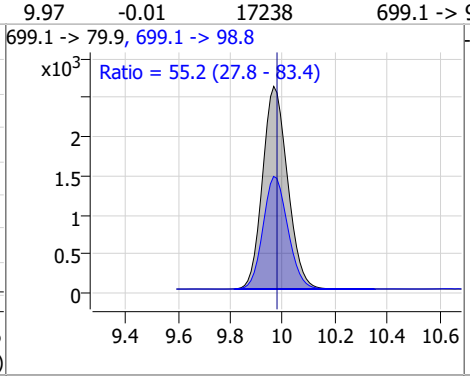


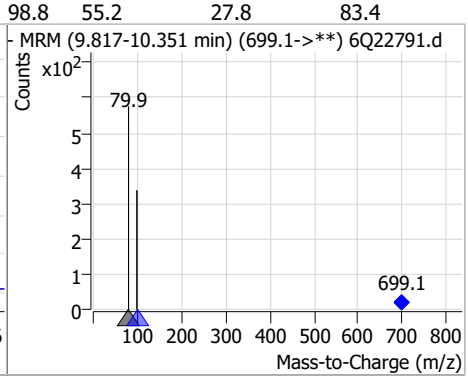


Perfluorinated Compounds by LC/MS/MS

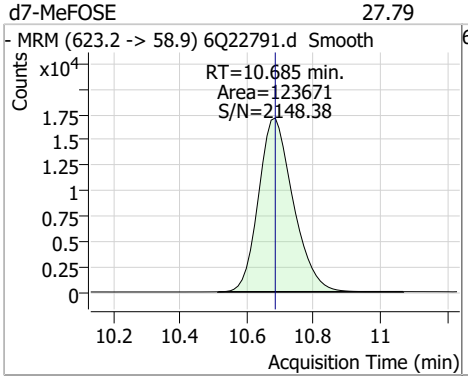
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	12.50	9.97	-0.01	17238	699.1 -> 98.8	55.2	27.8	83.4

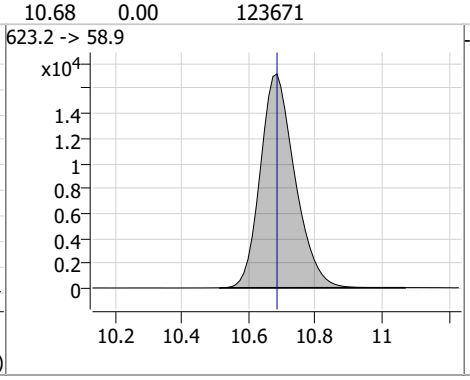


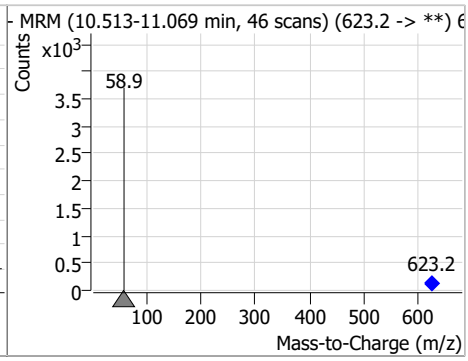




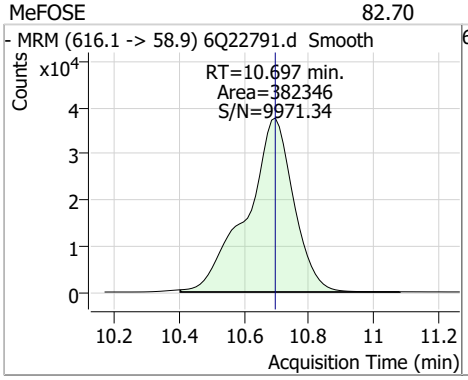
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	27.79	10.68	0.00	123671				

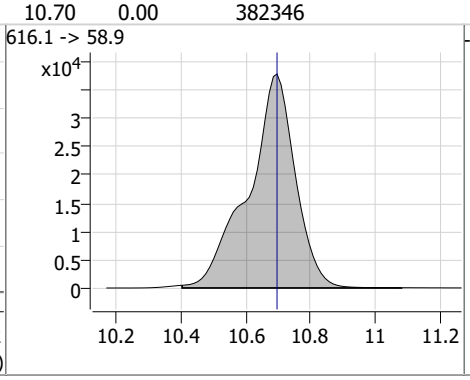


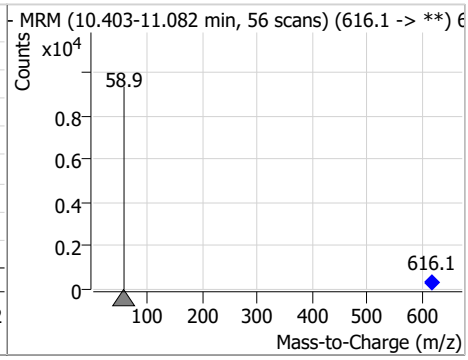




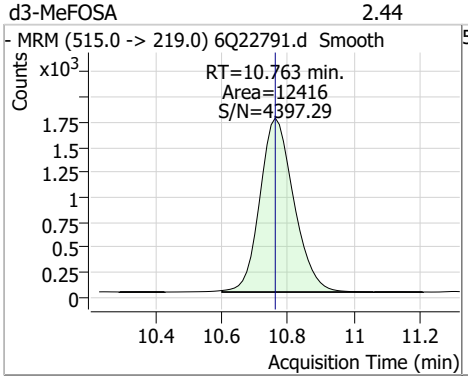
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	82.70	10.70	0.00	382346				

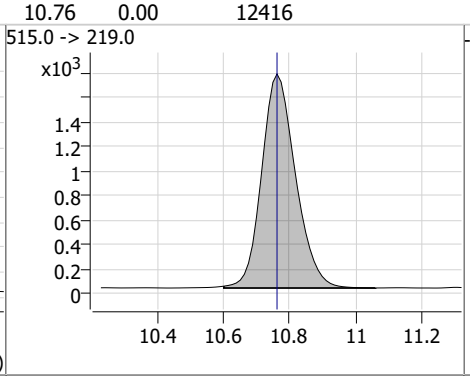


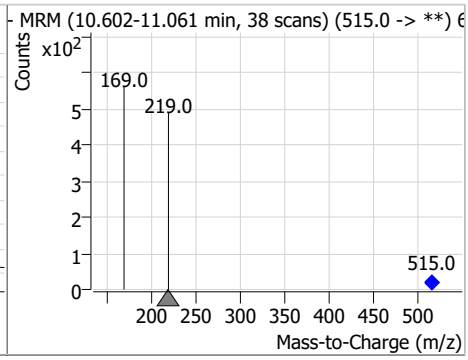




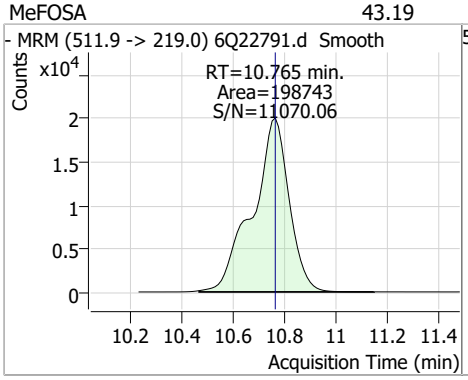
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.44	10.76	0.00	12416				

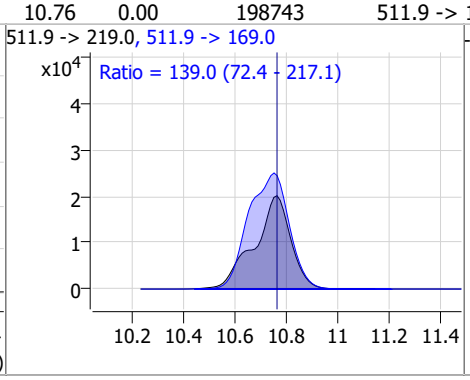


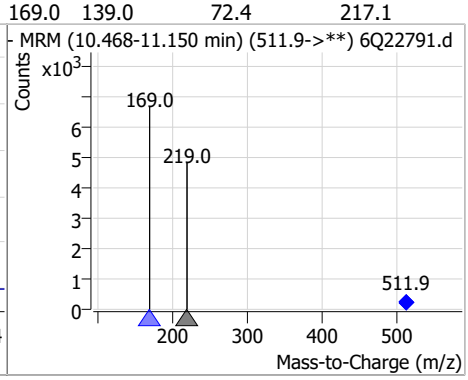




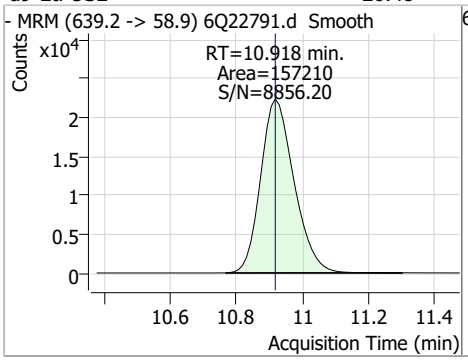
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	43.19	10.76	0.00	198743	511.9 -> 169.0	139.0	72.4	217.1

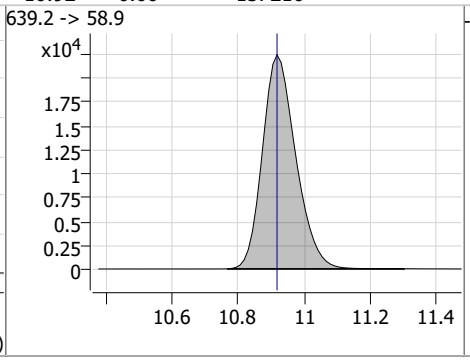


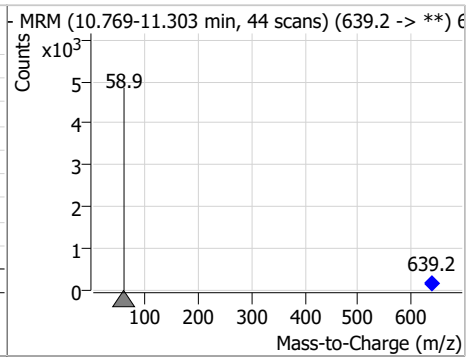




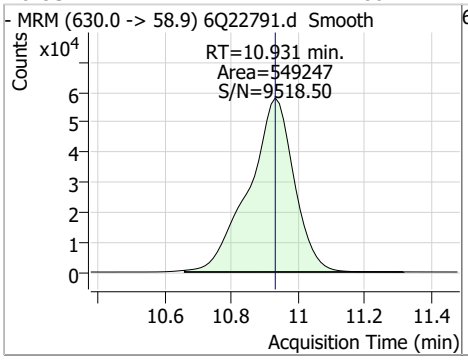
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.48	10.92	0.00	157210				

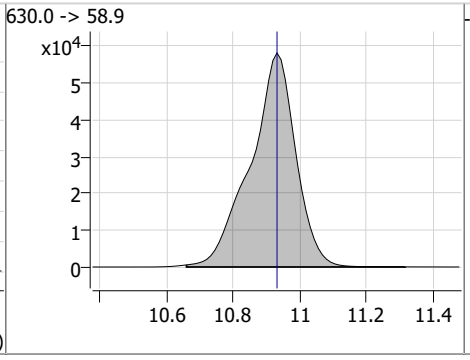


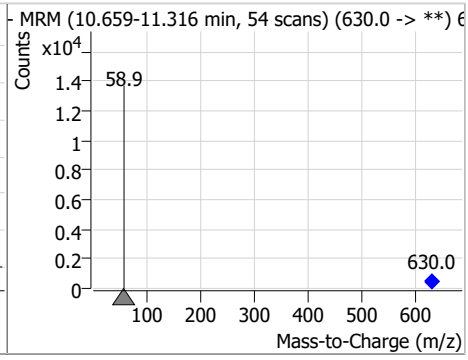




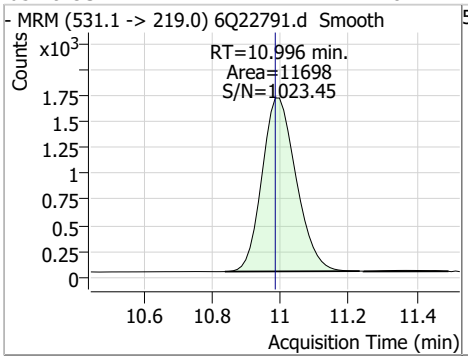
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	86.22	10.93	0.00	549247				

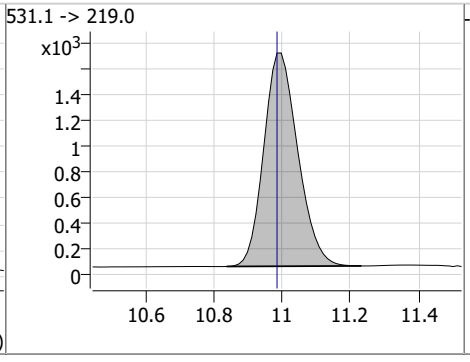


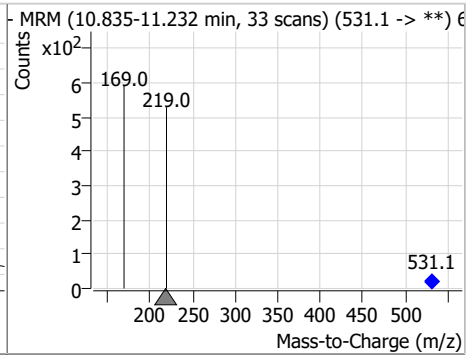




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.28	11.00	0.01	11698				

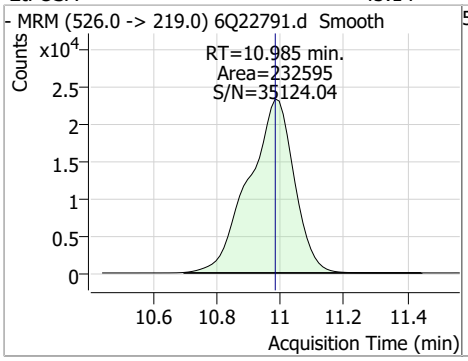


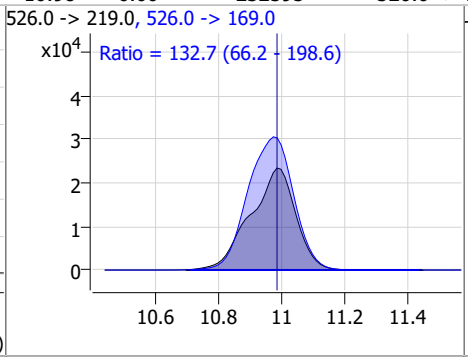


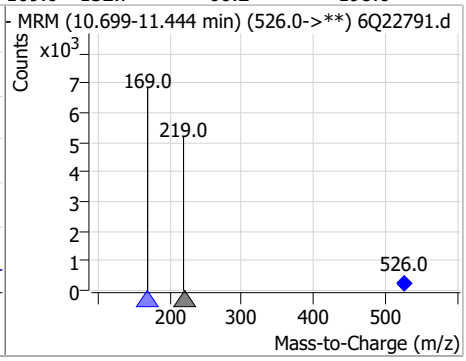


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	45.14	10.98	0.00	232595	526.0 -> 169.0	132.7	66.2	198.6







Manual Integration Approval Summary

Sample Number: S6Q331-RT
Lab FileID: 6Q22791.D
Injection Time: 08/13/23 14:54
Method: EPA DRAFT 1633
Analyst approved: 08/14/23 10:35 Martha Valls
Supervisor approved: 08/15/23 12:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.23	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorononanoic acid	375-95-1		7.62	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Norman Farmer 08/16/23 15:10

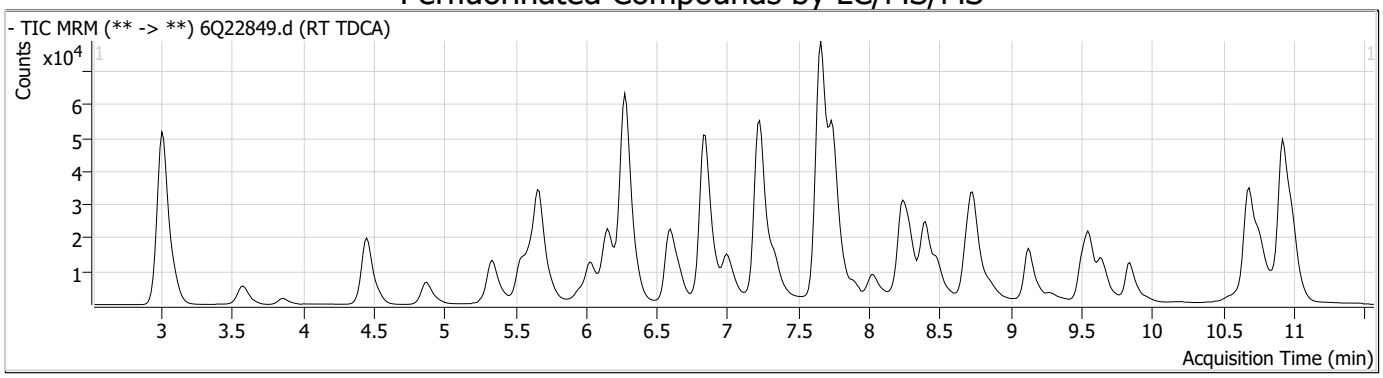
Perfluorinated Compounds by LC/MS/MS

Data File	:	6Q22849.d
Operator	:	marthav
Acq. Method	:	1633full.m
Acq. Date-Time	:	8/14/2023 10:32:32 AM
Sample Name	:	RT TDCA
Vial	:	P1-B3
DA Method File	:	TDCA.quantmethod.xml
Batch Name	:	S6Q332 TDCA.batch.bin
Sample Information	:	OP98201,S6Q332,500,,,5.0,1,water

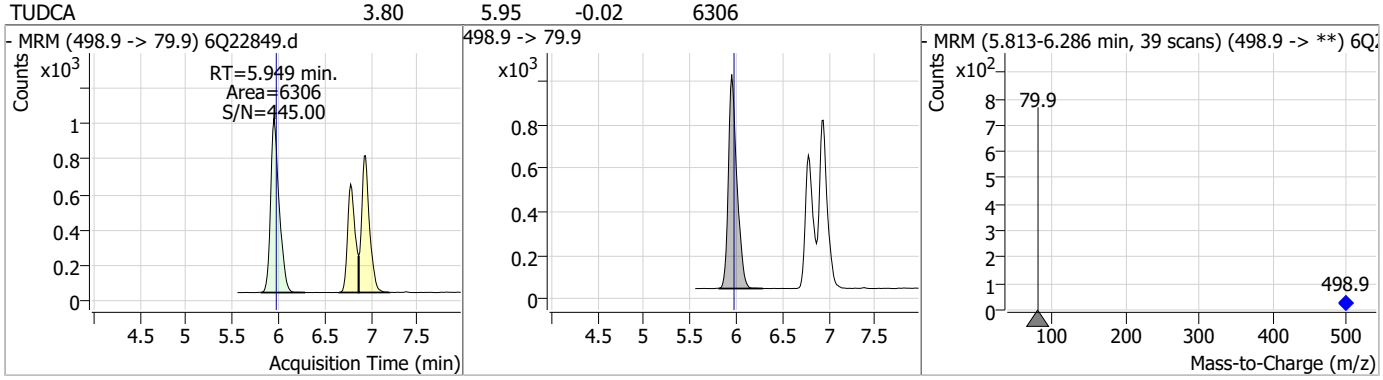
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
Internal Standards							
M8-PFOS	8.401	507.1 -> 79.9	18691	2.50	µg/L		-0.025
13C4-PFOS	8.402	502.8 -> 79.9	24827	2.50	µg/L		-0.025
System Monitoring Compounds							
13C8-PFOS	8.401	507.1 -> 79.9	18691	1.91	µg/L		-0.025
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 76.4%			
Target Compounds							QValue
PFOS	8.403	498.9 -> 79.9	17228	2.70	µg/L	m	98
		498.9 -> 98.8	8391				
TCDCA	6.777	498.9 -> 79.9	3597	4.17	ng/ml		100
TDCA	6.926	498.9 -> 79.9	4482	5.74	ng/ml		100
TUDCA	5.949	498.9 -> 79.9	6306	3.80	ng/ml		100

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

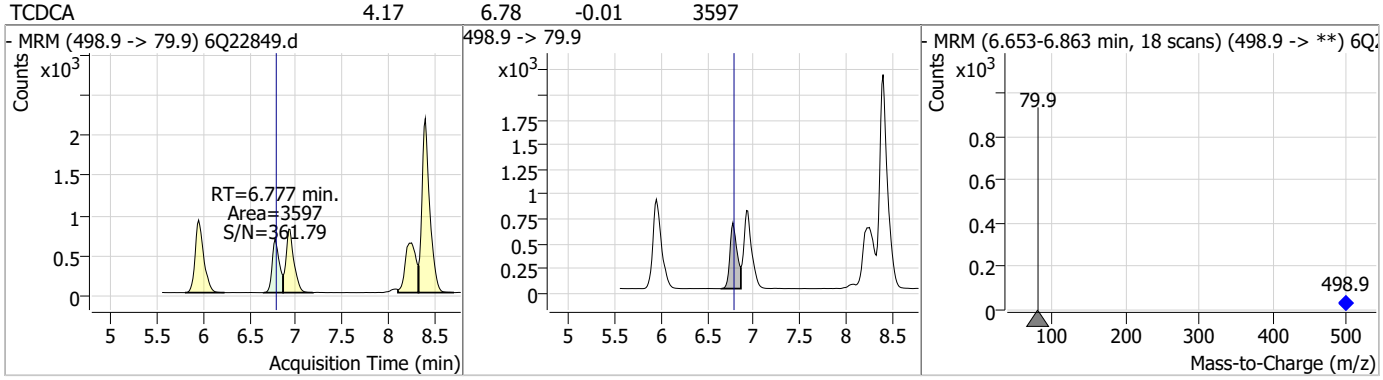
Perfluorinated Compounds by LC/MS/MS



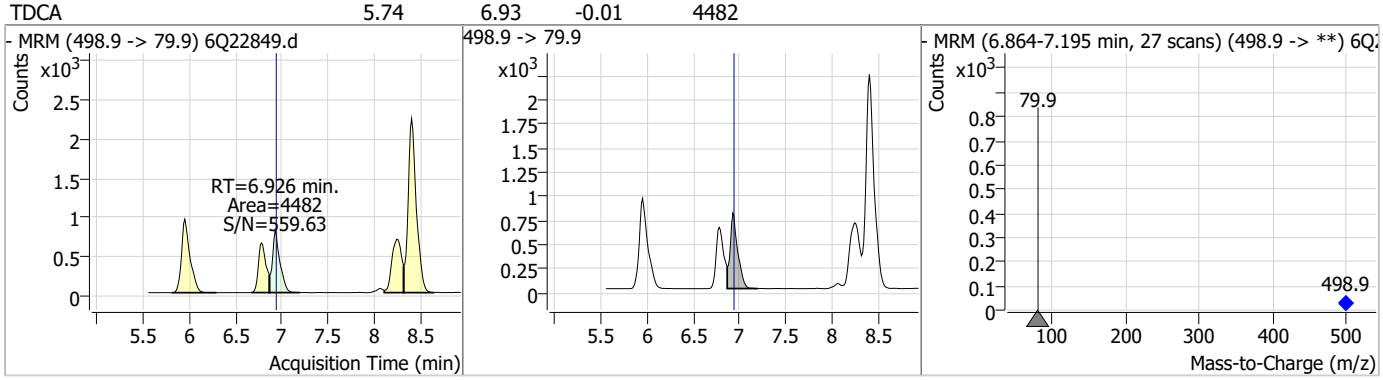
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TUDCA	3.80	5.95	-0.02	6306				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TCDCA	4.17	6.78	-0.01	3597				

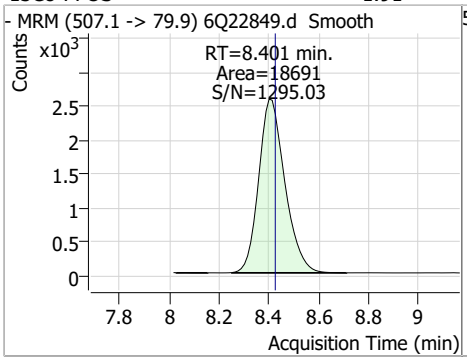


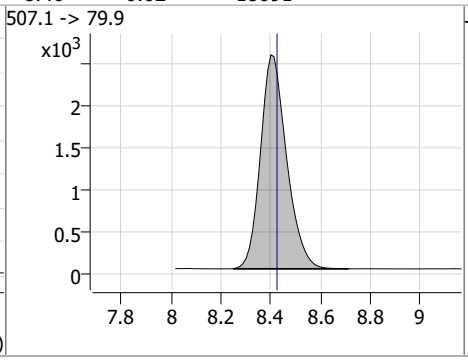
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
TDCA	5.74	6.93	-0.01	4482				

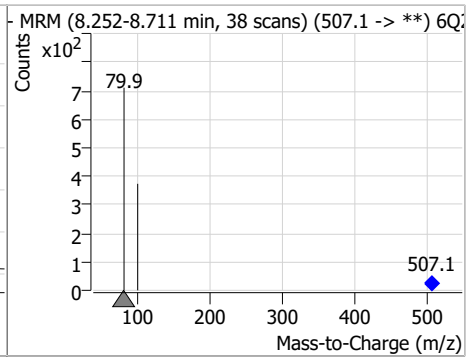


Perfluorinated Compounds by LC/MS/MS

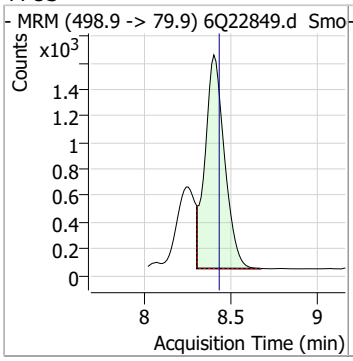
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.91	8.40	-0.02	18691				

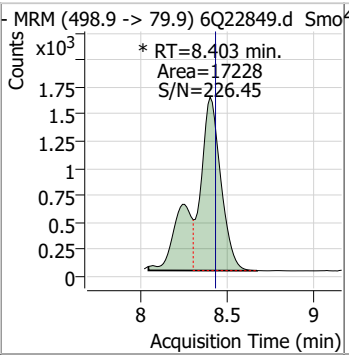


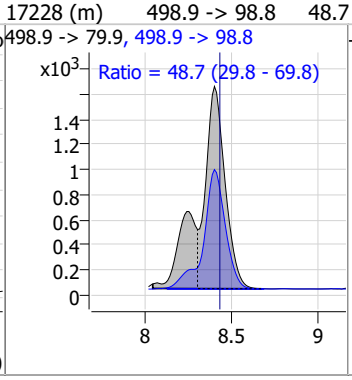


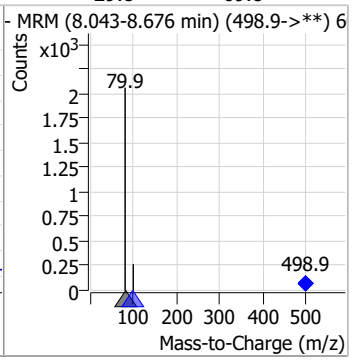


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.70	8.40	-0.02	17228 (m)	498.9 -> 98.8	48.7	29.8	69.8









Manual Integration Approval Summary

Sample Number:	S6Q332-RT	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22849.D	**Analyst approved:**	08/15/23 13:29 Martha Valls
Injection Time:	08/14/23 10:32	**Supervisor approved:**	08/16/23 15:10 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.40	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Norman Farmer 08/16/23 15:10

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22850.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/14/2023 10:46:51 AM
Sample Name : RT BR-LN
Vial : P1-B4
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : S6Q332.batch.bin
Sample Information : OP98201,S6Q332,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	167987	10.00	µg/L	0.000
M5-PFPeA	4.447	268.3 -> 223.0	54824	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	58713	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	55912	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	84033	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	41169	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	23576	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	31806	1.25	µg/L	-0.012
M2-PFDoDA	9.123	615.1 -> 570.0	27903	1.25	µg/L	-0.025
M2-PFTeDA	9.839	715.2 -> 670.0	16234	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	32415	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	22229	2.50	µg/L	0.000
M3-PFHxS	7.342	402.1 -> 79.9	14266	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	13329	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	2724	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4008	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3626	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	28978	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	37449	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	24472	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	124313	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	160420	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	12401	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	13698	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	17916	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	70948	5.00	µg/L	0.000
18O2-PFHxS	7.354	403.0 -> 83.9	9960	2.50	µg/L	0.000
13C4-PFOA	7.227	417.1 -> 372.0	94619	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	33358	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	50816	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	56887	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2724	4.58	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.6%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4008	4.67	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.3%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3626	4.31	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 86.2%		
13C2-PFDoDA	9.123	615.1 -> 570.0	27903	1.24	µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.0%		
13C2-PFTeDA	9.839	715.2 -> 670.0	16234	1.25	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.2%		
13C3-PFBS	5.610	302.1 -> 79.9	22229	2.63	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%		
13C3-PFHxS	7.342	402.1 -> 79.9	14266	2.61	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 = 104.2%	
13C4-PFBA	3.010	216.8 -> 171.9	167987	10.02 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C4-PFHpA	6.596	367.1 -> 322.0	55912	2.43 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C5-PFHxA	5.668	318.0 -> 273.0	58713	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C5-PFPeA	4.447	268.3 -> 223.0	54824	5.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C6-PFDA	8.238	519.1 -> 474.1	23576	1.25 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C7-PFUnDA	8.705	570.0 -> 525.1	31806	1.28 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C8-FOSA	9.662	506.1 -> 77.8	32415	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C8-PFOA	7.226	421.1 -> 376.0	84033	2.41 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.2%	
13C8-PFOS	8.401	507.1 -> 79.9	13329	2.54 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C9-PFNA	7.758	472.1 -> 427.0	41169	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.9%	
d3-MeFOSAA	8.284	573.2 -> 419.0	28978	4.47 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 89.4%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	37449	10.17 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.7%	
d3-MeFOSA	10.763	515.0 -> 219.0	13698	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	
d5-EtFOSAA	8.492	589.2 -> 419.0	24472	4.09 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 81.8%	
d7-MeFOSE	10.685	623.2 -> 58.9	124313	25.67 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
d9-EtFOSE	10.918	639.2 -> 58.9	160420	24.83 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
d5-EtFOSA	10.983	531.1 -> 219.0	12401	2.22 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.9%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	174325	49.47 µg/L	100
		327.1 -> 80.9	68300		
6:2FTS	7.002	427.1 -> 407.0	170855	47.66 µg/L	99
		427.1 -> 80.9	57935		
8:2FTS	8.027	527.1 -> 507.0	94587	48.75 µg/L	99
		527.1 -> 80.8	34027		
EtFOSAA	8.493	584.2 -> 419.1	42979	13.94 µg/L	92
		584.2 -> 526.0	21641		
FOSA	9.652	498.1 -> 77.9	305908	30.07 µg/L	100
		498.1 -> 478.0	9932		
MeFOSAA	8.286	570.1 -> 419.0	72106	13.01 µg/L	96
		570.1 -> 483.0	14604		
PFBA	3.006	212.8 -> 168.9	272644	51.94 µg/L	100
PFBS	5.611	298.7 -> 79.9	88034	12.12 µg/L	98
		298.7 -> 98.8	31984		
PFDA	8.239	512.9 -> 469.0	363185	13.00 µg/L	98
		512.9 -> 219.0	55401		
PFDoDA	9.123	613.1 -> 569.0	246933	13.51 µg/L	99
		613.1 -> 319.0	36649		
PFDS	9.287	599.0 -> 79.9	38544	12.05 µg/L	97

Perfluorinated Compounds by LC/MS/MS

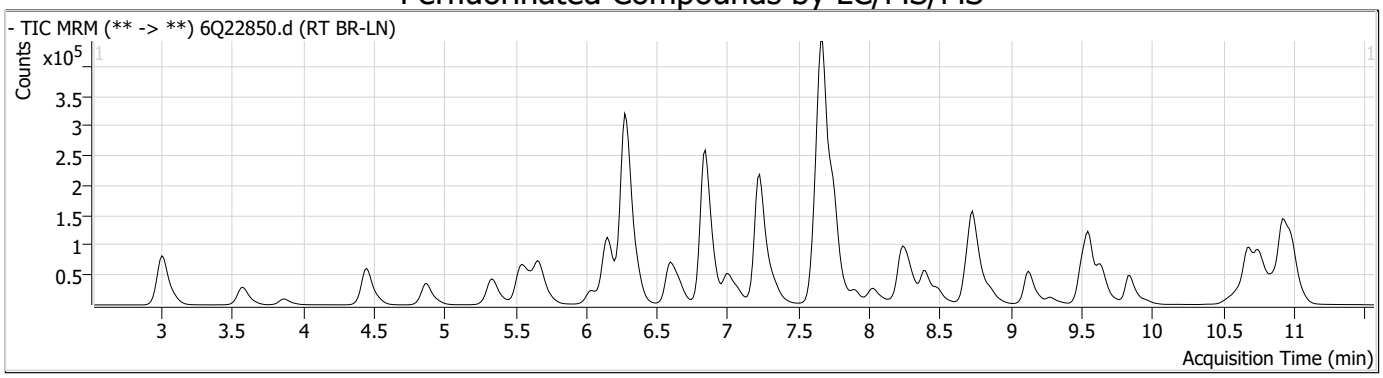
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	19832				
PFHpA	6.596	363.1 -> 319.0	289362	13.12	µg/L		99
		363.1 -> 169.0	49470				
PFHpS	7.909	449.0 -> 79.9	75530	12.41	µg/L		97
		449.0 -> 98.9	38678				
PFHxA	5.670	313.0 -> 269.0	232757	13.55	µg/L		100
		313.0 -> 118.9	12434				
PFHxS	7.356	398.7 -> 79.9	72935	11.59	µg/L	m	98
		398.7 -> 98.9	36395				
PFNA	7.746	463.0 -> 419.0	738132	26.09	µg/L	m	99
		463.0 -> 219.0	142800				
PFNS	8.867	548.8 -> 79.9	66106	12.02	µg/L		100
		548.8 -> 98.9	35110				
PFOA	7.228	413.0 -> 369.0	971710	28.29	µg/L	m	97
		413.0 -> 169.0	170899				
PFOS	8.403	498.9 -> 79.9	71462	12.47	µg/L	m	94
		498.9 -> 98.8	34703				
PFPeA	4.449	263.0 -> 219.0	324435	26.86	µg/L		100
PFPeS	6.660	349.1 -> 79.9	74571	12.77	µg/L		97
		349.1 -> 98.9	32613				
PFTeDA	9.839	713.1 -> 669.0	207248	13.14	µg/L		99
		713.1 -> 168.9	17089				
PFTrDA	9.507	663.0 -> 619.0	243977	12.93	µg/L		98
		663.0 -> 168.9	26462				
PFUnDA	8.693	563.1 -> 519.0	248891	13.59	µg/L		100
		563.1 -> 269.1	40577				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	358533	26.83	µg/L		94
		632.9 -> 452.9	109780				
9Cl-PF3ONS	8.745	530.8 -> 351.0	538950	24.95	µg/L		99
		532.8 -> 353.0	174785				
ADONA	6.846	376.9 -> 250.9	1145083	24.01	µg/L		93
		376.9 -> 84.8	344192				
HFPO-DA	6.046	284.9 -> 168.9	85626	26.87	µg/L		98
		284.9 -> 184.9	9676				
3:3FTCA	3.859	241.0 -> 177.0	53960	65.02	µg/L		99
		241.0 -> 117.0	6974				
5:3FTCA	6.285	341.0 -> 237.1	1140507	322.87	µg/L		100
		341.0 -> 217.0	805693				
7:3FTCA	7.673	441.0 -> 316.9	809577	309.87	µg/L		89
		441.0 -> 336.9	1702222				
EtFOSA	10.985	526.0 -> 219.0	258545	47.34	µg/L		97
		526.0 -> 169.0	333994				
EtFOSE	10.931	630.0 -> 58.9	583248	89.72	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	213843	42.12	µg/L		97
		511.9 -> 169.0	301721				
MeFOSE	10.685	616.1 -> 58.9	386166	83.09	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	18291	12.28	µg/L		99
		699.1 -> 98.8	10051				
NFDHA	5.551	295.0 -> 201.0	60703	27.79	µg/L		94
		295.0 -> 84.9	15452				
PFMBA	4.869	279.0 -> 85.1	225709	26.42	µg/L		100
PFMPA	3.576	229.0 -> 84.9	182946	26.76	µg/L		100
PFEESA	6.151	314.8 -> 134.9	589567	25.56	µg/L		99
		314.8 -> 82.9	19399				

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

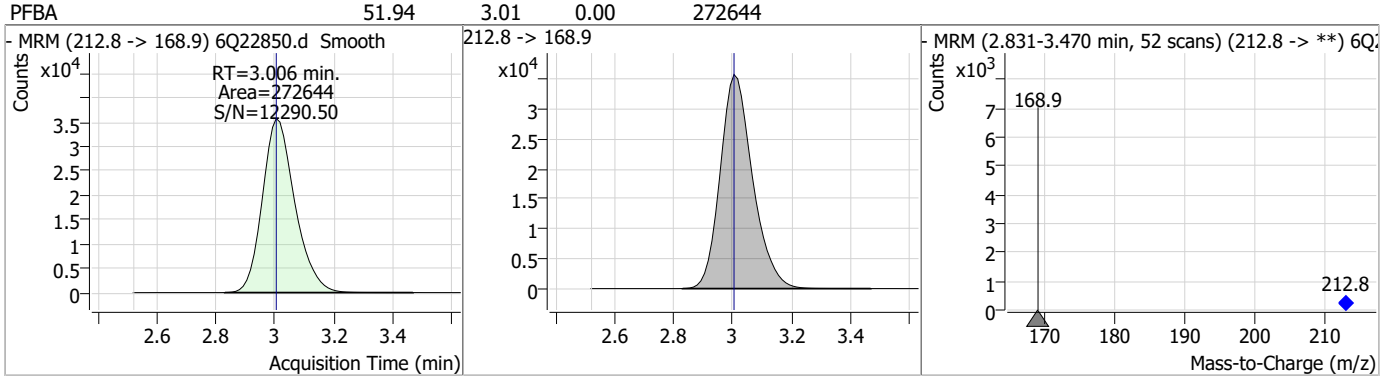
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

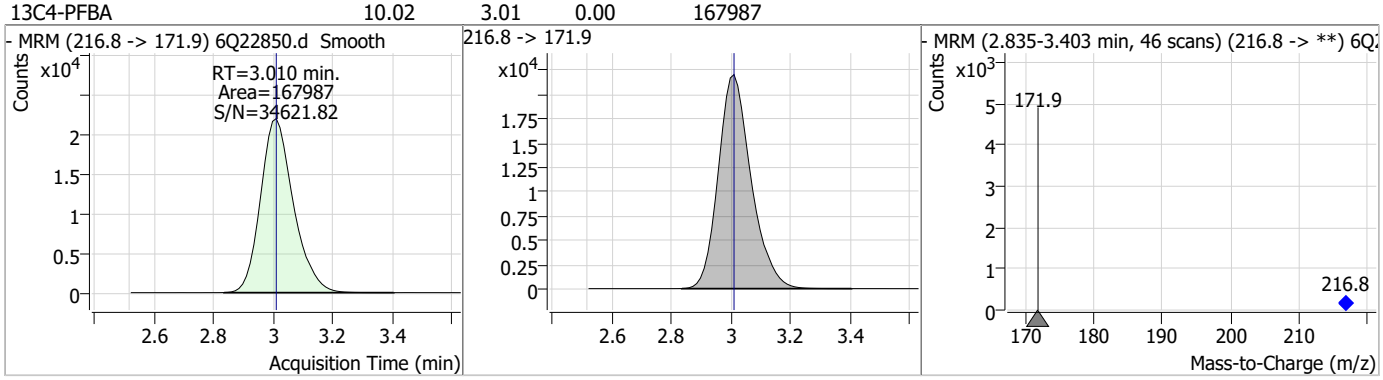
Perfluorinated Compounds by LC/MS/MS



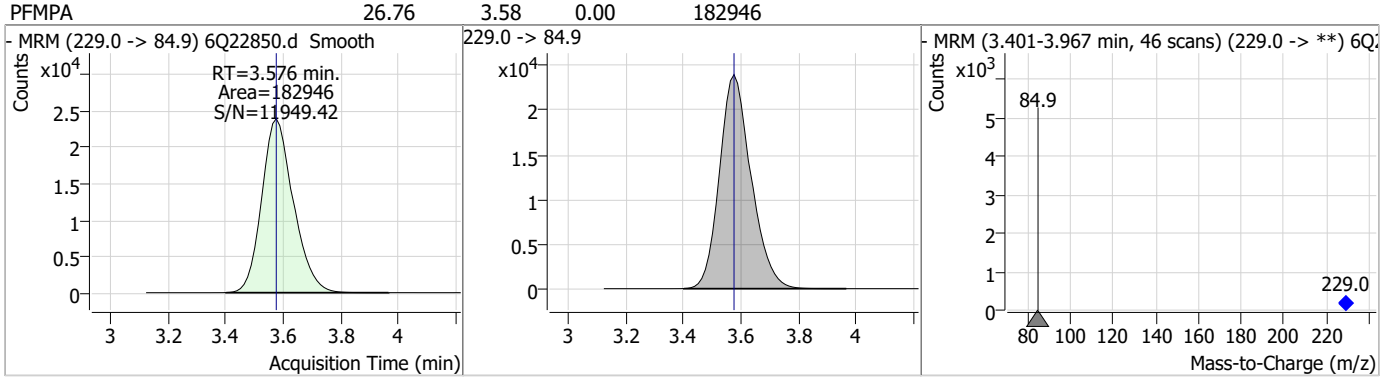
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	51.94	3.01	0.00	272644				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.02	3.01	0.00	167987				

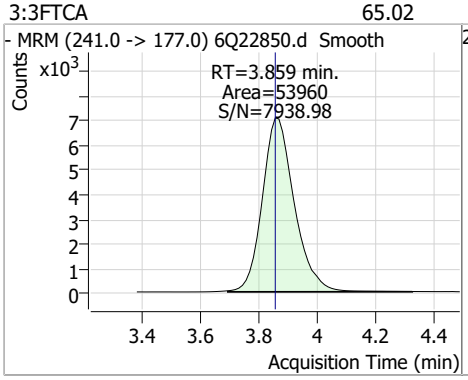


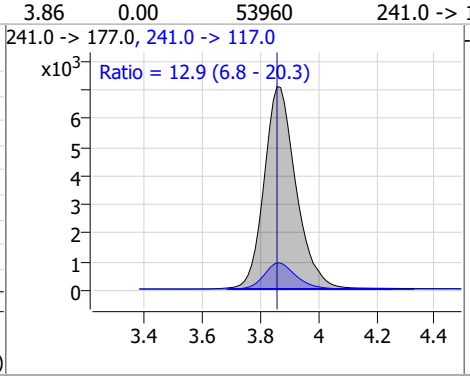
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	26.76	3.58	0.00	182946				

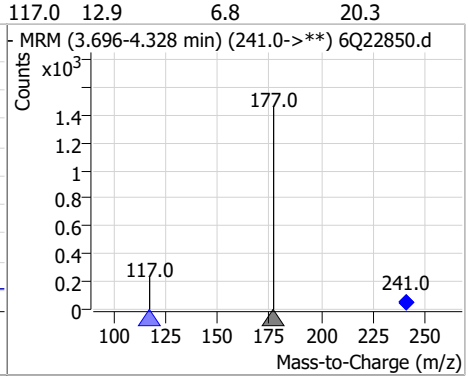


Perfluorinated Compounds by LC/MS/MS

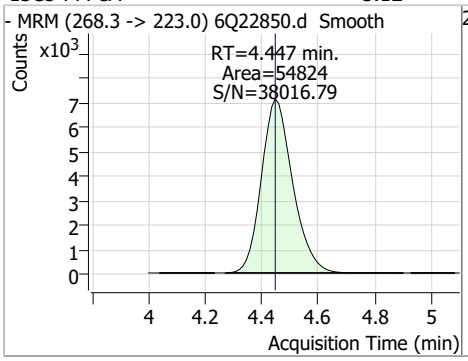
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	65.02	3.86	0.00	53960	241.0 -> 117.0	12.9	6.8	20.3

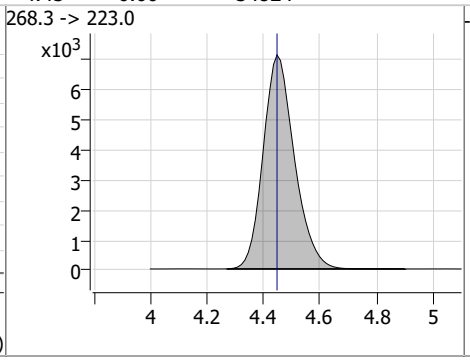


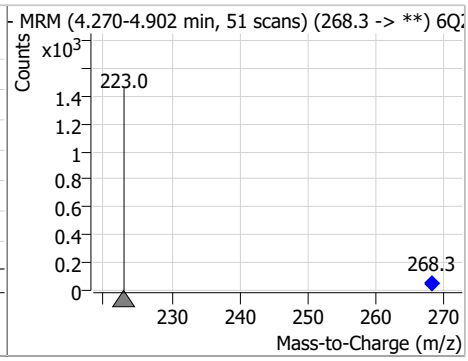




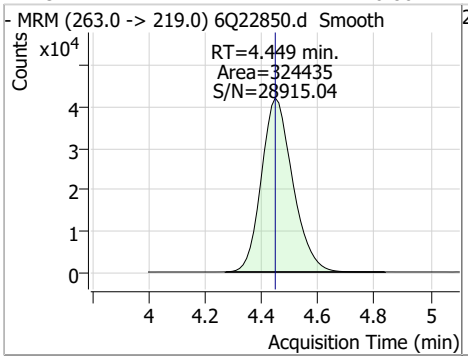
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.12	4.45	0.00	54824				

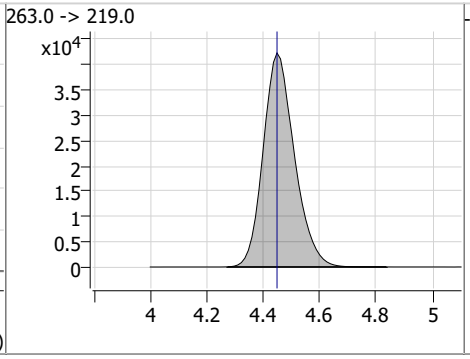


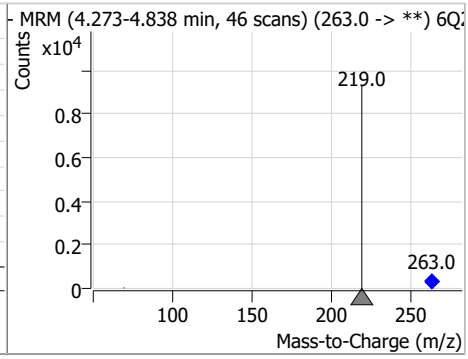




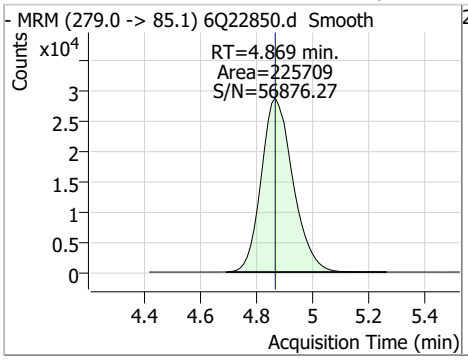
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	26.86	4.45	0.00	324435				

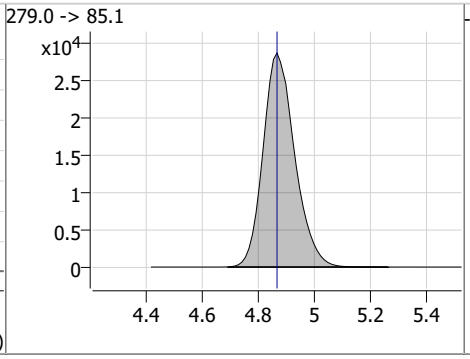


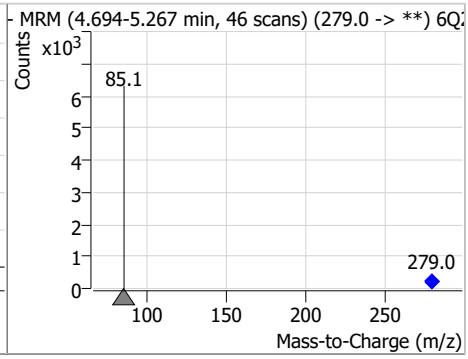




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	26.42	4.87	0.00	225709				

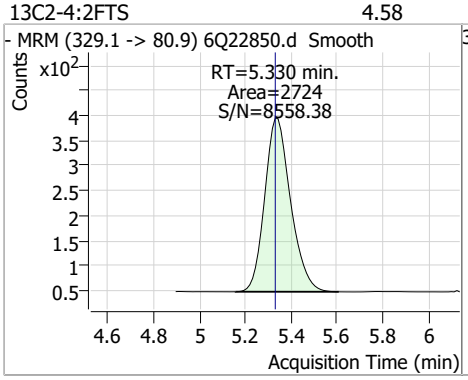


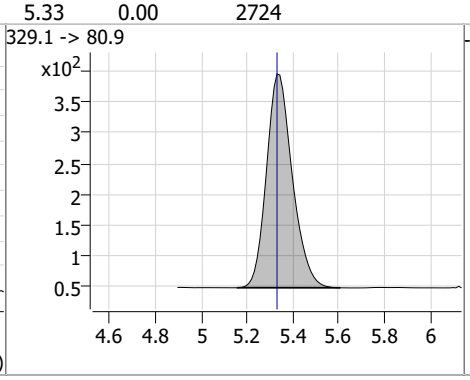


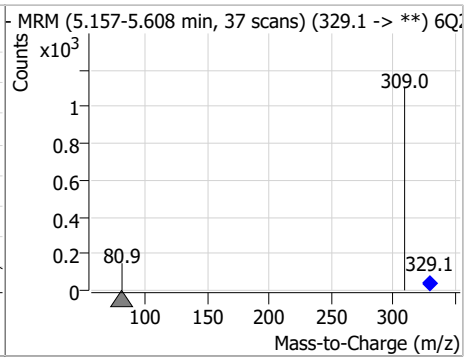


Perfluorinated Compounds by LC/MS/MS

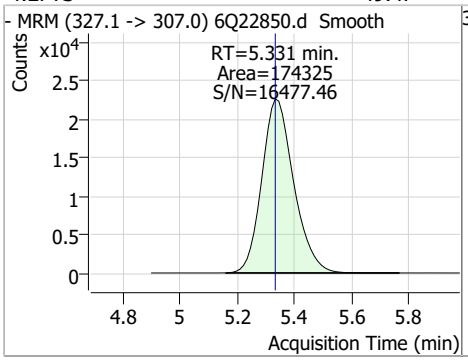
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.58	5.33	0.00	2724				

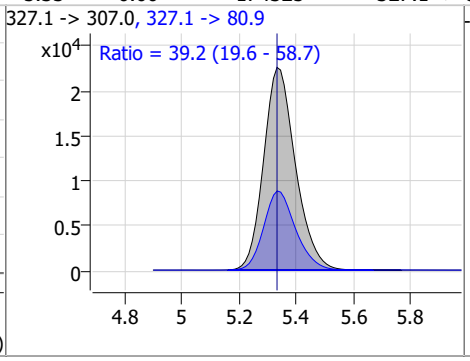


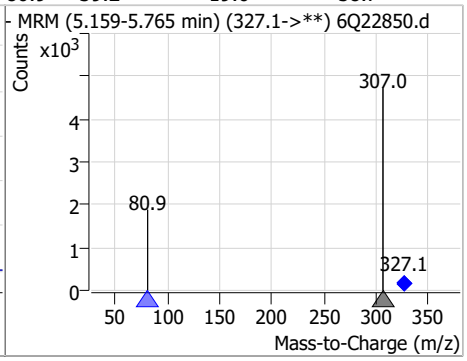




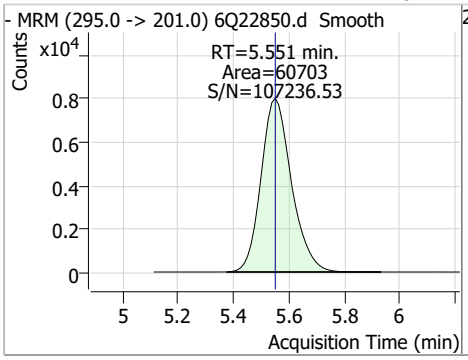
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	49.47	5.33	0.00	174325	327.1 -> 80.9	39.2	19.6	58.7

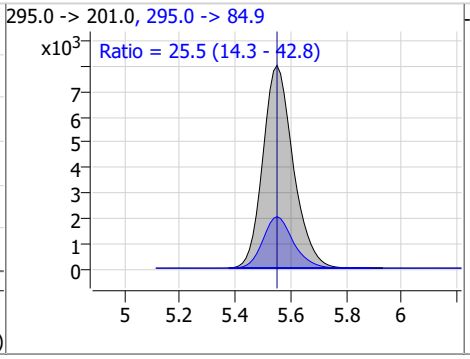


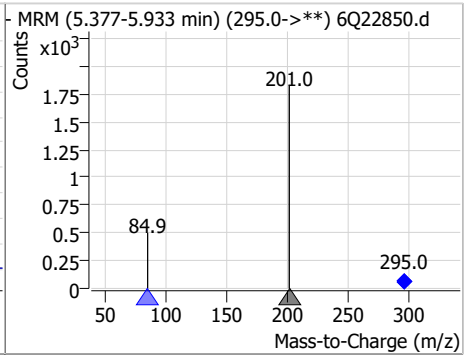




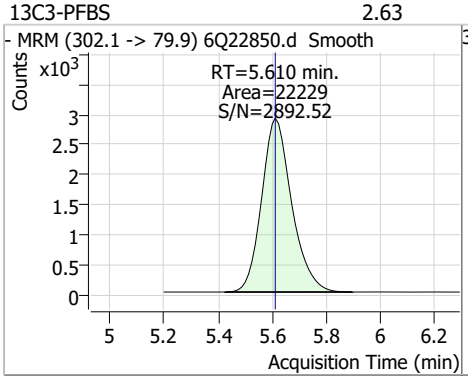
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	27.79	5.55	0.00	60703	295.0 -> 84.9	25.5	14.3	42.8

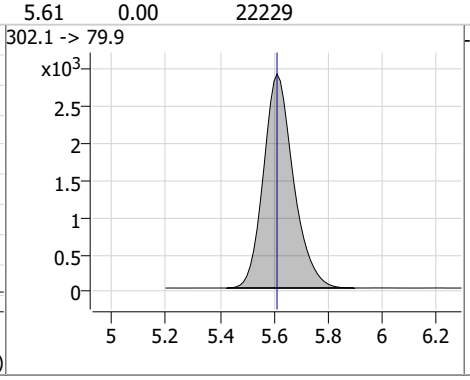


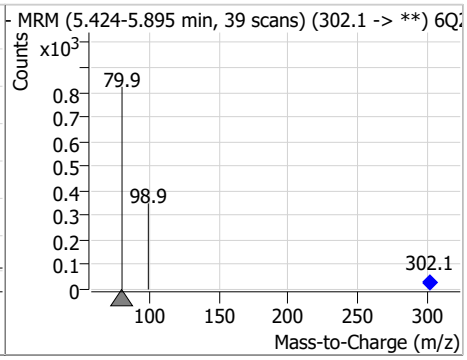




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.63	5.61	0.00	22229				

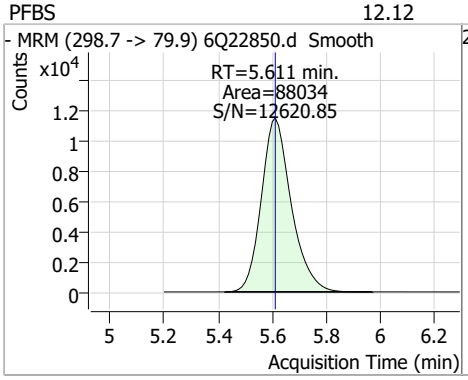


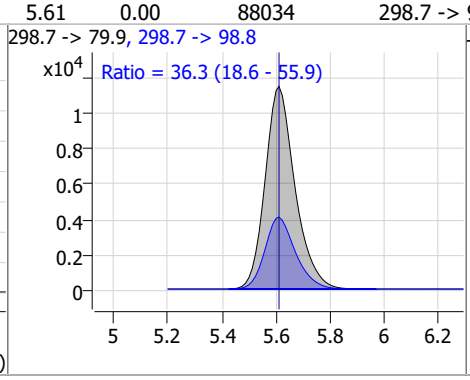


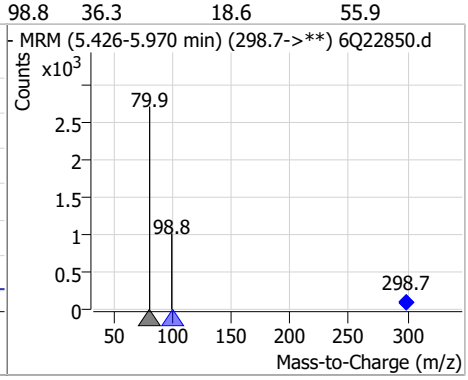


Perfluorinated Compounds by LC/MS/MS

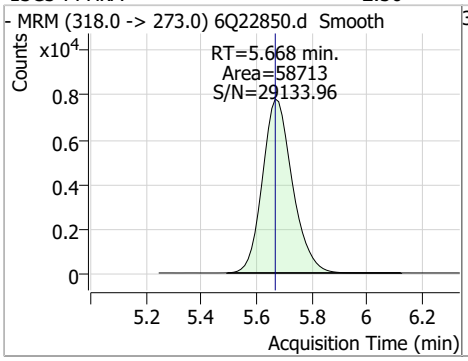
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	12.12	5.61	0.00	88034	298.7 -> 98.8	36.3	18.6	55.9

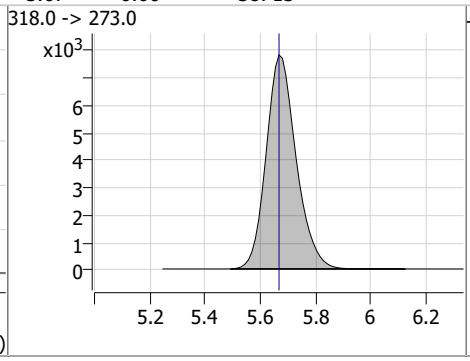


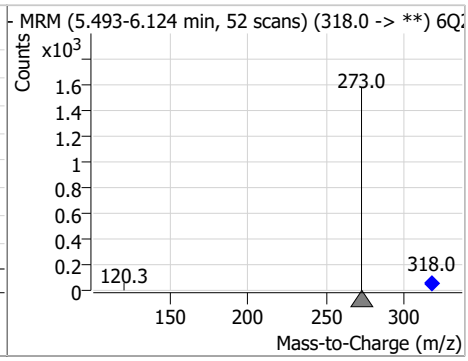




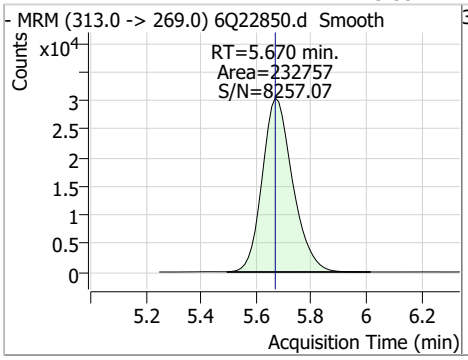
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.50	5.67	0.00	58713				

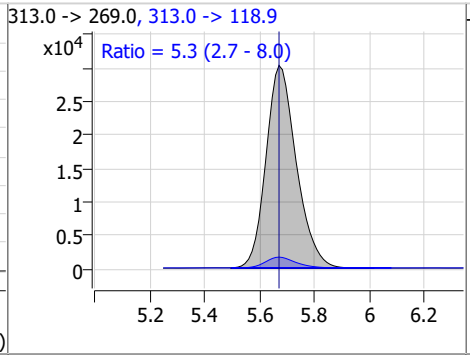


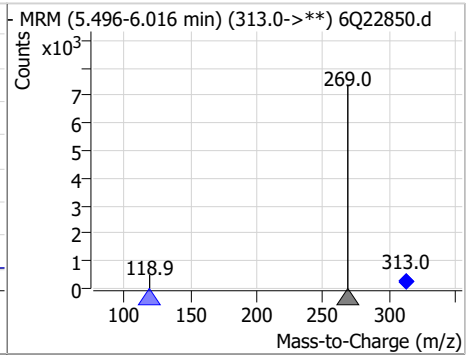




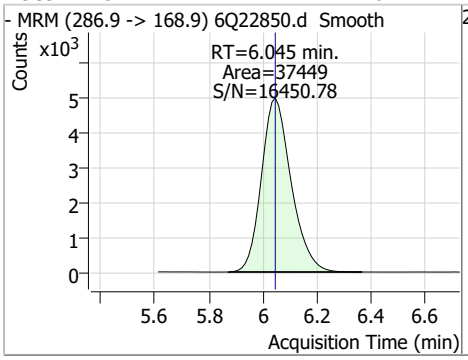
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	13.55	5.67	0.00	232757	313.0 -> 118.9	5.3	2.7	8.0

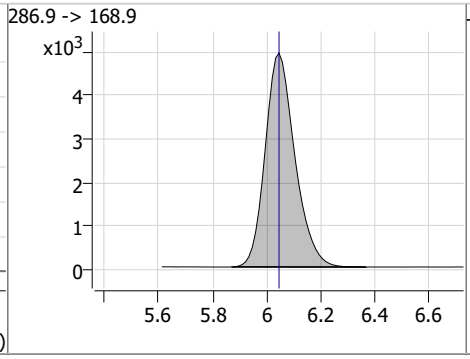


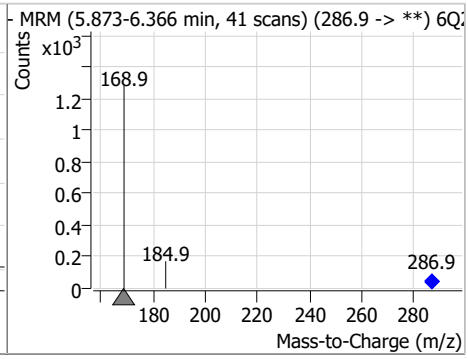




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.17	6.05	0.00	37449				

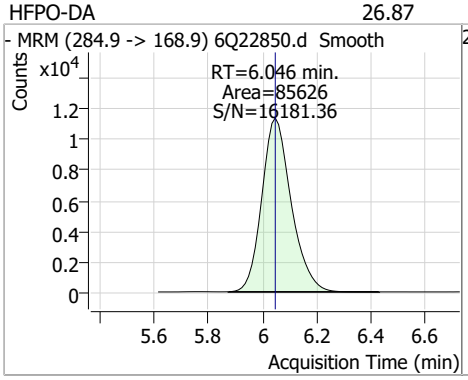


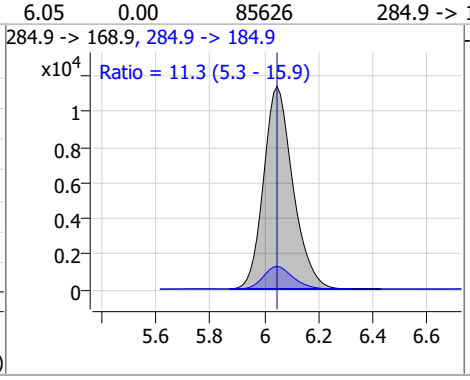


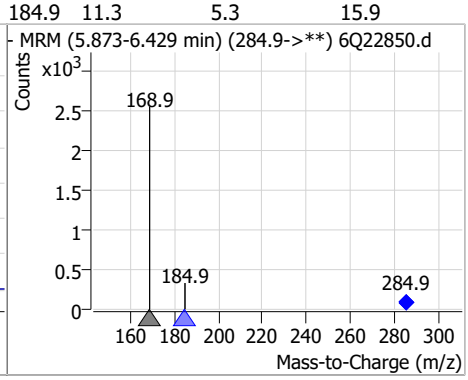


Perfluorinated Compounds by LC/MS/MS

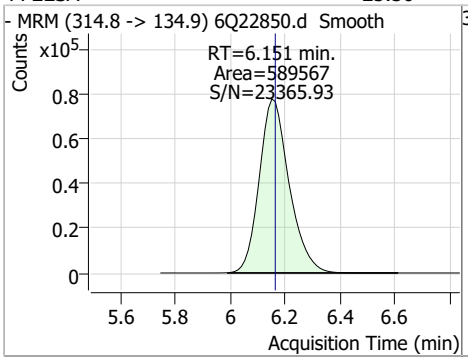
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	26.87	6.05	0.00	85626	284.9 -> 184.9	11.3	5.3	15.9

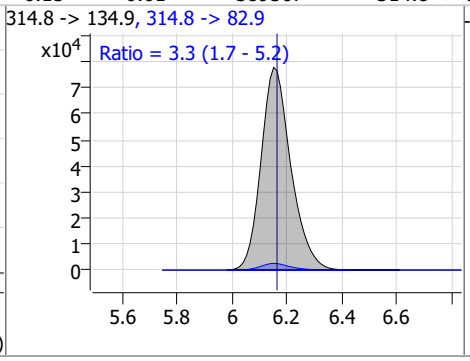


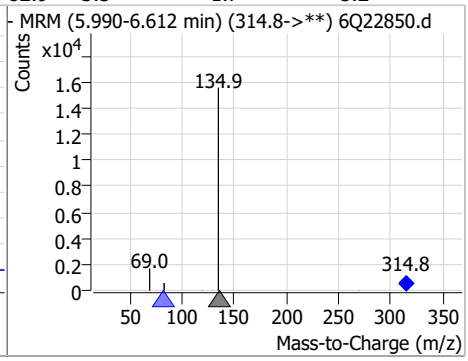




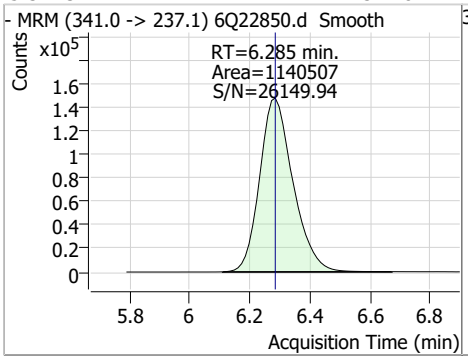
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	25.56	6.15	-0.01	589567	314.8 -> 82.9	3.3	1.7	5.2

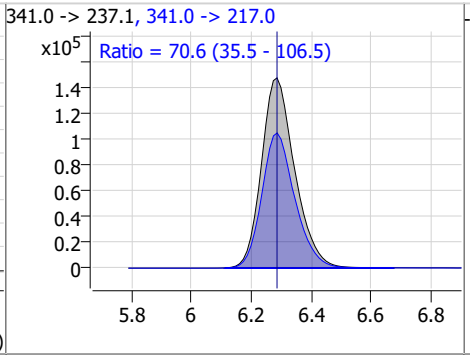


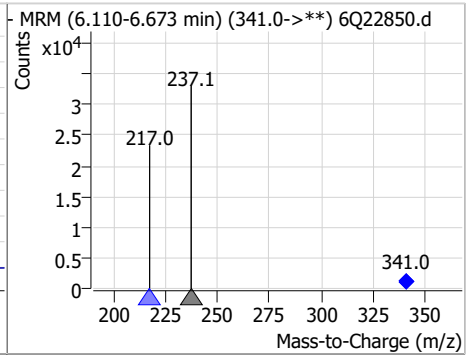




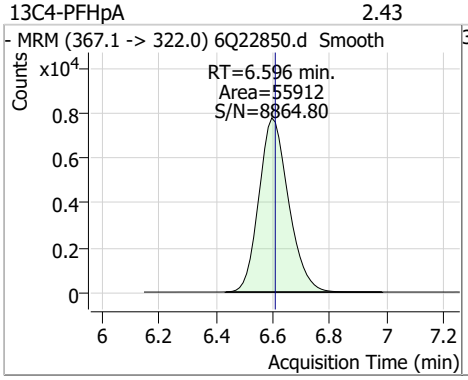
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	322.87	6.28	0.00	1140507	341.0 -> 217.0	70.6	35.5	106.5

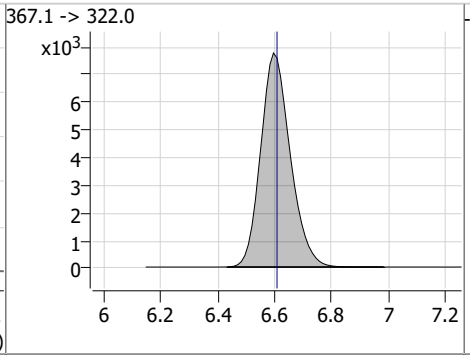


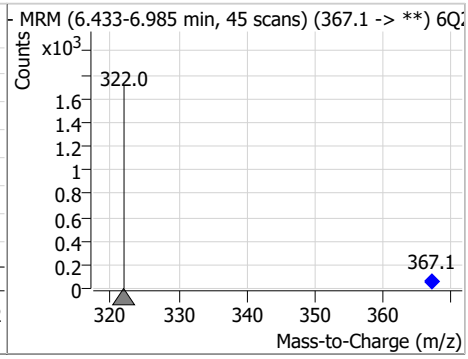




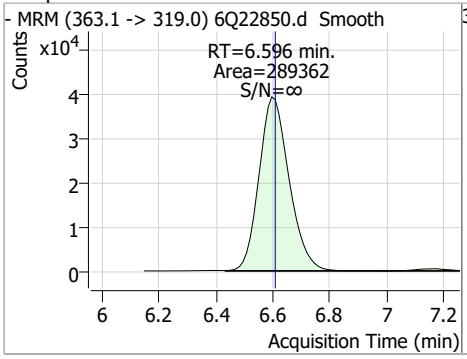
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.43	6.60	-0.01	55912				

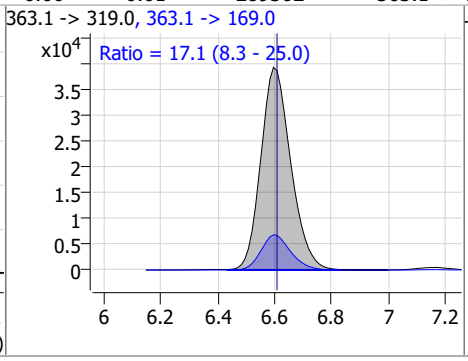


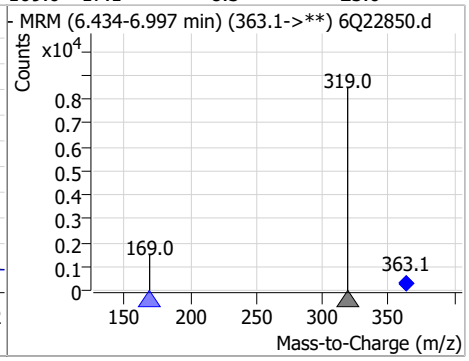




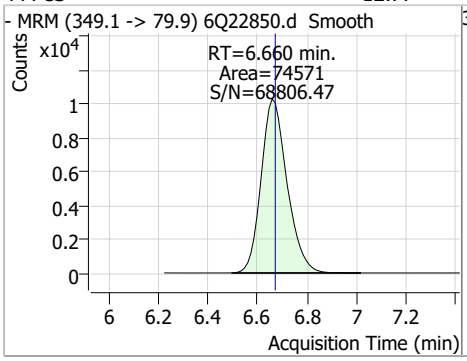
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	13.12	6.60	-0.01	289362	363.1 -> 169.0	17.1	8.3	25.0

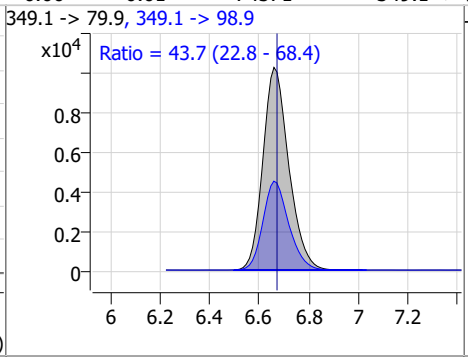


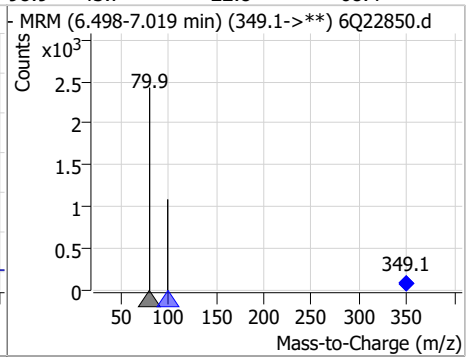




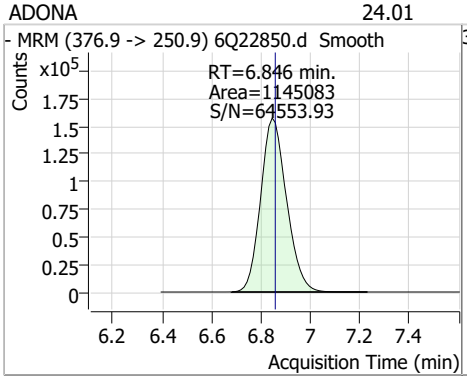
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	12.77	6.66	-0.01	74571	349.1 -> 98.9	43.7	22.8	68.4

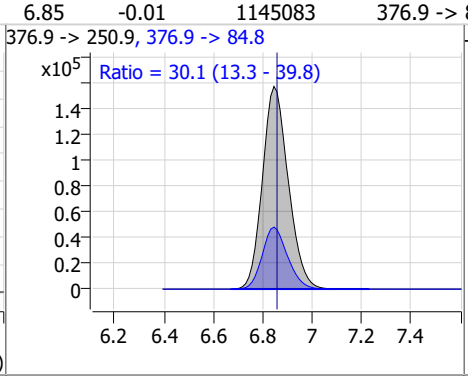


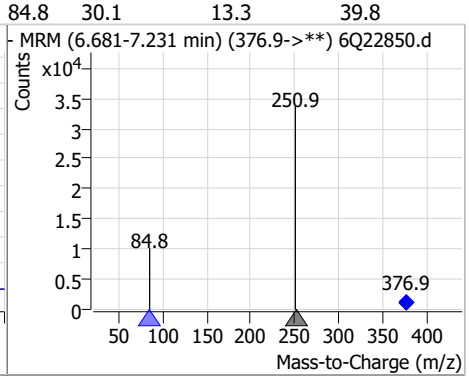




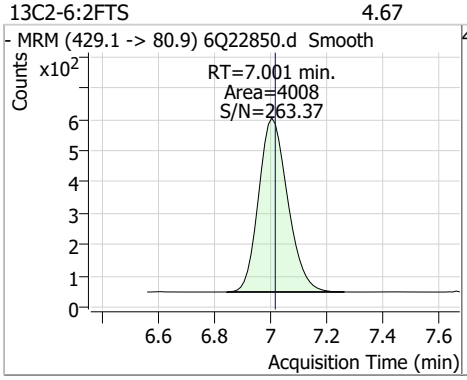
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	24.01	6.85	-0.01	1145083	376.9 -> 84.8	30.1	13.3	39.8

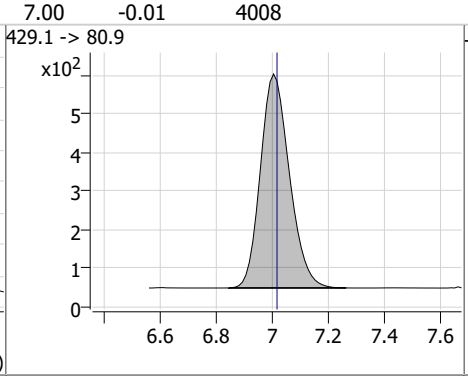


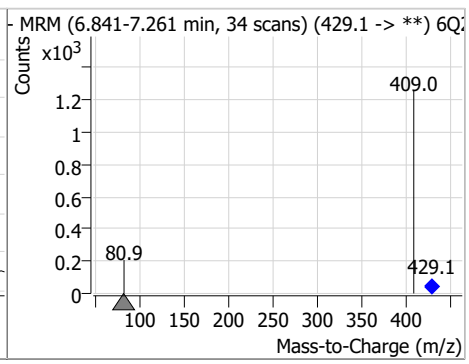




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.67	7.00	-0.01	4008				

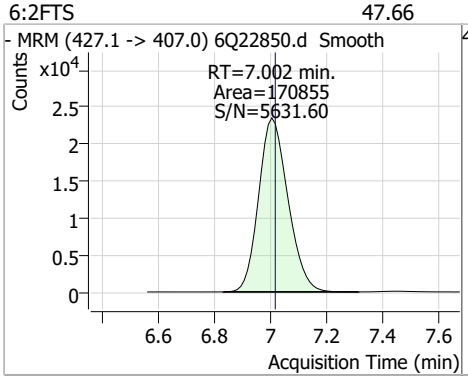


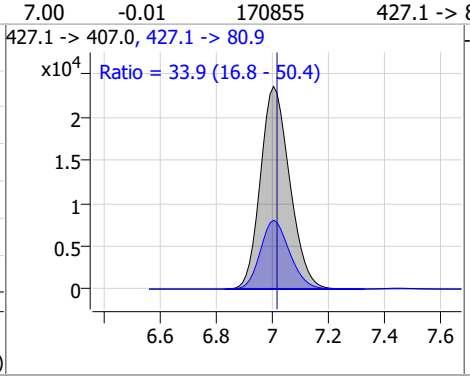


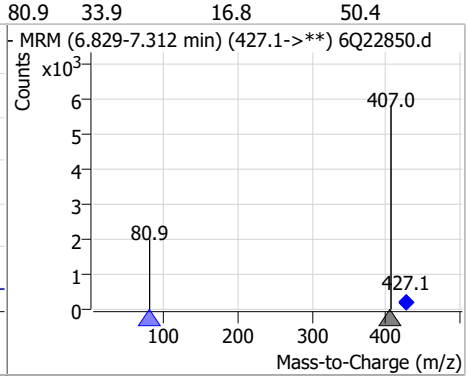


Perfluorinated Compounds by LC/MS/MS

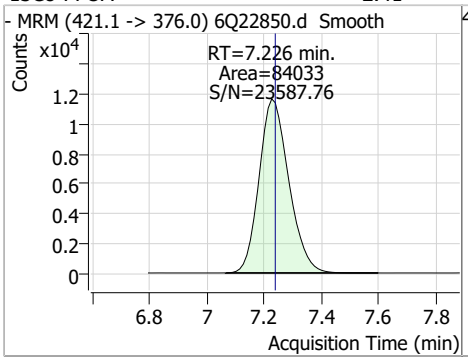
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	47.66	7.00	-0.01	170855	427.1 -> 80.9	33.9	16.8	50.4

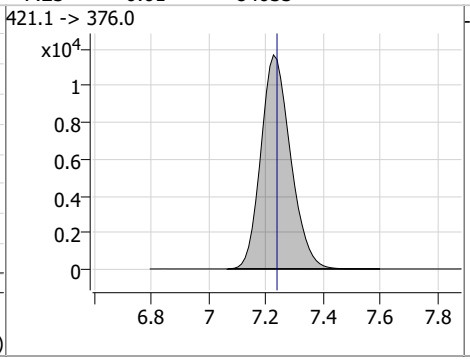


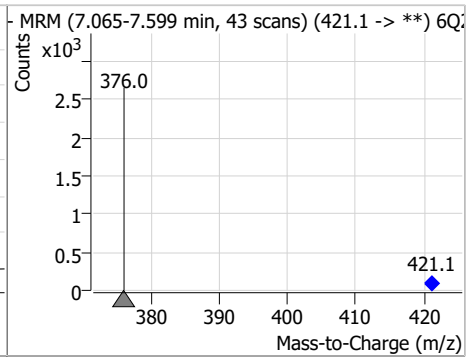




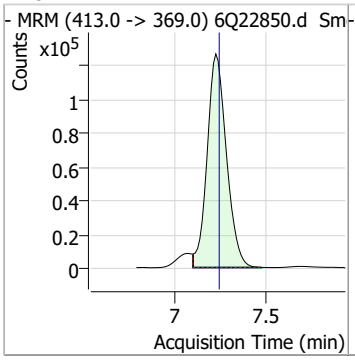
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.41	7.23	-0.01	84033				

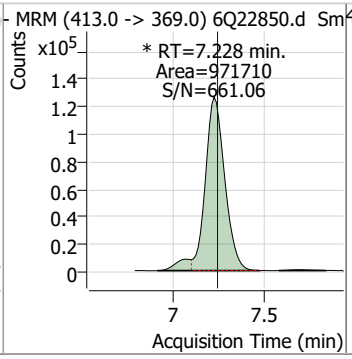


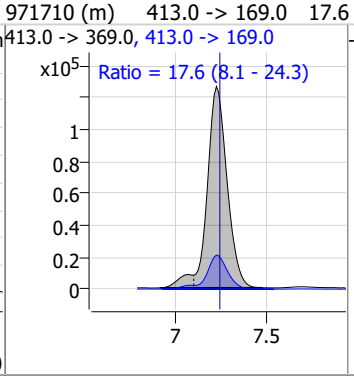


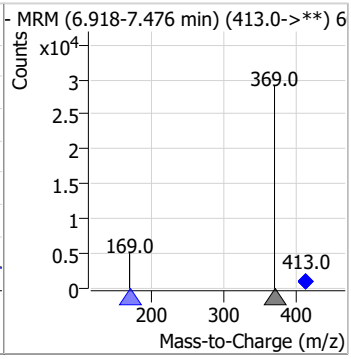


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	28.29	7.23	-0.01	971710 (m)	413.0 -> 169.0	17.6	8.1	24.3

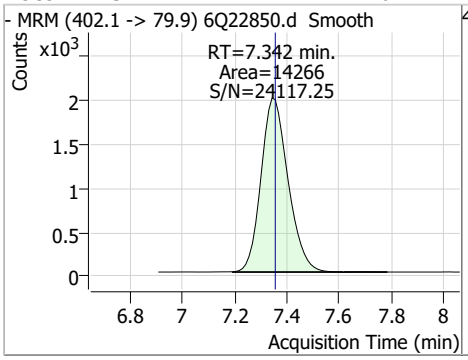


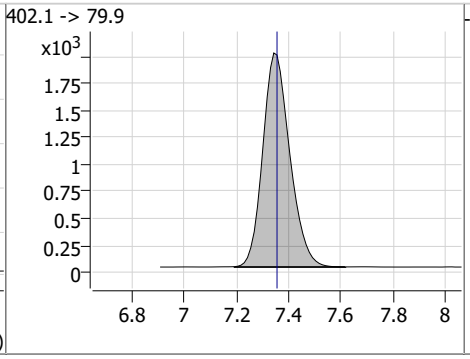


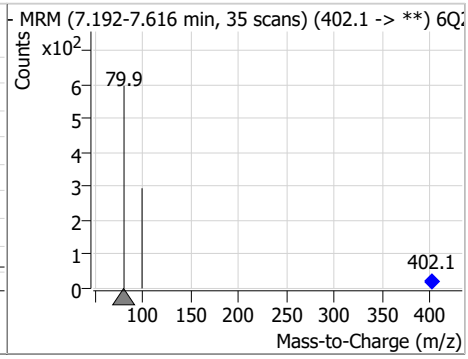




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.61	7.34	-0.01	14266				

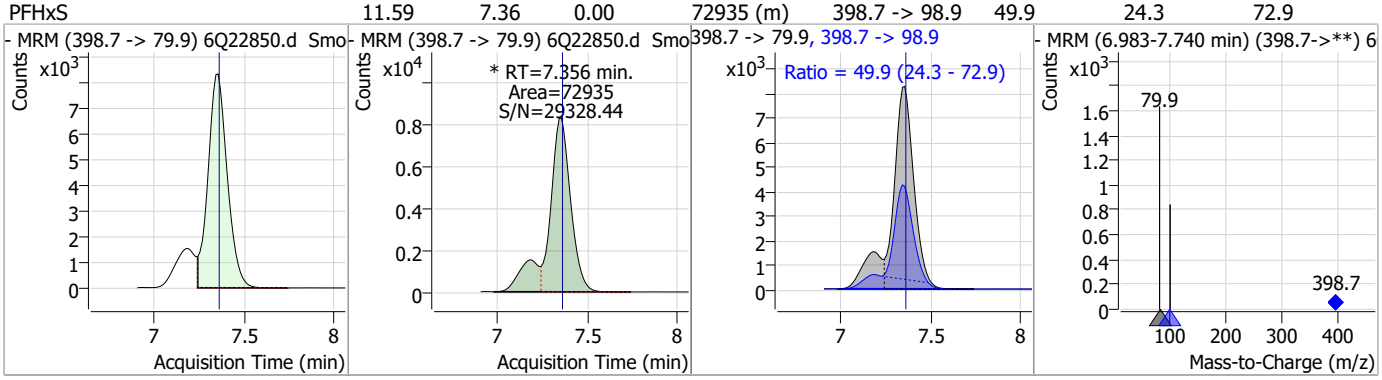




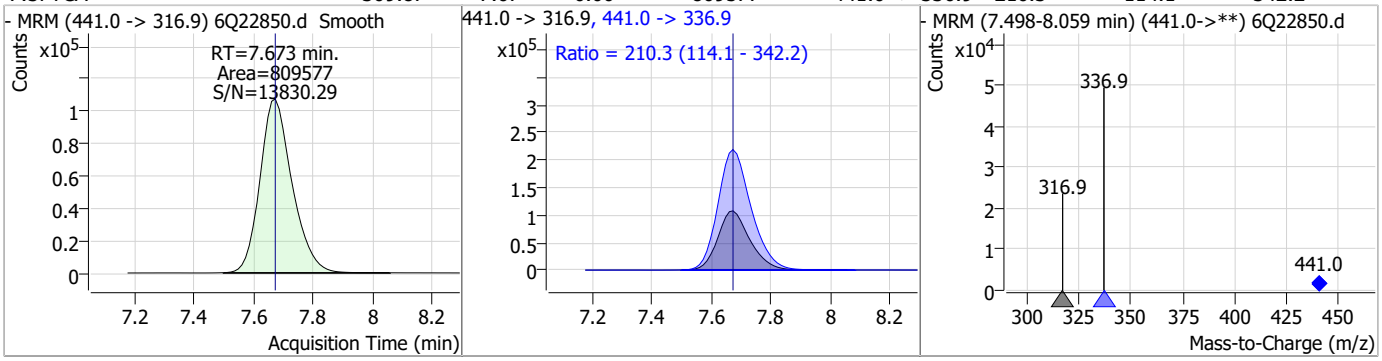


Perfluorinated Compounds by LC/MS/MS

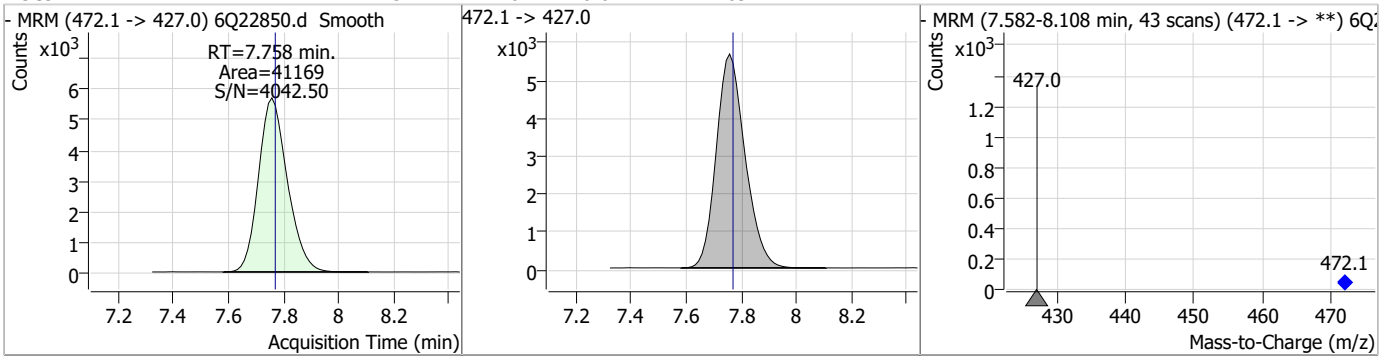
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	11.59	7.36	0.00	72935 (m)	398.7 -> 98.9	49.9	24.3	72.9



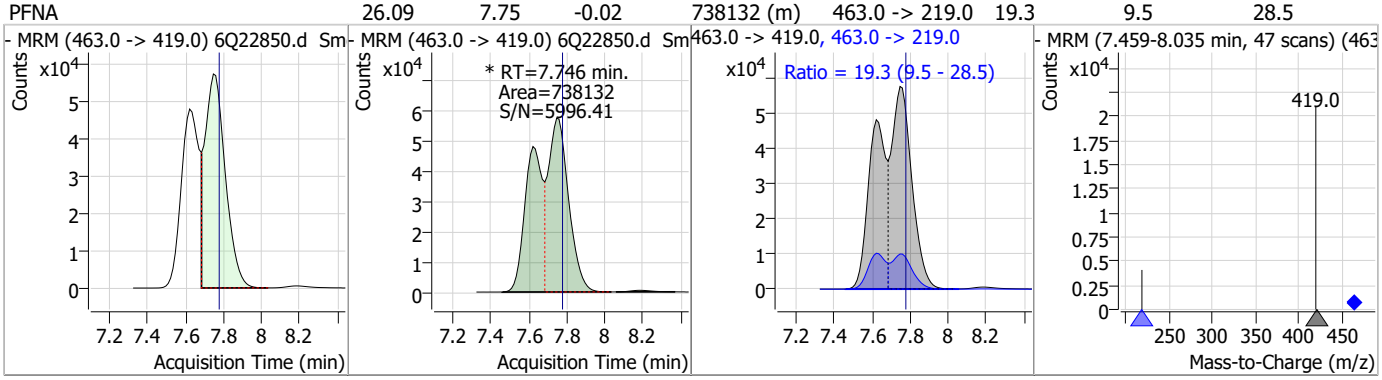
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	309.87	7.67	0.00	809577	441.0 -> 336.9	210.3	114.1	342.2



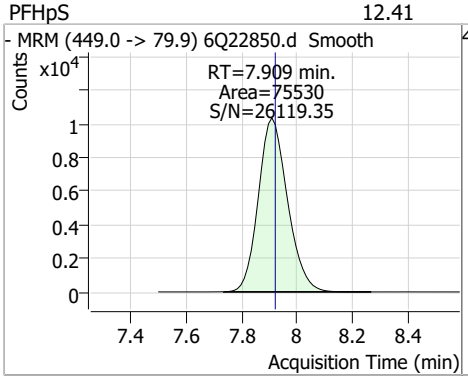
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.76	-0.01	41169				

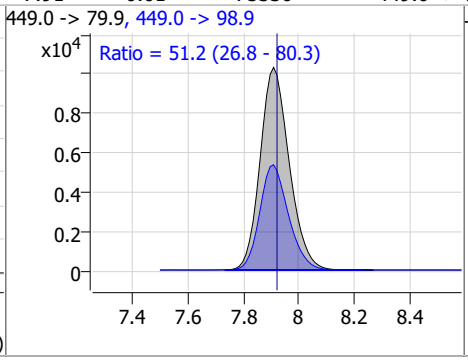


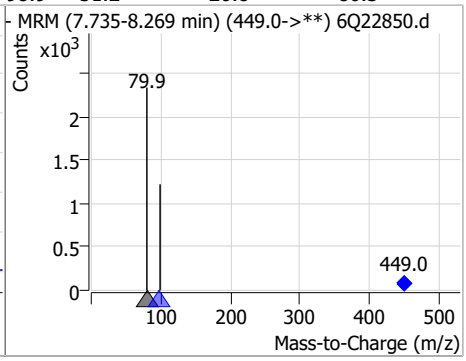
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	26.09	7.75	-0.02	738132 (m)	463.0 -> 219.0	19.3	9.5	28.5



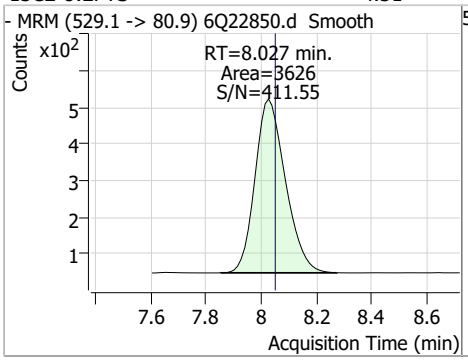
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	12.41	7.91	-0.01	75530	449.0 -> 98.9	51.2	26.8	80.3

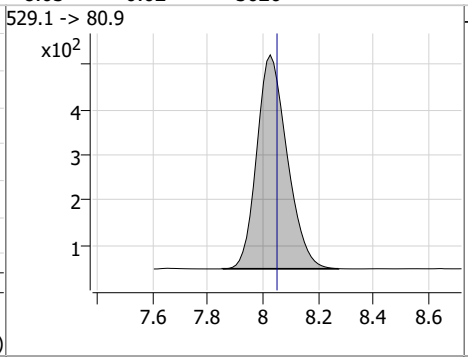


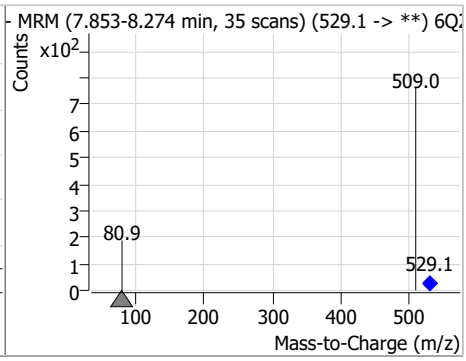




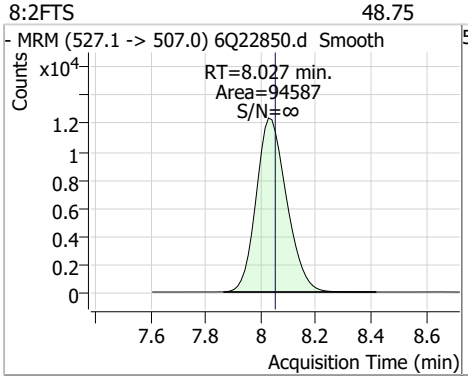
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.31	8.03	-0.02	3626				

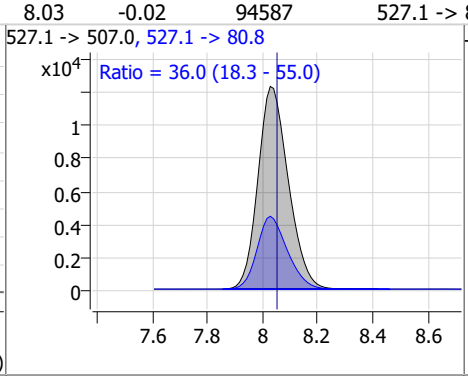


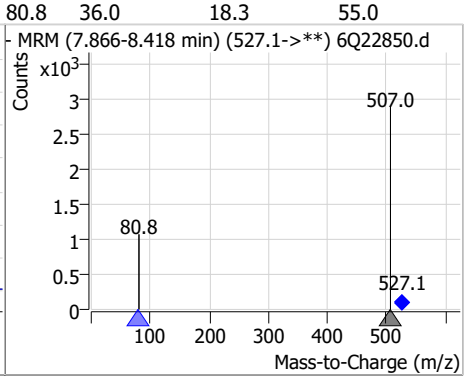




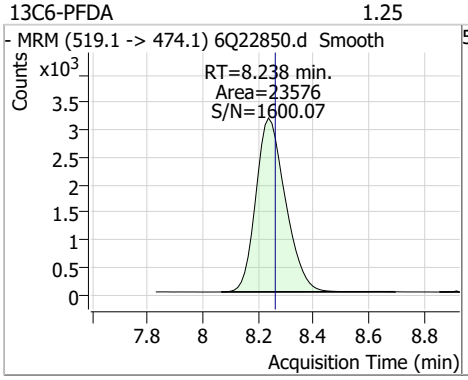
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	48.75	8.03	-0.02	94587	527.1 -> 80.8	36.0	18.3	55.0

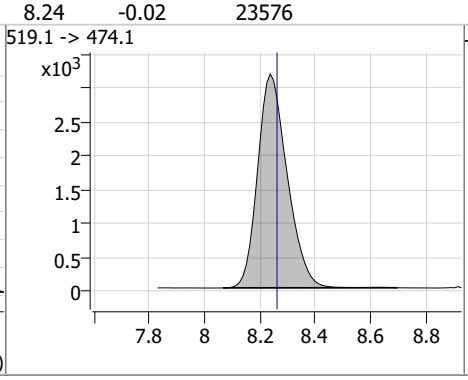


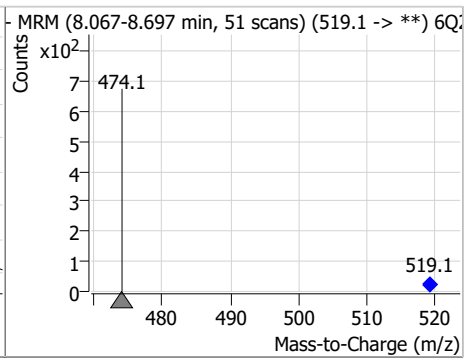




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.25	8.24	-0.02	23576				

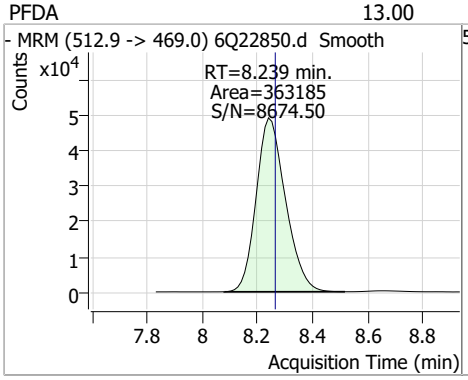


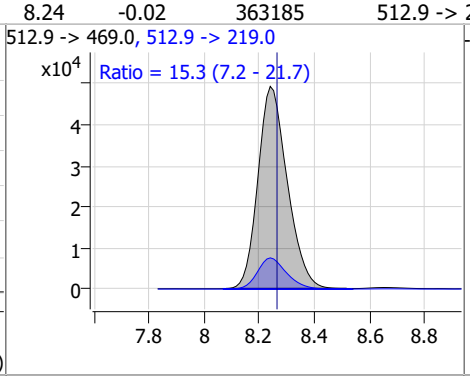


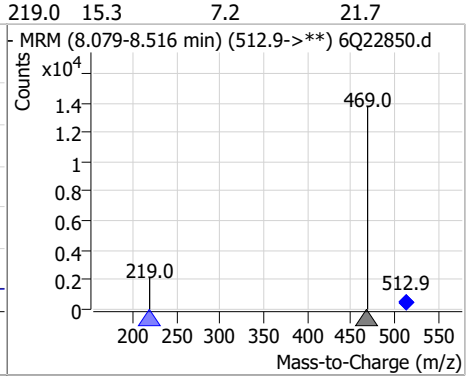


Perfluorinated Compounds by LC/MS/MS

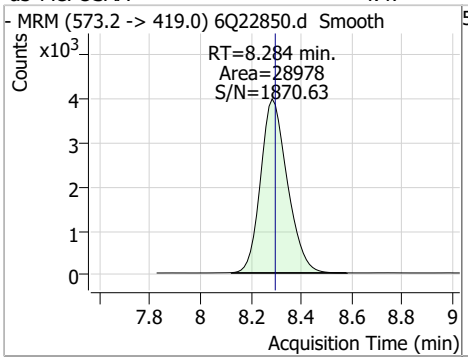
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	13.00	8.24	-0.02	363185	512.9 -> 219.0	15.3	7.2	21.7

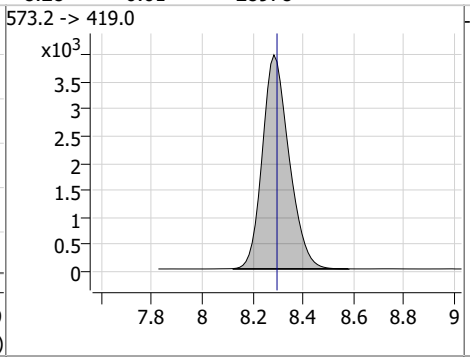


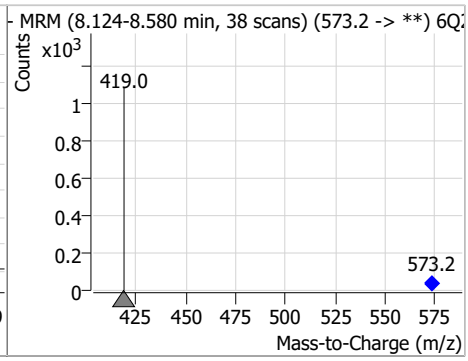




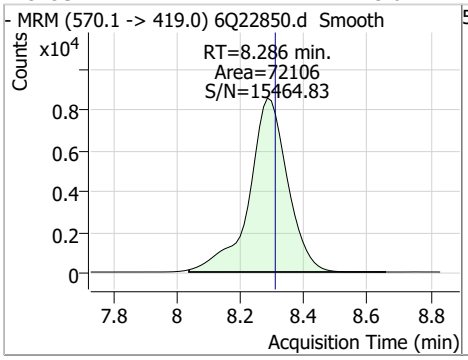
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.47	8.28	-0.01	28978				

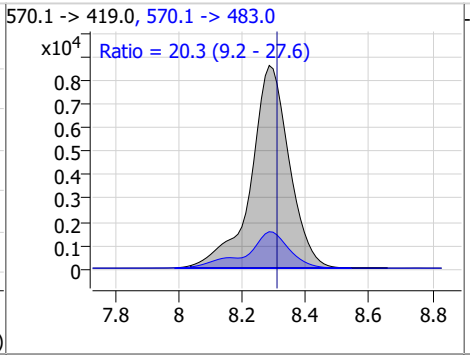


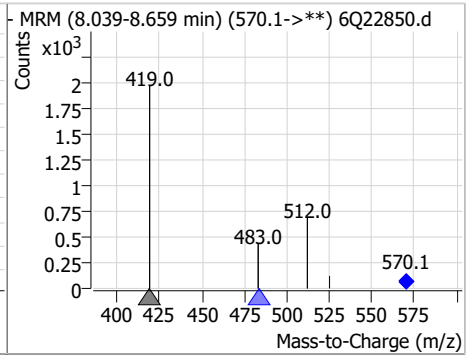




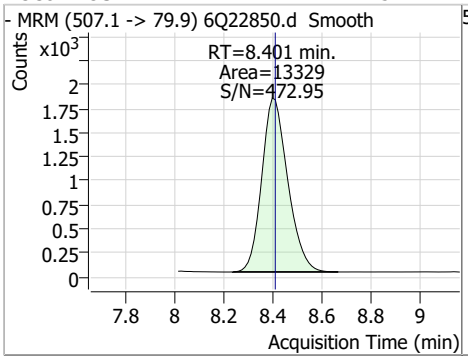
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	13.01	8.29	-0.02	72106	570.1 -> 483.0	20.3	9.2	27.6

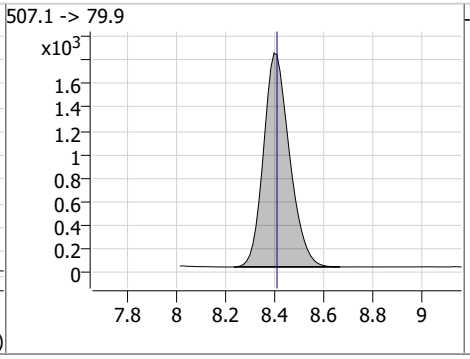


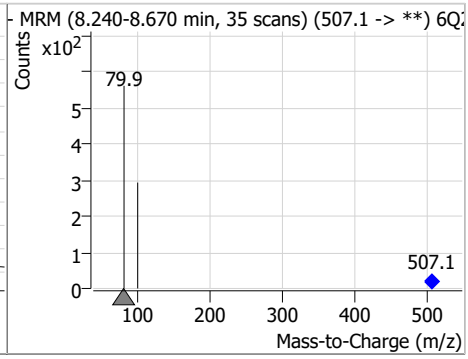




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.54	8.40	-0.01	13329				

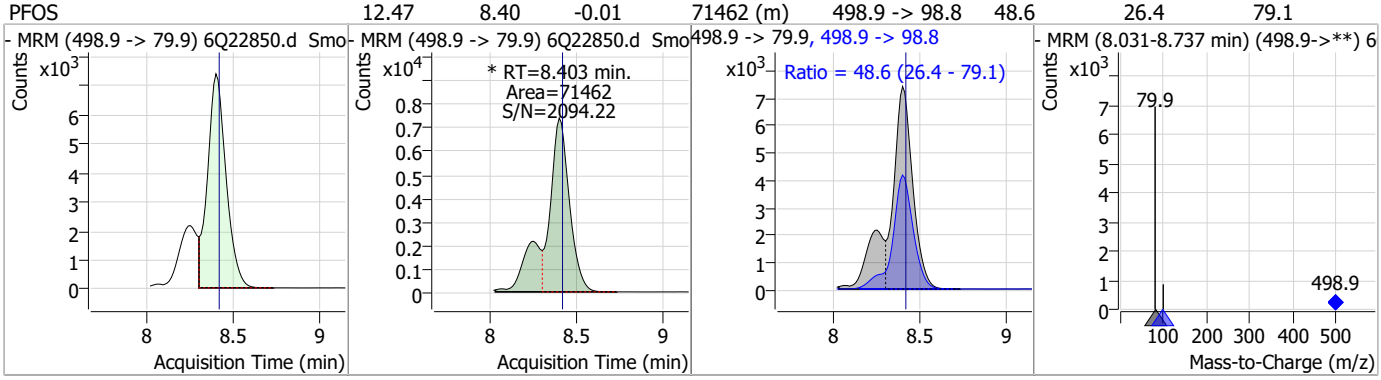




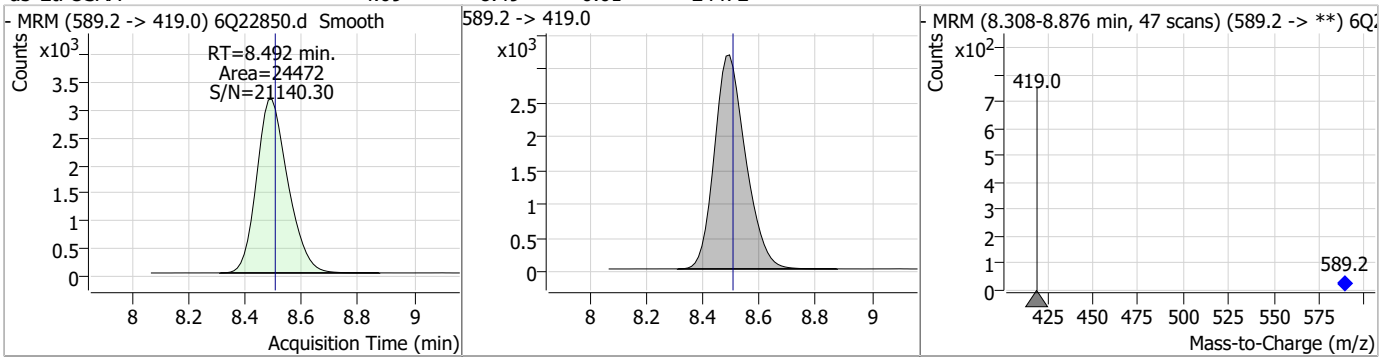


Perfluorinated Compounds by LC/MS/MS

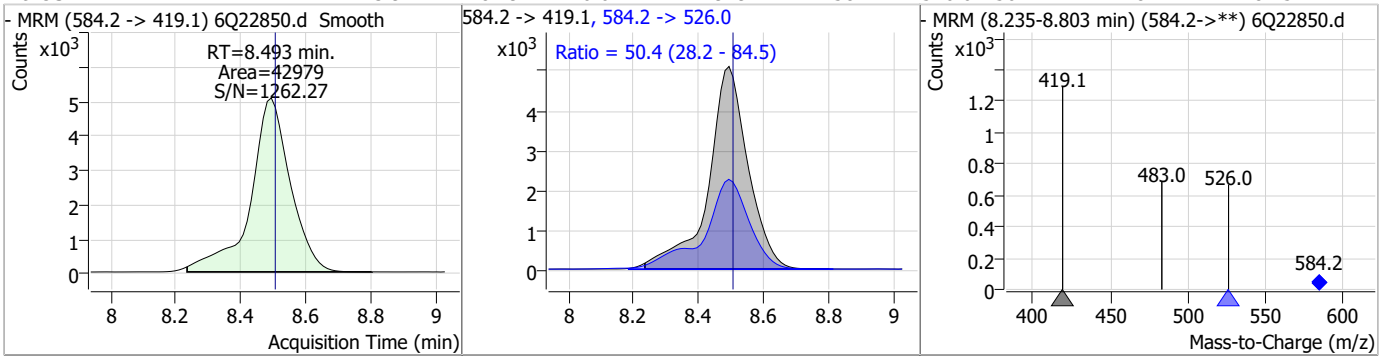
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	12.47	8.40	-0.01	71462 (m)	498.9 -> 98.8	48.6	26.4	79.1



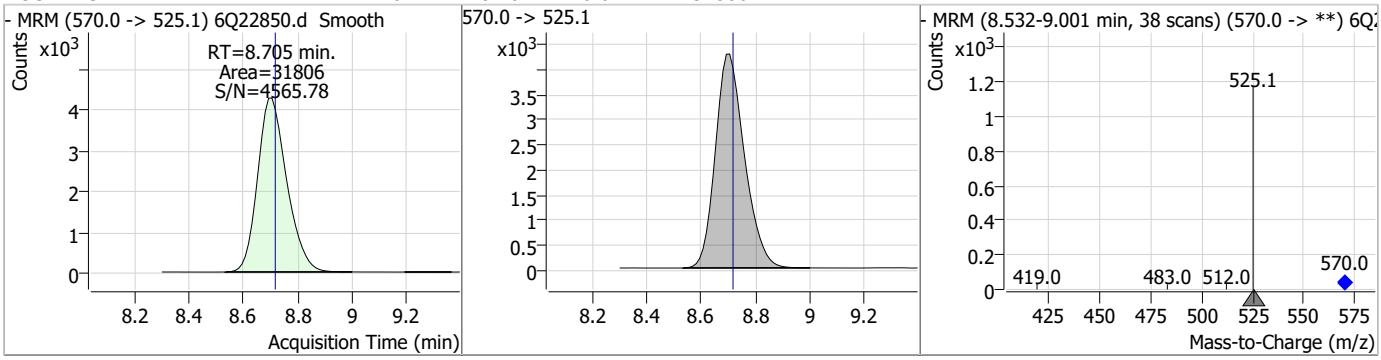
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.09	8.49	-0.01	24472				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	13.94	8.49	-0.01	42979	584.2 -> 526.0	50.4	28.2	84.5

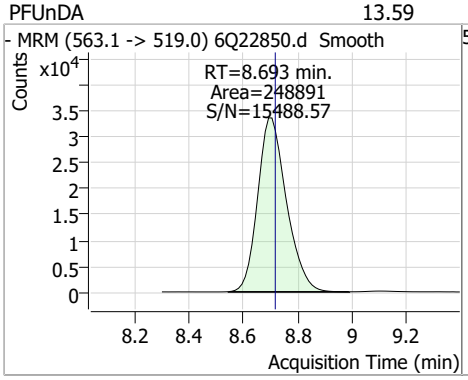


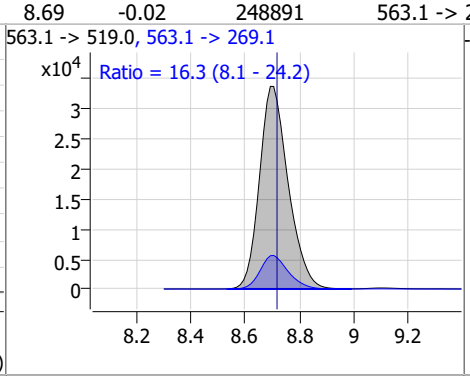
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.28	8.70	-0.01	31806				

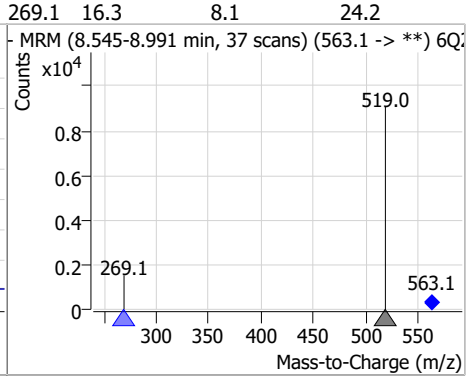


Perfluorinated Compounds by LC/MS/MS

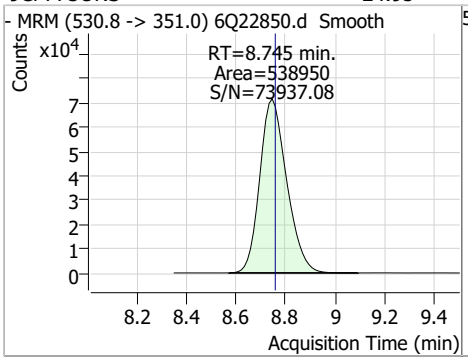
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	13.59	8.69	-0.02	248891	563.1 -> 269.1	16.3	8.1	24.2

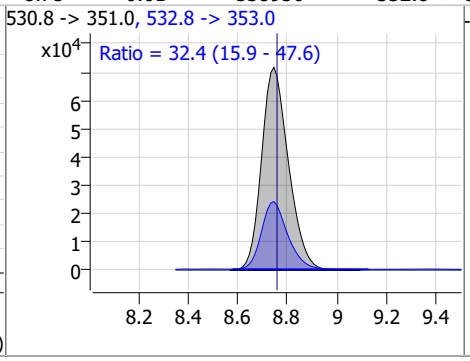


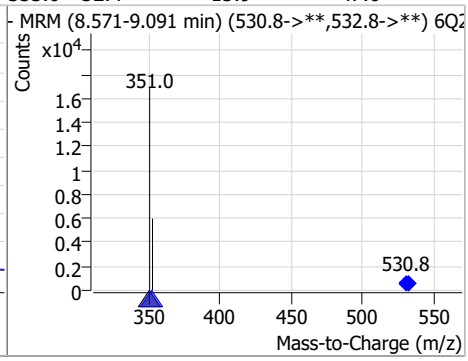




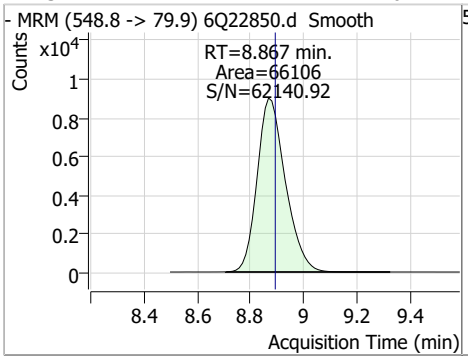
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	24.95	8.75	-0.01	538950	532.8 -> 353.0	32.4	15.9	47.6

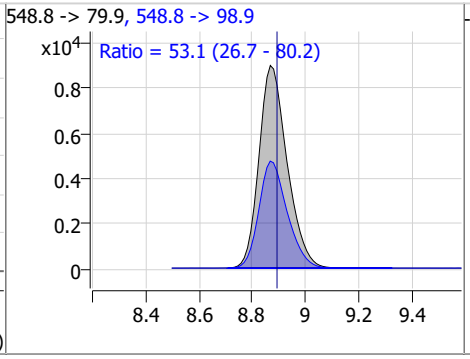


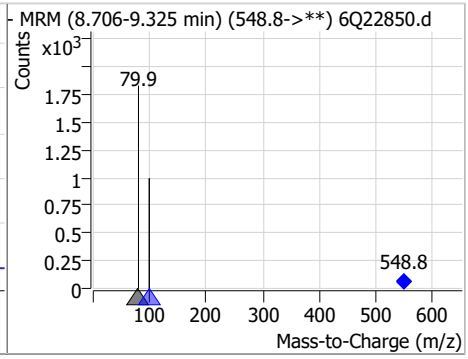




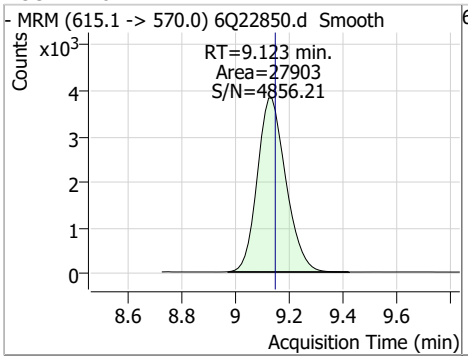
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	12.02	8.87	-0.03	66106	548.8 -> 98.9	53.1	26.7	80.2

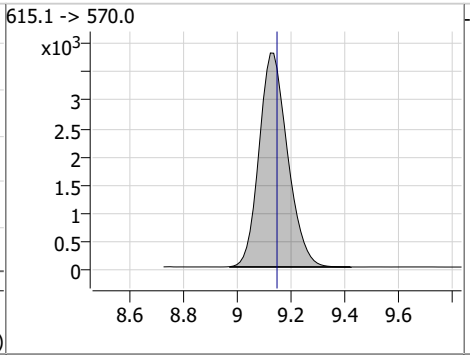


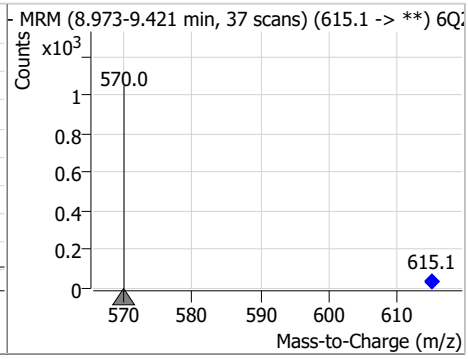




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.24	9.12	-0.02	27903				

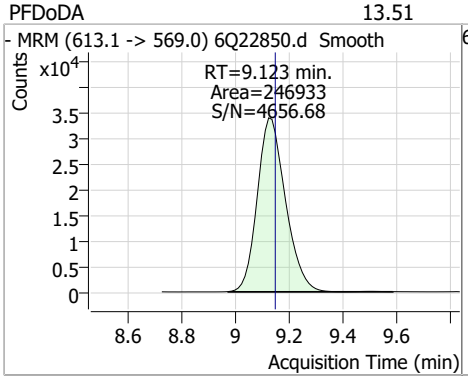


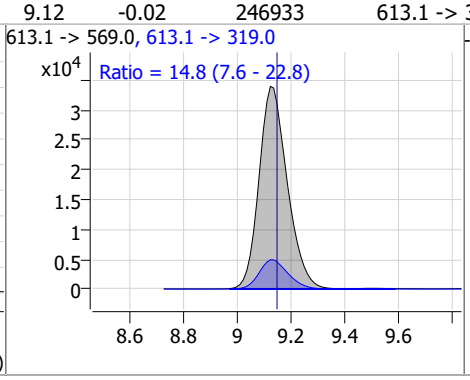


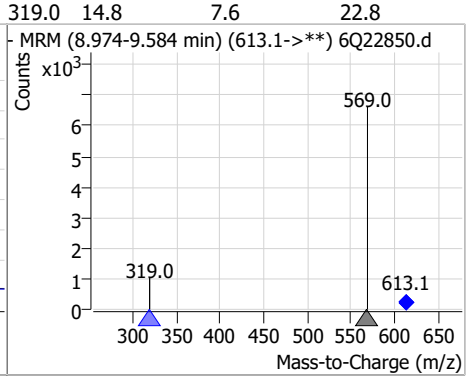


Perfluorinated Compounds by LC/MS/MS

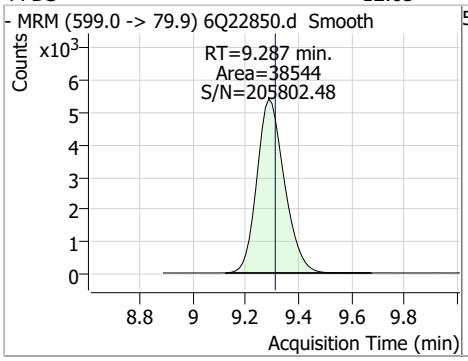
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	13.51	9.12	-0.02	246933	613.1 -> 319.0	14.8	7.6	22.8

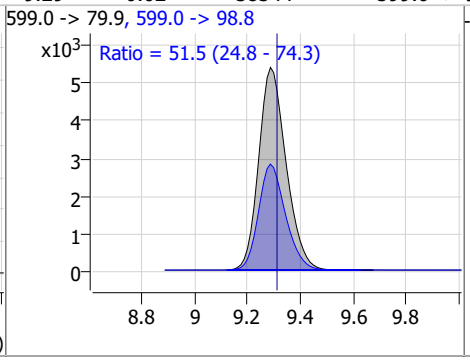


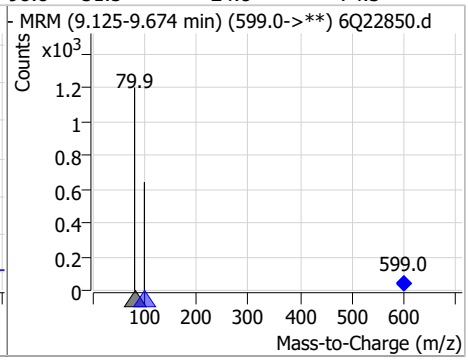




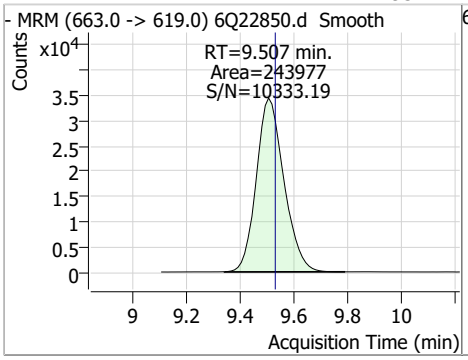
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	12.05	9.29	-0.02	38544	599.0 -> 98.8	51.5	24.8	74.3

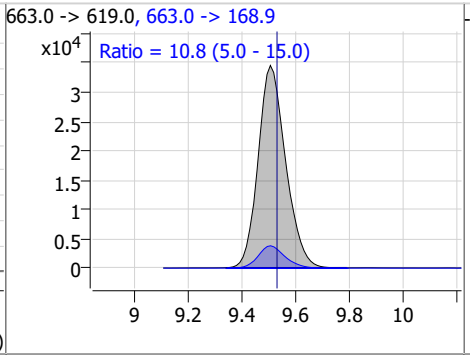


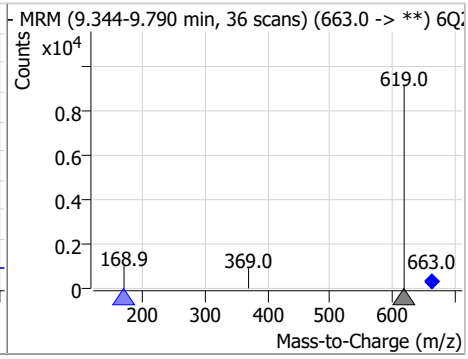




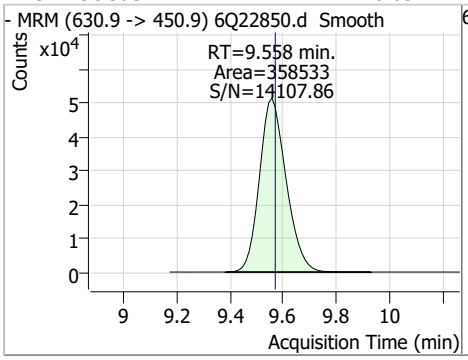
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	12.93	9.51	-0.02	243977	663.0 -> 168.9	10.8	5.0	15.0

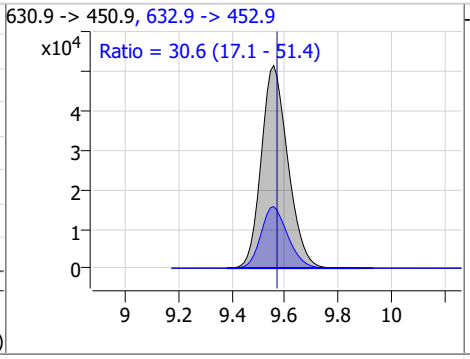


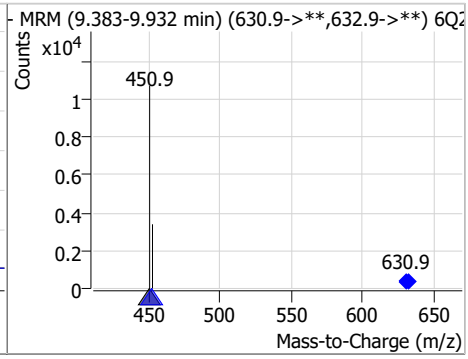




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	26.83	9.56	-0.01	358533	632.9 -> 452.9	30.6	17.1	51.4

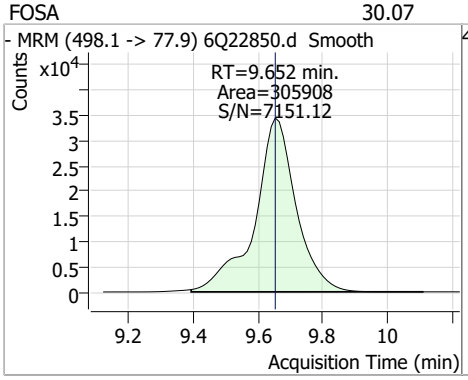


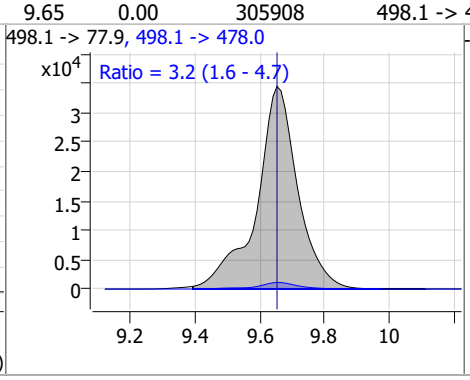


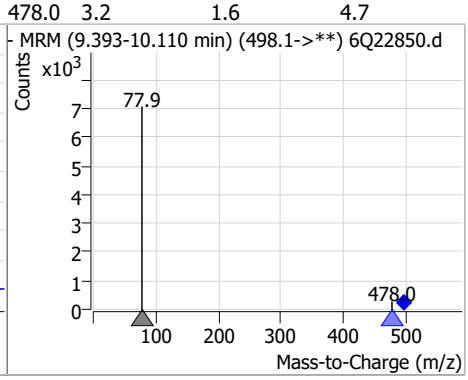


Perfluorinated Compounds by LC/MS/MS

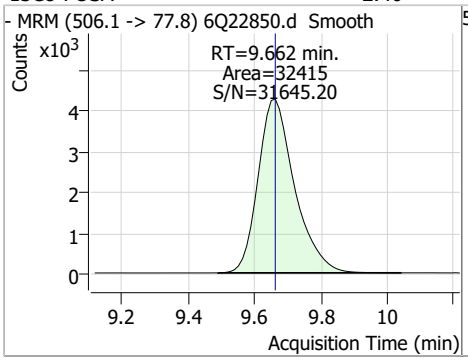
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	30.07	9.65	0.00	305908	498.1 -> 478.0	3.2	1.6	4.7

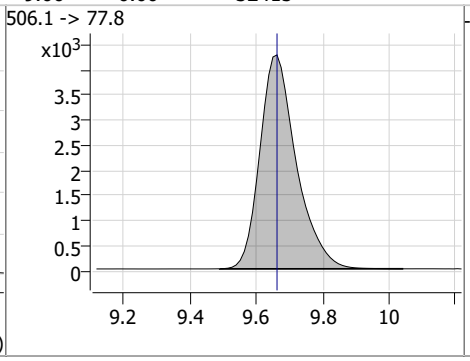


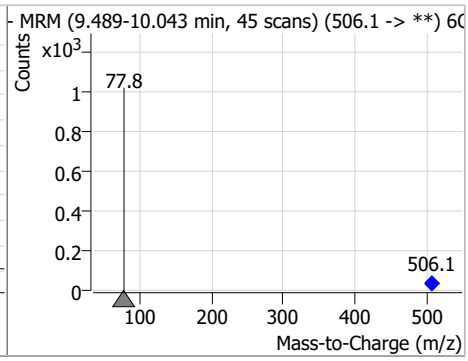




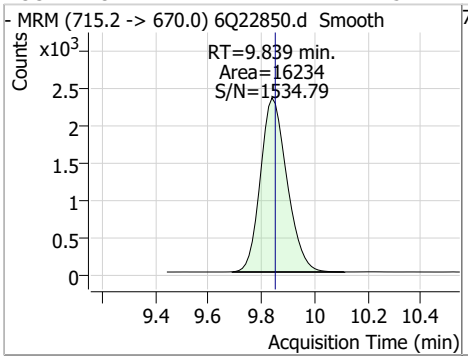
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.40	9.66	0.00	32415				

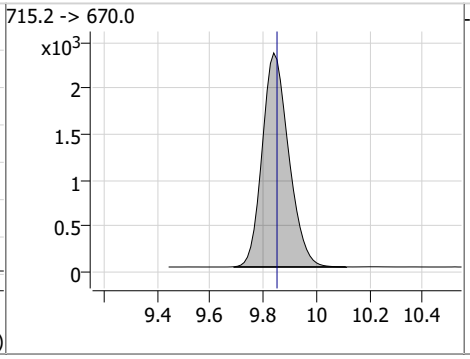


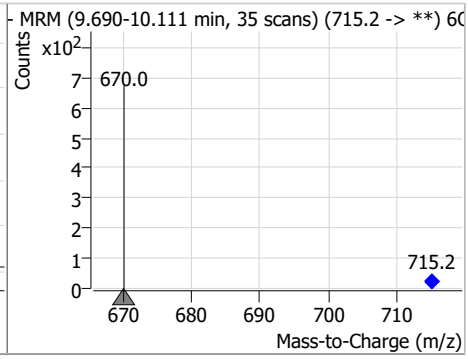




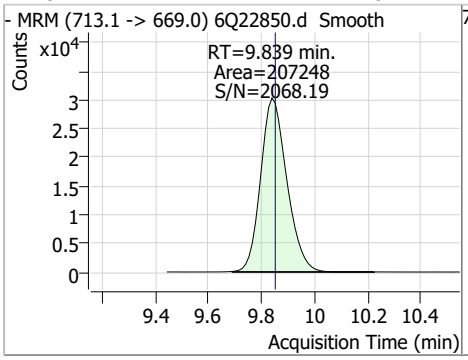
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.25	9.84	-0.01	16234				

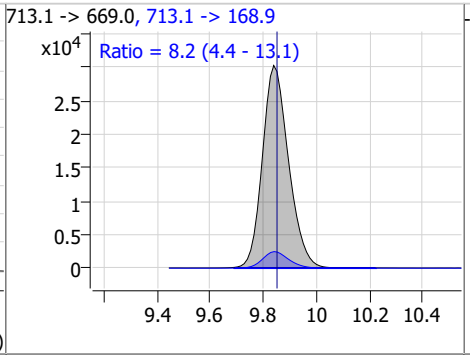


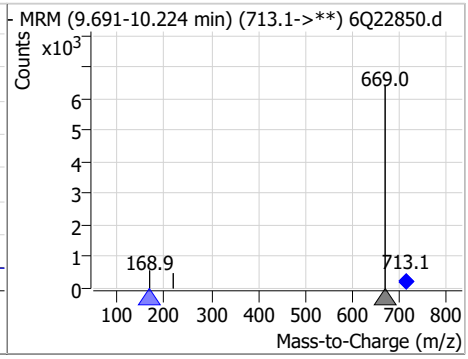




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	13.14	9.84	-0.01	207248	713.1 -> 168.9	8.2	4.4	13.1

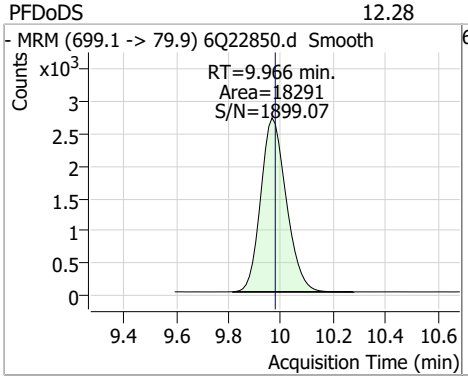


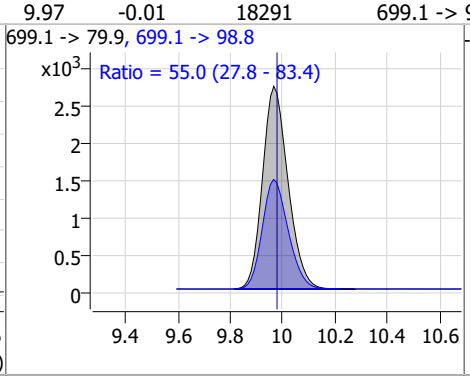


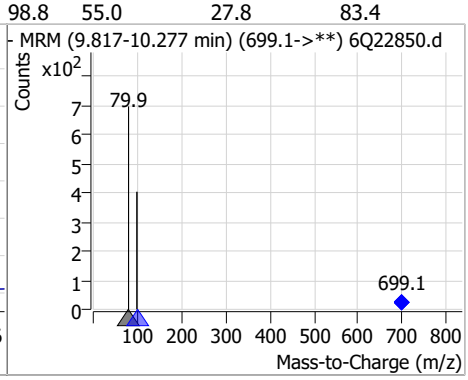


Perfluorinated Compounds by LC/MS/MS

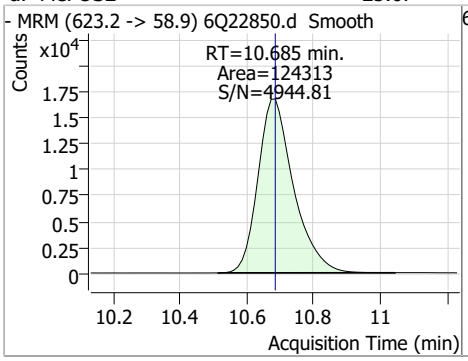
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	12.28	9.97	-0.01	18291	699.1 -> 98.8	55.0	27.8	83.4

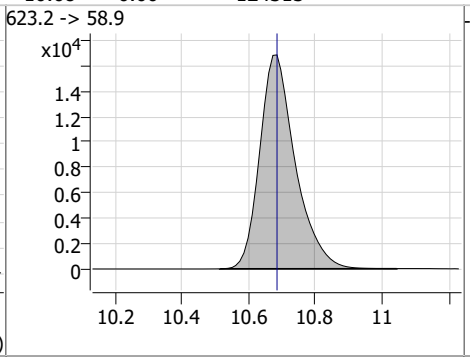


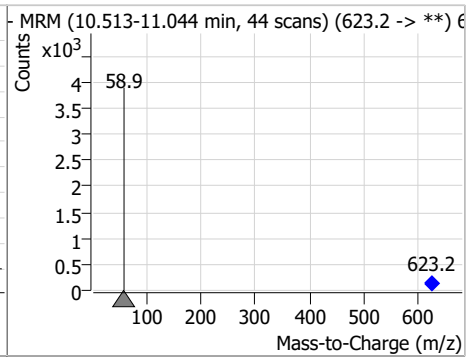




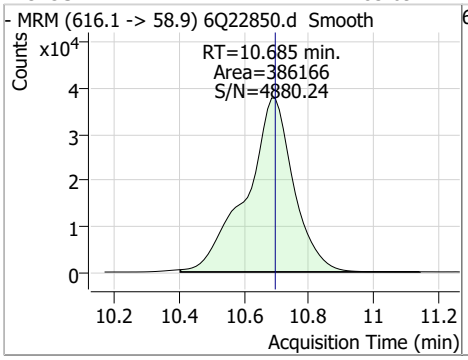
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.67	10.68	0.00	124313				

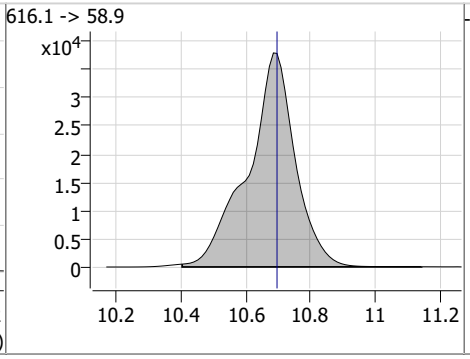


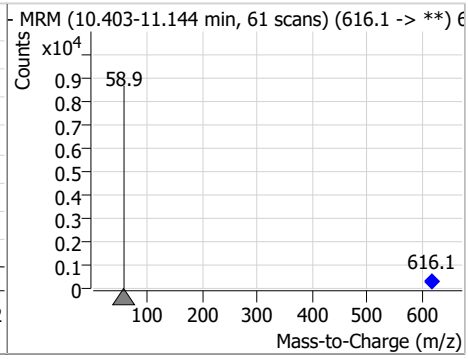




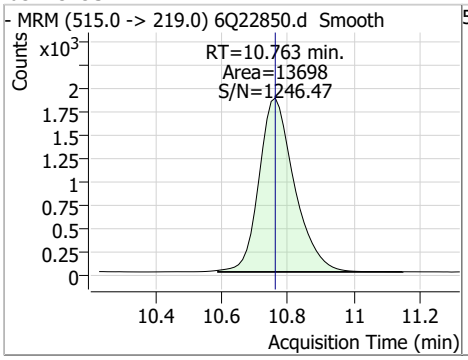
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	83.09	10.69	-0.01	386166				

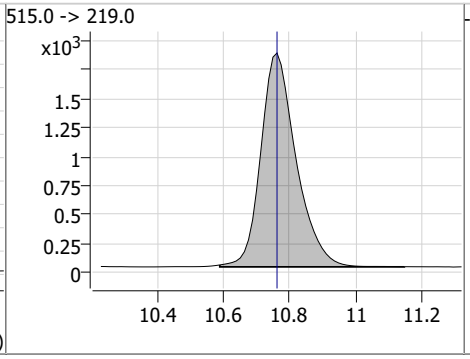


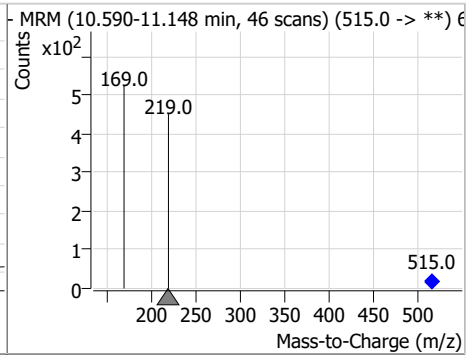




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.47	10.76	0.00	13698				

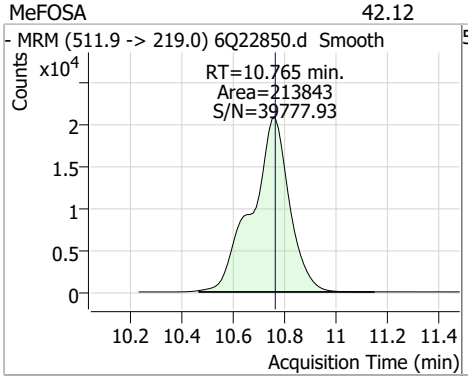


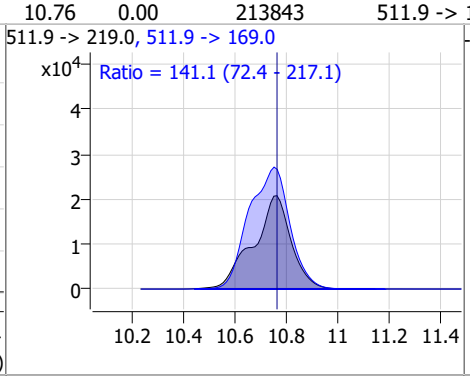


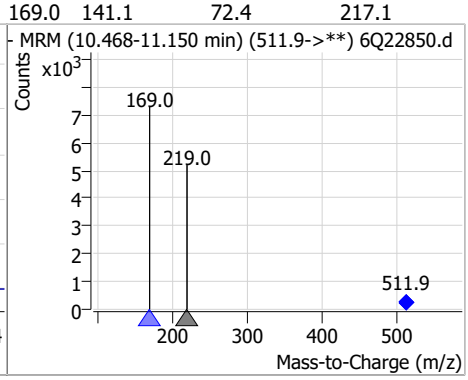


Perfluorinated Compounds by LC/MS/MS

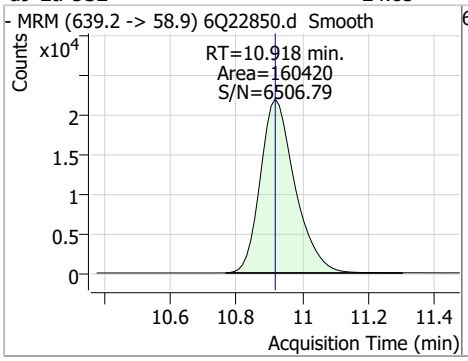
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	42.12	10.76	0.00	213843	511.9 -> 169.0	141.1	72.4	217.1

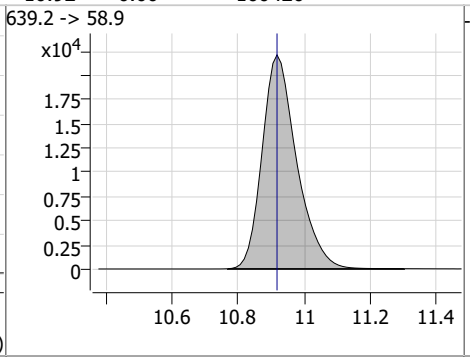


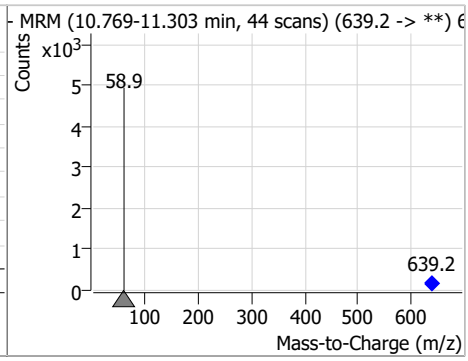




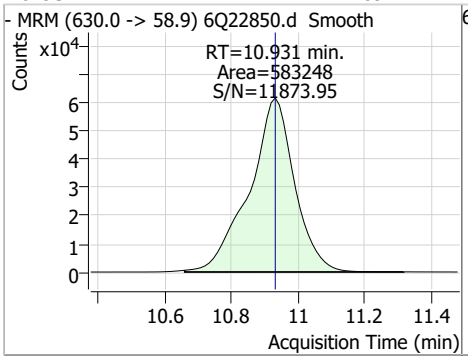
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.83	10.92	0.00	160420				

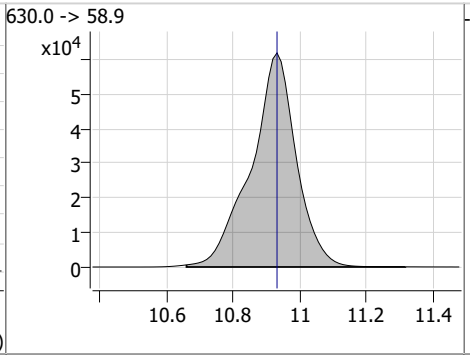


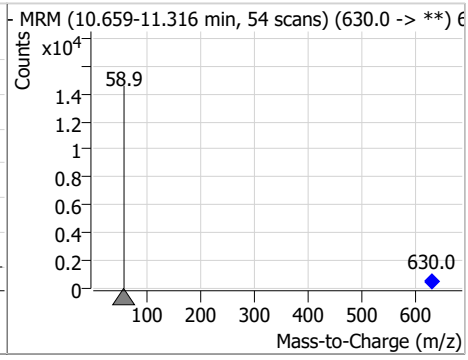




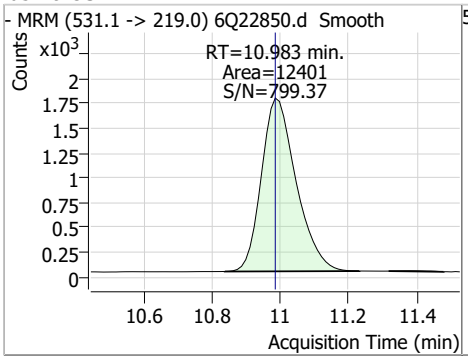
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	89.72	10.93	0.00	583248				

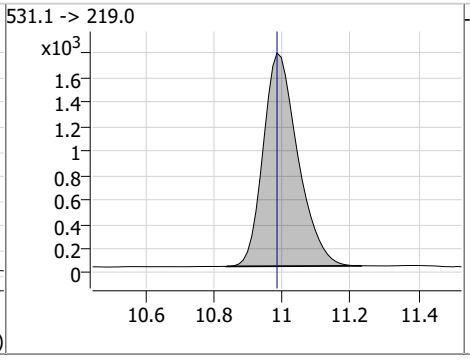


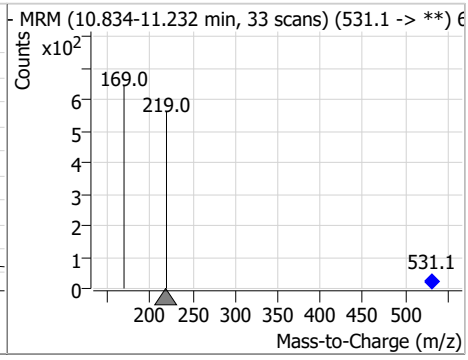




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.22	10.98	0.00	12401				

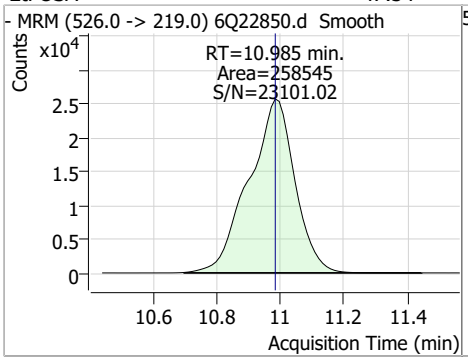


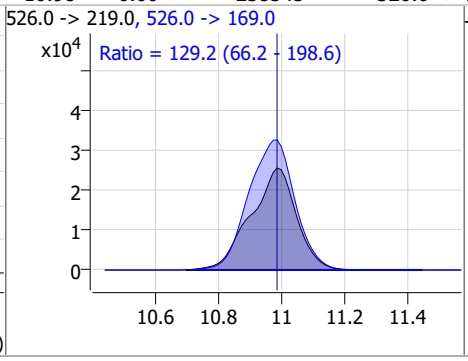


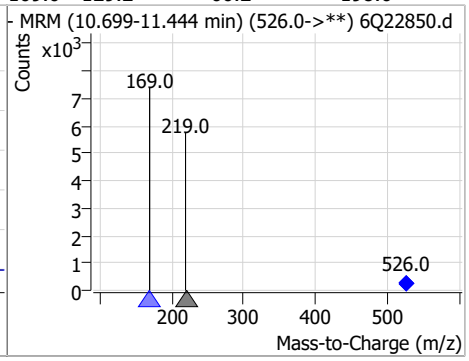


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	47.34	10.98	0.00	258545	526.0 -> 169.0	129.2	66.2	198.6







Manual Integration Approval Summary

Sample Number: S6Q332-RT
Lab FileID: 6Q22850.D
Injection Time: 08/14/23 10:46
Method: EPA DRAFT 1633
Analyst approved: 08/15/23 13:29 Martha Valls
Supervisor approved: 08/16/23 15:10 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.23	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorononanoic acid	375-95-1		7.75	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.40	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	06 August 2023 10:23:29
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); 2.88E-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	112.92	-0.07	Pass	0.70	0.70	0.00	Pass	410645
302.00	301.96	-0.04	Pass	0.70	0.63	-0.07	Pass	1056836
601.98	601.95	-0.03	Pass	0.70	0.64	-0.06	Pass	2479790
1033.99	1033.88	-0.11	Pass	0.70	0.66	-0.04	Pass	1104775
1633.95	1633.75	-0.20	Pass	0.70	0.68	-0.02	Pass	895649
2233.91	2233.52	-0.39	Adjust	0.70	0.70	0.00	Pass	343505

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	0.68	-0.02	Pass	131624
112.99	112.97	-0.02	Pass	0.70	0.76	0.06	Pass	463827
302.00	301.96	-0.04	Pass	0.70	0.64	-0.06	Pass	1016500
601.98	601.97	-0.01	Pass	0.70	0.68	-0.02	Pass	1714090
1033.99	1033.93	-0.06	Pass	0.70	0.68	-0.02	Pass	646956
1633.95	1633.82	-0.13	Pass	0.70	0.66	-0.04	Pass	523442
2233.91	2233.76	-0.15	Pass	0.70	0.67	-0.03	Pass	220885

Analyzer: MS1 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.94	-0.05	Pass	1.20	1.25	0.05	Pass	526651
302.00	301.97	-0.03	Pass	1.20	1.31	0.11	Pass	1476015
601.98	601.94	-0.04	Pass	1.20	1.41	0.21	Pass	3655387
1033.99	1033.84	-0.15	Pass	1.20	1.43	0.23	Pass	2162821
1633.95	1633.70	-0.25	Pass	1.20	1.39	0.19	Pass	1660551
2233.91	2233.61	-0.30	Pass	1.20	1.36	0.16	Pass	746530

Analyzer: MS2 Polarity: Negative Width: Wide

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.02	0.02	Pass	1.20	1.04	-0.16	Pass	169691
112.99	112.95	-0.04	Pass	1.20	1.12	-0.08	Pass	659554
302.00	301.99	-0.01	Pass	1.20	0.98	-0.22	Pass	1559641
601.98	601.89	-0.09	Pass	1.20	1.29	0.09	Pass	3132530
1033.99	1033.87	-0.12	Pass	1.20	1.19	-0.01	Pass	1466226
1633.95	1633.78	-0.17	Pass	1.20	1.23	0.03	Pass	1354261
2233.91	2233.62	-0.29	Pass	1.20	1.17	-0.03	Pass	456831

Analyzer: MS1 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.90	-0.09	Pass	2.50	2.39	-0.11	Pass	584252
302.00	301.84	-0.16	Pass	2.50	2.53	0.03	Pass	1902576
601.98	601.85	-0.13	Pass	2.50	2.73	0.23	Pass	4770003
1033.99	1033.82	-0.17	Pass	2.50	2.68	0.18	Pass	3489595
1633.95	1633.66	-0.29	Pass	2.50	2.37	-0.13	Pass	3404279
2233.91	2233.52	-0.39	Pass	2.50	2.08	-0.42	Pass	2038991

Analyzer: MS2 Polarity: Negative Width: Widest

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	68.92	-0.08	Pass	2.50	2.52	0.02	Pass	200561
112.99	112.93	-0.06	Pass	2.50	2.64	0.14	Pass	829699
302.00	302.00	0.00	Pass	2.50	2.59	0.09	Pass	1697303
601.98	601.90	-0.08	Pass	2.50	2.57	0.07	Pass	4291812
1033.99	1033.94	-0.05	Pass	2.50	2.65	0.15	Pass	2563886
1633.95	1633.66	-0.29	Pass	2.50	2.43	-0.07	Pass	2814597
2233.91	2233.72	-0.19	Pass	2.50	2.35	-0.15	Pass	1432053

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22640.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 1:37:43 PM
Sample Name : ic330-1
Vial : P1-A2
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	197766	10.00	µg/L	0.000
M5-PFPeA	4.447	268.3 -> 223.0	63445	5.00	µg/L	0.000
M5-PFHxA	5.680	318.0 -> 273.0	67325	2.50	µg/L	0.012
M4-PFHpA	6.608	367.1 -> 322.0	68507	2.50	µg/L	0.000
M8-PFOA	7.239	421.1 -> 376.0	103376	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	47050	1.25	µg/L	0.000
M6-PFDA	8.263	519.1 -> 474.1	28615	1.25	µg/L	0.000
M7-PFUnDA	8.717	570.0 -> 525.1	36693	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	32881	1.25	µg/L	0.000
M2-PFTeDA	9.851	715.2 -> 670.0	18416	1.25	µg/L	0.000
M8-FOSA	9.662	506.1 -> 77.8	37262	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	25702	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	15603	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	14226	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	3895	5.00	µg/L	0.000
M2-6:2FTS	7.014	429.1 -> 80.9	5345	5.00	µg/L	0.000
M2-8:2FTS	8.039	529.1 -> 80.9	5336	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	37657	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	43921	10.00	µg/L	0.000
M5-EtFOSAA	8.505	589.2 -> 419.0	32766	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	138074	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	184001	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	15745	2.50	µg/L	0.012
M3-MeFOSA	10.763	515.0 -> 219.0	15356	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	18445	2.50	µg/L	-0.012
13C3-PFBA	3.001	216.0 -> 172.0	83724	5.00	µg/L	0.000
18O2-PFHxS	7.354	403.0 -> 83.9	12184	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	114510	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	38402	1.25	µg/L	0.000
13C5-PFNA	7.770	468.0 -> 423.0	61782	1.25	µg/L	0.000
13C2-PFHxA	5.669	315.1 -> 270.0	66999	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	3895	5.35	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.0%		
13C2-6:2FTS	7.014	429.1 -> 80.9	5345	5.09	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.7%		
13C2-8:2FTS	8.039	529.1 -> 80.9	5336	5.19	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.7%		
13C2-PFDoDA	9.148	615.1 -> 570.0	32881	1.27	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C2-PFTeDA	9.851	715.2 -> 670.0	18416	1.23	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C3-PFBS	5.610	302.1 -> 79.9	25702	2.49	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%		
13C3-PFHxS	7.355	402.1 -> 79.9	15603	2.33	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 = 93.2%		
13C4-PFBA	3.010	216.8 -> 171.9	197766	10.00 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C4-PFHpA	6.608	367.1 -> 322.0	68507	2.53 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%		
13C5-PFHxA	5.680	318.0 -> 273.0	67325	2.43 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%		
13C5-PFPeA	4.447	268.3 -> 223.0	63445	5.03 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C6-PFDA	8.263	519.1 -> 474.1	28615	1.32 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.6%		
13C7-PFUnDA	8.717	570.0 -> 525.1	36693	1.28 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.3%		
13C8-FOSA	9.662	506.1 -> 77.8	37262	2.68 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.1%		
13C8-PFOA	7.239	421.1 -> 376.0	103376	2.44 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.8%		
13C8-PFOS	8.414	507.1 -> 79.9	14226	2.63 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.4%		
13C9-PFNA	7.770	472.1 -> 427.0	47050	1.17 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.9%		
d3-MeFOSAA	8.297	573.2 -> 419.0	37657	5.64 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.8%		
13C3-HFPO-DA	6.045	286.9 -> 168.9	43921	10.13 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.3%		
d3-MeFOSA	10.763	515.0 -> 219.0	15356	2.69 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.8%		
d5-EtFOSAA	8.505	589.2 -> 419.0	32766	5.32 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.4%		
d7-MeFOSE	10.685	623.2 -> 58.9	138074	27.70 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 110.8%		
d9-EtFOSE	10.918	639.2 -> 58.9	184001	27.66 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 110.6%		
d5-EtFOSA	10.996	531.1 -> 219.0	15745	2.74 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.7%		
Target Compounds						QValue
4:2FTS	5.331	327.1 -> 307.0	4056	0.81 µg/L		99
		327.1 -> 80.9	1602			
6:2FTS	7.014	427.1 -> 407.0	3745	0.78 µg/L		92
		427.1 -> 80.9	1434			
8:2FTS	8.040	527.1 -> 507.0	2368	0.83 µg/L		97
		527.1 -> 80.8	910			
EtFOSAA	8.506	584.2 -> 419.1	973	0.24 µg/L	m	91
		584.2 -> 526.0	485			
FOSA	9.652	498.1 -> 77.9	2616	0.22 µg/L		97
		498.1 -> 478.0	107			
MeFOSAA	8.310	570.1 -> 419.0	1632	0.23 µg/L		98
		570.1 -> 483.0	316			
PFBA	3.006	212.8 -> 168.9	5437	0.88 µg/L		100
PFBS	5.611	298.7 -> 79.9	1529	0.18 µg/L		92
		298.7 -> 98.8	643			
PFDA	8.251	512.9 -> 469.0	7838	0.23 µg/L		99
		512.9 -> 219.0	1180			
PFDoDA	9.148	613.1 -> 569.0	4537	0.21 µg/L		98
		613.1 -> 319.0	723			
PFDS	9.299	599.0 -> 79.9	734	0.21 µg/L		89

Perfluorinated Compounds by LC/MS/MS

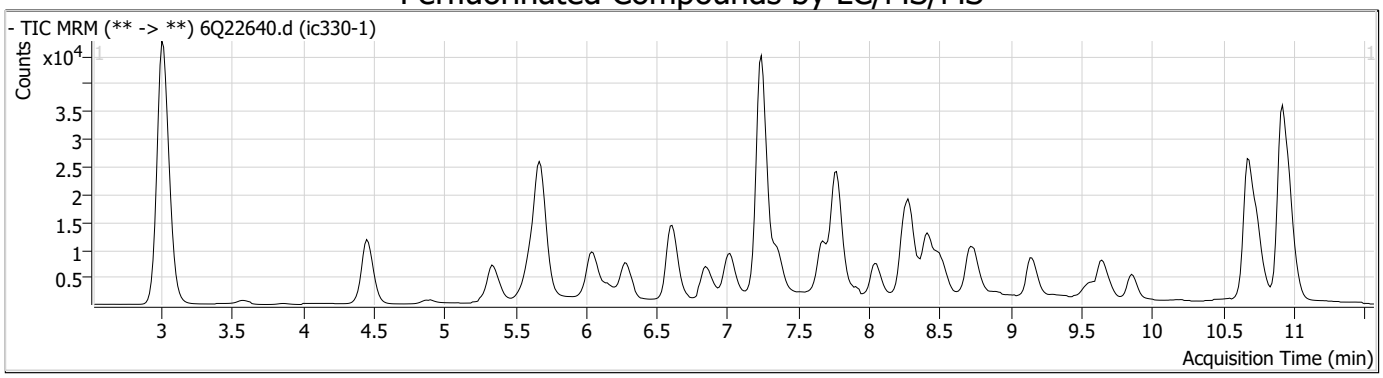
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	418				
PFHpA	6.609	363.1 -> 319.0	5823	0.22	µg/L		96
		363.1 -> 169.0	868				
PFHpS	7.922	449.0 -> 79.9	1354	0.21	µg/L		92
		449.0 -> 98.9	804				
PFHxA	5.670	313.0 -> 269.0	4382	0.22	µg/L		99
		313.0 -> 118.9	249				
PFHxS	7.356	398.7 -> 79.9	1575	0.23	µg/L	m	100
		398.7 -> 98.9	770				
PFNA	7.771	463.0 -> 419.0	7520	0.23	µg/L		99
		463.0 -> 219.0	1475				
PFNS	8.893	548.8 -> 79.9	1215	0.21	µg/L		96
		548.8 -> 98.9	684				
PFOA	7.240	413.0 -> 369.0	8846	0.21	µg/L		92
		413.0 -> 169.0	1727				
PFOS	8.415	498.9 -> 79.9	1176	0.19	µg/L	m	87
		498.9 -> 98.8	726				
PFPeA	4.449	263.0 -> 219.0	5957	0.43	µg/L		100
PFPeS	6.672	349.1 -> 79.9	1276	0.20	µg/L		98
		349.1 -> 98.9	595				
PFTeDA	9.852	713.1 -> 669.0	4090	0.23	µg/L		99
		713.1 -> 168.9	364				
PFTrDA	9.532	663.0 -> 619.0	4802	0.22	µg/L		98
		663.0 -> 168.9	507				
PFUnDA	8.717	563.1 -> 519.0	4465	0.21	µg/L		93
		563.1 -> 269.1	852				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	6183	0.39	µg/L		98
		632.9 -> 452.9	2053				
9Cl-PF3ONS	8.758	530.8 -> 351.0	9848	0.39	µg/L		75
		532.8 -> 353.0	4522				
ADONA	6.858	376.9 -> 250.9	21661	0.39	µg/L		98
		376.9 -> 84.8	5979				
HFPO-DA	6.046	284.9 -> 168.9	1732	0.46	µg/L		99
		284.9 -> 184.9	178				
3:3FTCA	3.859	241.0 -> 177.0	1037	1.06	µg/L		99
		241.0 -> 117.0	143				
5:3FTCA	6.285	341.0 -> 237.1	21160	5.22	µg/L		92
		341.0 -> 217.0	16342				
7:3FTCA	7.673	441.0 -> 316.9	16403	5.48	µg/L		90
		441.0 -> 336.9	34606				
EtFOSA	10.985	526.0 -> 219.0	2962	0.43	µg/L		97
		526.0 -> 169.0	3834				
EtFOSE	10.931	630.0 -> 58.9	7782	1.04	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	2473	0.43	µg/L		95
		511.9 -> 169.0	3422				
MeFOSE	10.697	616.1 -> 58.9	5328	1.03	µg/L		100
PFDoDS	9.978	699.1 -> 79.9	308	0.19	µg/L		88
		699.1 -> 98.8	198				
NFDHA	5.551	295.0 -> 201.0	1109	0.44	µg/L		91
		295.0 -> 84.9	264				
PFMBA	4.869	279.0 -> 85.1	4267	0.43	µg/L		100
PFMPA	3.576	229.0 -> 84.9	3388	0.43	µg/L		100
PFEESA	6.163	314.8 -> 134.9	10044	0.38	µg/L		99
		314.8 -> 82.9	371				

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

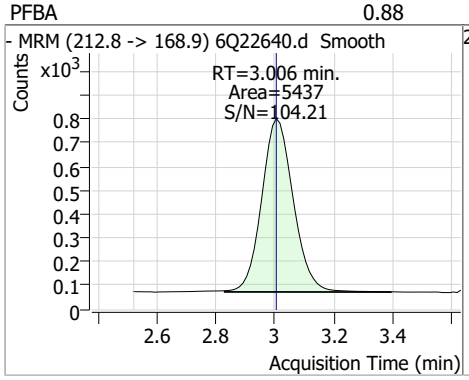
Perfluorinated Compounds by LC/MS/MS

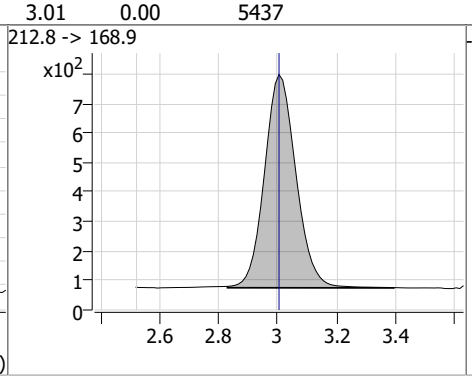
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

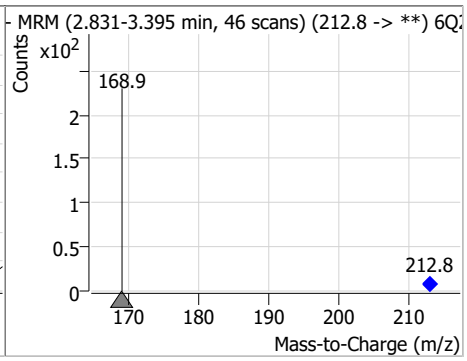
Perfluorinated Compounds by LC/MS/MS



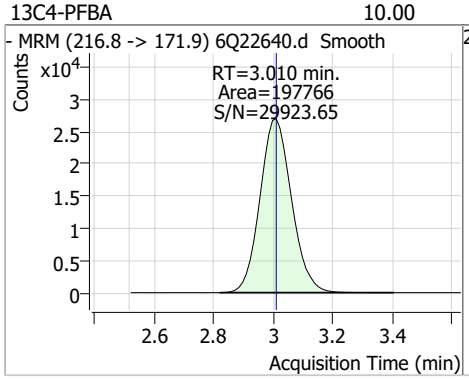
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.88	3.01	0.00	5437				

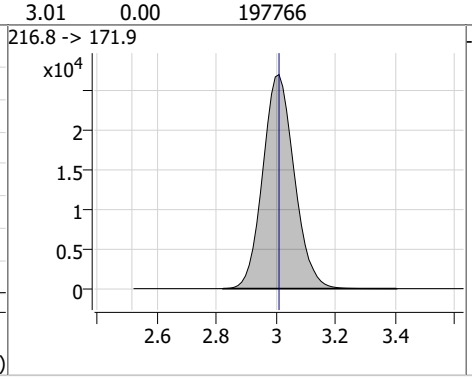


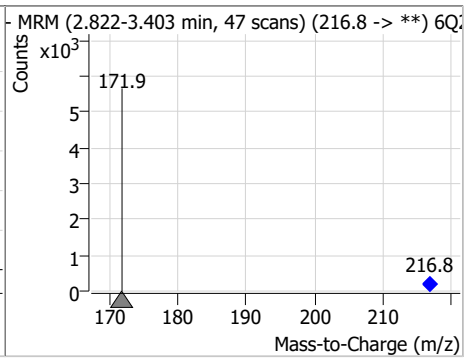




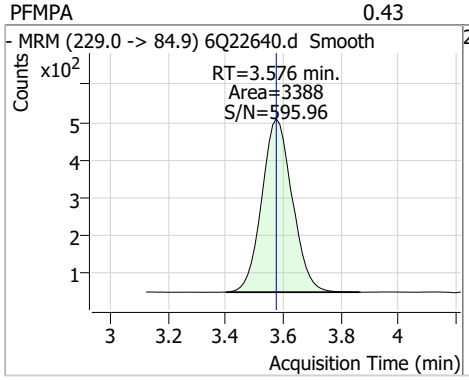
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.00	3.01	0.00	197766				

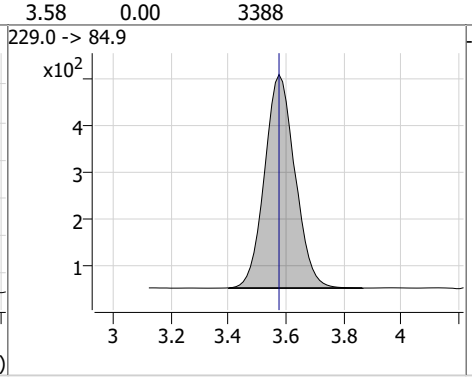


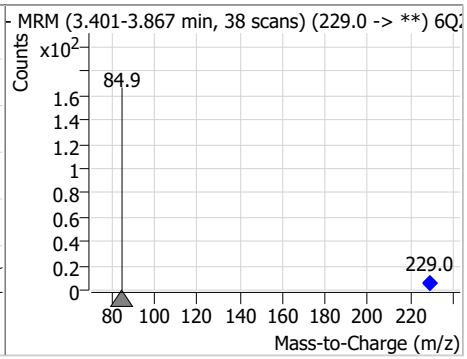




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	0.43	3.58	0.00	3388				

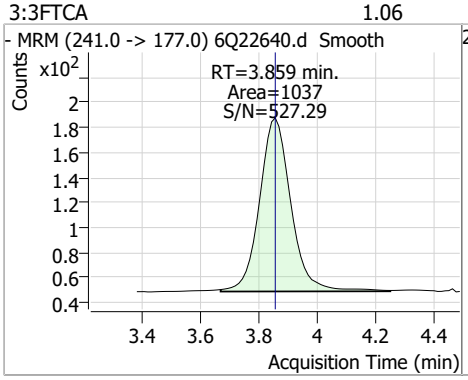


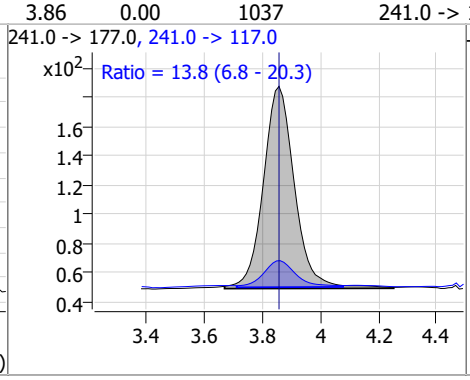


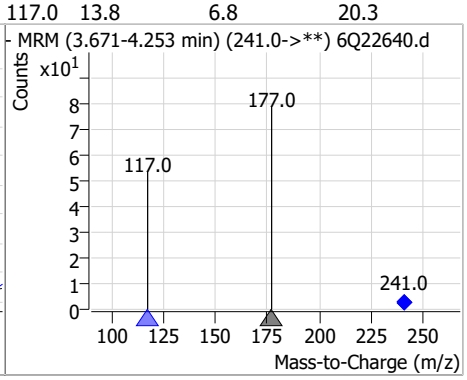


Perfluorinated Compounds by LC/MS/MS

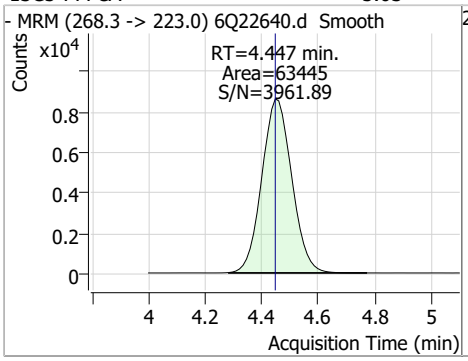
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.06	3.86	0.00	1037	241.0 -> 117.0	13.8	6.8	20.3

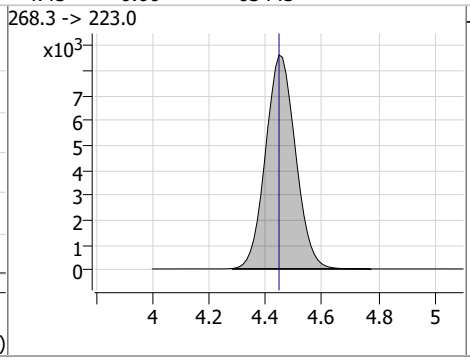


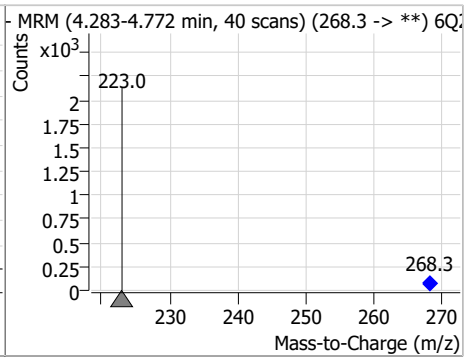




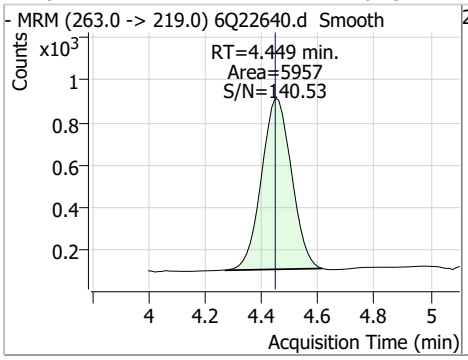
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.03	4.45	0.00	63445				

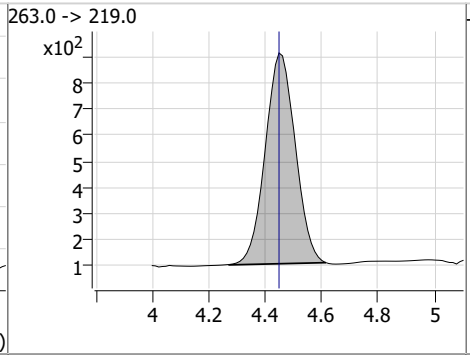


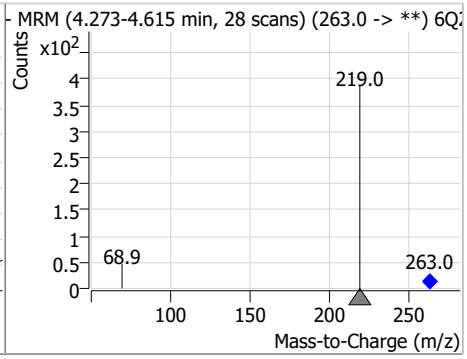




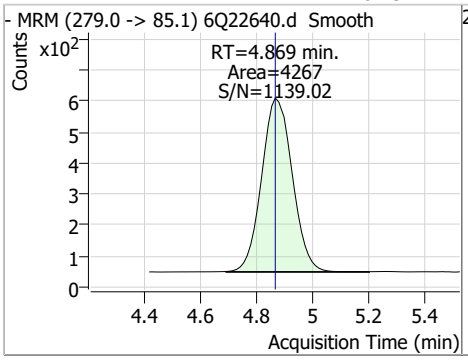
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.43	4.45	0.00	5957				

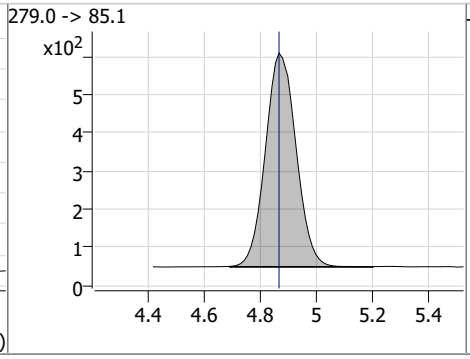


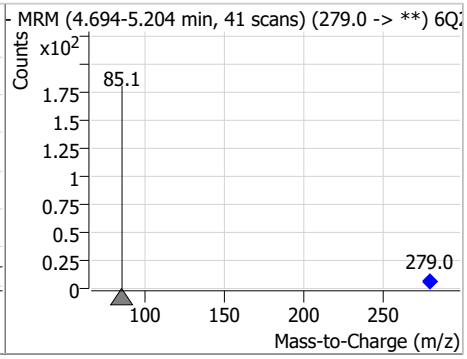




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.43	4.87	0.00	4267				

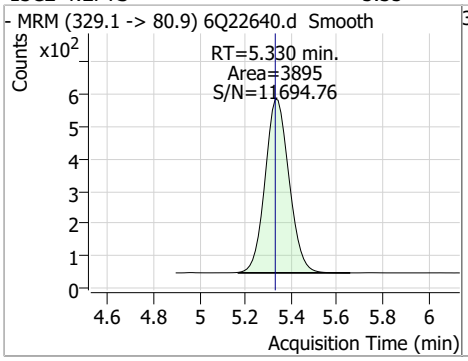


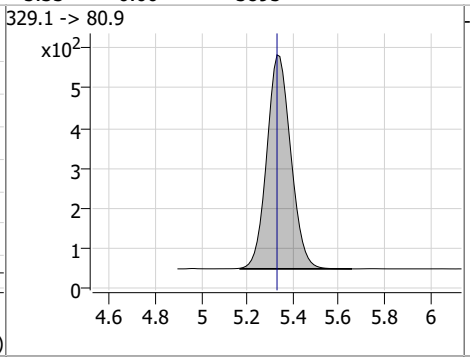


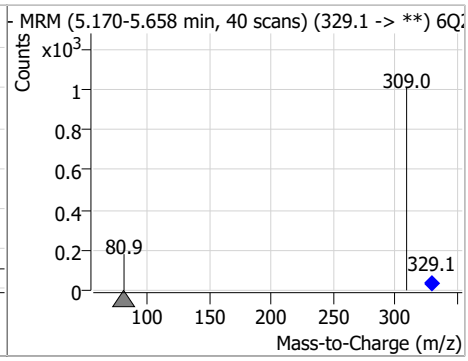


Perfluorinated Compounds by LC/MS/MS

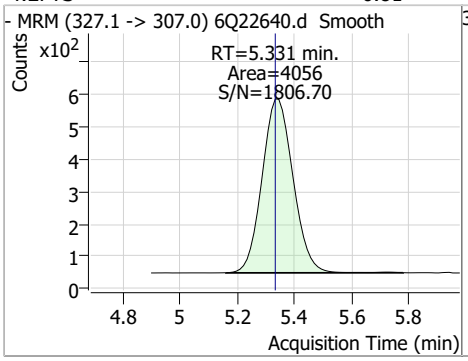
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.35	5.33	0.00	3895				

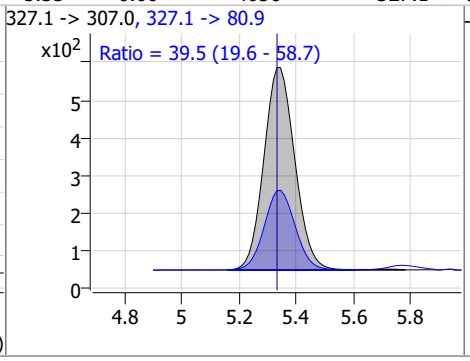


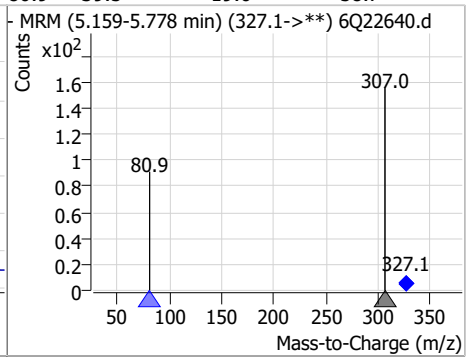




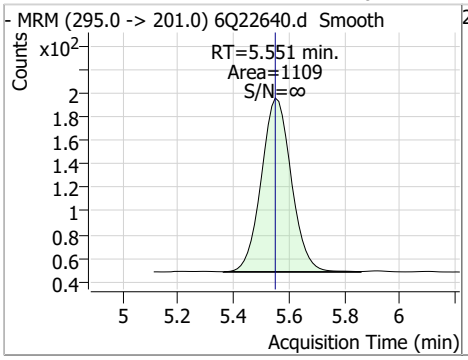
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	0.81	5.33	0.00	4056	327.1 -> 80.9	39.5	19.6	58.7

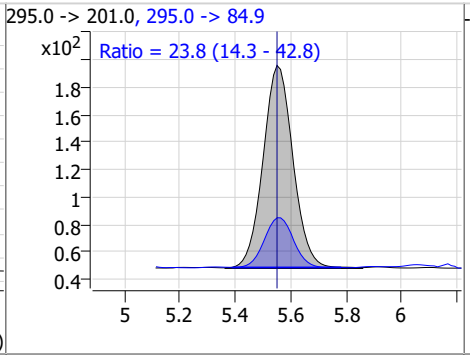


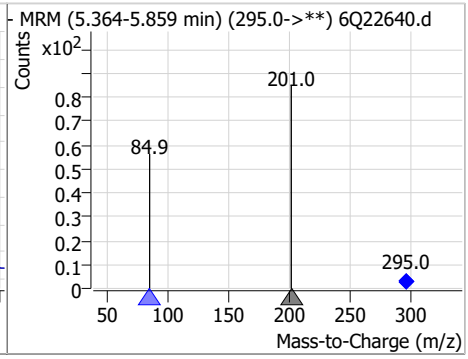




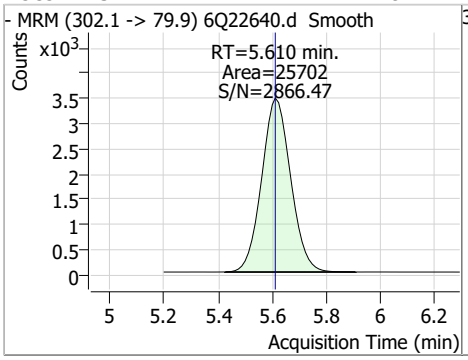
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	0.44	5.55	0.00	1109	295.0 -> 84.9	23.8	14.3	42.8

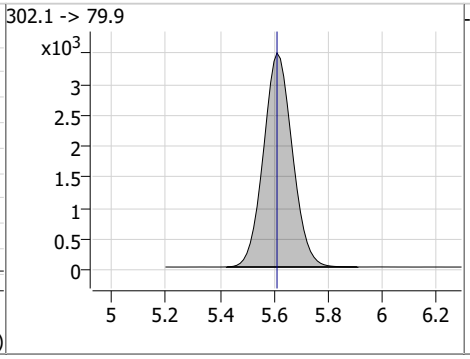


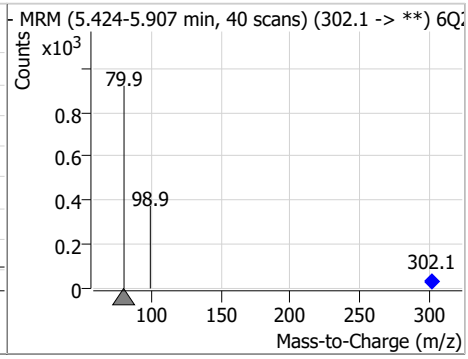




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.49	5.61	0.00	25702				

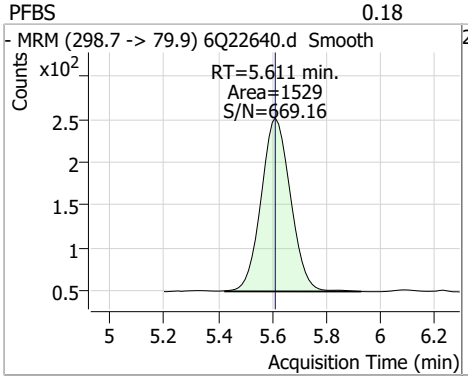


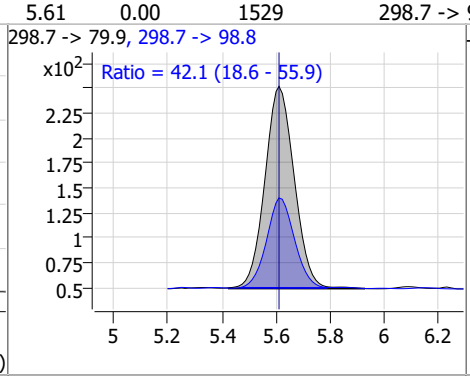


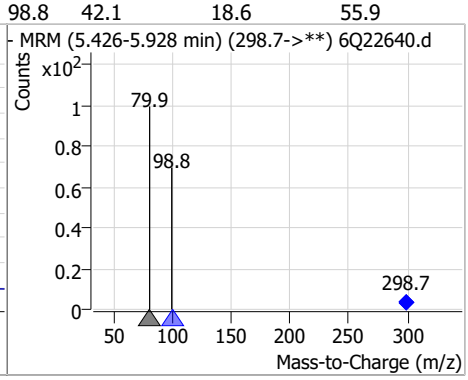


Perfluorinated Compounds by LC/MS/MS

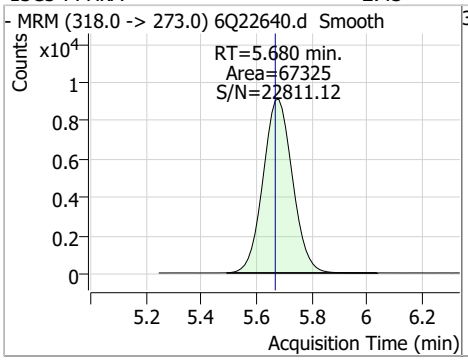
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.18	5.61	0.00	1529	298.7 -> 98.8	42.1	18.6	55.9

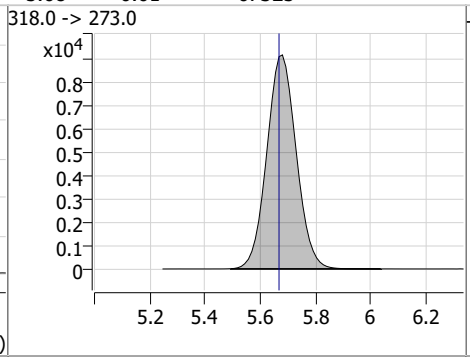


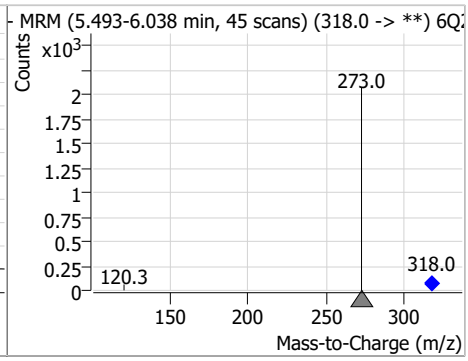




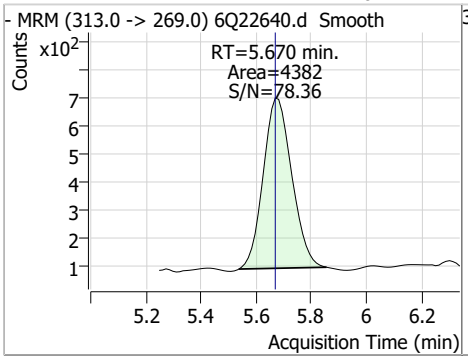
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.43	5.68	0.01	67325				

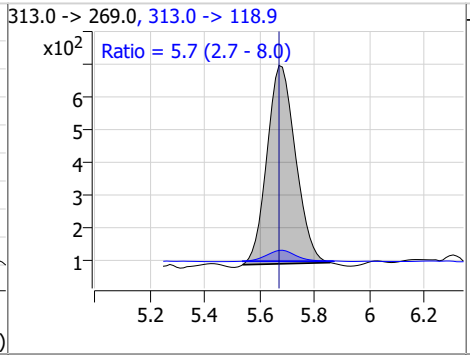


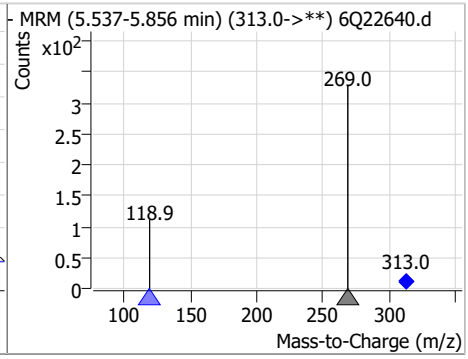




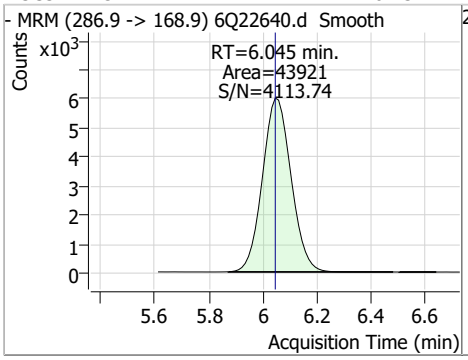
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.22	5.67	0.00	4382	313.0 -> 118.9	5.7	2.7	8.0

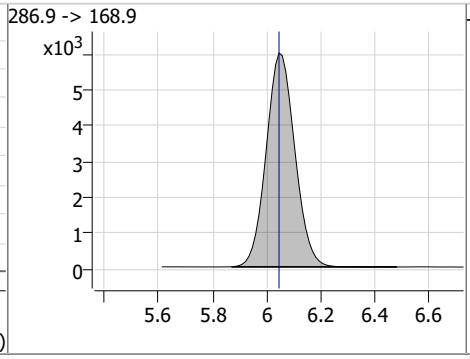


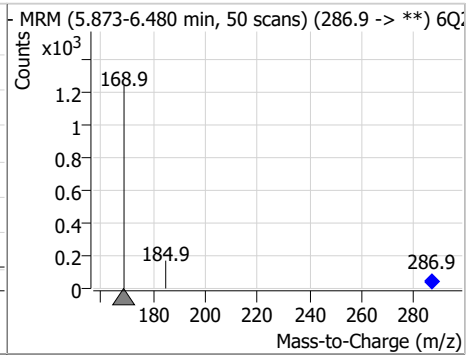




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.13	6.05	0.00	43921				

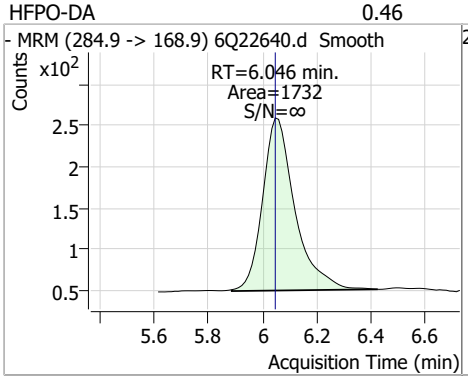


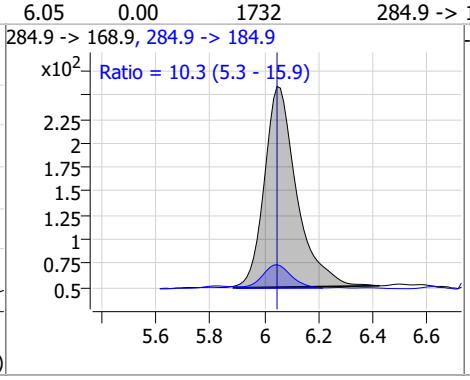


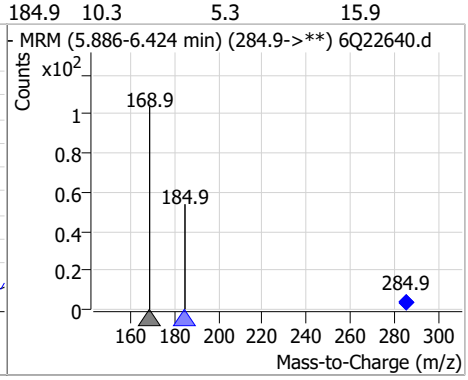


Perfluorinated Compounds by LC/MS/MS

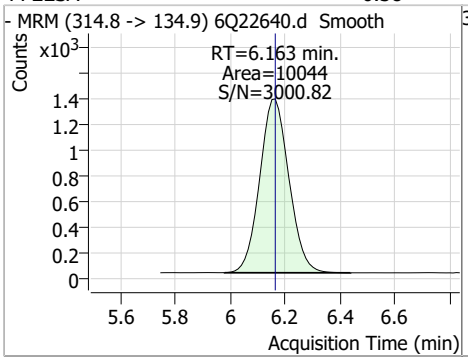
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.46	6.05	0.00	1732	284.9 -> 184.9	10.3	5.3	15.9

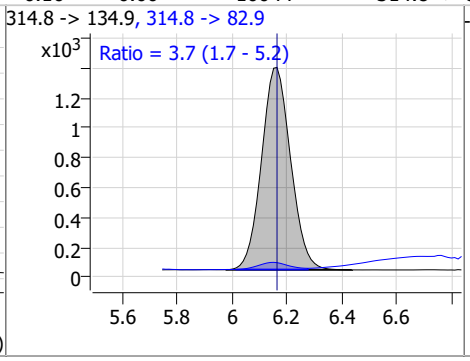


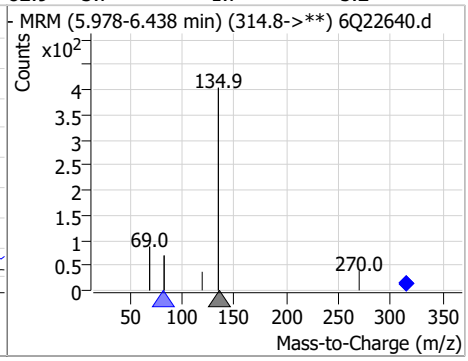




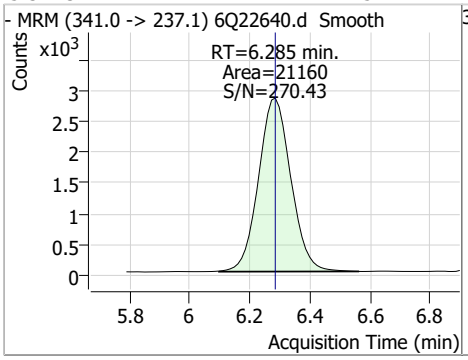
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.38	6.16	0.00	10044	314.8 -> 82.9	3.7	1.7	5.2

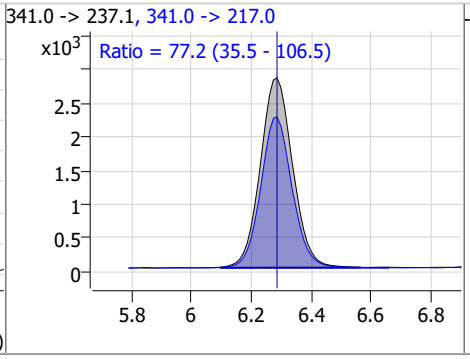


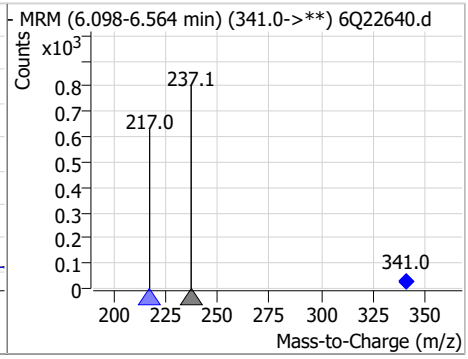




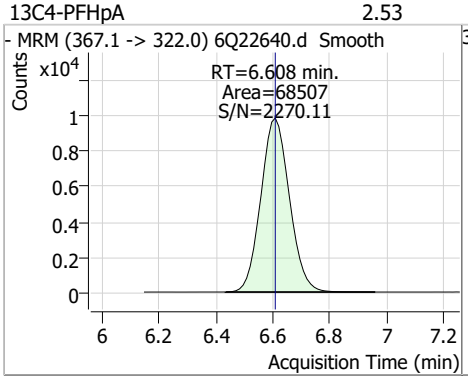
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.22	6.28	0.00	21160	341.0 -> 217.0	77.2	35.5	106.5

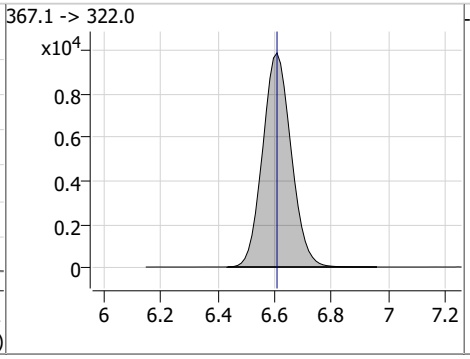


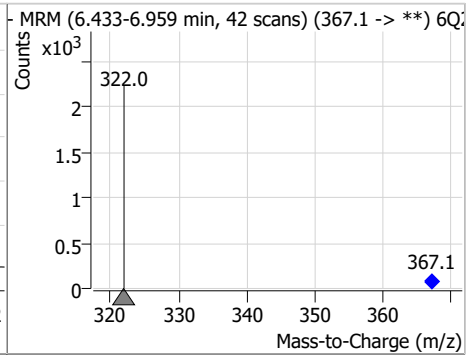




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.53	6.61	0.00	68507				

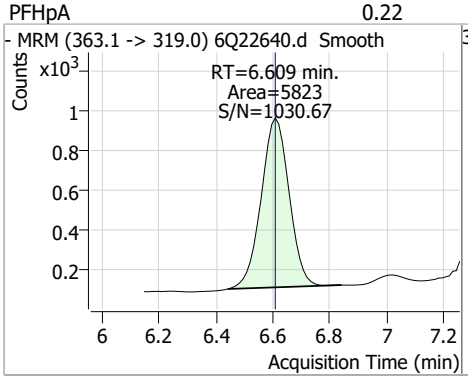


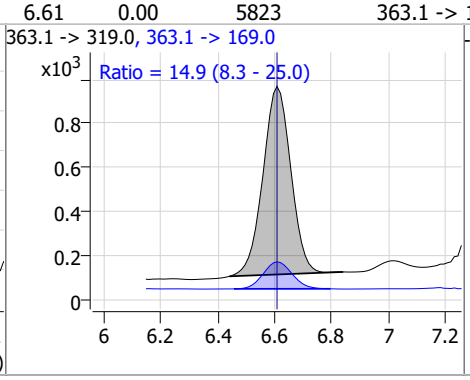


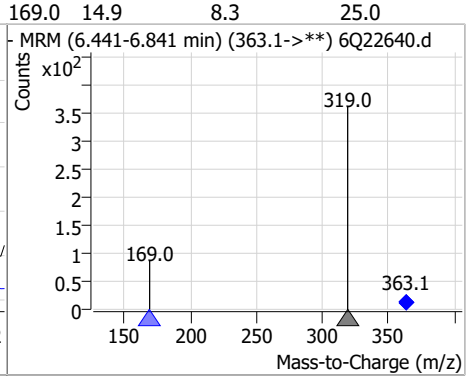


Perfluorinated Compounds by LC/MS/MS

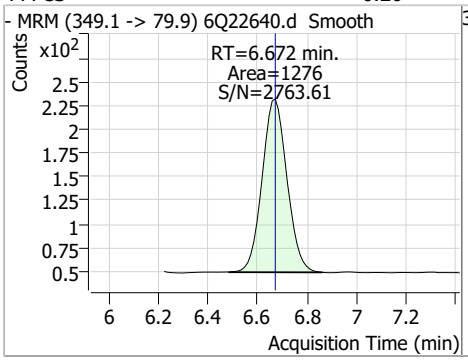
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.22	6.61	0.00	5823	363.1 -> 169.0	14.9	8.3	25.0

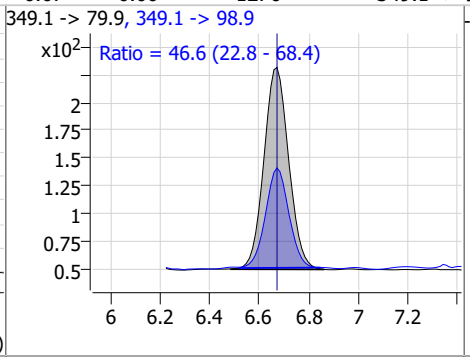


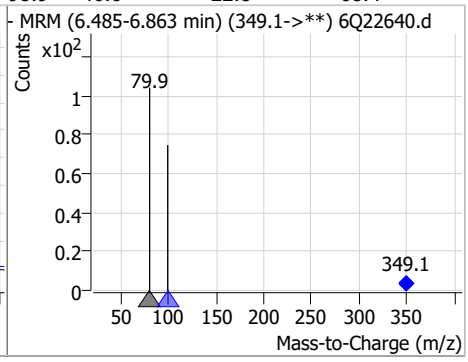




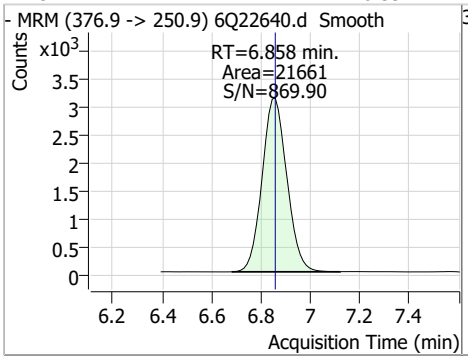
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.20	6.67	0.00	1276	349.1 -> 98.9	46.6	22.8	68.4

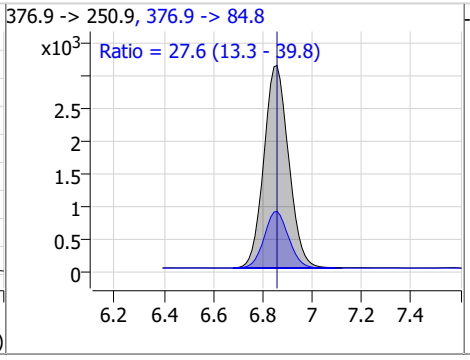


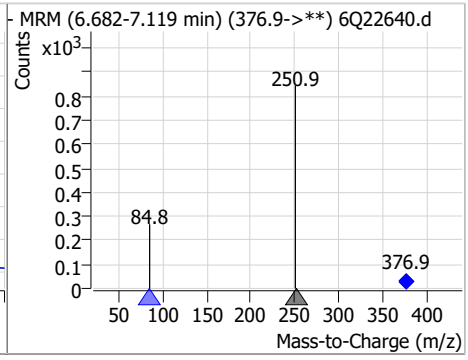




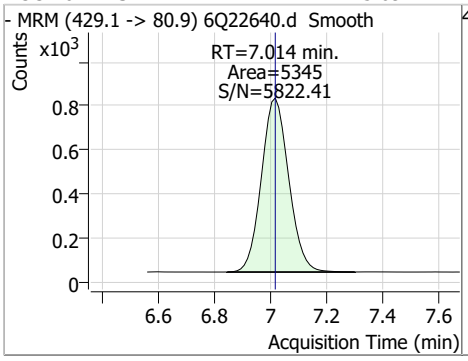
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.39	6.86	0.00	21661	376.9 -> 84.8	27.6	13.3	39.8

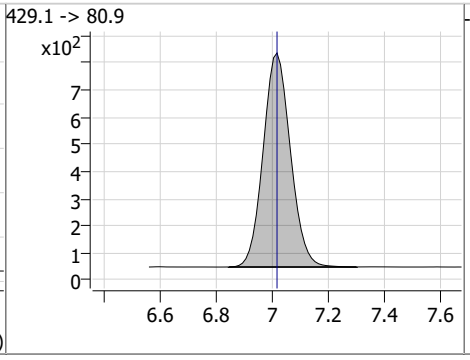


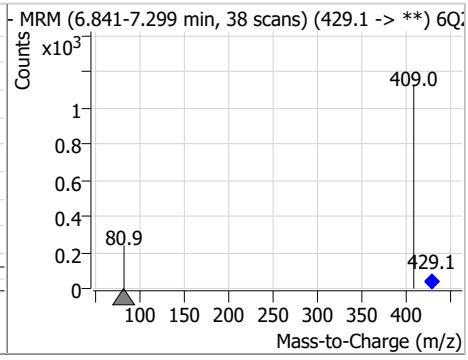




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.09	7.01	0.00	5345				

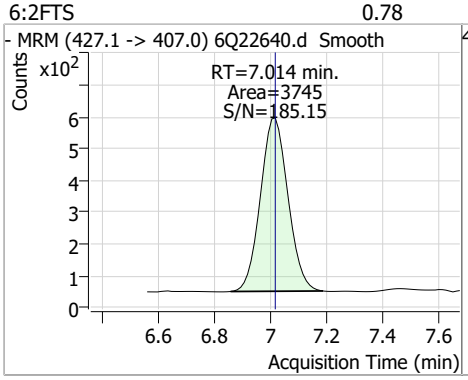


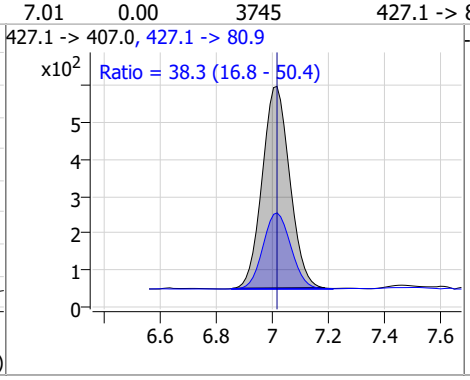


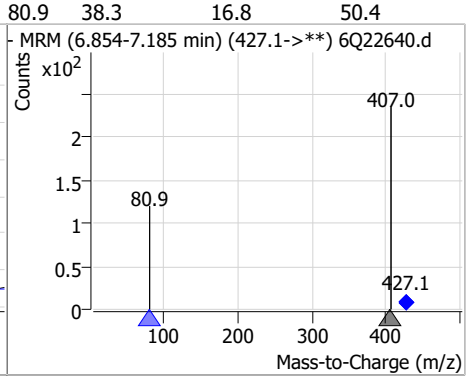


Perfluorinated Compounds by LC/MS/MS

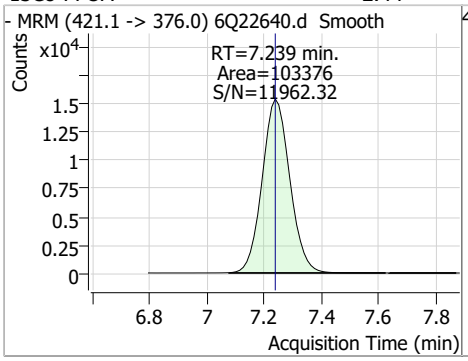
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.78	7.01	0.00	3745	427.1 -> 80.9	38.3	16.8	50.4

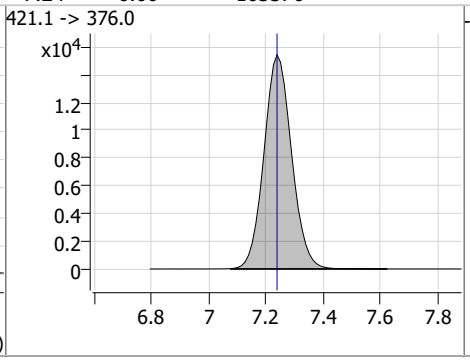


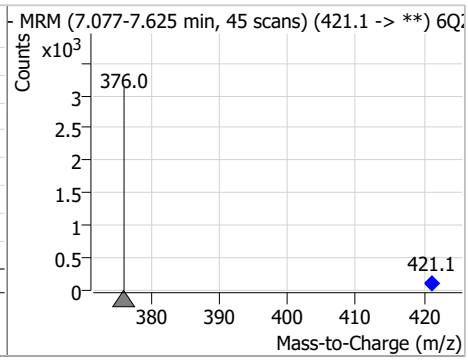




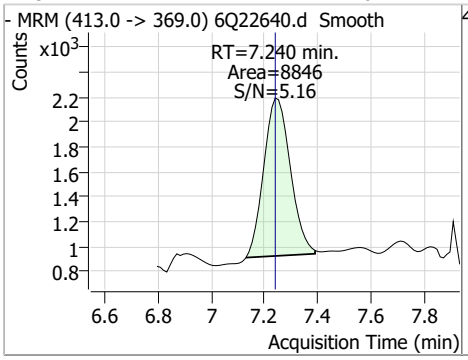
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.44	7.24	0.00	103376				

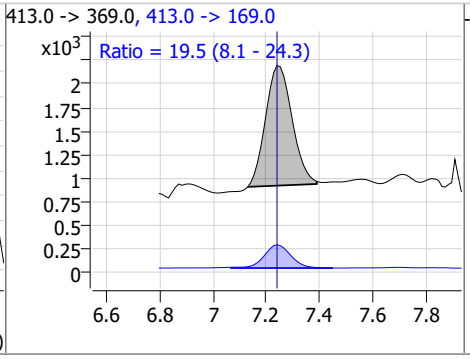


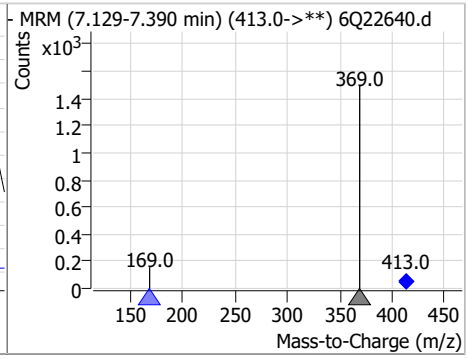




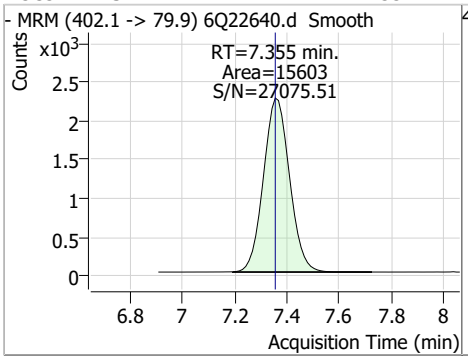
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.21	7.24	0.00	8846	413.0 -> 169.0	19.5	8.1	24.3

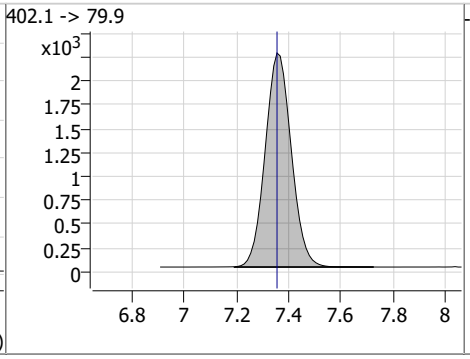


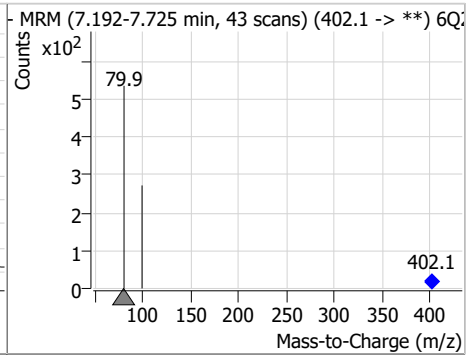




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.33	7.35	0.00	15603				

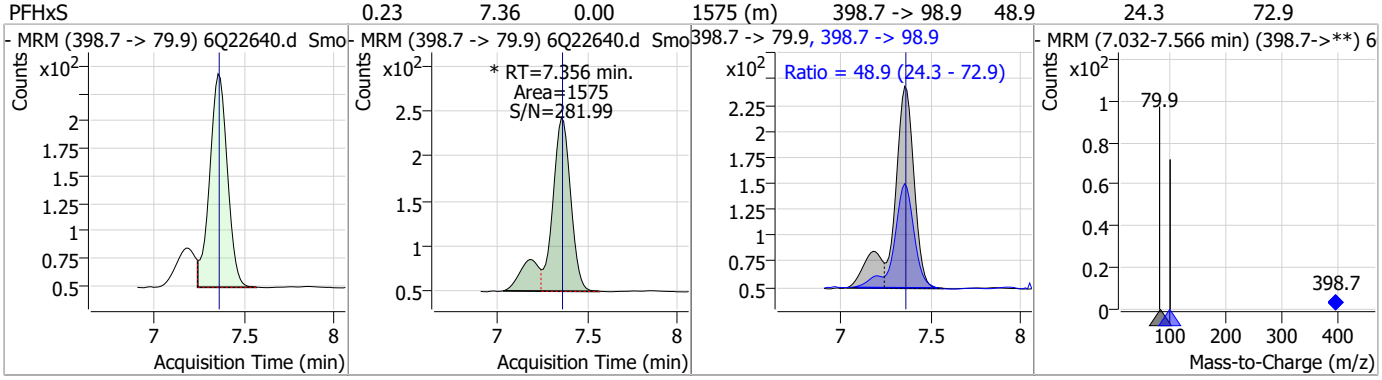




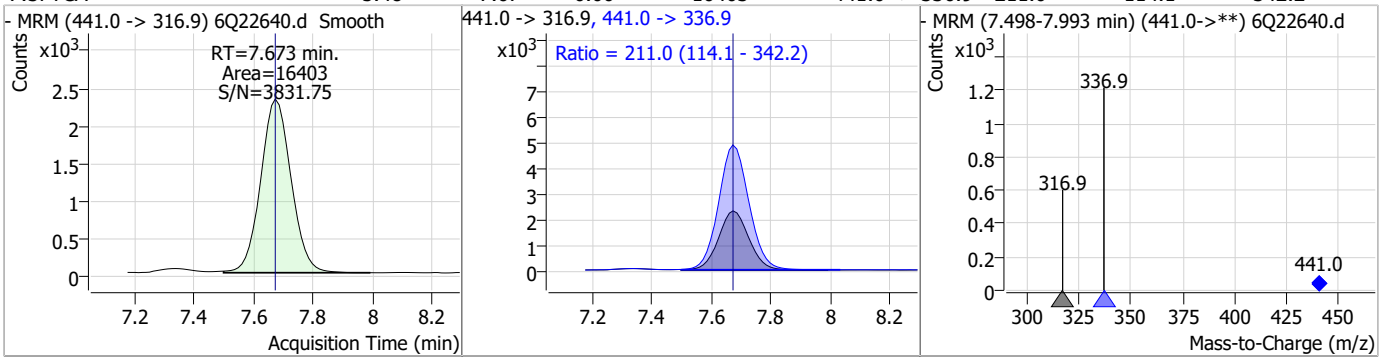


Perfluorinated Compounds by LC/MS/MS

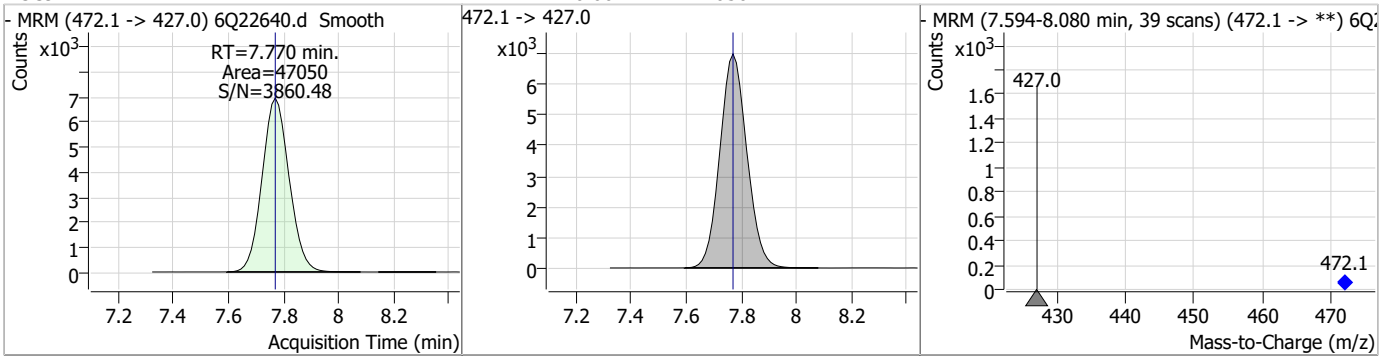
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.23	7.36	0.00	1575 (m)	398.7 -> 98.9	48.9	24.3	72.9



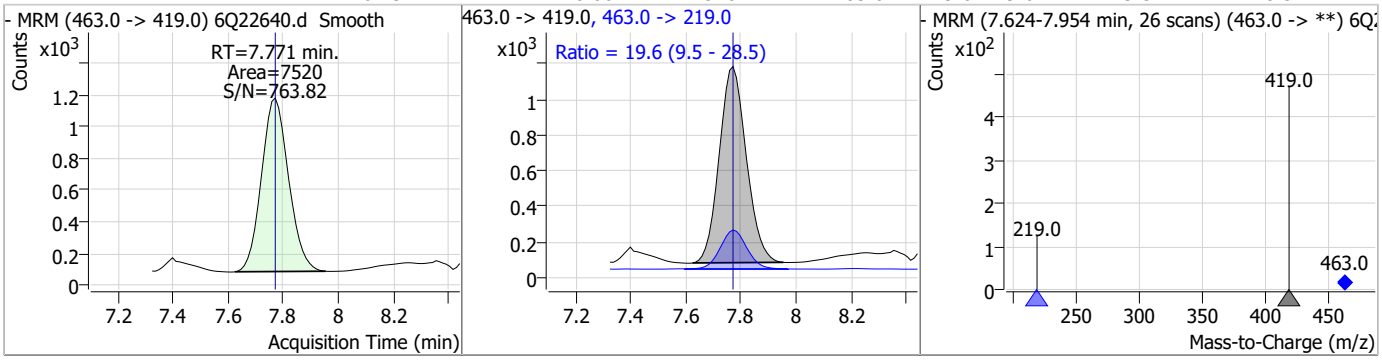
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	5.48	7.67	0.00	16403	441.0 -> 336.9	211.0	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.17	7.77	0.00	47050				

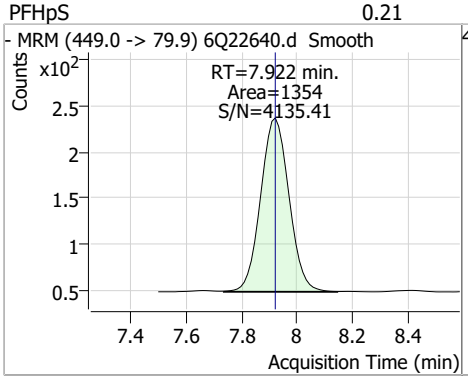


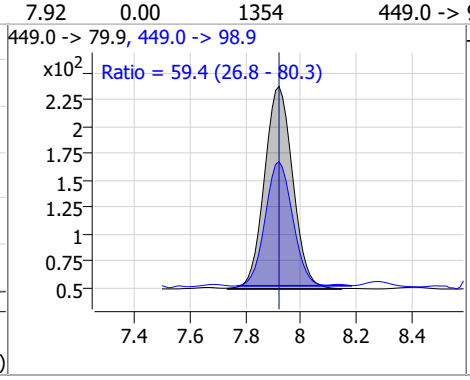
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.23	7.77	0.00	7520	463.0 -> 219.0	19.6	9.5	28.5

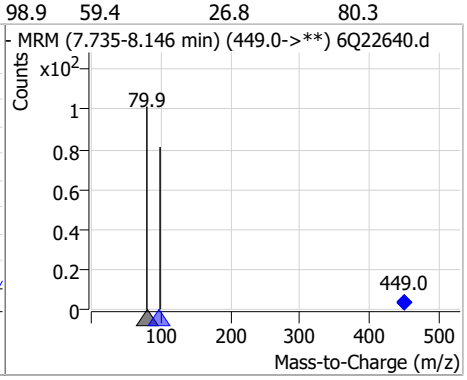


Perfluorinated Compounds by LC/MS/MS

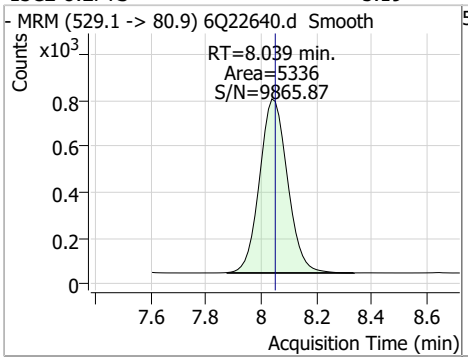
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.21	7.92	0.00	1354	449.0 -> 98.9	59.4	26.8	80.3

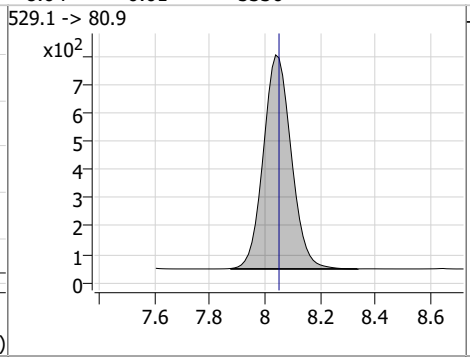


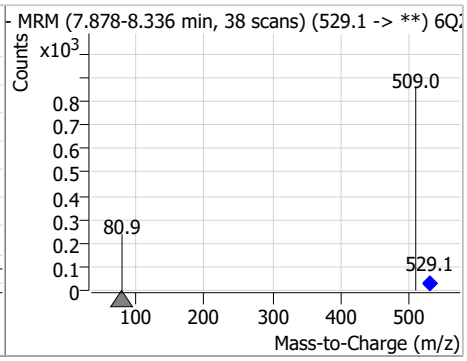




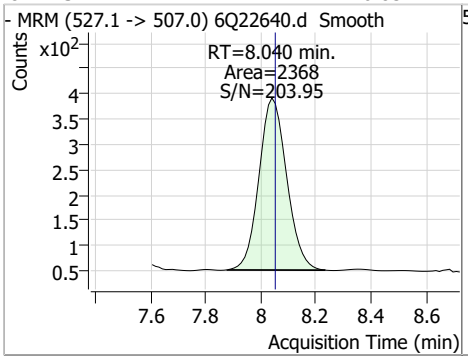
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.19	8.04	-0.01	5336				

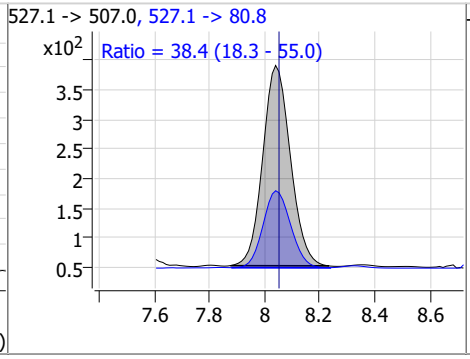


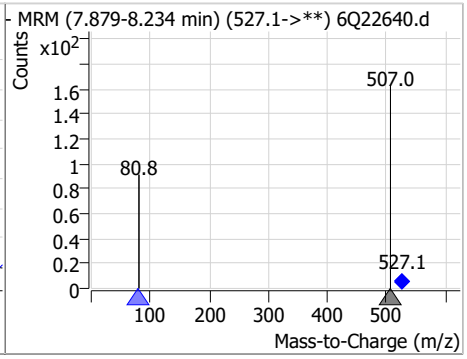




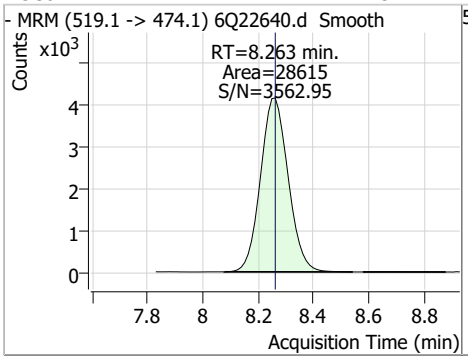
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.83	8.04	-0.01	2368	527.1 -> 80.8	38.4	18.3	55.0

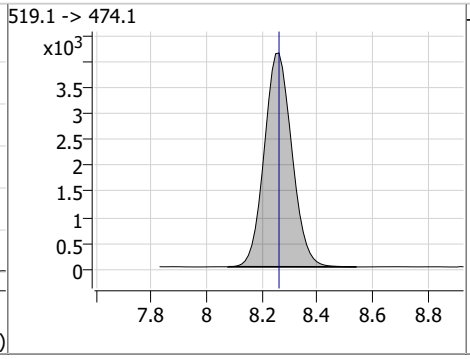


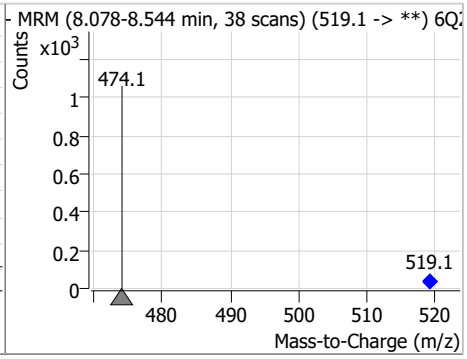




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.32	8.26	0.00	28615				

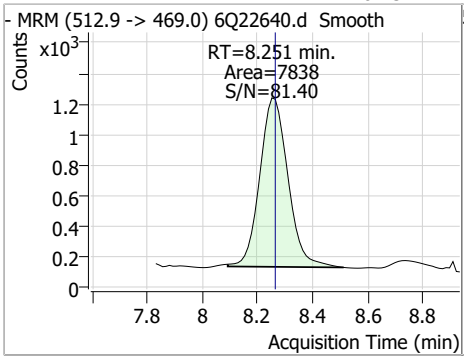


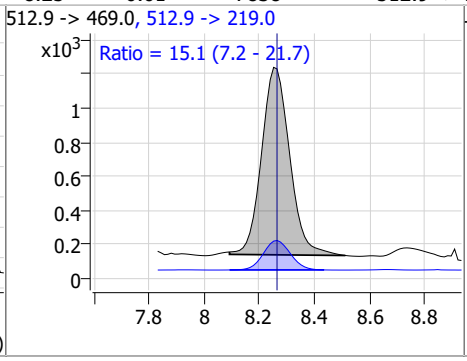


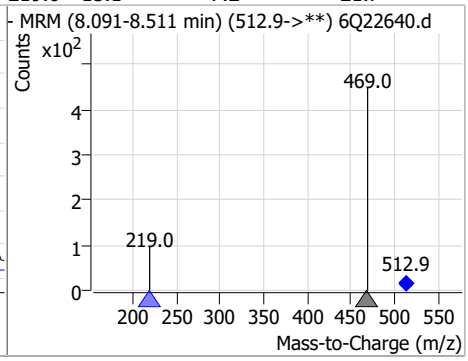


Perfluorinated Compounds by LC/MS/MS

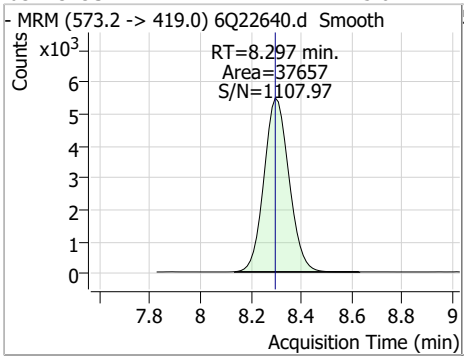
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.23	8.25	-0.01	7838	512.9 -> 219.0	15.1	7.2	21.7

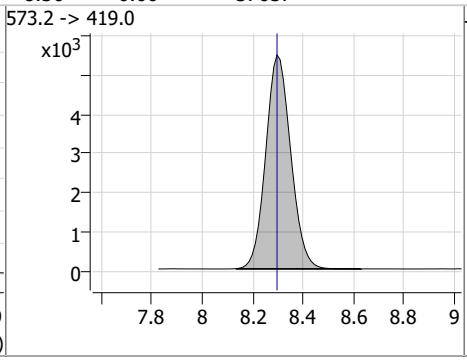


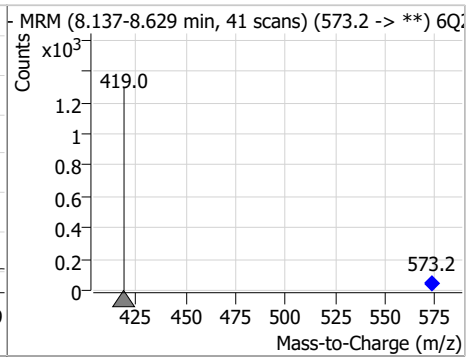




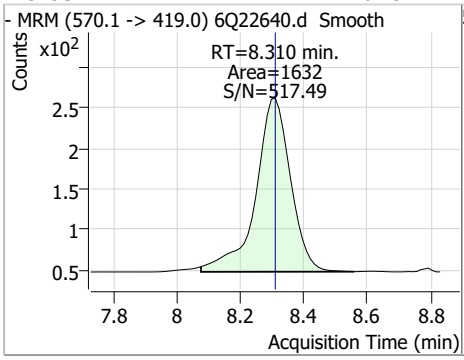
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.64	8.30	0.00	37657				

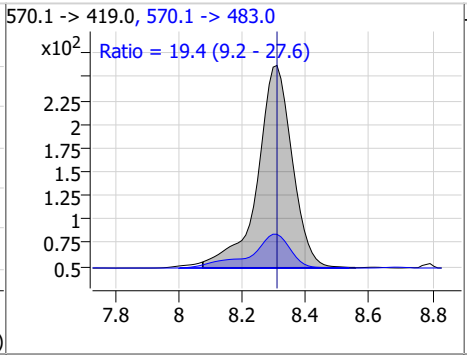


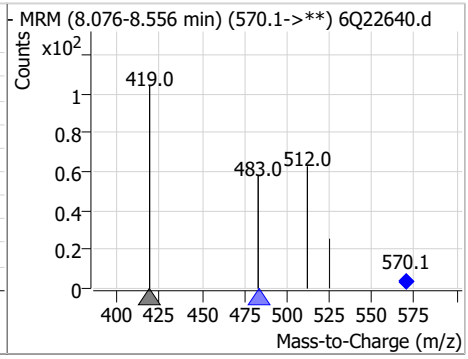




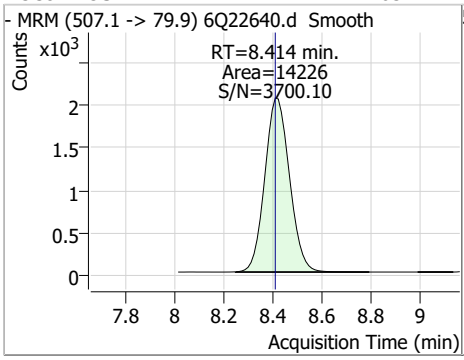
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.23	8.31	0.00	1632	570.1 -> 483.0	19.4	9.2	27.6

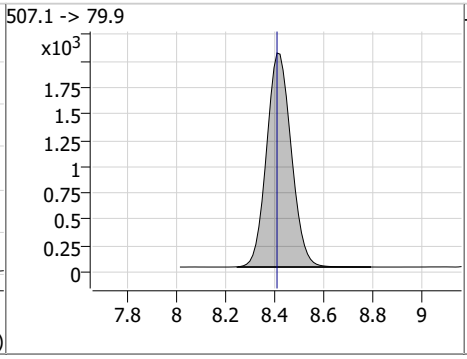


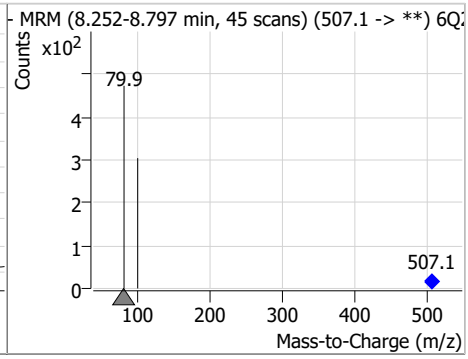




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.63	8.41	0.00	14226				

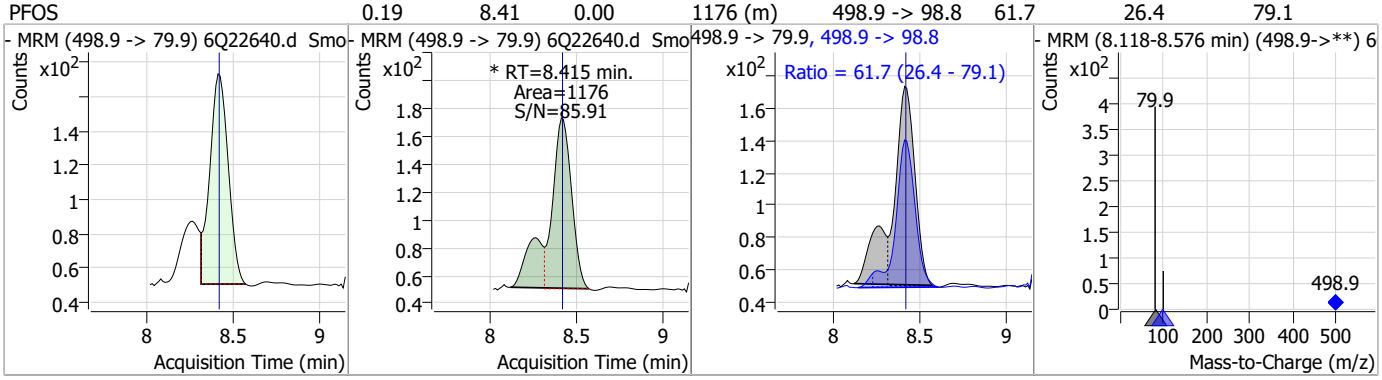




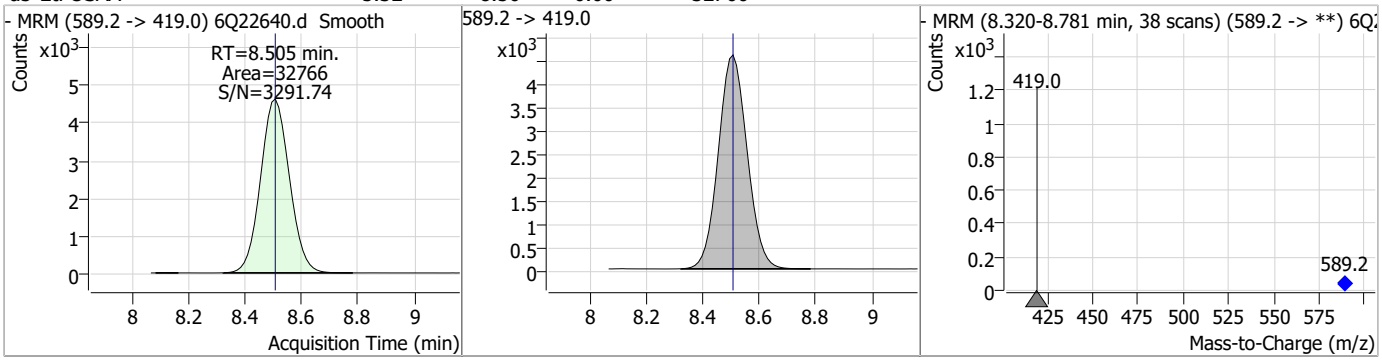


Perfluorinated Compounds by LC/MS/MS

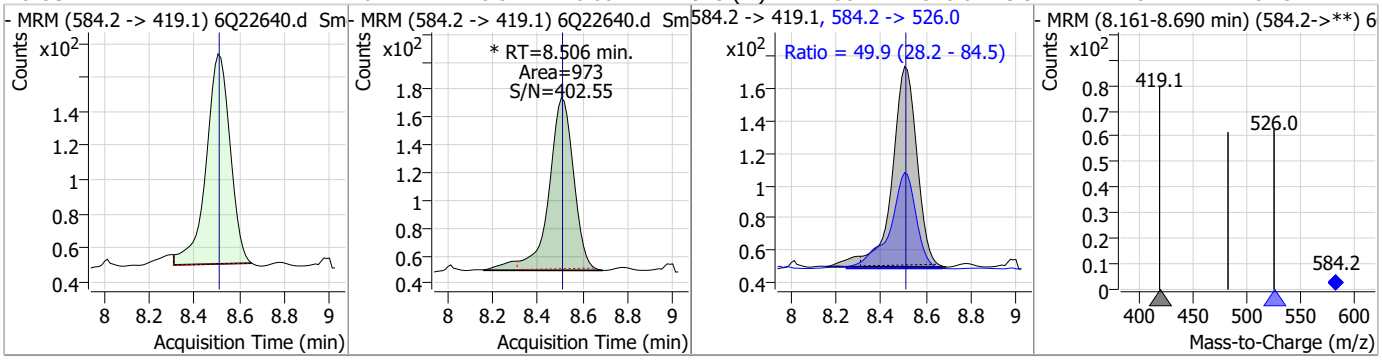
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.19	8.41	0.00	1176 (m)	498.9 -> 98.8	61.7	26.4	79.1



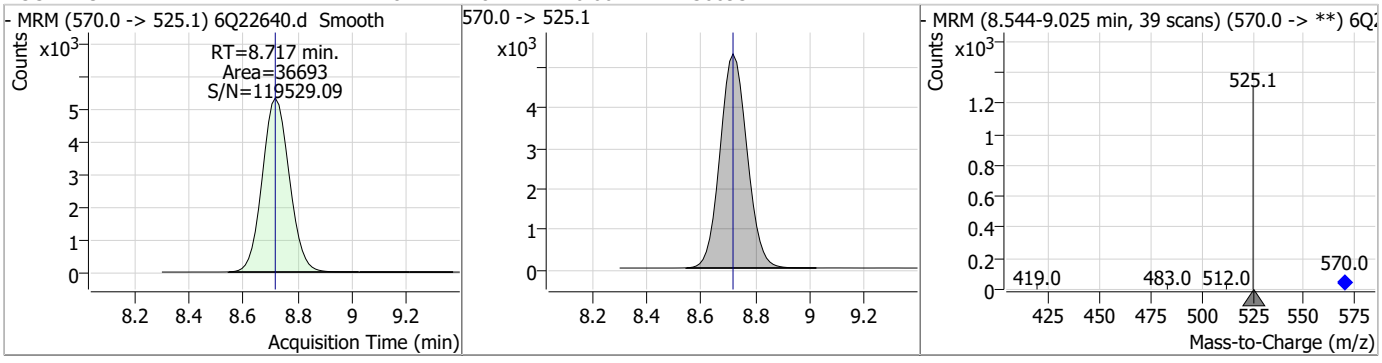
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.32	8.50	0.00	32766				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.24	8.51	0.00	973 (m)	584.2 -> 526.0	49.9	28.2	84.5

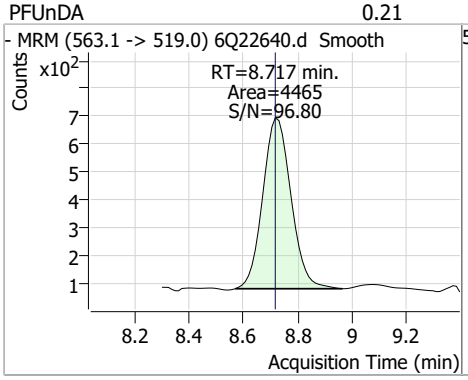


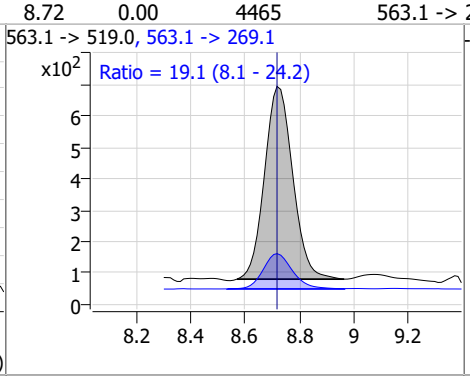
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.28	8.72	0.00	36693				

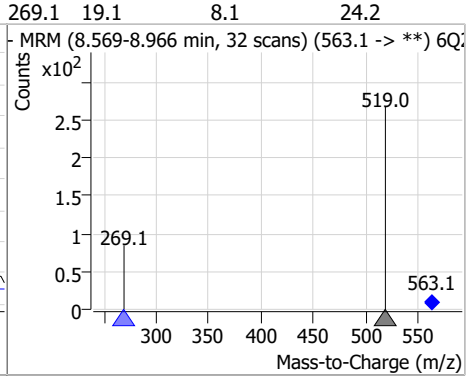


Perfluorinated Compounds by LC/MS/MS

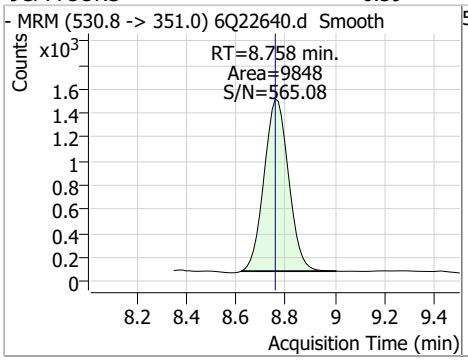
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.21	8.72	0.00	4465	563.1 -> 269.1	19.1	8.1	24.2

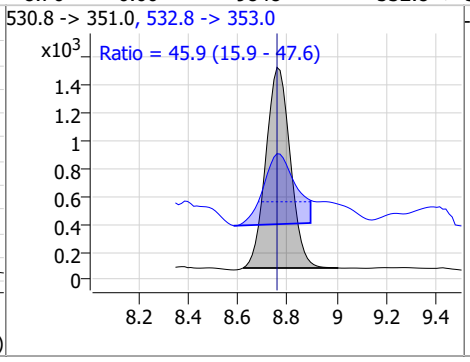


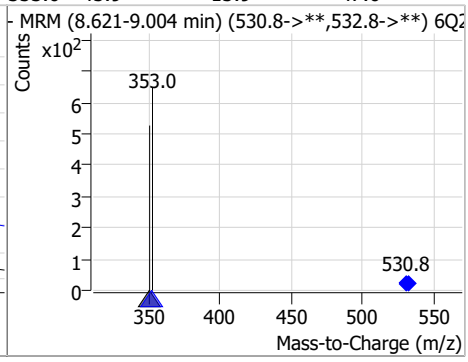




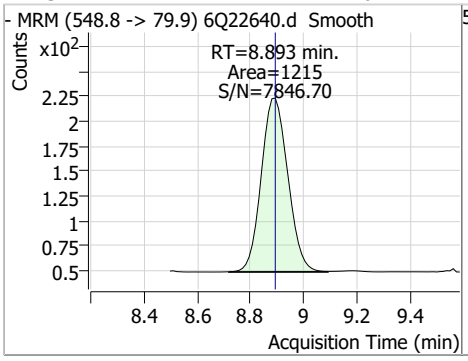
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.39	8.76	0.00	9848	532.8 -> 353.0	45.9	15.9	47.6

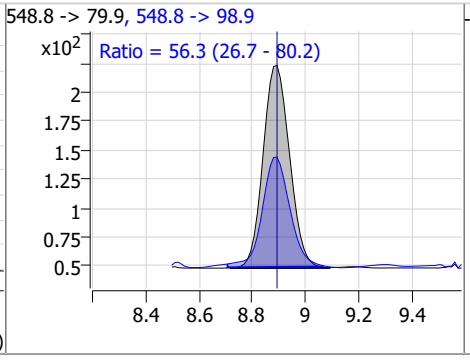


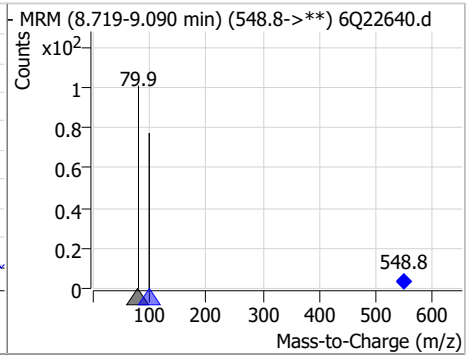




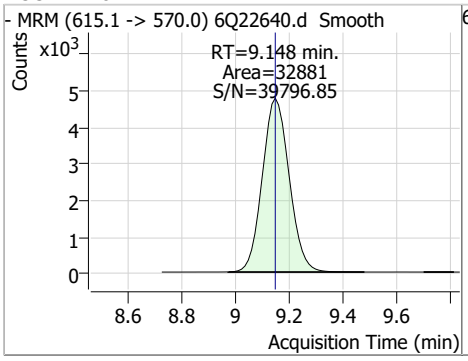
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.21	8.89	0.00	1215	548.8 -> 98.9	56.3	26.7	80.2

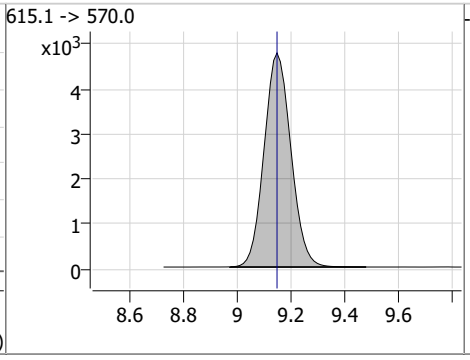


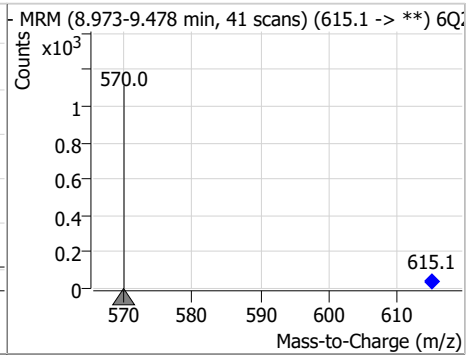




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.27	9.15	0.00	32881				

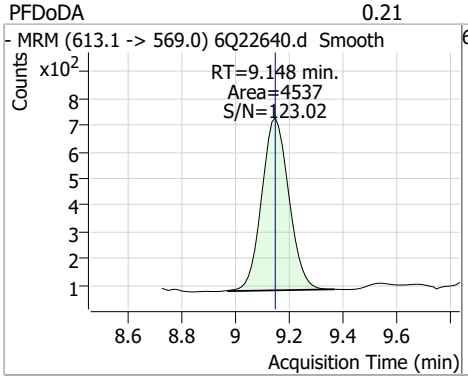


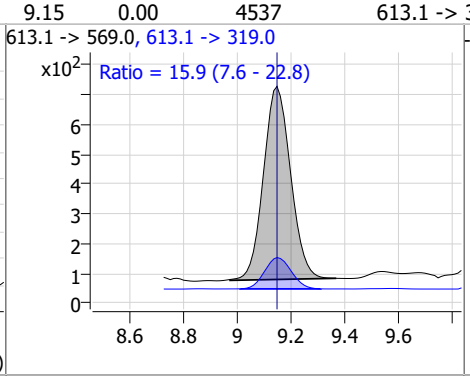


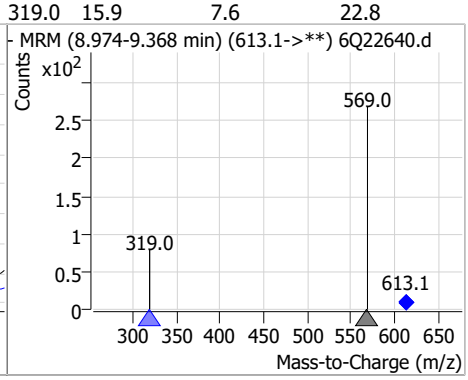


Perfluorinated Compounds by LC/MS/MS

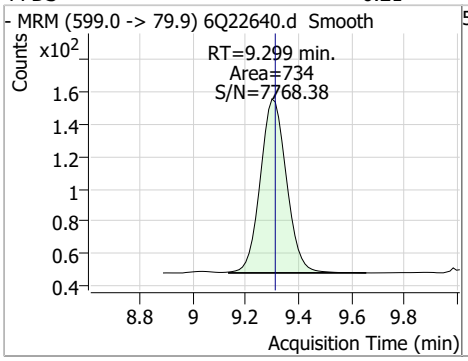
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.21	9.15	0.00	4537	613.1 -> 319.0	15.9	7.6	22.8

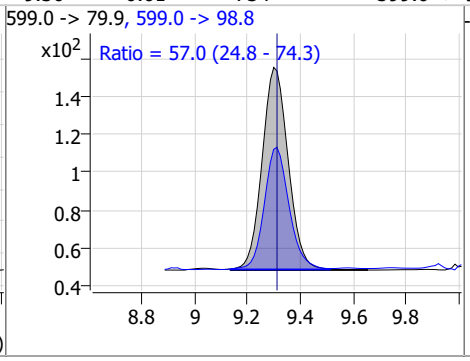


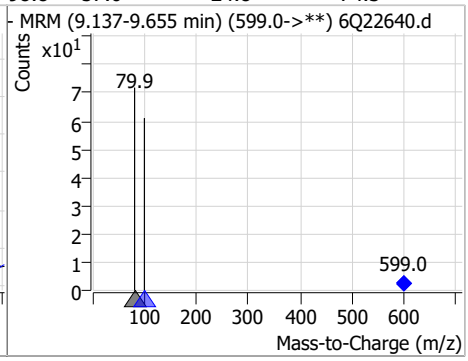




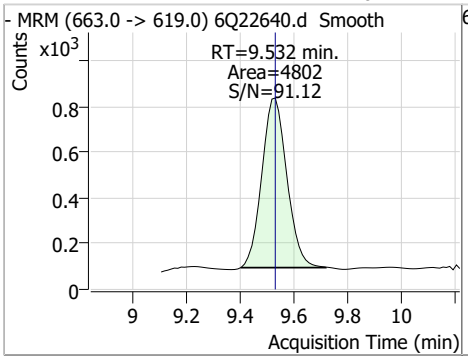
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.21	9.30	-0.01	734	599.0 -> 98.8	57.0	24.8	74.3

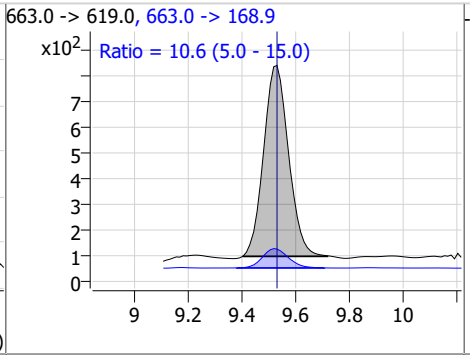


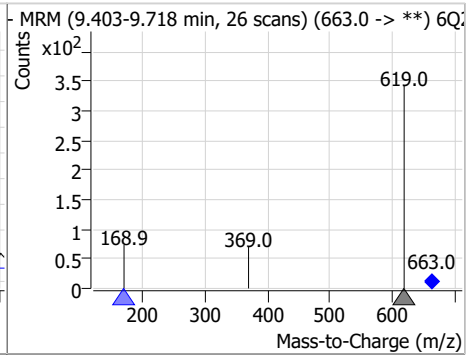




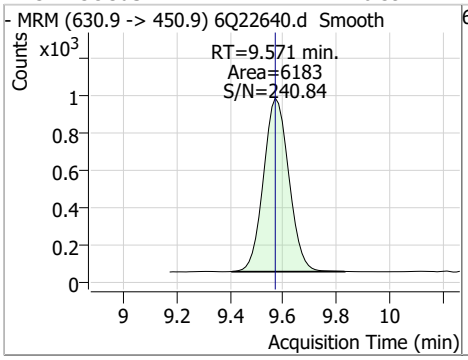
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.22	9.53	0.00	4802	663.0 -> 168.9	10.6	5.0	15.0

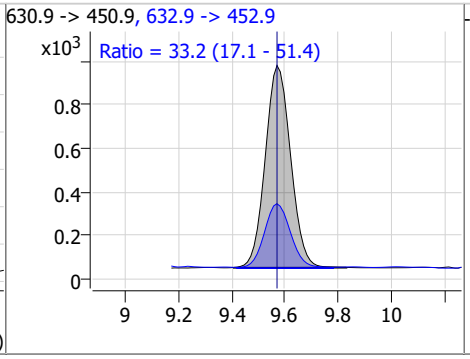


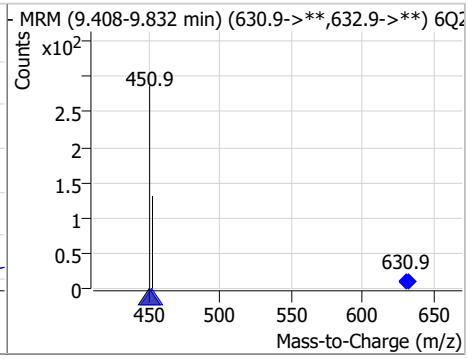




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.39	9.57	0.00	6183	632.9 -> 452.9	33.2	17.1	51.4

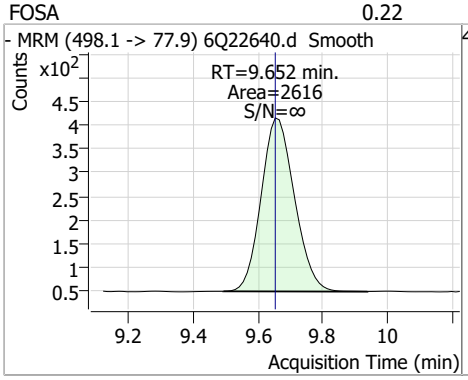


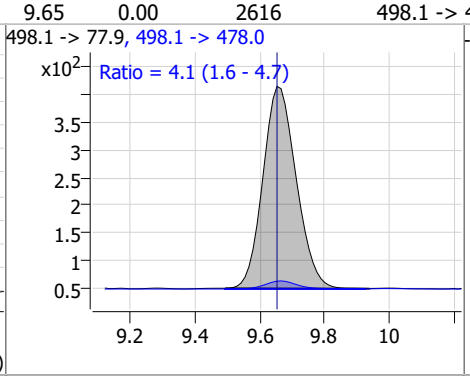


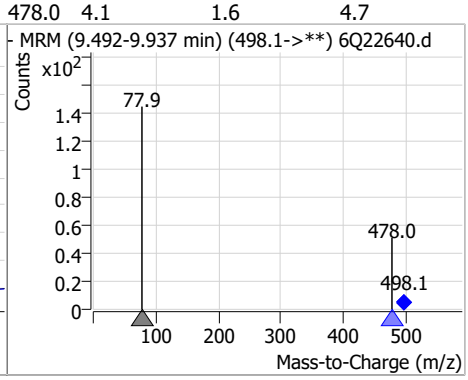


Perfluorinated Compounds by LC/MS/MS

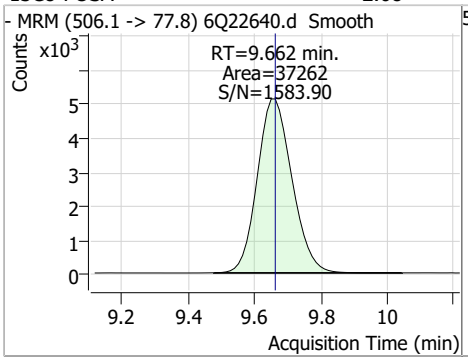
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.22	9.65	0.00	2616	498.1 -> 478.0	4.1	1.6	4.7

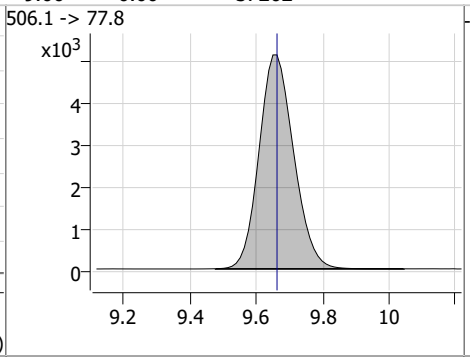


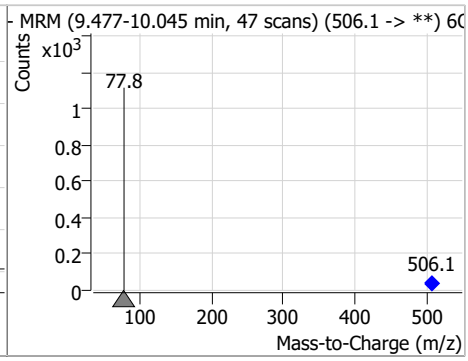




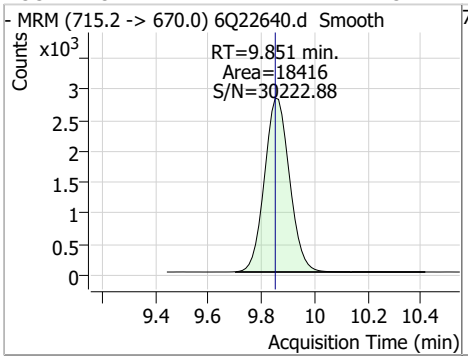
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.68	9.66	0.00	37262				

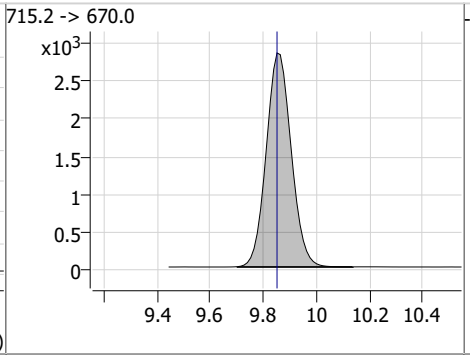


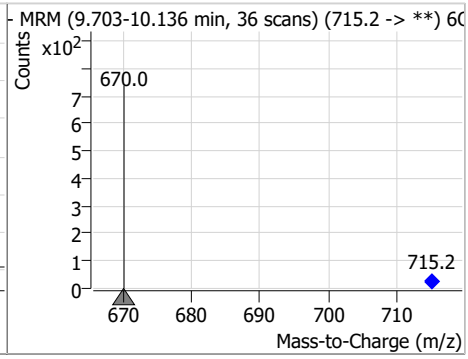




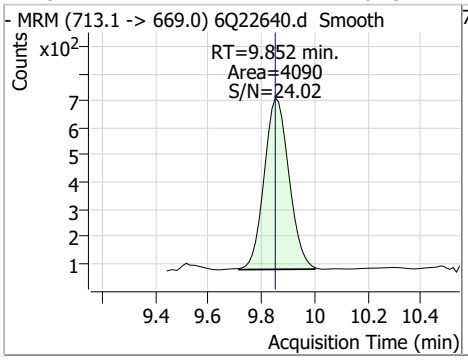
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.23	9.85	0.00	18416				

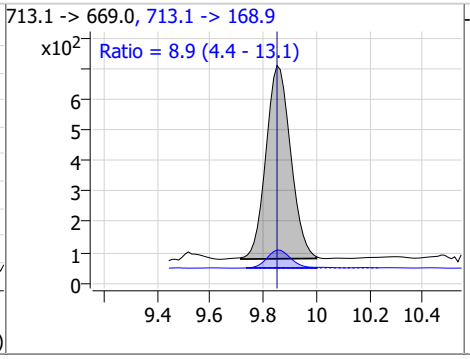


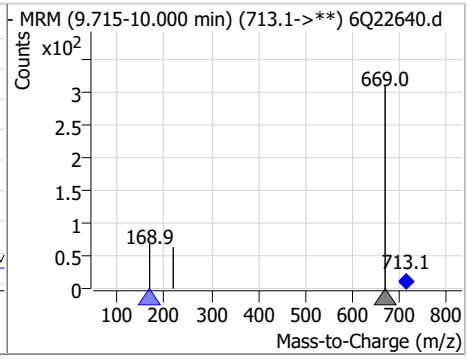




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.23	9.85	0.00	4090	713.1 -> 168.9	8.9	4.4	13.1

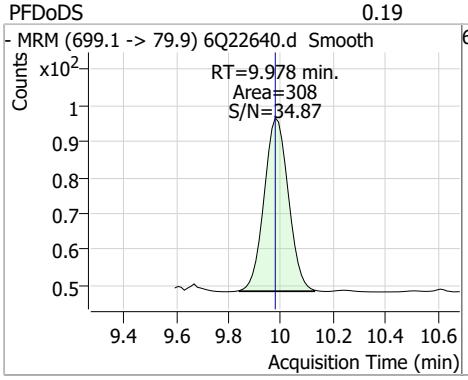


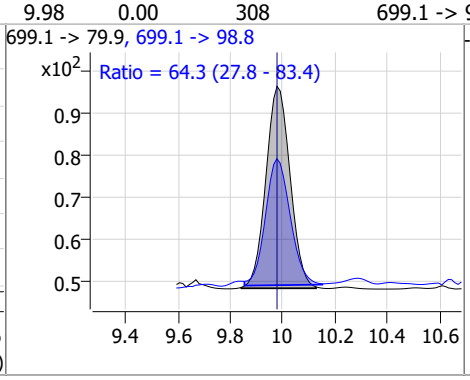


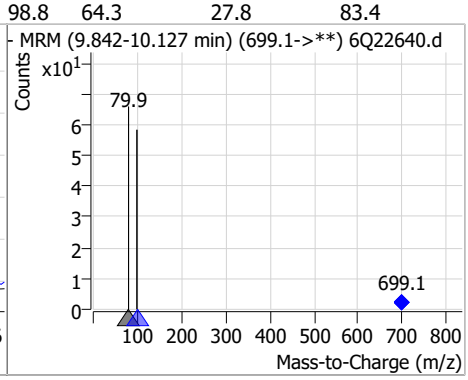


Perfluorinated Compounds by LC/MS/MS

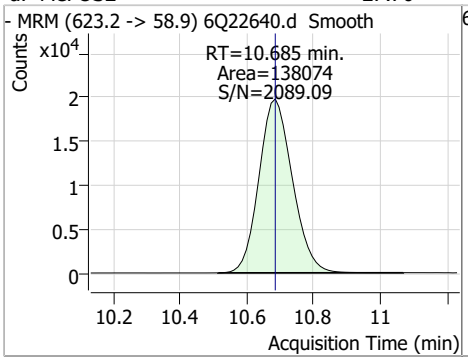
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.19	9.98	0.00	308	699.1 -> 98.8	64.3	27.8	83.4

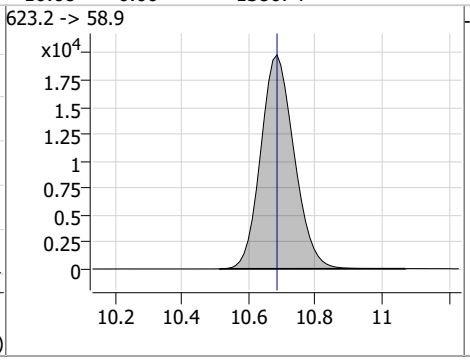


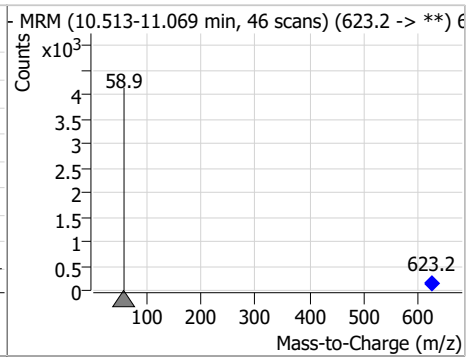




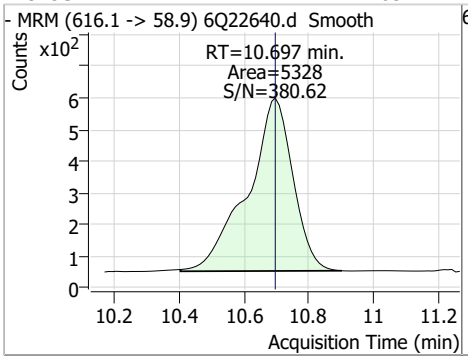
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	27.70	10.68	0.00	138074				

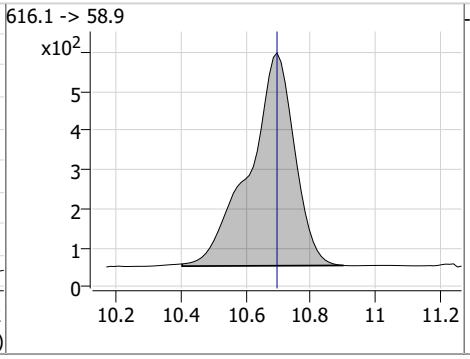


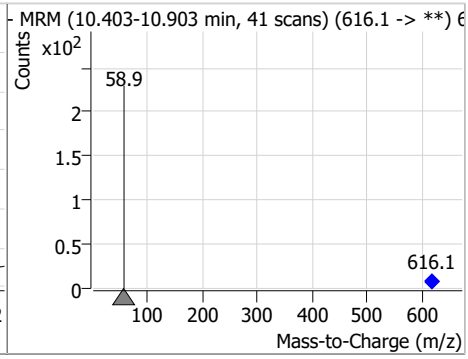




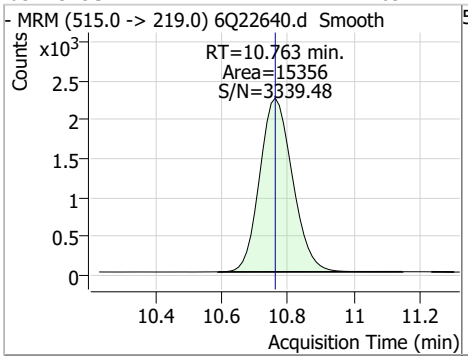
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	1.03	10.70	0.00	5328				

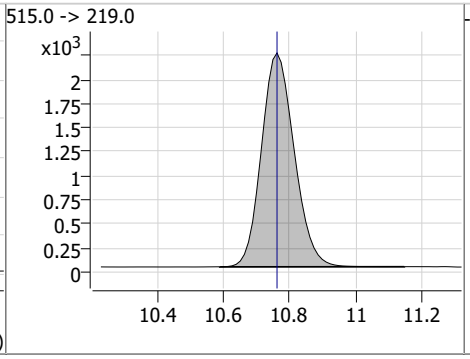


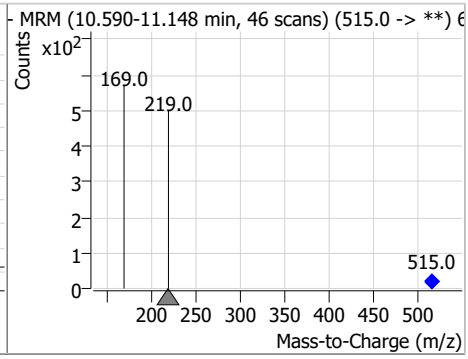




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.69	10.76	0.00	15356				

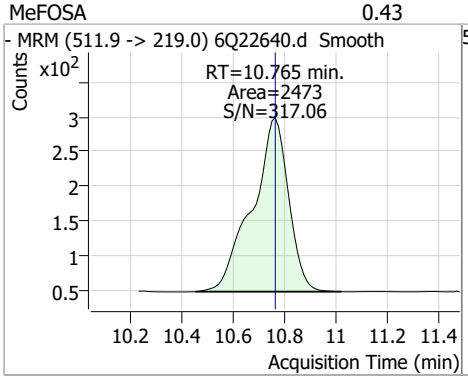


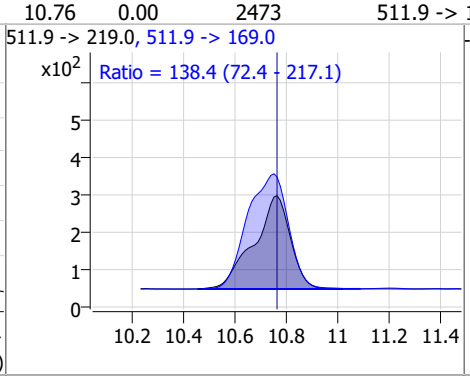


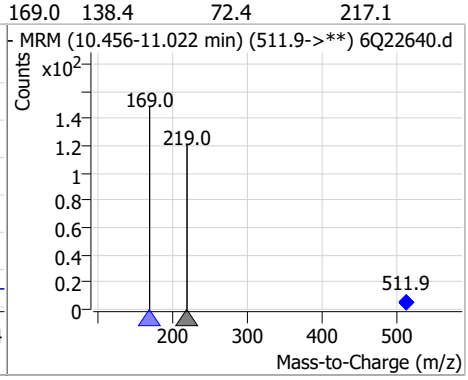


Perfluorinated Compounds by LC/MS/MS

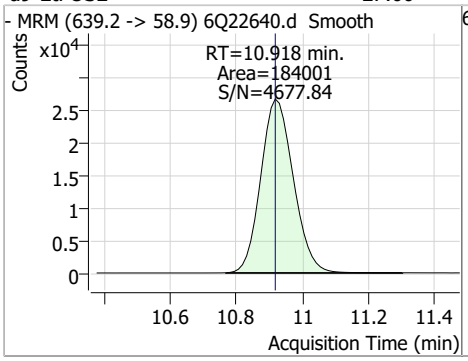
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.43	10.76	0.00	2473	511.9 -> 169.0	138.4	72.4	217.1

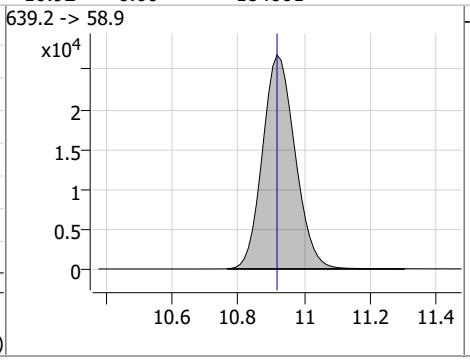


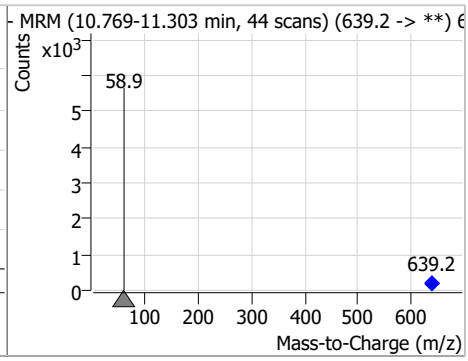




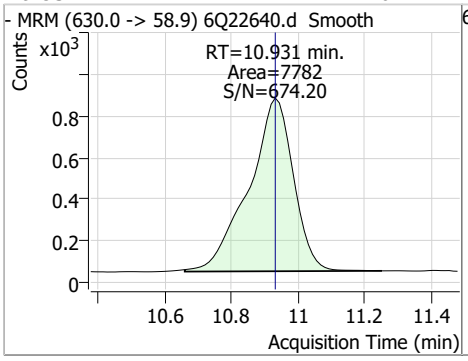
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	27.66	10.92	0.00	184001				

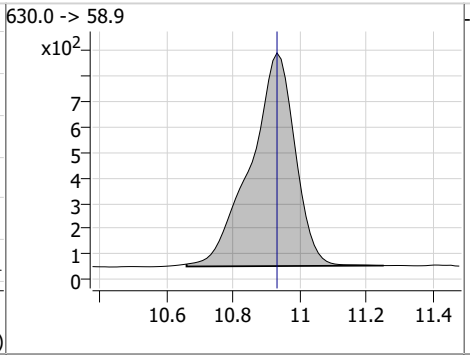


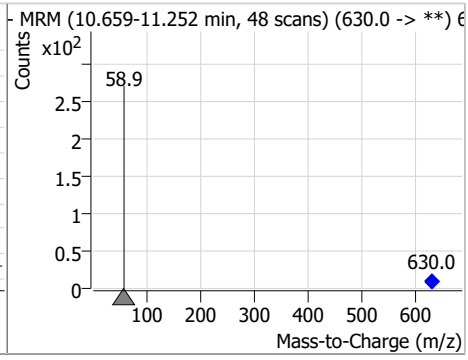




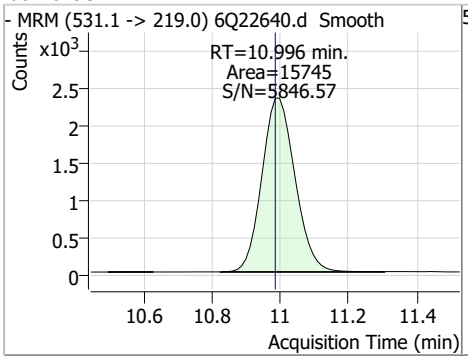
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	1.04	10.93	0.00	7782				

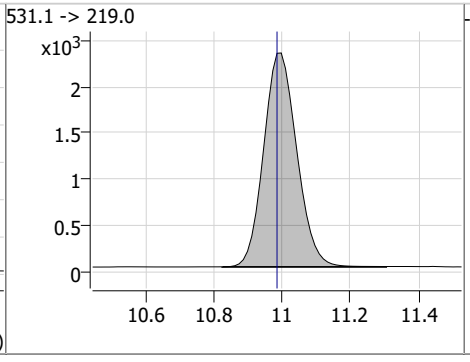


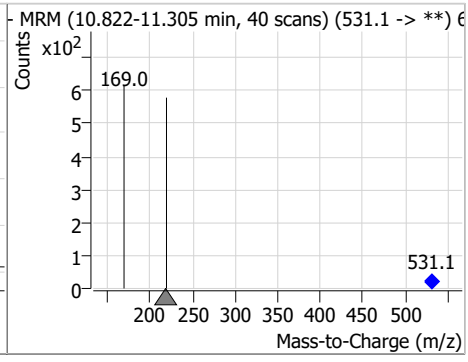




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.74	11.00	0.01	15745				

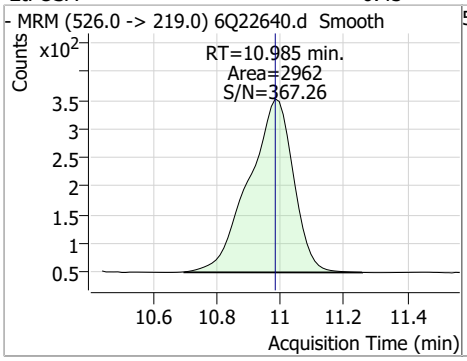


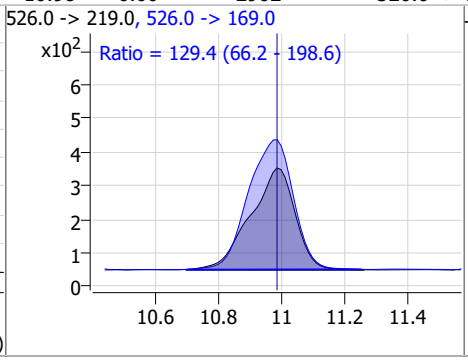


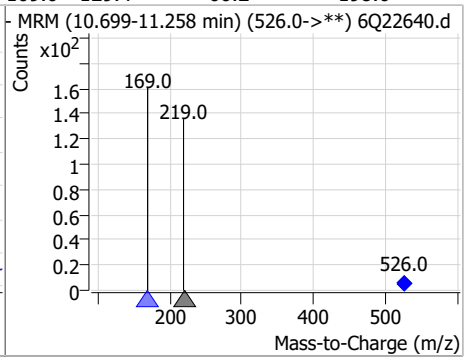


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.43	10.98	0.00	2962	526.0 -> 169.0	129.4	66.2	198.6







Manual Integration Approval Summary

Sample Number: S6Q330-IC330
Lab FileID: 6Q22640.D
Injection Time: 08/10/23 13:37
Method: EPA DRAFT 1633
Analyst approved: 08/13/23 12:53 Martha Valls
Supervisor approved: 08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak
EtFOSAA	2991-50-6		8.51	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22641.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 1:52:03 PM
Sample Name : ic330-2
Vial : P1-A3
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	202589	10.00	µg/L	0.000
M5-PFPeA	4.447	268.3 -> 223.0	64996	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	69493	2.50	µg/L	0.000
M4-PFHpA	6.608	367.1 -> 322.0	69506	2.50	µg/L	0.000
M8-PFOA	7.239	421.1 -> 376.0	111078	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	50908	1.25	µg/L	0.000
M6-PFDA	8.250	519.1 -> 474.1	28442	1.25	µg/L	-0.012
M7-PFUnDA	8.717	570.0 -> 525.1	39419	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	36234	1.25	µg/L	0.000
M2-PFTeDA	9.863	715.2 -> 670.0	19378	1.25	µg/L	0.012
M8-FOSA	9.662	506.1 -> 77.8	39201	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	26408	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	16369	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	14463	2.50	µg/L	0.000
M2-4:2FTS	5.343	329.1 -> 80.9	3687	5.00	µg/L	0.012
M2-6:2FTS	7.001	429.1 -> 80.9	5369	5.00	µg/L	-0.012
M2-8:2FTS	8.039	529.1 -> 80.9	5062	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	36391	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	43313	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	35903	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	141565	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	182251	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	15338	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	15394	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	21278	2.50	µg/L	-0.012
13C3-PFBA	3.001	216.0 -> 172.0	86144	5.00	µg/L	0.000
18O2-PFHxS	7.354	403.0 -> 83.9	12509	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	115967	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	40996	1.25	µg/L	0.000
13C5-PFNA	7.770	468.0 -> 423.0	64485	1.25	µg/L	0.000
13C2-PFHxA	5.669	315.1 -> 270.0	67841	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.343	329.1 -> 80.9	3687	4.93	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C2-6:2FTS	7.001	429.1 -> 80.9	5369	4.98	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.5%		
13C2-8:2FTS	8.039	529.1 -> 80.9	5062	4.79	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.9%		
13C2-PFDoDA	9.148	615.1 -> 570.0	36234	1.31	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.7%		
13C2-PFTeDA	9.863	715.2 -> 670.0	19378	1.22	µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.3%		
13C3-PFBS	5.610	302.1 -> 79.9	26408	2.49	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%		
13C3-PFHxS	7.355	402.1 -> 79.9	16369	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 = 95.2%	
13C4-PFBA	3.010	216.8 -> 171.9	202589	9.96 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.608	367.1 -> 322.0	69506	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C5-PFHxA	5.668	318.0 -> 273.0	69493	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C5-PFPeA	4.447	268.3 -> 223.0	64996	5.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C6-PFDA	8.250	519.1 -> 474.1	28442	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C7-PFUnDA	8.717	570.0 -> 525.1	39419	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C8-FOSA	9.662	506.1 -> 77.8	39201	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C8-PFOA	7.239	421.1 -> 376.0	111078	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C8-PFOS	8.414	507.1 -> 79.9	14463	2.32 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.9%	
13C9-PFNA	7.770	472.1 -> 427.0	50908	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.4%	
d3-MeFOSAA	8.297	573.2 -> 419.0	36391	4.73 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.5%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	43313	9.87 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.7%	
d3-MeFOSA	10.763	515.0 -> 219.0	15394	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.7%	
d5-EtFOSAA	8.492	589.2 -> 419.0	35903	5.05 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
d7-MeFOSE	10.685	623.2 -> 58.9	141565	24.62 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.5%	
d9-EtFOSE	10.918	639.2 -> 58.9	182251	23.75 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.0%	
d5-EtFOSA	10.983	531.1 -> 219.0	15338	2.32 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.6%	
Target Compounds					QValue
4:2FTS	5.331	327.1 -> 307.0	7901	1.66 µg/L	98
		327.1 -> 80.9	2999		
6:2FTS	7.002	427.1 -> 407.0	7968	1.66 µg/L	100
		427.1 -> 80.9	2687		
8:2FTS	8.040	527.1 -> 507.0	4867	1.80 µg/L	97
		527.1 -> 80.8	1883		
EtFOSAA	8.506	584.2 -> 419.1	1778	0.39 µg/L	86
		584.2 -> 526.0	815		
FOSA	9.652	498.1 -> 77.9	4959	0.40 µg/L	100
		498.1 -> 478.0	165		
MeFOSAA	8.298	570.1 -> 419.0	3078	0.44 µg/L	99
		570.1 -> 483.0	556		
PFBA	3.006	212.8 -> 168.9	10330	1.63 µg/L	100
PFBS	5.611	298.7 -> 79.9	3048	0.35 µg/L	100
		298.7 -> 98.8	1131		
PFDA	8.251	512.9 -> 469.0	13727	0.41 µg/L	97
		512.9 -> 219.0	2148		
PFDoDA	9.148	613.1 -> 569.0	9528	0.40 µg/L	98
		613.1 -> 319.0	1374		
PFDS	9.299	599.0 -> 79.9	1503	0.43 µg/L	97

Perfluorinated Compounds by LC/MS/MS

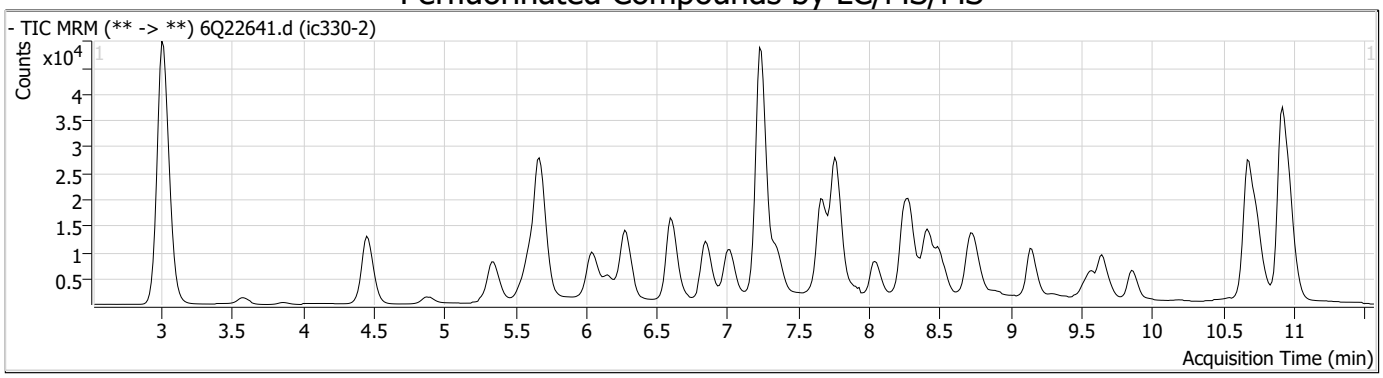
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	711				
PFHpA	6.609	363.1 -> 319.0	11397	0.42	µg/L		97
		363.1 -> 169.0	1749				
PFHpS	7.909	449.0 -> 79.9	2484	0.38	µg/L		100
		449.0 -> 98.9	1335				
PFHxA	5.670	313.0 -> 269.0	8248	0.41	µg/L		100
		313.0 -> 118.9	445				
PFHxS	7.356	398.7 -> 79.9	2881	0.40	µg/L	m	96
		398.7 -> 98.9	1329				
PFNA	7.771	463.0 -> 419.0	13490	0.39	µg/L		99
		463.0 -> 219.0	2606				
PFNS	8.893	548.8 -> 79.9	2279	0.38	µg/L		91
		548.8 -> 98.9	1368				
PFOA	7.240	413.0 -> 369.0	17496	0.39	µg/L		95
		413.0 -> 169.0	3244				
PFOS	8.427	498.9 -> 79.9	2414	0.39	µg/L	m	97
		498.9 -> 98.8	1219				
PFPeA	4.449	263.0 -> 219.0	11621	0.81	µg/L		100
PFPeS	6.660	349.1 -> 79.9	2480	0.37	µg/L		91
		349.1 -> 98.9	1276				
PFTeDA	9.864	713.1 -> 669.0	7674	0.41	µg/L		98
		713.1 -> 168.9	712				
PFTrDA	9.532	663.0 -> 619.0	9548	0.39	µg/L		98
		663.0 -> 168.9	1014				
PFUnDA	8.717	563.1 -> 519.0	8836	0.39	µg/L		99
		563.1 -> 269.1	1477				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	12506	0.81	µg/L		97
		632.9 -> 452.9	4046				
9Cl-PF3ONS	8.758	530.8 -> 351.0	19636	0.79	µg/L		91
		532.8 -> 353.0	7219				
ADONA	6.846	376.9 -> 250.9	43294	0.78	µg/L		97
		376.9 -> 84.8	12166				
HFPO-DA	6.046	284.9 -> 168.9	3440	0.93	µg/L		98
		284.9 -> 184.9	335				
3:3FTCA	3.859	241.0 -> 177.0	1999	2.00	µg/L		99
		241.0 -> 117.0	263				
5:3FTCA	6.272	341.0 -> 237.1	43636	10.44	µg/L		98
		341.0 -> 217.0	31717				
7:3FTCA	7.673	441.0 -> 316.9	32854	10.62	µg/L		90
		441.0 -> 336.9	69266				
EtFOSA	10.985	526.0 -> 219.0	5803	0.86	µg/L		99
		526.0 -> 169.0	7592				
EtFOSE	10.931	630.0 -> 58.9	14869	2.01	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	4766	0.84	µg/L		97
		511.9 -> 169.0	6747				
MeFOSE	10.697	616.1 -> 58.9	10204	1.93	µg/L		100
PFDoDS	9.978	699.1 -> 79.9	642	0.40	µg/L		89
		699.1 -> 98.8	407				
NFDHA	5.551	295.0 -> 201.0	2330	0.90	µg/L		96
		295.0 -> 84.9	618				
PFMBA	4.869	279.0 -> 85.1	8212	0.81	µg/L		100
PFMPA	3.576	229.0 -> 84.9	6619	0.82	µg/L		100
PFEESA	6.163	314.8 -> 134.9	19530	0.72	µg/L		99
		314.8 -> 82.9	720				

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

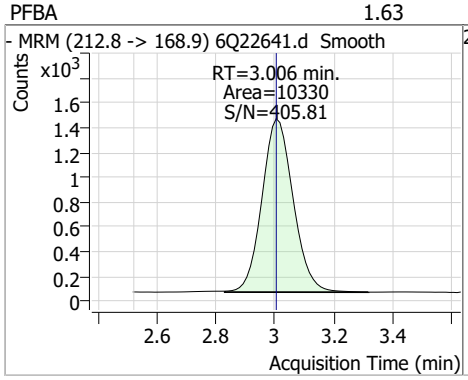
Perfluorinated Compounds by LC/MS/MS

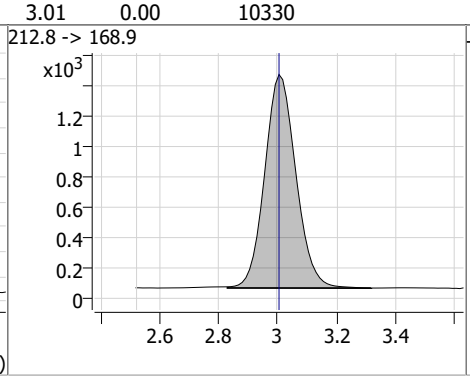
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

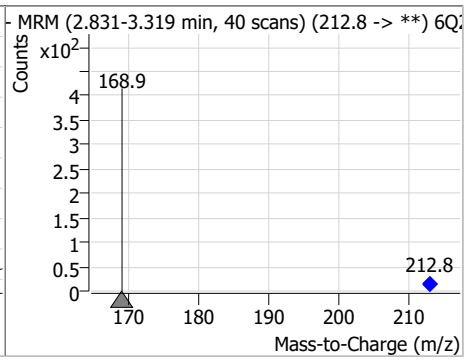
Perfluorinated Compounds by LC/MS/MS



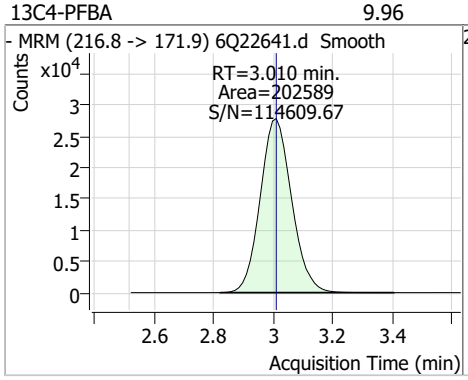
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	1.63	3.01	0.00	10330				

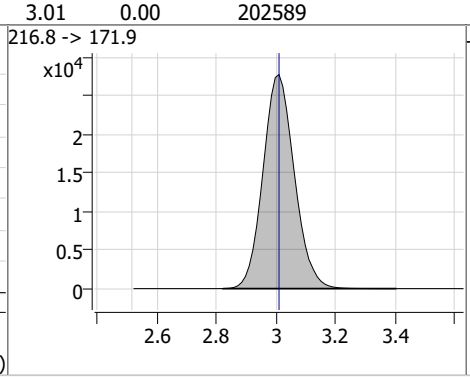


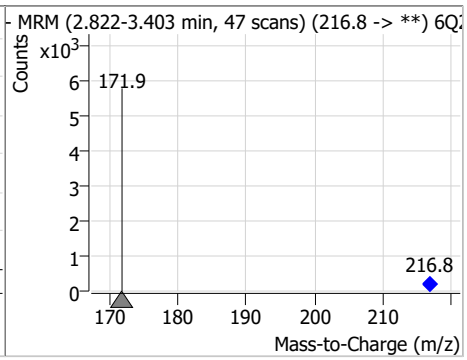




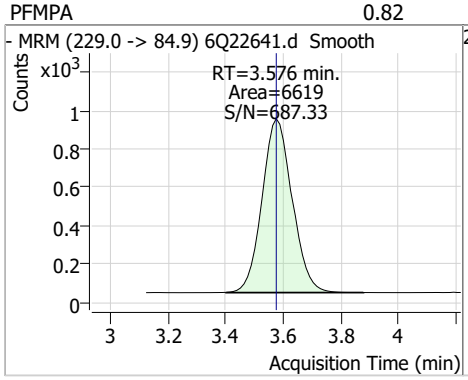
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.96	3.01	0.00	202589				

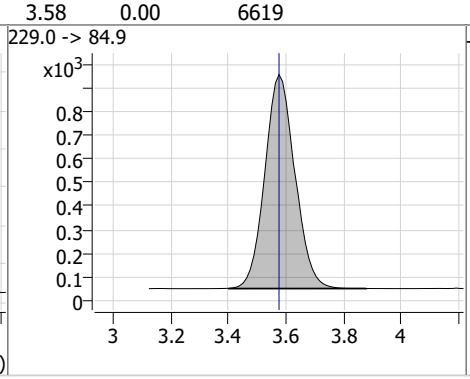


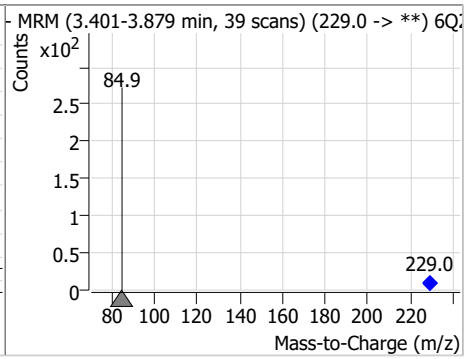




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	0.82	3.58	0.00	6619				

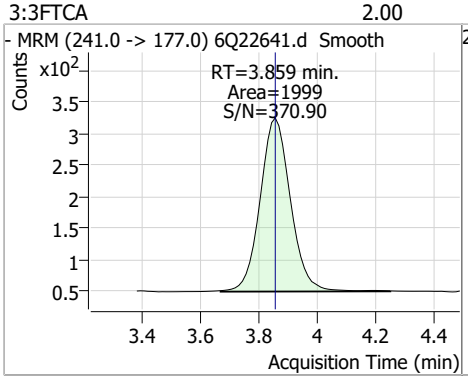


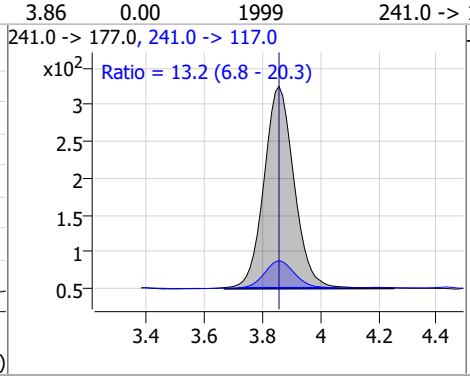


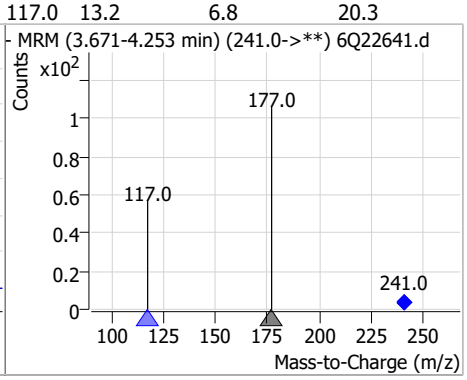


Perfluorinated Compounds by LC/MS/MS

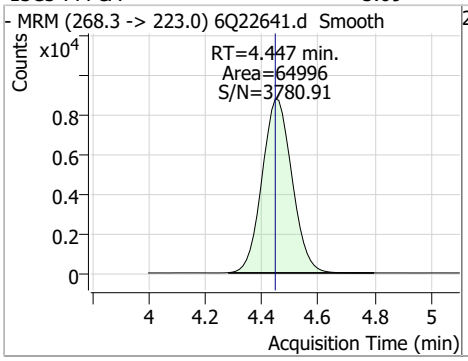
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	2.00	3.86	0.00	1999	241.0 -> 117.0	13.2	6.8	20.3

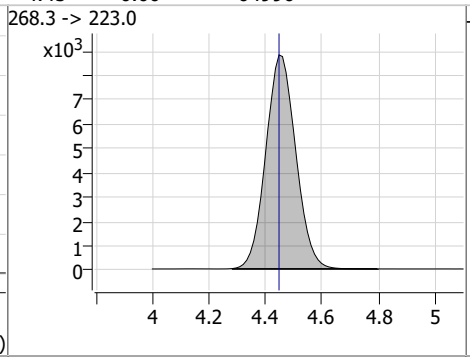


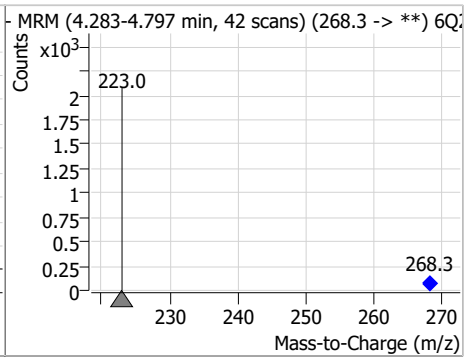




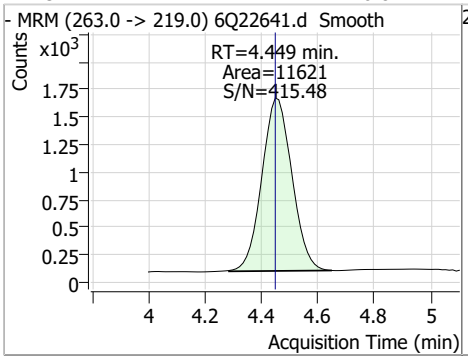
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.09	4.45	0.00	64996				

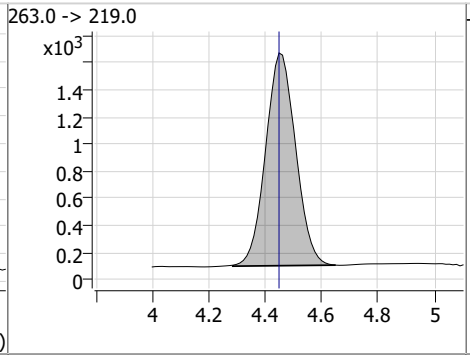


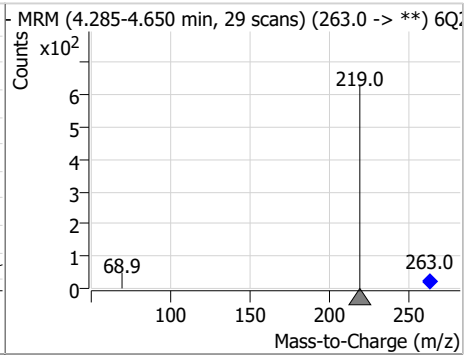




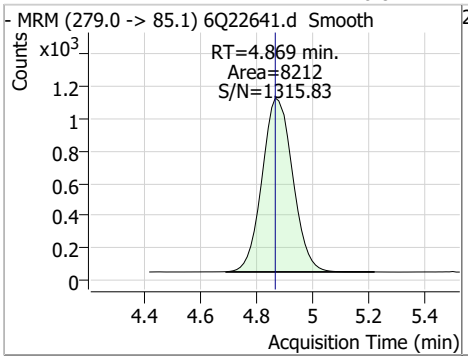
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.81	4.45	0.00	11621				

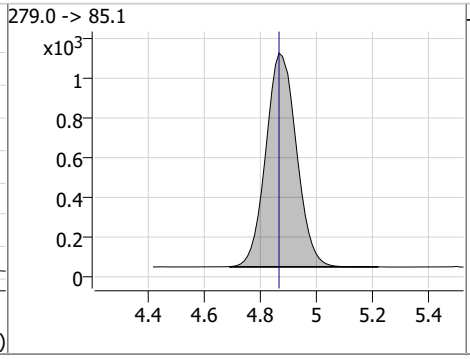


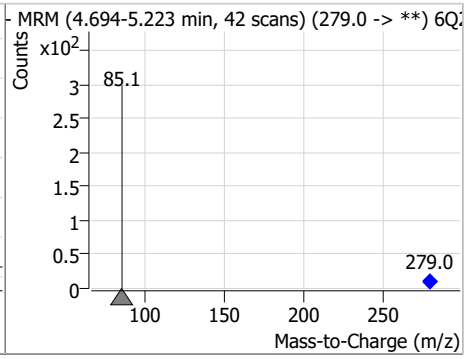




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.81	4.87	0.00	8212				

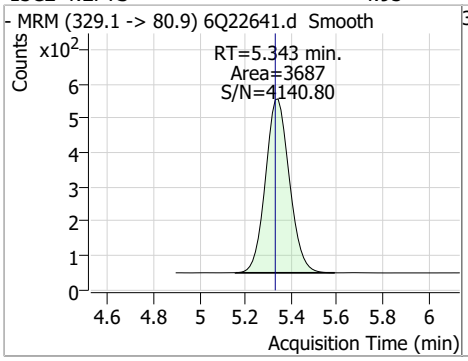


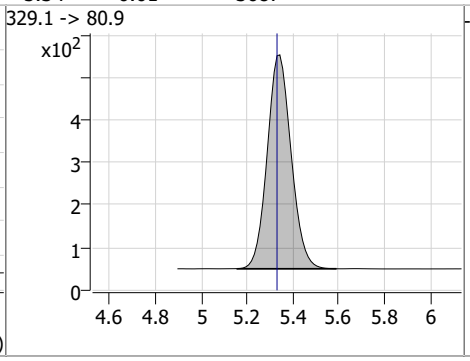


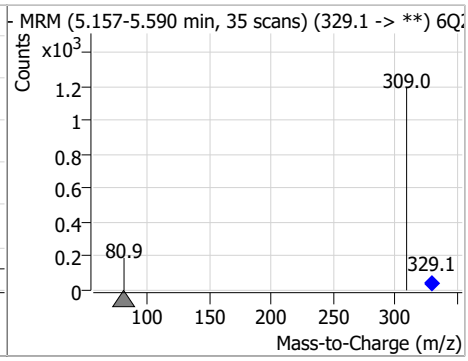


Perfluorinated Compounds by LC/MS/MS

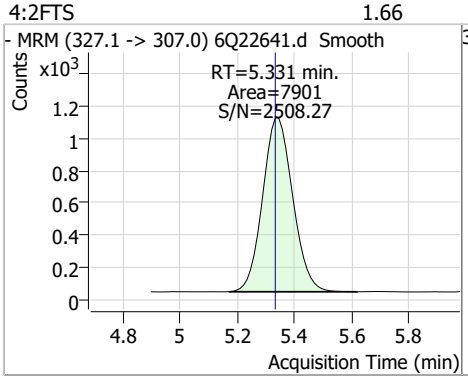
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.93	5.34	0.01	3687				

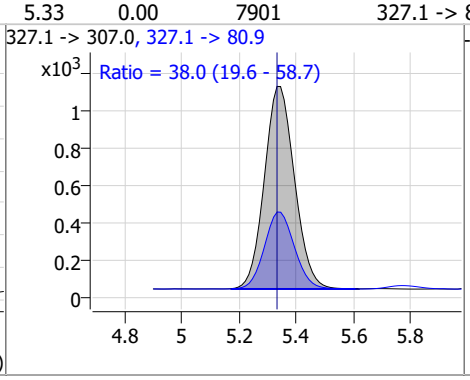


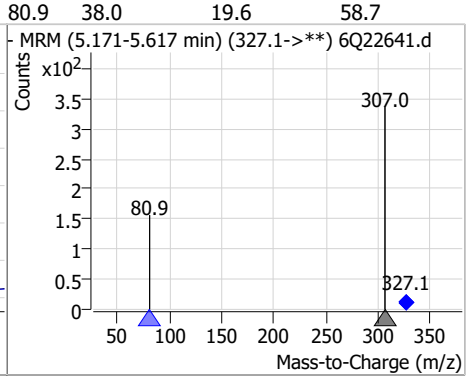




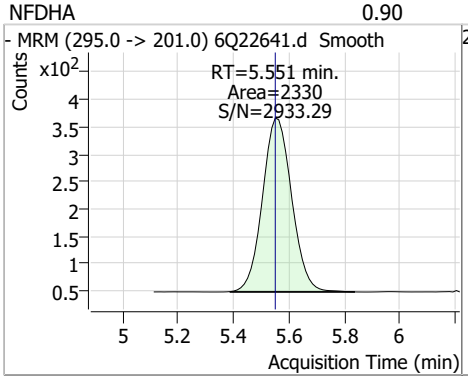
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	1.66	5.33	0.00	7901	327.1 -> 80.9	38.0	19.6	58.7

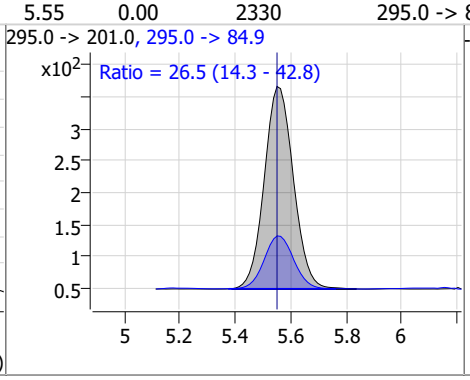


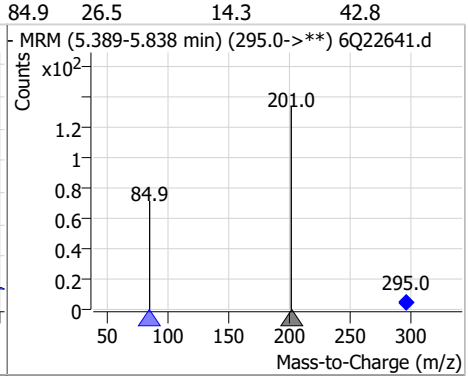




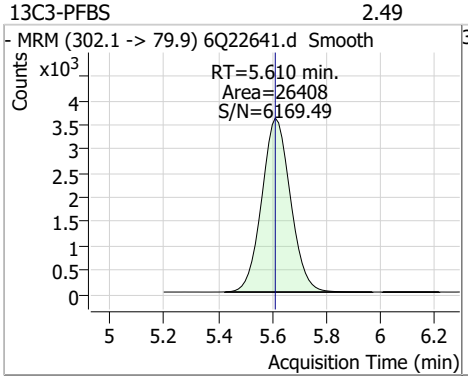
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	0.90	5.55	0.00	2330	295.0 -> 84.9	26.5	14.3	42.8

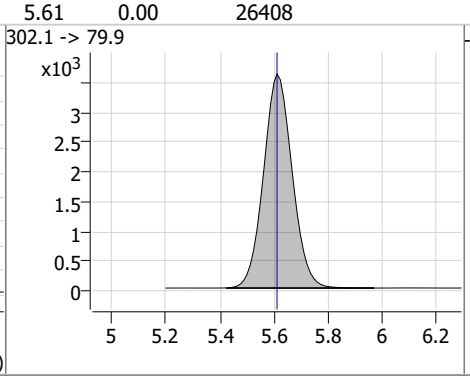


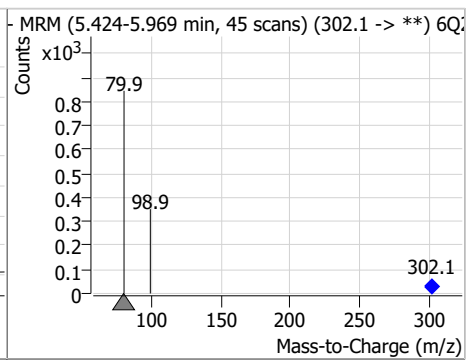




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.49	5.61	0.00	26408				

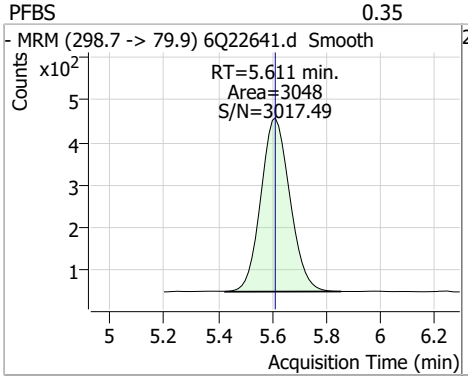


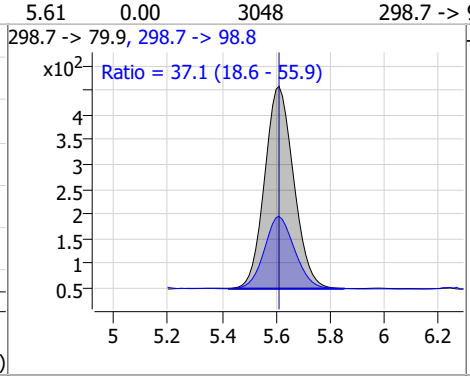


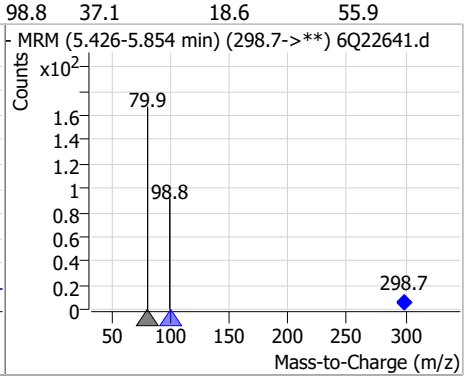


Perfluorinated Compounds by LC/MS/MS

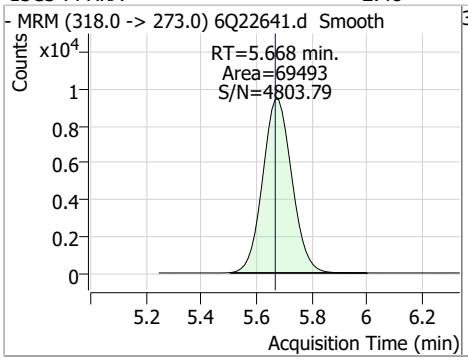
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.35	5.61	0.00	3048	298.7 -> 98.8	37.1	18.6	55.9

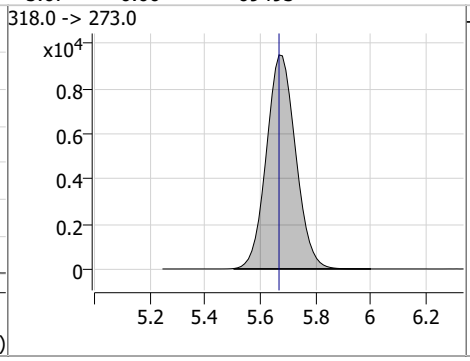


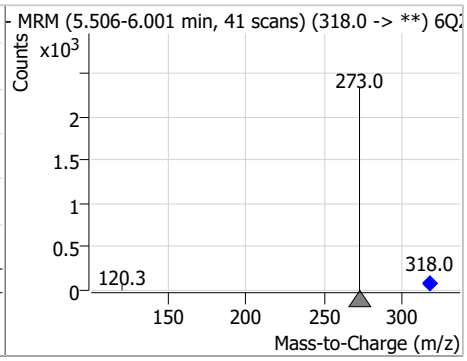




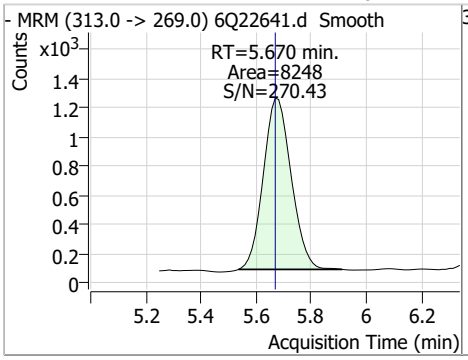
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.48	5.67	0.00	69493				

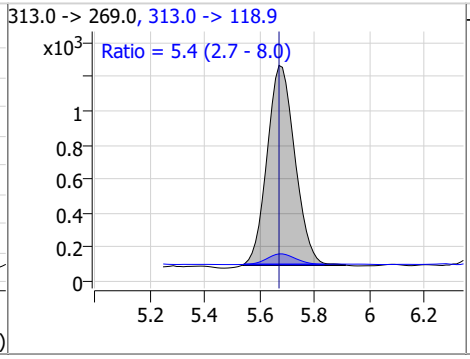


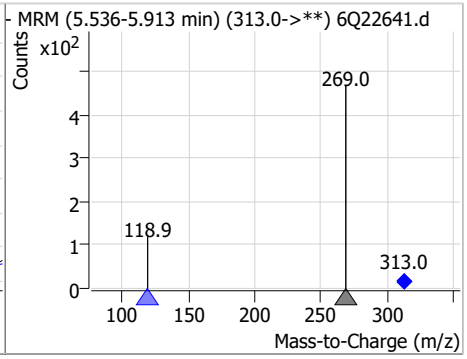




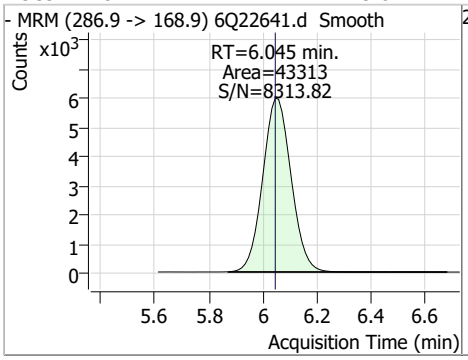
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.41	5.67	0.00	8248	313.0 -> 118.9	5.4	2.7	8.0

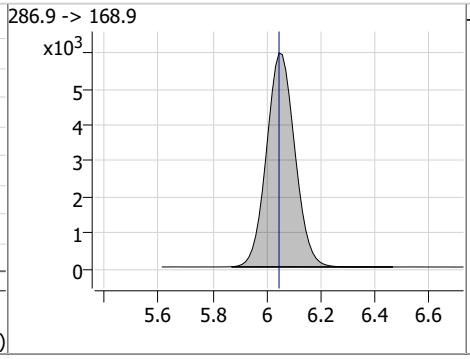


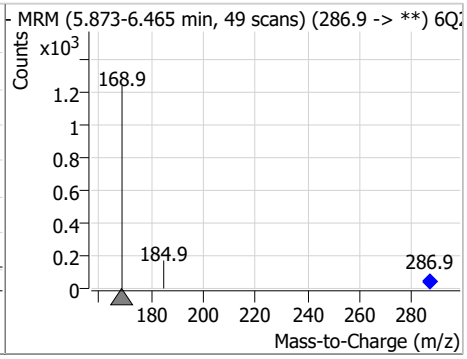




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.87	6.05	0.00	43313				

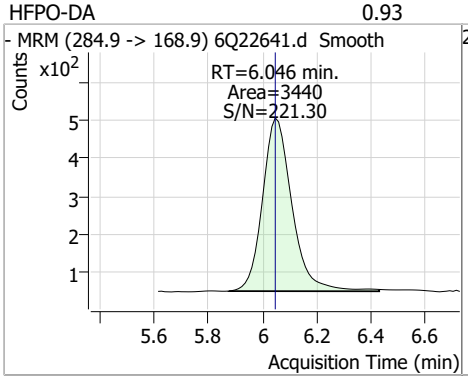


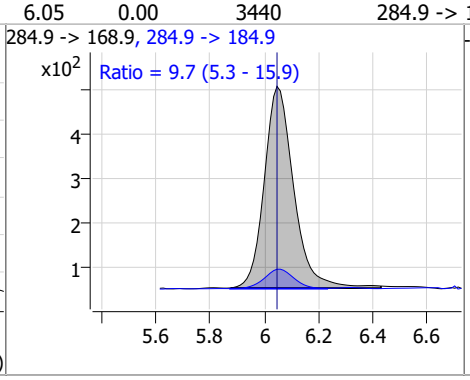


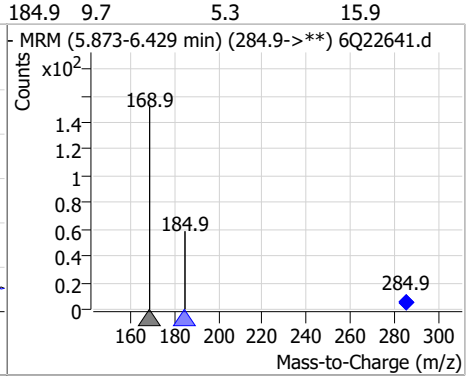


Perfluorinated Compounds by LC/MS/MS

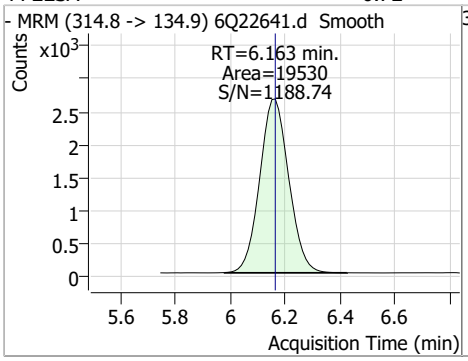
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.93	6.05	0.00	3440	284.9 -> 184.9	9.7	5.3	15.9

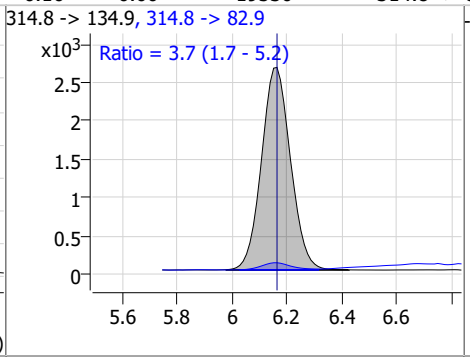


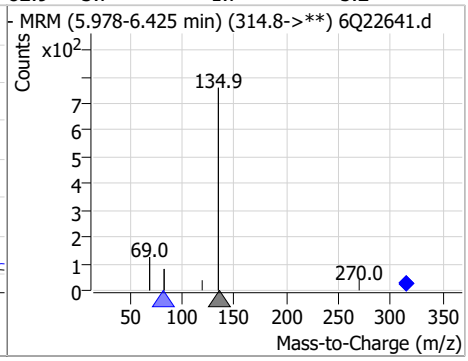




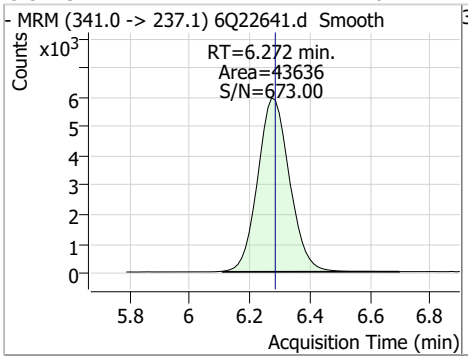
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.72	6.16	0.00	19530	314.8 -> 82.9	3.7	1.7	5.2

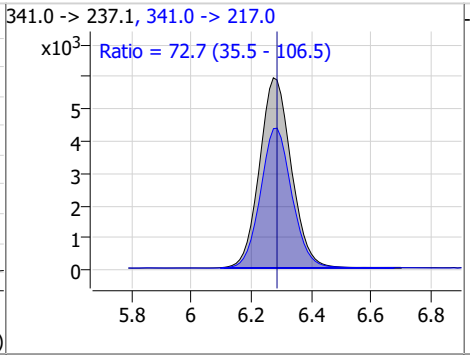


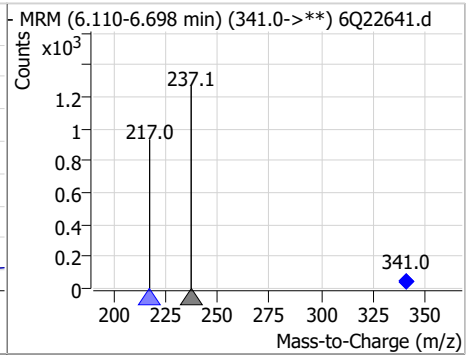




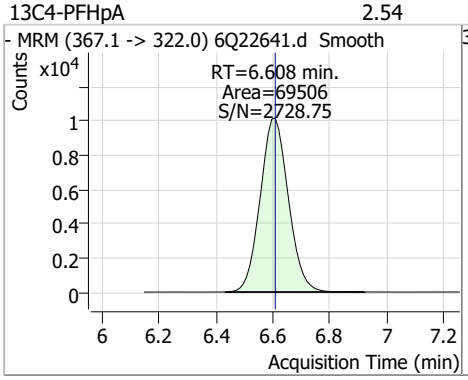
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	10.44	6.27	-0.01	43636	341.0 -> 217.0	72.7	35.5	106.5

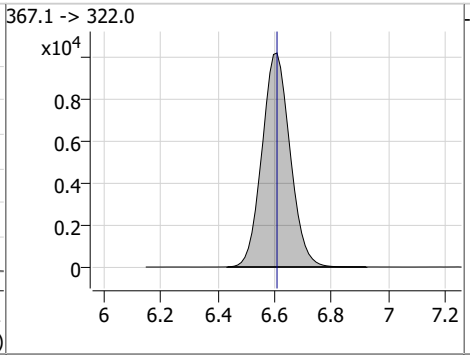


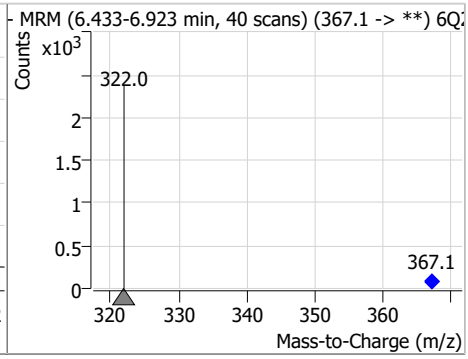




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.54	6.61	0.00	69506				

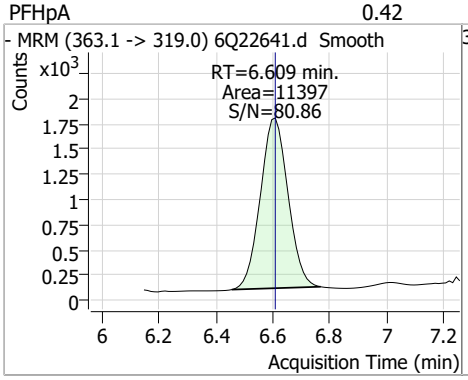


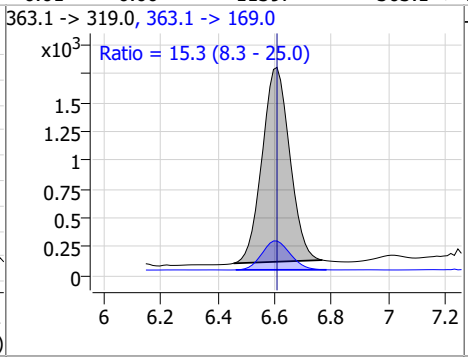


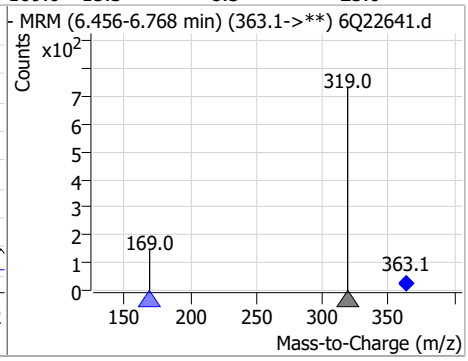


Perfluorinated Compounds by LC/MS/MS

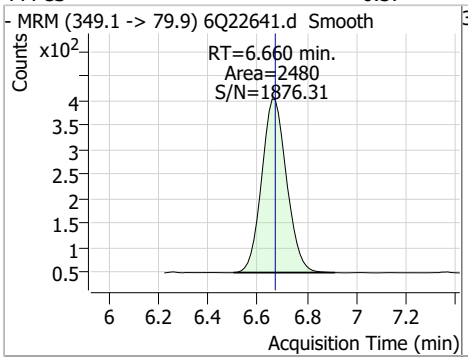
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.42	6.61	0.00	11397	363.1 -> 169.0	15.3	8.3	25.0

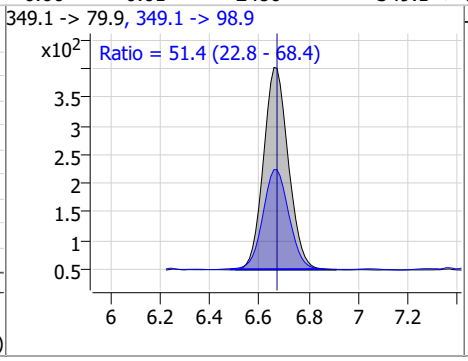


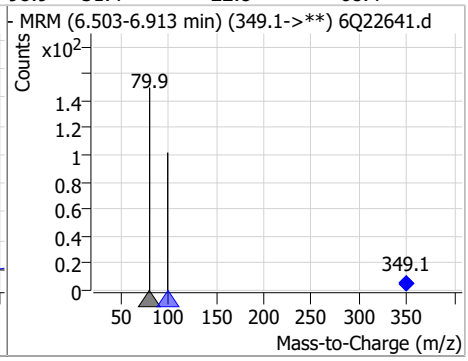




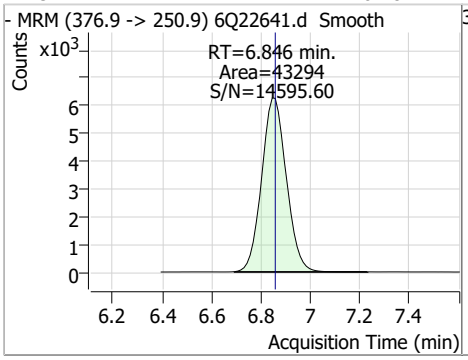
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.37	6.66	-0.01	2480	349.1 -> 98.9	51.4	22.8	68.4

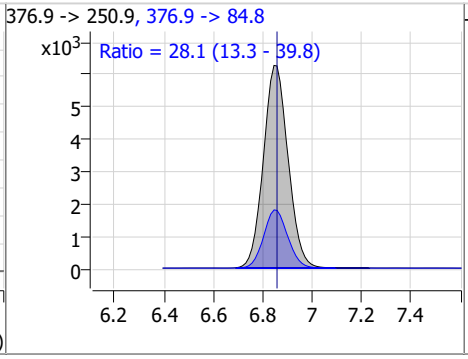


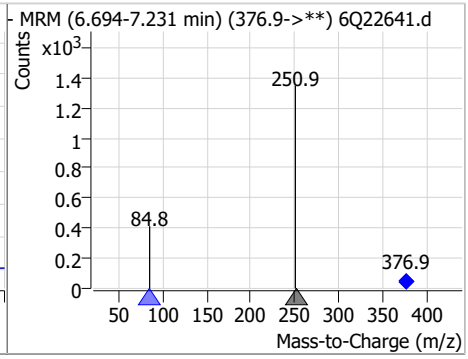




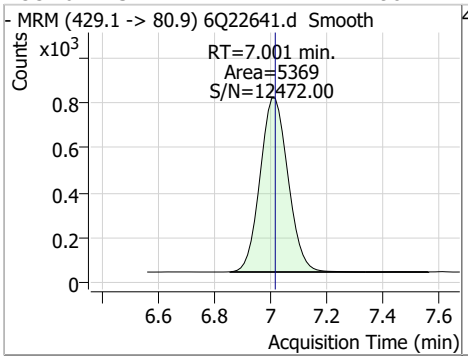
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.78	6.85	-0.01	43294	376.9 -> 84.8	28.1	13.3	39.8

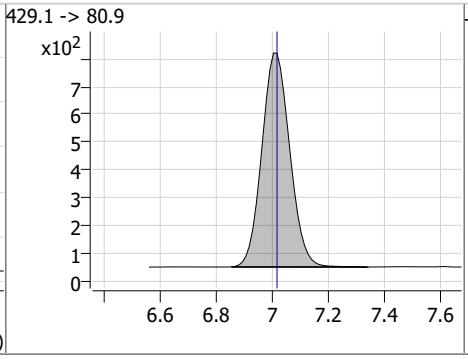


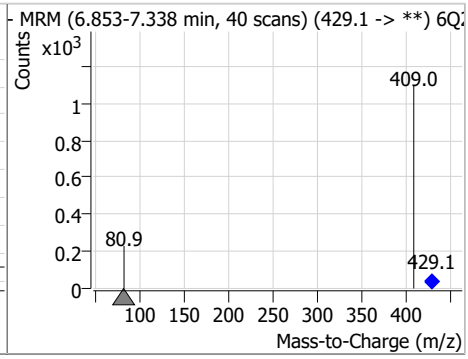




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.98	7.00	-0.01	5369				

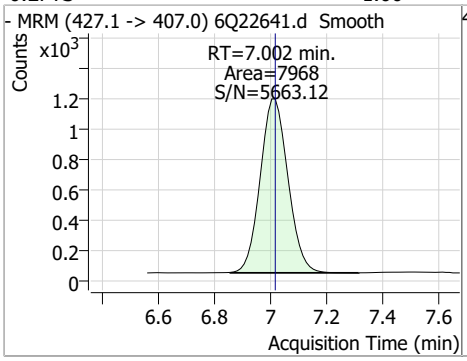


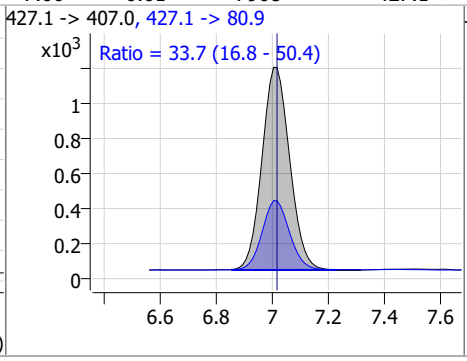


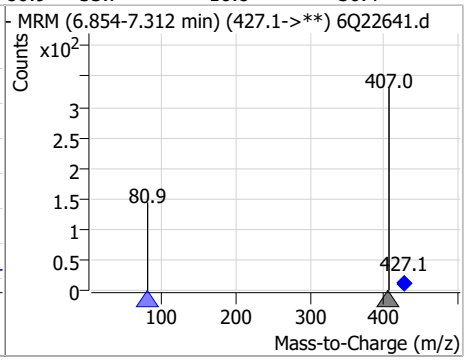


Perfluorinated Compounds by LC/MS/MS

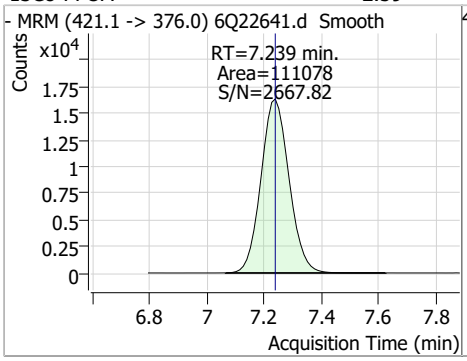
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	1.66	7.00	-0.01	7968	427.1 -> 80.9	33.7	16.8	50.4

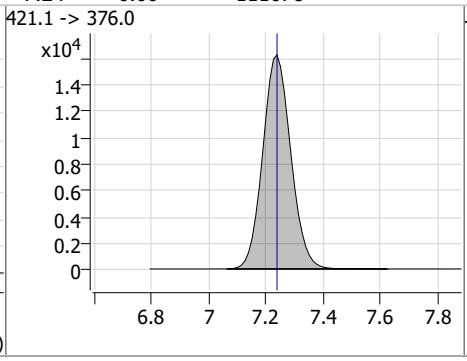


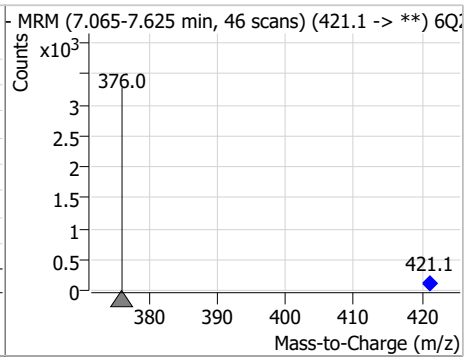




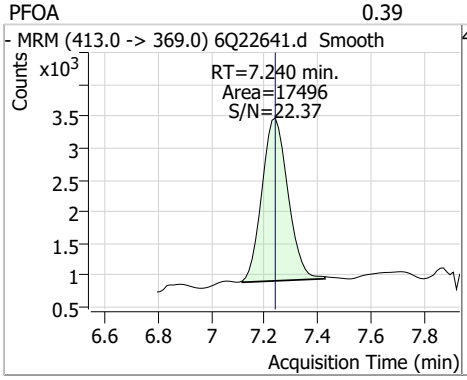
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.59	7.24	0.00	111078				

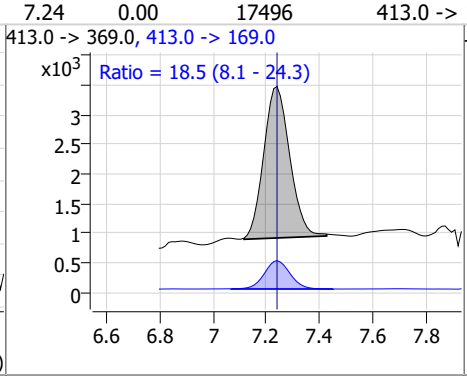


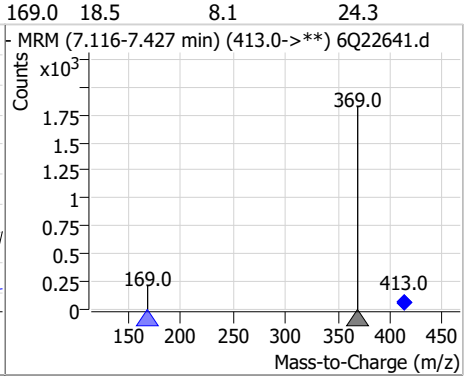




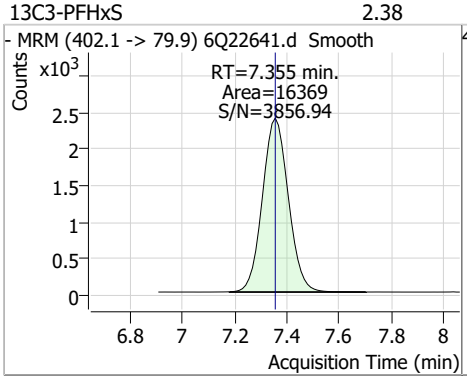
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.39	7.24	0.00	17496	413.0 -> 169.0	18.5	8.1	24.3

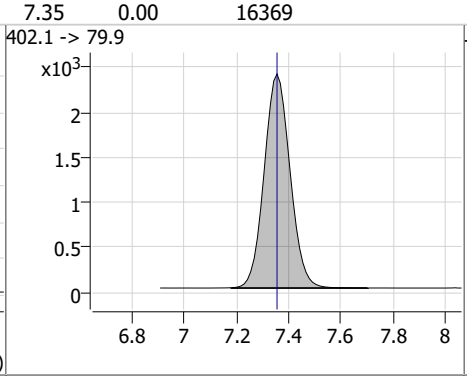


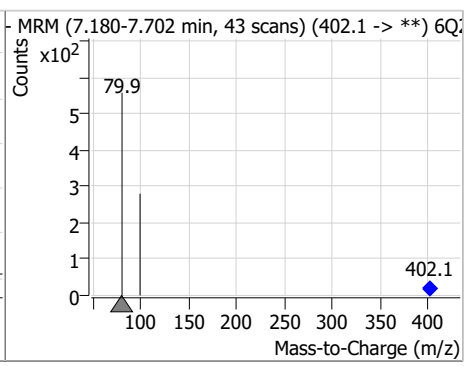




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.38	7.35	0.00	16369				

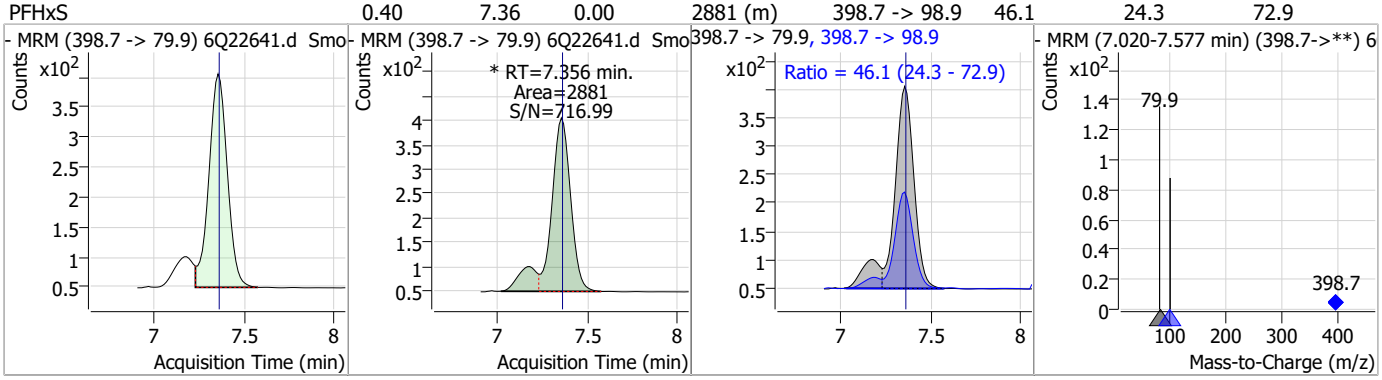




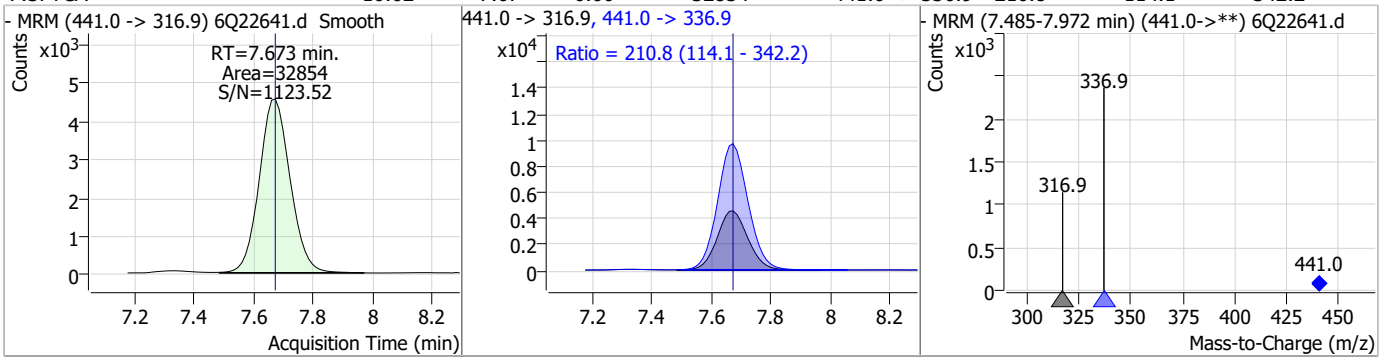


Perfluorinated Compounds by LC/MS/MS

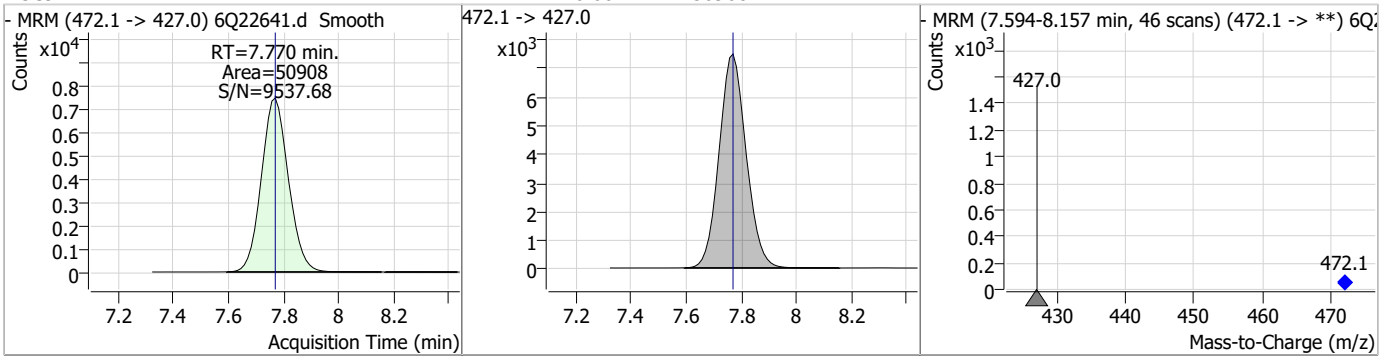
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.40	7.36	0.00	2881 (m)	398.7 -> 98.9	46.1	24.3	72.9



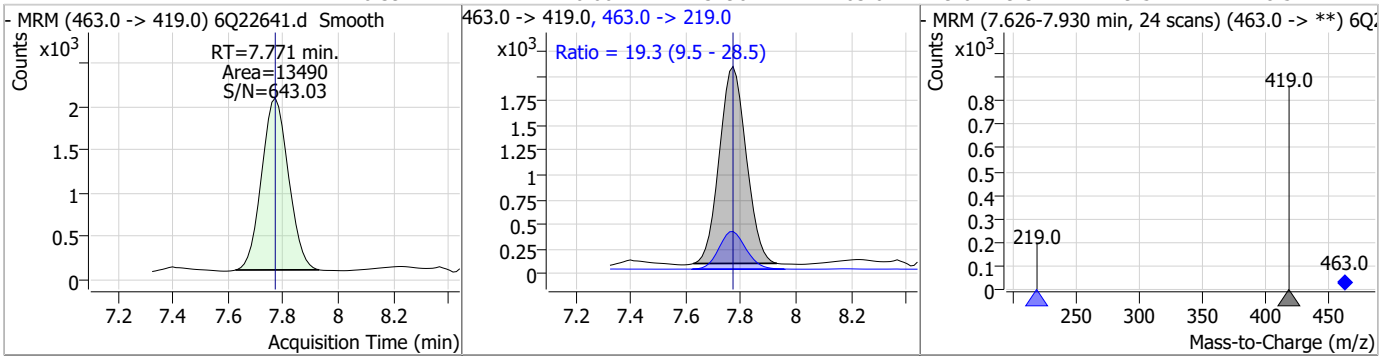
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	10.62	7.67	0.00	32854	441.0 -> 336.9	210.8	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.22	7.77	0.00	50908				

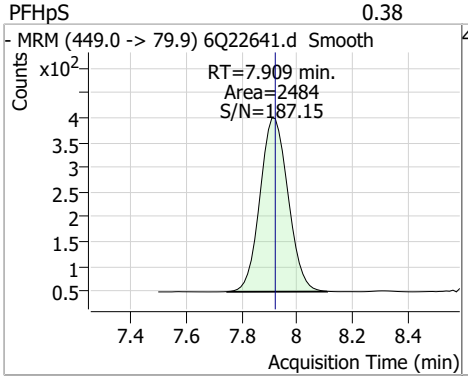


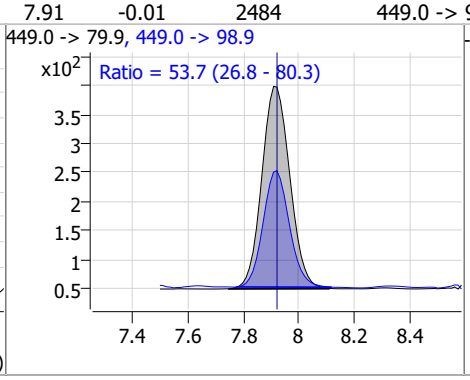
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.39	7.77	0.00	13490	463.0 -> 219.0	19.3	9.5	28.5

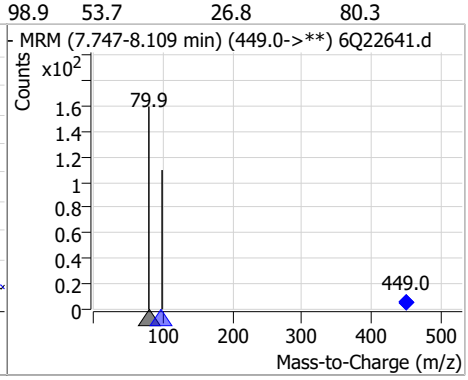


Perfluorinated Compounds by LC/MS/MS

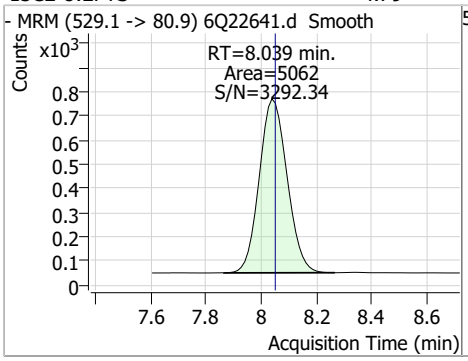
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.38	7.91	-0.01	2484	449.0 -> 98.9	53.7	26.8	80.3

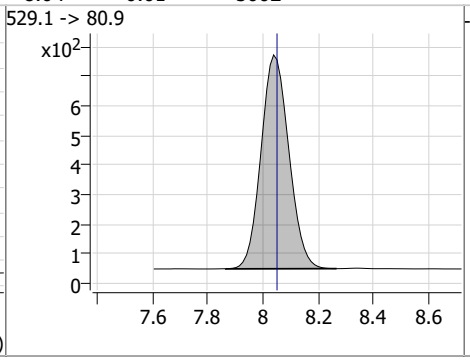


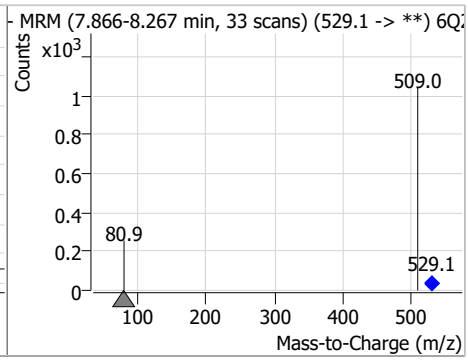




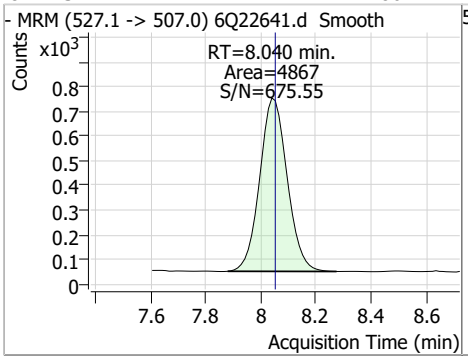
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.79	8.04	-0.01	5062				

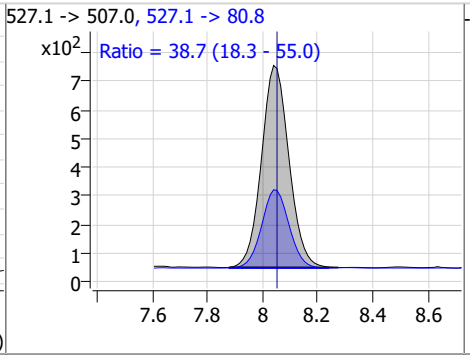


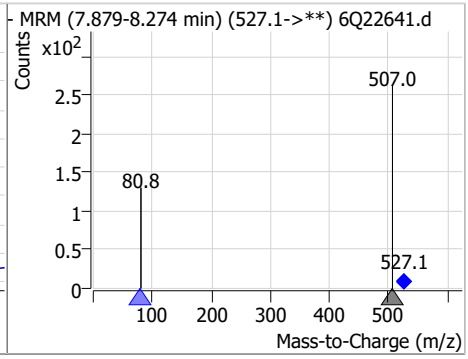




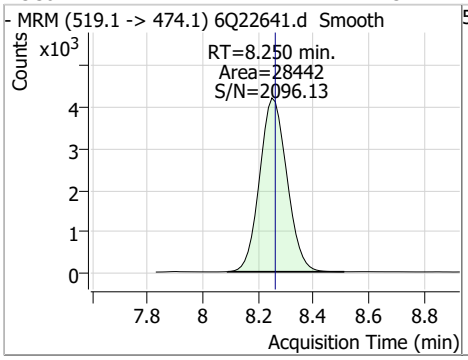
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	1.80	8.04	-0.01	4867	527.1 -> 80.8	38.7	18.3	55.0

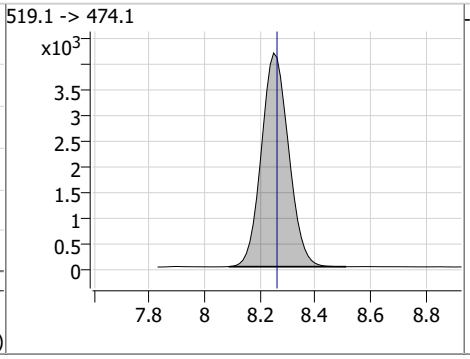


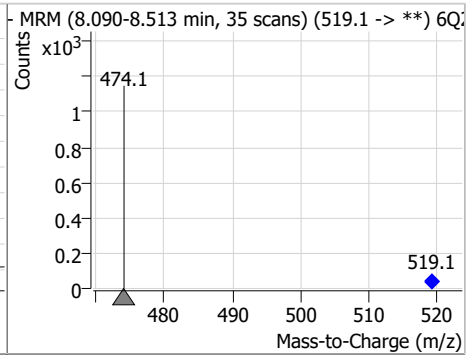




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.23	8.25	-0.01	28442				

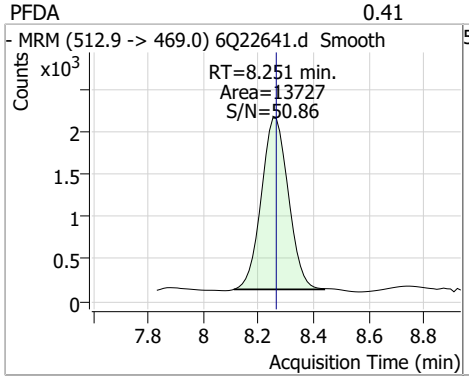


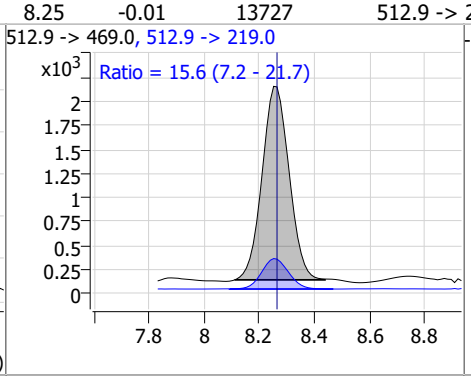


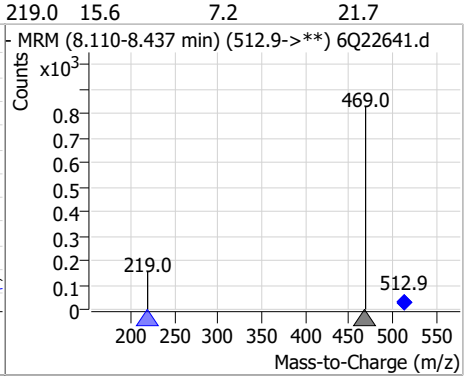


Perfluorinated Compounds by LC/MS/MS

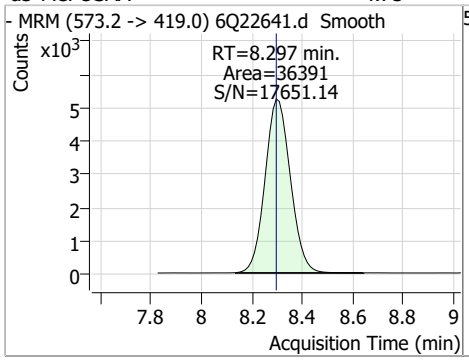
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.41	8.25	-0.01	13727	512.9 -> 219.0	15.6	7.2	21.7

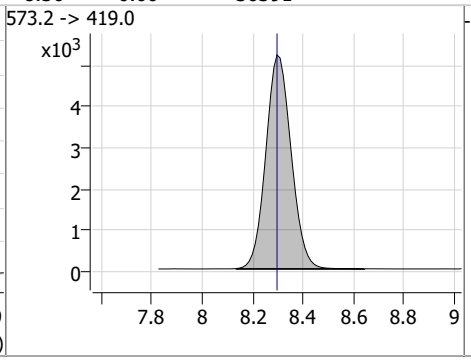


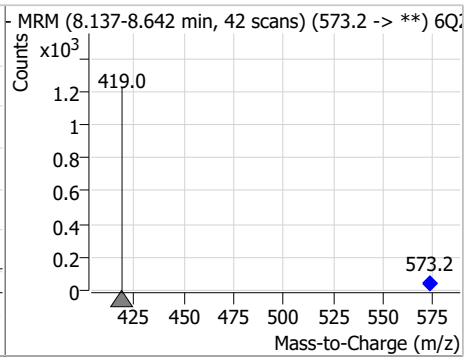




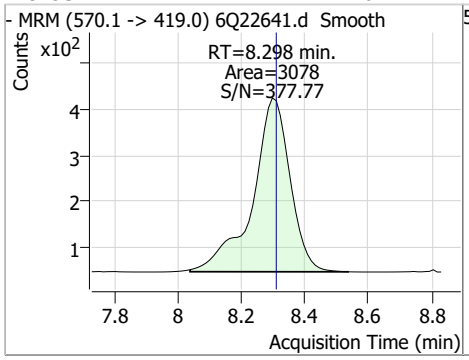
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.73	8.30	0.00	36391				

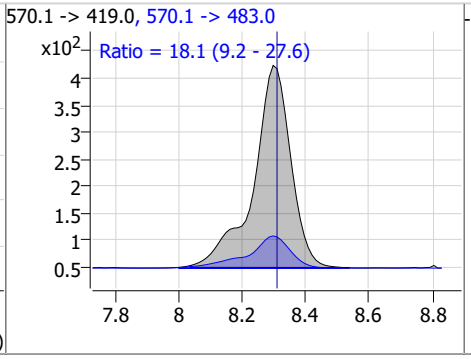


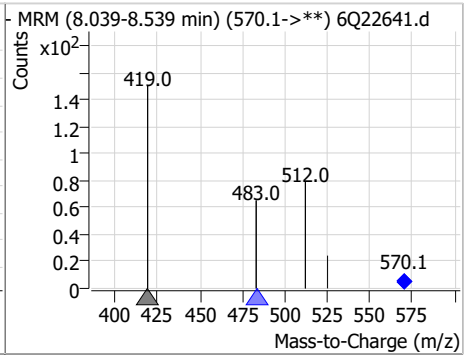




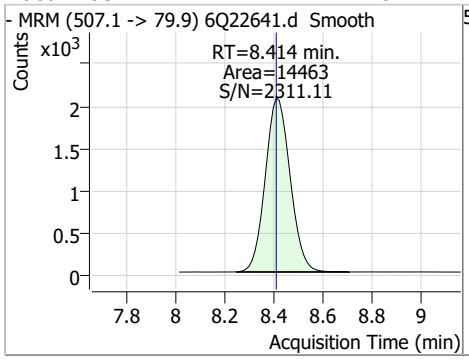
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.44	8.30	-0.01	3078	570.1 -> 483.0	18.1	9.2	27.6

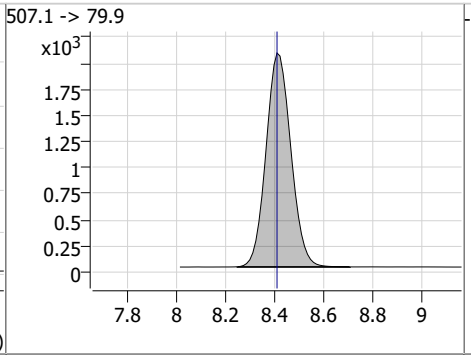


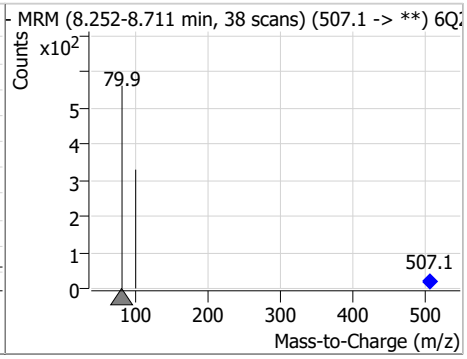




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.32	8.41	0.00	14463				

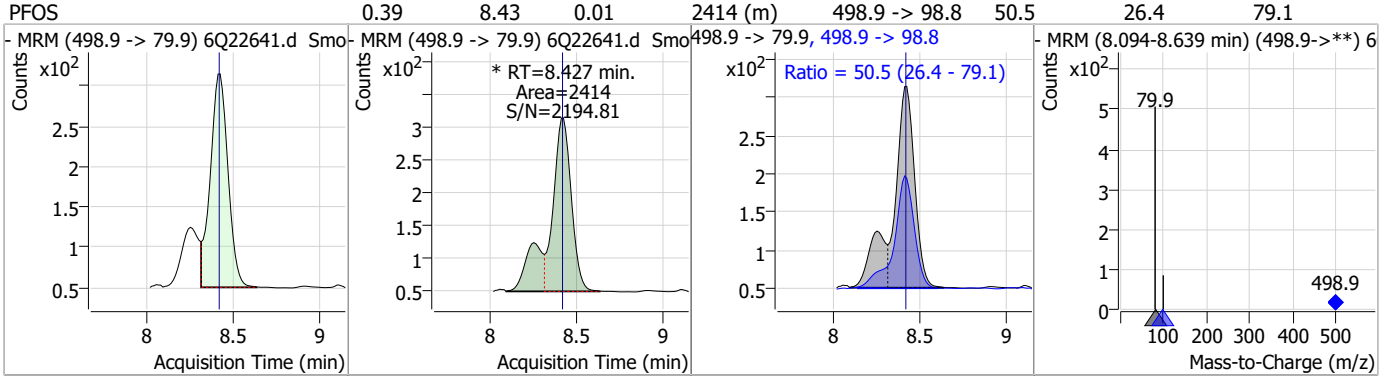




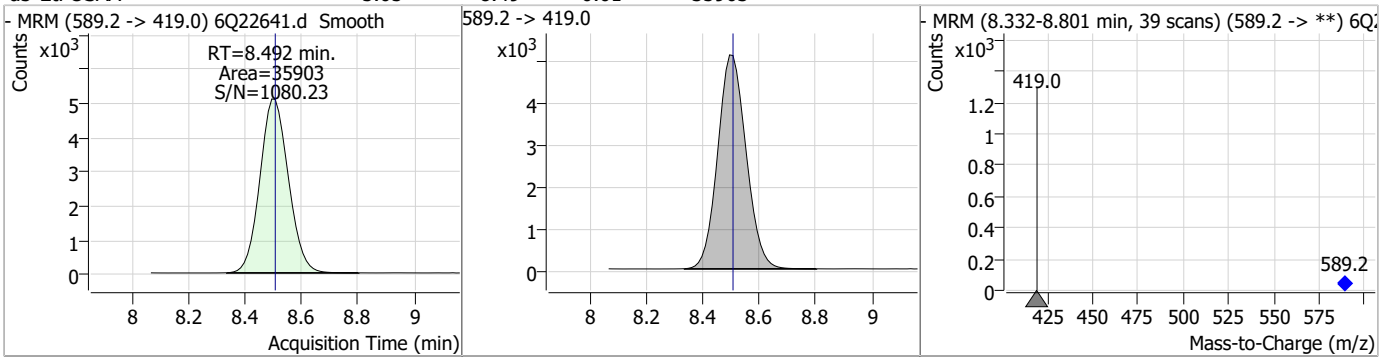


Perfluorinated Compounds by LC/MS/MS

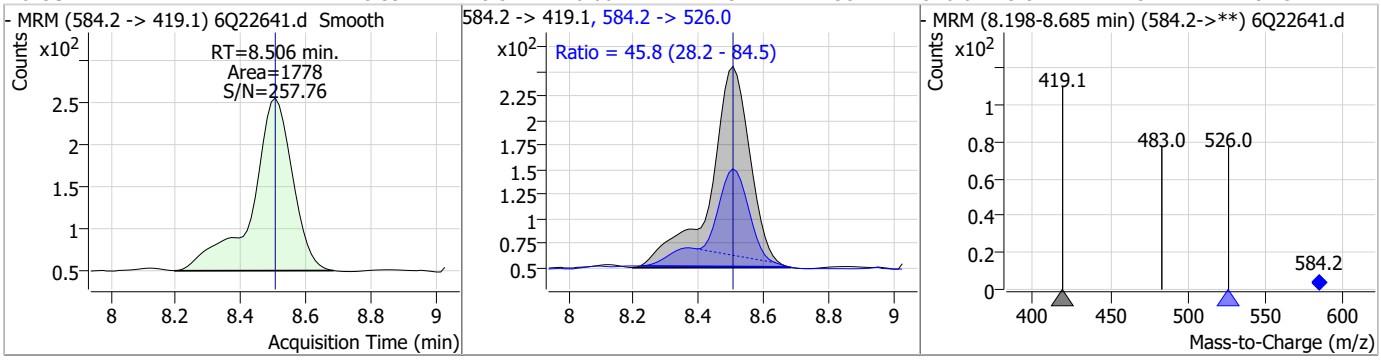
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.39	8.43	0.01	2414 (m)	498.9 -> 98.8	50.5	26.4	79.1



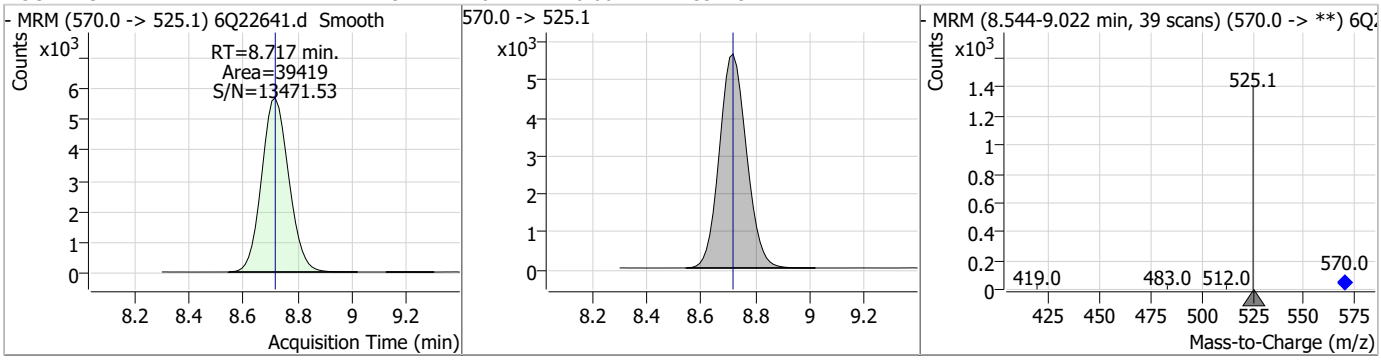
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.05	8.49	-0.01	35903				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.39	8.51	0.00	1778	584.2 -> 526.0	45.8	28.2	84.5

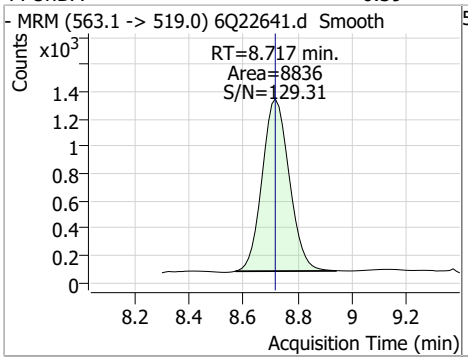


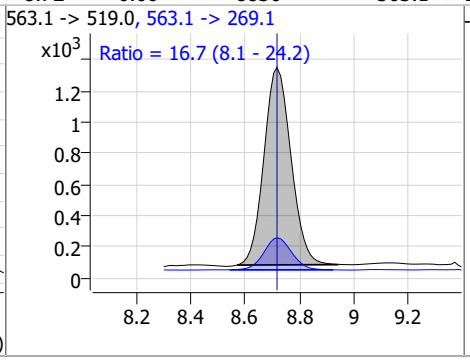
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.29	8.72	0.00	39419				

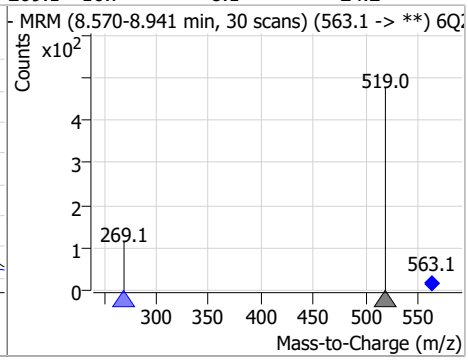


Perfluorinated Compounds by LC/MS/MS

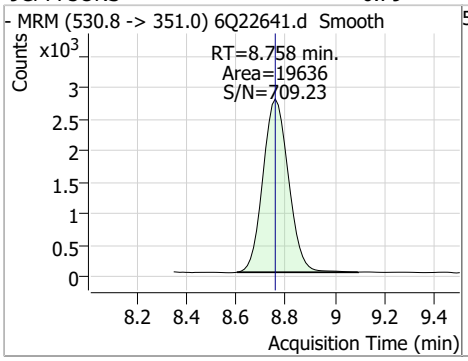
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.39	8.72	0.00	8836	563.1 -> 269.1	16.7	8.1	24.2

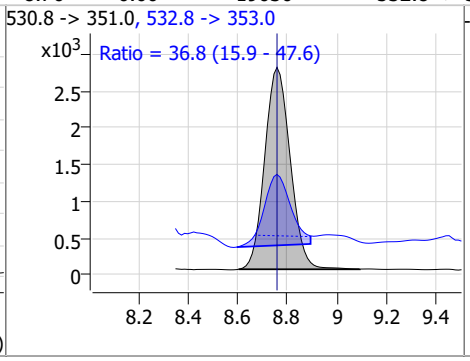


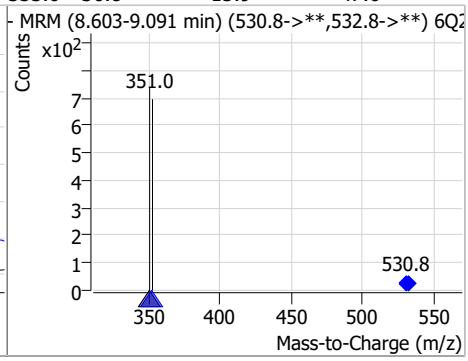




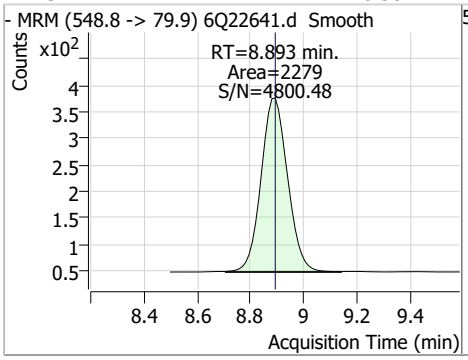
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.79	8.76	0.00	19636	532.8 -> 353.0	36.8	15.9	47.6

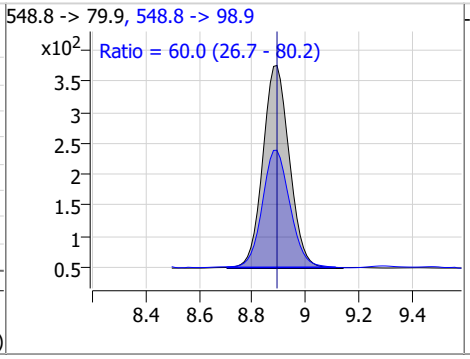


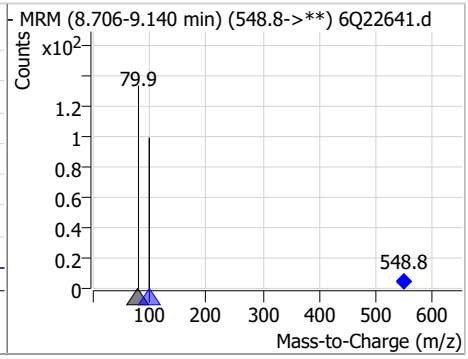




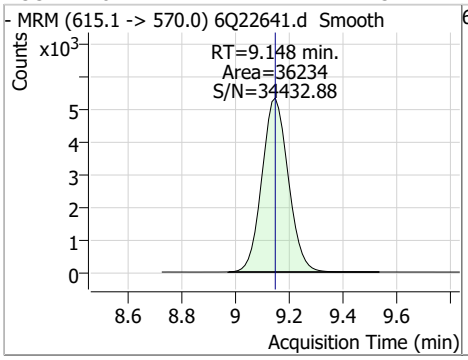
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.38	8.89	0.00	2279	548.8 -> 98.9	60.0	26.7	80.2

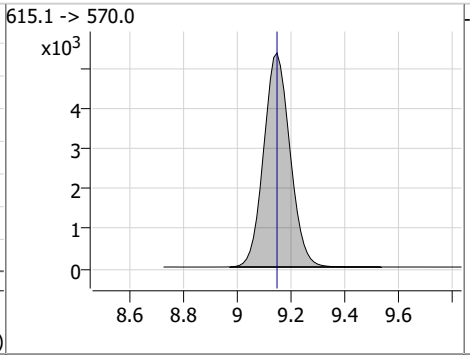


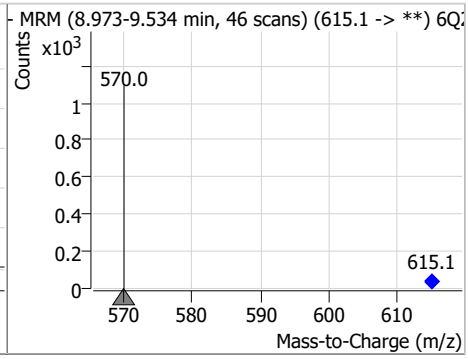




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.31	9.15	0.00	36234				

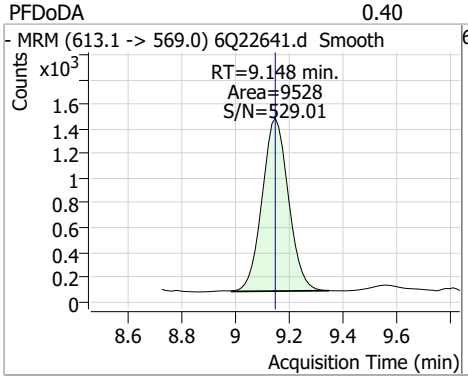


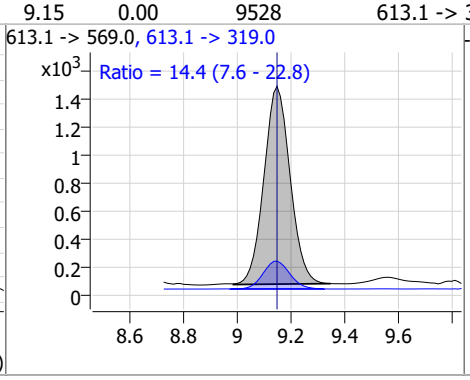


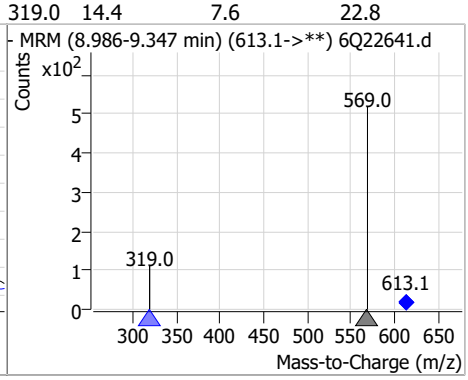


Perfluorinated Compounds by LC/MS/MS

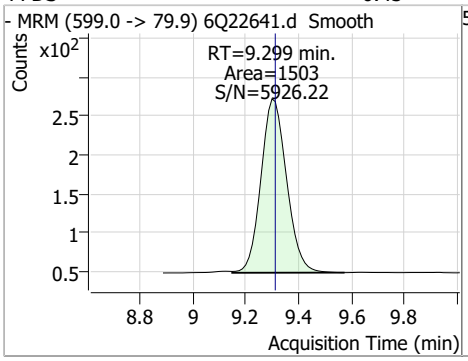
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.40	9.15	0.00	9528	613.1 -> 319.0	14.4	7.6	22.8

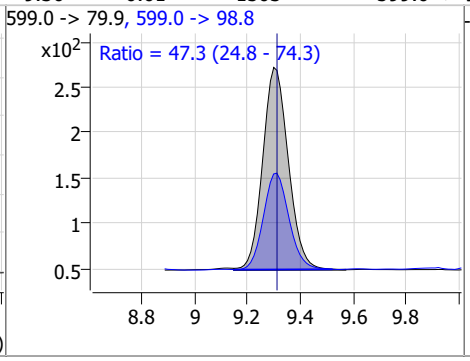


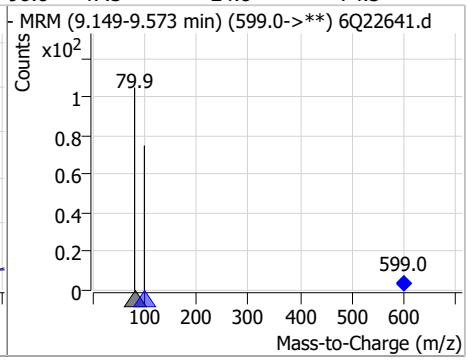




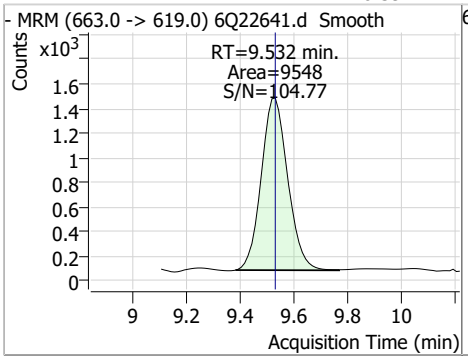
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.43	9.30	-0.01	1503	599.0 -> 98.8	47.3	24.8	74.3

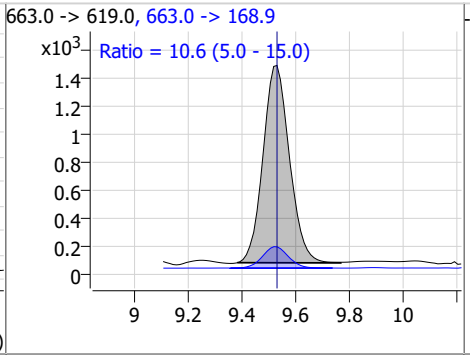


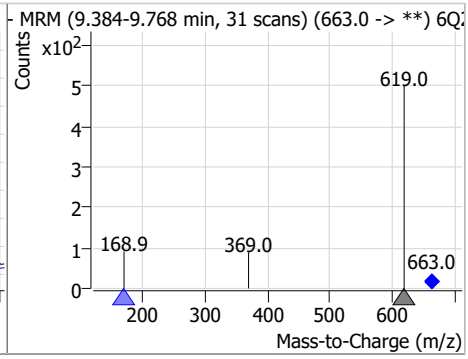




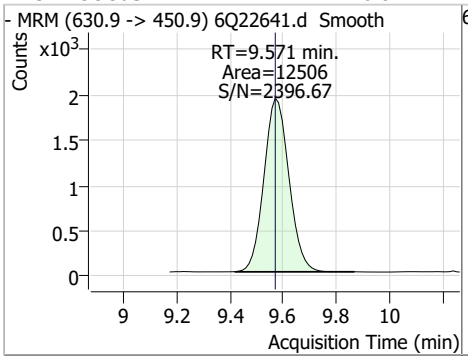
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.39	9.53	0.00	9548	663.0 -> 168.9	10.6	5.0	15.0

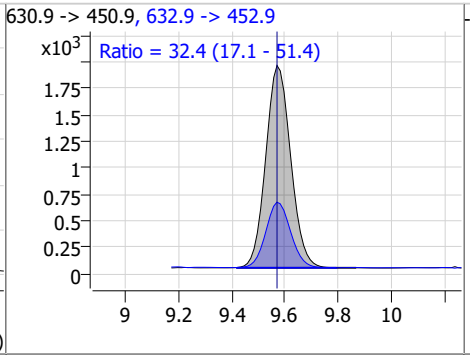


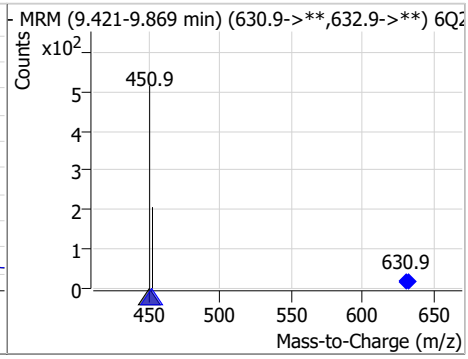




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.81	9.57	0.00	12506	632.9 -> 452.9	32.4	17.1	51.4

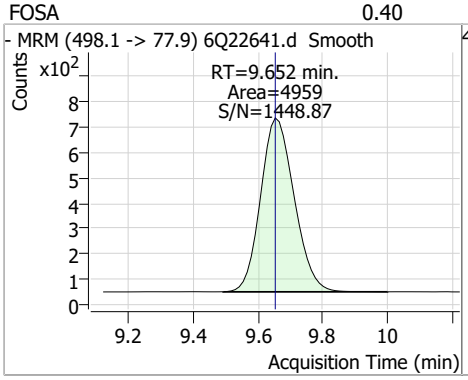


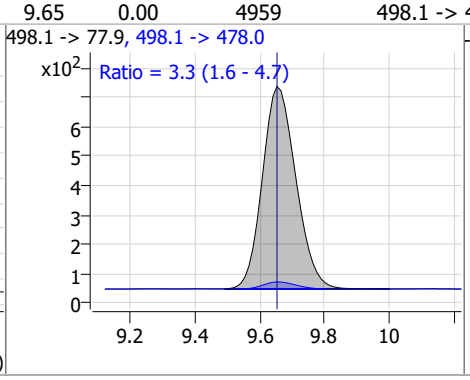


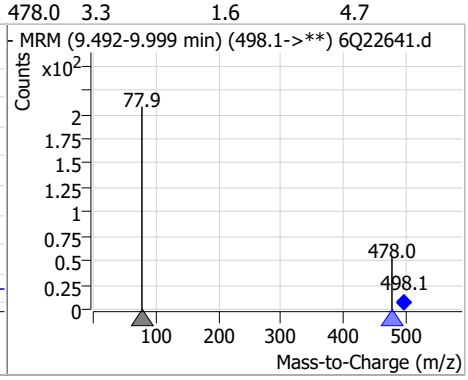


Perfluorinated Compounds by LC/MS/MS

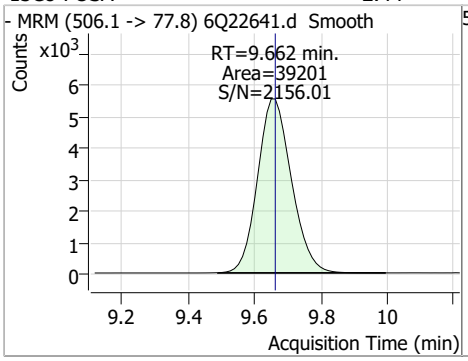
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.40	9.65	0.00	4959	498.1 -> 478.0	3.3	1.6	4.7

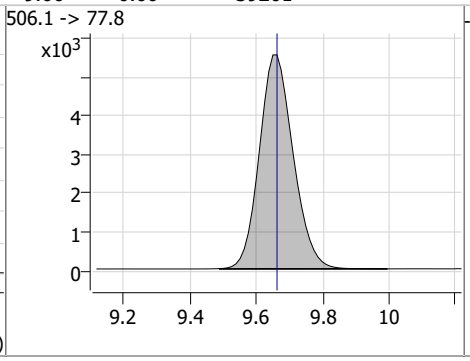


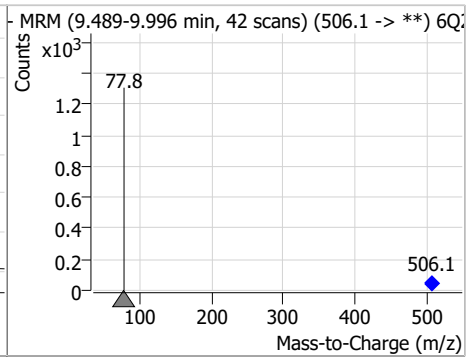




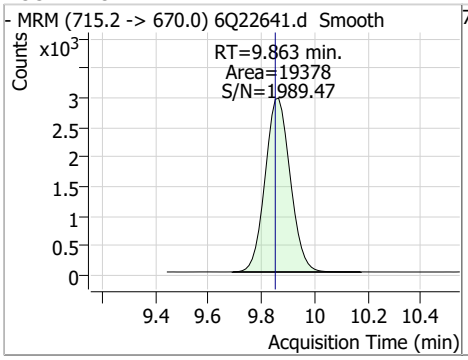
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.44	9.66	0.00	39201				

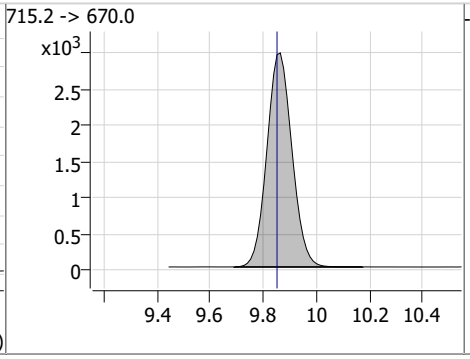


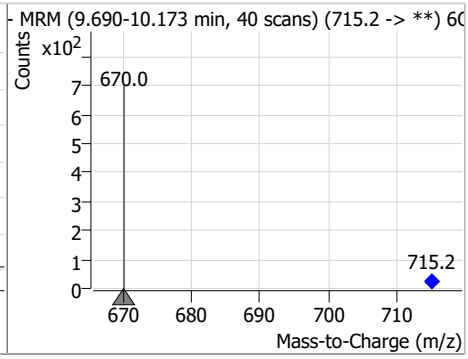




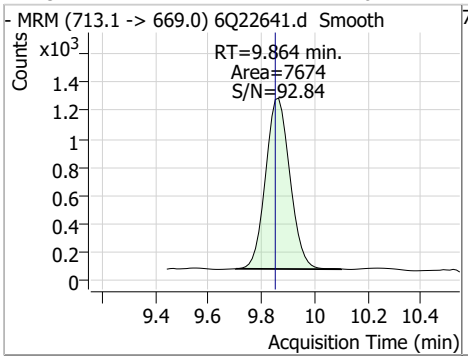
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.22	9.86	0.01	19378				

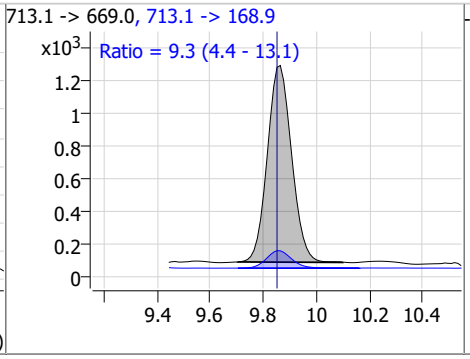


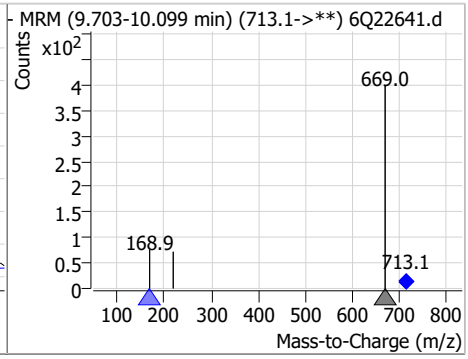




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.41	9.86	0.01	7674	713.1 -> 168.9	9.3	4.4	13.1

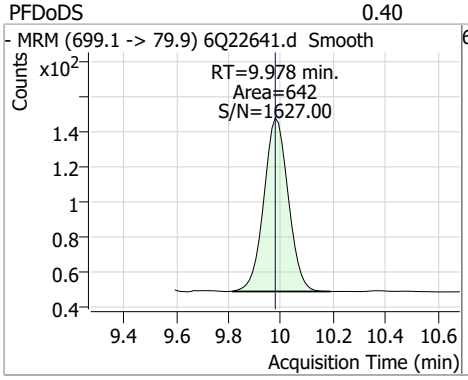


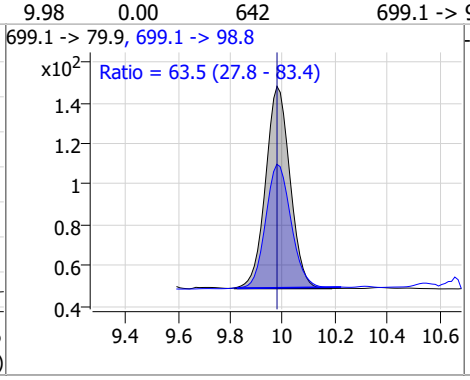


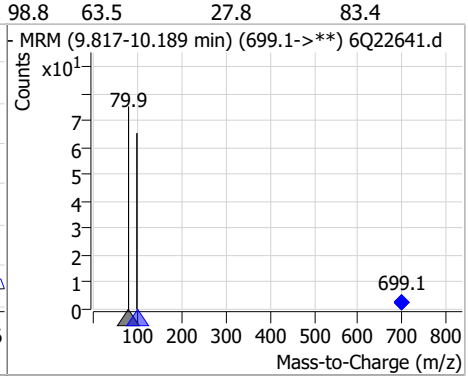


Perfluorinated Compounds by LC/MS/MS

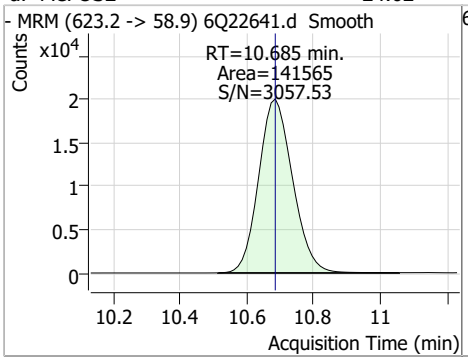
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.40	9.98	0.00	642	699.1 -> 98.8	63.5	27.8	83.4

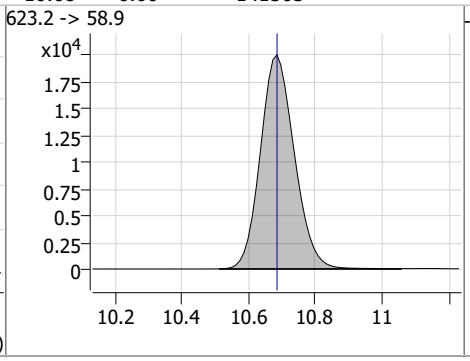


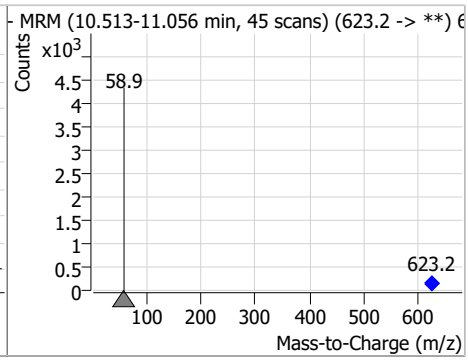




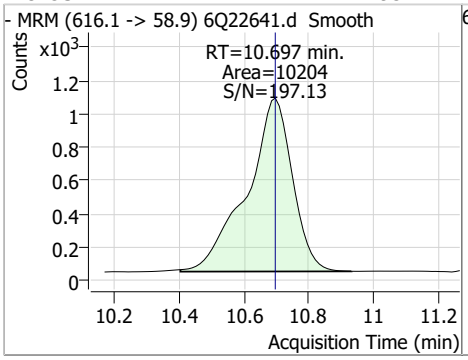
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.62	10.68	0.00	141565				

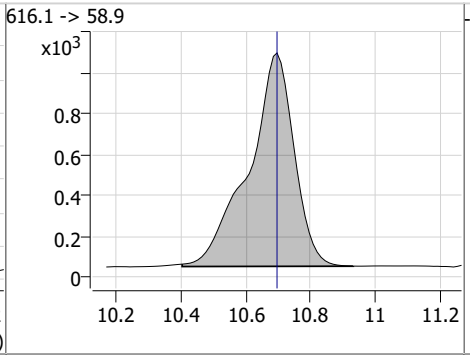


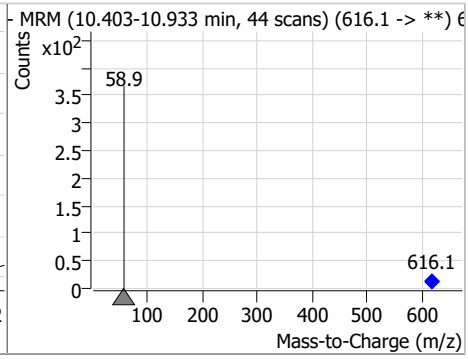




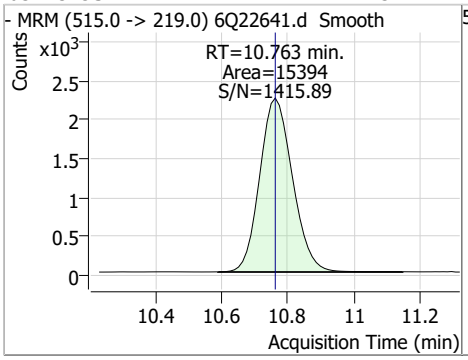
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	1.93	10.70	0.00	10204				

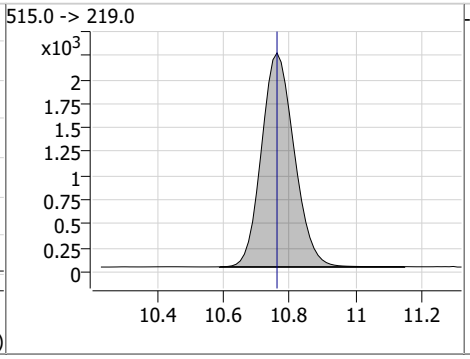


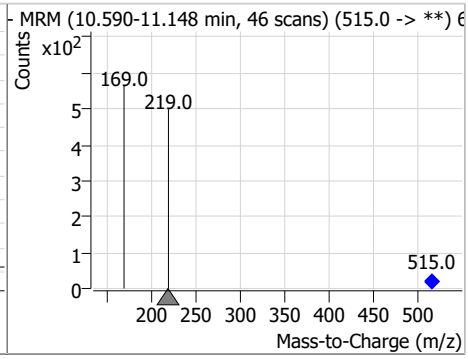




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.34	10.76	0.00	15394				

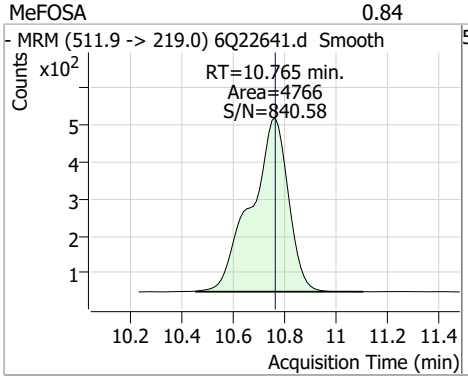


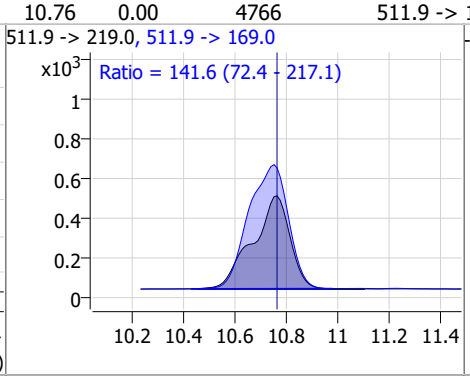


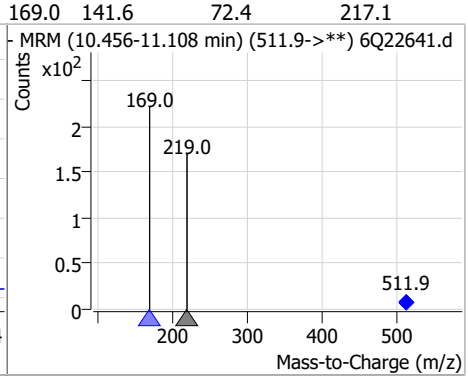


Perfluorinated Compounds by LC/MS/MS

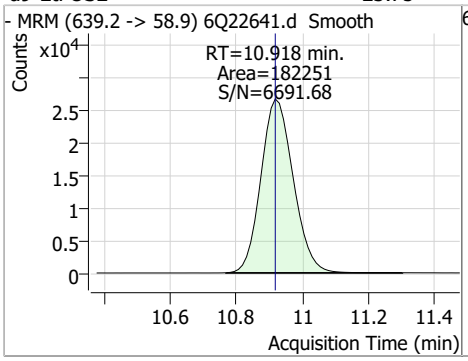
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.84	10.76	0.00	4766	511.9 -> 169.0	141.6	72.4	217.1

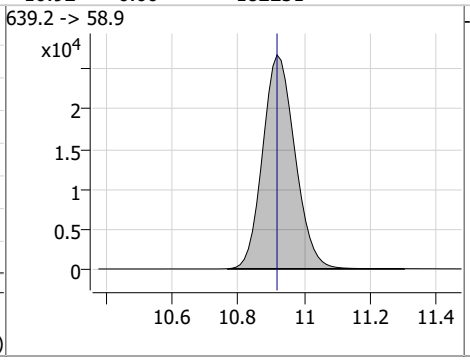


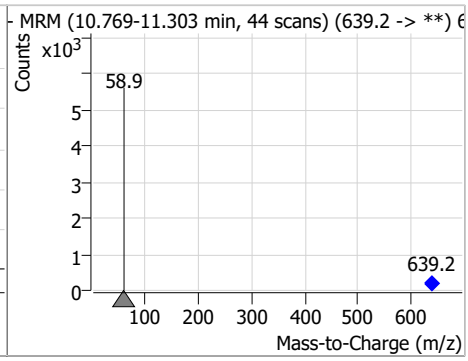




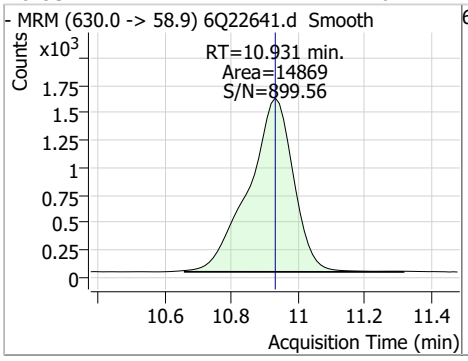
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.75	10.92	0.00	182251				

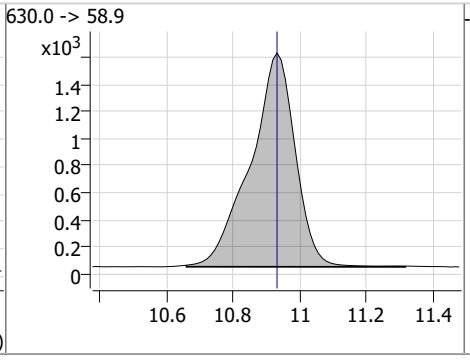


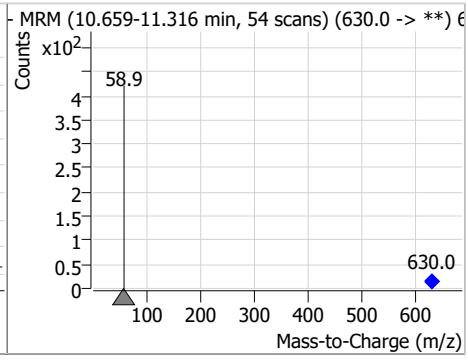




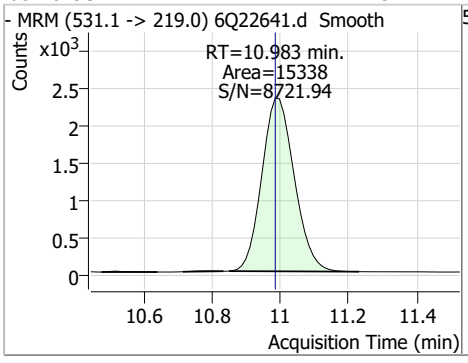
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	2.01	10.93	0.00	14869				

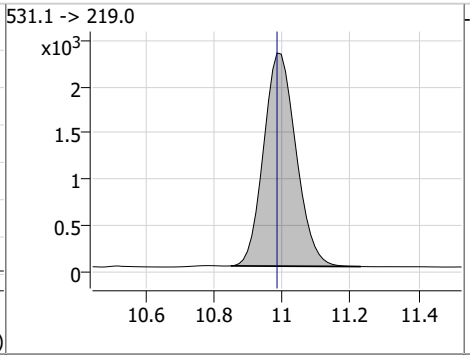


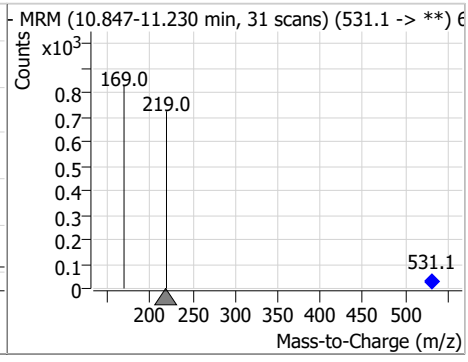




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.32	10.98	0.00	15338				

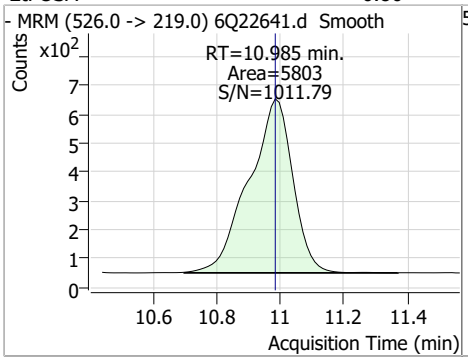


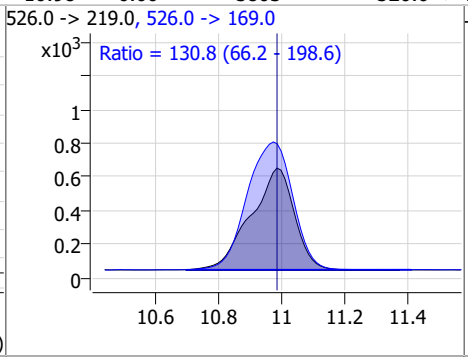


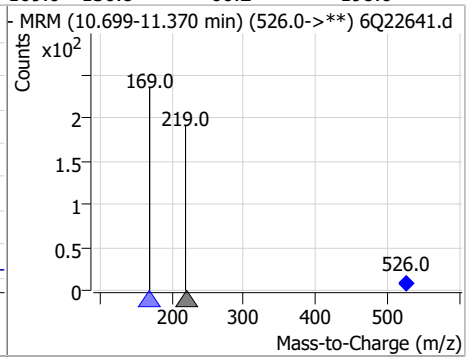


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.86	10.98	0.00	5803	526.0 -> 169.0	130.8	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q330-IC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22641.D	**Analyst approved:**	08/13/23 12:53 Martha Valls
Injection Time:	08/10/23 13:52	**Supervisor approved:**	08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.43	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22642.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 2:06:22 PM
Sample Name : ic330-3
Vial : P1-A4
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	201188	10.00	µg/L	0.000
M5-PFPeA	4.447	268.3 -> 223.0	64286	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	73258	2.50	µg/L	0.000
M4-PFHpA	6.608	367.1 -> 322.0	69122	2.50	µg/L	0.000
M8-PFOA	7.239	421.1 -> 376.0	108048	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	48049	1.25	µg/L	0.000
M6-PFDA	8.250	519.1 -> 474.1	27413	1.25	µg/L	-0.012
M7-PFUnDA	8.717	570.0 -> 525.1	36550	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	32146	1.25	µg/L	0.000
M2-PFTeDA	9.863	715.2 -> 670.0	19794	1.25	µg/L	0.012
M8-FOSA	9.662	506.1 -> 77.8	37973	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	25506	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	16403	2.50	µg/L	0.000
M8-PFOS	8.426	507.1 -> 79.9	14452	2.50	µg/L	0.012
M2-4:2FTS	5.330	329.1 -> 80.9	3779	5.00	µg/L	0.000
M2-6:2FTS	7.014	429.1 -> 80.9	5779	5.00	µg/L	0.000
M2-8:2FTS	8.039	529.1 -> 80.9	5276	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	34793	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	44607	10.00	µg/L	0.000
M5-EtFOSAA	8.505	589.2 -> 419.0	35387	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	134140	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	183002	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	16303	2.50	µg/L	0.012
M3-MeFOSA	10.763	515.0 -> 219.0	15502	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	20205	2.50	µg/L	-0.012
13C3-PFBA	3.001	216.0 -> 172.0	85303	5.00	µg/L	0.000
18O2-PFHxS	7.354	403.0 -> 83.9	11519	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	113561	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	39861	1.25	µg/L	0.000
13C5-PFNA	7.770	468.0 -> 423.0	61622	1.25	µg/L	0.000
13C2-PFHxA	5.669	315.1 -> 270.0	69799	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	3779	5.49	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.8%		
13C2-6:2FTS	7.014	429.1 -> 80.9	5779	5.82	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.3%		
13C2-8:2FTS	8.039	529.1 -> 80.9	5276	5.42	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.5%		
13C2-PFDoDA	9.148	615.1 -> 570.0	32146	1.19	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.5%		
13C2-PFTeDA	9.863	715.2 -> 670.0	19794	1.28	µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.2%		
13C3-PFBS	5.610	302.1 -> 79.9	25506	2.61	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%		
13C3-PFHxS	7.355	402.1 -> 79.9	16403	2.59	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 = 103.6%	
13C4-PFBA	3.010	216.8 -> 171.9	201188	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.608	367.1 -> 322.0	69122	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C5-PFHxA	5.668	318.0 -> 273.0	73258	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C5-PFPeA	4.447	268.3 -> 223.0	64286	4.89 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C6-PFDA	8.250	519.1 -> 474.1	27413	1.22 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C7-PFUnDA	8.717	570.0 -> 525.1	36550	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C8-FOSA	9.662	506.1 -> 77.8	37973	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C8-PFOA	7.239	421.1 -> 376.0	108048	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C8-PFOS	8.426	507.1 -> 79.9	14452	2.44 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.7%	
13C9-PFNA	7.770	472.1 -> 427.0	48049	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.2%	
d3-MeFOSAA	8.297	573.2 -> 419.0	34793	4.76 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.2%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	44607	9.88 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.8%	
d3-MeFOSA	10.763	515.0 -> 219.0	15502	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
d5-EtFOSAA	8.505	589.2 -> 419.0	35387	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.9%	
d7-MeFOSE	10.685	623.2 -> 58.9	134140	24.56 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.3%	
d9-EtFOSE	10.918	639.2 -> 58.9	183002	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	16303	2.59 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.7%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	21578	4.41 µg/L	100
		327.1 -> 80.9	8398		
6:2FTS	7.014	427.1 -> 407.0	22524	4.36 µg/L	98
		427.1 -> 80.9	7294		
8:2FTS	8.040	527.1 -> 507.0	12573	4.45 µg/L	92
		527.1 -> 80.8	5183		
EtFOSAA	8.506	584.2 -> 419.1	5186	1.16 µg/L	90
		584.2 -> 526.0	2532		
FOSA	9.652	498.1 -> 77.9	13831	1.16 µg/L	99
		498.1 -> 478.0	409		
MeFOSAA	8.310	570.1 -> 419.0	7952	1.20 µg/L	91
		570.1 -> 483.0	1774		
PFBA	3.006	212.8 -> 168.9	29135	4.63 µg/L	100
PFBS	5.611	298.7 -> 79.9	8645	1.04 µg/L	98
		298.7 -> 98.8	3344		
PFDA	8.251	512.9 -> 469.0	38464	1.18 µg/L	99
		512.9 -> 219.0	5808		
PFDoDA	9.148	613.1 -> 569.0	26132	1.24 µg/L	99
		613.1 -> 319.0	3909		
PFDS	9.299	599.0 -> 79.9	3936	1.14 µg/L	94

Perfluorinated Compounds by LC/MS/MS

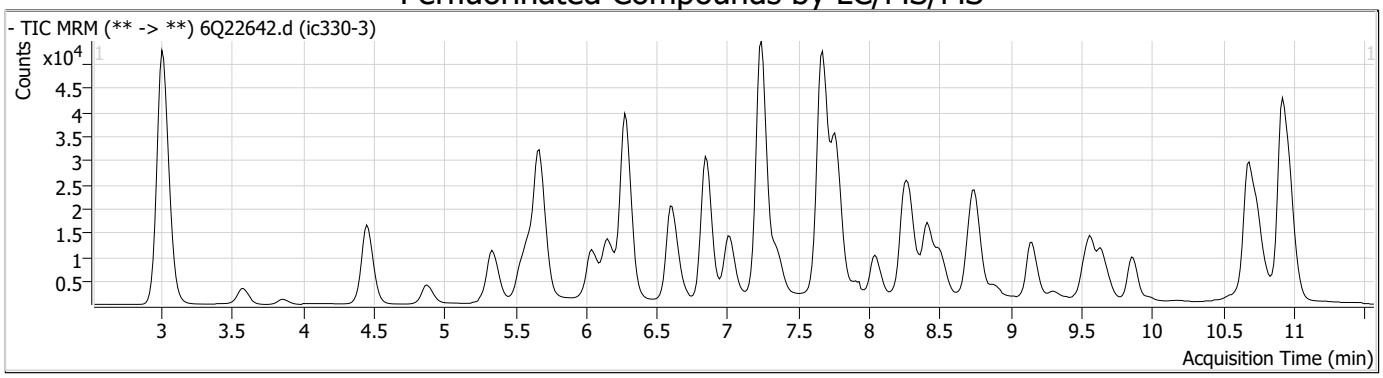
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	2102				
PFHpA	6.609	363.1 -> 319.0	30916	1.13	µg/L		98
		363.1 -> 169.0	5383				
PFHpS	7.922	449.0 -> 79.9	7642	1.16	µg/L		98
		449.0 -> 98.9	3993				
PFHxA	5.670	313.0 -> 269.0	23474	1.10	µg/L		100
		313.0 -> 118.9	1281				
PFHxS	7.356	398.7 -> 79.9	7401	1.02	µg/L	m	96
		398.7 -> 98.9	3784				
PFNA	7.771	463.0 -> 419.0	38892	1.18	µg/L		99
		463.0 -> 219.0	7571				
PFNS	8.893	548.8 -> 79.9	7145	1.20	µg/L		96
		548.8 -> 98.9	3632				
PFOA	7.240	413.0 -> 369.0	52015	1.18	µg/L		98
		413.0 -> 169.0	8774				
PFOS	8.415	498.9 -> 79.9	7062	1.14	µg/L	m	91
		498.9 -> 98.8	3275				
PFPeA	4.449	263.0 -> 219.0	33633	2.37	µg/L		100
PFPeS	6.672	349.1 -> 79.9	7765	1.16	µg/L		99
		349.1 -> 98.9	3505				
PFTeDA	9.864	713.1 -> 669.0	22681	1.18	µg/L		99
		713.1 -> 168.9	1866				
PFTrDA	9.519	663.0 -> 619.0	27146	1.25	µg/L		97
		663.0 -> 168.9	3051				
PFUnDA	8.717	563.1 -> 519.0	26496	1.26	µg/L		99
		563.1 -> 269.1	4139				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	35167	2.21	µg/L		94
		632.9 -> 452.9	10909				
9Cl-PF3ONS	8.758	530.8 -> 351.0	55300	2.15	µg/L		91
		532.8 -> 353.0	20407				
ADONA	6.858	376.9 -> 250.9	125763	2.21	µg/L		99
		376.9 -> 84.8	33814				
HFPO-DA	6.046	284.9 -> 168.9	8759	2.31	µg/L		99
		284.9 -> 184.9	954				
3:3FTCA	3.859	241.0 -> 177.0	5700	5.73	µg/L		100
		241.0 -> 117.0	764				
5:3FTCA	6.272	341.0 -> 237.1	127378	28.90	µg/L		98
		341.0 -> 217.0	92341				
7:3FTCA	7.673	441.0 -> 316.9	93318	28.63	µg/L		92
		441.0 -> 336.9	200168				
EtFOSA	10.985	526.0 -> 219.0	15970	2.22	µg/L		98
		526.0 -> 169.0	21561				
EtFOSE	10.931	630.0 -> 58.9	42568	5.74	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	13332	2.32	µg/L		98
		511.9 -> 169.0	18898				
MeFOSE	10.697	616.1 -> 58.9	30513	6.08	µg/L		100
PFDoDS	9.978	699.1 -> 79.9	1943	1.20	µg/L		100
		699.1 -> 98.8	1083				
NFDHA	5.551	295.0 -> 201.0	6341	2.33	µg/L		95
		295.0 -> 84.9	1649				
PFMBA	4.869	279.0 -> 85.1	23807	2.38	µg/L		100
PFMPA	3.576	229.0 -> 84.9	18827	2.35	µg/L		100
PFEESA	6.151	314.8 -> 134.9	61902	2.15	µg/L		100
		314.8 -> 82.9	2089				

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

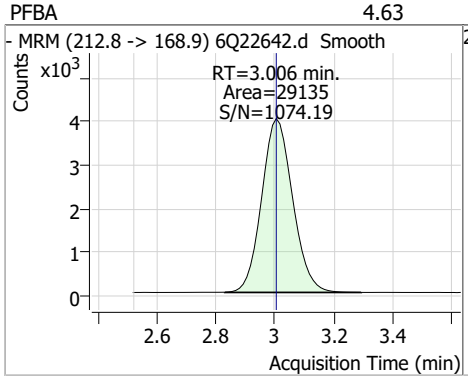
Perfluorinated Compounds by LC/MS/MS

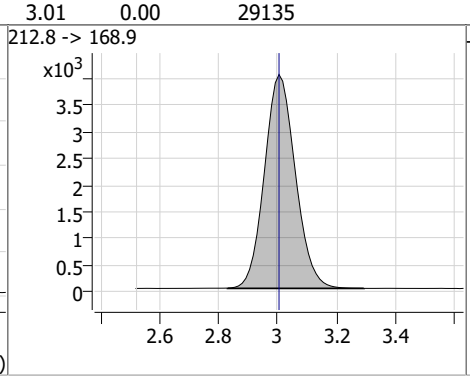
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

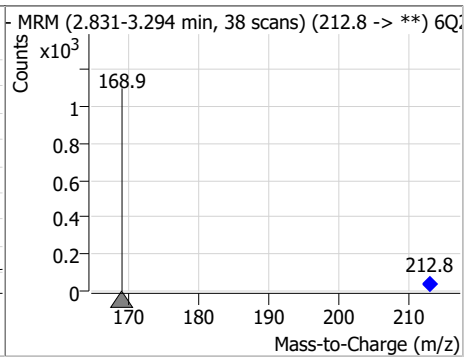
Perfluorinated Compounds by LC/MS/MS



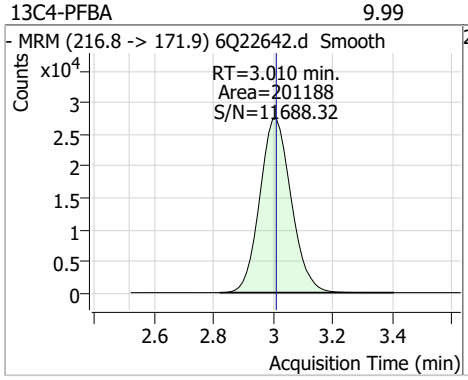
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	4.63	3.01	0.00	29135				

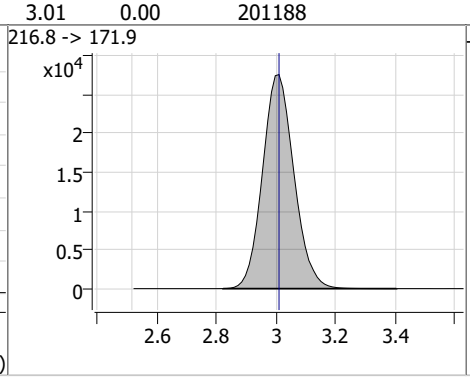


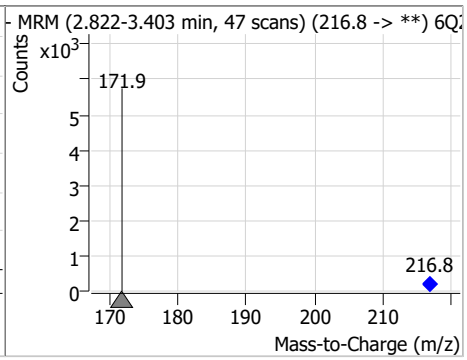




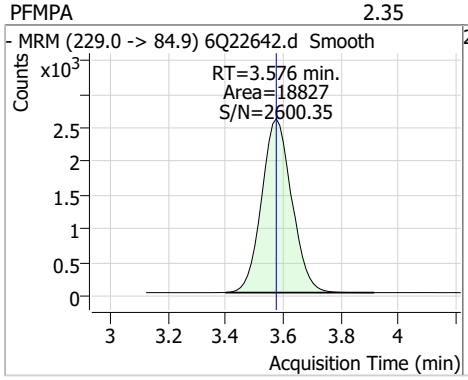
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.99	3.01	0.00	201188				

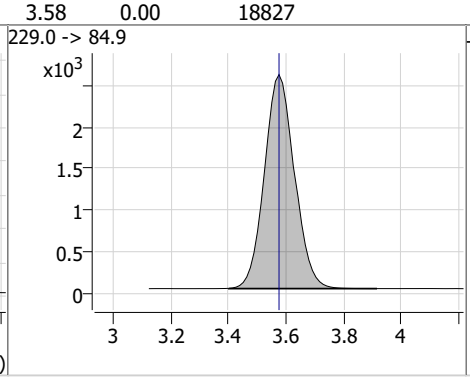


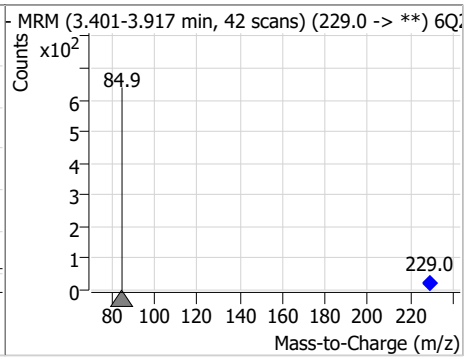




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	2.35	3.58	0.00	18827				

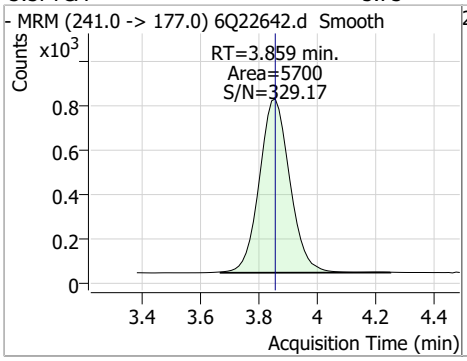


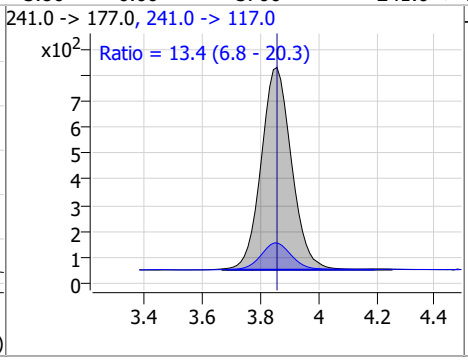


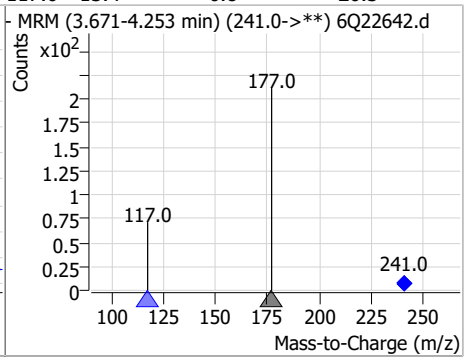


Perfluorinated Compounds by LC/MS/MS

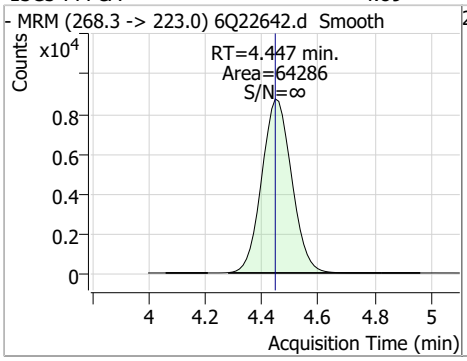
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	5.73	3.86	0.00	5700	241.0 -> 117.0	13.4	6.8	20.3

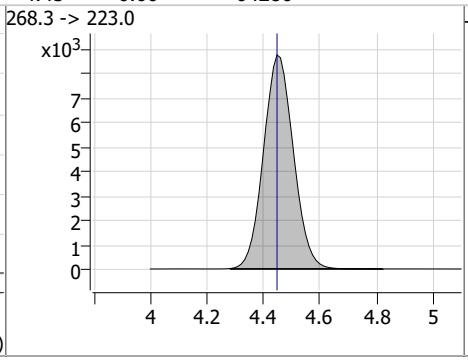


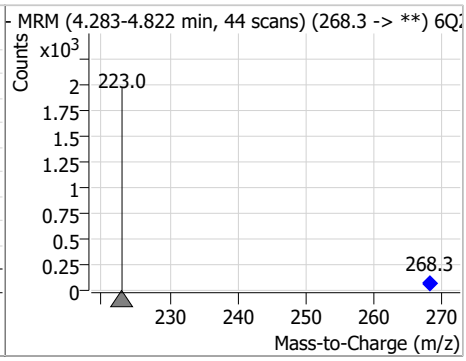




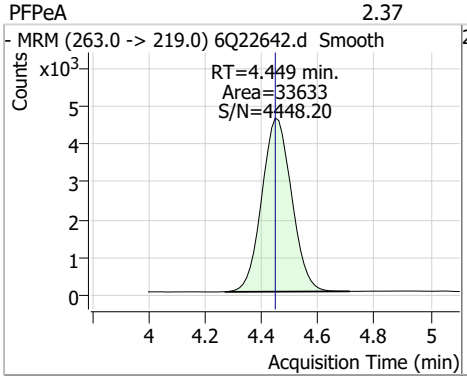
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.89	4.45	0.00	64286				

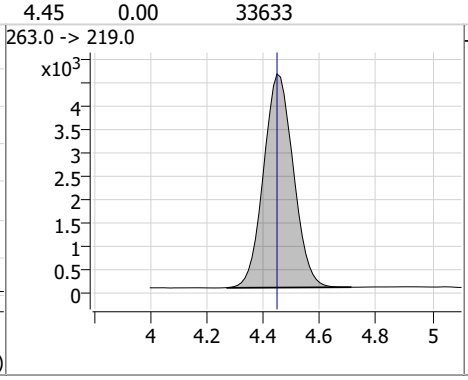


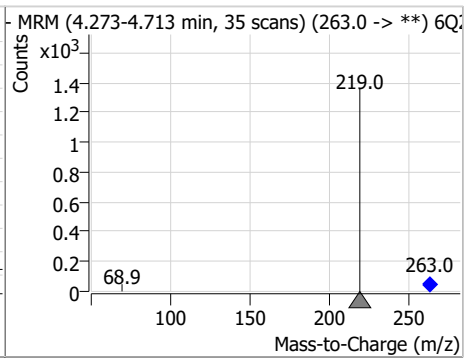




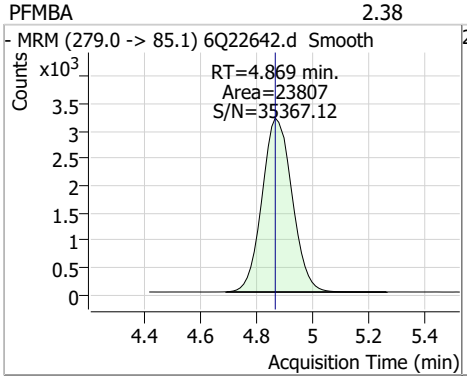
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	2.37	4.45	0.00	33633				

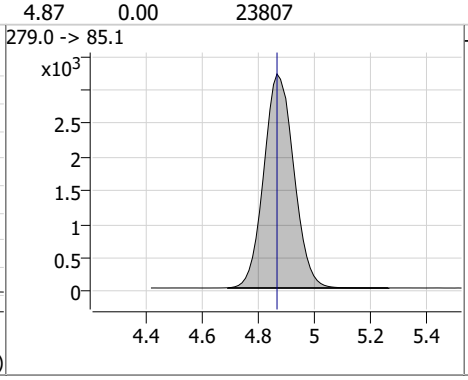


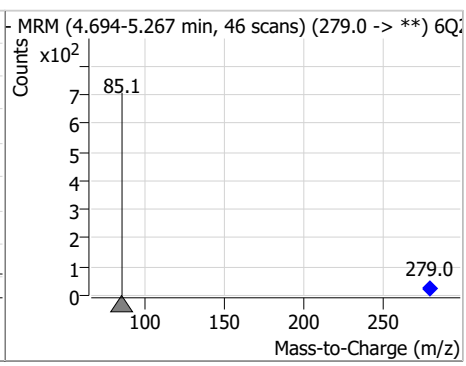




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	2.38	4.87	0.00	23807				

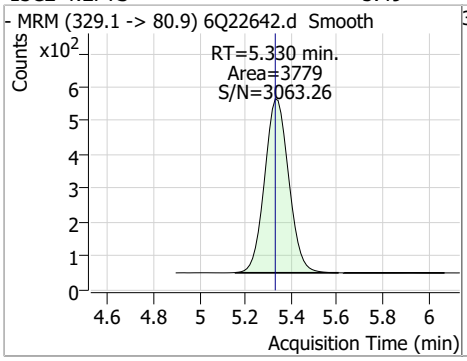


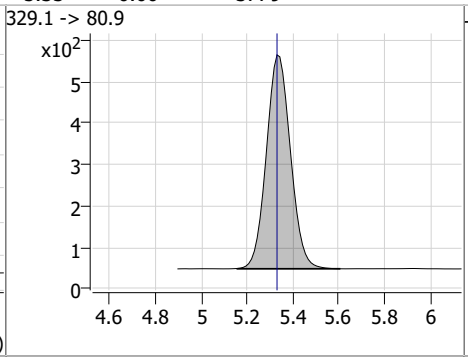


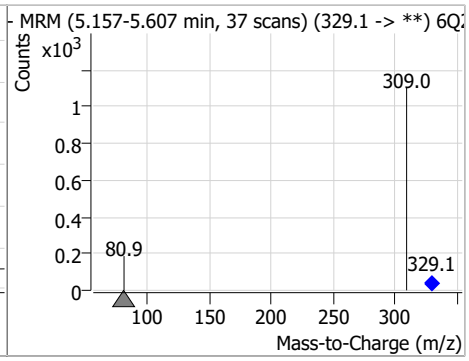


Perfluorinated Compounds by LC/MS/MS

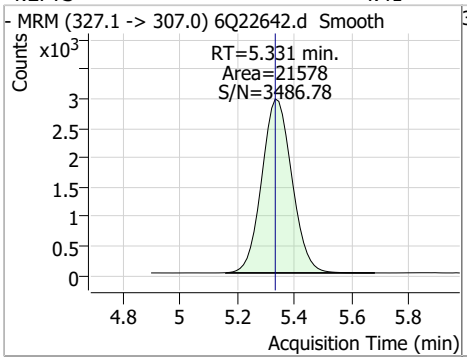
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.49	5.33	0.00	3779				

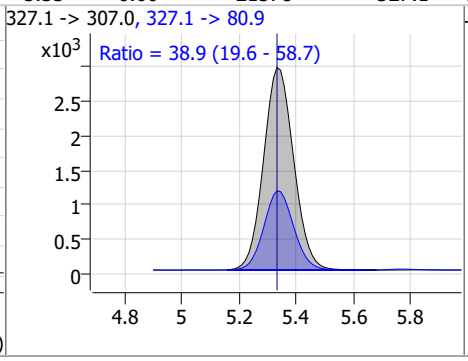


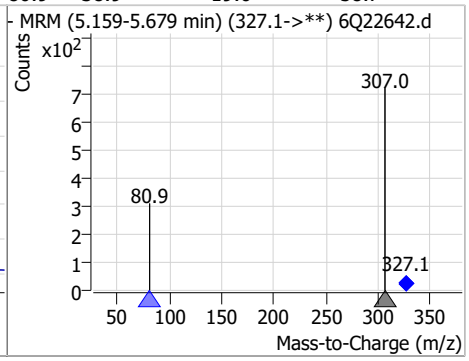




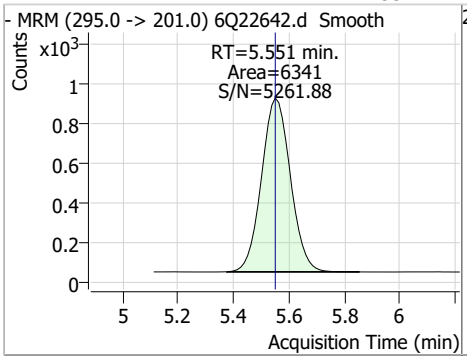
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	4.41	5.33	0.00	21578	327.1 -> 80.9	38.9	19.6	58.7

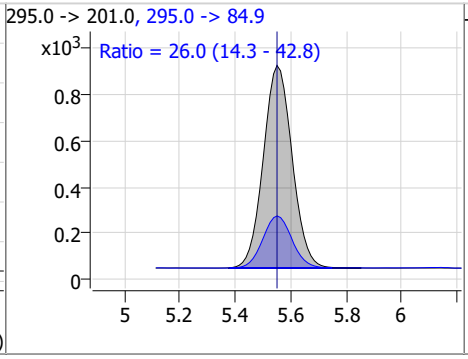


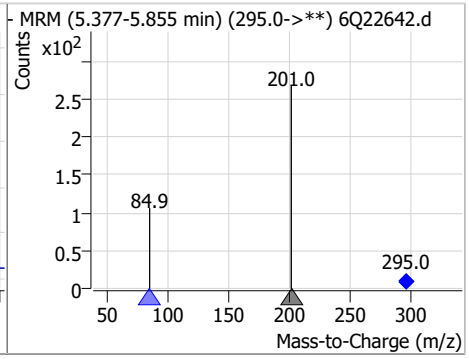




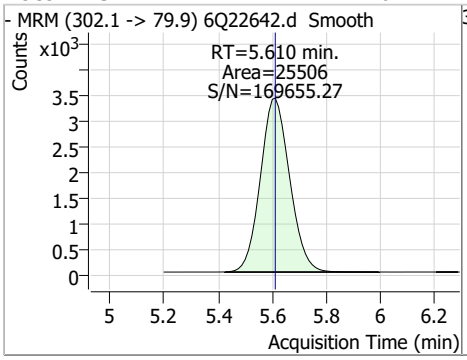
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	2.33	5.55	0.00	6341	295.0 -> 84.9	26.0	14.3	42.8

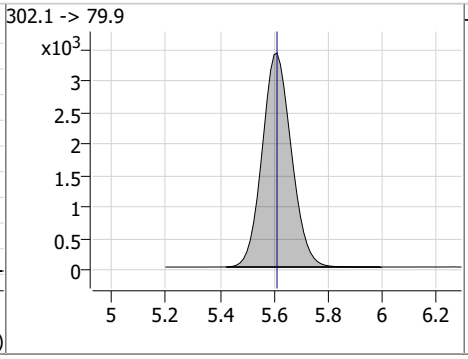


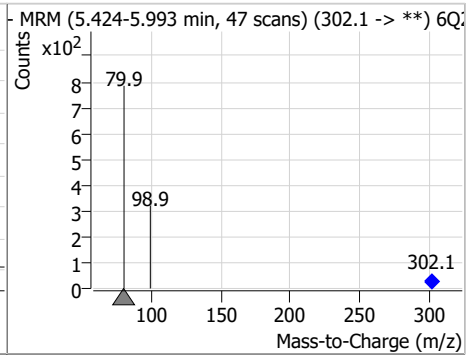




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.61	5.61	0.00	25506				

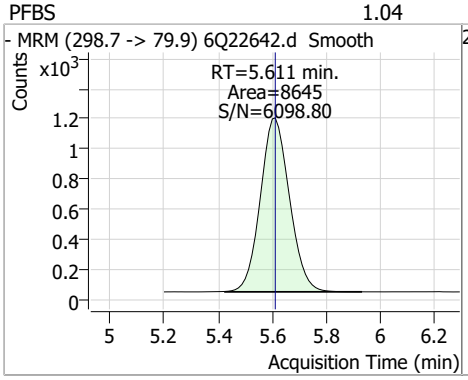


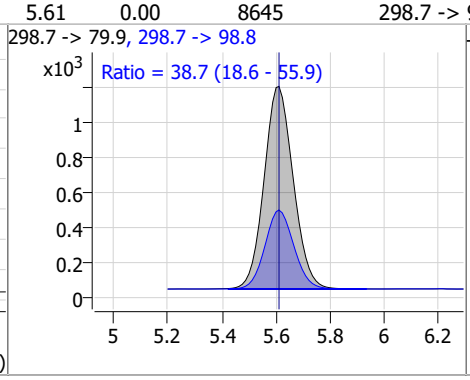


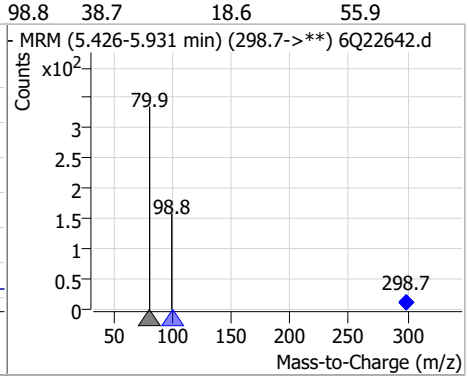


Perfluorinated Compounds by LC/MS/MS

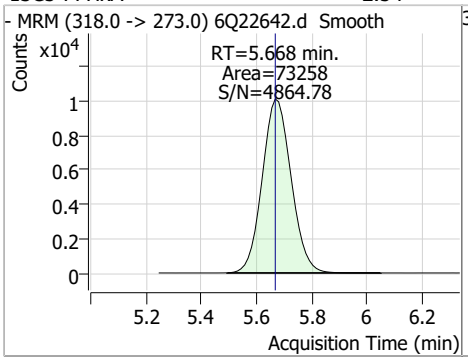
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.04	5.61	0.00	8645	298.7 -> 98.8	38.7	18.6	55.9

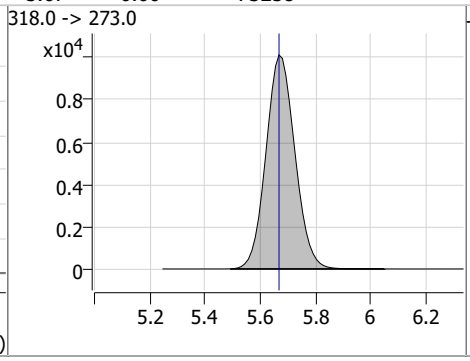


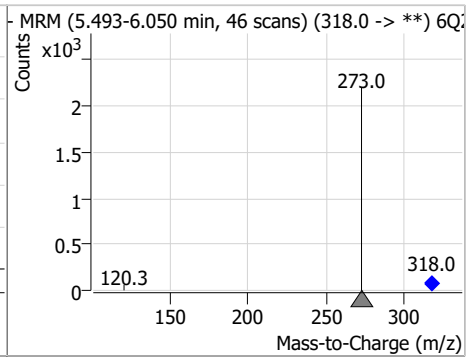




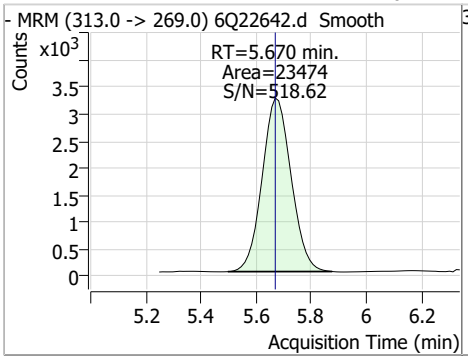
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.54	5.67	0.00	73258				

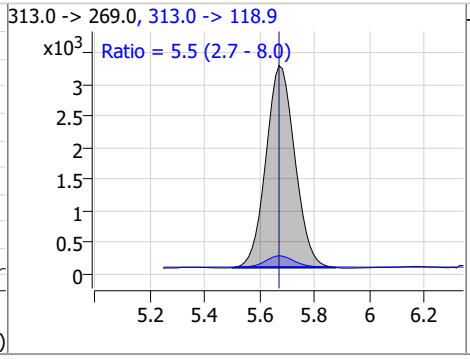


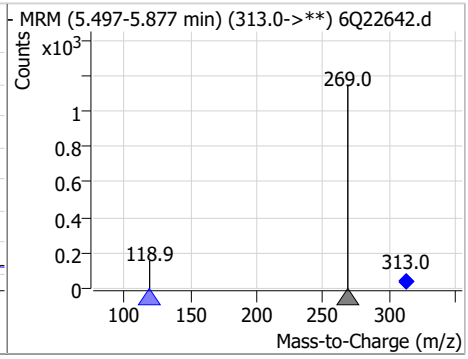




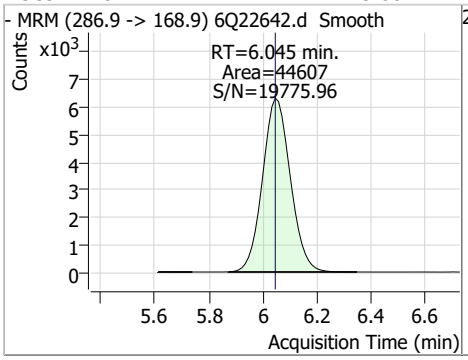
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	1.10	5.67	0.00	23474	313.0 -> 118.9	5.5	2.7	8.0

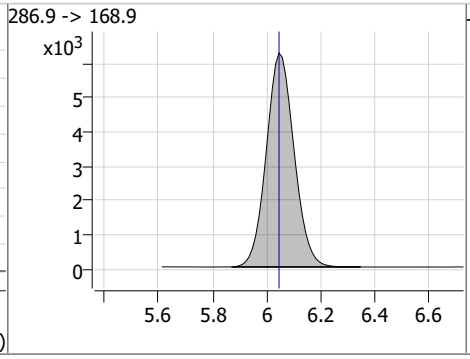


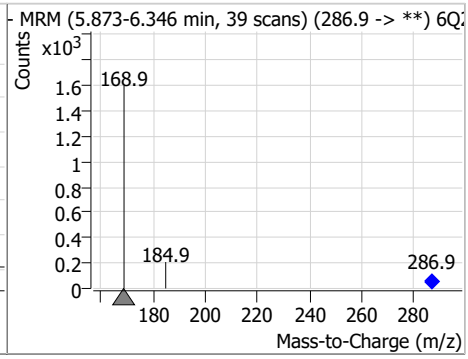




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.88	6.05	0.00	44607				

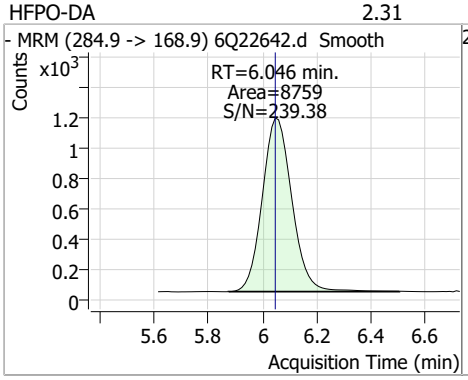


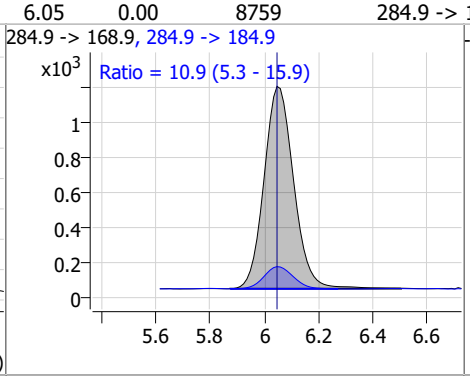


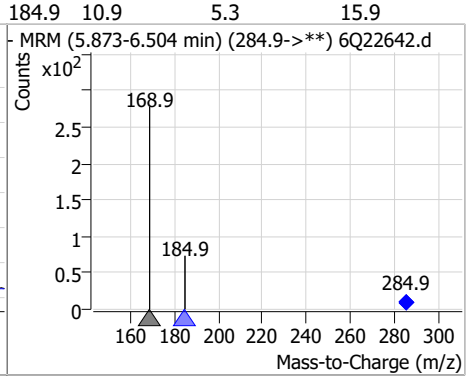


Perfluorinated Compounds by LC/MS/MS

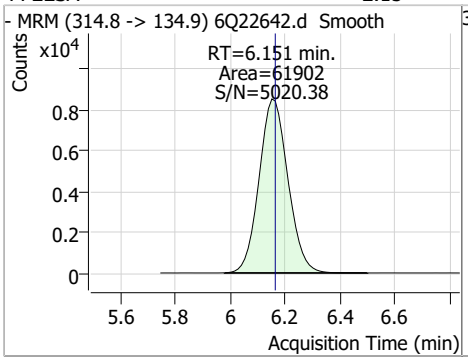
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	2.31	6.05	0.00	8759	284.9 -> 184.9	10.9	5.3	15.9

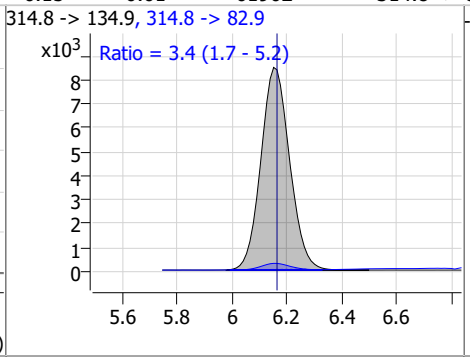


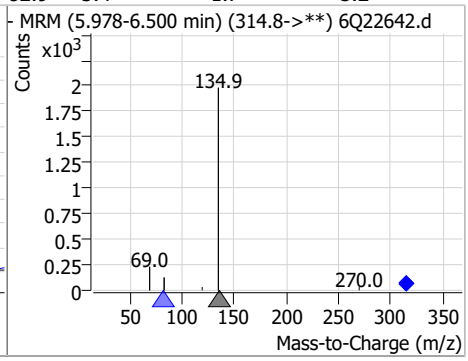




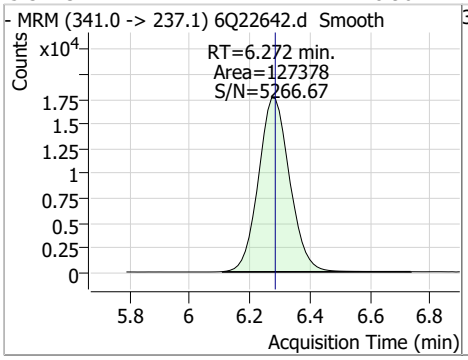
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	2.15	6.15	-0.01	61902	314.8 -> 82.9	3.4	1.7	5.2

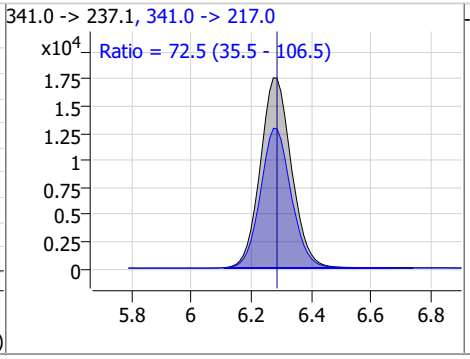


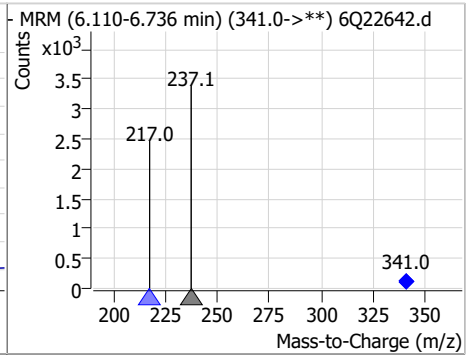




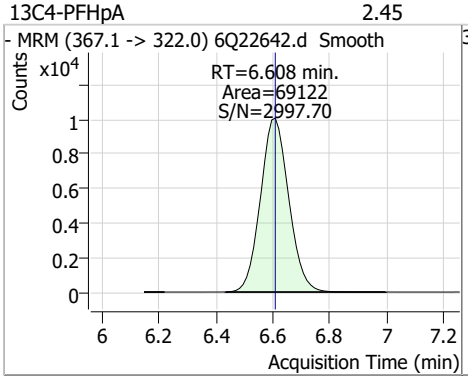
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	28.90	6.27	-0.01	127378	341.0 -> 217.0	72.5	35.5	106.5

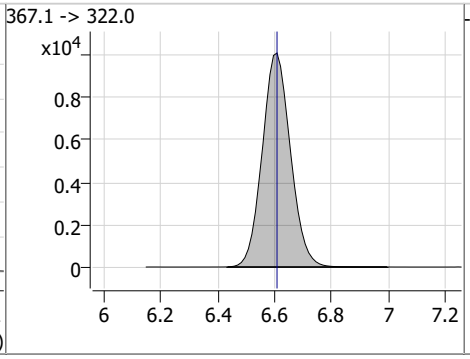


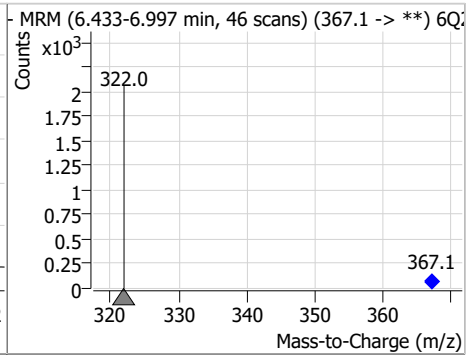




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.45	6.61	0.00	69122				

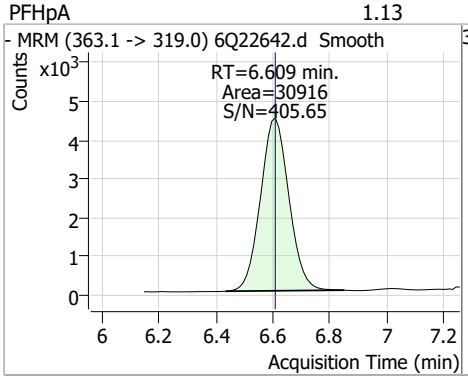


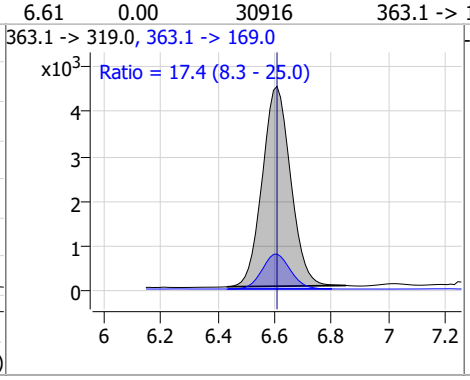


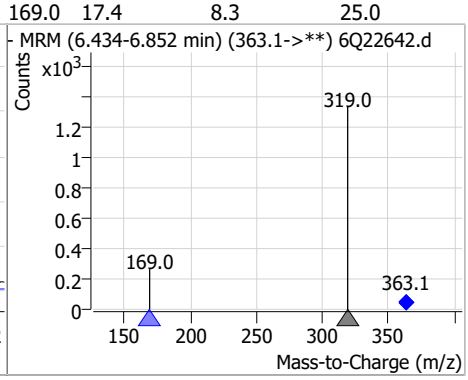


Perfluorinated Compounds by LC/MS/MS

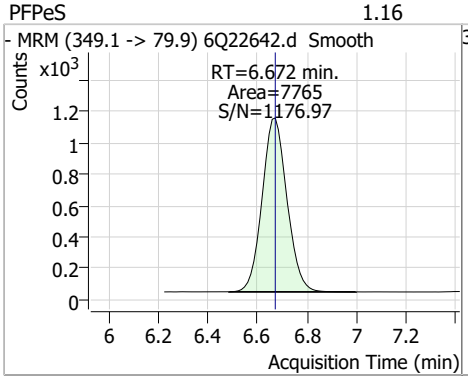
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	1.13	6.61	0.00	30916	363.1 -> 169.0	17.4	8.3	25.0

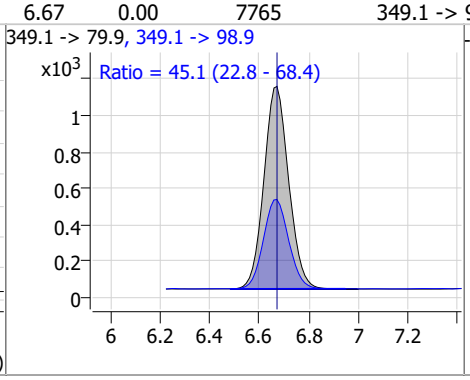


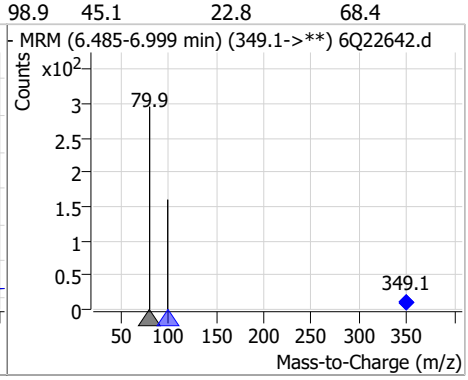




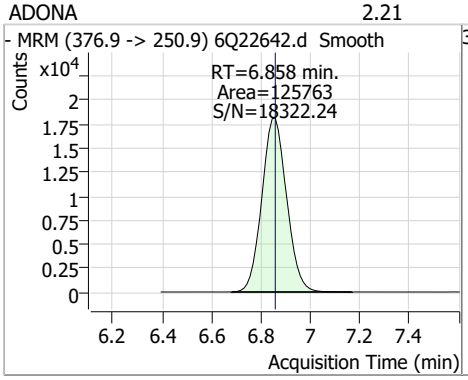
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	1.16	6.67	0.00	7765	349.1 -> 98.9	45.1	22.8	68.4

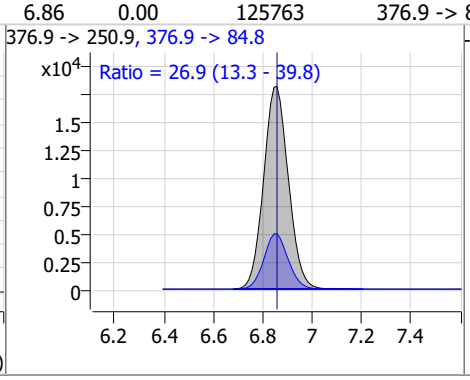


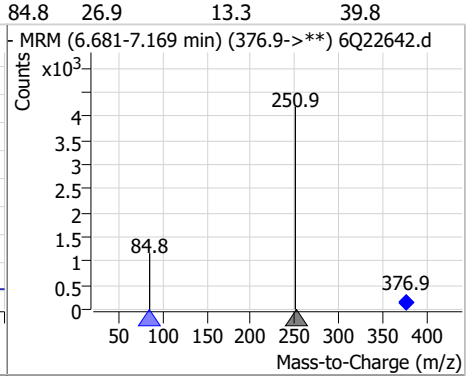




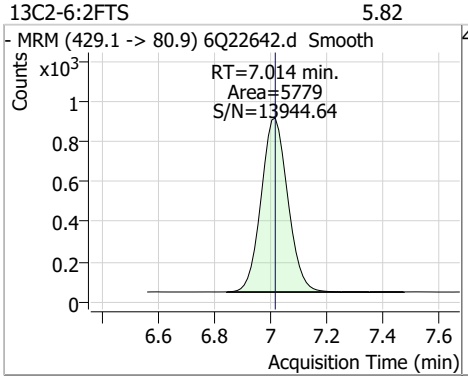
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	2.21	6.86	0.00	125763	376.9 -> 84.8	26.9	13.3	39.8

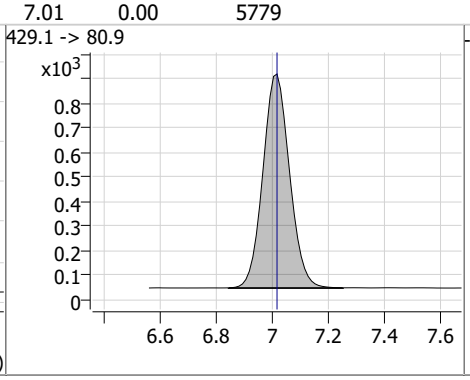


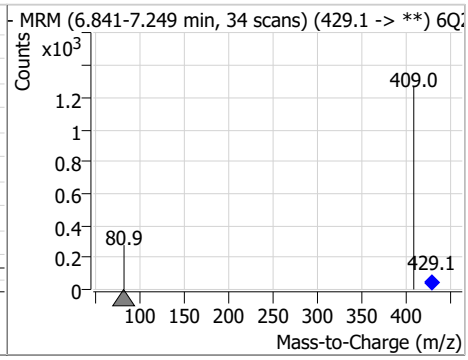




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.82	7.01	0.00	5779				

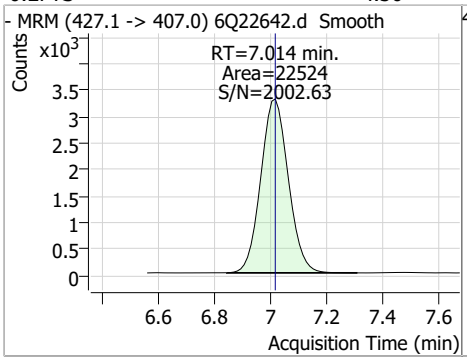


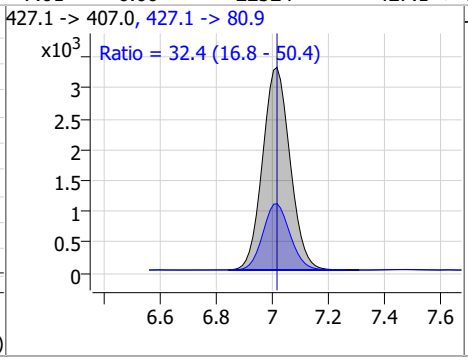


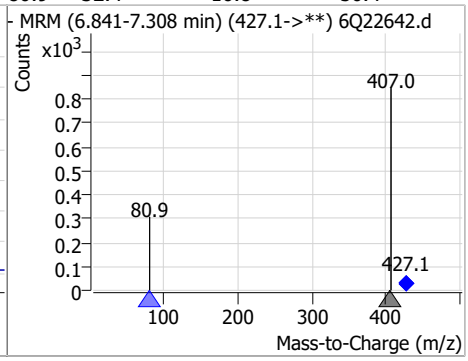


Perfluorinated Compounds by LC/MS/MS

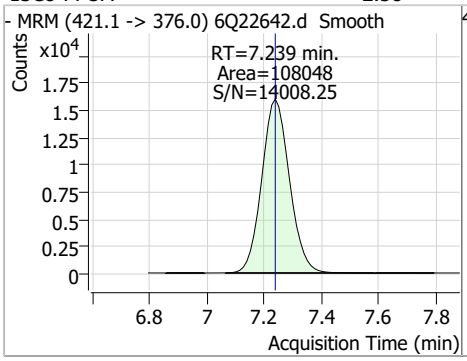
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	4.36	7.01	0.00	22524	427.1 -> 80.9	32.4	16.8	50.4

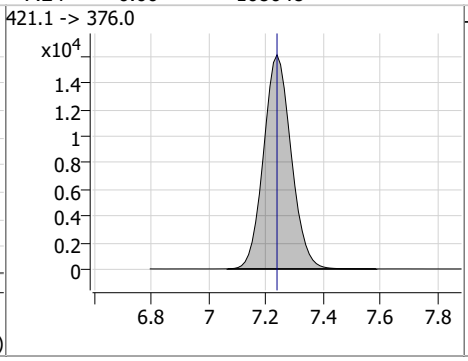


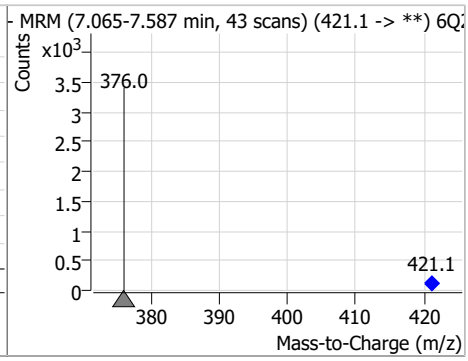




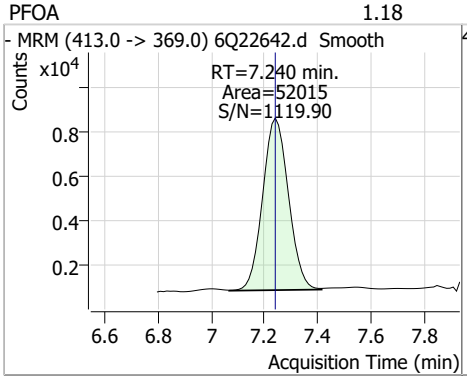
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.58	7.24	0.00	108048				

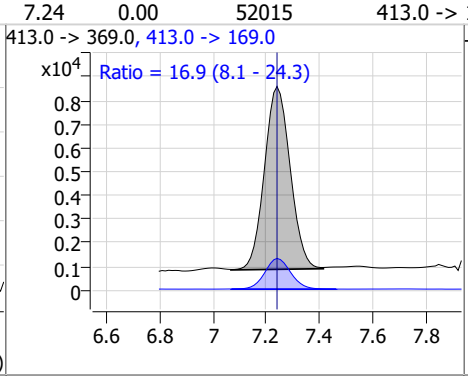


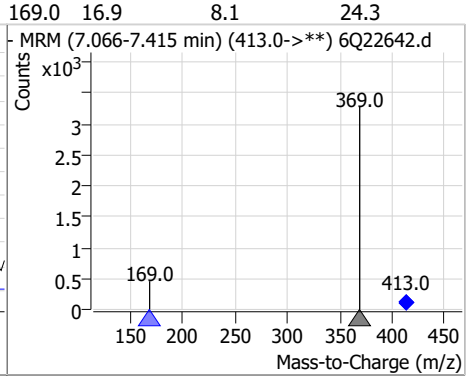




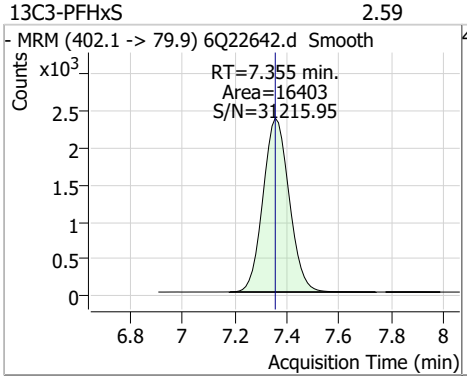
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	1.18	7.24	0.00	52015	413.0 -> 169.0	16.9	8.1	24.3

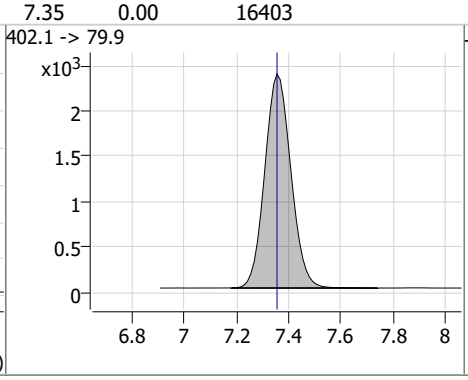


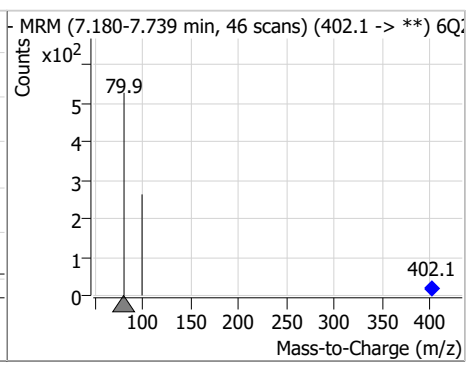




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.59	7.35	0.00	16403				

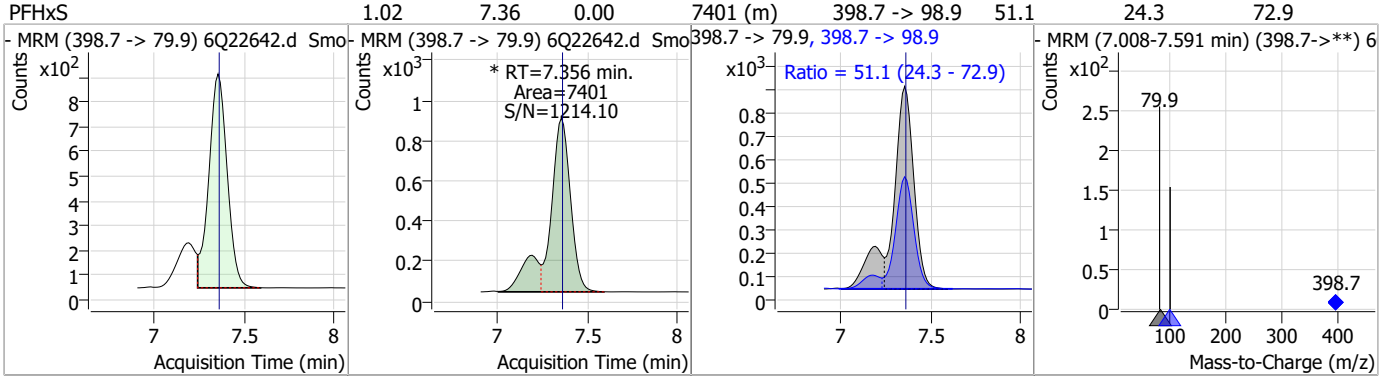




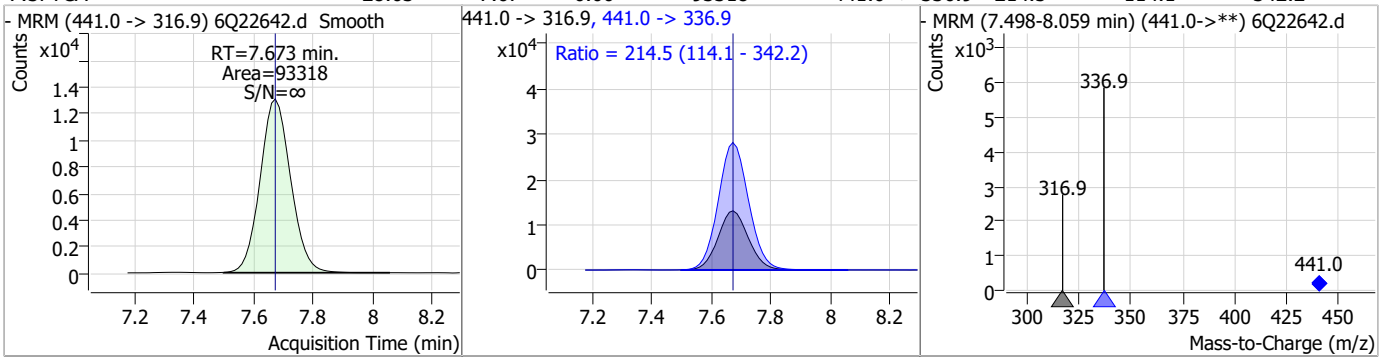


Perfluorinated Compounds by LC/MS/MS

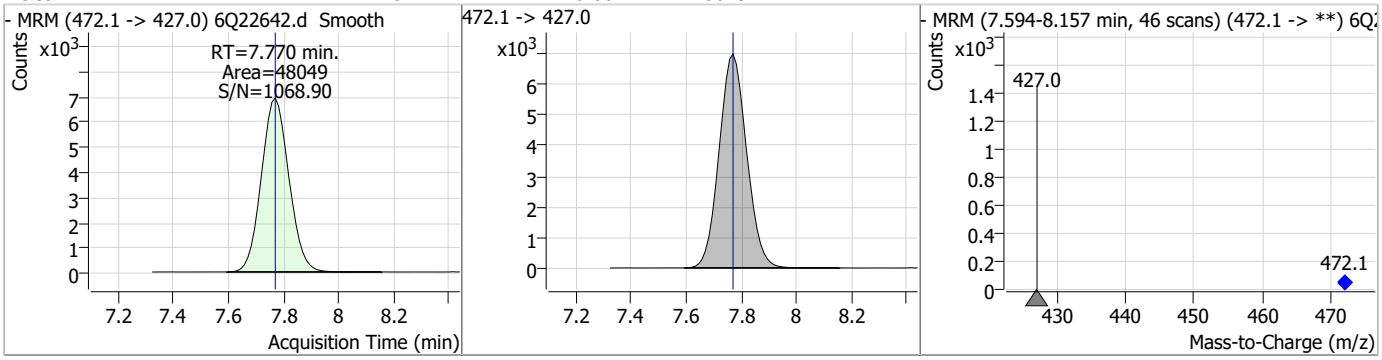
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	1.02	7.36	0.00	7401 (m)	398.7 -> 98.9	51.1	24.3	72.9



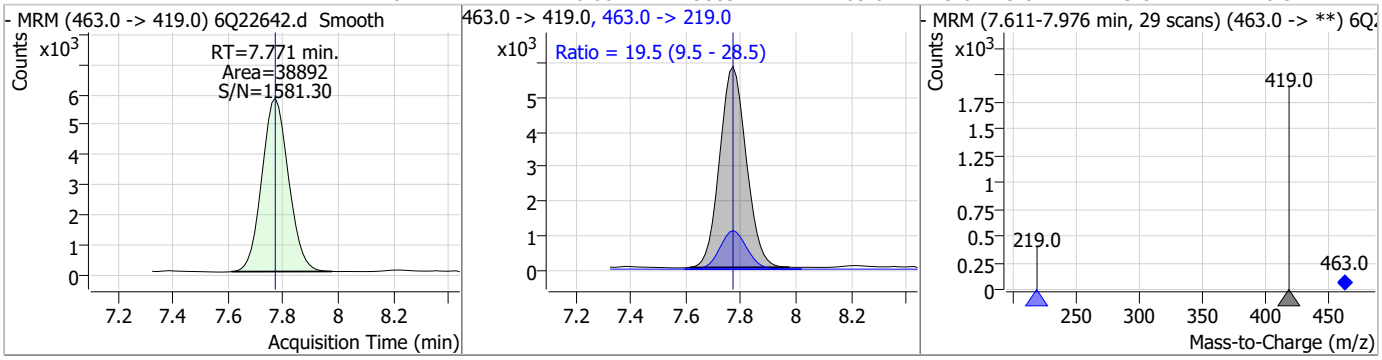
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	28.63	7.67	0.00	93318	441.0 -> 336.9	214.5	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.20	7.77	0.00	48049				

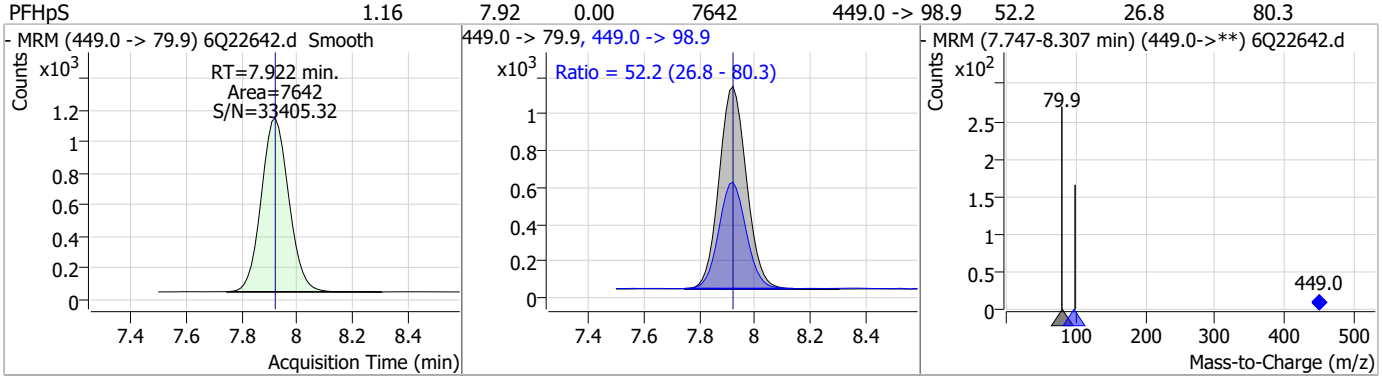


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	1.18	7.77	0.00	38892	463.0 -> 219.0	19.5	9.5	28.5

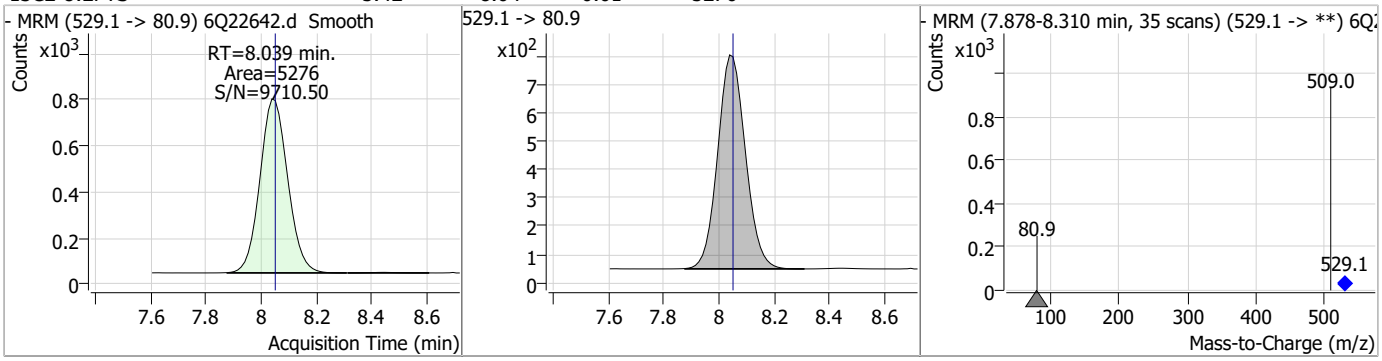


Perfluorinated Compounds by LC/MS/MS

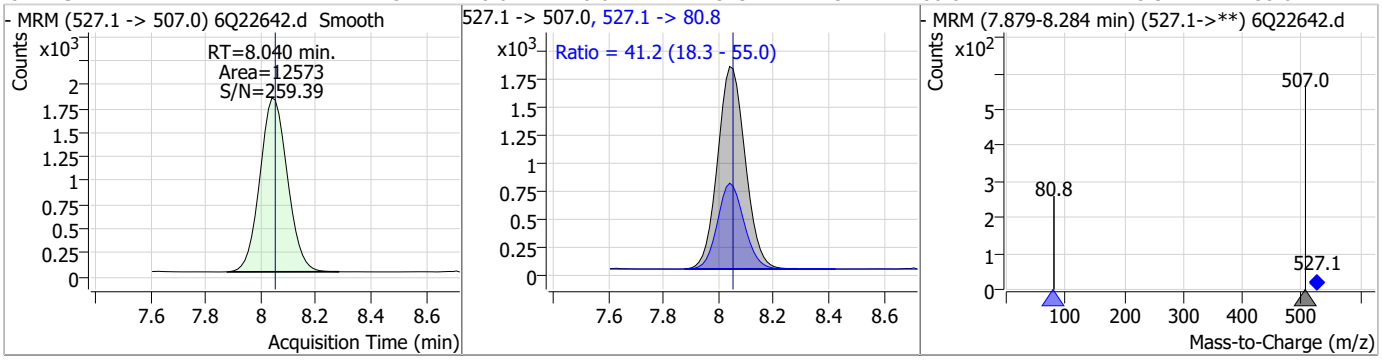
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	1.16	7.92	0.00	7642	449.0 -> 98.9	52.2	26.8	80.3



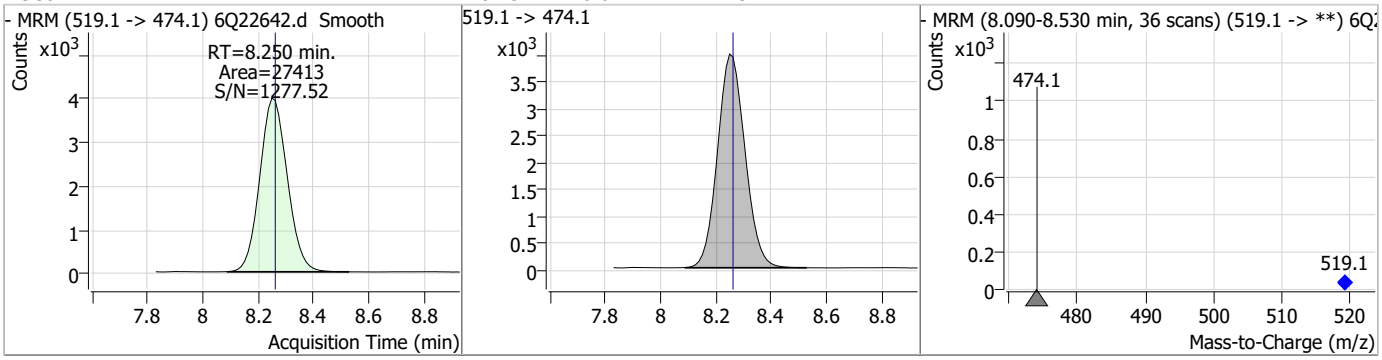
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.42	8.04	-0.01	5276				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	4.45	8.04	-0.01	12573	527.1 -> 80.8	41.2	18.3	55.0

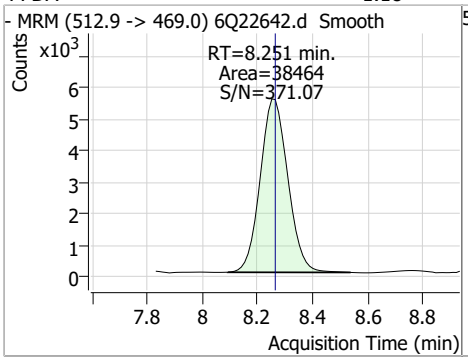


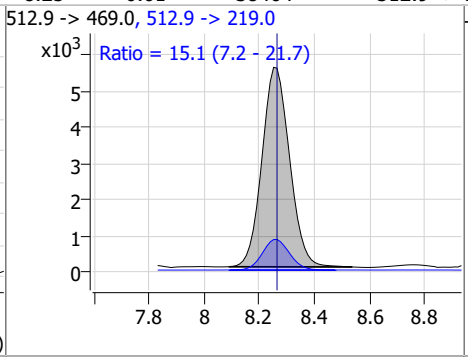
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.22	8.25	-0.01	27413				

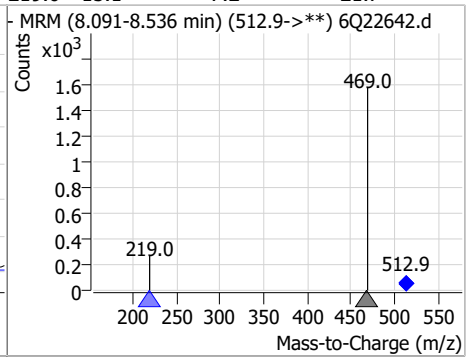


Perfluorinated Compounds by LC/MS/MS

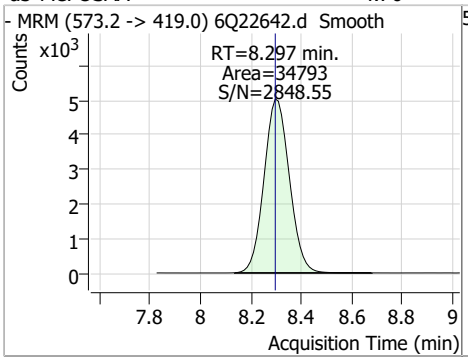
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	1.18	8.25	-0.01	38464	512.9 -> 219.0	15.1	7.2	21.7

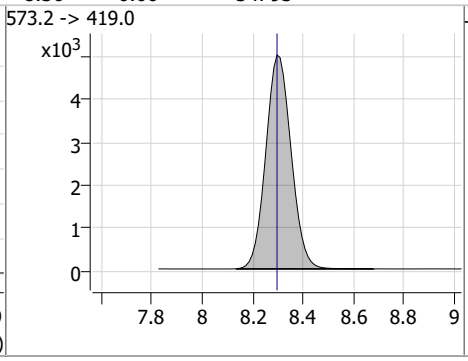


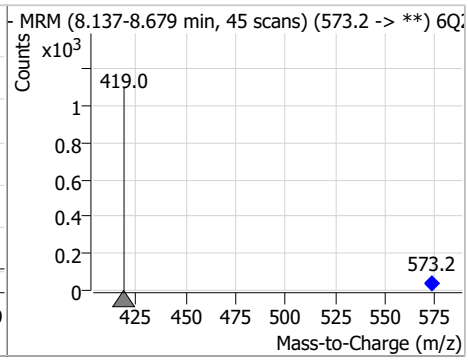




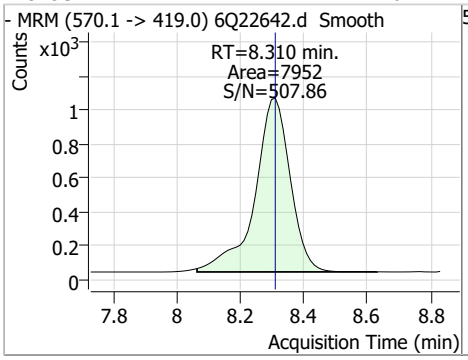
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.76	8.30	0.00	34793				

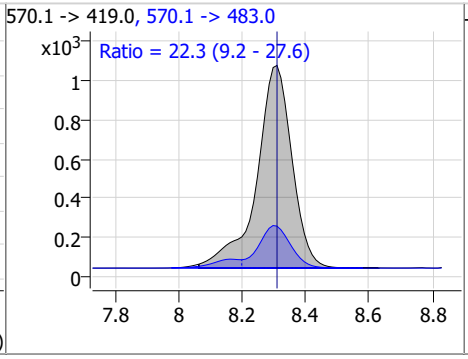


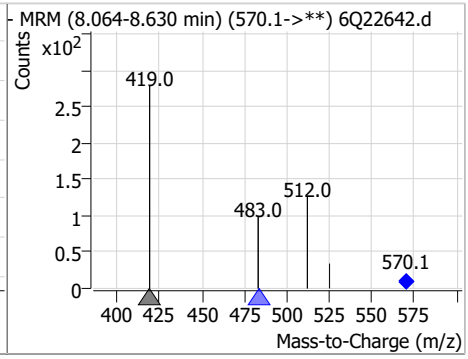




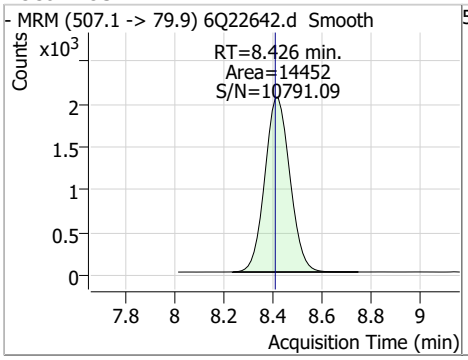
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	1.20	8.31	0.00	7952	570.1 -> 483.0	22.3	9.2	27.6

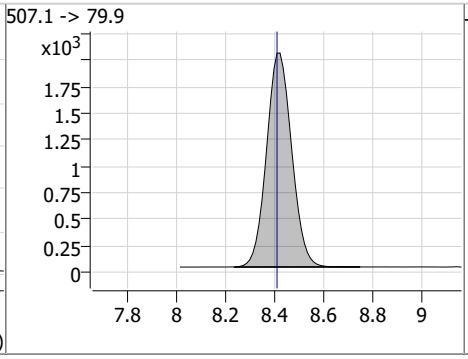


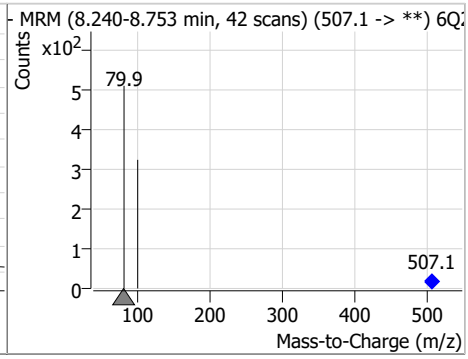




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.44	8.43	0.01	14452				

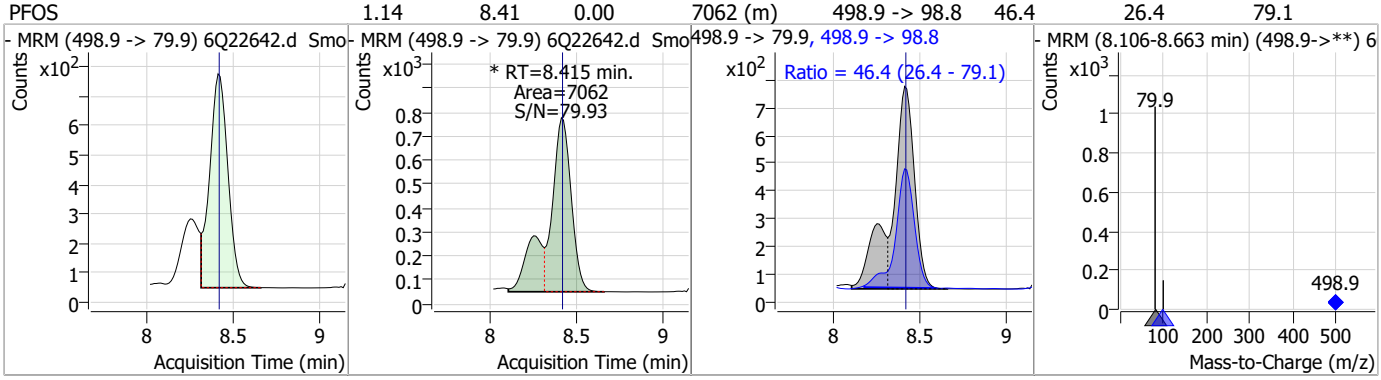




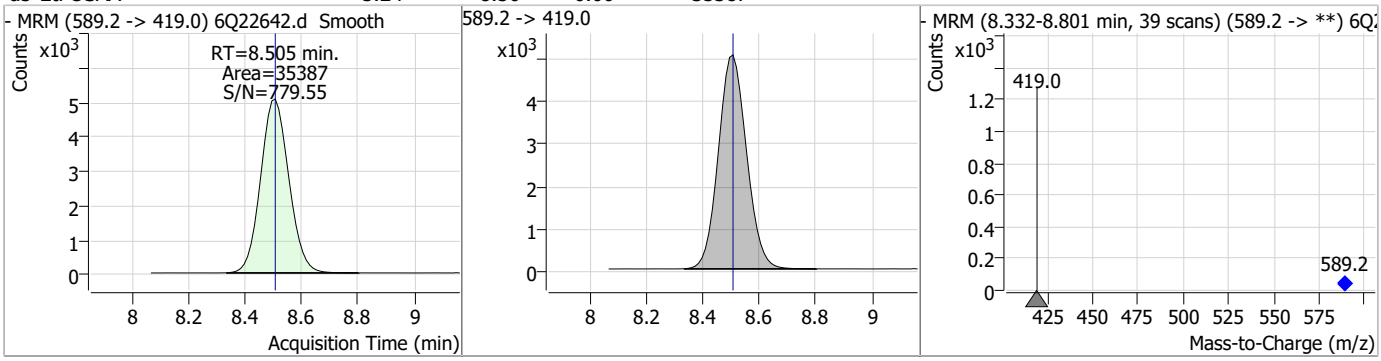


Perfluorinated Compounds by LC/MS/MS

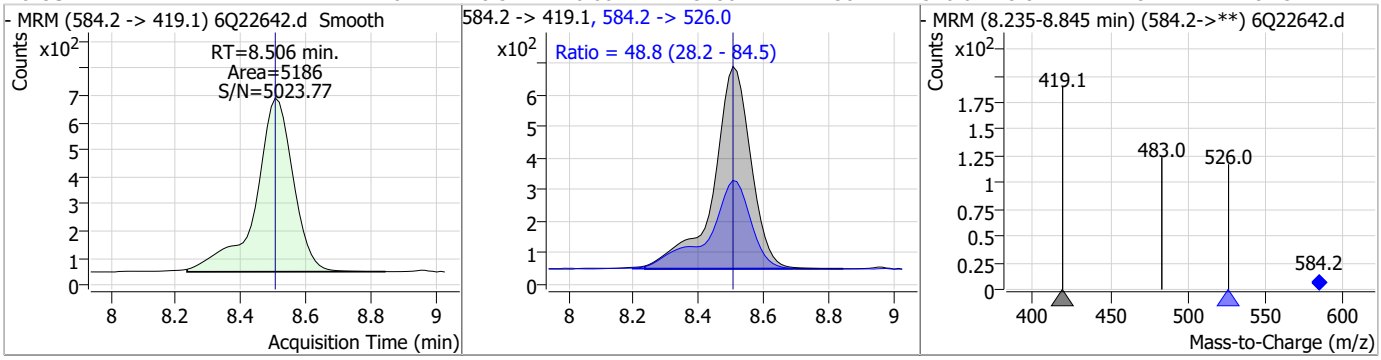
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	1.14	8.41	0.00	7062 (m)	498.9 -> 98.8	46.4	26.4	79.1



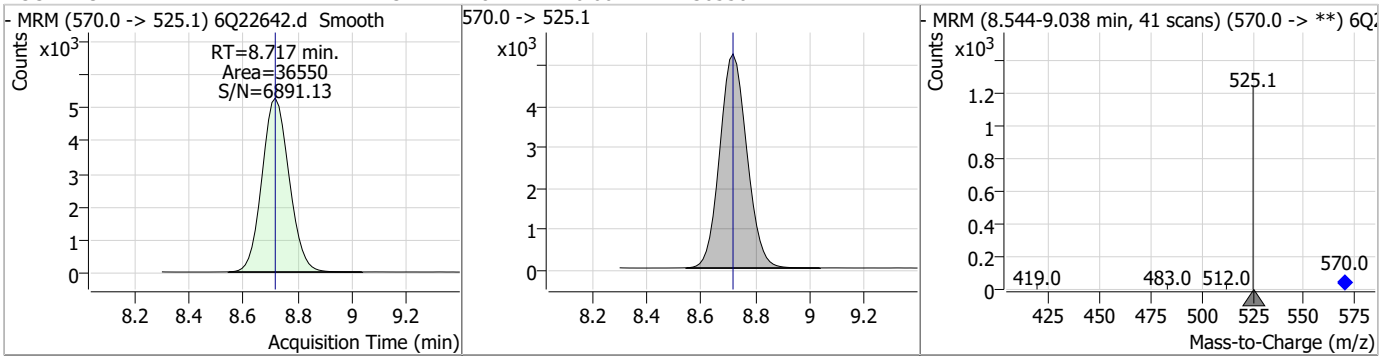
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.24	8.50	0.00	35387				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	1.16	8.51	0.00	5186	584.2 -> 526.0	48.8	28.2	84.5

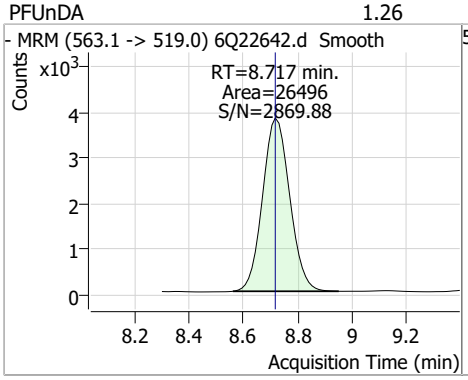


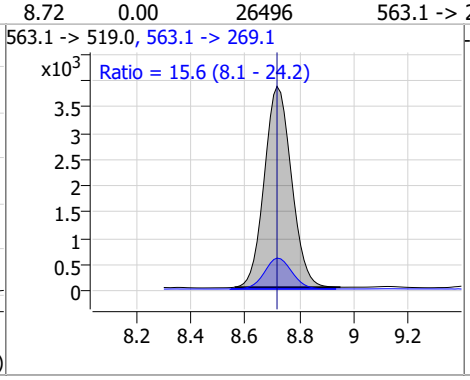
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.23	8.72	0.00	36550				

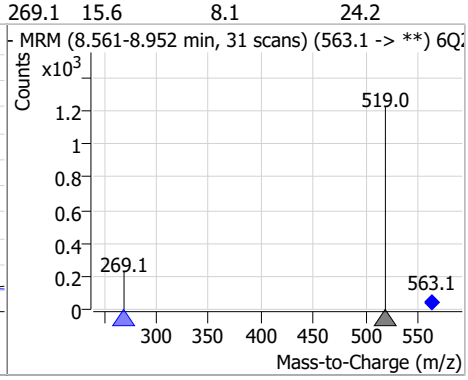


Perfluorinated Compounds by LC/MS/MS

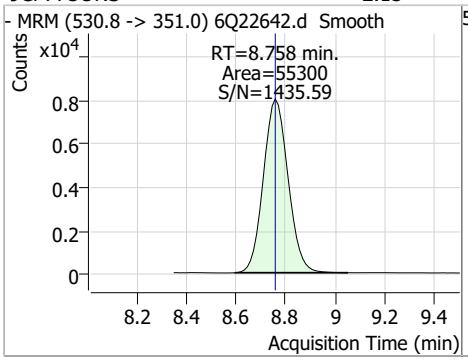
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	1.26	8.72	0.00	26496	563.1 -> 269.1	15.6	8.1	24.2

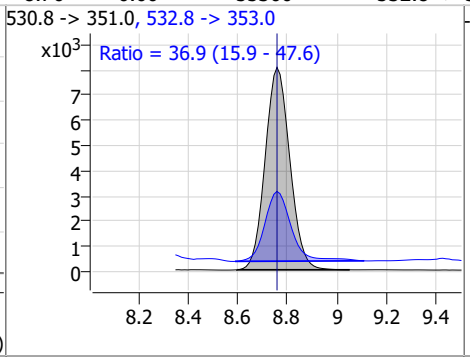


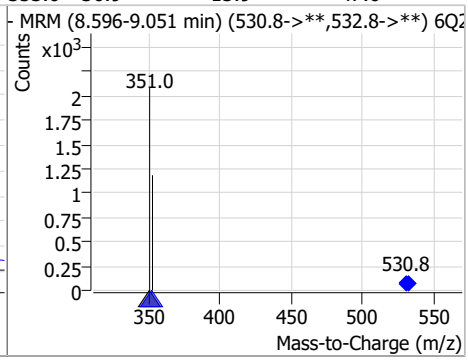




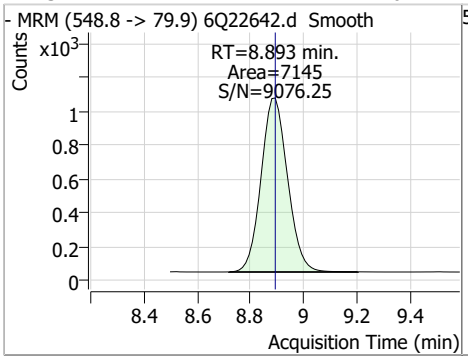
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	2.15	8.76	0.00	55300	532.8 -> 353.0	36.9	15.9	47.6

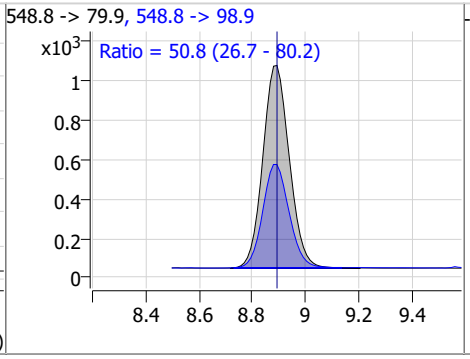


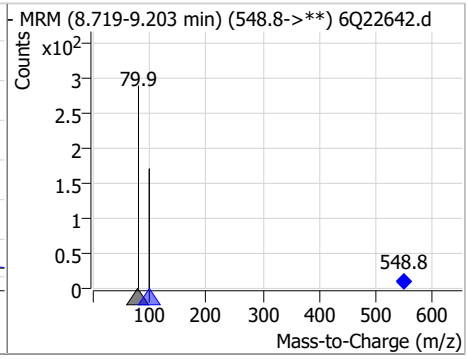




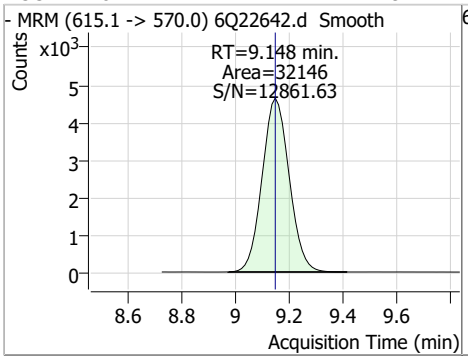
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	1.20	8.89	0.00	7145	548.8 -> 98.9	50.8	26.7	80.2

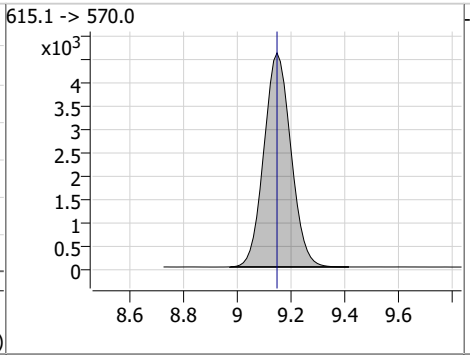


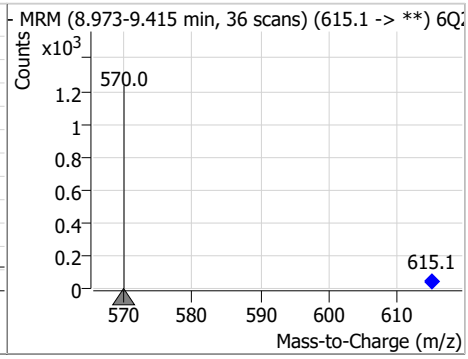




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.19	9.15	0.00	32146				

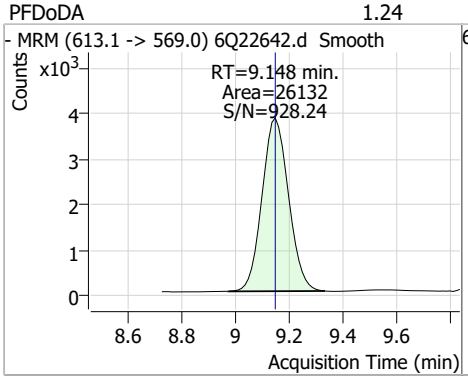


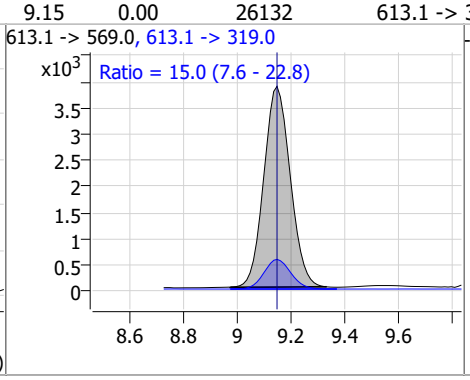


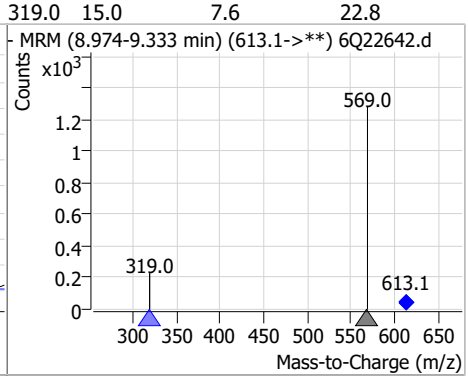


Perfluorinated Compounds by LC/MS/MS

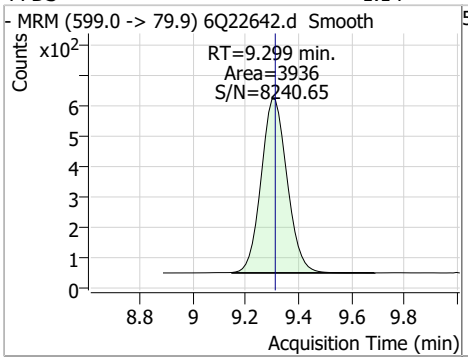
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	1.24	9.15	0.00	26132	613.1 -> 319.0	15.0	7.6	22.8

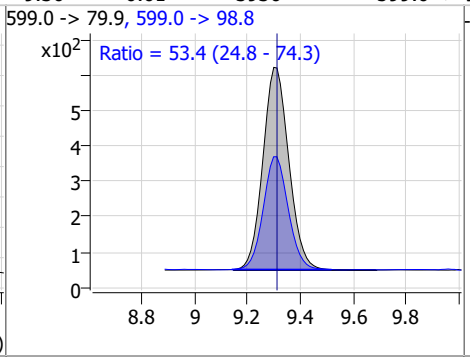


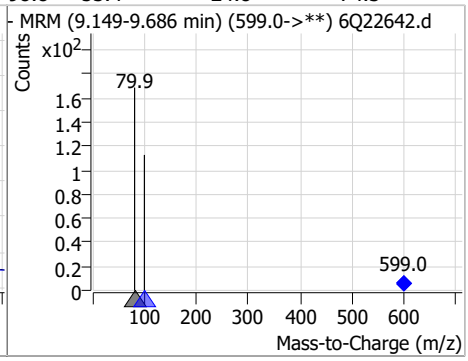




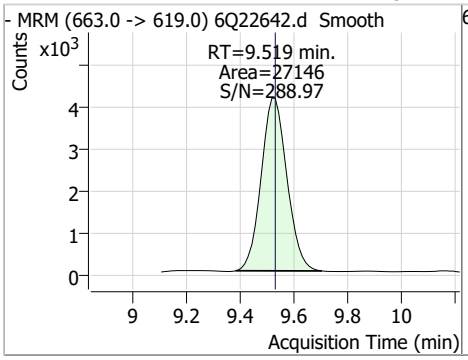
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	1.14	9.30	-0.01	3936	599.0 -> 98.8	53.4	24.8	74.3

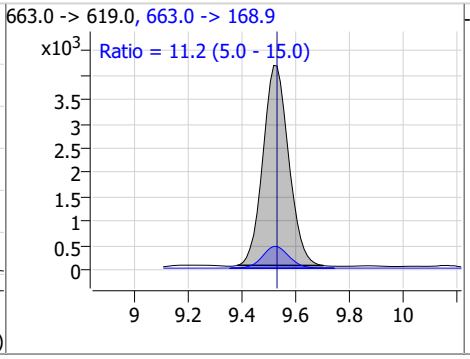


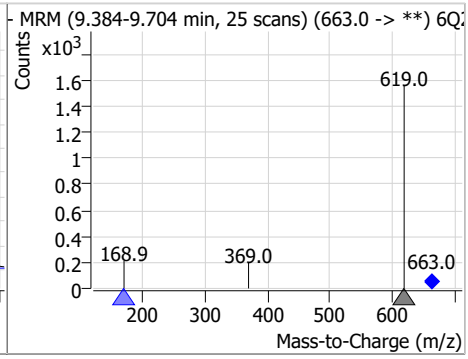




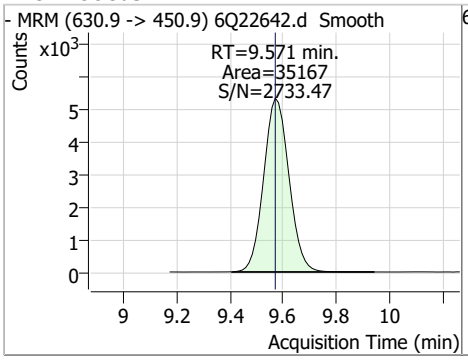
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	1.25	9.52	-0.01	27146	663.0 -> 168.9	11.2	5.0	15.0

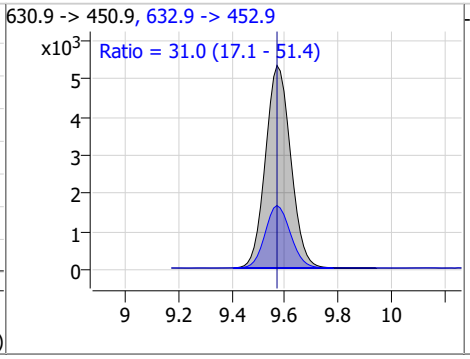


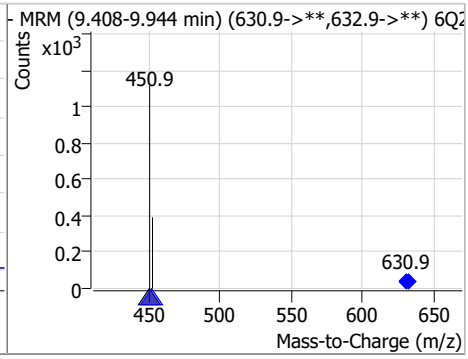




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	2.21	9.57	0.00	35167	632.9 -> 452.9	31.0	17.1	51.4

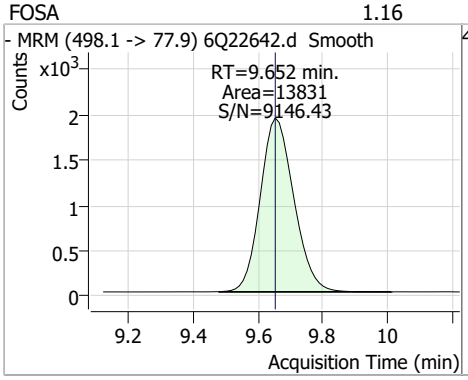


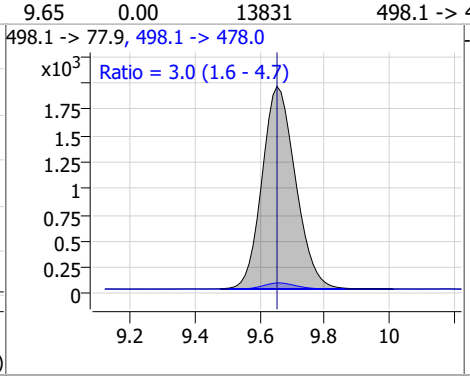


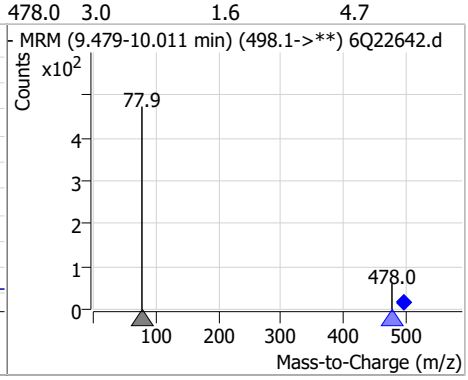


Perfluorinated Compounds by LC/MS/MS

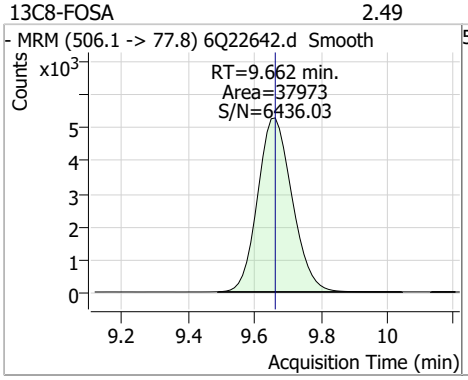
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	1.16	9.65	0.00	13831	498.1 -> 478.0	3.0	1.6	4.7

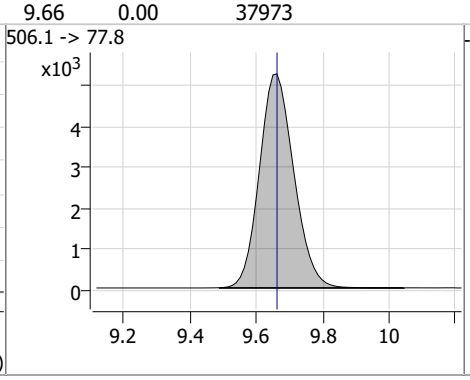


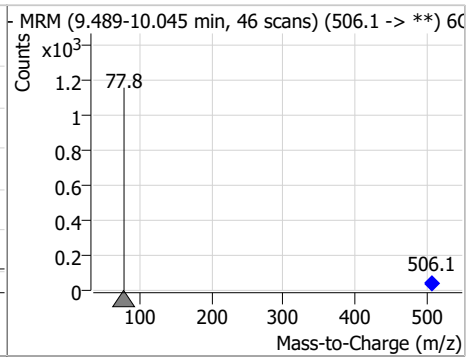




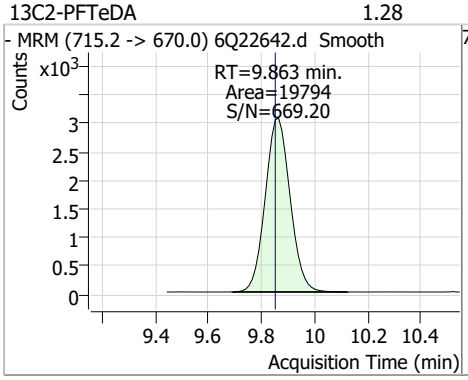
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.49	9.66	0.00	37973				

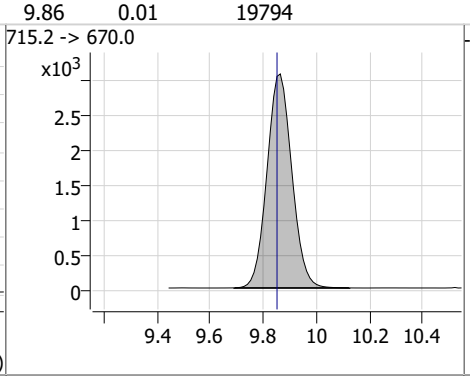


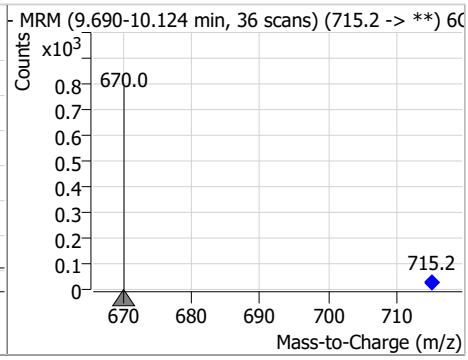




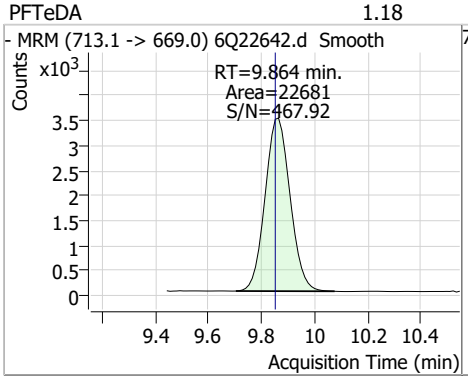
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.28	9.86	0.01	19794				

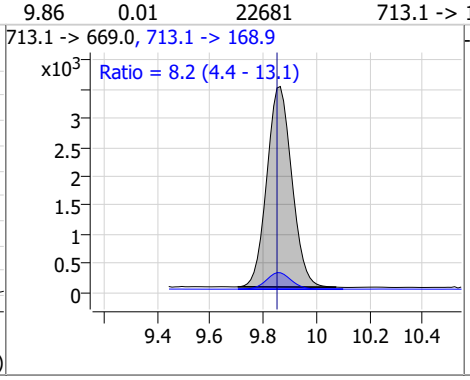


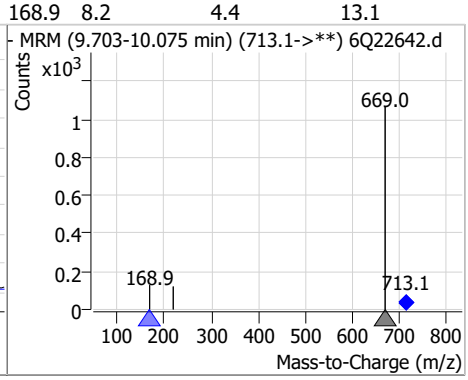




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	1.18	9.86	0.01	22681	713.1 -> 168.9	8.2	4.4	13.1

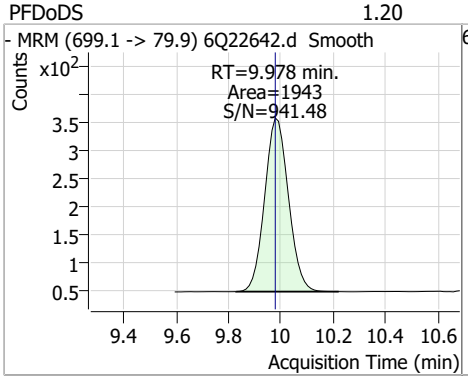


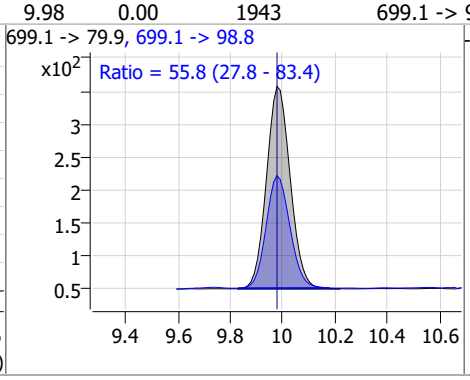


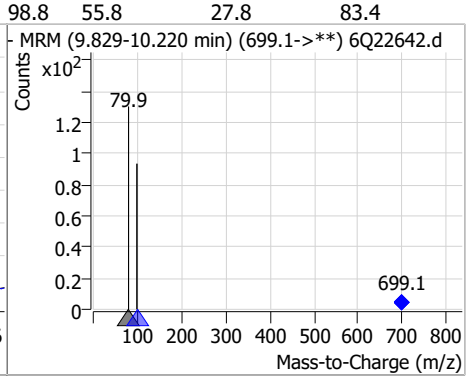


Perfluorinated Compounds by LC/MS/MS

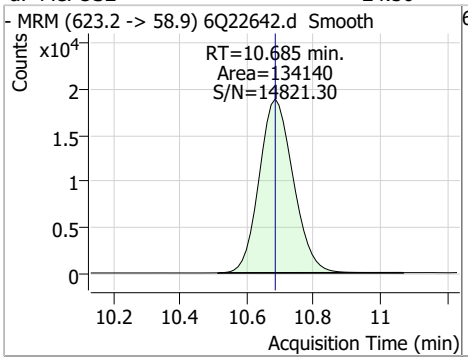
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	1.20	9.98	0.00	1943	699.1 -> 98.8	55.8	27.8	83.4

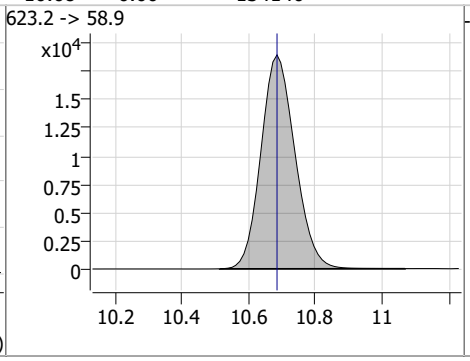


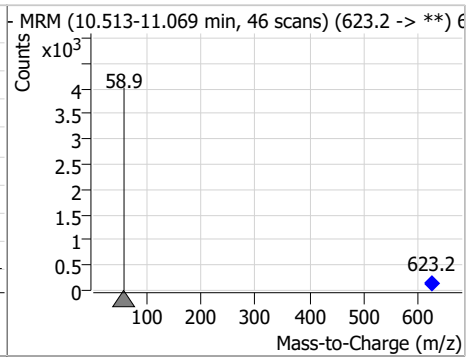




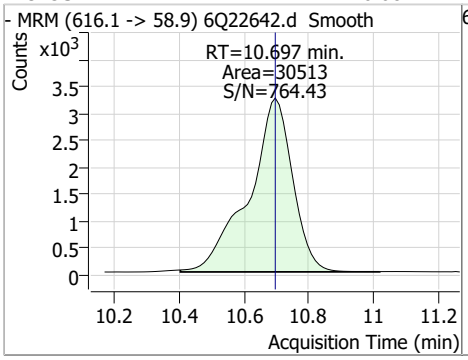
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.56	10.68	0.00	134140				

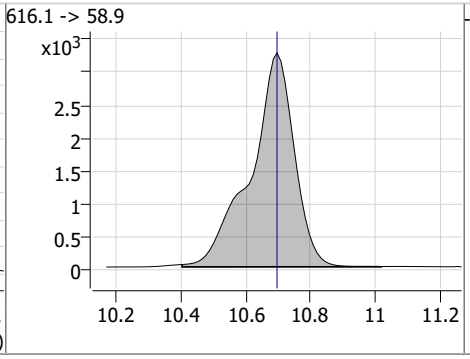


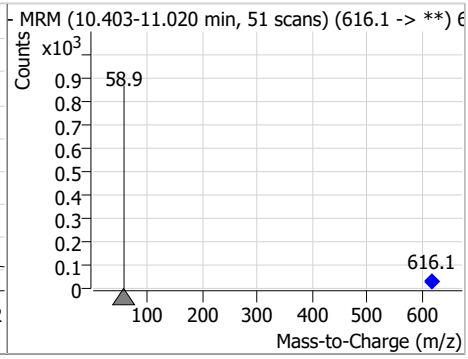




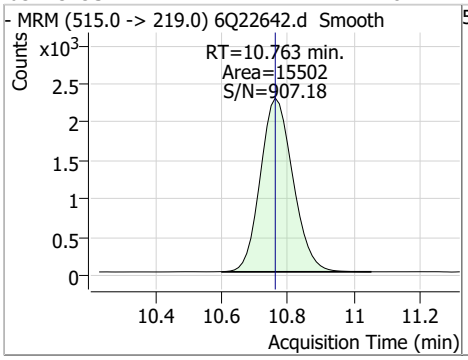
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	6.08	10.70	0.00	30513				

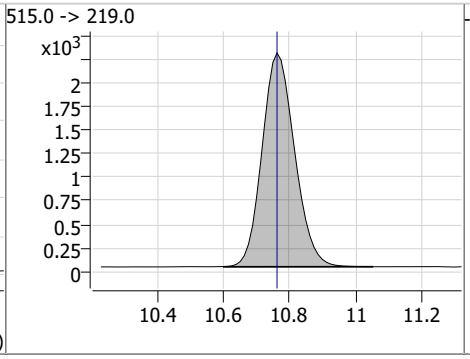


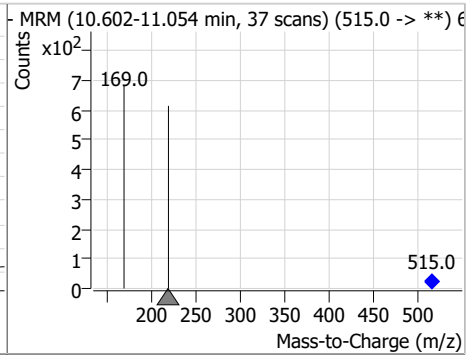




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.48	10.76	0.00	15502				

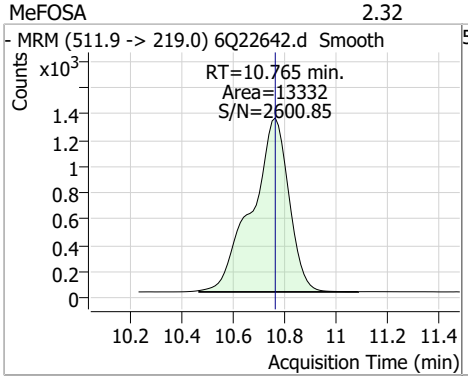


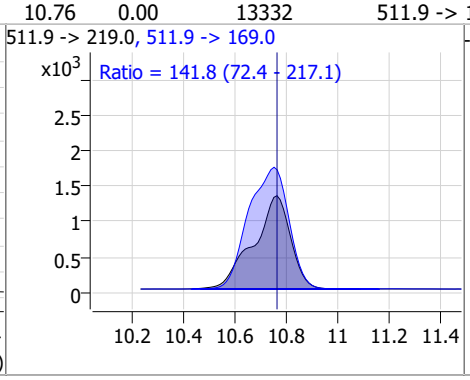


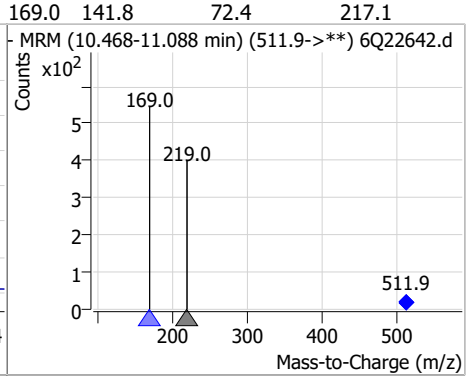


Perfluorinated Compounds by LC/MS/MS

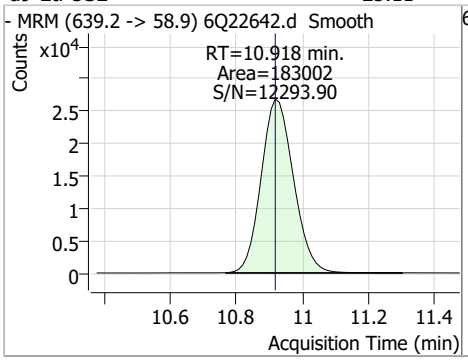
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	2.32	10.76	0.00	13332	511.9 -> 169.0	141.8	72.4	217.1

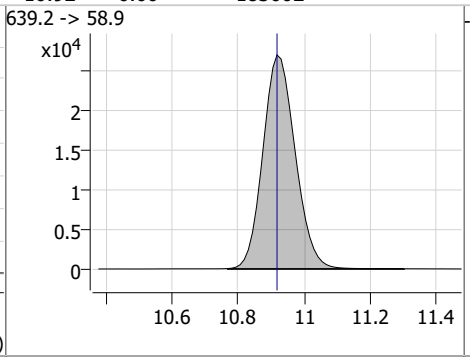


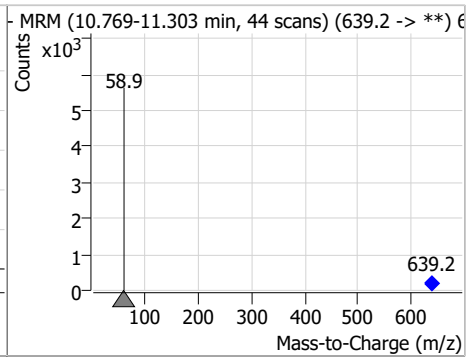




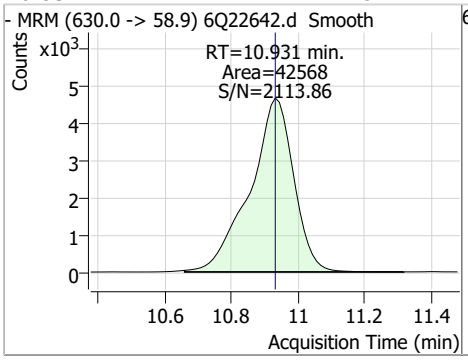
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.11	10.92	0.00	183002				

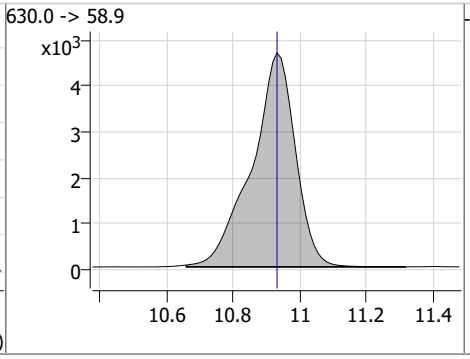


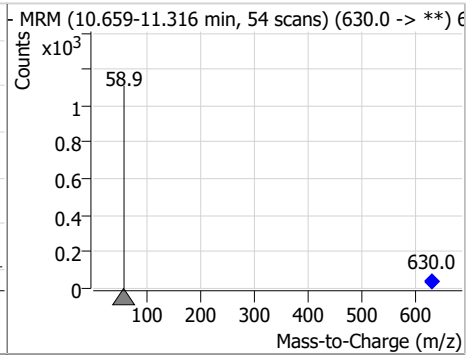




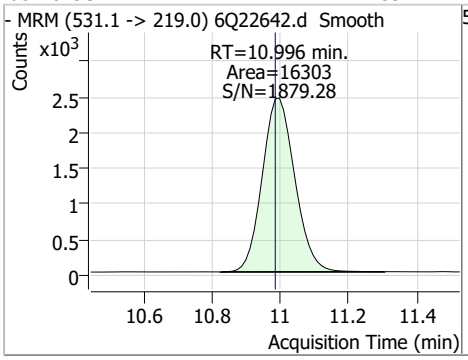
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	5.74	10.93	0.00	42568				

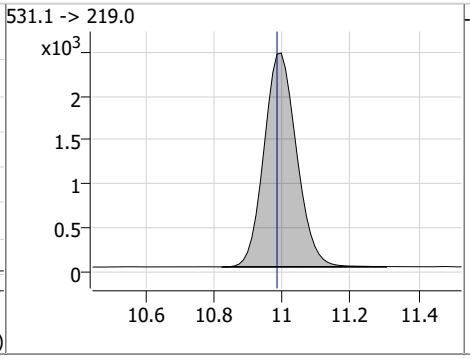


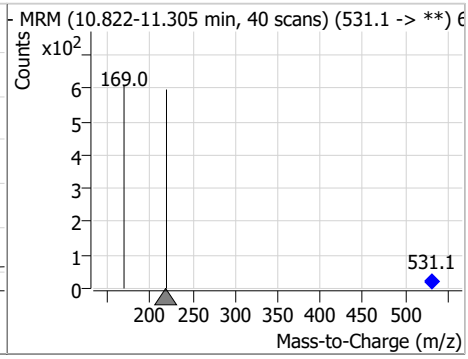




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.59	11.00	0.01	16303				

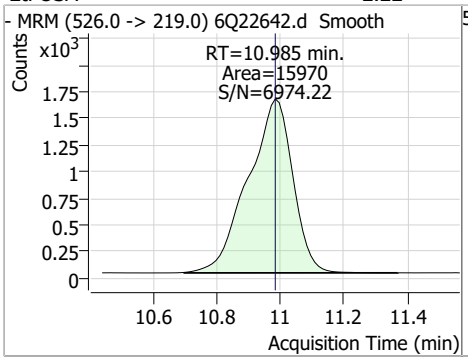


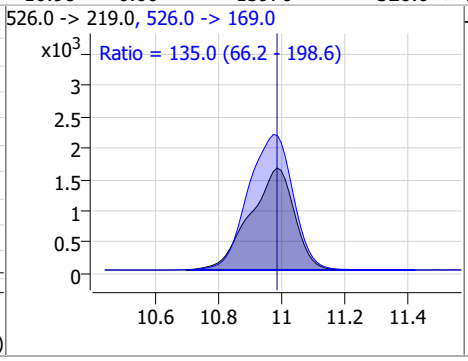


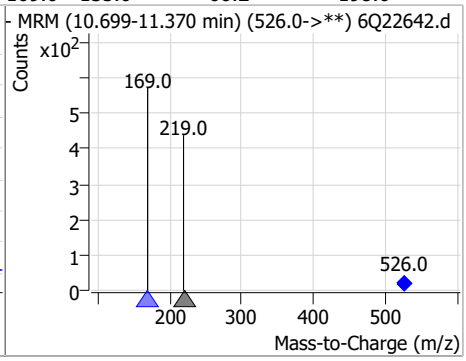


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	2.22	10.98	0.00	15970	526.0 -> 169.0	135.0	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q330-IC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22642.D	**Analyst approved:**	08/13/23 12:53 Martha Valls
Injection Time:	08/10/23 14:06	**Supervisor approved:**	08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22643.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 2:20:43 PM
Sample Name : icc330-4
Vial : P1-A5
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	183595	10.00	µg/L	0.000
M5-PFPeA	4.447	268.3 -> 223.0	59327	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	65847	2.50	µg/L	0.000
M4-PFHpA	6.608	367.1 -> 322.0	62558	2.50	µg/L	0.000
M8-PFOA	7.239	421.1 -> 376.0	93279	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	48017	1.25	µg/L	0.000
M6-PFDA	8.263	519.1 -> 474.1	25309	1.25	µg/L	0.000
M7-PFUnDA	8.717	570.0 -> 525.1	34550	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	30643	1.25	µg/L	0.000
M2-PFTeDA	9.851	715.2 -> 670.0	18080	1.25	µg/L	0.000
M8-FOSA	9.662	506.1 -> 77.8	35185	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	22426	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	15950	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	12981	2.50	µg/L	0.000
M2-4:2FTS	5.330	329.1 -> 80.9	3455	5.00	µg/L	0.000
M2-6:2FTS	7.014	429.1 -> 80.9	5045	5.00	µg/L	0.000
M2-8:2FTS	8.051	529.1 -> 80.9	4788	5.00	µg/L	0.000
M3-MeFOSAA	8.297	573.2 -> 419.0	34994	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	40135	10.00	µg/L	0.000
M5-EtFOSAA	8.505	589.2 -> 419.0	30901	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	123545	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	173472	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	14144	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	13769	2.50	µg/L	0.000
13C4-PFOS	8.427	502.8 -> 79.9	18412	2.50	µg/L	0.000
13C3-PFBA	3.001	216.0 -> 172.0	77706	5.00	µg/L	0.000
18O2-PFHxS	7.354	403.0 -> 83.9	10305	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	105960	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	38505	1.25	µg/L	0.000
13C5-PFNA	7.770	468.0 -> 423.0	54511	1.25	µg/L	0.000
13C2-PFHxA	5.669	315.1 -> 270.0	62113	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	3455	5.61	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.2%		
13C2-6:2FTS	7.014	429.1 -> 80.9	5045	5.68	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.5%		
13C2-8:2FTS	8.051	529.1 -> 80.9	4788	5.50	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.1%		
13C2-PFDoDA	9.148	615.1 -> 570.0	30643	1.18	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.2%		
13C2-PFTeDA	9.851	715.2 -> 670.0	18080	1.21	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.7%		
13C3-PFBS	5.610	302.1 -> 79.9	22426	2.56	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%		
13C3-PFHxS	7.355	402.1 -> 79.9	15950	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 = 112.6%	
13C4-PFBA	3.010	216.8 -> 171.9	183595	10.00 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C4-PFHpA	6.608	367.1 -> 322.0	62558	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C5-PFHxA	5.668	318.0 -> 273.0	65847	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C5-PFPeA	4.447	268.3 -> 223.0	59327	5.07 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C6-PFDA	8.263	519.1 -> 474.1	25309	1.16 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.1%	
13C7-PFUnDA	8.717	570.0 -> 525.1	34550	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.1%	
13C8-FOSA	9.662	506.1 -> 77.8	35185	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C8-PFOA	7.239	421.1 -> 376.0	93279	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C8-PFOS	8.414	507.1 -> 79.9	12981	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.3%	
13C9-PFNA	7.770	472.1 -> 427.0	48017	1.36 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.6%	
d3-MeFOSAA	8.297	573.2 -> 419.0	34994	5.25 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	40135	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
d3-MeFOSA	10.763	515.0 -> 219.0	13769	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
d5-EtFOSAA	8.505	589.2 -> 419.0	30901	5.02 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.5%	
d7-MeFOSE	10.685	623.2 -> 58.9	123545	24.83 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
d9-EtFOSE	10.918	639.2 -> 58.9	173472	26.12 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.5%	
d5-EtFOSA	10.983	531.1 -> 219.0	14144	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%	
Target Compounds					QValue
4:2FTS	5.331	327.1 -> 307.0	41650	9.32 µg/L	100
		327.1 -> 80.9	16287		
6:2FTS	7.014	427.1 -> 407.0	43505	9.64 µg/L	100
		427.1 -> 80.9	14617		
8:2FTS	8.052	527.1 -> 507.0	26201	10.22 µg/L	100
		527.1 -> 80.8	9611		
EtFOSAA	8.506	584.2 -> 419.1	9564	2.46 µg/L	100
		584.2 -> 526.0	5385		
FOSA	9.652	498.1 -> 77.9	27767	2.51 µg/L	100
		498.1 -> 478.0	877		
MeFOSAA	8.310	570.1 -> 419.0	15926	2.38 µg/L	100
		570.1 -> 483.0	2932		
PFBA	3.006	212.8 -> 168.9	58021	10.11 µg/L	100
PFBS	5.611	298.7 -> 79.9	17846	2.44 µg/L	100
		298.7 -> 98.8	6650		
PFDA	8.263	512.9 -> 469.0	76813	2.56 µg/L	100
		512.9 -> 219.0	11115		
PFDoDA	9.148	613.1 -> 569.0	49177	2.45 µg/L	100
		613.1 -> 319.0	7491		
PFDS	9.312	599.0 -> 79.9	7743	2.49 µg/L	100

Perfluorinated Compounds by LC/MS/MS

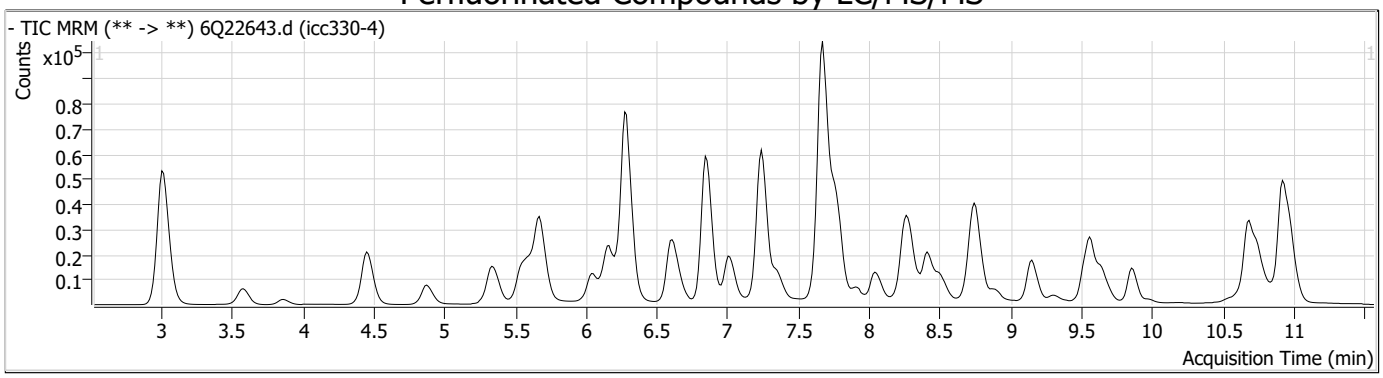
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3837				
PFHpA	6.609	363.1 -> 319.0	61498	2.49	µg/L		100
		363.1 -> 169.0	10249				
PFHpS	7.922	449.0 -> 79.9	14450	2.44	µg/L		100
		449.0 -> 98.9	7737				
PFHxA	5.670	313.0 -> 269.0	48703	2.53	µg/L		100
		313.0 -> 118.9	2582				
PFHxS	7.356	398.7 -> 79.9	14929	2.12	µg/L	m	100
		398.7 -> 98.9	7255				
PFNA	7.771	463.0 -> 419.0	75559	2.29	µg/L		100
		463.0 -> 219.0	14359				
PFNS	8.893	548.8 -> 79.9	13608	2.54	µg/L		100
		548.8 -> 98.9	7273				
PFOA	7.240	413.0 -> 369.0	100926	2.65	µg/L		100
		413.0 -> 169.0	16329				
PFOS	8.415	498.9 -> 79.9	13418	2.40	µg/L	m	100
		498.9 -> 98.8	7079				
PFPeA	4.449	263.0 -> 219.0	66196	5.07	µg/L		100
PFPeS	6.672	349.1 -> 79.9	14783	2.26	µg/L		100
		349.1 -> 98.9	6738				
PFTeDA	9.852	713.1 -> 669.0	42681	2.43	µg/L		100
		713.1 -> 168.9	3734				
PFTrDA	9.532	663.0 -> 619.0	56341	2.72	µg/L		100
		663.0 -> 168.9	5645				
PFUnDA	8.717	563.1 -> 519.0	49488	2.49	µg/L		100
		563.1 -> 269.1	7989				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	66048	4.61	µg/L		100
		632.9 -> 452.9	22642				
9Cl-PF3ONS	8.758	530.8 -> 351.0	112999	4.88	µg/L		100
		532.8 -> 353.0	35877				
ADONA	6.858	376.9 -> 250.9	246818	4.83	µg/L		100
		376.9 -> 84.8	65497				
HFPO-DA	6.046	284.9 -> 168.9	17245	5.05	µg/L		100
		284.9 -> 184.9	1831				
3:3FTCA	3.859	241.0 -> 177.0	11050	12.18	µg/L		100
		241.0 -> 117.0	1495				
5:3FTCA	6.285	341.0 -> 237.1	250631	63.27	µg/L		100
		341.0 -> 217.0	177983				
7:3FTCA	7.673	441.0 -> 316.9	178331	60.86	µg/L		100
		441.0 -> 336.9	406814				
EtFOSA	10.985	526.0 -> 219.0	31341	5.03	µg/L		100
		526.0 -> 169.0	41495				
EtFOSE	10.931	630.0 -> 58.9	85194	12.12	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	26196	5.13	µg/L		100
		511.9 -> 169.0	37911				
MeFOSE	10.697	616.1 -> 58.9	57192	12.38	µg/L		100
PFDoDS	9.978	699.1 -> 79.9	3648	2.51	µg/L		100
		699.1 -> 98.8	2029				
NFDHA	5.551	295.0 -> 201.0	11682	4.77	µg/L		100
		295.0 -> 84.9	3331				
PFMBA	4.869	279.0 -> 85.1	46551	5.04	µg/L		100
PFMPA	3.576	229.0 -> 84.9	37211	5.03	µg/L		100
PFEESA	6.163	314.8 -> 134.9	111400	4.31	µg/L		100
		314.8 -> 82.9	3882				

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

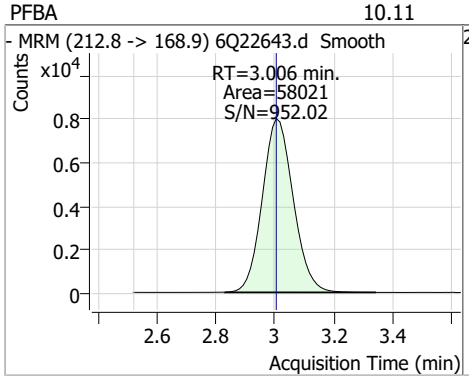
Perfluorinated Compounds by LC/MS/MS

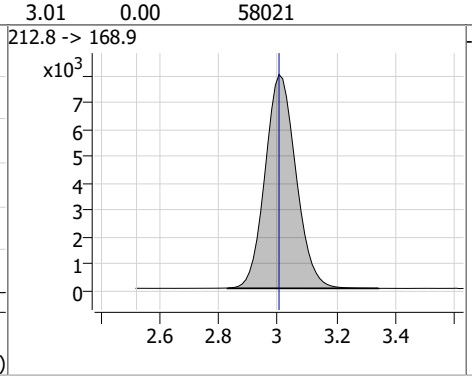
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

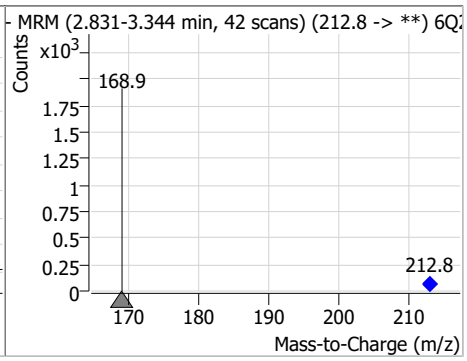
Perfluorinated Compounds by LC/MS/MS



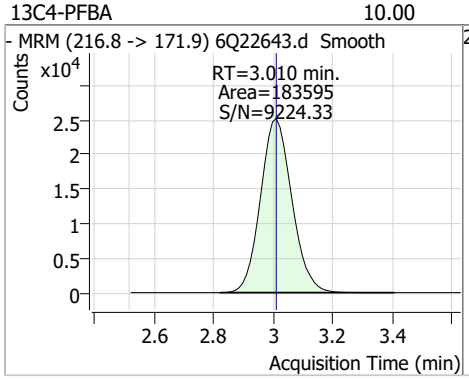
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	10.11	3.01	0.00	58021				

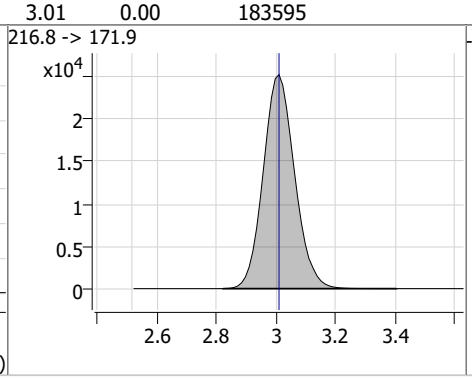


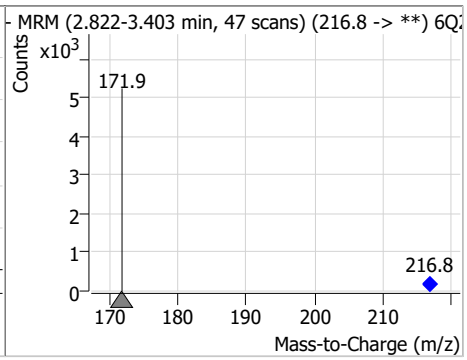




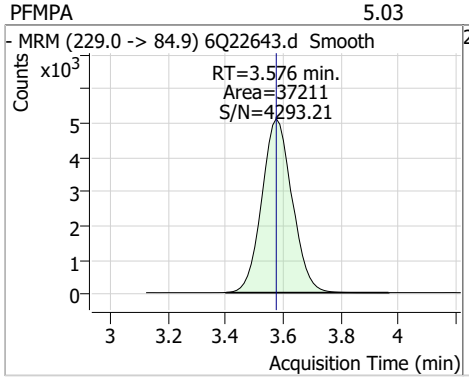
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.00	3.01	0.00	183595				

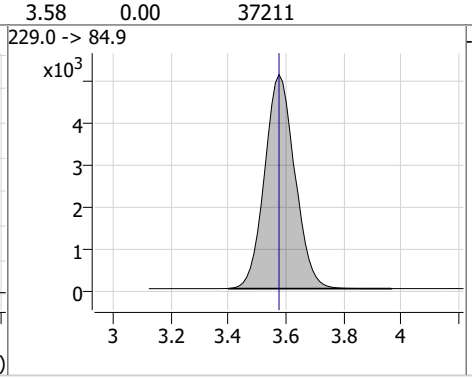


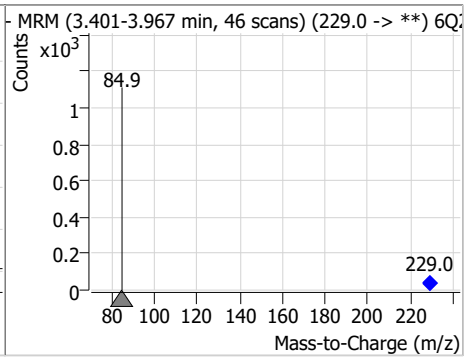




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	5.03	3.58	0.00	37211				

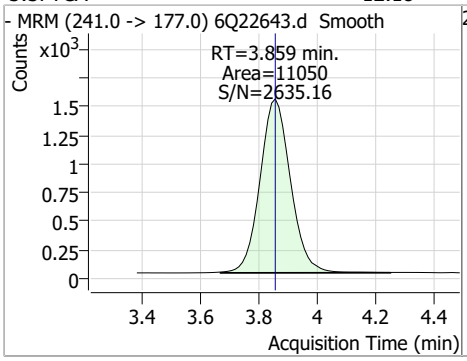


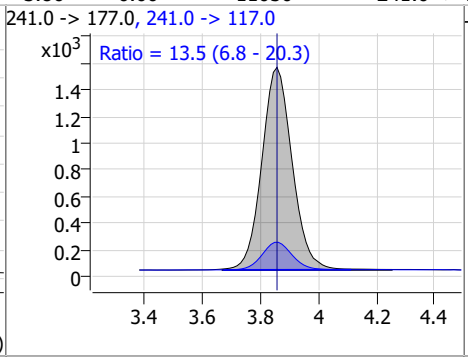


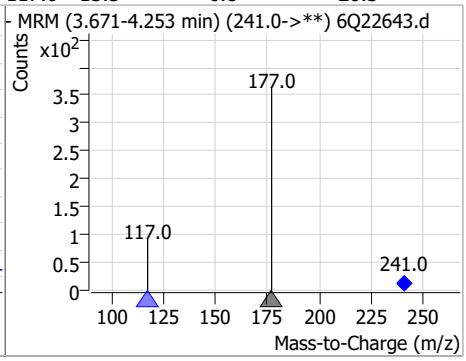


Perfluorinated Compounds by LC/MS/MS

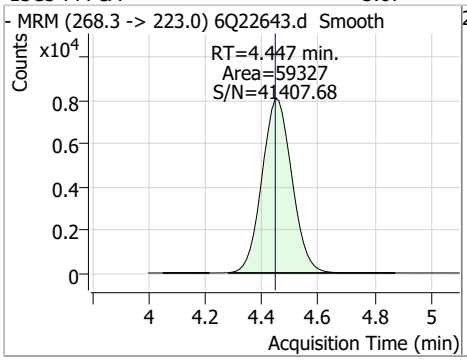
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.18	3.86	0.00	11050	241.0 -> 117.0	13.5	6.8	20.3

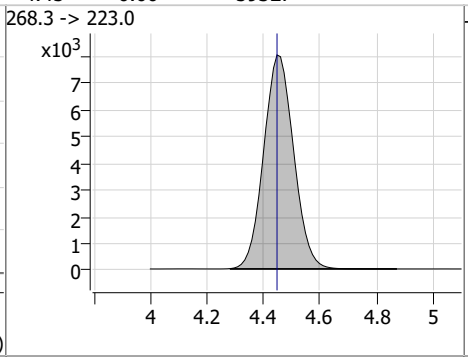


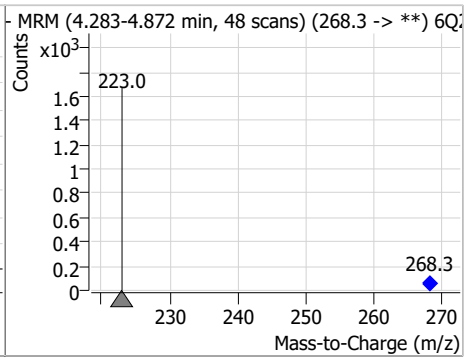




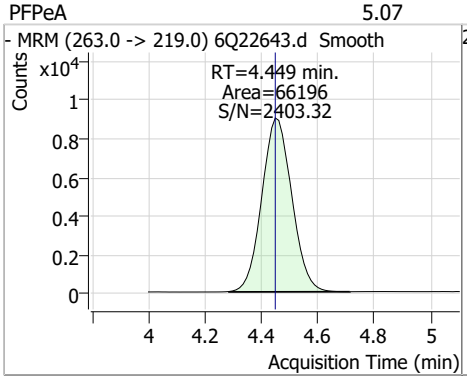
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.07	4.45	0.00	59327				

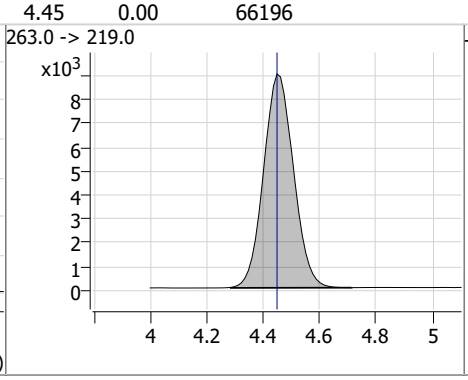


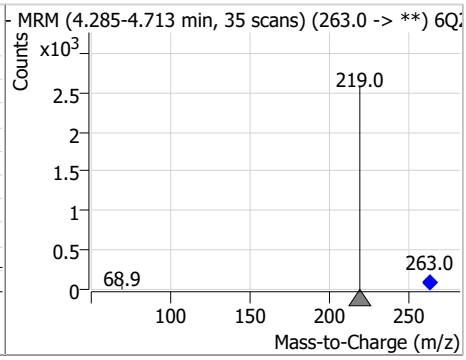




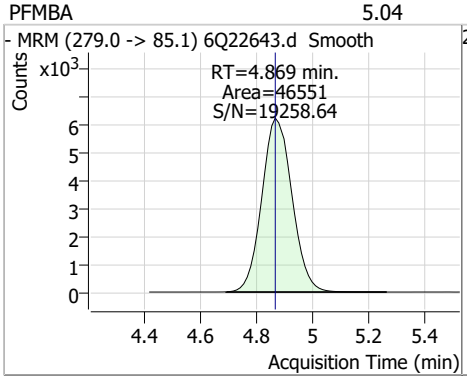
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	5.07	4.45	0.00	66196				

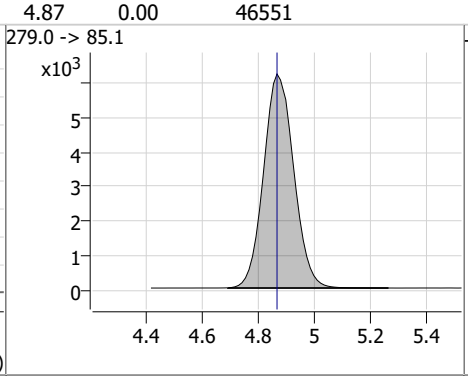


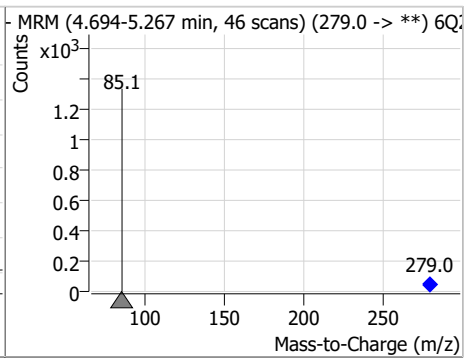




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.04	4.87	0.00	46551				

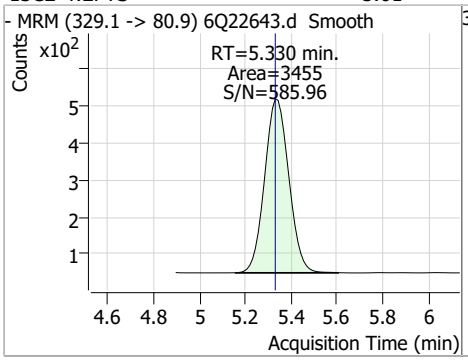


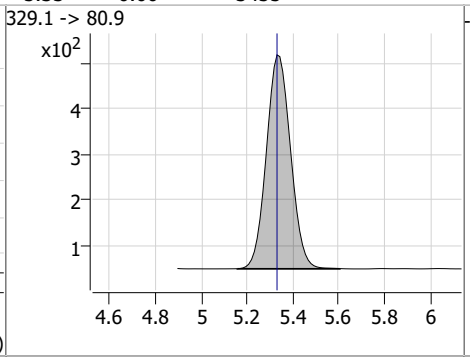


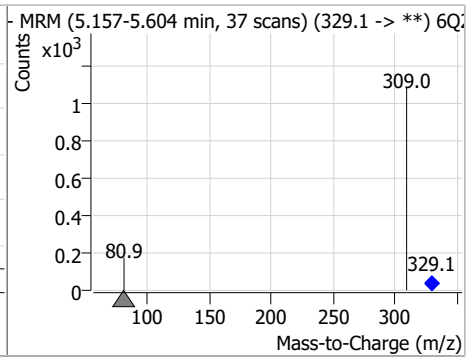


Perfluorinated Compounds by LC/MS/MS

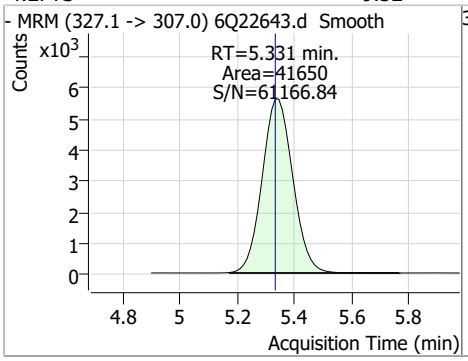
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.61	5.33	0.00	3455				

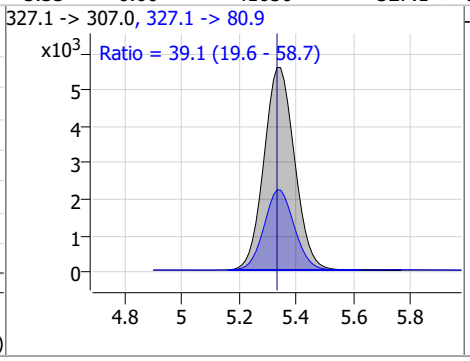


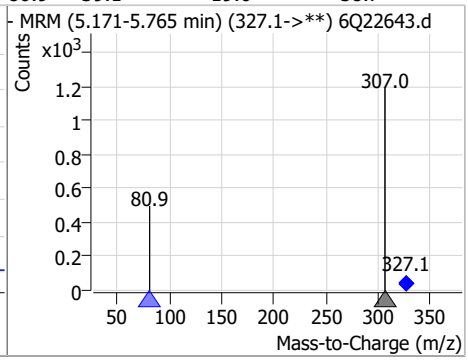




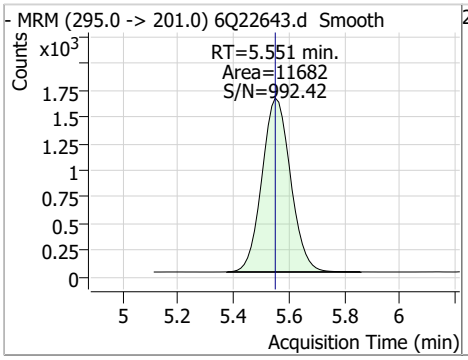
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.32	5.33	0.00	41650	327.1 -> 80.9	39.1	19.6	58.7

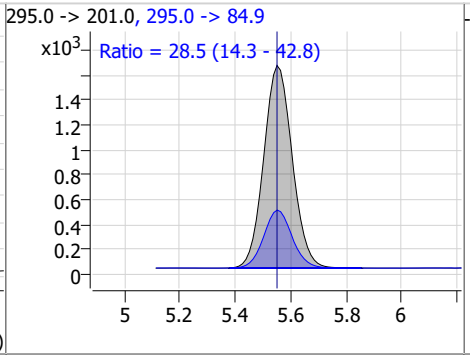


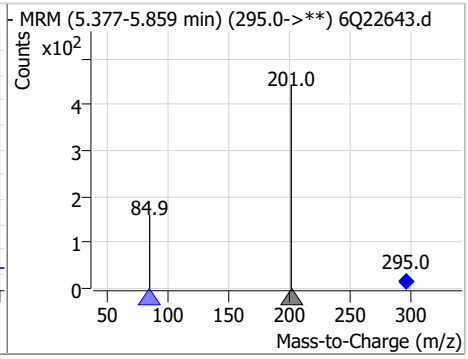




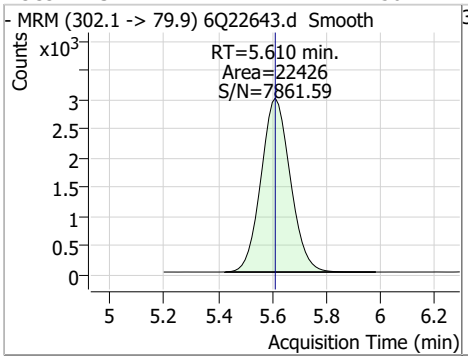
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.77	5.55	0.00	11682	295.0 -> 84.9	28.5	14.3	42.8

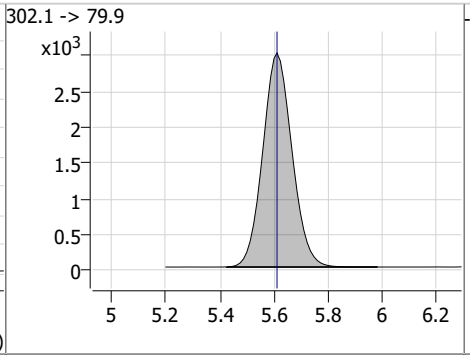


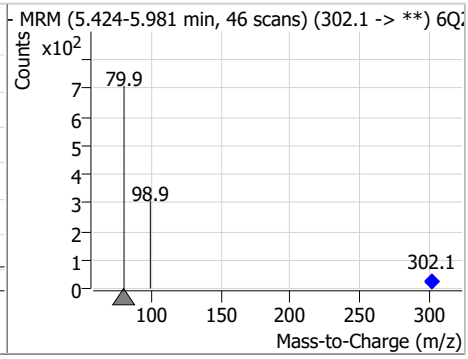




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.56	5.61	0.00	22426				

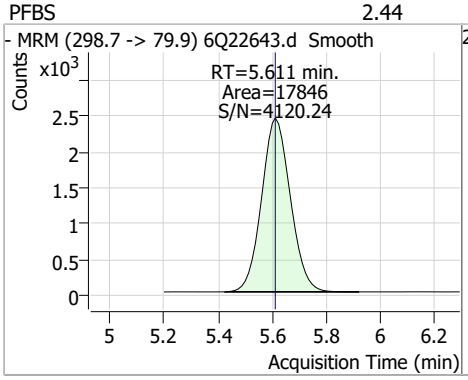


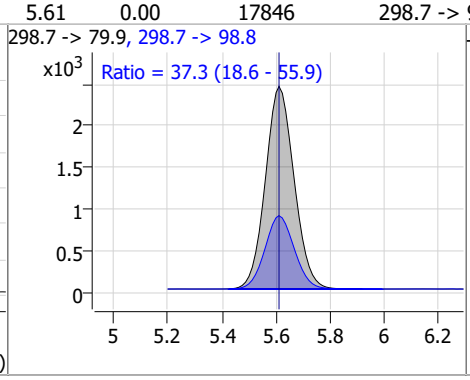


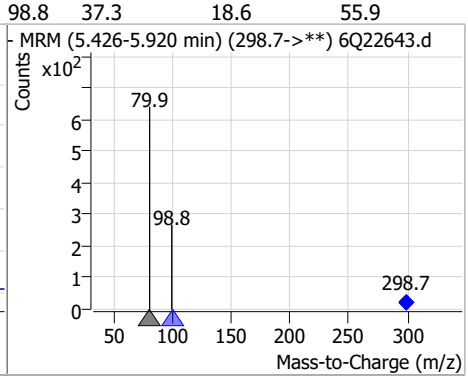


Perfluorinated Compounds by LC/MS/MS

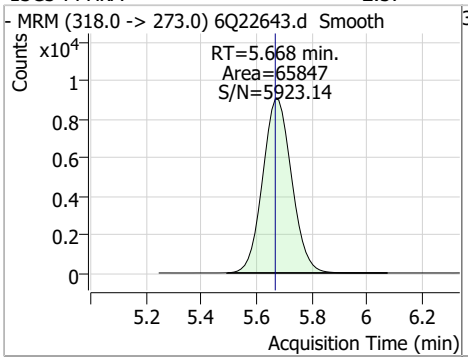
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.44	5.61	0.00	17846	298.7 -> 98.8	37.3	18.6	55.9

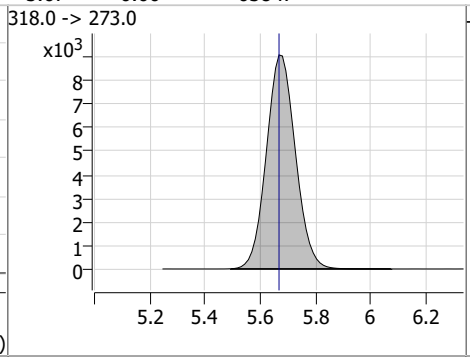


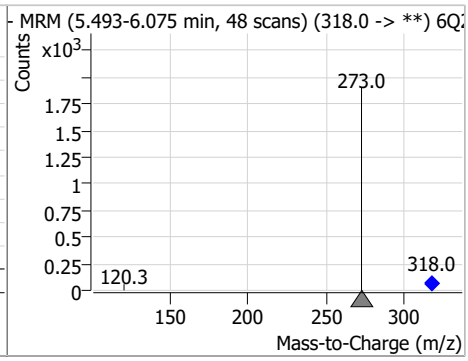




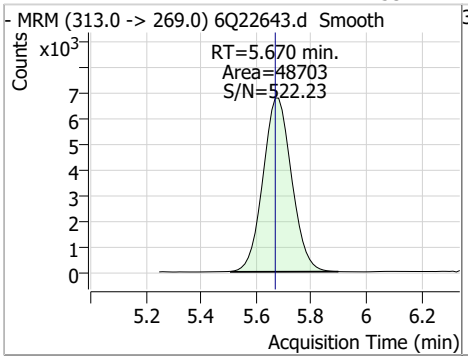
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.57	5.67	0.00	65847				

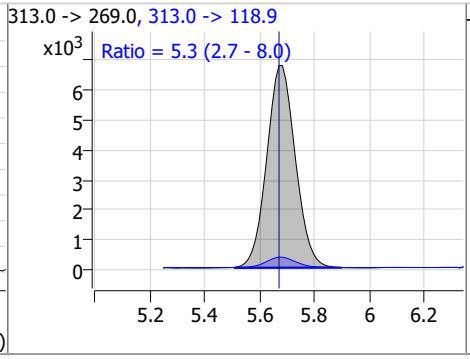


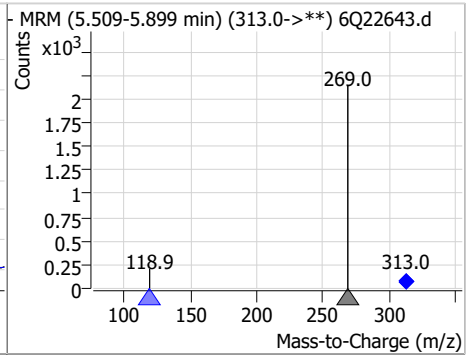




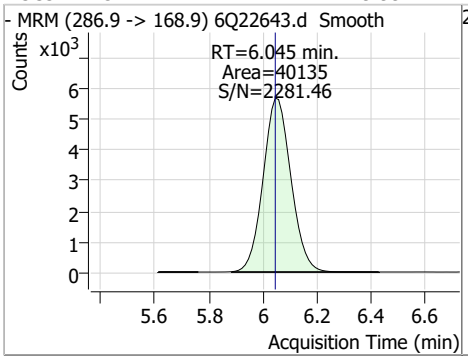
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.53	5.67	0.00	48703	313.0 -> 118.9	5.3	2.7	8.0

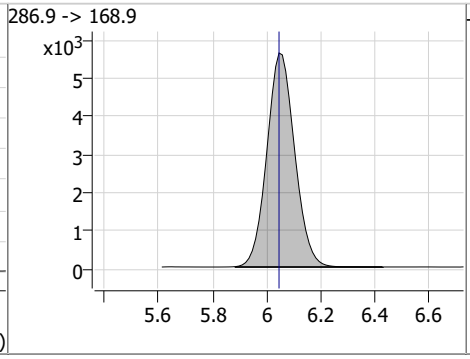


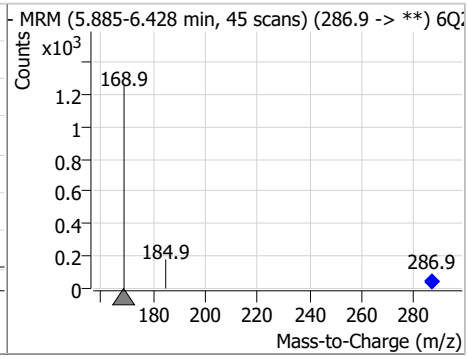




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.99	6.05	0.00	40135				

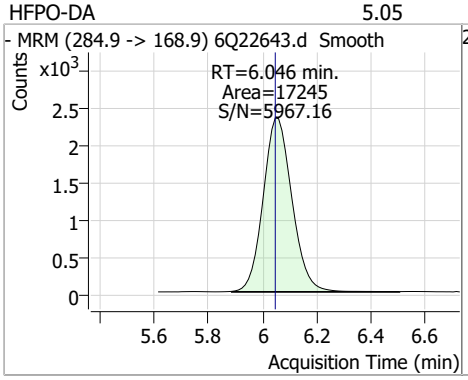


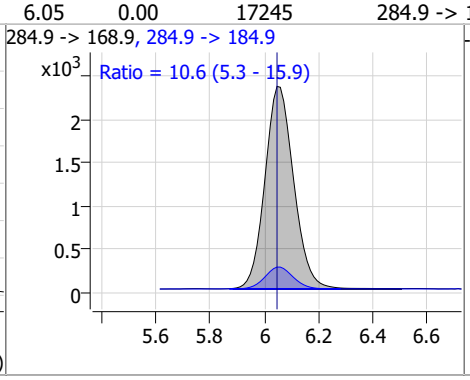


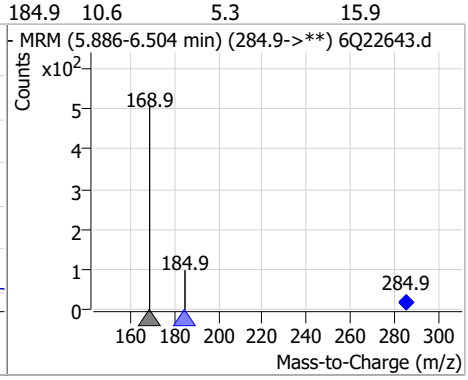


Perfluorinated Compounds by LC/MS/MS

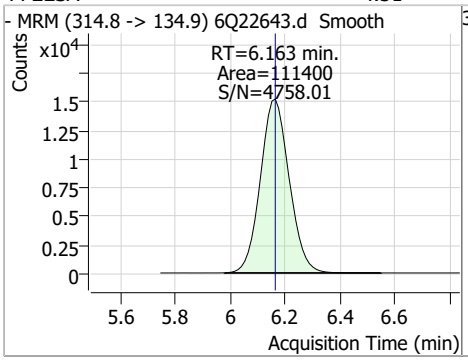
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.05	6.05	0.00	17245	284.9 -> 184.9	10.6	5.3	15.9

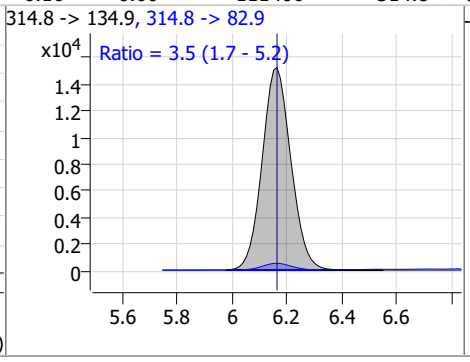


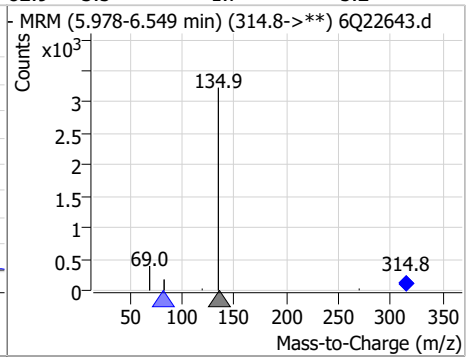




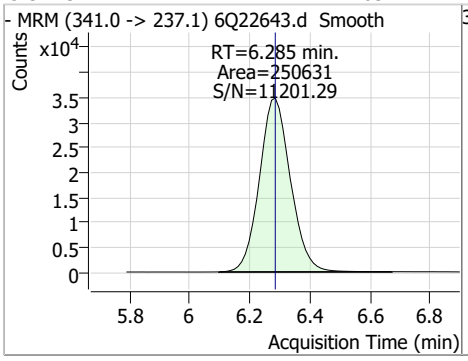
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.31	6.16	0.00	111400	314.8 -> 82.9	3.5	1.7	5.2

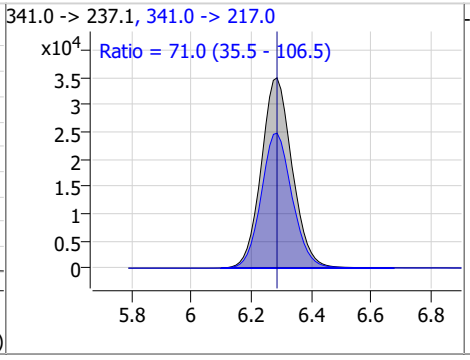


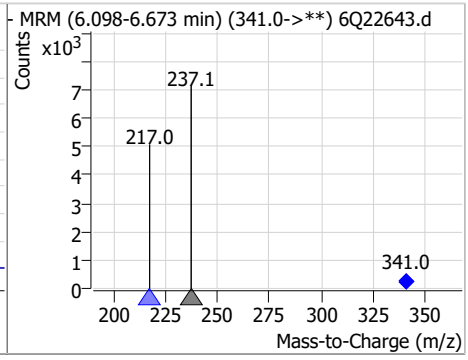




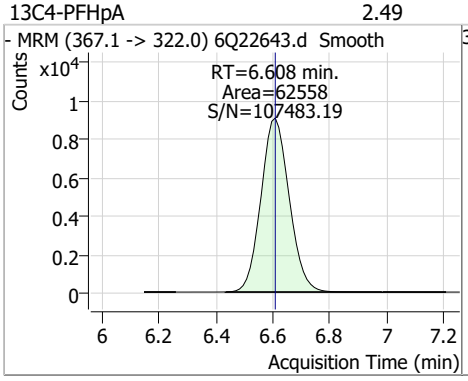
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	63.27	6.28	0.00	250631	341.0 -> 217.0	71.0	35.5	106.5

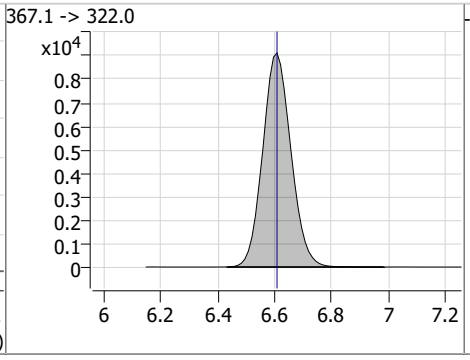


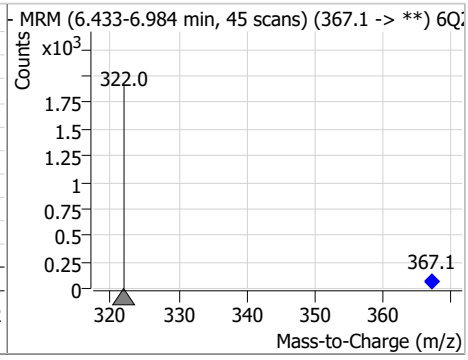




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.49	6.61	0.00	62558				

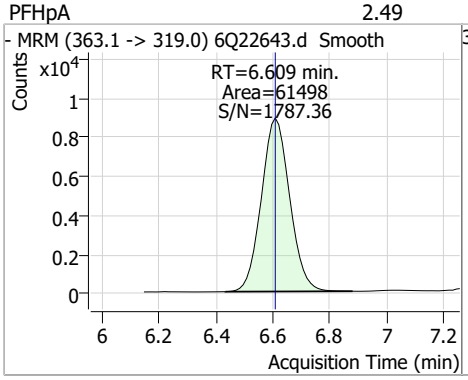


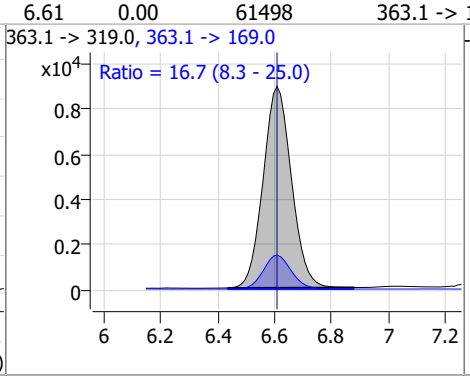


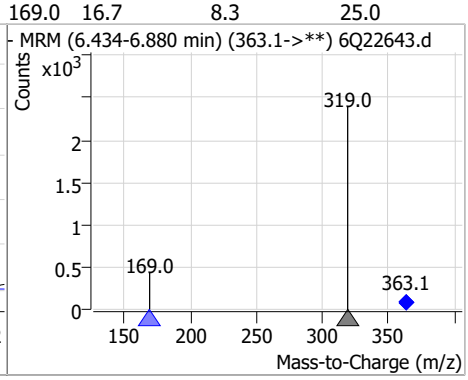


Perfluorinated Compounds by LC/MS/MS

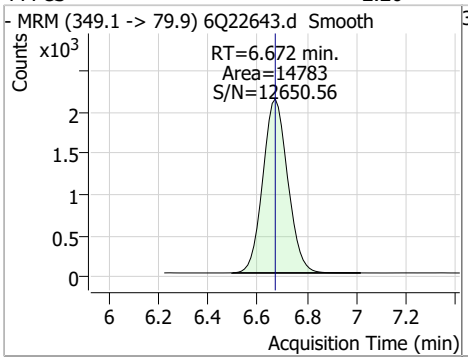
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.49	6.61	0.00	61498	363.1 -> 169.0	16.7	8.3	25.0

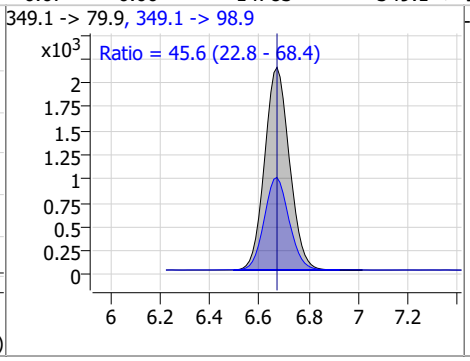


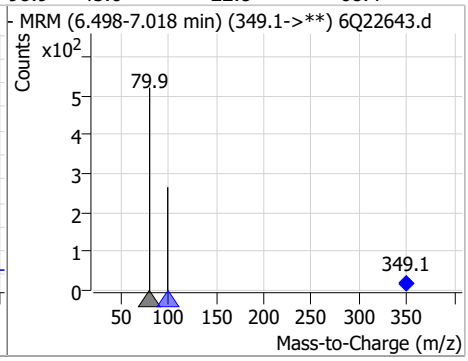




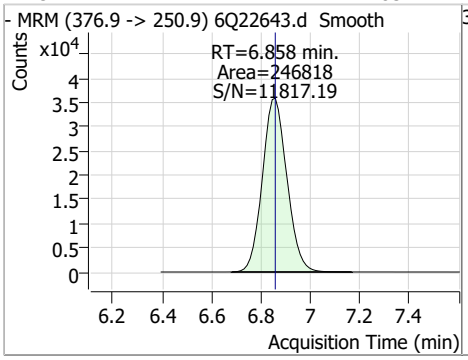
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.26	6.67	0.00	14783	349.1 -> 98.9	45.6	22.8	68.4

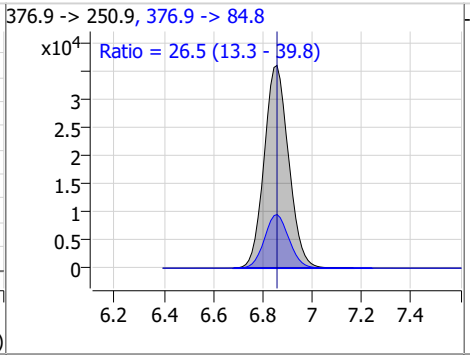


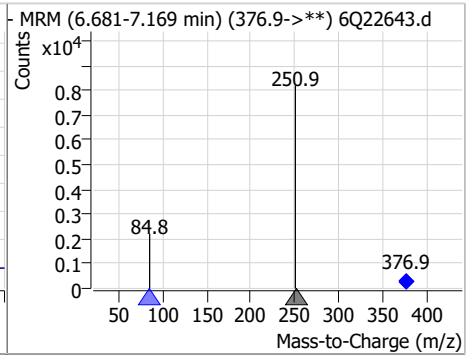




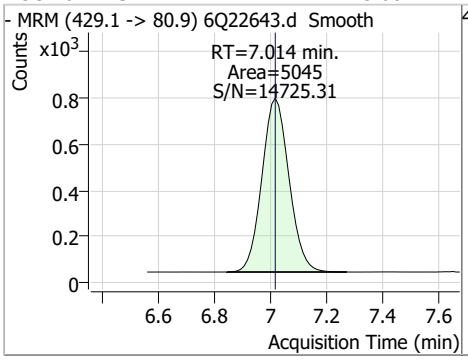
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.83	6.86	0.00	246818	376.9 -> 84.8	26.5	13.3	39.8

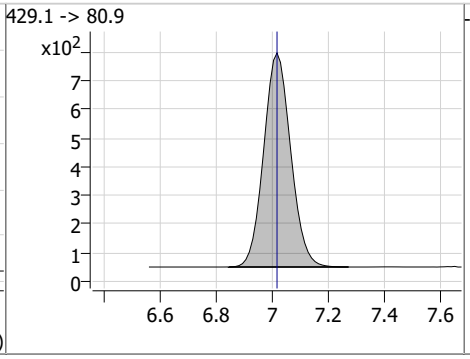


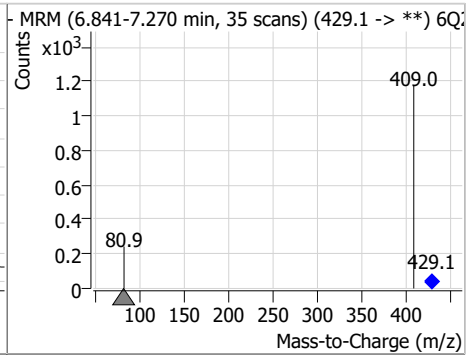




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.68	7.01	0.00	5045				

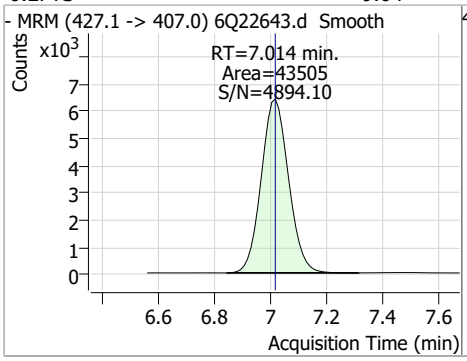


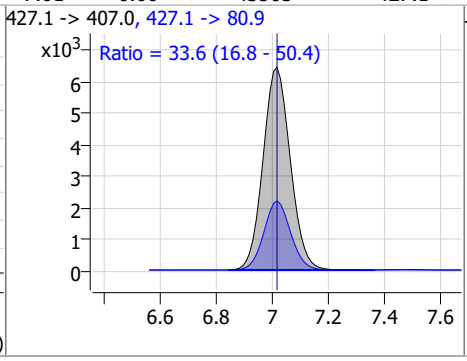


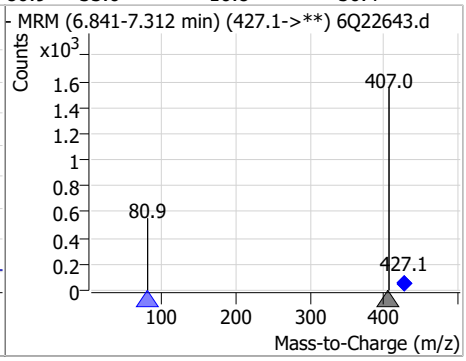


Perfluorinated Compounds by LC/MS/MS

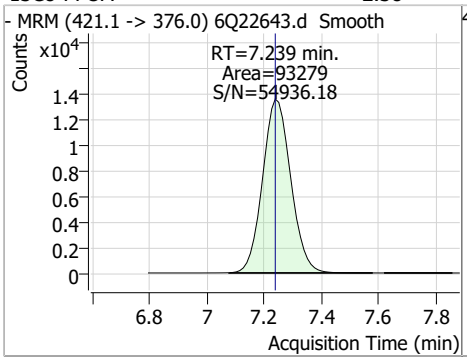
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.64	7.01	0.00	43505	427.1 -> 80.9	33.6	16.8	50.4

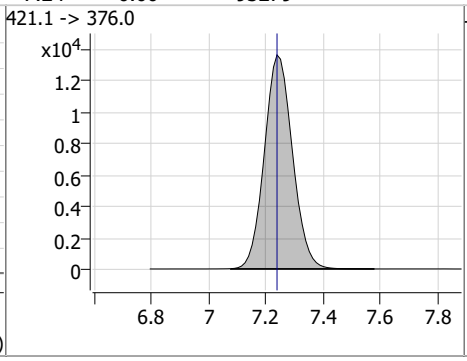


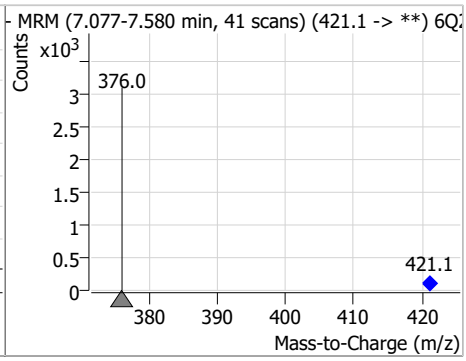




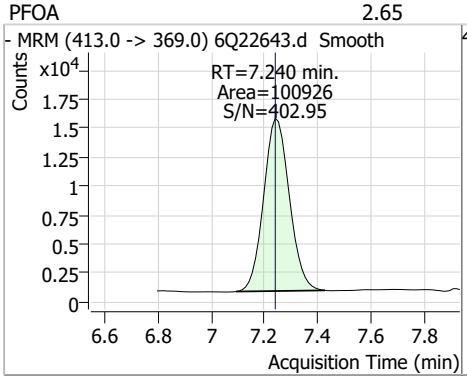
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.38	7.24	0.00	93279				

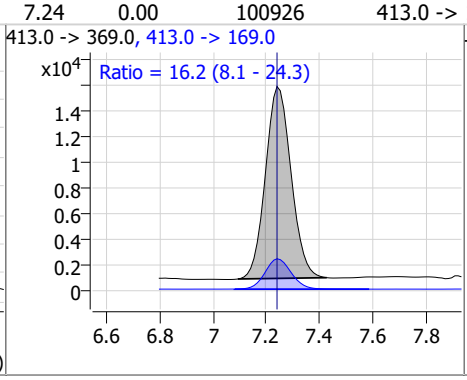


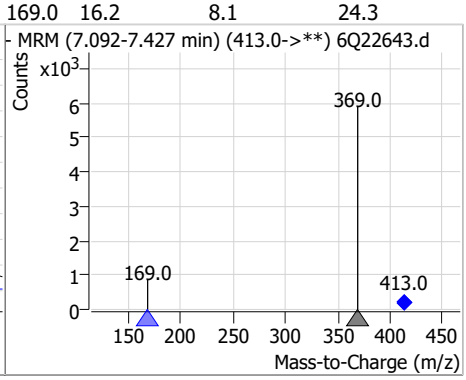




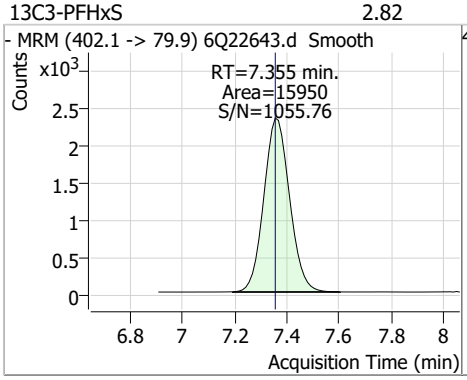
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.65	7.24	0.00	100926	413.0 -> 169.0	16.2	8.1	24.3

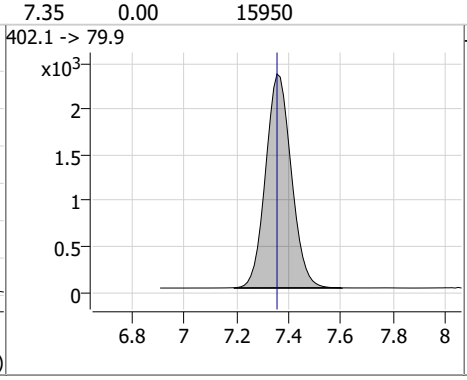


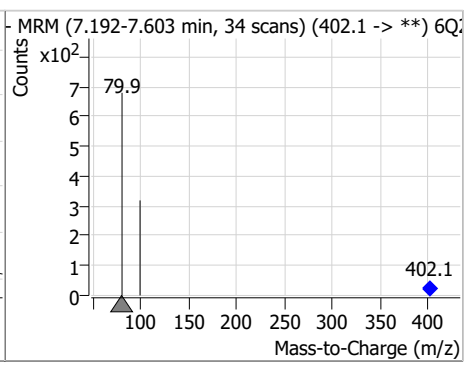




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.82	7.35	0.00	15950				

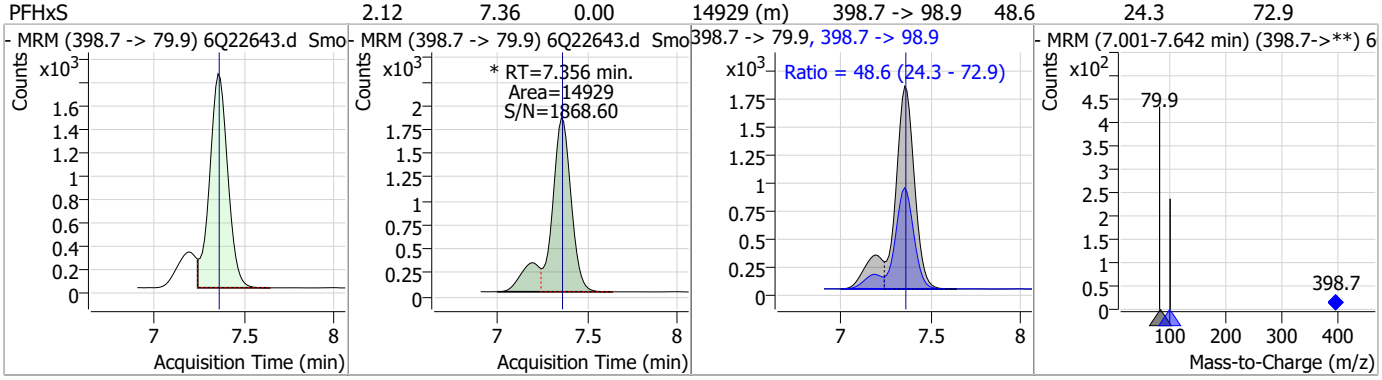




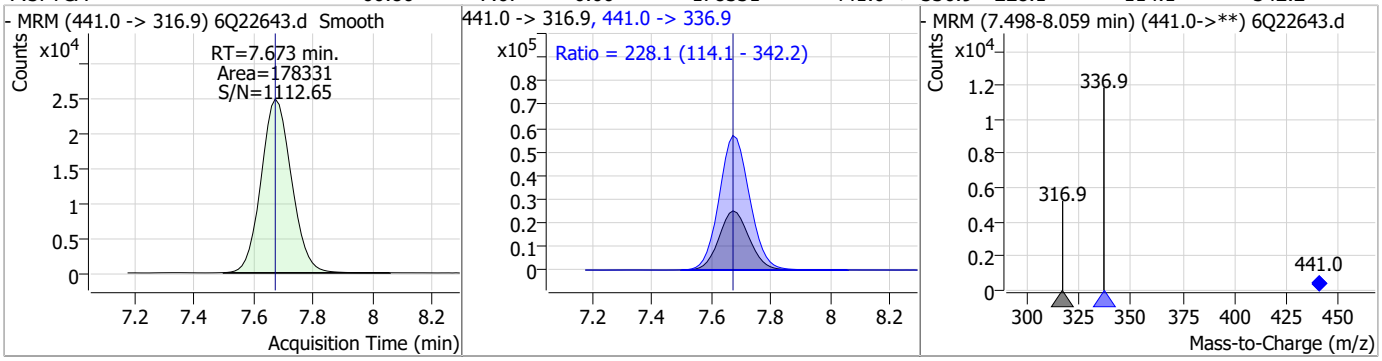


Perfluorinated Compounds by LC/MS/MS

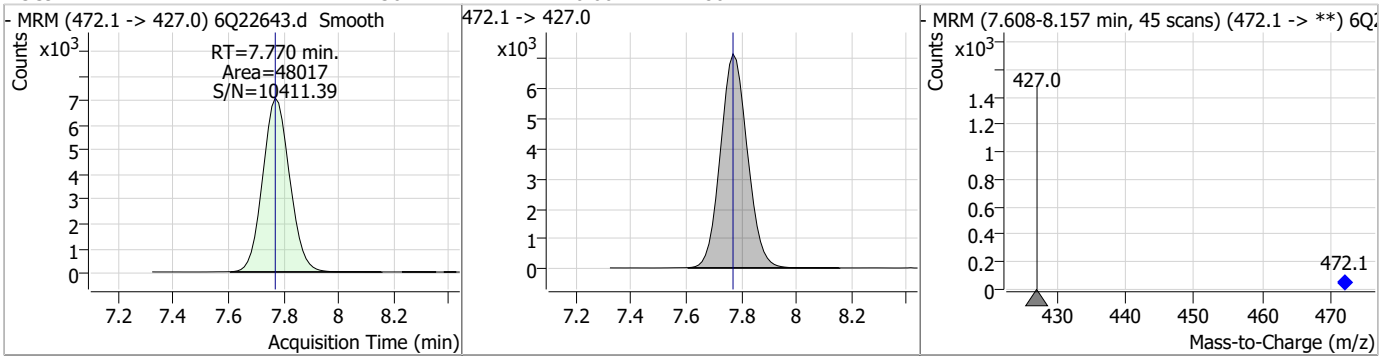
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.12	7.36	0.00	14929 (m)	398.7 -> 98.9	48.6	24.3	72.9



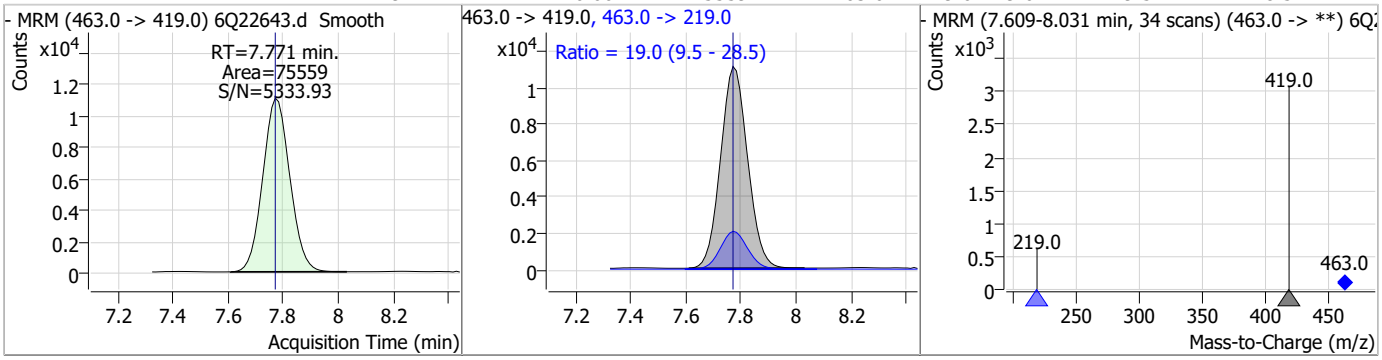
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	60.86	7.67	0.00	178331	441.0 -> 336.9	228.1	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.36	7.77	0.00	48017				

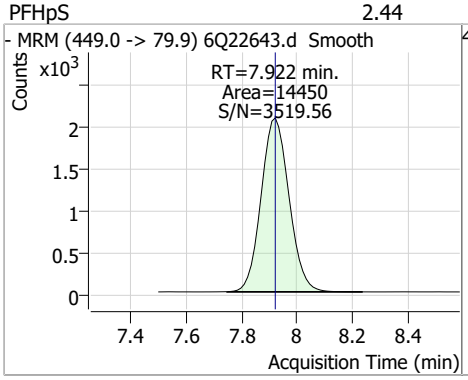


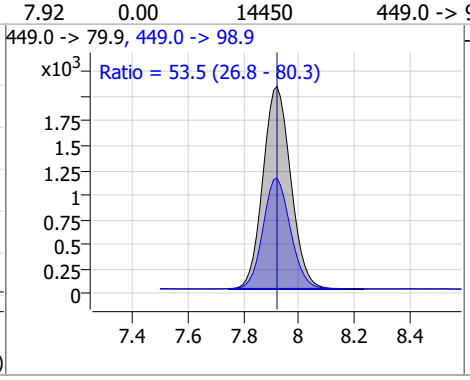
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.29	7.77	0.00	75559	463.0 -> 219.0	19.0	9.5	28.5

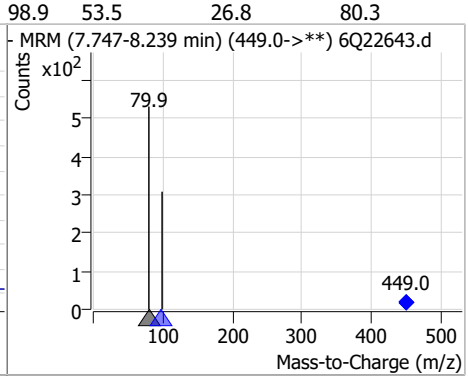


Perfluorinated Compounds by LC/MS/MS

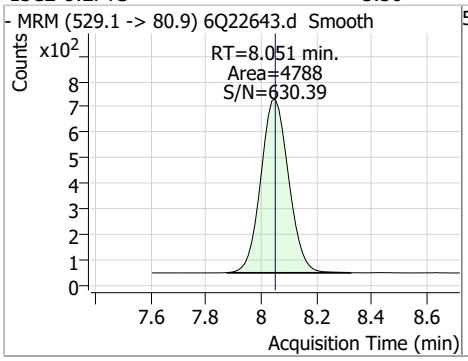
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.44	7.92	0.00	14450	449.0 -> 98.9	53.5	26.8	80.3

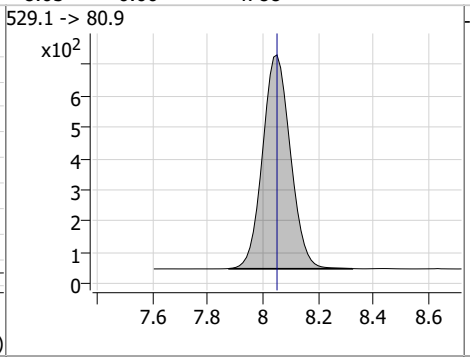


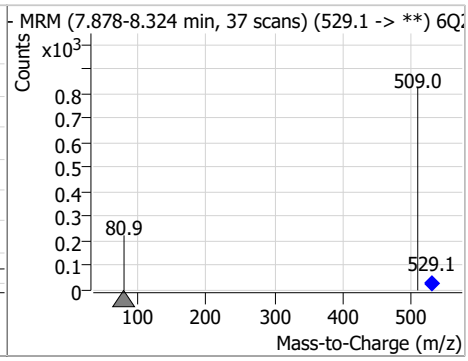




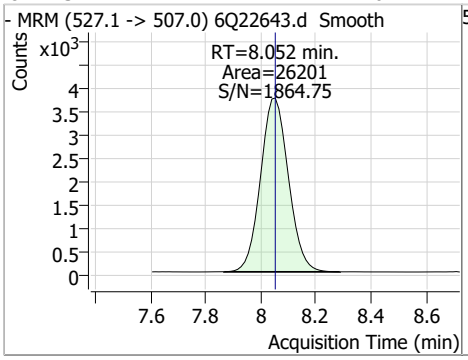
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.50	8.05	0.00	4788				

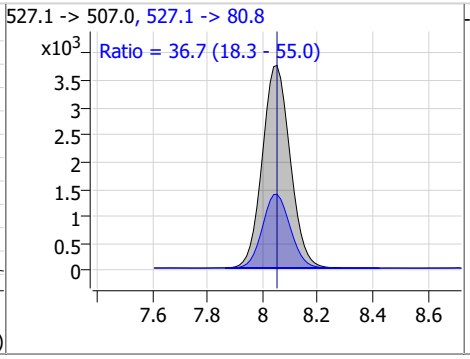


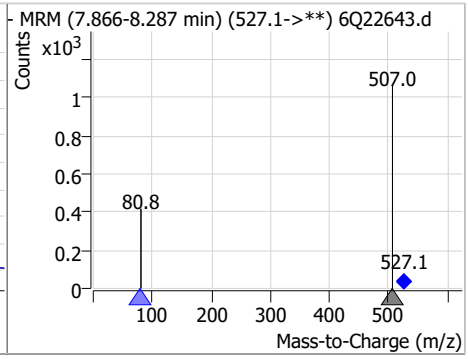




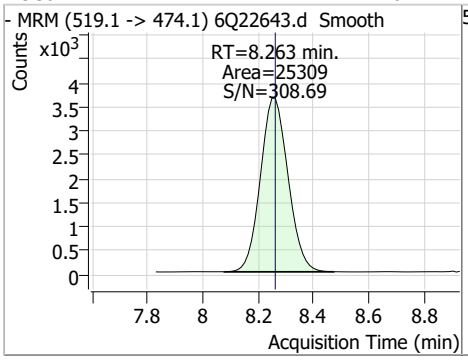
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	10.22	8.05	0.00	26201	527.1 -> 80.8	36.7	18.3	55.0

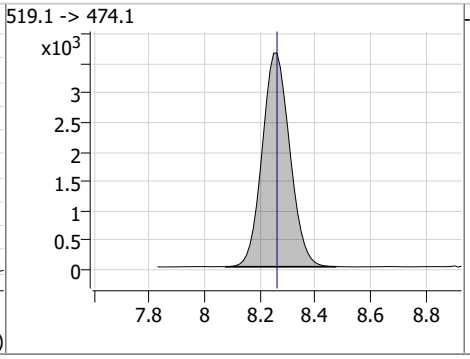


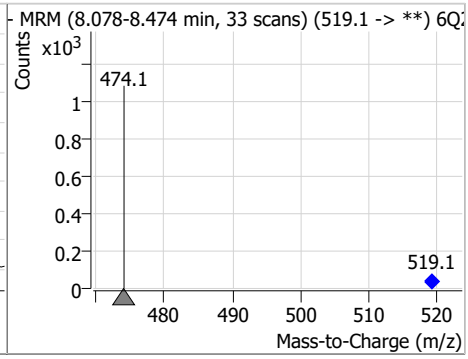




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.16	8.26	0.00	25309				

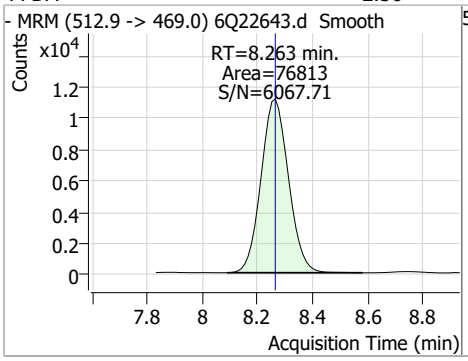


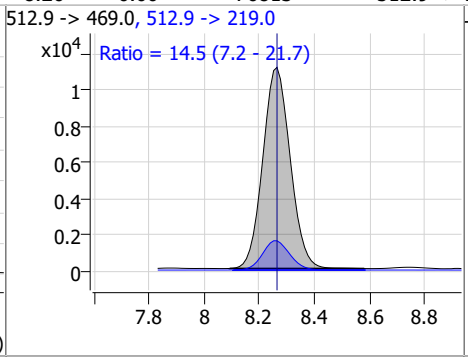


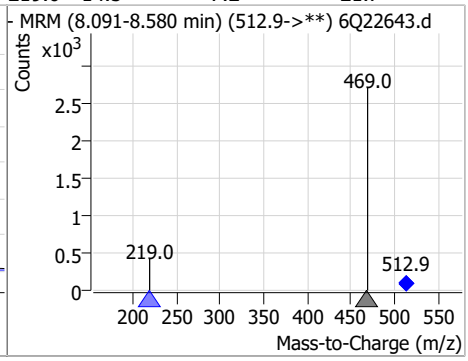


Perfluorinated Compounds by LC/MS/MS

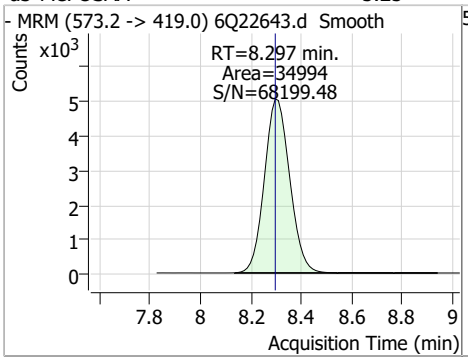
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.56	8.26	0.00	76813	512.9 -> 219.0	14.5	7.2	21.7

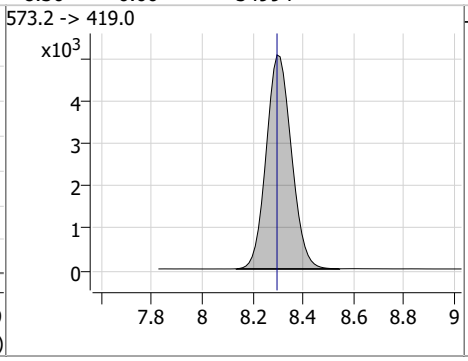


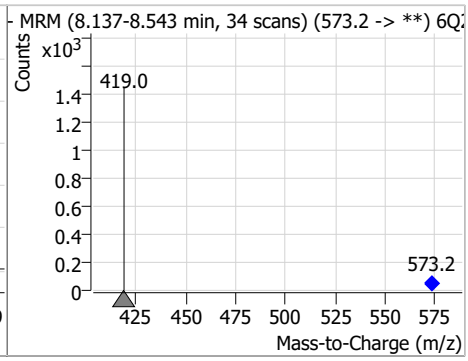




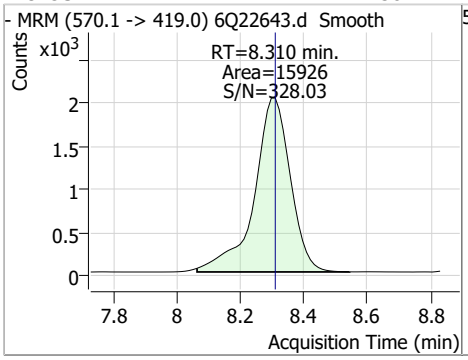
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.25	8.30	0.00	34994				

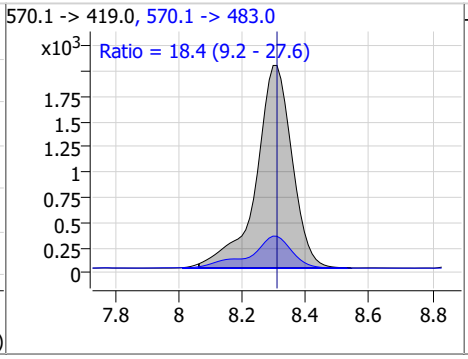


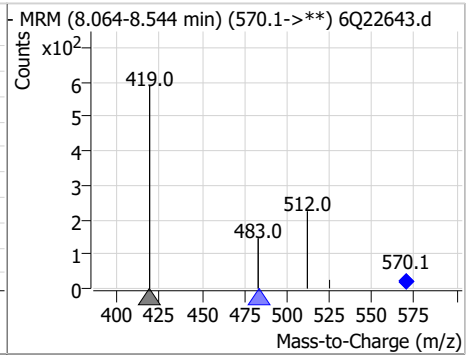




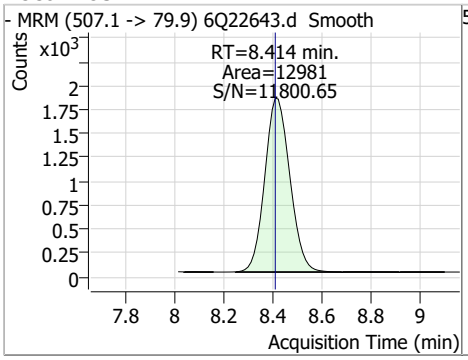
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.38	8.31	0.00	15926	570.1 -> 483.0	18.4	9.2	27.6

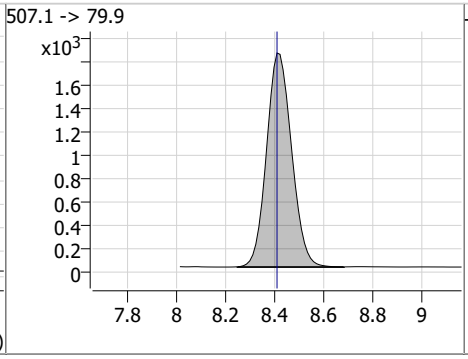


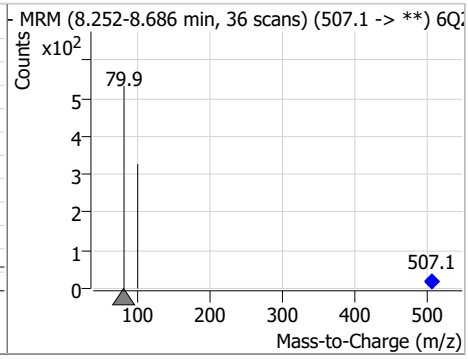




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.41	8.41	0.00	12981				

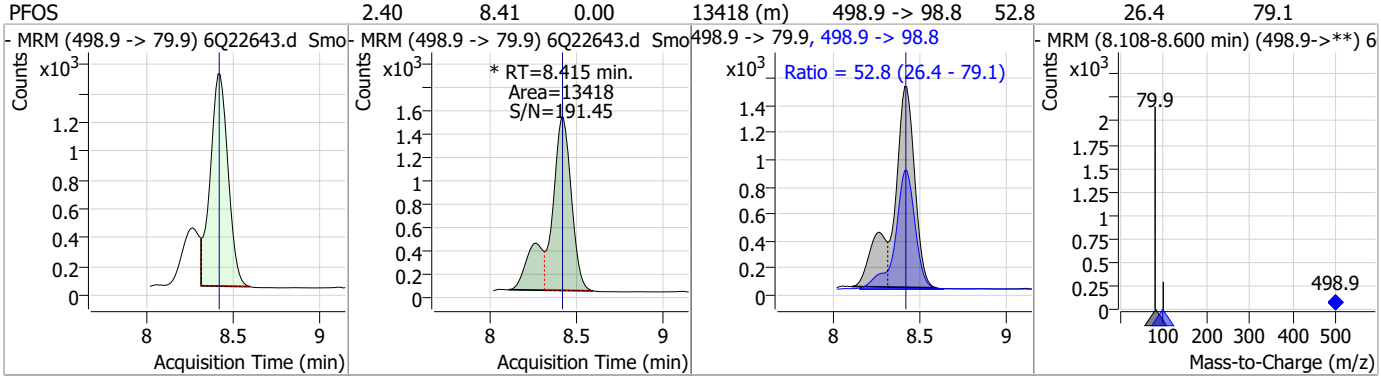




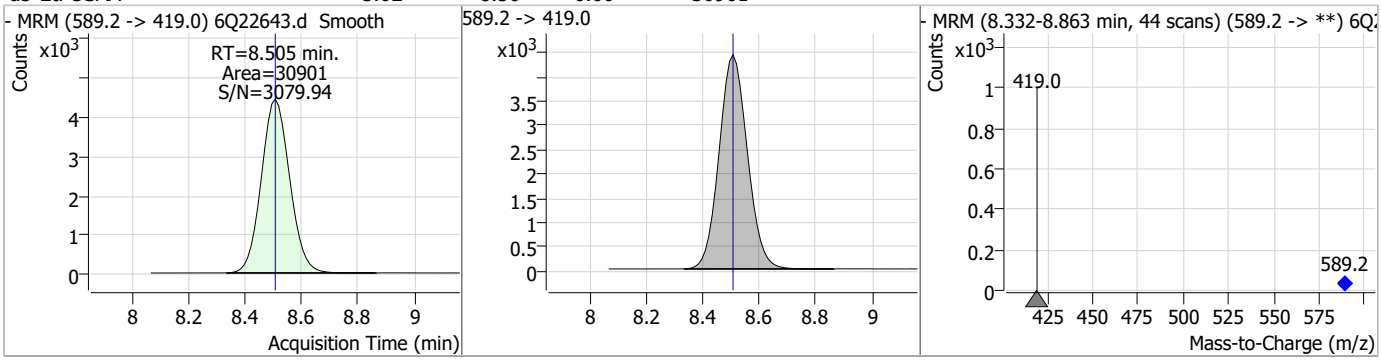


Perfluorinated Compounds by LC/MS/MS

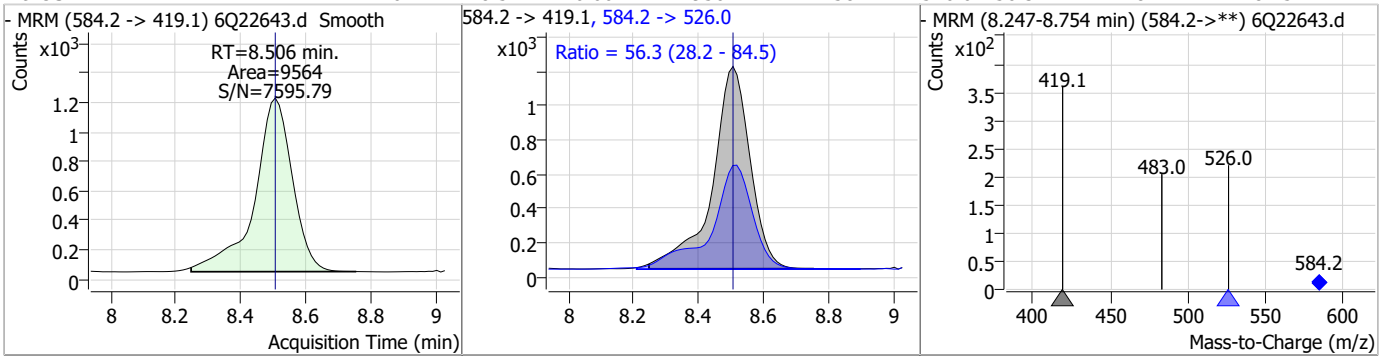
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.40	8.41	0.00	13418 (m)	498.9 -> 98.8	52.8	26.4	79.1



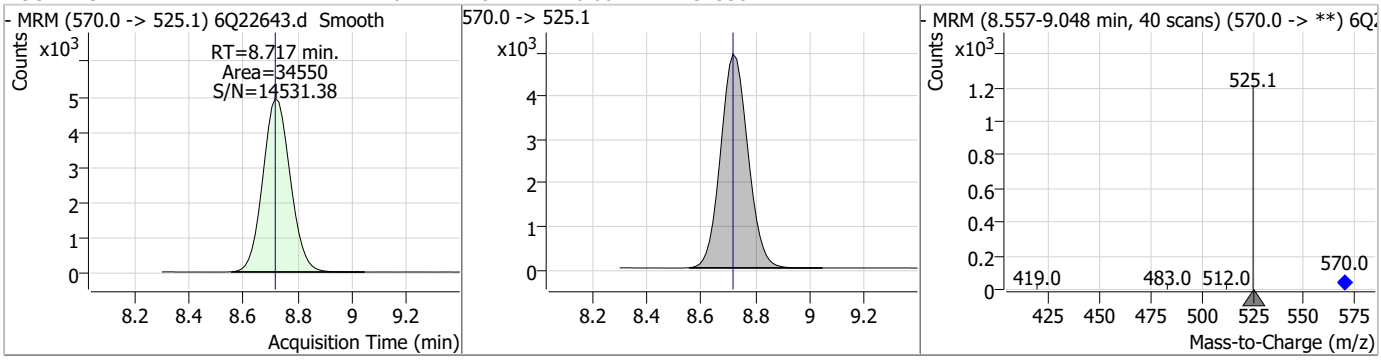
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.02	8.50	0.00	30901				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.46	8.51	0.00	9564	584.2 -> 526.0	56.3	28.2	84.5

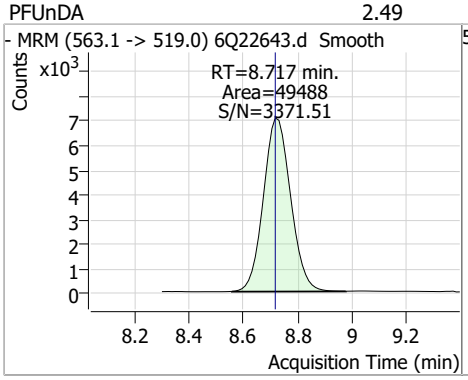


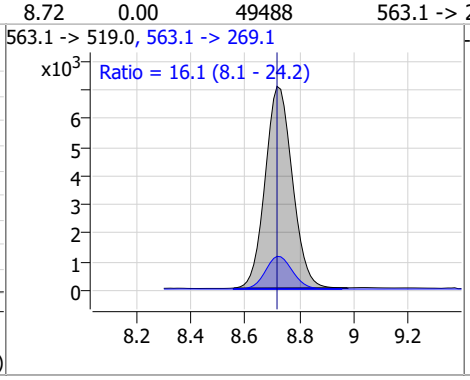
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.20	8.72	0.00	34550				

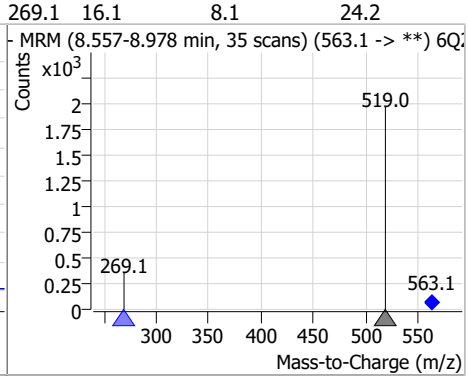


Perfluorinated Compounds by LC/MS/MS

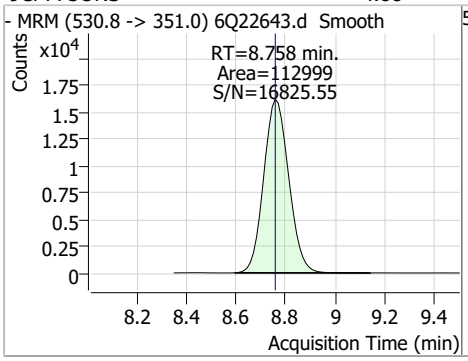
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.49	8.72	0.00	49488	563.1 -> 269.1	16.1	8.1	24.2

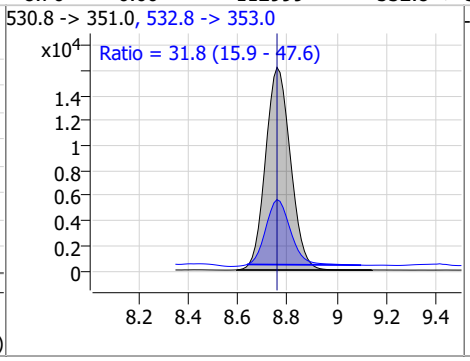


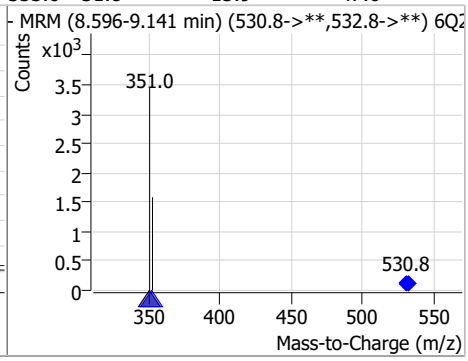




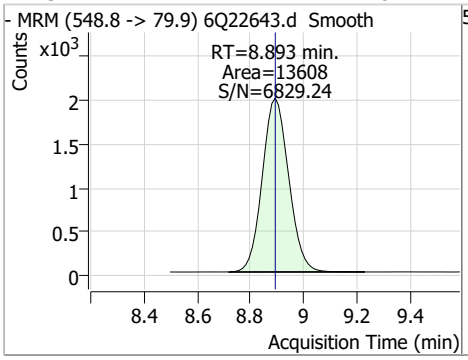
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.88	8.76	0.00	112999	532.8 -> 353.0	31.8	15.9	47.6

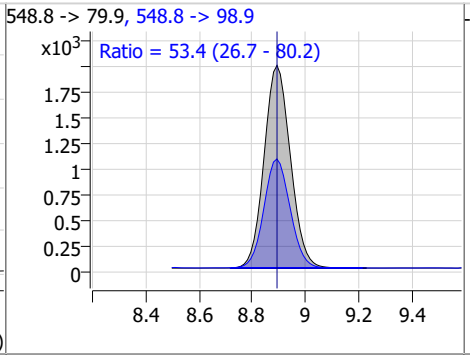


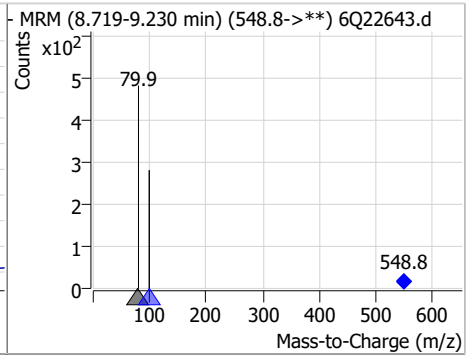




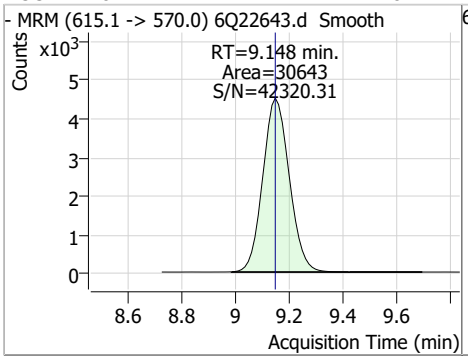
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.54	8.89	0.00	13608	548.8 -> 98.9	53.4	26.7	80.2

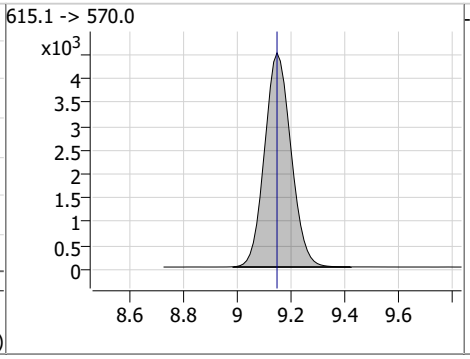


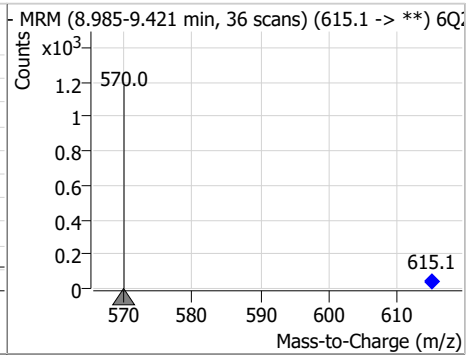




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.18	9.15	0.00	30643				

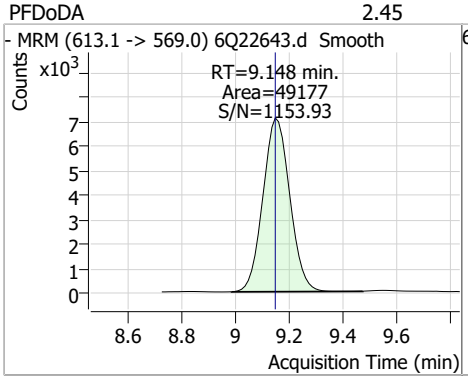


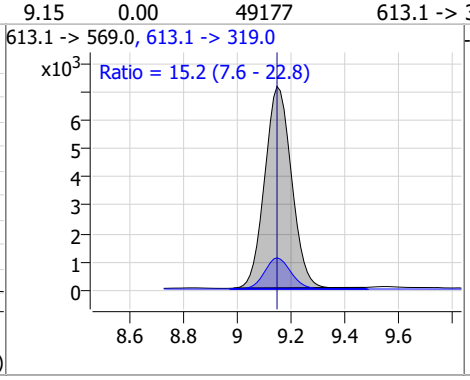


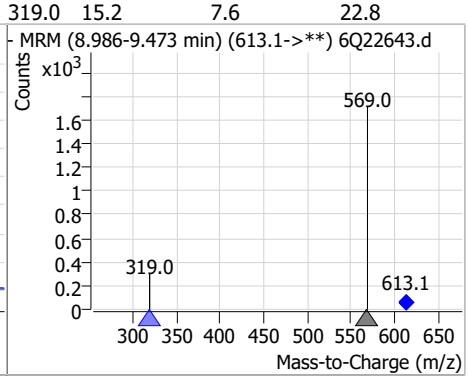


Perfluorinated Compounds by LC/MS/MS

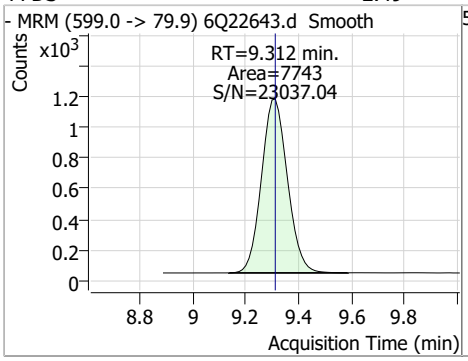
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.45	9.15	0.00	49177	613.1 -> 319.0	15.2	7.6	22.8

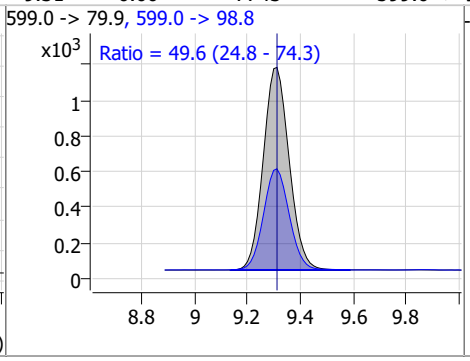


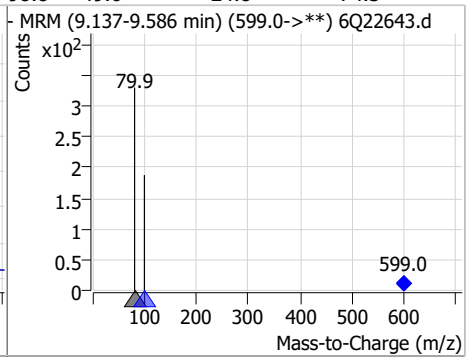




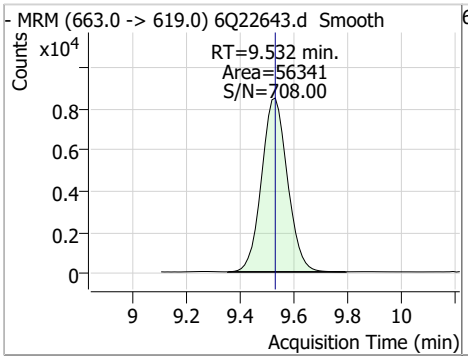
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.49	9.31	0.00	7743	599.0 -> 98.8	49.6	24.8	74.3

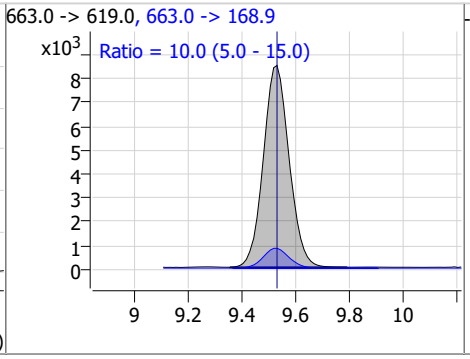


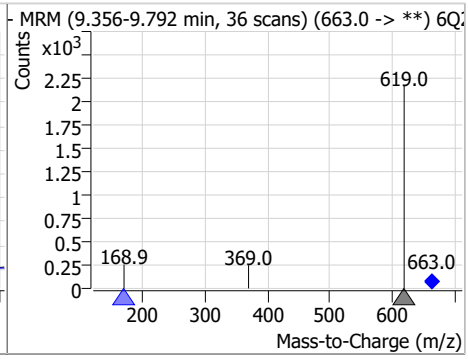




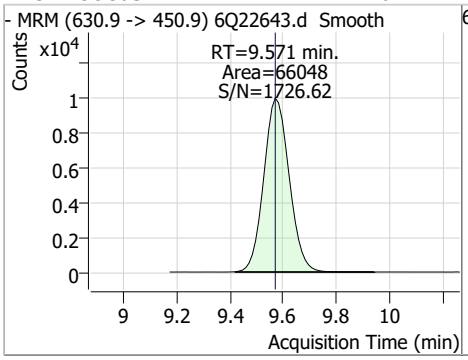
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.72	9.53	0.00	56341	663.0 -> 168.9	10.0	5.0	15.0

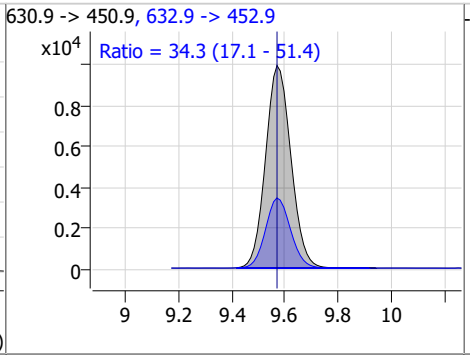


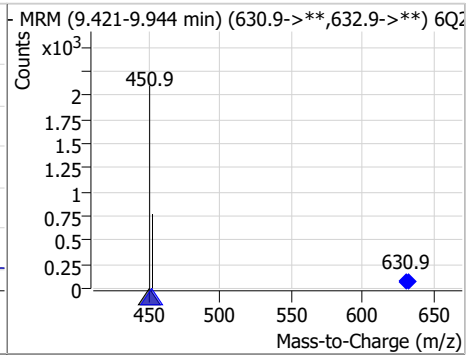




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.61	9.57	0.00	66048	632.9 -> 452.9	34.3	17.1	51.4

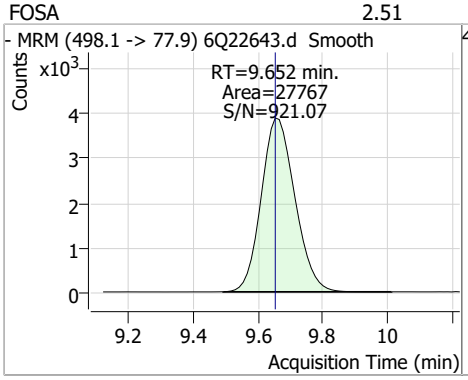


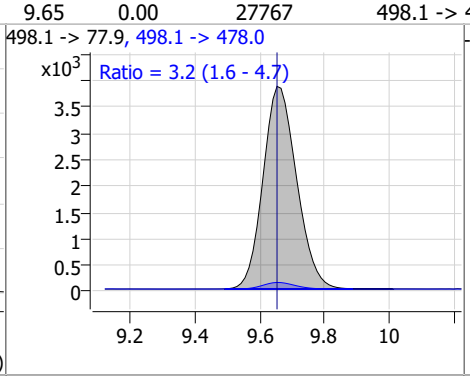


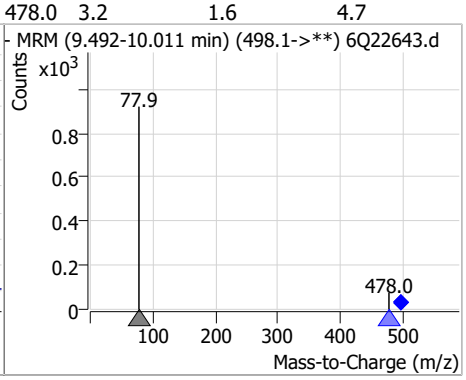


Perfluorinated Compounds by LC/MS/MS

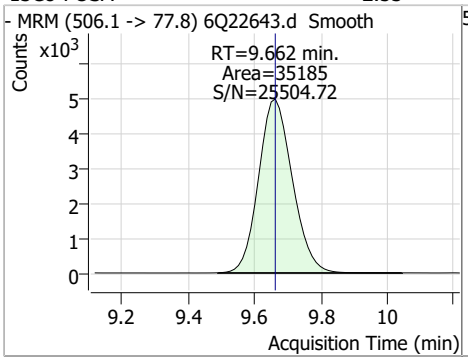
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.51	9.65	0.00	27767	498.1 -> 478.0	3.2	1.6	4.7

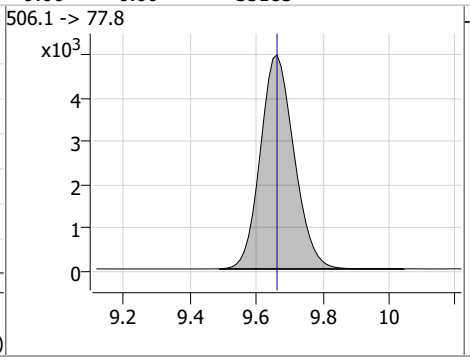


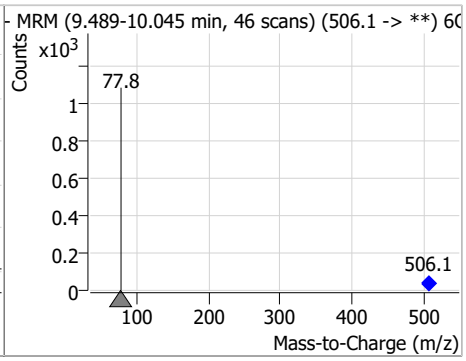




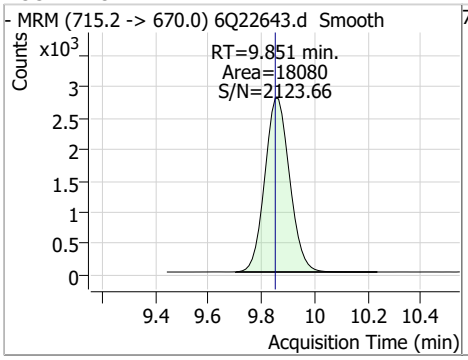
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.53	9.66	0.00	35185				

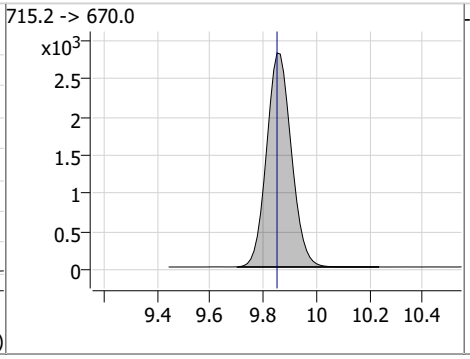


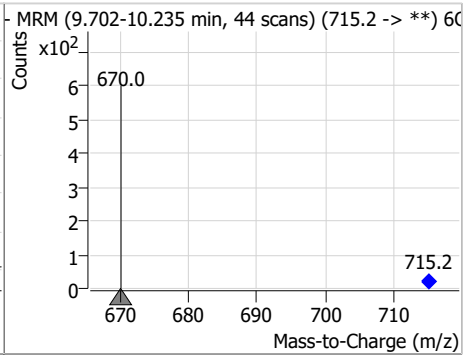




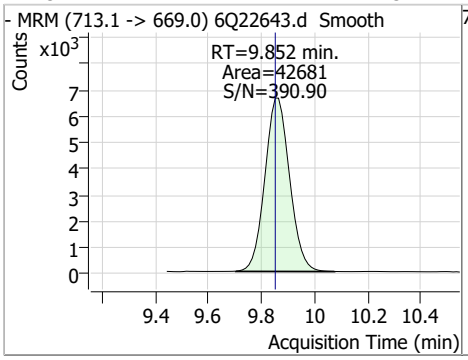
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.21	9.85	0.00	18080				

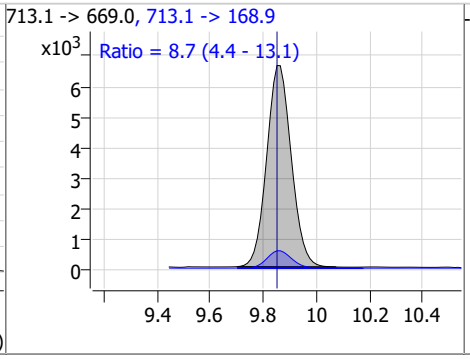


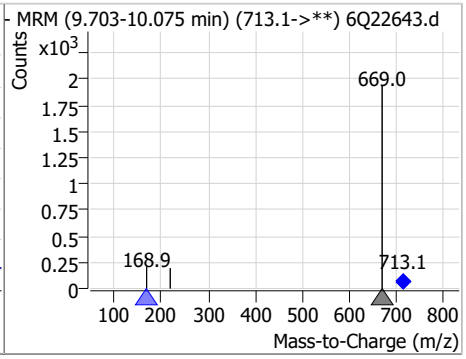




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.43	9.85	0.00	42681	713.1 -> 168.9	8.7	4.4	13.1

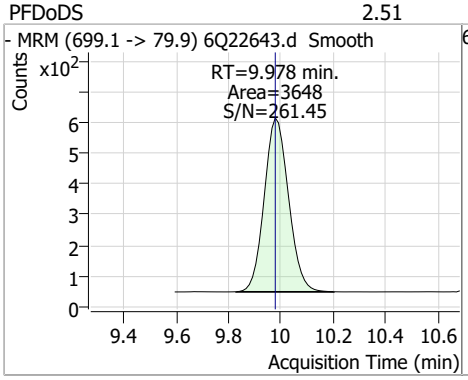


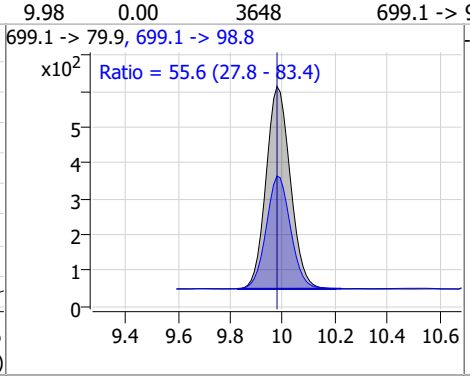


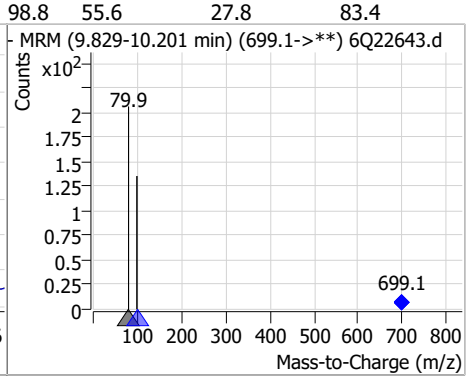


Perfluorinated Compounds by LC/MS/MS

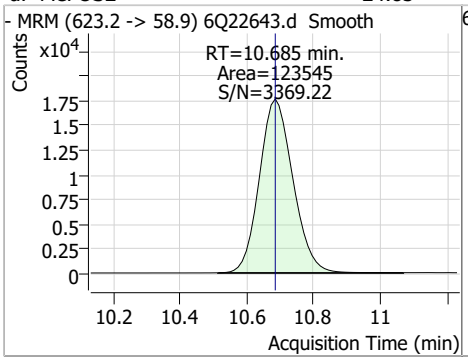
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.51	9.98	0.00	3648	699.1 -> 98.8	55.6	27.8	83.4

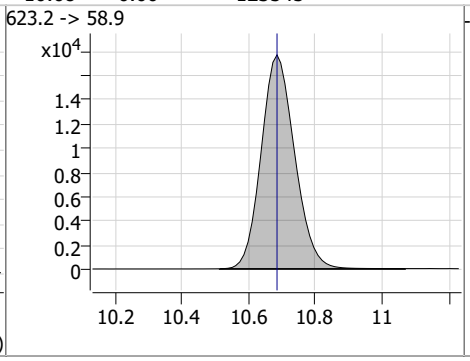


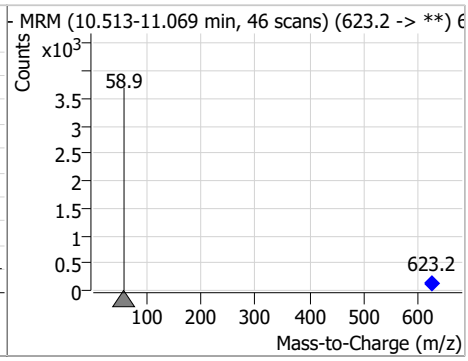




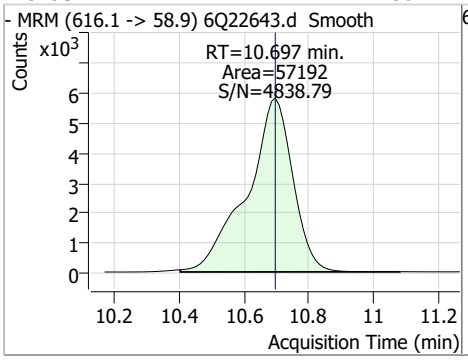
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.83	10.68	0.00	123545				

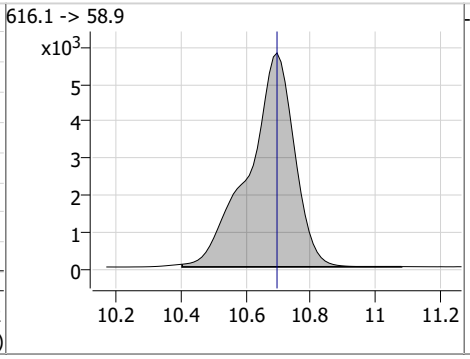


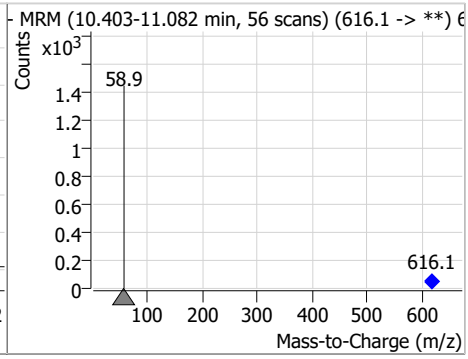




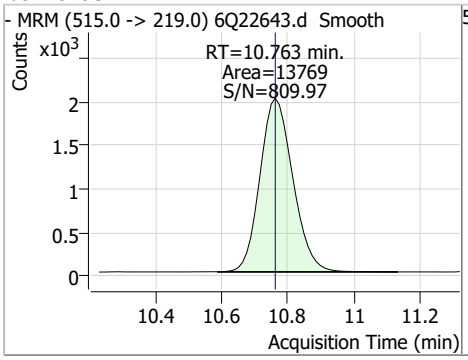
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.38	10.70	0.00	57192				

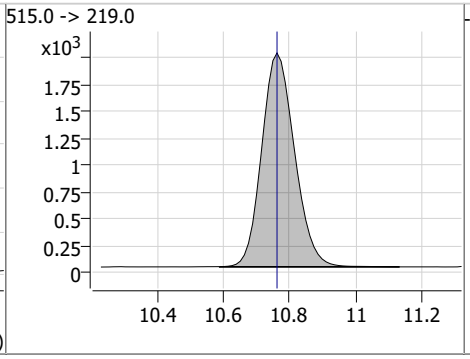


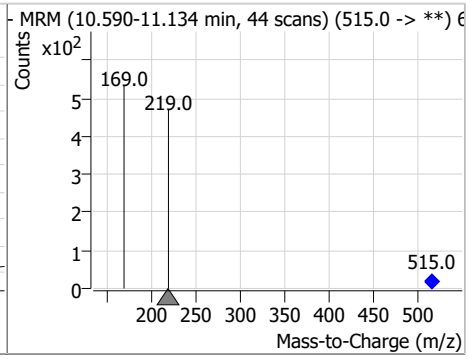




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.42	10.76	0.00	13769				

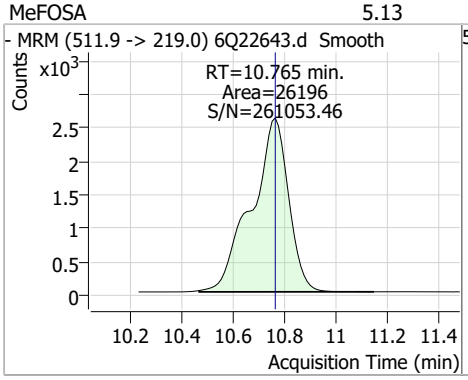


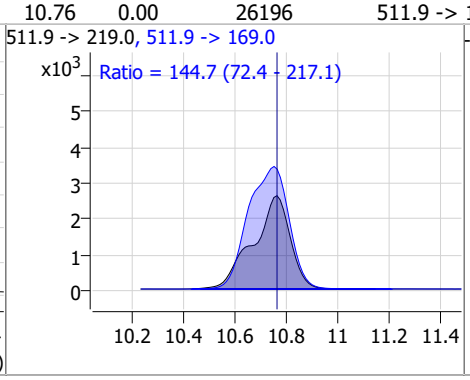


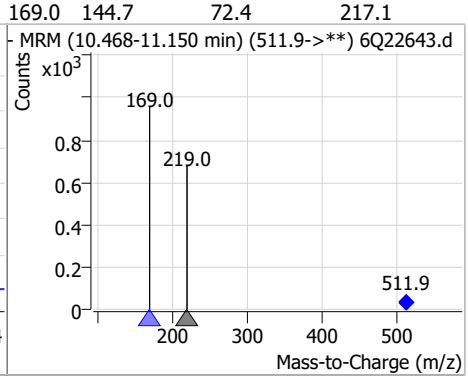


Perfluorinated Compounds by LC/MS/MS

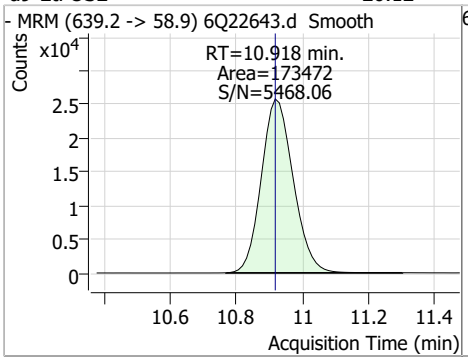
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	5.13	10.76	0.00	26196	511.9 -> 169.0	144.7	72.4	217.1

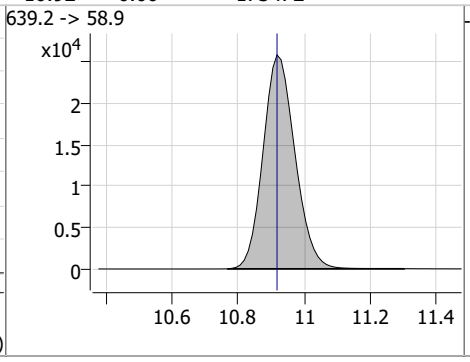


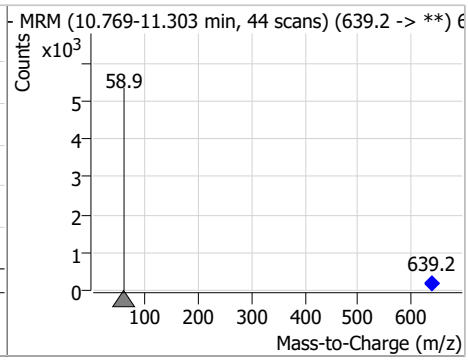




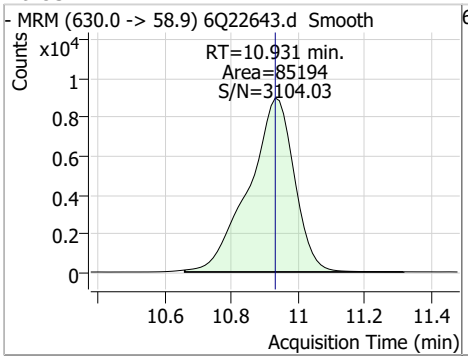
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.12	10.92	0.00	173472				

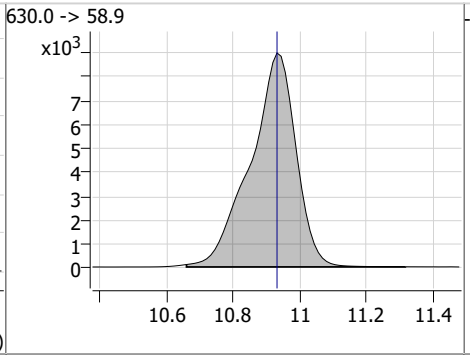


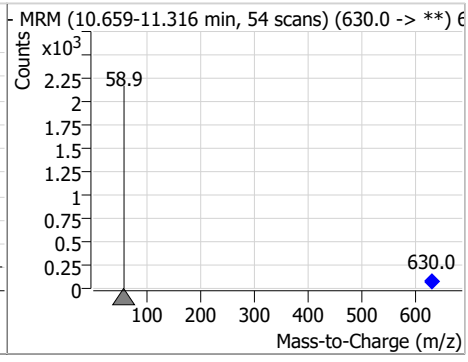




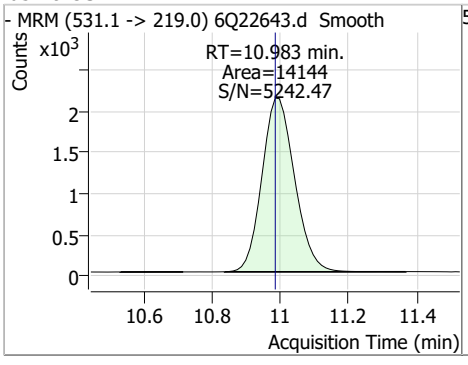
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.12	10.93	0.00	85194				

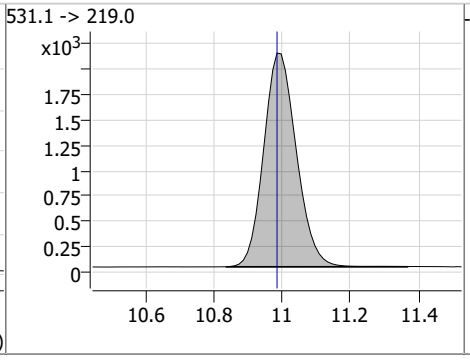


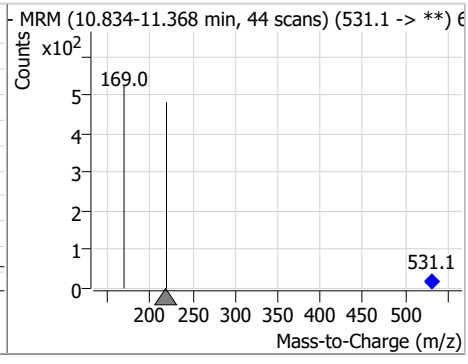




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.47	10.98	0.00	14144				

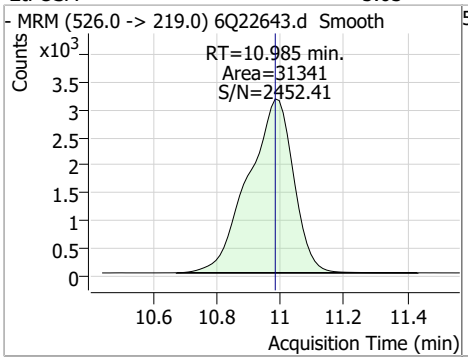


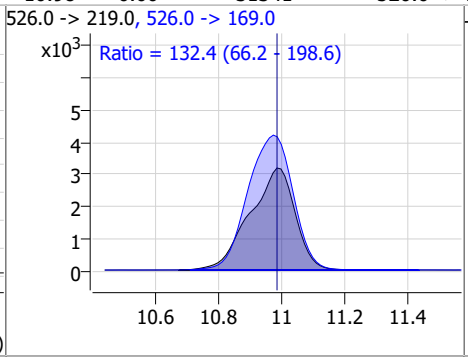


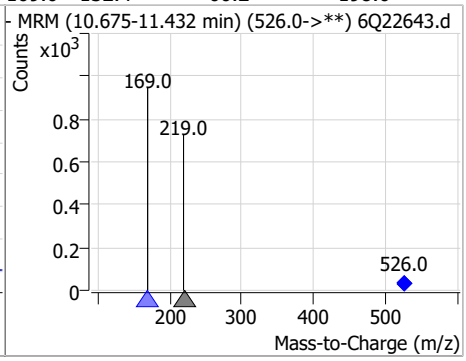


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	5.03	10.98	0.00	31341	526.0 -> 169.0	132.4	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q330-ICC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22643.D	**Analyst approved:**	08/13/23 12:53 Martha Valls
Injection Time:	08/10/23 14:20	**Supervisor approved:**	08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22644.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 2:35:04 PM
Sample Name : ic330-5
Vial : P1-A6
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	194396	10.00	µg/L	0.000
M5-PFPeA	4.447	268.3 -> 223.0	62972	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	69114	2.50	µg/L	0.000
M4-PFHpA	6.608	367.1 -> 322.0	67028	2.50	µg/L	0.000
M8-PFOA	7.239	421.1 -> 376.0	102466	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	48023	1.25	µg/L	0.000
M6-PFDA	8.250	519.1 -> 474.1	27361	1.25	µg/L	-0.012
M7-PFUnDA	8.717	570.0 -> 525.1	36587	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	31194	1.25	µg/L	0.000
M2-PFTeDA	9.851	715.2 -> 670.0	18674	1.25	µg/L	0.000
M8-FOSA	9.662	506.1 -> 77.8	35991	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	24926	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	15828	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	15348	2.50	µg/L	0.000
M2-4:2FTS	5.343	329.1 -> 80.9	3555	5.00	µg/L	0.012
M2-6:2FTS	7.014	429.1 -> 80.9	4994	5.00	µg/L	0.000
M2-8:2FTS	8.051	529.1 -> 80.9	5063	5.00	µg/L	0.000
M3-MeFOSAA	8.297	573.2 -> 419.0	36056	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	42913	10.00	µg/L	0.000
M5-EtFOSAA	8.505	589.2 -> 419.0	33868	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	132093	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	173613	25.00	µg/L	0.000
M5-EtFOSA	10.996	531.1 -> 219.0	15212	2.50	µg/L	0.012
M3-MeFOSA	10.763	515.0 -> 219.0	14706	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	19949	2.50	µg/L	-0.012
13C3-PFBA	3.014	216.0 -> 172.0	82572	5.00	µg/L	0.012
18O2-PFHxS	7.354	403.0 -> 83.9	11372	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	110574	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	38232	1.25	µg/L	0.000
13C5-PFNA	7.770	468.0 -> 423.0	58647	1.25	µg/L	0.000
13C2-PFHxA	5.669	315.1 -> 270.0	65072	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.343	329.1 -> 80.9	3555	5.23	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.6%		
13C2-6:2FTS	7.014	429.1 -> 80.9	4994	5.09	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.8%		
13C2-8:2FTS	8.051	529.1 -> 80.9	5063	5.27	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.5%		
13C2-PFDoDA	9.148	615.1 -> 570.0	31194	1.21	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.6%		
13C2-PFTeDA	9.851	715.2 -> 670.0	18674	1.26	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C3-PFBS	5.610	302.1 -> 79.9	24926	2.58	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.3%		
13C3-PFHxS	7.355	402.1 -> 79.9	15828	2.53	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 = 101.3%		
13C4-PFBA	3.010	216.8 -> 171.9	194396	9.97 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C4-PFHpA	6.608	367.1 -> 322.0	67028	2.55 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%		
13C5-PFHxA	5.668	318.0 -> 273.0	69114	2.57 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%		
13C5-PFPeA	4.447	268.3 -> 223.0	62972	5.14 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.8%		
13C6-PFDA	8.250	519.1 -> 474.1	27361	1.27 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.4%		
13C7-PFUnDA	8.717	570.0 -> 525.1	36587	1.28 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.5%		
13C8-FOSA	9.662	506.1 -> 77.8	35991	2.39 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.6%		
13C8-PFOA	7.239	421.1 -> 376.0	102466	2.51 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C8-PFOS	8.414	507.1 -> 79.9	15348	2.63 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.1%		
13C9-PFNA	7.770	472.1 -> 427.0	48023	1.26 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.0%		
d3-MeFOSAA	8.297	573.2 -> 419.0	36056	4.99 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
13C3-HFPO-DA	6.045	286.9 -> 168.9	42913	10.19 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.9%		
d3-MeFOSA	10.763	515.0 -> 219.0	14706	2.39 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%		
d5-EtFOSAA	8.505	589.2 -> 419.0	33868	5.08 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.6%		
d7-MeFOSE	10.685	623.2 -> 58.9	132093	24.50 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.0%		
d9-EtFOSE	10.918	639.2 -> 58.9	173613	24.13 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.5%		
d5-EtFOSA	10.996	531.1 -> 219.0	15212	2.45 µg/L		0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.0%		
Target Compounds						QValue
4:2FTS	5.343	327.1 -> 307.0	83004	18.05 µg/L		100
		327.1 -> 80.9	32468			
6:2FTS	7.014	427.1 -> 407.0	84367	18.89 µg/L		100
		427.1 -> 80.9	28458			
8:2FTS	8.040	527.1 -> 507.0	48923	18.06 µg/L		96
		527.1 -> 80.8	19095			
EtFOSAA	8.506	584.2 -> 419.1	18889	4.43 µg/L	m	96
		584.2 -> 526.0	10074			
FOSA	9.652	498.1 -> 77.9	54125	4.79 µg/L		100
		498.1 -> 478.0	1765			
MeFOSAA	8.298	570.1 -> 419.0	32181	4.67 µg/L		99
		570.1 -> 483.0	6088			
PFBA	3.006	212.8 -> 168.9	115805	19.07 µg/L		100
PFBS	5.611	298.7 -> 79.9	33719	4.14 µg/L		97
		298.7 -> 98.8	13266			
PFDA	8.263	512.9 -> 469.0	151873	4.68 µg/L		99
		512.9 -> 219.0	22681			
PFDoDA	9.148	613.1 -> 569.0	103157	5.05 µg/L		100
		613.1 -> 319.0	15582			
PFDS	9.312	599.0 -> 79.9	15237	4.14 µg/L		98

Perfluorinated Compounds by LC/MS/MS

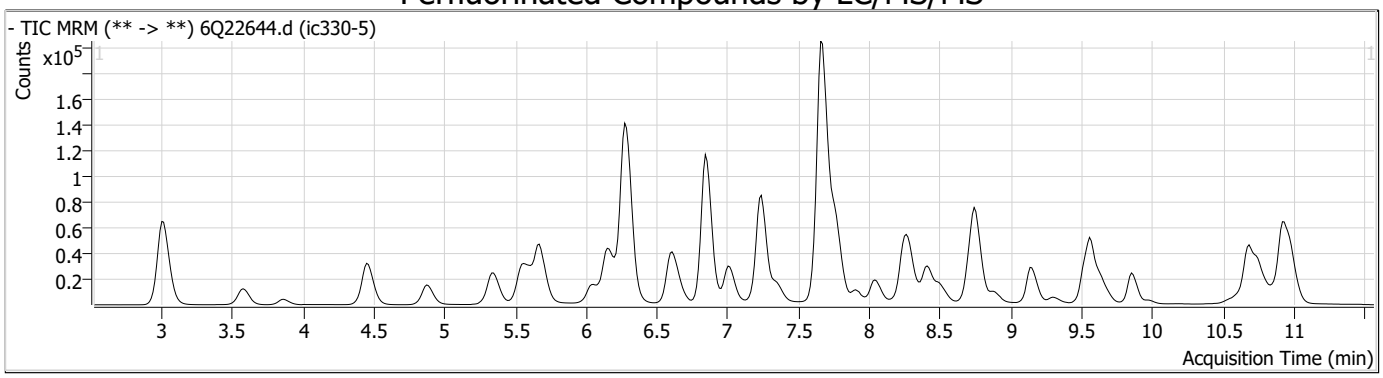
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	7784				
PFHpA	6.609	363.1 -> 319.0	125406	4.74	µg/L		98
		363.1 -> 169.0	20042				
PFHpS	7.922	449.0 -> 79.9	29526	4.21	µg/L		98
		449.0 -> 98.9	15362				
PFHxA	5.682	313.0 -> 269.0	96422	4.77	µg/L		100
		313.0 -> 118.9	4985				
PFHxS	7.356	398.7 -> 79.9	29802	4.27	µg/L	m	100
		398.7 -> 98.9	14552				
PFNA	7.771	463.0 -> 419.0	160358	4.86	µg/L		98
		463.0 -> 219.0	28828				
PFNS	8.893	548.8 -> 79.9	27327	4.32	µg/L		96
		548.8 -> 98.9	13791				
PFOA	7.240	413.0 -> 369.0	197924	4.73	µg/L		100
		413.0 -> 169.0	31957				
PFOS	8.415	498.9 -> 79.9	28411	4.31	µg/L	m	92
		498.9 -> 98.8	13471				
PFPeA	4.449	263.0 -> 219.0	130893	9.44	µg/L		100
PFPeS	6.660	349.1 -> 79.9	30722	4.74	µg/L		96
		349.1 -> 98.9	13173				
PFTeDA	9.852	713.1 -> 669.0	86067	4.75	µg/L		99
		713.1 -> 168.9	7260				
PFTrDA	9.519	663.0 -> 619.0	105223	4.99	µg/L		97
		663.0 -> 168.9	11595				
PFUnDA	8.717	563.1 -> 519.0	100420	4.77	µg/L		98
		563.1 -> 269.1	17074				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	141471	9.24	µg/L		92
		632.9 -> 452.9	41901				
9Cl-PF3ONS	8.758	530.8 -> 351.0	231892	9.37	µg/L		96
		532.8 -> 353.0	68629				
ADONA	6.858	376.9 -> 250.9	488769	8.94	µg/L		98
		376.9 -> 84.8	133292				
HFPO-DA	6.046	284.9 -> 168.9	32532	8.91	µg/L		98
		284.9 -> 184.9	3702				
3:3FTCA	3.859	241.0 -> 177.0	22255	23.17	µg/L		100
		241.0 -> 117.0	2963				
5:3FTCA	6.285	341.0 -> 237.1	484743	116.58	µg/L		99
		341.0 -> 217.0	347076				
7:3FTCA	7.673	441.0 -> 316.9	360887	117.35	µg/L		100
		441.0 -> 336.9	821369				
EtFOSA	10.985	526.0 -> 219.0	63250	9.44	µg/L		99
		526.0 -> 169.0	83206				
EtFOSE	10.931	630.0 -> 58.9	172259	24.49	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	53617	9.84	µg/L		97
		511.9 -> 169.0	75301				
MeFOSE	10.697	616.1 -> 58.9	118758	24.05	µg/L		100
PFDoDS	9.978	699.1 -> 79.9	7603	4.43	µg/L		99
		699.1 -> 98.8	4183				
NFDHA	5.551	295.0 -> 201.0	24010	9.34	µg/L		97
		295.0 -> 84.9	6437				
PFMBA	4.869	279.0 -> 85.1	93524	9.53	µg/L		100
PFMPA	3.576	229.0 -> 84.9	74374	9.47	µg/L		100
PFEESA	6.163	314.8 -> 134.9	224336	8.26	µg/L		100
		314.8 -> 82.9	7844				

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

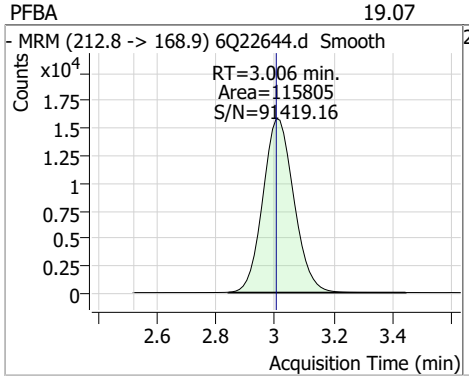
Perfluorinated Compounds by LC/MS/MS

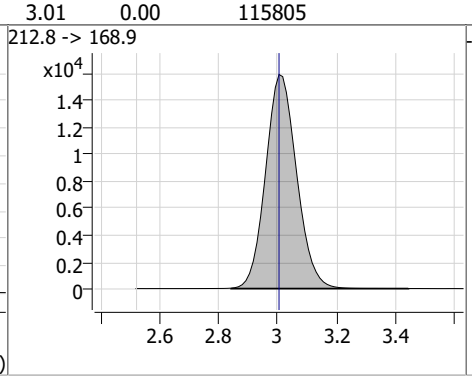
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

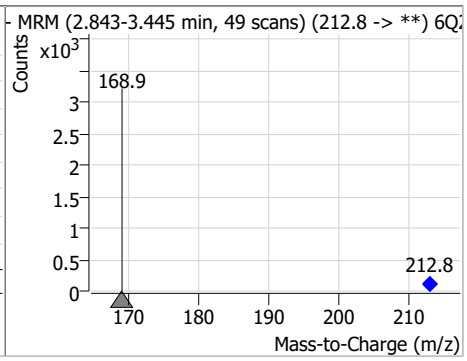
Perfluorinated Compounds by LC/MS/MS



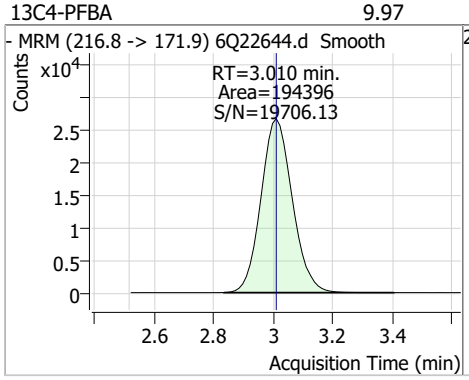
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	19.07	3.01	0.00	115805				

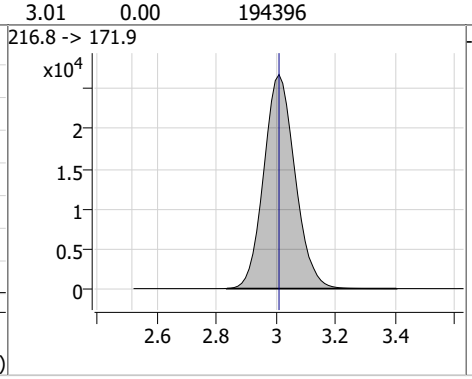


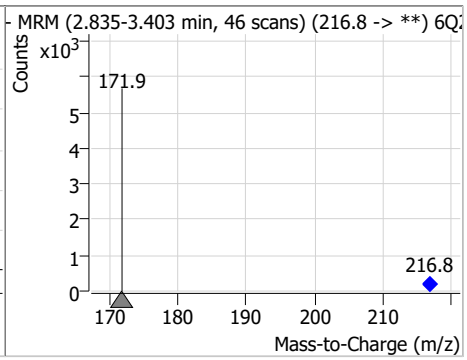




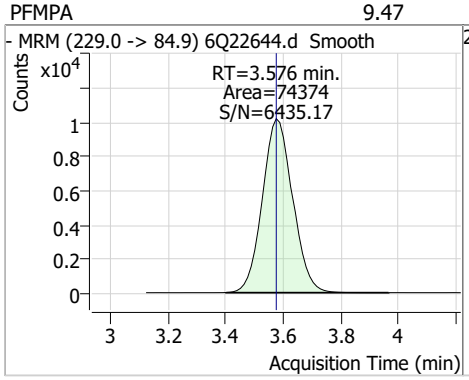
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.97	3.01	0.00	194396				

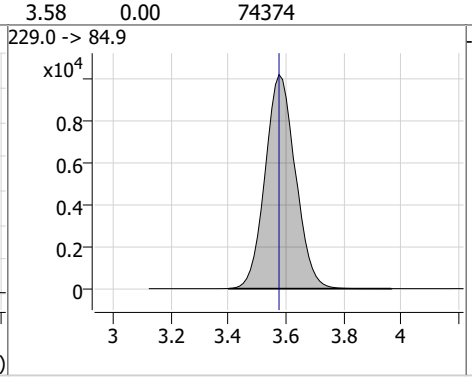


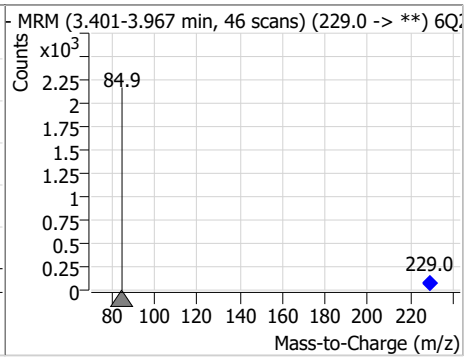




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	9.47	3.58	0.00	74374				

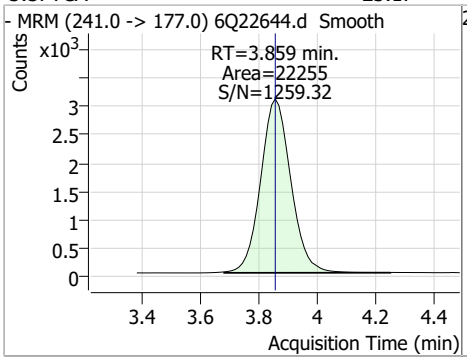


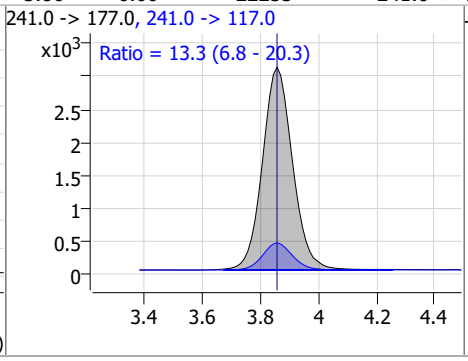


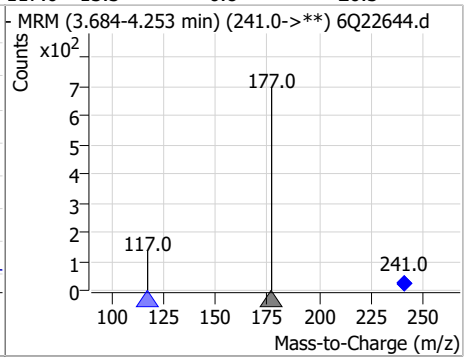


Perfluorinated Compounds by LC/MS/MS

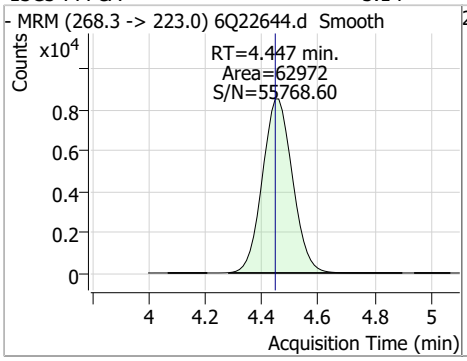
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	23.17	3.86	0.00	22255	241.0 -> 117.0	13.3	6.8	20.3

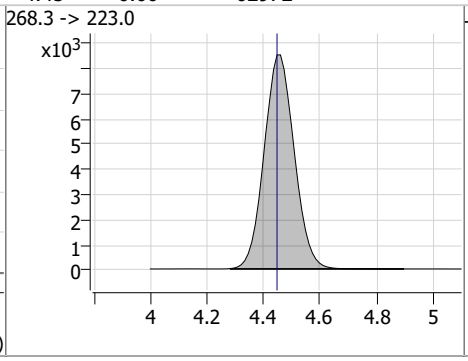


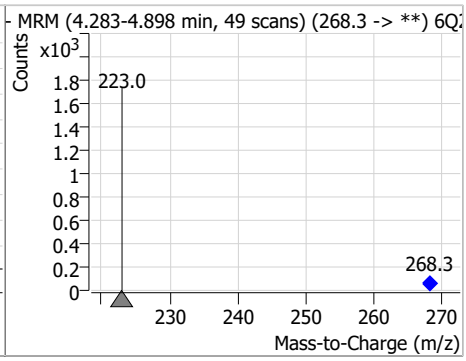




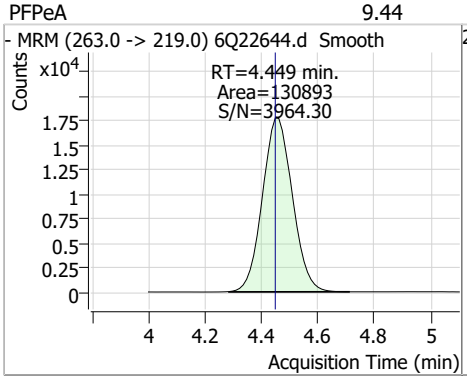
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.14	4.45	0.00	62972				

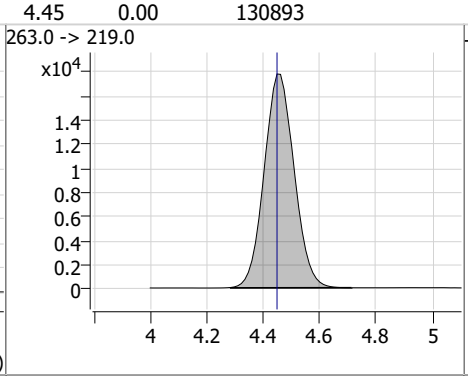


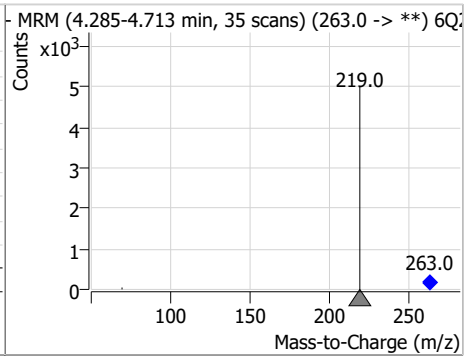




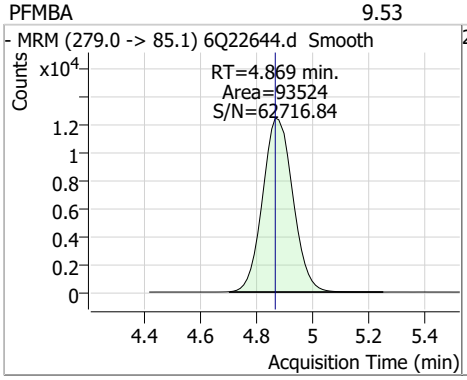
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	9.44	4.45	0.00	130893				

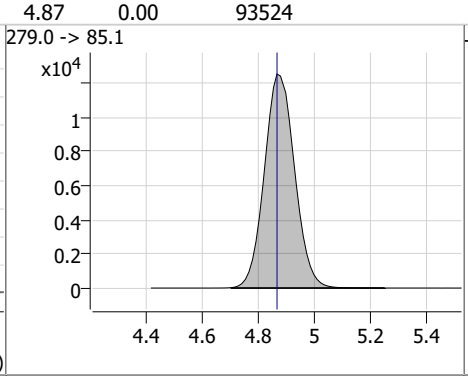


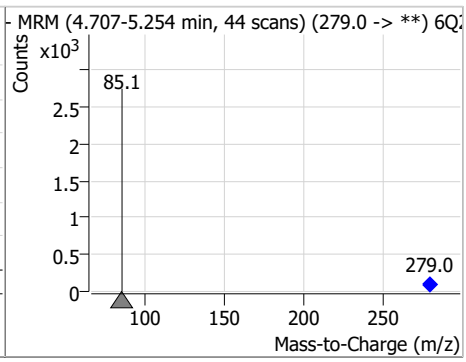




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	9.53	4.87	0.00	93524				

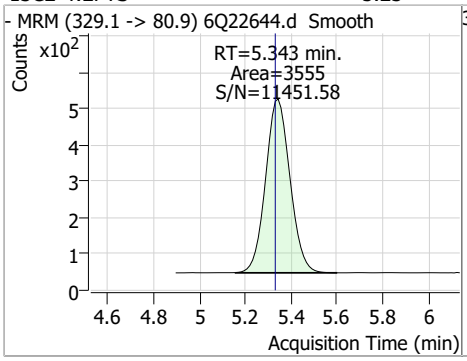


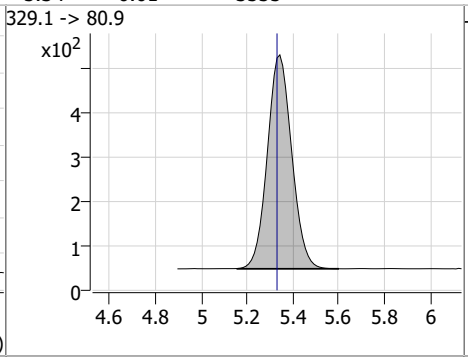


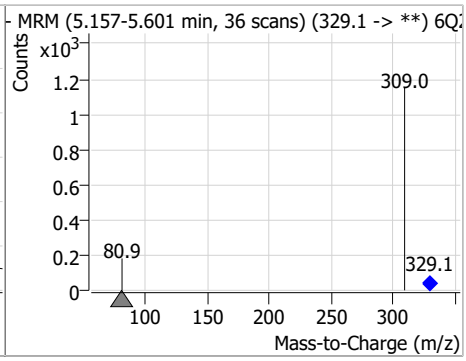


Perfluorinated Compounds by LC/MS/MS

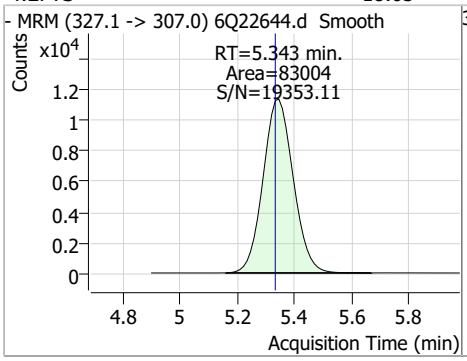
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.23	5.34	0.01	3555				

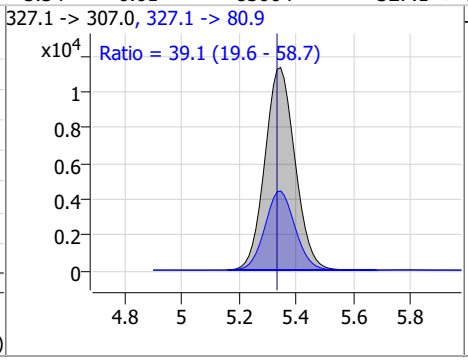


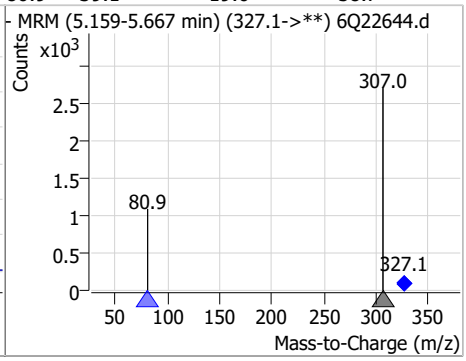




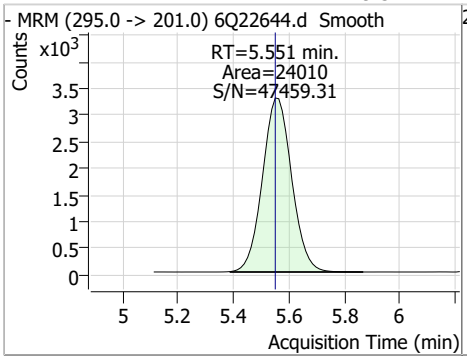
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	18.05	5.34	0.01	83004	327.1 -> 80.9	39.1	19.6	58.7

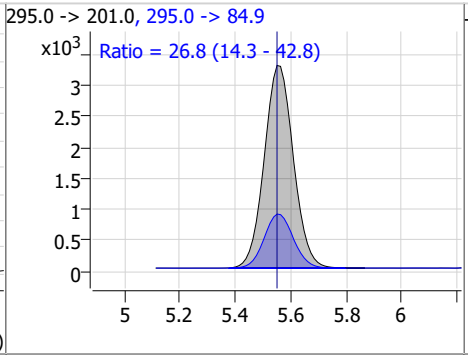


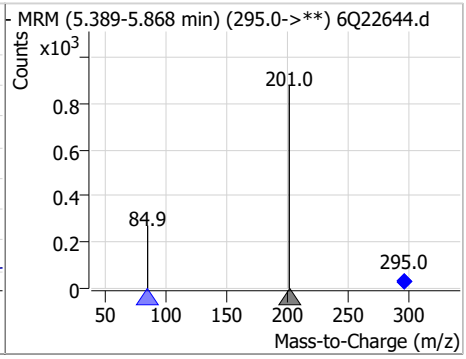




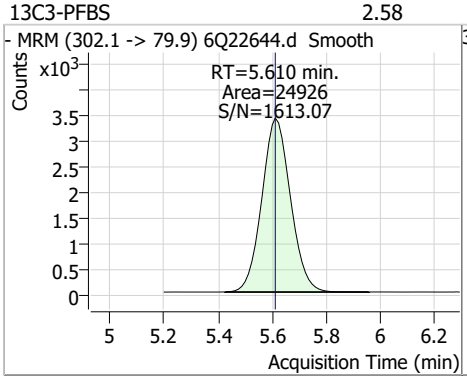
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	9.34	5.55	0.00	24010	295.0 -> 84.9	26.8	14.3	42.8

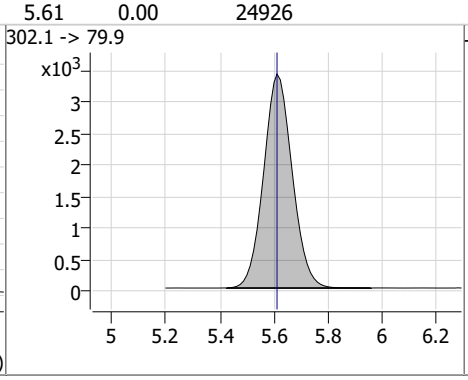


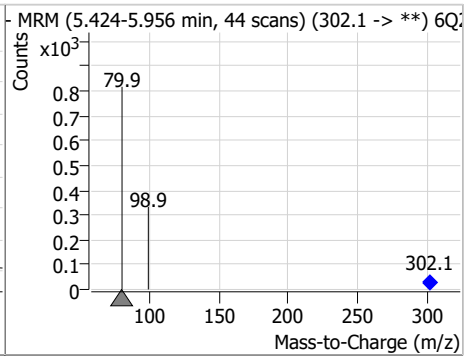




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.58	5.61	0.00	24926				

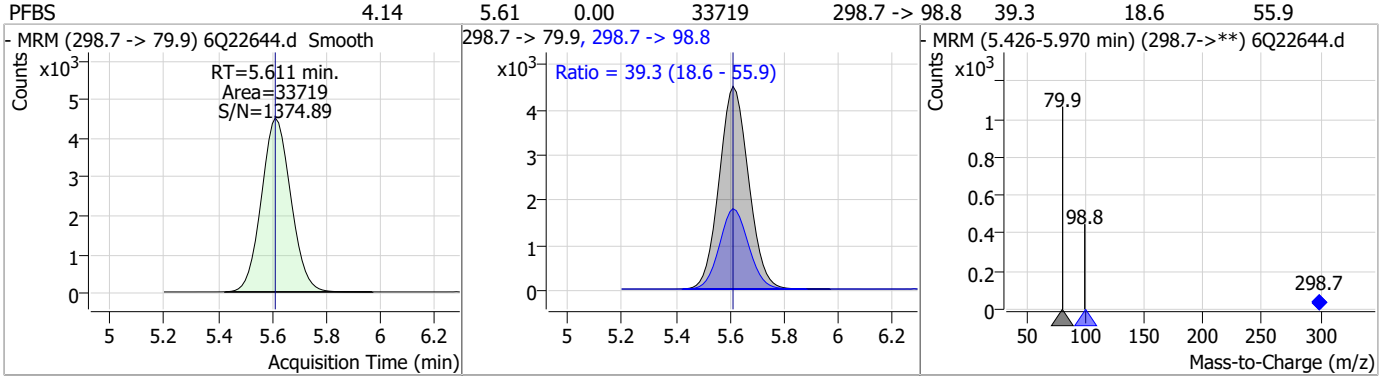




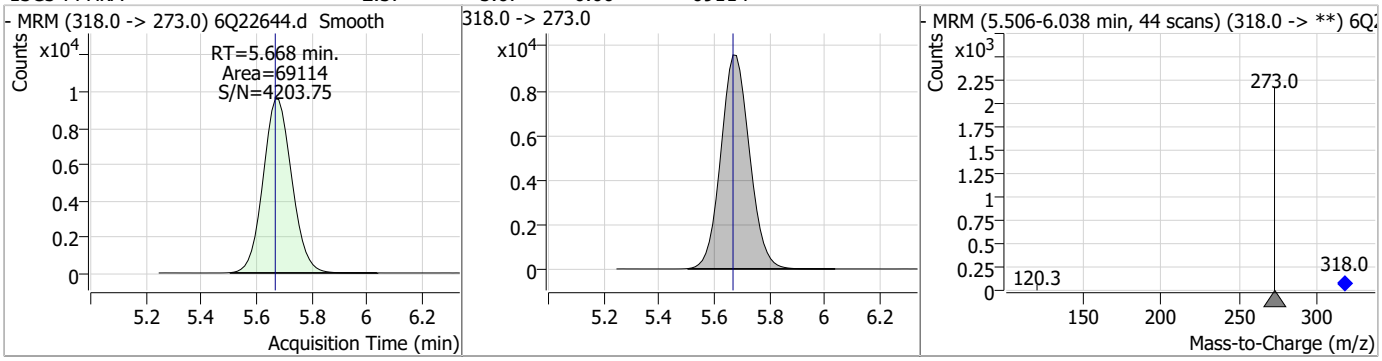


Perfluorinated Compounds by LC/MS/MS

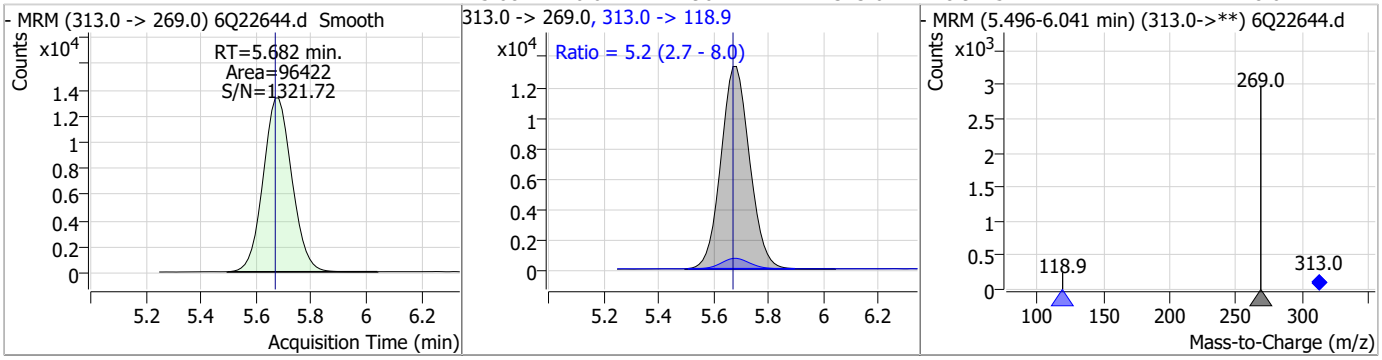
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	4.14	5.61	0.00	33719	298.7 -> 98.8	39.3	18.6	55.9



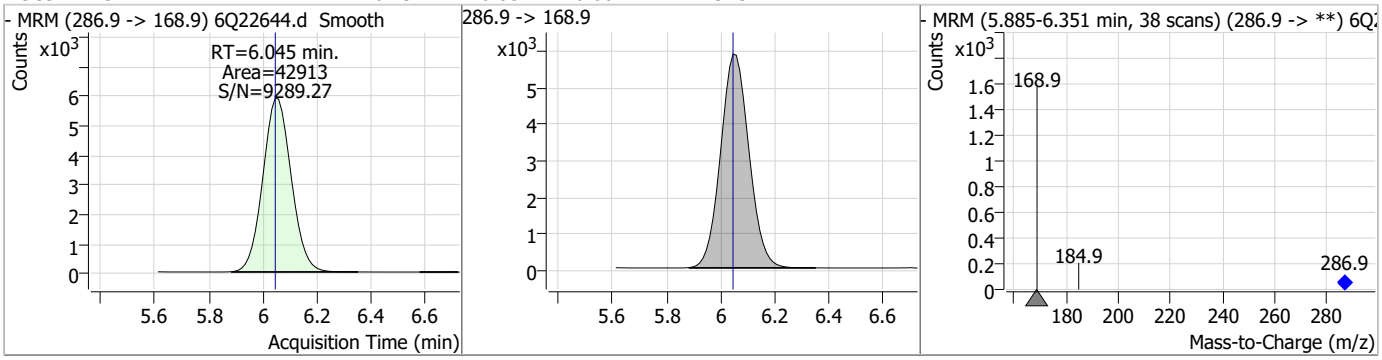
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.57	5.67	0.00	69114				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	4.77	5.68	0.01	96422	313.0 -> 118.9	5.2	2.7	8.0

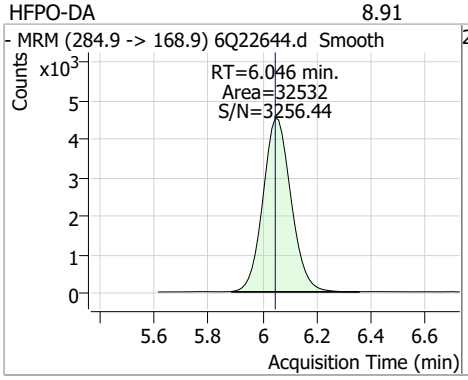


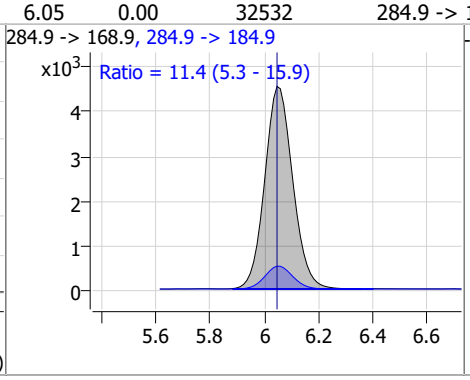
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.19	6.05	0.00	42913				

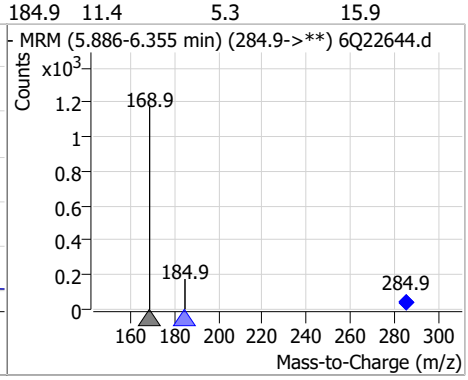


Perfluorinated Compounds by LC/MS/MS

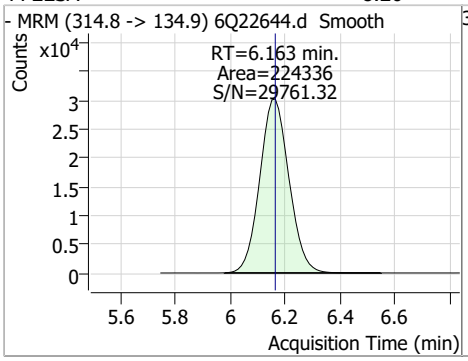
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	8.91	6.05	0.00	32532	284.9 -> 184.9	11.4	5.3	15.9

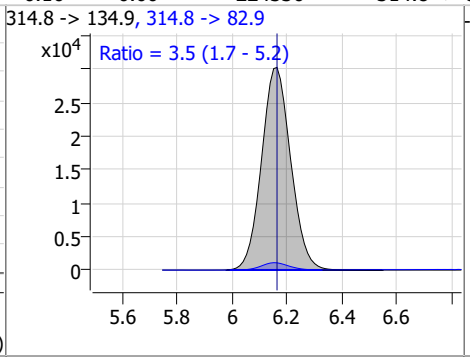


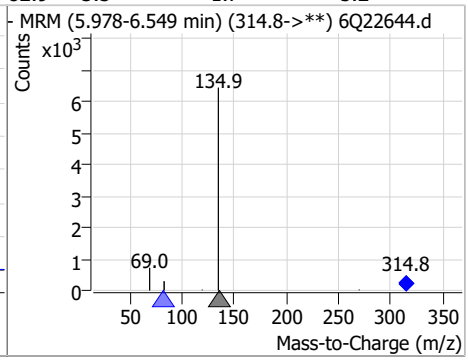




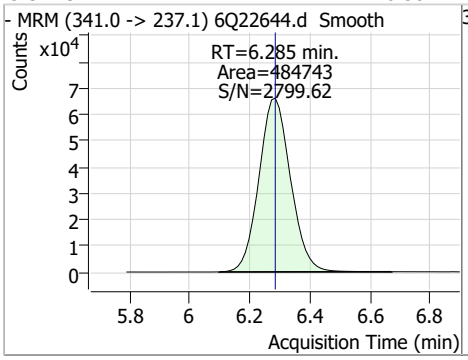
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	8.26	6.16	0.00	224336	314.8 -> 82.9	3.5	1.7	5.2

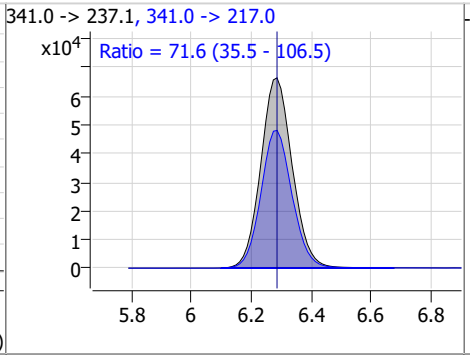


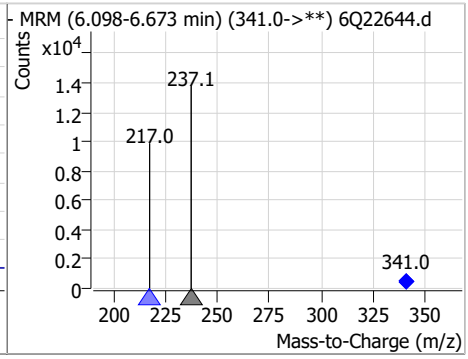




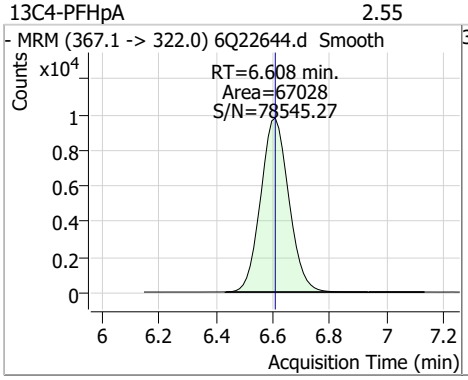
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	116.58	6.28	0.00	484743	341.0 -> 217.0	71.6	35.5	106.5

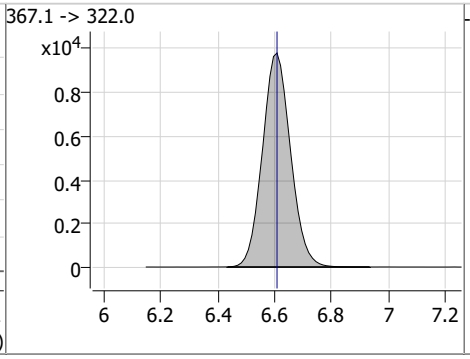


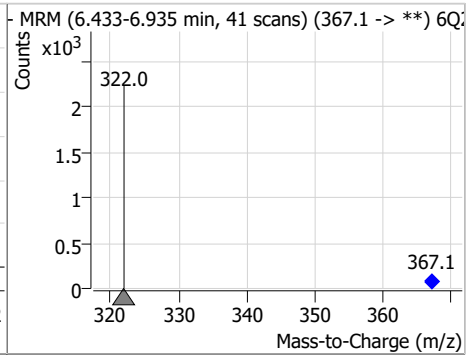




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.55	6.61	0.00	67028				

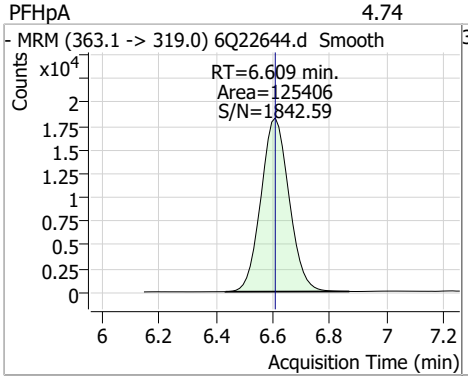


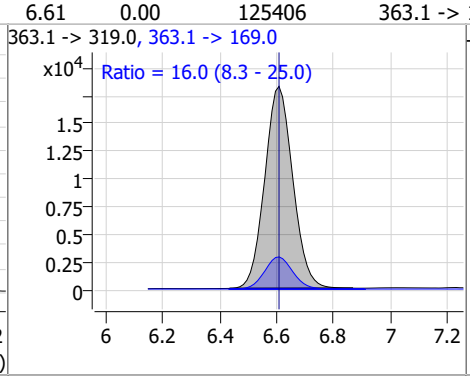


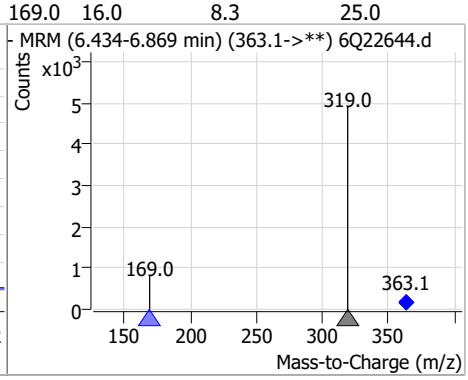


Perfluorinated Compounds by LC/MS/MS

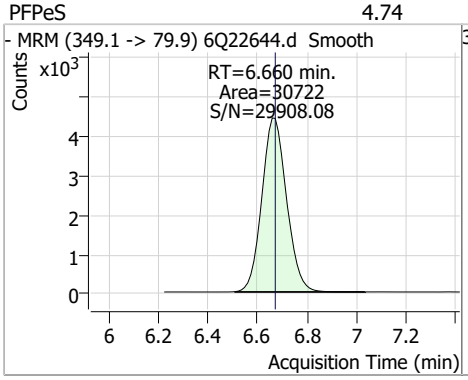
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	4.74	6.61	0.00	125406	363.1 -> 169.0	16.0	8.3	25.0

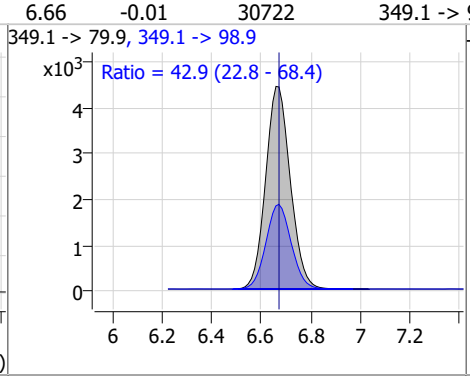


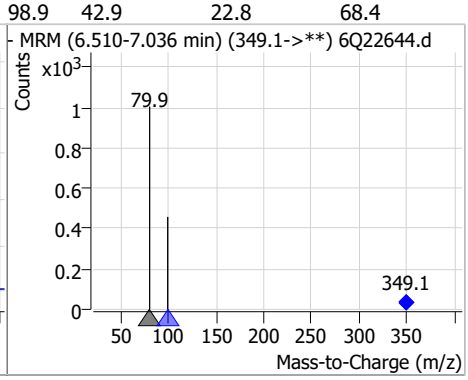




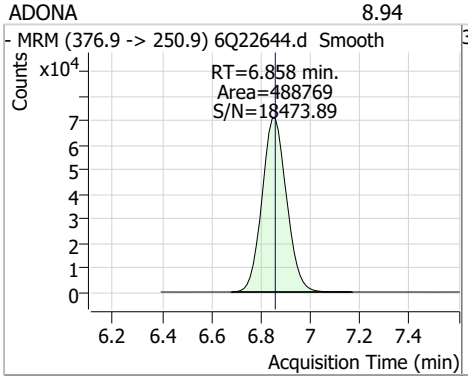
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	4.74	6.66	-0.01	30722	349.1 -> 98.9	42.9	22.8	68.4

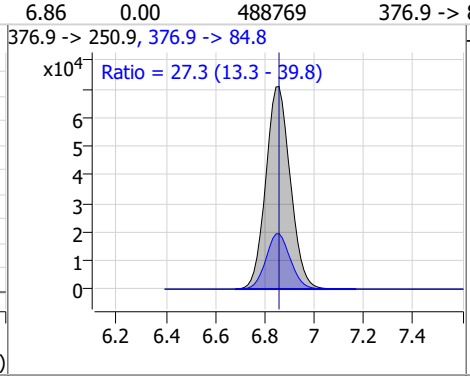


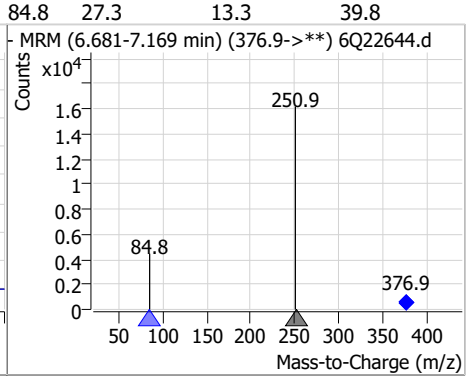




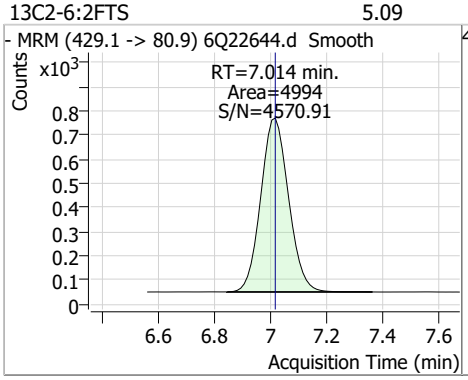
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	8.94	6.86	0.00	488769	376.9 -> 84.8	27.3	13.3	39.8

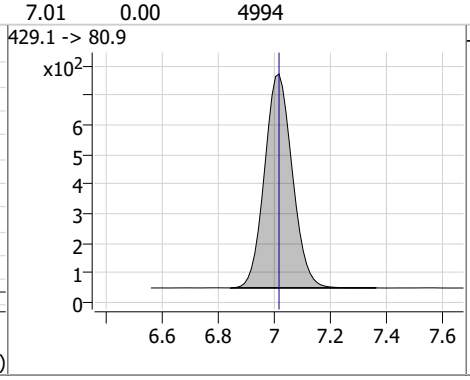


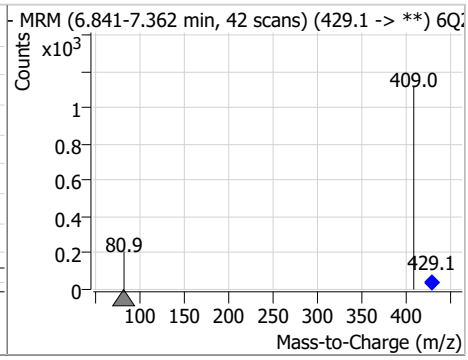




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.09	7.01	0.00	4994				

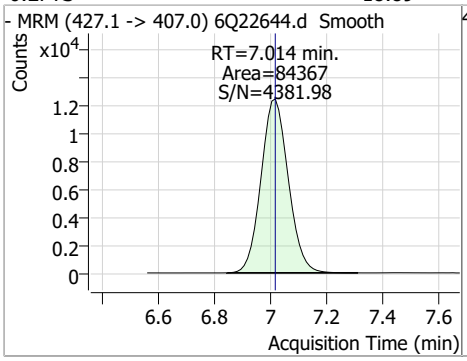


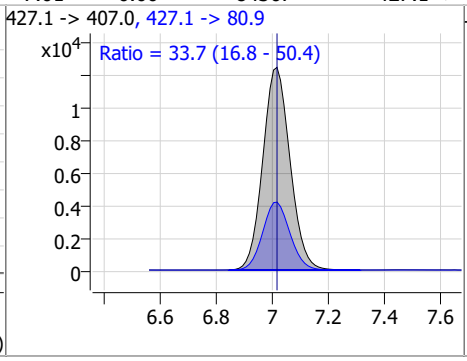


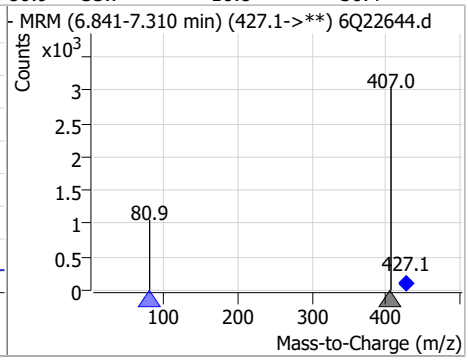


Perfluorinated Compounds by LC/MS/MS

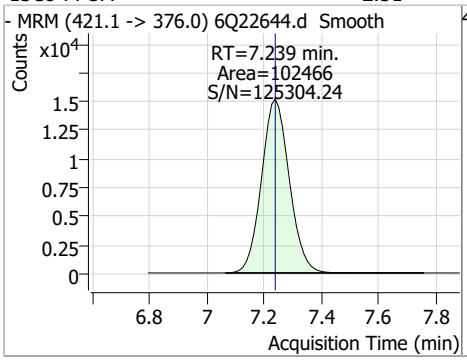
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	18.89	7.01	0.00	84367	427.1 -> 80.9	33.7	16.8	50.4

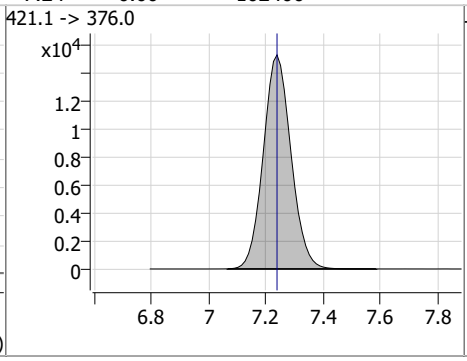


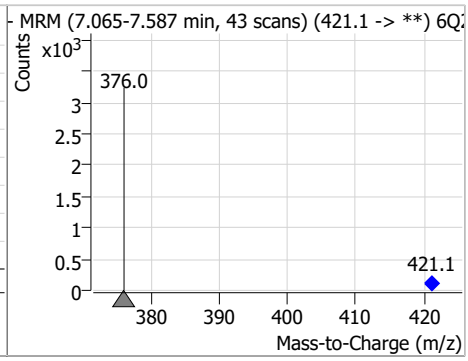




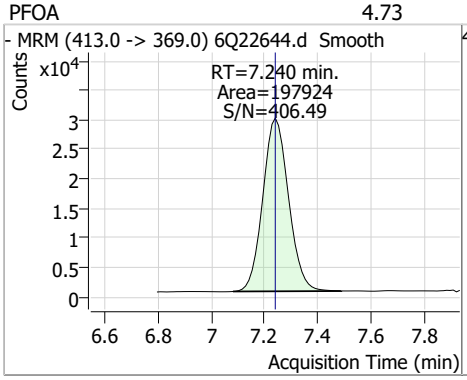
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.51	7.24	0.00	102466				

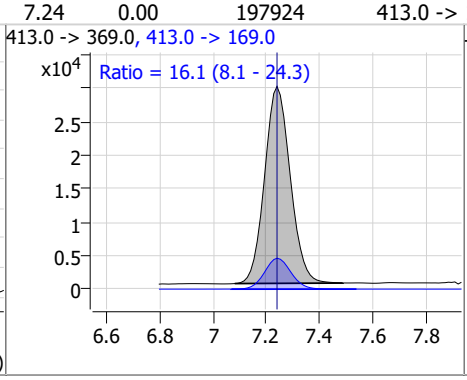


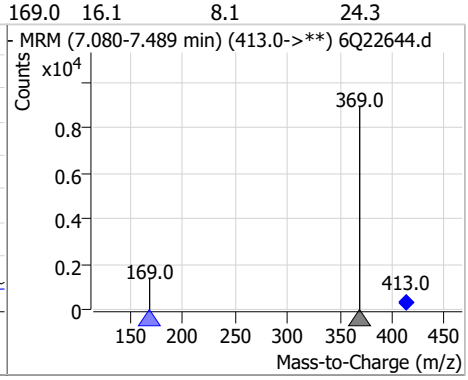




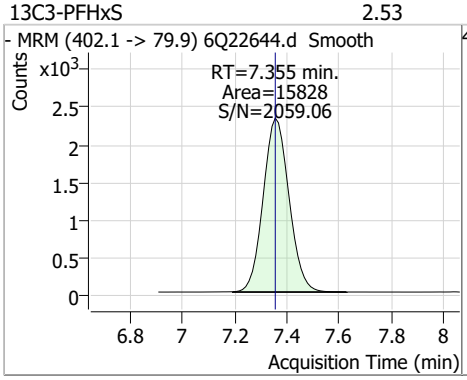
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	4.73	7.24	0.00	197924	413.0 -> 169.0	16.1	8.1	24.3

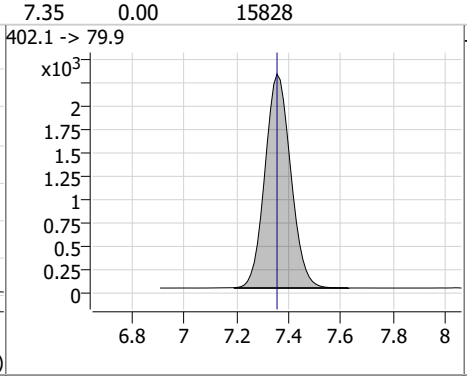


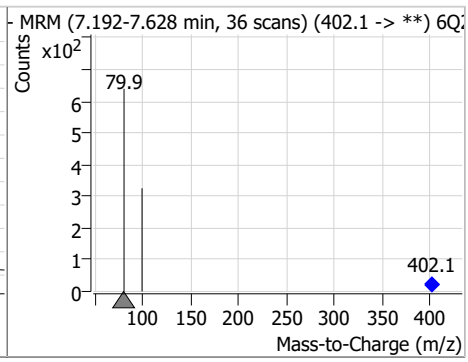




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.53	7.35	0.00	15828				

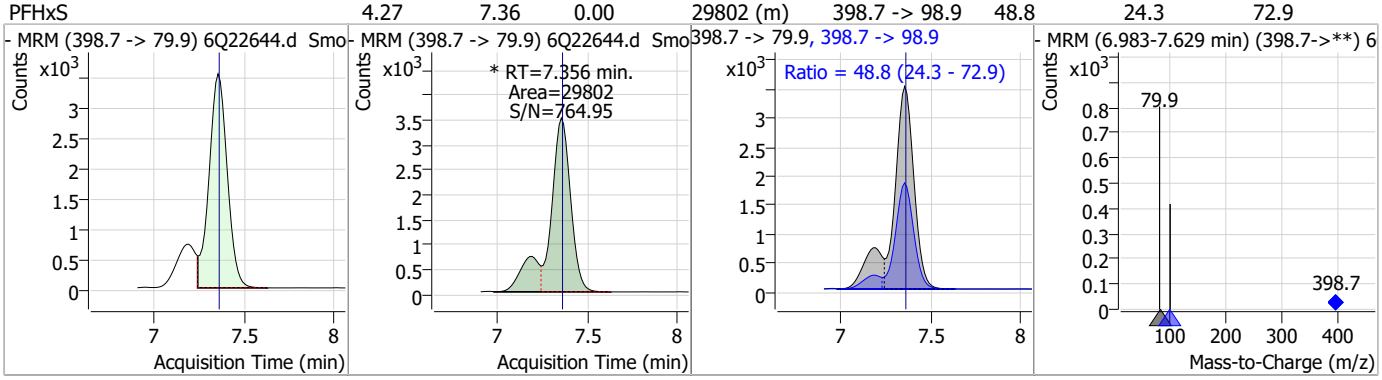




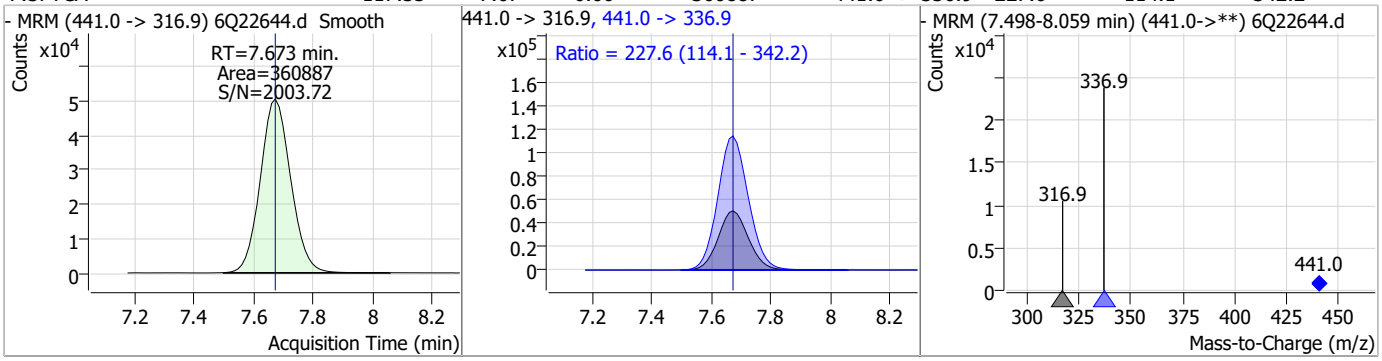


Perfluorinated Compounds by LC/MS/MS

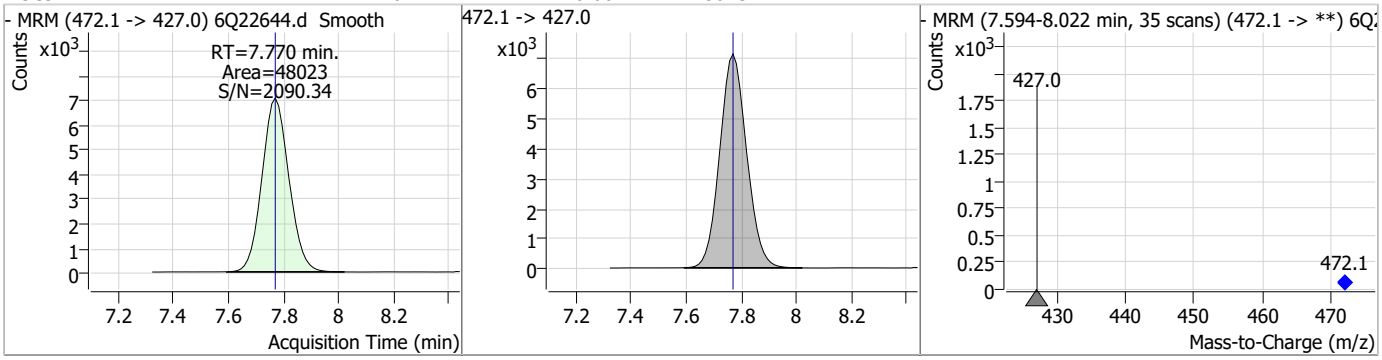
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	4.27	7.36	0.00	29802 (m)	398.7 -> 98.9	48.8	24.3	72.9



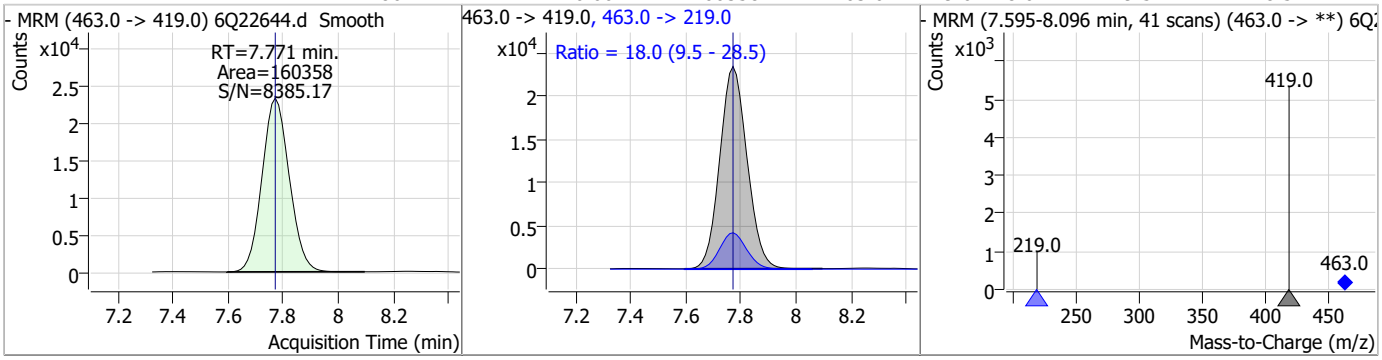
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	117.35	7.67	0.00	360887	441.0 -> 336.9	227.6	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.26	7.77	0.00	48023				

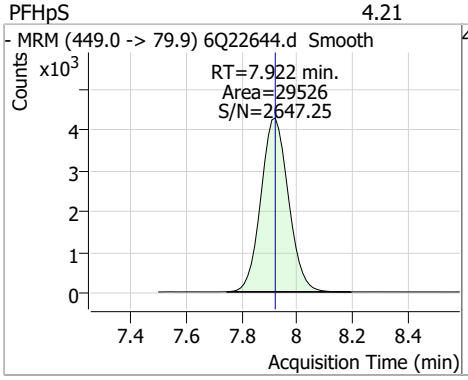


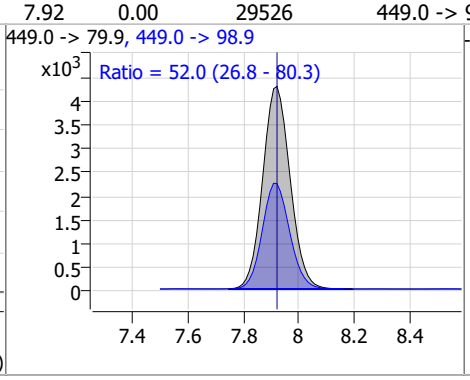
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	4.86	7.77	0.00	160358	463.0 -> 219.0	18.0	9.5	28.5

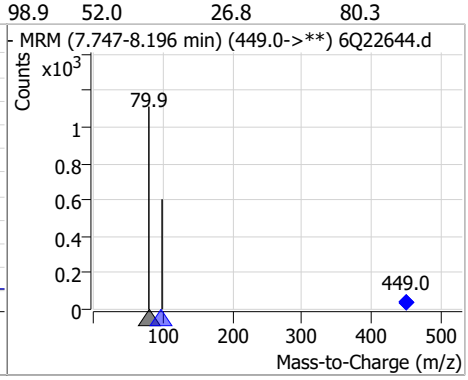


Perfluorinated Compounds by LC/MS/MS

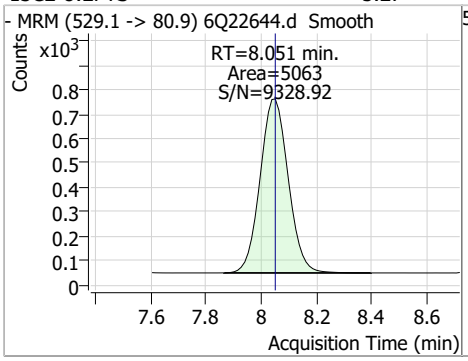
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	4.21	7.92	0.00	29526	449.0 -> 98.9	52.0	26.8	80.3

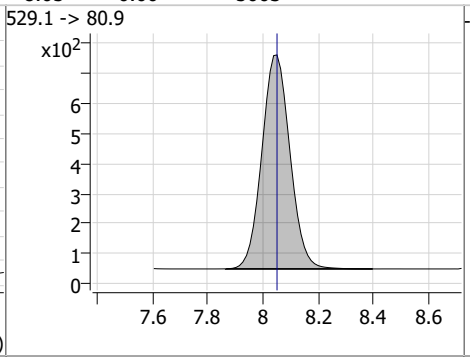


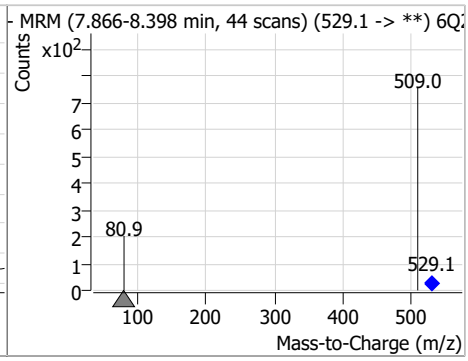




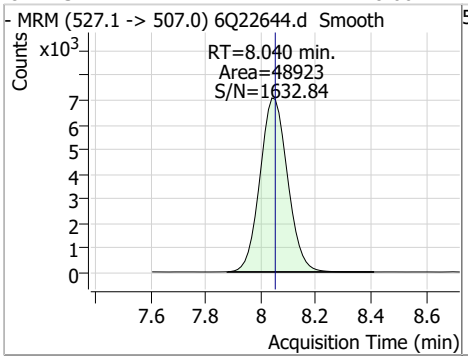
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.27	8.05	0.00	5063				

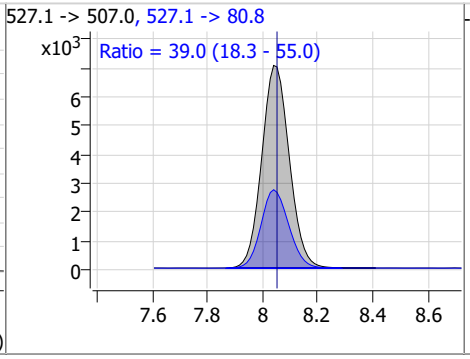


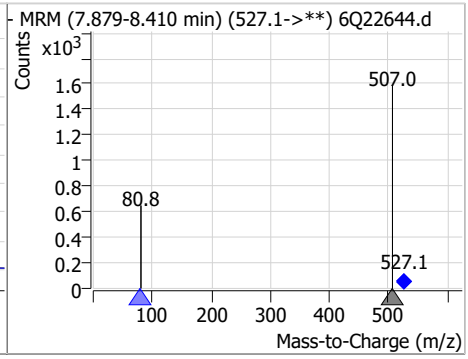




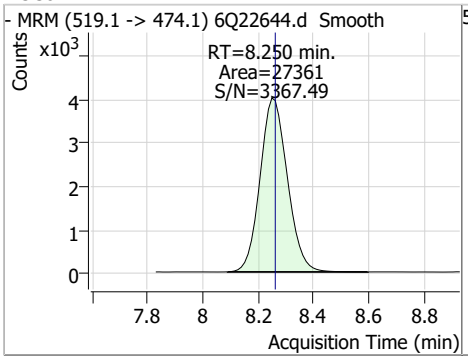
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	18.06	8.04	-0.01	48923	527.1 -> 80.8	39.0	18.3	55.0

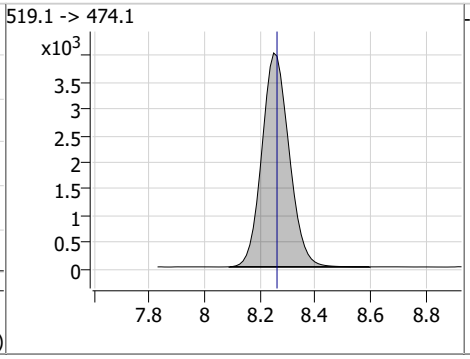


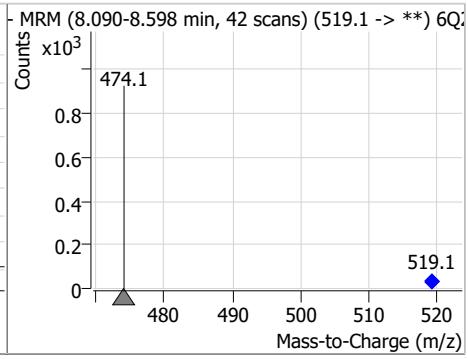




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.27	8.25	-0.01	27361				

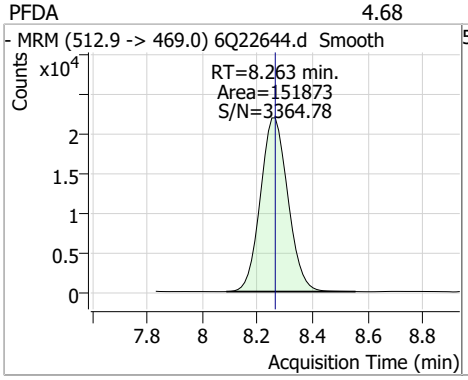


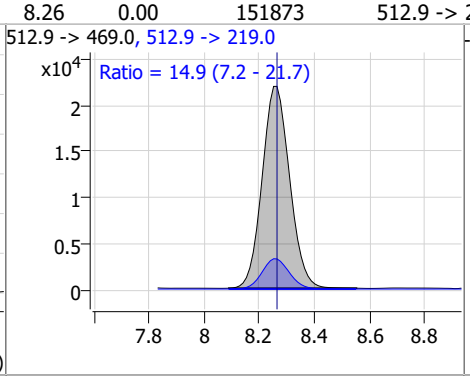


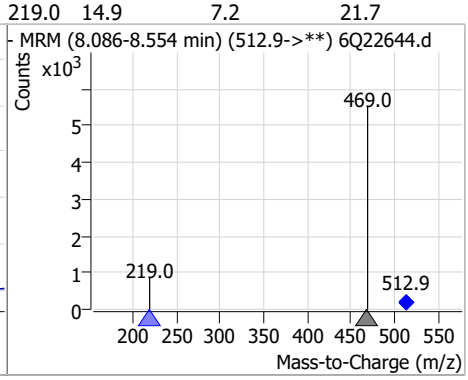


Perfluorinated Compounds by LC/MS/MS

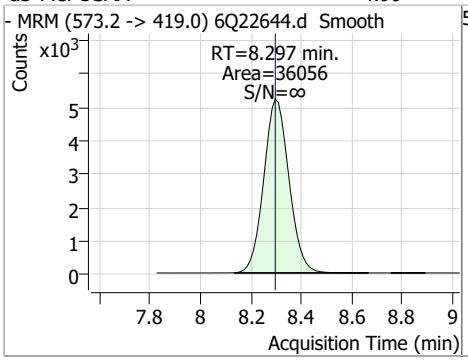
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	4.68	8.26	0.00	151873	512.9 -> 219.0	14.9	7.2	21.7

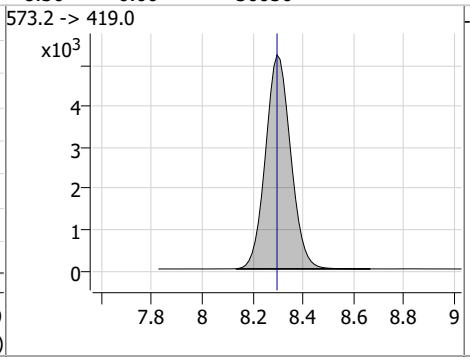


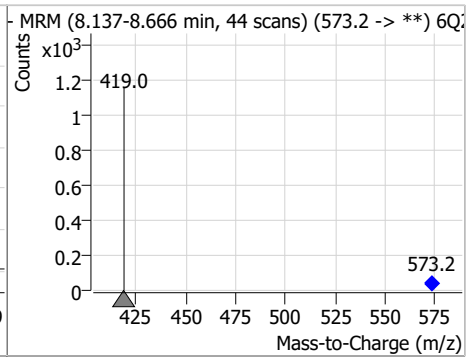




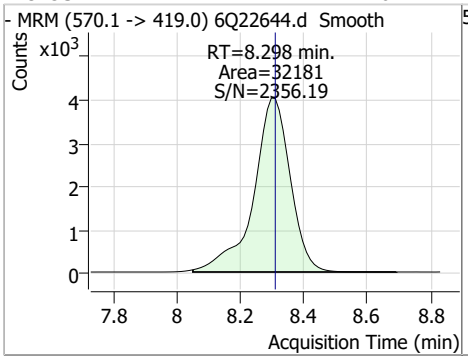
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.99	8.30	0.00	36056				

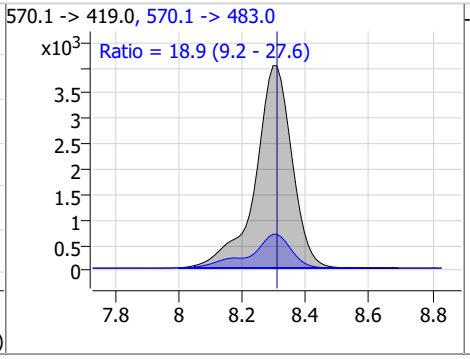


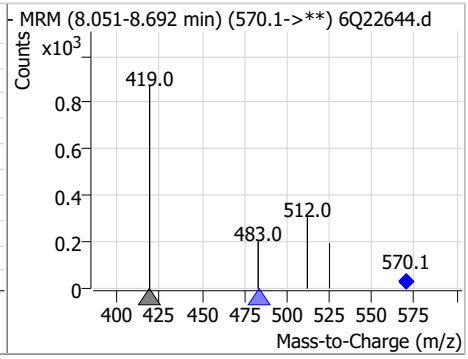




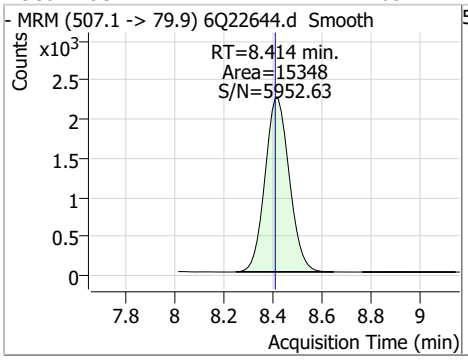
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	4.67	8.30	-0.01	32181	570.1 -> 483.0	18.9	9.2	27.6

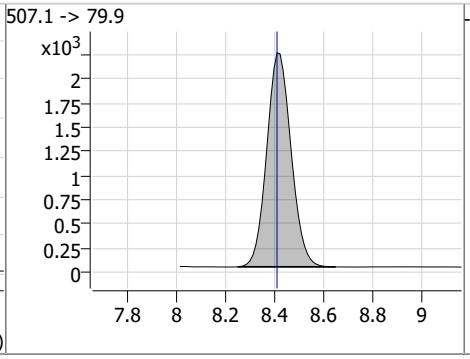


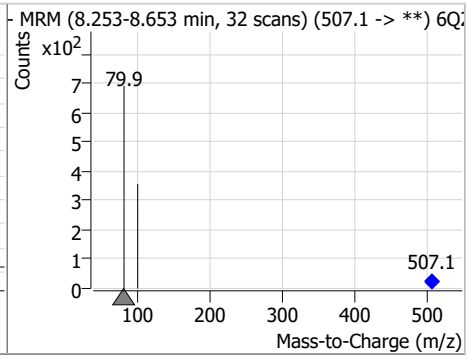




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.63	8.41	0.00	15348				

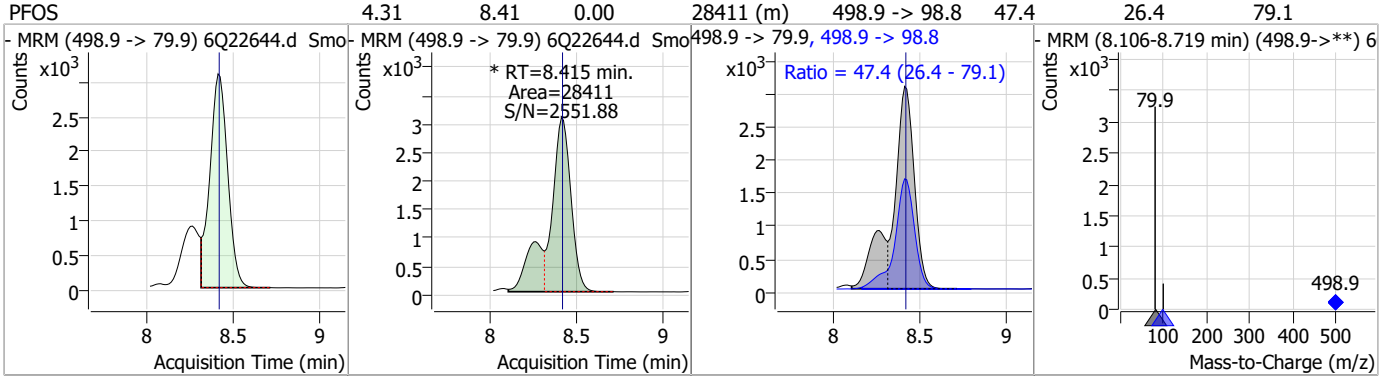




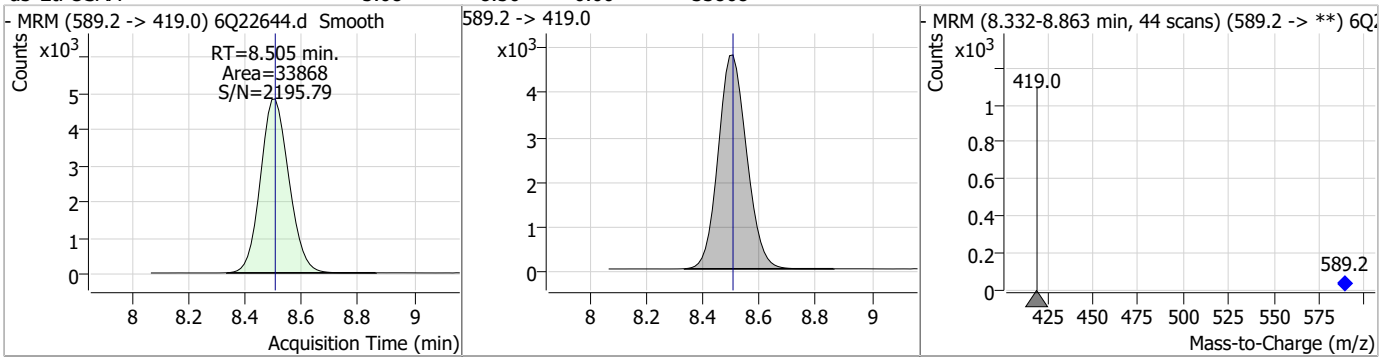


Perfluorinated Compounds by LC/MS/MS

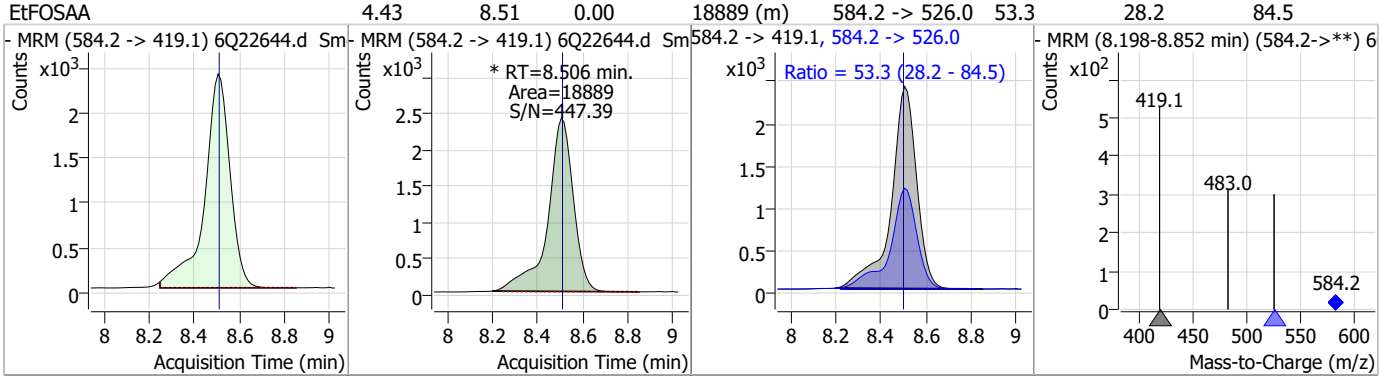
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	4.31	8.41	0.00	28411 (m)	498.9 -> 98.8	47.4	26.4	79.1



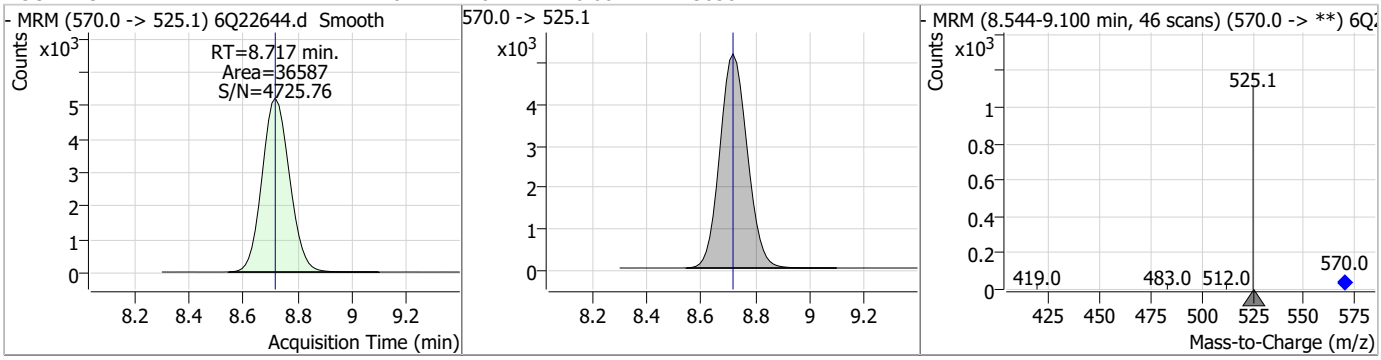
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.08	8.50	0.00	33868				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	4.43	8.51	0.00	18889 (m)	584.2 -> 526.0	53.3	28.2	84.5

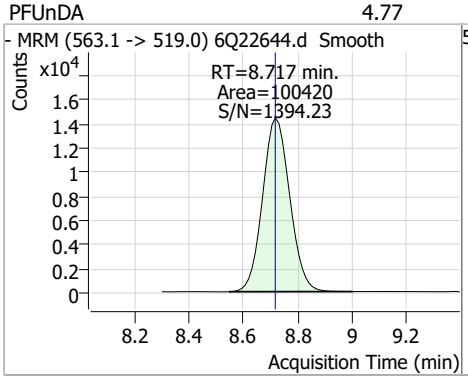


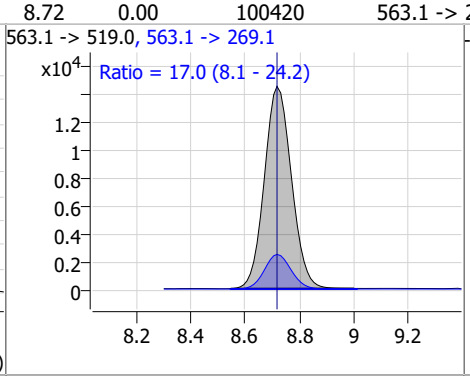
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.28	8.72	0.00	36587				

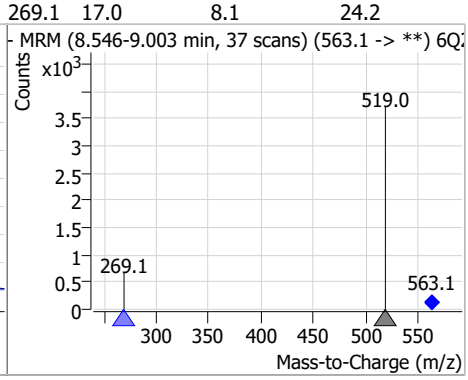


Perfluorinated Compounds by LC/MS/MS

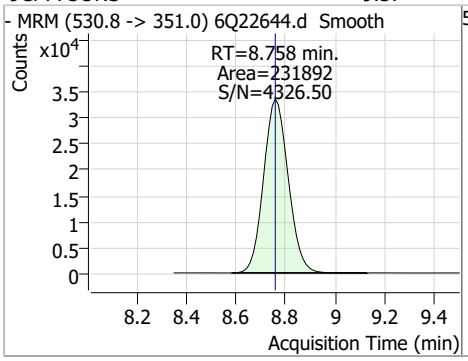
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	4.77	8.72	0.00	100420	563.1 -> 269.1	17.0	8.1	24.2

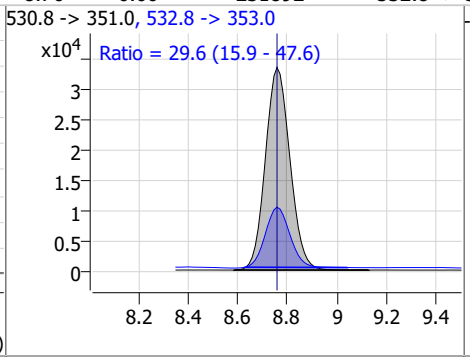


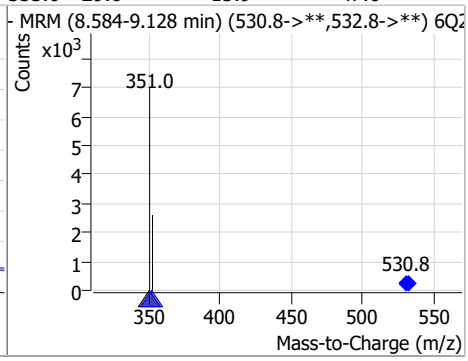




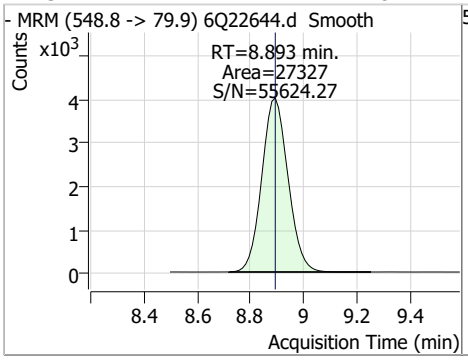
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	9.37	8.76	0.00	231892	532.8 -> 353.0	29.6	15.9	47.6

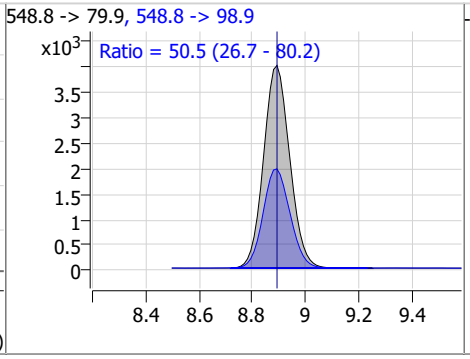


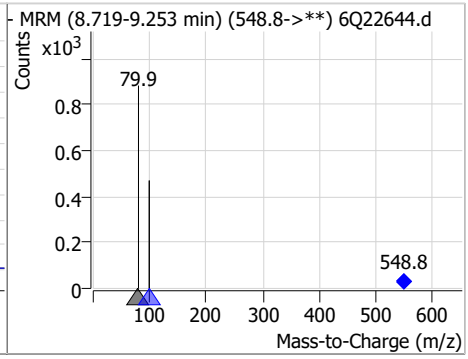




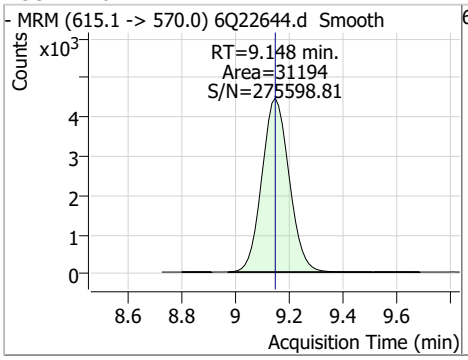
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	4.32	8.89	0.00	27327	548.8 -> 98.9	50.5	26.7	80.2

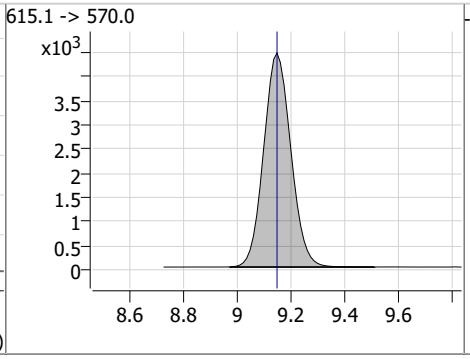


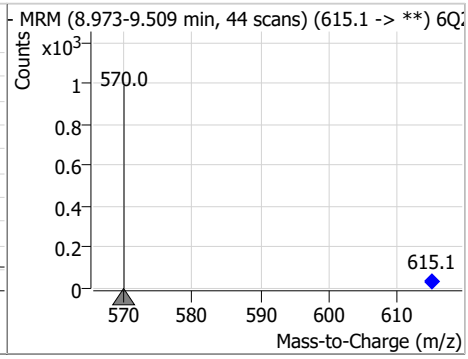




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.21	9.15	0.00	31194				

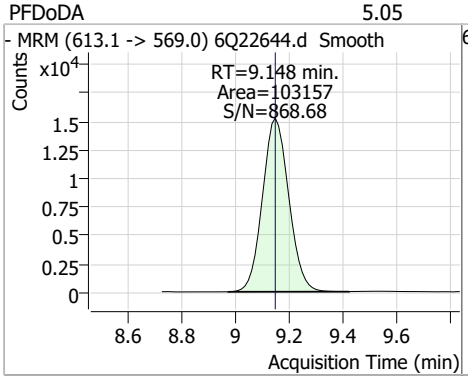


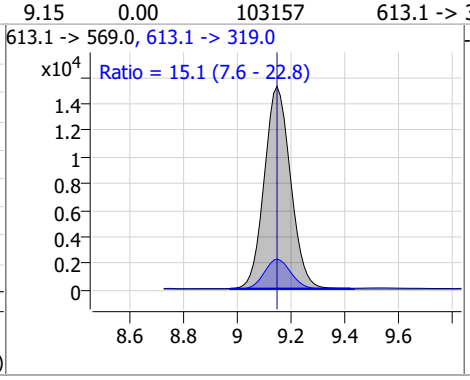


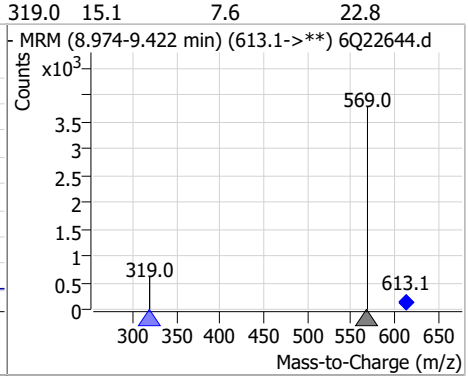


Perfluorinated Compounds by LC/MS/MS

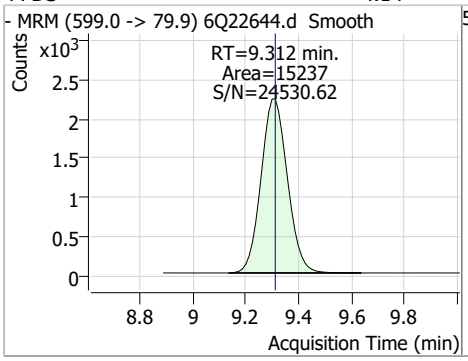
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	5.05	9.15	0.00	103157	613.1 -> 319.0	15.1	7.6	22.8

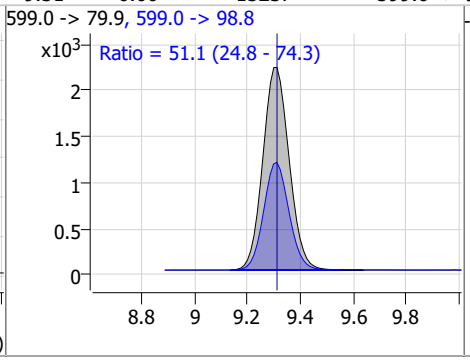


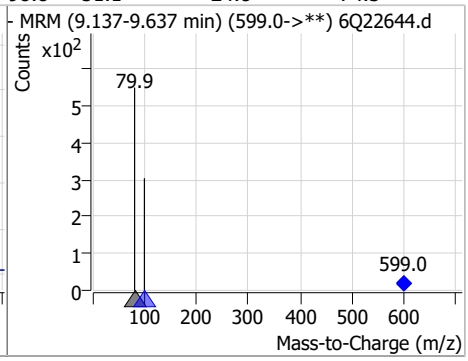




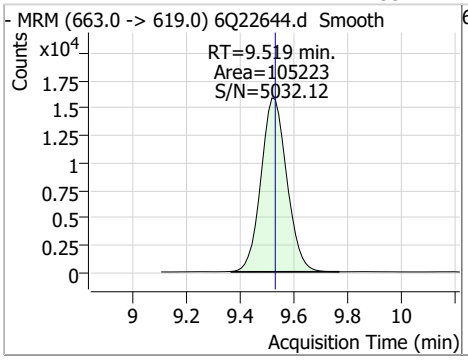
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	4.14	9.31	0.00	15237	599.0 -> 98.8	51.1	24.8	74.3

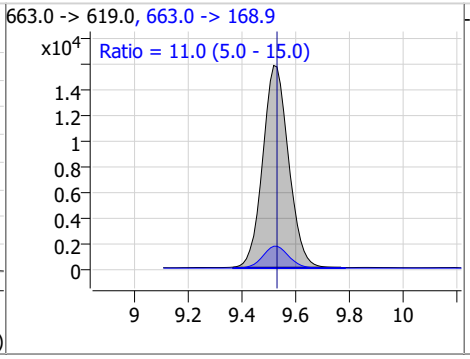


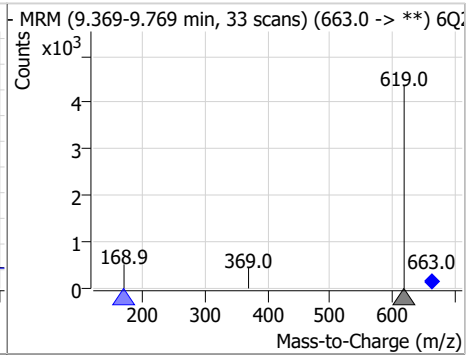




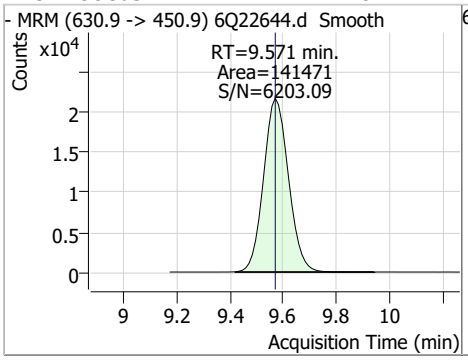
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	4.99	9.52	-0.01	105223	663.0 -> 168.9	11.0	5.0	15.0

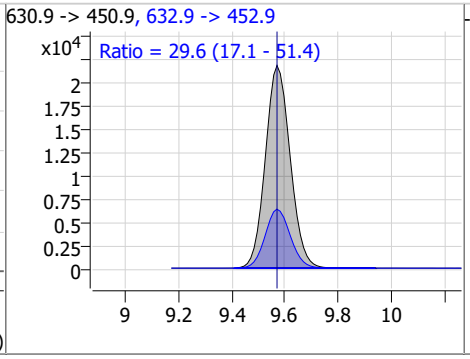


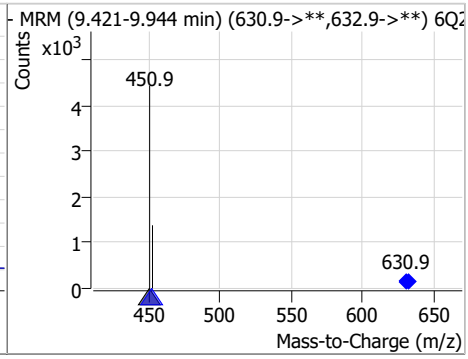




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	9.24	9.57	0.00	141471	632.9 -> 452.9	29.6	17.1	51.4

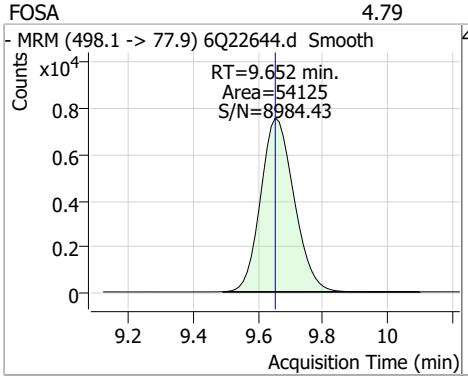


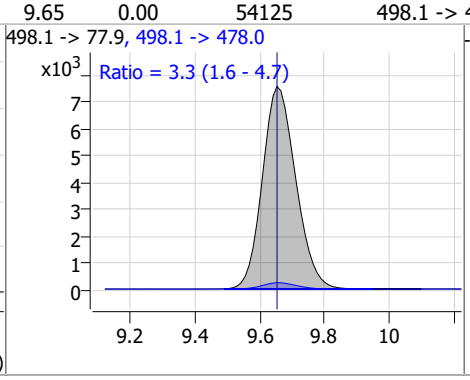


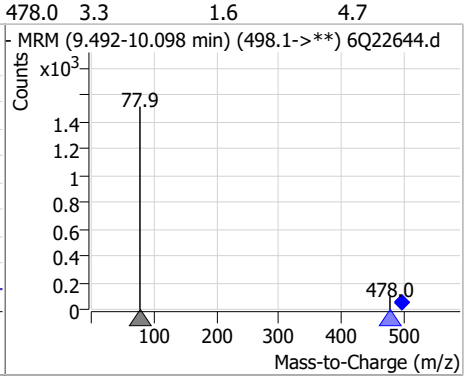


Perfluorinated Compounds by LC/MS/MS

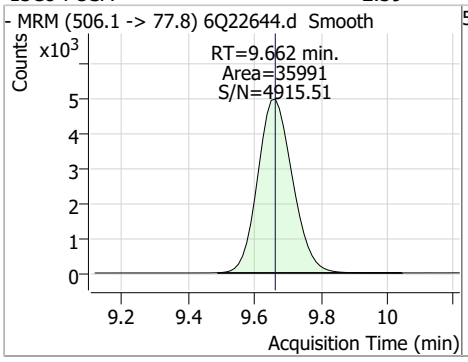
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	4.79	9.65	0.00	54125	498.1 -> 478.0	3.3	1.6	4.7

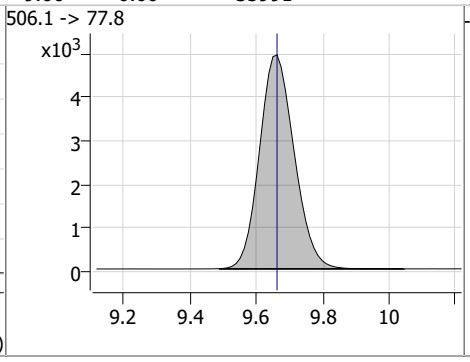


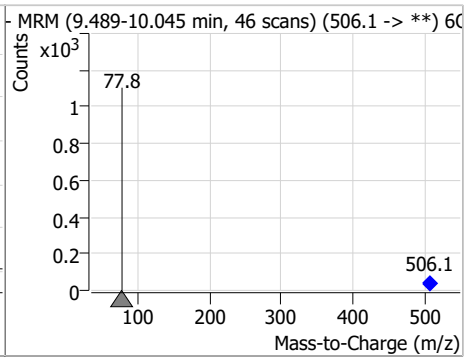




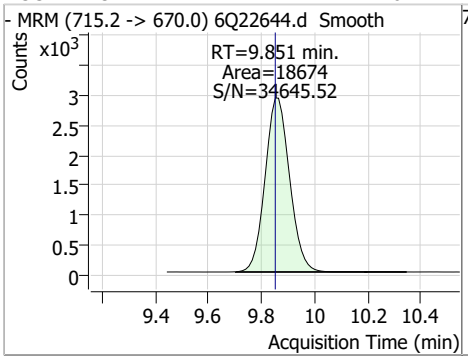
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.39	9.66	0.00	35991				

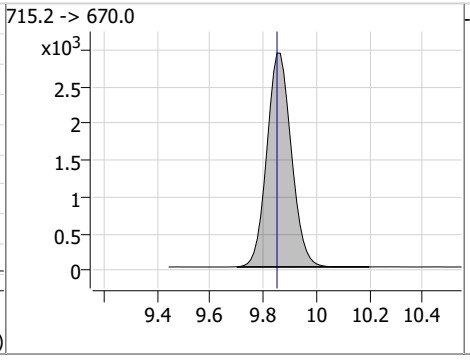


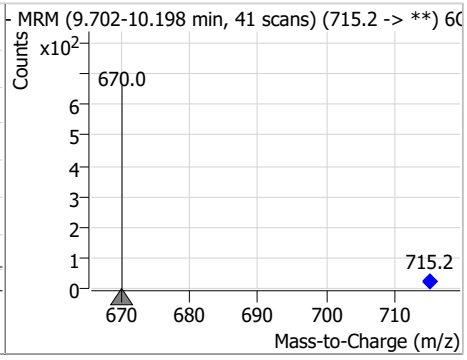




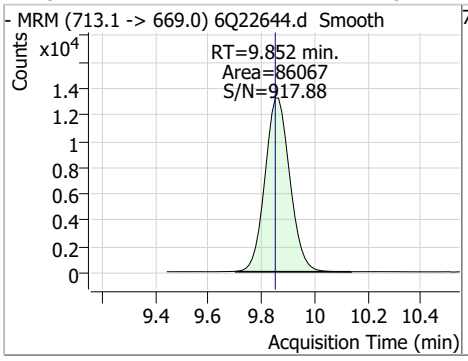
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.26	9.85	0.00	18674				

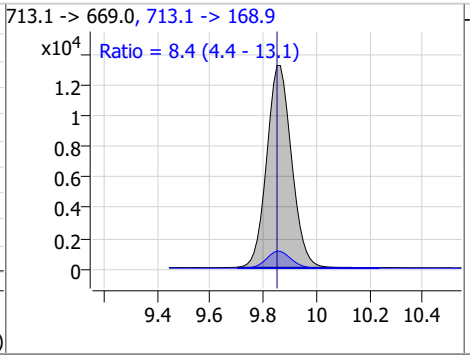


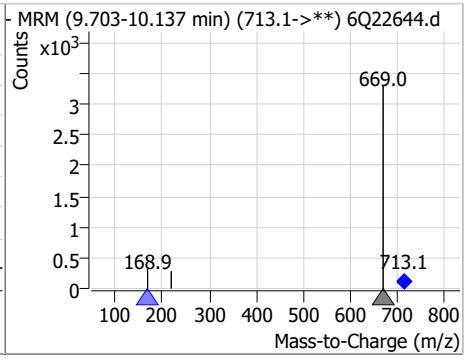




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	4.75	9.85	0.00	86067	713.1 -> 168.9	8.4	4.4	13.1

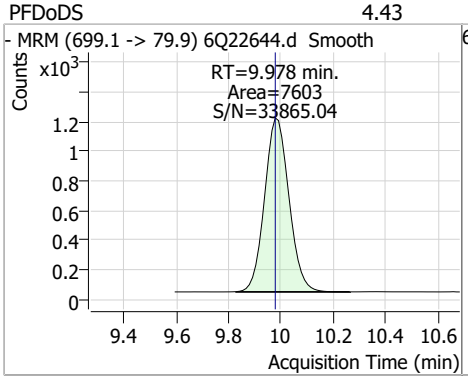


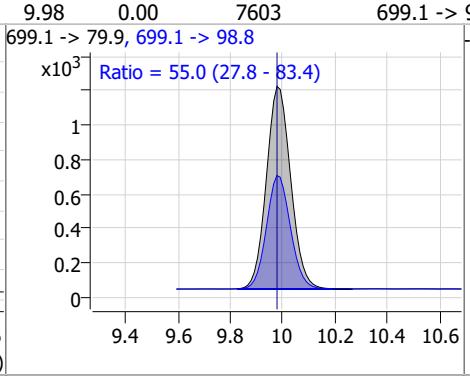


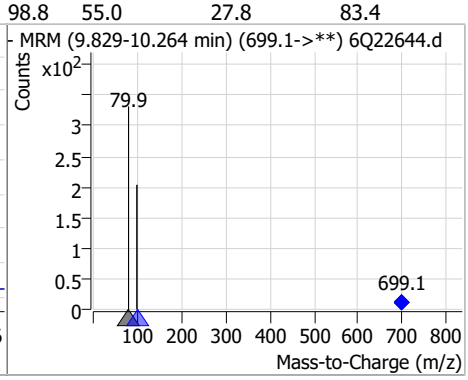


Perfluorinated Compounds by LC/MS/MS

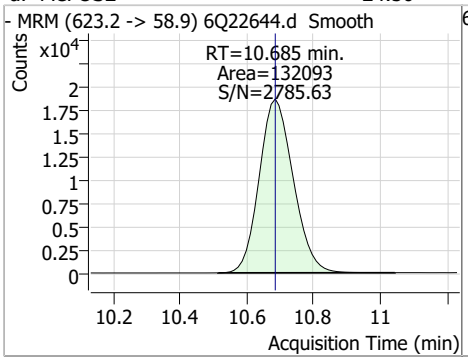
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	4.43	9.98	0.00	7603	699.1 -> 98.8	55.0	27.8	83.4

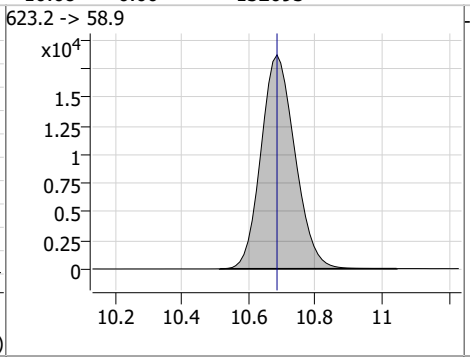


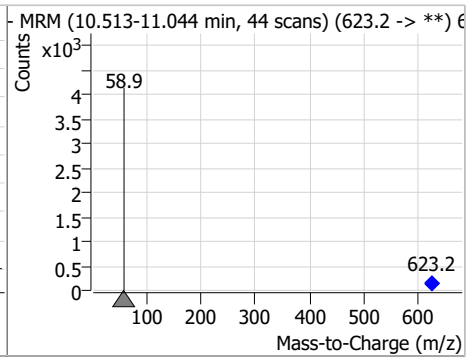




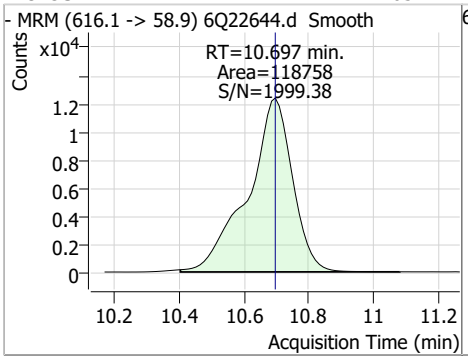
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.50	10.68	0.00	132093				

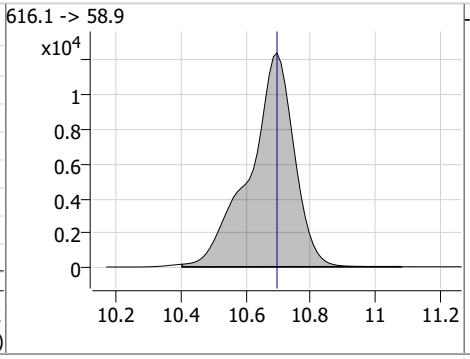


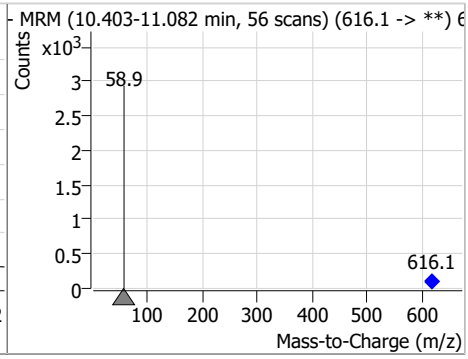




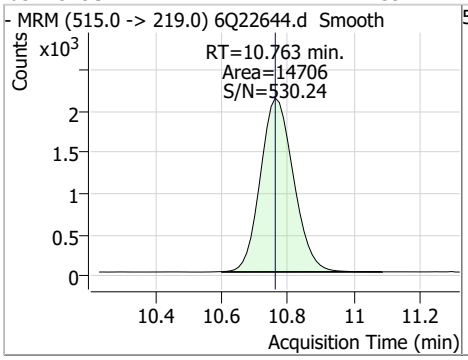
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	24.05	10.70	0.00	118758				

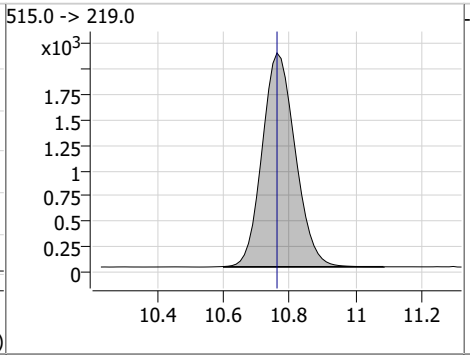


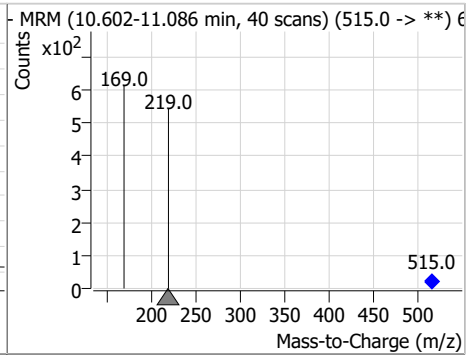




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.39	10.76	0.00	14706				

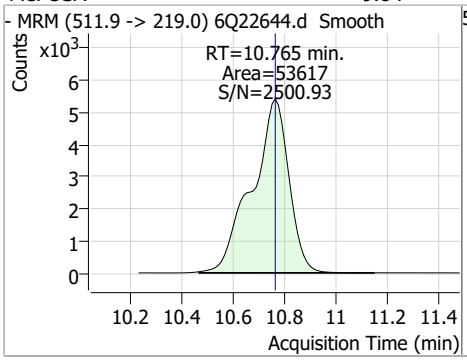


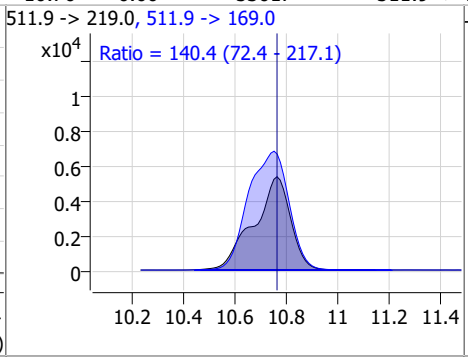


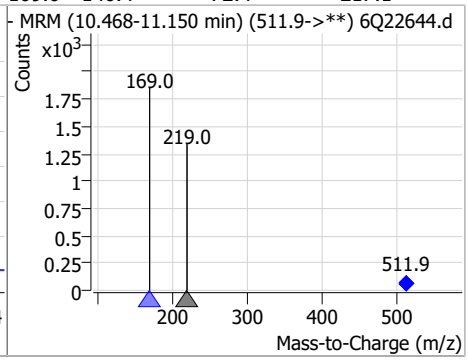


Perfluorinated Compounds by LC/MS/MS

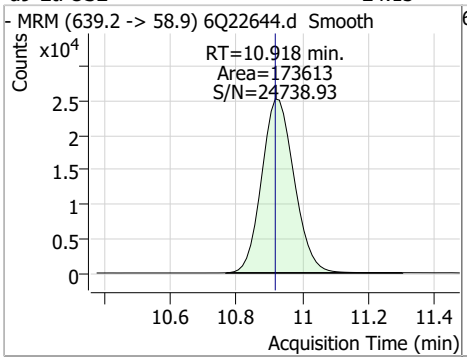
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	9.84	10.76	0.00	53617	511.9 -> 169.0	140.4	72.4	217.1

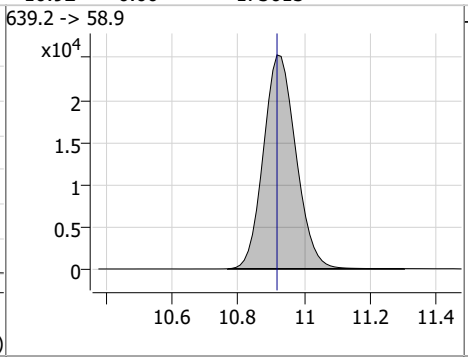


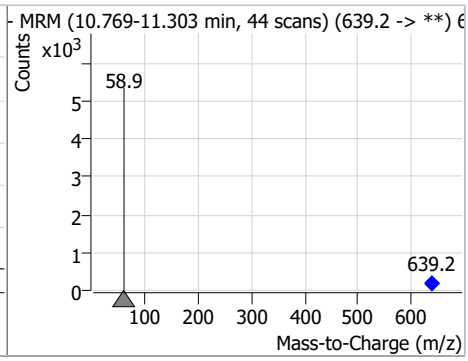




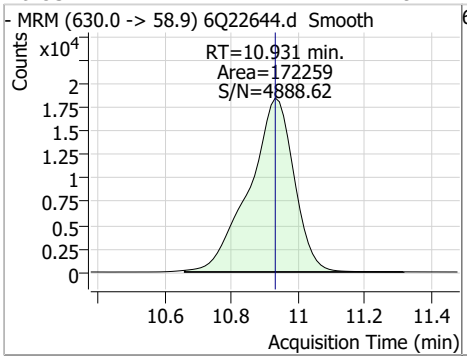
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.13	10.92	0.00	173613				

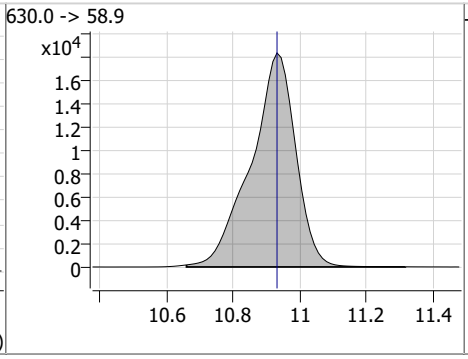


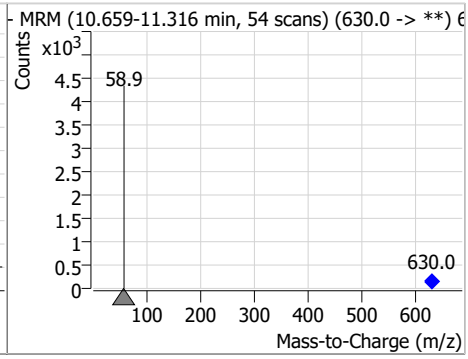




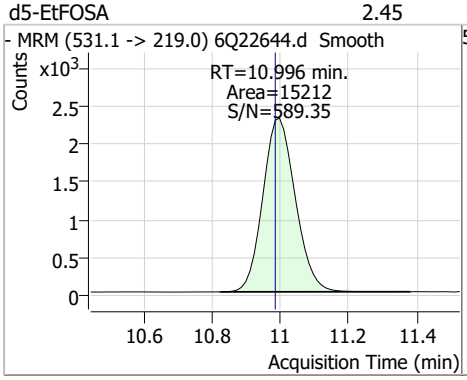
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	24.49	10.93	0.00	172259				

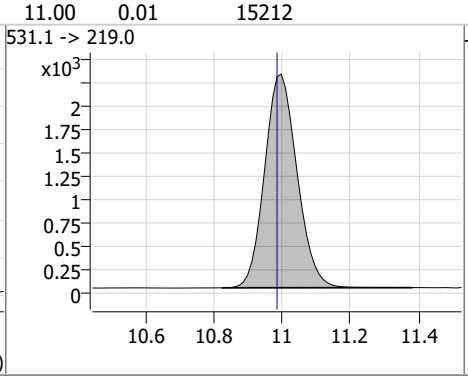


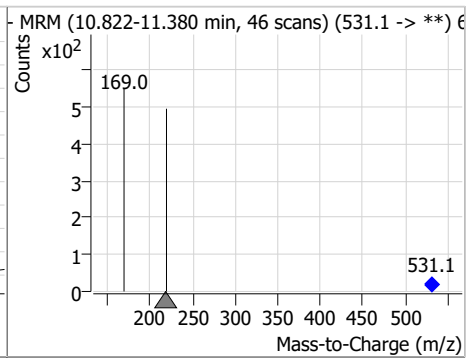




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.45	11.00	0.01	15212				

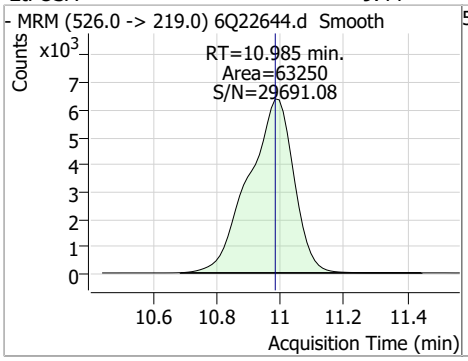


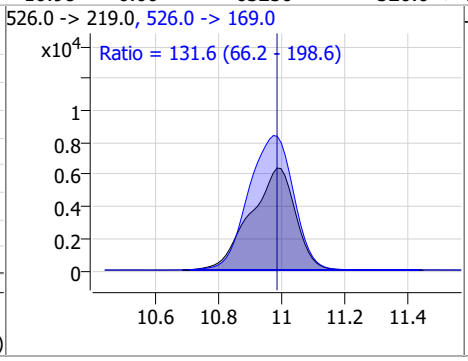


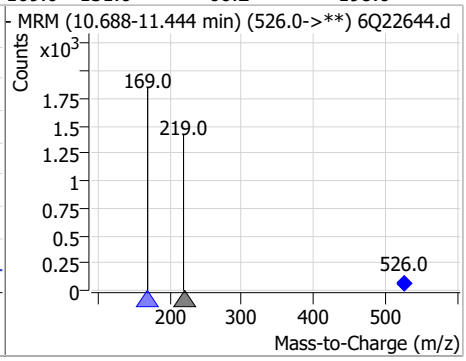


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	9.44	10.98	0.00	63250	526.0 -> 169.0	131.6	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q330-IC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22644.D	**Analyst approved:**	08/13/23 12:53 Martha Valls
Injection Time:	08/10/23 14:35	**Supervisor approved:**	08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak
EtFOSAA	2991-50-6		8.51	Split peak

6Q22645.D

Manual Integrations APPROVED (compounds with "m" flag)

Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22645.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 2:49:29 PM
Sample Name : ic330-6
Vial : P1-A7
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	177290	10.00	µg/L	0.000
M5-PFPeA	4.447	268.3 -> 223.0	56938	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	62842	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	59438	2.50	µg/L	-0.012
M8-PFOA	7.239	421.1 -> 376.0	96525	2.50	µg/L	0.000
M9-PFNA	7.758	472.1 -> 427.0	44580	1.25	µg/L	-0.012
M6-PFDA	8.250	519.1 -> 474.1	26583	1.25	µg/L	-0.012
M7-PFUnDA	8.717	570.0 -> 525.1	32349	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	29425	1.25	µg/L	0.000
M2-PFTeDA	9.863	715.2 -> 670.0	16847	1.25	µg/L	0.012
M8-FOSA	9.662	506.1 -> 77.8	33280	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	22462	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	14914	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	14215	2.50	µg/L	0.000
M2-4:2FTS	5.343	329.1 -> 80.9	3063	5.00	µg/L	0.012
M2-6:2FTS	7.014	429.1 -> 80.9	4425	5.00	µg/L	0.000
M2-8:2FTS	8.039	529.1 -> 80.9	4494	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	32618	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	37860	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	30701	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	119894	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	164036	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	14084	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	13863	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	18380	2.50	µg/L	-0.012
13C3-PFBA	3.014	216.0 -> 172.0	74337	5.00	µg/L	0.012
18O2-PFHxS	7.354	403.0 -> 83.9	11049	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	103527	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	33611	1.25	µg/L	0.000
13C5-PFNA	7.770	468.0 -> 423.0	54534	1.25	µg/L	0.000
13C2-PFHxA	5.669	315.1 -> 270.0	60782	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.343	329.1 -> 80.9	3063	4.64	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.8%		
13C2-6:2FTS	7.014	429.1 -> 80.9	4425	4.64	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.9%		
13C2-8:2FTS	8.039	529.1 -> 80.9	4494	4.82	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.3%		
13C2-PFDoDA	9.148	615.1 -> 570.0	29425	1.30	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.7%		
13C2-PFTeDA	9.863	715.2 -> 670.0	16847	1.29	µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C3-PFBS	5.610	302.1 -> 79.9	22462	2.39	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.8%		
13C3-PFHxS	7.355	402.1 -> 79.9	14914	2.46	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 = 98.2%	
13C4-PFBA	3.010	216.8 -> 171.9	177290	10.10 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C4-PFHpA	6.596	367.1 -> 322.0	59438	2.42 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C5-PFHxA	5.668	318.0 -> 273.0	62842	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C5-PFPeA	4.447	268.3 -> 223.0	56938	4.97 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C6-PFDA	8.250	519.1 -> 474.1	26583	1.40 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.1%	
13C7-PFUnDA	8.717	570.0 -> 525.1	32349	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C8-FOSA	9.662	506.1 -> 77.8	33280	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.0%	
13C8-PFOA	7.239	421.1 -> 376.0	96525	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C8-PFOS	8.414	507.1 -> 79.9	14215	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.6%	
13C9-PFNA	7.758	472.1 -> 427.0	44580	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.8%	
d3-MeFOSAA	8.297	573.2 -> 419.0	32618	4.90 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	37860	9.63 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 96.3%	
d3-MeFOSA	10.763	515.0 -> 219.0	13863	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%	
d5-EtFOSAA	8.492	589.2 -> 419.0	30701	5.00 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
d7-MeFOSE	10.685	623.2 -> 58.9	119894	24.14 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.5%	
d9-EtFOSE	10.918	639.2 -> 58.9	164036	24.74 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
d5-EtFOSA	10.983	531.1 -> 219.0	14084	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.5%	
Target Compounds					**QValue**
4:2FTS	5.343	327.1 -> 307.0	201446	50.85 µg/L	97
		327.1 -> 80.9	74555		
6:2FTS	7.002	427.1 -> 407.0	200837	50.75 µg/L	96
		427.1 -> 80.9	63148		
8:2FTS	8.040	527.1 -> 507.0	113214	47.08 µg/L	95
		527.1 -> 80.8	45096		
EtFOSAA	8.506	584.2 -> 419.1	50107	12.95 µg/L	93
		584.2 -> 526.0	25769		
FOSA	9.652	498.1 -> 77.9	140873	13.49 µg/L	100
		498.1 -> 478.0	4547		
MeFOSAA	8.298	570.1 -> 419.0	81147	13.01 µg/L	98
		570.1 -> 483.0	15507		
PFBA	3.006	212.8 -> 168.9	291232	52.57 µg/L	100
PFBS	5.611	298.7 -> 79.9	87015	11.86 µg/L	98
		298.7 -> 98.8	33319		
PFDA	8.251	512.9 -> 469.0	373782	11.87 µg/L	98
		512.9 -> 219.0	57582		
PFDoDA	9.148	613.1 -> 569.0	269484	13.98 µg/L	97
		613.1 -> 319.0	37188		
PFDS	9.299	599.0 -> 79.9	40075	11.75 µg/L	100

Perfluorinated Compounds by LC/MS/MS

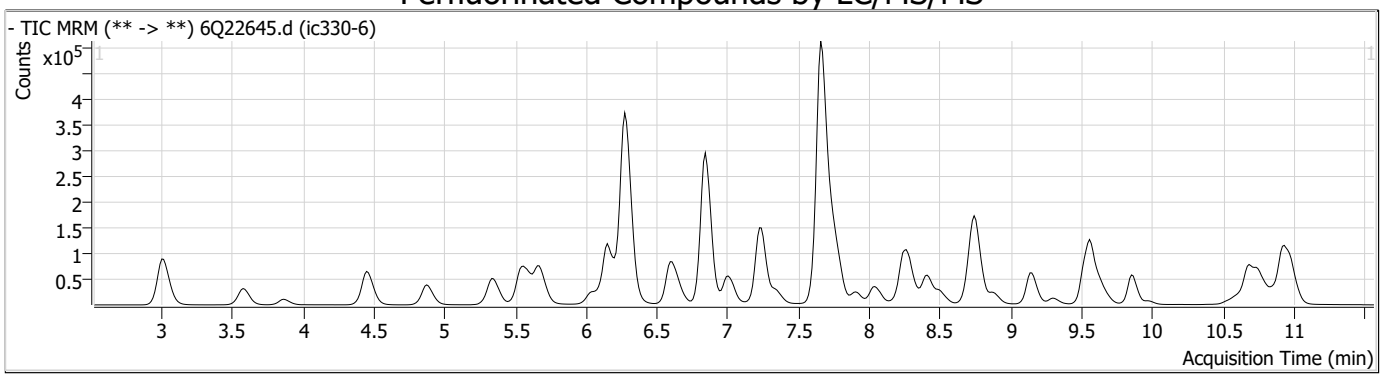
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	19953				
PFHpA	6.596	363.1 -> 319.0	326079	13.91	µg/L		97
		363.1 -> 169.0	50458				
PFHpS	7.909	449.0 -> 79.9	76513	11.78	µg/L		95
		449.0 -> 98.9	38241				
PFHxA	5.670	313.0 -> 269.0	241874	13.16	µg/L		100
		313.0 -> 118.9	12858				
PFHxS	7.356	398.7 -> 79.9	75800	11.52	µg/L	m	98
		398.7 -> 98.9	35822				
PFNA	7.771	463.0 -> 419.0	388305	12.67	µg/L		99
		463.0 -> 219.0	71330				
PFNS	8.880	548.8 -> 79.9	68671	11.71	µg/L		99
		548.8 -> 98.9	37215				
PFOA	7.240	413.0 -> 369.0	524702	13.30	µg/L		99
		413.0 -> 169.0	83034				
PFOS	8.415	498.9 -> 79.9	69264	11.34	µg/L	m	99
		498.9 -> 98.8	35992				
PFPeA	4.449	263.0 -> 219.0	334271	26.65	µg/L		100
PFPeS	6.660	349.1 -> 79.9	73077	11.97	µg/L		97
		349.1 -> 98.9	34785				
PFTeDA	9.864	713.1 -> 669.0	229223	14.01	µg/L		99
		713.1 -> 168.9	18816				
PFTrDA	9.519	663.0 -> 619.0	267039	13.42	µg/L		98
		663.0 -> 168.9	28586				
PFUnDA	8.717	563.1 -> 519.0	244187	13.11	µg/L		97
		563.1 -> 269.1	42669				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	352570	26.09	µg/L		94
		632.9 -> 452.9	109249				
9Cl-PF3ONS	8.758	530.8 -> 351.0	570038	26.10	µg/L		98
		532.8 -> 353.0	174748				
ADONA	6.846	376.9 -> 250.9	1268977	26.32	µg/L		99
		376.9 -> 84.8	329033				
HFPO-DA	6.046	284.9 -> 168.9	84306	26.17	µg/L		98
		284.9 -> 184.9	9445				
3:3FTCA	3.859	241.0 -> 177.0	56100	64.05	µg/L		100
		241.0 -> 117.0	7514				
5:3FTCA	6.272	341.0 -> 237.1	1265529	334.73	µg/L		99
		341.0 -> 217.0	882875				
7:3FTCA	7.673	441.0 -> 316.9	923833	330.37	µg/L		95
		441.0 -> 336.9	2025759				
EtFOSA	10.985	526.0 -> 219.0	161466	26.03	µg/L		99
		526.0 -> 169.0	216113				
EtFOSE	10.931	630.0 -> 58.9	438656	65.99	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	136374	26.54	µg/L		96
		511.9 -> 169.0	191361				
MeFOSE	10.697	616.1 -> 58.9	302359	67.46	µg/L		100
PFDoDS	9.978	699.1 -> 79.9	19219	12.10	µg/L		96
		699.1 -> 98.8	10120				
NFDHA	5.551	295.0 -> 201.0	60442	25.85	µg/L		96
		295.0 -> 84.9	16054				
PFMBA	4.869	279.0 -> 85.1	235275	26.52	µg/L		100
PFMPA	3.576	229.0 -> 84.9	188934	26.61	µg/L		100
PFEESA	6.151	314.8 -> 134.9	585925	23.73	µg/L		100
		314.8 -> 82.9	19742				

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

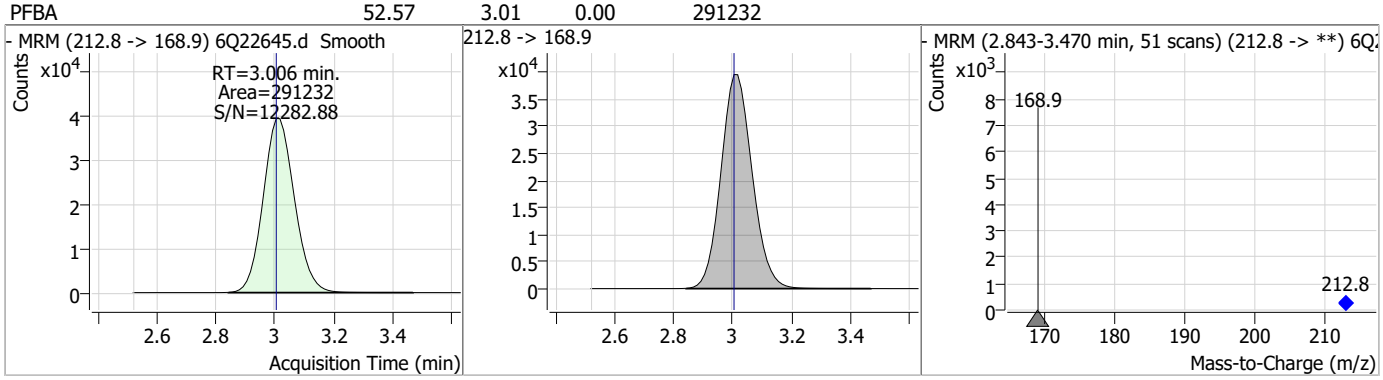
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

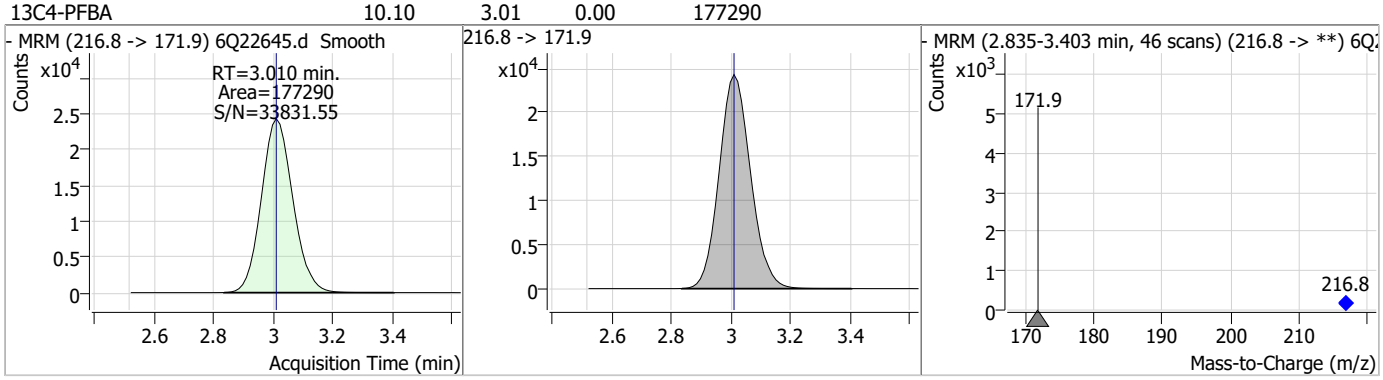
Perfluorinated Compounds by LC/MS/MS



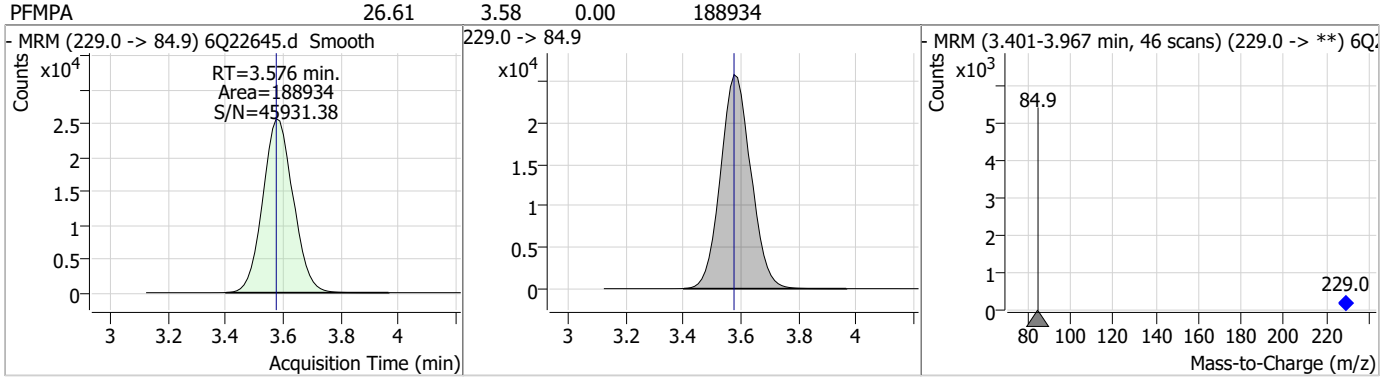
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	52.57	3.01	0.00	291232				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.10	3.01	0.00	177290				

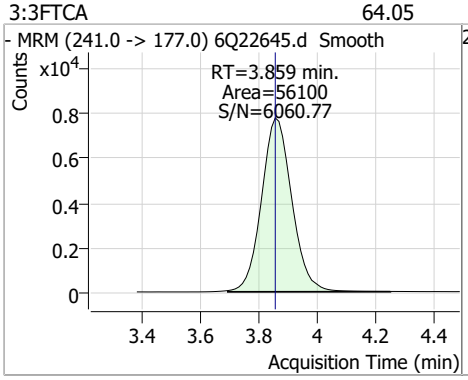


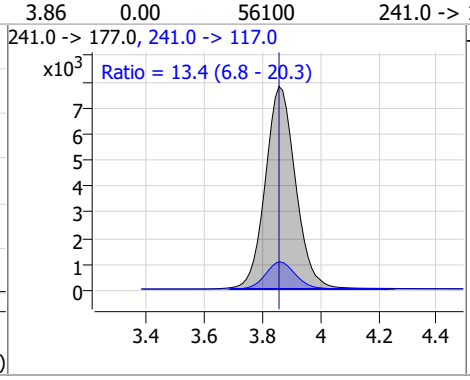
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	26.61	3.58	0.00	188934				

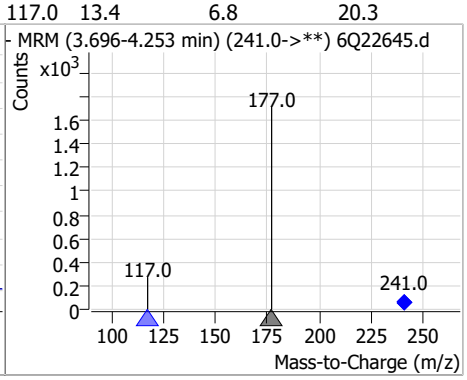


Perfluorinated Compounds by LC/MS/MS

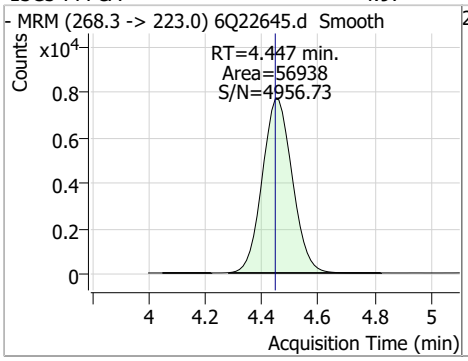
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	64.05	3.86	0.00	56100	241.0 -> 117.0	13.4	6.8	20.3

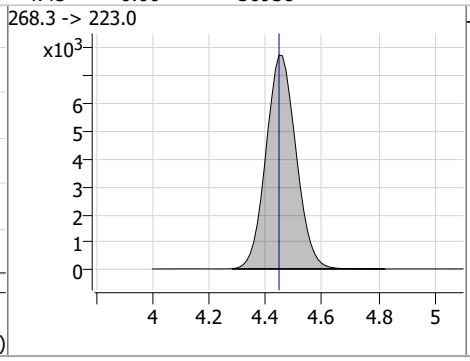


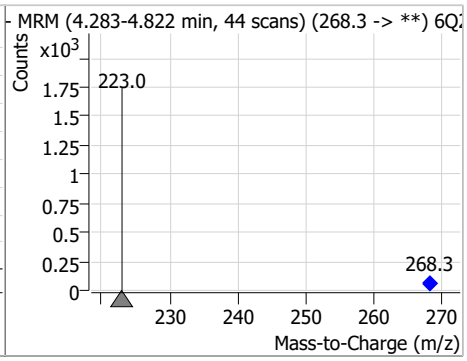




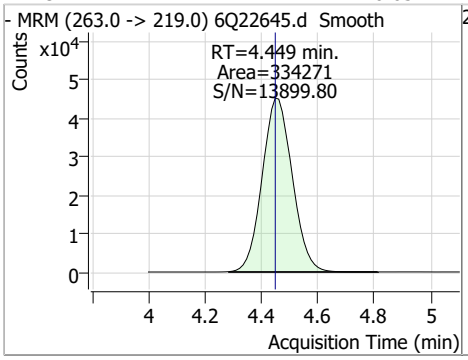
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.97	4.45	0.00	56938				

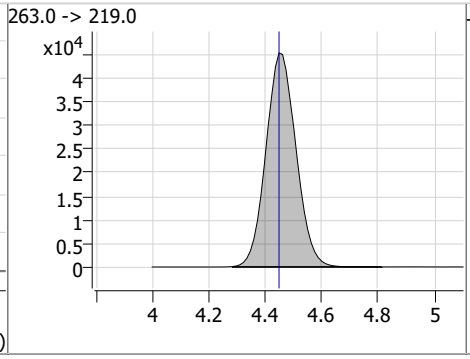


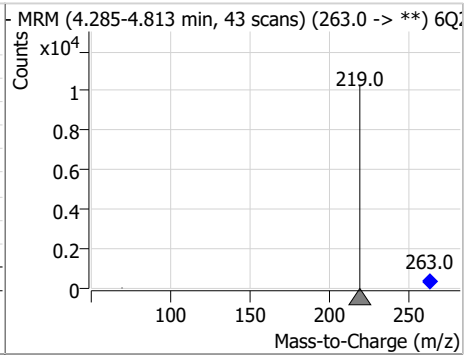




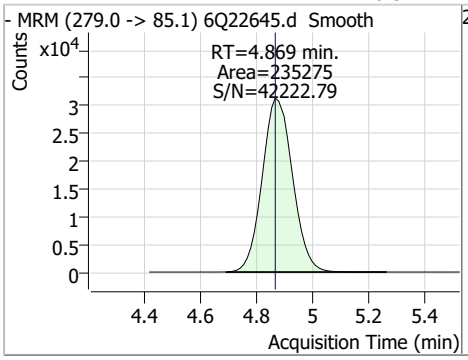
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	26.65	4.45	0.00	334271				

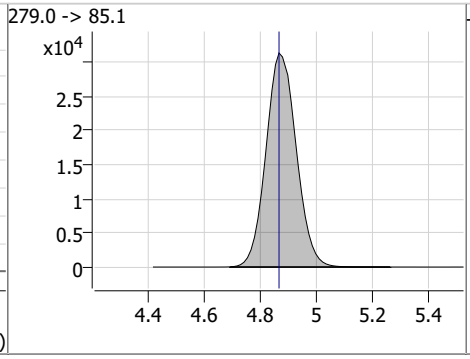


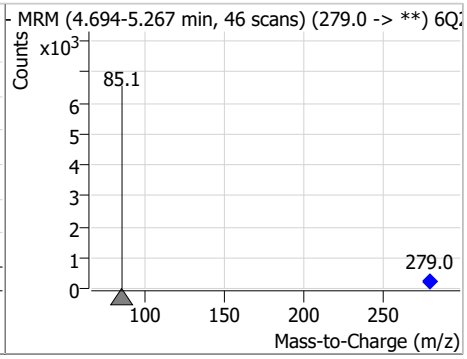




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	26.52	4.87	0.00	235275				

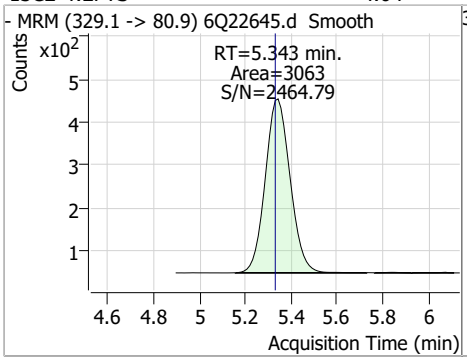


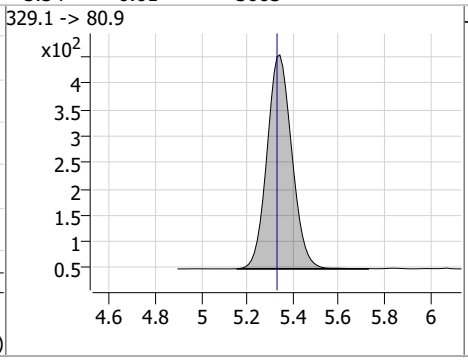


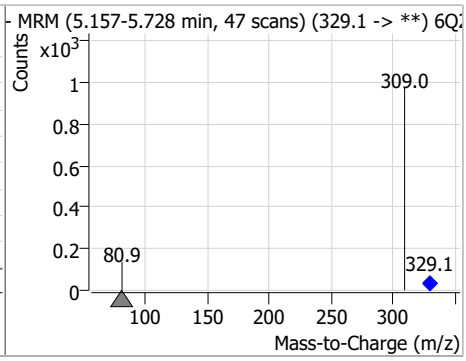


Perfluorinated Compounds by LC/MS/MS

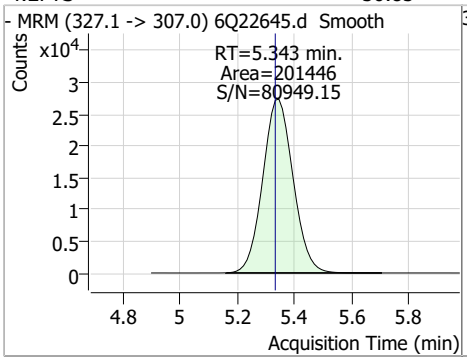
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.64	5.34	0.01	3063				

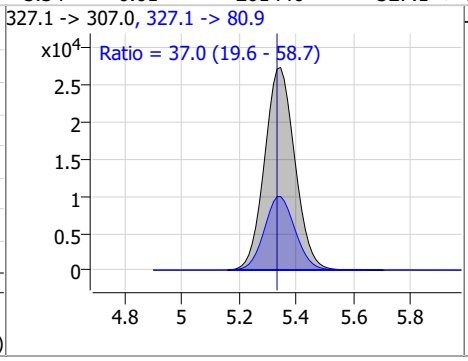


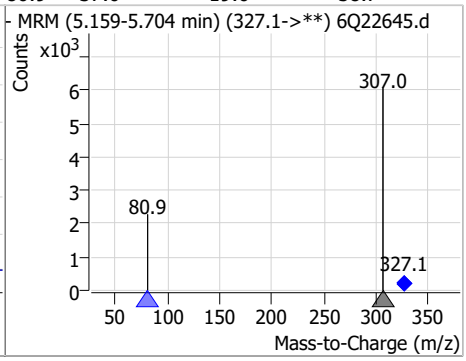




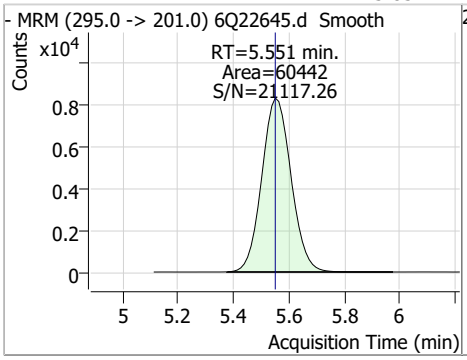
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	50.85	5.34	0.01	201446	327.1 -> 80.9	37.0	19.6	58.7

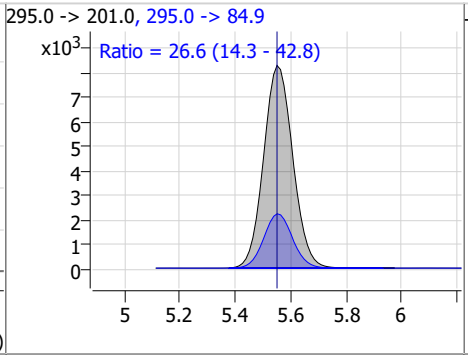


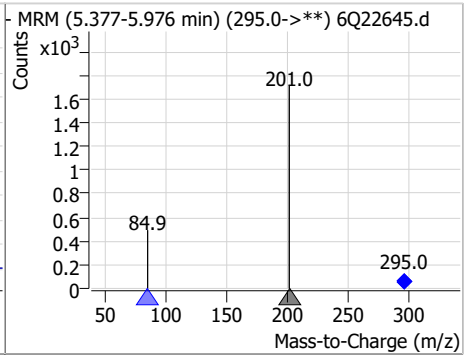




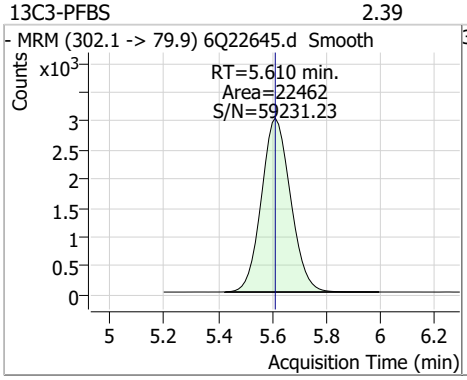
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	25.85	5.55	0.00	60442	295.0 -> 84.9	26.6	14.3	42.8

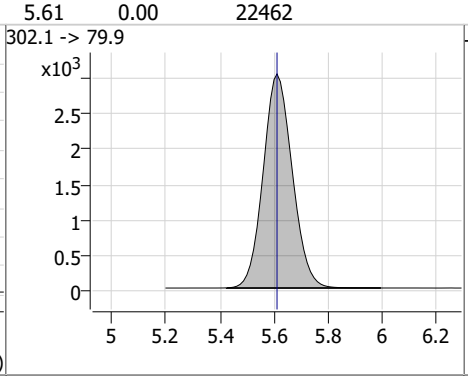


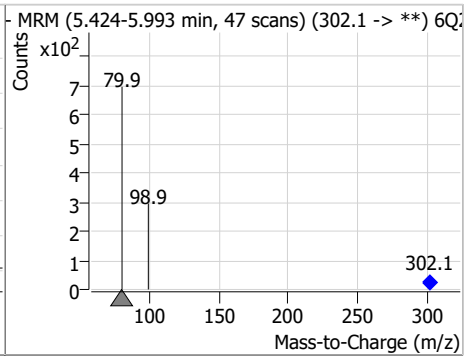




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.39	5.61	0.00	22462				

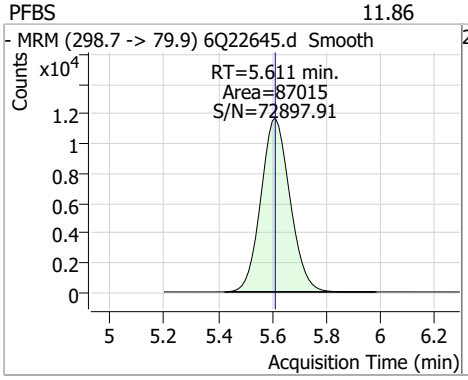


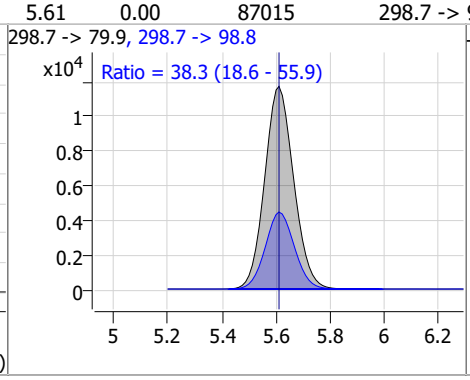


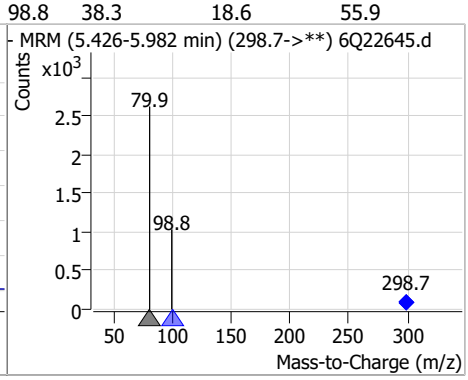


Perfluorinated Compounds by LC/MS/MS

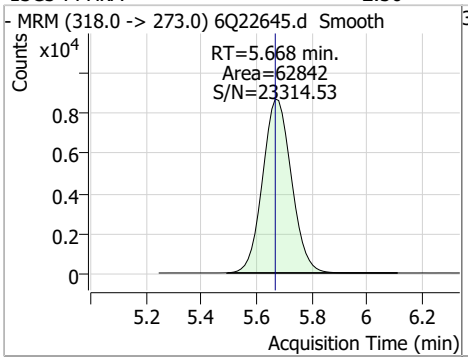
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	11.86	5.61	0.00	87015	298.7 -> 98.8	38.3	18.6	55.9

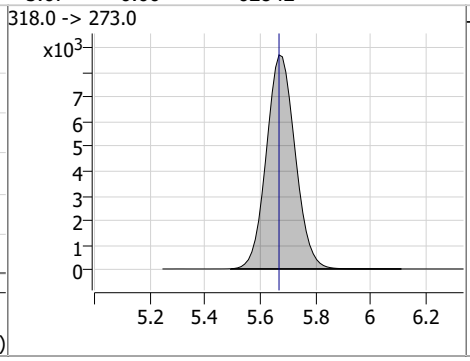


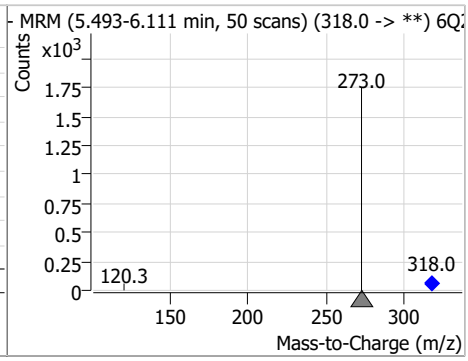




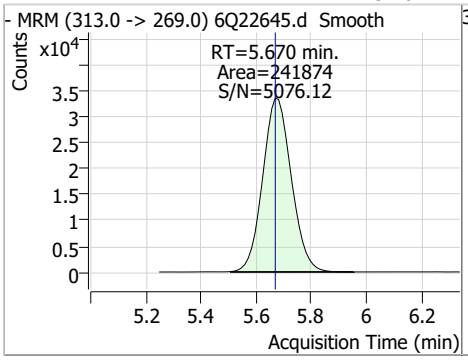
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.50	5.67	0.00	62842				

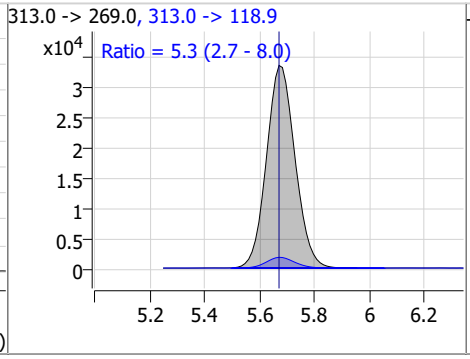


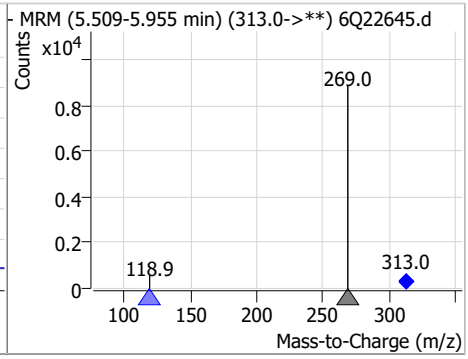




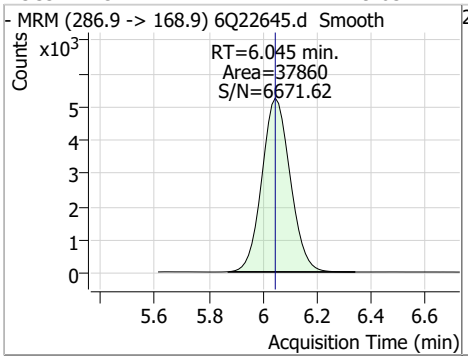
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	13.16	5.67	0.00	241874	313.0 -> 118.9	5.3	2.7	8.0

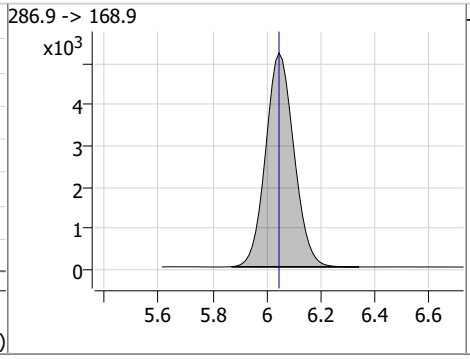


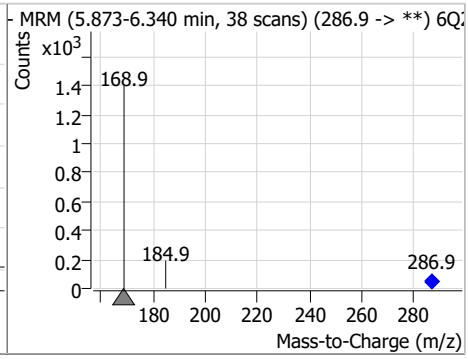




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.63	6.05	0.00	37860				

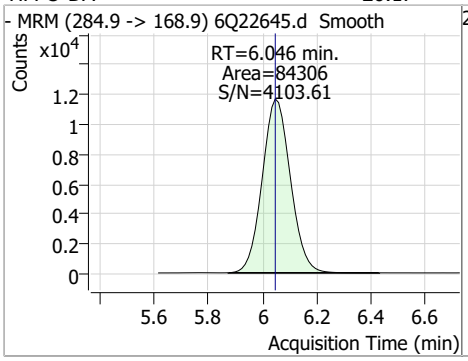


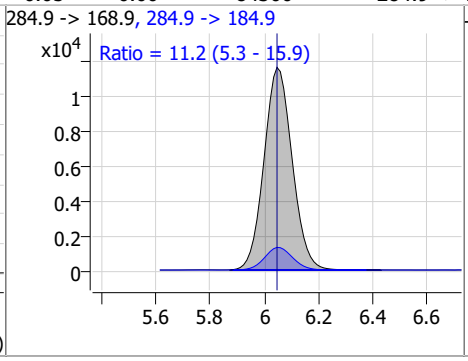


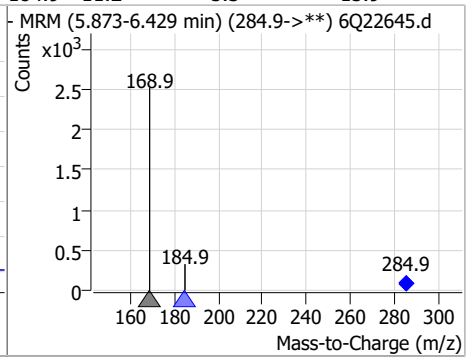


Perfluorinated Compounds by LC/MS/MS

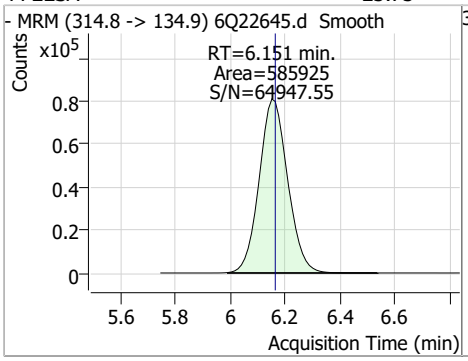
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	26.17	6.05	0.00	84306	284.9 -> 184.9	11.2	5.3	15.9

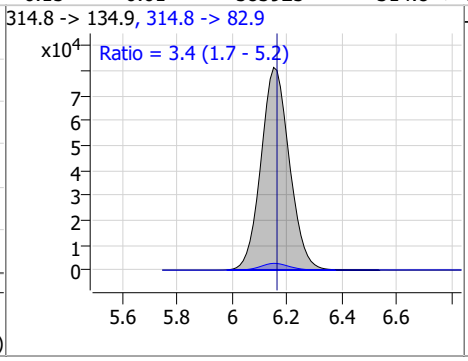


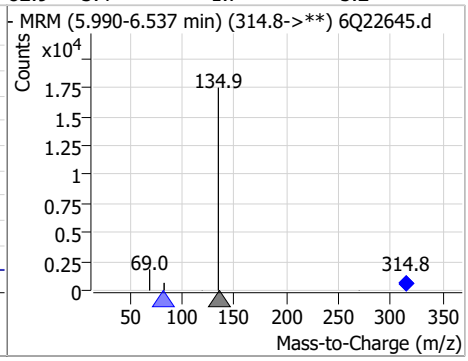




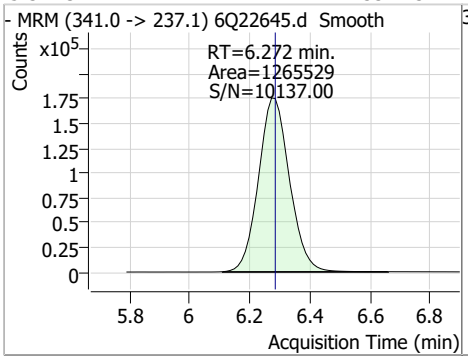
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	23.73	6.15	-0.01	585925	314.8 -> 82.9	3.4	1.7	5.2

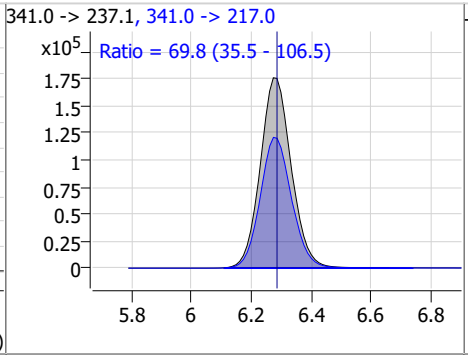


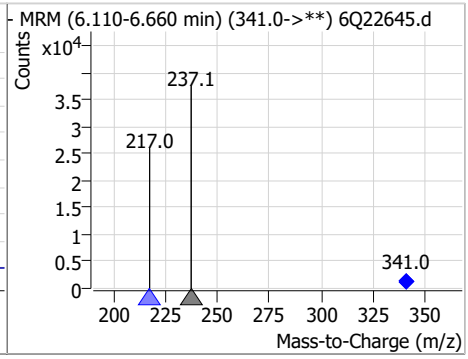




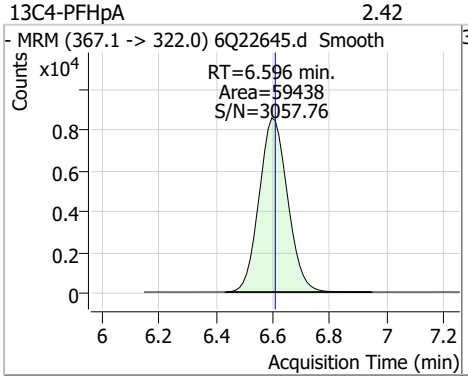
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	334.73	6.27	-0.01	1265529	341.0 -> 217.0	69.8	35.5	106.5

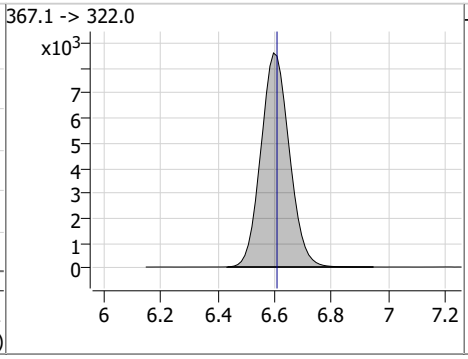


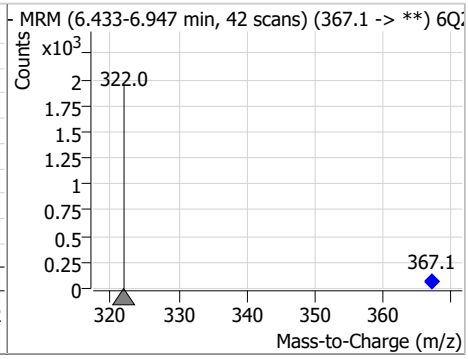




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.42	6.60	-0.01	59438				

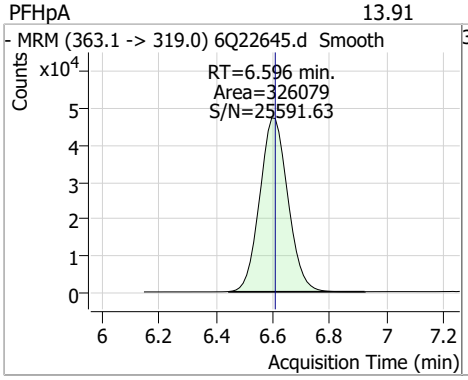


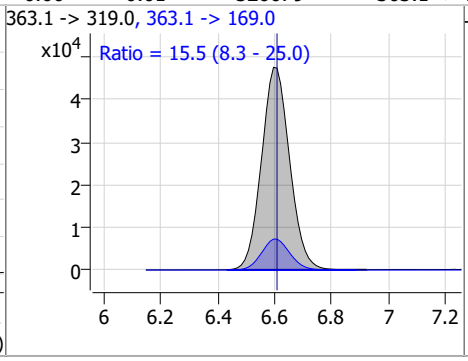


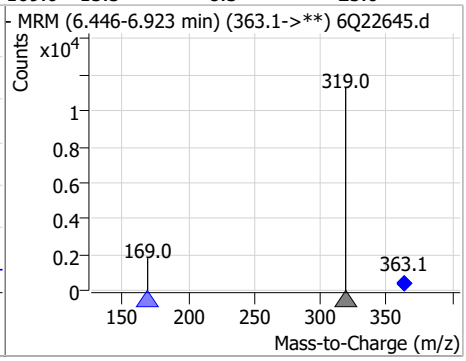


Perfluorinated Compounds by LC/MS/MS

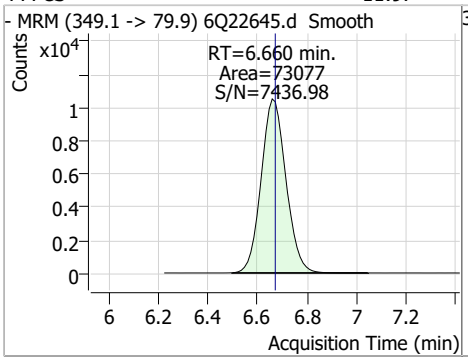
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	13.91	6.60	-0.01	326079	363.1 -> 169.0	15.5	8.3	25.0

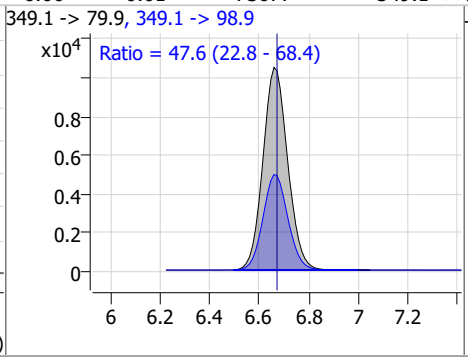


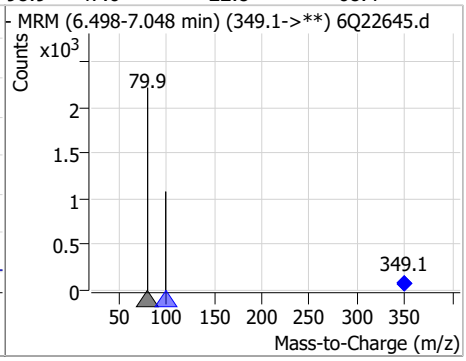




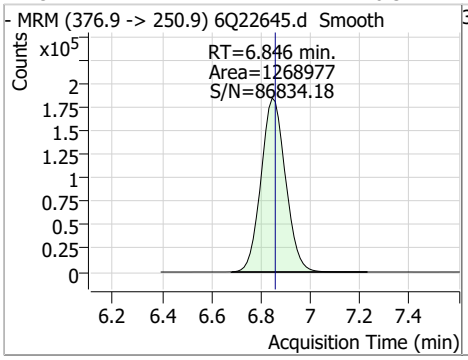
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	11.97	6.66	-0.01	73077	349.1 -> 98.9	47.6	22.8	68.4

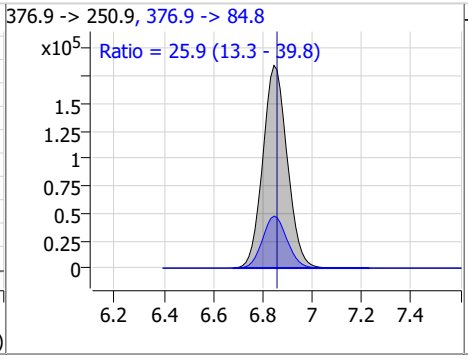


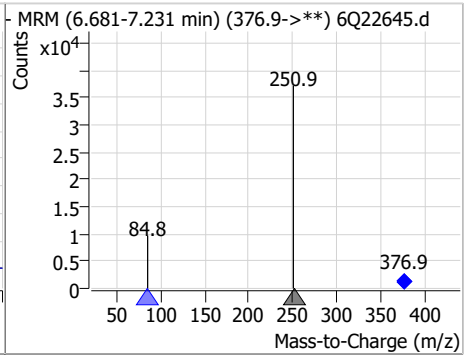




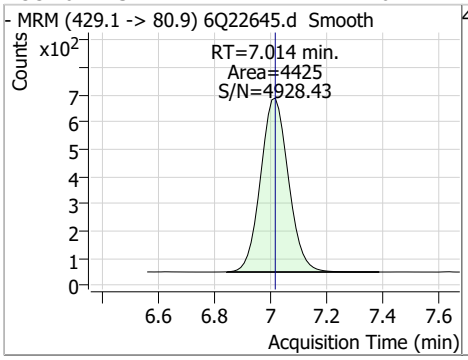
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	26.32	6.85	-0.01	1268977	376.9 -> 84.8	25.9	13.3	39.8

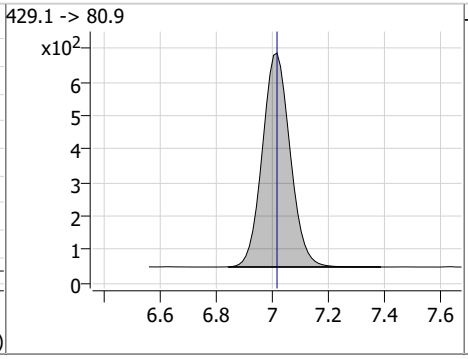


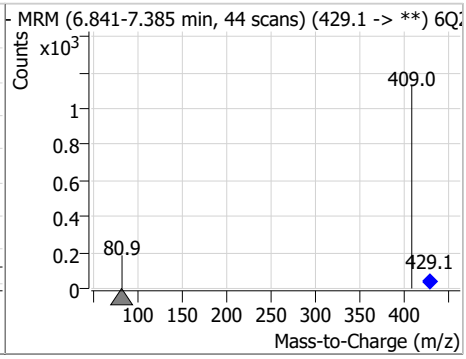




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.64	7.01	0.00	4425				

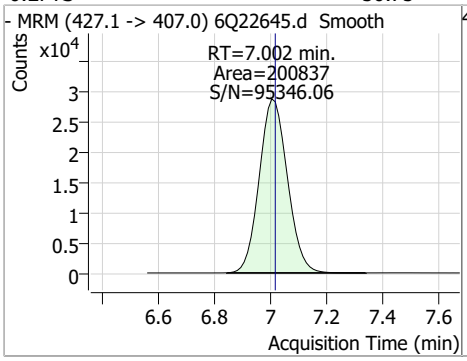


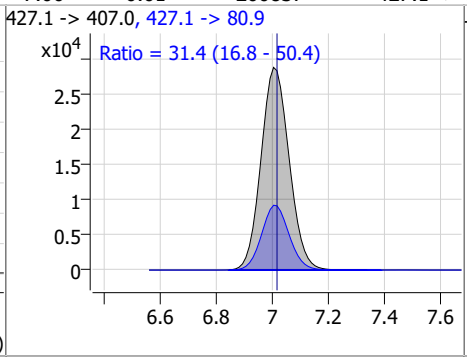


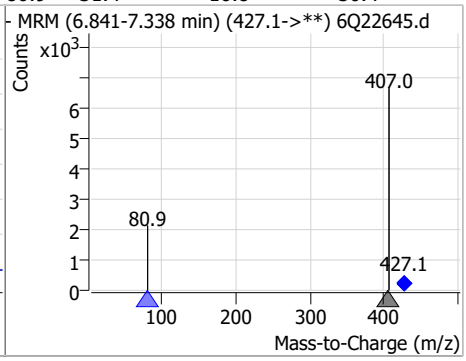


Perfluorinated Compounds by LC/MS/MS

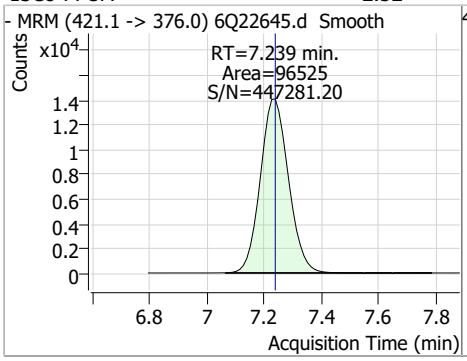
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	50.75	7.00	-0.01	200837	427.1 -> 80.9	31.4	16.8	50.4

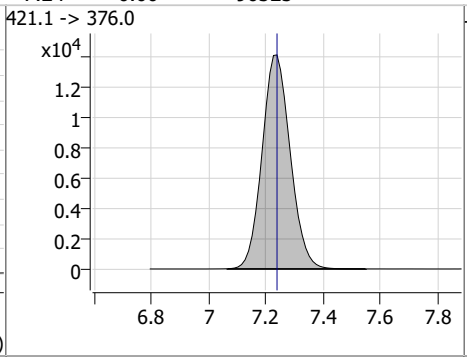


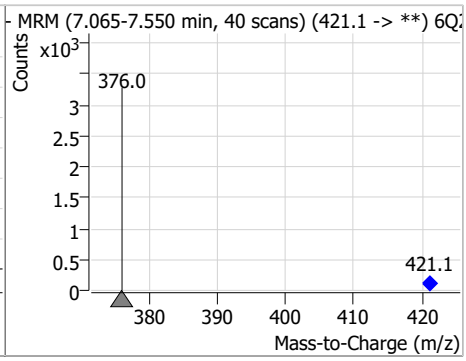




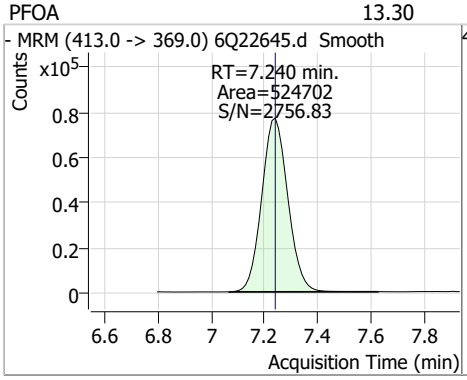
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.52	7.24	0.00	96525				

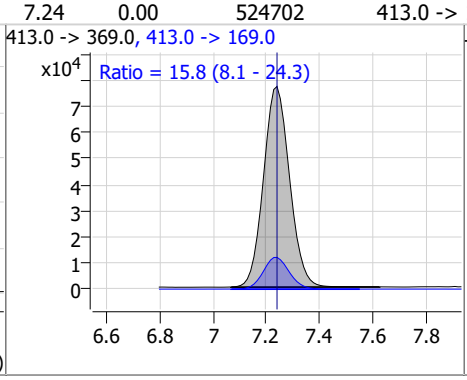


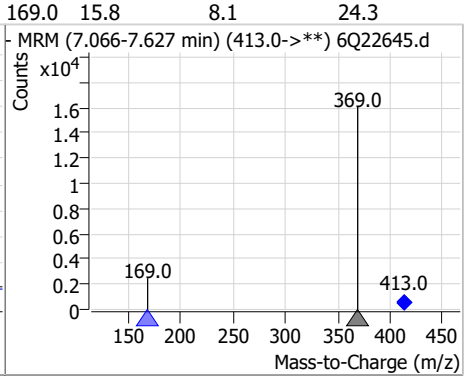




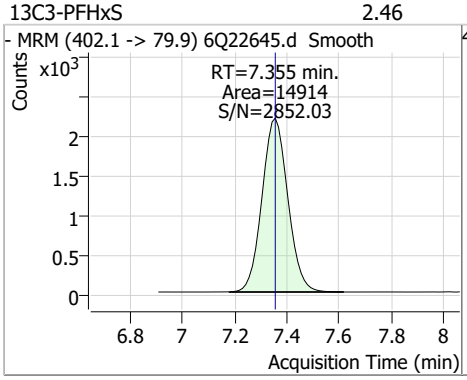
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	13.30	7.24	0.00	524702	413.0 -> 169.0	15.8	8.1	24.3

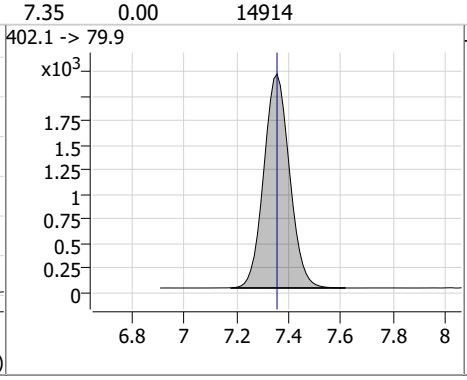


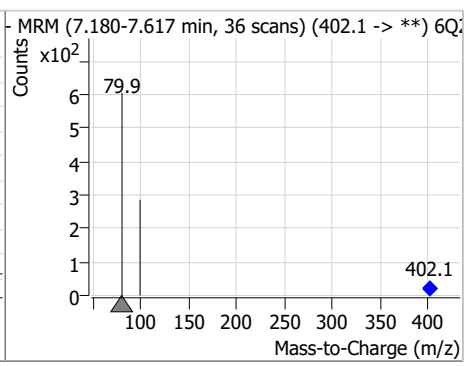




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.46	7.35	0.00	14914				

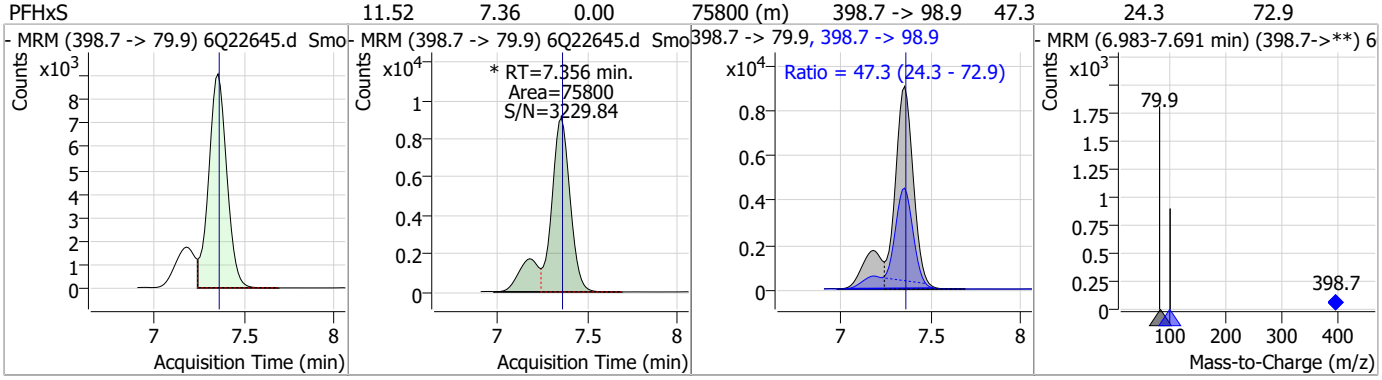




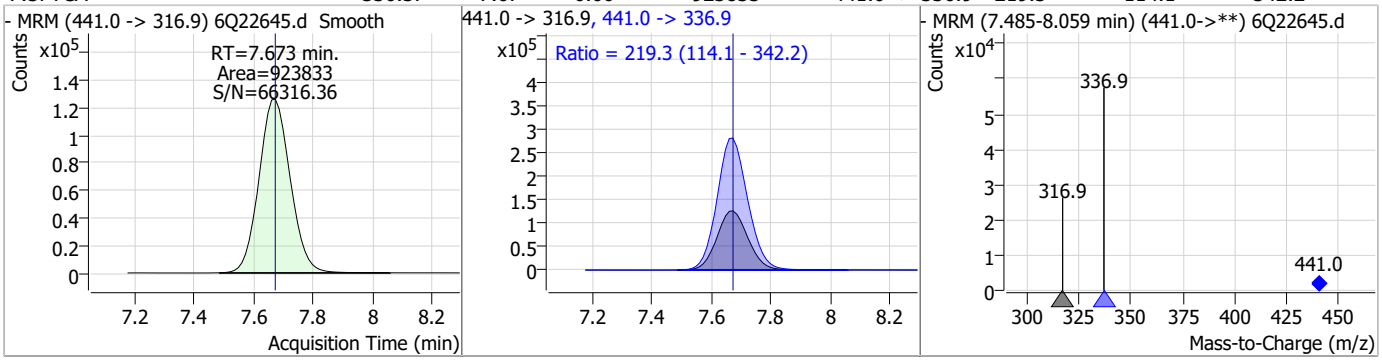


Perfluorinated Compounds by LC/MS/MS

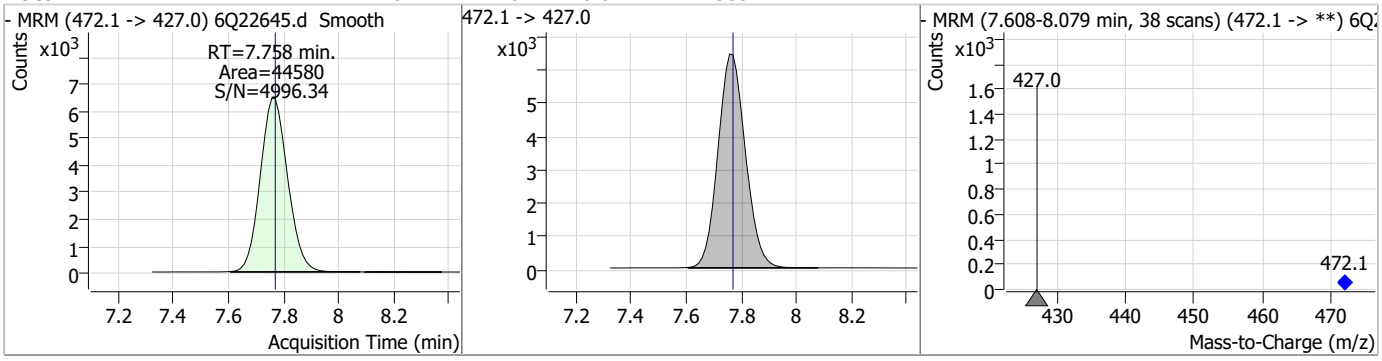
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	11.52	7.36	0.00	75800 (m)	398.7 -> 98.9	47.3	24.3	72.9



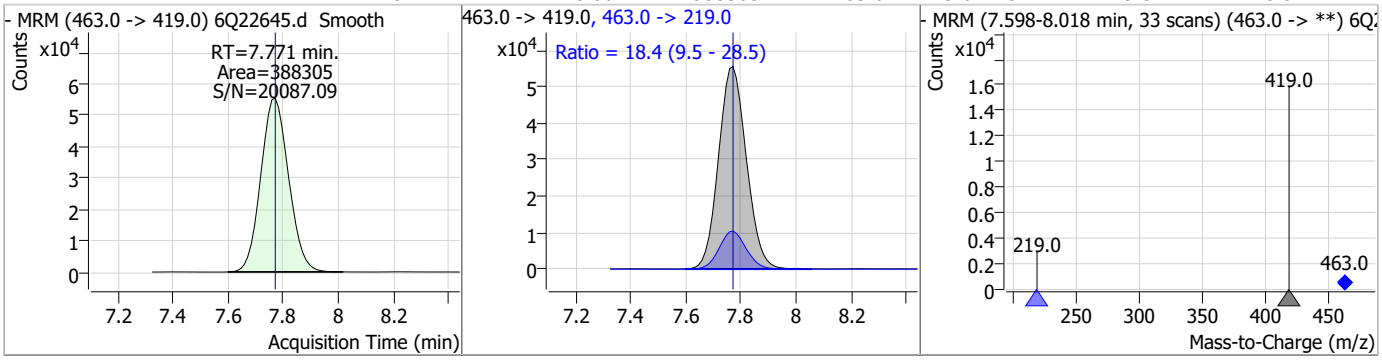
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	330.37	7.67	0.00	923833	441.0 -> 336.9	219.3	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.26	7.76	-0.01	44580				

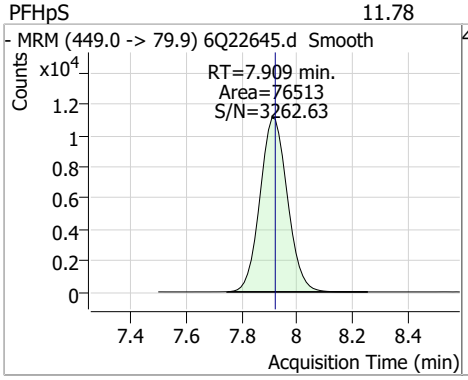


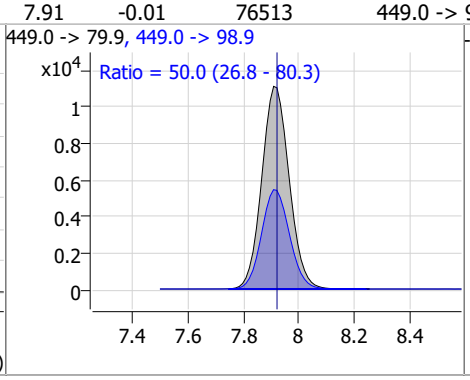
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	12.67	7.77	0.00	388305	463.0 -> 219.0	18.4	9.5	28.5

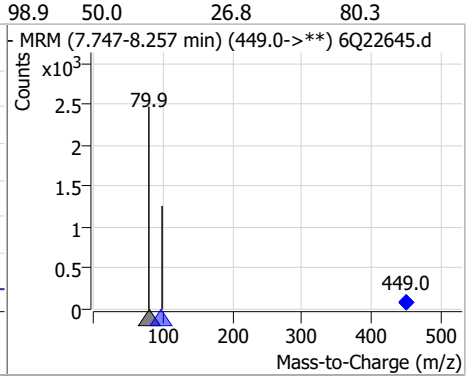


Perfluorinated Compounds by LC/MS/MS

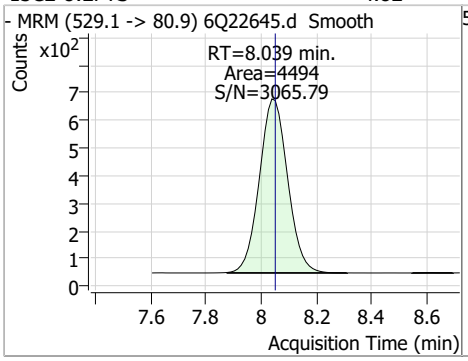
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	11.78	7.91	-0.01	76513	449.0 -> 98.9	50.0	26.8	80.3

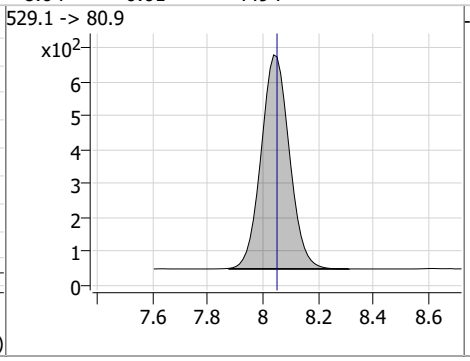


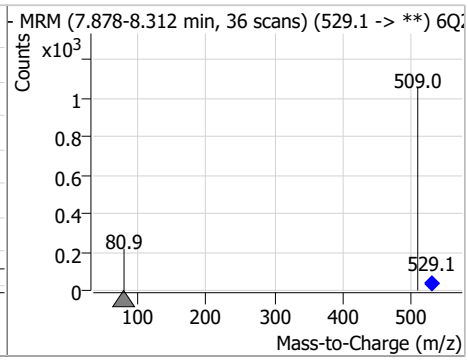




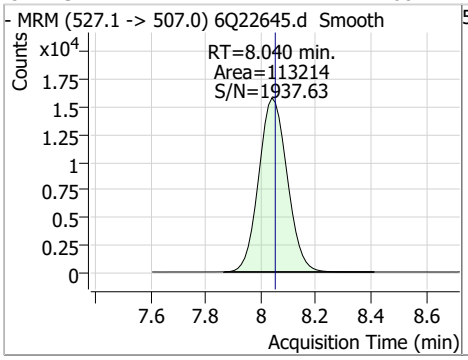
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.82	8.04	-0.01	4494				

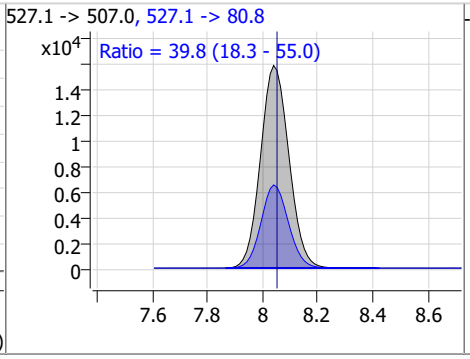


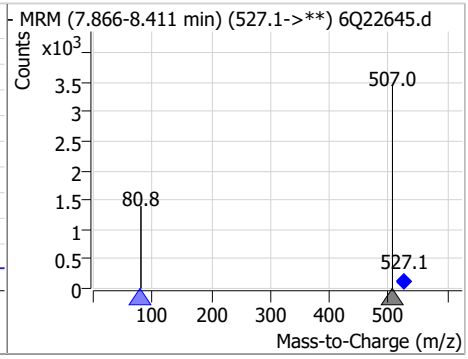




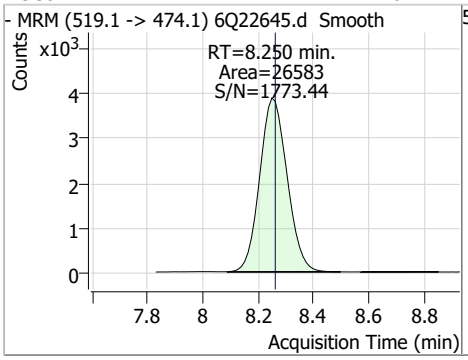
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	47.08	8.04	-0.01	113214	527.1 -> 80.8	39.8	18.3	55.0

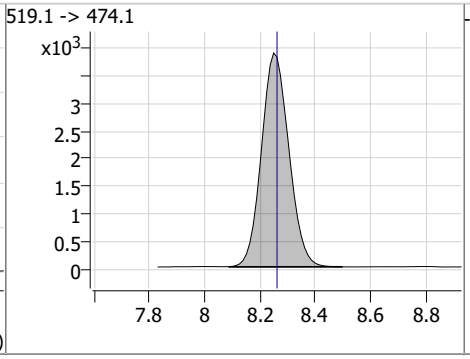


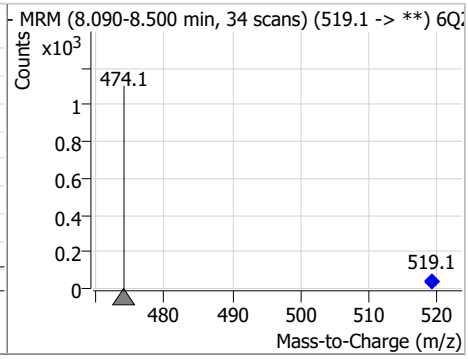




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.40	8.25	-0.01	26583				

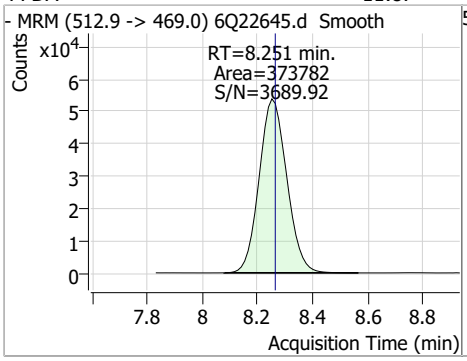


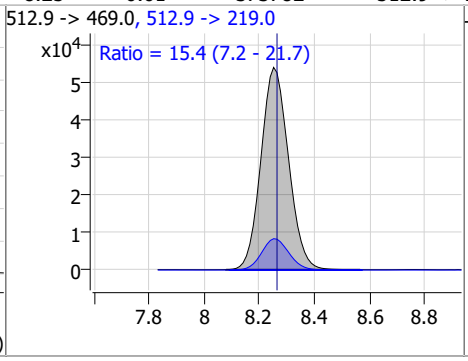


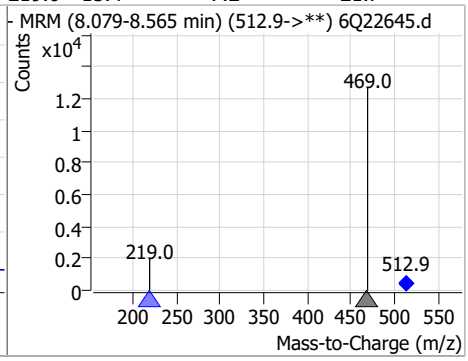


Perfluorinated Compounds by LC/MS/MS

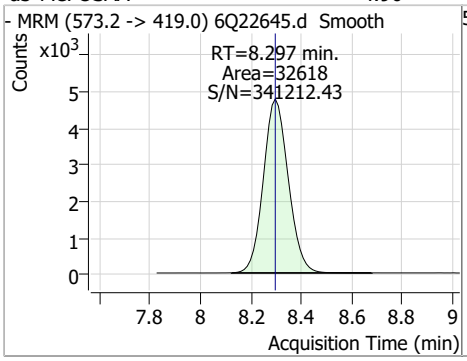
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	11.87	8.25	-0.01	373782	512.9 -> 219.0	15.4	7.2	21.7

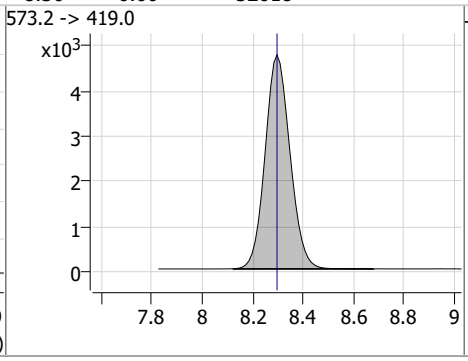


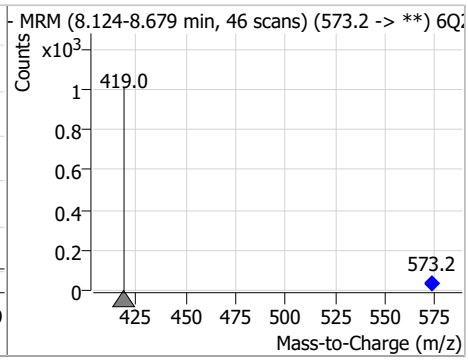




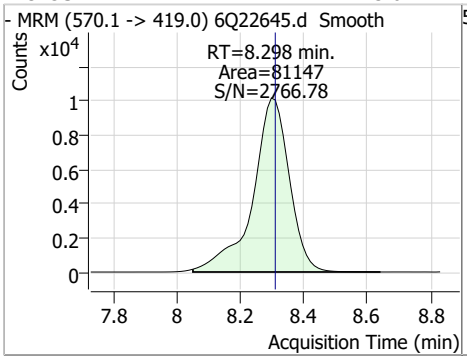
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.90	8.30	0.00	32618				

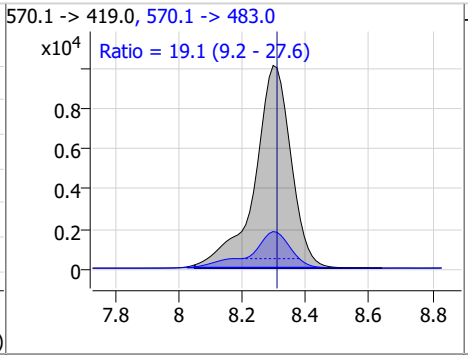


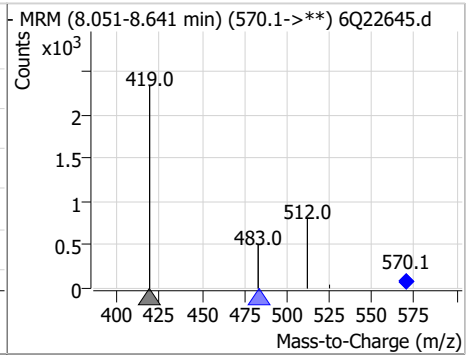




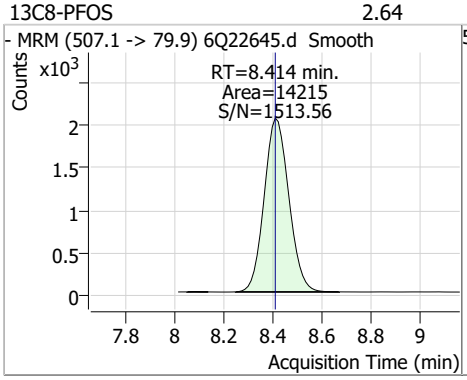
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	13.01	8.30	-0.01	81147	570.1 -> 483.0	19.1	9.2	27.6

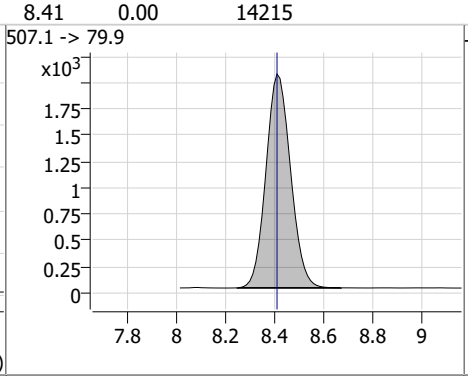


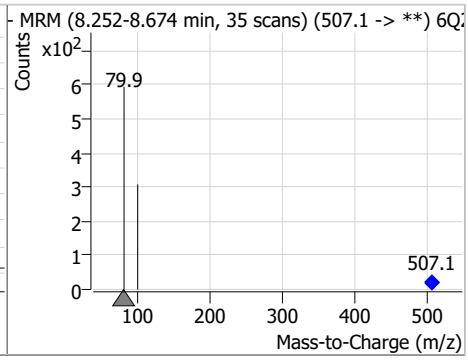




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.64	8.41	0.00	14215				

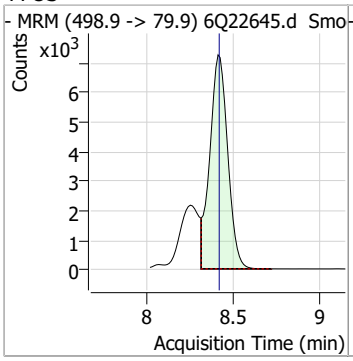


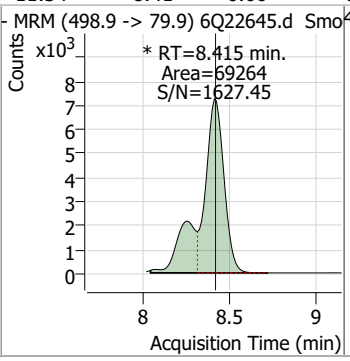


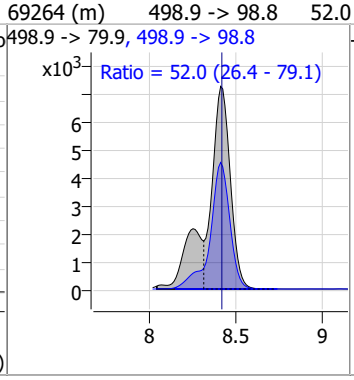


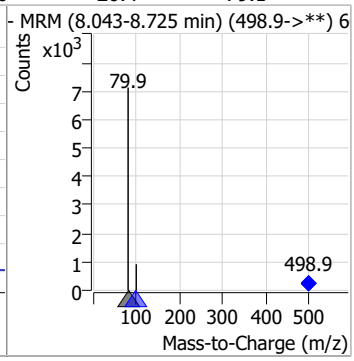
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	11.34	8.41	0.00	69264 (m)	498.9 -> 98.8	52.0	26.4	79.1

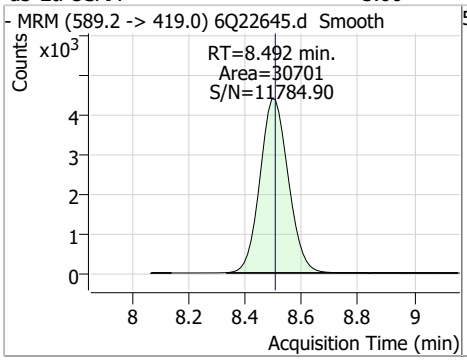


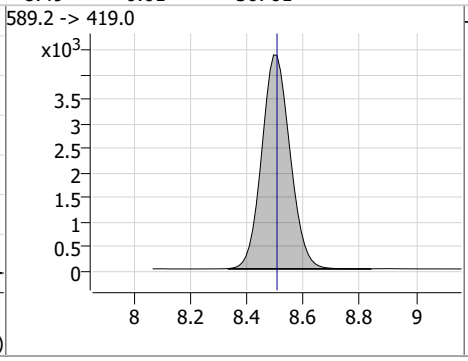


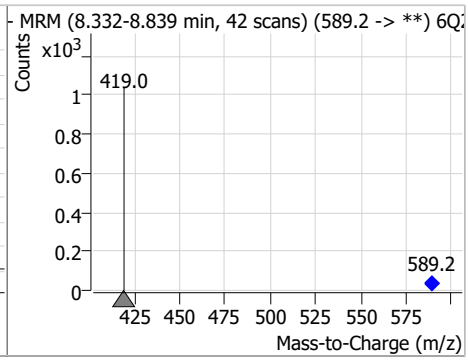




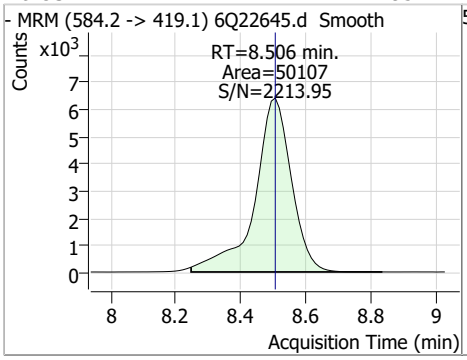
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.00	8.49	-0.01	30701				

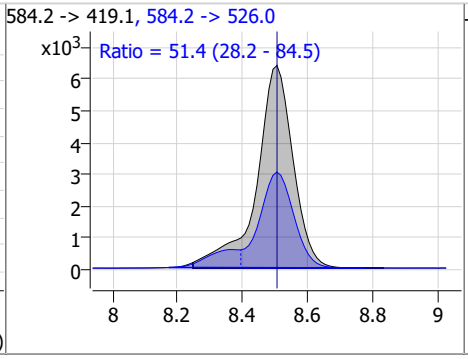


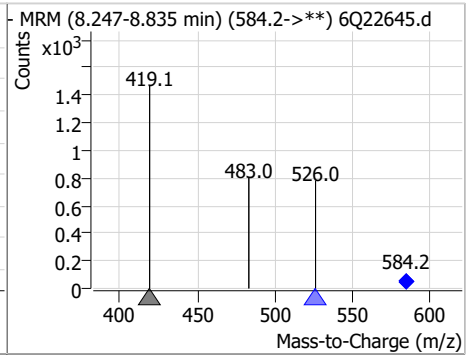




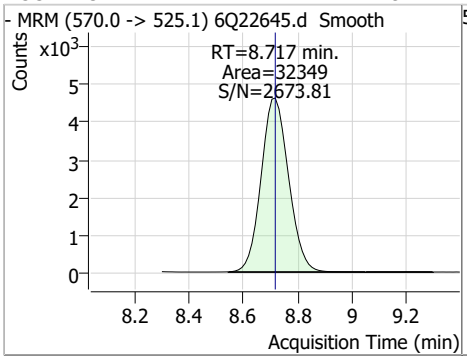
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	12.95	8.51	0.00	50107	584.2 -> 526.0	51.4	28.2	84.5

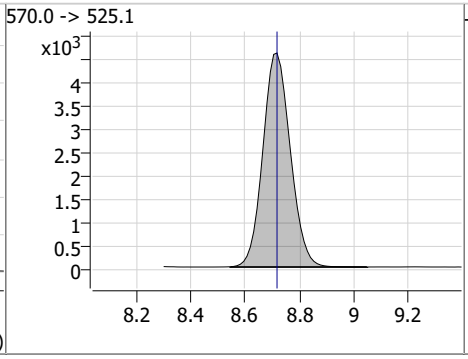


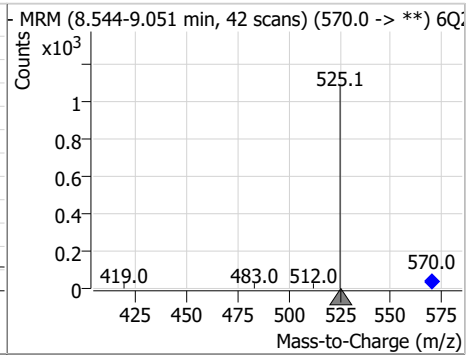




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.29	8.72	0.00	32349				

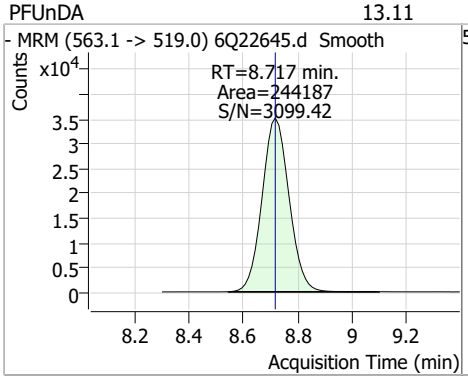


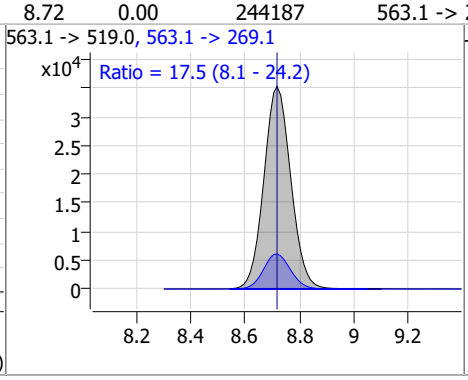


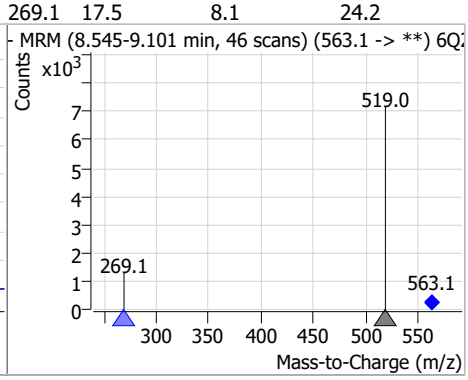


Perfluorinated Compounds by LC/MS/MS

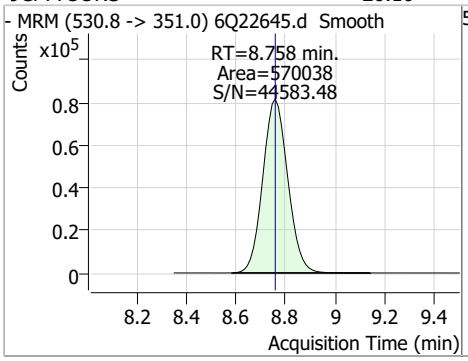
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	13.11	8.72	0.00	244187	563.1 -> 269.1	17.5	8.1	24.2

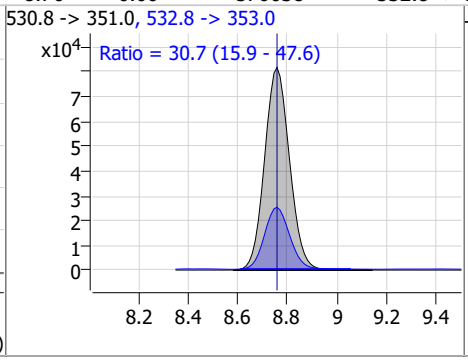


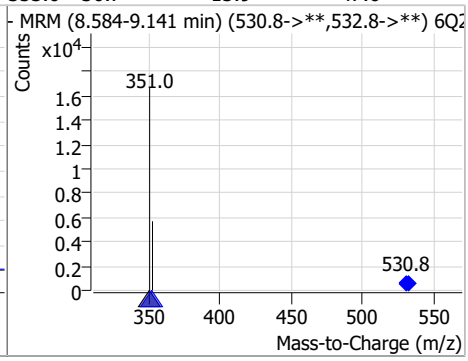




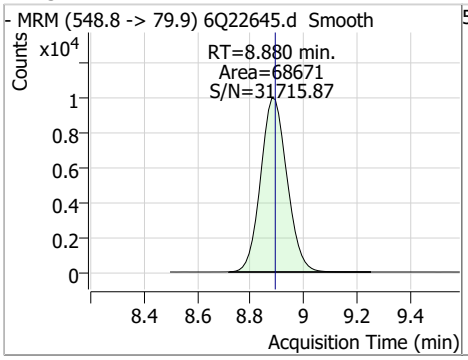
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	26.10	8.76	0.00	570038	532.8 -> 353.0	30.7	15.9	47.6

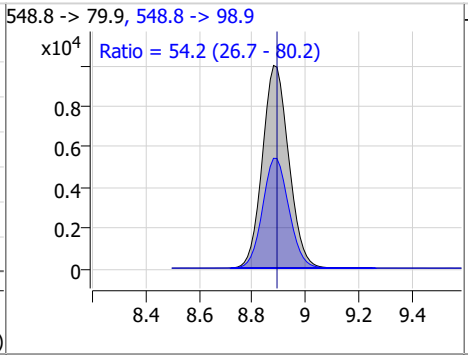


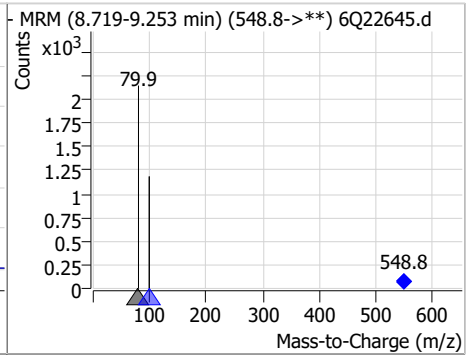




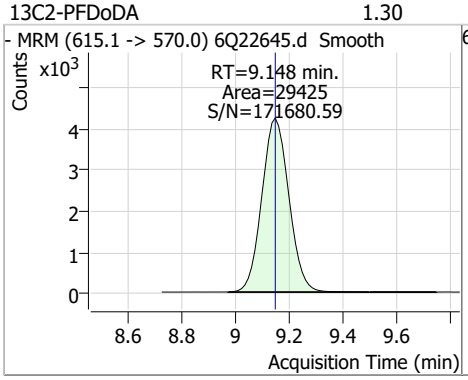
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	11.71	8.88	-0.01	68671	548.8 -> 98.9	54.2	26.7	80.2

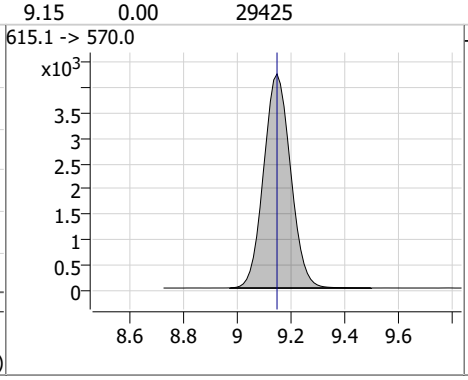


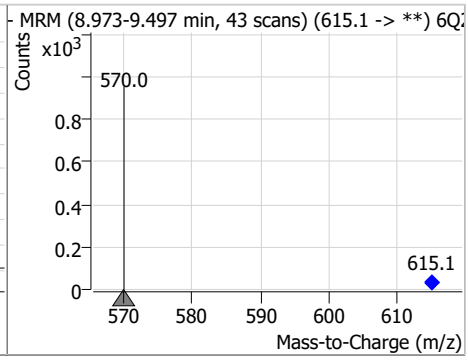




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.30	9.15	0.00	29425				

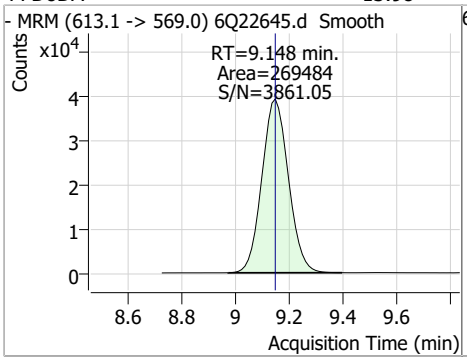


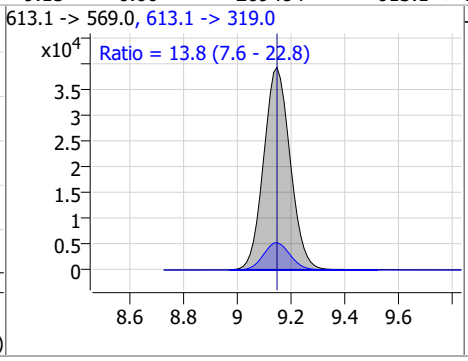


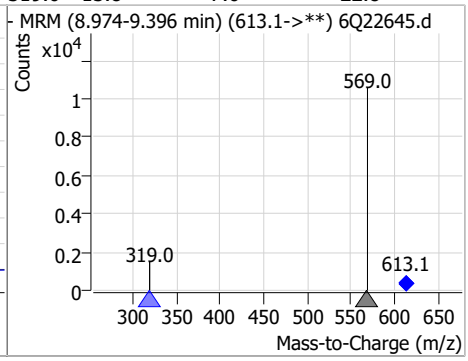


Perfluorinated Compounds by LC/MS/MS

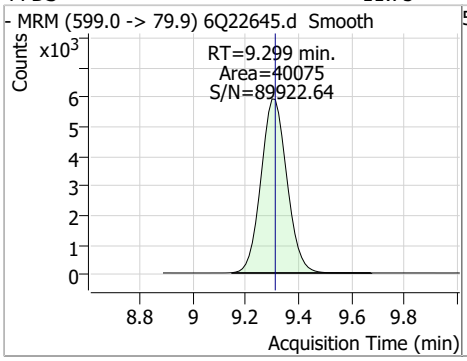
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	13.98	9.15	0.00	269484	613.1 -> 319.0	13.8	7.6	22.8

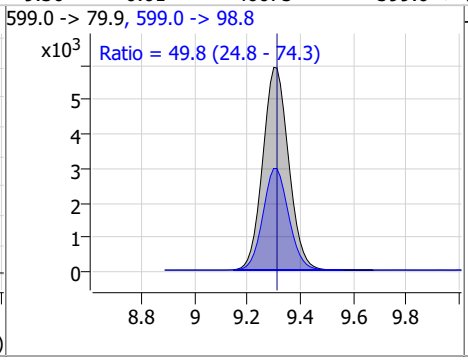


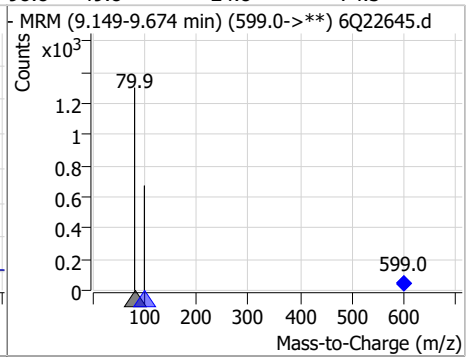




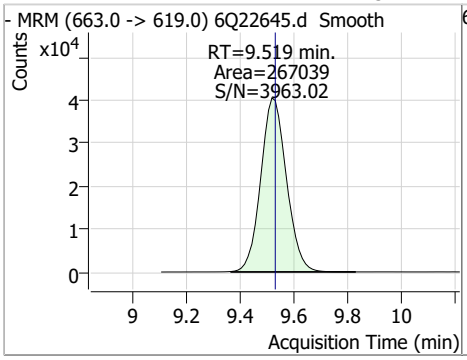
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	11.75	9.30	-0.01	40075	599.0 -> 98.8	49.8	24.8	74.3

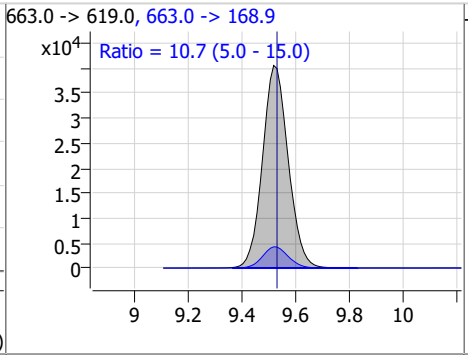


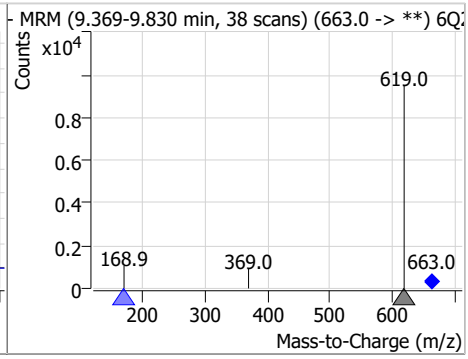




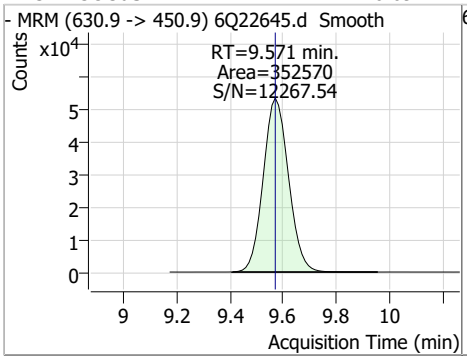
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	13.42	9.52	-0.01	267039	663.0 -> 168.9	10.7	5.0	15.0

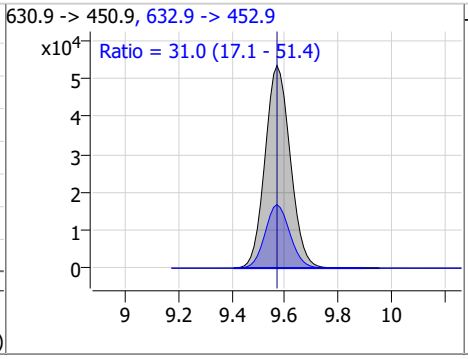


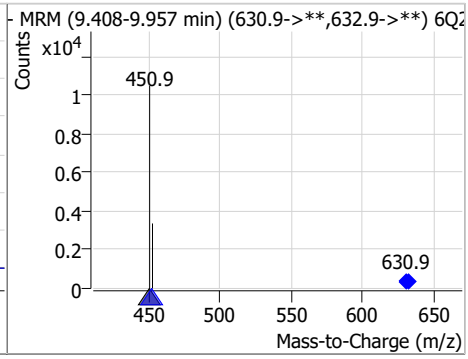




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	26.09	9.57	0.00	352570	632.9 -> 452.9	31.0	17.1	51.4

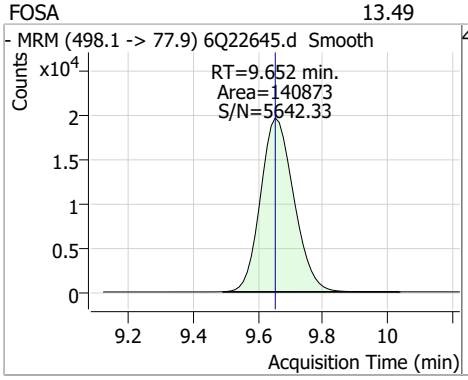


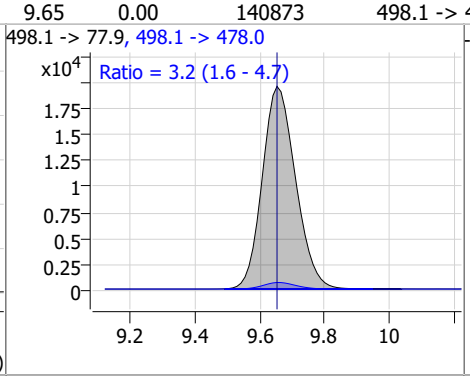


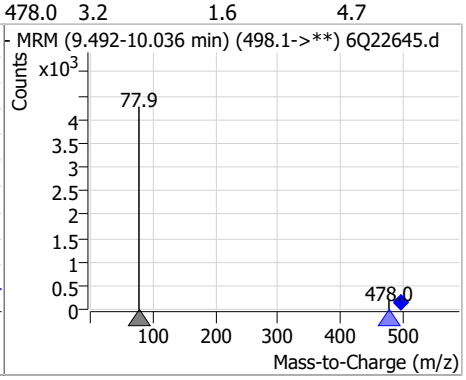


Perfluorinated Compounds by LC/MS/MS

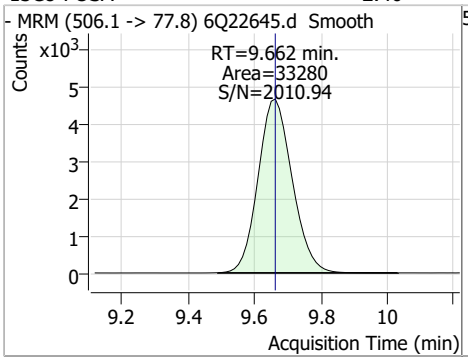
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	13.49	9.65	0.00	140873	498.1 -> 478.0	3.2	1.6	4.7

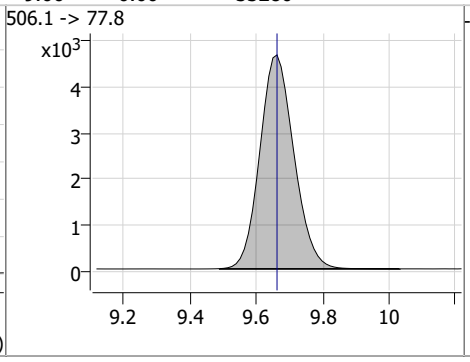


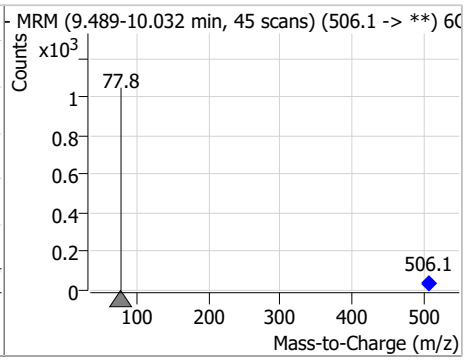




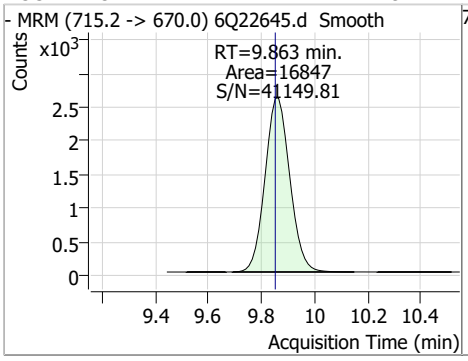
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.40	9.66	0.00	33280				

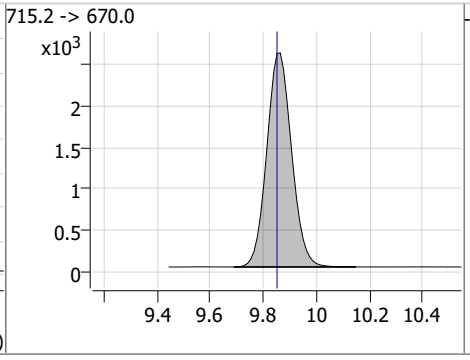


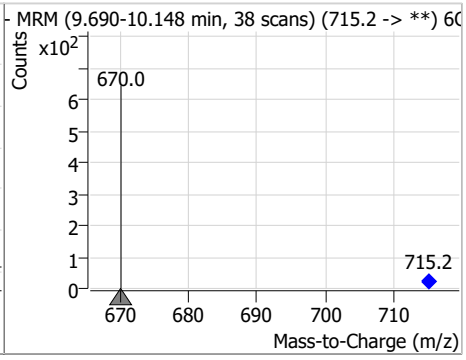




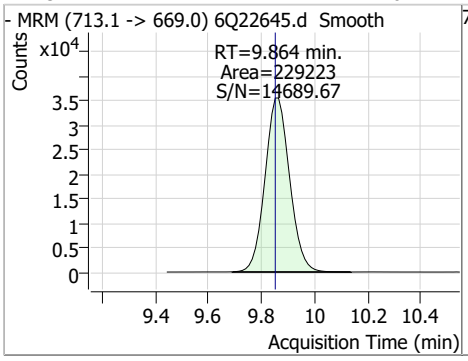
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.29	9.86	0.01	16847				

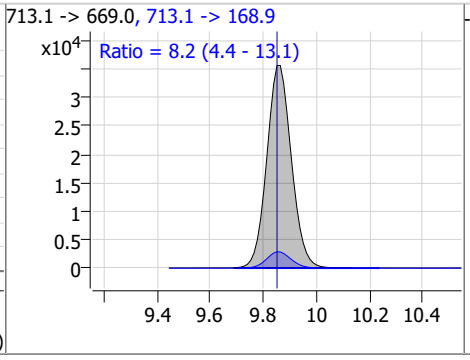


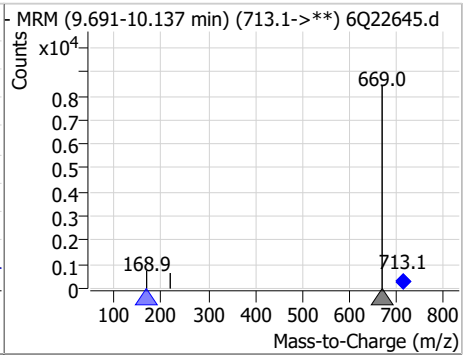




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	14.01	9.86	0.01	229223	713.1 -> 168.9	8.2	4.4	13.1

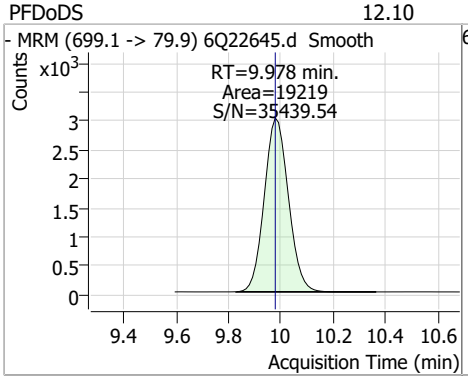


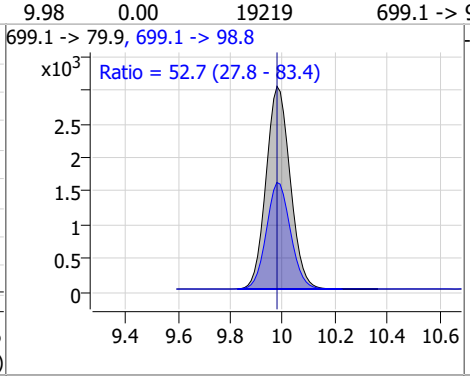


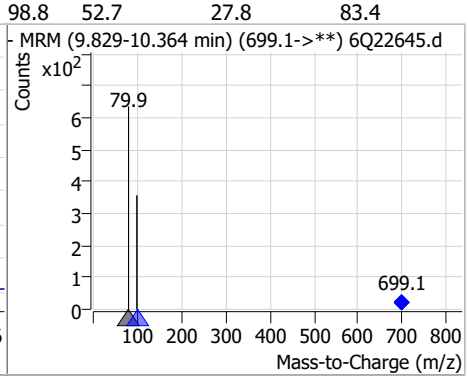


Perfluorinated Compounds by LC/MS/MS

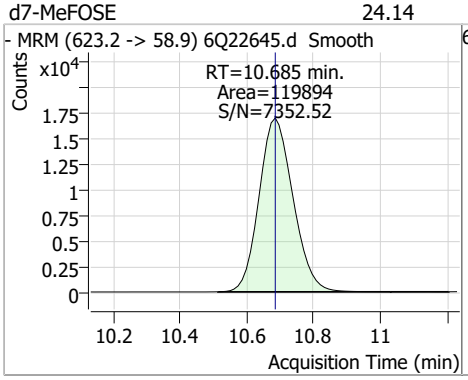
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	12.10	9.98	0.00	19219	699.1 -> 98.8	52.7	27.8	83.4

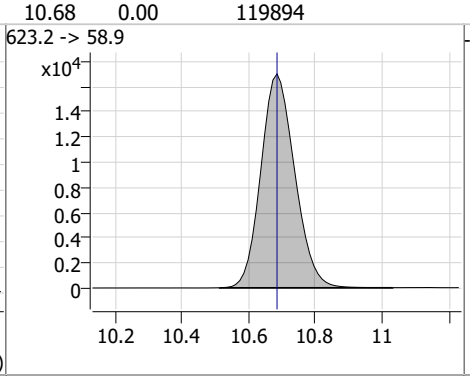


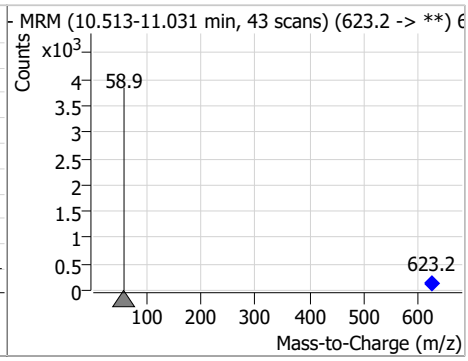




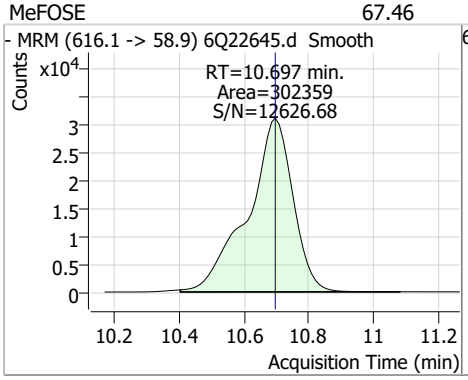
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.14	10.68	0.00	119894				

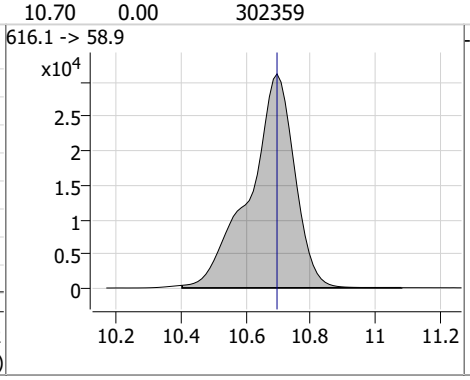


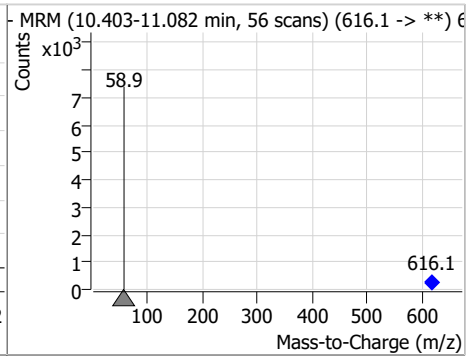




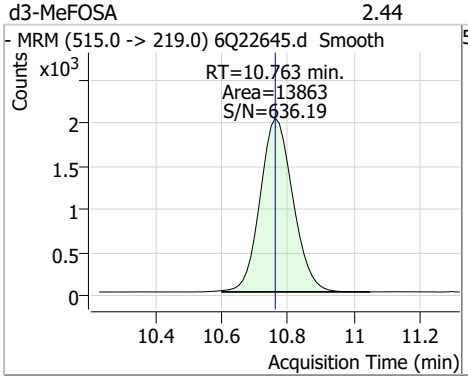
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	67.46	10.70	0.00	302359				

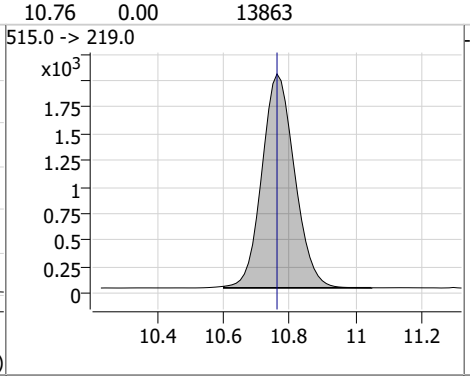


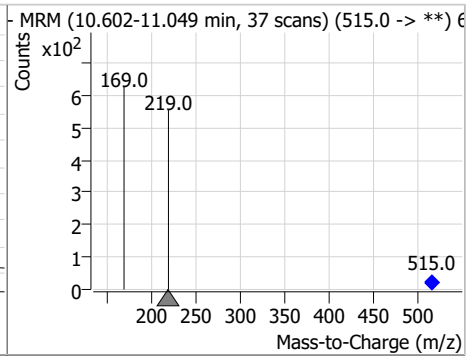




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.44	10.76	0.00	13863				

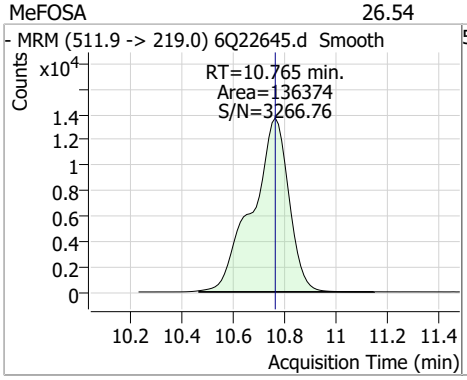


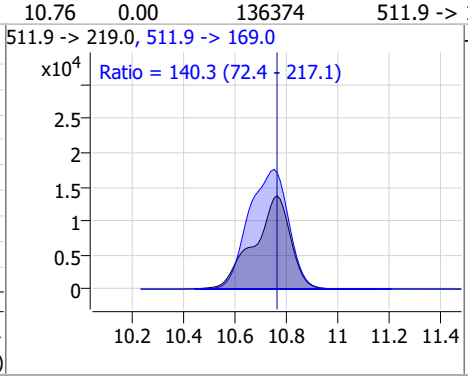


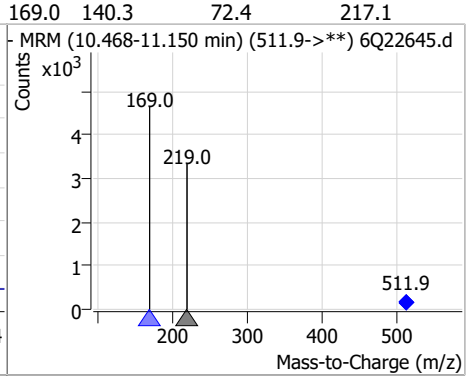


Perfluorinated Compounds by LC/MS/MS

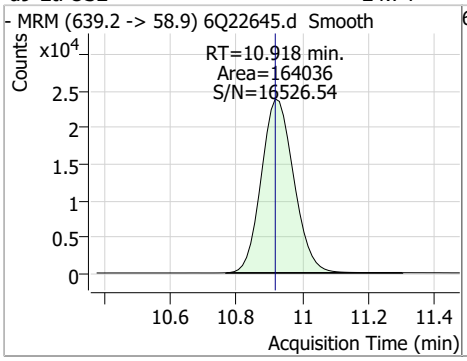
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	26.54	10.76	0.00	136374	511.9 -> 169.0	140.3	72.4	217.1

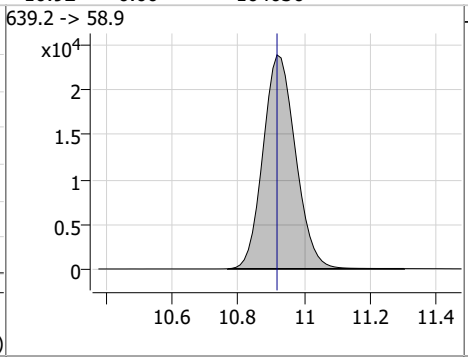


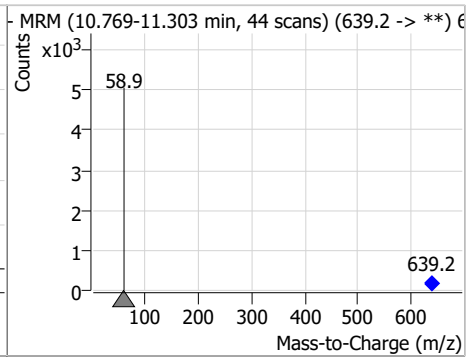




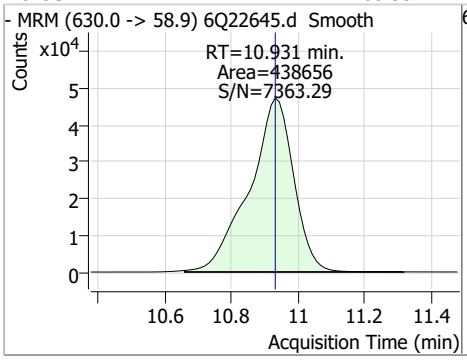
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.74	10.92	0.00	164036				

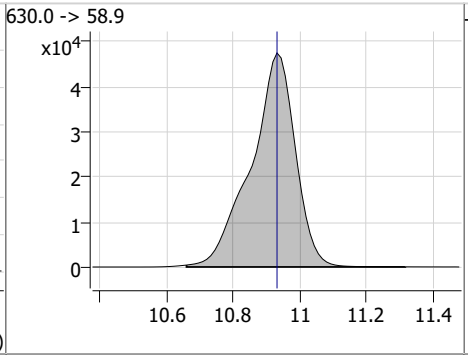


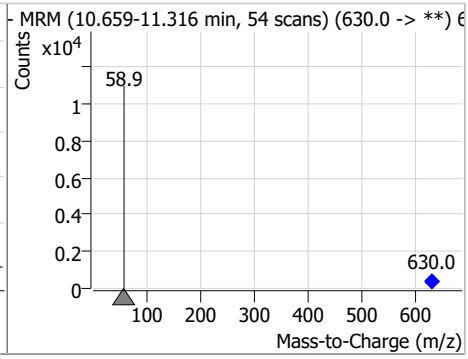




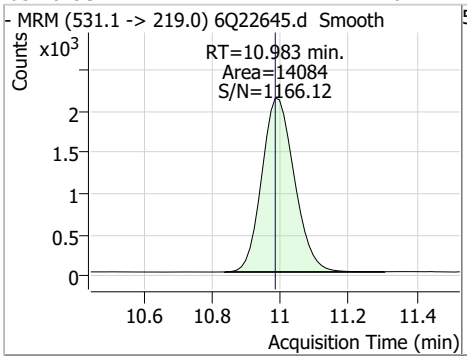
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	65.99	10.93	0.00	438656				

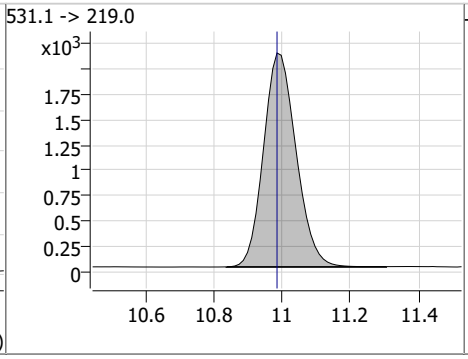


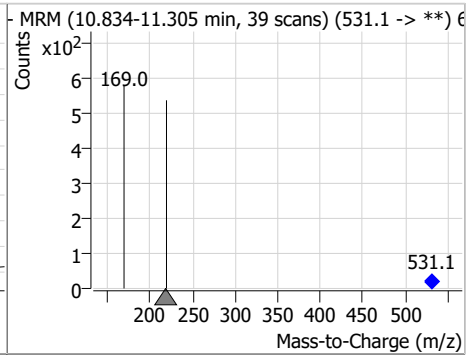




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.46	10.98	0.00	14084				

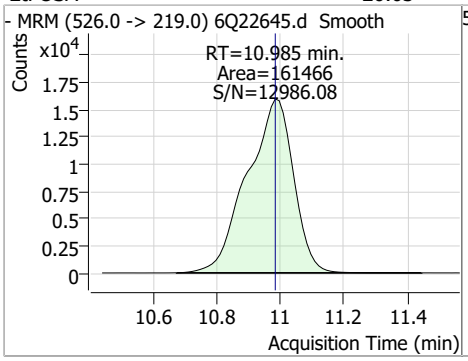


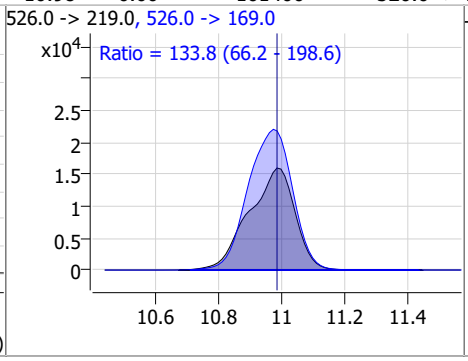


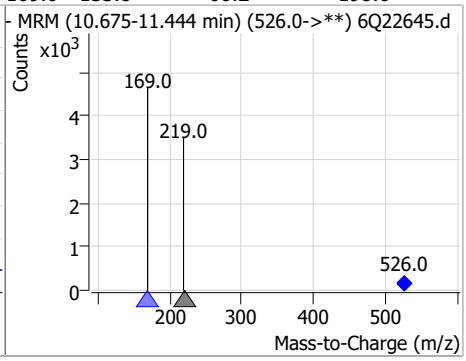


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	26.03	10.98	0.00	161466	526.0 -> 169.0	133.8	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q330-IC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22645.D	**Analyst approved:**	08/13/23 12:53 Martha Valls
Injection Time:	08/10/23 14:49	**Supervisor approved:**	08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22646.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 3:03:50 PM
Sample Name : ic330-7
Vial : P1-A8
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	175172	10.00	µg/L	0.000
M5-PFPeA	4.459	268.3 -> 223.0	58183	5.00	µg/L	0.012
M5-PFHxA	5.668	318.0 -> 273.0	62206	2.50	µg/L	0.000
M4-PFHpA	6.608	367.1 -> 322.0	64147	2.50	µg/L	0.000
M8-PFOA	7.239	421.1 -> 376.0	95391	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	43260	1.25	µg/L	0.000
M6-PFDA	8.250	519.1 -> 474.1	25833	1.25	µg/L	-0.012
M7-PFUnDA	8.717	570.0 -> 525.1	33631	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	30424	1.25	µg/L	0.000
M2-PFTeDA	9.863	715.2 -> 670.0	17636	1.25	µg/L	0.012
M8-FOSA	9.662	506.1 -> 77.8	34267	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	22726	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	14569	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	13299	2.50	µg/L	0.000
M2-4:2FTS	5.343	329.1 -> 80.9	2939	5.00	µg/L	0.012
M2-6:2FTS	7.014	429.1 -> 80.9	4221	5.00	µg/L	0.000
M2-8:2FTS	8.051	529.1 -> 80.9	4443	5.00	µg/L	0.000
M3-MeFOSAA	8.297	573.2 -> 419.0	32532	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	40645	10.00	µg/L	0.000
M5-EtFOSAA	8.505	589.2 -> 419.0	29130	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	120500	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	162203	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	13833	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	14049	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	17450	2.50	µg/L	-0.012
13C3-PFBA	3.014	216.0 -> 172.0	73543	5.00	µg/L	0.012
18O2-PFHxS	7.354	403.0 -> 83.9	10786	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	104700	2.50	µg/L	0.000
13C2-PFDA	8.263	515.1 -> 470.1	34973	1.25	µg/L	0.012
13C5-PFNA	7.770	468.0 -> 423.0	51444	1.25	µg/L	0.000
13C2-PFHxA	5.681	315.1 -> 270.0	62000	2.50	µg/L	0.012
System Monitoring Compounds						
13C2-4:2FTS	5.343	329.1 -> 80.9	2939	4.56	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.2%		
13C2-6:2FTS	7.014	429.1 -> 80.9	4221	4.54	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.8%		
13C2-8:2FTS	8.051	529.1 -> 80.9	4443	4.88	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.6%		
13C2-PFDoDA	9.148	615.1 -> 570.0	30424	1.29	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C2-PFTeDA	9.863	715.2 -> 670.0	17636	1.30	µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.8%		
13C3-PFBS	5.610	302.1 -> 79.9	22726	2.48	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%		
13C3-PFHxS	7.355	402.1 -> 79.9	14569	2.46	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 = 98.3%		
13C4-PFBA	3.010	216.8 -> 171.9	175172	10.08 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C4-PFHpA	6.608	367.1 -> 322.0	64147	2.56 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%		
13C5-PFHxA	5.668	318.0 -> 273.0	62206	2.43 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%		
13C5-PFPeA	4.459	268.3 -> 223.0	58183	4.98 µg/L		0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.7%		
13C6-PFDA	8.250	519.1 -> 474.1	25833	1.31 µg/L		-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.6%		
13C7-PFUnDA	8.717	570.0 -> 525.1	33631	1.29 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C8-FOSA	9.662	506.1 -> 77.8	34267	2.60 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%		
13C8-PFOA	7.239	421.1 -> 376.0	95391	2.47 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C8-PFOS	8.414	507.1 -> 79.9	13299	2.60 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%		
13C9-PFNA	7.770	472.1 -> 427.0	43260	1.30 µg/L		0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.7%		
d3-MeFOSAA	8.297	573.2 -> 419.0	32532	5.15 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.0%		
13C3-HFPO-DA	6.045	286.9 -> 168.9	40645	10.13 µg/L		0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.3%		
d3-MeFOSA	10.763	515.0 -> 219.0	14049	2.61 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.2%		
d5-EtFOSAA	8.505	589.2 -> 419.0	29130	5.00 µg/L		0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.9%		
d7-MeFOSE	10.685	623.2 -> 58.9	120500	25.55 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.2%		
d9-EtFOSE	10.918	639.2 -> 58.9	162203	25.77 µg/L		0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.1%		
d5-EtFOSA	10.983	531.1 -> 219.0	13833	2.55 µg/L		0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.9%		
Target Compounds						**QValue**
4:2FTS	5.343	327.1 -> 307.0	362128	95.23 µg/L		98
		327.1 -> 80.9	137499			
6:2FTS	7.014	427.1 -> 407.0	364578	96.55 µg/L		99
		427.1 -> 80.9	119999			
8:2FTS	8.040	527.1 -> 507.0	216825	91.20 µg/L		97
		527.1 -> 80.8	76073			
EtFOSAA	8.506	584.2 -> 419.1	92637	25.23 µg/L	m	99
		584.2 -> 526.0	53146			
FOSA	9.652	498.1 -> 77.9	258763	24.06 µg/L		99
		498.1 -> 478.0	8732			
MeFOSAA	8.310	570.1 -> 419.0	150142	24.14 µg/L		98
		570.1 -> 483.0	28900			
PFBA	3.018	212.8 -> 168.9	549299	100.36 µg/L		100
PFBS	5.611	298.7 -> 79.9	167277	22.53 µg/L		99
		298.7 -> 98.8	62954			
PFDA	8.251	512.9 -> 469.0	731473	23.90 µg/L		98
		512.9 -> 219.0	112559			
PFDoDA	9.148	613.1 -> 569.0	480671	24.11 µg/L		100
		613.1 -> 319.0	72625			
PFDS	9.312	599.0 -> 79.9	74953	23.49 µg/L		98

Perfluorinated Compounds by LC/MS/MS

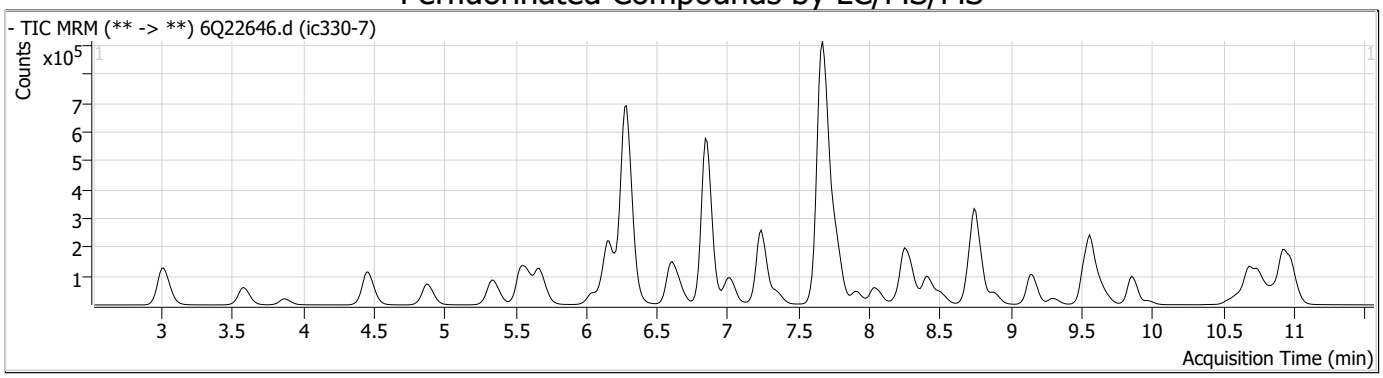
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	38145				
PFHpA	6.609	363.1 -> 319.0	618991	24.47	µg/L		98
		363.1 -> 169.0	97592				
PFHpS	7.922	449.0 -> 79.9	152095	25.04	µg/L		94
		449.0 -> 98.9	74965				
PFHxA	5.682	313.0 -> 269.0	476474	26.19	µg/L		99
		313.0 -> 118.9	24012				
PFHxS	7.356	398.7 -> 79.9	142421	22.15	µg/L	m	98
		398.7 -> 98.9	71605				
PFNA	7.771	463.0 -> 419.0	783689	26.36	µg/L		97
		463.0 -> 219.0	137695				
PFNS	8.893	548.8 -> 79.9	133331	24.31	µg/L		96
		548.8 -> 98.9	67723				
PFOA	7.240	413.0 -> 369.0	987710	25.33	µg/L		97
		413.0 -> 169.0	173870				
PFOS	8.415	498.9 -> 79.9	135179	23.65	µg/L	m	97
		498.9 -> 98.8	68917				
PFPeA	4.461	263.0 -> 219.0	641496	50.05	µg/L		100
PFPeS	6.672	349.1 -> 79.9	146179	24.51	µg/L		100
		349.1 -> 98.9	66356				
PFTeDA	9.864	713.1 -> 669.0	423044	24.70	µg/L		100
		713.1 -> 168.9	36065				
PFTrDA	9.519	663.0 -> 619.0	493389	23.98	µg/L		98
		663.0 -> 168.9	53823				
PFUnDA	8.717	563.1 -> 519.0	492661	25.43	µg/L		99
		563.1 -> 269.1	77568				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	689027	47.50	µg/L		92
		632.9 -> 452.9	204797				
9Cl-PF3ONS	8.758	530.8 -> 351.0	1068652	45.57	µg/L		98
		532.8 -> 353.0	354367				
ADONA	6.858	376.9 -> 250.9	2479597	47.90	µg/L		99
		376.9 -> 84.8	643408				
HFPO-DA	6.046	284.9 -> 168.9	161222	46.61	µg/L		99
		284.9 -> 184.9	17666				
3:3FTCA	3.871	241.0 -> 177.0	110569	127.76	µg/L		99
		241.0 -> 117.0	14645				
5:3FTCA	6.285	341.0 -> 237.1	2435422	650.75	µg/L		97
		341.0 -> 217.0	1667774				
7:3FTCA	7.673	441.0 -> 316.9	1737520	627.71	µg/L		95
		441.0 -> 336.9	3814998				
EtFOSA	10.985	526.0 -> 219.0	318024	52.20	µg/L		97
		526.0 -> 169.0	411423				
EtFOSE	10.931	630.0 -> 58.9	846817	128.84	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	263245	50.55	µg/L		95
		511.9 -> 169.0	366100				
MeFOSE	10.697	616.1 -> 58.9	594305	131.92	µg/L		100
PFDoDS	9.978	699.1 -> 79.9	38349	25.81	µg/L		94
		699.1 -> 98.8	19720				
NFDHA	5.551	295.0 -> 201.0	117131	50.62	µg/L		93
		295.0 -> 84.9	28959				
PFMBA	4.882	279.0 -> 85.1	450835	49.73	µg/L		100
PFMPA	3.576	229.0 -> 84.9	364224	50.20	µg/L		100
PFEESA	6.163	314.8 -> 134.9	1151986	47.13	µg/L		99
		314.8 -> 82.9	37211				

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

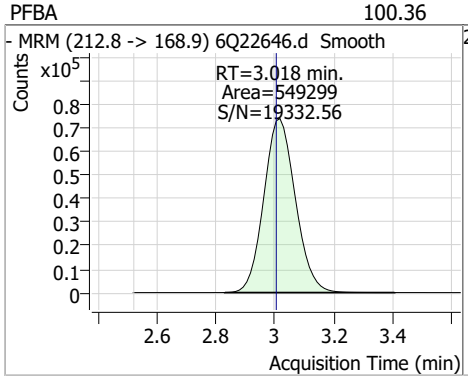
Perfluorinated Compounds by LC/MS/MS

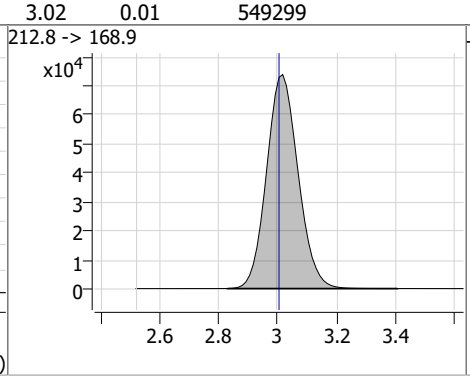
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

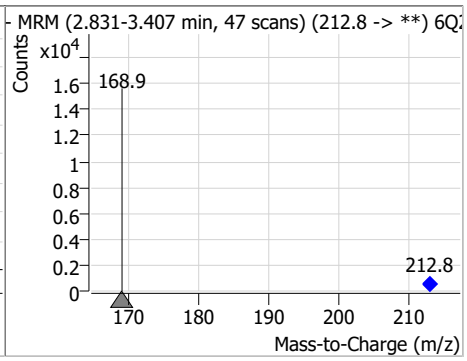
Perfluorinated Compounds by LC/MS/MS



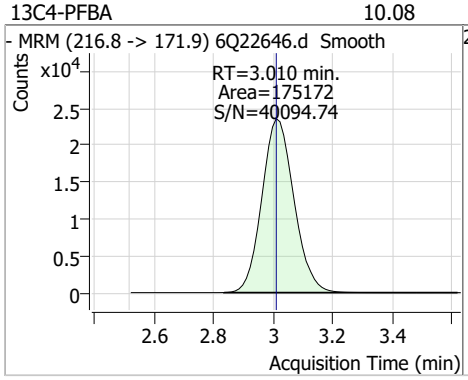
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	100.36	3.02	0.01	549299				

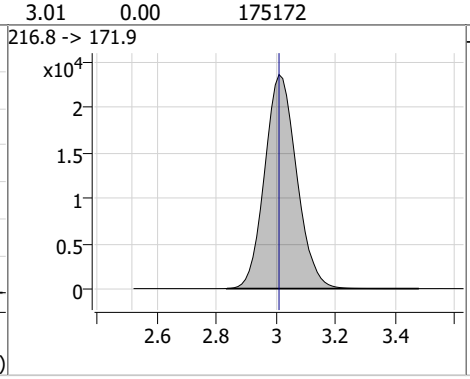


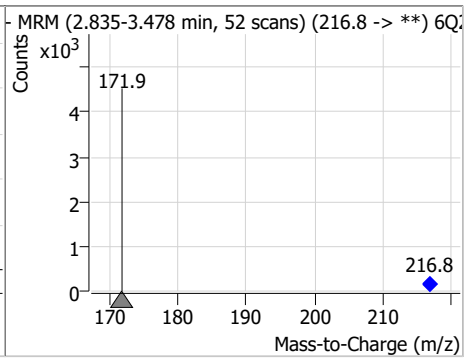




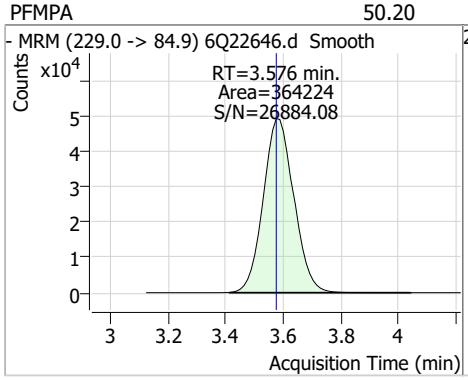
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.08	3.01	0.00	175172				

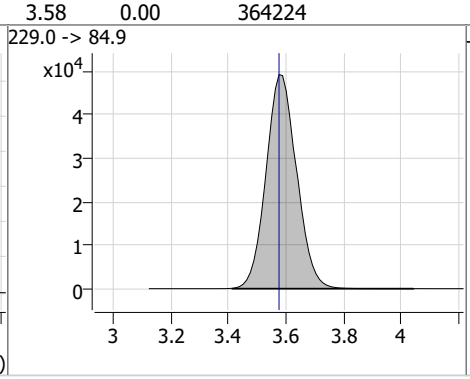


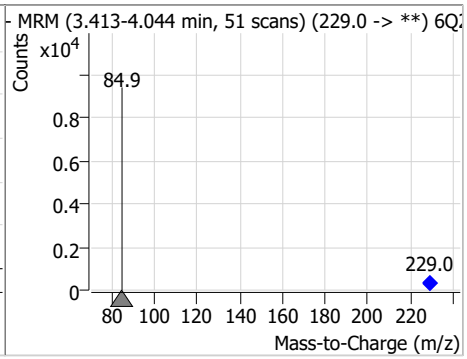




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	50.20	3.58	0.00	364224				

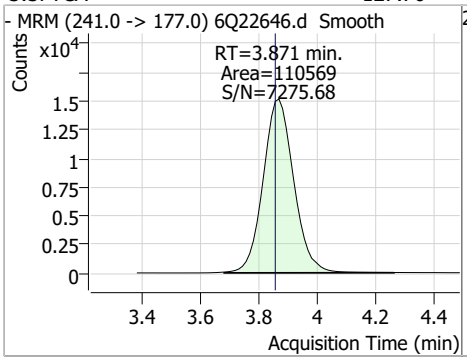


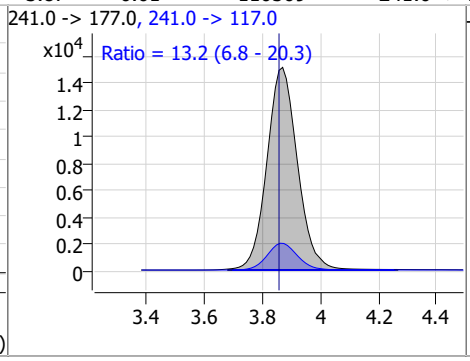


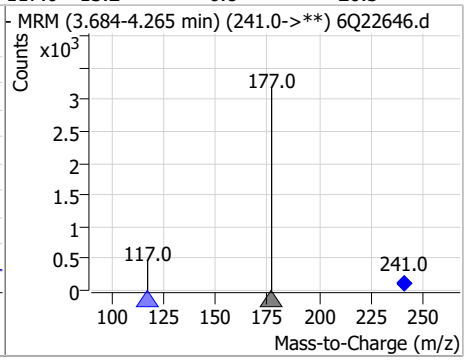


Perfluorinated Compounds by LC/MS/MS

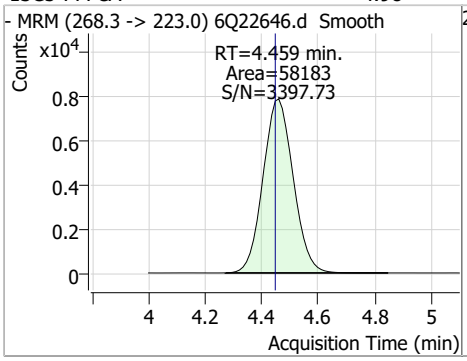
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	127.76	3.87	0.01	110569	241.0 -> 117.0	13.2	6.8	20.3

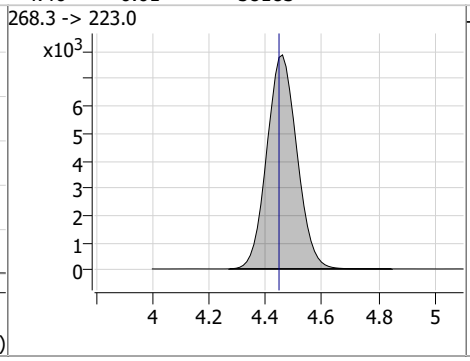


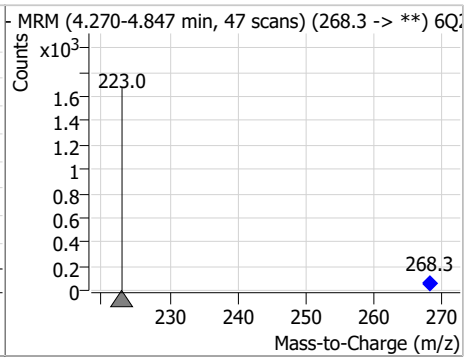




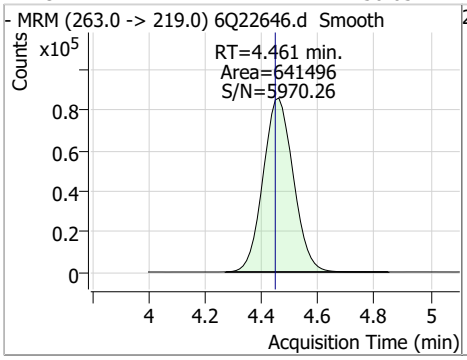
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.98	4.46	0.01	58183				

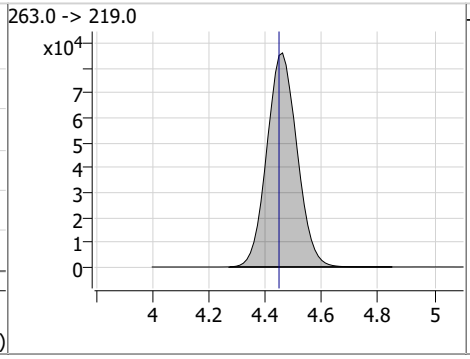


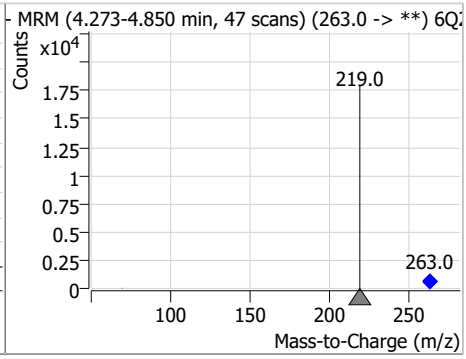




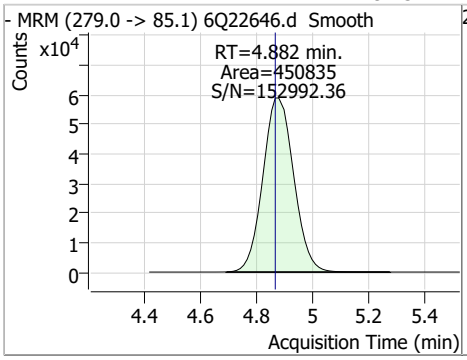
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	50.05	4.46	0.01	641496				

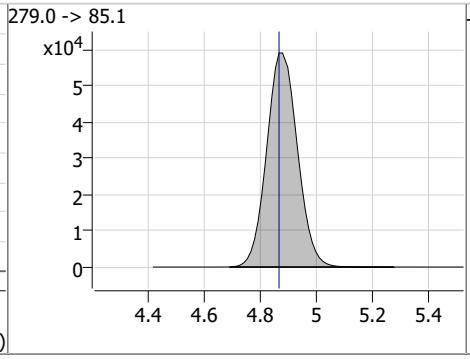


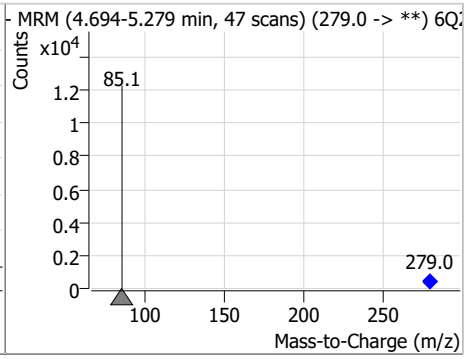




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	49.73	4.88	0.01	450835				

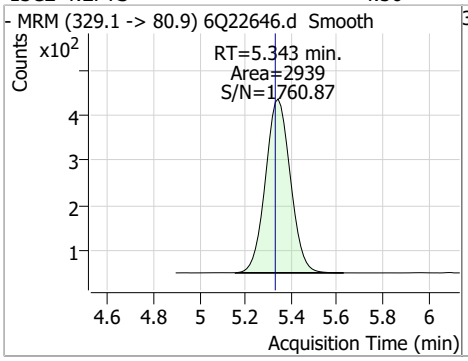


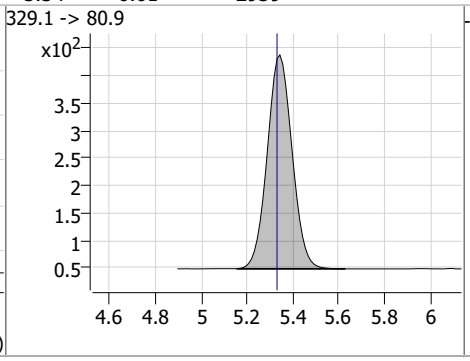


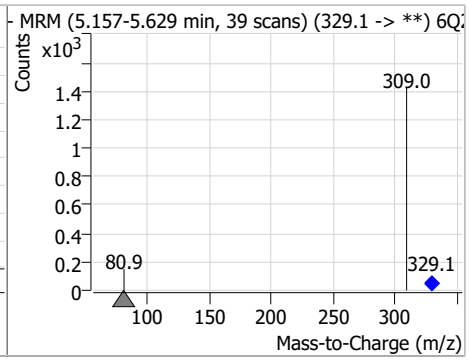


Perfluorinated Compounds by LC/MS/MS

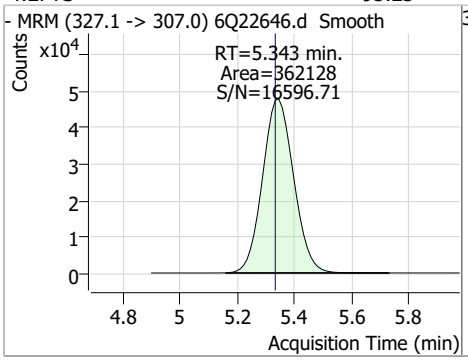
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.56	5.34	0.01	2939				

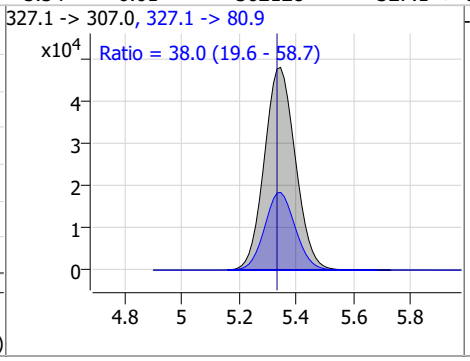


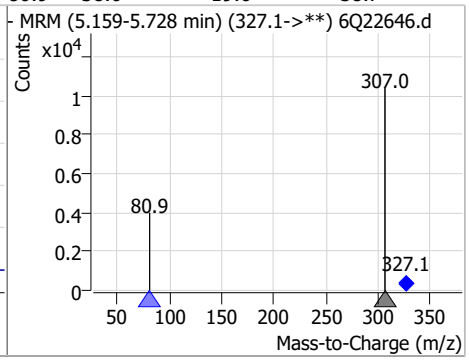




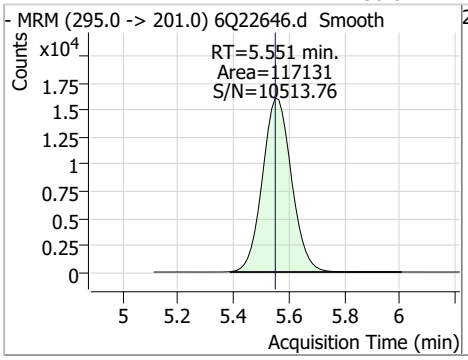
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	95.23	5.34	0.01	362128	327.1 -> 80.9	38.0	19.6	58.7

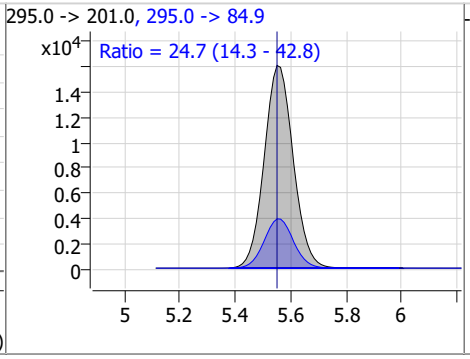


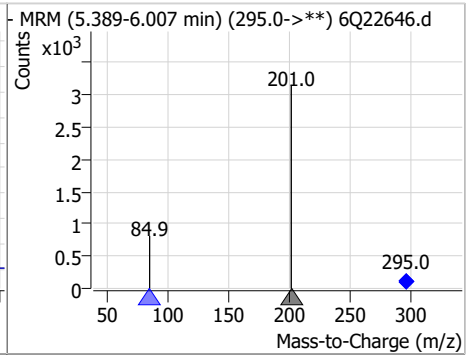




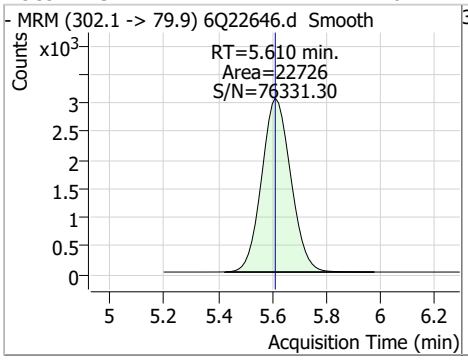
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	50.62	5.55	0.00	117131	295.0 -> 84.9	24.7	14.3	42.8

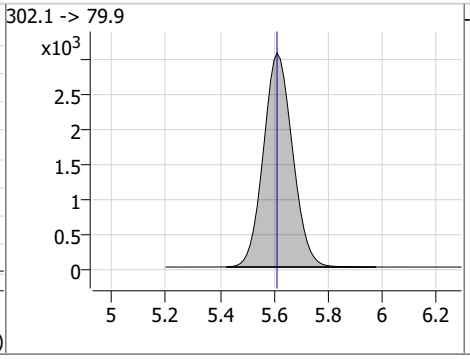


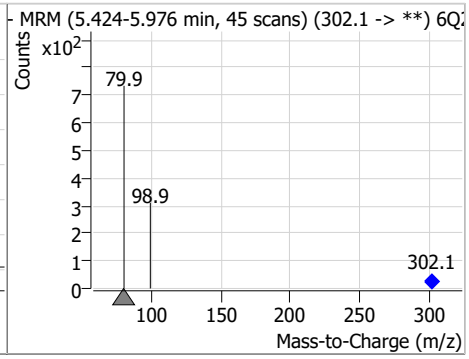




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.48	5.61	0.00	22726				

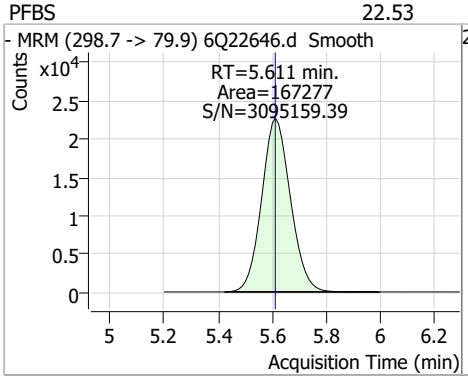


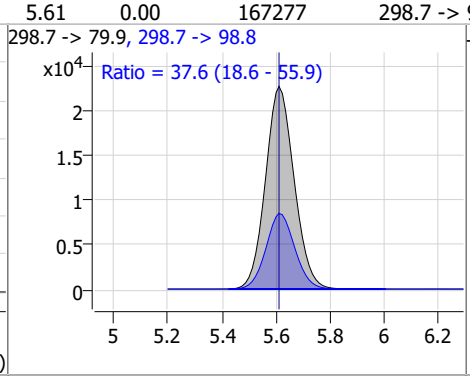


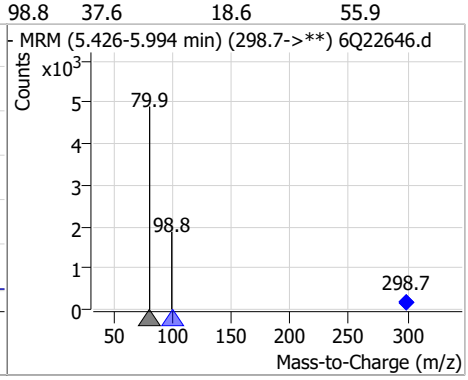


Perfluorinated Compounds by LC/MS/MS

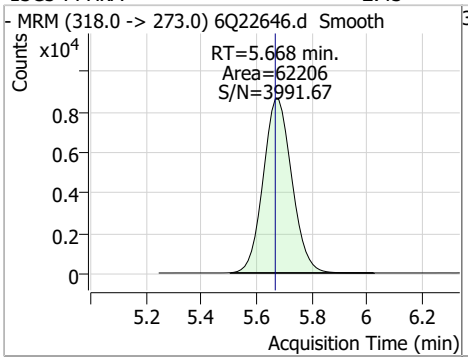
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	22.53	5.61	0.00	167277	298.7 -> 98.8	37.6	18.6	55.9

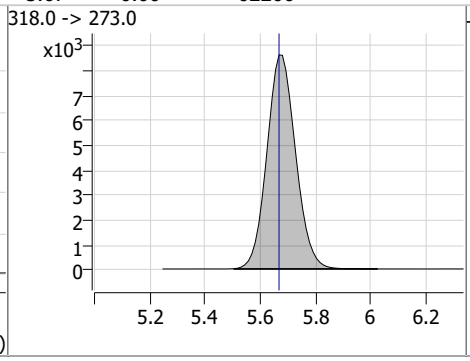


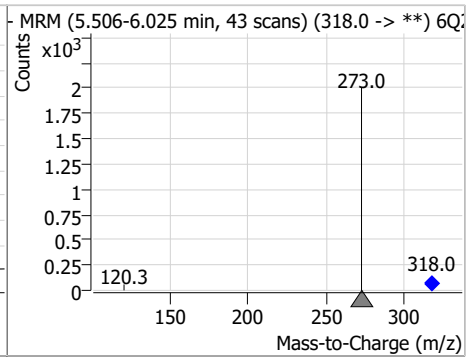




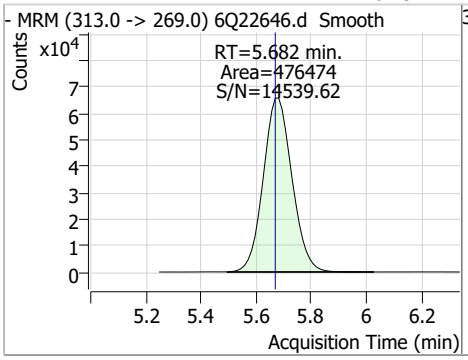
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.43	5.67	0.00	62206				

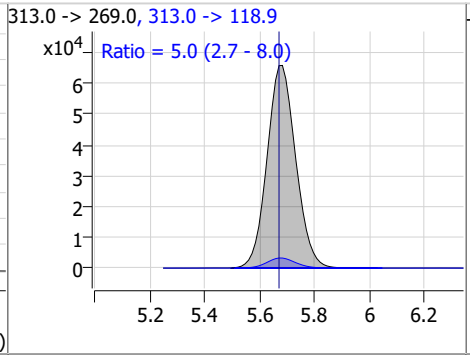


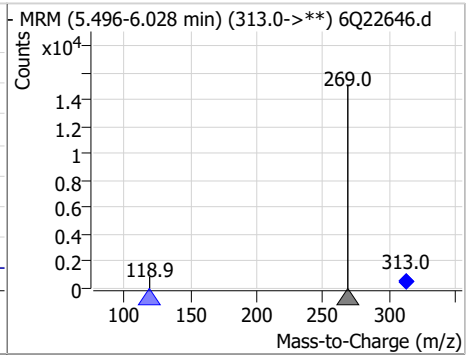




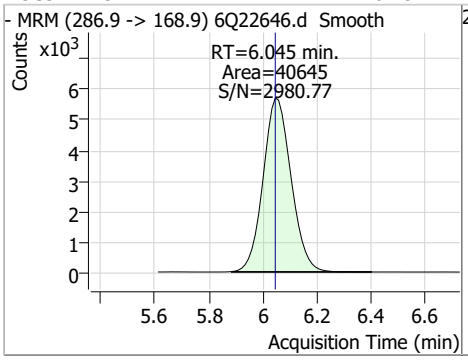
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	26.19	5.68	0.01	476474	313.0 -> 118.9	5.0	2.7	8.0

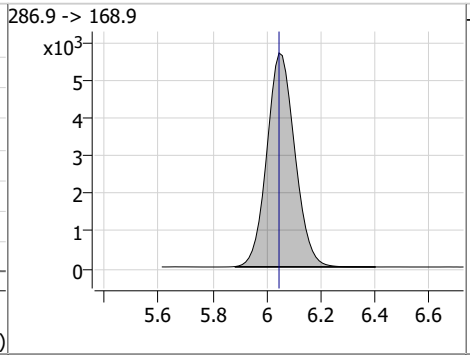


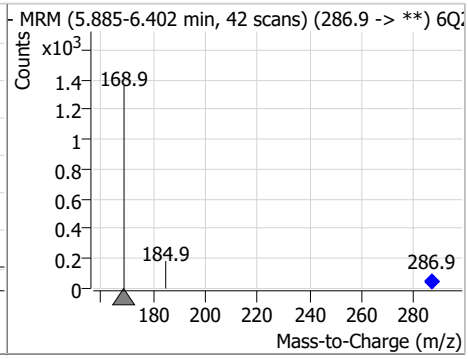




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.13	6.05	0.00	40645				

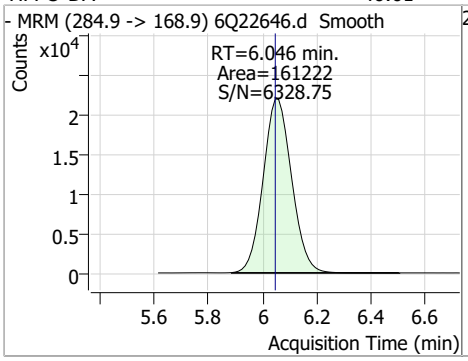


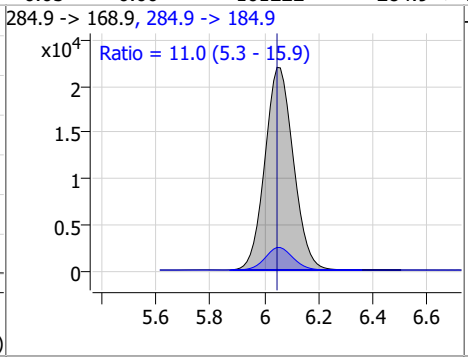


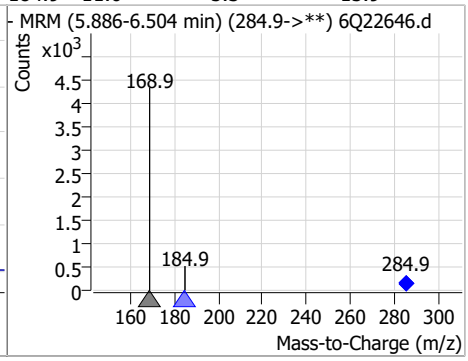


Perfluorinated Compounds by LC/MS/MS

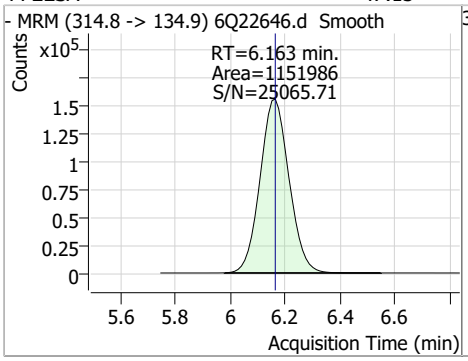
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	46.61	6.05	0.00	161222	284.9 -> 184.9	11.0	5.3	15.9

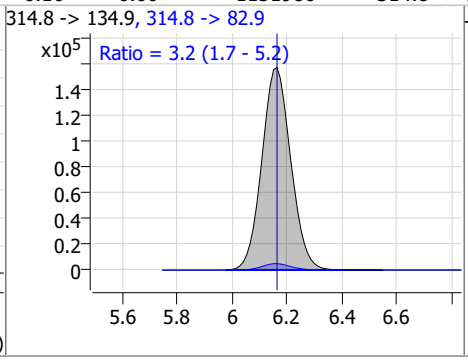


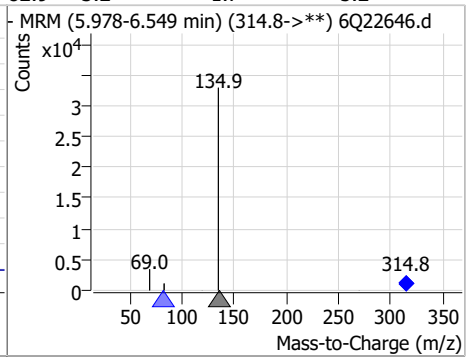




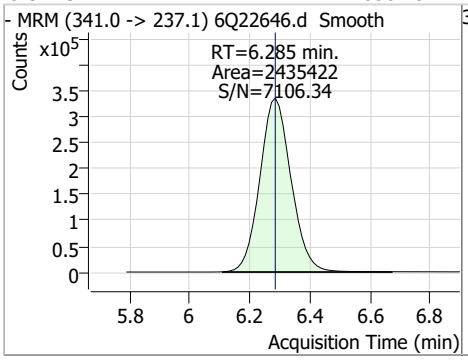
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	47.13	6.16	0.00	1151986	314.8 -> 82.9	3.2	1.7	5.2

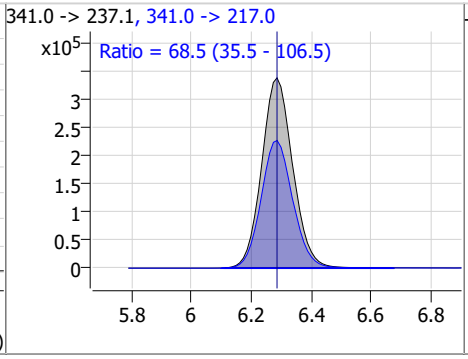


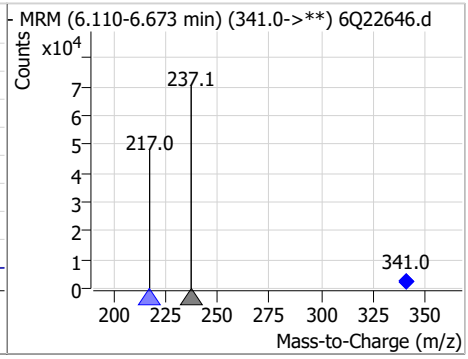




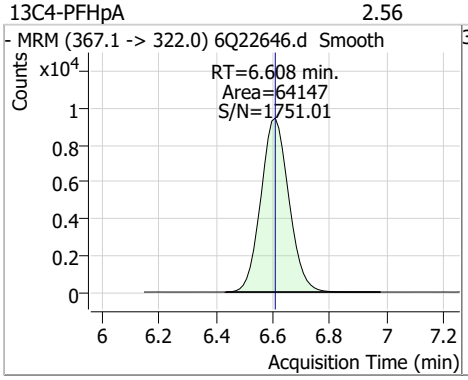
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	650.75	6.28	0.00	2435422	341.0 -> 217.0	68.5	35.5	106.5

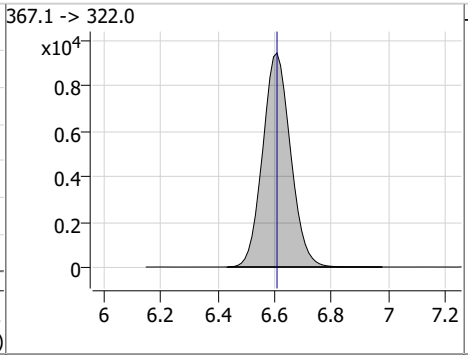


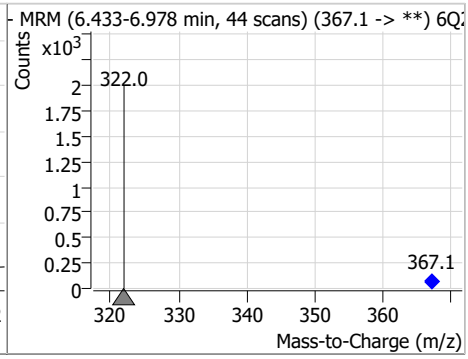




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.56	6.61	0.00	64147				

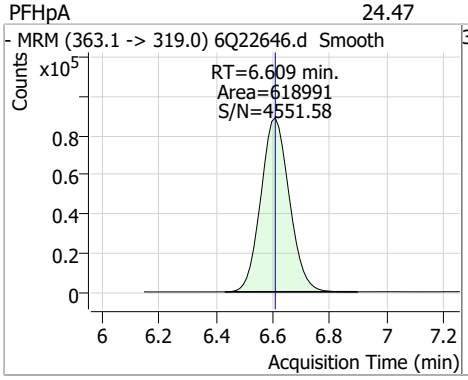


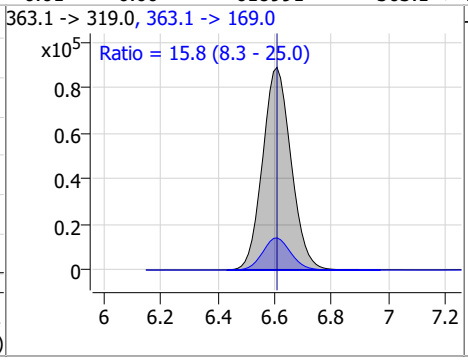


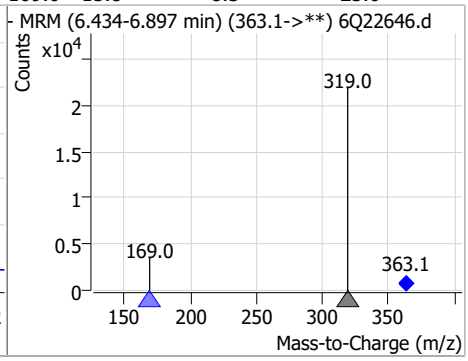


Perfluorinated Compounds by LC/MS/MS

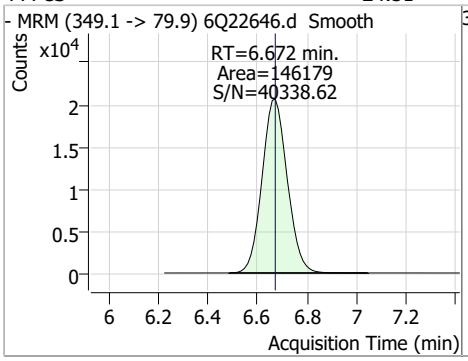
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	24.47	6.61	0.00	618991	363.1 -> 169.0	15.8	8.3	25.0

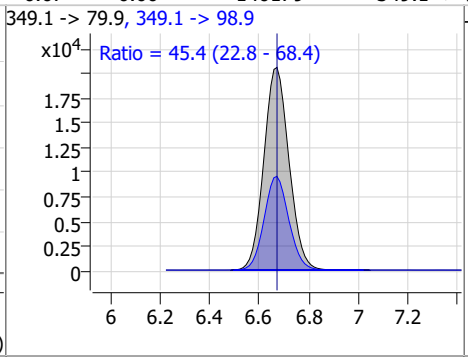


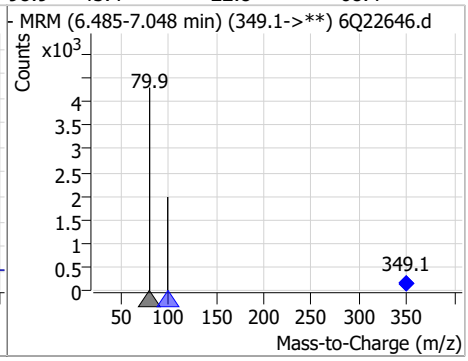




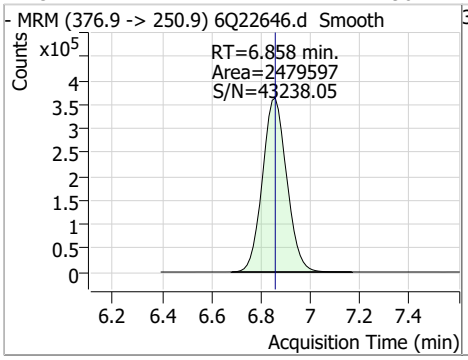
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	24.51	6.67	0.00	146179	349.1 -> 98.9	45.4	22.8	68.4

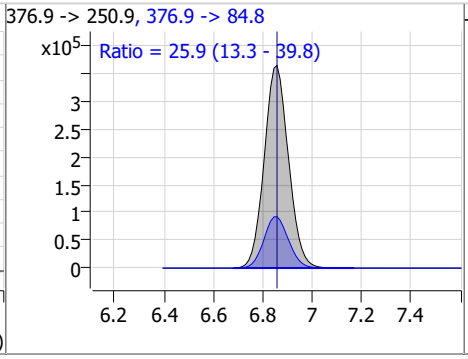


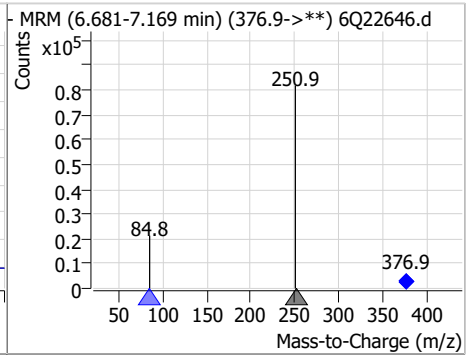




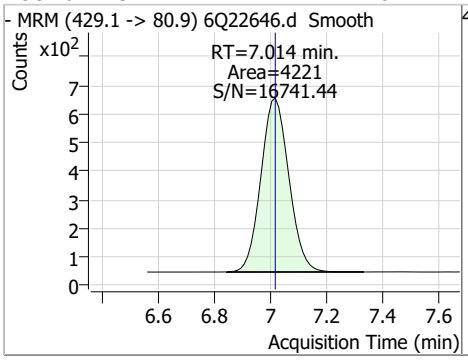
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	47.90	6.86	0.00	2479597	376.9 -> 84.8	25.9	13.3	39.8

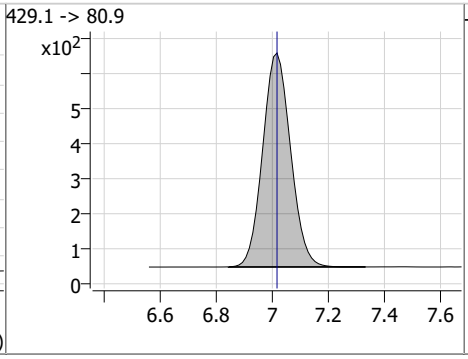


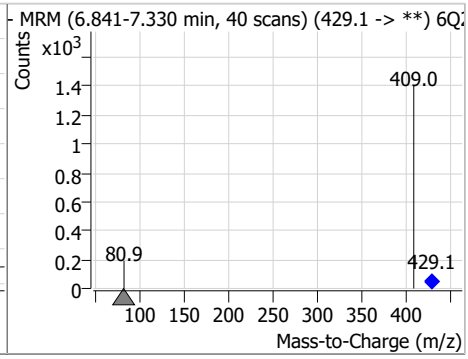




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.54	7.01	0.00	4221				

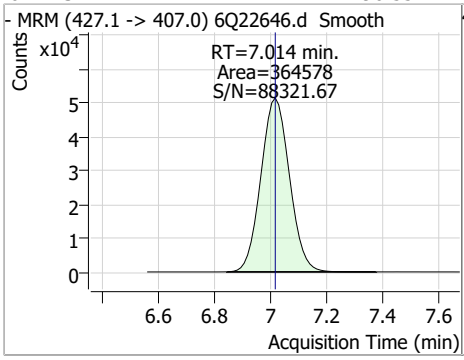


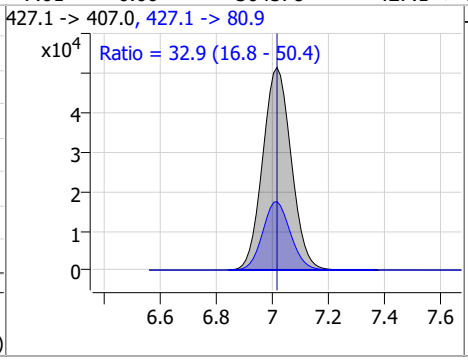


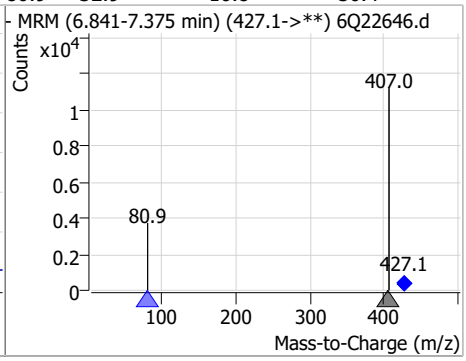


Perfluorinated Compounds by LC/MS/MS

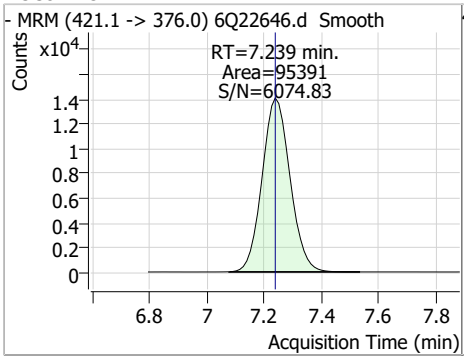
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	96.55	7.01	0.00	364578	427.1 -> 80.9	32.9	16.8	50.4

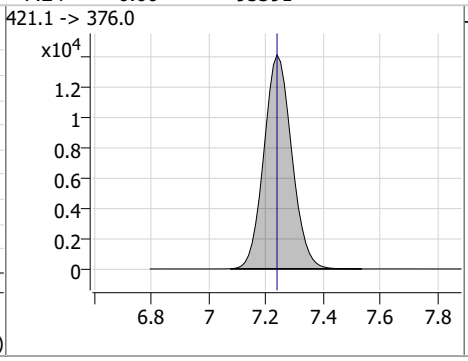


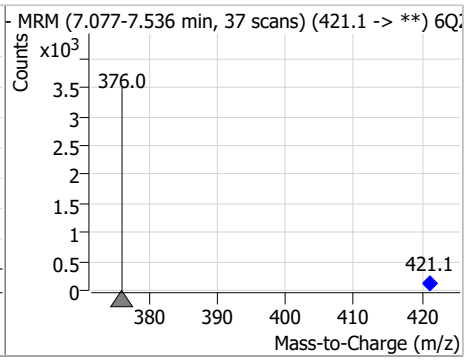




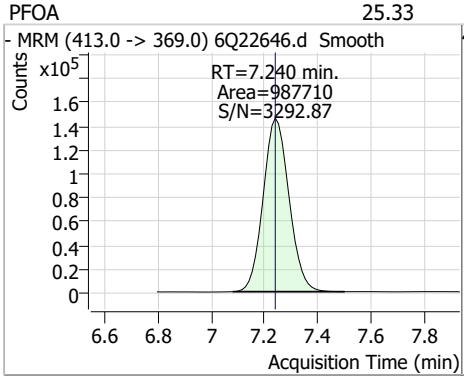
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.47	7.24	0.00	95391				

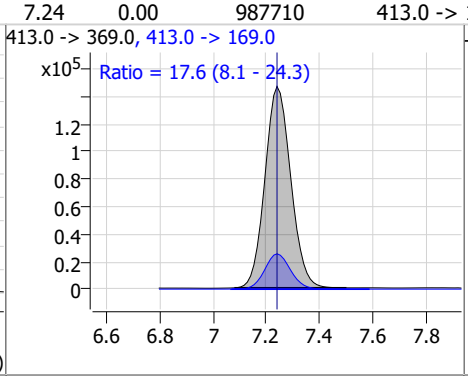


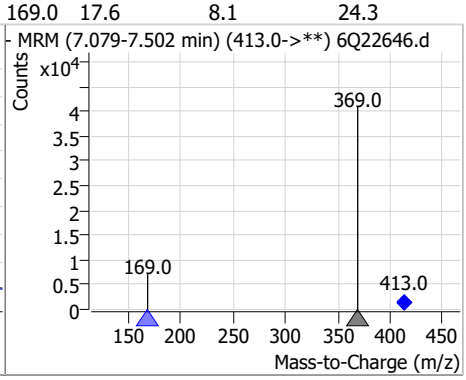




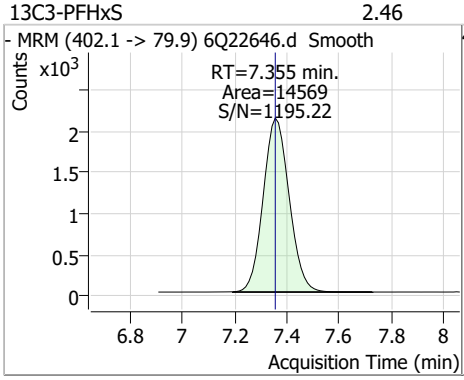
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	25.33	7.24	0.00	987710	413.0 -> 169.0	17.6	8.1	24.3

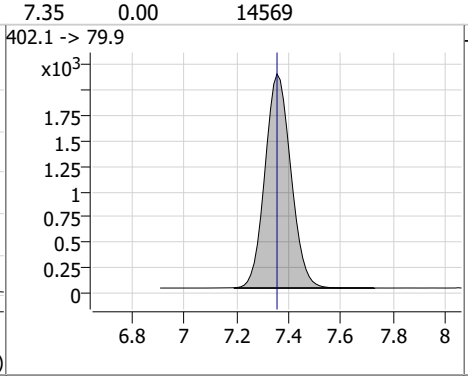


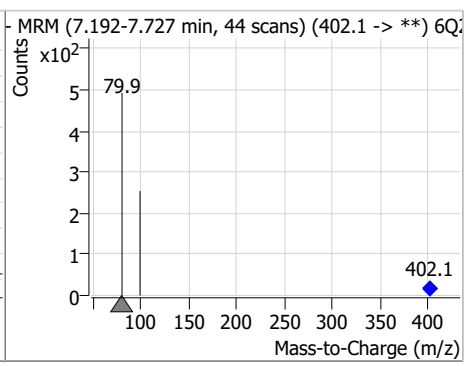




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.46	7.35	0.00	14569				

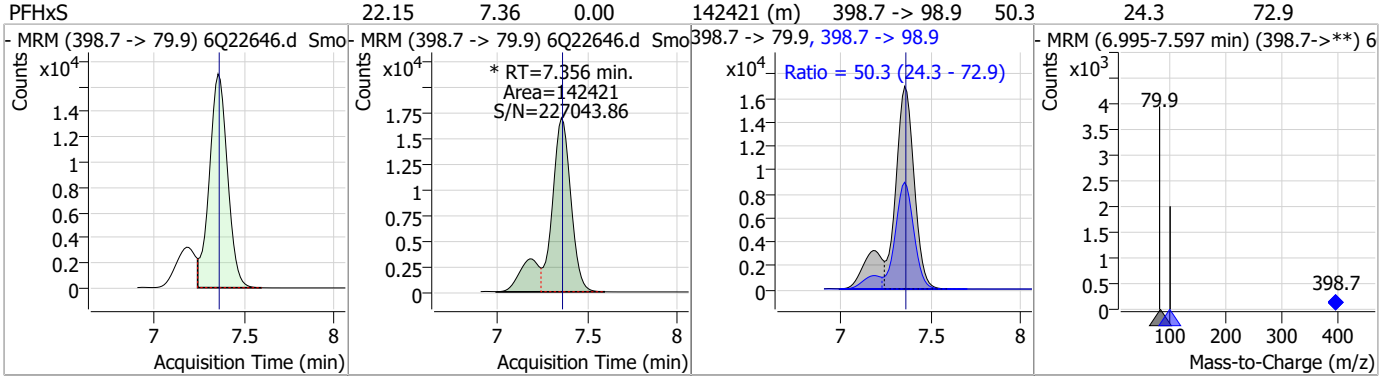




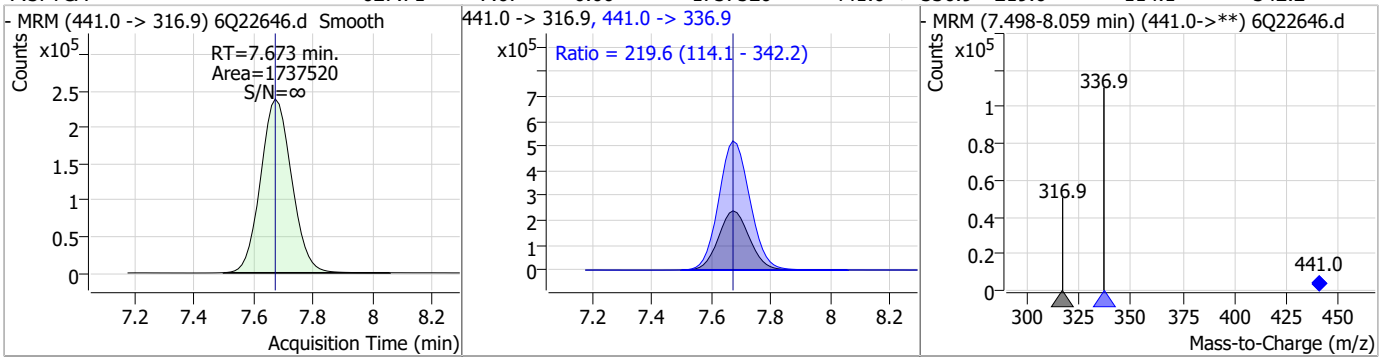


Perfluorinated Compounds by LC/MS/MS

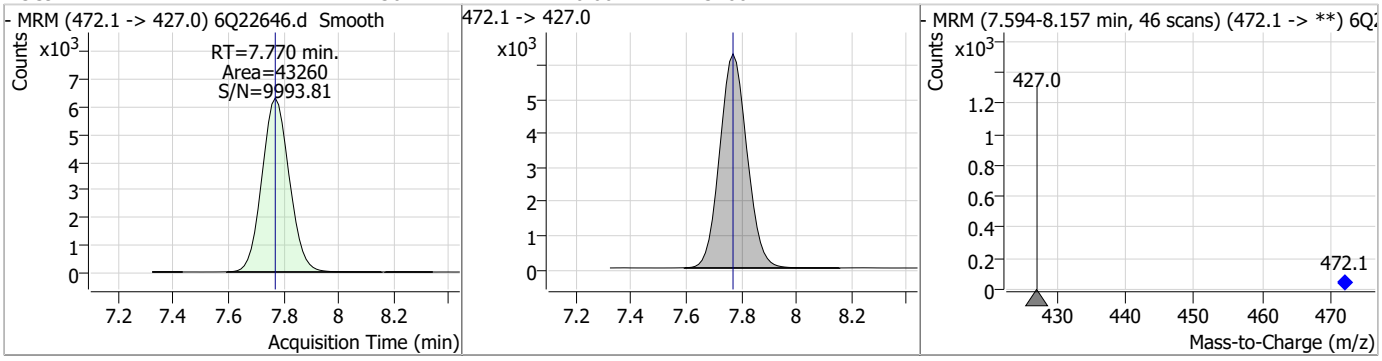
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	22.15	7.36	0.00	142421 (m)	398.7 -> 98.9	50.3	24.3	72.9



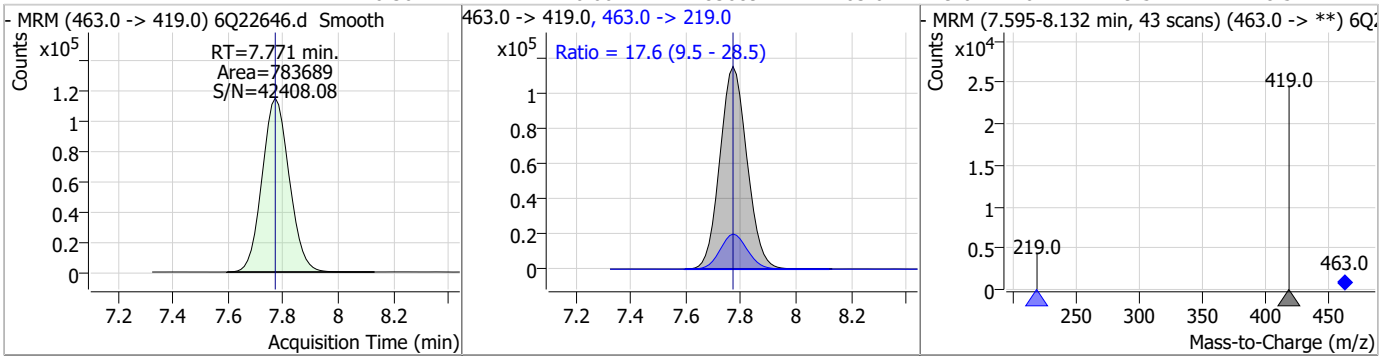
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	627.71	7.67	0.00	1737520	441.0 -> 336.9	219.6	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.30	7.77	0.00	43260				

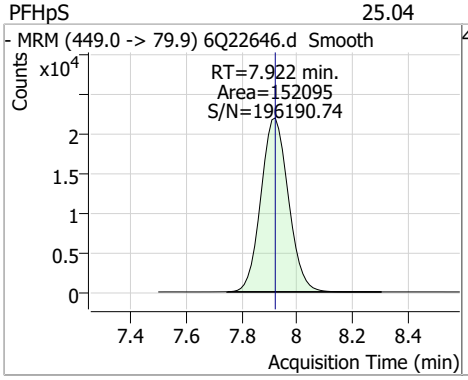


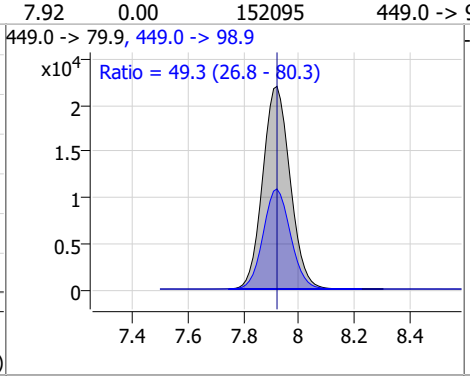
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	26.36	7.77	0.00	783689	463.0 -> 219.0	17.6	9.5	28.5

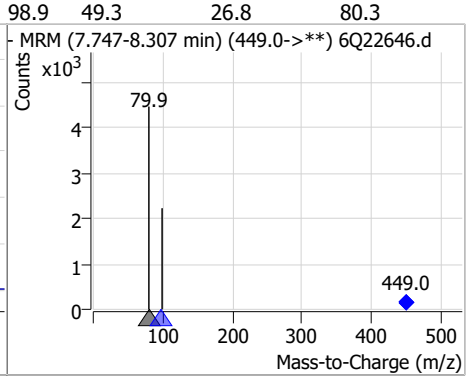


Perfluorinated Compounds by LC/MS/MS

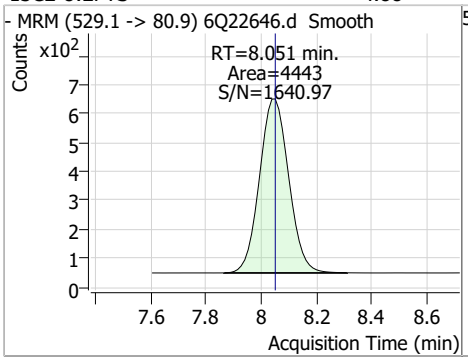
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	25.04	7.92	0.00	152095	449.0 -> 98.9	49.3	26.8	80.3

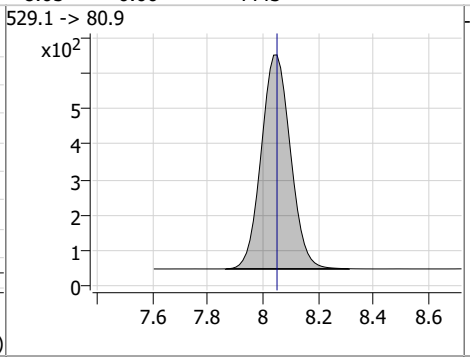


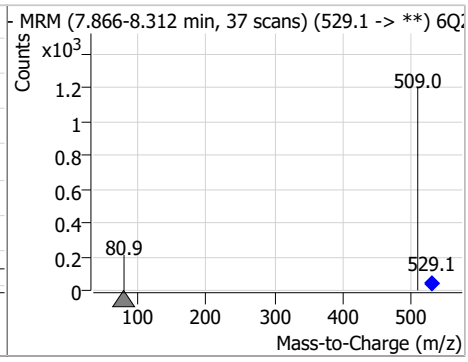




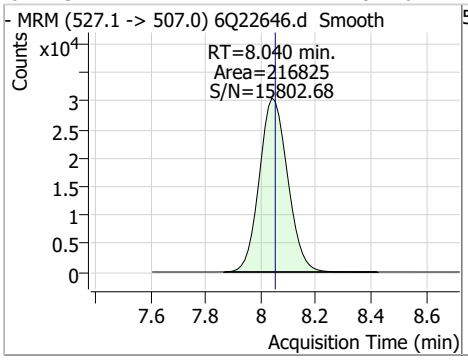
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.88	8.05	0.00	4443				

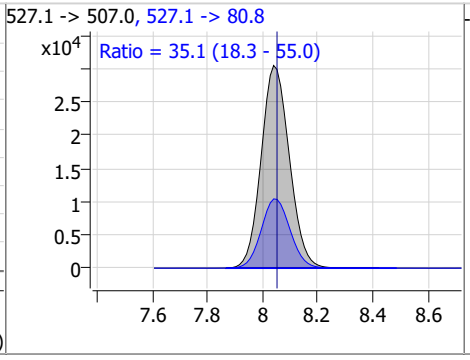


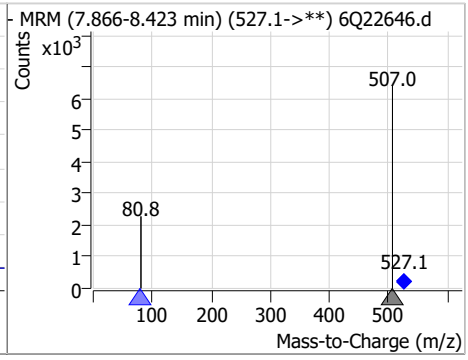




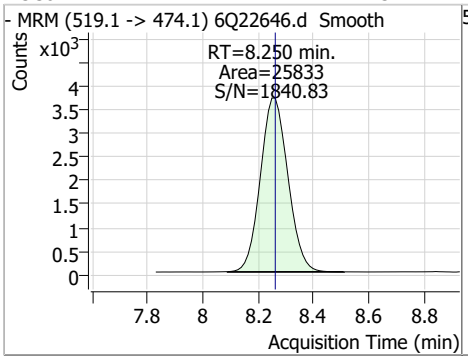
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	91.20	8.04	-0.01	216825	527.1 -> 80.8	35.1	18.3	55.0

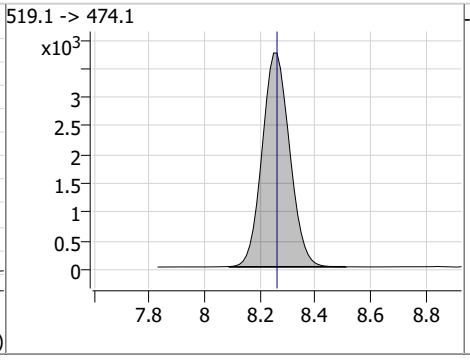


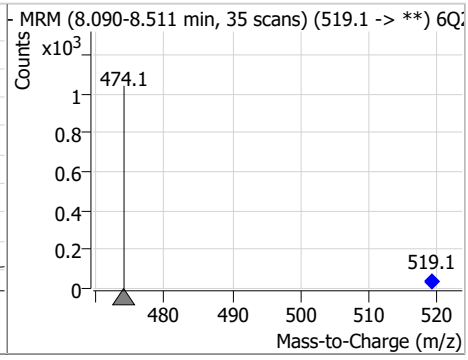




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.31	8.25	-0.01	25833				

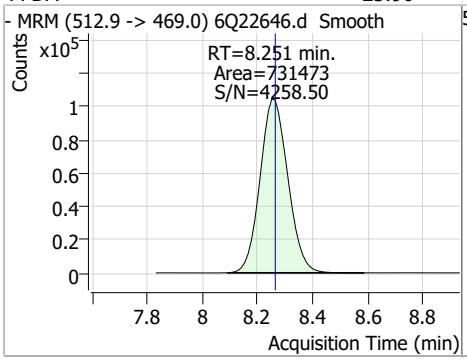


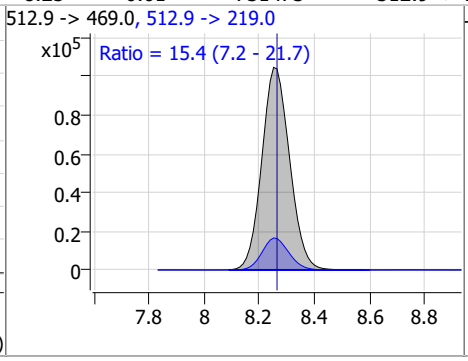


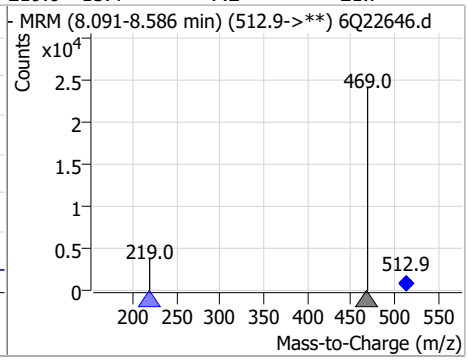


Perfluorinated Compounds by LC/MS/MS

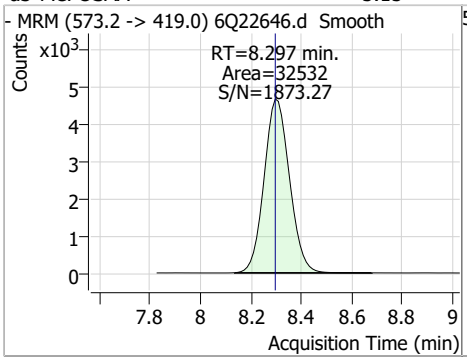
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	23.90	8.25	-0.01	731473	512.9 -> 219.0	15.4	7.2	21.7

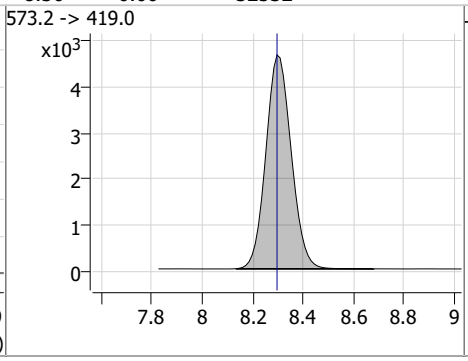


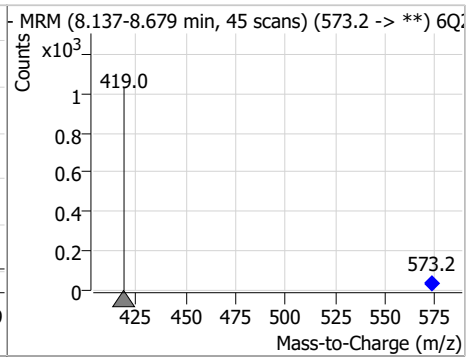




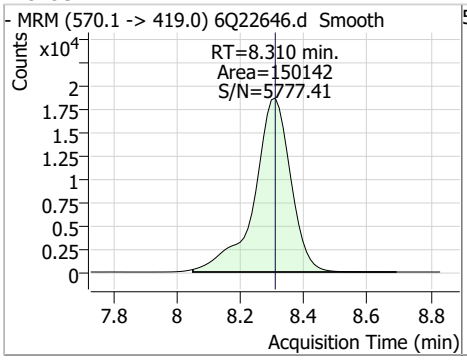
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.15	8.30	0.00	32532				

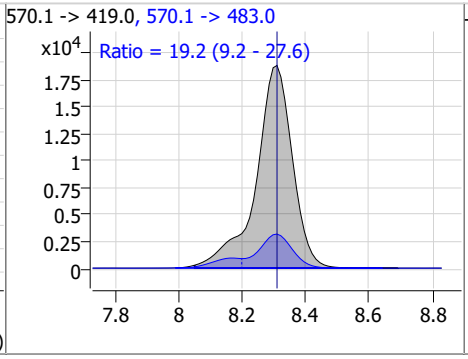


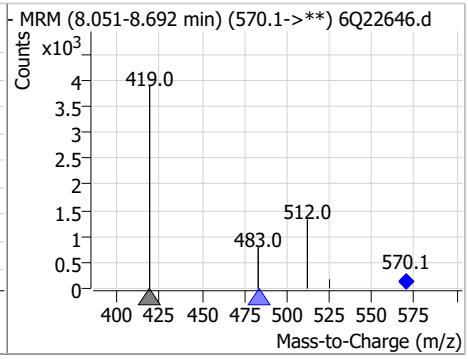




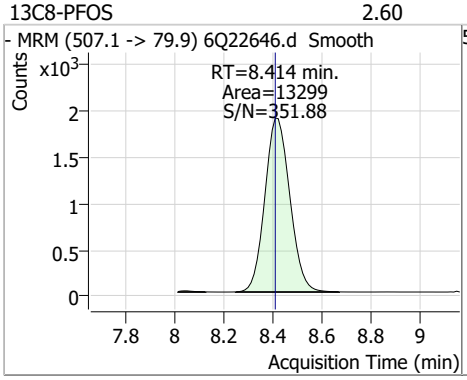
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	24.14	8.31	0.00	150142	570.1 -> 483.0	19.2	9.2	27.6

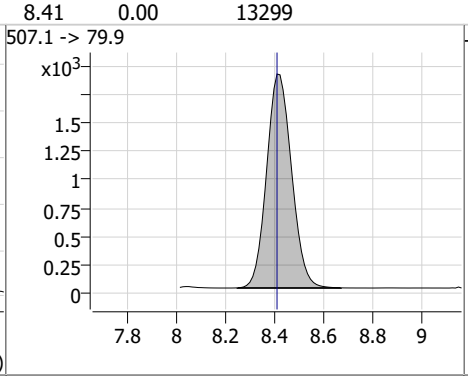


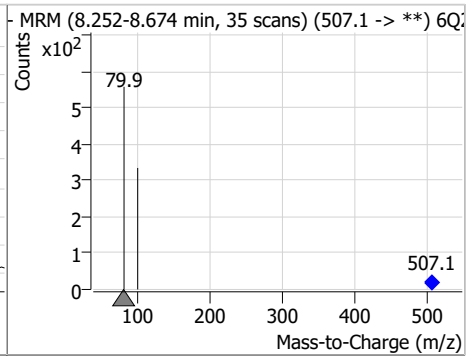




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.60	8.41	0.00	13299				

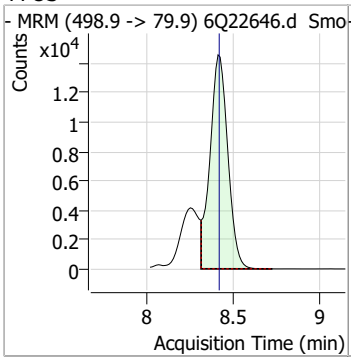


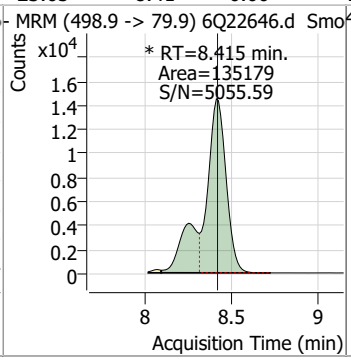


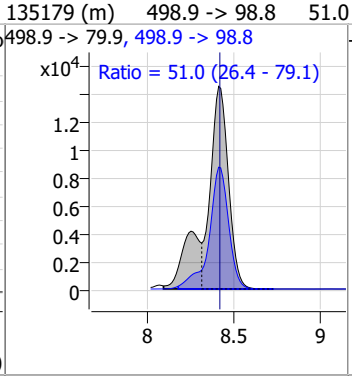


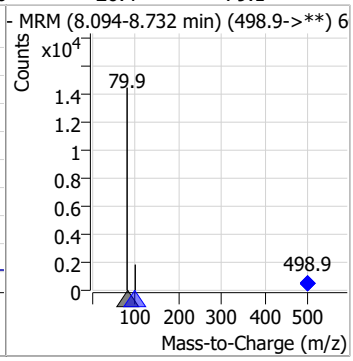
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	23.65	8.41	0.00	135179 (m)	498.9 -> 98.8	51.0	26.4	79.1

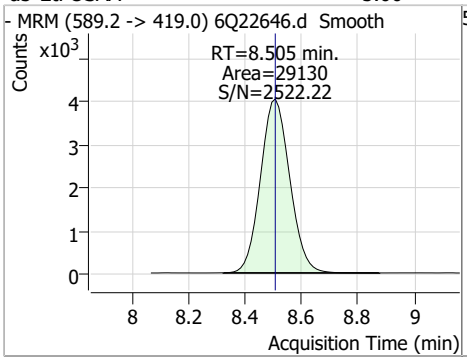


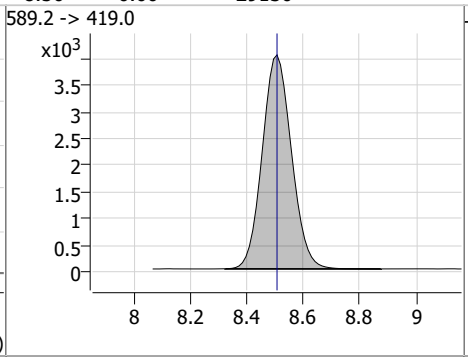


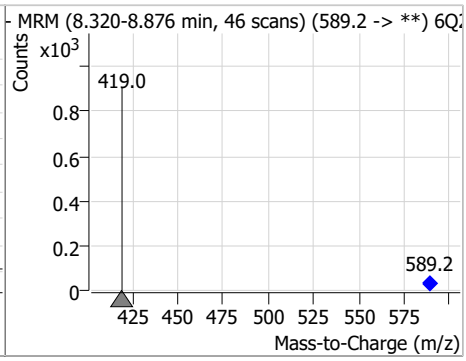




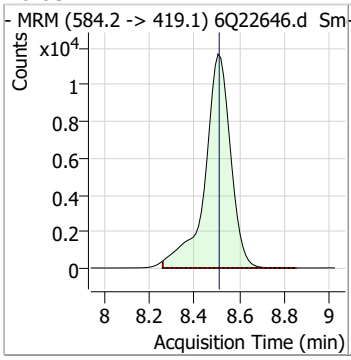
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.00	8.50	0.00	29130				

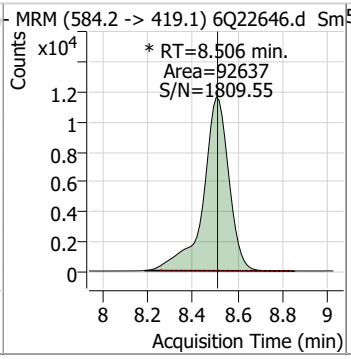


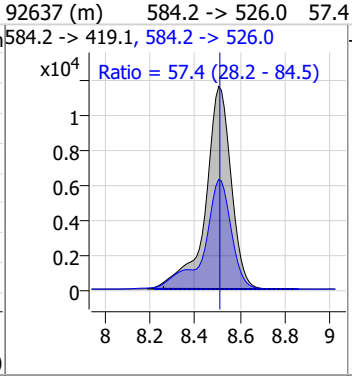


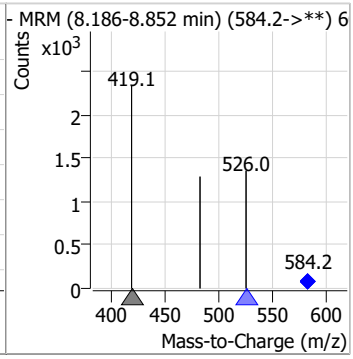


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	25.23	8.51	0.00	92637 (m)	584.2 -> 526.0	57.4	28.2	84.5

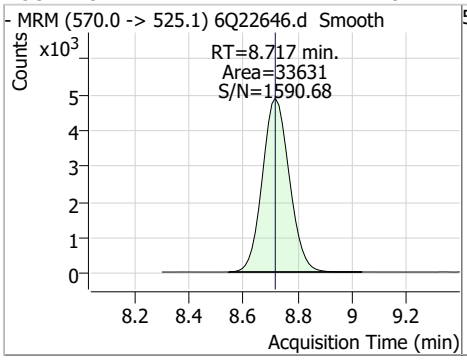


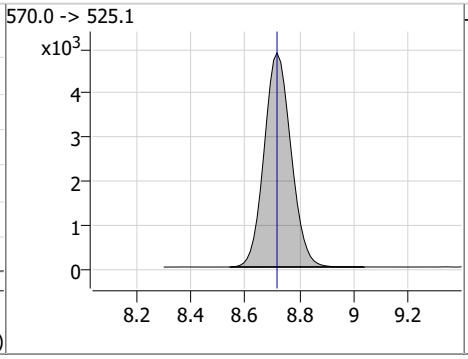


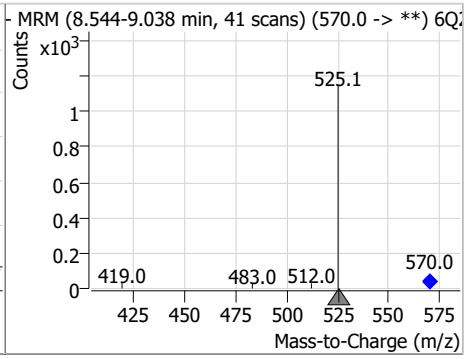




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.29	8.72	0.00	33631				

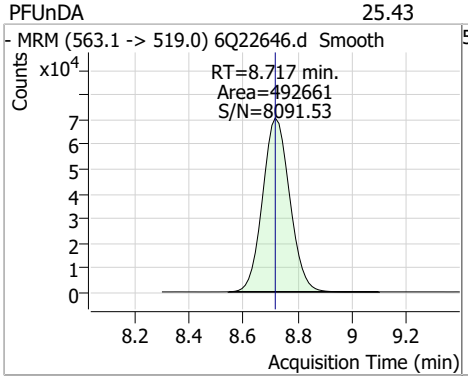


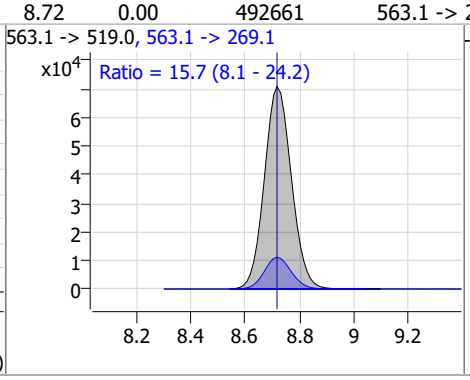


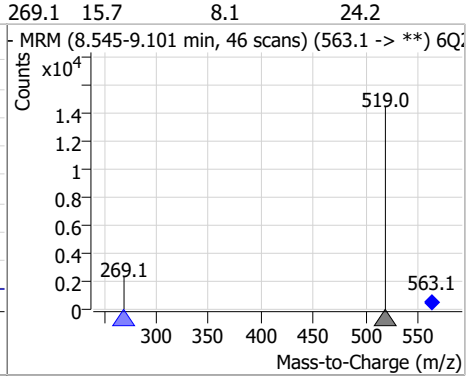


Perfluorinated Compounds by LC/MS/MS

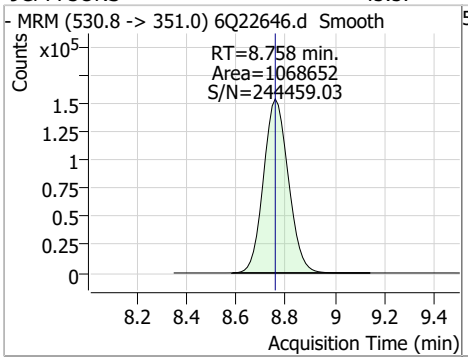
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	25.43	8.72	0.00	492661	563.1 -> 269.1	15.7	8.1	24.2

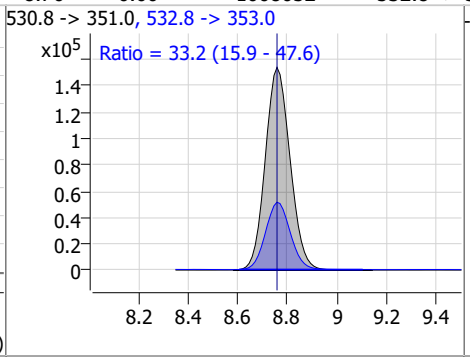


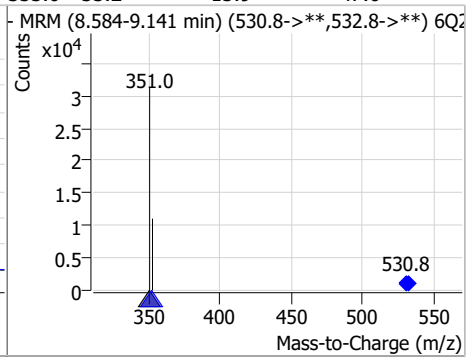




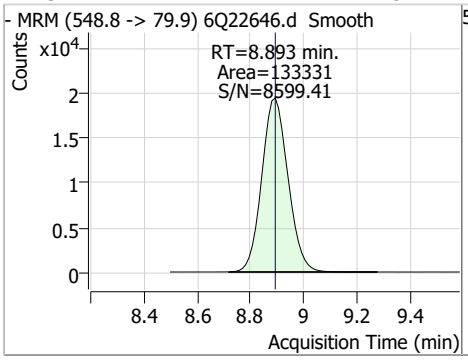
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	45.57	8.76	0.00	1068652	532.8 -> 353.0	33.2	15.9	47.6

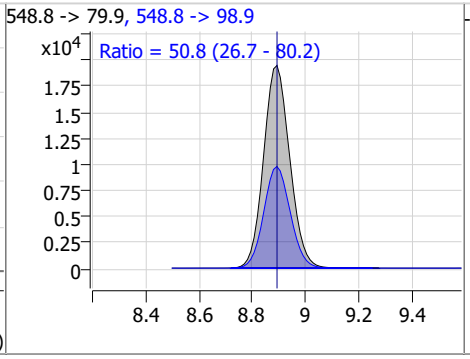


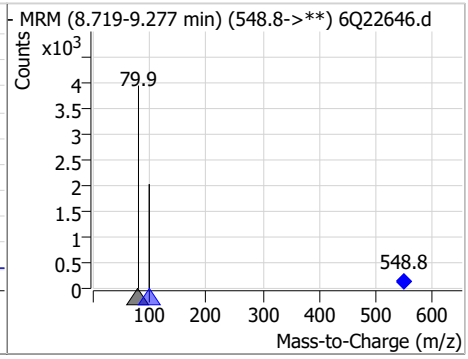




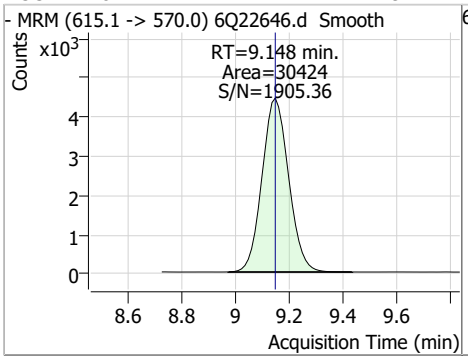
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	24.31	8.89	0.00	133331	548.8 -> 98.9	50.8	26.7	80.2

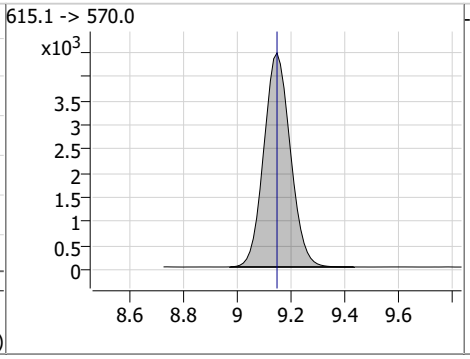


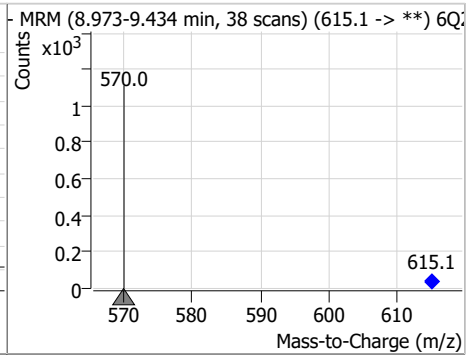




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.29	9.15	0.00	30424				

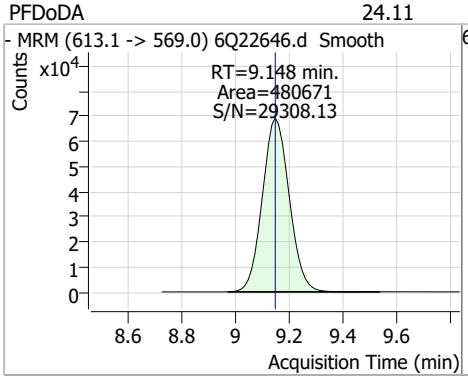


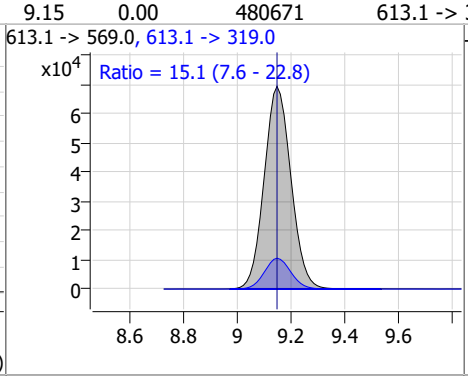


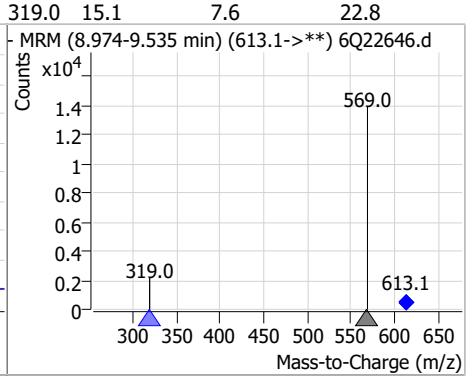


Perfluorinated Compounds by LC/MS/MS

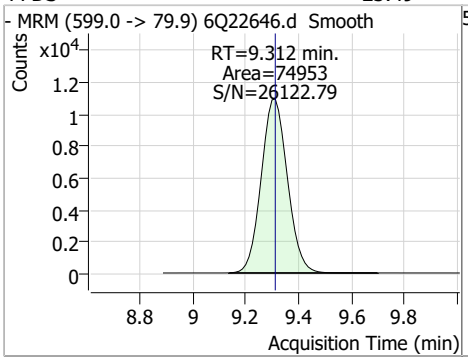
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	24.11	9.15	0.00	480671	613.1 -> 319.0	15.1	7.6	22.8

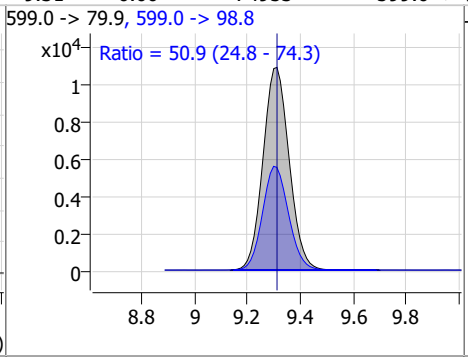


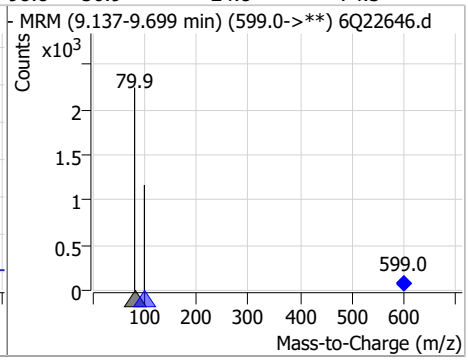




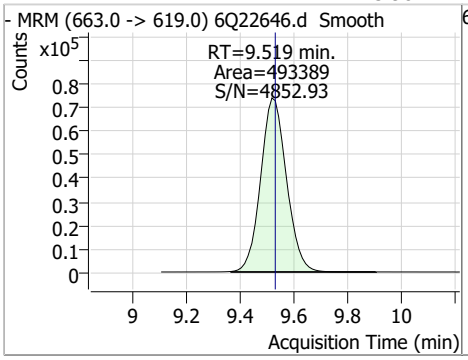
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	23.49	9.31	0.00	74953	599.0 -> 98.8	50.9	24.8	74.3

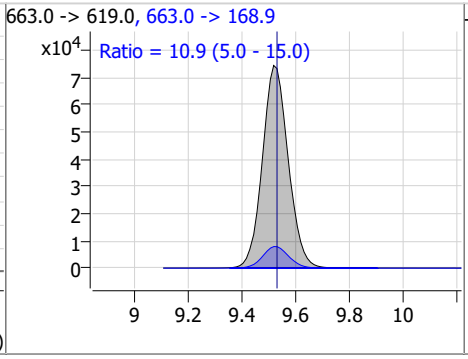


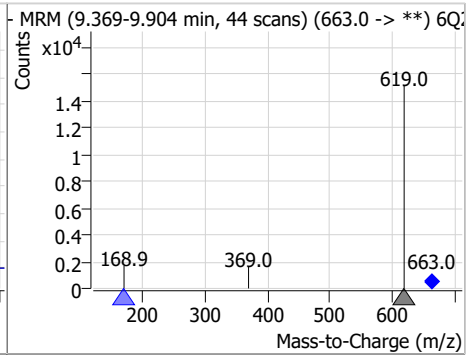




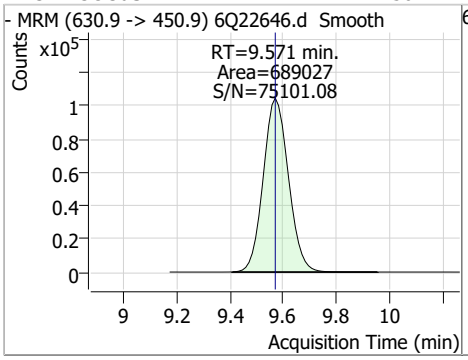
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	23.98	9.52	-0.01	493389	663.0 -> 168.9	10.9	5.0	15.0

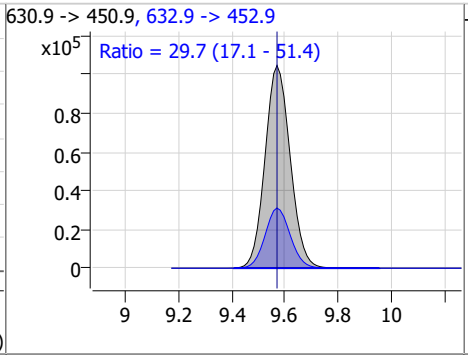


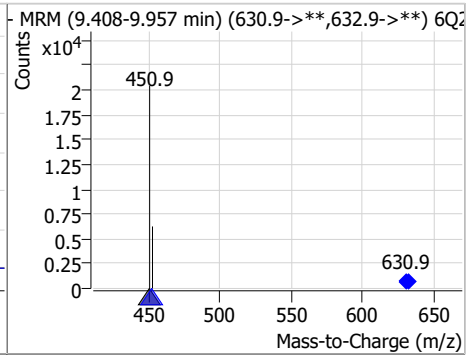




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	47.50	9.57	0.00	689027	632.9 -> 452.9	29.7	17.1	51.4

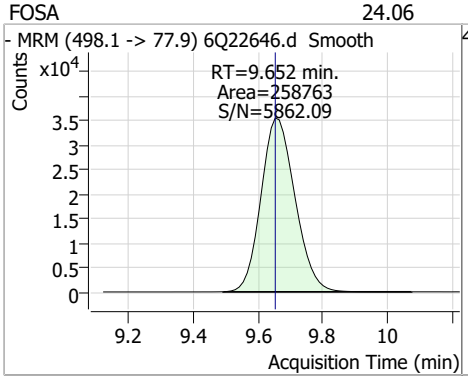


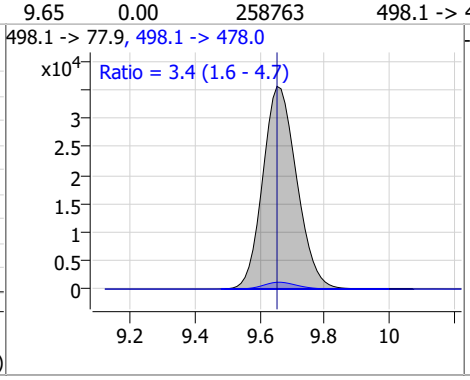


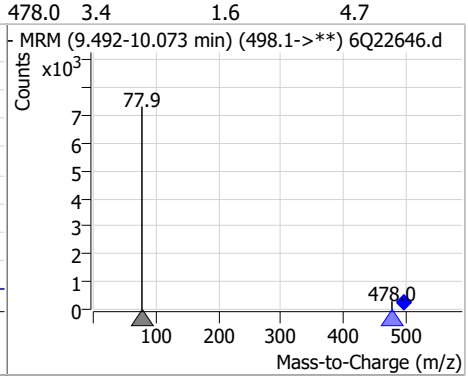


Perfluorinated Compounds by LC/MS/MS

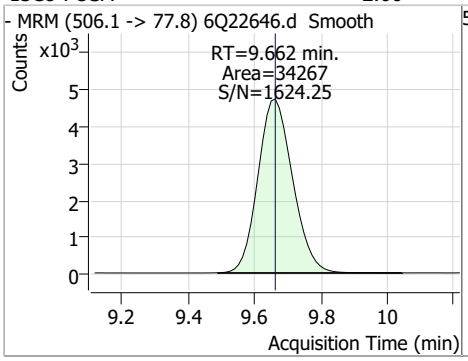
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	24.06	9.65	0.00	258763	498.1 -> 478.0	3.4	1.6	4.7

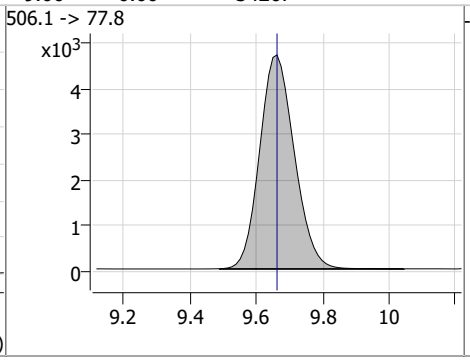


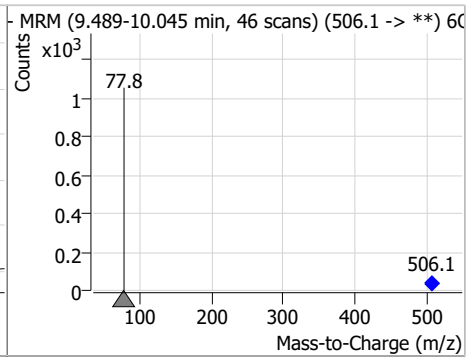




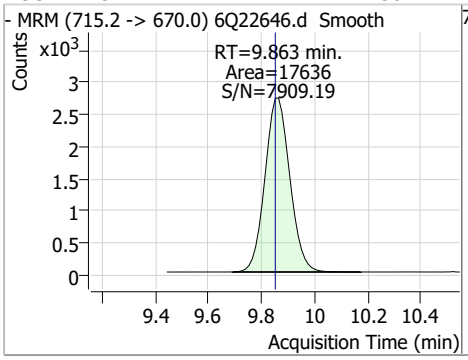
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.60	9.66	0.00	34267				

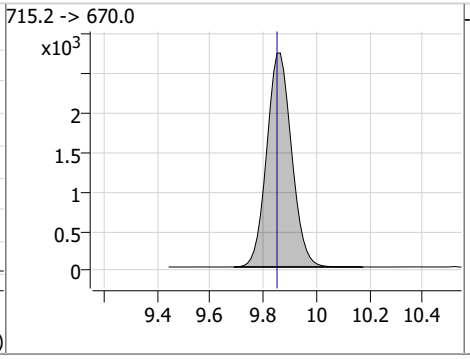


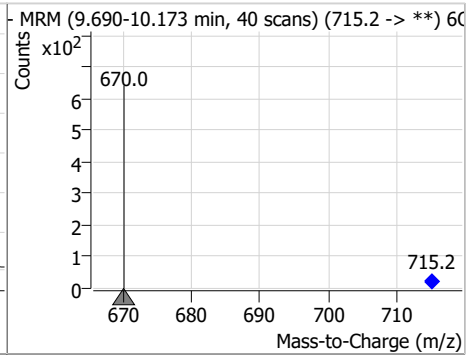




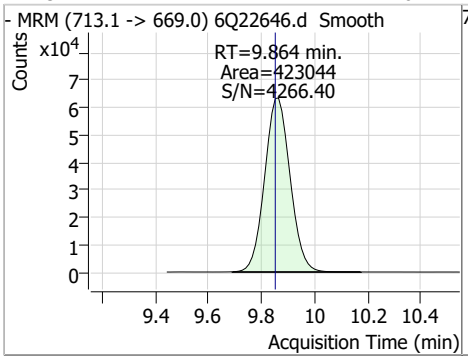
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.30	9.86	0.01	17636				

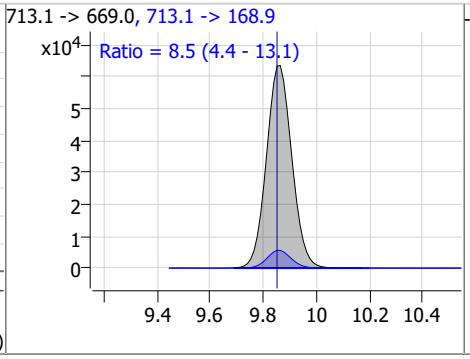


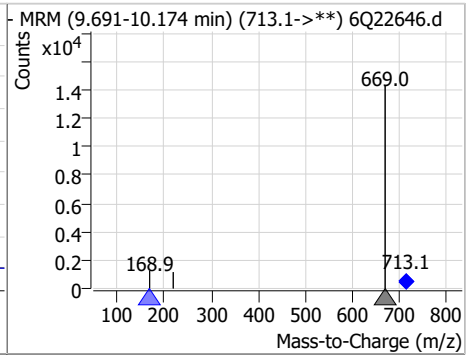




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	24.70	9.86	0.01	423044	713.1 -> 168.9	8.5	4.4	13.1

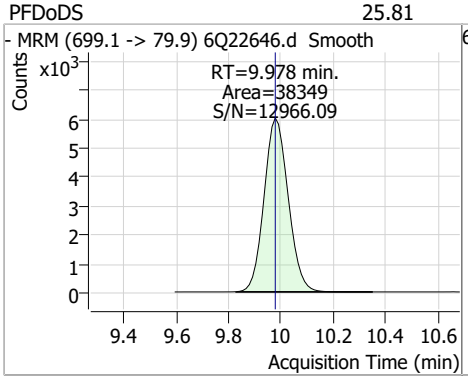


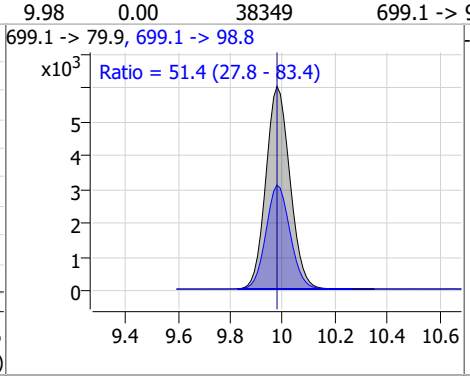


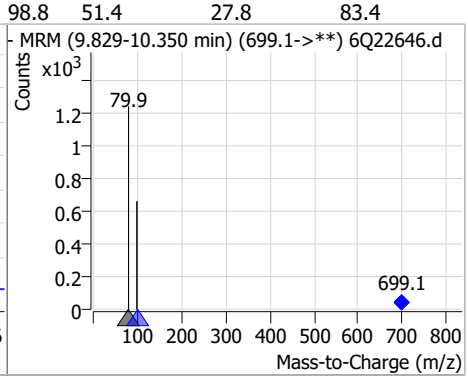


Perfluorinated Compounds by LC/MS/MS

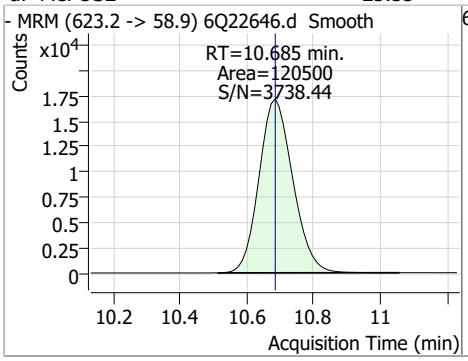
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	25.81	9.98	0.00	38349	699.1 -> 98.8	51.4	27.8	83.4

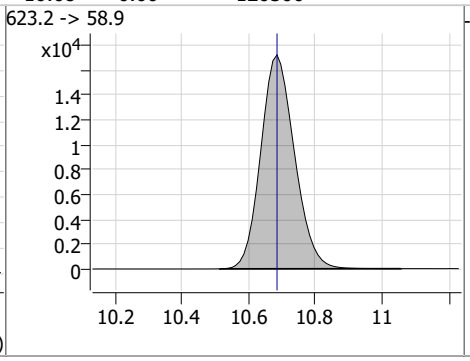


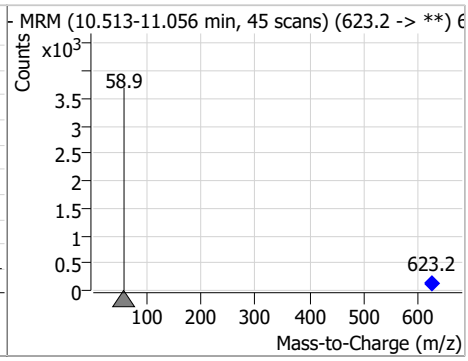




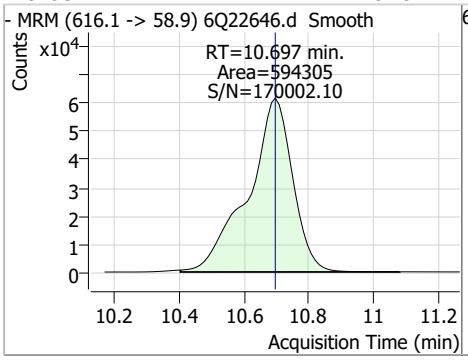
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.55	10.68	0.00	120500				

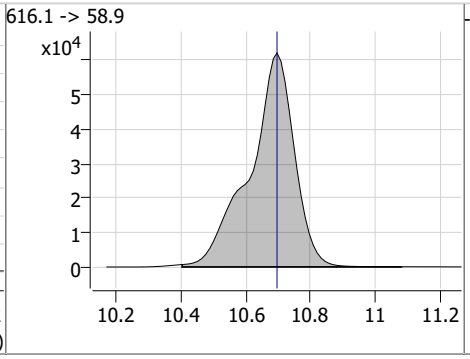


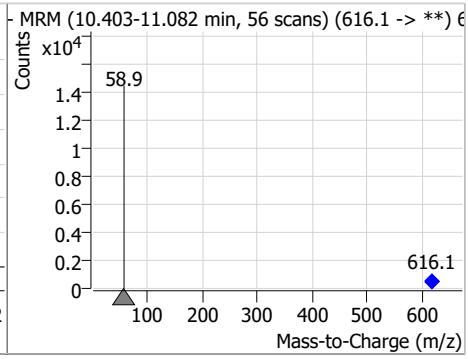




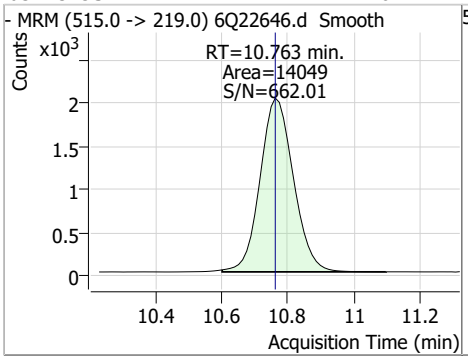
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	131.92	10.70	0.00	594305				

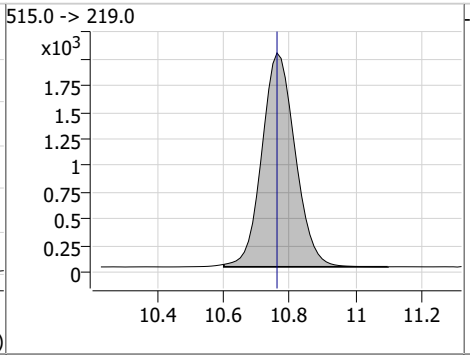


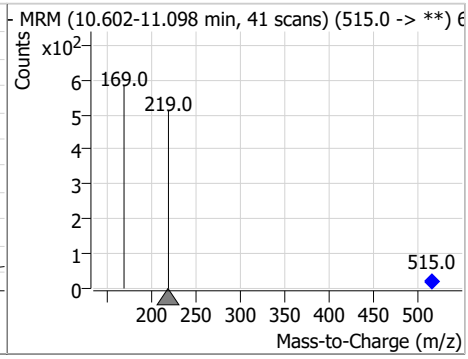




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.61	10.76	0.00	14049				

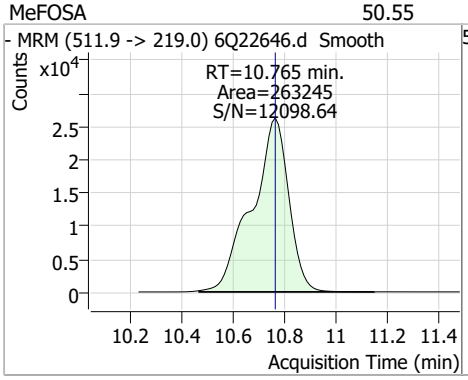


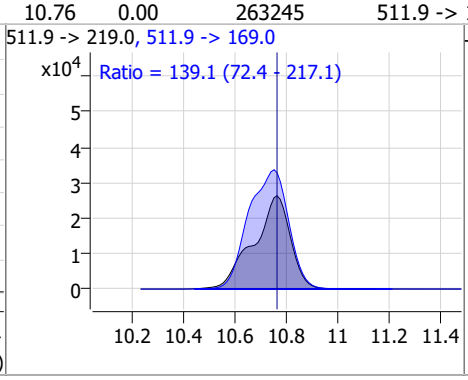


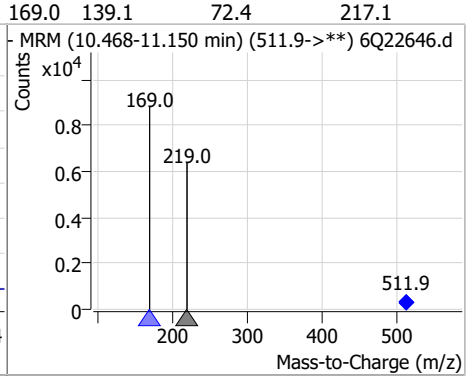


Perfluorinated Compounds by LC/MS/MS

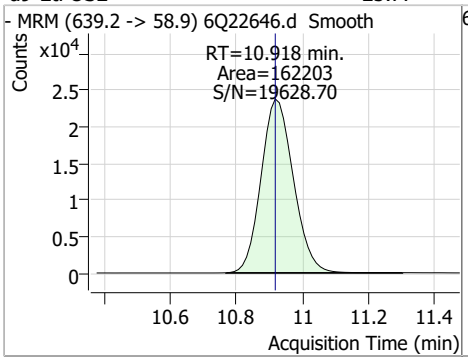
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	50.55	10.76	0.00	263245	511.9 -> 169.0	139.1	72.4	217.1

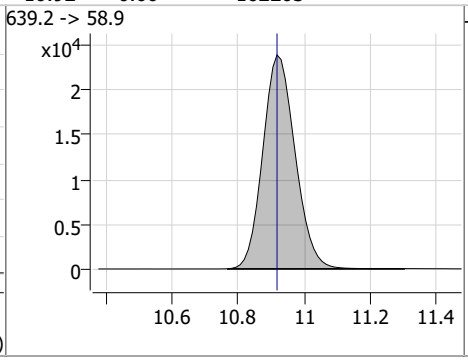


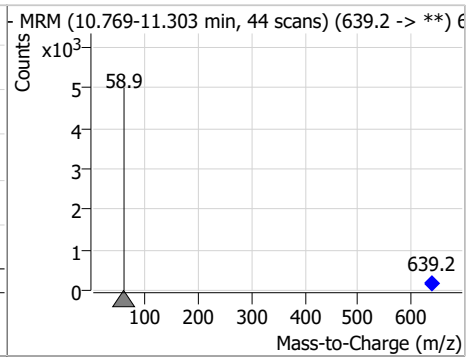




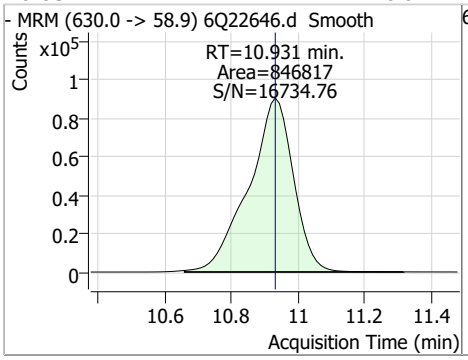
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.77	10.92	0.00	162203				

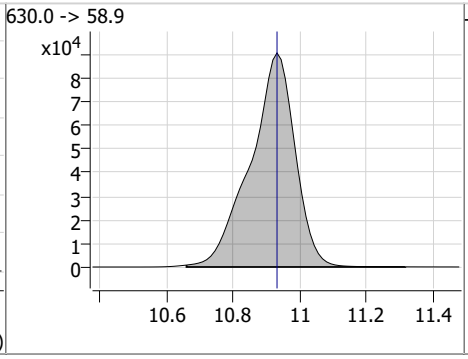


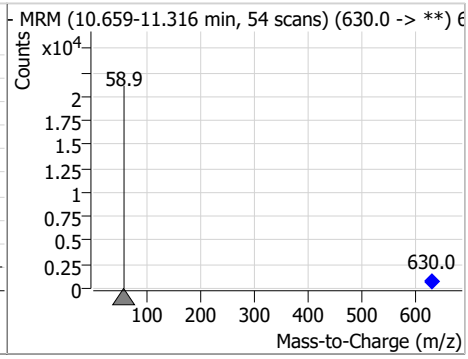




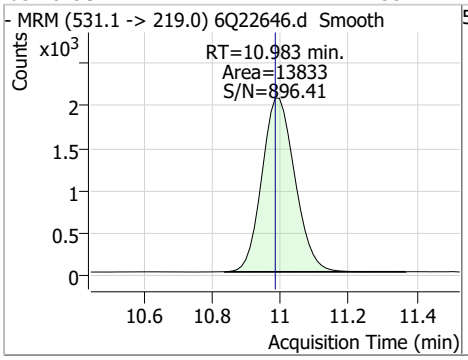
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	128.84	10.93	0.00	846817				

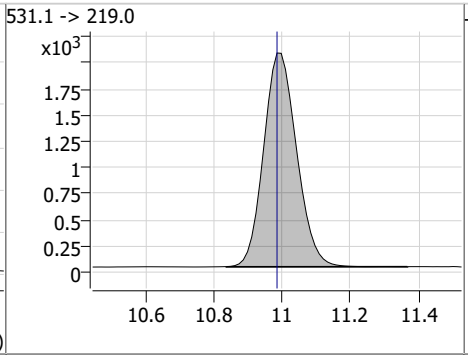


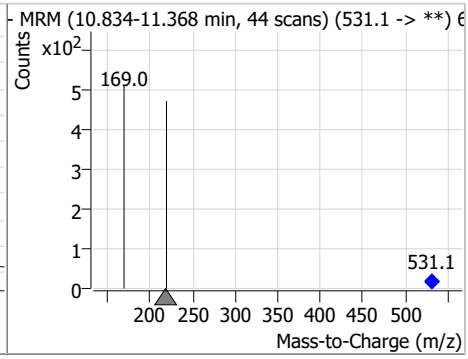




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.55	10.98	0.00	13833				

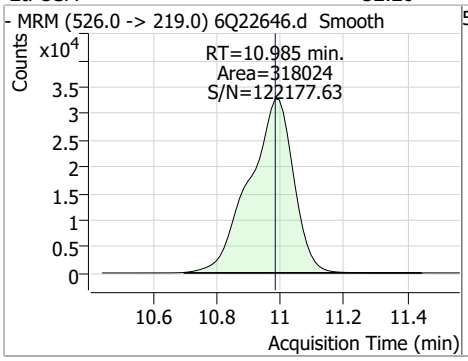


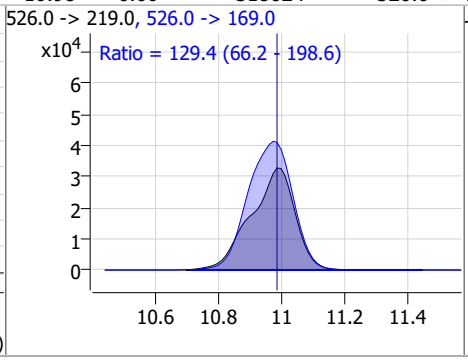


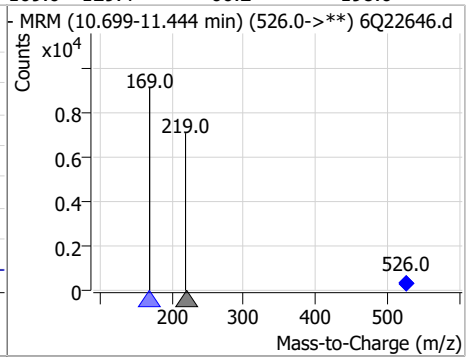


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	52.20	10.98	0.00	318024	526.0 -> 169.0	129.4	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q330-IC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22646.D	**Analyst approved:**	08/13/23 12:53 Martha Valls
Injection Time:	08/10/23 15:03	**Supervisor approved:**	08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak
EtFOSAA	2991-50-6		8.51	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22647.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 3:18:11 PM
Sample Name : ic330-8
Vial : P1-A9
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.035	216.8 -> 171.9	169778	10.00	µg/L	0.025
M5-PFPeA	4.459	268.3 -> 223.0	58524	5.00	µg/L	0.012
M5-PFHxA	5.680	318.0 -> 273.0	65485	2.50	µg/L	0.012
M4-PFHpA	6.608	367.1 -> 322.0	63592	2.50	µg/L	0.000
M8-PFOA	7.239	421.1 -> 376.0	95973	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	44777	1.25	µg/L	0.000
M6-PFDA	8.250	519.1 -> 474.1	23927	1.25	µg/L	-0.012
M7-PFUnDA	8.717	570.0 -> 525.1	33197	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	33030	1.25	µg/L	0.000
M2-PFTeDA	9.863	715.2 -> 670.0	18358	1.25	µg/L	0.012
M8-FOSA	9.662	506.1 -> 77.8	36016	2.50	µg/L	0.000
M3-PFBS	5.610	302.1 -> 79.9	22998	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	15136	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	13133	2.50	µg/L	0.000
M2-4:2FTS	5.343	329.1 -> 80.9	2822	5.00	µg/L	0.012
M2-6:2FTS	7.014	429.1 -> 80.9	4065	5.00	µg/L	0.000
M2-8:2FTS	8.051	529.1 -> 80.9	3938	5.00	µg/L	0.000
M3-MeFOSAA	8.309	573.2 -> 419.0	31928	5.00	µg/L	0.012
M3-HFPO-DA	6.057	286.9 -> 168.9	42461	10.00	µg/L	0.012
M5-EtFOSAA	8.505	589.2 -> 419.0	27629	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	125835	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	158202	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	14577	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	15679	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	19308	2.50	µg/L	-0.012
13C3-PFBA	3.026	216.0 -> 172.0	72566	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	11304	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	104017	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	38741	1.25	µg/L	0.000
13C5-PFNA	7.770	468.0 -> 423.0	56158	1.25	µg/L	0.000
13C2-PFHxA	5.681	315.1 -> 270.0	64371	2.50	µg/L	0.012
System Monitoring Compounds						
13C2-4:2FTS	5.343	329.1 -> 80.9	2822	4.18	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 83.6%		
13C2-6:2FTS	7.014	429.1 -> 80.9	4065	4.17	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 83.4%		
13C2-8:2FTS	8.051	529.1 -> 80.9	3938	4.13	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 82.5%		
13C2-PFDoDA	9.148	615.1 -> 570.0	33030	1.26	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.0%		
13C2-PFTeDA	9.863	715.2 -> 670.0	18358	1.22	µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.5%		
13C3-PFBS	5.610	302.1 -> 79.9	22998	2.40	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%		
13C3-PFHxS	7.355	402.1 -> 79.9	15136	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 = 97.4%	
13C4-PFBA	3.035	216.8 -> 171.9	169778	9.91 µg/L	0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C4-PFHpA	6.608	367.1 -> 322.0	63592	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C5-PFHxA	5.680	318.0 -> 273.0	65485	2.46 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.6%	
13C5-PFPeA	4.459	268.3 -> 223.0	58524	4.83 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.6%	
13C6-PFDA	8.250	519.1 -> 474.1	23927	1.09 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 87.5%	
13C7-PFUnDA	8.717	570.0 -> 525.1	33197	1.15 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.8%	
13C8-FOSA	9.662	506.1 -> 77.8	36016	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C8-PFOA	7.239	421.1 -> 376.0	95973	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C8-PFOS	8.414	507.1 -> 79.9	13133	2.32 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.9%	
13C9-PFNA	7.770	472.1 -> 427.0	44777	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.3%	
d3-MeFOSAA	8.309	573.2 -> 419.0	31928	4.57 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.4%	
13C3-HFPO-DA	6.057	286.9 -> 168.9	42461	10.19 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.9%	
d3-MeFOSA	10.763	515.0 -> 219.0	15679	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.1%	
d5-EtFOSAA	8.505	589.2 -> 419.0	27629	4.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 85.7%	
d7-MeFOSE	10.685	623.2 -> 58.9	125835	24.11 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.5%	
d9-EtFOSE	10.918	639.2 -> 58.9	158202	22.72 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.9%	
d5-EtFOSA	10.983	531.1 -> 219.0	14577	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%	
Target Compounds					**QValue**
4:2FTS	5.343	327.1 -> 307.0	704809	193.04 µg/L	100
		327.1 -> 80.9	277559		
6:2FTS	7.014	427.1 -> 407.0	748568	205.88 µg/L	97
		427.1 -> 80.9	236682		
8:2FTS	8.040	527.1 -> 507.0	448437	212.78 µg/L	98
		527.1 -> 80.8	159991		
EtFOSAA	8.506	584.2 -> 419.1	216832	62.28 µg/L	98
		584.2 -> 526.0	119617		
FOSA	9.665	498.1 -> 77.9	663760	58.72 µg/L	99
		498.1 -> 478.0	20040		
MeFOSAA	8.310	570.1 -> 419.0	348103	57.02 µg/L	95
		570.1 -> 483.0	71604		
PFBA	3.031	212.8 -> 168.9	1237734	233.33 µg/L	100
PFBS	5.623	298.7 -> 79.9	385128	51.25 µg/L	99
		298.7 -> 98.8	146910		
PFDA	8.264	512.9 -> 469.0	1792716	63.23 µg/L	99
		512.9 -> 219.0	254213		
PFDoDA	9.148	613.1 -> 569.0	1189404	54.96 µg/L	99
		613.1 -> 319.0	175957		
PFDS	9.312	599.0 -> 79.9	187859	59.61 µg/L	98

Perfluorinated Compounds by LC/MS/MS

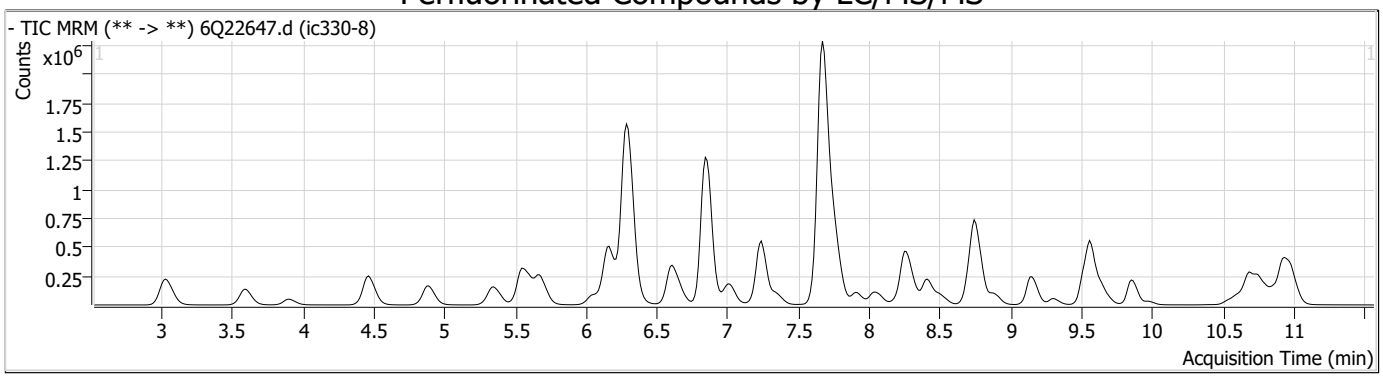
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	90610				
PFHpA	6.609	363.1 -> 319.0	1470125	58.62	µg/L		99
		363.1 -> 169.0	237104				
PFHpS	7.922	449.0 -> 79.9	358644	59.79	µg/L		96
		449.0 -> 98.9	181661				
PFHxA	5.682	313.0 -> 269.0	1114902	58.20	µg/L		100
		313.0 -> 118.9	59825				
PFHxS	7.356	398.7 -> 79.9	352936	52.85	µg/L	m	100
		398.7 -> 98.9	170697				
PFNA	7.771	463.0 -> 419.0	1875698	60.95	µg/L		98
		463.0 -> 219.0	343371				
PFNS	8.893	548.8 -> 79.9	323849	59.78	µg/L		96
		548.8 -> 98.9	164391				
PFOA	7.240	413.0 -> 369.0	2368474	60.38	µg/L		98
		413.0 -> 169.0	400078				
PFOS	8.415	498.9 -> 79.9	320379	56.75	µg/L	m	96
		498.9 -> 98.8	160896				
PFPeA	4.461	263.0 -> 219.0	1524836	118.28	µg/L		100
PFPeS	6.672	349.1 -> 79.9	342793	55.32	µg/L		98
		349.1 -> 98.9	161826				
PFTeDA	9.852	713.1 -> 669.0	961976	53.95	µg/L		100
		713.1 -> 168.9	83435				
PFTrDA	9.519	663.0 -> 619.0	1156092	51.76	µg/L		99
		663.0 -> 168.9	119895				
PFUnDA	8.717	563.1 -> 519.0	1135693	59.39	µg/L		99
		563.1 -> 269.1	189358				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	1589748	104.91	µg/L		94
		632.9 -> 452.9	492451				
9Cl-PF3ONS	8.758	530.8 -> 351.0	2444841	99.81	µg/L		97
		532.8 -> 353.0	819569				
ADONA	6.858	376.9 -> 250.9	5779546	106.87	µg/L		99
		376.9 -> 84.8	1557435				
HFPO-DA	6.058	284.9 -> 168.9	393580	108.93	µg/L		99
		284.9 -> 184.9	43918				
3:3FTCA	3.896	241.0 -> 177.0	278321	331.82	µg/L		99
		241.0 -> 117.0	37012				
5:3FTCA	6.298	341.0 -> 237.1	5601639	1421.81	µg/L		95
		341.0 -> 217.0	4220906				
7:3FTCA	7.673	441.0 -> 316.9	4246529	1457.31	µg/L		98
		441.0 -> 336.9	9521024				
EtFOSA	10.985	526.0 -> 219.0	748999	116.66	µg/L		99
		526.0 -> 169.0	998939				
EtFOSE	10.931	630.0 -> 58.9	1994540	311.13	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	623456	107.29	µg/L		95
		511.9 -> 169.0	866716				
MeFOSE	10.697	616.1 -> 58.9	1386658	294.76	µg/L		100
PFDoDS	9.978	699.1 -> 79.9	86341	58.84	µg/L		98
		699.1 -> 98.8	46617				
NFDHA	5.564	295.0 -> 201.0	274311	112.60	µg/L		94
		295.0 -> 84.9	69807				
PFMBA	4.882	279.0 -> 85.1	1072164	117.58	µg/L		100
PFMPA	3.588	229.0 -> 84.9	864141	118.41	µg/L		100
PFEESA	6.163	314.8 -> 134.9	2693866	104.69	µg/L		100
		314.8 -> 82.9	90446				

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

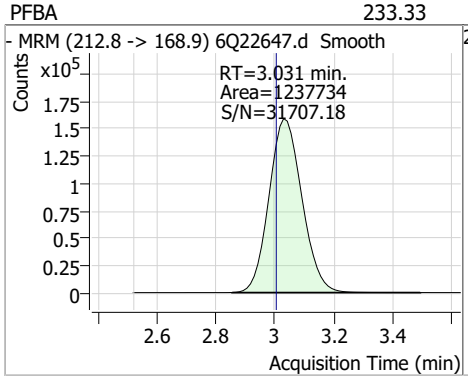
Perfluorinated Compounds by LC/MS/MS

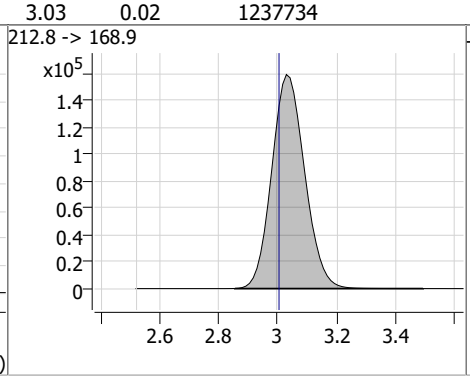
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

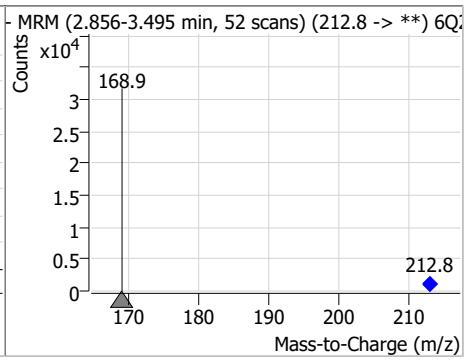
Perfluorinated Compounds by LC/MS/MS



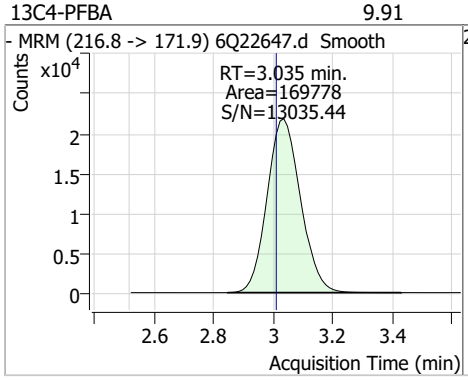
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	233.33	3.03	0.02	1237734				

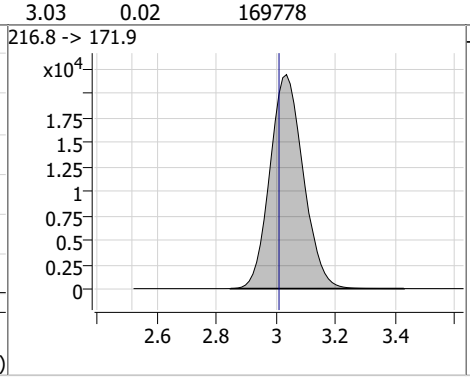


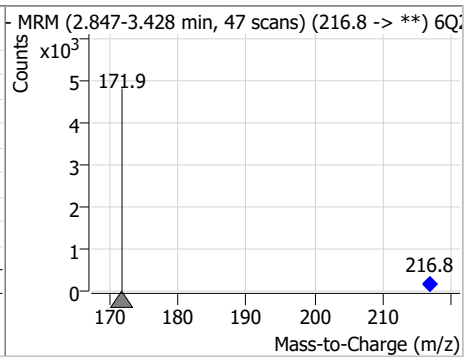




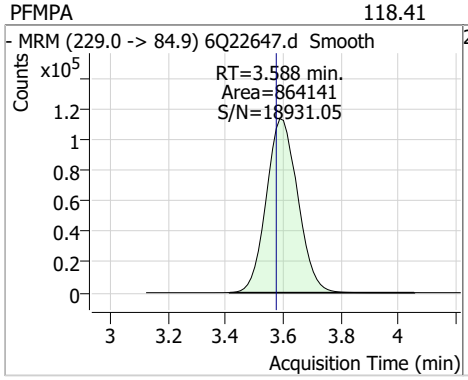
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.91	3.03	0.02	169778				

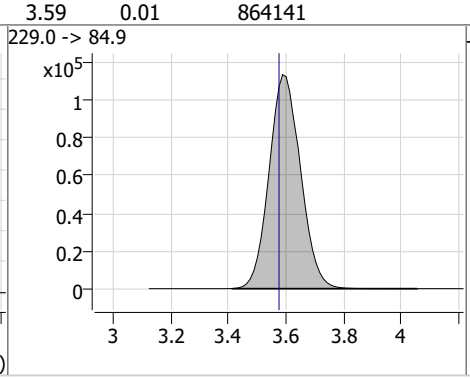


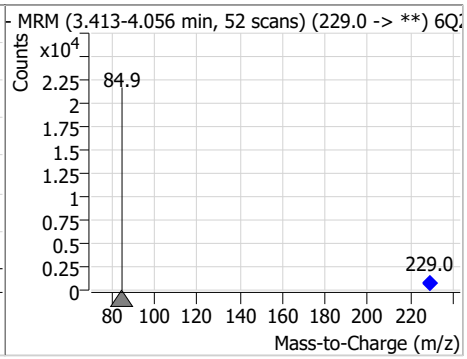




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	118.41	3.59	0.01	864141				

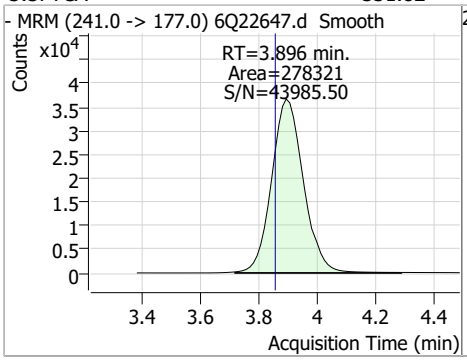


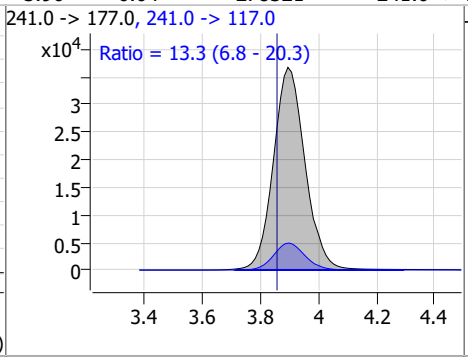


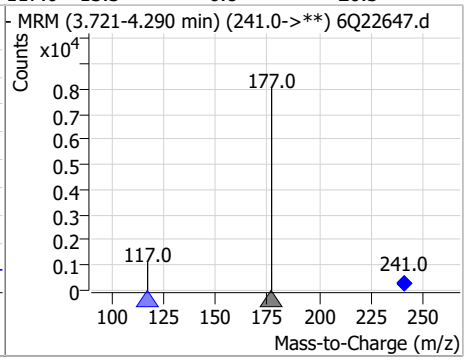


Perfluorinated Compounds by LC/MS/MS

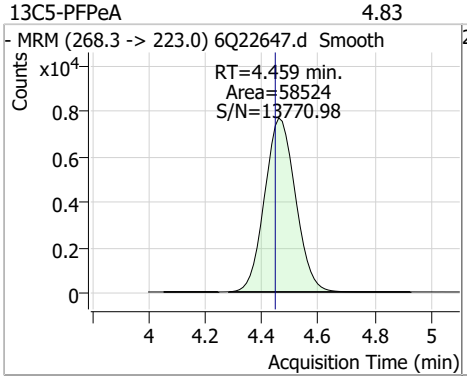
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	331.82	3.90	0.04	278321	241.0 -> 117.0	13.3	6.8	20.3

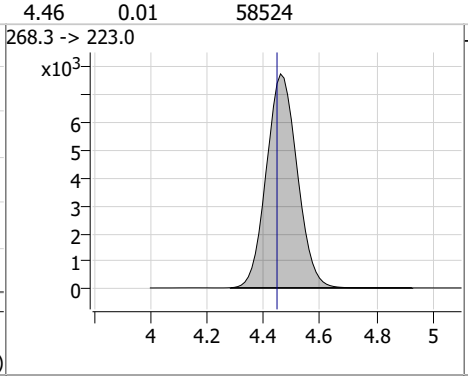


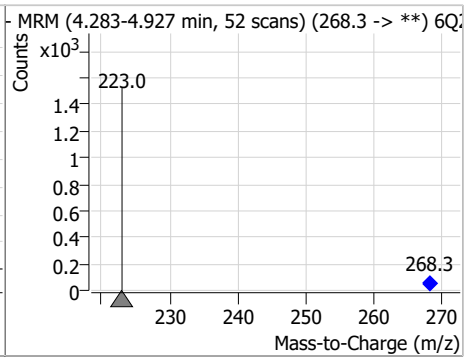




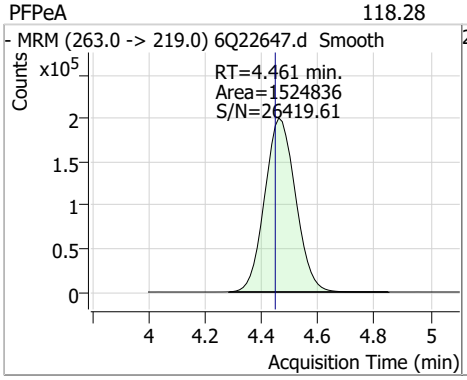
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.83	4.46	0.01	58524				

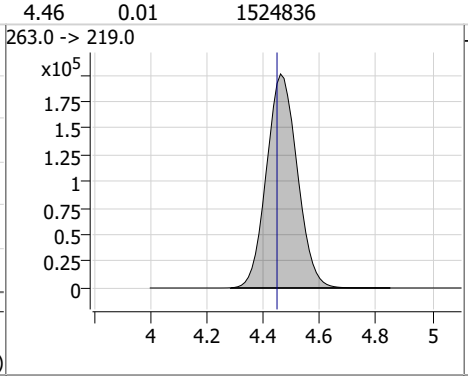


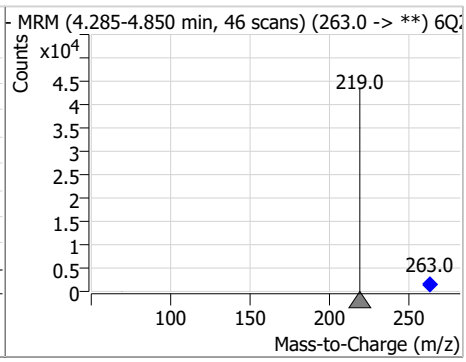




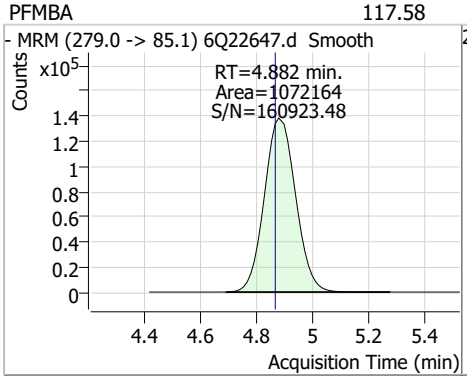
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	118.28	4.46	0.01	1524836				

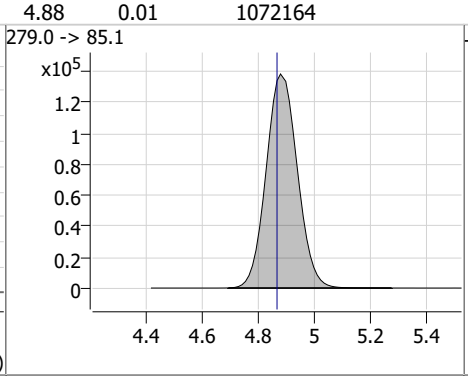


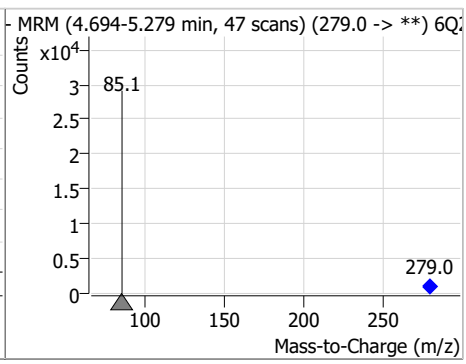




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	117.58	4.88	0.01	1072164				

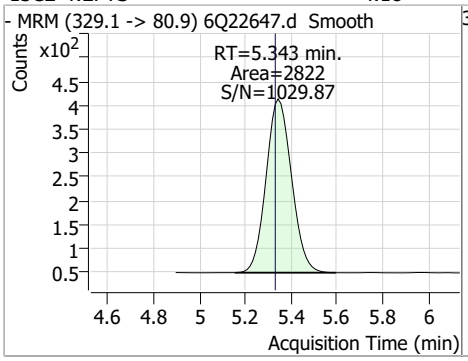


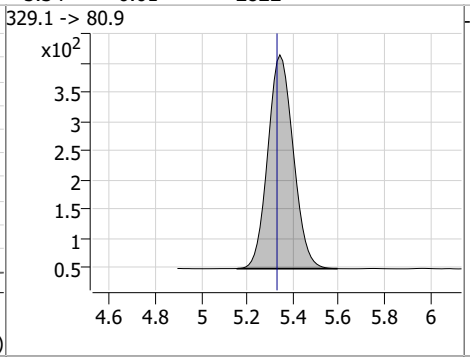


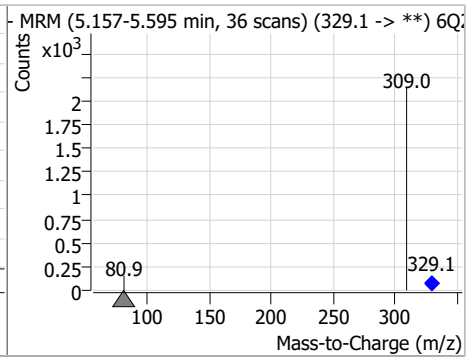


Perfluorinated Compounds by LC/MS/MS

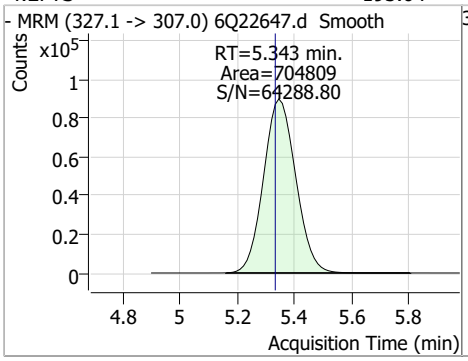
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.18	5.34	0.01	2822				

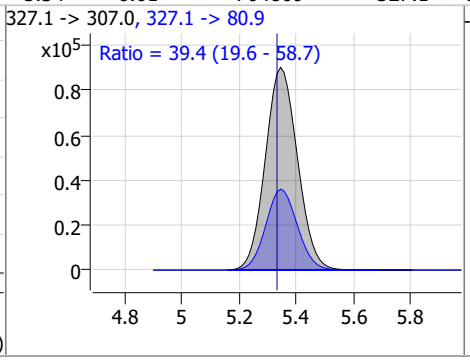


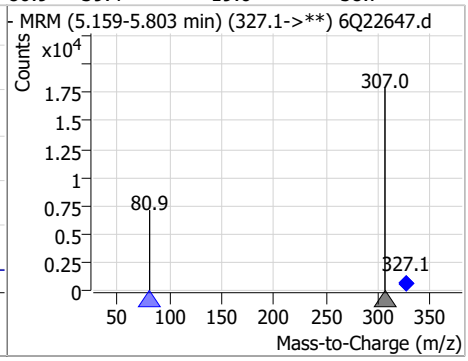




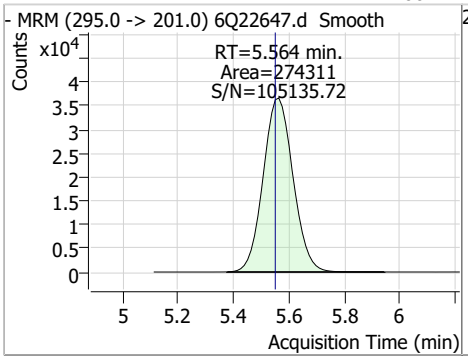
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	193.04	5.34	0.01	704809	327.1 -> 80.9	39.4	19.6	58.7

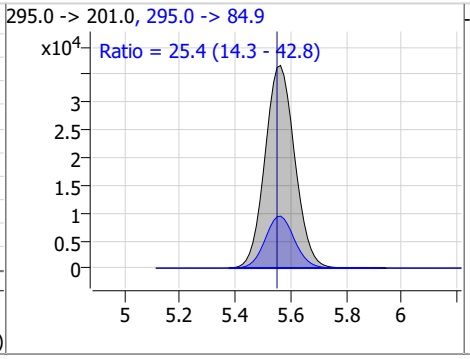


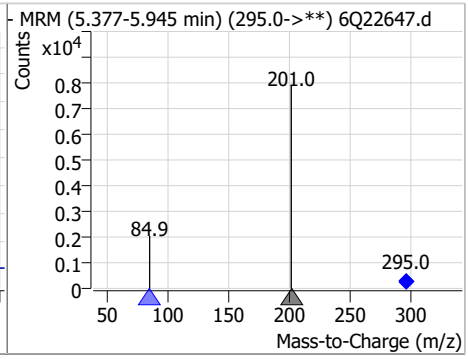




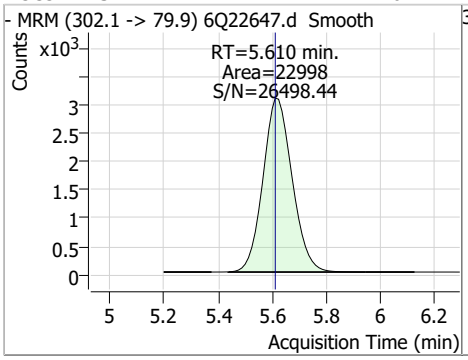
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	112.60	5.56	0.01	274311	295.0 -> 84.9	25.4	14.3	42.8

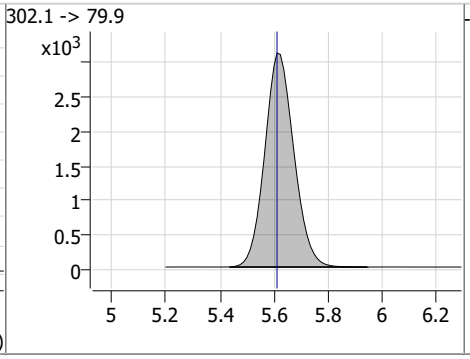


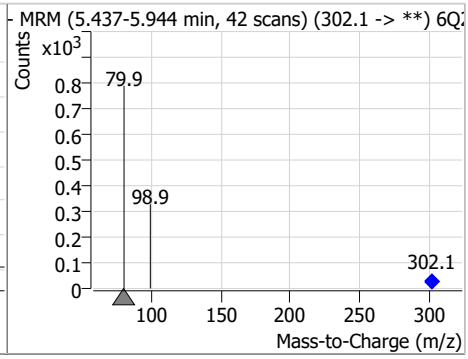




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.40	5.61	0.00	22998				

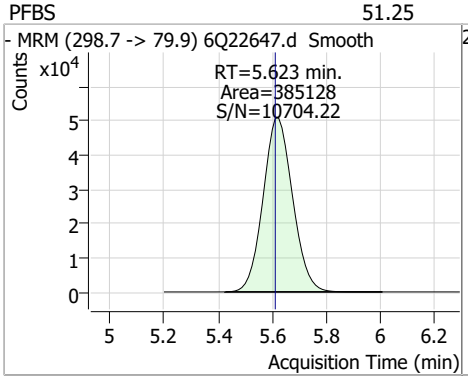


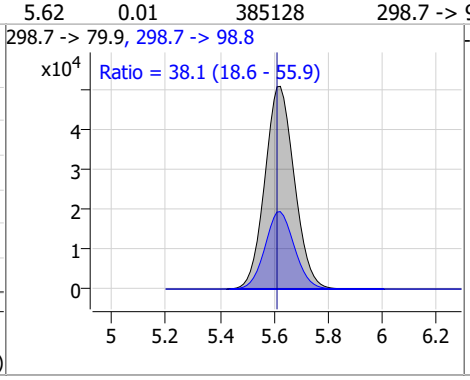


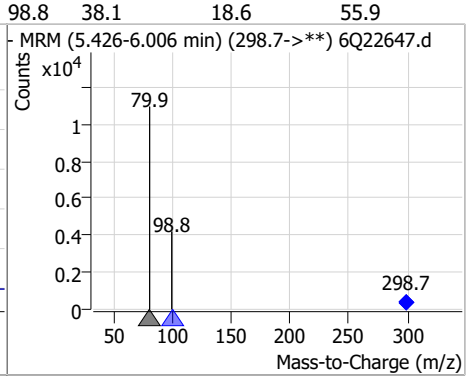


Perfluorinated Compounds by LC/MS/MS

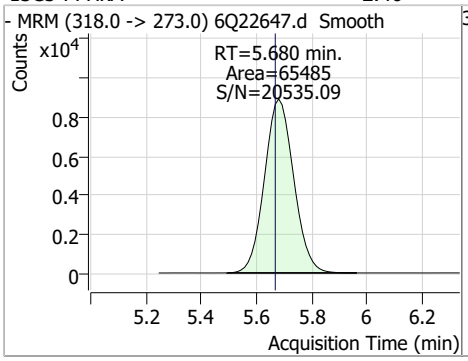
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	51.25	5.62	0.01	385128	298.7 -> 98.8	38.1	18.6	55.9

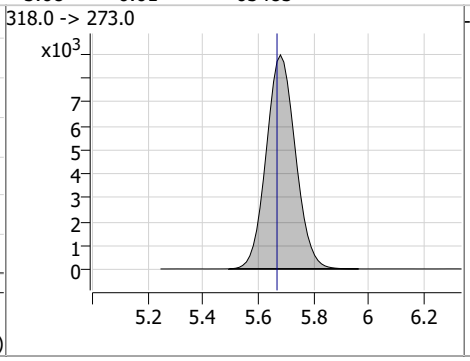


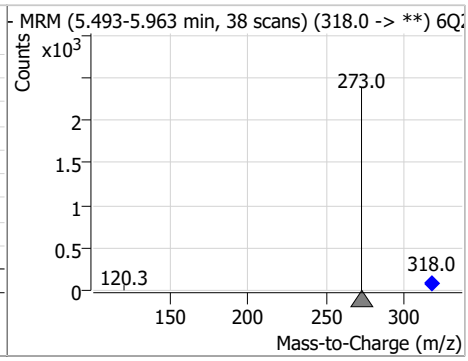




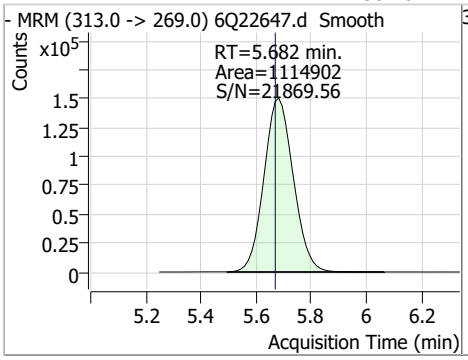
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.46	5.68	0.01	65485				

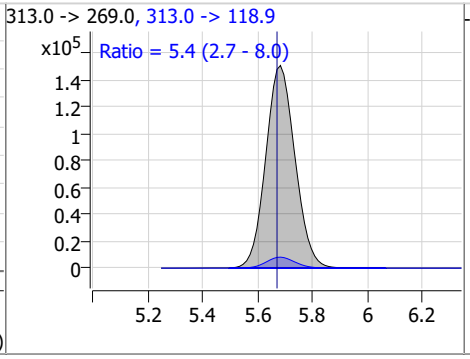


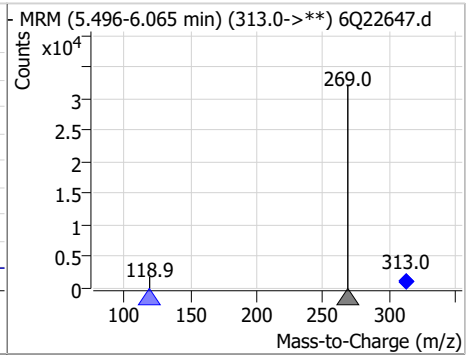




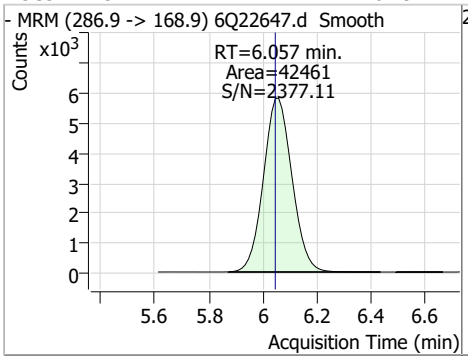
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	58.20	5.68	0.01	1114902	313.0 -> 118.9	5.4	2.7	8.0

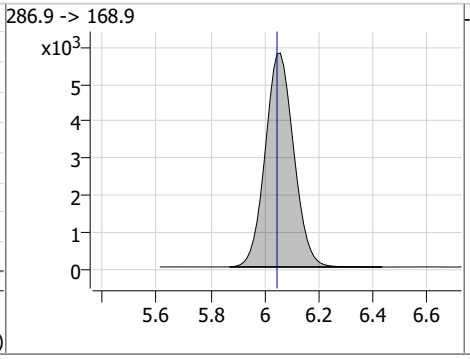


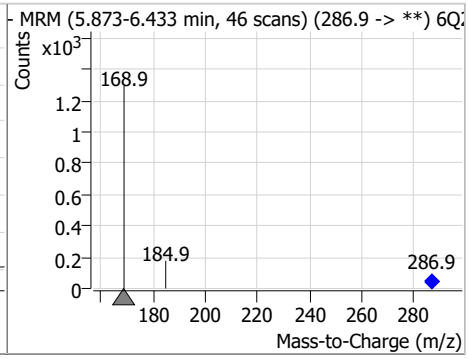




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.19	6.06	0.01	42461				

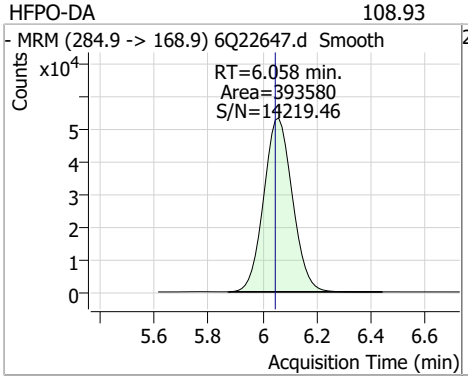


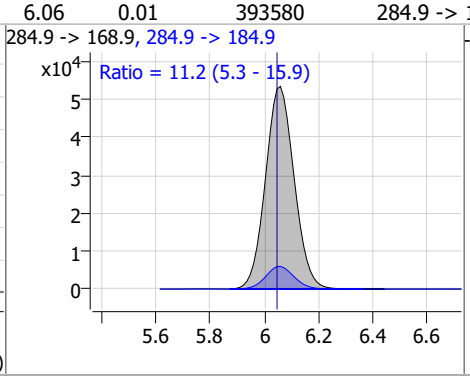


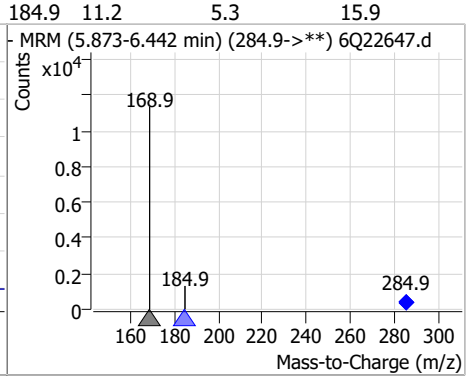


Perfluorinated Compounds by LC/MS/MS

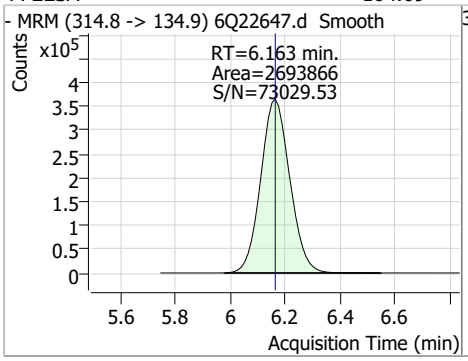
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	108.93	6.06	0.01	393580	284.9 -> 184.9	11.2	5.3	15.9

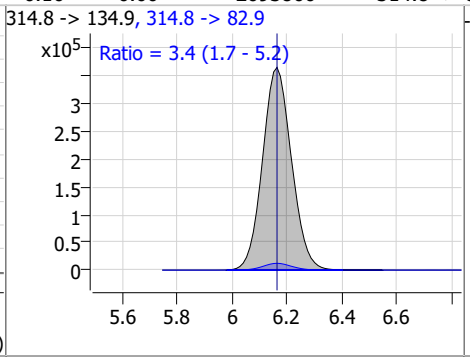


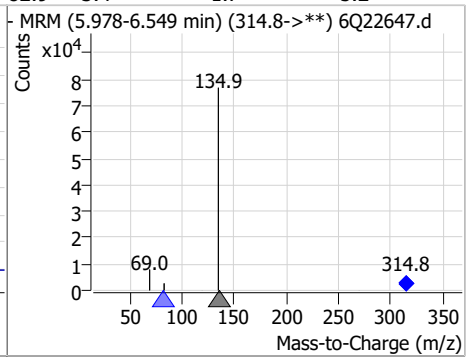




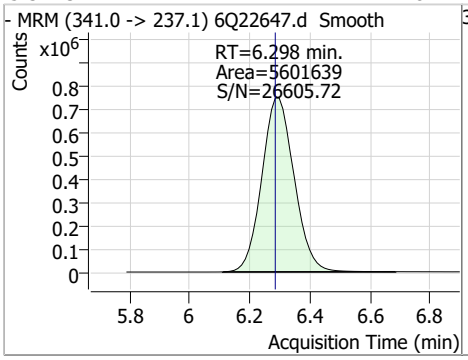
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	104.69	6.16	0.00	2693866	314.8 -> 82.9	3.4	1.7	5.2

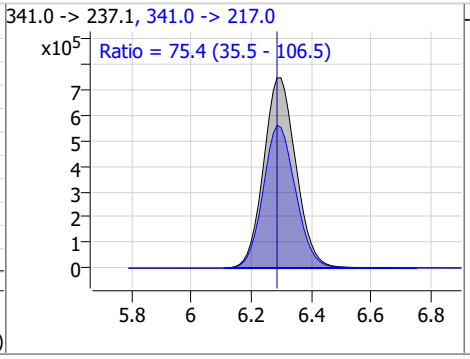


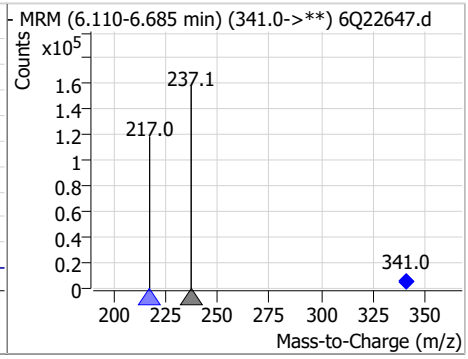




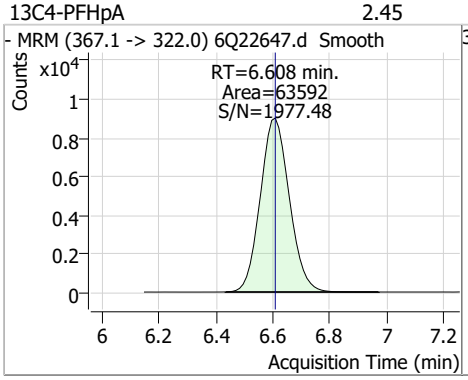
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	1421.81	6.30	0.01	5601639	341.0 -> 217.0	75.4	35.5	106.5

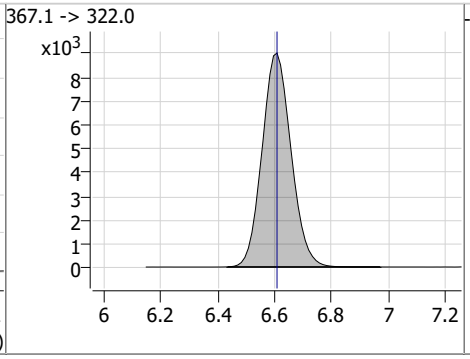


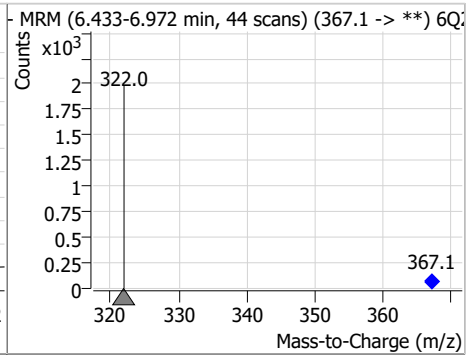




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.45	6.61	0.00	63592				

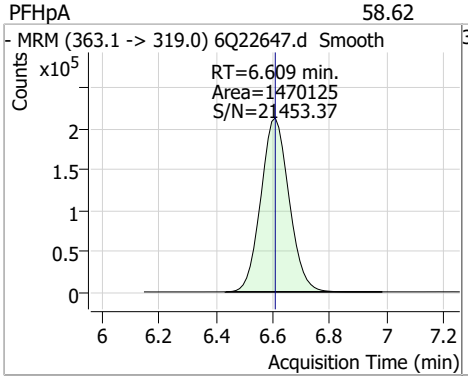


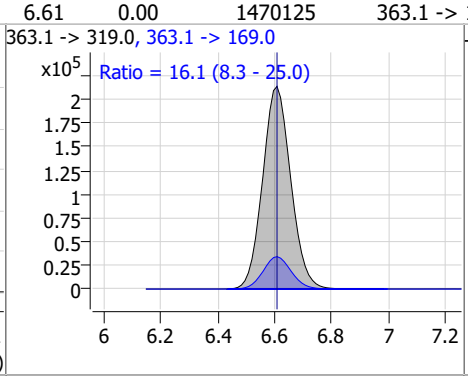


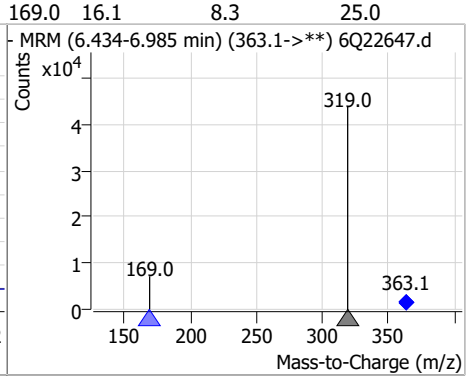


Perfluorinated Compounds by LC/MS/MS

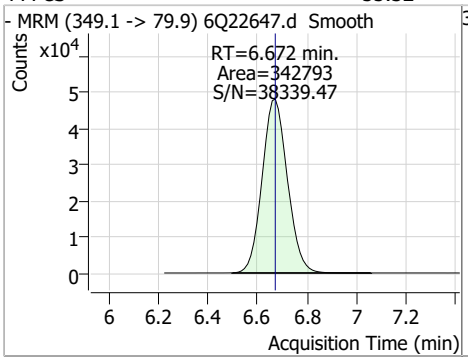
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	58.62	6.61	0.00	1470125	363.1 -> 169.0	16.1	8.3	25.0

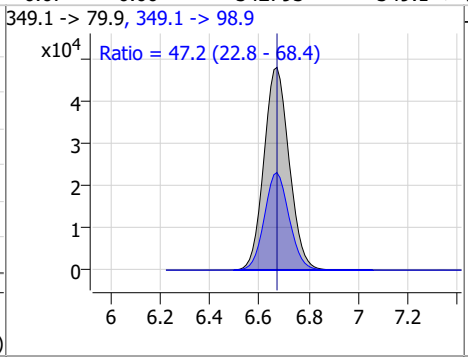


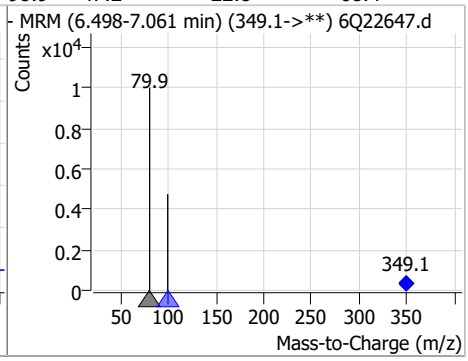




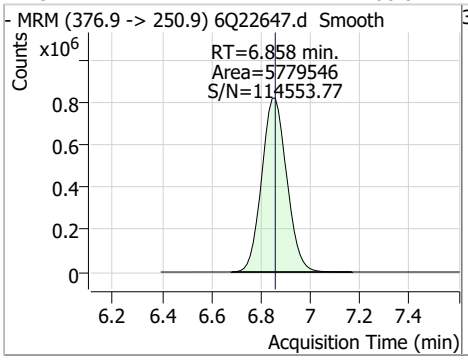
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	55.32	6.67	0.00	342793	349.1 -> 98.9	47.2	22.8	68.4

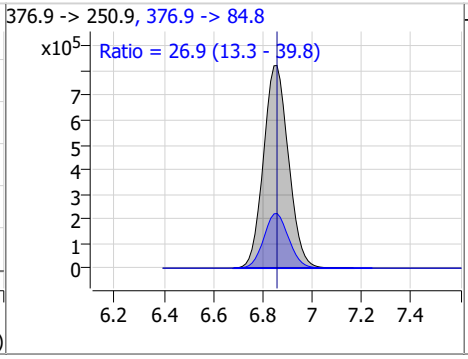


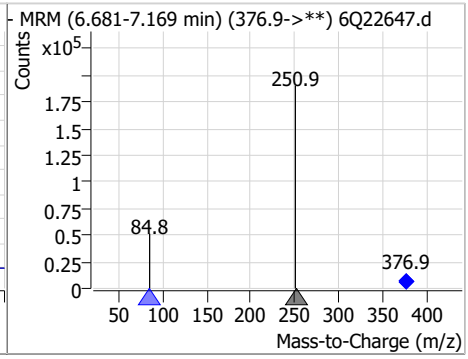




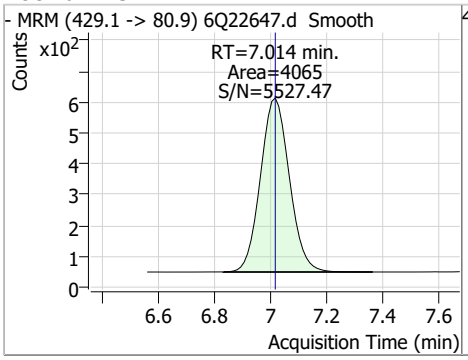
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	106.87	6.86	0.00	5779546	376.9 -> 84.8	26.9	13.3	39.8

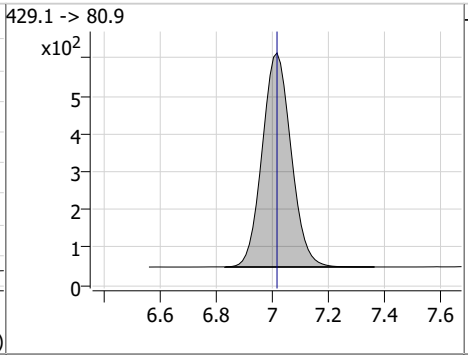


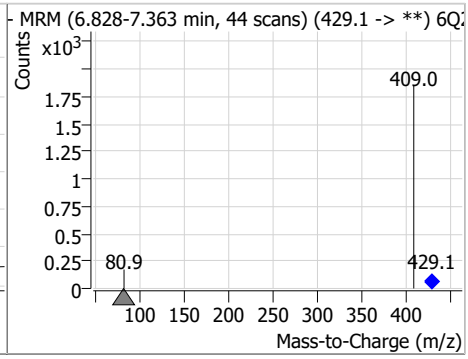




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.17	7.01	0.00	4065				

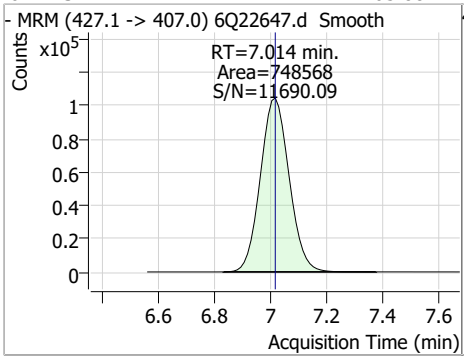


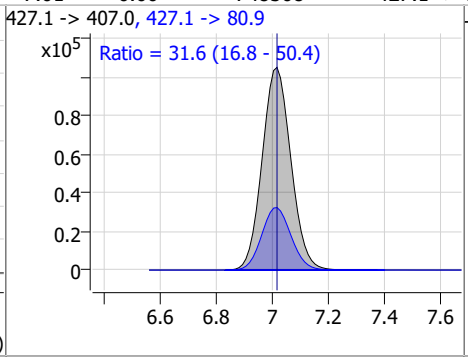


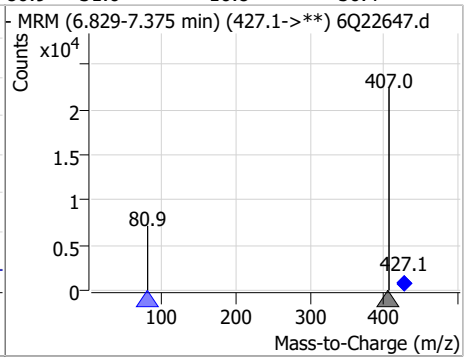


Perfluorinated Compounds by LC/MS/MS

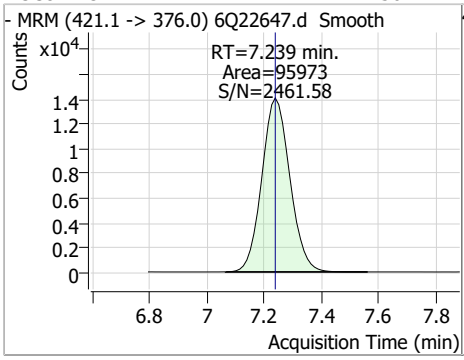
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	205.88	7.01	0.00	748568	427.1 -> 80.9	31.6	16.8	50.4

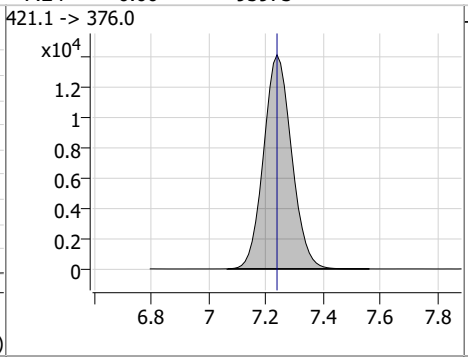


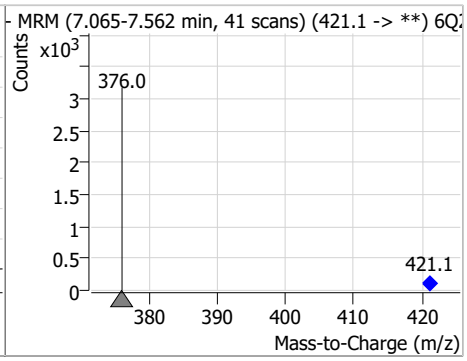




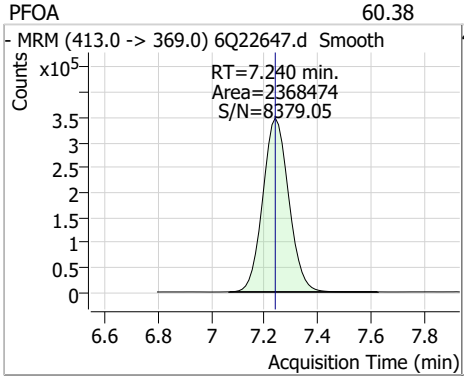
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.50	7.24	0.00	95973				

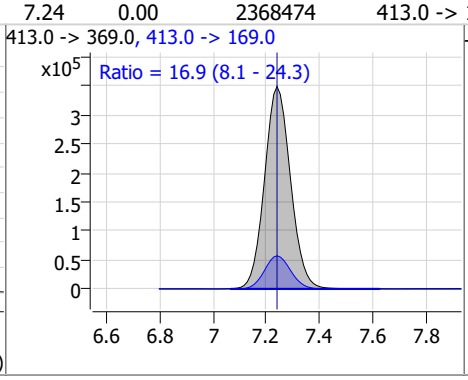


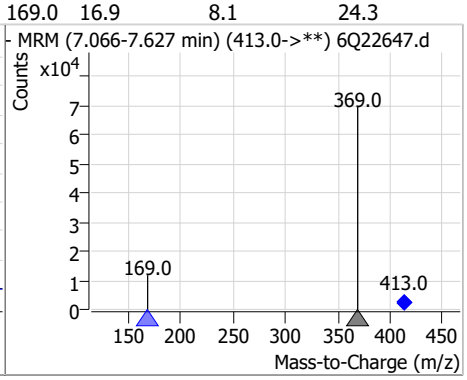




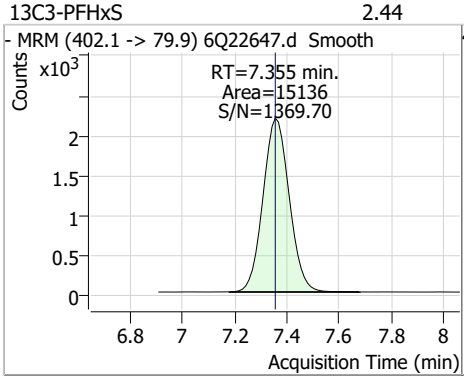
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	60.38	7.24	0.00	2368474	413.0 -> 169.0	16.9	8.1	24.3

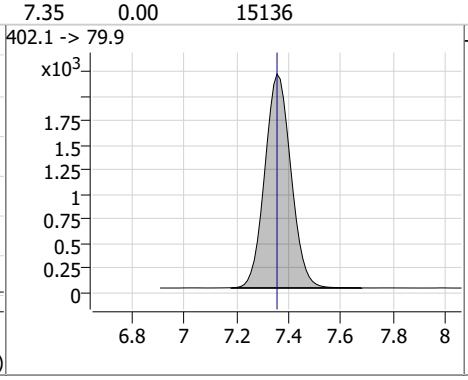


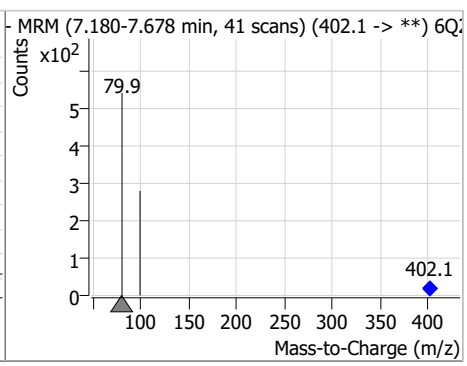




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.44	7.35	0.00	15136				

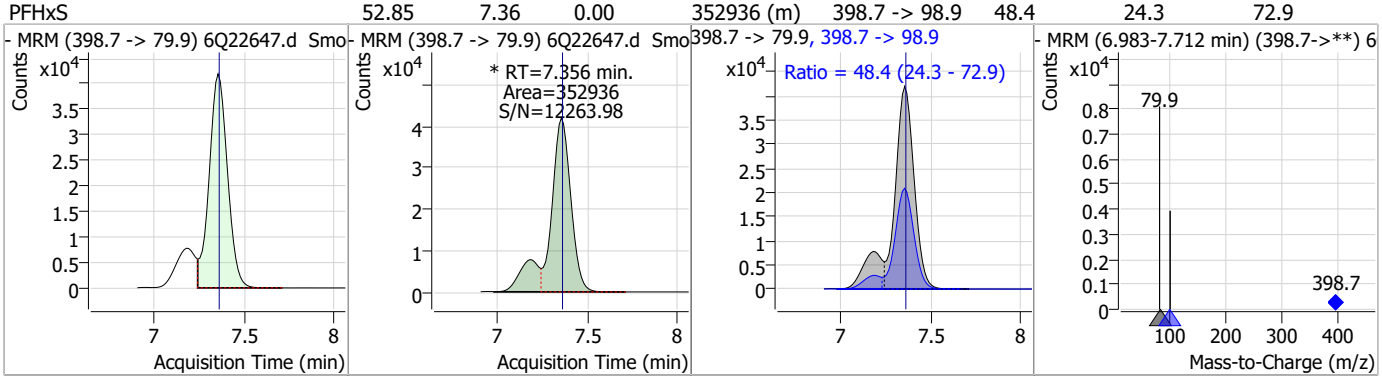




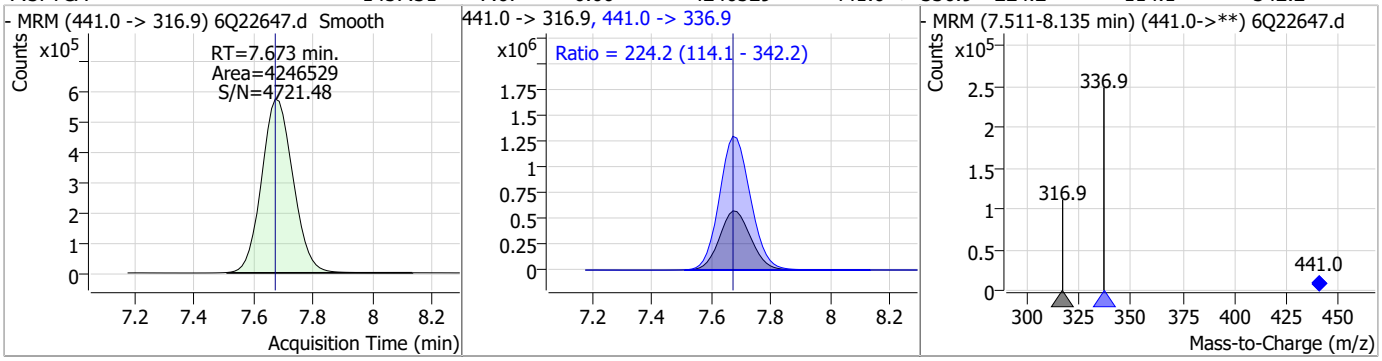


Perfluorinated Compounds by LC/MS/MS

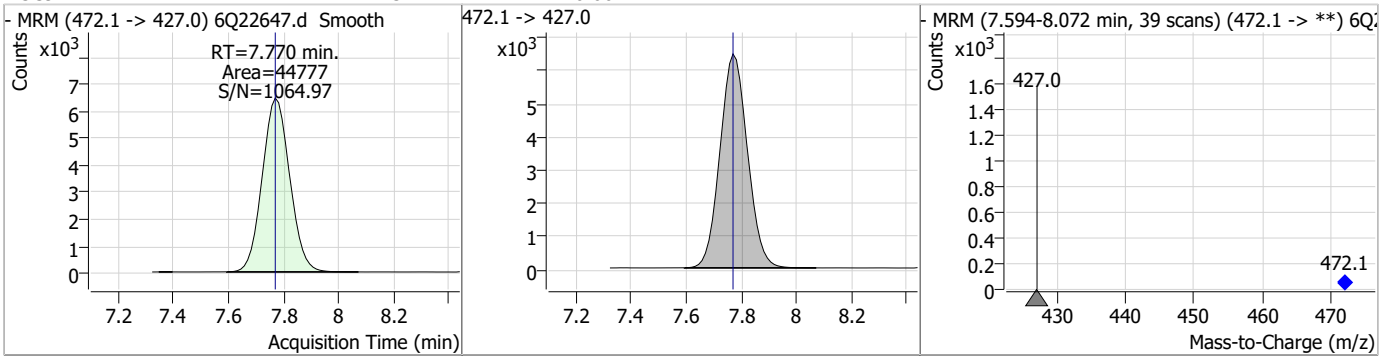
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	52.85	7.36	0.00	352936 (m)	398.7 -> 98.9	48.4	24.3	72.9



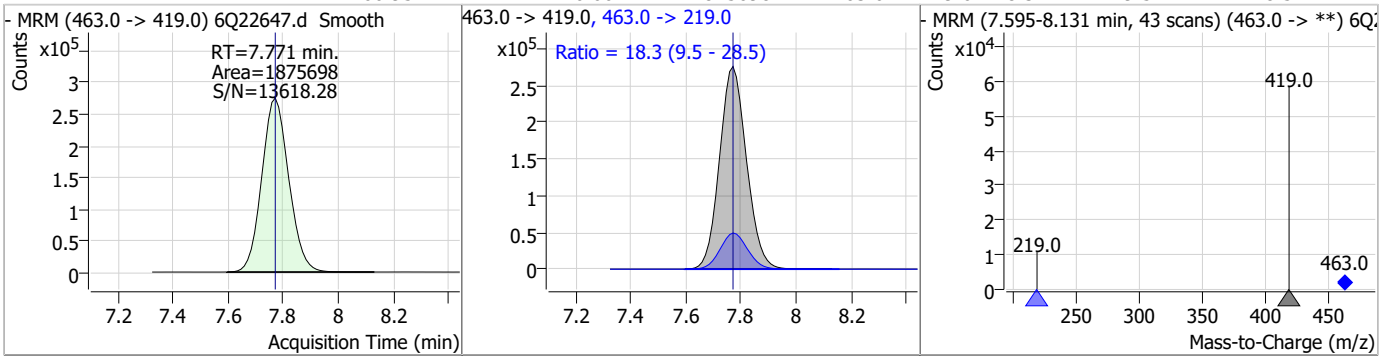
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	1457.31	7.67	0.00	4246529	441.0 -> 336.9	224.2	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.23	7.77	0.00	44777				

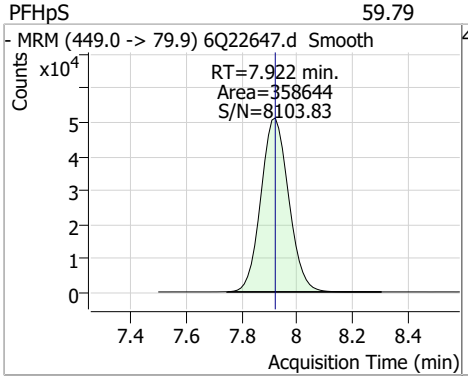


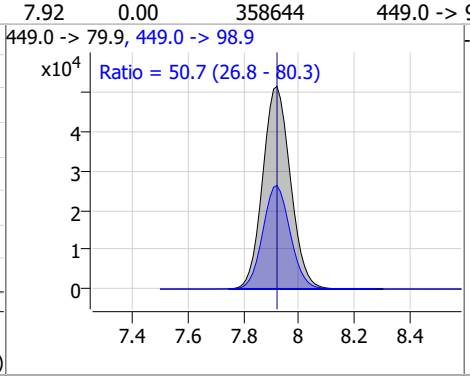
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	60.95	7.77	0.00	1875698	463.0 -> 219.0	18.3	9.5	28.5

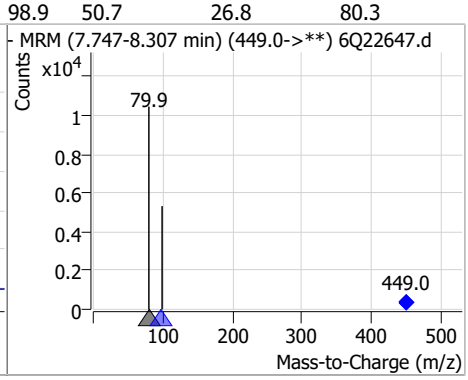


Perfluorinated Compounds by LC/MS/MS

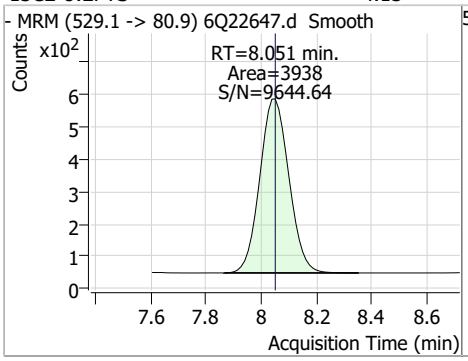
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	59.79	7.92	0.00	358644	449.0 -> 98.9	50.7	26.8	80.3

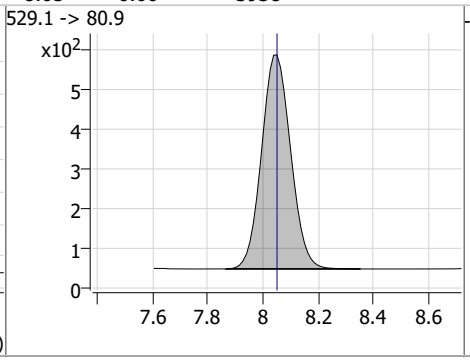


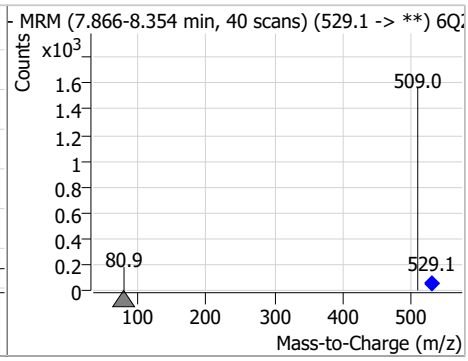




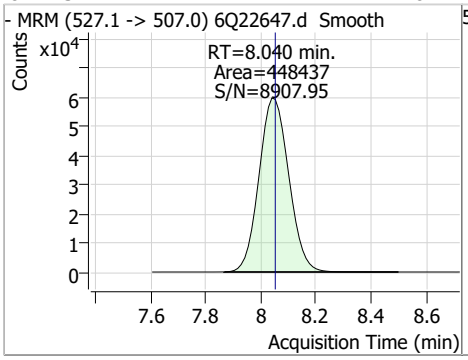
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.13	8.05	0.00	3938				

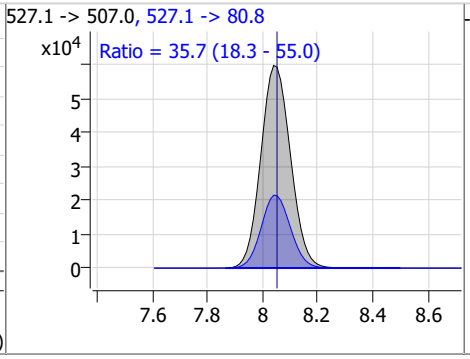


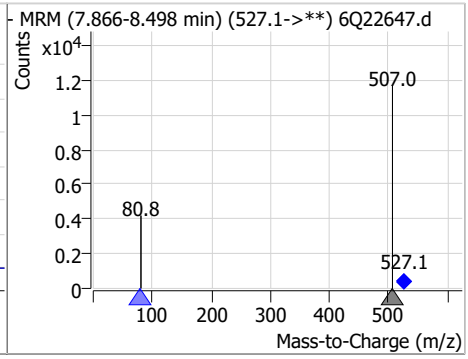




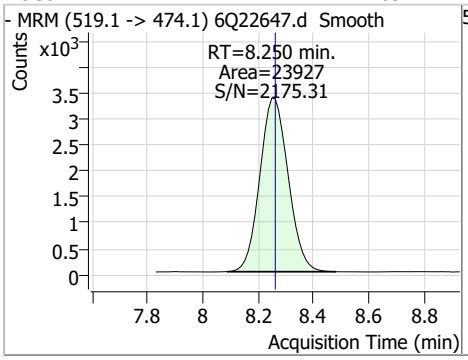
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	212.78	8.04	-0.01	448437	527.1 -> 80.8	35.7	18.3	55.0

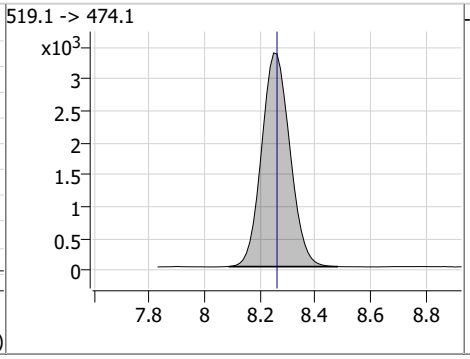


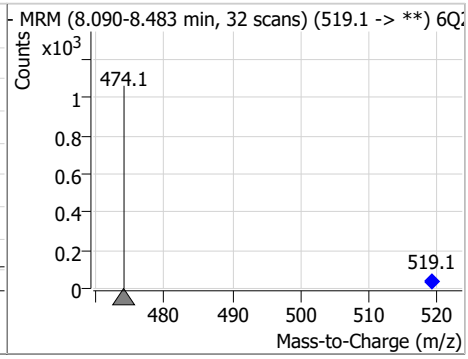




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.09	8.25	-0.01	23927				

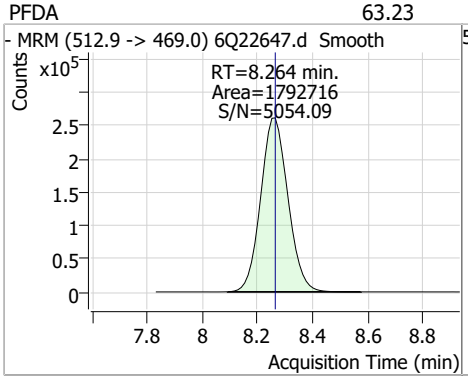


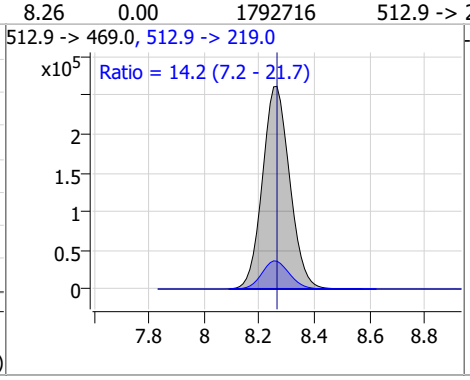


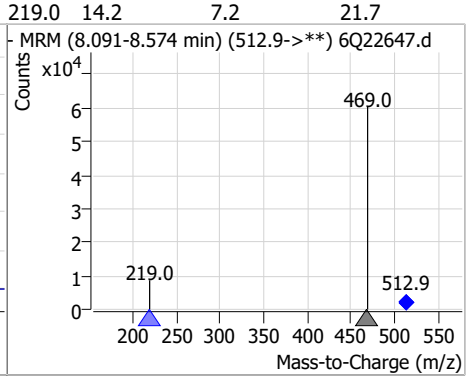


Perfluorinated Compounds by LC/MS/MS

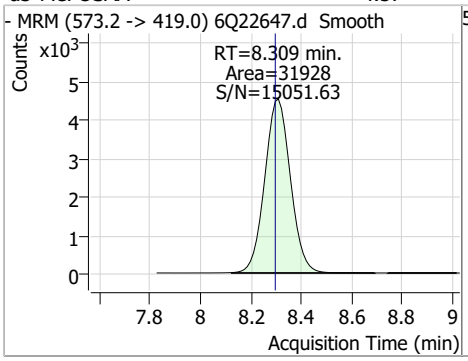
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	63.23	8.26	0.00	1792716	512.9 -> 219.0	14.2	7.2	21.7

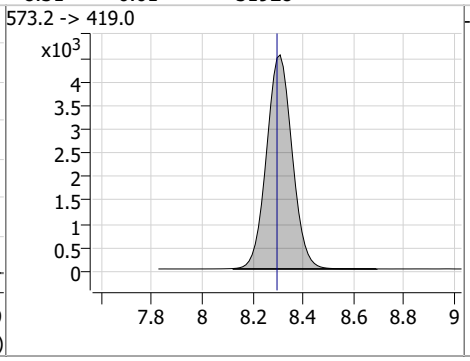


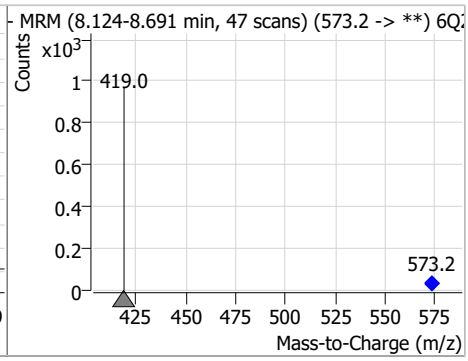




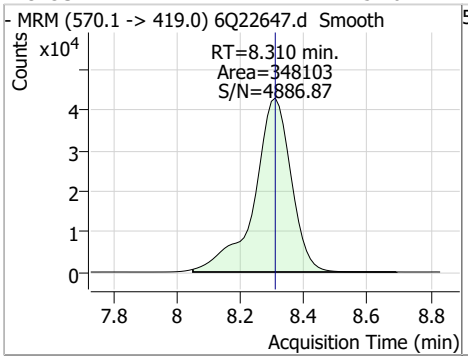
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.57	8.31	0.01	31928				

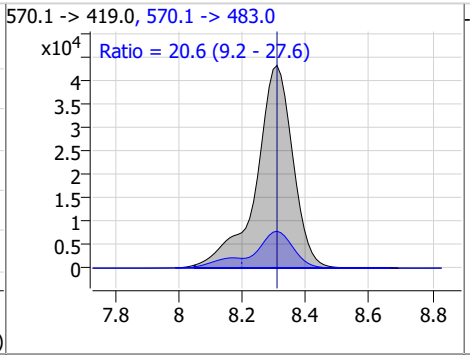


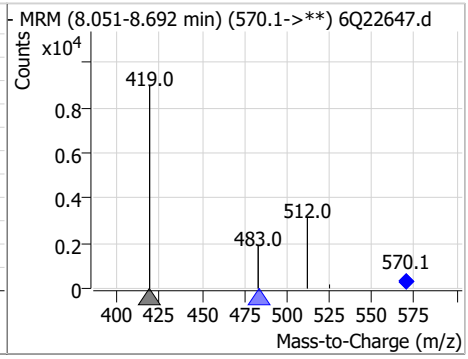




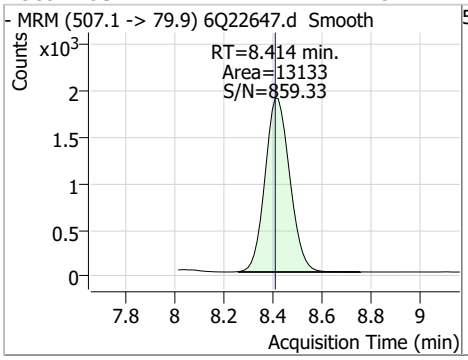
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	57.02	8.31	0.00	348103	570.1 -> 483.0	20.6	9.2	27.6

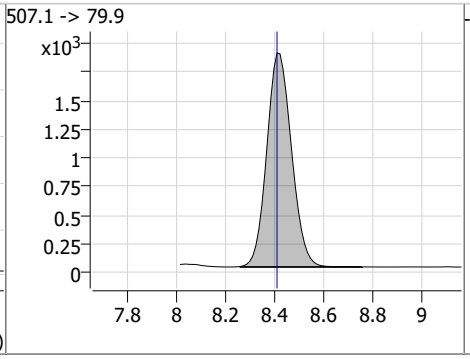


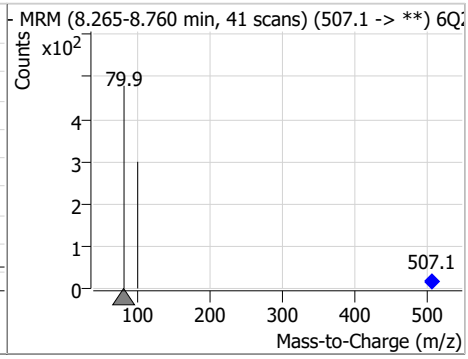




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.32	8.41	0.00	13133				

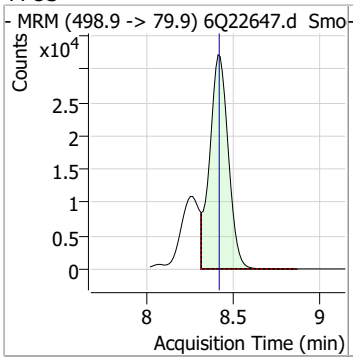


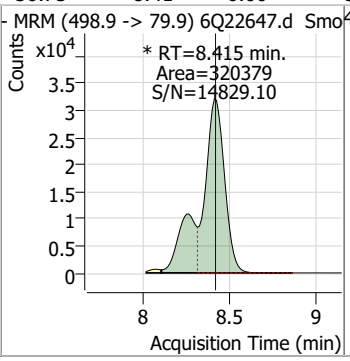


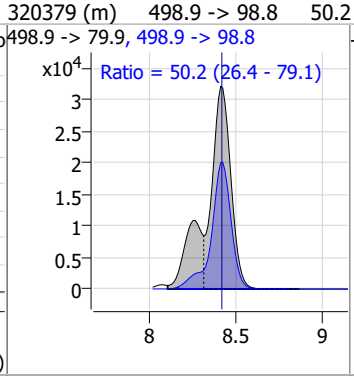


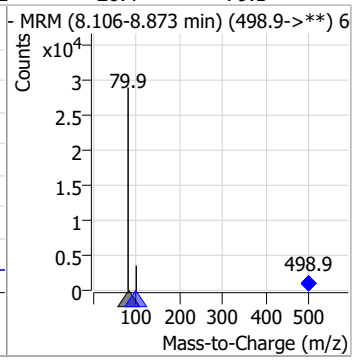
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	56.75	8.41	0.00	320379 (m)	498.9 -> 98.8	50.2	26.4	79.1

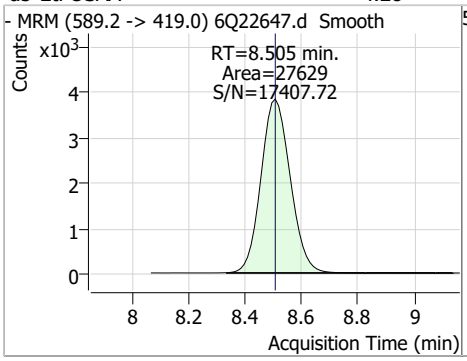


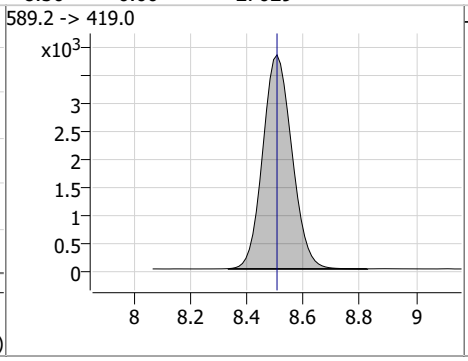


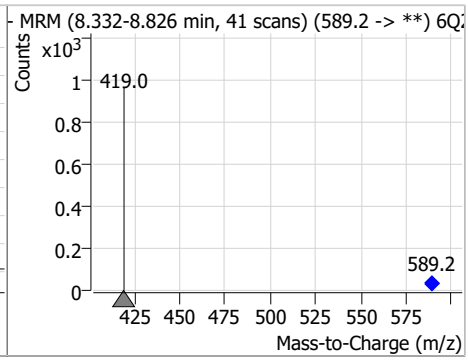




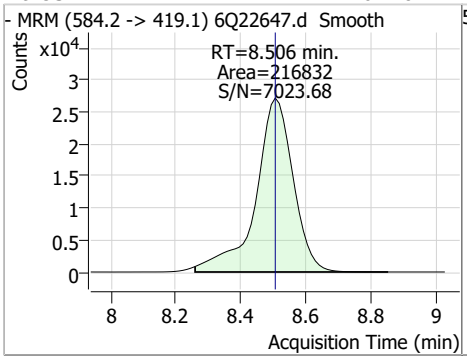
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.28	8.50	0.00	27629				

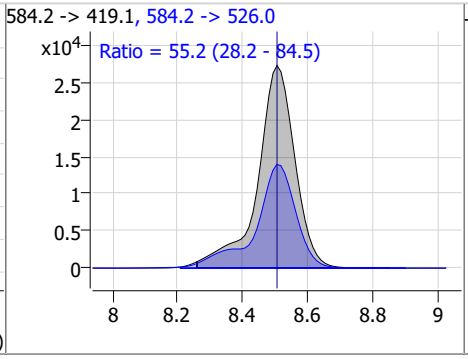


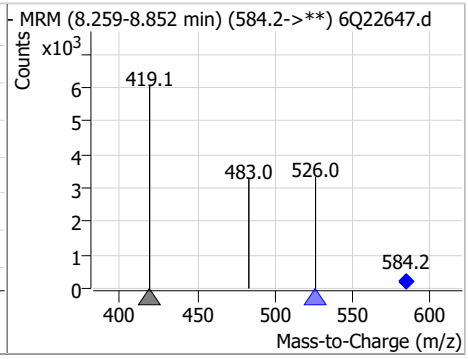




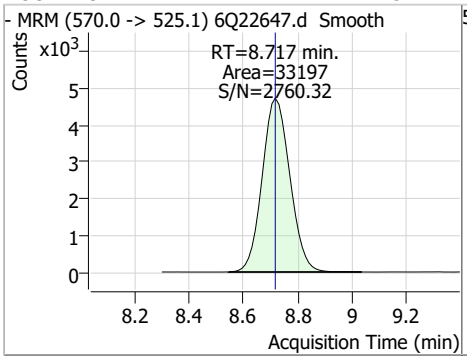
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	62.28	8.51	0.00	216832	584.2 -> 526.0	55.2	28.2	84.5

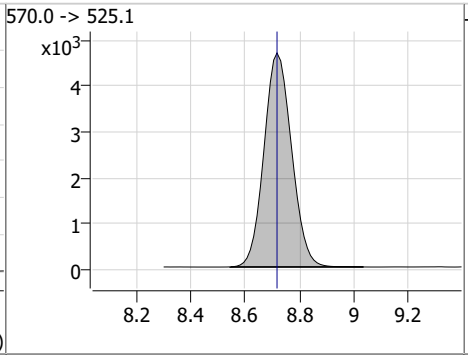


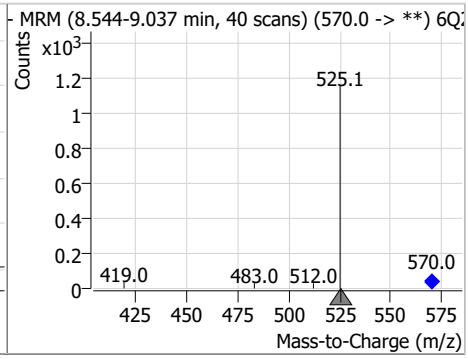




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.15	8.72	0.00	33197				

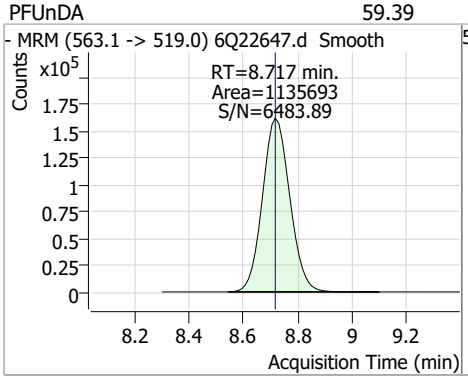


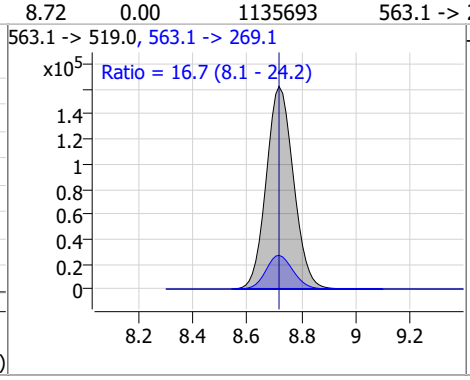


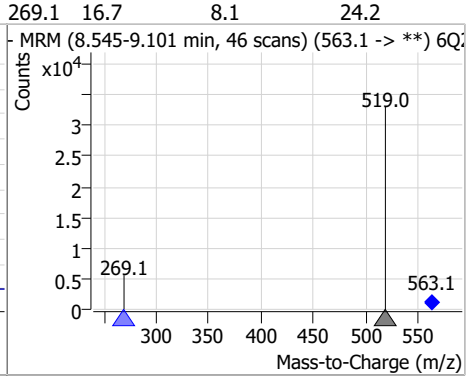


Perfluorinated Compounds by LC/MS/MS

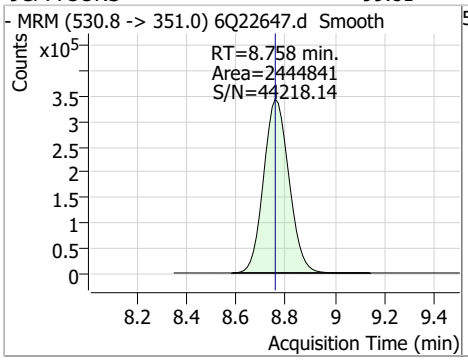
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	59.39	8.72	0.00	1135693	563.1 -> 269.1	16.7	8.1	24.2

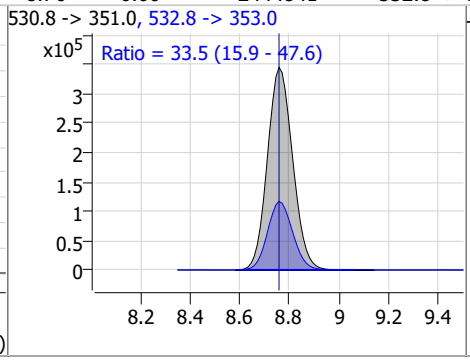


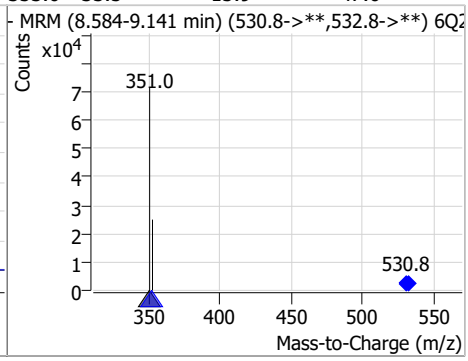




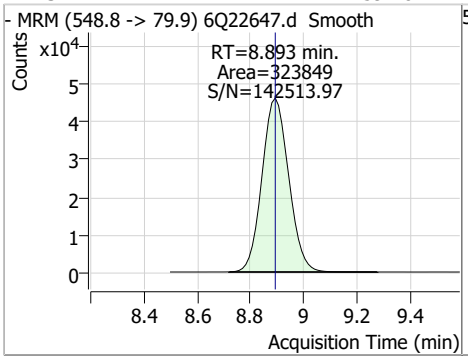
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	99.81	8.76	0.00	2444841	532.8 -> 353.0	33.5	15.9	47.6

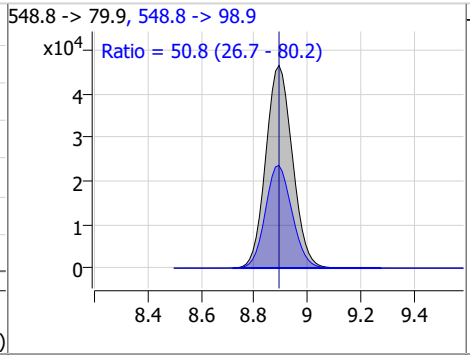


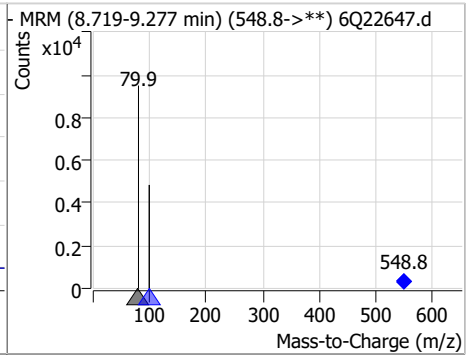




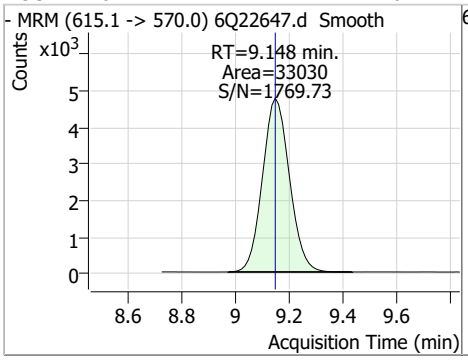
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	59.78	8.89	0.00	323849	548.8 -> 98.9	50.8	26.7	80.2

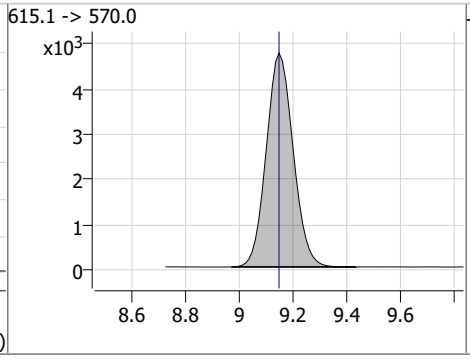


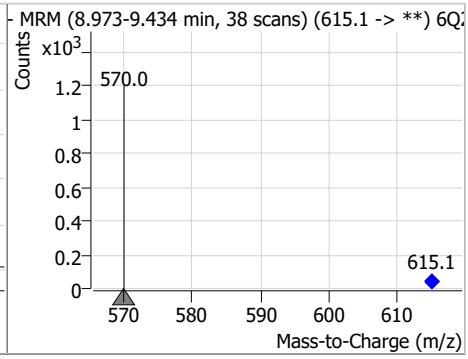




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.26	9.15	0.00	33030				

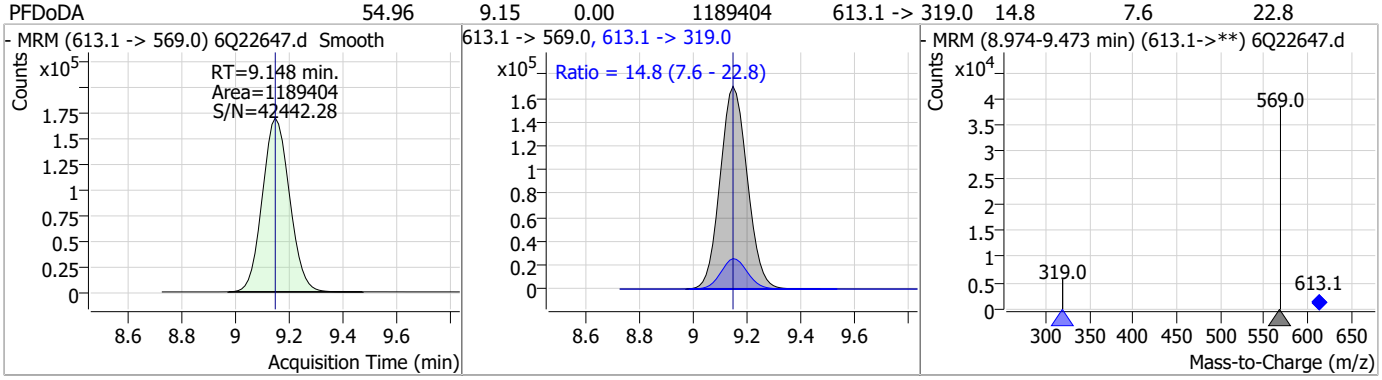




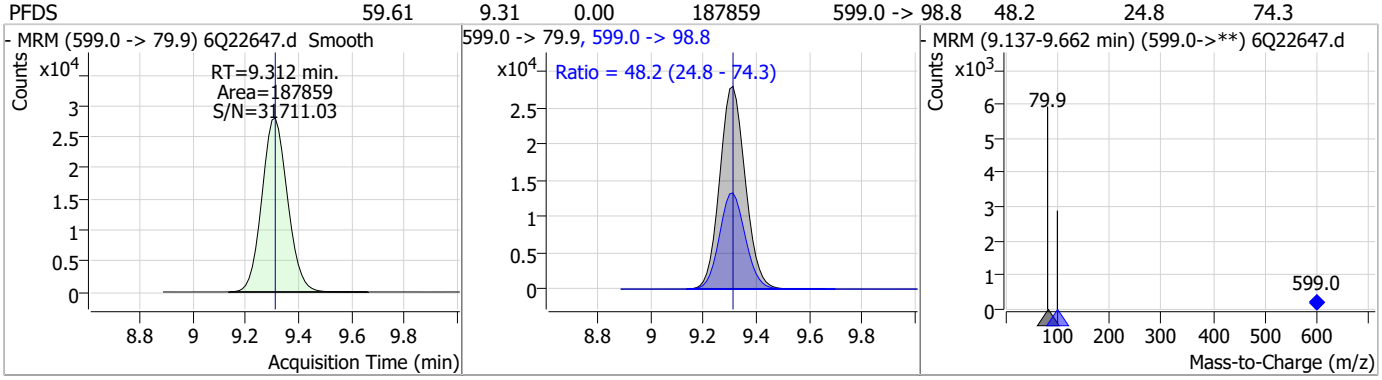


Perfluorinated Compounds by LC/MS/MS

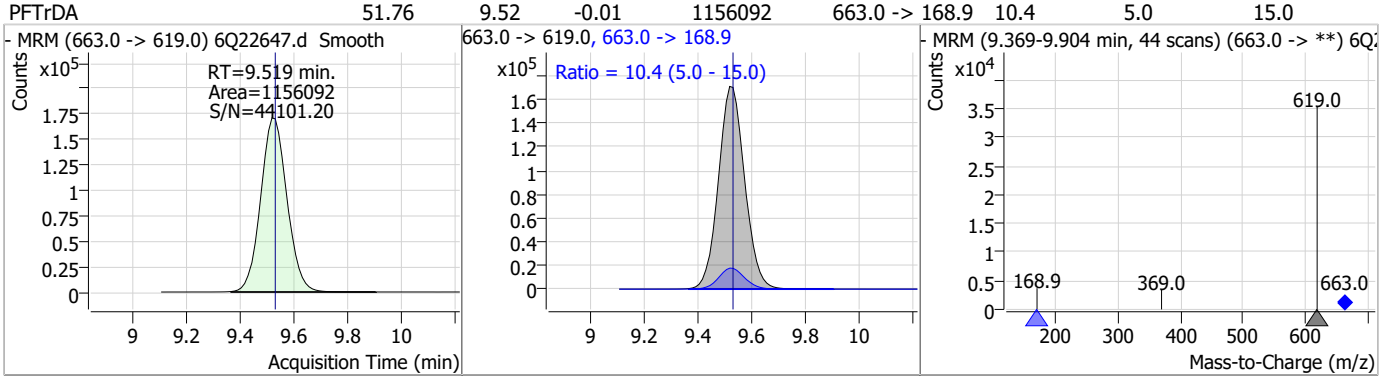
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	54.96	9.15	0.00	1189404	613.1 -> 319.0	14.8	7.6	22.8



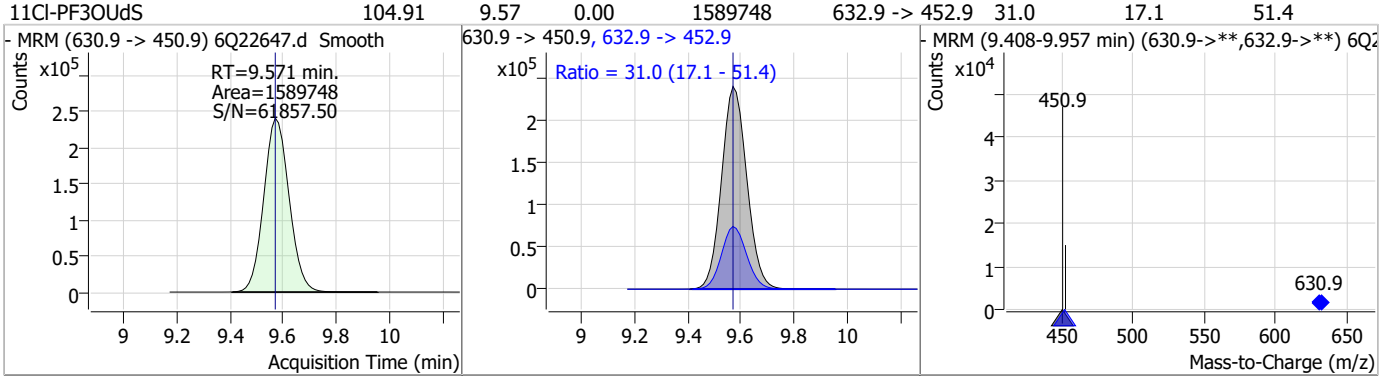
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	59.61	9.31	0.00	187859	599.0 -> 98.8	48.2	24.8	74.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	51.76	9.52	-0.01	1156092	663.0 -> 168.9	10.4	5.0	15.0

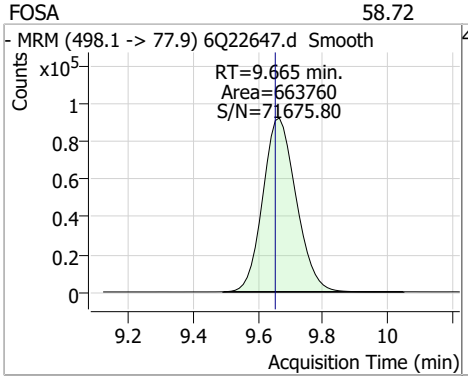


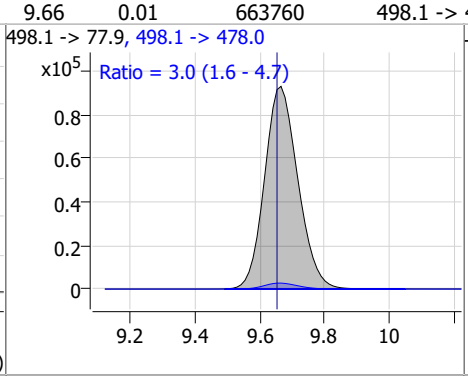
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	104.91	9.57	0.00	1589748	632.9 -> 452.9	31.0	17.1	51.4

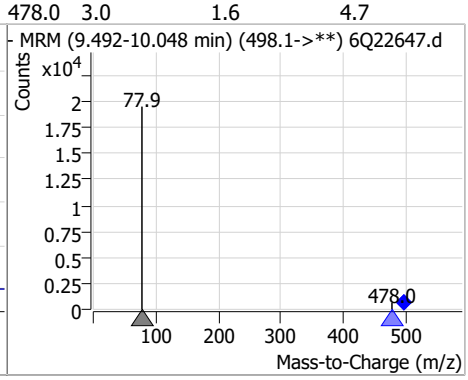


Perfluorinated Compounds by LC/MS/MS

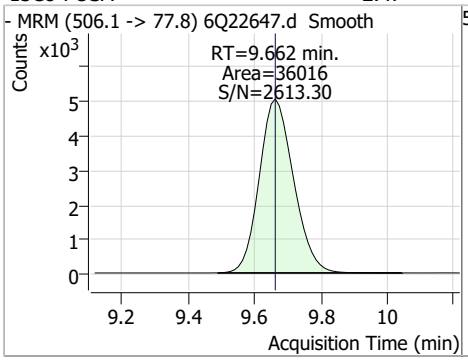
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	58.72	9.66	0.01	663760	498.1 -> 478.0	3.0	1.6	4.7

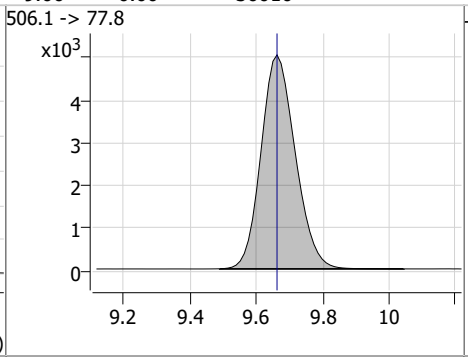


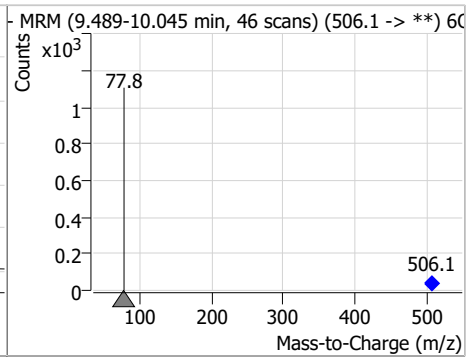




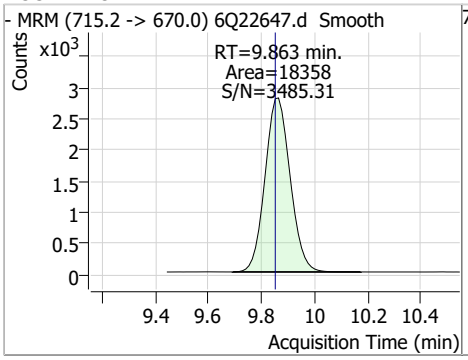
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.47	9.66	0.00	36016				

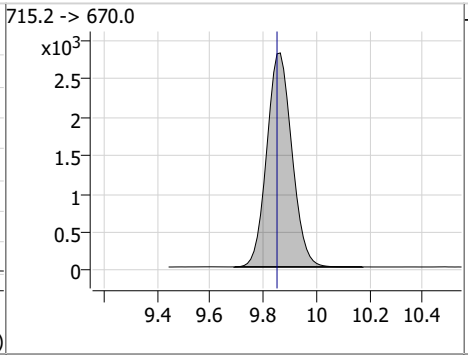


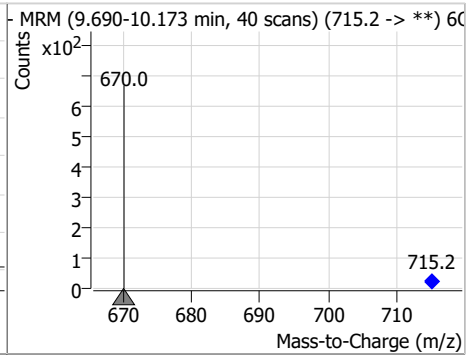




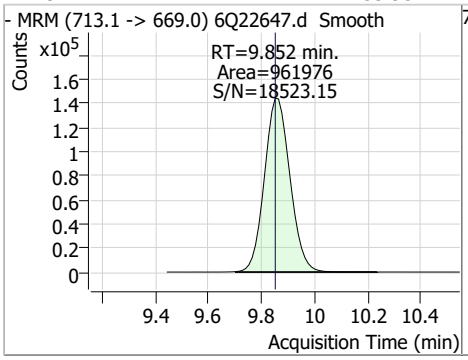
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.22	9.86	0.01	18358				

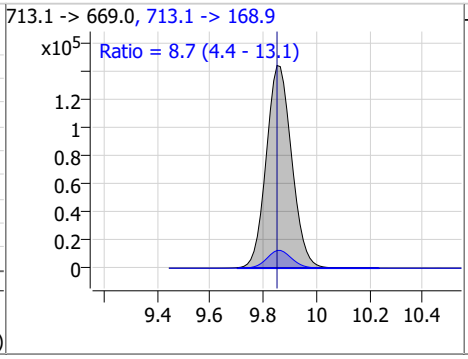


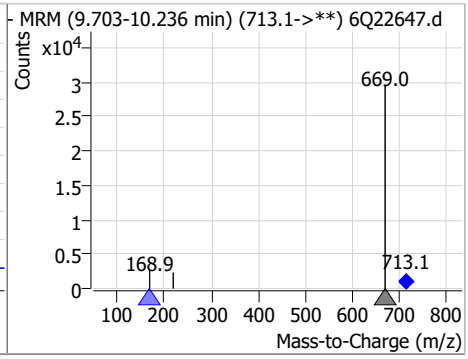




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	53.95	9.85	0.00	961976	713.1 -> 168.9	8.7	4.4	13.1

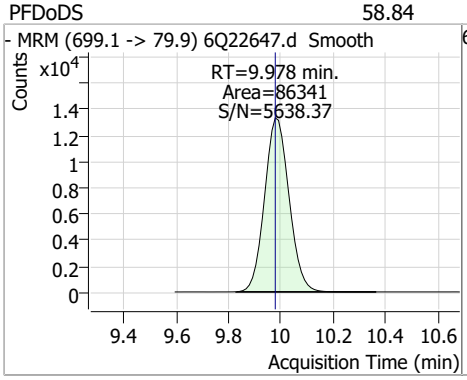


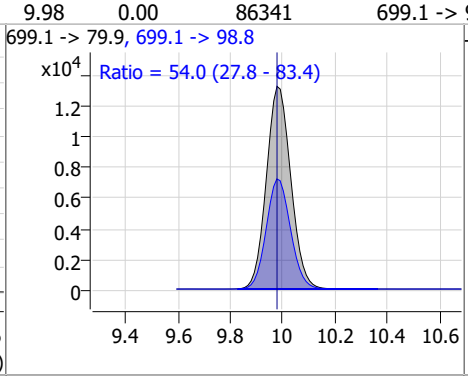


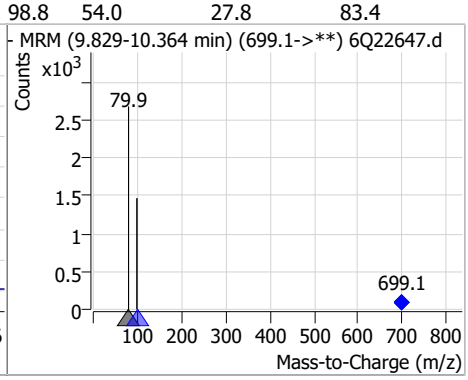


Perfluorinated Compounds by LC/MS/MS

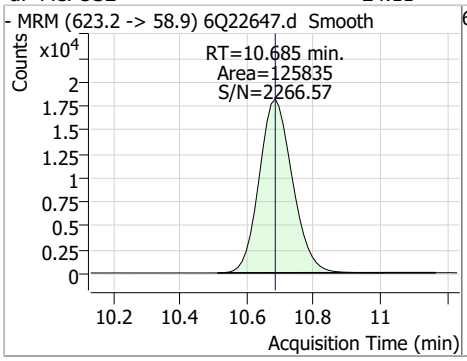
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	58.84	9.98	0.00	86341	699.1 -> 98.8	54.0	27.8	83.4

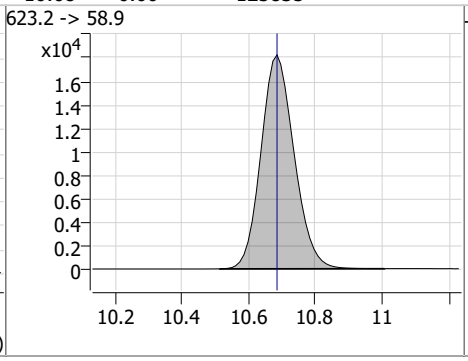


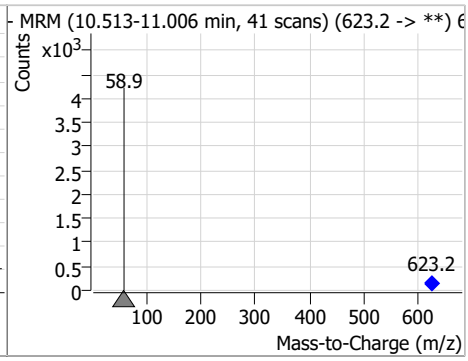




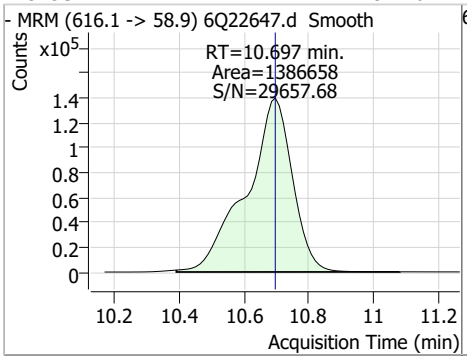
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.11	10.68	0.00	125835				

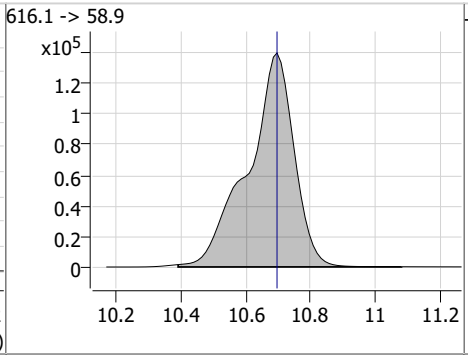


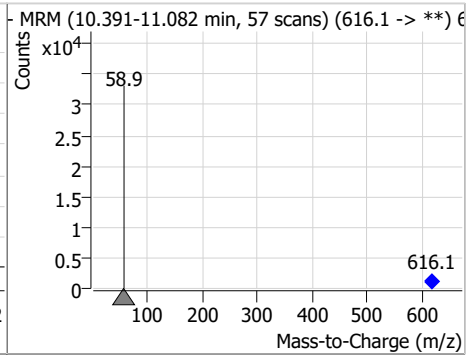




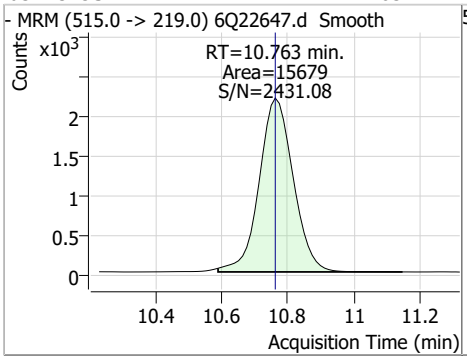
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	294.76	10.70	0.00	1386658				

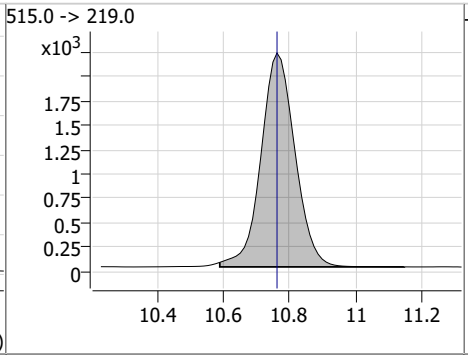


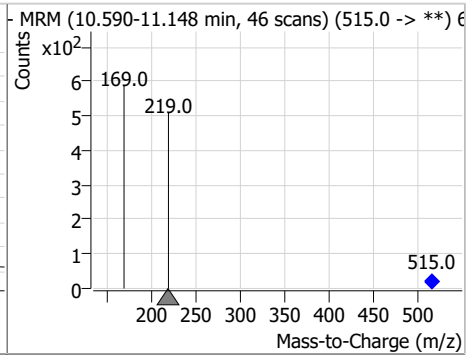




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.63	10.76	0.00	15679				

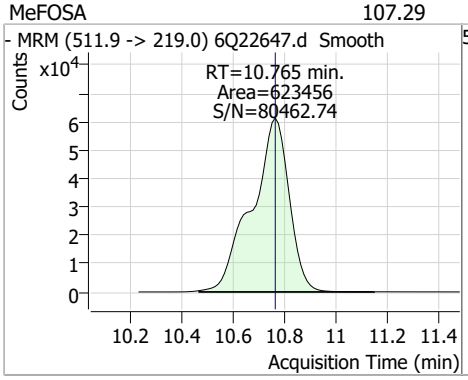


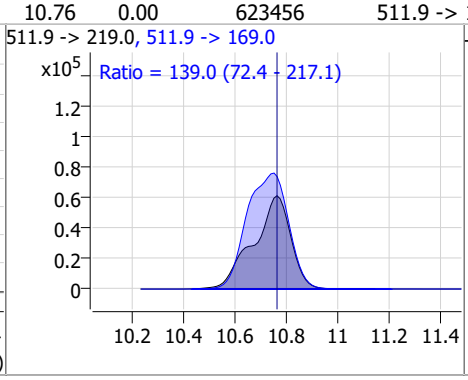


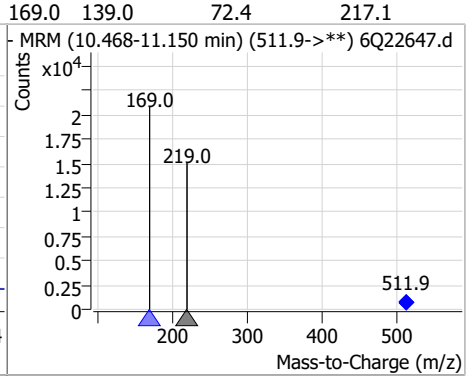


Perfluorinated Compounds by LC/MS/MS

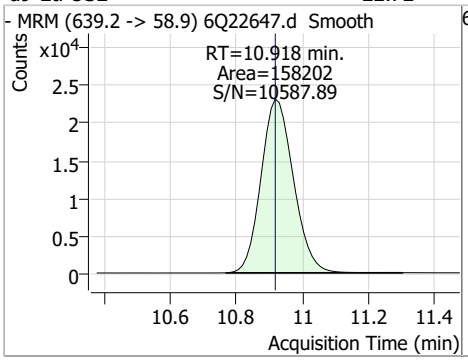
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	107.29	10.76	0.00	623456	511.9 -> 169.0	139.0	72.4	217.1

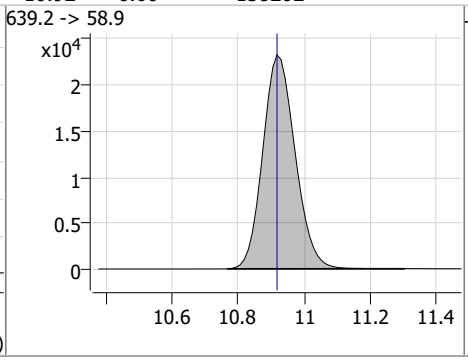


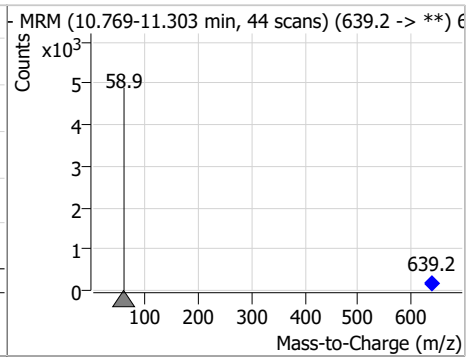




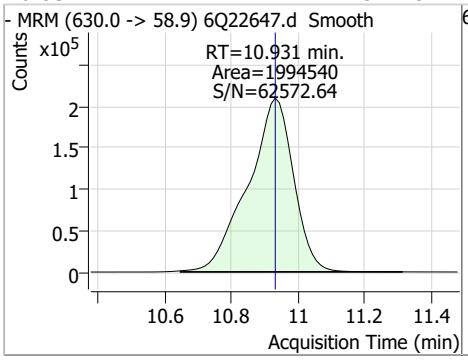
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.72	10.92	0.00	158202				

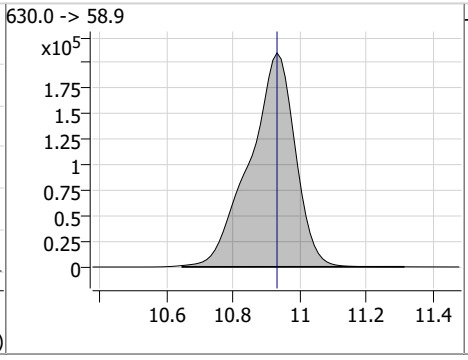


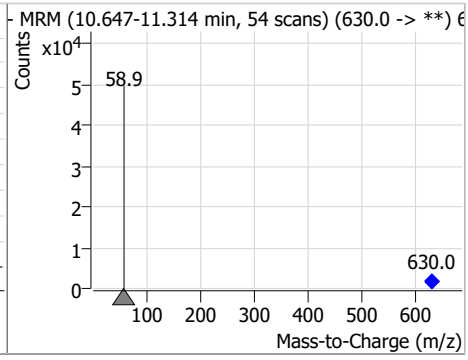




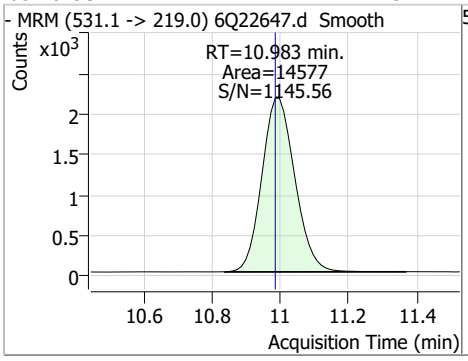
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	311.13	10.93	0.00	1994540				

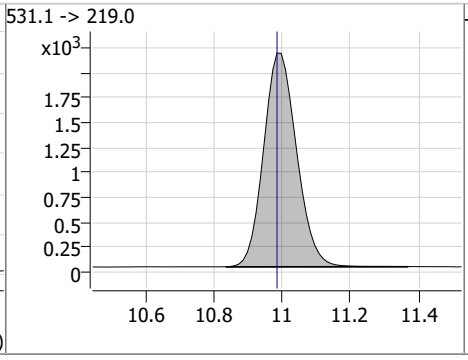


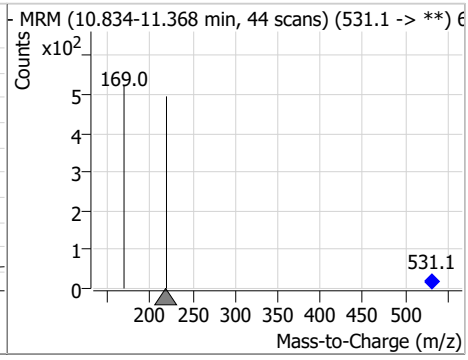




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.43	10.98	0.00	14577				

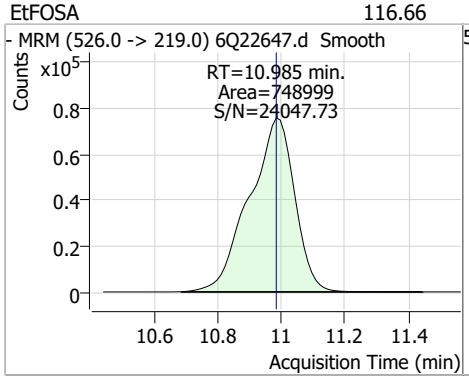


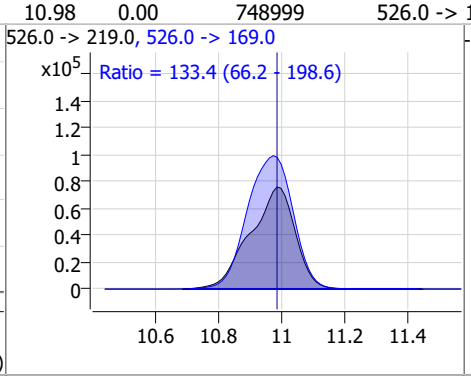


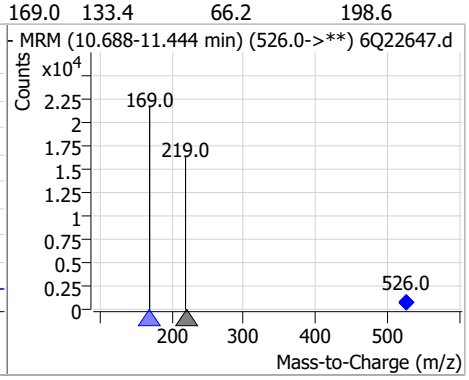


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	116.66	10.98	0.00	748999	526.0 -> 169.0	133.4	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q330-IC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22647.D	**Analyst approved:**	08/13/23 12:53 Martha Valls
Injection Time:	08/10/23 15:18	**Supervisor approved:**	08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22649.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 3:46:51 PM
Sample Name : icv330-4
Vial : P1-B1
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.010	216.8 -> 171.9	199178	10.00	µg/L	0.000
M5-PFPeA	4.447	268.3 -> 223.0	63057	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	68581	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	68127	2.50	µg/L	-0.012
M8-PFOA	7.239	421.1 -> 376.0	105497	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	51994	1.25	µg/L	0.000
M6-PFDA	8.250	519.1 -> 474.1	27590	1.25	µg/L	-0.012
M7-PFUnDA	8.717	570.0 -> 525.1	37575	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	31790	1.25	µg/L	0.000
M2-PFTeDA	9.851	715.2 -> 670.0	19241	1.25	µg/L	0.000
M8-FOSA	9.650	506.1 -> 77.8	37406	2.50	µg/L	-0.012
M3-PFBS	5.610	302.1 -> 79.9	23543	2.50	µg/L	0.000
M3-PFHxS	7.355	402.1 -> 79.9	14968	2.50	µg/L	0.000
M8-PFOS	8.414	507.1 -> 79.9	14971	2.50	µg/L	0.000
M2-4:2FTS	5.343	329.1 -> 80.9	3714	5.00	µg/L	0.012
M2-6:2FTS	7.014	429.1 -> 80.9	5285	5.00	µg/L	0.000
M2-8:2FTS	8.039	529.1 -> 80.9	5648	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	36080	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	42767	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	32685	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	139250	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	180761	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	15493	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	15471	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	20135	2.50	µg/L	-0.012
13C3-PFBA	3.001	216.0 -> 172.0	83588	5.00	µg/L	0.000
18O2-PFHxS	7.354	403.0 -> 83.9	11428	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	111502	2.50	µg/L	0.000
13C2-PFDA	8.251	515.1 -> 470.1	39934	1.25	µg/L	0.000
13C5-PFNA	7.770	468.0 -> 423.0	60628	1.25	µg/L	0.000
13C2-PFHxA	5.669	315.1 -> 270.0	67559	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.343	329.1 -> 80.9	3714	5.44	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.8%		
13C2-6:2FTS	7.014	429.1 -> 80.9	5285	5.36	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.2%		
13C2-8:2FTS	8.039	529.1 -> 80.9	5648	5.85	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.1%		
13C2-PFDoDA	9.148	615.1 -> 570.0	31790	1.18	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.3%		
13C2-PFTeDA	9.851	715.2 -> 670.0	19241	1.24	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.2%		
13C3-PFBS	5.610	302.1 -> 79.9	23543	2.43	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%		
13C3-PFHxS	7.355	402.1 -> 79.9	14968	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 = 95.3%	
13C4-PFBA	3.010	216.8 -> 171.9	199178	10.09 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C4-PFHpA	6.596	367.1 -> 322.0	68127	2.50 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C5-PFHxA	5.668	318.0 -> 273.0	68581	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C5-PFPeA	4.447	268.3 -> 223.0	63057	4.96 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C6-PFDA	8.250	519.1 -> 474.1	27590	1.22 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C7-PFUnDA	8.717	570.0 -> 525.1	37575	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C8-FOSA	9.650	506.1 -> 77.8	37406	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C8-PFOA	7.239	421.1 -> 376.0	105497	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C8-PFOS	8.414	507.1 -> 79.9	14971	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C9-PFNA	7.770	472.1 -> 427.0	51994	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.8%	
d3-MeFOSAA	8.297	573.2 -> 419.0	36080	4.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	42767	9.78 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
d3-MeFOSA	10.763	515.0 -> 219.0	15471	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	
d5-EtFOSAA	8.492	589.2 -> 419.0	32685	4.86 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.2%	
d7-MeFOSE	10.685	623.2 -> 58.9	139250	25.59 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
d9-EtFOSE	10.918	639.2 -> 58.9	180761	24.89 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
d5-EtFOSA	10.983	531.1 -> 219.0	15493	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	43637	9.08 µg/L	99
		327.1 -> 80.9	16751		
6:2FTS	7.014	427.1 -> 407.0	43108	9.12 µg/L	100
		427.1 -> 80.9	14402		
8:2FTS	8.040	527.1 -> 507.0	26345	8.72 µg/L	99
		527.1 -> 80.8	9854		
EtFOSAA	8.506	584.2 -> 419.1	9808	2.38 µg/L	99
		584.2 -> 526.0	5578		
FOSA	9.652	498.1 -> 77.9	27653	2.36 µg/L	99
		498.1 -> 478.0	812		
MeFOSAA	8.298	570.1 -> 419.0	16440	2.38 µg/L	95
		570.1 -> 483.0	3420		
PFBA	3.006	212.8 -> 168.9	57789	9.29 µg/L	100
PFBS	5.611	298.7 -> 79.9	18064	2.35 µg/L	99
		298.7 -> 98.8	6628		
PFDA	8.251	512.9 -> 469.0	78887	2.41 µg/L	98
		512.9 -> 219.0	10866		
PFDoDA	9.148	613.1 -> 569.0	50726	2.44 µg/L	100
		613.1 -> 319.0	7756		
PFDS	9.299	599.0 -> 79.9	7643	2.13 µg/L	100

Perfluorinated Compounds by LC/MS/MS

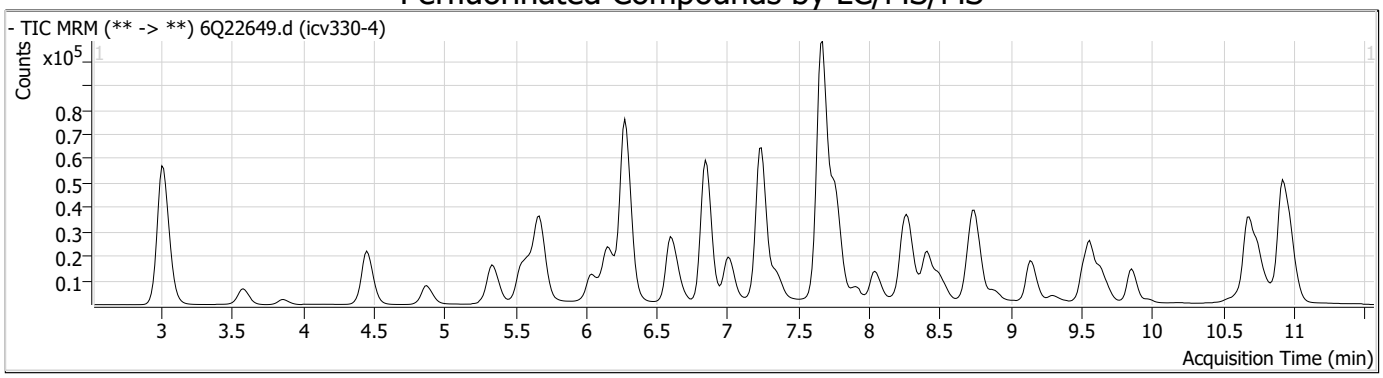
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3790				
PFHpA	6.596	363.1 -> 319.0	64100	2.39	µg/L		98
		363.1 -> 169.0	10252				
PFHpS	7.909	449.0 -> 79.9	15793	2.31	µg/L		94
		449.0 -> 98.9	7774				
PFHxA	5.670	313.0 -> 269.0	49565	2.47	µg/L		100
		313.0 -> 118.9	2587				
PFHxS	7.356	398.7 -> 79.9	14623	2.21	µg/L	m	97
		398.7 -> 98.9	7389				
PFNA	7.771	463.0 -> 419.0	80043	2.24	µg/L		98
		463.0 -> 219.0	14590				
PFNS	8.880	548.8 -> 79.9	13220	2.14	µg/L		97
		548.8 -> 98.9	7344				
PFOA	7.240	413.0 -> 369.0	99483	2.31	µg/L		96
		413.0 -> 169.0	17699				
PFOS	8.415	498.9 -> 79.9	13492	2.10	µg/L	m	100
		498.9 -> 98.8	7126				
PFPeA	4.449	263.0 -> 219.0	66758	4.81	µg/L		100
PFPeS	6.660	349.1 -> 79.9	14772	2.41	µg/L		94
		349.1 -> 98.9	7317				
PFTeDA	9.852	713.1 -> 669.0	42922	2.30	µg/L		100
		713.1 -> 168.9	3676				
PFTrDA	9.519	663.0 -> 619.0	55210	2.57	µg/L		99
		663.0 -> 168.9	5728				
PFUnDA	8.717	563.1 -> 519.0	51117	2.36	µg/L		99
		563.1 -> 269.1	8348				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	67012	4.39	µg/L		98
		632.9 -> 452.9	22030				
9Cl-PF3ONS	8.758	530.8 -> 351.0	106705	4.32	µg/L		96
		532.8 -> 353.0	36249				
ADONA	6.846	376.9 -> 250.9	247721	4.55	µg/L		98
		376.9 -> 84.8	68513				
HFPO-DA	6.046	284.9 -> 168.9	16326	4.49	µg/L		99
		284.9 -> 184.9	1686				
3:3FTCA	3.859	241.0 -> 177.0	11083	11.26	µg/L		100
		241.0 -> 117.0	1480				
5:3FTCA	6.272	341.0 -> 237.1	250415	60.69	µg/L		100
		341.0 -> 217.0	178486				
7:3FTCA	7.673	441.0 -> 316.9	188969	61.92	µg/L		95
		441.0 -> 336.9	414386				
EtFOSA	10.985	526.0 -> 219.0	32047	4.70	µg/L		97
		526.0 -> 169.0	43639				
EtFOSE	10.931	630.0 -> 58.9	86405	11.80	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	26709	4.66	µg/L		100
		511.9 -> 169.0	38602				
MeFOSE	10.697	616.1 -> 58.9	57117	10.97	µg/L		100
PFDoDS	9.978	699.1 -> 79.9	3861	2.31	µg/L		97
		699.1 -> 98.8	2057				
NFDHA	5.551	295.0 -> 201.0	12263	4.81	µg/L		95
		295.0 -> 84.9	3195				
PFMBA	4.869	279.0 -> 85.1	46699	4.75	µg/L		100
PFMPA	3.576	229.0 -> 84.9	37523	4.77	µg/L		100
PFEESA	6.151	314.8 -> 134.9	115385	4.28	µg/L		100
		314.8 -> 82.9	3933				

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

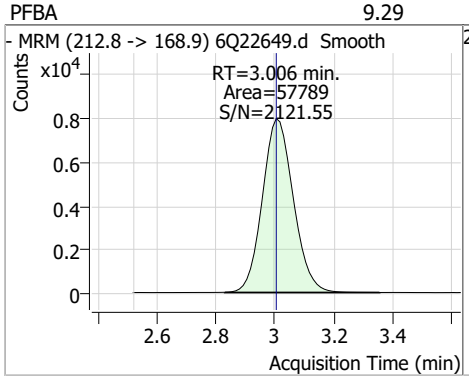
Perfluorinated Compounds by LC/MS/MS

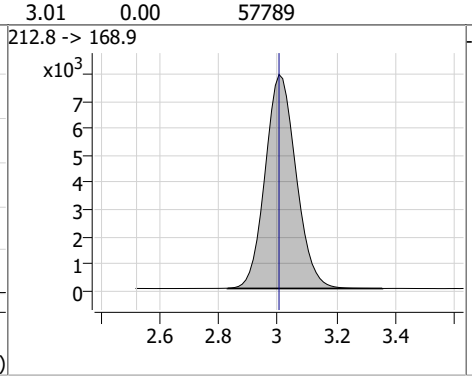
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

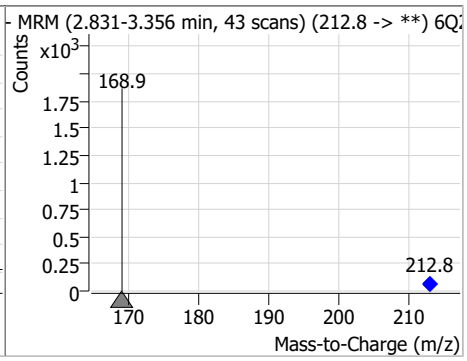
Perfluorinated Compounds by LC/MS/MS



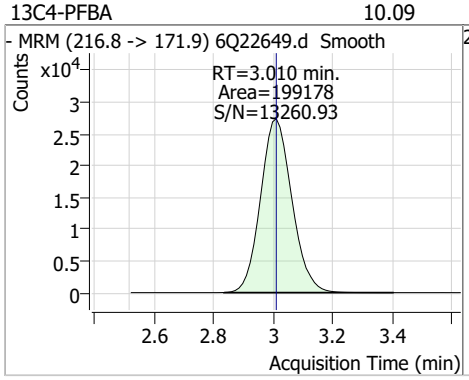
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.29	3.01	0.00	57789				

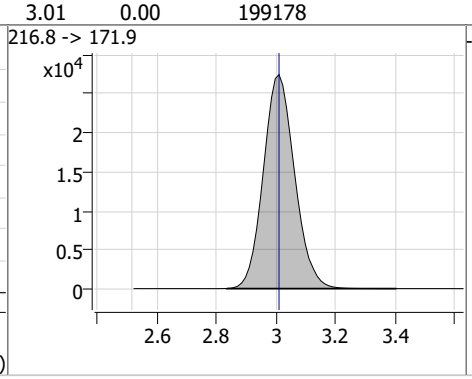


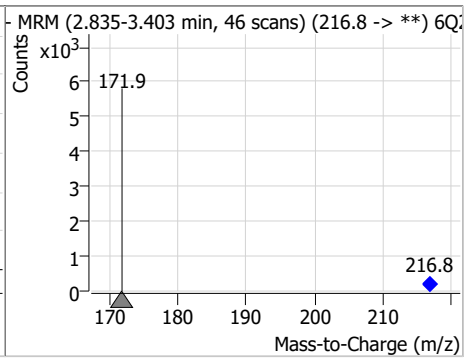




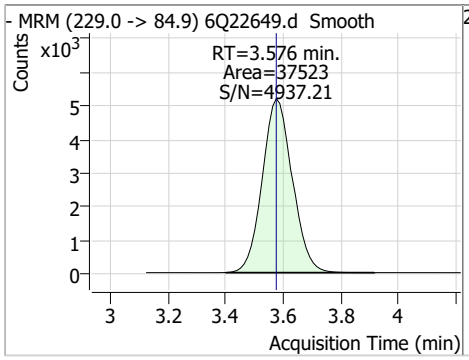
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.09	3.01	0.00	199178				

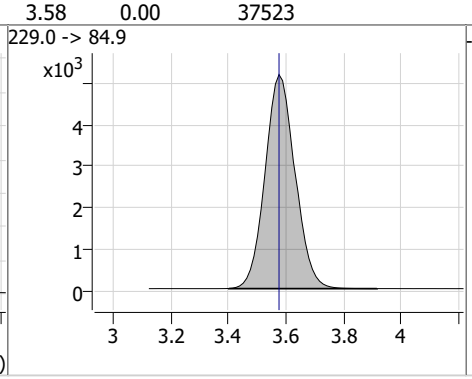


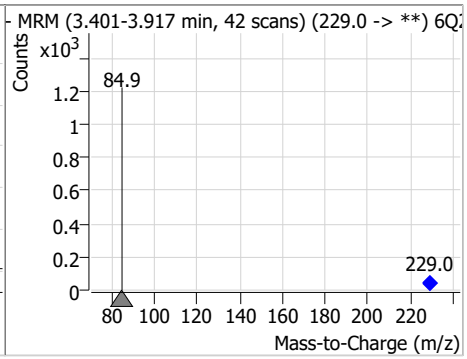




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	4.77	3.58	0.00	37523				

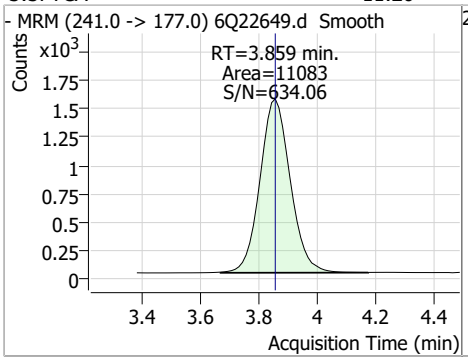


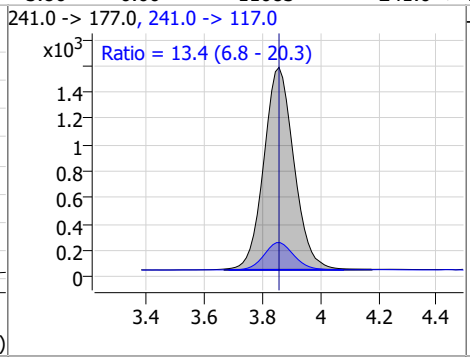


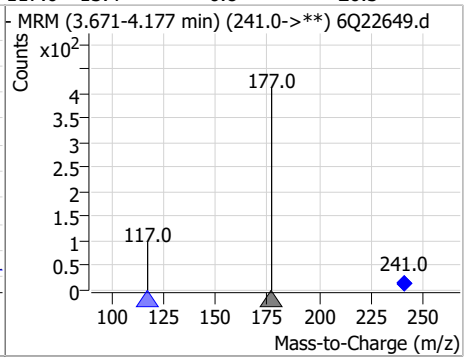


Perfluorinated Compounds by LC/MS/MS

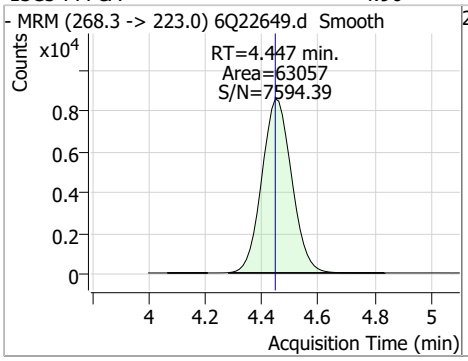
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.26	3.86	0.00	11083	241.0 -> 117.0	13.4	6.8	20.3

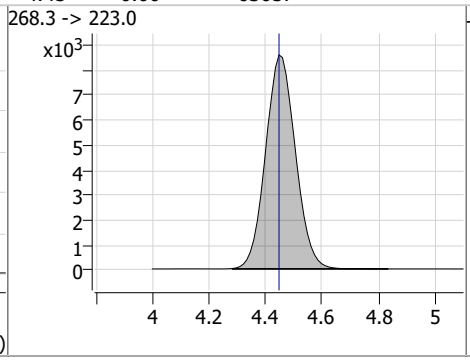


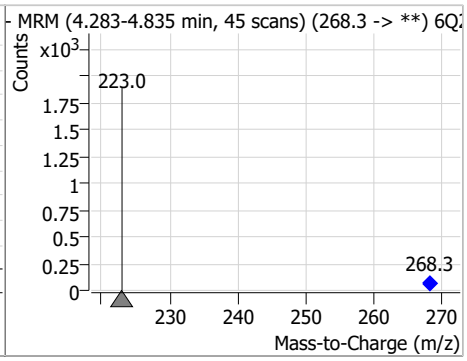




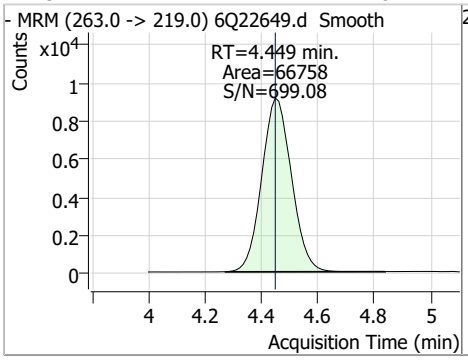
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.96	4.45	0.00	63057				

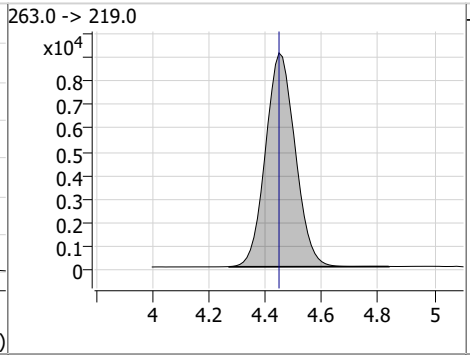


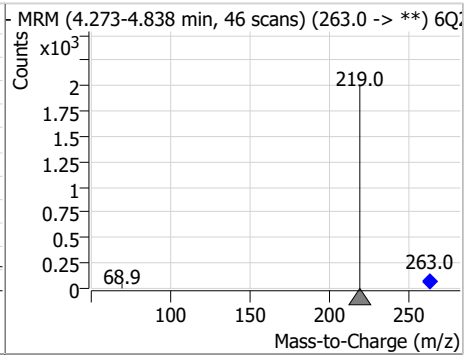




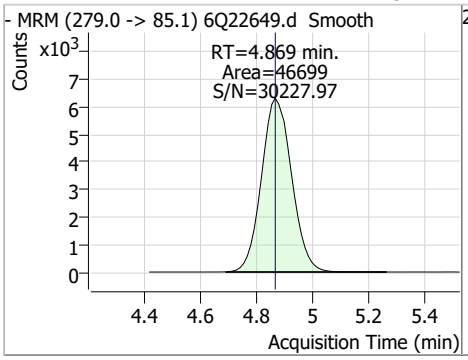
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.81	4.45	0.00	66758				

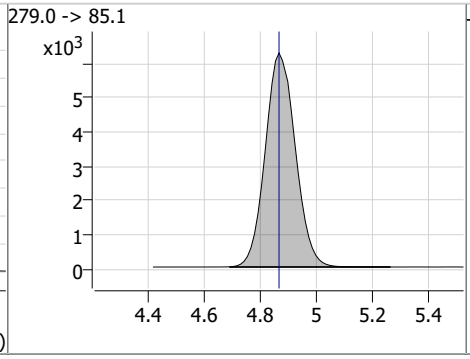


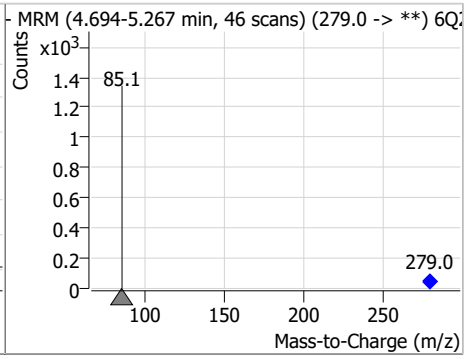




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.75	4.87	0.00	46699				

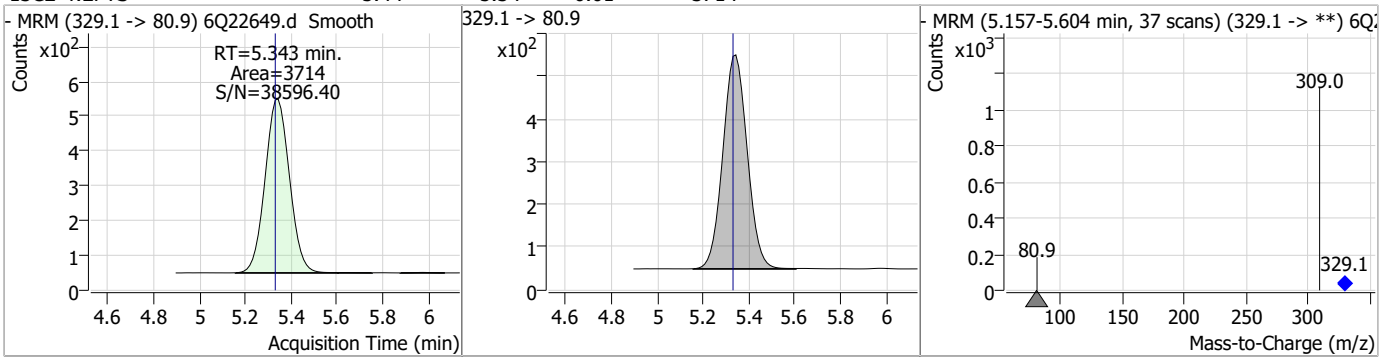




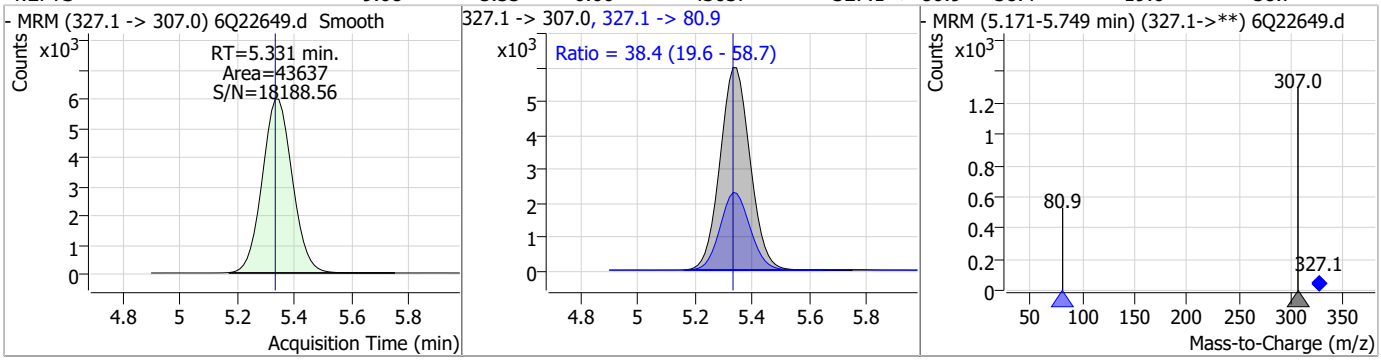


Perfluorinated Compounds by LC/MS/MS

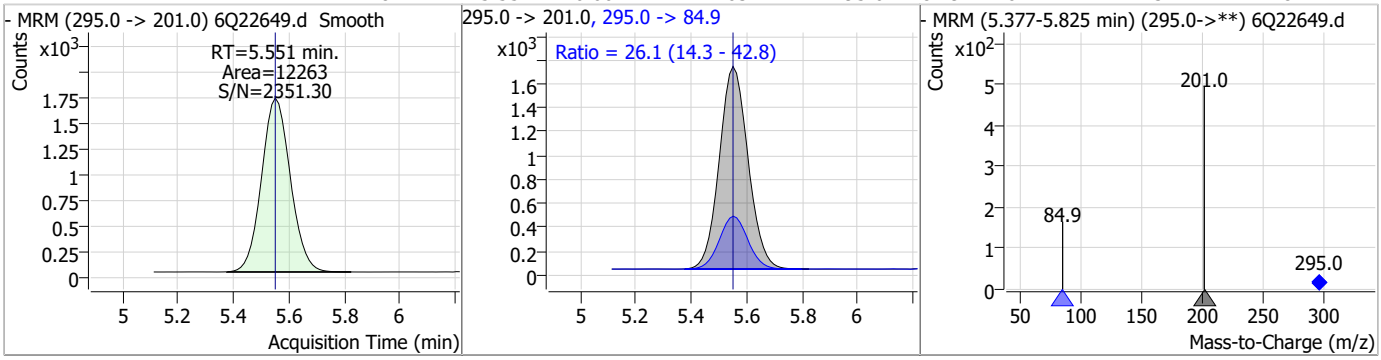
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.44	5.34	0.01	3714				



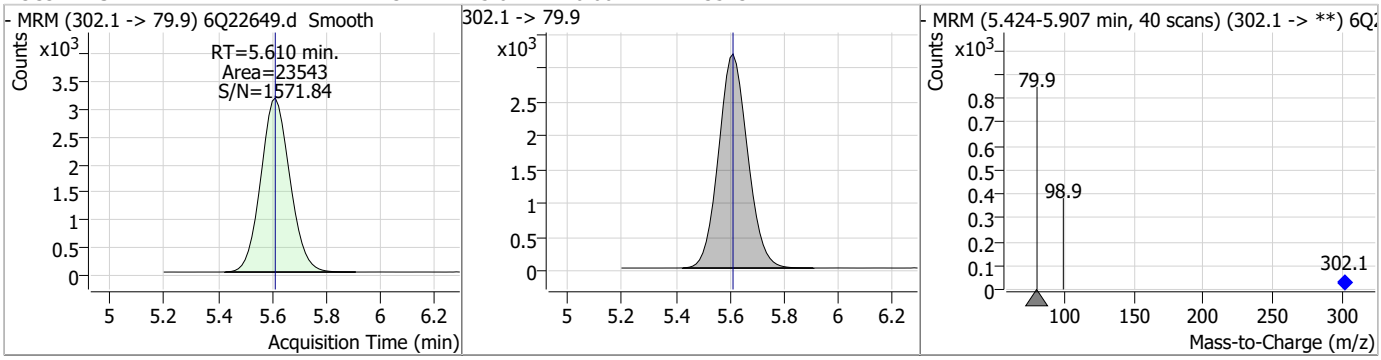
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.08	5.33	0.00	43637	327.1 -> 80.9	38.4	19.6	58.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.81	5.55	0.00	12263	295.0 -> 84.9	26.1	14.3	42.8

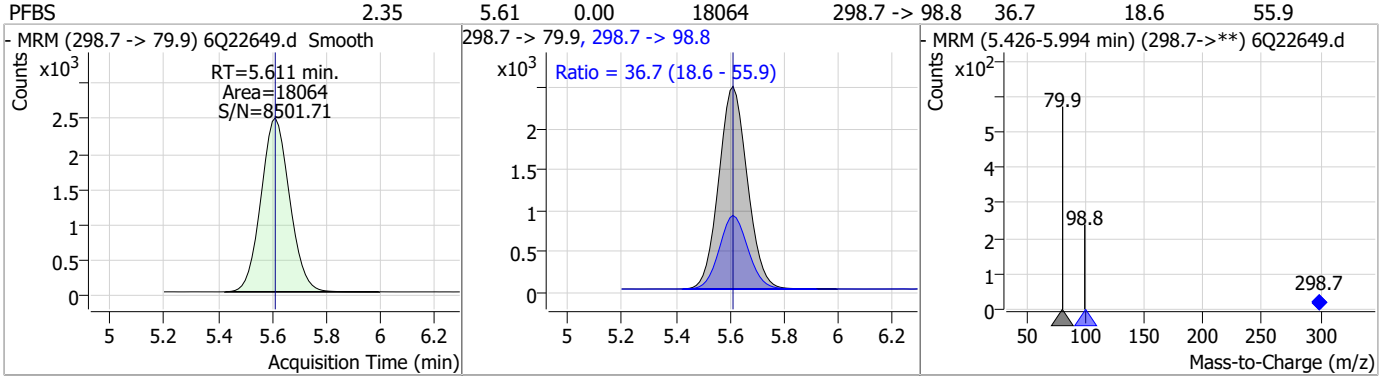


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.43	5.61	0.00	23543				

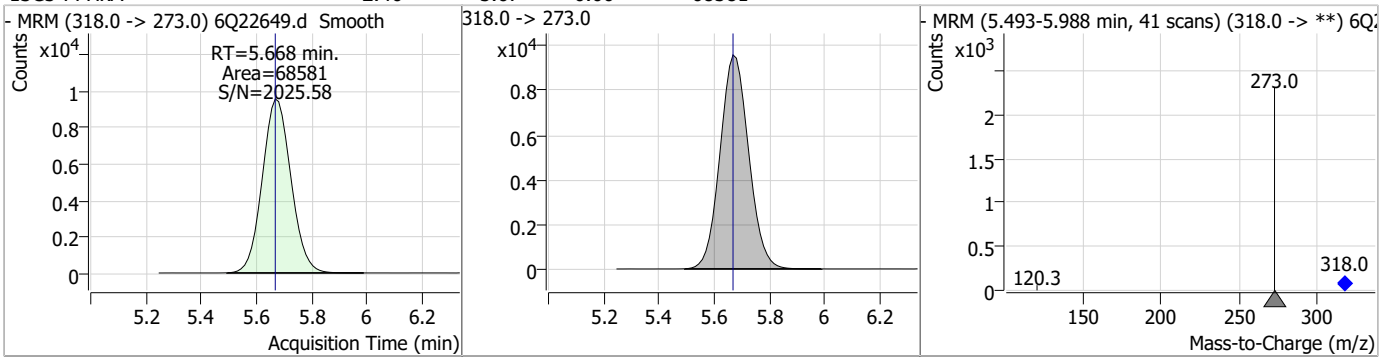


Perfluorinated Compounds by LC/MS/MS

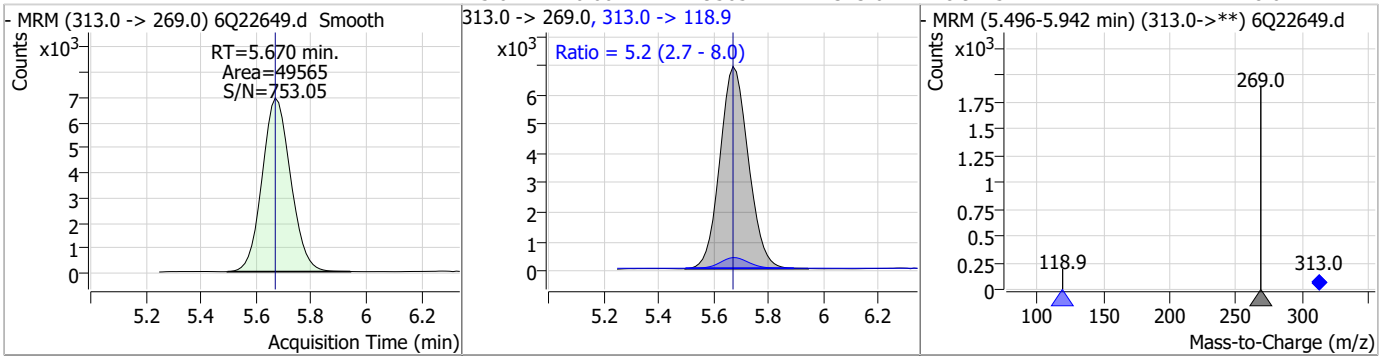
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.35	5.61	0.00	18064	298.7 -> 98.8	36.7	18.6	55.9



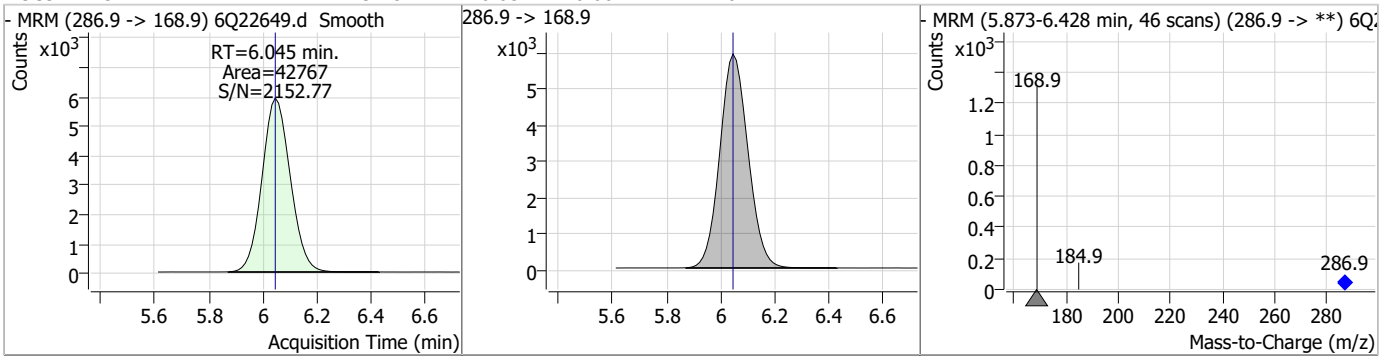
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.46	5.67	0.00	68581				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.47	5.67	0.00	49565	313.0 -> 118.9	5.2	2.7	8.0

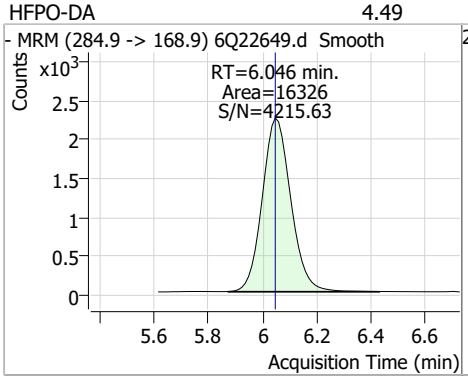


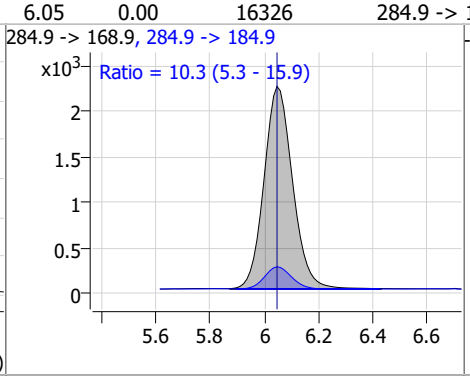
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.78	6.05	0.00	42767				

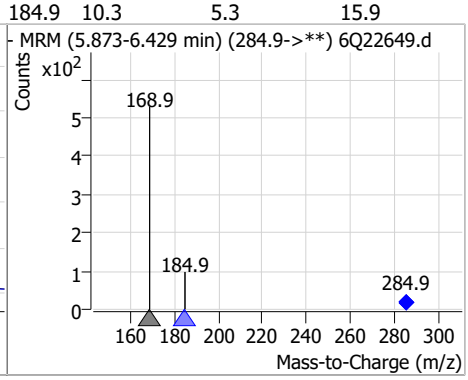


Perfluorinated Compounds by LC/MS/MS

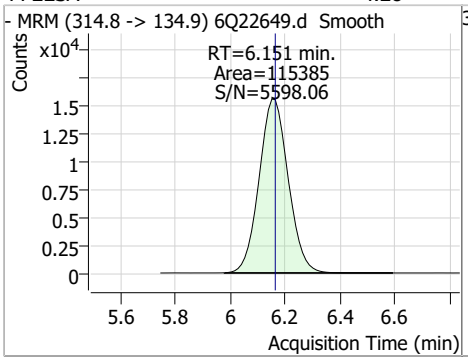
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.49	6.05	0.00	16326	284.9 -> 184.9	10.3	5.3	15.9

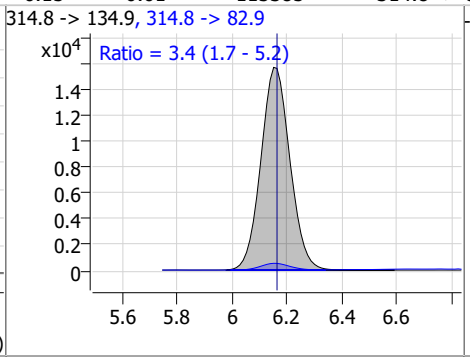


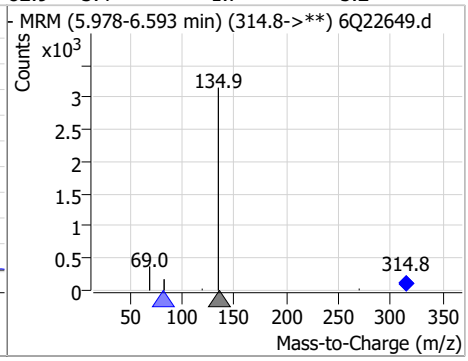




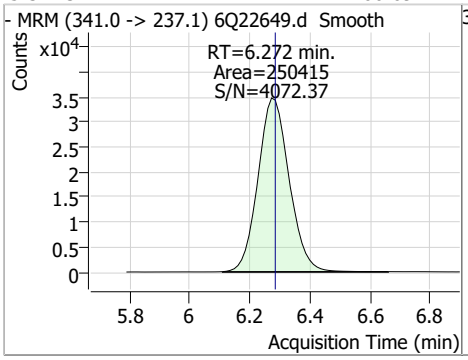
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.28	6.15	-0.01	115385	314.8 -> 82.9	3.4	1.7	5.2

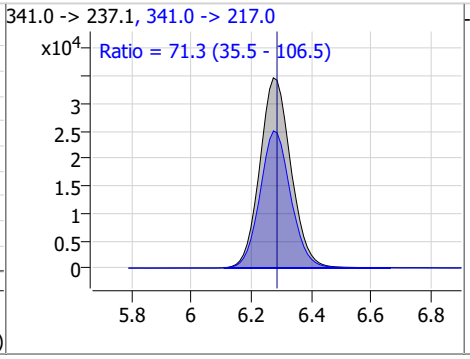


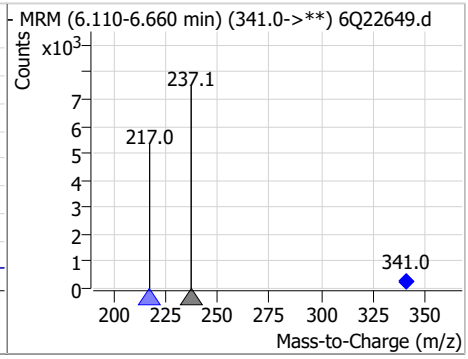




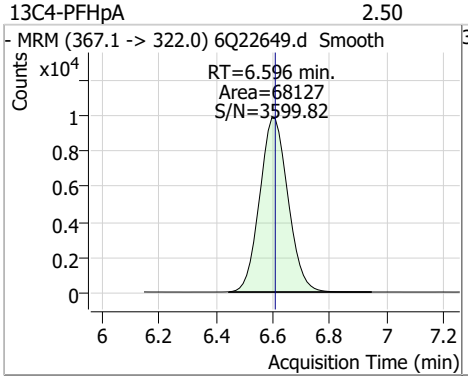
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	60.69	6.27	-0.01	250415	341.0 -> 217.0	71.3	35.5	106.5

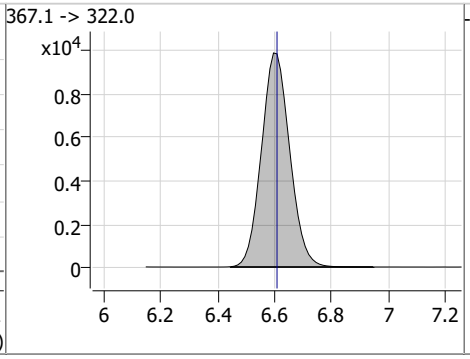


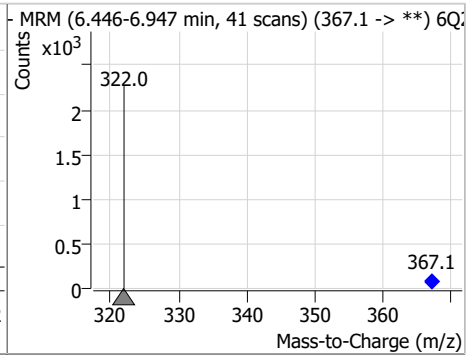




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.50	6.60	-0.01	68127				

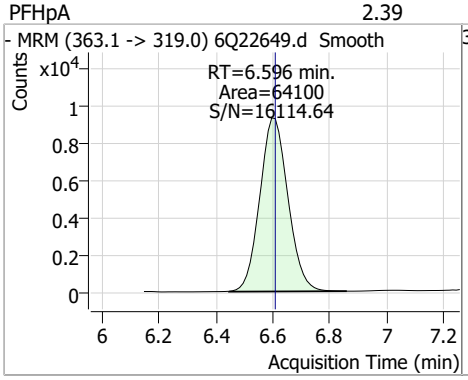


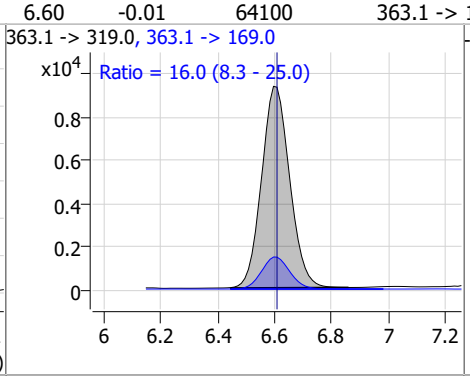


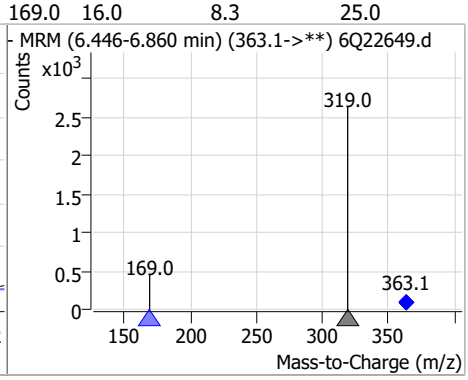


Perfluorinated Compounds by LC/MS/MS

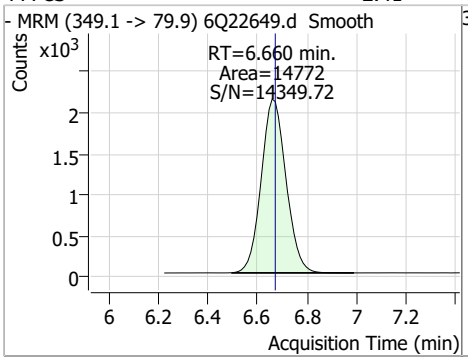
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.39	6.60	-0.01	64100	363.1 -> 169.0	16.0	8.3	25.0

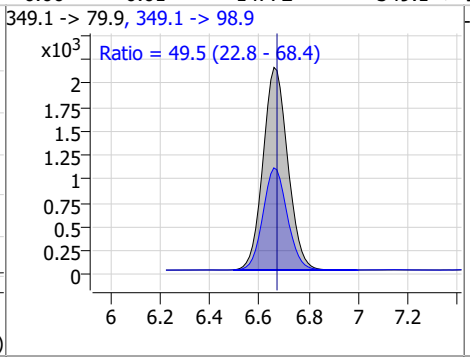


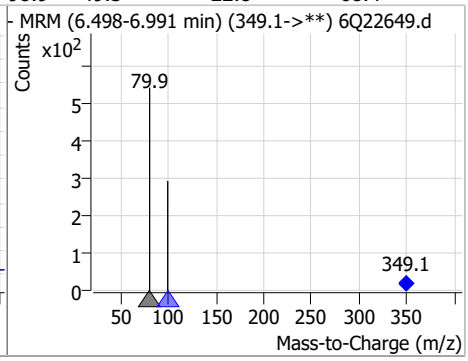




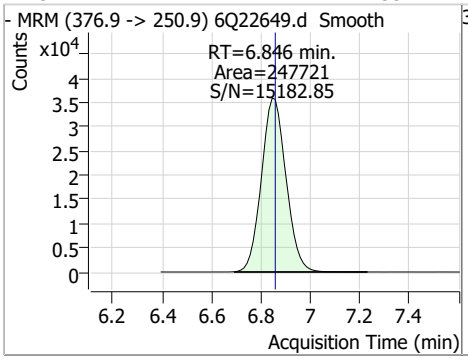
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.41	6.66	-0.01	14772	349.1 -> 98.9	49.5	22.8	68.4

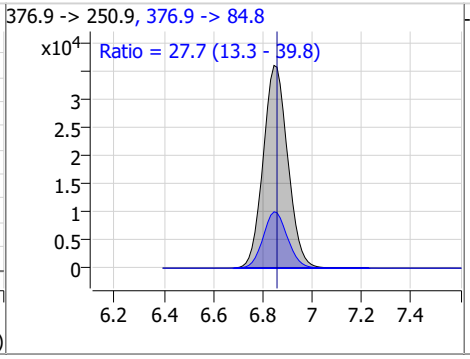


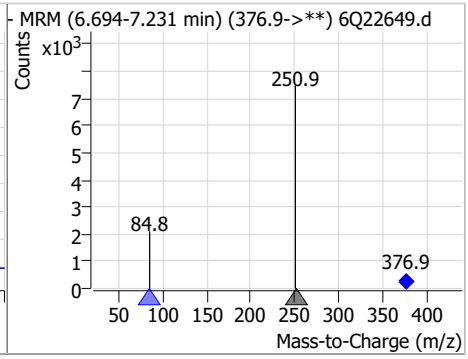




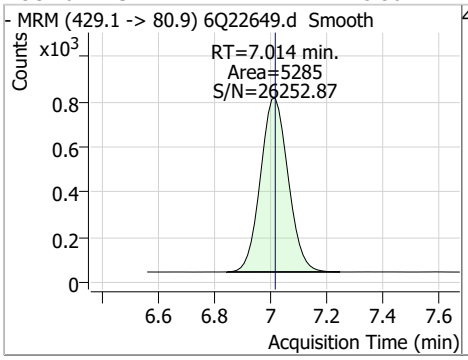
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.55	6.85	-0.01	247721	376.9 -> 84.8	27.7	13.3	39.8

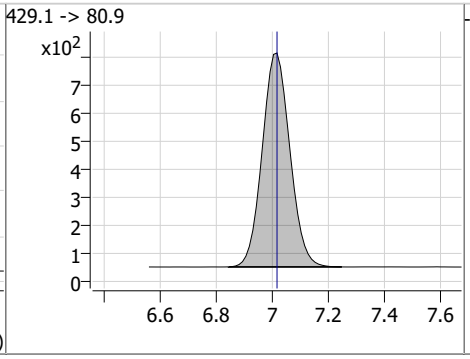


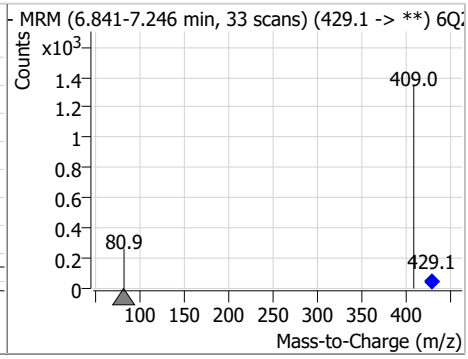




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.36	7.01	0.00	5285				

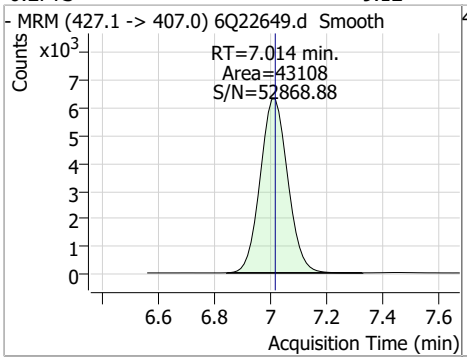


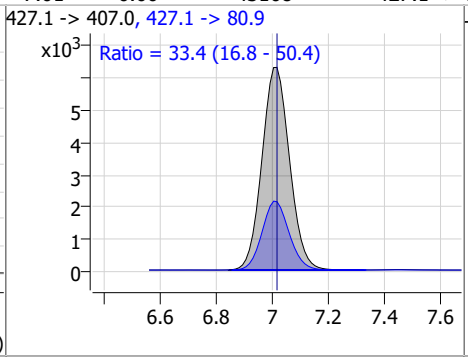


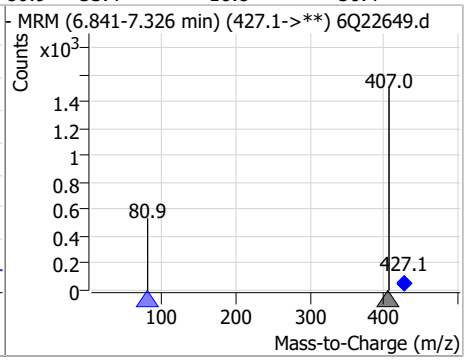


Perfluorinated Compounds by LC/MS/MS

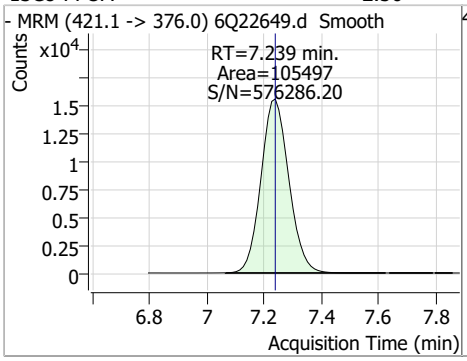
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.12	7.01	0.00	43108	427.1 -> 80.9	33.4	16.8	50.4

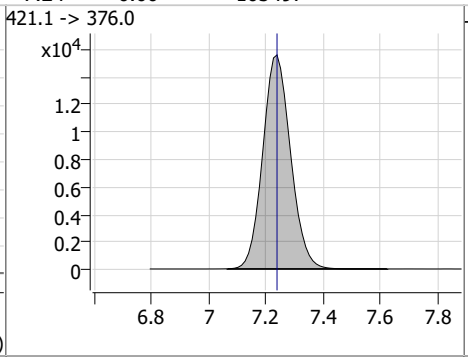


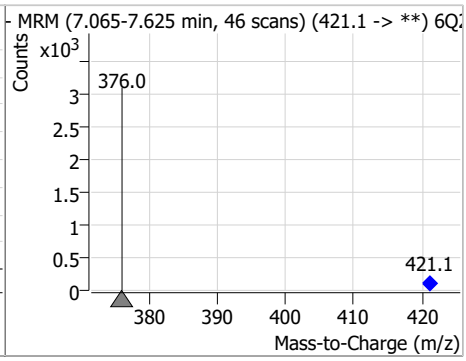




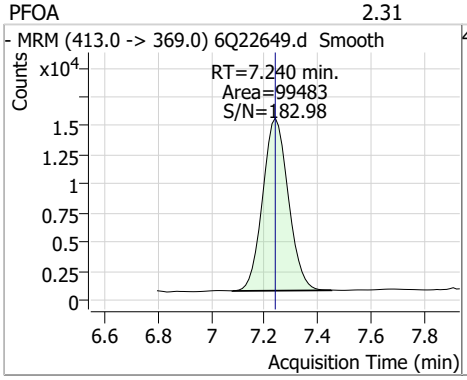
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.56	7.24	0.00	105497				

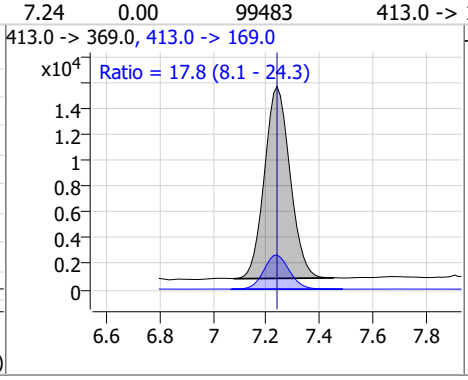


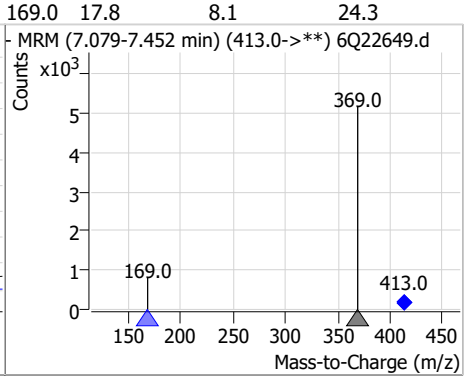




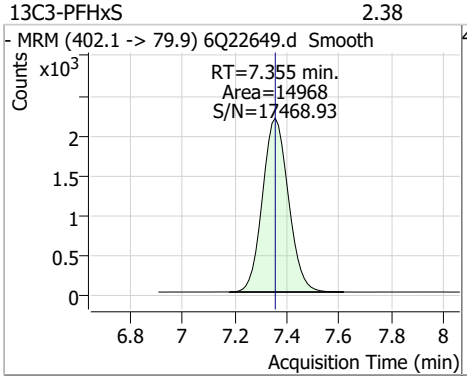
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.31	7.24	0.00	99483	413.0 -> 169.0	17.8	8.1	24.3

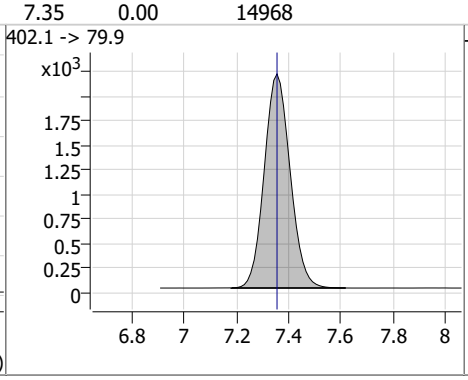


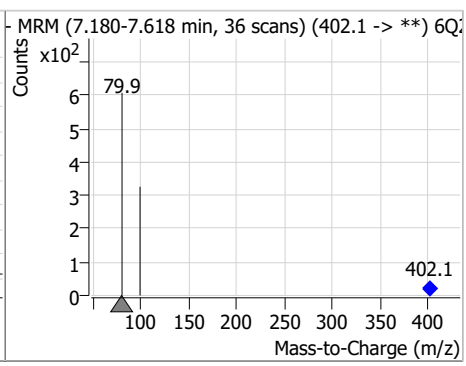




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.38	7.35	0.00	14968				

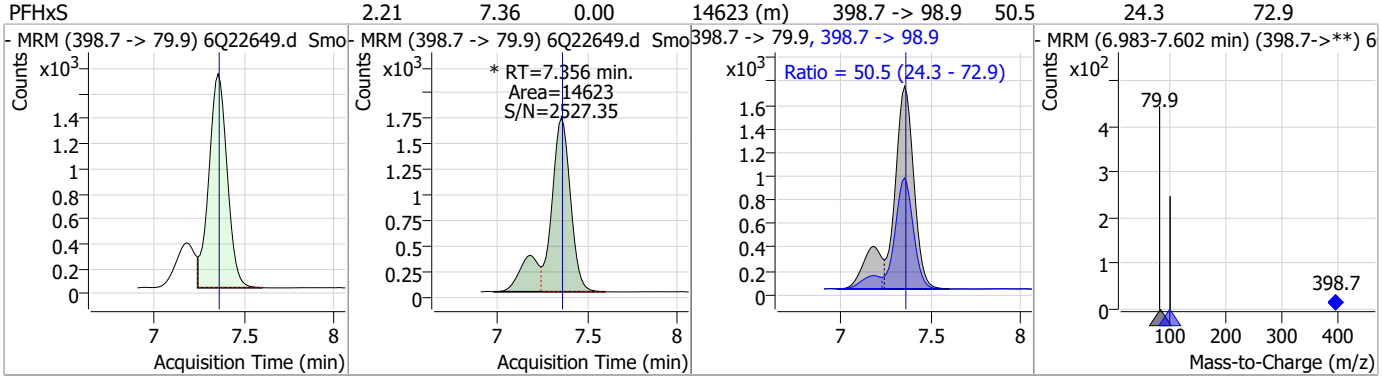




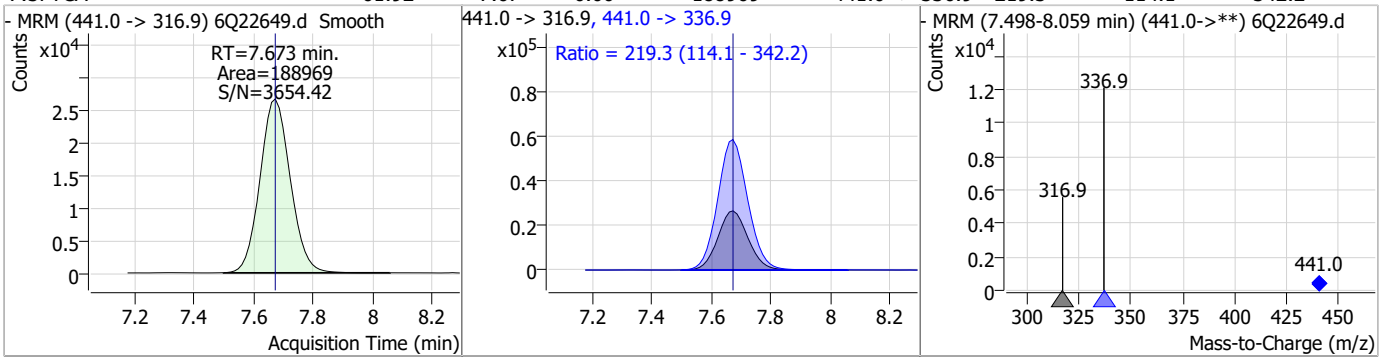


Perfluorinated Compounds by LC/MS/MS

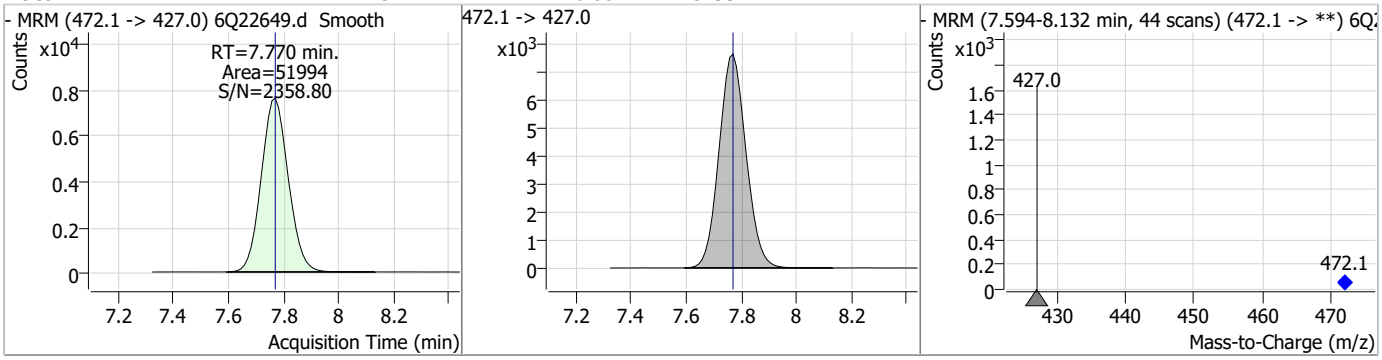
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.21	7.36	0.00	14623 (m)	398.7 -> 98.9	50.5	24.3	72.9



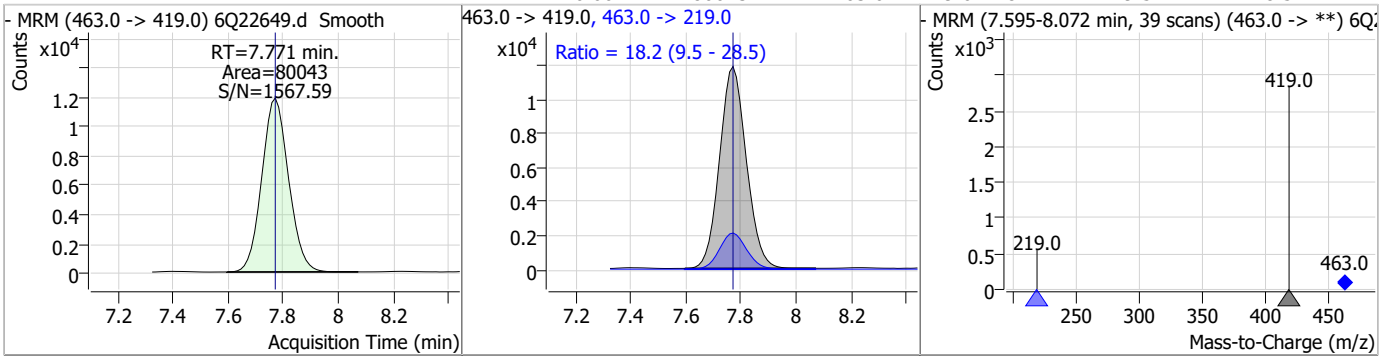
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	61.92	7.67	0.00	188969	441.0 -> 336.9	219.3	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.32	7.77	0.00	51994				

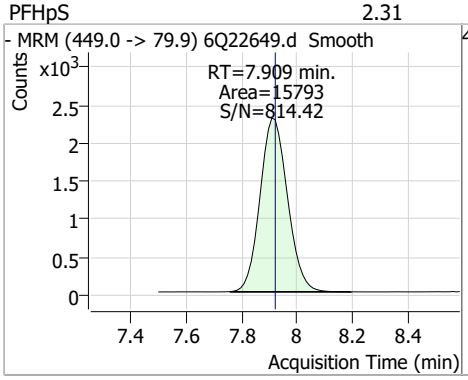


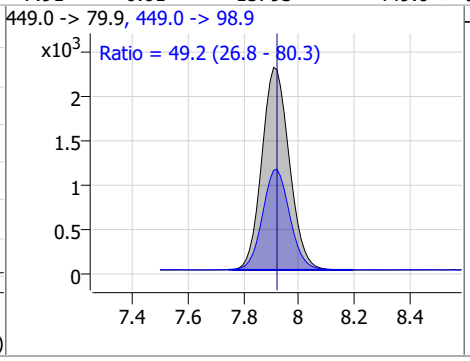
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.24	7.77	0.00	80043	463.0 -> 219.0	18.2	9.5	28.5

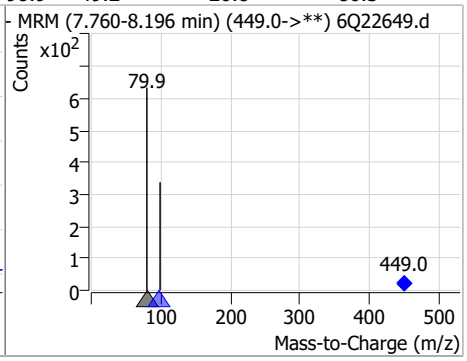


Perfluorinated Compounds by LC/MS/MS

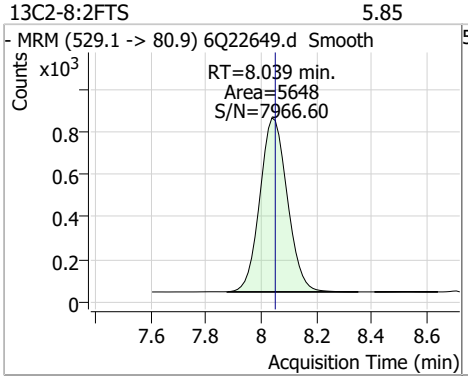
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.31	7.91	-0.01	15793	449.0 -> 98.9	49.2	26.8	80.3

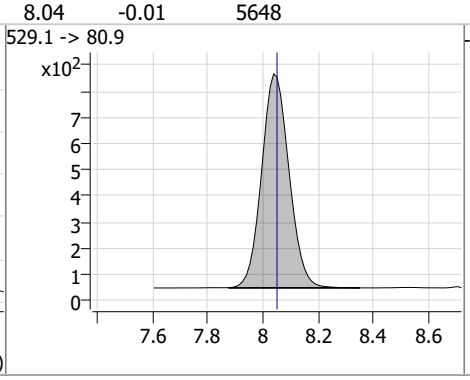


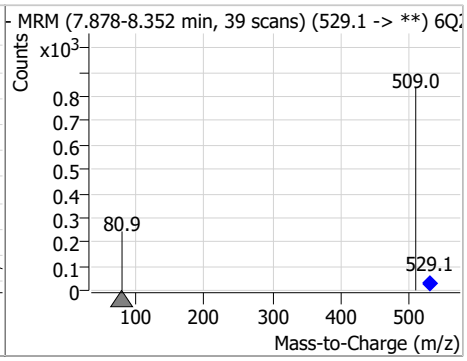




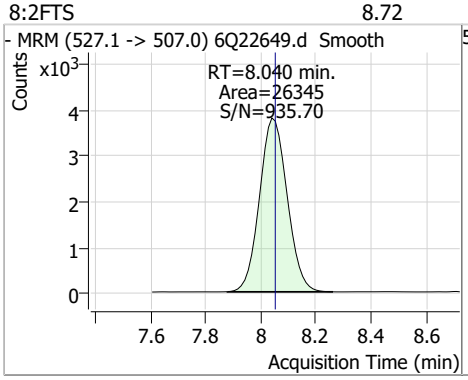
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.85	8.04	-0.01	5648				

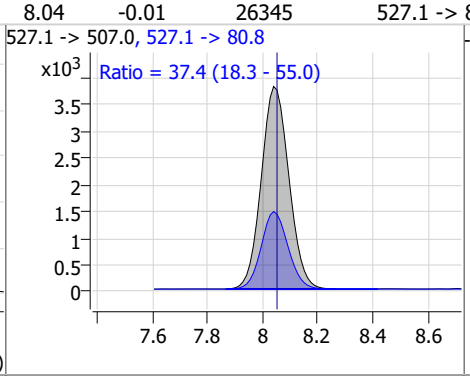


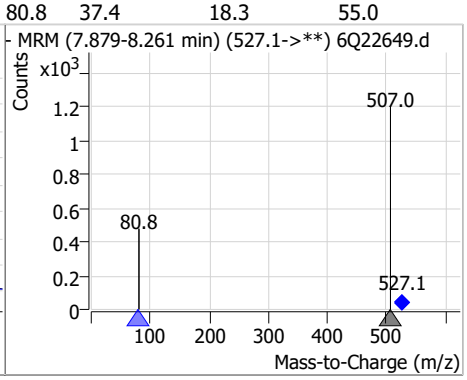




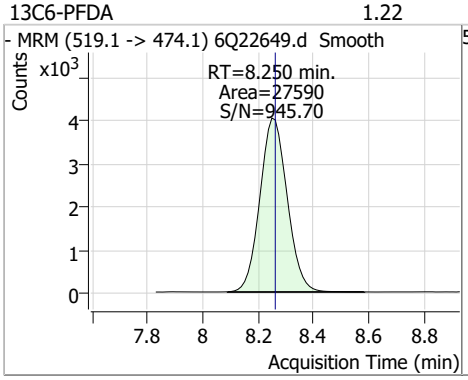
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	8.72	8.04	-0.01	26345	527.1 -> 80.8	37.4	18.3	55.0

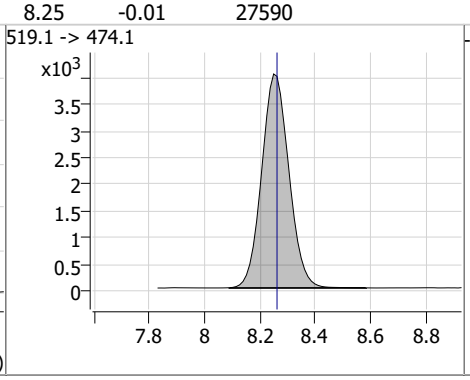


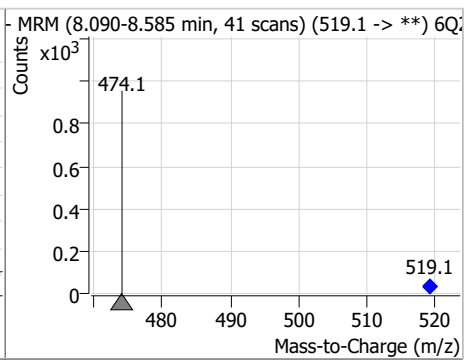




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.22	8.25	-0.01	27590				

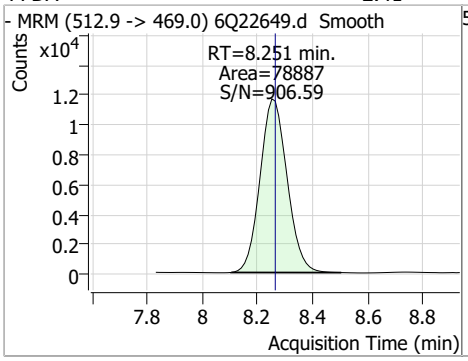


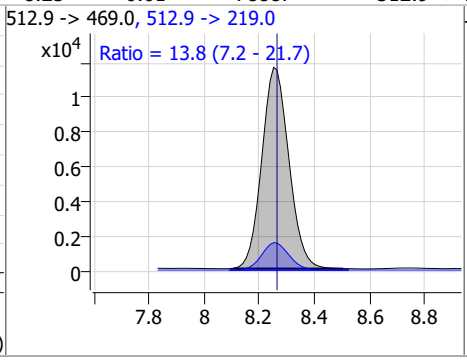


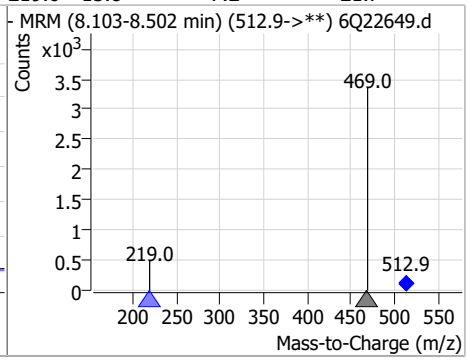


Perfluorinated Compounds by LC/MS/MS

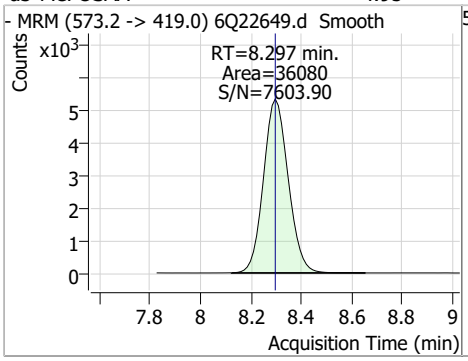
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.41	8.25	-0.01	78887	512.9 -> 219.0	13.8	7.2	21.7

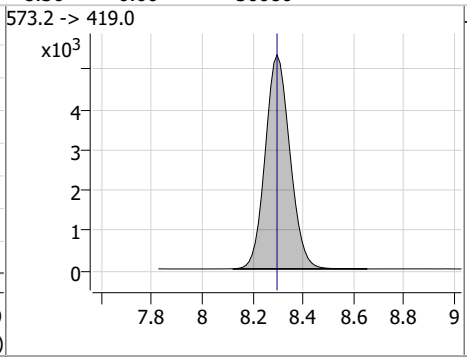


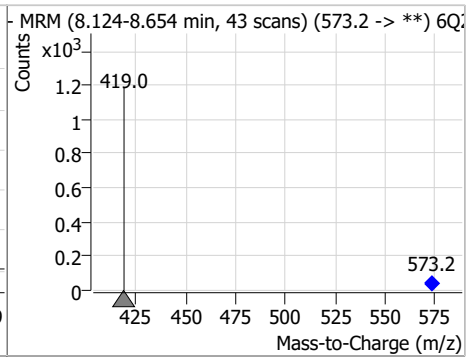




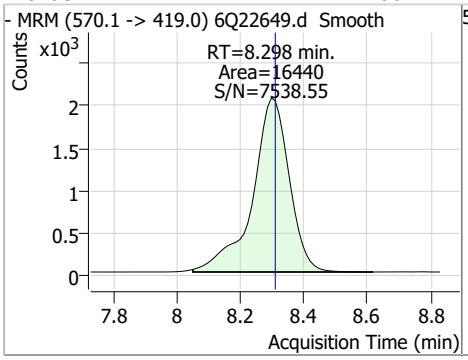
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.95	8.30	0.00	36080				

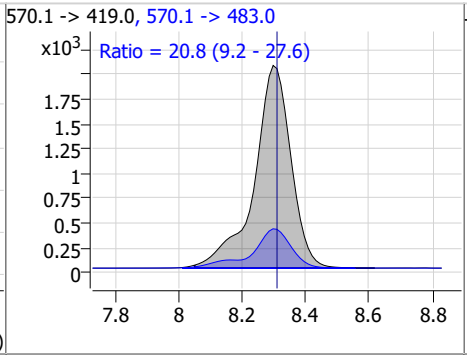


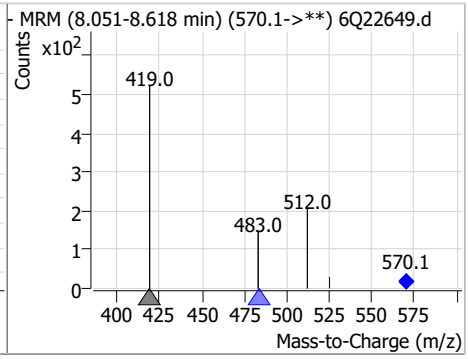




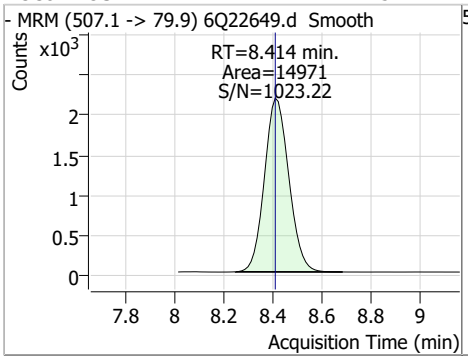
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.38	8.30	-0.01	16440	570.1 -> 483.0	20.8	9.2	27.6

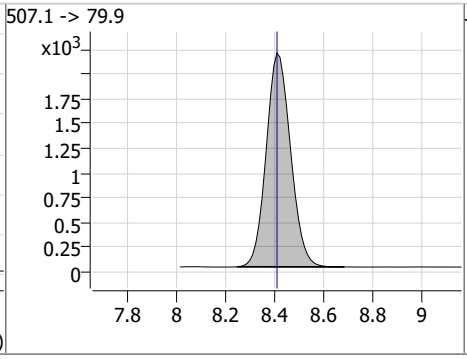


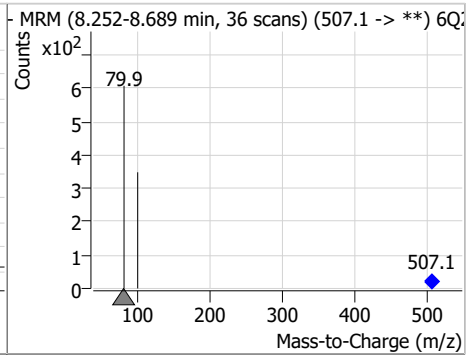




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.54	8.41	0.00	14971				

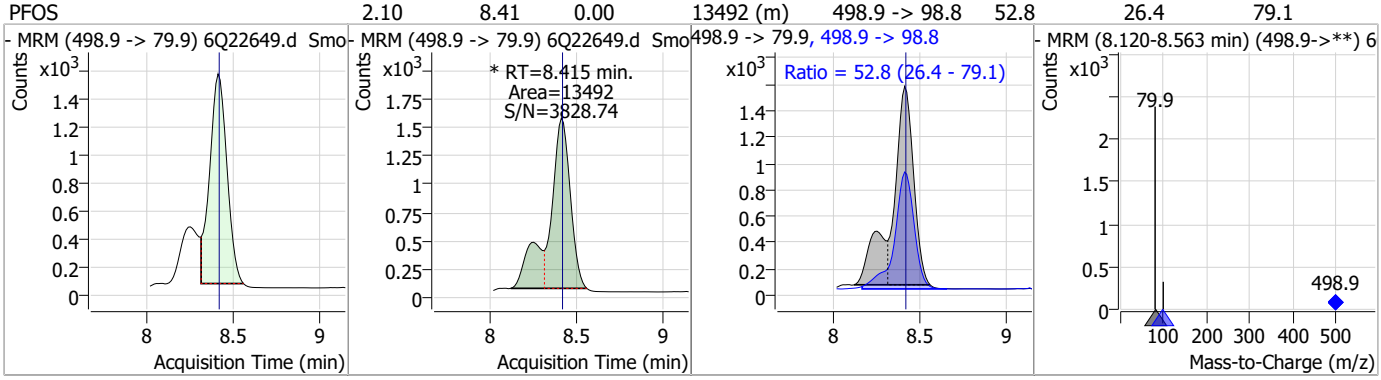




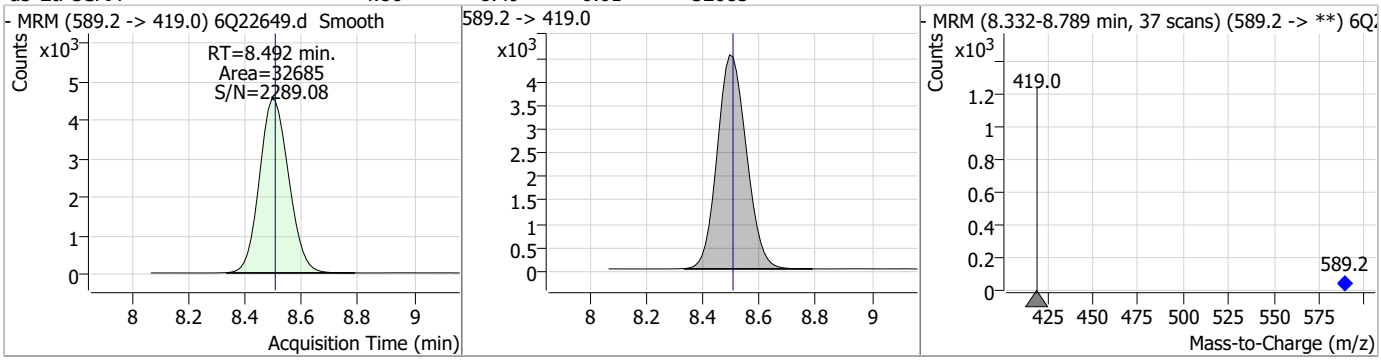


Perfluorinated Compounds by LC/MS/MS

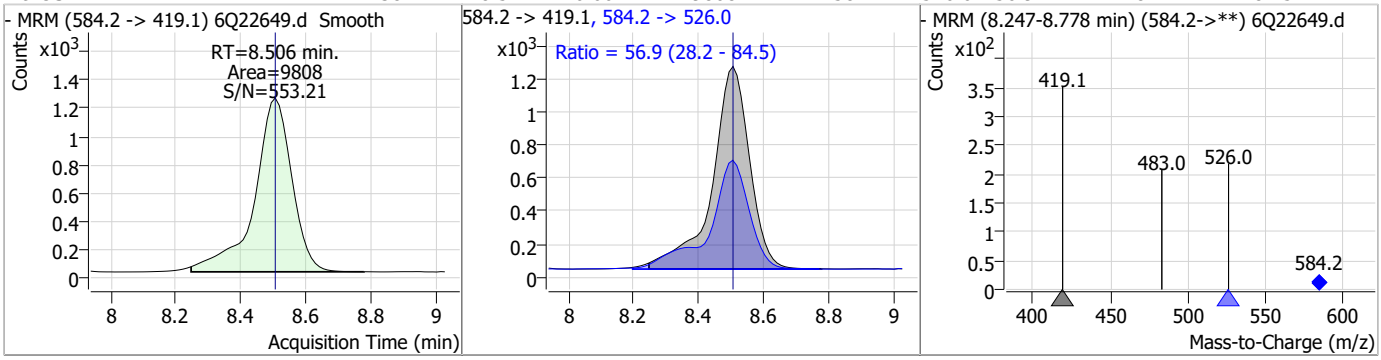
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.10	8.41	0.00	13492 (m)	498.9 -> 98.8	52.8	26.4	79.1



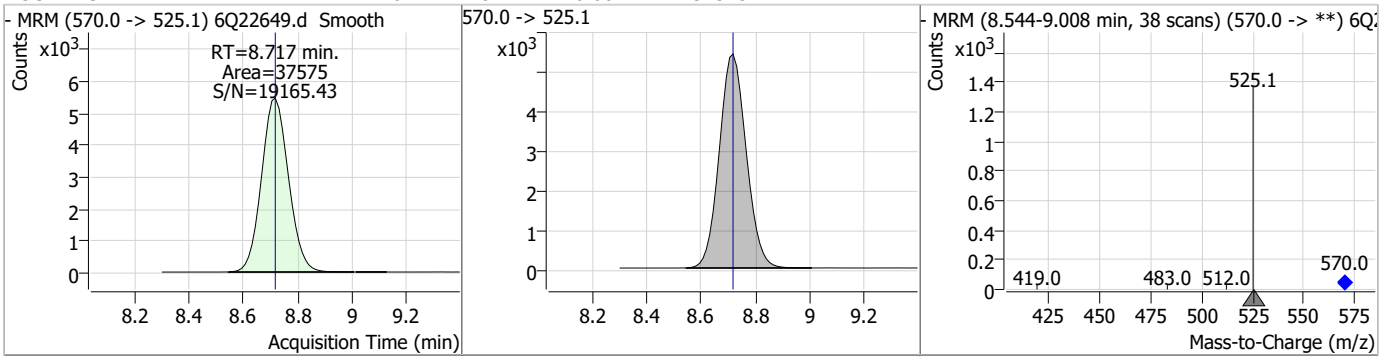
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.86	8.49	-0.01	32685				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.38	8.51	0.00	9808	584.2 -> 526.0	56.9	28.2	84.5

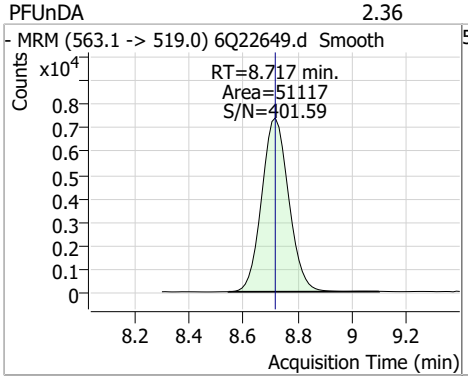


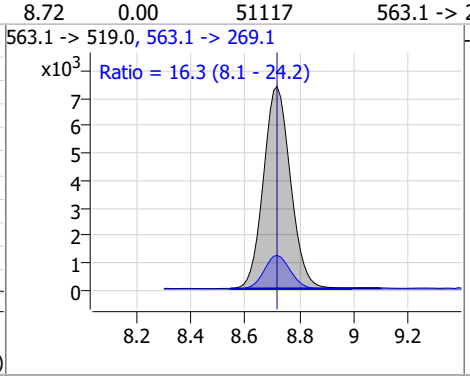
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.26	8.72	0.00	37575				

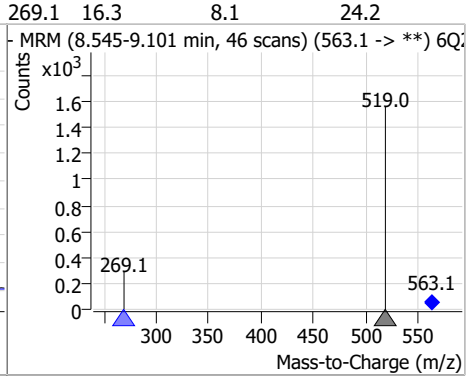


Perfluorinated Compounds by LC/MS/MS

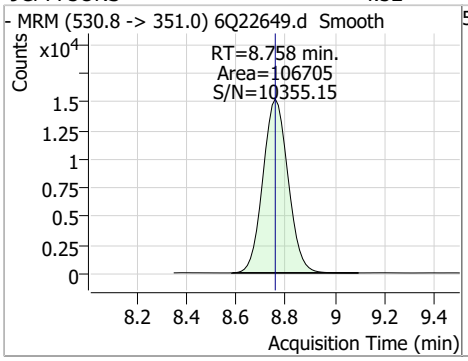
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.36	8.72	0.00	51117	563.1 -> 269.1	16.3	8.1	24.2

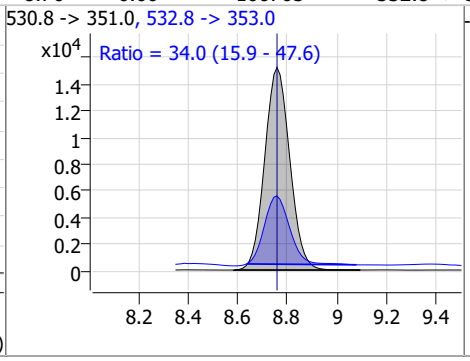


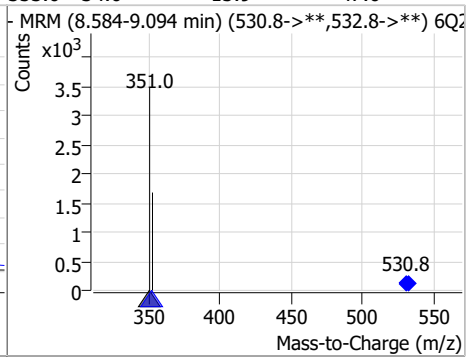




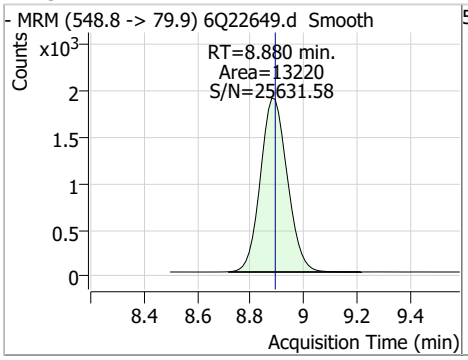
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.32	8.76	0.00	106705	532.8 -> 353.0	34.0	15.9	47.6

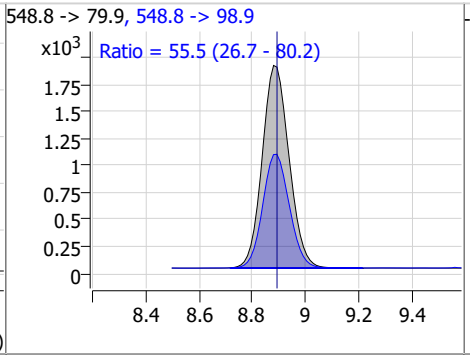


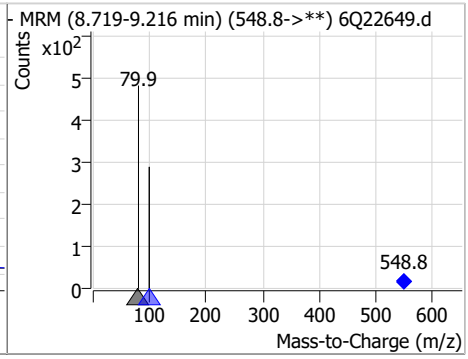




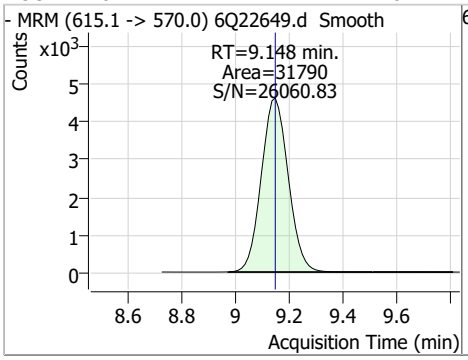
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.14	8.88	-0.01	13220	548.8 -> 98.9	55.5	26.7	80.2

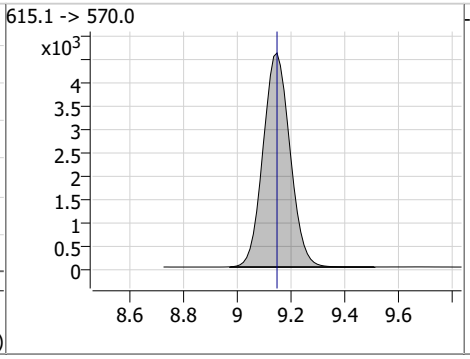


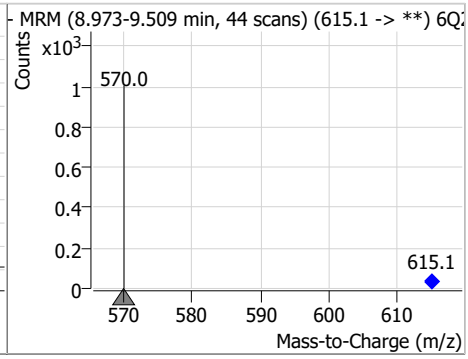




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.18	9.15	0.00	31790				

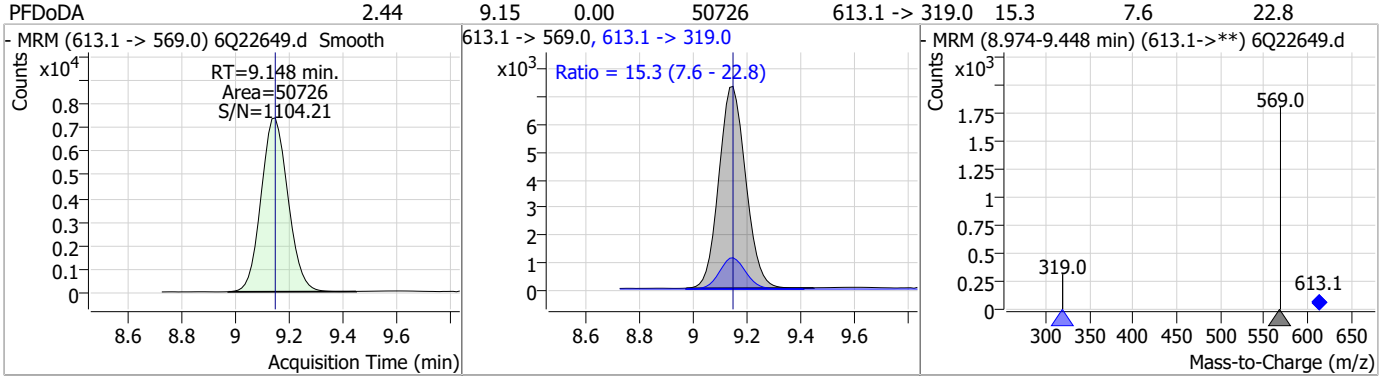




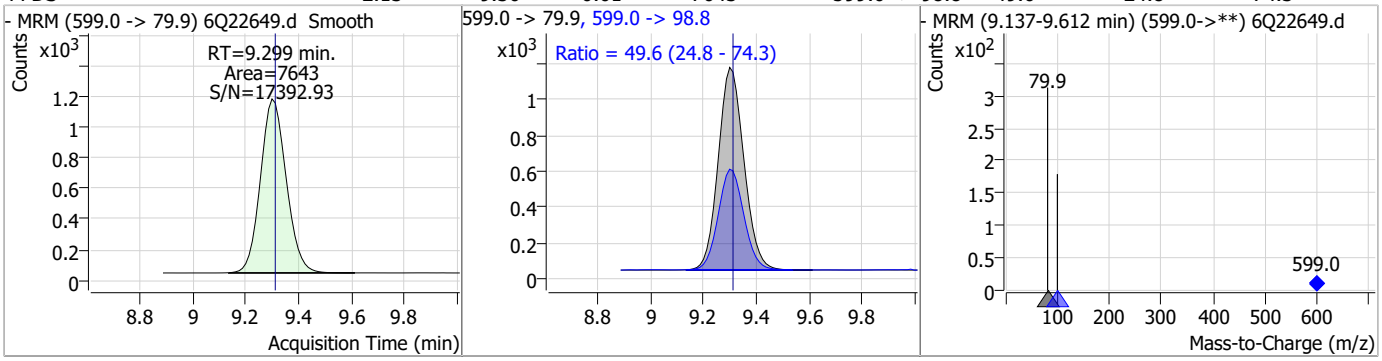


Perfluorinated Compounds by LC/MS/MS

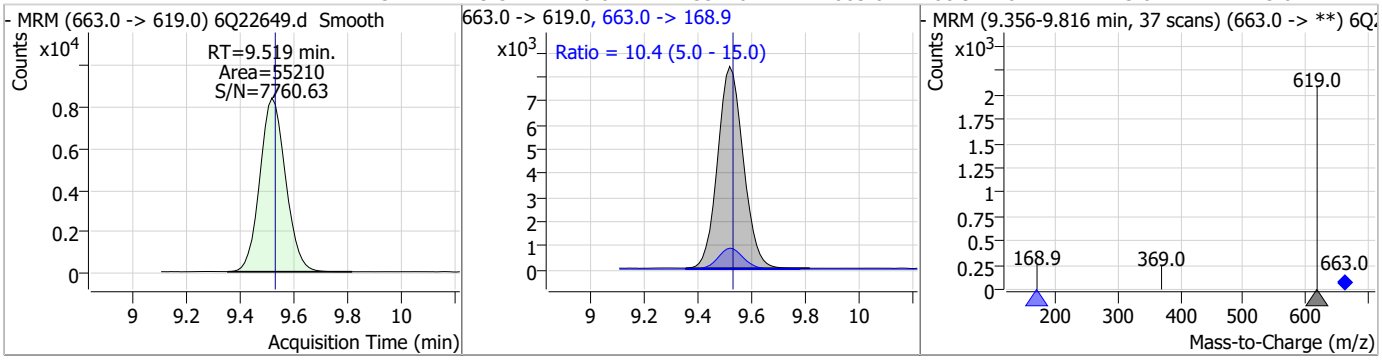
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.44	9.15	0.00	50726	613.1 -> 319.0	15.3	7.6	22.8



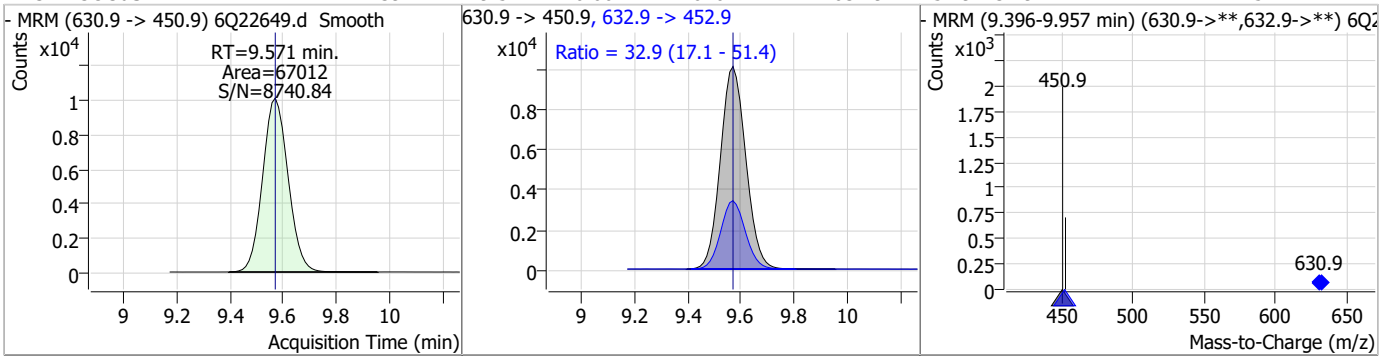
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.13	9.30	-0.01	7643	599.0 -> 98.8	49.6	24.8	74.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.57	9.52	-0.01	55210	663.0 -> 168.9	10.4	5.0	15.0

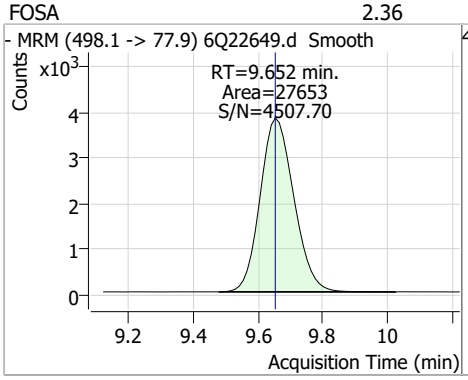


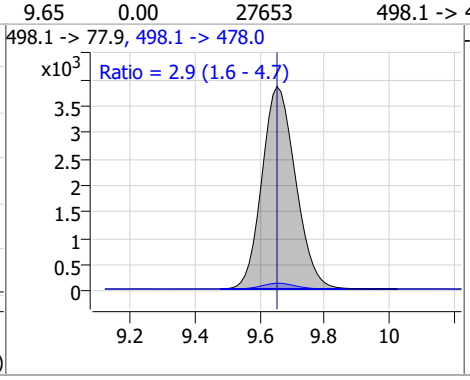
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.39	9.57	0.00	67012	632.9 -> 452.9	32.9	17.1	51.4

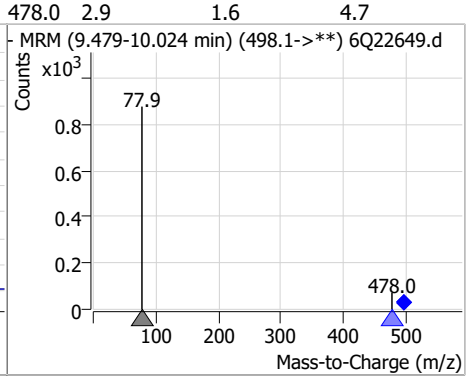


Perfluorinated Compounds by LC/MS/MS

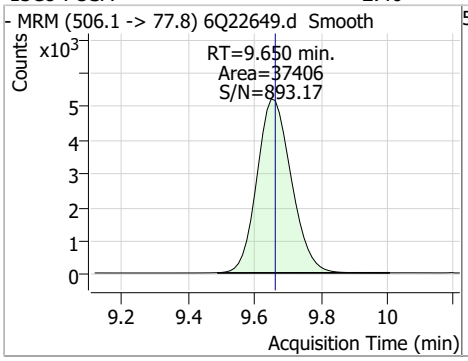
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.36	9.65	0.00	27653	498.1 -> 478.0	2.9	1.6	4.7

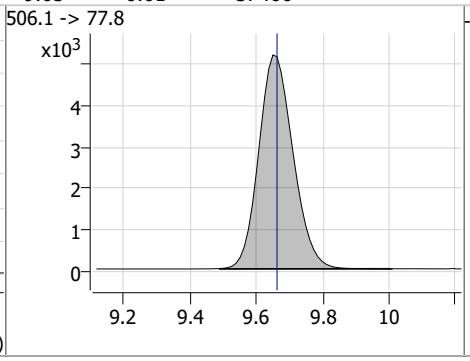


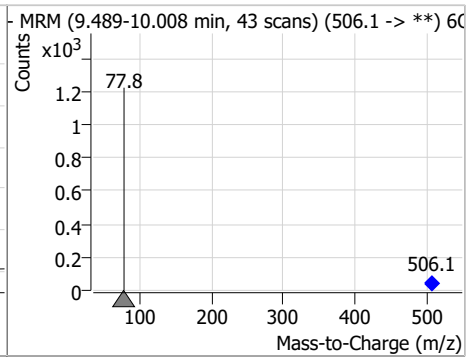




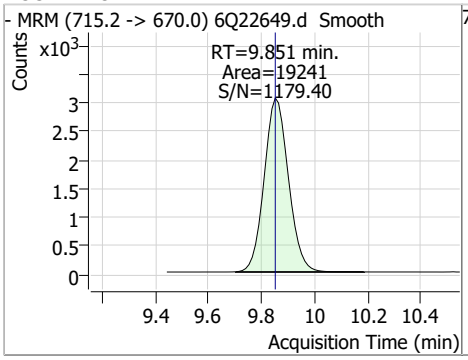
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.46	9.65	-0.01	37406				

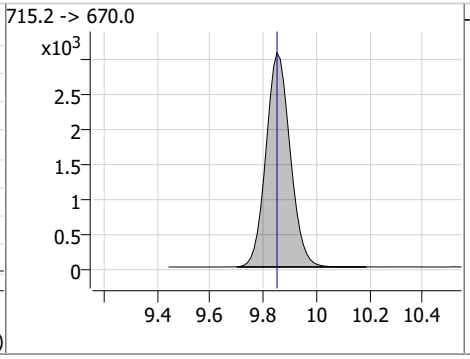


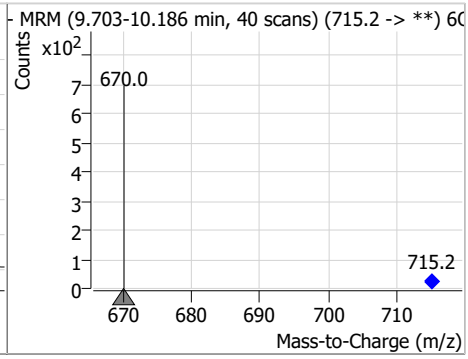




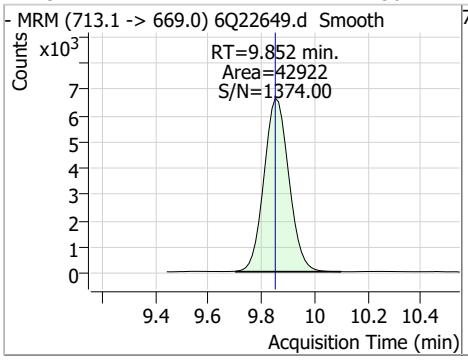
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.24	9.85	0.00	19241				

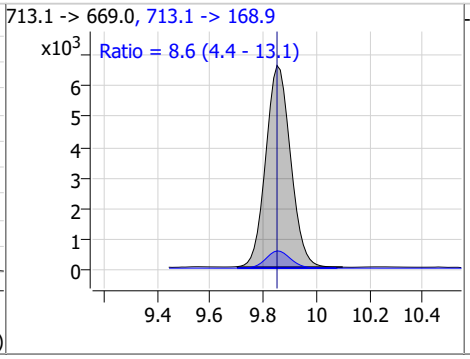


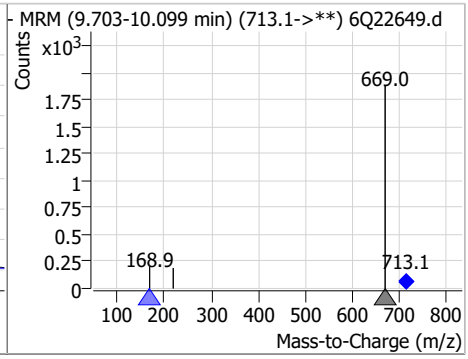




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.30	9.85	0.00	42922	713.1 -> 168.9	8.6	4.4	13.1

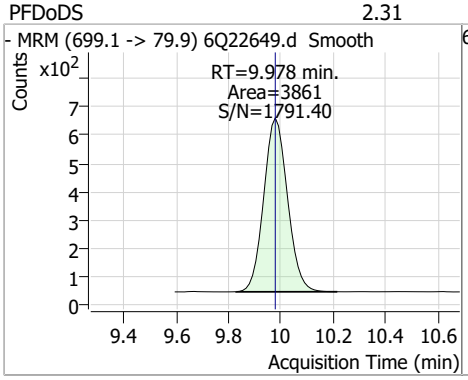


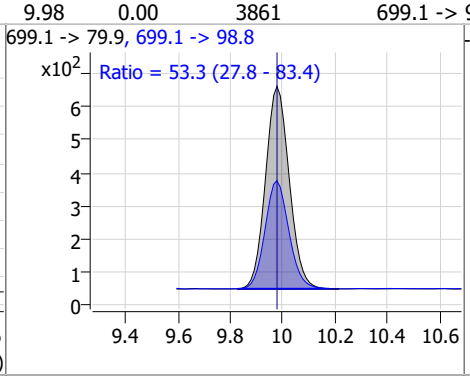


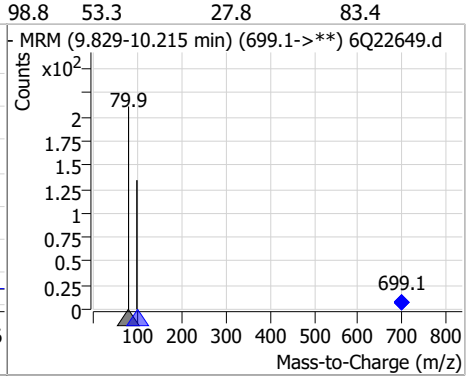


Perfluorinated Compounds by LC/MS/MS

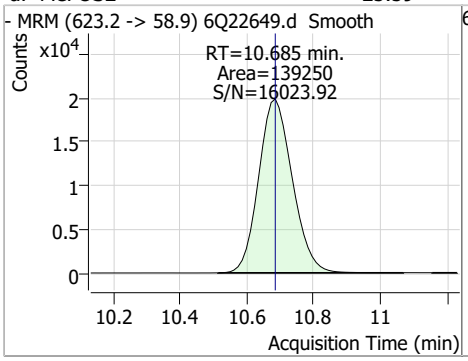
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.31	9.98	0.00	3861	699.1 -> 98.8	53.3	27.8	83.4

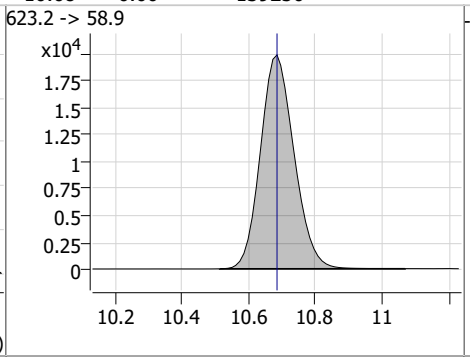


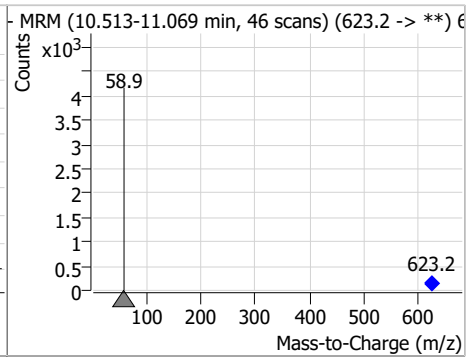




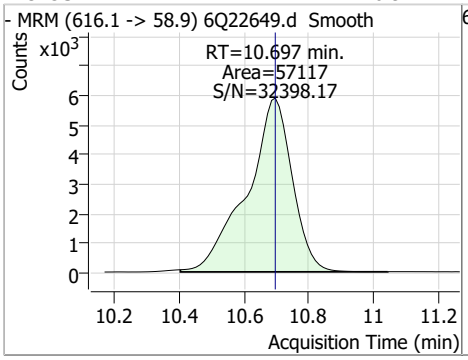
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.59	10.68	0.00	139250				

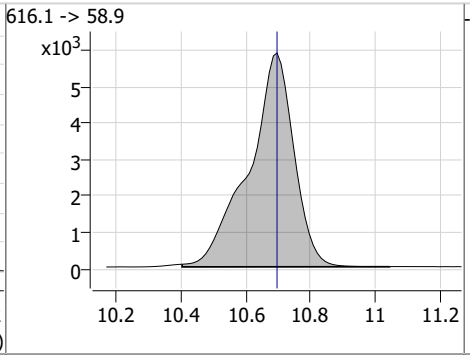


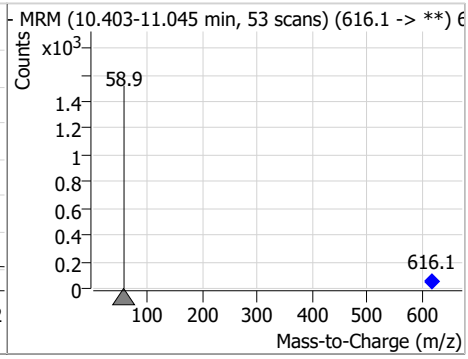




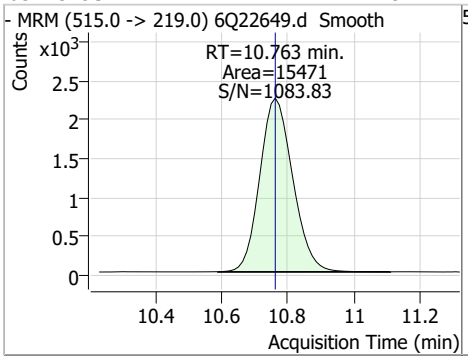
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	10.97	10.70	0.00	57117				

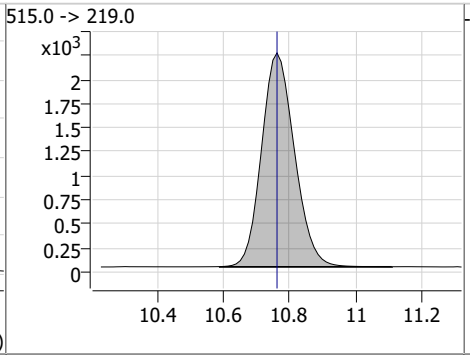


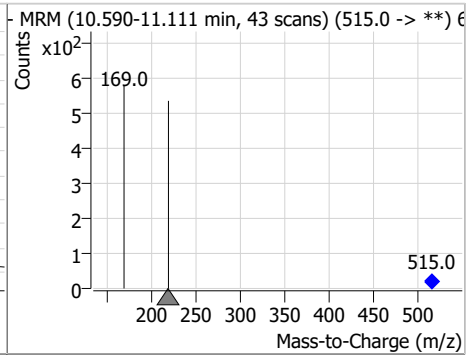




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.49	10.76	0.00	15471				

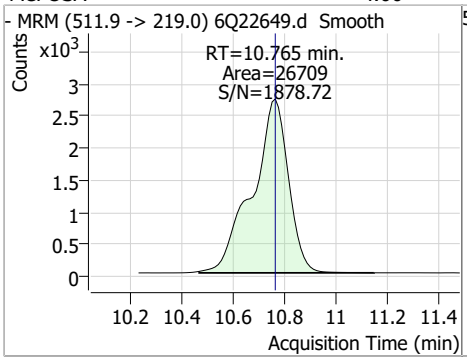


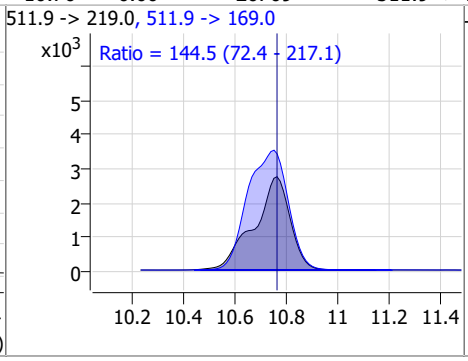


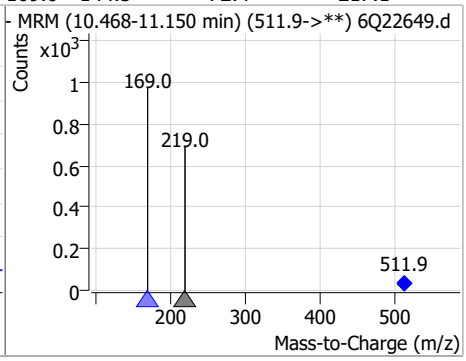


Perfluorinated Compounds by LC/MS/MS

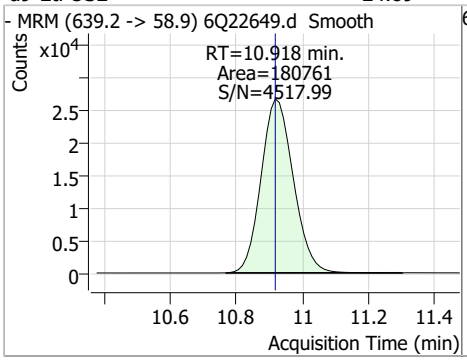
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.66	10.76	0.00	26709	511.9 -> 169.0	144.5	72.4	217.1

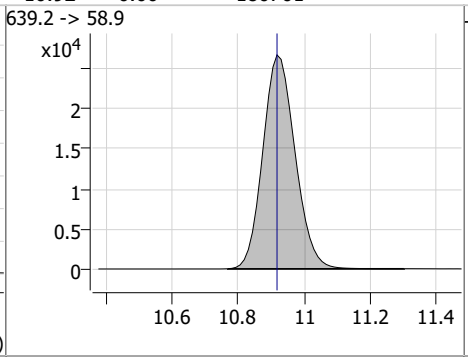


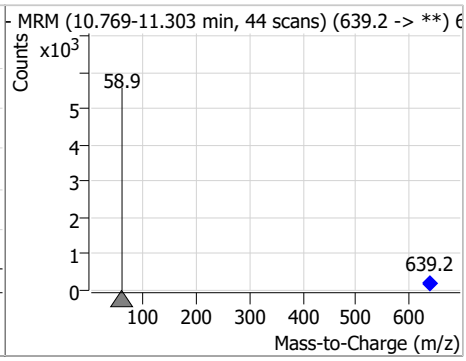




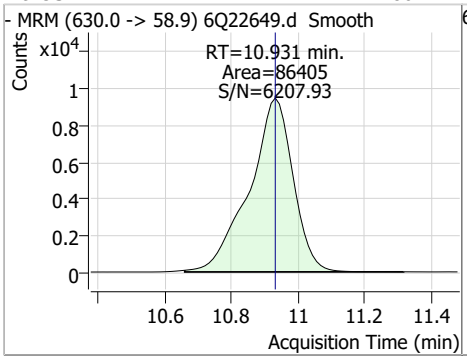
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.89	10.92	0.00	180761				

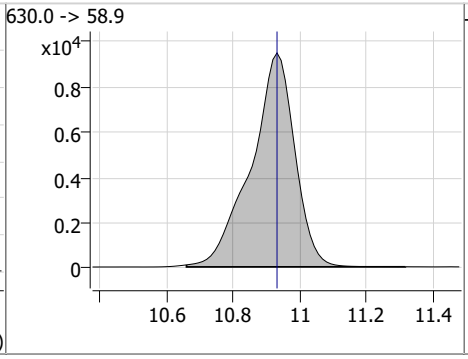


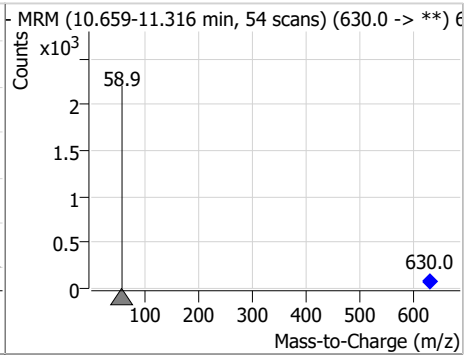




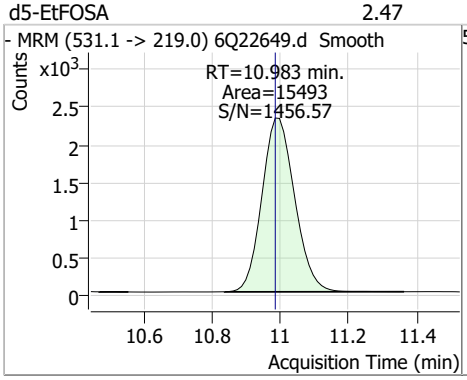
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	11.80	10.93	0.00	86405				

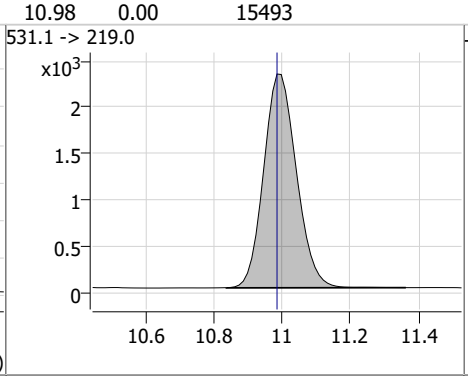


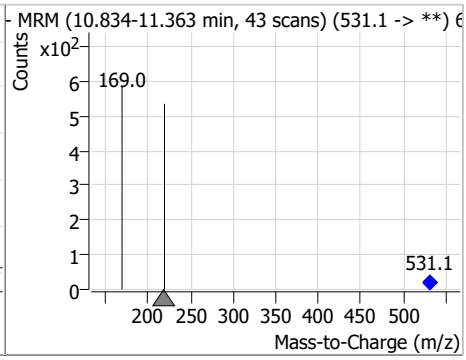




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.47	10.98	0.00	15493				

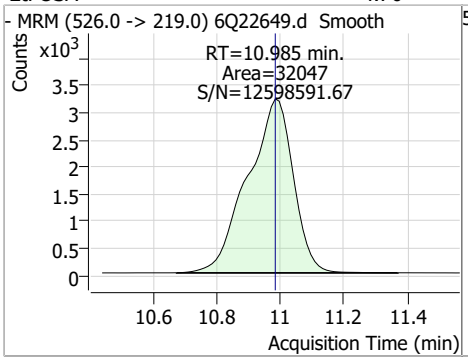


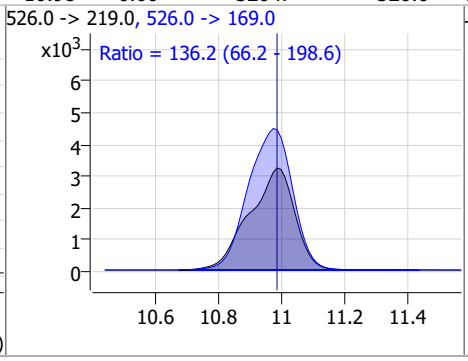


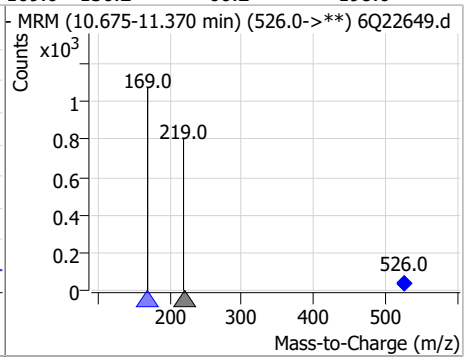


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.70	10.98	0.00	32047	526.0 -> 169.0	136.2	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q330-ICV330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22649.D	**Analyst approved:**	08/13/23 12:53 Martha Valls
Injection Time:	08/10/23 15:46	**Supervisor approved:**	08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/14/23 14:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22650.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/10/2023 4:01:11 PM
Sample Name : icv330-20
Vial : P1-B2
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q330.batch.bin
Sample Information : OP98201,S6Q330,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	3.022	216.8 -> 171.9	190273	10.00	µg/L	0.012
M5-PFPeA	4.459	268.3 -> 223.0	59332	5.00	µg/L	0.012
M5-PFHxA	5.680	318.0 -> 273.0	64987	2.50	µg/L	0.012
M4-PFHpA	6.608	367.1 -> 322.0	62854	2.50	µg/L	0.000
M8-PFOA	7.239	421.1 -> 376.0	96954	2.50	µg/L	0.000
M9-PFNA	7.770	472.1 -> 427.0	45872	1.25	µg/L	0.000
M6-PFDA	8.250	519.1 -> 474.1	25814	1.25	µg/L	-0.012
M7-PFUnDA	8.717	570.0 -> 525.1	33460	1.25	µg/L	0.000
M2-PFDoDA	9.148	615.1 -> 570.0	30353	1.25	µg/L	0.000
M2-PFTeDA	9.851	715.2 -> 670.0	17639	1.25	µg/L	0.000
M8-FOSA	9.662	506.1 -> 77.8	34497	2.50	µg/L	0.000
M3-PFBS	5.622	302.1 -> 79.9	22218	2.50	µg/L	0.012
M3-PFHxS	7.355	402.1 -> 79.9	15606	2.50	µg/L	0.000
M8-PFOS	8.426	507.1 -> 79.9	14300	2.50	µg/L	0.012
M2-4:2FTS	5.343	329.1 -> 80.9	3410	5.00	µg/L	0.012
M2-6:2FTS	7.014	429.1 -> 80.9	4782	5.00	µg/L	0.000
M2-8:2FTS	8.039	529.1 -> 80.9	5049	5.00	µg/L	-0.012
M3-MeFOSAA	8.297	573.2 -> 419.0	33272	5.00	µg/L	0.000
M3-HFPO-DA	6.045	286.9 -> 168.9	39172	10.00	µg/L	0.000
M5-EtFOSAA	8.505	589.2 -> 419.0	29553	5.00	µg/L	0.000
M7-MeFOSE	10.685	623.2 -> 58.9	122856	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	162802	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	14861	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	13730	2.50	µg/L	0.000
13C4-PFOS	8.414	502.8 -> 79.9	18159	2.50	µg/L	-0.012
13C3-PFBA	3.026	216.0 -> 172.0	79864	5.00	µg/L	0.025
18O2-PFHxS	7.354	403.0 -> 83.9	10669	2.50	µg/L	0.000
13C4-PFOA	7.239	417.1 -> 372.0	106408	2.50	µg/L	0.000
13C2-PFDA	8.263	515.1 -> 470.1	36788	1.25	µg/L	0.012
13C5-PFNA	7.770	468.0 -> 423.0	55872	1.25	µg/L	0.000
13C2-PFHxA	5.681	315.1 -> 270.0	61643	2.50	µg/L	0.012
System Monitoring Compounds						
13C2-4:2FTS	5.343	329.1 -> 80.9	3410	5.35	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.0%		
13C2-6:2FTS	7.014	429.1 -> 80.9	4782	5.20	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.9%		
13C2-8:2FTS	8.039	529.1 -> 80.9	5049	5.60	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.1%		
13C2-PFDoDA	9.148	615.1 -> 570.0	30353	1.22	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.7%		
13C2-PFTeDA	9.851	715.2 -> 670.0	17639	1.23	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C3-PFBS	5.622	302.1 -> 79.9	22218	2.45	µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.1%		
13C3-PFHxS	7.355	402.1 -> 79.9	15606	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 = 106.5%	
13C4-PFBA	3.022	216.8 -> 171.9	190273	10.09 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C4-PFHpA	6.608	367.1 -> 322.0	62854	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C5-PFHxA	5.680	318.0 -> 273.0	64987	2.55 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C5-PFPeA	4.459	268.3 -> 223.0	59332	5.11 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C6-PFDA	8.250	519.1 -> 474.1	25814	1.24 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C7-PFUnDA	8.717	570.0 -> 525.1	33460	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C8-FOSA	9.662	506.1 -> 77.8	34497	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C8-PFOA	7.239	421.1 -> 376.0	96954	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%	
13C8-PFOS	8.426	507.1 -> 79.9	14300	2.69 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.6%	
13C9-PFNA	7.770	472.1 -> 427.0	45872	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.3%	
d3-MeFOSAA	8.297	573.2 -> 419.0	33272	5.06 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	39172	9.82 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.2%	
d3-MeFOSA	10.763	515.0 -> 219.0	13730	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
d5-EtFOSAA	8.505	589.2 -> 419.0	29553	4.87 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.4%	
d7-MeFOSE	10.685	623.2 -> 58.9	122856	25.03 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
d9-EtFOSE	10.918	639.2 -> 58.9	162802	24.86 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
d5-EtFOSA	10.983	531.1 -> 219.0	14861	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%	
Target Compounds					**QValue**
4:2FTS	5.343	327.1 -> 307.0	89005	20.17 µg/L	99
		327.1 -> 80.9	34055		
6:2FTS	7.014	427.1 -> 407.0	89908	21.02 µg/L	98
		427.1 -> 80.9	29301		
8:2FTS	8.040	527.1 -> 507.0	50873	18.83 µg/L	98
		527.1 -> 80.8	18181		
EtFOSAA	8.506	584.2 -> 419.1	71559	19.21 µg/L	95
		584.2 -> 526.0	37836		
FOSA	9.665	498.1 -> 77.9	206516	19.08 µg/L	99
		498.1 -> 478.0	6121		
MeFOSAA	8.310	570.1 -> 419.0	118923	18.69 µg/L	98
		570.1 -> 483.0	22851		
PFBA	3.031	212.8 -> 168.9	109165	18.36 µg/L	100
PFBS	5.611	298.7 -> 79.9	155154	21.37 µg/L	99
		298.7 -> 98.8	57145		
PFDA	8.251	512.9 -> 469.0	588991	19.26 µg/L	99
		512.9 -> 219.0	83967		
PFDoDA	9.148	613.1 -> 569.0	338131	17.00 µg/L	99
		613.1 -> 319.0	49587		
PFDS	9.299	599.0 -> 79.9	64193	18.71 µg/L	98

Perfluorinated Compounds by LC/MS/MS

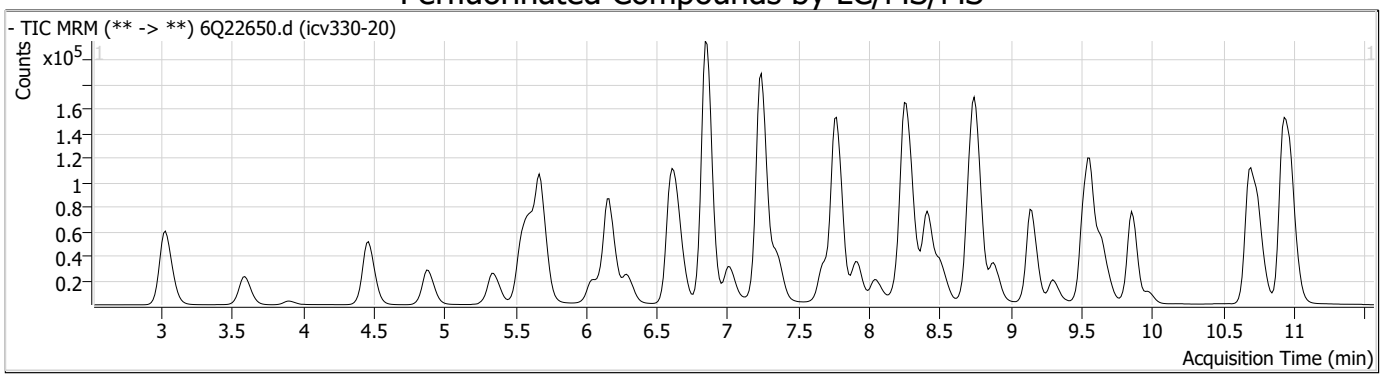
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	31006				
PFHpA	6.609	363.1 -> 319.0	454737	18.35	µg/L		99
		363.1 -> 169.0	77802				
PFHpS	7.922	449.0 -> 79.9	115336	17.66	µg/L		99
		449.0 -> 98.9	60818				
PFHxA	5.682	313.0 -> 269.0	373003	19.62	µg/L		100
		313.0 -> 118.9	19550				
PFHxS	7.356	398.7 -> 79.9	123829	17.98	µg/L	m	99
		398.7 -> 98.9	61026				
PFNA	7.771	463.0 -> 419.0	620877	19.69	µg/L		98
		463.0 -> 219.0	113536				
PFNS	8.893	548.8 -> 79.9	107942	18.30	µg/L		95
		548.8 -> 98.9	53524				
PFOA	7.240	413.0 -> 369.0	696261	17.57	µg/L		96
		413.0 -> 169.0	124162				
PFOS	8.415	498.9 -> 79.9	105341	17.14	µg/L	m	96
		498.9 -> 98.8	52308				
PFPeA	4.461	263.0 -> 219.0	259188	19.83	µg/L		100
PFPeS	6.672	349.1 -> 79.9	124003	19.41	µg/L		95
		349.1 -> 98.9	52563				
PFTeDA	9.852	713.1 -> 669.0	314814	18.38	µg/L		99
		713.1 -> 168.9	28437				
PFTrDA	9.519	663.0 -> 619.0	336340	16.39	µg/L		98
		663.0 -> 168.9	36451				
PFUnDA	8.717	563.1 -> 519.0	367415	19.06	µg/L		97
		563.1 -> 269.1	63388				
11Cl-PF3OUdS	9.571	630.9 -> 450.9	274803	19.66	µg/L		97
		632.9 -> 452.9	89965				
9Cl-PF3ONS	8.758	530.8 -> 351.0	482824	21.37	µg/L		98
		532.8 -> 353.0	148874				
ADONA	6.858	376.9 -> 250.9	939568	18.83	µg/L		98
		376.9 -> 84.8	240419				
HFPO-DA	6.058	284.9 -> 168.9	61181	18.35	µg/L		99
		284.9 -> 184.9	6810				
3:3FTCA	3.896	241.0 -> 177.0	17030	18.12	µg/L		100
		241.0 -> 117.0	2300				
5:3FTCA	6.298	341.0 -> 237.1	76681	19.61	µg/L		95
		341.0 -> 217.0	51325				
7:3FTCA	7.673	441.0 -> 316.9	53824	18.61	µg/L		92
		441.0 -> 336.9	115625				
EtFOSA	10.997	526.0 -> 219.0	107777	16.47	µg/L		81
		526.0 -> 169.0	118326				
EtFOSE	10.931	630.0 -> 58.9	654054	99.14	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	89536	17.60	µg/L		77
		511.9 -> 169.0	104090				
MeFOSE	10.697	616.1 -> 58.9	489972	106.68	µg/L		100
PFDoDS	9.978	699.1 -> 79.9	27153	16.99	µg/L		98
		699.1 -> 98.8	14761				
NFDHA	5.564	295.0 -> 201.0	46275	19.14	µg/L		95
		295.0 -> 84.9	12075				
PFMBA	4.882	279.0 -> 85.1	177042	19.15	µg/L		100
PFMPA	3.588	229.0 -> 84.9	142723	19.29	µg/L		100
PFEESA	6.163	314.8 -> 134.9	447879	17.54	µg/L		99
		314.8 -> 82.9	14812				

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

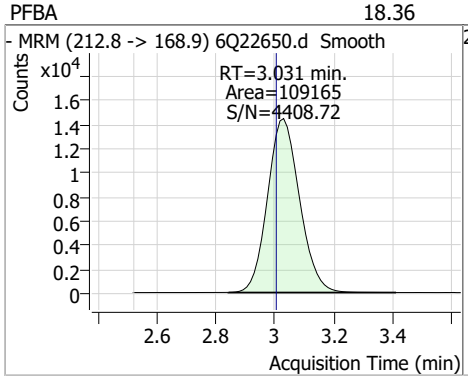
Perfluorinated Compounds by LC/MS/MS

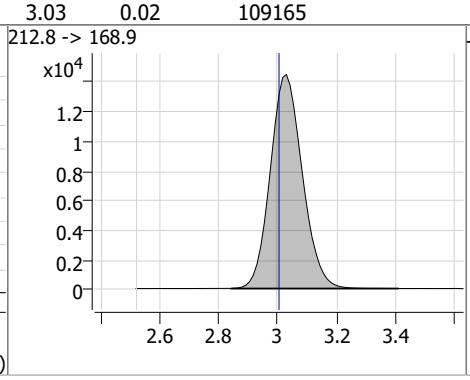
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

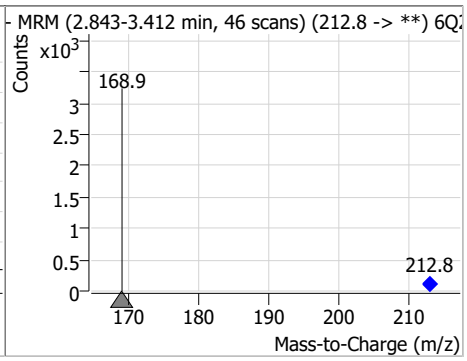
Perfluorinated Compounds by LC/MS/MS



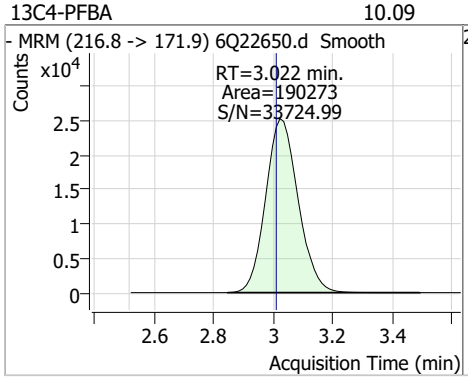
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	18.36	3.03	0.02	109165				

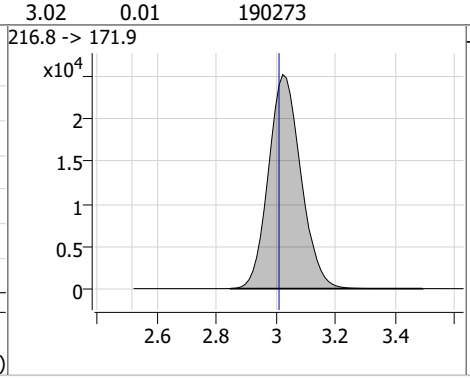


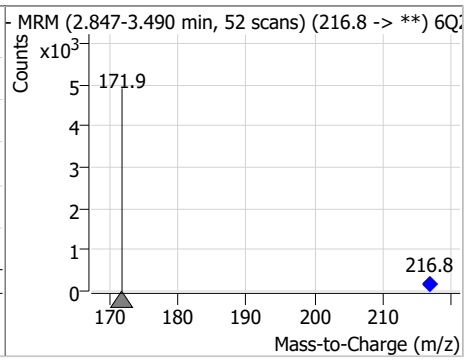




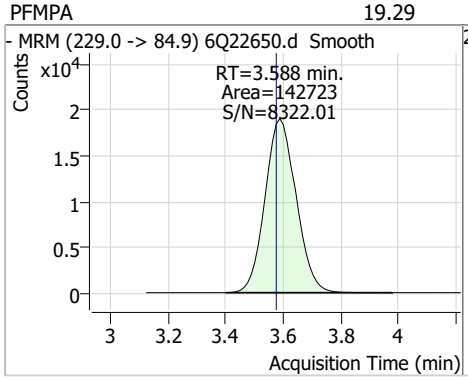
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.09	3.02	0.01	190273				

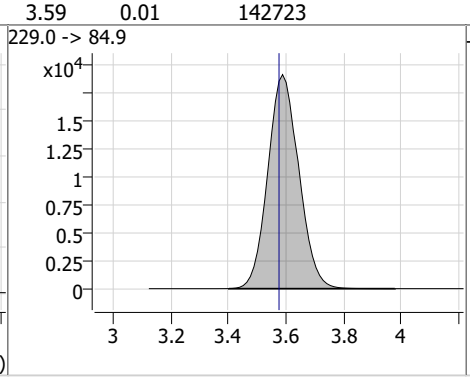


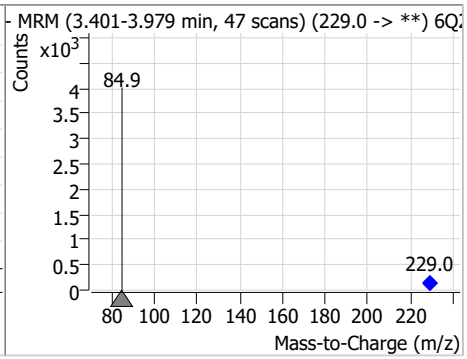




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	19.29	3.59	0.01	142723				

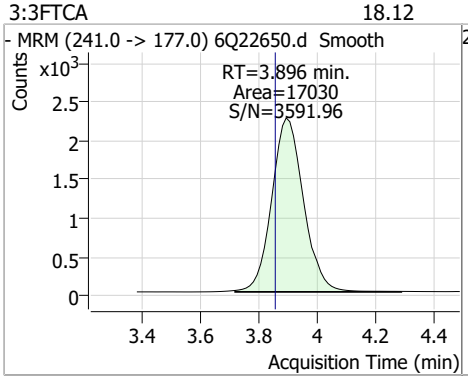


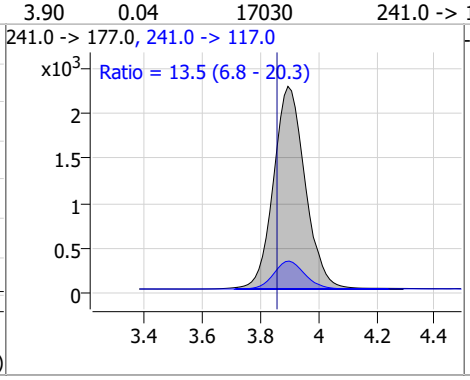


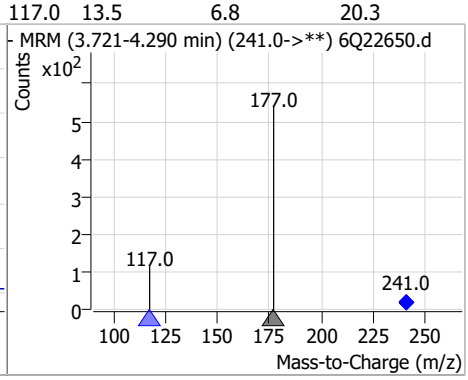


Perfluorinated Compounds by LC/MS/MS

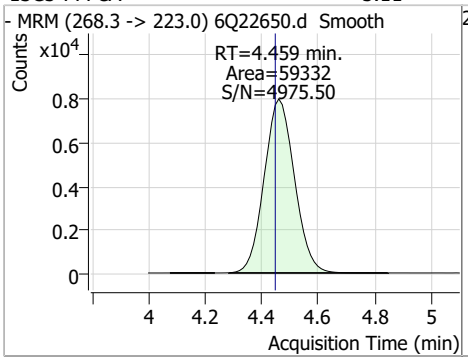
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	18.12	3.90	0.04	17030	241.0 -> 117.0	13.5	6.8	20.3

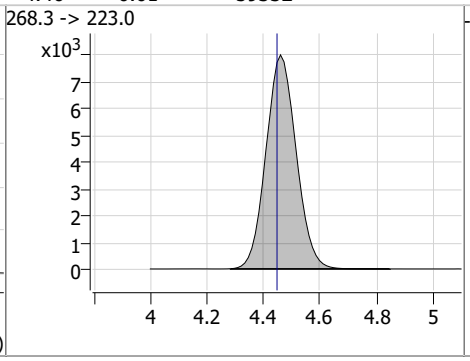


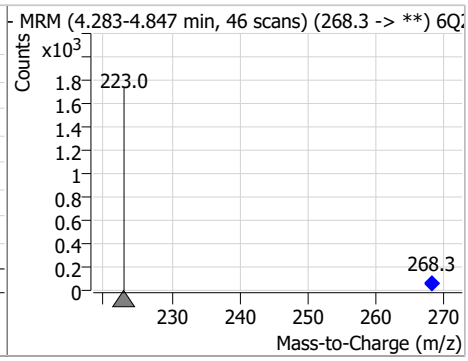




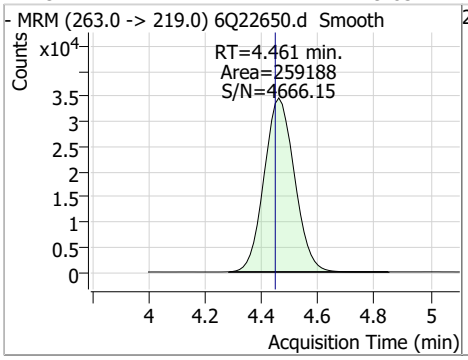
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.11	4.46	0.01	59332				

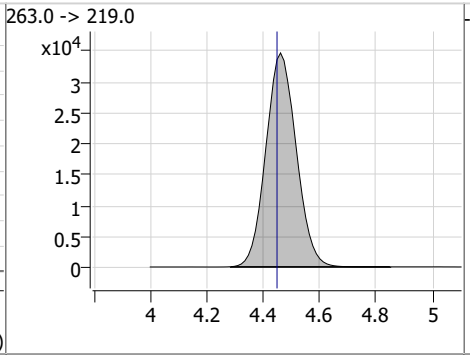


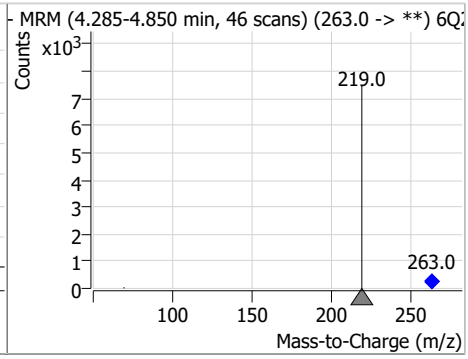




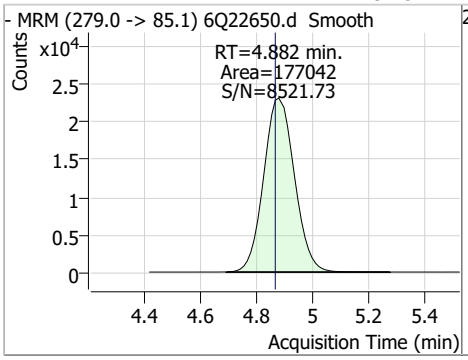
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.83	4.46	0.01	259188				

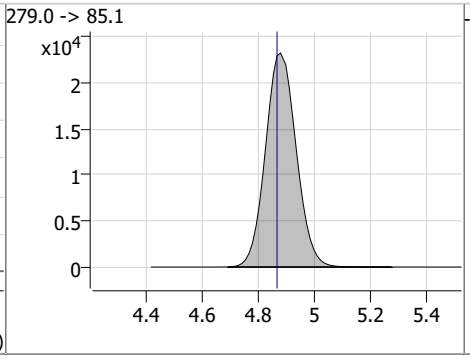


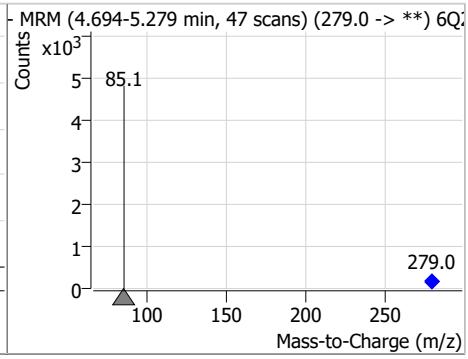




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	19.15	4.88	0.01	177042				

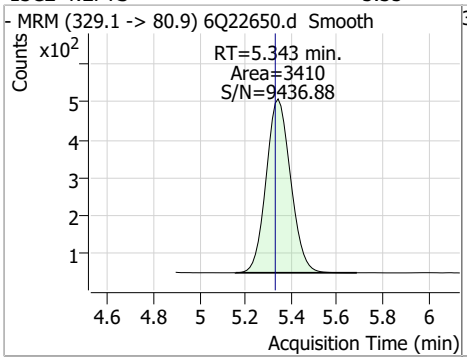


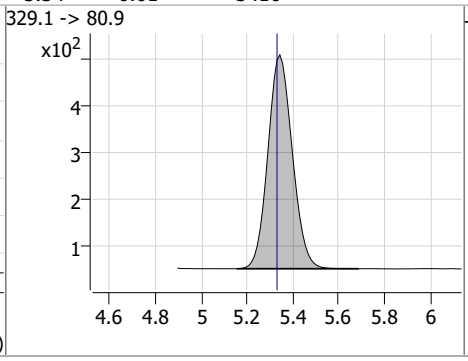


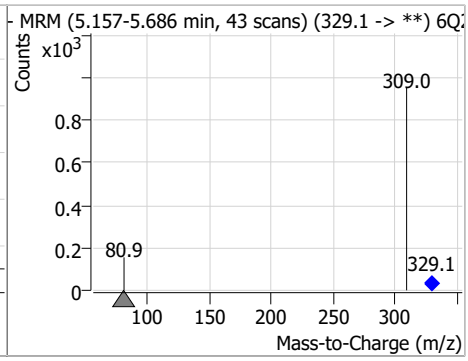


Perfluorinated Compounds by LC/MS/MS

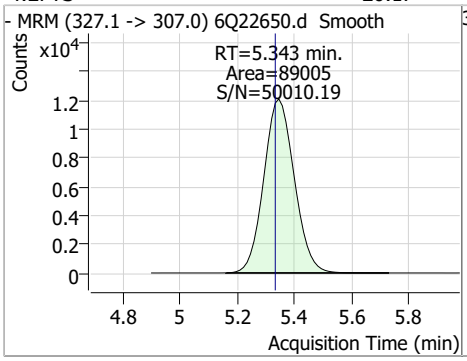
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.35	5.34	0.01	3410				

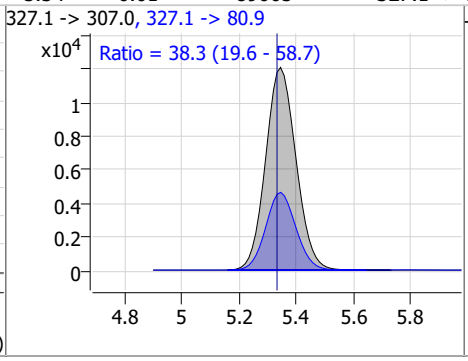


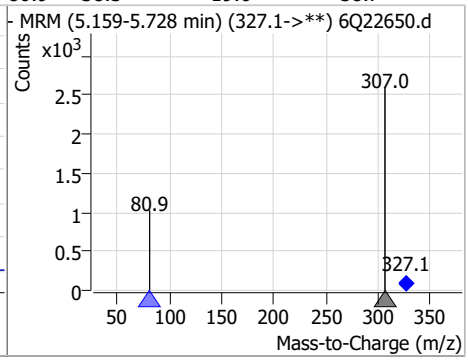




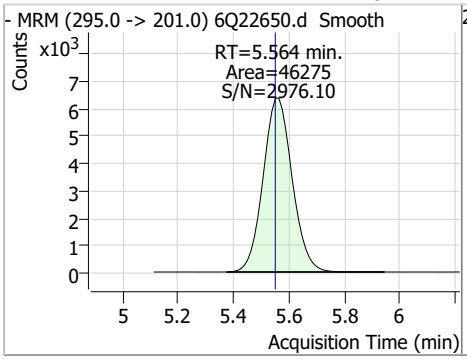
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	20.17	5.34	0.01	89005	327.1 -> 80.9	38.3	19.6	58.7

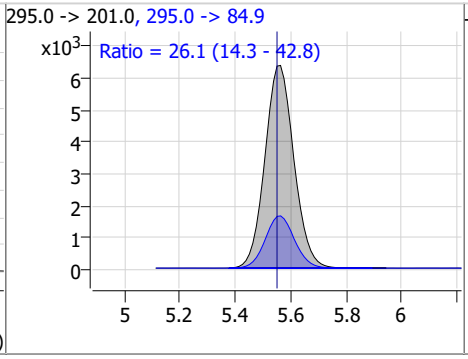


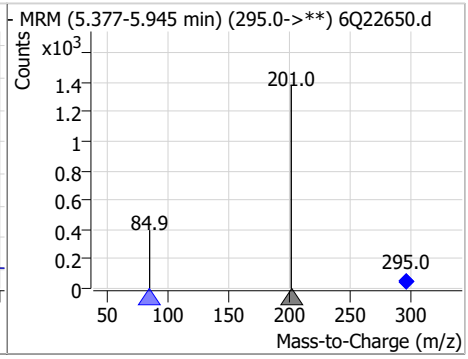




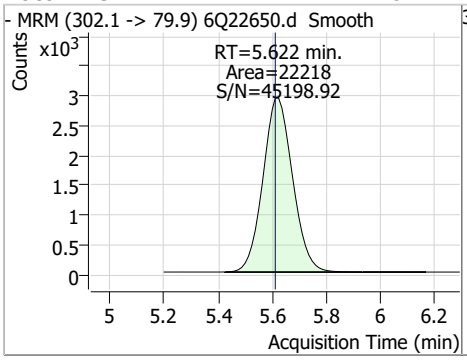
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	19.14	5.56	0.01	46275	295.0 -> 84.9	26.1	14.3	42.8

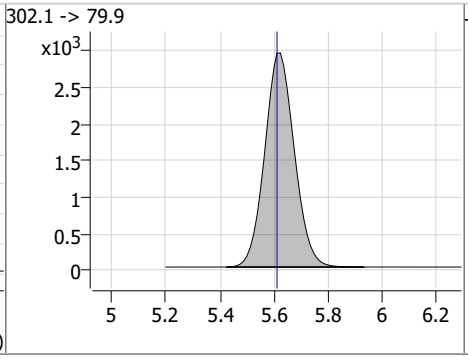


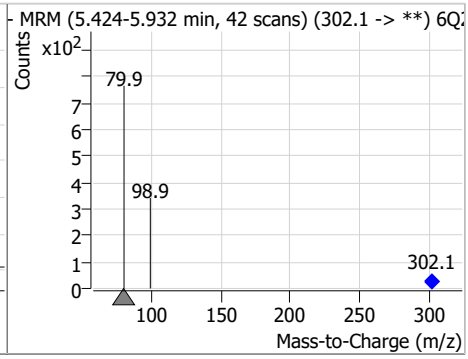




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.45	5.62	0.01	22218				

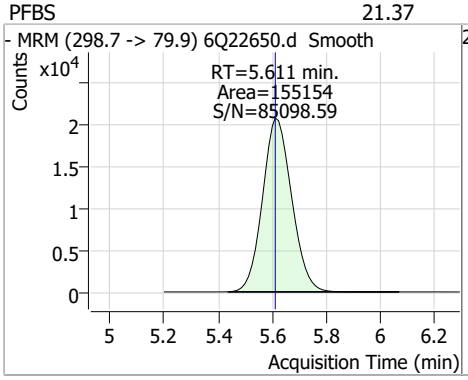


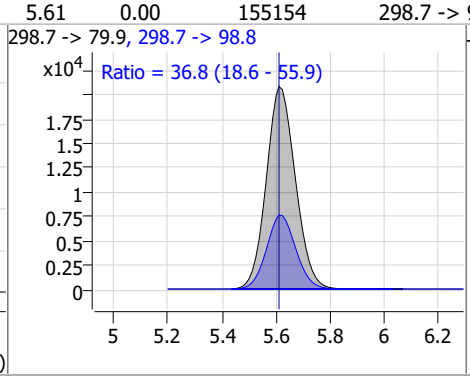


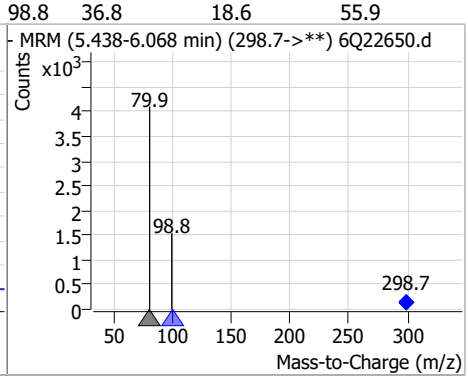


Perfluorinated Compounds by LC/MS/MS

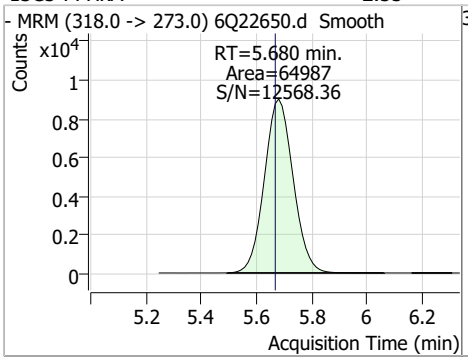
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	21.37	5.61	0.00	155154	298.7 -> 98.8	36.8	18.6	55.9

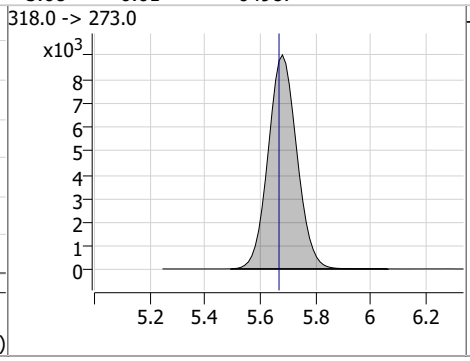


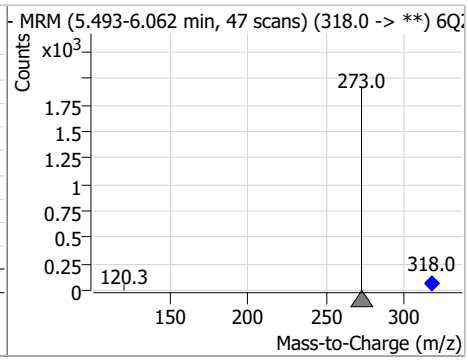




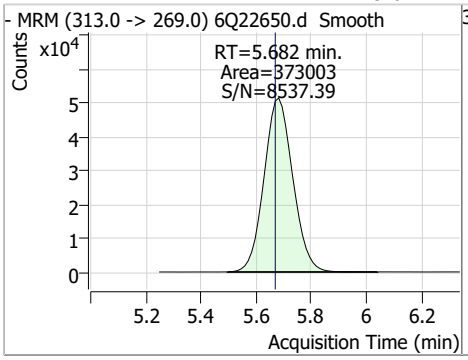
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.55	5.68	0.01	64987				

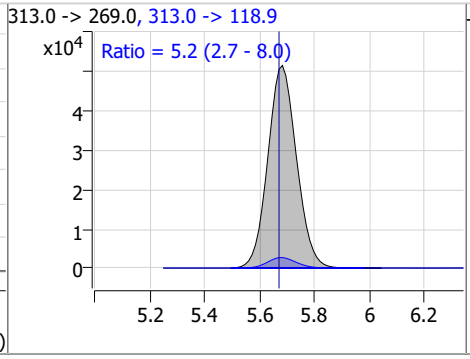


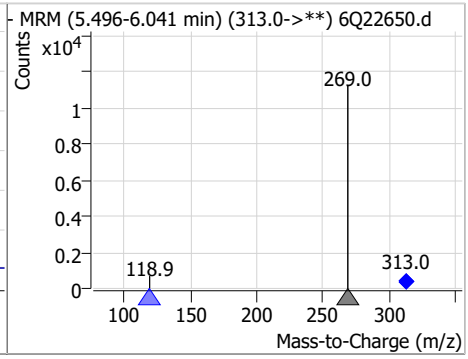




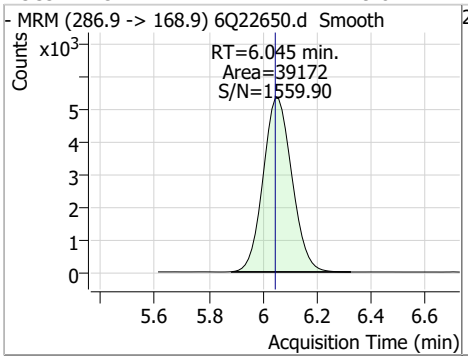
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	19.62	5.68	0.01	373003	313.0 -> 118.9	5.2	2.7	8.0

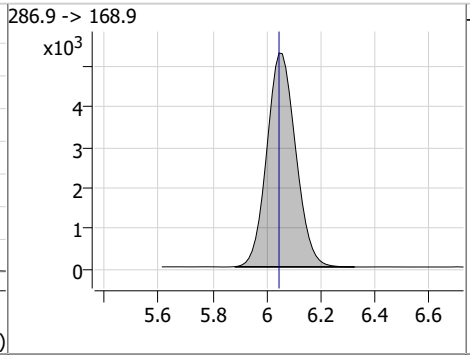


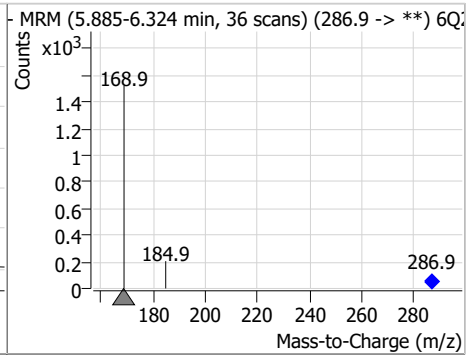




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.82	6.05	0.00	39172				

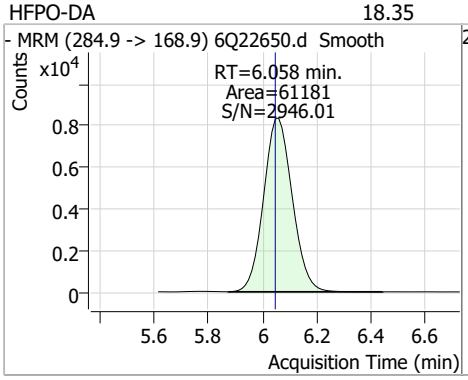


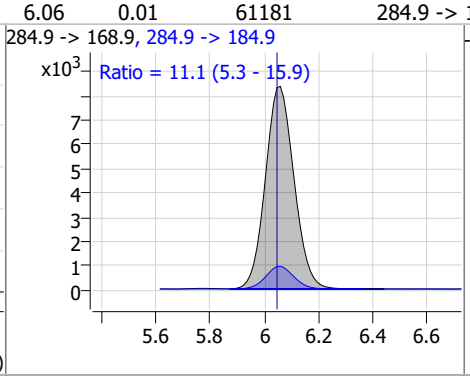


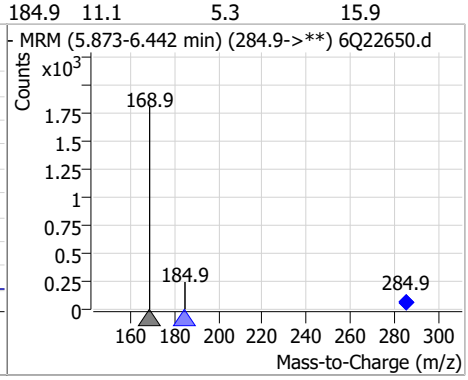


Perfluorinated Compounds by LC/MS/MS

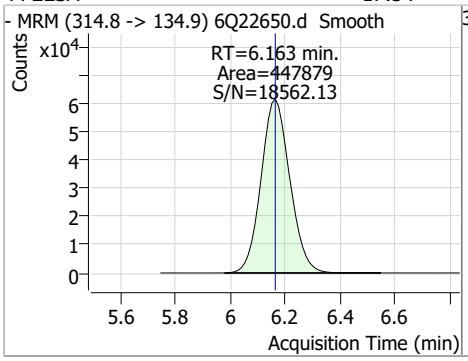
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	18.35	6.06	0.01	61181	284.9 -> 184.9	11.1	5.3	15.9

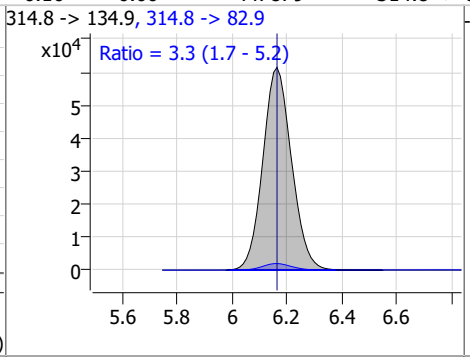


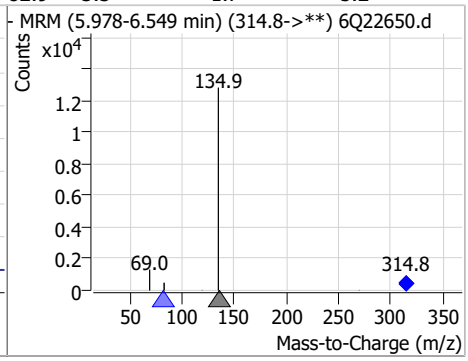




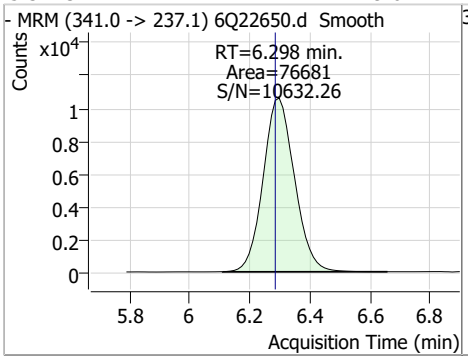
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	17.54	6.16	0.00	447879	314.8 -> 82.9	3.3	1.7	5.2

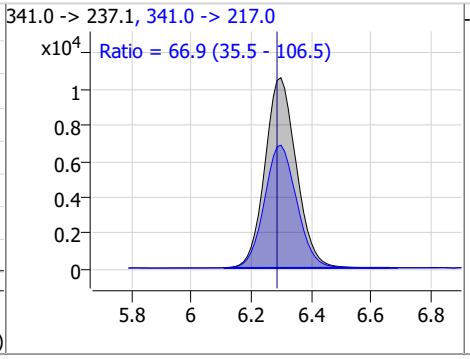


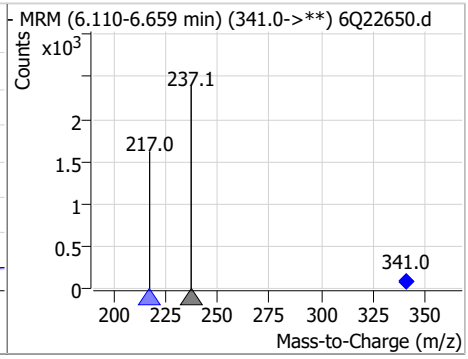




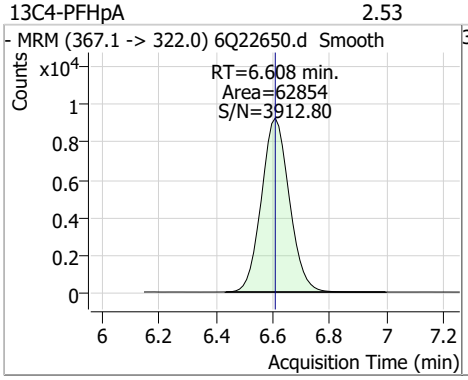
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	19.61	6.30	0.01	76681	341.0 -> 217.0	66.9	35.5	106.5

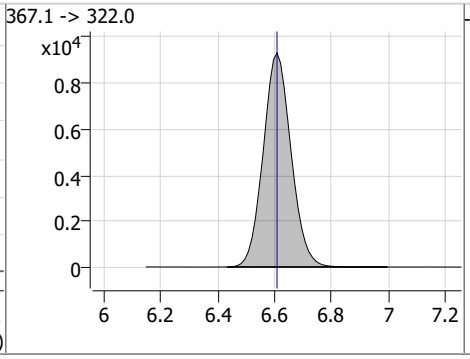


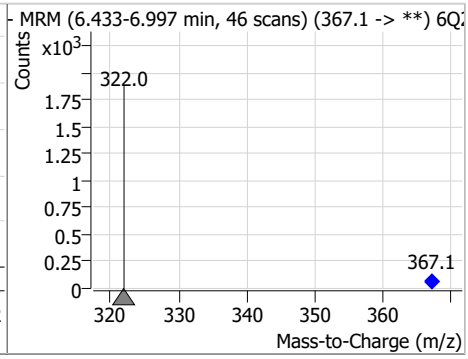




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.53	6.61	0.00	62854				

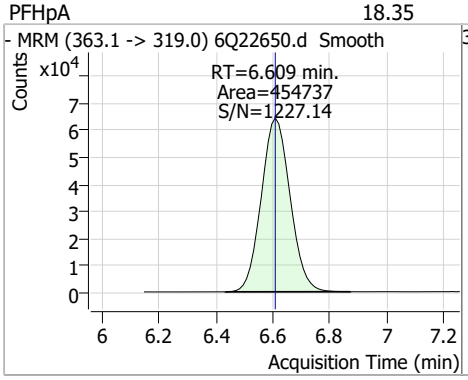


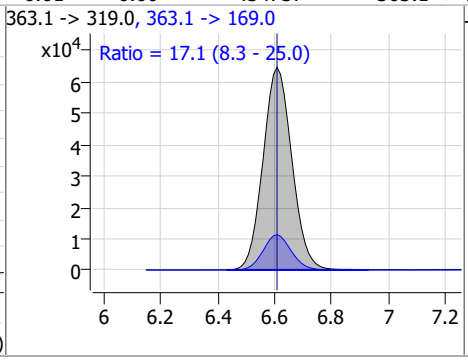


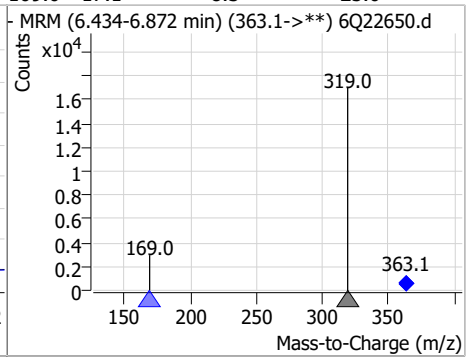


Perfluorinated Compounds by LC/MS/MS

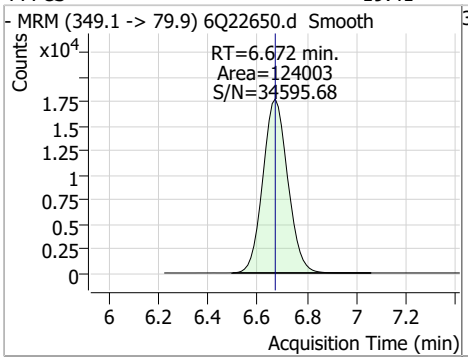
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	18.35	6.61	0.00	454737	363.1 -> 169.0	17.1	8.3	25.0

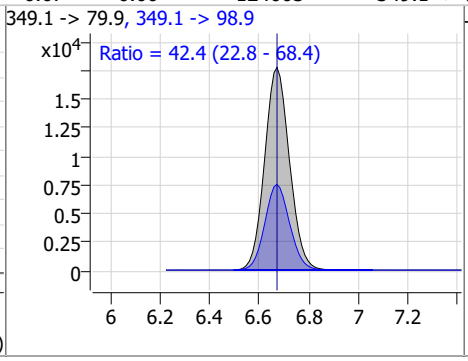


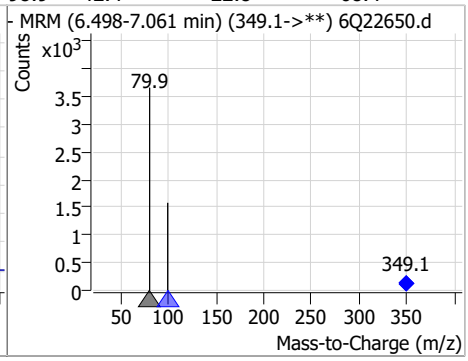




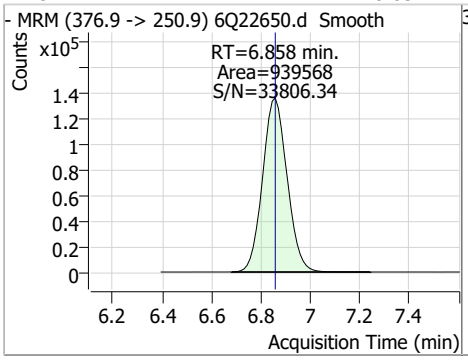
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	19.41	6.67	0.00	124003	349.1 -> 98.9	42.4	22.8	68.4

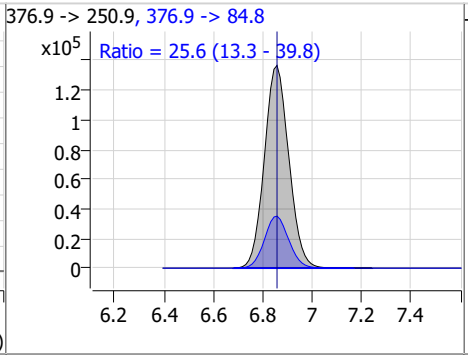


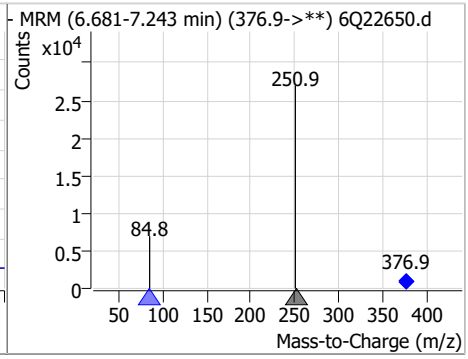




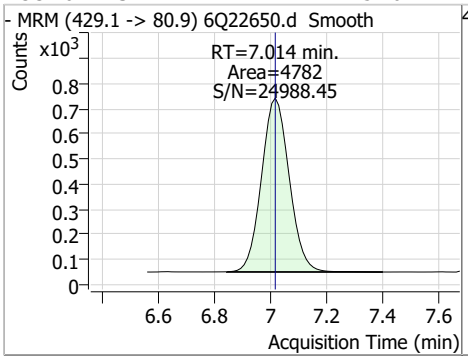
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	18.83	6.86	0.00	939568	376.9 -> 84.8	25.6	13.3	39.8

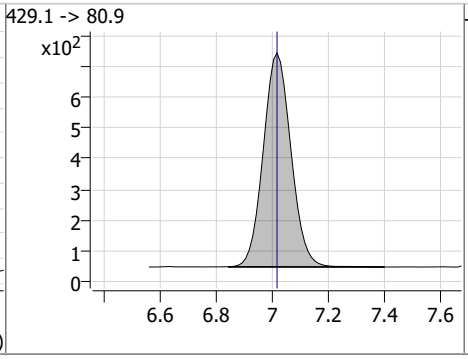


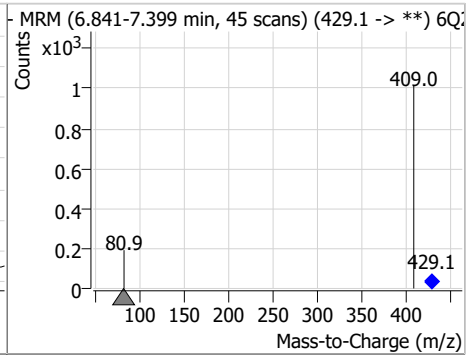




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.20	7.01	0.00	4782				

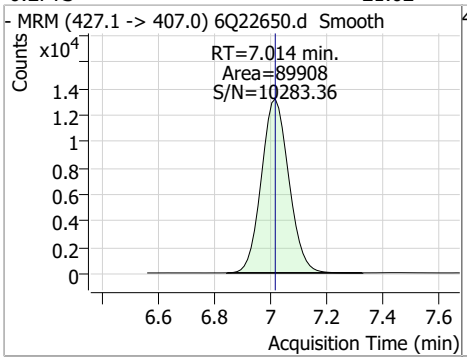


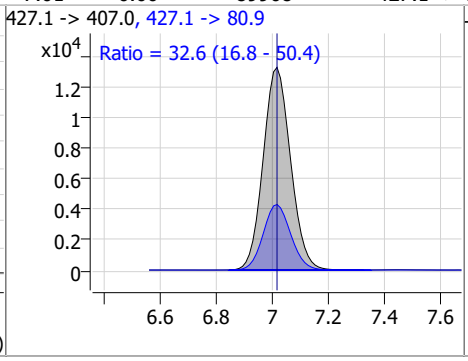


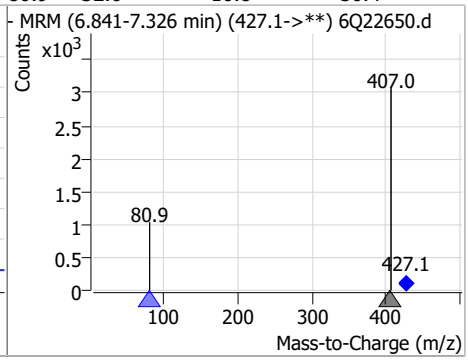


Perfluorinated Compounds by LC/MS/MS

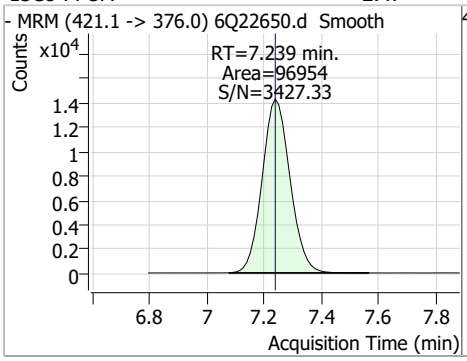
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	21.02	7.01	0.00	89908	427.1 -> 80.9	32.6	16.8	50.4

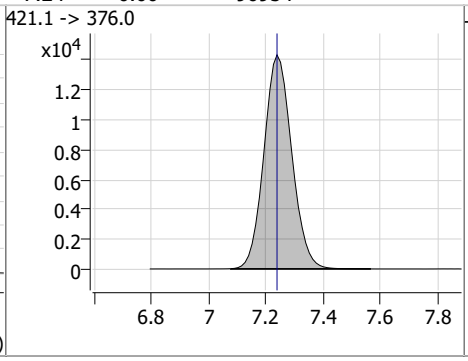


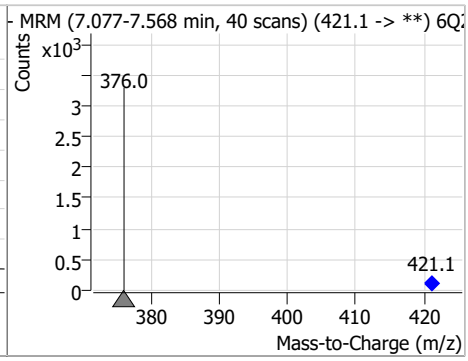




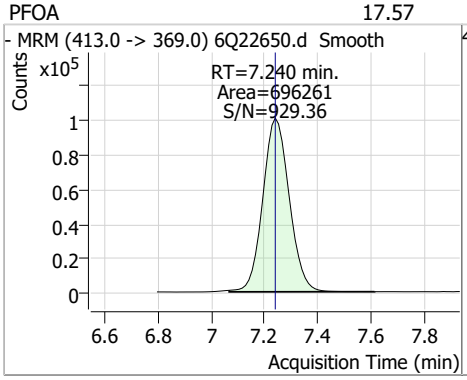
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.47	7.24	0.00	96954				

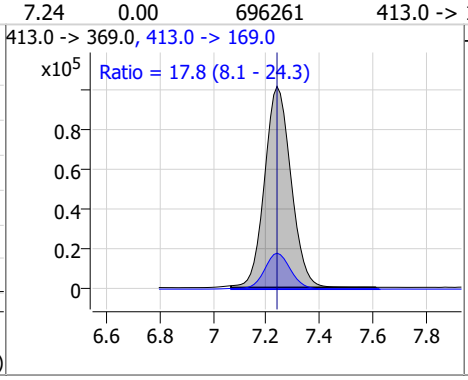


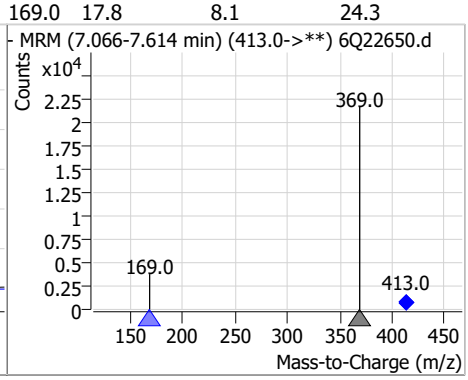




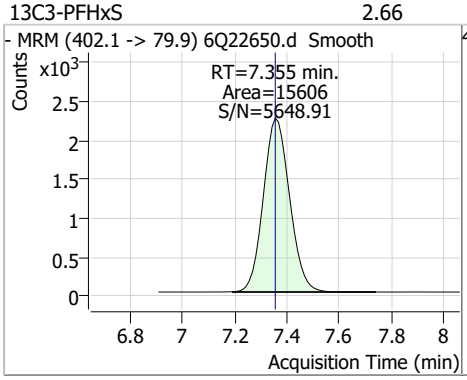
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	17.57	7.24	0.00	696261	413.0 -> 169.0	17.8	8.1	24.3

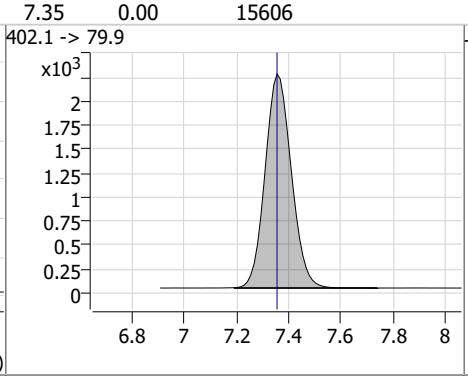


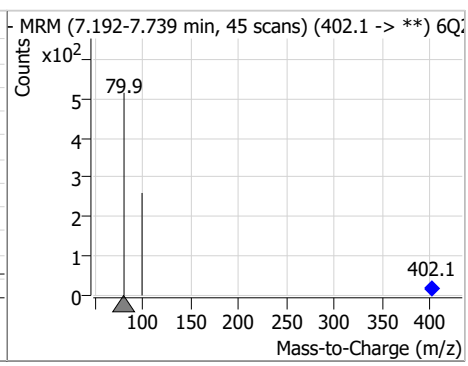




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.66	7.35	0.00	15606				

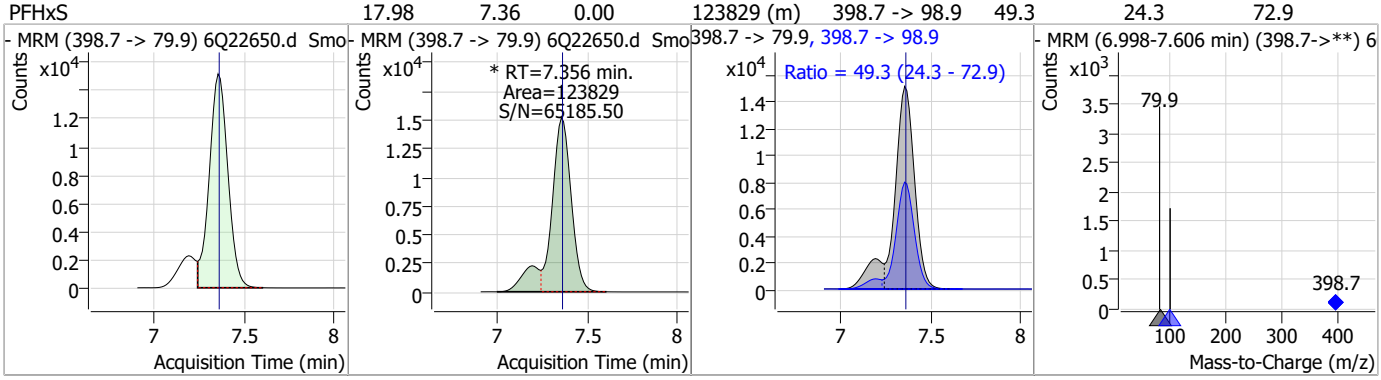




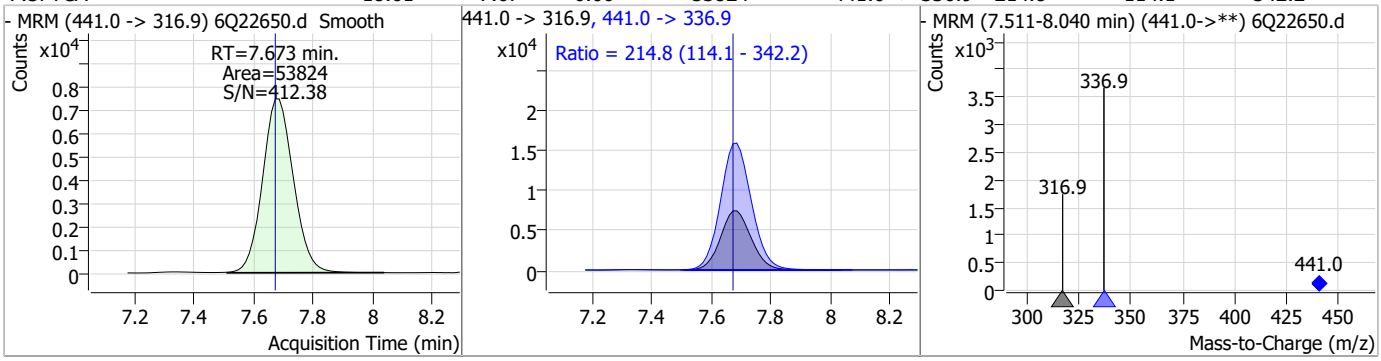


Perfluorinated Compounds by LC/MS/MS

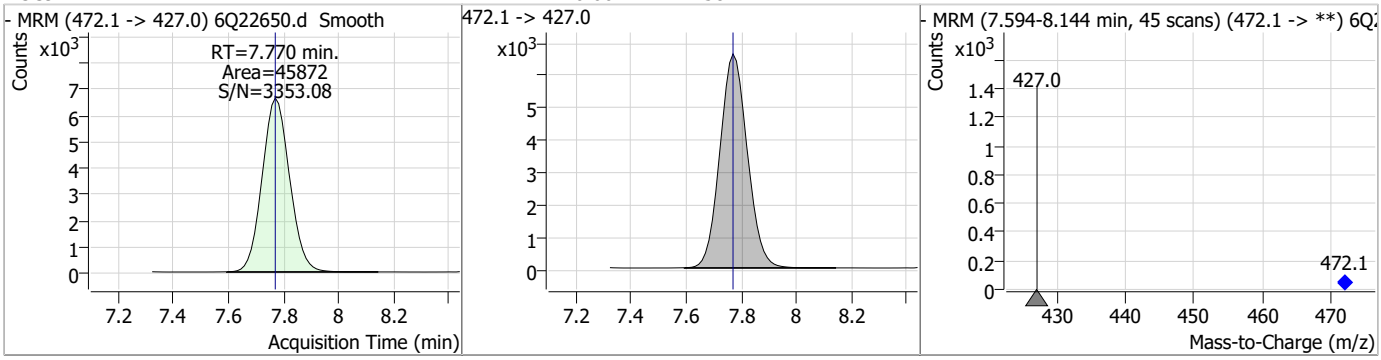
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	17.98	7.36	0.00	123829 (m)	398.7 -> 98.9	49.3	24.3	72.9



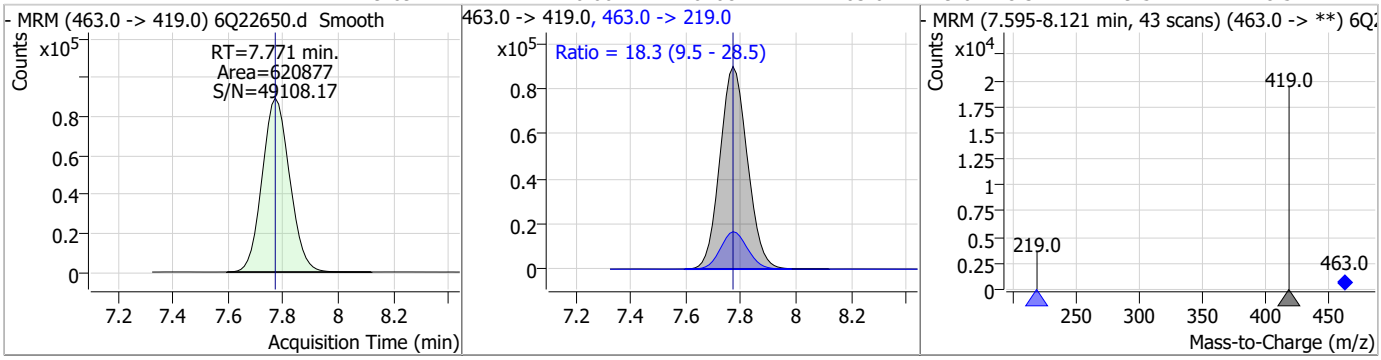
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	18.61	7.67	0.00	53824	441.0 -> 336.9	214.8	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.27	7.77	0.00	45872				

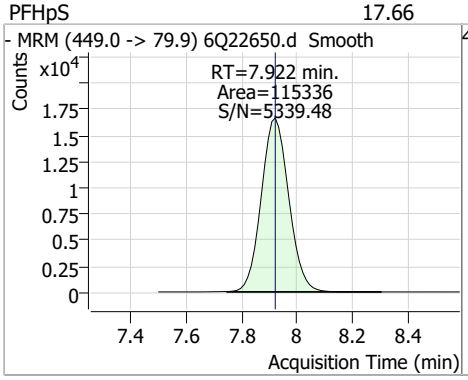


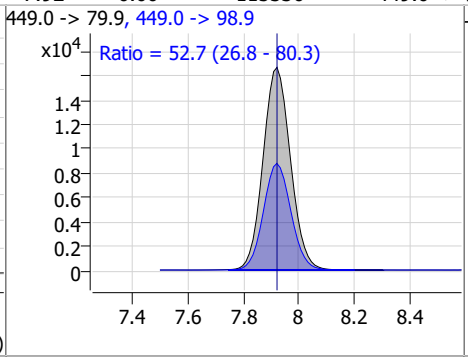
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	19.69	7.77	0.00	620877	463.0 -> 219.0	18.3	9.5	28.5

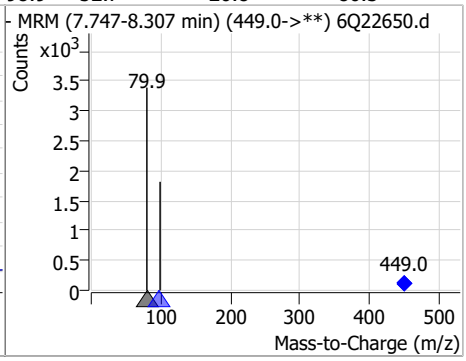


Perfluorinated Compounds by LC/MS/MS

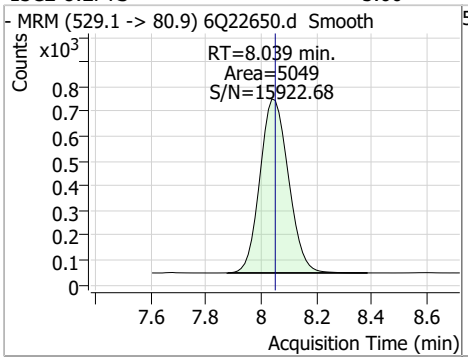
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	17.66	7.92	0.00	115336	449.0 -> 98.9	52.7	26.8	80.3

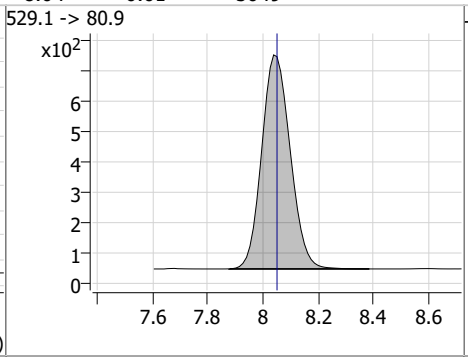


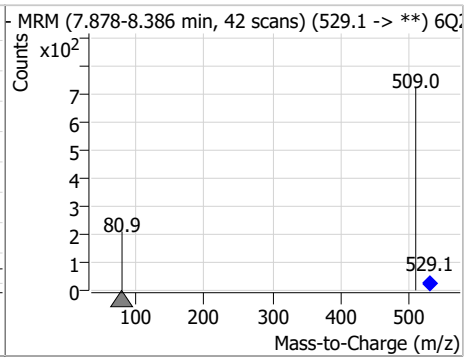




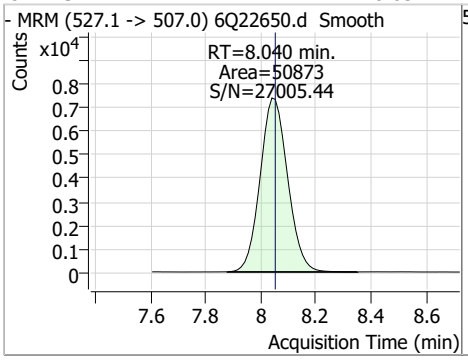
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.60	8.04	-0.01	5049				

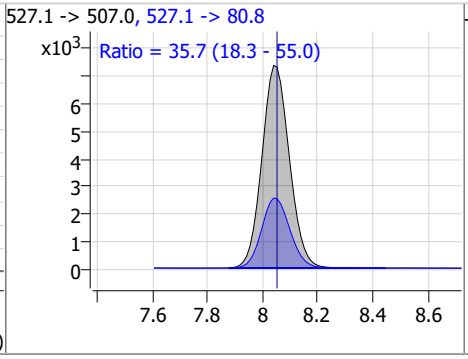


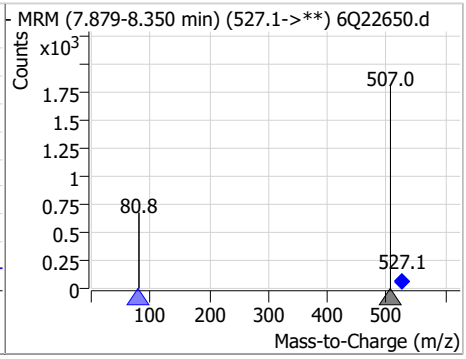




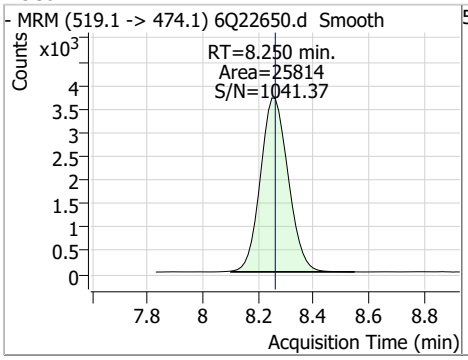
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	18.83	8.04	-0.01	50873	527.1 -> 80.8	35.7	18.3	55.0

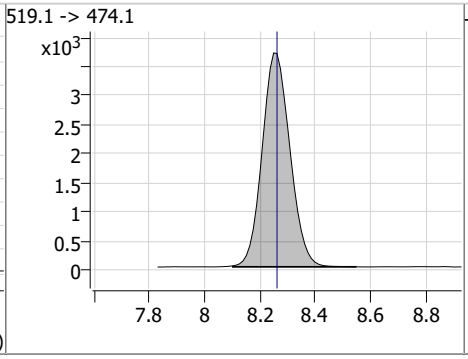


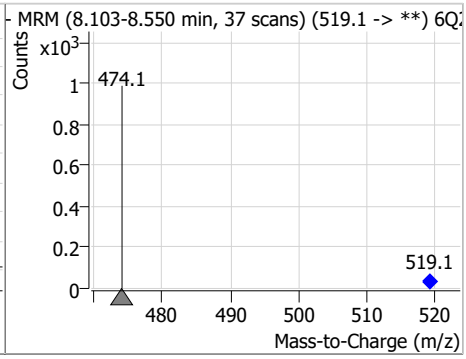




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.24	8.25	-0.01	25814				

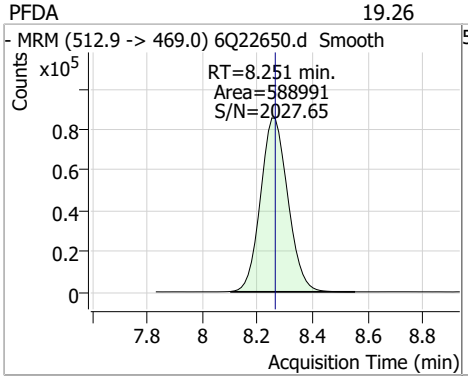


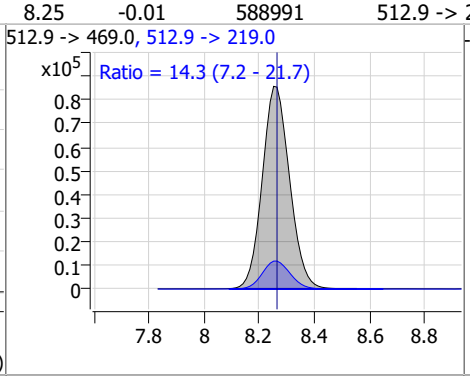


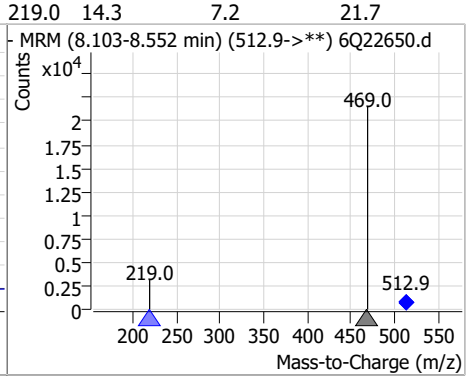


Perfluorinated Compounds by LC/MS/MS

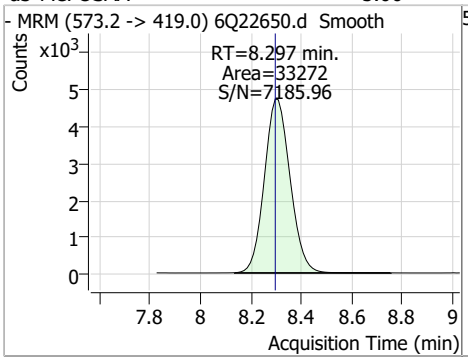
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	19.26	8.25	-0.01	588991	512.9 -> 219.0	14.3	7.2	21.7

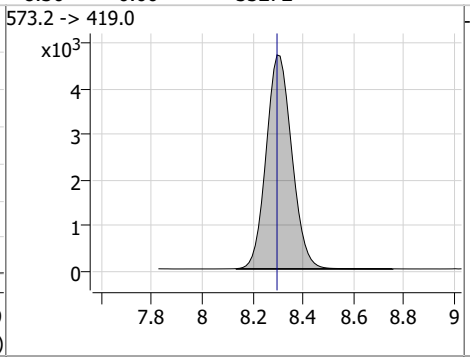


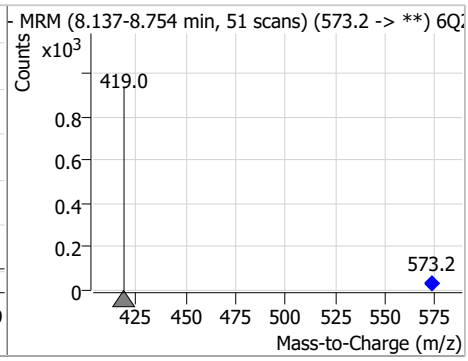




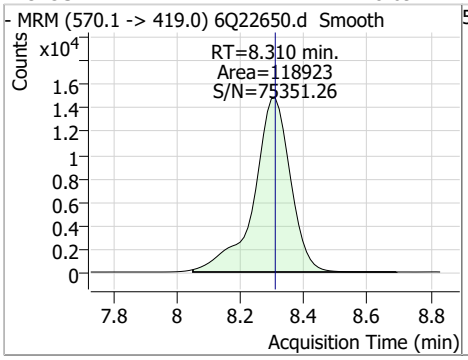
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.06	8.30	0.00	33272				

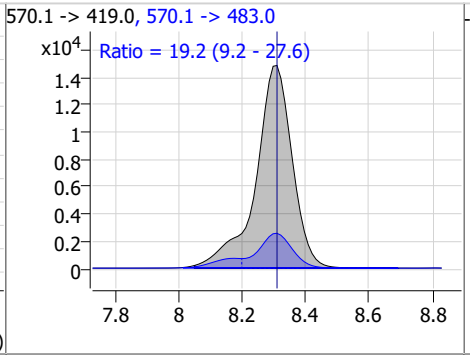


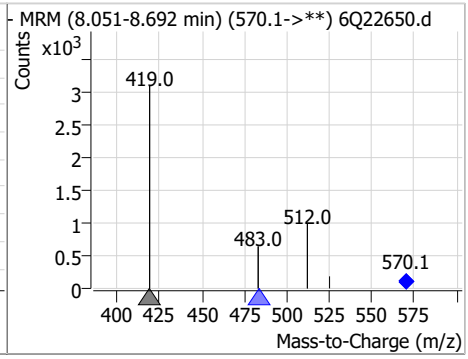




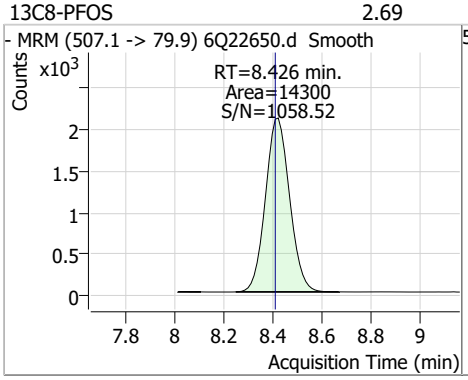
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	18.69	8.31	0.00	118923	570.1 -> 483.0	19.2	9.2	27.6

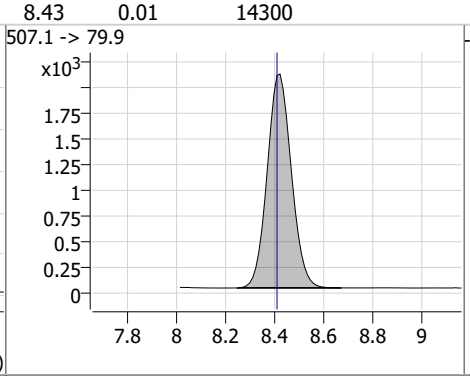


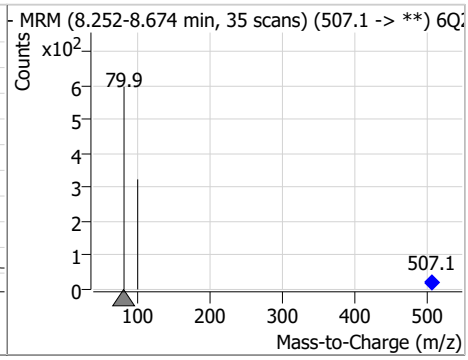




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.69	8.43	0.01	14300				

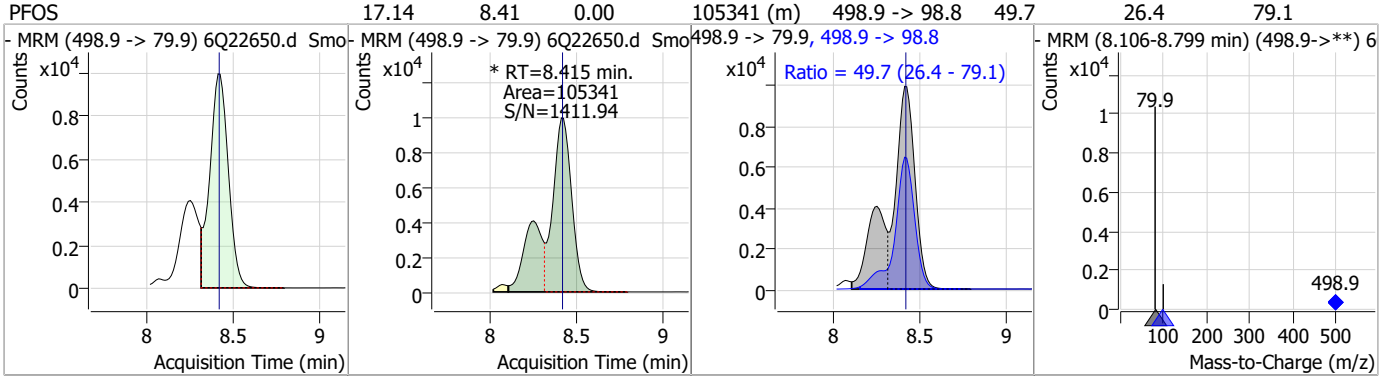




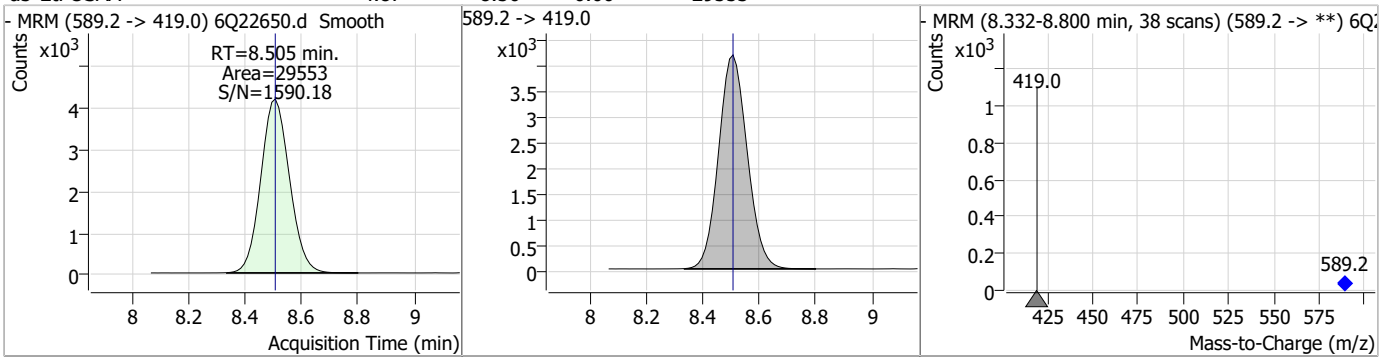


Perfluorinated Compounds by LC/MS/MS

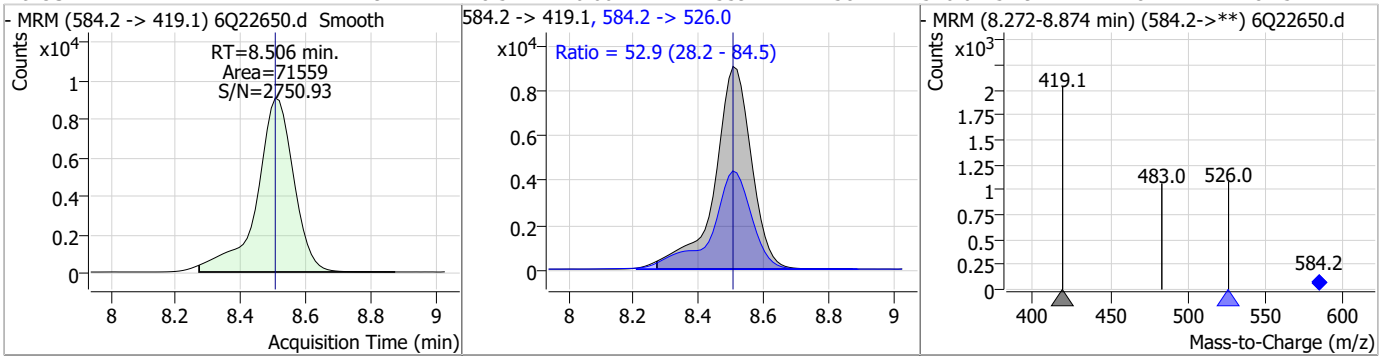
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	17.14	8.41	0.00	105341 (m)	498.9 -> 98.8	49.7	26.4	79.1



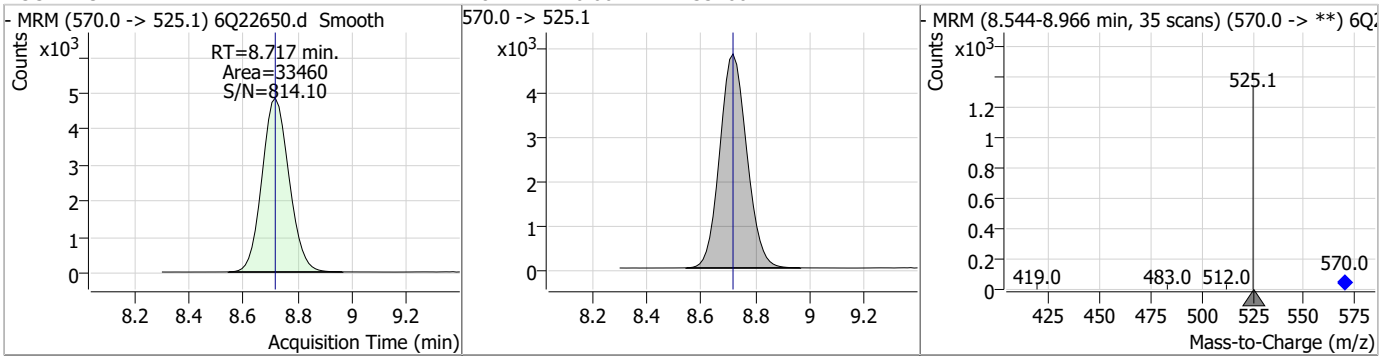
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.87	8.50	0.00	29553				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	19.21	8.51	0.00	71559	584.2 -> 526.0	52.9	28.2	84.5

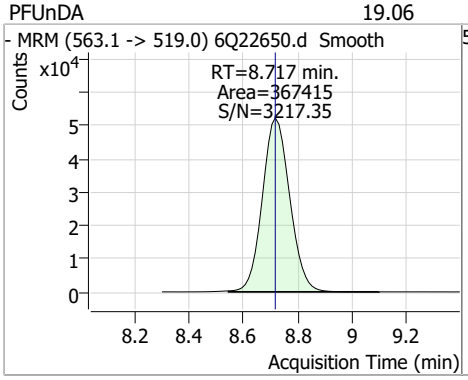


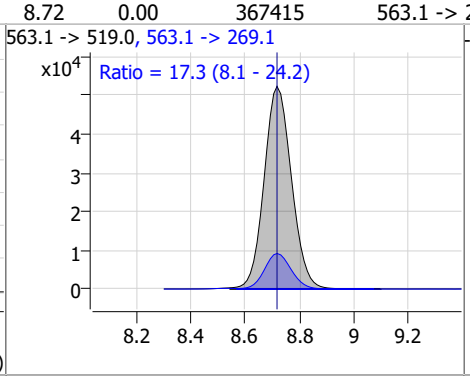
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.22	8.72	0.00	33460				

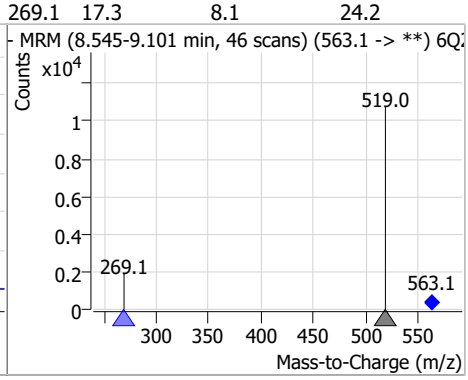


Perfluorinated Compounds by LC/MS/MS

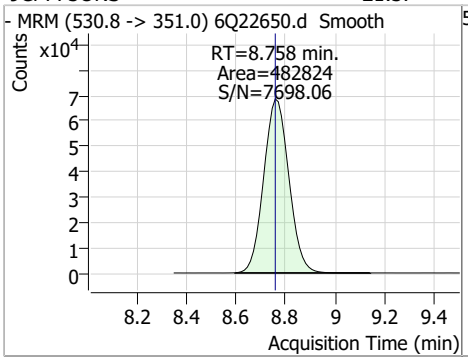
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	19.06	8.72	0.00	367415	563.1 -> 269.1	17.3	8.1	24.2

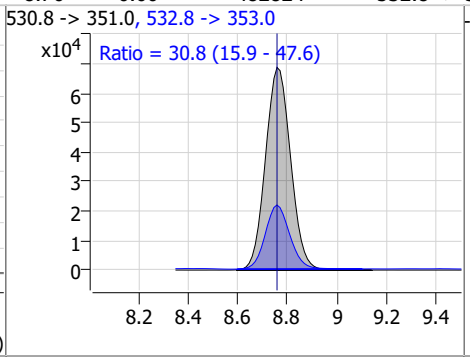


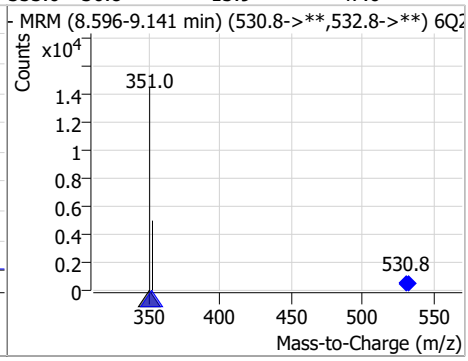




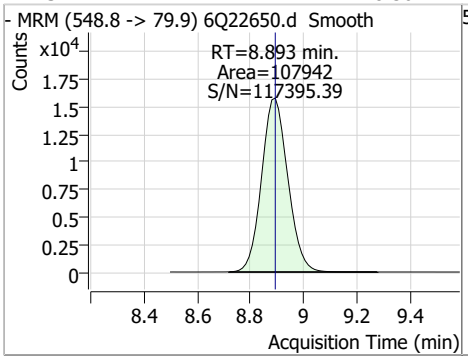
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	21.37	8.76	0.00	482824	532.8 -> 353.0	30.8	15.9	47.6

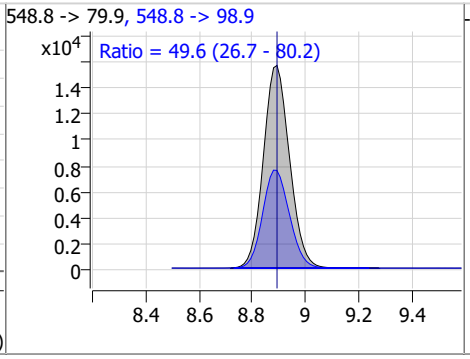


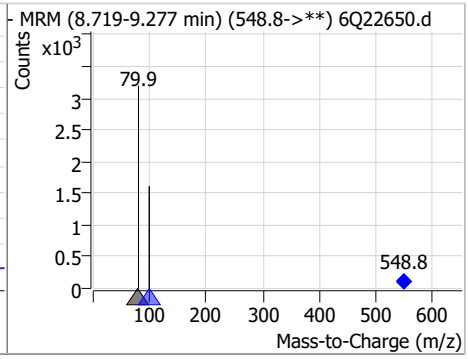




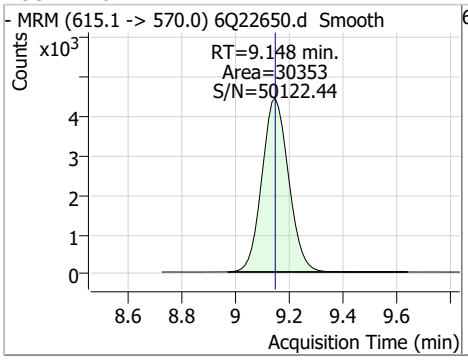
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	18.30	8.89	0.00	107942	548.8 -> 98.9	49.6	26.7	80.2

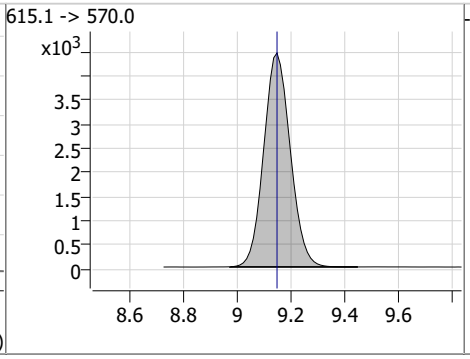


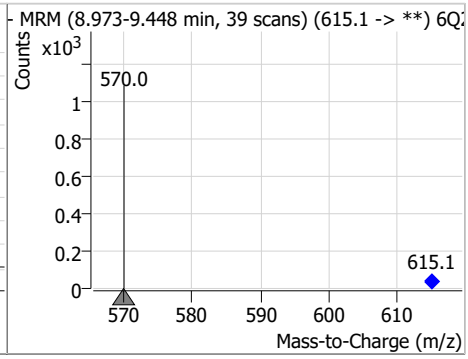




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.22	9.15	0.00	30353				

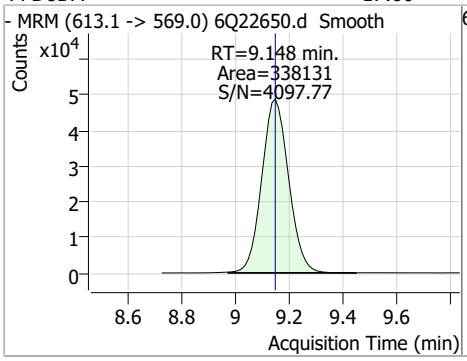


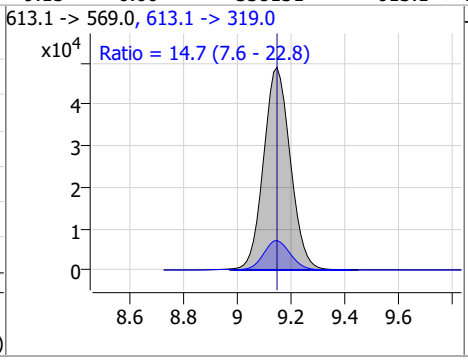


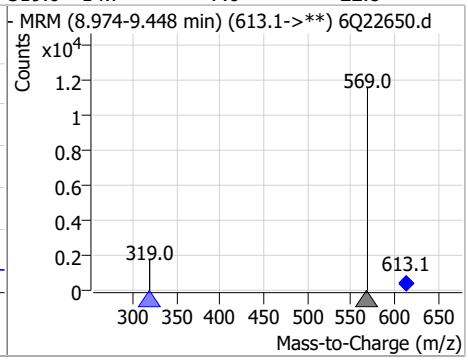


Perfluorinated Compounds by LC/MS/MS

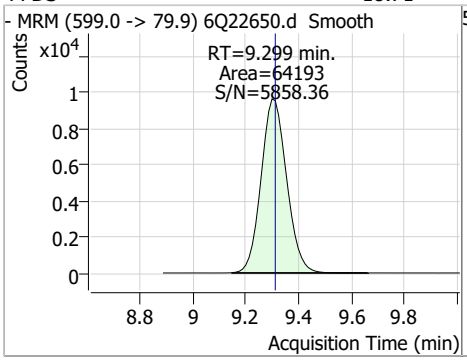
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	17.00	9.15	0.00	338131	613.1 -> 319.0	14.7	7.6	22.8

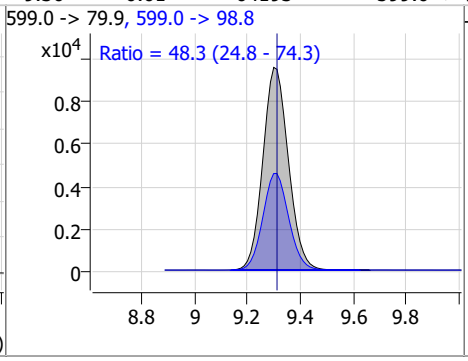


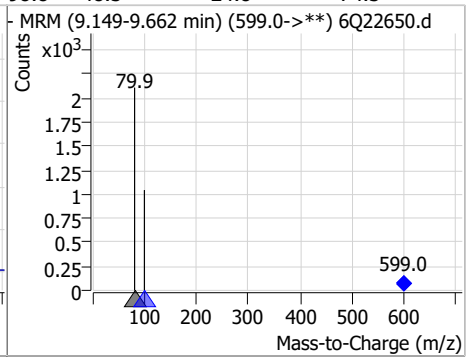




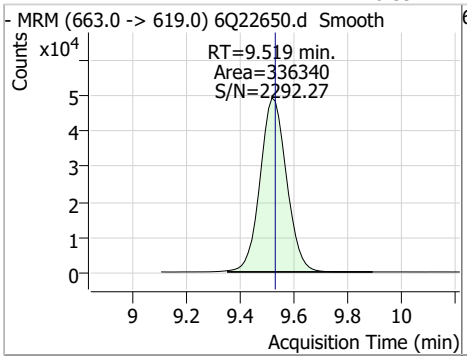
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	18.71	9.30	-0.01	64193	599.0 -> 98.8	48.3	24.8	74.3

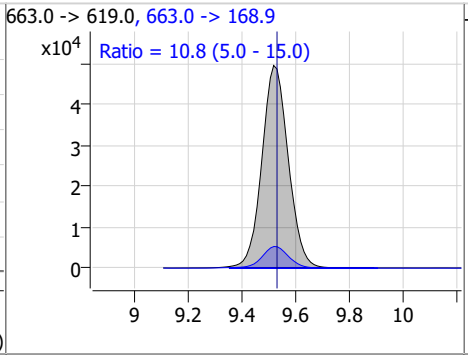


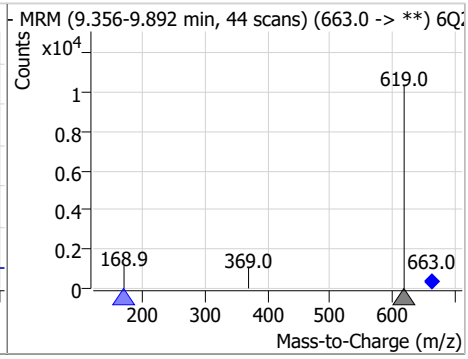




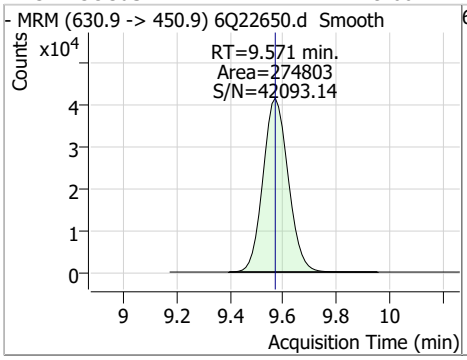
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	16.39	9.52	-0.01	336340	663.0 -> 168.9	10.8	5.0	15.0

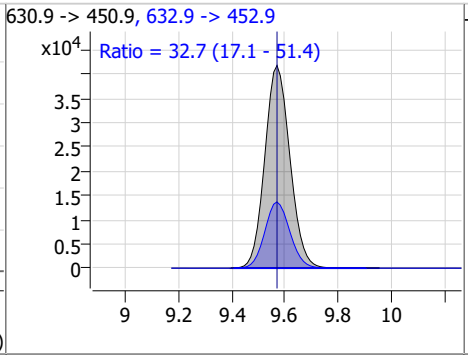


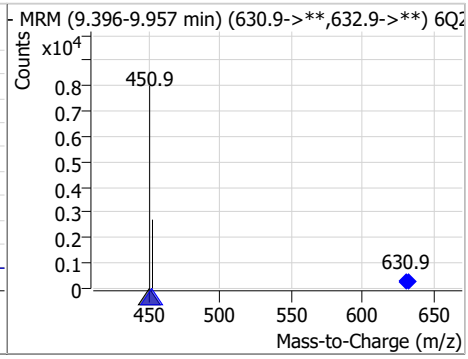




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	19.66	9.57	0.00	274803	632.9 -> 452.9	32.7	17.1	51.4

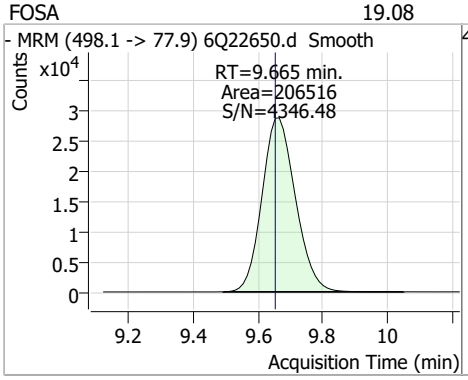


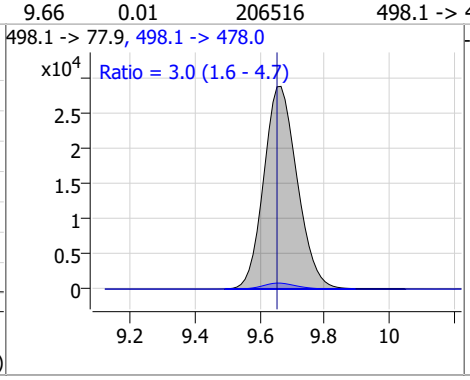


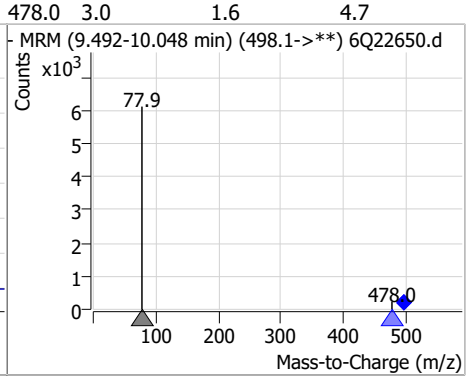


Perfluorinated Compounds by LC/MS/MS

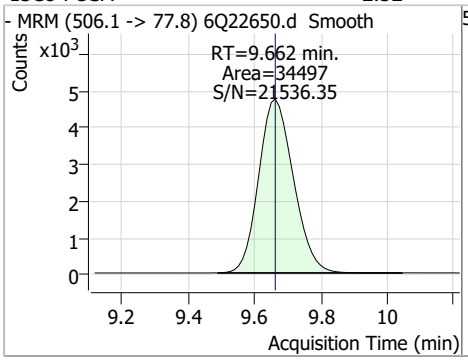
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	19.08	9.66	0.01	206516	498.1 -> 478.0	3.0	1.6	4.7

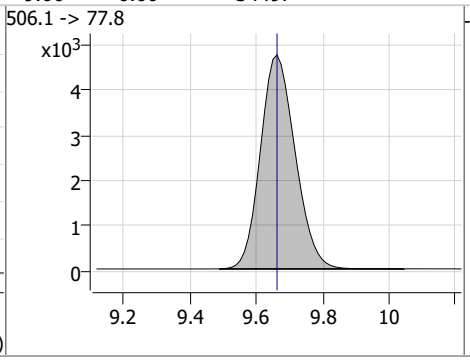


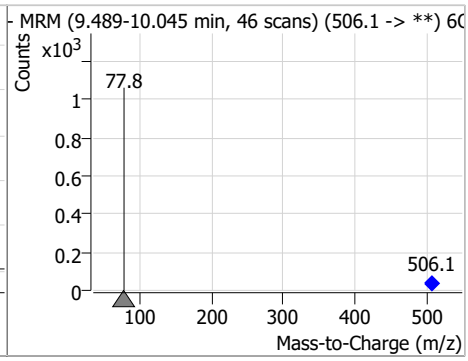




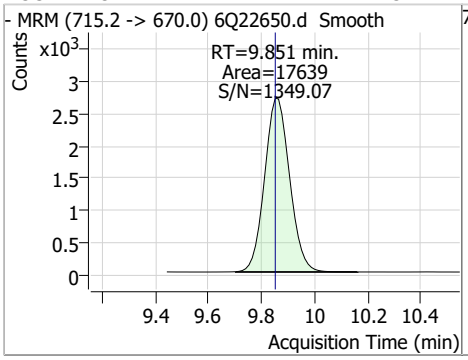
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.52	9.66	0.00	34497				

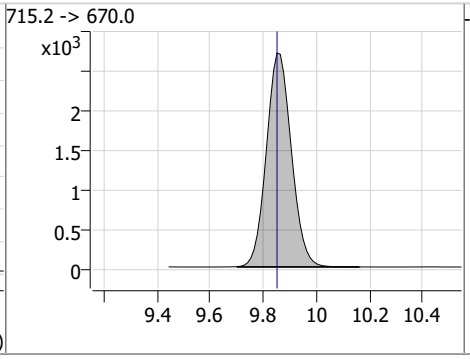


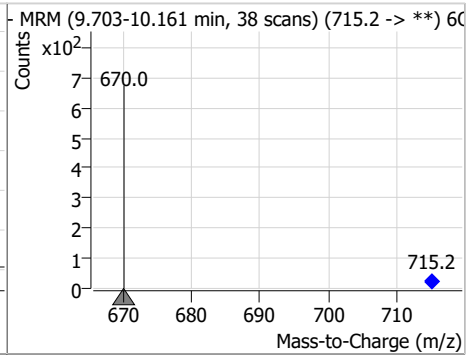




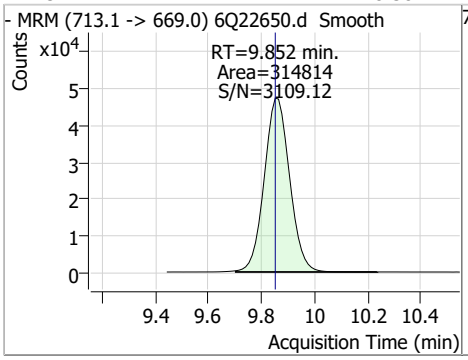
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.23	9.85	0.00	17639				

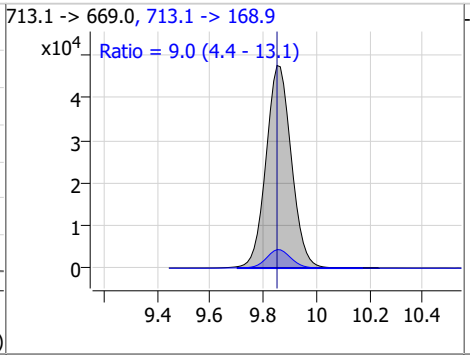


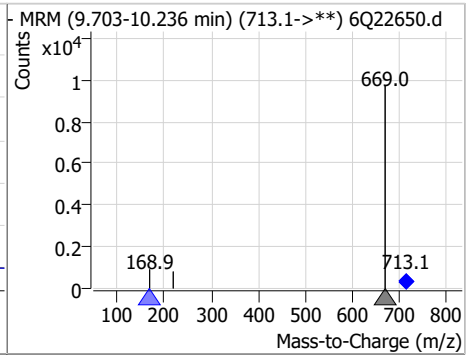




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	18.38	9.85	0.00	314814	713.1 -> 168.9	9.0	4.4	13.1

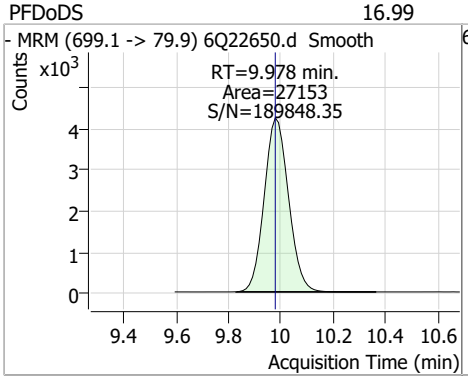


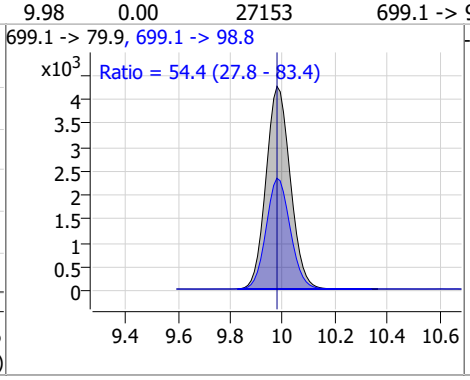


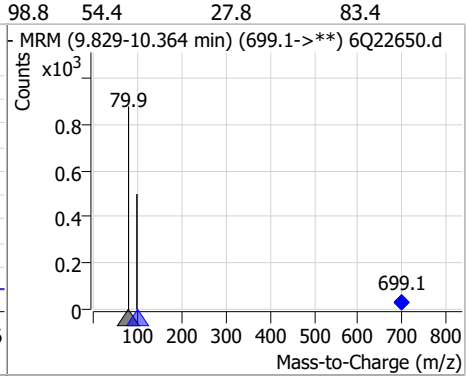


Perfluorinated Compounds by LC/MS/MS

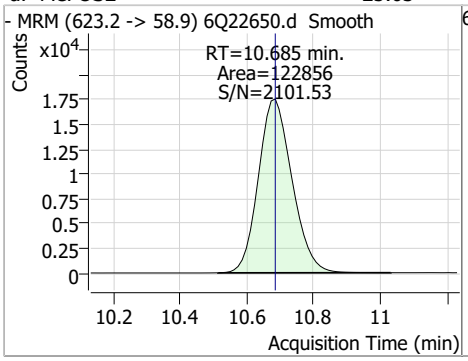
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	16.99	9.98	0.00	27153	699.1 -> 98.8	54.4	27.8	83.4

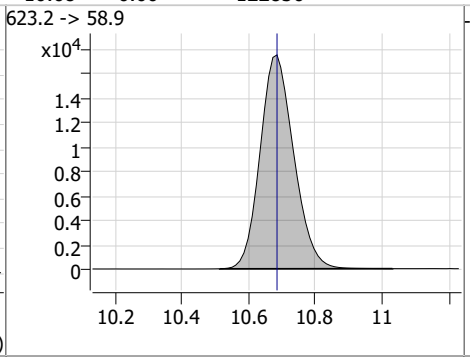


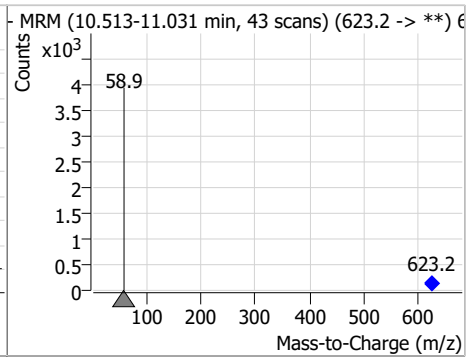




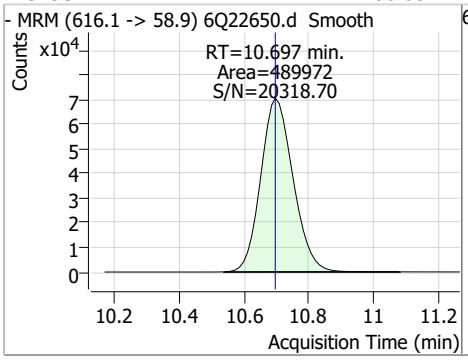
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.03	10.68	0.00	122856				

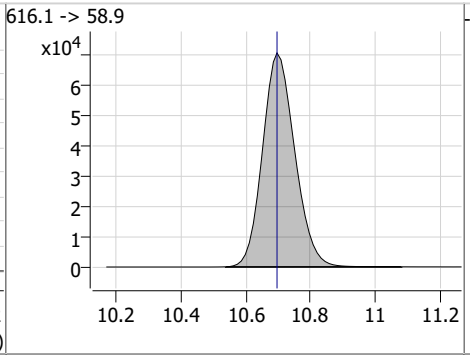


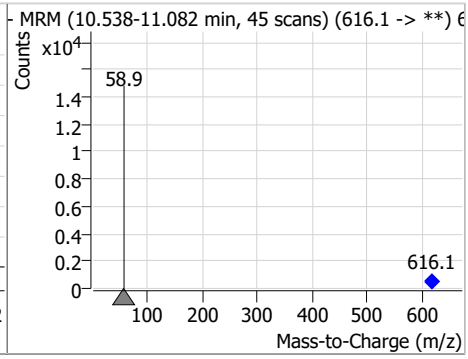




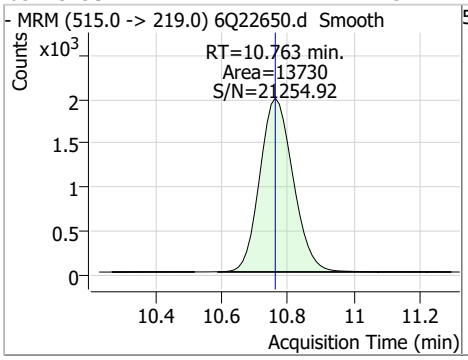
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	106.68	10.70	0.00	489972				

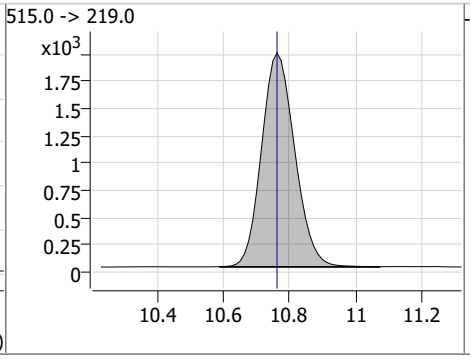


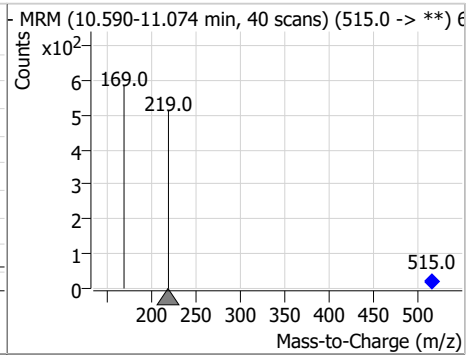




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.45	10.76	0.00	13730				

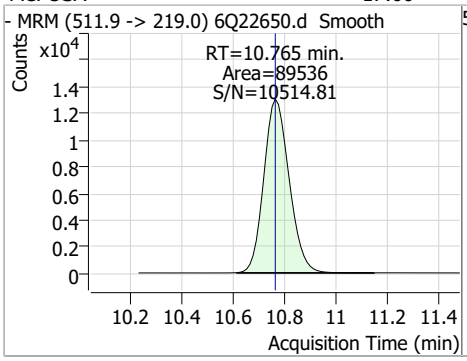


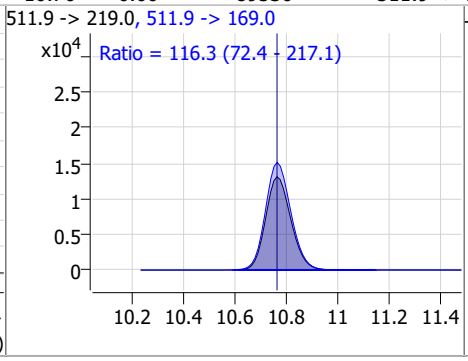


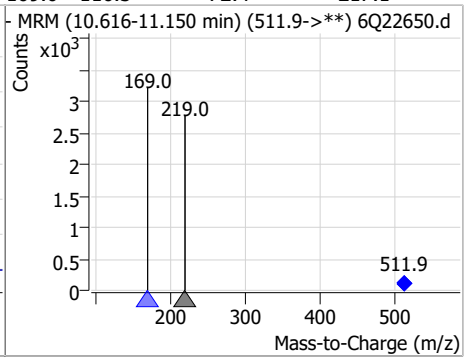


Perfluorinated Compounds by LC/MS/MS

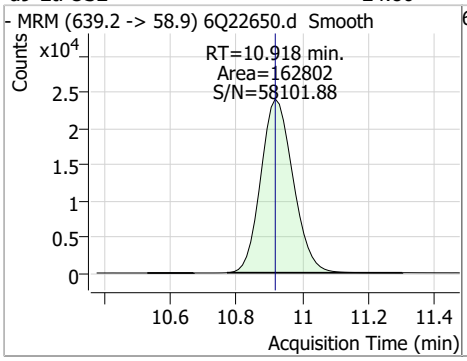
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	17.60	10.76	0.00	89536	511.9 -> 169.0	116.3	72.4	217.1

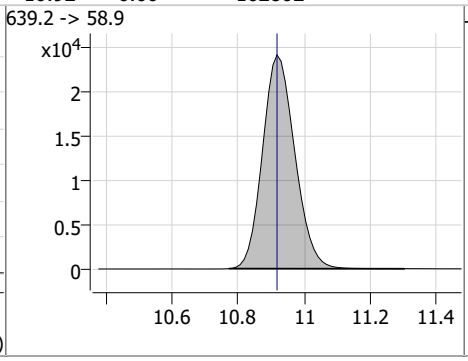


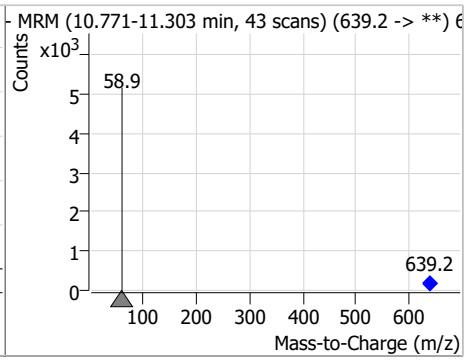




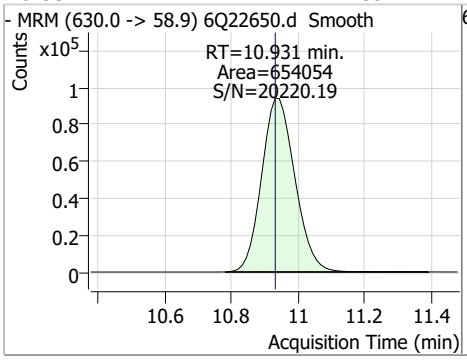
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.86	10.92	0.00	162802				

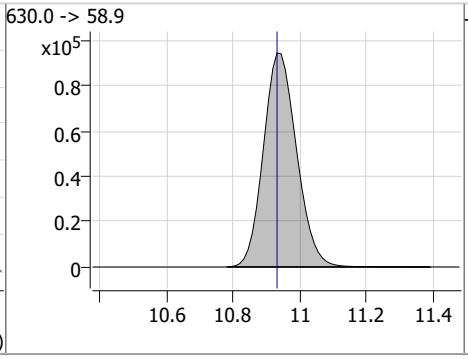


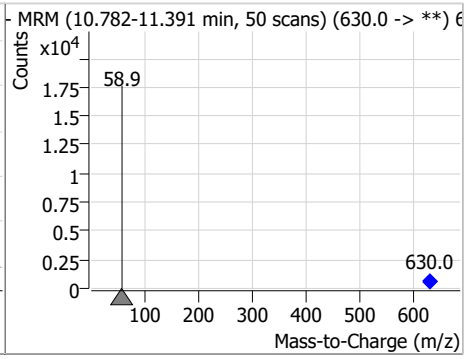




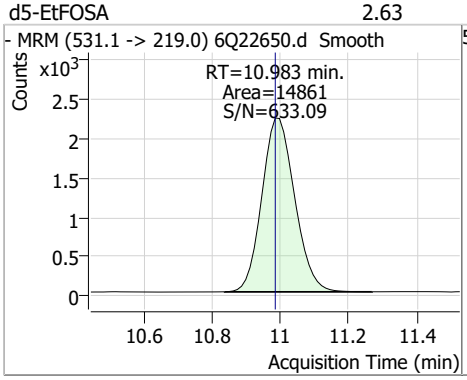
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	99.14	10.93	0.00	654054				

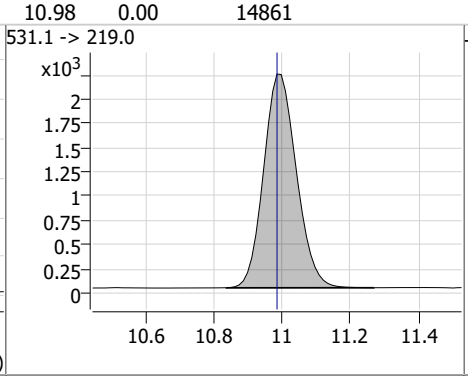


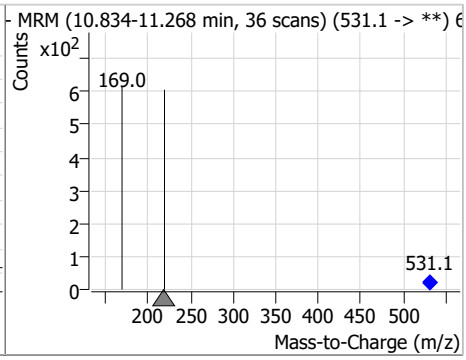




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.63	10.98	0.00	14861				

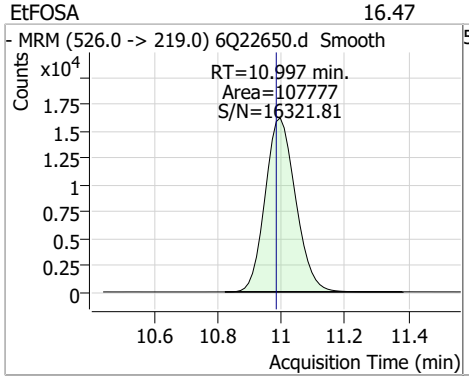


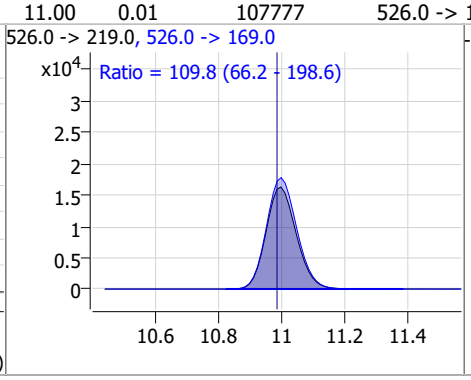


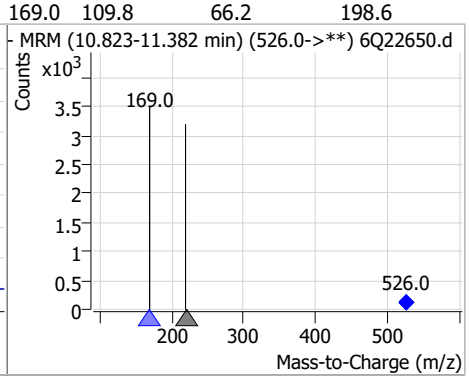


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	16.47	11.00	0.01	107777	526.0 -> 169.0	109.8	66.2	198.6







Manual Integration Approval Summary

Sample Number: S6Q330-ICV330
Lab FileID: 6Q22650.D
Injection Time: 08/10/23 16:01
Method: EPA DRAFT 1633
Analyst approved: 08/13/23 12:53 Martha Valls
Supervisor approved: 08/14/23 14:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.36	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/15/23 12:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22795.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 3:51:22 PM
Sample Name : cc330-1.0LL
Vial : P1-A2
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98201,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	168485	10.00	µg/L	-0.012
M5-PFPeA	4.447	268.3 -> 223.0	54947	5.00	µg/L	0.000
M5-PFHxA	5.655	318.0 -> 273.0	58666	2.50	µg/L	-0.012
M4-PFHpA	6.596	367.1 -> 322.0	58046	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	89652	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	42139	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	25723	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	34960	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	30663	1.25	µg/L	-0.012
M2-PFTeDA	9.851	715.2 -> 670.0	17761	1.25	µg/L	0.000
M8-FOSA	9.662	506.1 -> 77.8	33216	2.50	µg/L	0.000
M3-PFBS	5.599	302.1 -> 79.9	22214	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	14630	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	12521	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	2714	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4204	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3628	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	30851	5.00	µg/L	-0.012
M3-HFPO-DA	6.033	286.9 -> 168.9	38970	10.00	µg/L	-0.012
M5-EtFOSAA	8.492	589.2 -> 419.0	27258	5.00	µg/L	-0.012
M7-MeFOSE	10.685	623.2 -> 58.9	158925	25.00	µg/L	0.000
M9-EtFOSE	10.918	639.2 -> 58.9	211559	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	13686	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	13905	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	19633	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	71811	5.00	µg/L	0.000
18O2-PFHxS	7.341	403.0 -> 83.9	10381	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	94383	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	33002	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	52658	1.25	µg/L	-0.012
13C2-PFHxA	5.656	315.1 -> 270.0	58363	2.50	µg/L	-0.012
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2714	4.38	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 87.5%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4204	4.70	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.9%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3628	4.14	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 82.8%		
13C2-PFDoDA	9.135	615.1 -> 570.0	30663	1.38	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.0%		
13C2-PFTeDA	9.851	715.2 -> 670.0	17761	1.38	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.8%		
13C3-PFBS	5.599	302.1 -> 79.9	22214	2.52	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C3-PFHxS	7.342	402.1 -> 79.9	14630	2.56	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 = 102.6%	
13C4-PFBA	2.997	216.8 -> 171.9	168485	9.93 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C4-PFHpA	6.596	367.1 -> 322.0	58046	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.5%	
13C5-PFHxA	5.655	318.0 -> 273.0	58666	2.44 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C5-PFPeA	4.447	268.3 -> 223.0	54947	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C6-PFDA	8.238	519.1 -> 474.1	25723	1.38 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.4%	
13C7-PFUnDA	8.705	570.0 -> 525.1	34960	1.42 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 113.5%	
13C8-FOSA	9.662	506.1 -> 77.8	33216	2.24 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.7%	
13C8-PFOA	7.226	421.1 -> 376.0	89652	2.57 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C8-PFOS	8.401	507.1 -> 79.9	12521	2.18 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.1%	
13C9-PFNA	7.758	472.1 -> 427.0	42139	1.23 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.7%	
d3-MeFOSAA	8.284	573.2 -> 419.0	30851	4.34 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 86.8%	
13C3-HFPO-DA	6.033	286.9 -> 168.9	38970	10.32 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.2%	
d3-MeFOSA	10.763	515.0 -> 219.0	13905	2.29 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.7%	
d5-EtFOSAA	8.492	589.2 -> 419.0	27258	4.16 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 83.1%	
d7-MeFOSE	10.685	623.2 -> 58.9	158925	29.95 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 119.8%	
d9-EtFOSE	10.918	639.2 -> 58.9	211559	29.88 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 119.5%	
d5-EtFOSA	10.983	531.1 -> 219.0	13686	2.24 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.6%	
Target Compounds					QValue
4:2FTS	5.331	327.1 -> 307.0	2874	0.82 µg/L	100
		327.1 -> 80.9	1128		
6:2FTS	7.002	427.1 -> 407.0	3003	0.80 µg/L	100
		427.1 -> 80.9	1008		
8:2FTS	8.027	527.1 -> 507.0	1572	0.81 µg/L	89
		527.1 -> 80.8	682		
EtFOSAA	8.493	584.2 -> 419.1	617	0.18 µg/L	90
		584.2 -> 526.0	392		
FOSA	9.652	498.1 -> 77.9	2314	0.22 µg/L	99
		498.1 -> 478.0	69		
MeFOSAA	8.298	570.1 -> 419.0	1276	0.22 µg/L	93
		570.1 -> 483.0	274		
PFBA	3.006	212.8 -> 168.9	4424	0.84 µg/L	100
PFBS	5.600	298.7 -> 79.9	1388	0.19 µg/L	97
		298.7 -> 98.8	539		
PFDA	8.251	512.9 -> 469.0	5861	0.19 µg/L	96
		512.9 -> 219.0	954		
PFDoDA	9.136	613.1 -> 569.0	4016	0.20 µg/L	96
		613.1 -> 319.0	677		
PFDS	9.287	599.0 -> 79.9	631	0.21 µg/L	94

Perfluorinated Compounds by LC/MS/MS

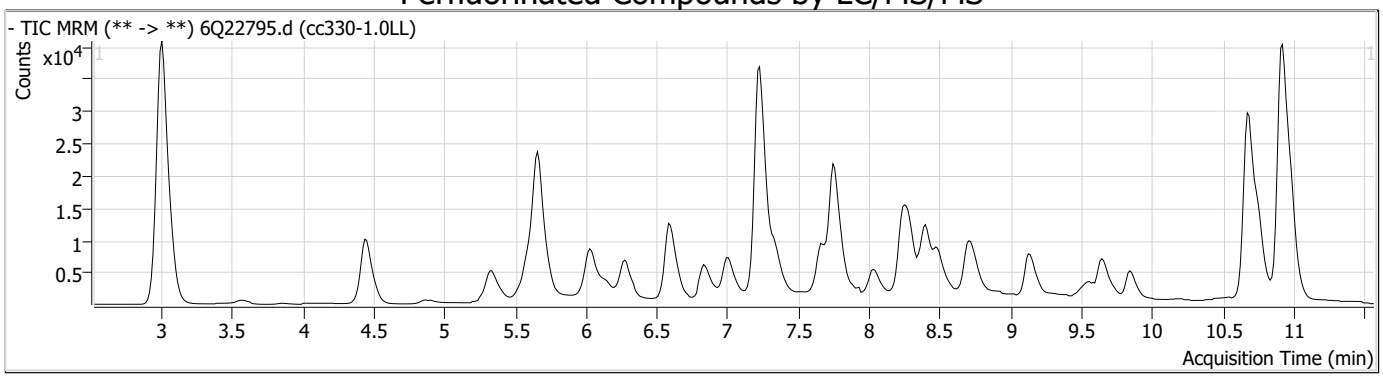
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	339				
PFHpA	6.596	363.1 -> 319.0	5156	0.23	µg/L		100
		363.1 -> 169.0	872				
PFHpS	7.909	449.0 -> 79.9	1383	0.24	µg/L		89
		449.0 -> 98.9	628				
PFHxA	5.670	313.0 -> 269.0	4011	0.23	µg/L		96
		313.0 -> 118.9	271				
PFHxS	7.343	398.7 -> 79.9	1264	0.20	µg/L	m	93
		398.7 -> 98.9	551				
PFNA	7.758	463.0 -> 419.0	6129	0.21	µg/L		99
		463.0 -> 219.0	1184				
PFNS	8.880	548.8 -> 79.9	1069	0.21	µg/L		93
		548.8 -> 98.9	627				
PFOA	7.228	413.0 -> 369.0	7812	0.21	µg/L		99
		413.0 -> 169.0	1302				
PFOS	8.415	498.9 -> 79.9	1143	0.21	µg/L	m	100
		498.9 -> 98.8	607				
PFPeA	4.449	263.0 -> 219.0	5301	0.44	µg/L		100
PFPeS	6.660	349.1 -> 79.9	1263	0.21	µg/L		91
		349.1 -> 98.9	499				
PFTeDA	9.852	713.1 -> 669.0	3664	0.21	µg/L		99
		713.1 -> 168.9	310				
PFTrDA	9.507	663.0 -> 619.0	4174	0.20	µg/L		96
		663.0 -> 168.9	472				
PFUnDA	8.705	563.1 -> 519.0	4145	0.21	µg/L		97
		563.1 -> 269.1	722				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	5652	0.41	µg/L		98
		632.9 -> 452.9	1858				
9Cl-PF3ONS	8.745	530.8 -> 351.0	8543	0.38	µg/L		88
		532.8 -> 353.0	2141				
ADONA	6.846	376.9 -> 250.9	19345	0.39	µg/L		96
		376.9 -> 84.8	5493				
HFPO-DA	6.034	284.9 -> 168.9	1399	0.42	µg/L		100
		284.9 -> 184.9	150				
3:3FTCA	3.859	241.0 -> 177.0	852	1.02	µg/L		95
		241.0 -> 117.0	133				
5:3FTCA	6.272	341.0 -> 237.1	18739	5.31	µg/L		96
		341.0 -> 217.0	13993				
7:3FTCA	7.673	441.0 -> 316.9	13422	5.14	µg/L		96
		441.0 -> 336.9	29634				
EtFOSA	10.985	526.0 -> 219.0	2790	0.46	µg/L		92
		526.0 -> 169.0	3433				
EtFOSE	10.931	630.0 -> 58.9	9659	1.13	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	2256	0.44	µg/L		97
		511.9 -> 169.0	3174				
MeFOSE	10.697	616.1 -> 58.9	6395	1.08	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	309	0.22	µg/L		100
		699.1 -> 98.8	172				
NFDHA	5.538	295.0 -> 201.0	938	0.43	µg/L		96
		295.0 -> 84.9	250				
PFMBA	4.857	279.0 -> 85.1	3709	0.43	µg/L		100
PFMPA	3.563	229.0 -> 84.9	2906	0.42	µg/L		100
PFEESA	6.151	314.8 -> 134.9	9453	0.41	µg/L		98
		314.8 -> 82.9	282				

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

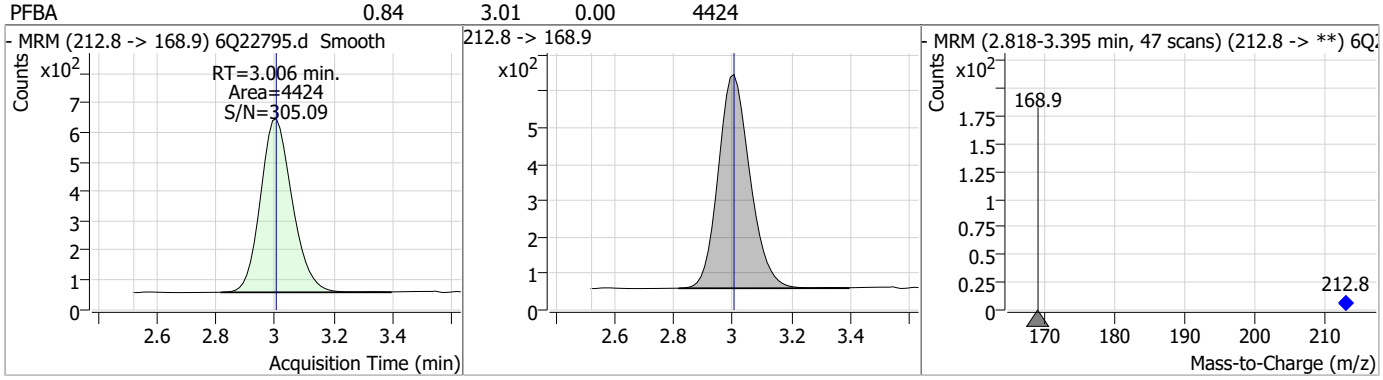
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

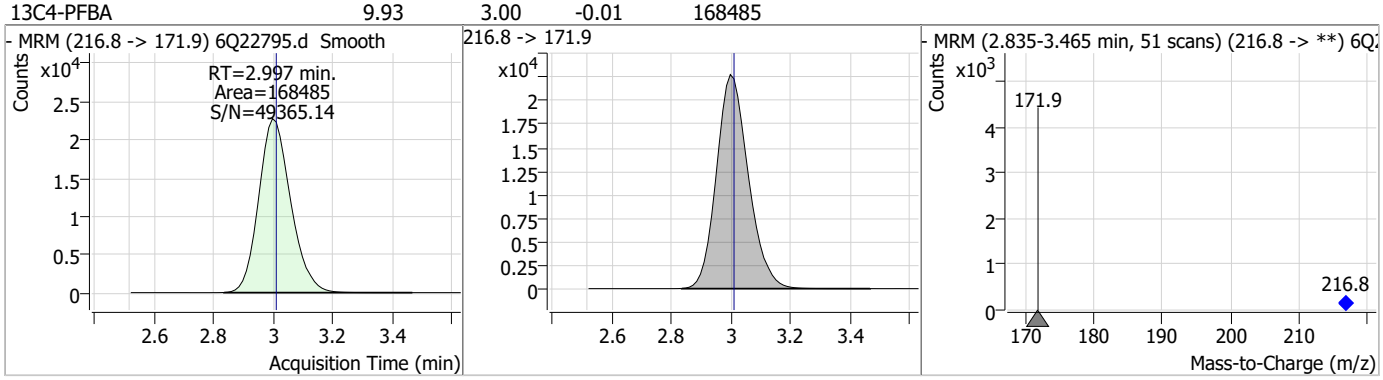
Perfluorinated Compounds by LC/MS/MS



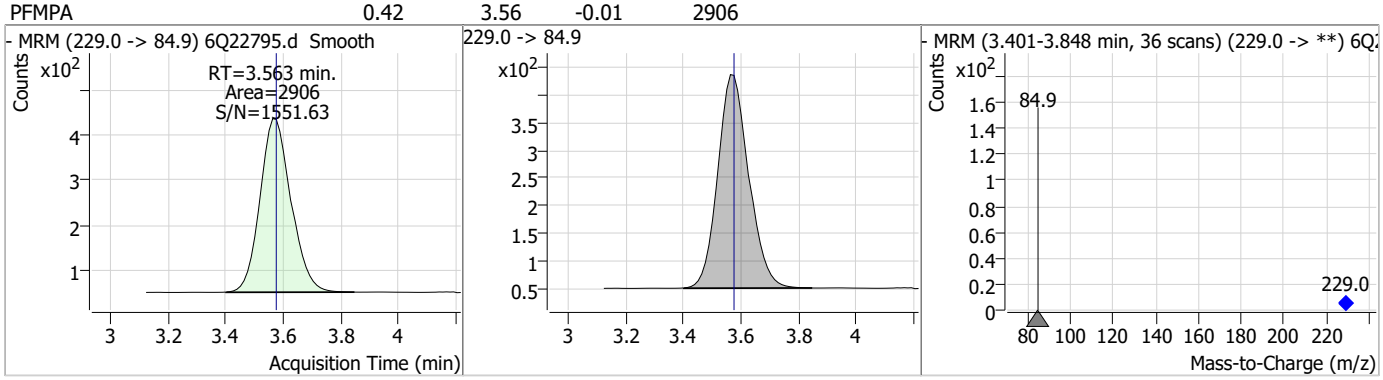
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.84	3.01	0.00	4424				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.93	3.00	-0.01	168485				

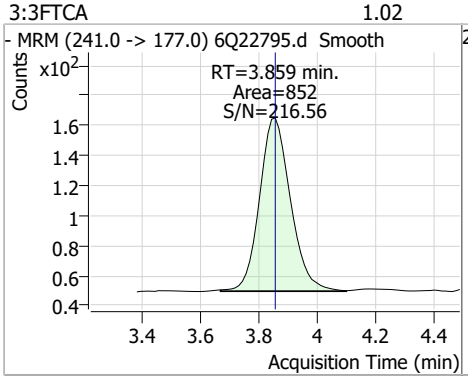


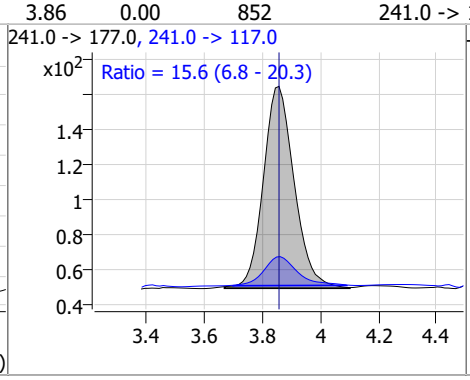
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	0.42	3.56	-0.01	2906				

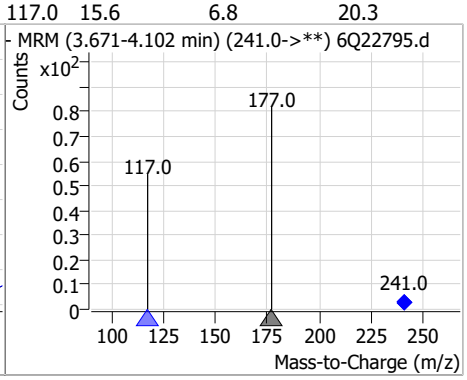


Perfluorinated Compounds by LC/MS/MS

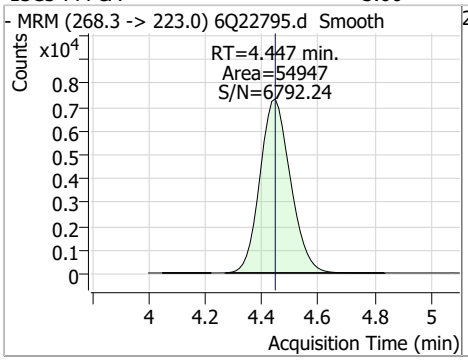
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.02	3.86	0.00	852	241.0 -> 117.0	15.6	6.8	20.3

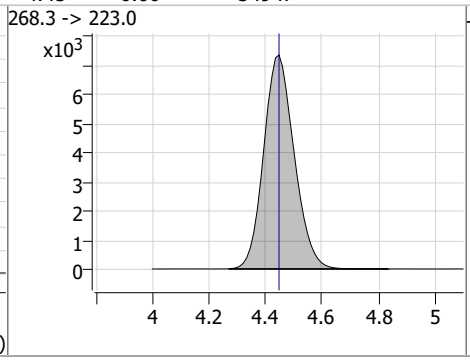


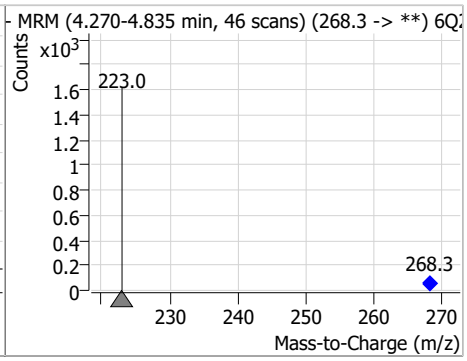




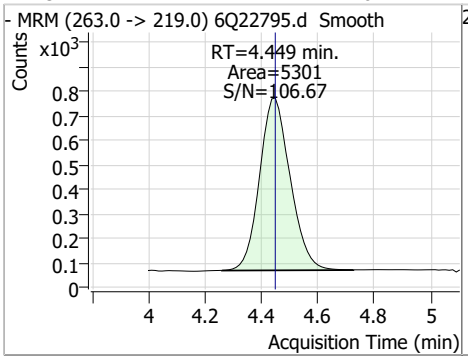
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.00	4.45	0.00	54947				

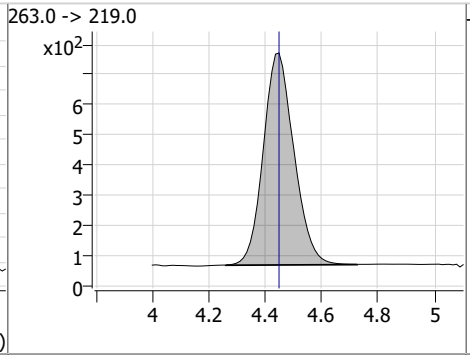


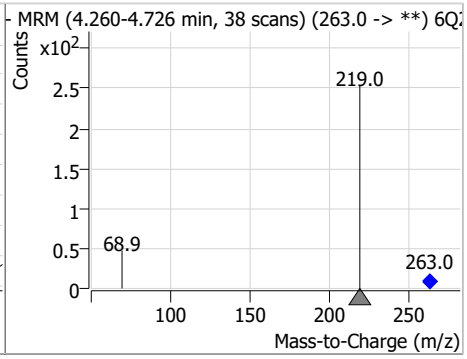




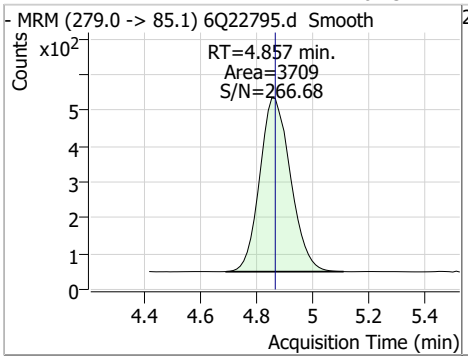
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.44	4.45	0.00	5301				

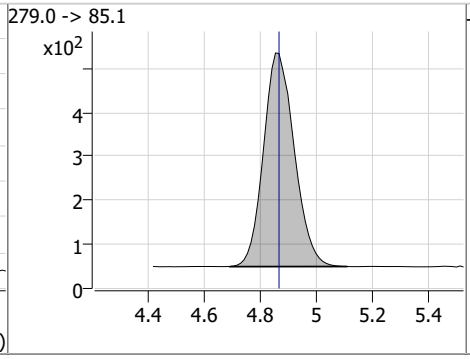


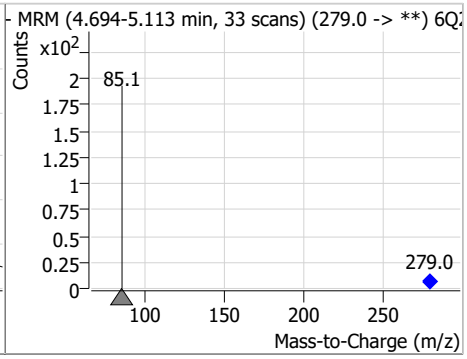




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.43	4.86	-0.01	3709				

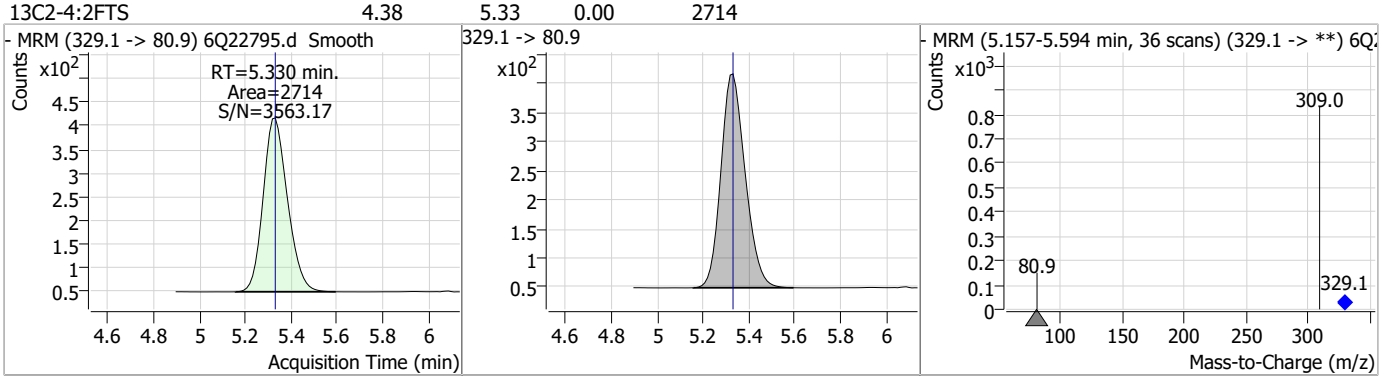




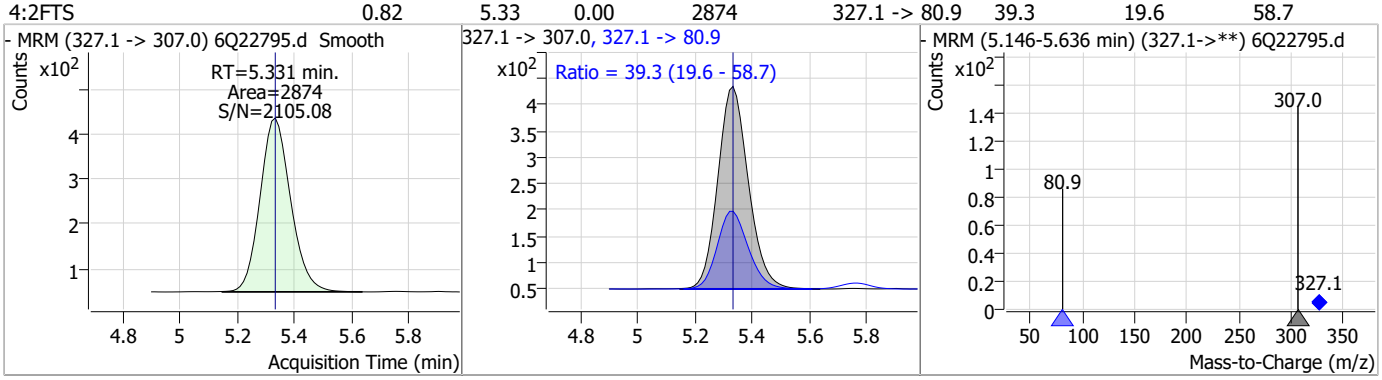


Perfluorinated Compounds by LC/MS/MS

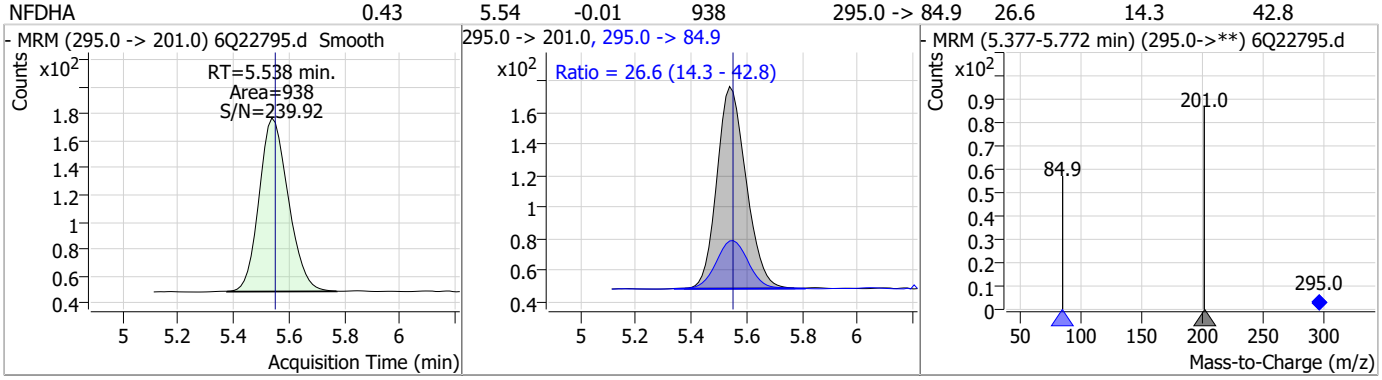
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.38	5.33	0.00	2714				



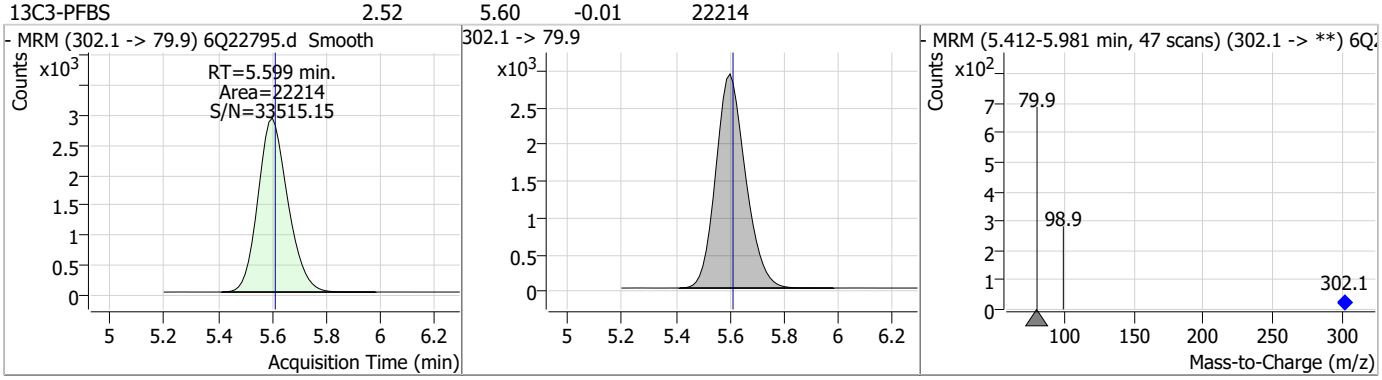
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	0.82	5.33	0.00	2874	327.1 -> 80.9	39.3	19.6	58.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	0.43	5.54	-0.01	938	295.0 -> 84.9	26.6	14.3	42.8

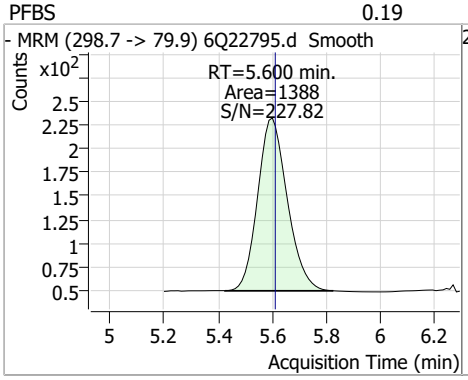


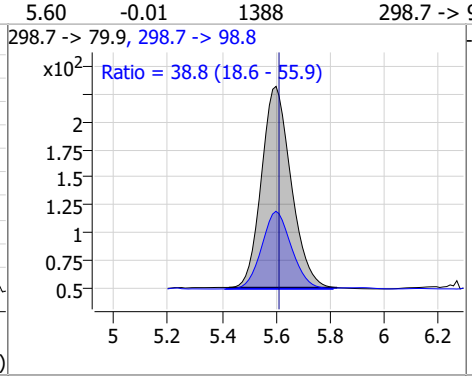
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.52	5.60	-0.01	22214				

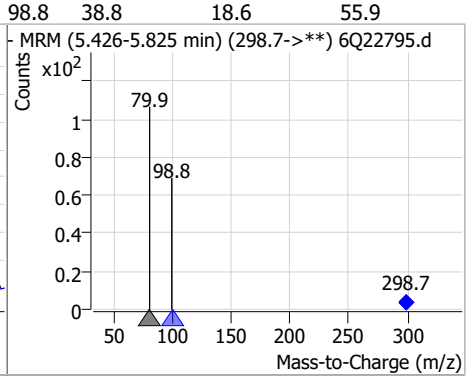


Perfluorinated Compounds by LC/MS/MS

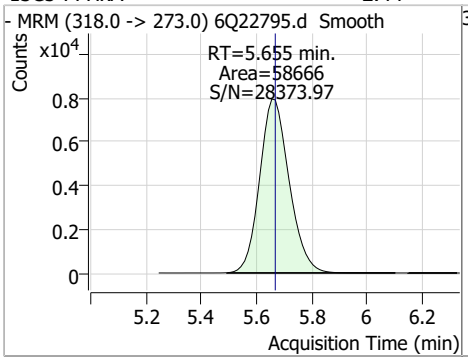
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.19	5.60	-0.01	1388	298.7 -> 98.8	38.8	18.6	55.9

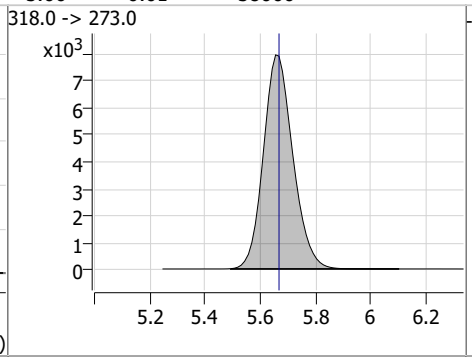


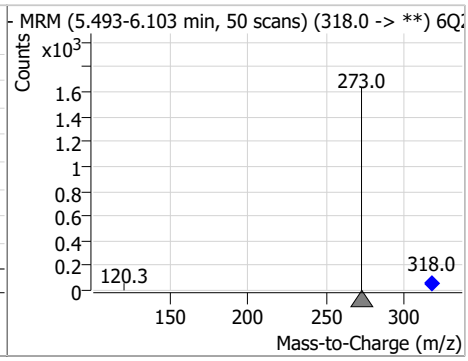




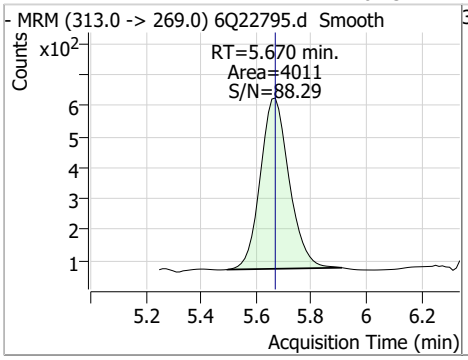
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.44	5.66	-0.01	58666				

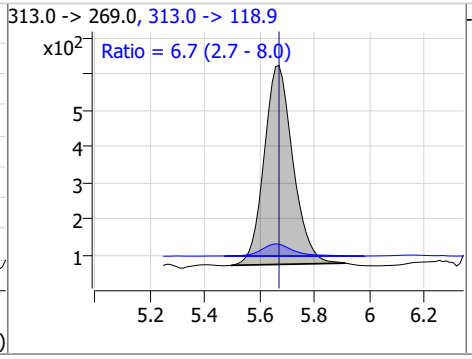


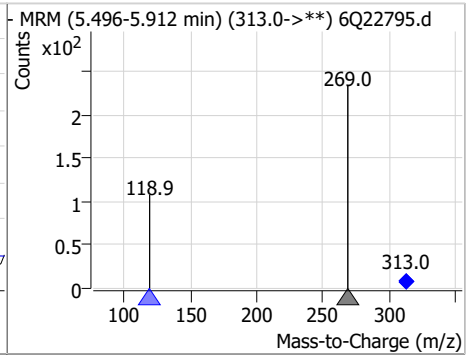




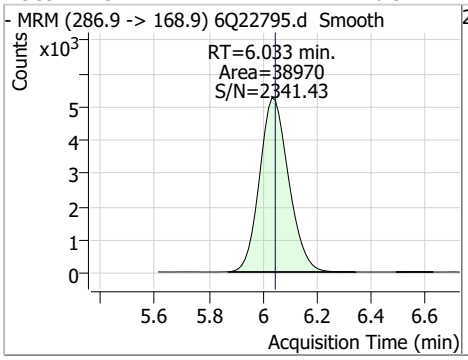
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.23	5.67	0.00	4011	313.0 -> 118.9	6.7	2.7	8.0

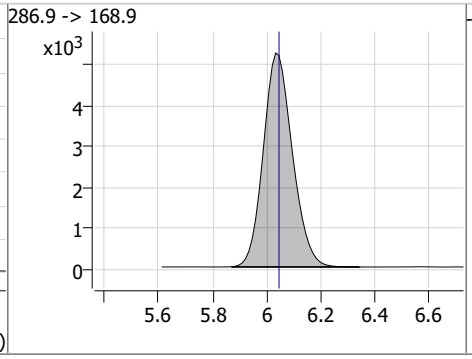


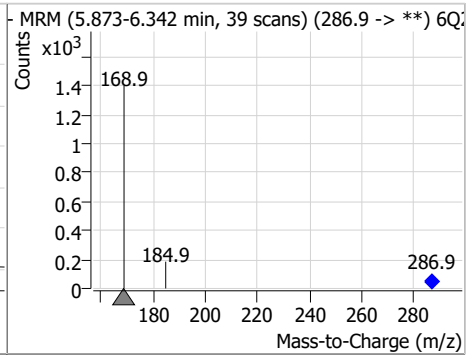




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.32	6.03	-0.01	38970				

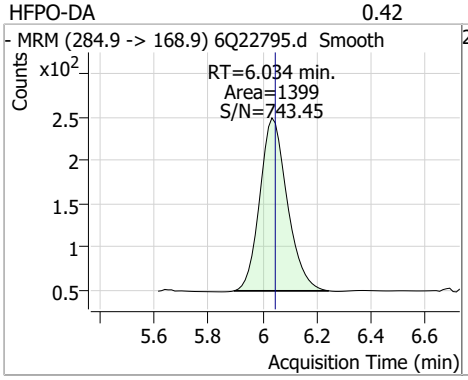


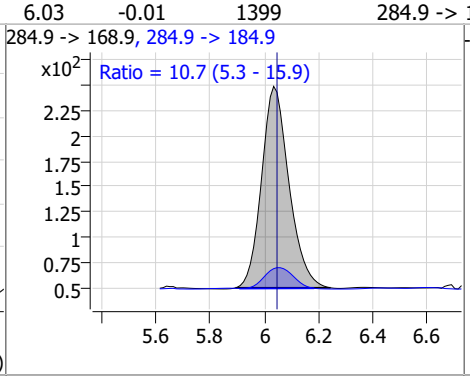


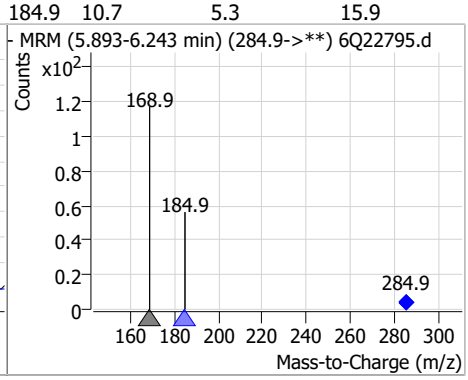


Perfluorinated Compounds by LC/MS/MS

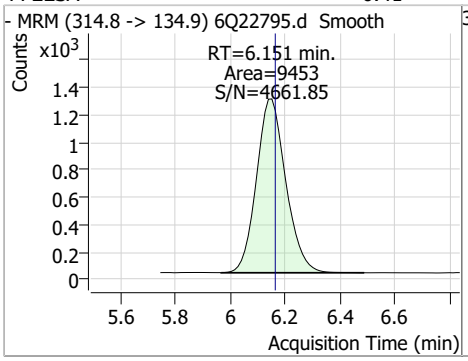
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.42	6.03	-0.01	1399	284.9 -> 184.9	10.7	5.3	15.9

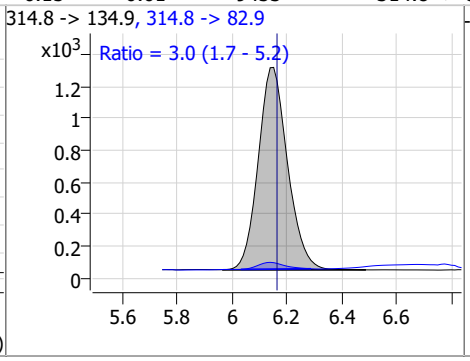


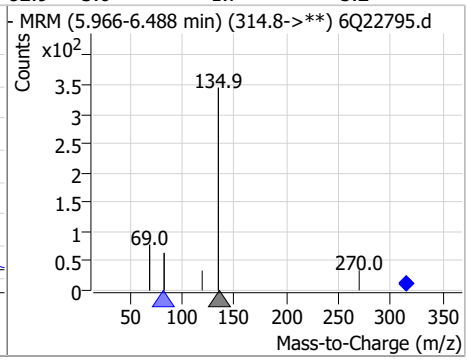




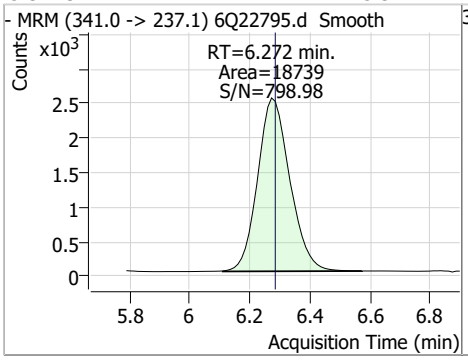
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.41	6.15	-0.01	9453	314.8 -> 82.9	3.0	1.7	5.2

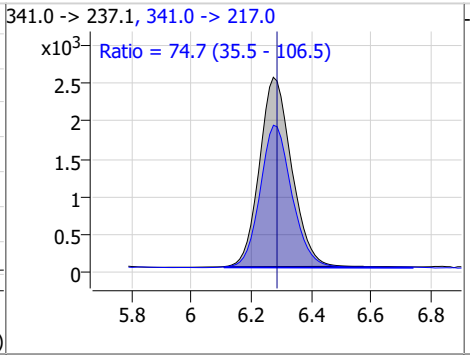


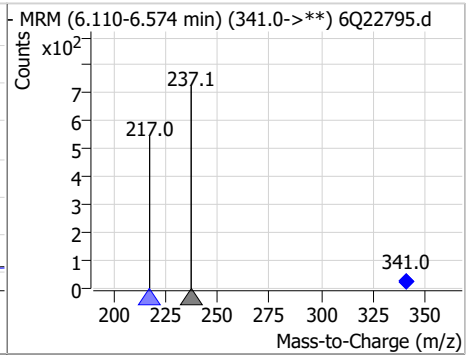




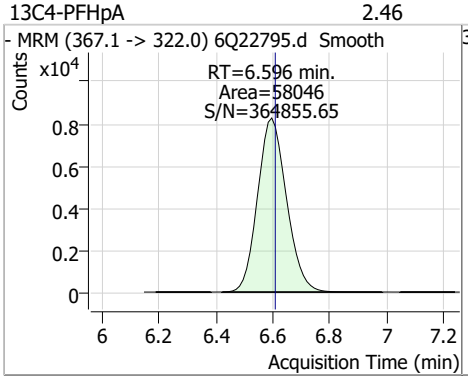
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.31	6.27	-0.01	18739	341.0 -> 217.0	74.7	35.5	106.5

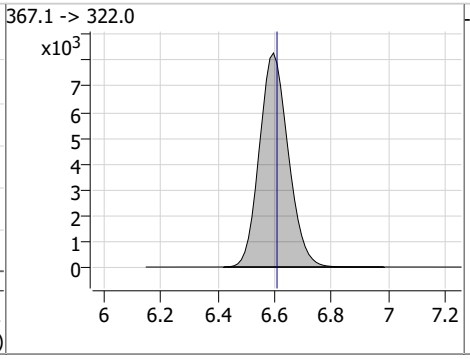


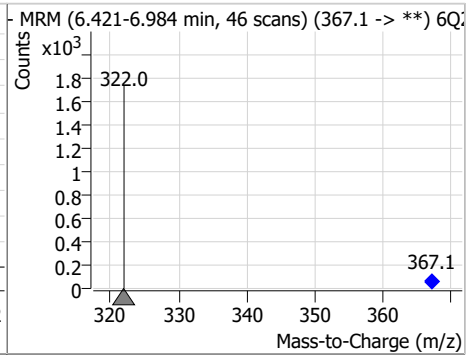




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.46	6.60	-0.01	58046				

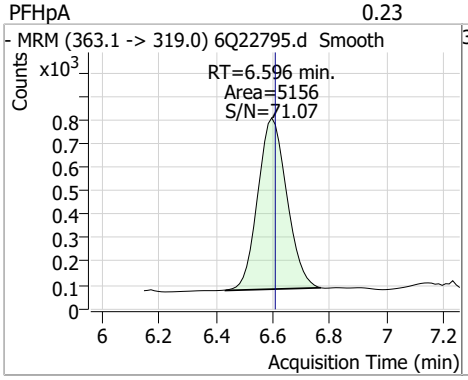


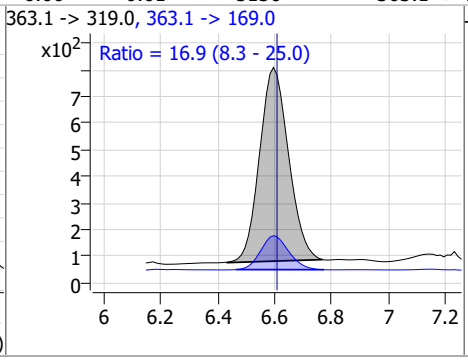


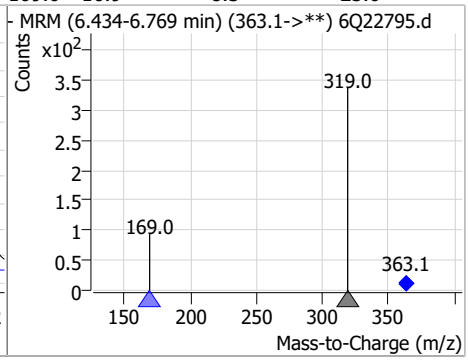


Perfluorinated Compounds by LC/MS/MS

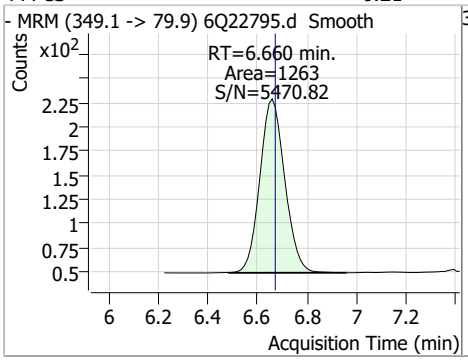
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.23	6.60	-0.01	5156	363.1 -> 169.0	16.9	8.3	25.0

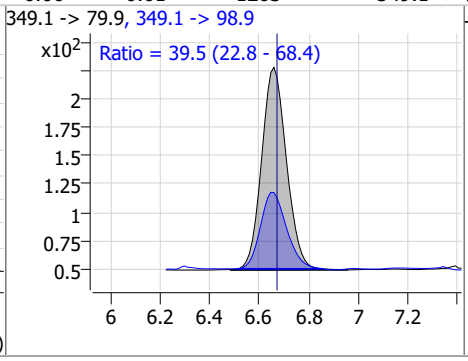


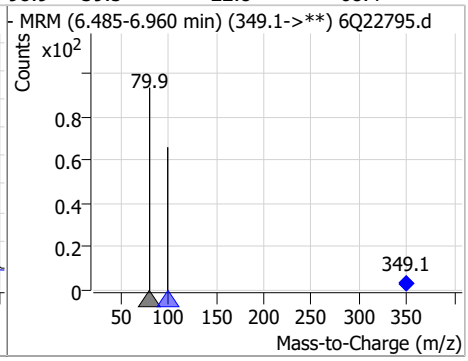




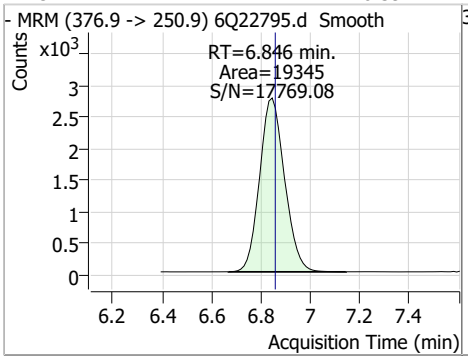
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.21	6.66	-0.01	1263	349.1 -> 98.9	39.5	22.8	68.4

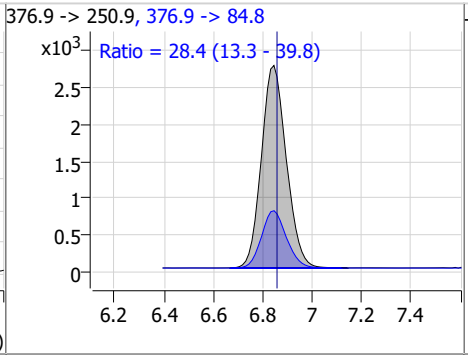


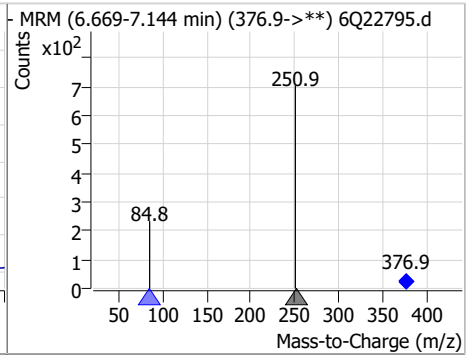




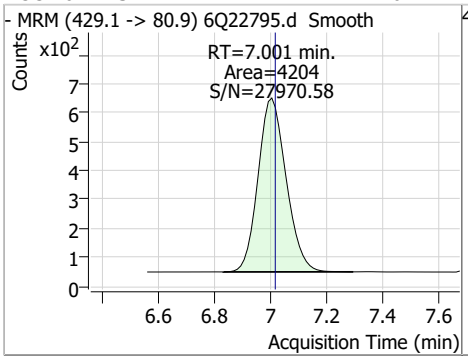
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.39	6.85	-0.01	19345	376.9 -> 84.8	28.4	13.3	39.8

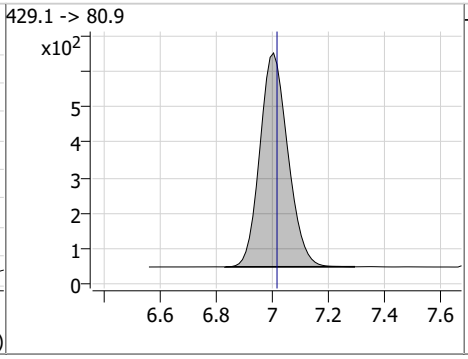


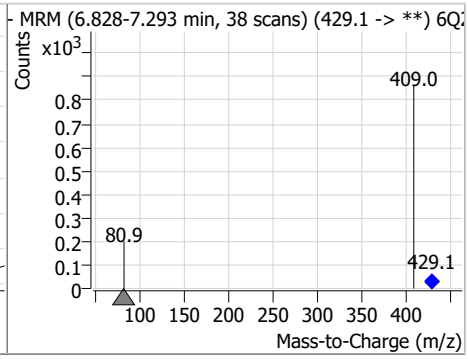




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.70	7.00	-0.01	4204				

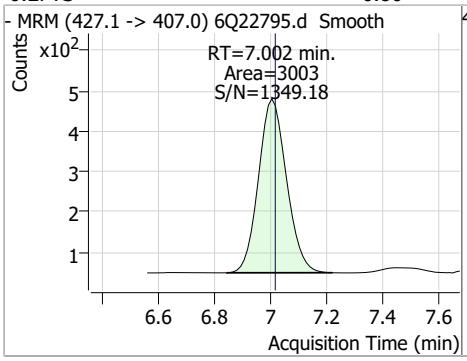


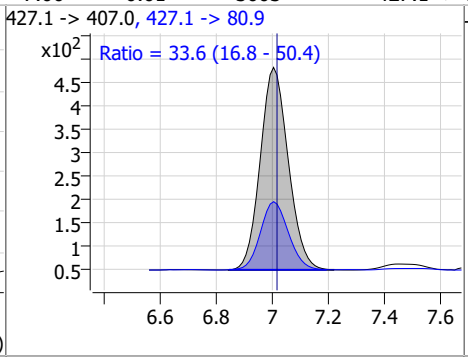


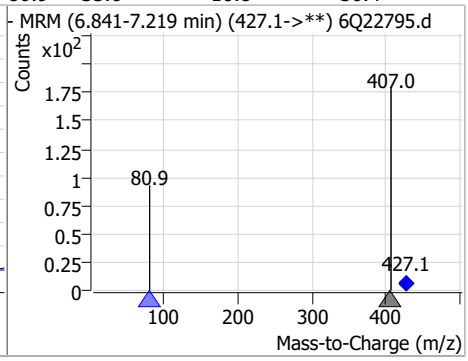


Perfluorinated Compounds by LC/MS/MS

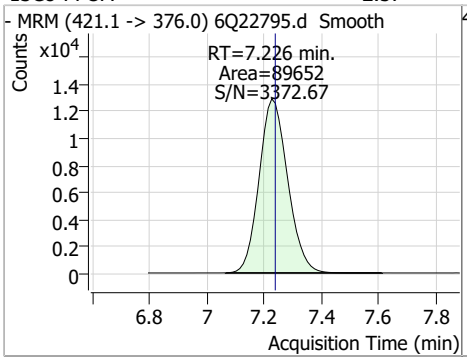
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.80	7.00	-0.01	3003	427.1 -> 80.9	33.6	16.8	50.4

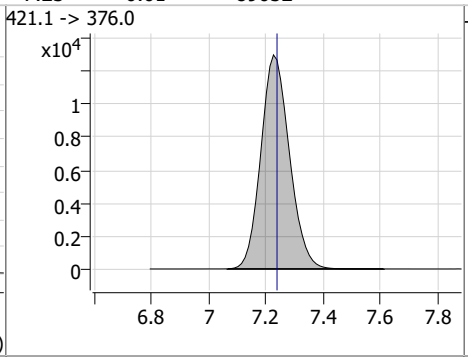


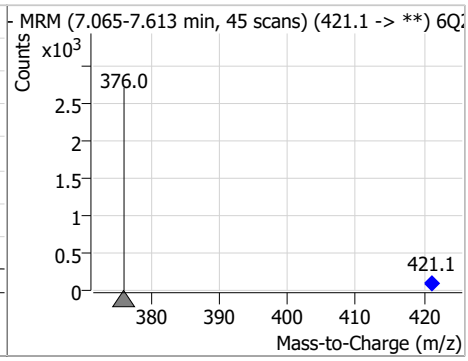




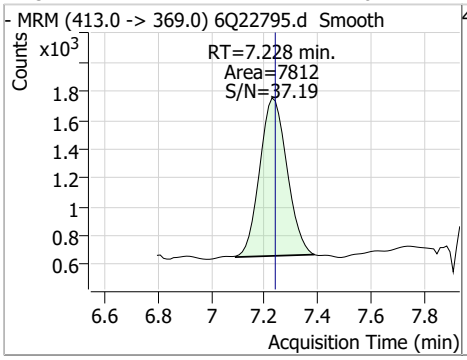
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.57	7.23	-0.01	89652				

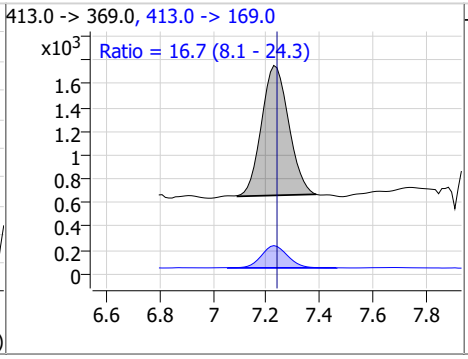


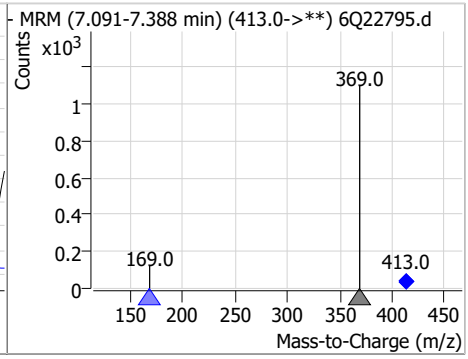




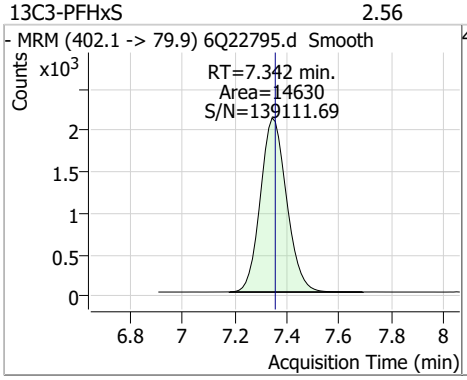
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.21	7.23	-0.01	7812	413.0 -> 169.0	16.7	8.1	24.3

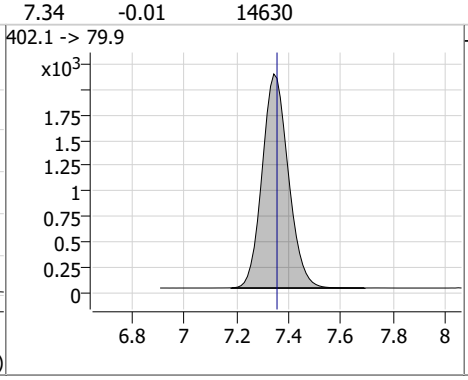


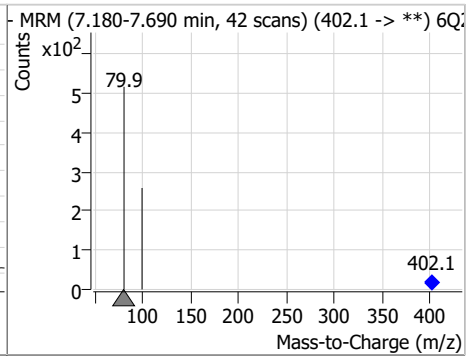




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.56	7.34	-0.01	14630				

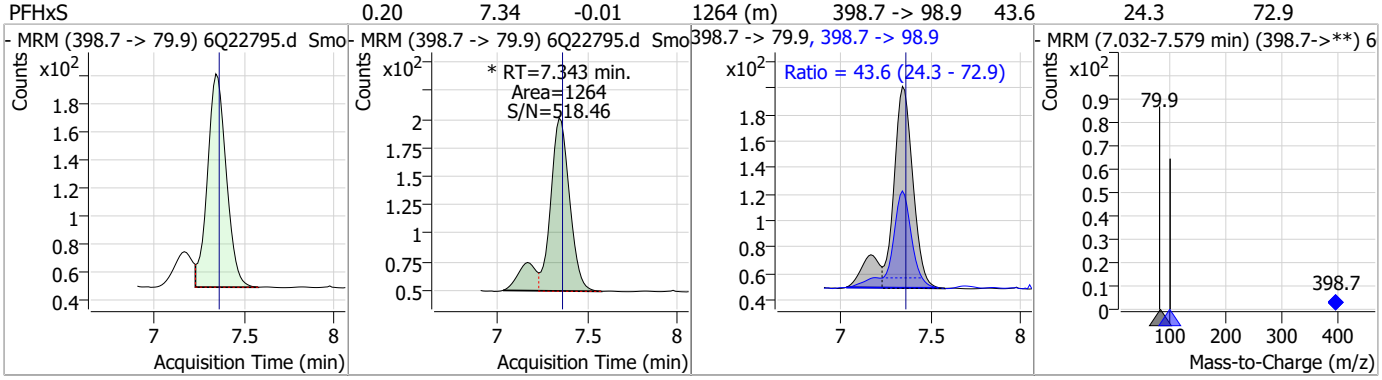




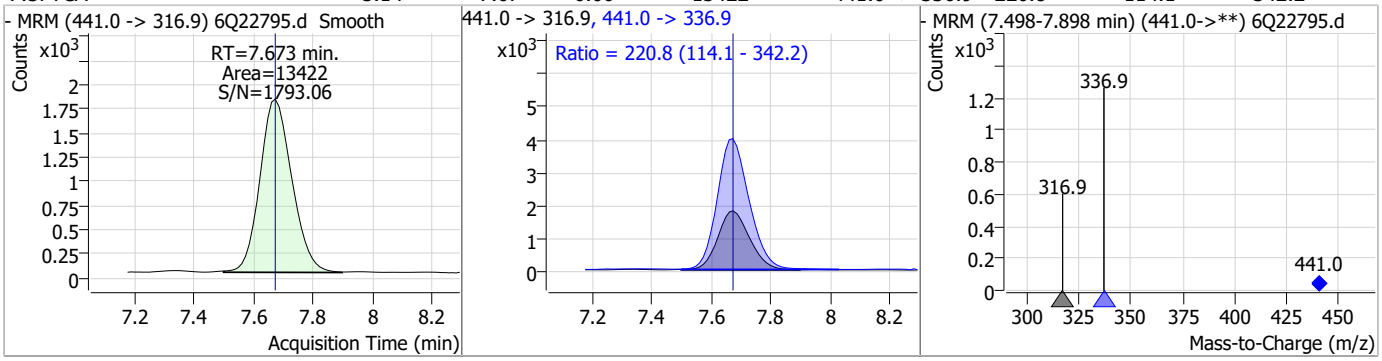


Perfluorinated Compounds by LC/MS/MS

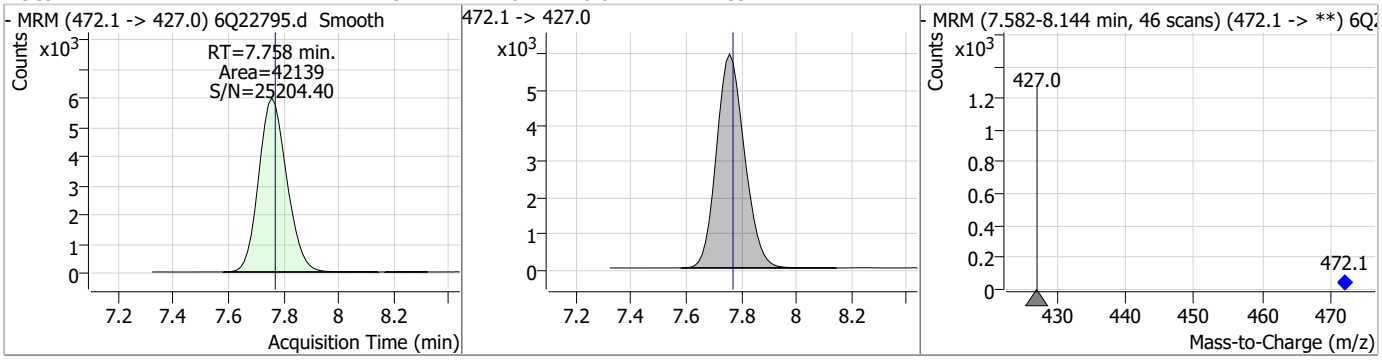
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.20	7.34	-0.01	1264 (m)	398.7 -> 98.9	43.6	24.3	72.9



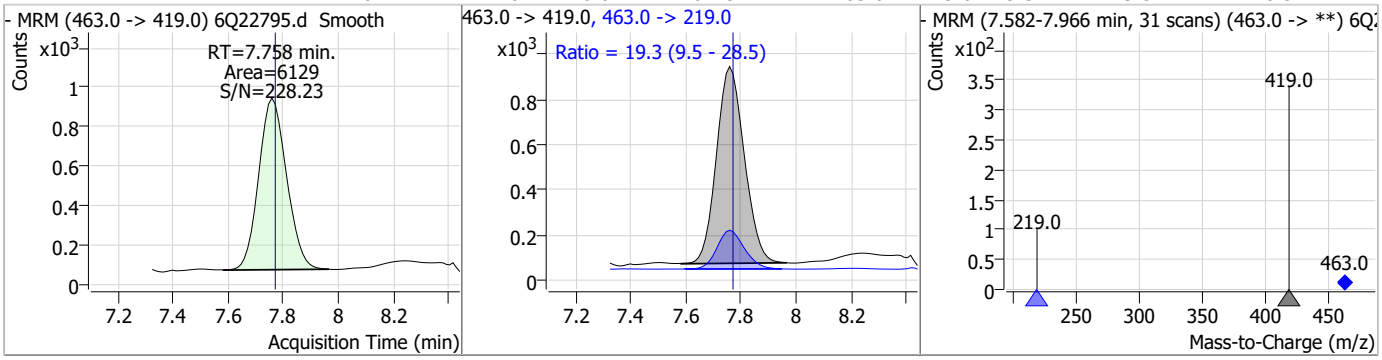
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	5.14	7.67	0.00	13422	441.0 -> 336.9	220.8	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.23	7.76	-0.01	42139				

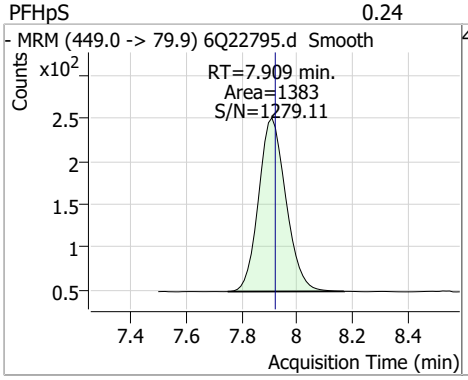


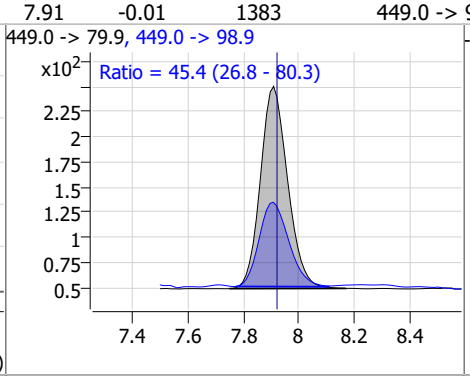
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.21	7.76	-0.01	6129	463.0 -> 219.0	19.3	9.5	28.5

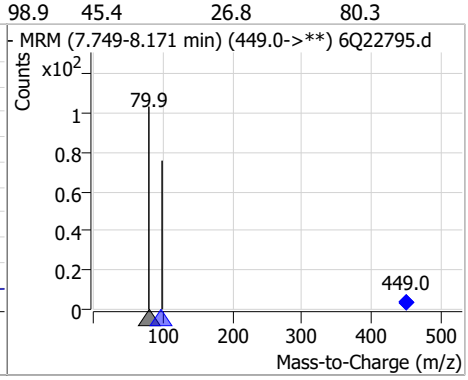


Perfluorinated Compounds by LC/MS/MS

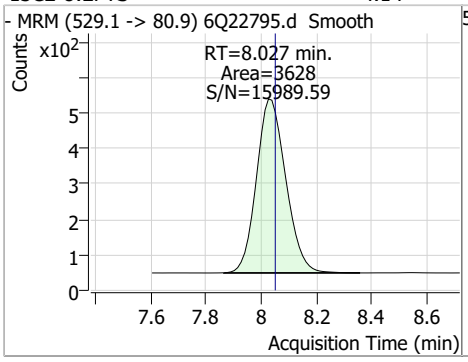
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.24	7.91	-0.01	1383	449.0 -> 98.9	45.4	26.8	80.3

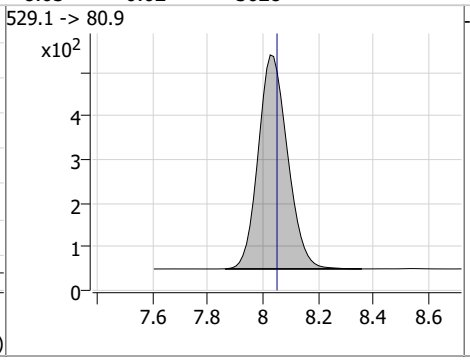


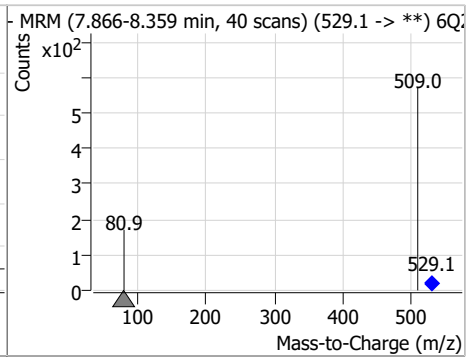




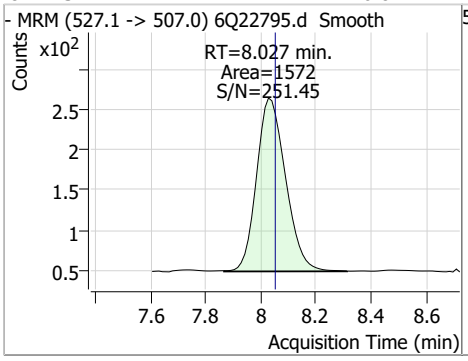
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.14	8.03	-0.02	3628				

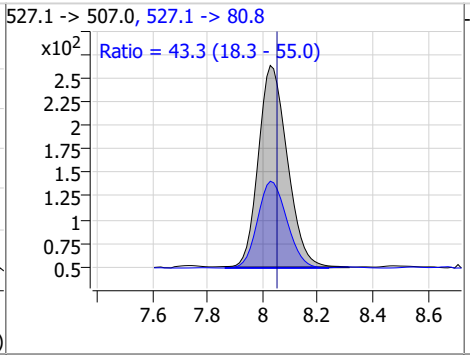


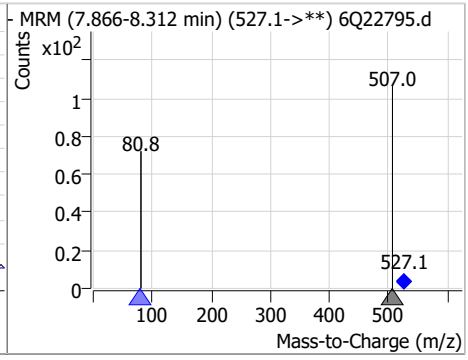




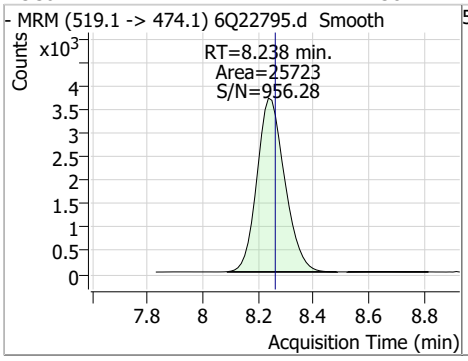
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.81	8.03	-0.02	1572	527.1 -> 80.8	43.3	18.3	55.0

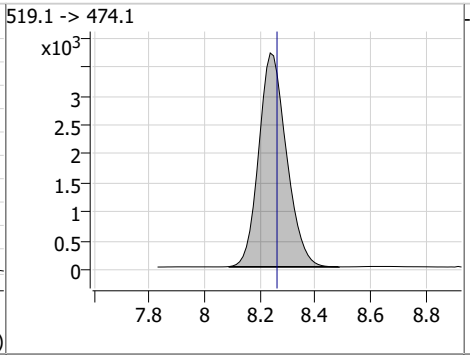


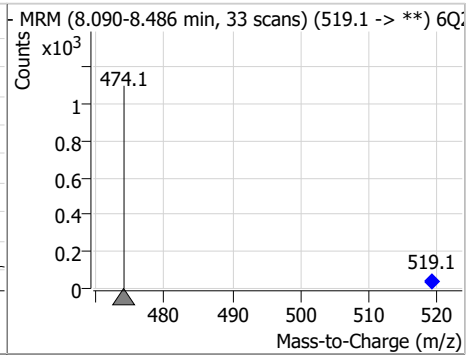




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.38	8.24	-0.02	25723				

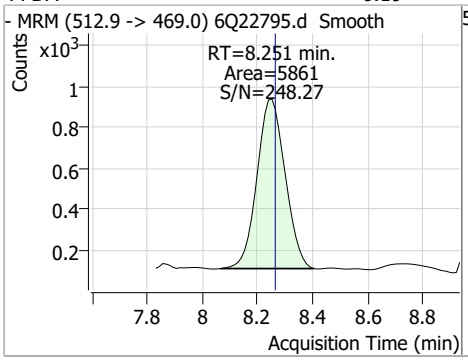


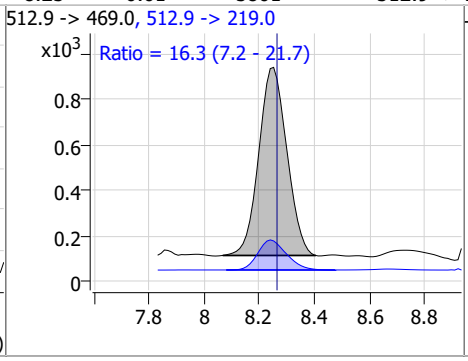


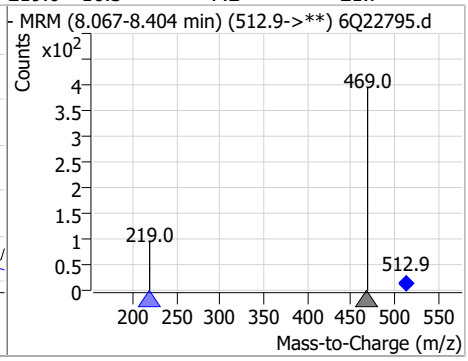


Perfluorinated Compounds by LC/MS/MS

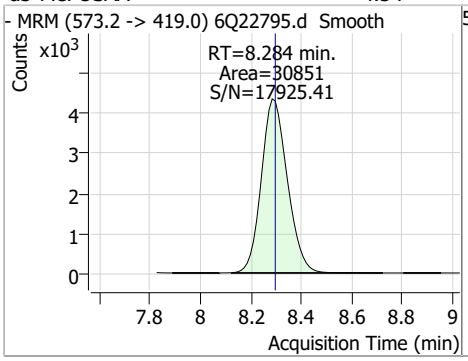
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.19	8.25	-0.01	5861	512.9 -> 219.0	16.3	7.2	21.7

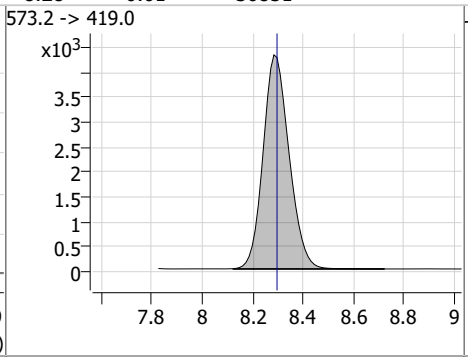


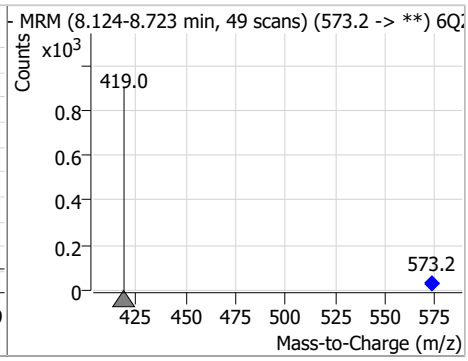




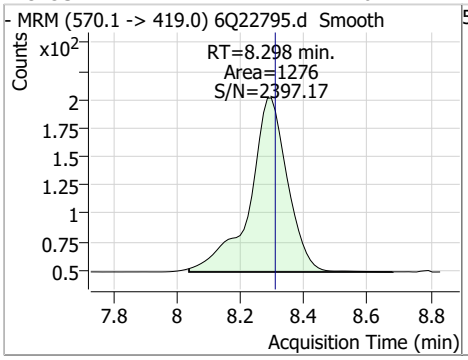
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.34	8.28	-0.01	30851				

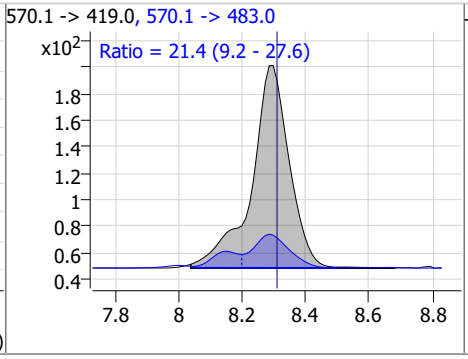


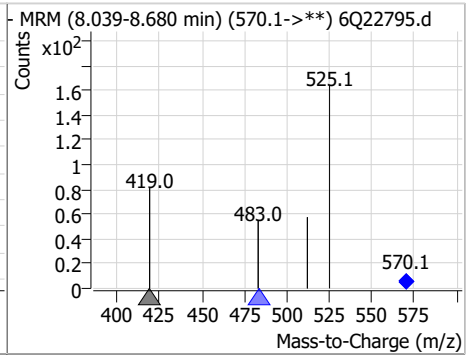




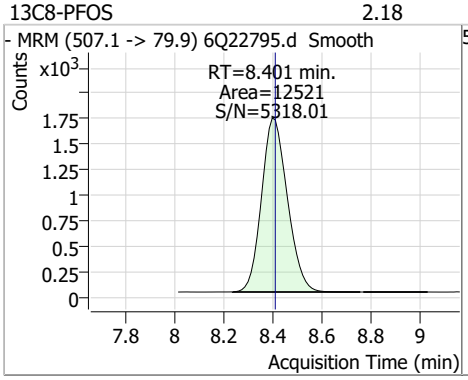
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.22	8.30	-0.01	1276	570.1 -> 483.0	21.4	9.2	27.6

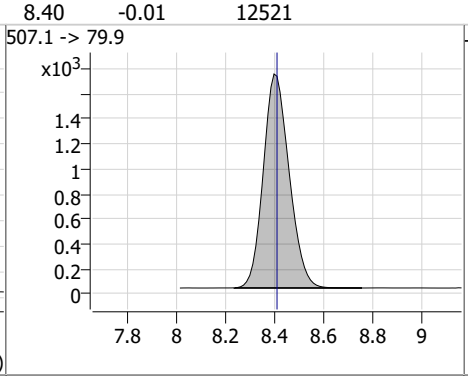


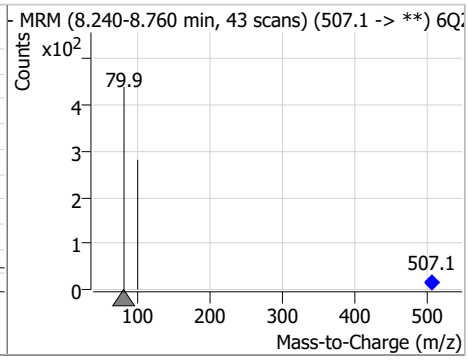




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.18	8.40	-0.01	12521				

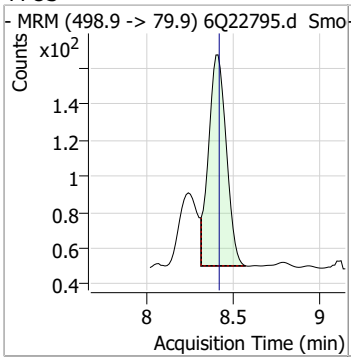


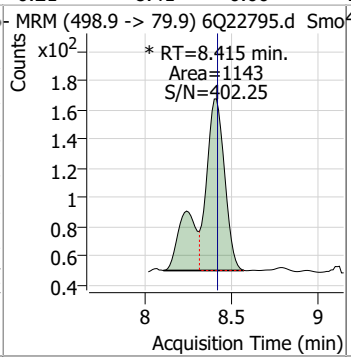


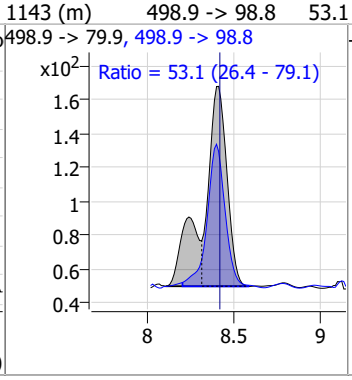


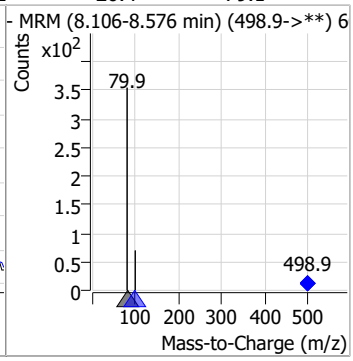
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.21	8.41	0.00	1143 (m)	498.9 -> 98.8	53.1	26.4	79.1

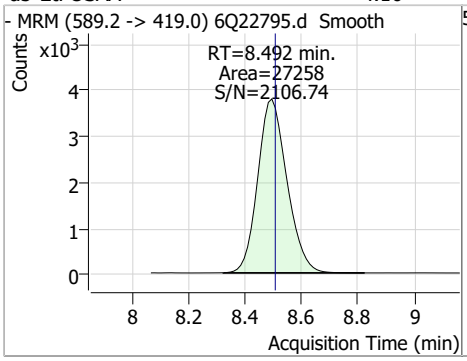


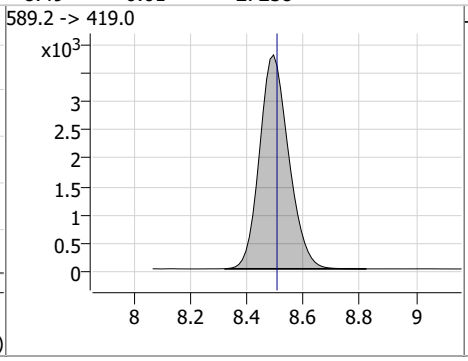


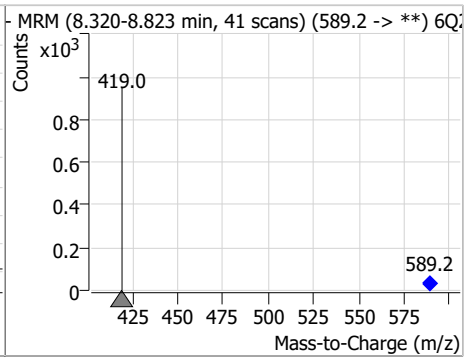




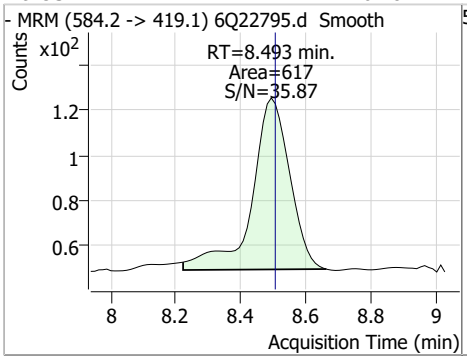
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.16	8.49	-0.01	27258				

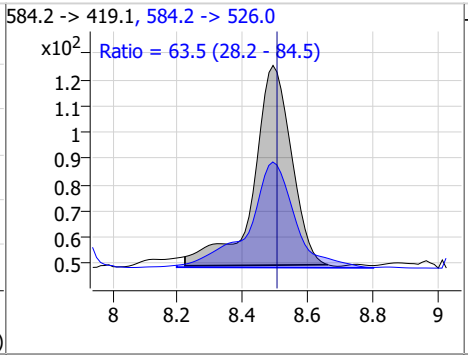


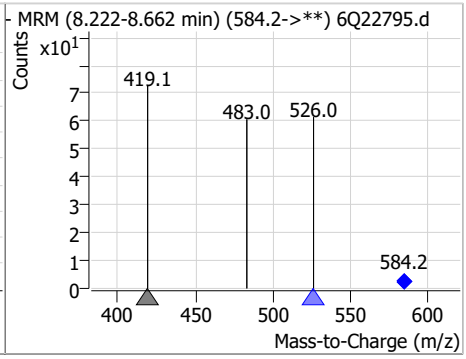




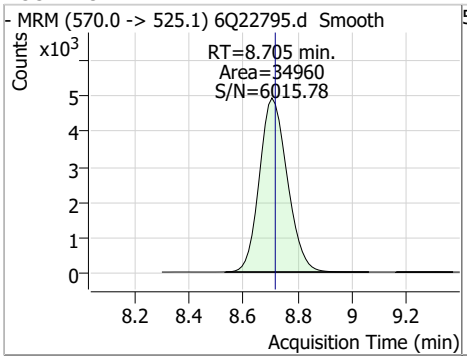
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.18	8.49	-0.01	617	584.2 -> 526.0	63.5	28.2	84.5

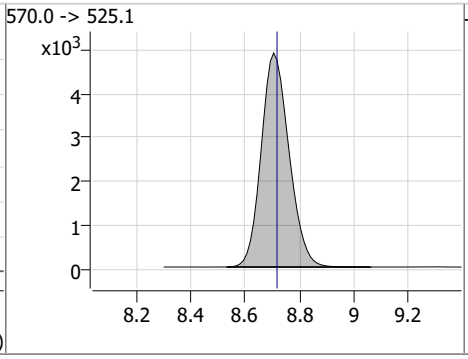


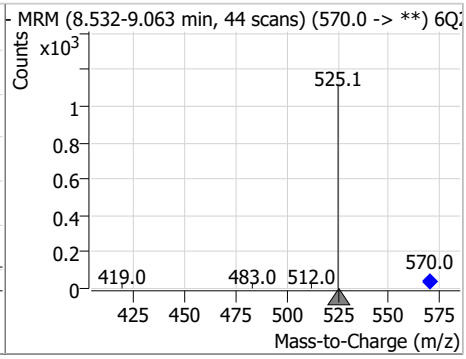




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.42	8.70	-0.01	34960				

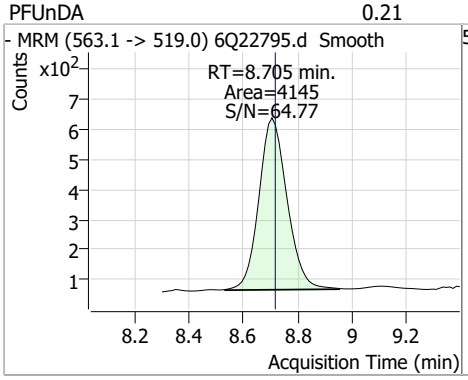


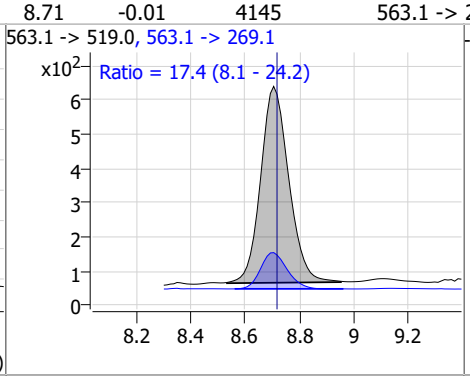


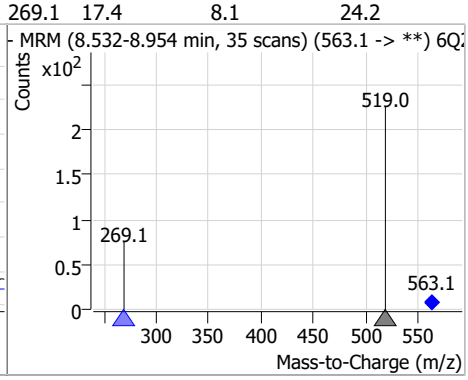


Perfluorinated Compounds by LC/MS/MS

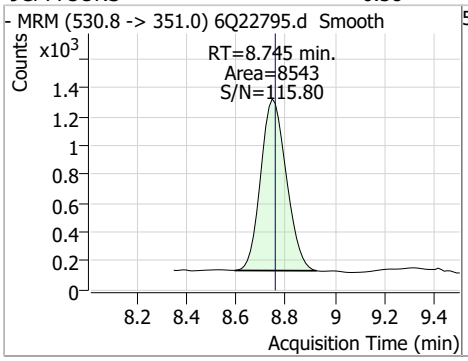
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.21	8.71	-0.01	4145	563.1 -> 269.1	17.4	8.1	24.2

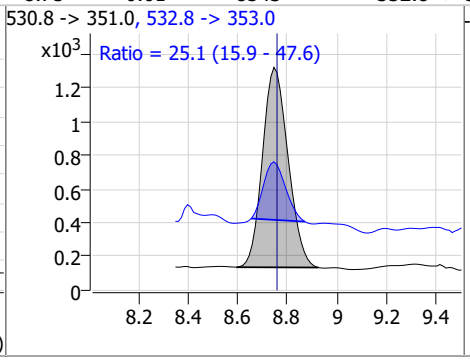


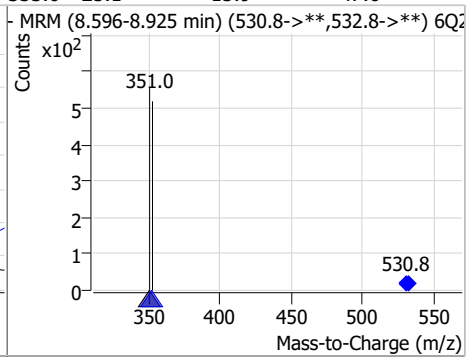




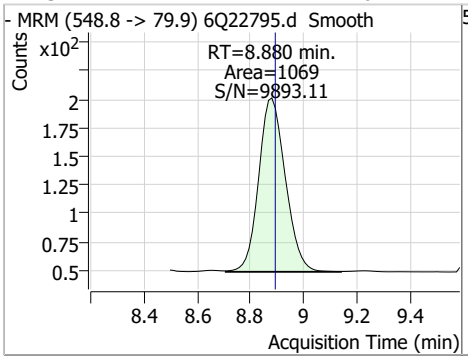
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.38	8.75	-0.01	8543	532.8 -> 353.0	25.1	15.9	47.6

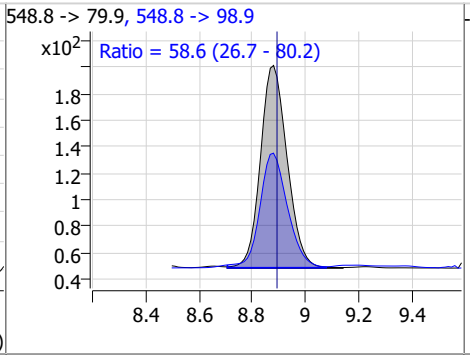


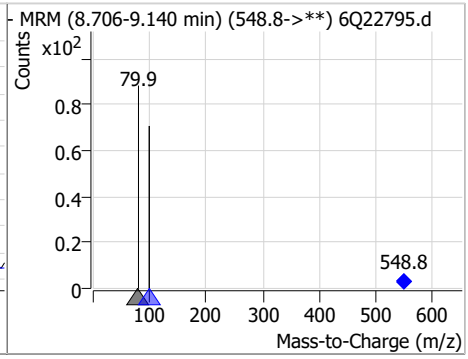




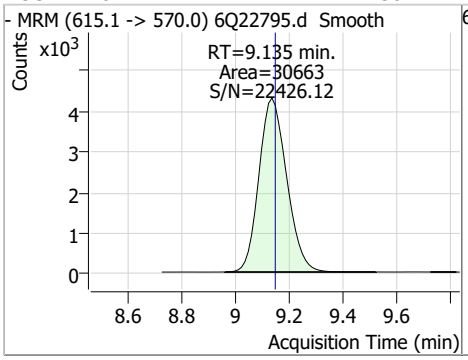
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.21	8.88	-0.01	1069	548.8 -> 98.9	58.6	26.7	80.2

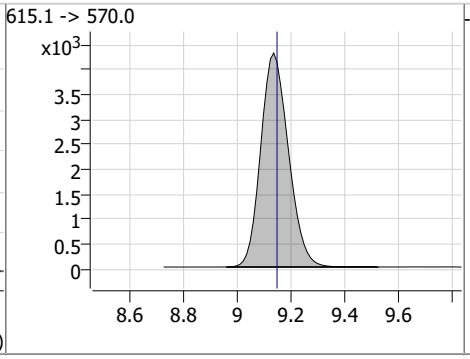


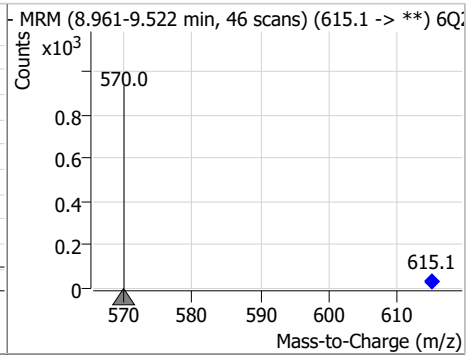




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.38	9.14	-0.01	30663				

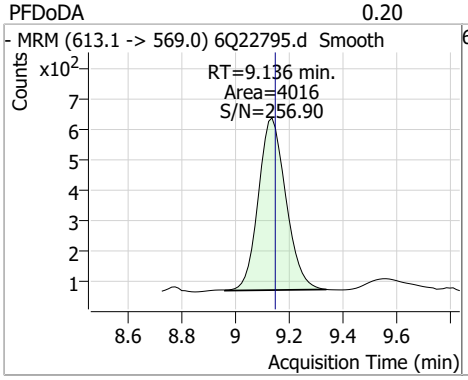


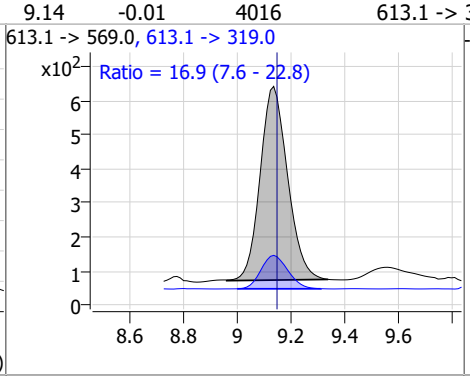


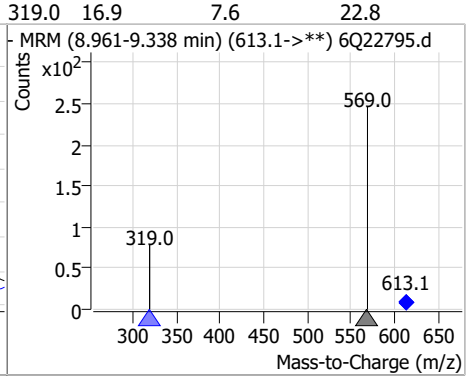


Perfluorinated Compounds by LC/MS/MS

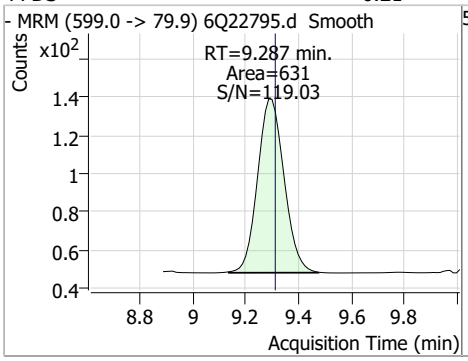
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.20	9.14	-0.01	4016	613.1 -> 319.0	16.9	7.6	22.8

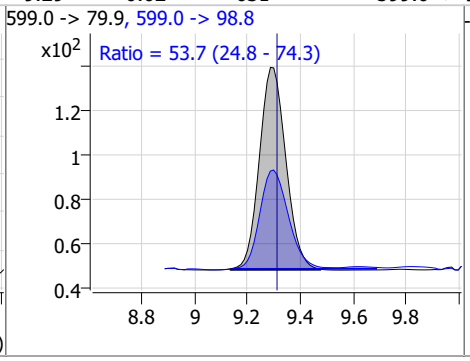


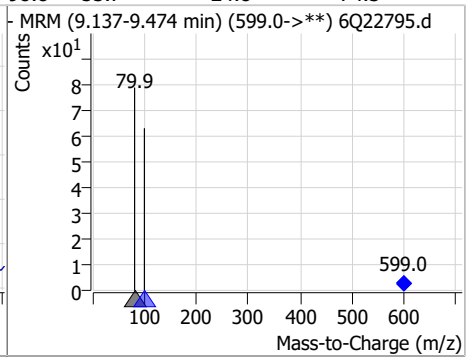




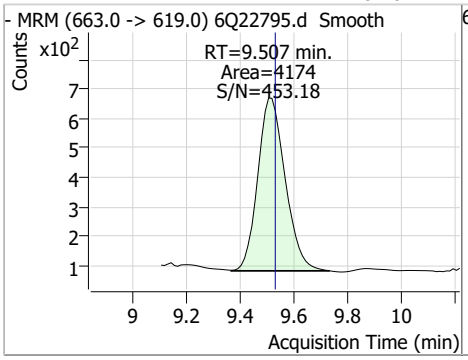
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.21	9.29	-0.02	631	599.0 -> 98.8	53.7	24.8	74.3

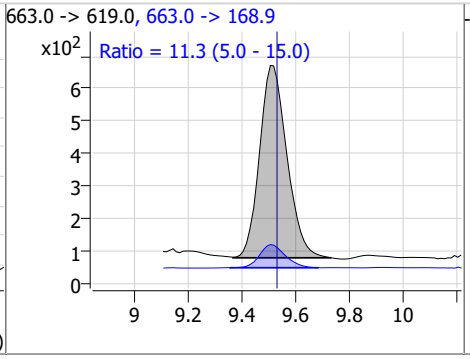


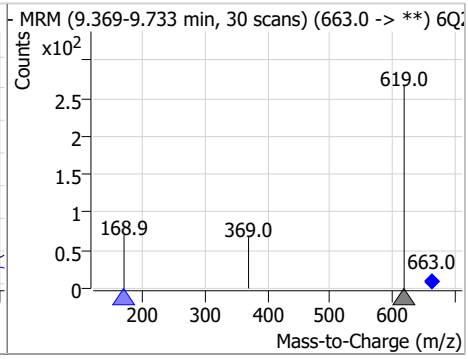




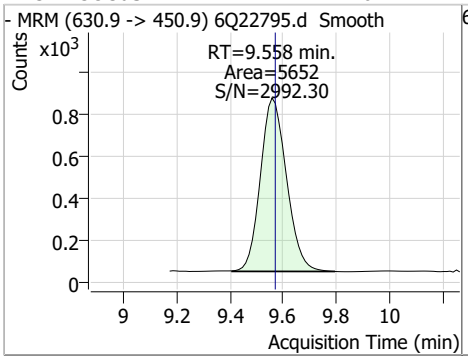
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.20	9.51	-0.02	4174	663.0 -> 168.9	11.3	5.0	15.0

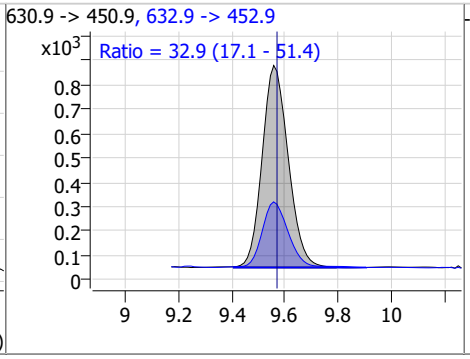


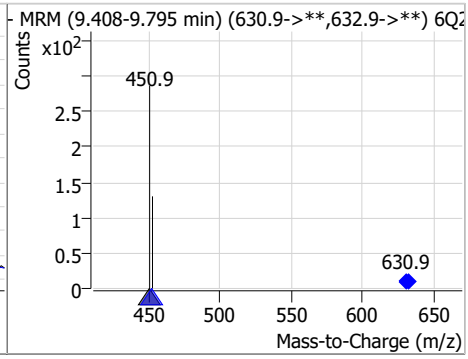




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.41	9.56	-0.01	5652	632.9 -> 452.9	32.9	17.1	51.4

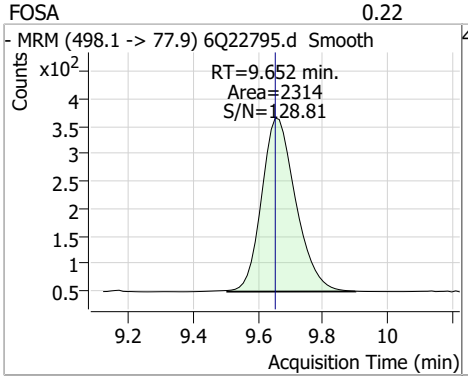


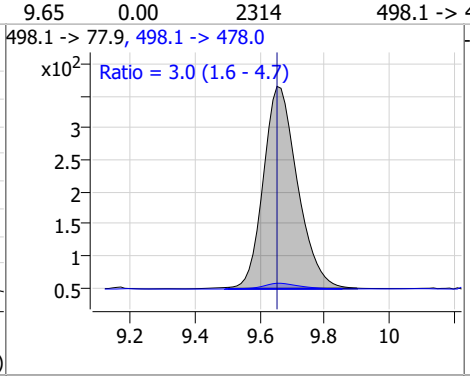


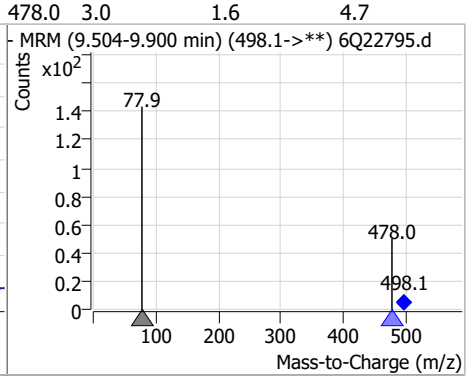


Perfluorinated Compounds by LC/MS/MS

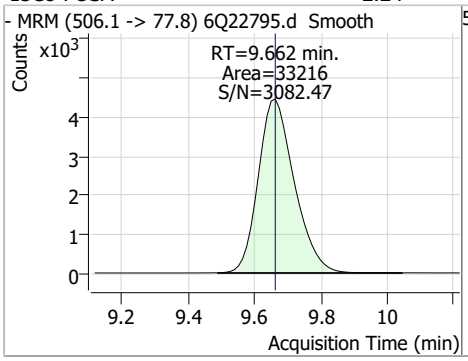
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.22	9.65	0.00	2314	498.1 -> 478.0	3.0	1.6	4.7

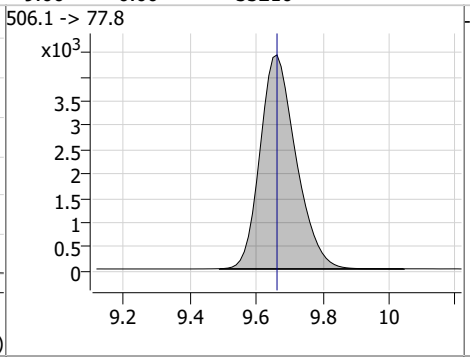


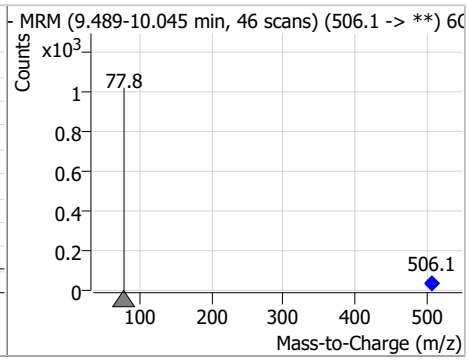




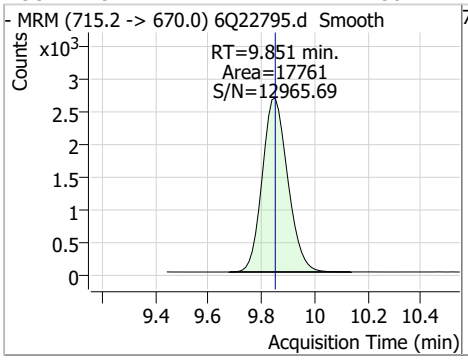
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.24	9.66	0.00	33216				

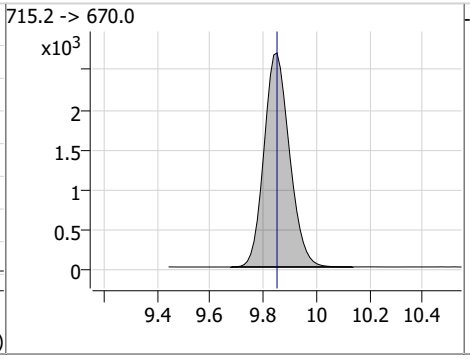


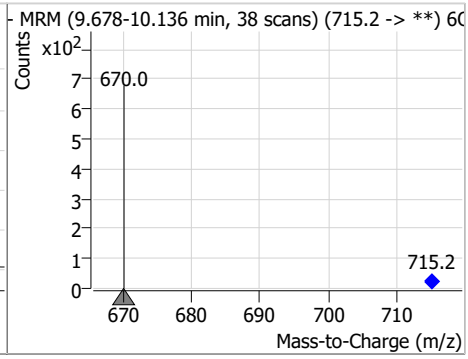




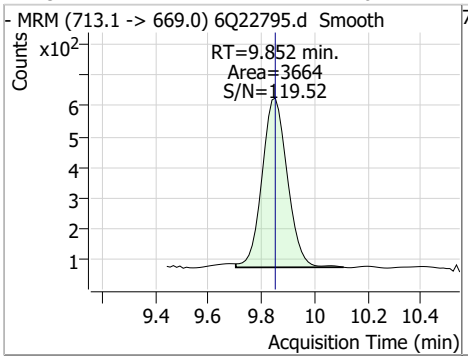
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.38	9.85	0.00	17761				

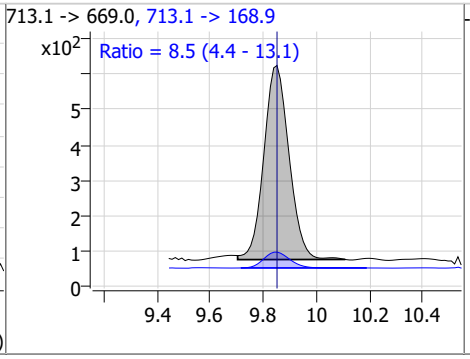


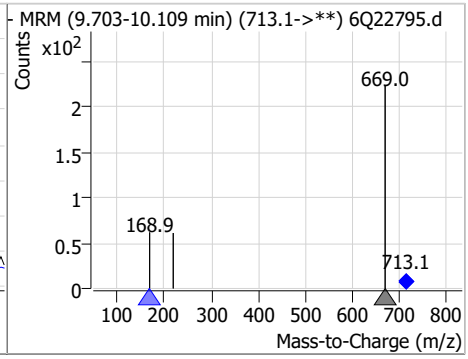




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.21	9.85	0.00	3664	713.1 -> 168.9	8.5	4.4	13.1

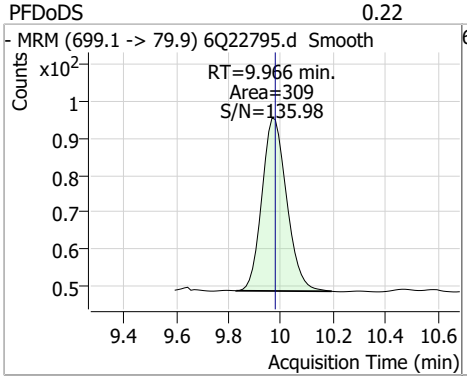


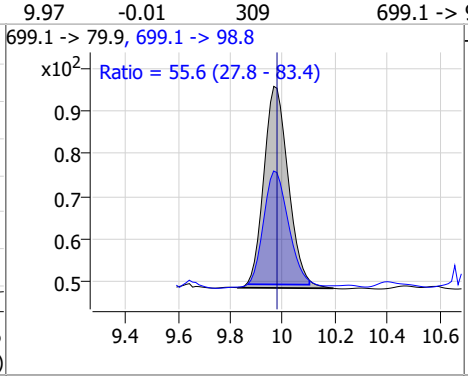


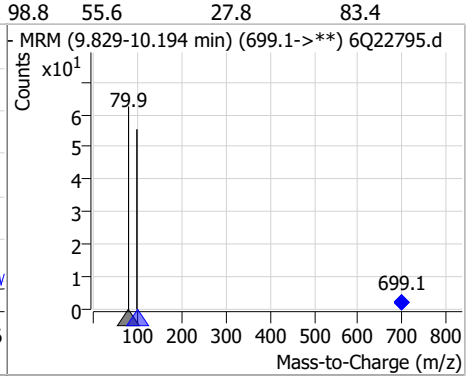


Perfluorinated Compounds by LC/MS/MS

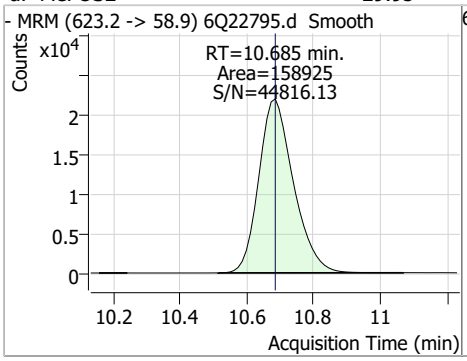
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.22	9.97	-0.01	309	699.1 -> 98.8	55.6	27.8	83.4

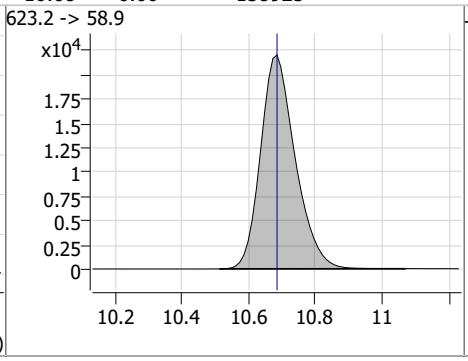


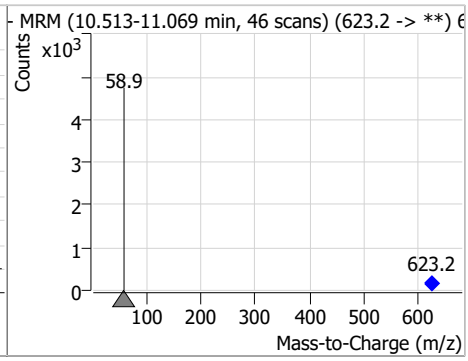




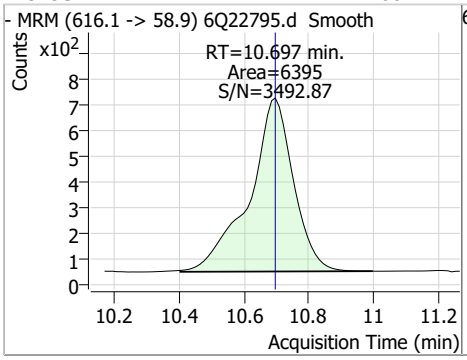
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	29.95	10.68	0.00	158925				

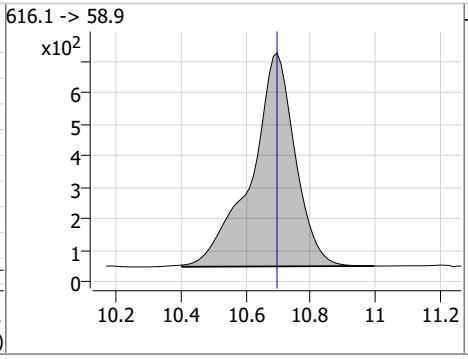


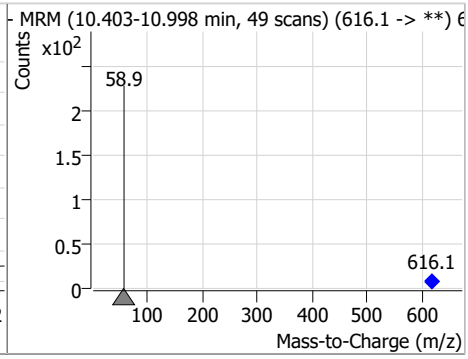




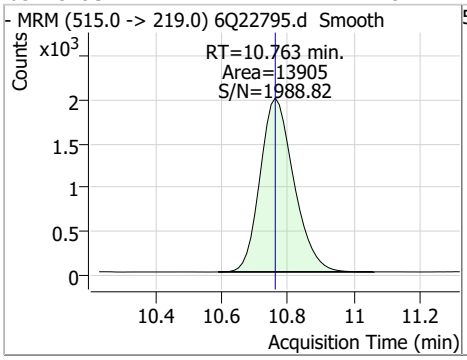
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	1.08	10.70	0.00	6395				

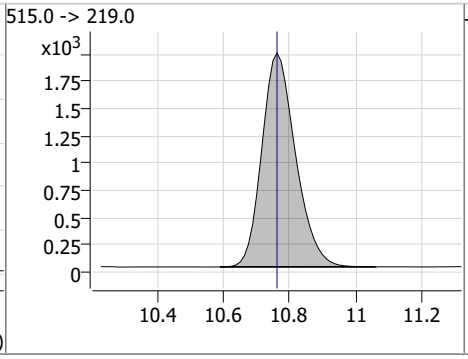


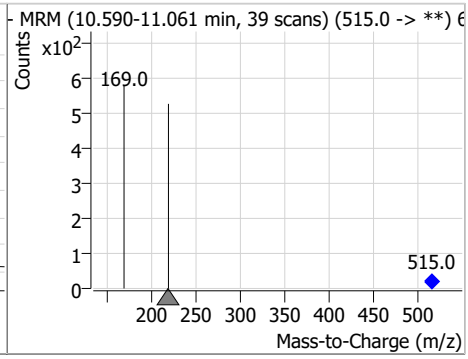




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.29	10.76	0.00	13905				

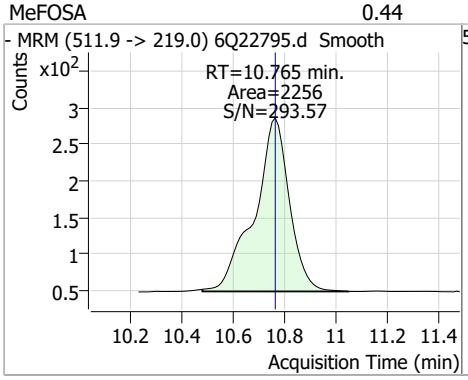


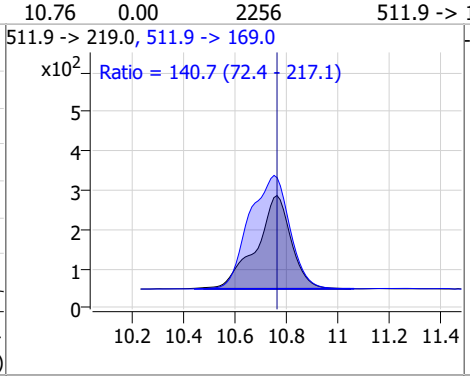


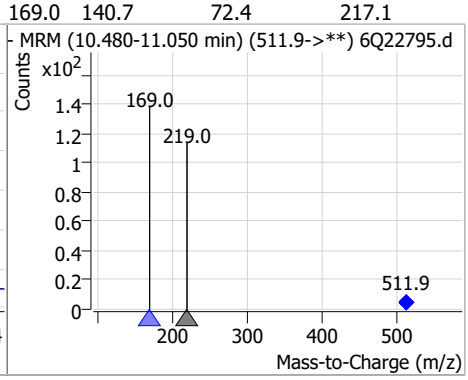


Perfluorinated Compounds by LC/MS/MS

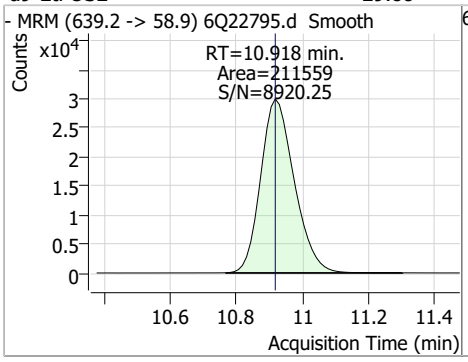
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.44	10.76	0.00	2256	511.9 -> 169.0	140.7	72.4	217.1

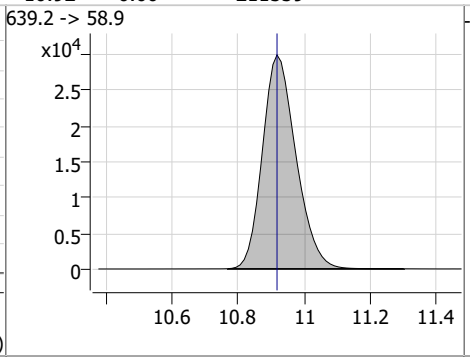


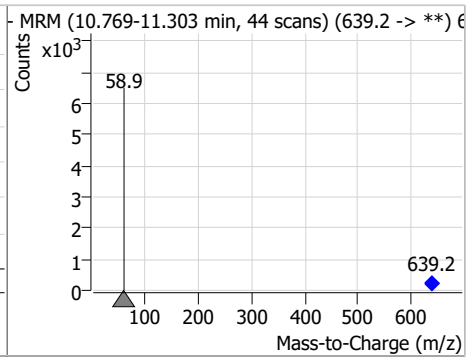




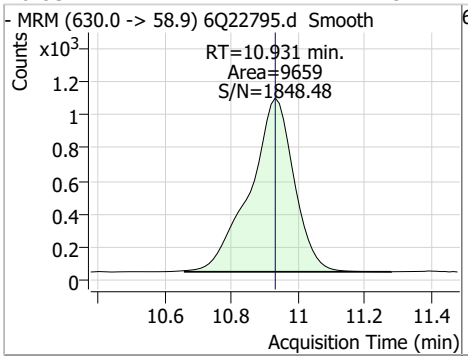
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	29.88	10.92	0.00	211559				

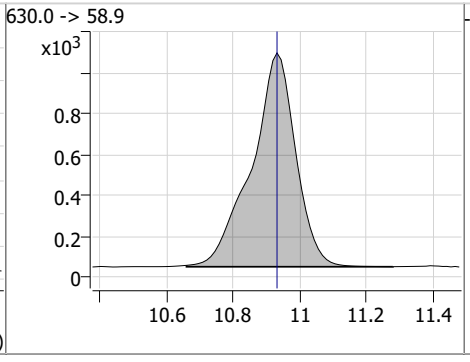


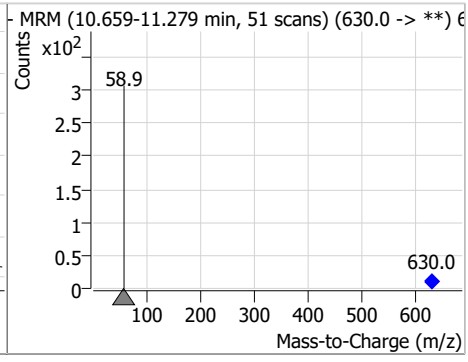




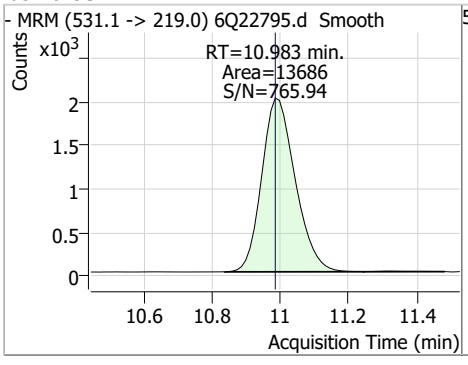
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	1.13	10.93	0.00	9659				

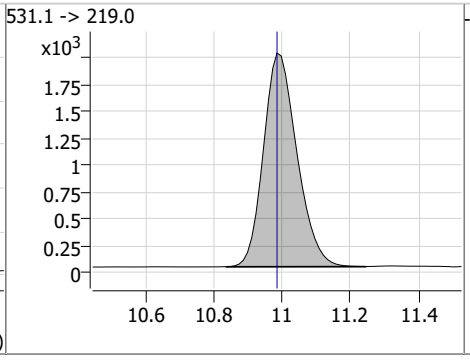


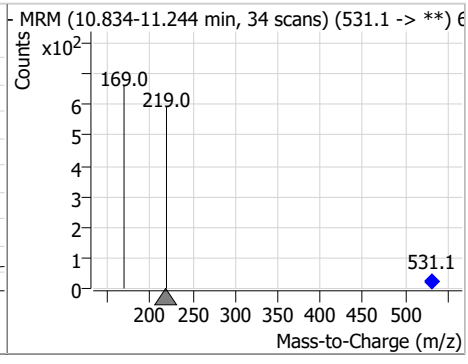




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.24	10.98	0.00	13686				

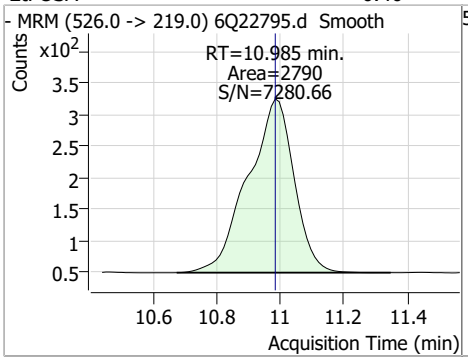


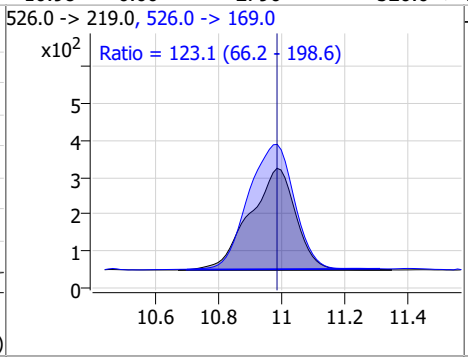


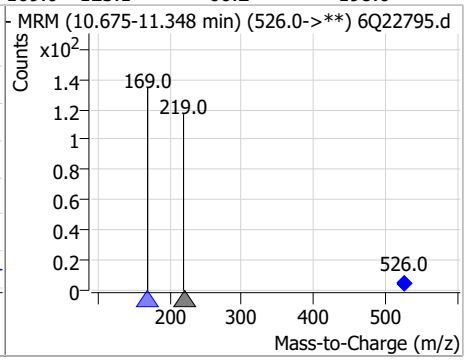


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.46	10.98	0.00	2790	526.0 -> 169.0	123.1	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q331-CC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22795.D	**Analyst approved:**	08/14/23 10:35 Martha Valls
Injection Time:	08/13/23 15:51	**Supervisor approved:**	08/15/23 12:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.41	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/15/23 12:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22806.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 6:29:01 PM
Sample Name : cc330-4
Vial : P1-A5
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98201,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	161491	10.00	µg/L	-0.012
M5-PFPeA	4.447	268.3 -> 223.0	52301	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	55822	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	56707	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	86651	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	40420	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	23644	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	32785	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	27001	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	14738	1.25	µg/L	-0.012
M8-FOSA	9.650	506.1 -> 77.8	30970	2.50	µg/L	-0.012
M3-PFBS	5.599	302.1 -> 79.9	21613	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	13494	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	13438	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	2928	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4128	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	4367	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	29750	5.00	µg/L	-0.012
M3-HFPO-DA	6.033	286.9 -> 168.9	34993	10.00	µg/L	-0.012
M5-EtFOSAA	8.492	589.2 -> 419.0	26797	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	124149	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	174821	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	12576	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	12822	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	17044	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	68104	5.00	µg/L	0.000
18O2-PFHxS	7.341	403.0 -> 83.9	9685	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	90138	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	31225	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	49097	1.25	µg/L	-0.012
13C2-PFHxA	5.656	315.1 -> 270.0	55216	2.50	µg/L	-0.012
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2928	5.06	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.2%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4128	4.94	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.9%		
13C2-8:2FTS	8.027	529.1 -> 80.9	4367	5.34	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.8%		
13C2-PFDoDA	9.135	615.1 -> 570.0	27001	1.28	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C2-PFTeDA	9.839	715.2 -> 670.0	14738	1.21	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.2%		
13C3-PFBS	5.599	302.1 -> 79.9	21613	2.63	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%		
13C3-PFHxS	7.342	402.1 -> 79.9	13494	2.53	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 = 101.4%	
13C4-PFBA	2.997	216.8 -> 171.9	161491	10.04 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C4-PFHpA	6.596	367.1 -> 322.0	56707	2.54 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C5-PFHxA	5.668	318.0 -> 273.0	55822	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.0%	
13C5-PFPeA	4.447	268.3 -> 223.0	52301	5.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C6-PFDA	8.238	519.1 -> 474.1	23644	1.34 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C7-PFUnDA	8.705	570.0 -> 525.1	32785	1.41 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 112.5%	
13C8-FOSA	9.650	506.1 -> 77.8	30970	2.41 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.3%	
13C8-PFOA	7.226	421.1 -> 376.0	86651	2.60 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C8-PFOS	8.401	507.1 -> 79.9	13438	2.69 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.7%	
13C9-PFNA	7.758	472.1 -> 427.0	40420	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.5%	
d3-MeFOSAA	8.284	573.2 -> 419.0	29750	4.82 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.5%	
13C3-HFPO-DA	6.033	286.9 -> 168.9	34993	9.79 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
d3-MeFOSA	10.763	515.0 -> 219.0	12822	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%	
d5-EtFOSAA	8.492	589.2 -> 419.0	26797	4.71 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.1%	
d7-MeFOSE	10.672	623.2 -> 58.9	124149	26.95 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 107.8%	
d9-EtFOSE	10.918	639.2 -> 58.9	174821	28.44 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 113.8%	
d5-EtFOSA	10.983	531.1 -> 219.0	12576	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.8%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	36034	9.51 µg/L	99
		327.1 -> 80.9	13871		
6:2FTS	7.002	427.1 -> 407.0	37562	10.17 µg/L	96
		427.1 -> 80.9	11724		
8:2FTS	8.027	527.1 -> 507.0	19346	8.28 µg/L	88
		527.1 -> 80.8	8442		
EtFOSAA	8.493	584.2 -> 419.1	8201	2.43 µg/L	96
		584.2 -> 526.0	4385		
FOSA	9.652	498.1 -> 77.9	23925	2.46 µg/L	99
		498.1 -> 478.0	652		
MeFOSAA	8.285	570.1 -> 419.0	13123	2.31 µg/L	93
		570.1 -> 483.0	2813		
PFBA	3.006	212.8 -> 168.9	49847	9.88 µg/L	100
PFBS	5.600	298.7 -> 79.9	15932	2.26 µg/L	99
		298.7 -> 98.8	6025		
PFDA	8.239	512.9 -> 469.0	63275	2.26 µg/L	98
		512.9 -> 219.0	9621		
PFDoDA	9.136	613.1 -> 569.0	43233	2.44 µg/L	98
		613.1 -> 319.0	6972		
PFDS	9.287	599.0 -> 79.9	7345	2.28 µg/L	98

Perfluorinated Compounds by LC/MS/MS

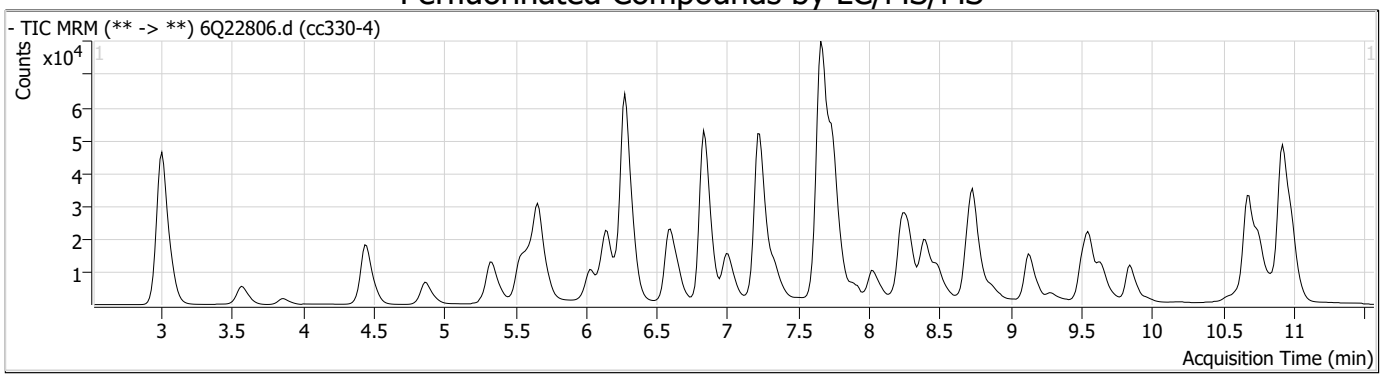
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3534				
PFHpA	6.596	363.1 -> 319.0	55357	2.48	µg/L		100
		363.1 -> 169.0	9226				
PFHpS	7.897	449.0 -> 79.9	13862	2.26	µg/L		94
		449.0 -> 98.9	6829				
PFHxA	5.670	313.0 -> 269.0	41796	2.56	µg/L		100
		313.0 -> 118.9	2205				
PFHxS	7.343	398.7 -> 79.9	14382	2.42	µg/L	m	96
		398.7 -> 98.9	6557				
PFNA	7.758	463.0 -> 419.0	68940	2.48	µg/L		99
		463.0 -> 219.0	12891				
PFNS	8.867	548.8 -> 79.9	12274	2.21	µg/L		99
		548.8 -> 98.9	6424				
PFOA	7.228	413.0 -> 369.0	87103	2.46	µg/L		98
		413.0 -> 169.0	14890				
PFOS	8.403	498.9 -> 79.9	13878	2.40	µg/L	m	93
		498.9 -> 98.8	6672				
PFPeA	4.449	263.0 -> 219.0	58252	5.06	µg/L		100
PFPeS	6.660	349.1 -> 79.9	14470	2.62	µg/L		93
		349.1 -> 98.9	5939				
PFTeDA	9.839	713.1 -> 669.0	36719	2.57	µg/L		100
		713.1 -> 168.9	3130				
PFTrDA	9.507	663.0 -> 619.0	47546	2.60	µg/L		97
		663.0 -> 168.9	5268				
PFUnDA	8.705	563.1 -> 519.0	42710	2.26	µg/L		98
		563.1 -> 269.1	7296				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	60703	4.86	µg/L		95
		632.9 -> 452.9	18941				
9Cl-PF3ONS	8.745	530.8 -> 351.0	99282	4.92	µg/L		99
		532.8 -> 353.0	30979				
ADONA	6.846	376.9 -> 250.9	222200	4.99	µg/L		96
		376.9 -> 84.8	63906				
HFPO-DA	6.046	284.9 -> 168.9	15187	5.10	µg/L		99
		284.9 -> 184.9	1680				
3:3FTCA	3.859	241.0 -> 177.0	9711	12.17	µg/L		99
		241.0 -> 117.0	1256				
5:3FTCA	6.272	341.0 -> 237.1	210473	62.67	µg/L		97
		341.0 -> 217.0	154948				
7:3FTCA	7.673	441.0 -> 316.9	154705	62.28	µg/L		89
		441.0 -> 336.9	325130				
EtFOSA	10.985	526.0 -> 219.0	28727	5.19	µg/L		98
		526.0 -> 169.0	37346				
EtFOSE	10.931	630.0 -> 58.9	88101	12.44	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	23774	5.00	µg/L		98
		511.9 -> 169.0	33711				
MeFOSE	10.697	616.1 -> 58.9	59386	12.79	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	3465	2.31	µg/L		99
		699.1 -> 98.8	1964				
NFDHA	5.538	295.0 -> 201.0	10537	5.07	µg/L		98
		295.0 -> 84.9	2879				
PFMBA	4.869	279.0 -> 85.1	41708	5.12	µg/L		100
PFMPA	3.576	229.0 -> 84.9	32737	5.02	µg/L		100
PFEESA	6.151	314.8 -> 134.9	107050	4.88	µg/L		100
		314.8 -> 82.9	3783				

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

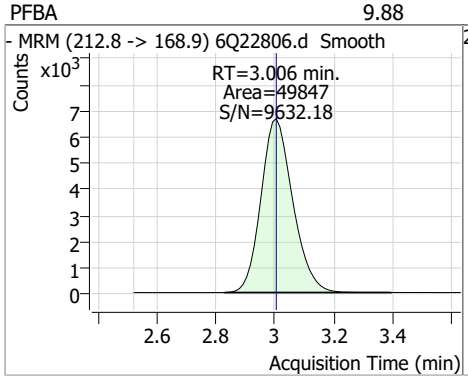
Perfluorinated Compounds by LC/MS/MS

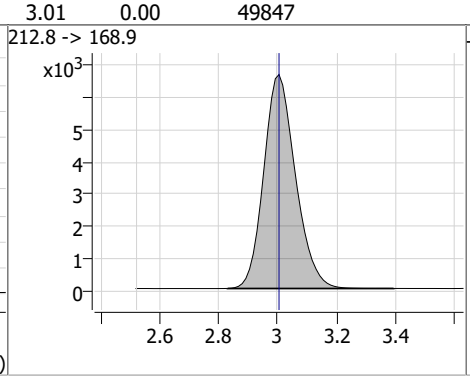
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

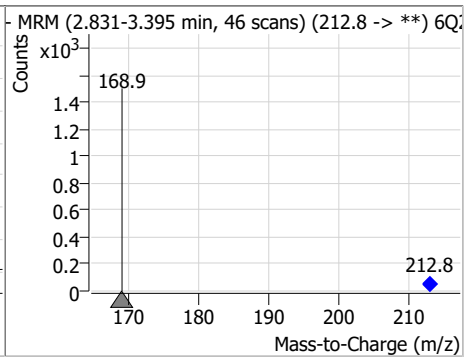
Perfluorinated Compounds by LC/MS/MS



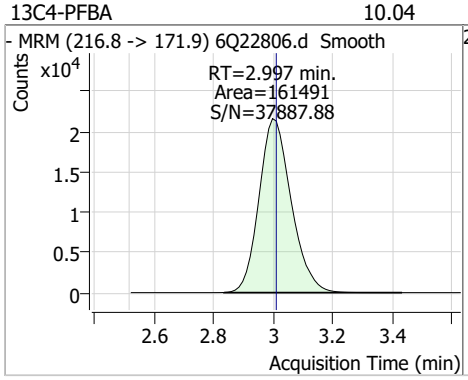
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.88	3.01	0.00	49847				

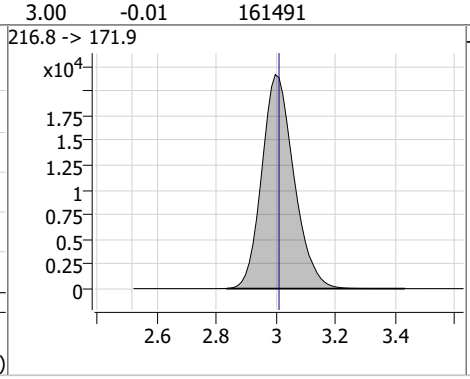


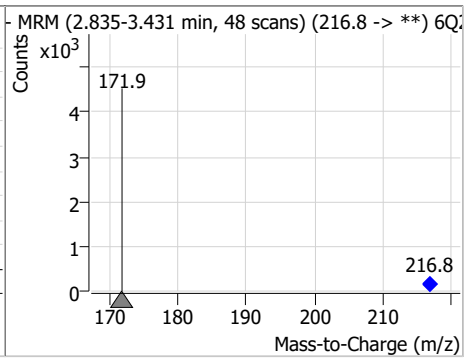




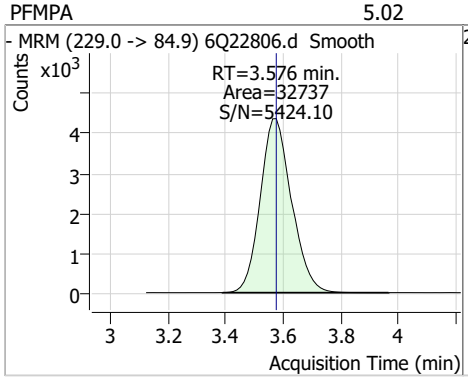
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.04	3.00	-0.01	161491				

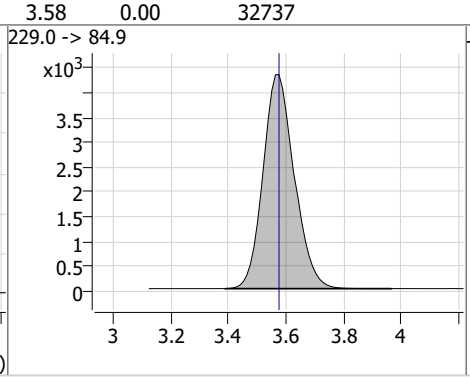


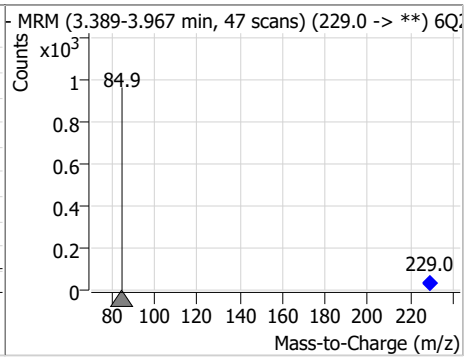




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	5.02	3.58	0.00	32737				

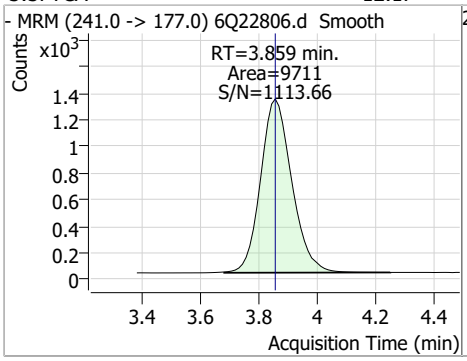


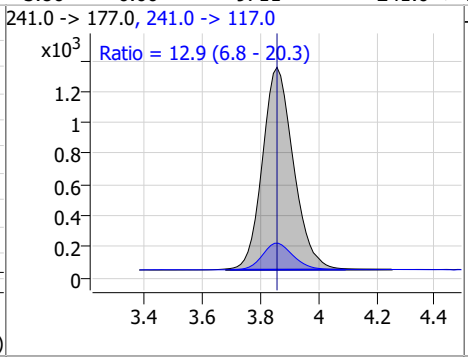


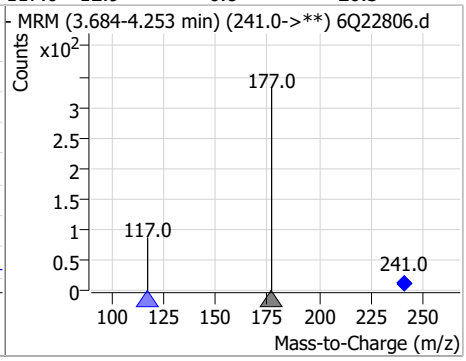


Perfluorinated Compounds by LC/MS/MS

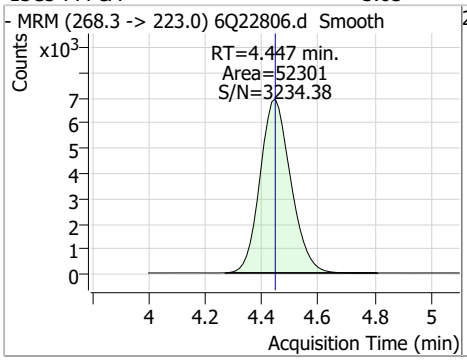
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.17	3.86	0.00	9711	241.0 -> 117.0	12.9	6.8	20.3

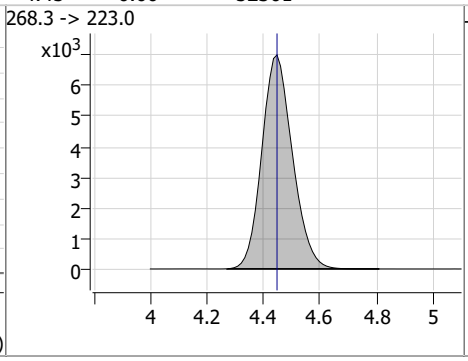


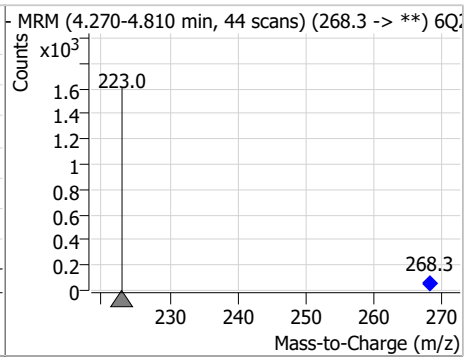




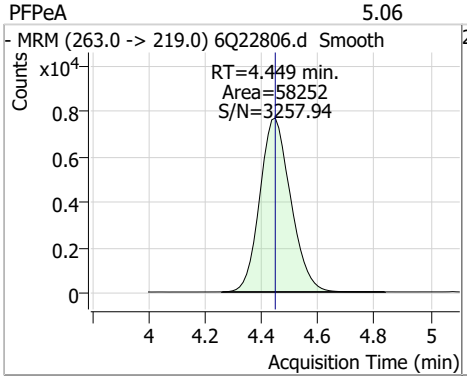
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.03	4.45	0.00	52301				

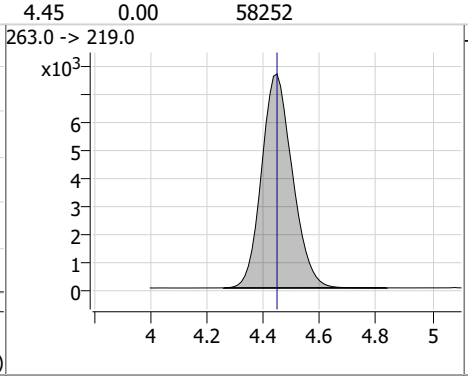


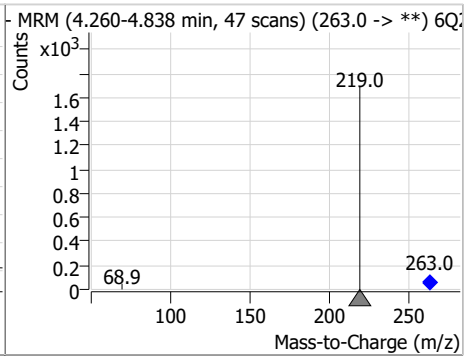




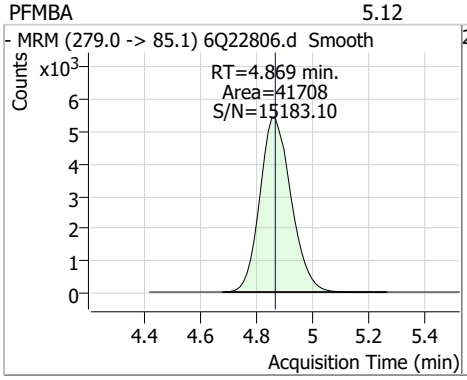
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	5.06	4.45	0.00	58252				

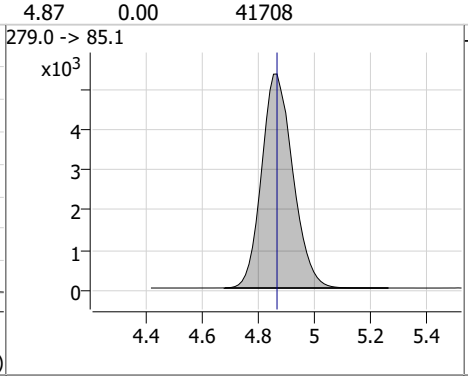


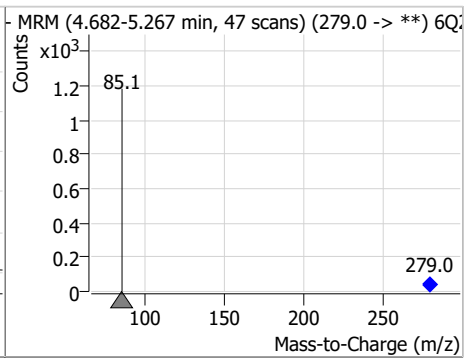




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.12	4.87	0.00	41708				

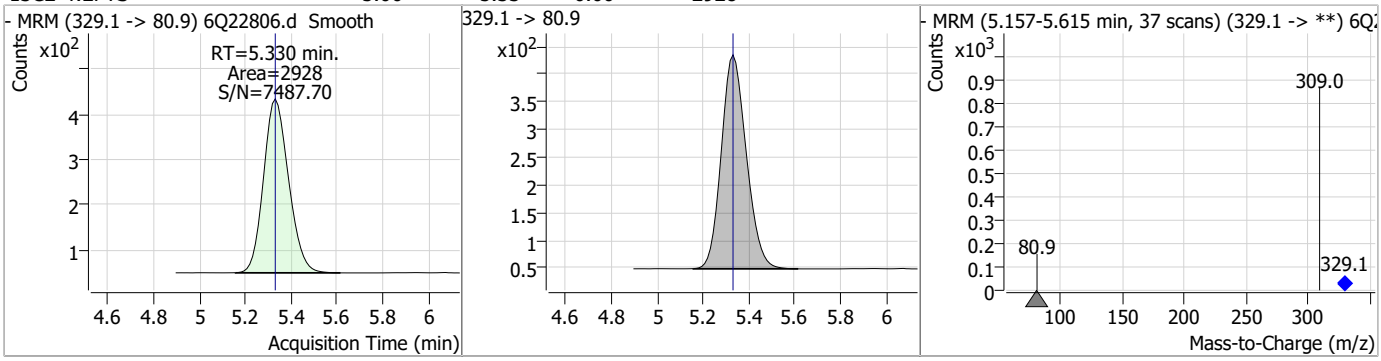




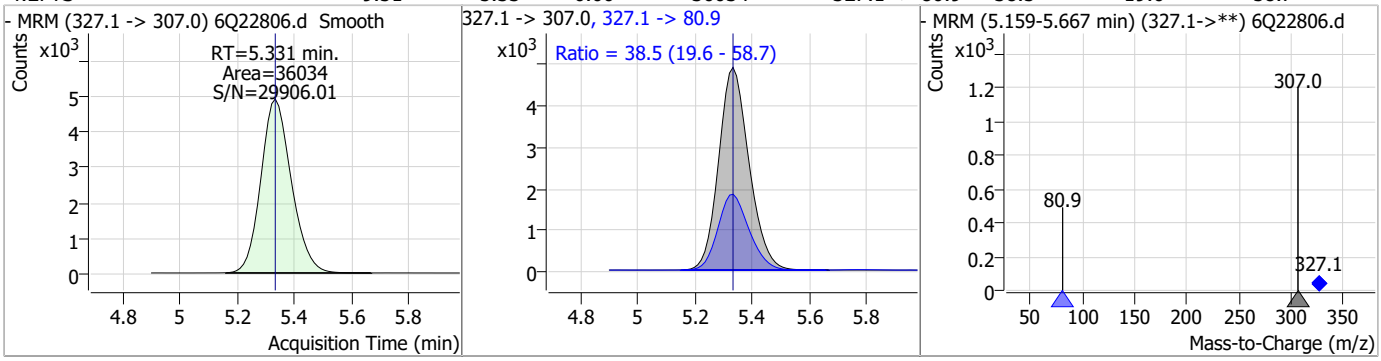


Perfluorinated Compounds by LC/MS/MS

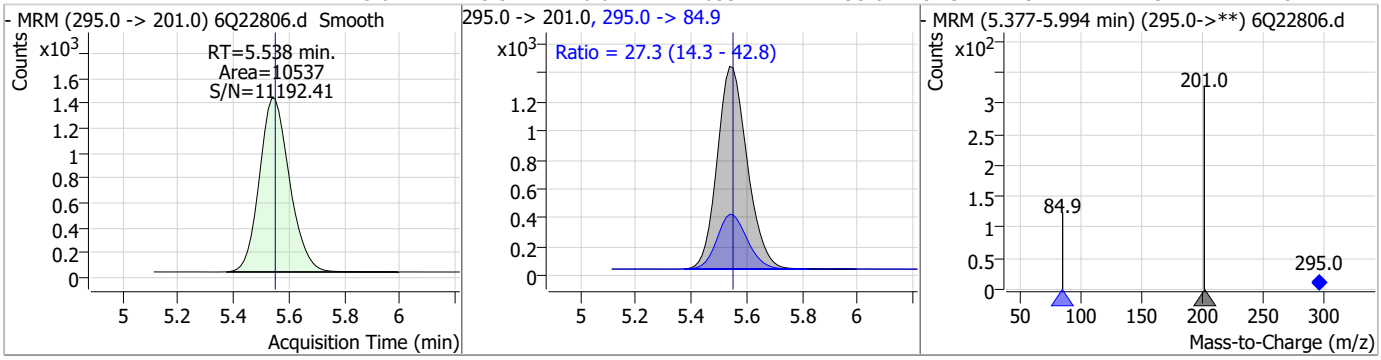
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.06	5.33	0.00	2928				



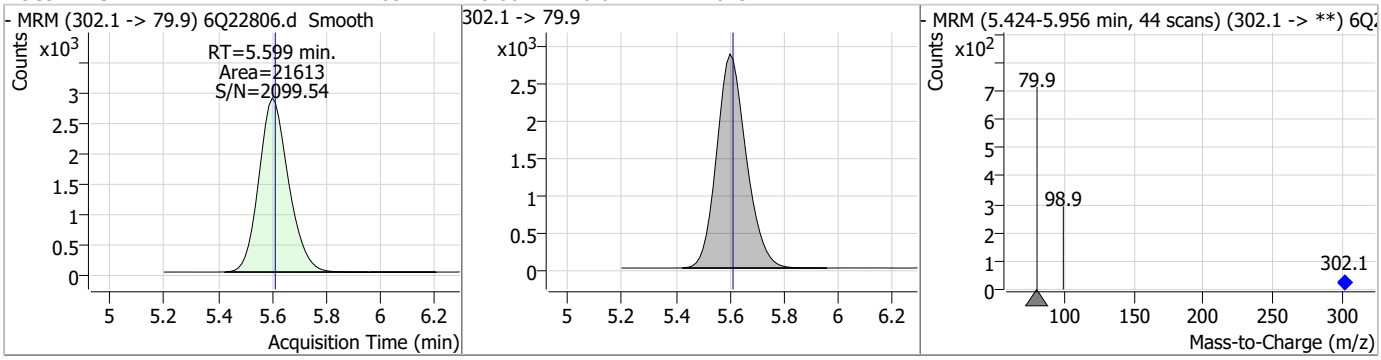
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.51	5.33	0.00	36034	327.1 -> 80.9	38.5	19.6	58.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	5.07	5.54	-0.01	10537	295.0 -> 84.9	27.3	14.3	42.8

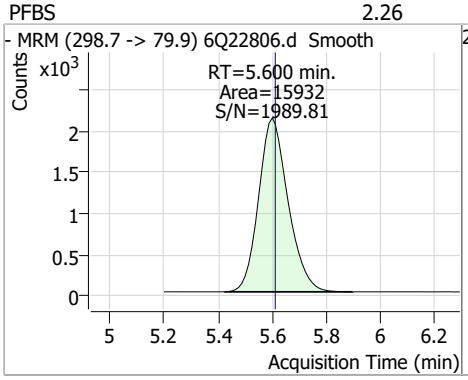


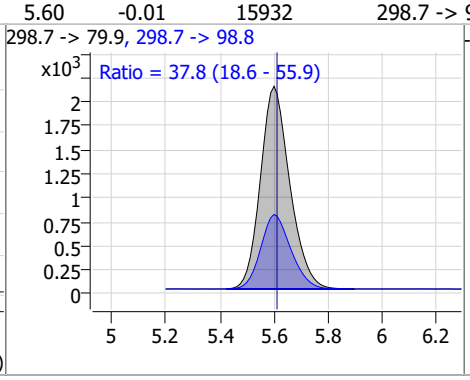
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.63	5.60	-0.01	21613				

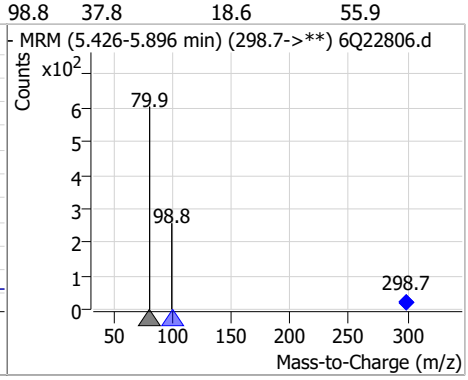


Perfluorinated Compounds by LC/MS/MS

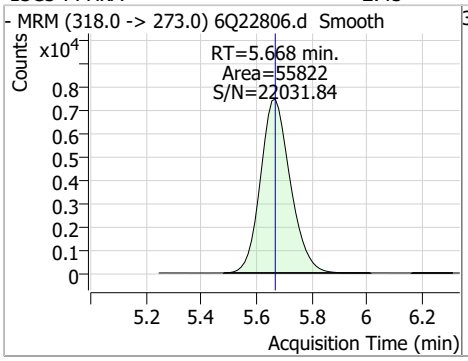
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.26	5.60	-0.01	15932	298.7 -> 98.8	37.8	18.6	55.9

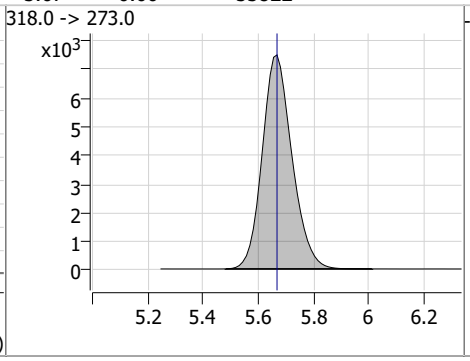


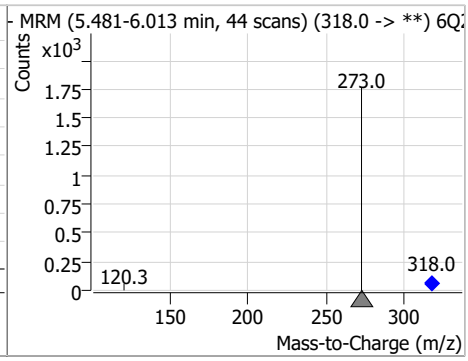




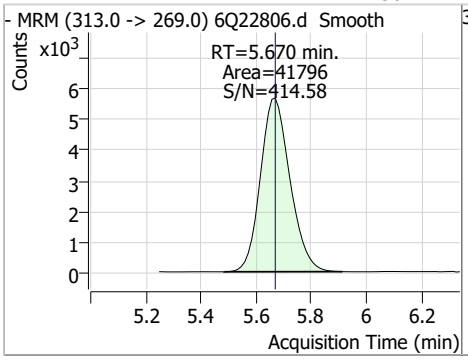
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.45	5.67	0.00	55822				

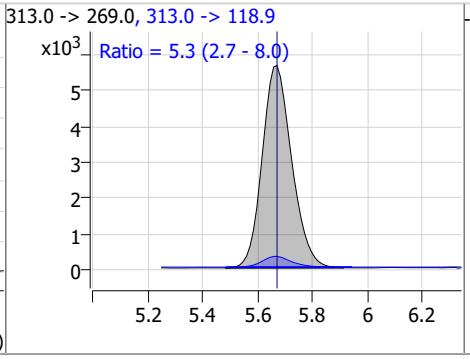


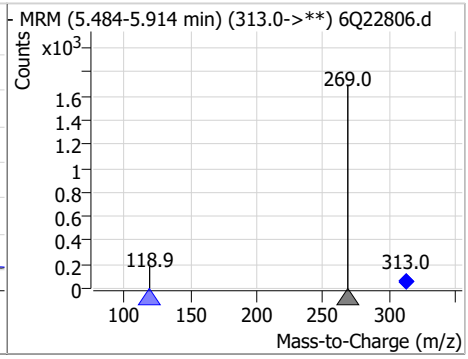




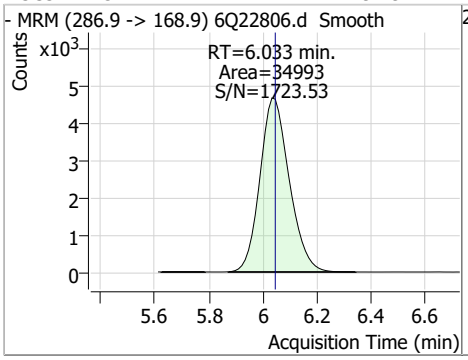
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.56	5.67	0.00	41796	313.0 -> 118.9	5.3	2.7	8.0

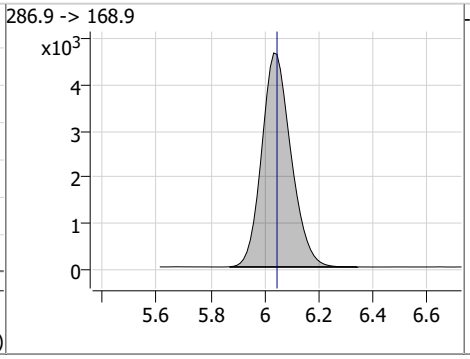


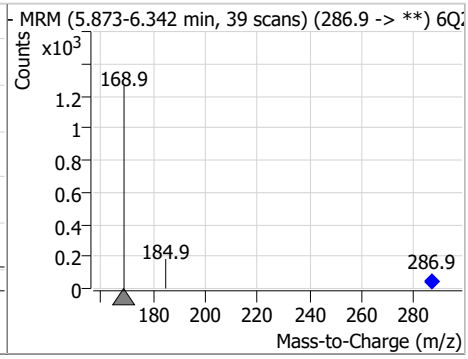




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.79	6.03	-0.01	34993				

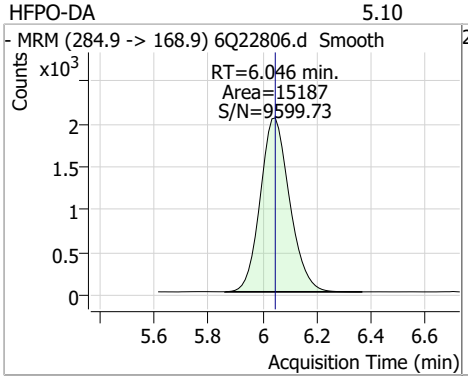


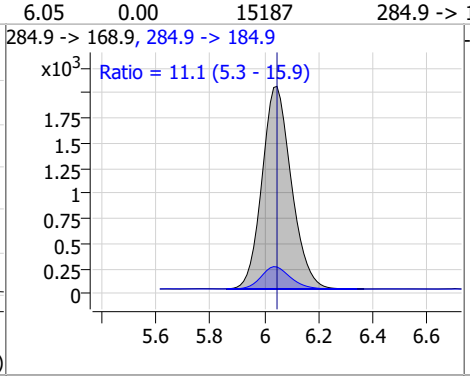


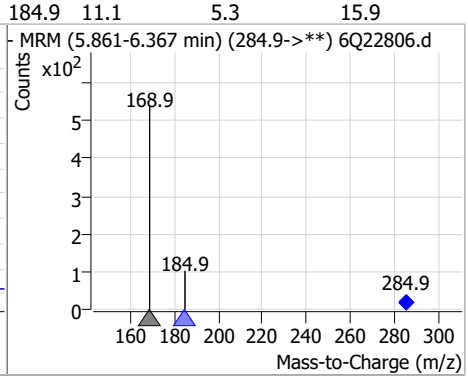


Perfluorinated Compounds by LC/MS/MS

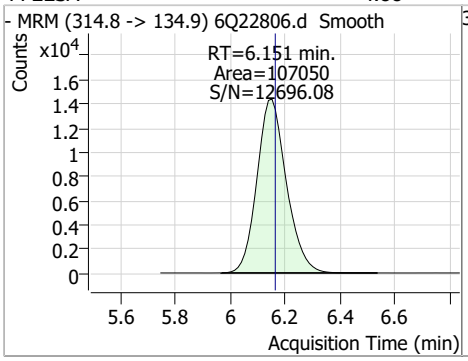
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.10	6.05	0.00	15187	284.9 -> 184.9	11.1	5.3	15.9

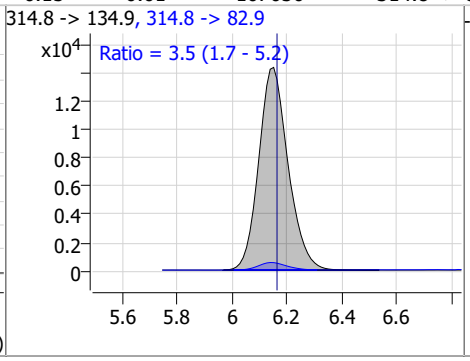


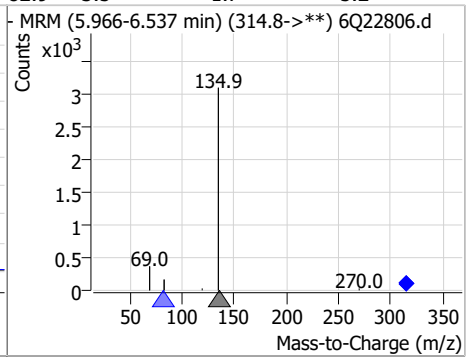




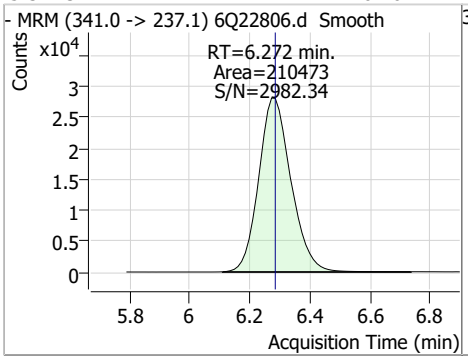
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.88	6.15	-0.01	107050	314.8 -> 82.9	3.5	1.7	5.2

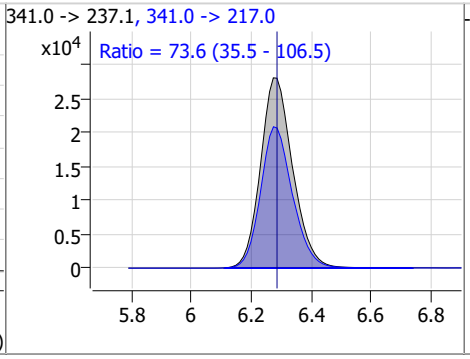


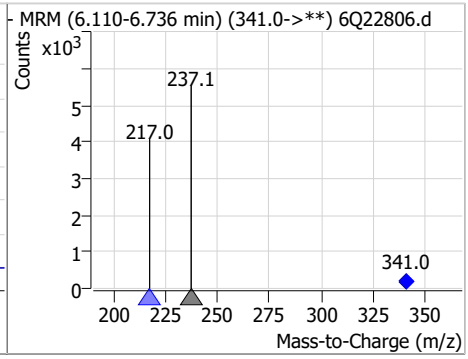




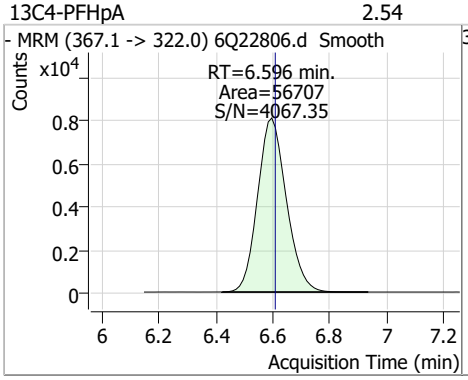
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	62.67	6.27	-0.01	210473	341.0 -> 217.0	73.6	35.5	106.5

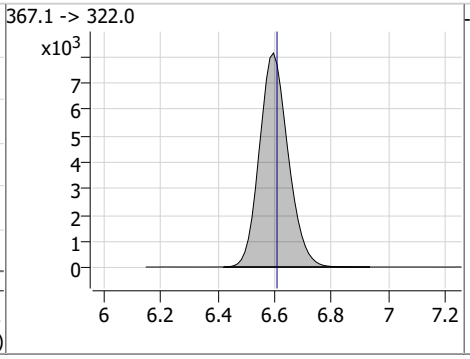


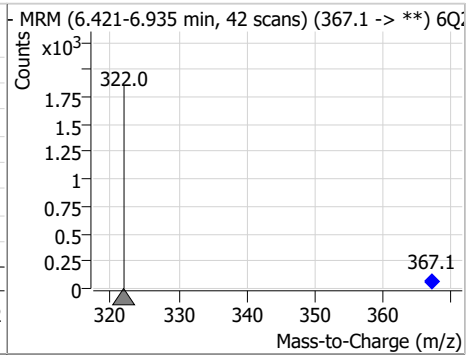




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.54	6.60	-0.01	56707				

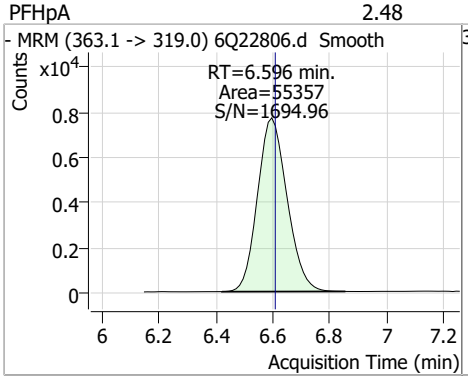


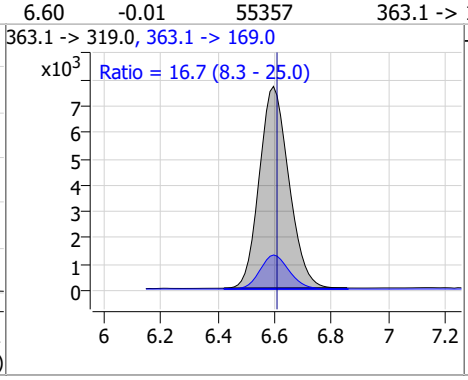


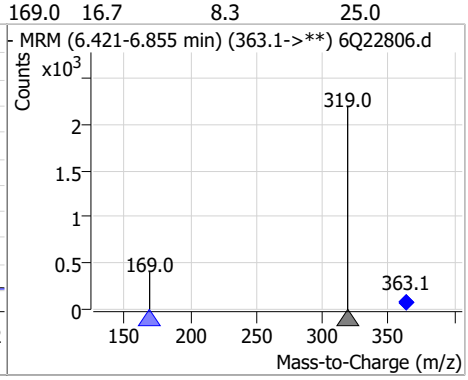


Perfluorinated Compounds by LC/MS/MS

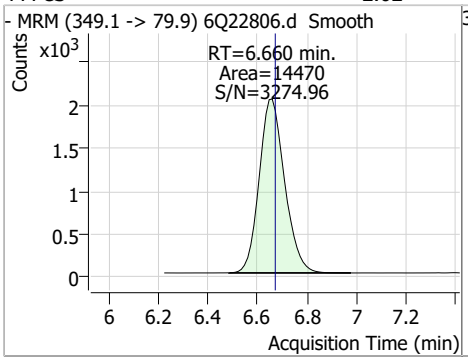
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.48	6.60	-0.01	55357	363.1 -> 169.0	16.7	8.3	25.0

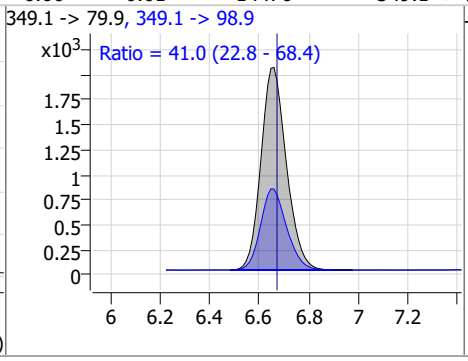


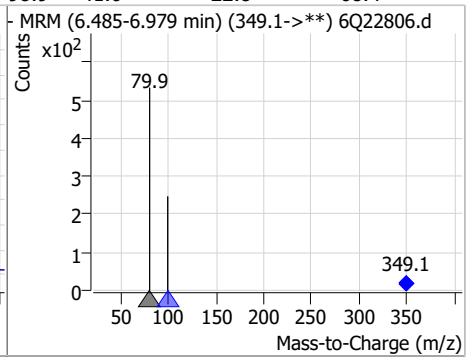




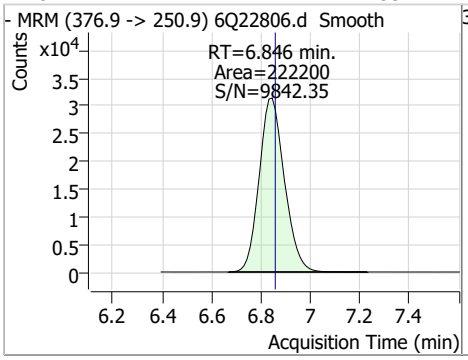
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.62	6.66	-0.01	14470	349.1 -> 98.9	41.0	22.8	68.4

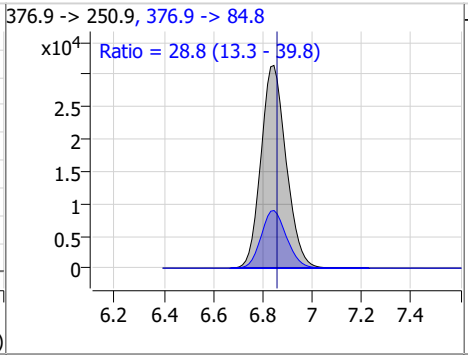


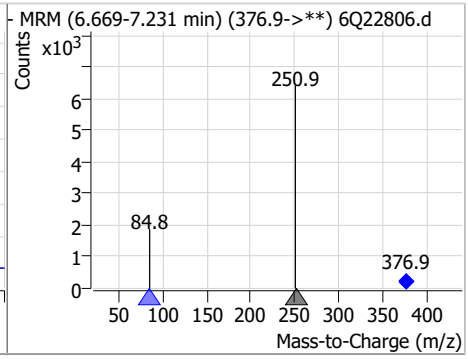




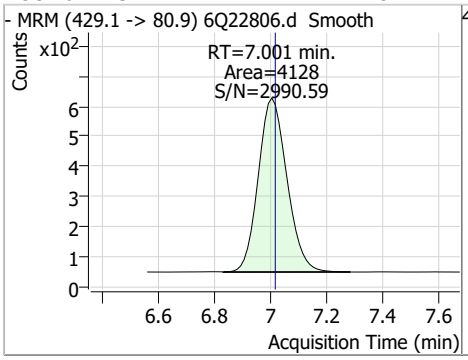
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.99	6.85	-0.01	222200	376.9 -> 84.8	28.8	13.3	39.8

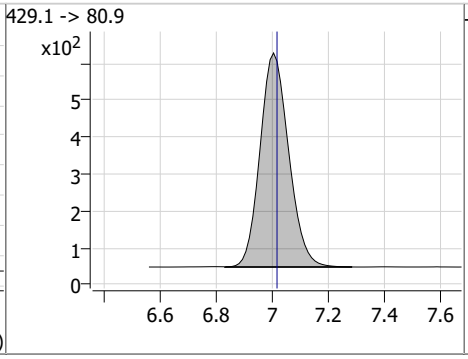


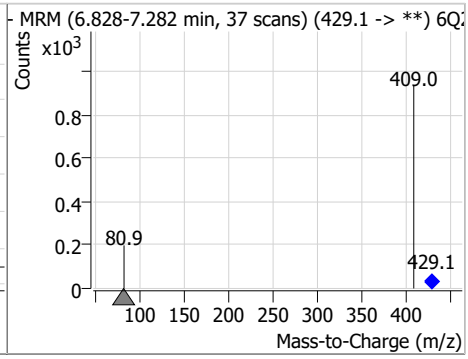




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.94	7.00	-0.01	4128				

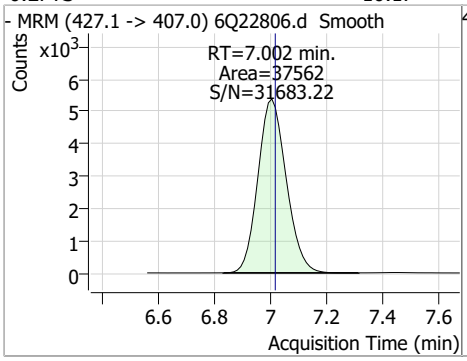


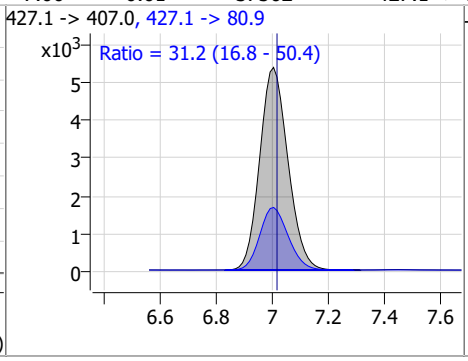


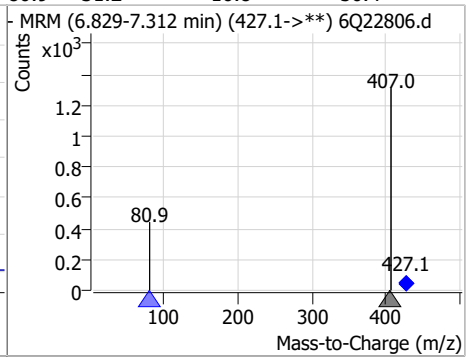


Perfluorinated Compounds by LC/MS/MS

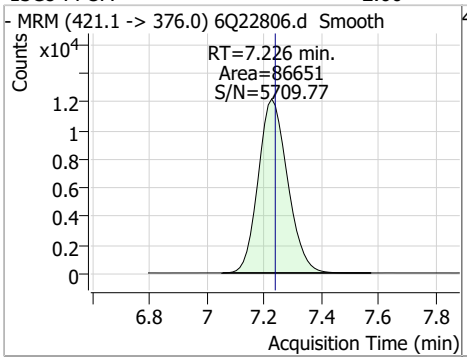
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	10.17	7.00	-0.01	37562	427.1 -> 80.9	31.2	16.8	50.4

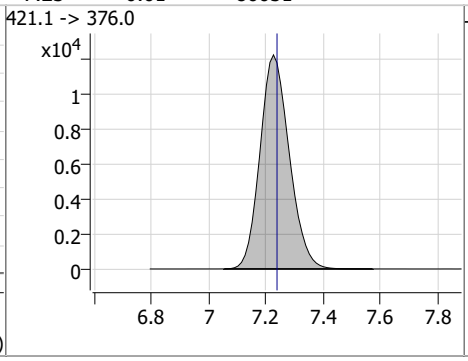


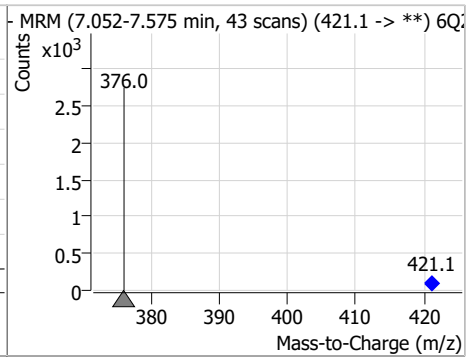




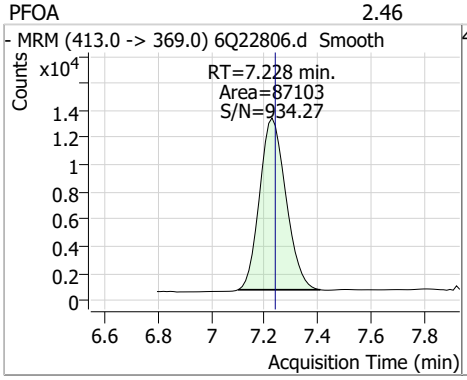
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.60	7.23	-0.01	86651				

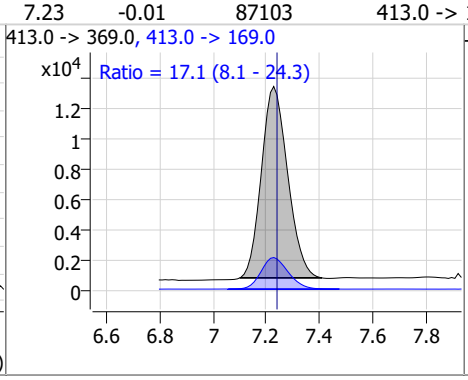


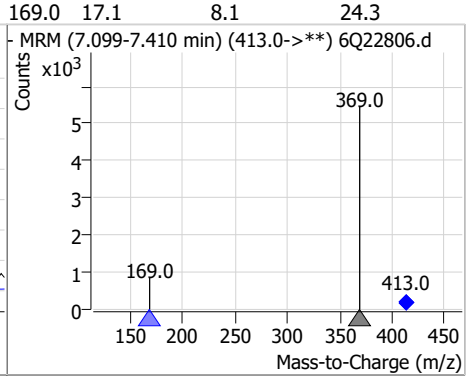




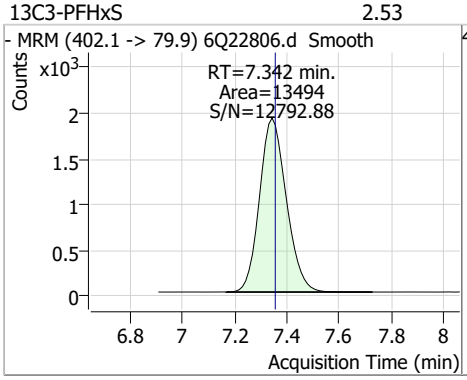
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.46	7.23	-0.01	87103	413.0 -> 169.0	17.1	8.1	24.3

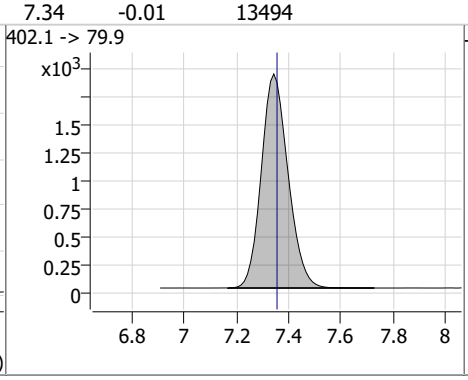


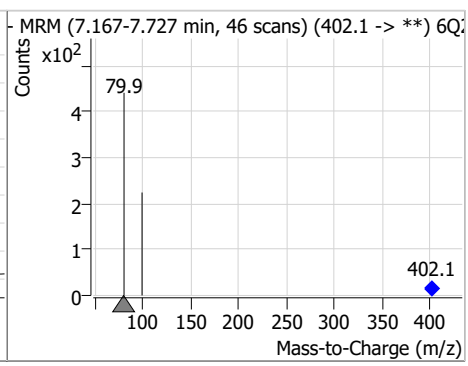




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.53	7.34	-0.01	13494				

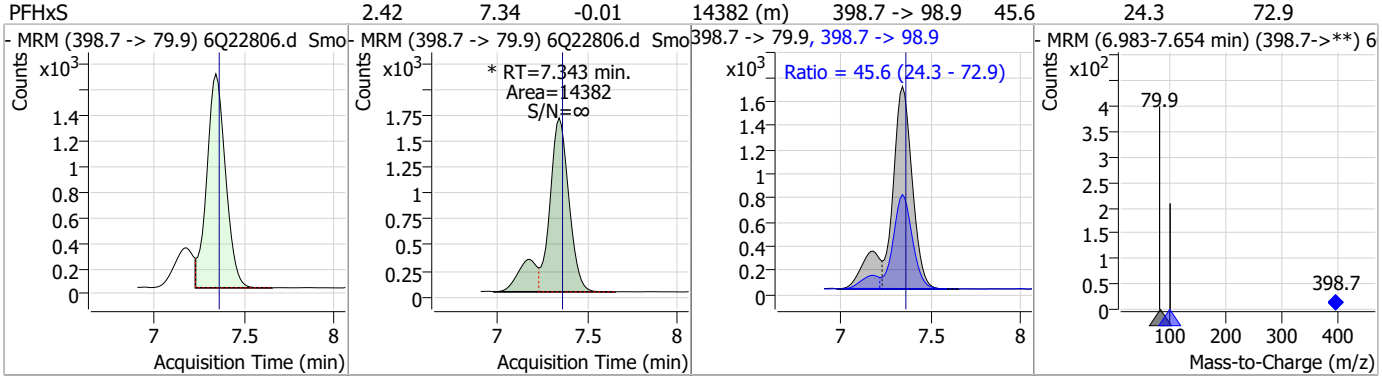




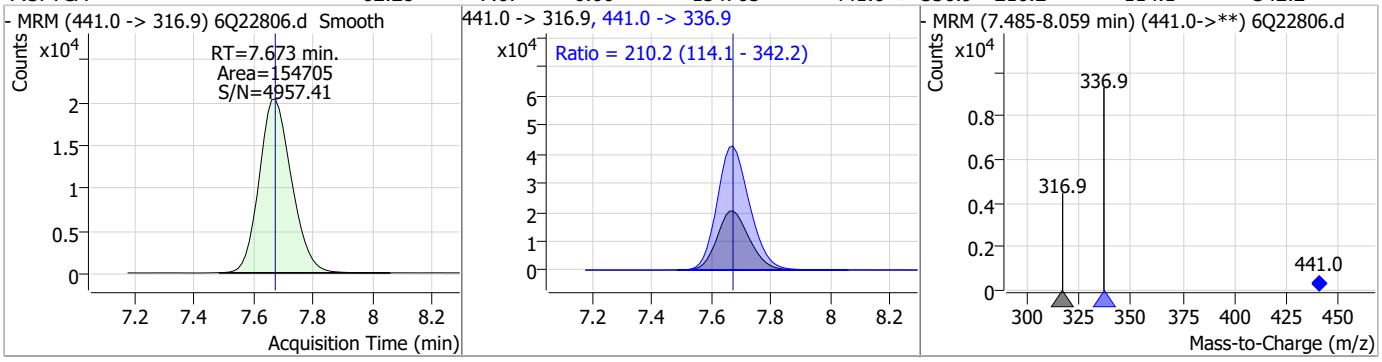


Perfluorinated Compounds by LC/MS/MS

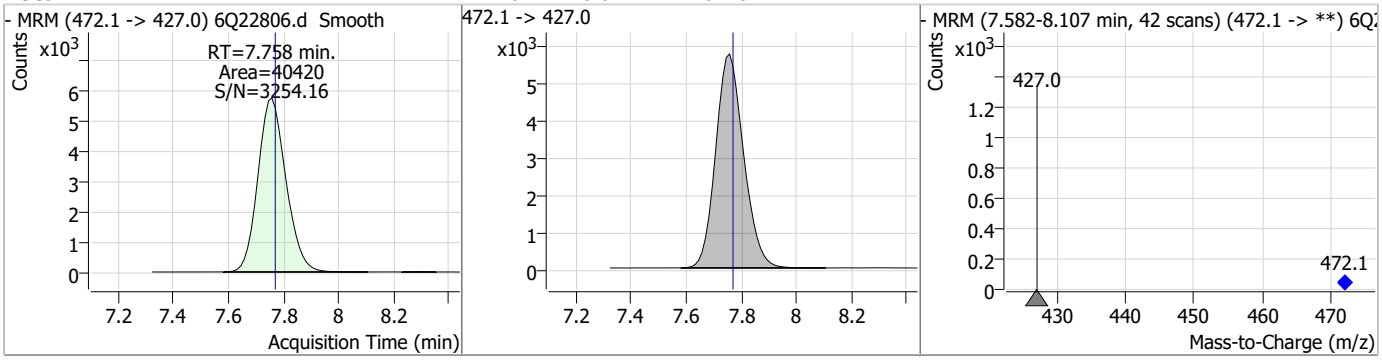
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.42	7.34	-0.01	14382 (m)	398.7 -> 98.9	45.6	24.3	72.9



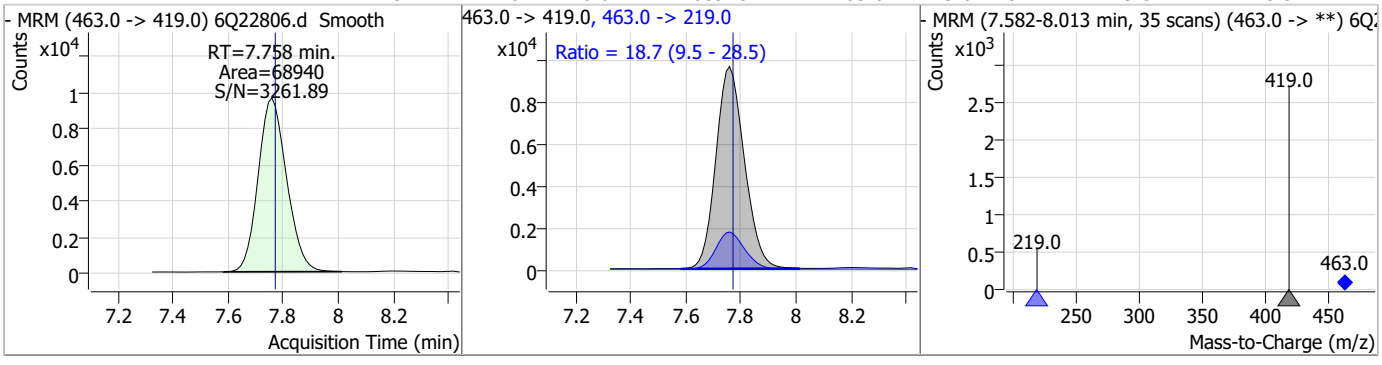
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	62.28	7.67	0.00	154705	441.0 -> 336.9	210.2	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.27	7.76	-0.01	40420				

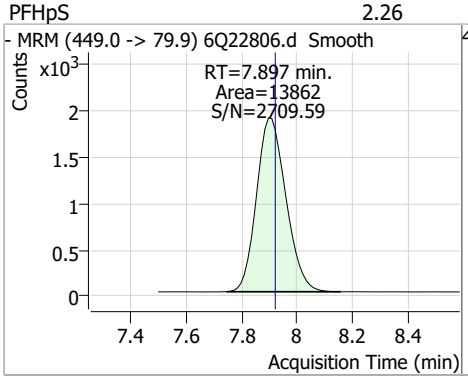


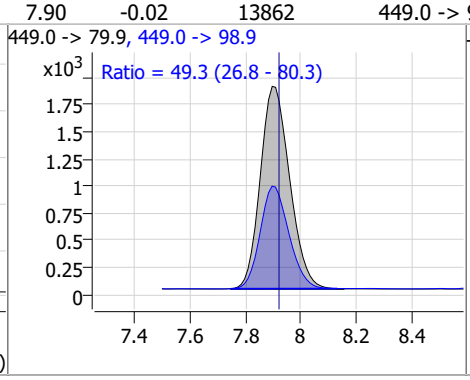
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.48	7.76	-0.01	68940	463.0 -> 219.0	18.7	9.5	28.5

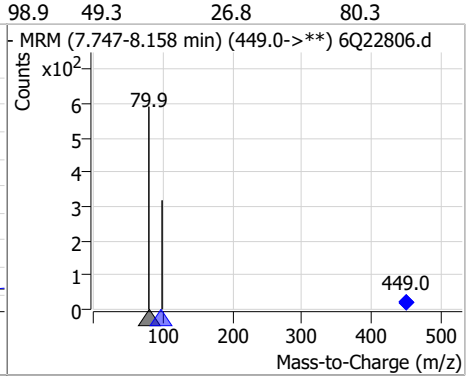


Perfluorinated Compounds by LC/MS/MS

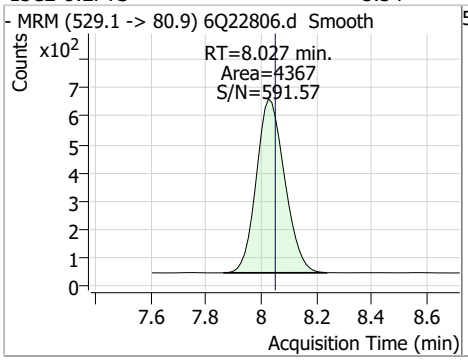
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.26	7.90	-0.02	13862	449.0 -> 98.9	49.3	26.8	80.3

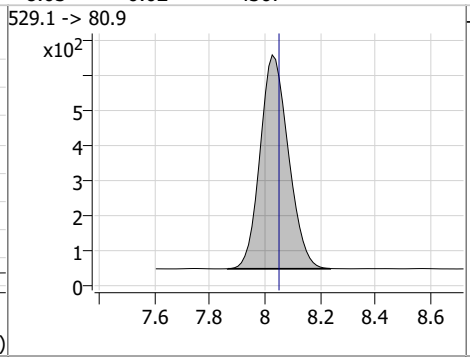


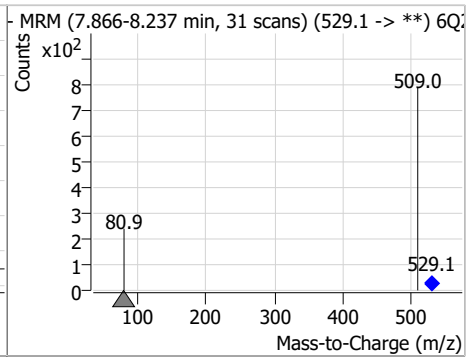




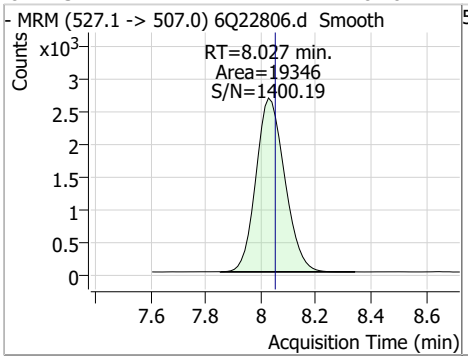
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.34	8.03	-0.02	4367				

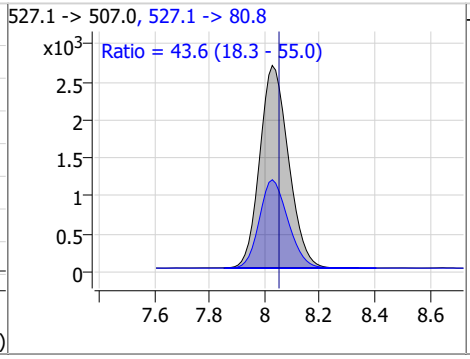


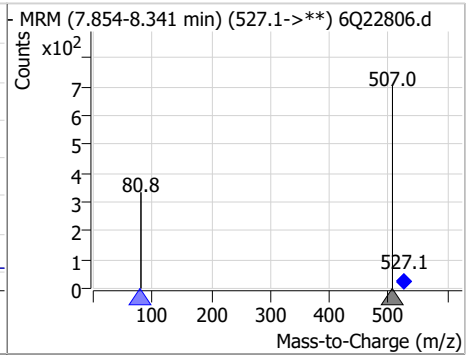




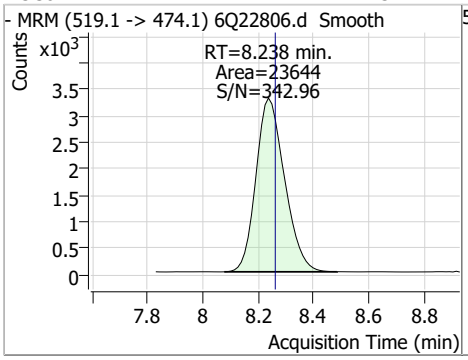
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	8.28	8.03	-0.02	19346	527.1 -> 80.8	43.6	18.3	55.0

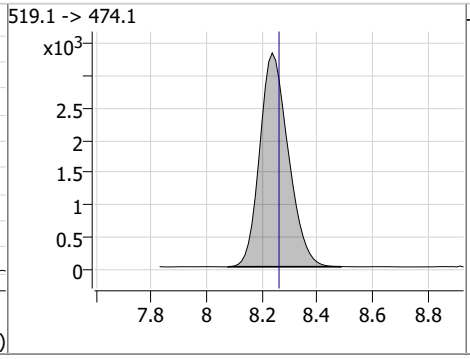


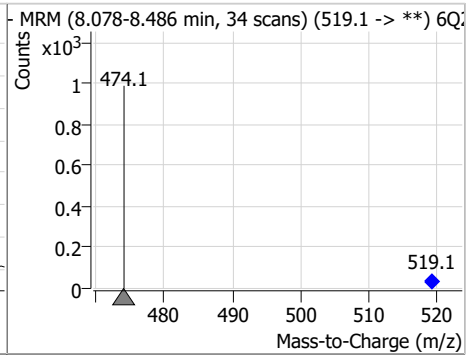




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.34	8.24	-0.02	23644				

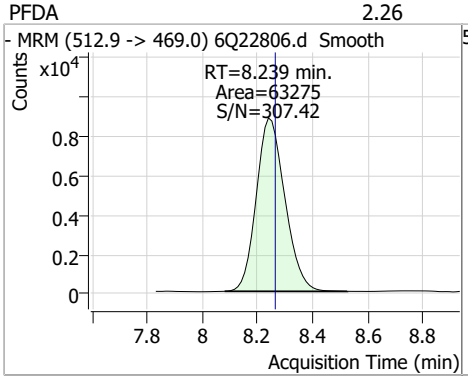


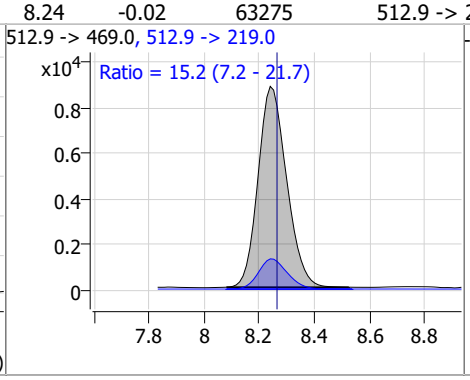


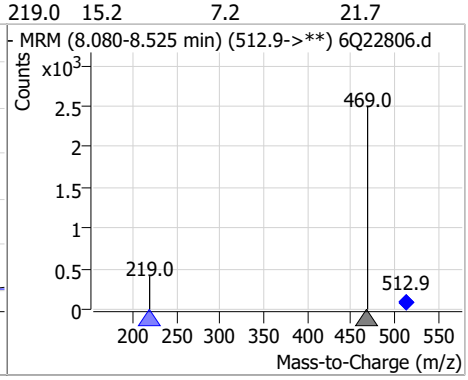


Perfluorinated Compounds by LC/MS/MS

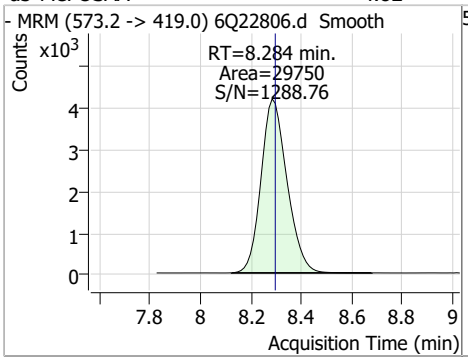
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.26	8.24	-0.02	63275	512.9 -> 219.0	15.2	7.2	21.7

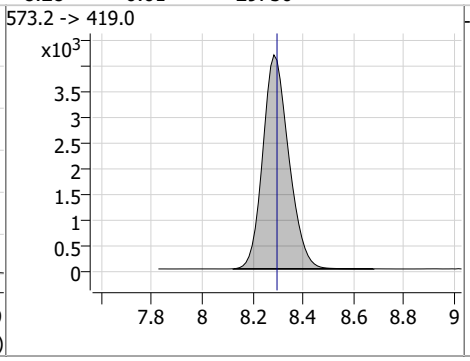


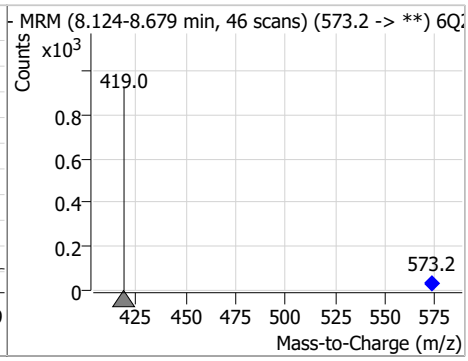




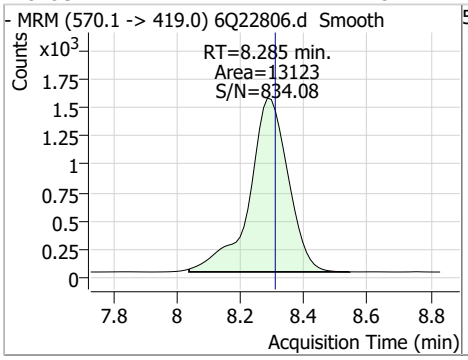
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.82	8.28	-0.01	29750				

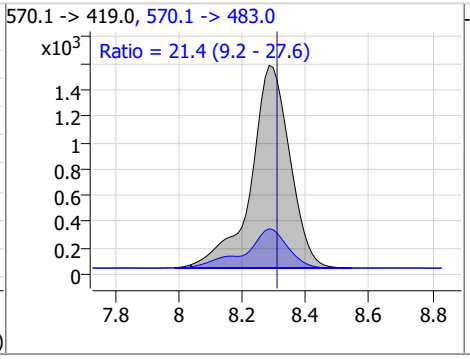


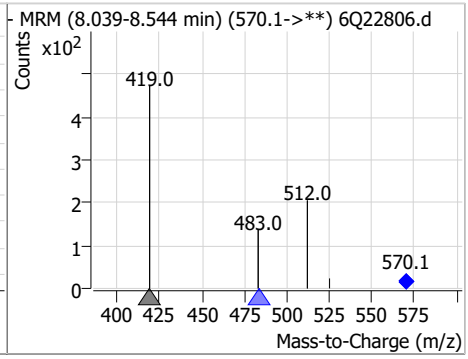




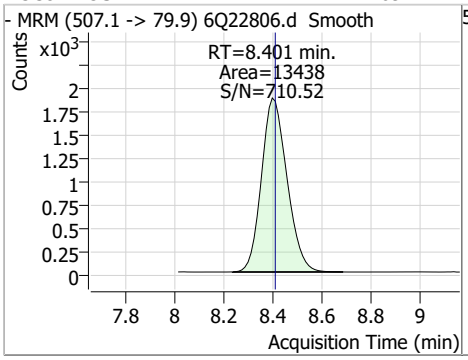
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.31	8.29	-0.02	13123	570.1 -> 483.0	21.4	9.2	27.6

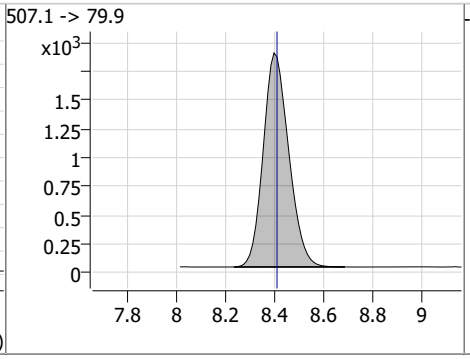


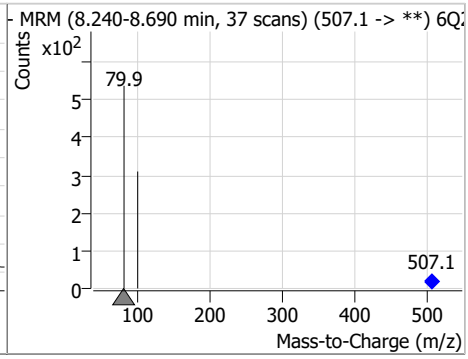




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.69	8.40	-0.01	13438				

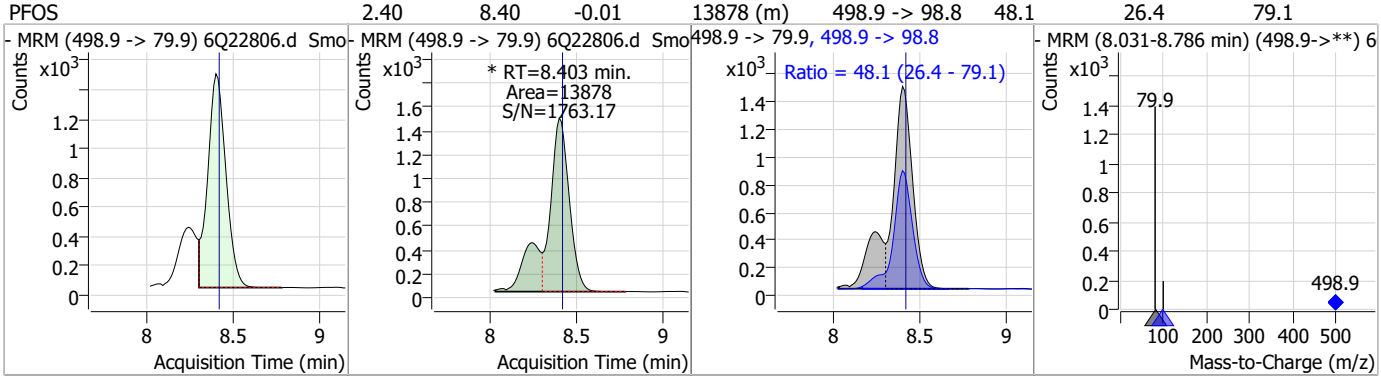




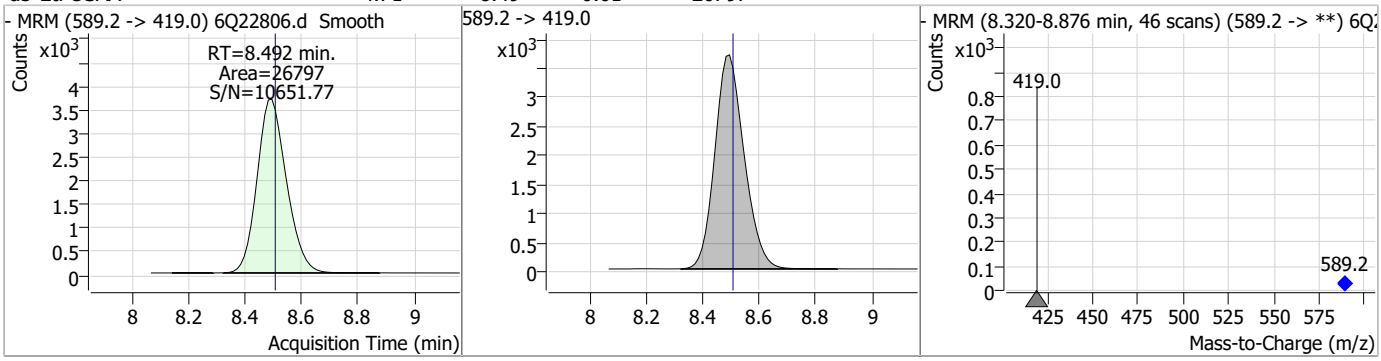


Perfluorinated Compounds by LC/MS/MS

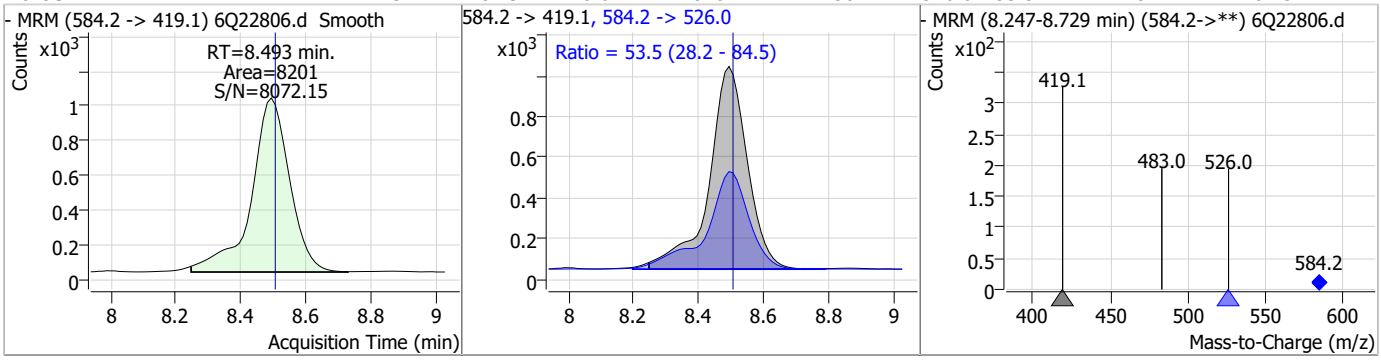
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.40	8.40	-0.01	13878 (m)	498.9 -> 98.8	48.1	26.4	79.1



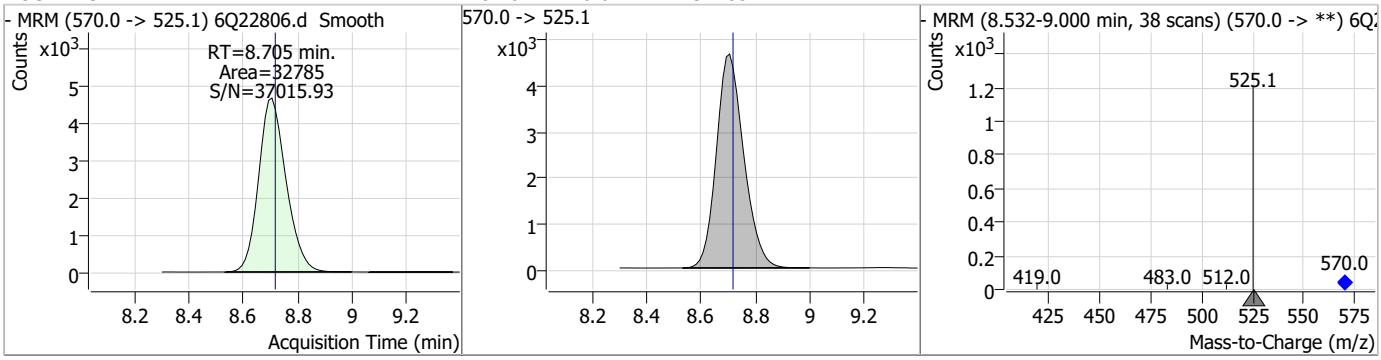
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.71	8.49	-0.01	26797				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.43	8.49	-0.01	8201	584.2 -> 526.0	53.5	28.2	84.5

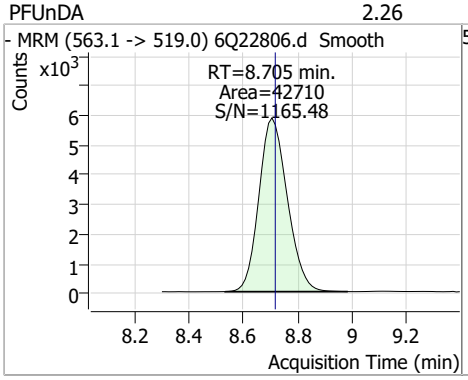


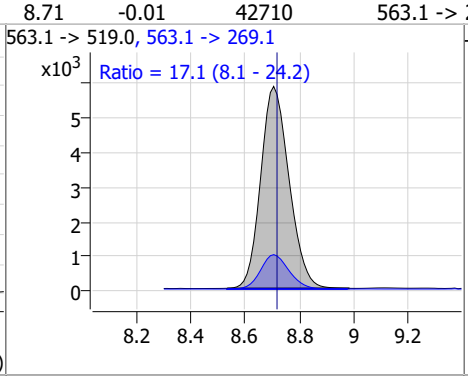
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.41	8.70	-0.01	32785				

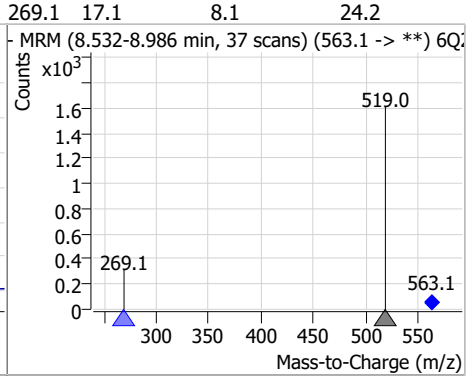


Perfluorinated Compounds by LC/MS/MS

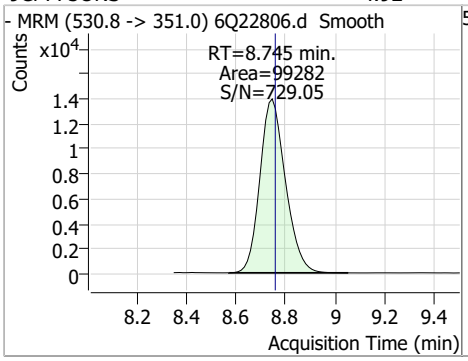
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.26	8.71	-0.01	42710	563.1 -> 269.1	17.1	8.1	24.2

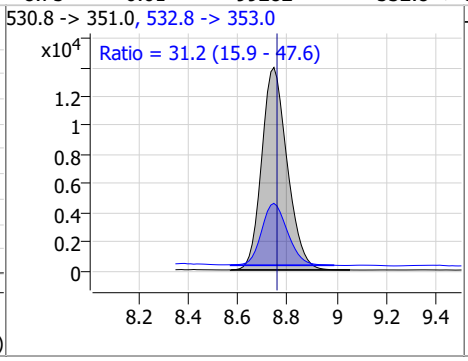


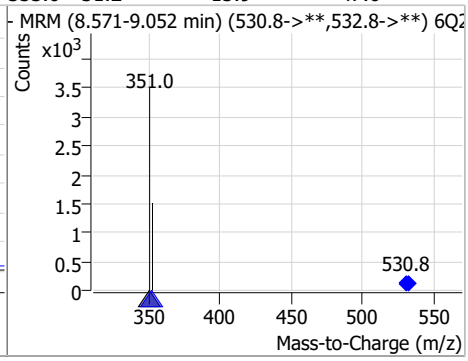




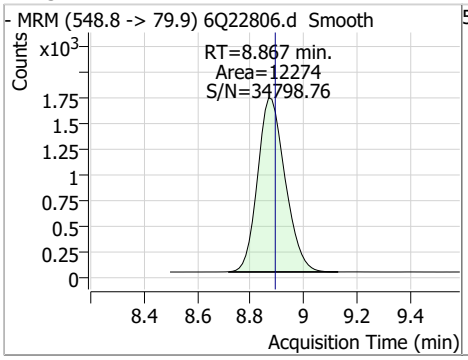
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.92	8.75	-0.01	99282	532.8 -> 353.0	31.2	15.9	47.6

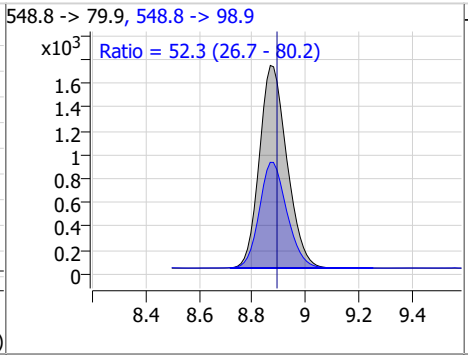


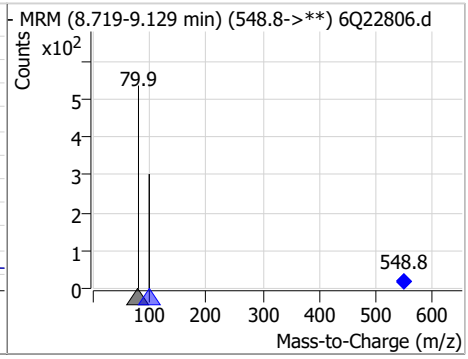




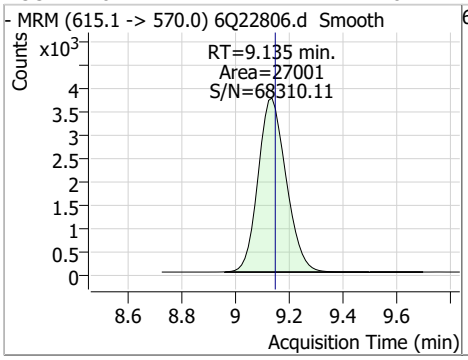
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.21	8.87	-0.03	12274	548.8 -> 98.9	52.3	26.7	80.2

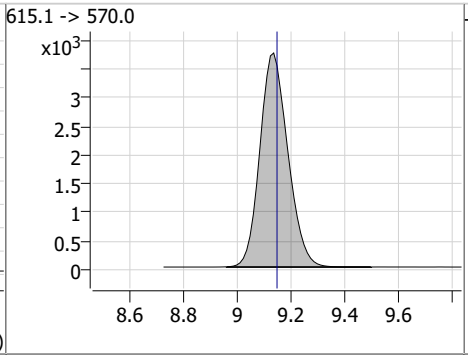


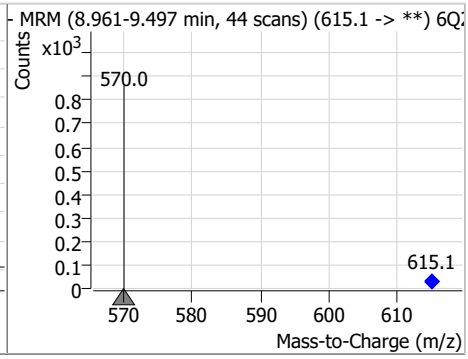




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.28	9.14	-0.01	27001				

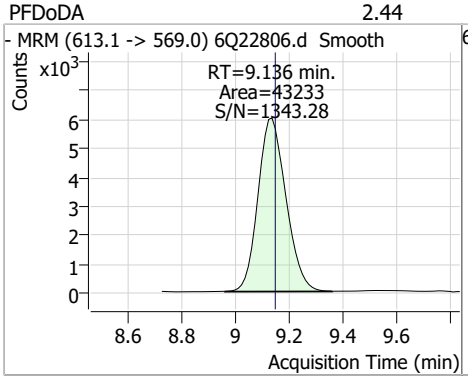


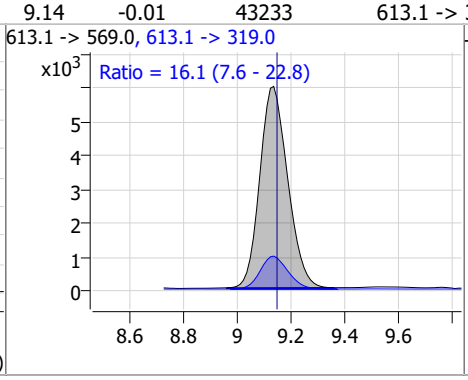


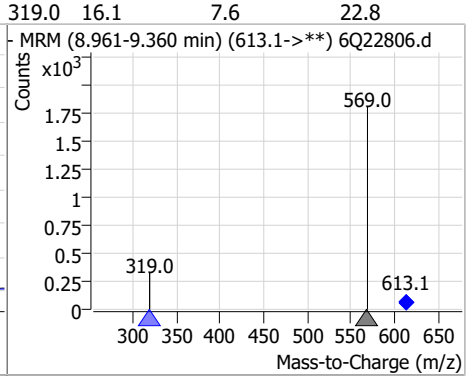


Perfluorinated Compounds by LC/MS/MS

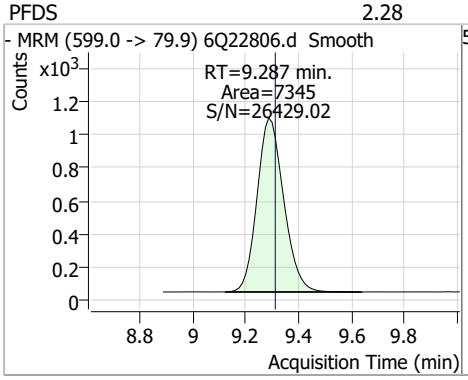
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.44	9.14	-0.01	43233	613.1 -> 319.0	16.1	7.6	22.8

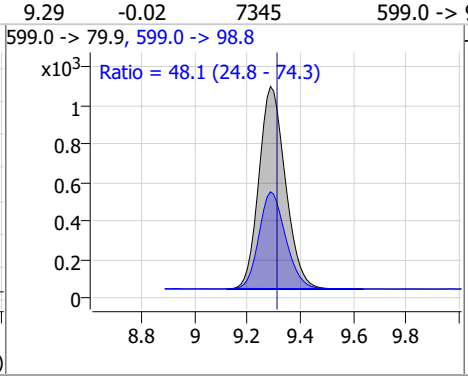


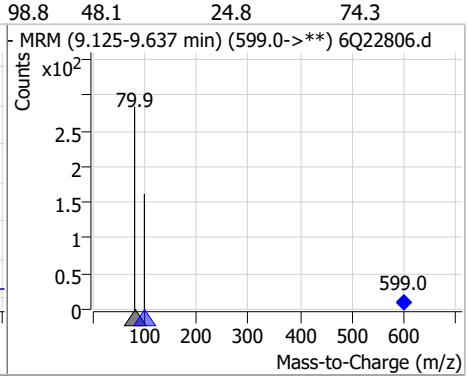




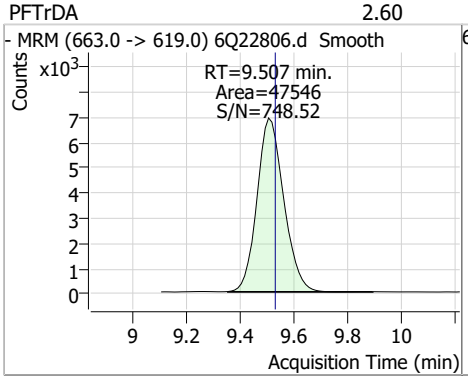
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.28	9.29	-0.02	7345	599.0 -> 98.8	48.1	24.8	74.3

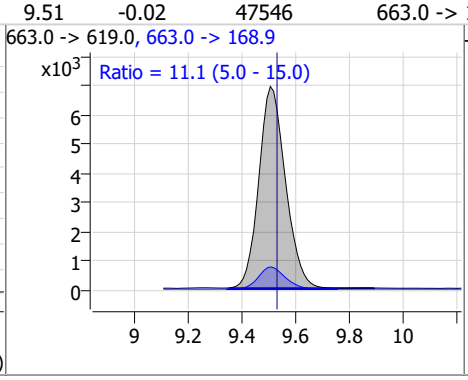


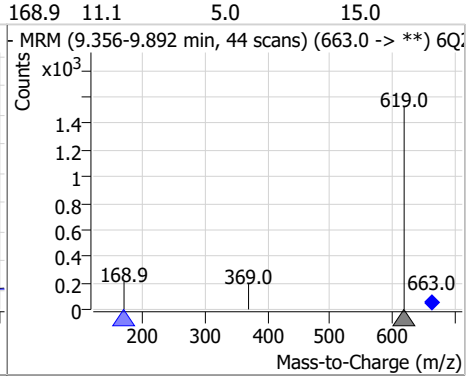




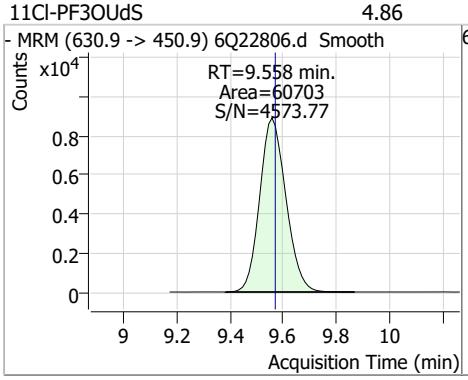
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.60	9.51	-0.02	47546	663.0 -> 168.9	11.1	5.0	15.0

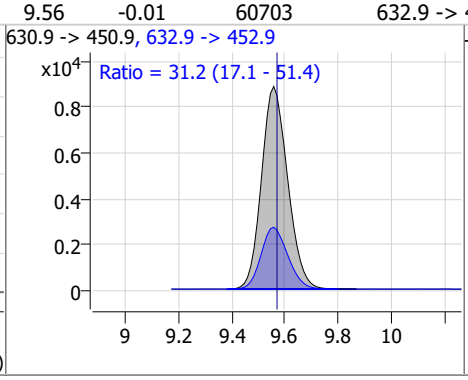


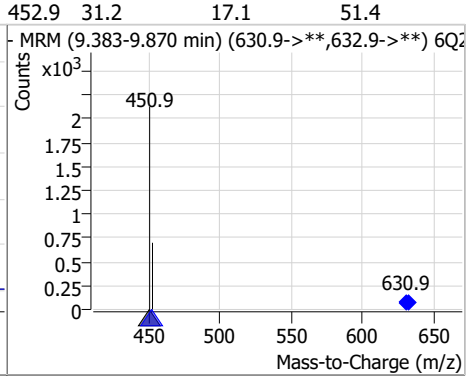




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.86	9.56	-0.01	60703	632.9 -> 452.9	31.2	17.1	51.4

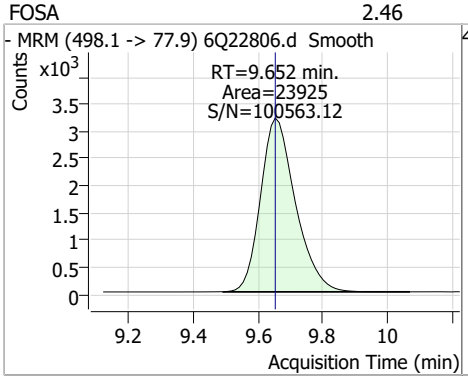


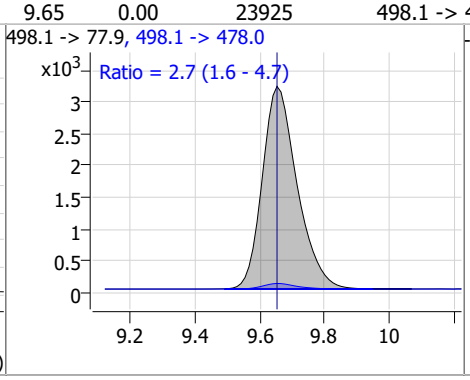


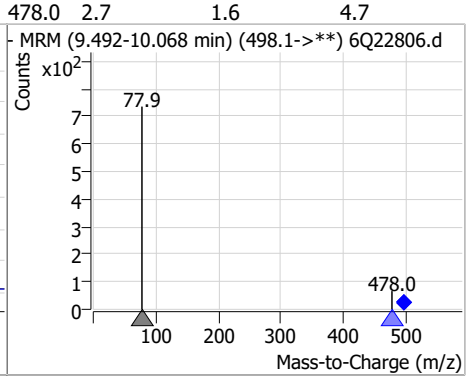


Perfluorinated Compounds by LC/MS/MS

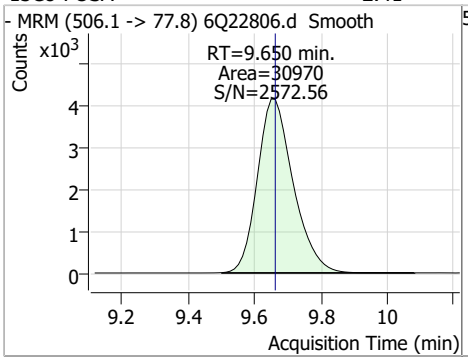
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.46	9.65	0.00	23925	498.1 -> 478.0	2.7	1.6	4.7

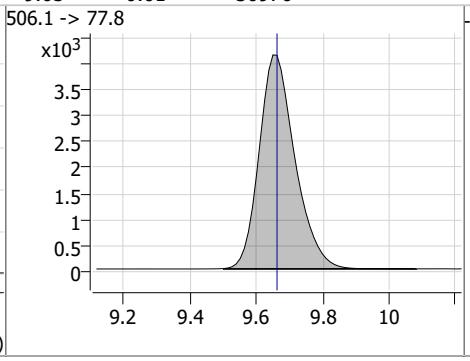


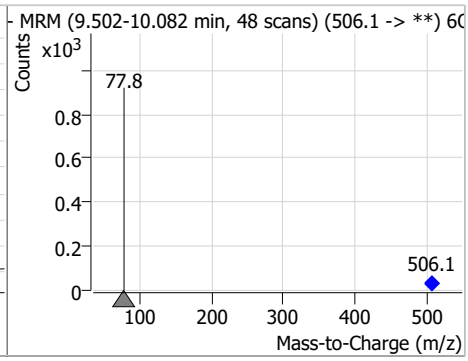




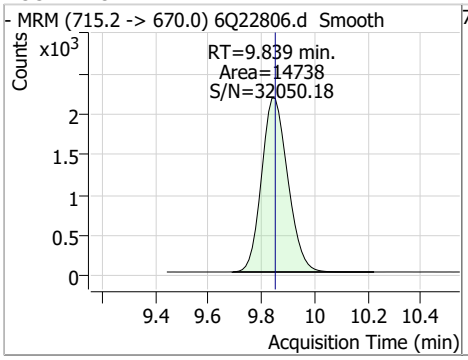
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.41	9.65	-0.01	30970				

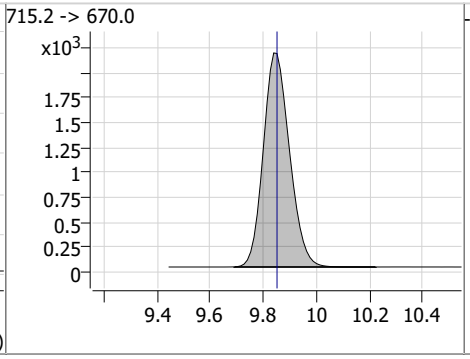


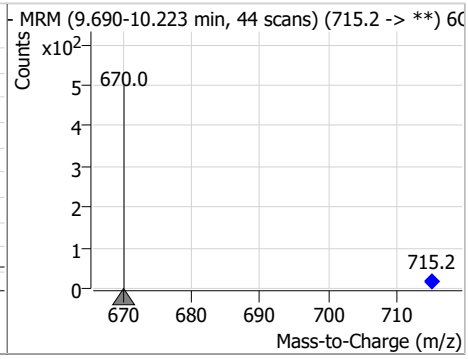




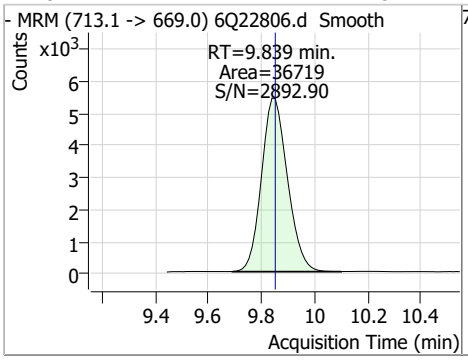
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.21	9.84	-0.01	14738				

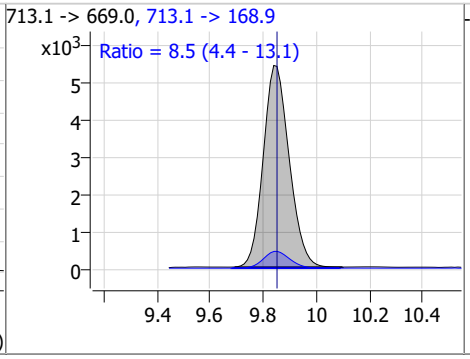


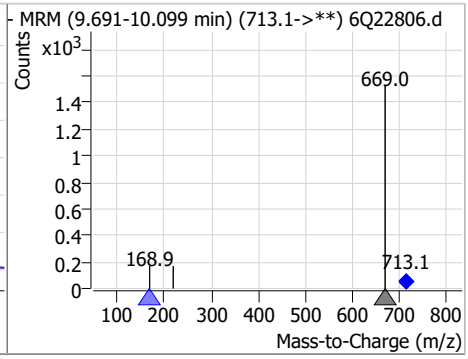




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.57	9.84	-0.01	36719	713.1 -> 168.9	8.5	4.4	13.1

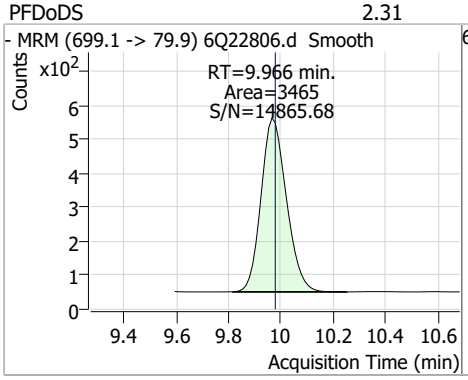


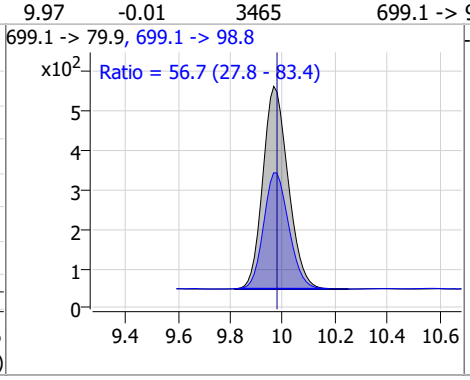


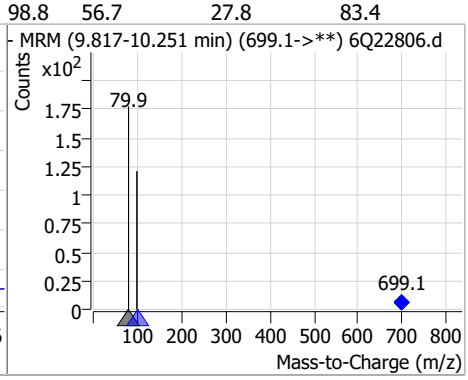


Perfluorinated Compounds by LC/MS/MS

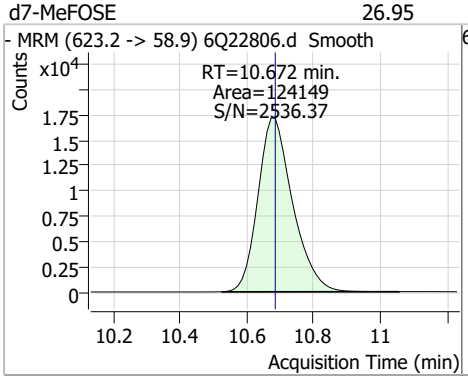
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.31	9.97	-0.01	3465	699.1 -> 98.8	56.7	27.8	83.4

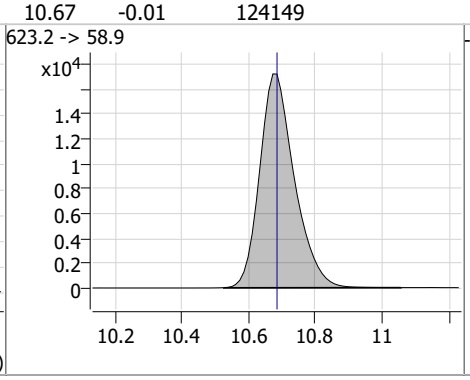


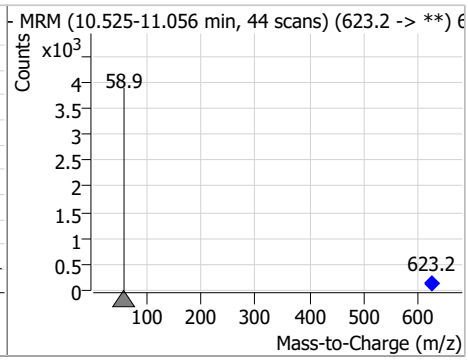




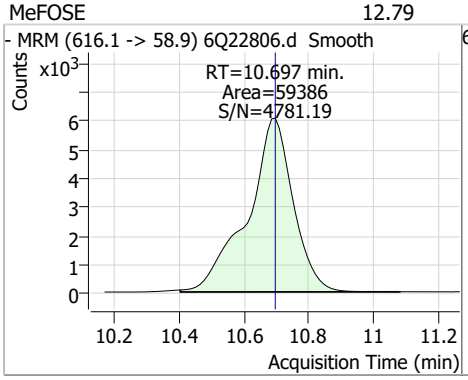
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.95	10.67	-0.01	124149				

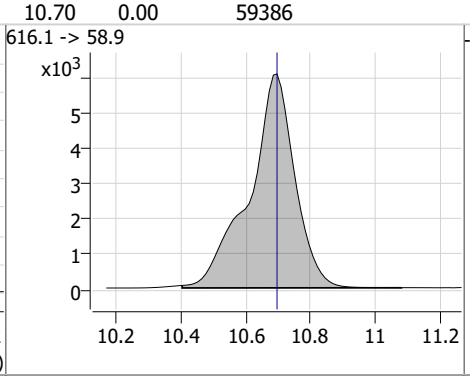


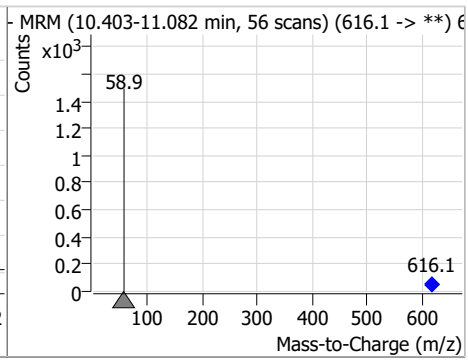




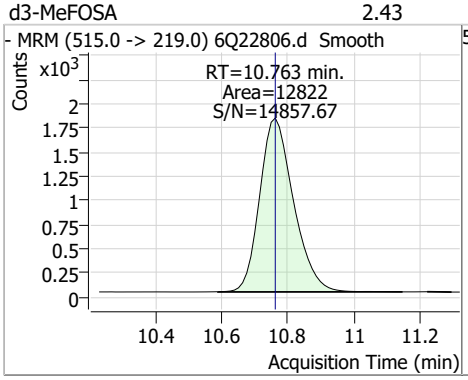
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.79	10.70	0.00	59386				

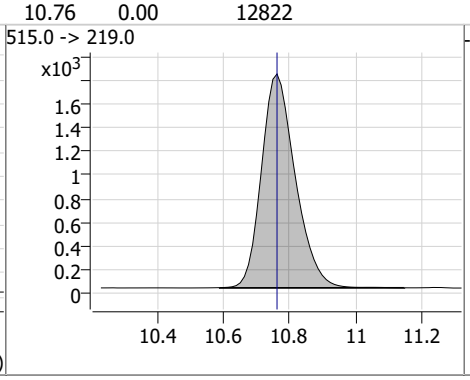


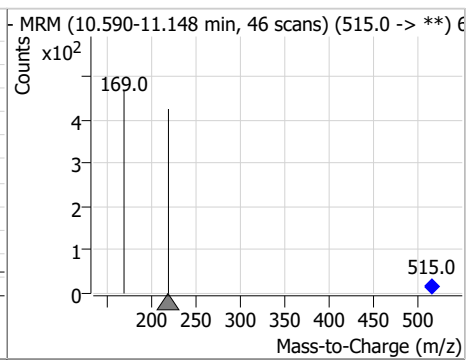




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.43	10.76	0.00	12822				

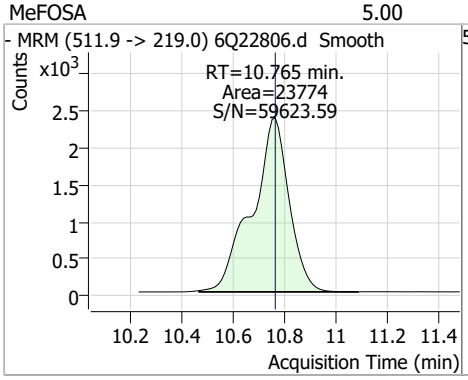


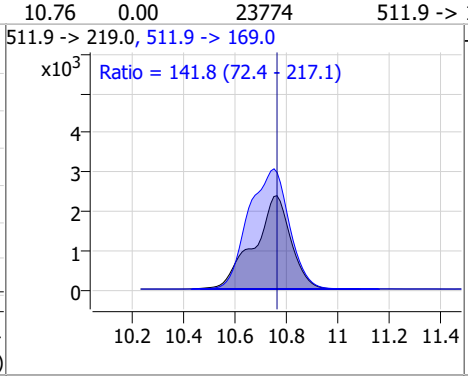


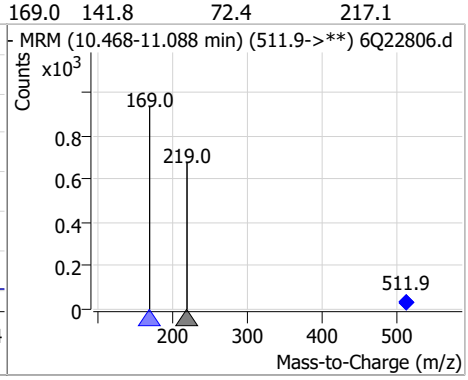


Perfluorinated Compounds by LC/MS/MS

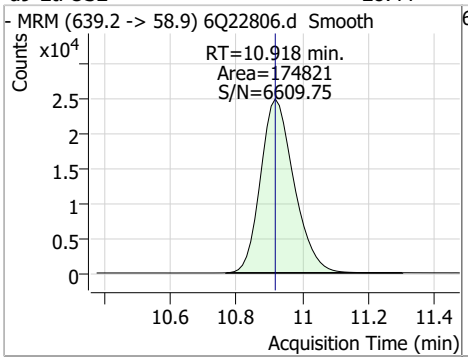
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	5.00	10.76	0.00	23774	511.9 -> 169.0	141.8	72.4	217.1

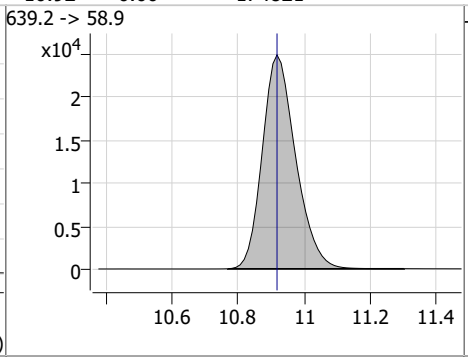


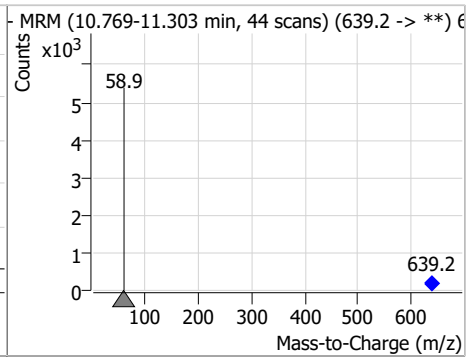




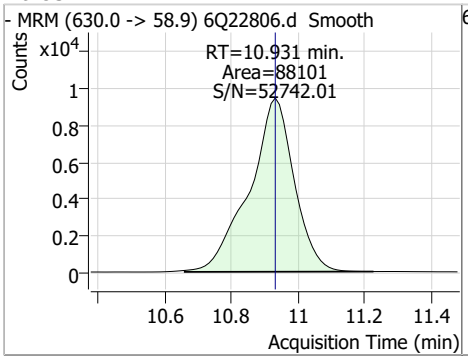
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	28.44	10.92	0.00	174821				

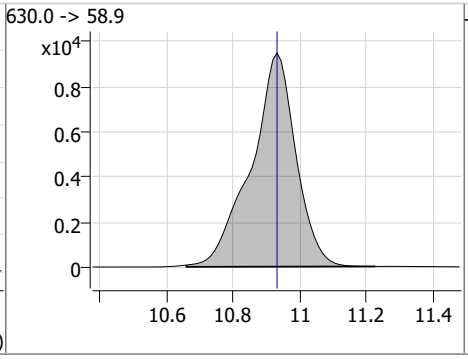


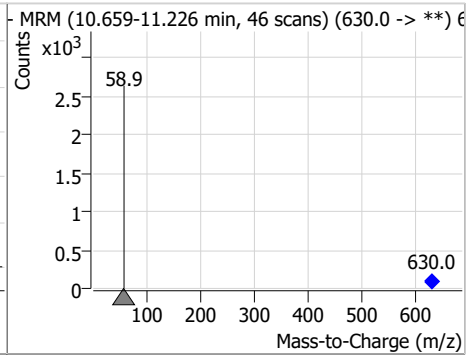




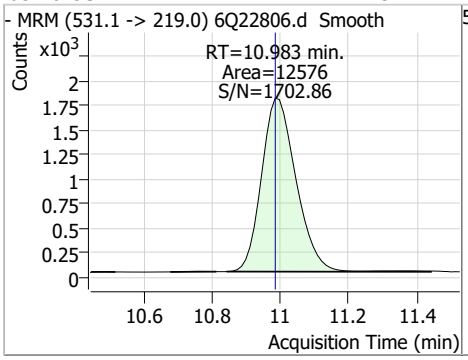
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.44	10.93	0.00	88101				

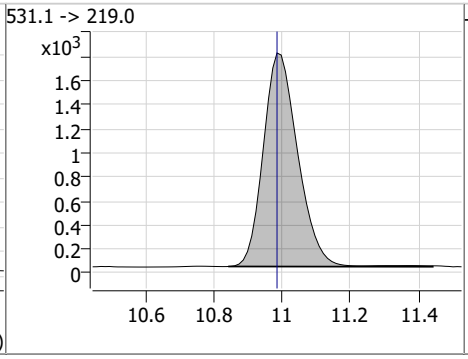


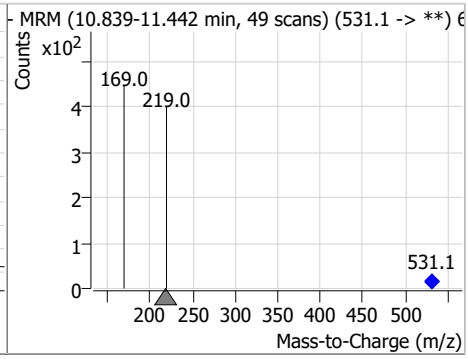




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.37	10.98	0.00	12576				

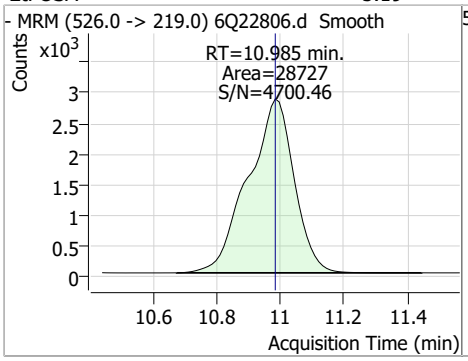


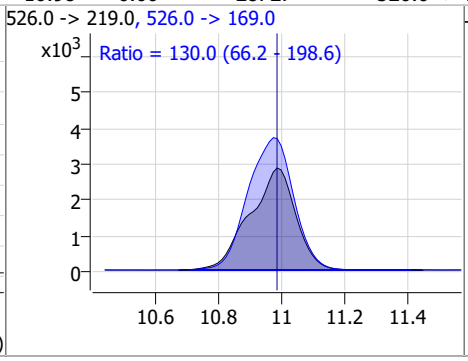


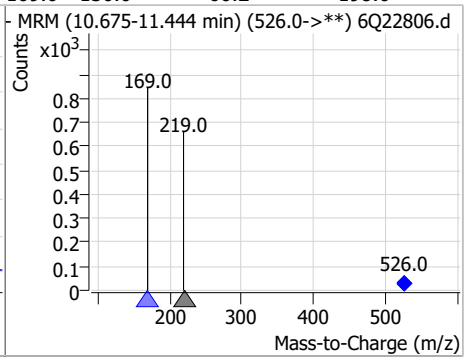


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	5.19	10.98	0.00	28727	526.0 -> 169.0	130.0	66.2	198.6







Manual Integration Approval Summary

Sample Number: S6Q331-CC330
Lab FileID: 6Q22806.D
Injection Time: 08/13/23 18:29
Method: EPA DRAFT 1633
Analyst approved: 08/14/23 10:35 Martha Valls
Supervisor approved: 08/15/23 12:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.40	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/15/23 12:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22818.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 9:21:08 PM
Sample Name : cc330-4
Vial : P1-A5
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98201,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	163068	10.00	µg/L	-0.012
M5-PFPeA	4.447	268.3 -> 223.0	52636	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	56926	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	57772	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	87786	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	41619	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	22937	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	31558	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	27978	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	15407	1.25	µg/L	-0.012
M8-FOSA	9.662	506.1 -> 77.8	30176	2.50	µg/L	0.000
M3-PFBS	5.599	302.1 -> 79.9	21439	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	13620	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	13025	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	2852	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4447	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	4000	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	29896	5.00	µg/L	-0.012
M3-HFPO-DA	6.045	286.9 -> 168.9	35888	10.00	µg/L	0.000
M5-EtFOSAA	8.492	589.2 -> 419.0	24207	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	121432	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	163455	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	13309	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	12771	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	16903	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	68971	5.00	µg/L	0.000
18O2-PFHxS	7.354	403.0 -> 83.9	10232	2.50	µg/L	0.000
13C4-PFOA	7.227	417.1 -> 372.0	89497	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	33737	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	51371	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	54888	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	2852	4.67	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.3%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4447	5.04	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C2-8:2FTS	8.027	529.1 -> 80.9	4000	4.63	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 92.6%		
13C2-PFDoDA	9.135	615.1 -> 570.0	27978	1.23	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.2%		
13C2-PFTeDA	9.839	715.2 -> 670.0	15407	1.18	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.0%		
13C3-PFBS	5.599	302.1 -> 79.9	21439	2.47	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%		
13C3-PFHxS	7.342	402.1 -> 79.9	13620	2.42	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 = 96.9%	
13C4-PFBA	2.997	216.8 -> 171.9	163068	10.01 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C4-PFHpA	6.596	367.1 -> 322.0	57772	2.61 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C5-PFHxA	5.668	318.0 -> 273.0	56926	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C5-PFPeA	4.447	268.3 -> 223.0	52636	5.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C6-PFDA	8.238	519.1 -> 474.1	22937	1.20 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.3%	
13C7-PFUnDA	8.705	570.0 -> 525.1	31558	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C8-FOSA	9.662	506.1 -> 77.8	30176	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.6%	
13C8-PFOA	7.226	421.1 -> 376.0	87786	2.66 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.3%	
13C8-PFOS	8.401	507.1 -> 79.9	13025	2.63 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.3%	
13C9-PFNA	7.758	472.1 -> 427.0	41619	1.25 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.9%	
d3-MeFOSAA	8.284	573.2 -> 419.0	29896	4.89 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C3-HFPO-DA	6.045	286.9 -> 168.9	35888	10.10 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
d3-MeFOSA	10.763	515.0 -> 219.0	12771	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.8%	
d5-EtFOSAA	8.492	589.2 -> 419.0	24207	4.29 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 85.7%	
d7-MeFOSE	10.672	623.2 -> 58.9	121432	26.58 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.3%	
d9-EtFOSE	10.918	639.2 -> 58.9	163455	26.81 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 107.2%	
d5-EtFOSA	10.983	531.1 -> 219.0	13309	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	36870	9.99 µg/L	100
		327.1 -> 80.9	14469		
6:2FTS	7.002	427.1 -> 407.0	36043	9.06 µg/L	97
		427.1 -> 80.9	12773		
8:2FTS	8.027	527.1 -> 507.0	20534	9.59 µg/L	97
		527.1 -> 80.8	7875		
EtFOSAA	8.493	584.2 -> 419.1	7827	2.57 µg/L	95
		584.2 -> 526.0	4113		
FOSA	9.652	498.1 -> 77.9	25240	2.67 µg/L	99
		498.1 -> 478.0	753		
MeFOSAA	8.298	570.1 -> 419.0	14819	2.59 µg/L	99
		570.1 -> 483.0	2634		
PFBA	3.006	212.8 -> 168.9	50691	9.95 µg/L	100
PFBS	5.600	298.7 -> 79.9	16483	2.35 µg/L	99
		298.7 -> 98.8	6070		
PFDA	8.239	512.9 -> 469.0	67346	2.48 µg/L	98
		512.9 -> 219.0	10281		
PFDoDA	9.136	613.1 -> 569.0	42543	2.32 µg/L	97
		613.1 -> 319.0	7014		
PFDS	9.287	599.0 -> 79.9	7301	2.34 µg/L	96

Perfluorinated Compounds by LC/MS/MS

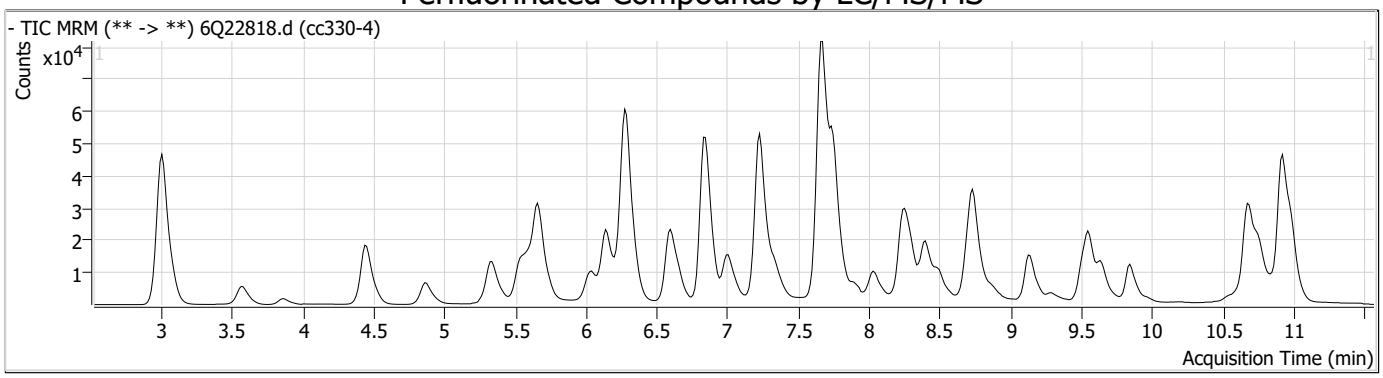
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3834				
PFHpA	6.596	363.1 -> 319.0	55899	2.45	µg/L		100
		363.1 -> 169.0	9271				
PFHpS	7.909	449.0 -> 79.9	14019	2.36	µg/L		96
		449.0 -> 98.9	7117				
PFHxA	5.670	313.0 -> 269.0	44360	2.66	µg/L		99
		313.0 -> 118.9	2251				
PFHxS	7.343	398.7 -> 79.9	13689	2.28	µg/L	m	99
		398.7 -> 98.9	6711				
PFNA	7.758	463.0 -> 419.0	68325	2.39	µg/L		100
		463.0 -> 219.0	13068				
PFNS	8.880	548.8 -> 79.9	12103	2.25	µg/L		98
		548.8 -> 98.9	6652				
PFOA	7.228	413.0 -> 369.0	87285	2.43	µg/L		96
		413.0 -> 169.0	15616				
PFOS	8.403	498.9 -> 79.9	13325	2.38	µg/L	m	96
		498.9 -> 98.8	6669				
PFPeA	4.449	263.0 -> 219.0	59695	5.15	µg/L		100
PFPeS	6.660	349.1 -> 79.9	13813	2.48	µg/L		98
		349.1 -> 98.9	6110				
PFTeDA	9.839	713.1 -> 669.0	37624	2.51	µg/L		100
		713.1 -> 168.9	3264				
PFTrDA	9.507	663.0 -> 619.0	45225	2.39	µg/L		97
		663.0 -> 168.9	4983				
PFUnDA	8.705	563.1 -> 519.0	45462	2.50	µg/L		99
		563.1 -> 269.1	7571				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	63405	4.95	µg/L		94
		632.9 -> 452.9	19477				
9Cl-PF3ONS	8.745	530.8 -> 351.0	101883	4.92	µg/L		95
		532.8 -> 353.0	29438				
ADONA	6.846	376.9 -> 250.9	226613	4.96	µg/L		98
		376.9 -> 84.8	62534				
HFPO-DA	6.046	284.9 -> 168.9	14905	4.88	µg/L		99
		284.9 -> 184.9	1639				
3:3FTCA	3.859	241.0 -> 177.0	9868	12.25	µg/L		100
		241.0 -> 117.0	1319				
5:3FTCA	6.285	341.0 -> 237.1	205023	59.86	µg/L		95
		341.0 -> 217.0	153350				
7:3FTCA	7.673	441.0 -> 316.9	153313	60.52	µg/L		94
		441.0 -> 336.9	334732				
EtFOSA	10.985	526.0 -> 219.0	29342	5.01	µg/L		96
		526.0 -> 169.0	37297				
EtFOSE	10.931	630.0 -> 58.9	88098	13.30	µg/L		100
MeFOSA	10.765	511.9 -> 219.0	23575	4.98	µg/L		99
		511.9 -> 169.0	33928				
MeFOSE	10.685	616.1 -> 58.9	58799	12.95	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	3745	2.57	µg/L		92
		699.1 -> 98.8	1852				
NFDHA	5.538	295.0 -> 201.0	10904	5.15	µg/L		96
		295.0 -> 84.9	2901				
PFMBA	4.869	279.0 -> 85.1	41829	5.10	µg/L		100
PFMPA	3.576	229.0 -> 84.9	33559	5.11	µg/L		100
PFEESA	6.151	314.8 -> 134.9	109739	4.91	µg/L		100
		314.8 -> 82.9	3788				

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

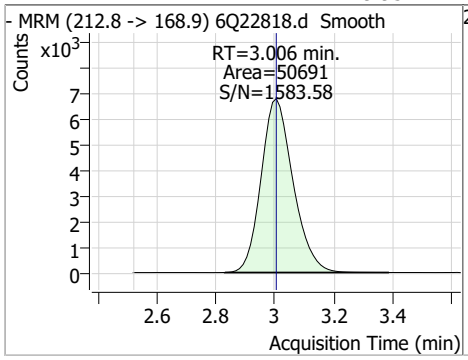
Perfluorinated Compounds by LC/MS/MS

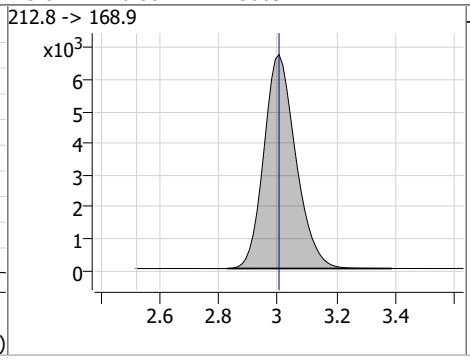
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

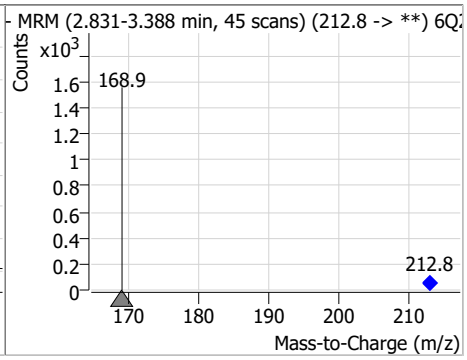
Perfluorinated Compounds by LC/MS/MS



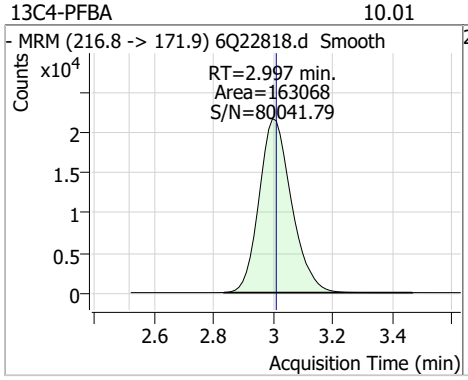
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.95	3.01	0.00	50691				

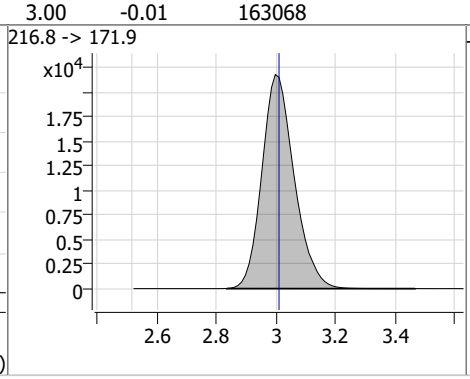


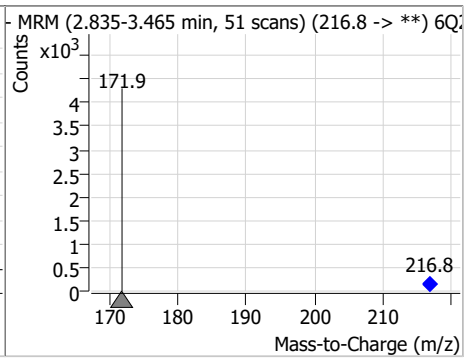




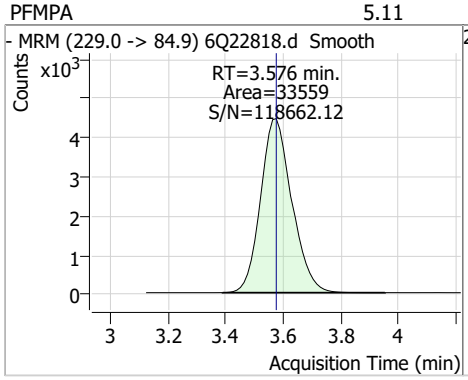
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.01	3.00	-0.01	163068				

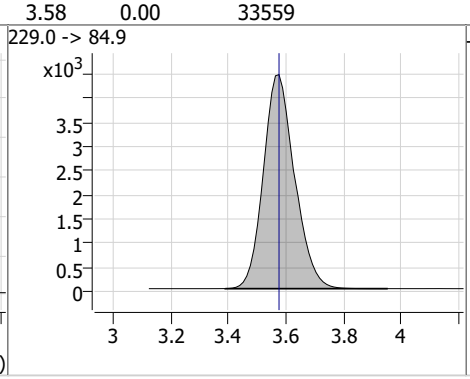


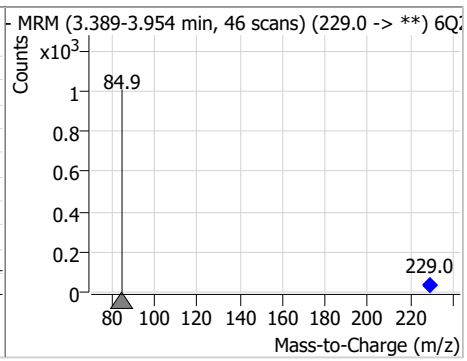




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	5.11	3.58	0.00	33559				

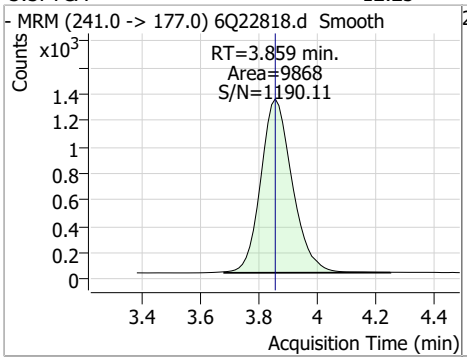


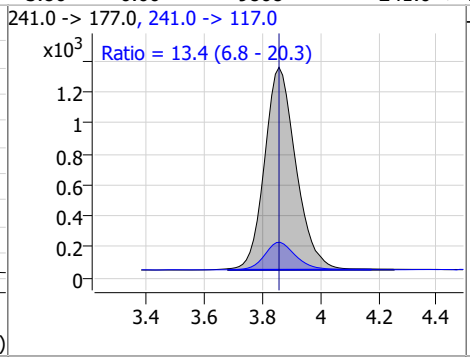


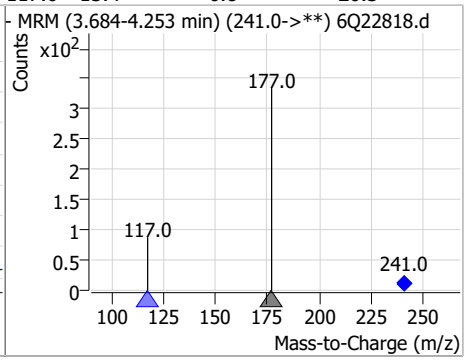


Perfluorinated Compounds by LC/MS/MS

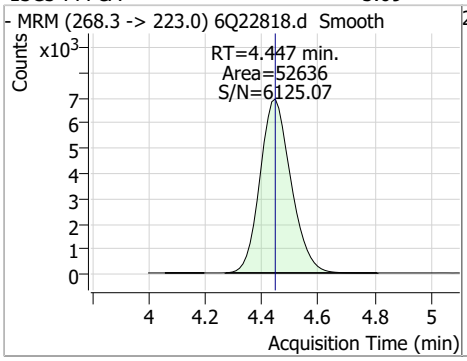
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.25	3.86	0.00	9868	241.0 -> 117.0	13.4	6.8	20.3

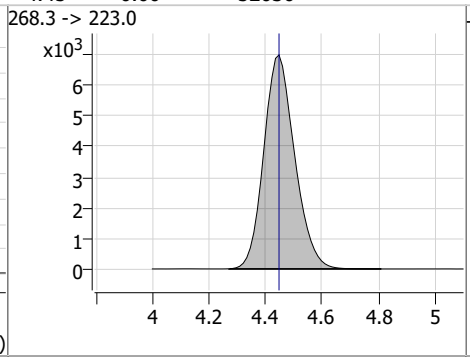


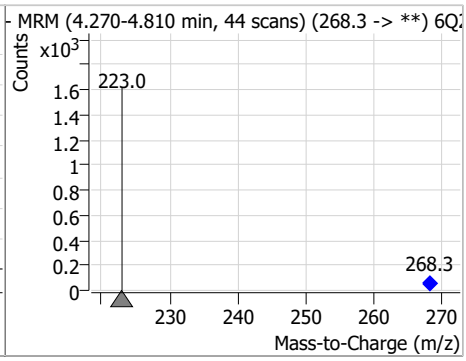




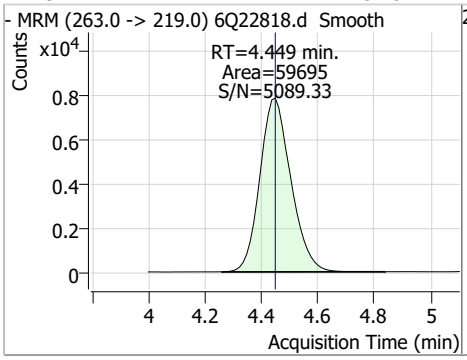
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.09	4.45	0.00	52636				

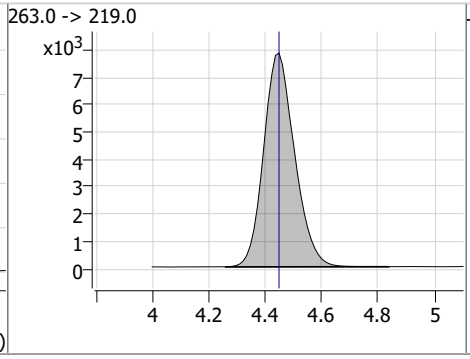


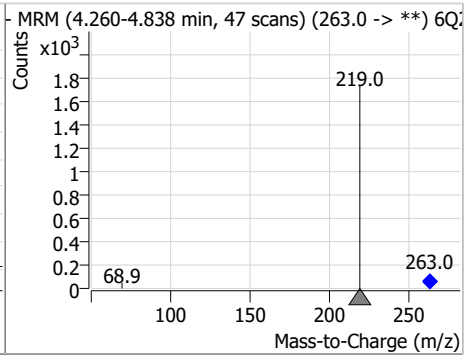




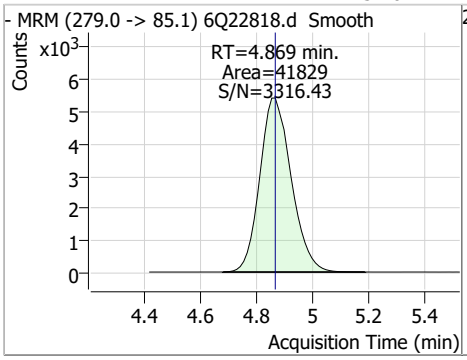
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	5.15	4.45	0.00	59695				

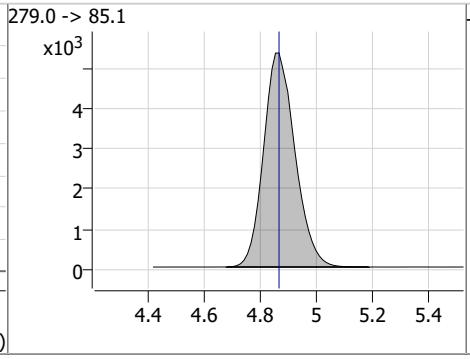


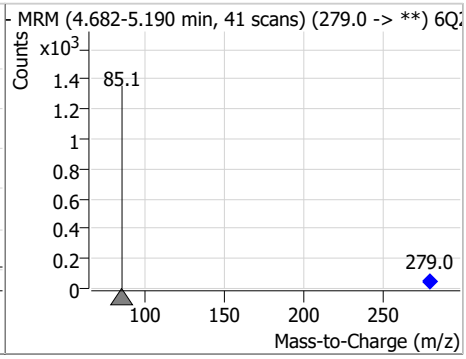




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.10	4.87	0.00	41829				

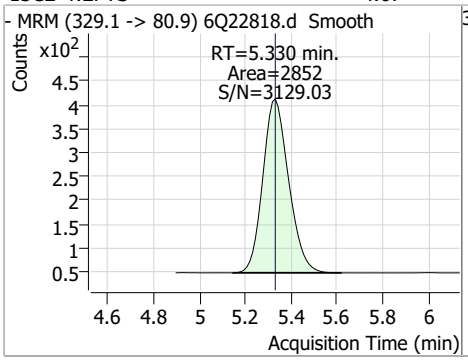


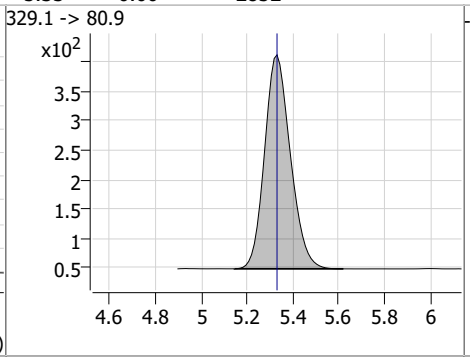


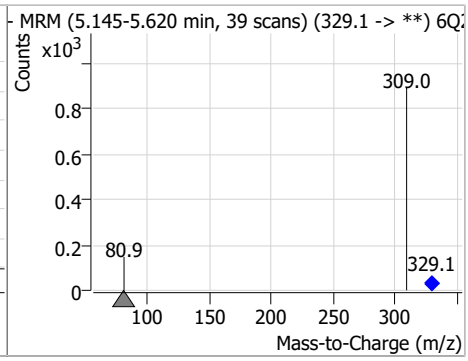


Perfluorinated Compounds by LC/MS/MS

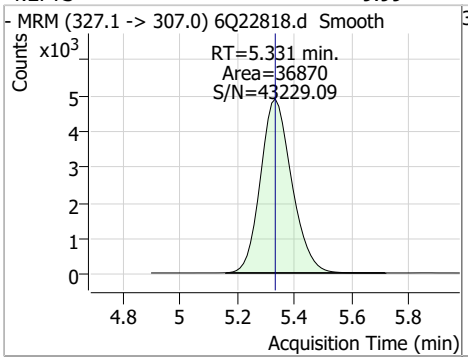
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.67	5.33	0.00	2852				

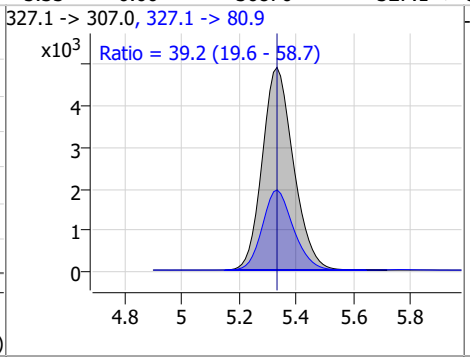


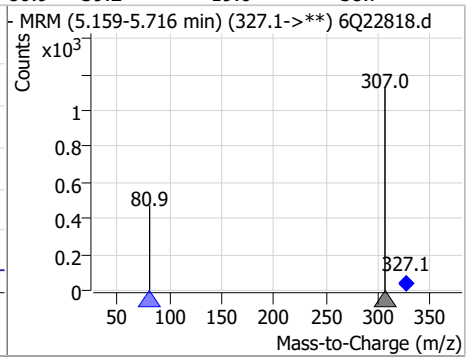




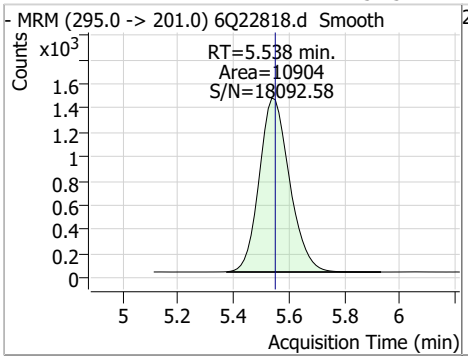
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.99	5.33	0.00	36870	327.1 -> 80.9	39.2	19.6	58.7

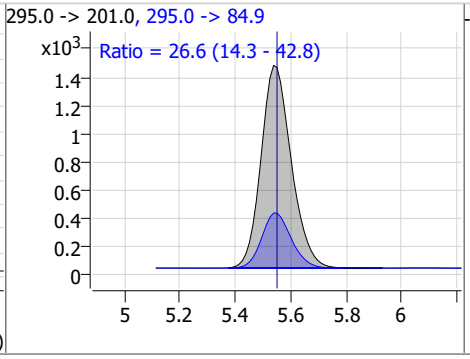


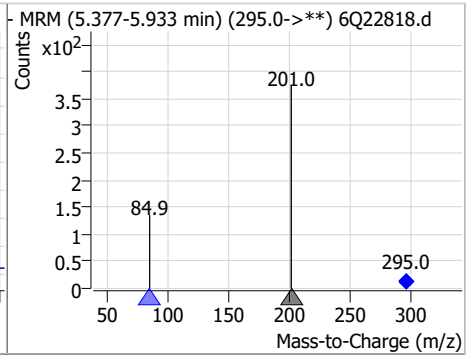




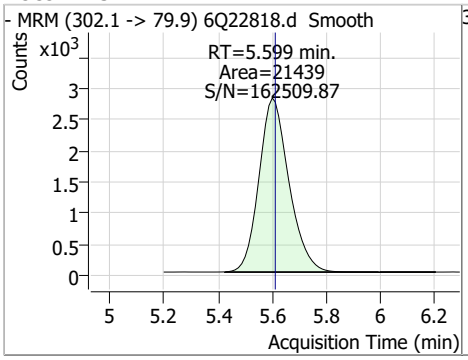
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	5.15	5.54	-0.01	10904	295.0 -> 84.9	26.6	14.3	42.8

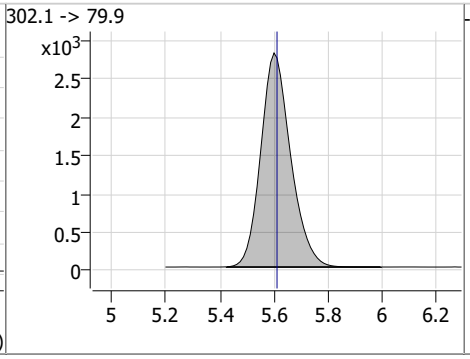


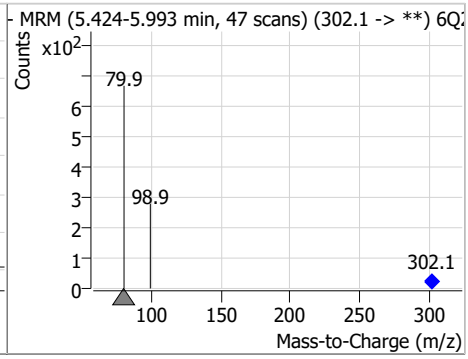




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.47	5.60	-0.01	21439				

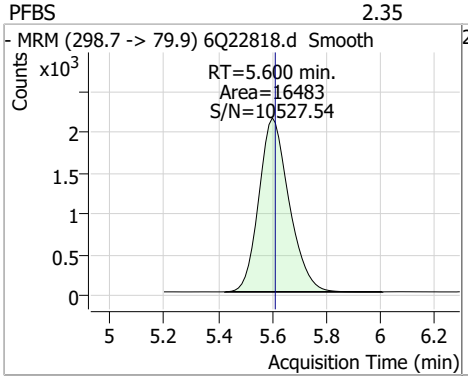


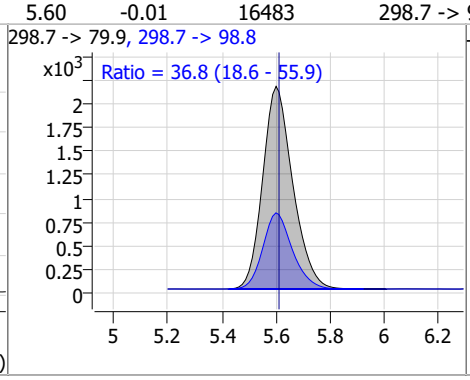


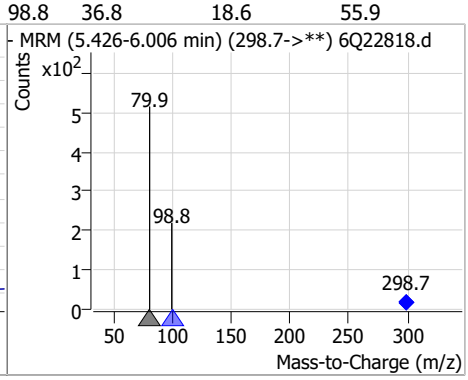


Perfluorinated Compounds by LC/MS/MS

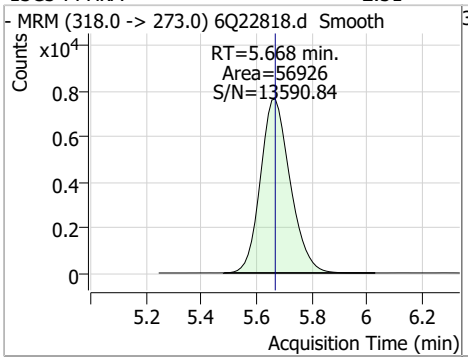
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.35	5.60	-0.01	16483	298.7 -> 98.8	36.8	18.6	55.9

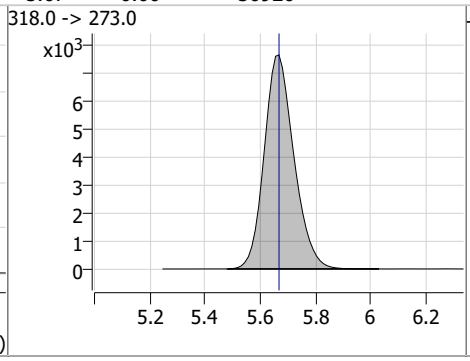


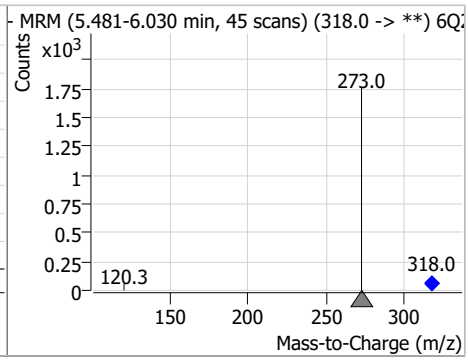




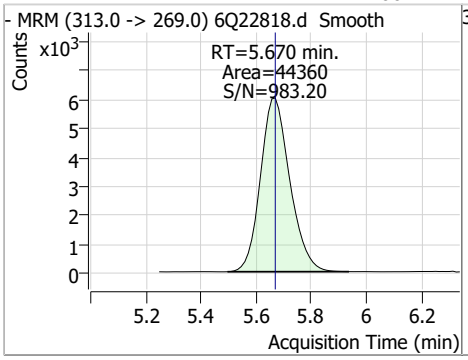
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.51	5.67	0.00	56926				

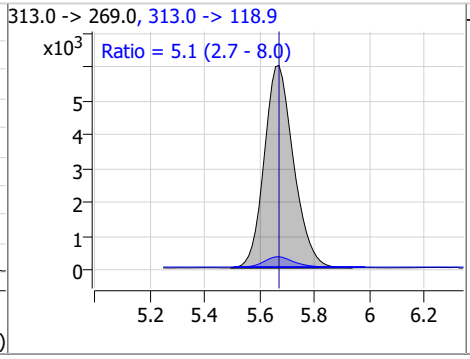


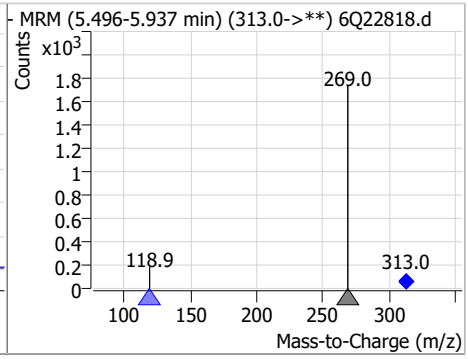




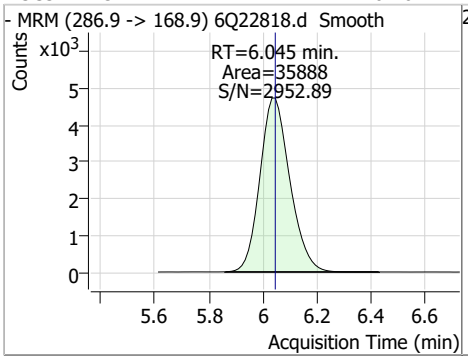
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.66	5.67	0.00	44360	313.0 -> 118.9	5.1	2.7	8.0

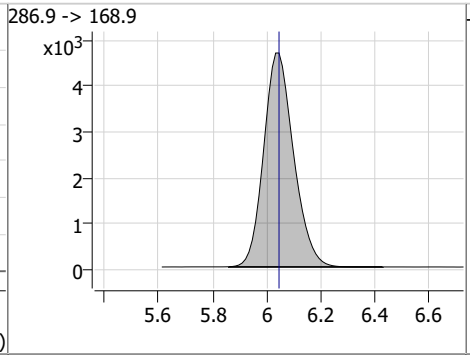


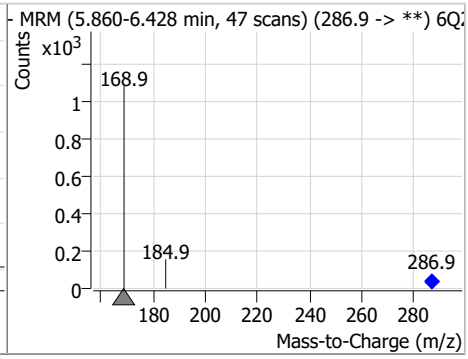




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.10	6.05	0.00	35888				

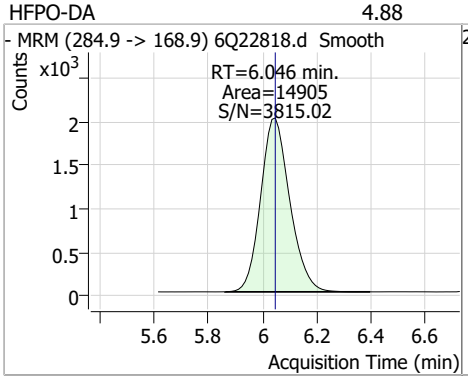


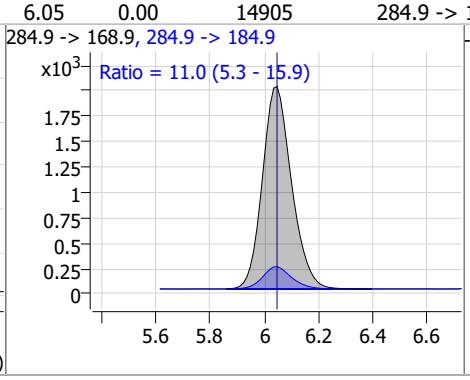


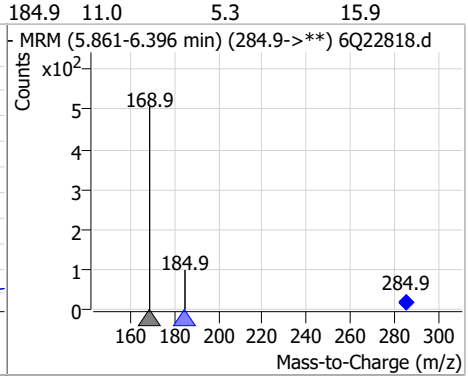


Perfluorinated Compounds by LC/MS/MS

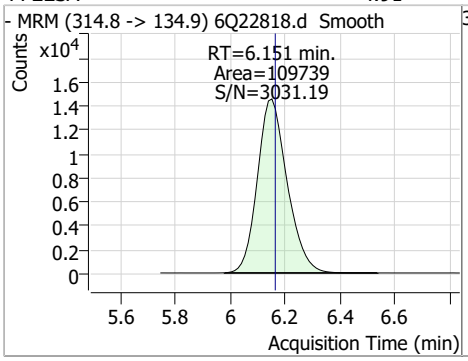
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.88	6.05	0.00	14905	284.9 -> 184.9	11.0	5.3	15.9

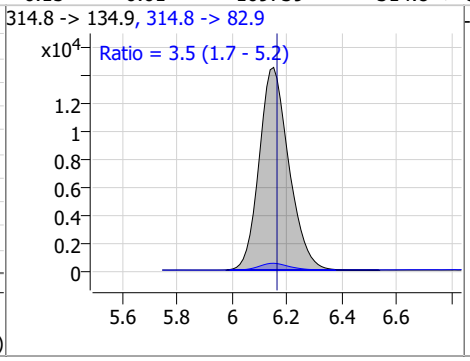


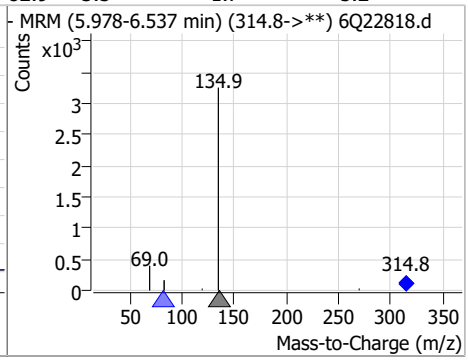




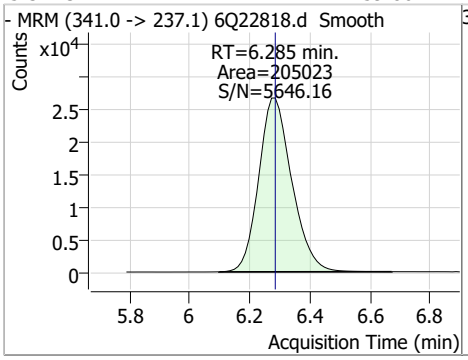
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.91	6.15	-0.01	109739	314.8 -> 82.9	3.5	1.7	5.2

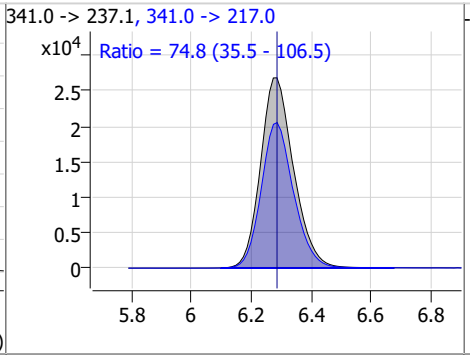


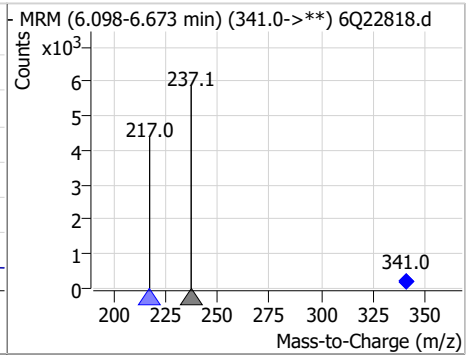




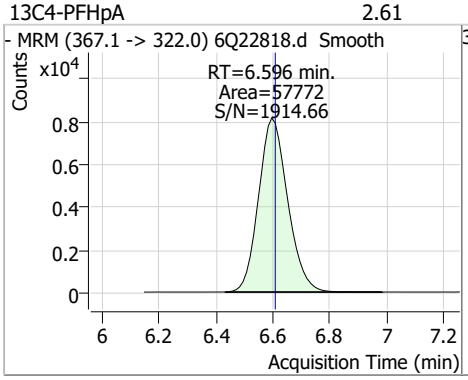
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	59.86	6.28	0.00	205023	341.0 -> 217.0	74.8	35.5	106.5

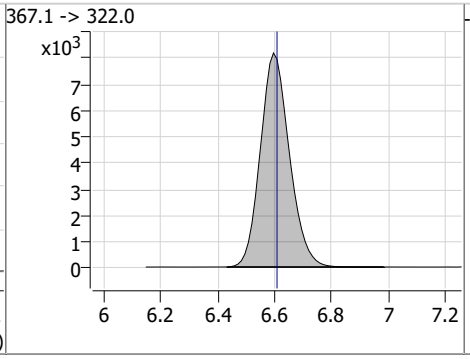


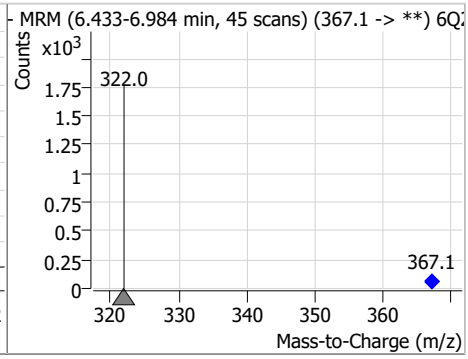




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.61	6.60	-0.01	57772				

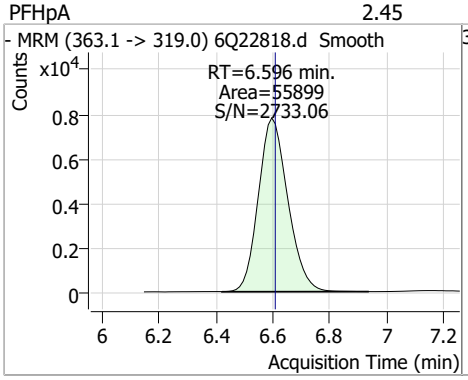


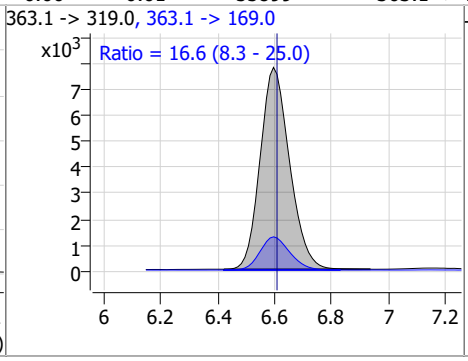


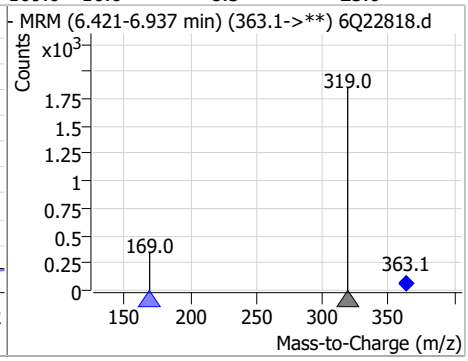


Perfluorinated Compounds by LC/MS/MS

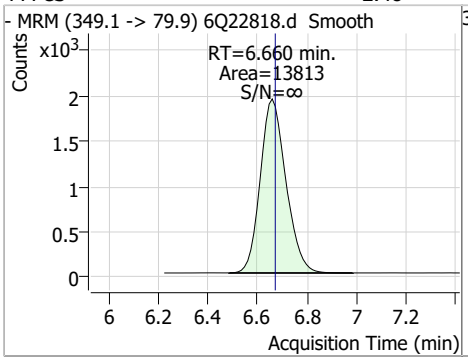
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.45	6.60	-0.01	55899	363.1 -> 169.0	16.6	8.3	25.0

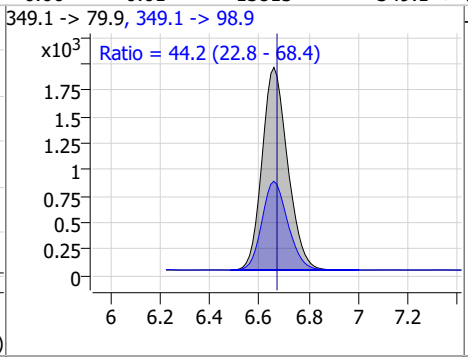


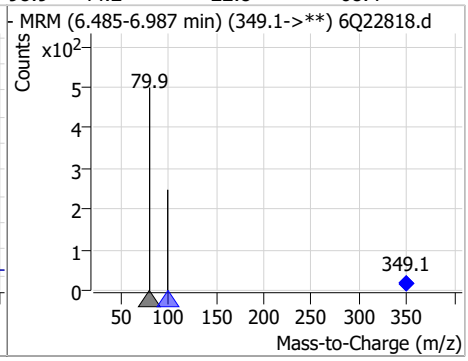




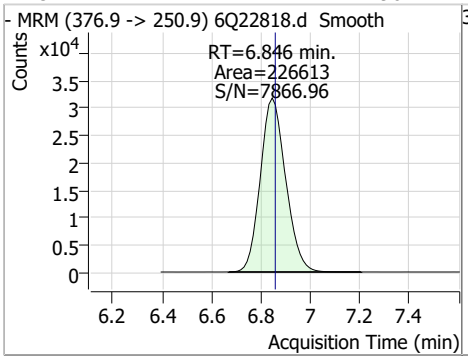
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.48	6.66	-0.01	13813	349.1 -> 98.9	44.2	22.8	68.4

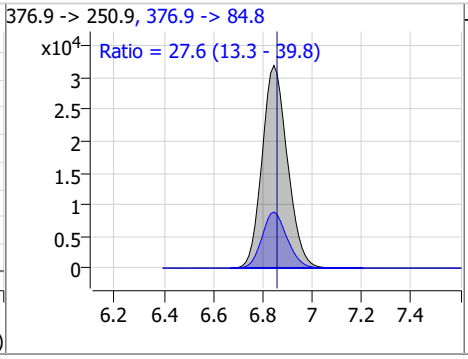


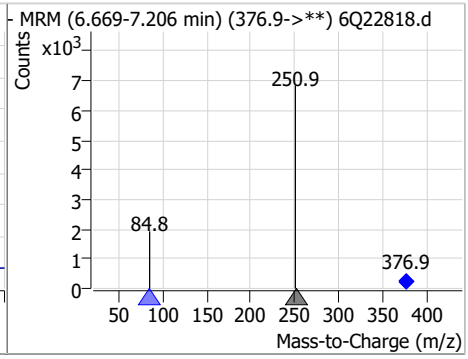




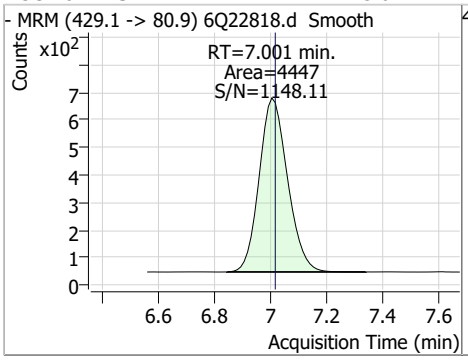
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.96	6.85	-0.01	226613	376.9 -> 84.8	27.6	13.3	39.8

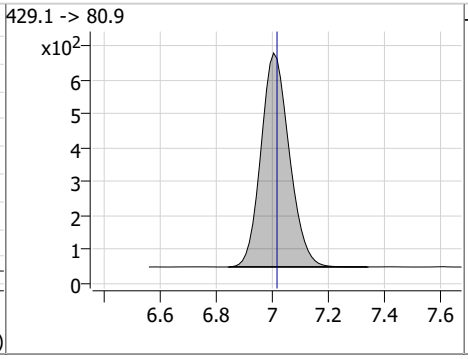


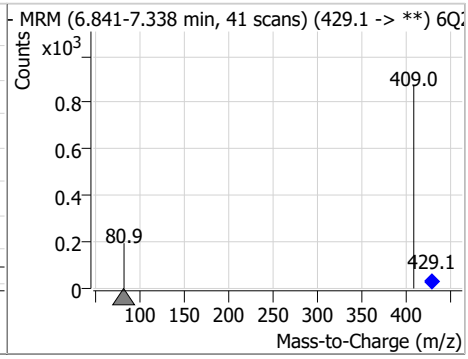




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.04	7.00	-0.01	4447				

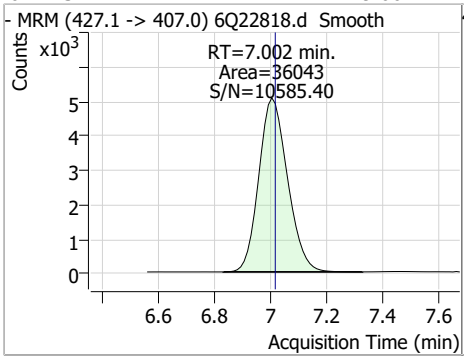


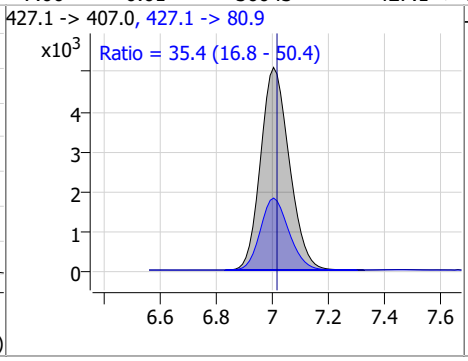


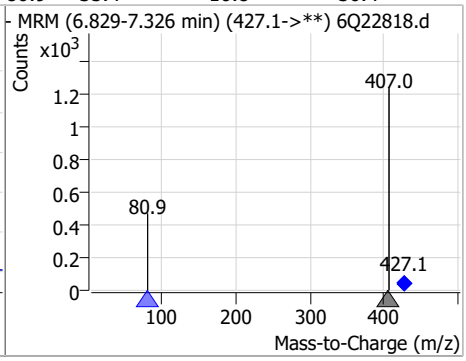


Perfluorinated Compounds by LC/MS/MS

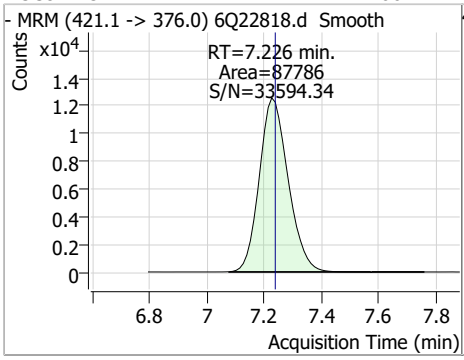
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.06	7.00	-0.01	36043	427.1 -> 80.9	35.4	16.8	50.4

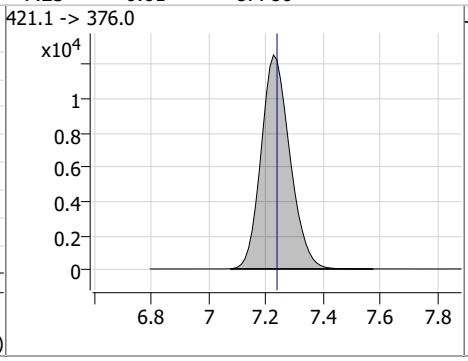


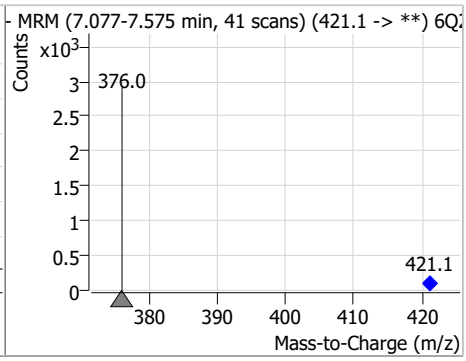




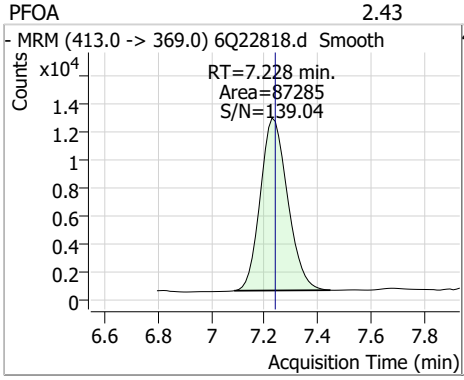
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.66	7.23	-0.01	87786				

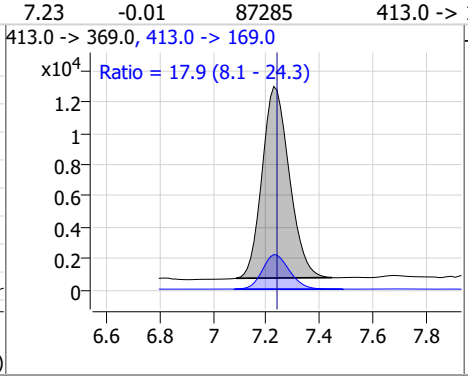


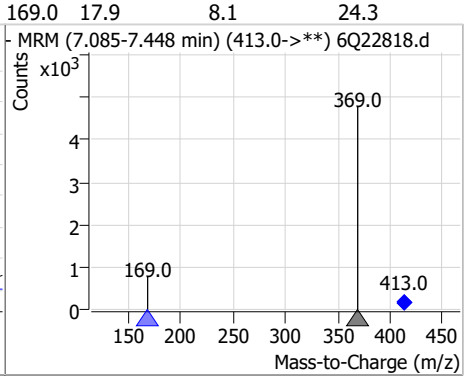




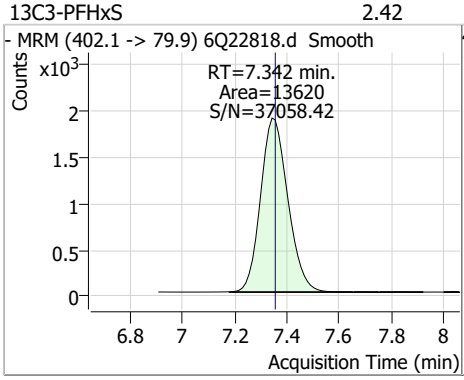
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.43	7.23	-0.01	87285	413.0 -> 169.0	17.9	8.1	24.3

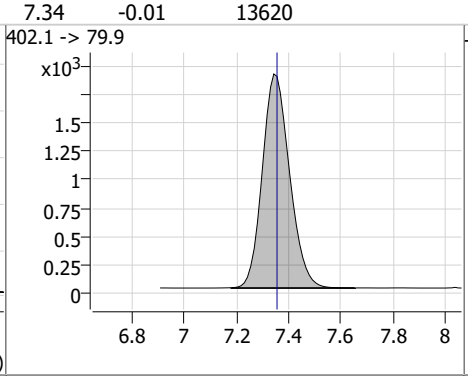


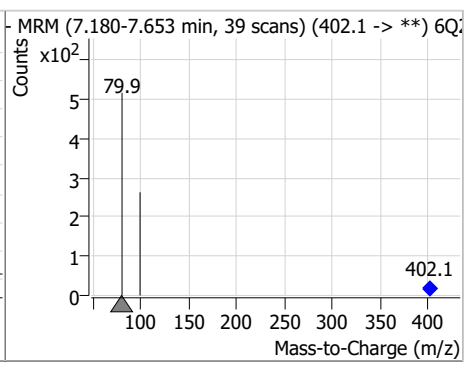




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.42	7.34	-0.01	13620				

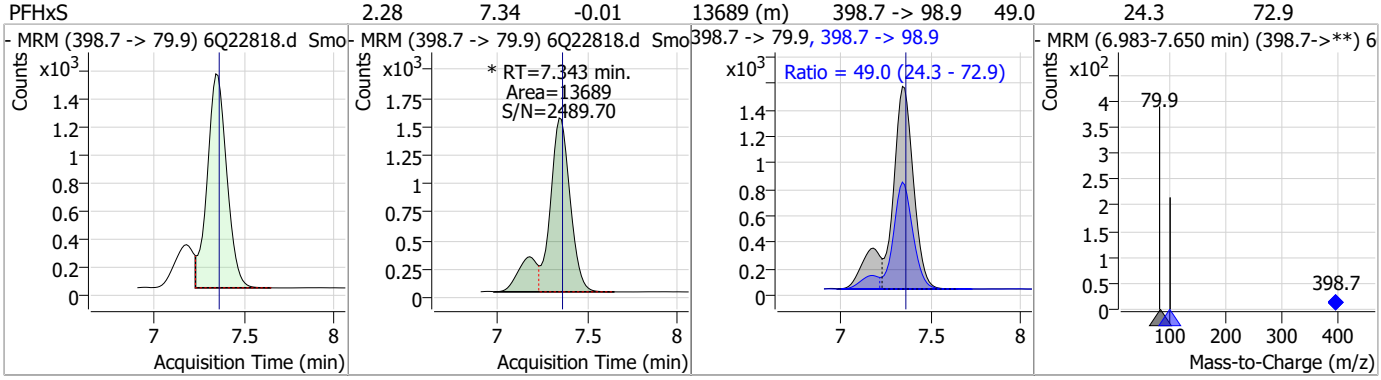




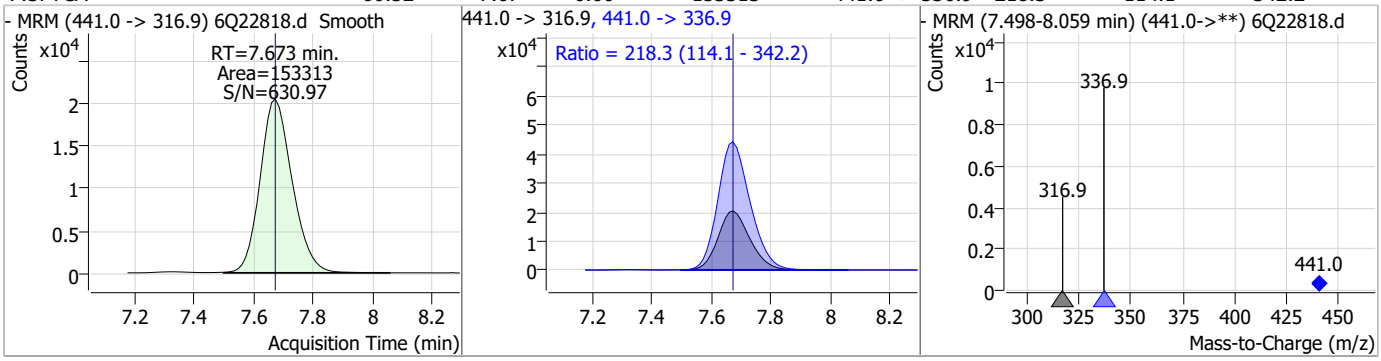


Perfluorinated Compounds by LC/MS/MS

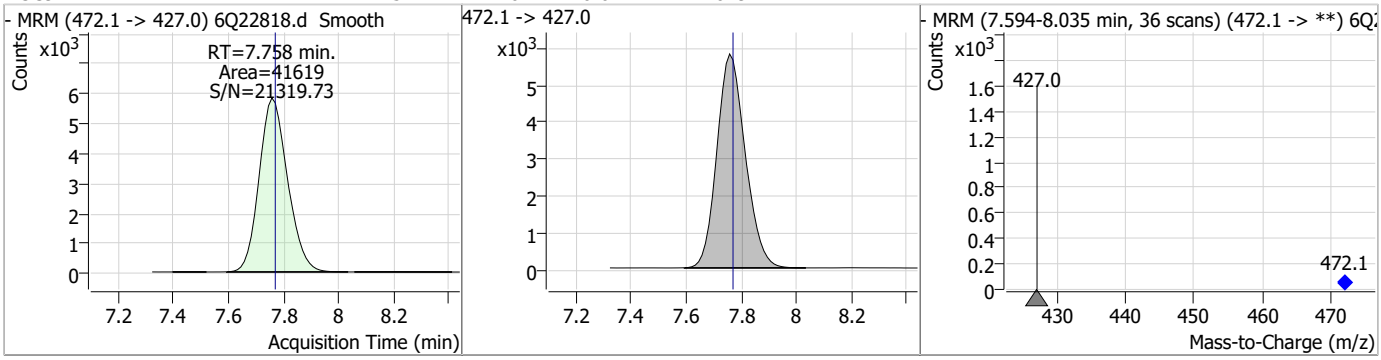
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.28	7.34	-0.01	13689 (m)	398.7 -> 98.9	49.0	24.3	72.9



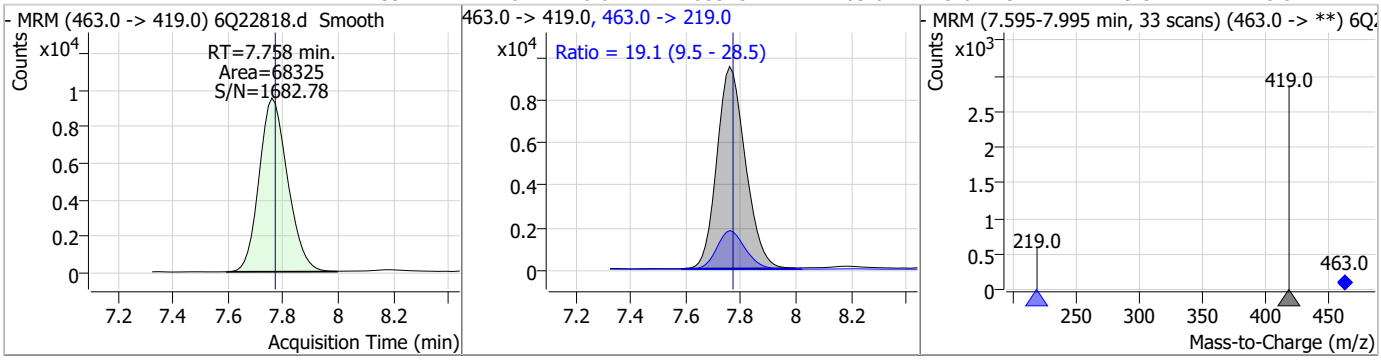
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	60.52	7.67	0.00	153313	441.0 -> 336.9	218.3	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.76	-0.01	41619				

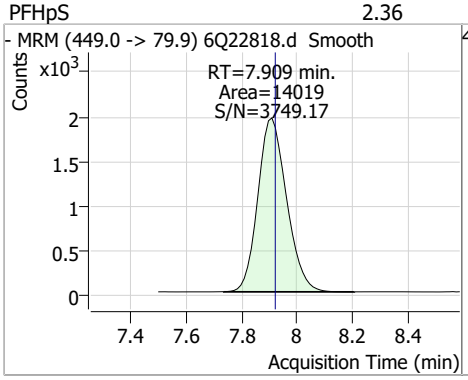


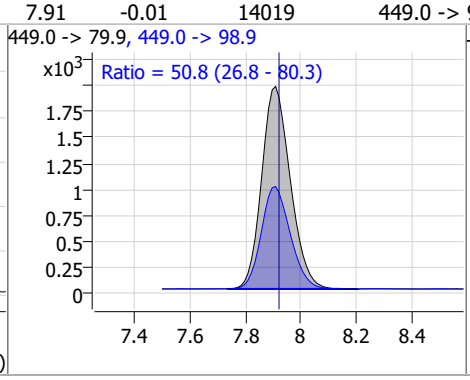
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.39	7.76	-0.01	68325	463.0 -> 219.0	19.1	9.5	28.5

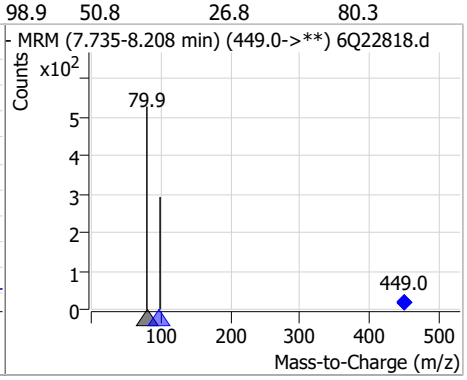


Perfluorinated Compounds by LC/MS/MS

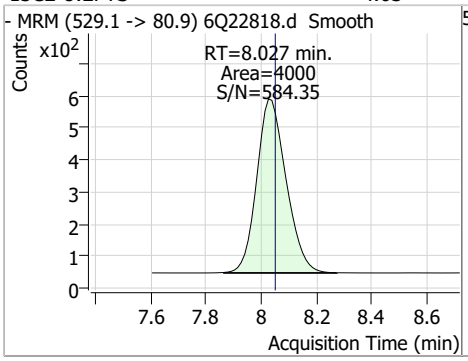
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.36	7.91	-0.01	14019	449.0 -> 98.9	50.8	26.8	80.3

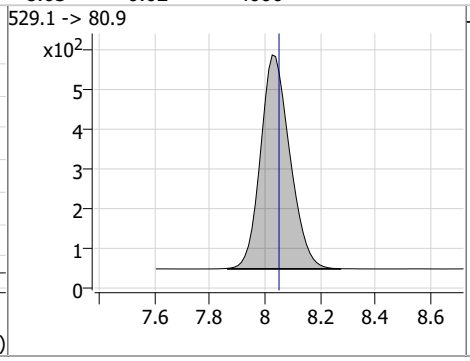


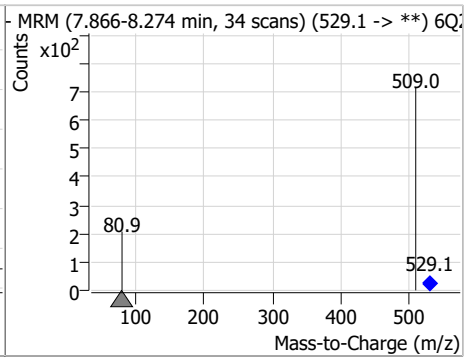




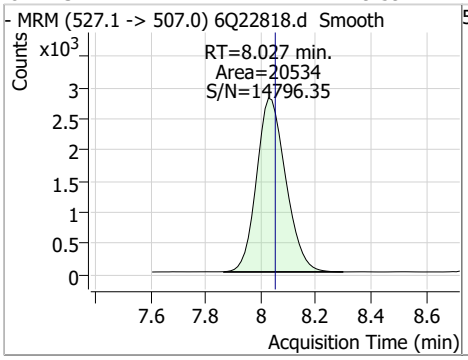
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.63	8.03	-0.02	4000				

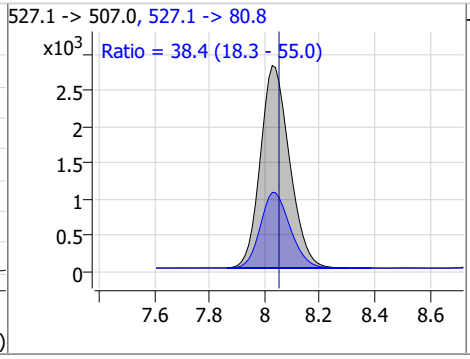


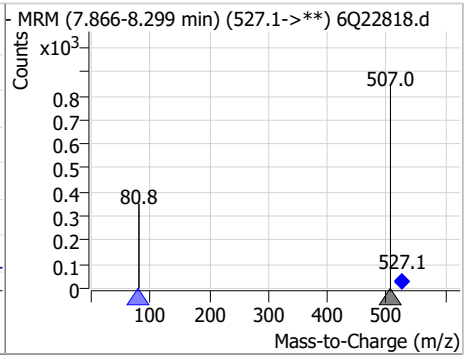




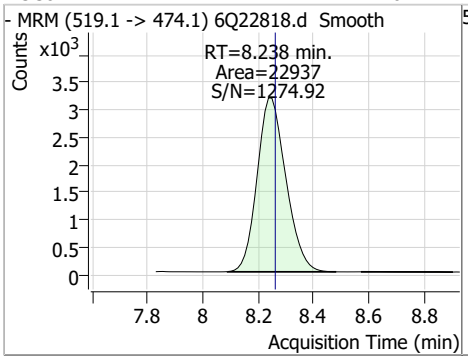
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.59	8.03	-0.02	20534	527.1 -> 80.8	38.4	18.3	55.0

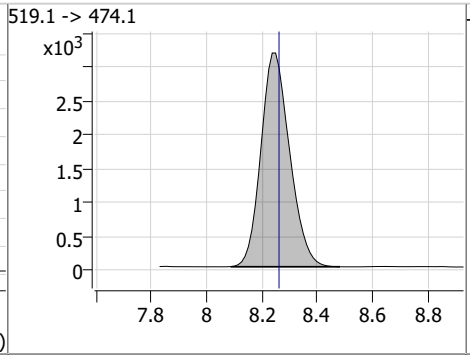


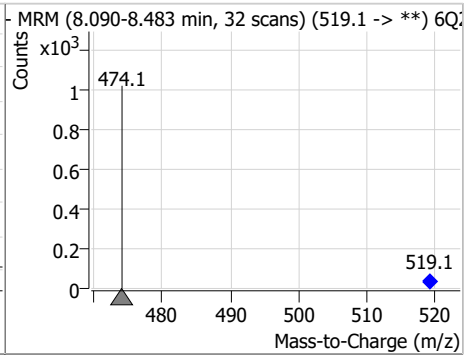




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.20	8.24	-0.02	22937				

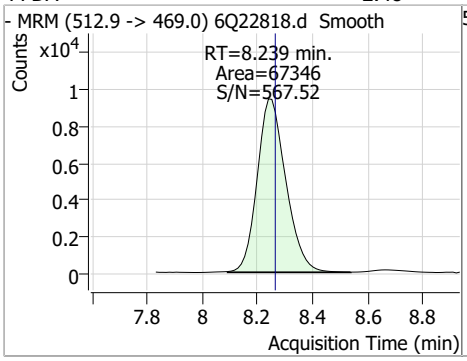


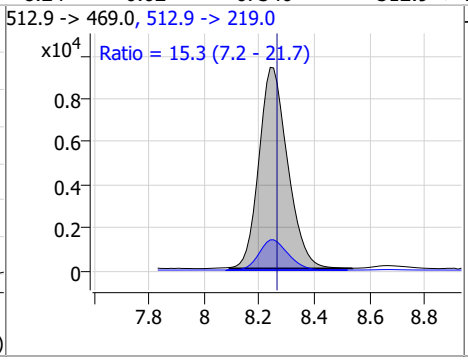


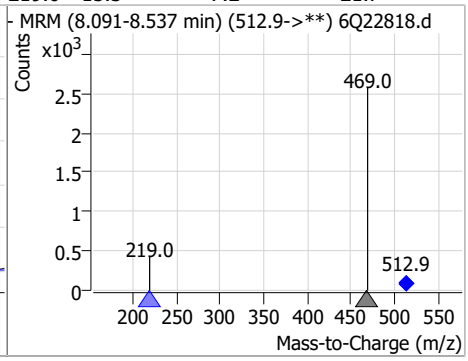


Perfluorinated Compounds by LC/MS/MS

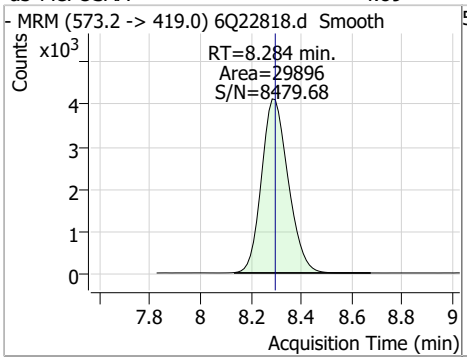
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.48	8.24	-0.02	67346	512.9 -> 219.0	15.3	7.2	21.7

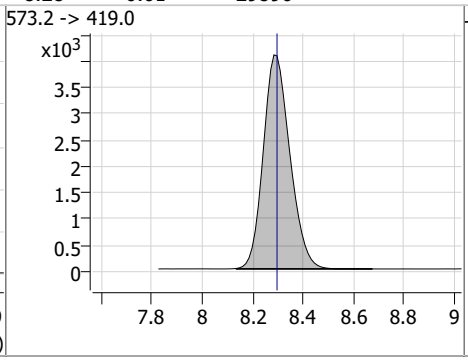


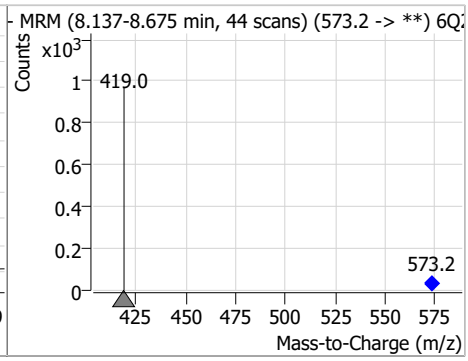




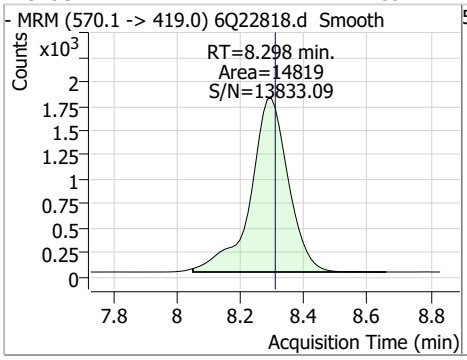
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.89	8.28	-0.01	29896				

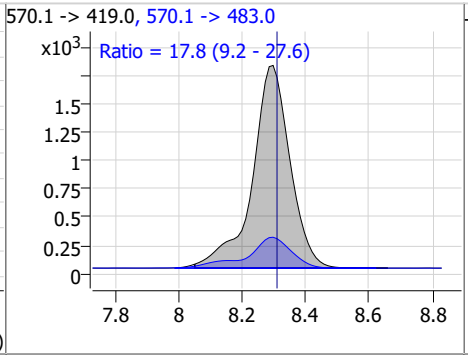


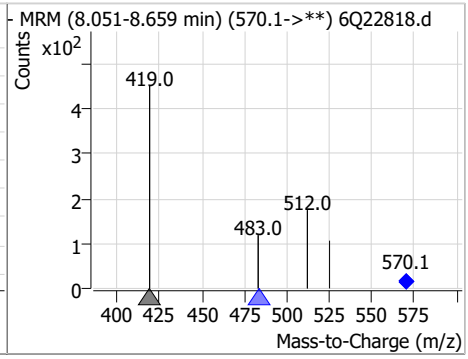




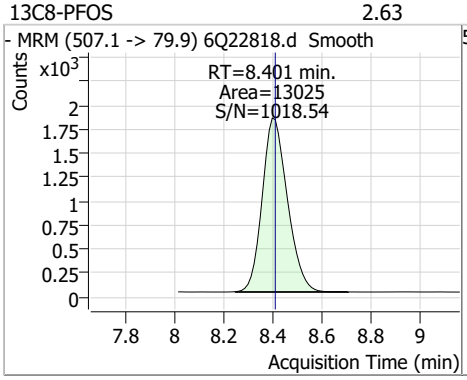
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.59	8.30	-0.01	14819	570.1 -> 483.0	17.8	9.2	27.6

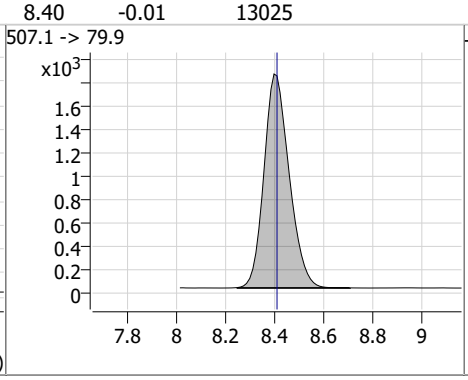


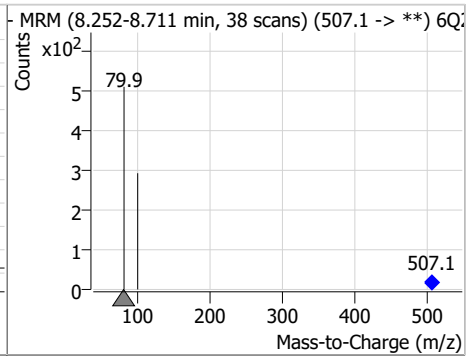




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.63	8.40	-0.01	13025				

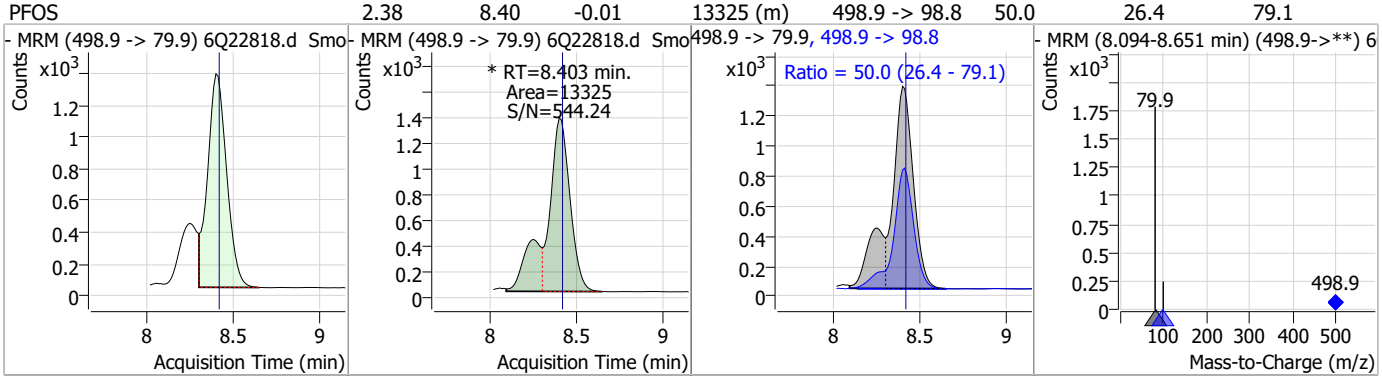




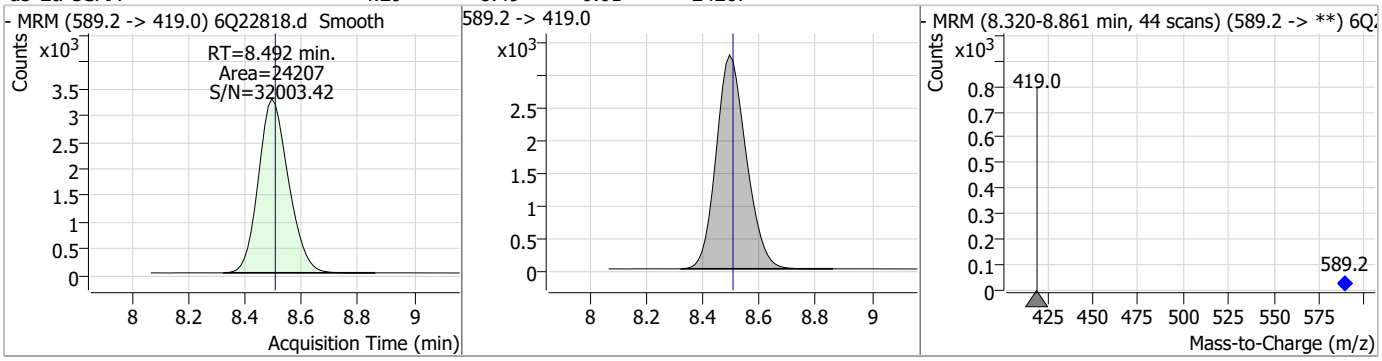


Perfluorinated Compounds by LC/MS/MS

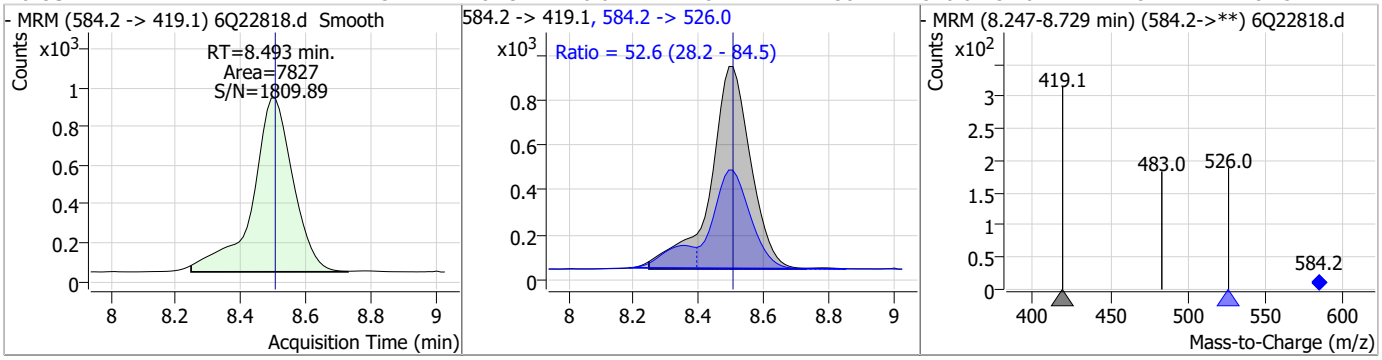
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.38	8.40	-0.01	13325 (m)	498.9 -> 98.8	50.0	26.4	79.1



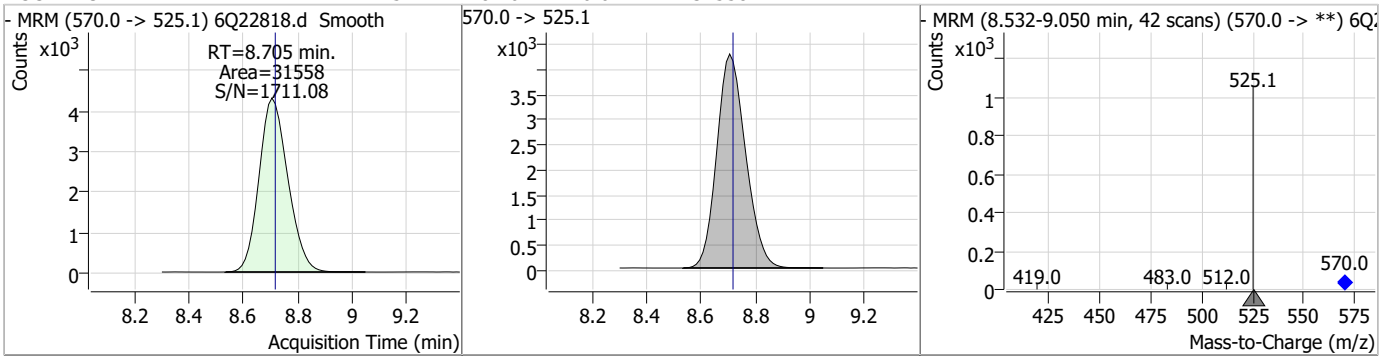
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.29	8.49	-0.01	24207				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.57	8.49	-0.01	7827	584.2 -> 526.0	52.6	28.2	84.5

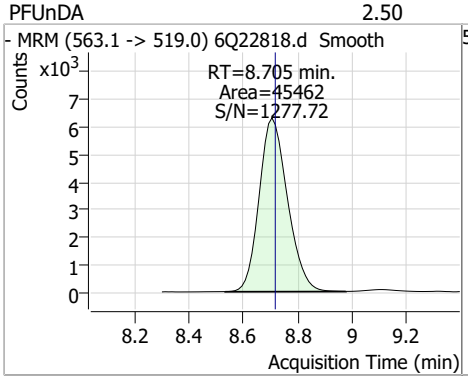


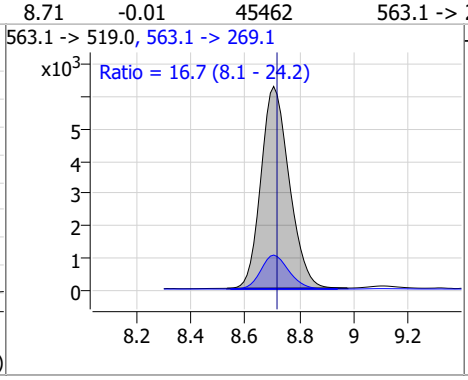
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.25	8.70	-0.01	31558				

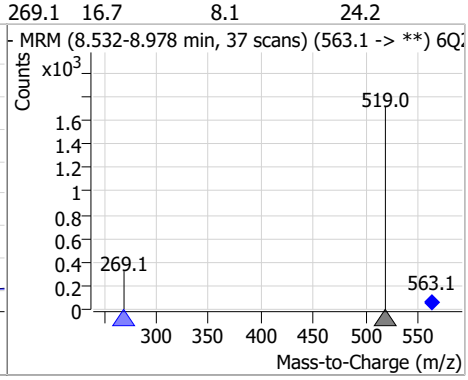


Perfluorinated Compounds by LC/MS/MS

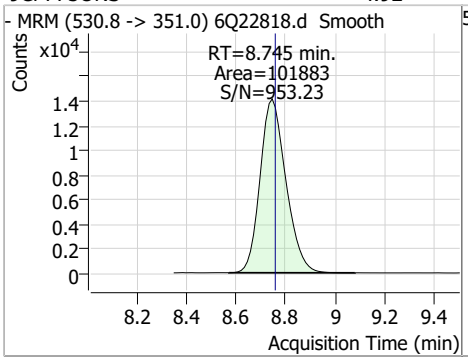
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.50	8.71	-0.01	45462	563.1 -> 269.1	16.7	8.1	24.2

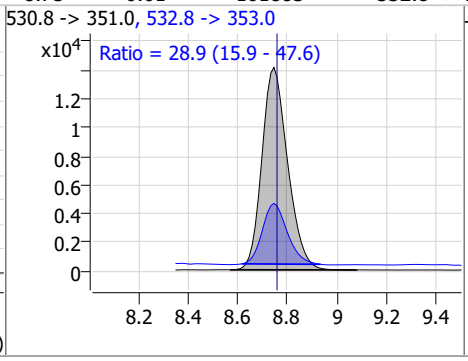


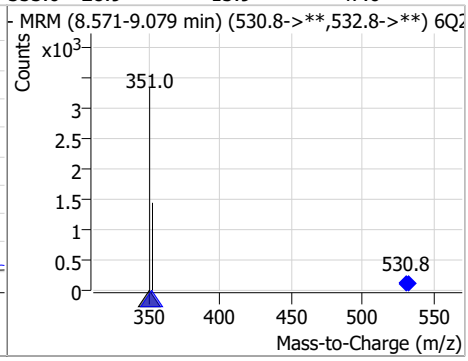




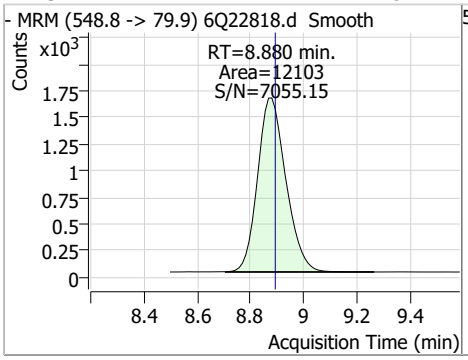
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.92	8.75	-0.01	101883	532.8 -> 353.0	28.9	15.9	47.6

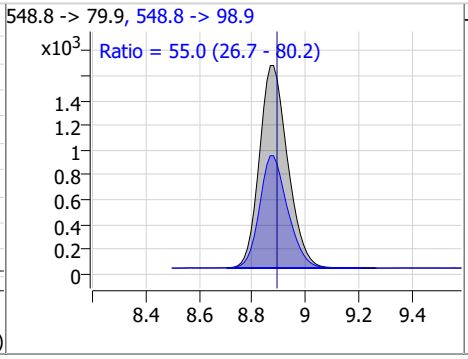


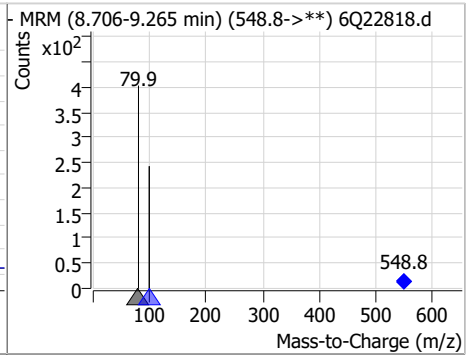




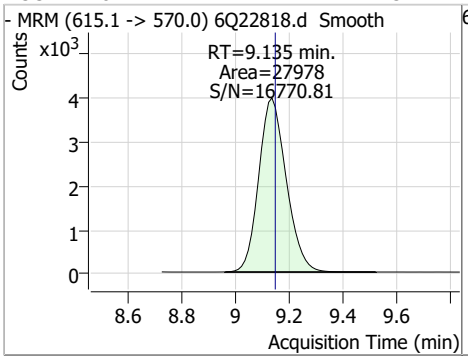
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.25	8.88	-0.01	12103	548.8 -> 98.9	55.0	26.7	80.2

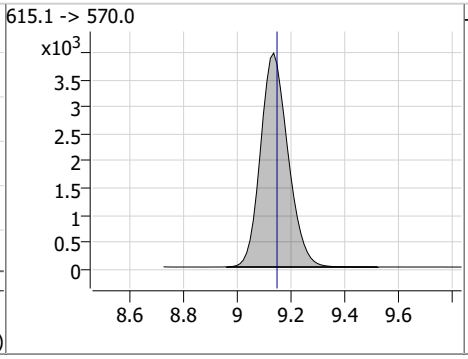


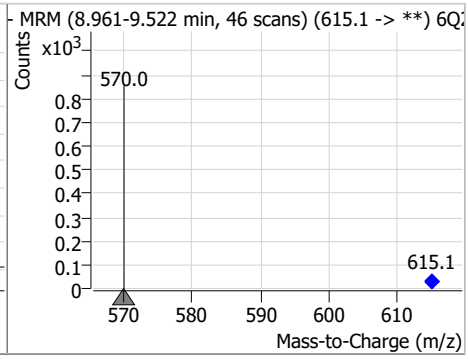




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.23	9.14	-0.01	27978				

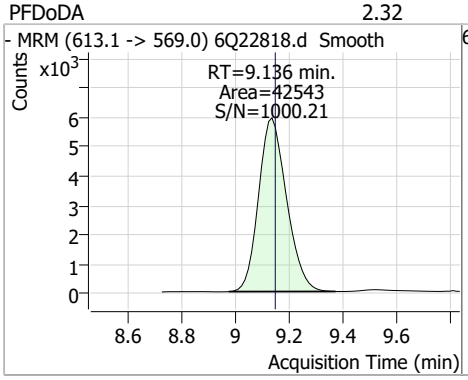


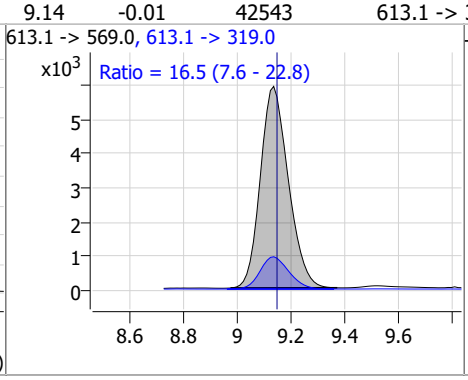


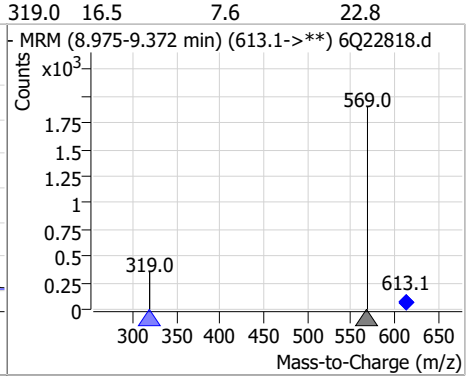


Perfluorinated Compounds by LC/MS/MS

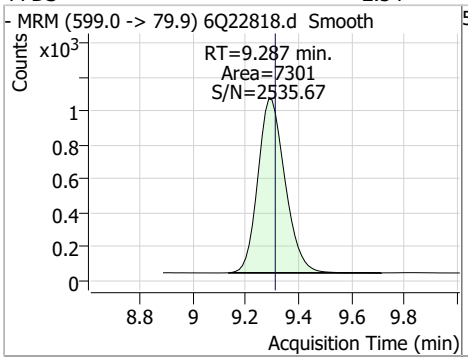
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.32	9.14	-0.01	42543	613.1 -> 319.0	16.5	7.6	22.8

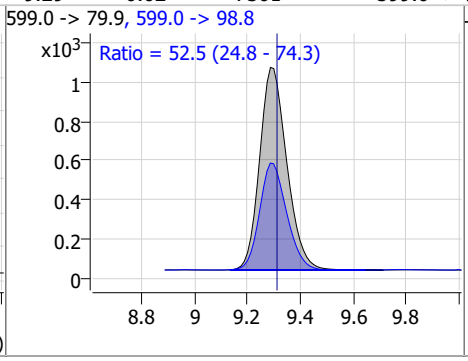


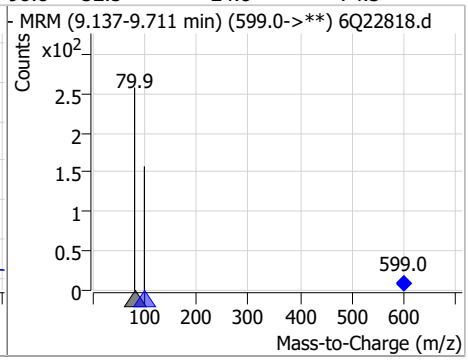




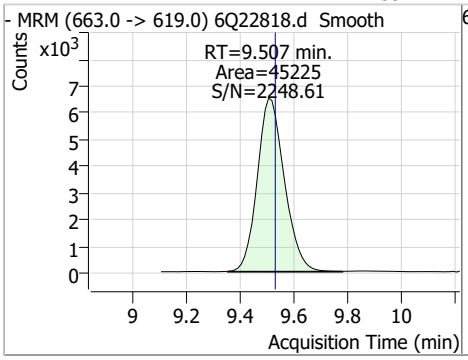
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.34	9.29	-0.02	7301	599.0 -> 98.8	52.5	24.8	74.3

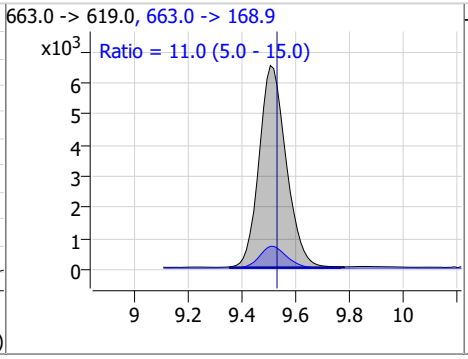


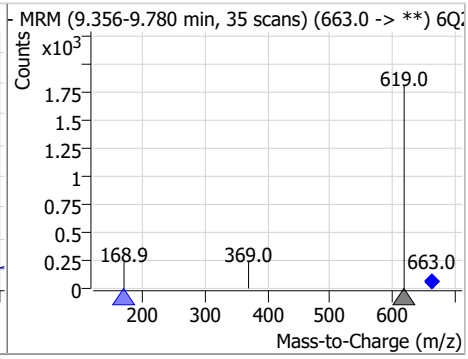




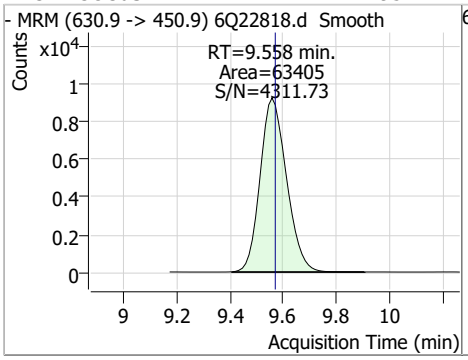
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.39	9.51	-0.02	45225	663.0 -> 168.9	11.0	5.0	15.0

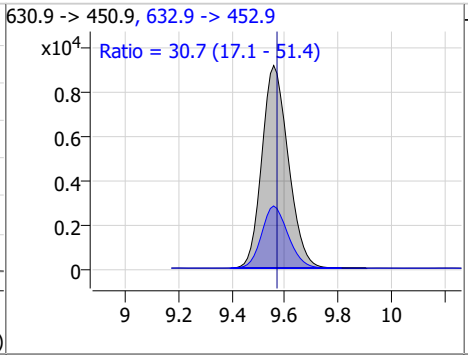


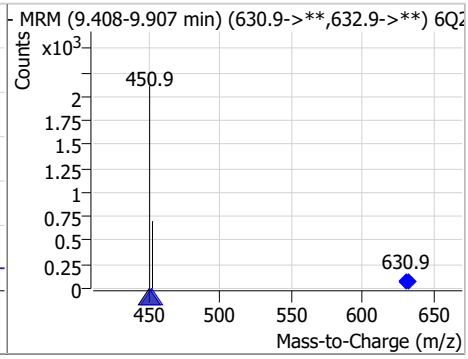




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.95	9.56	-0.01	63405	632.9 -> 452.9	30.7	17.1	51.4

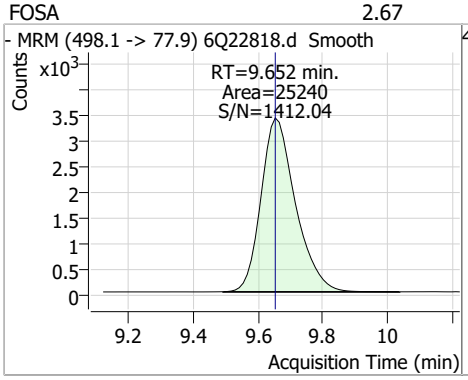


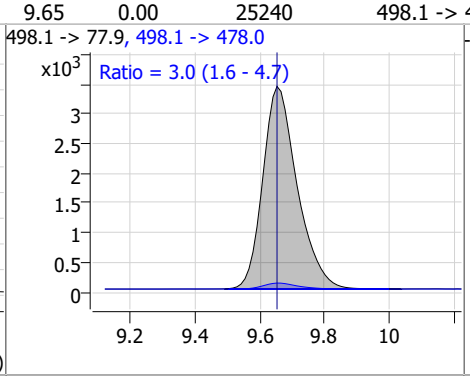


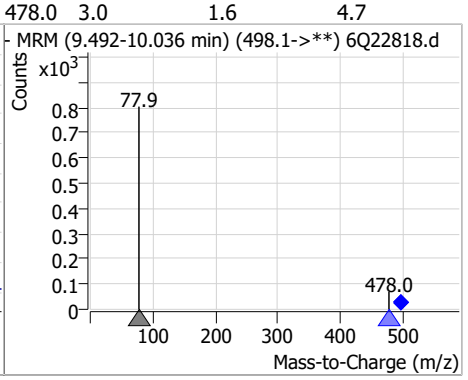


Perfluorinated Compounds by LC/MS/MS

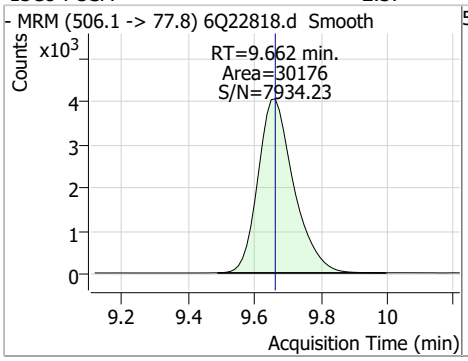
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.67	9.65	0.00	25240	498.1 -> 478.0	3.0	1.6	4.7

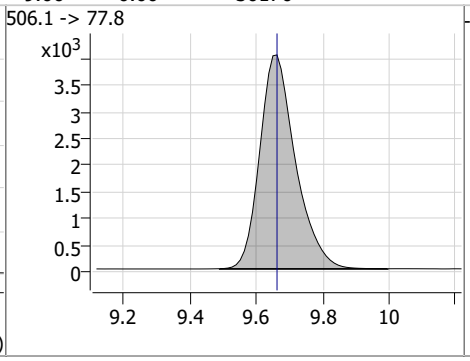


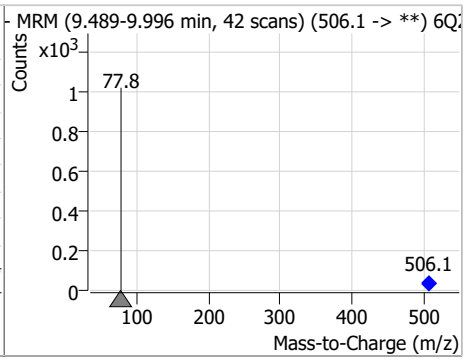




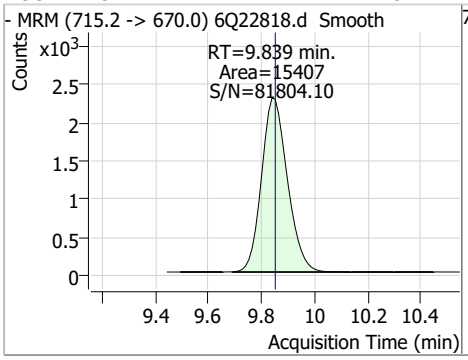
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.37	9.66	0.00	30176				

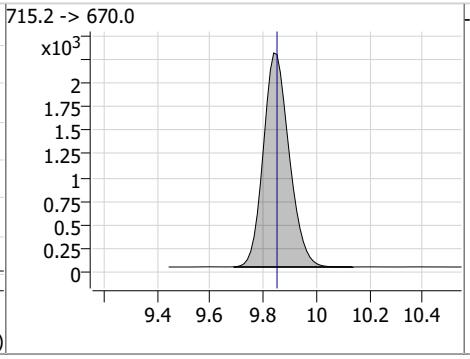


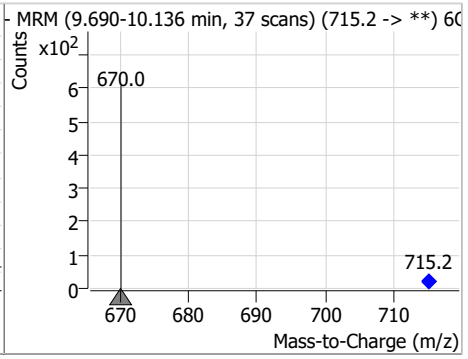




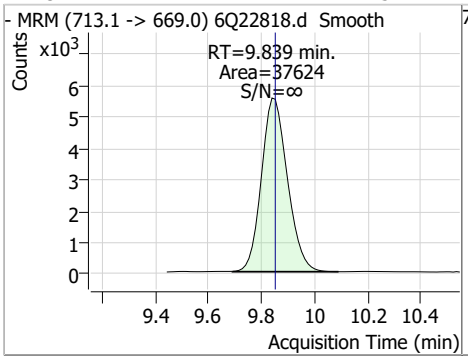
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.18	9.84	-0.01	15407				

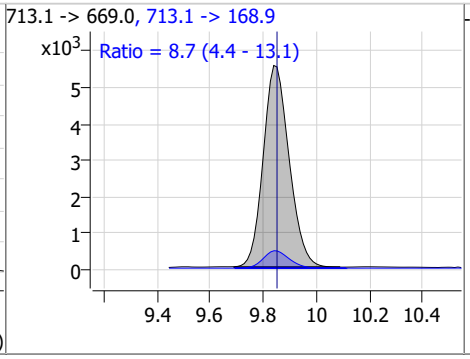


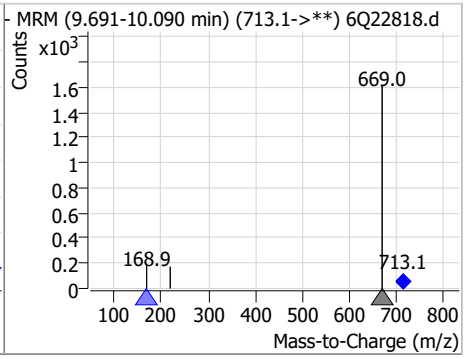




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.51	9.84	-0.01	37624	713.1 -> 168.9	8.7	4.4	13.1

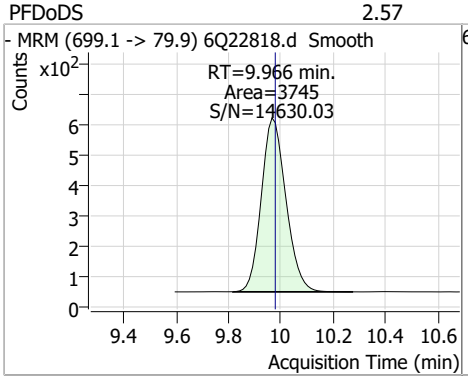


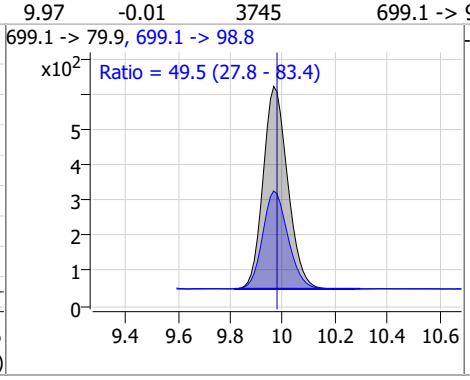


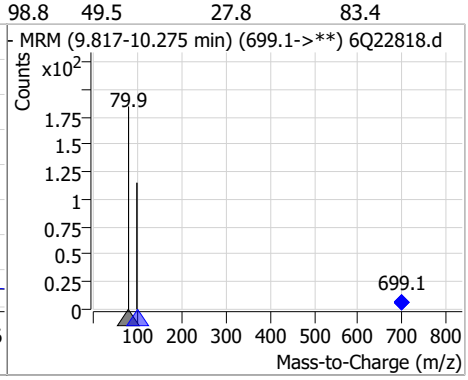


Perfluorinated Compounds by LC/MS/MS

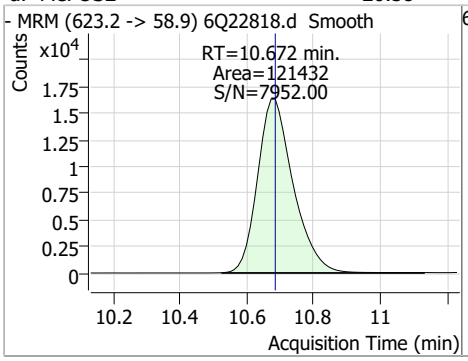
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.57	9.97	-0.01	3745	699.1 -> 98.8	49.5	27.8	83.4

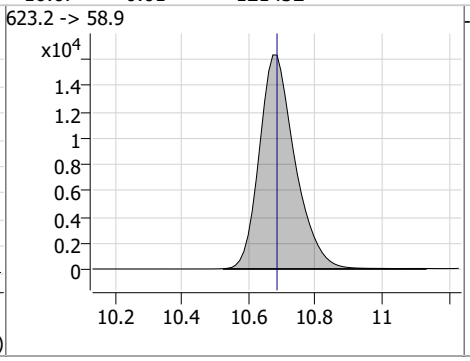


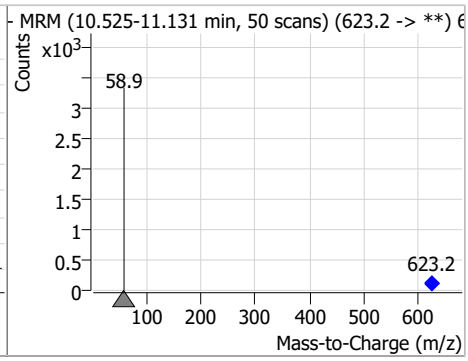




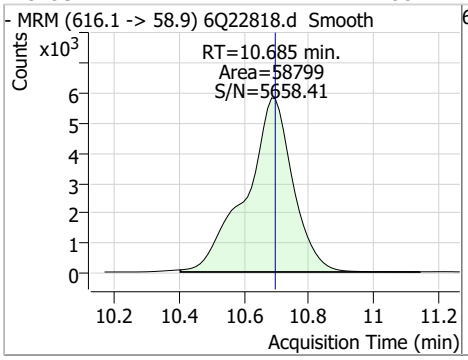
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.58	10.67	-0.01	121432				

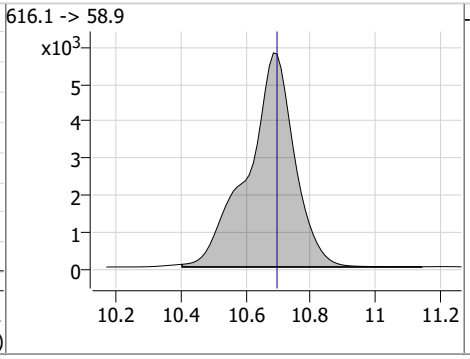


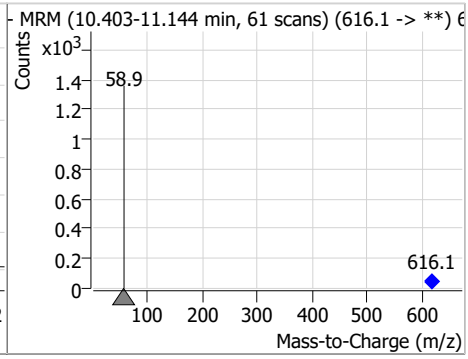




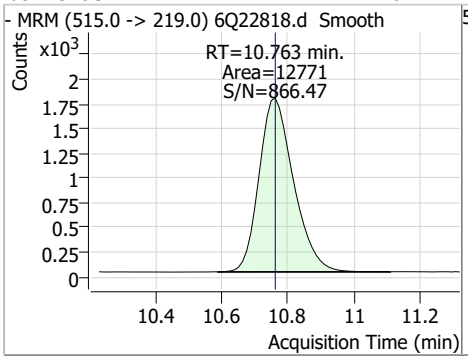
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.95	10.69	-0.01	58799				

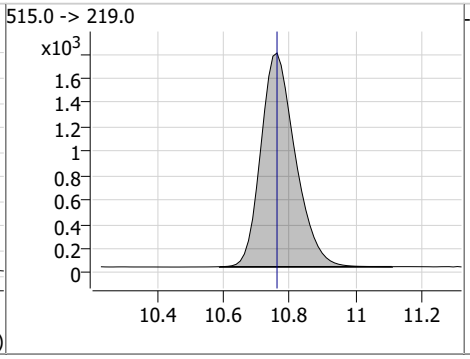


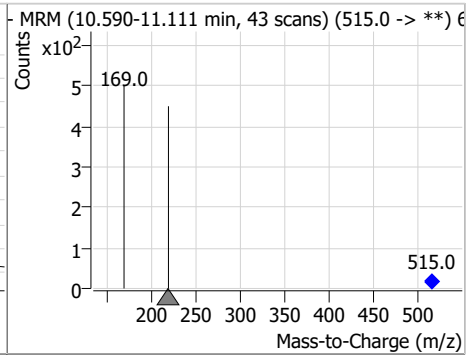




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.45	10.76	0.00	12771				

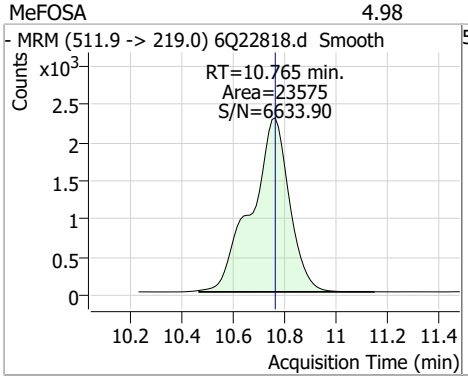


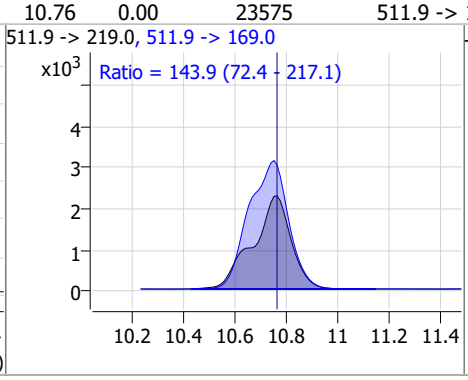


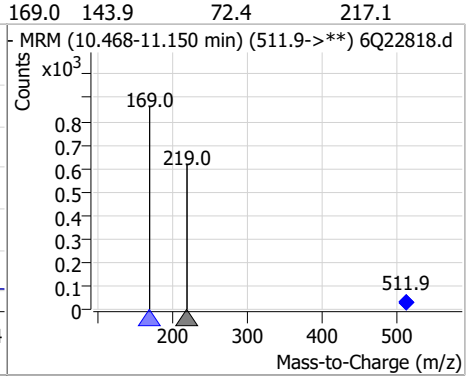


Perfluorinated Compounds by LC/MS/MS

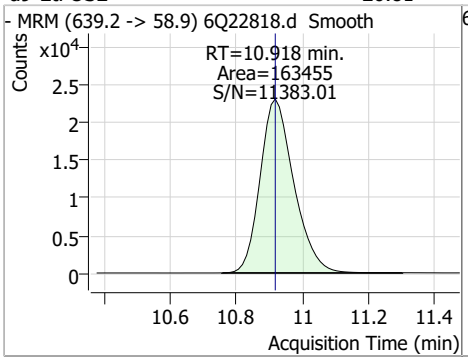
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.98	10.76	0.00	23575	511.9 -> 169.0	143.9	72.4	217.1

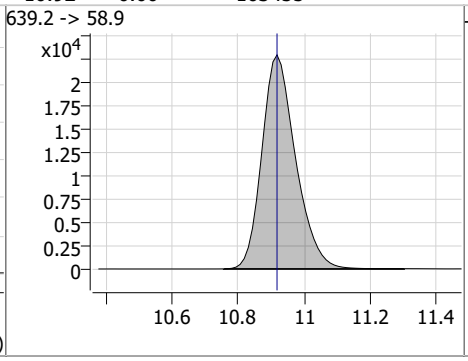


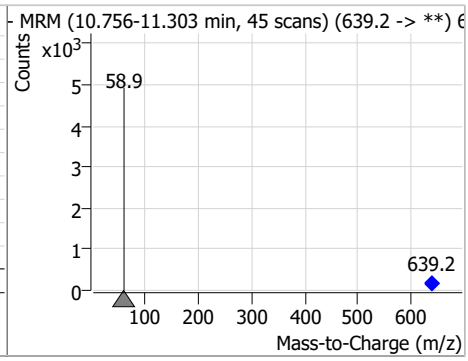




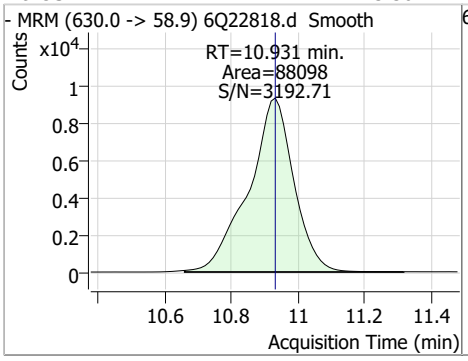
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.81	10.92	0.00	163455				

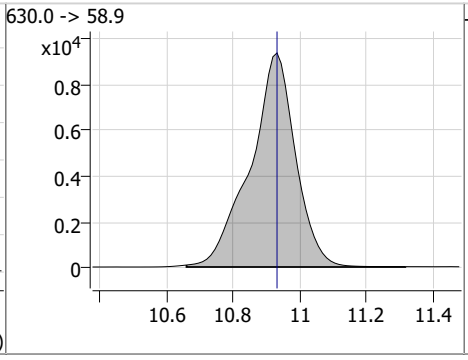


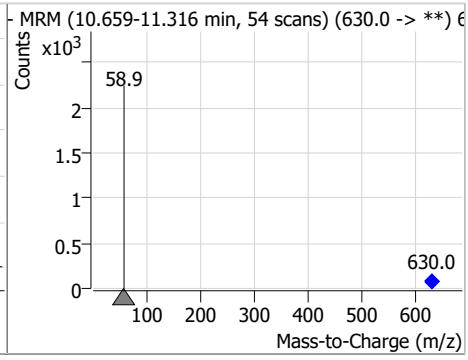




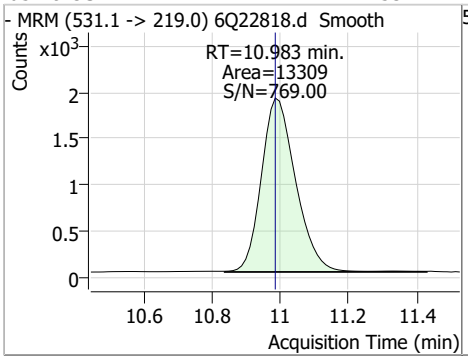
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	13.30	10.93	0.00	88098				

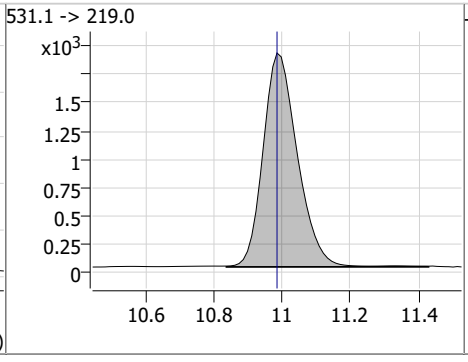


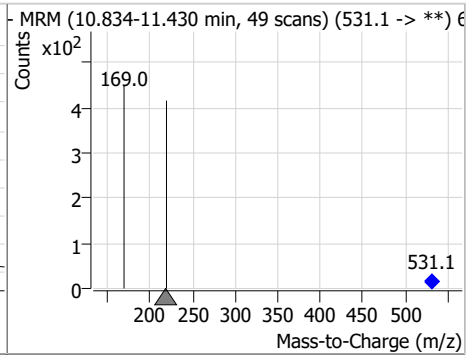




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.53	10.98	0.00	13309				

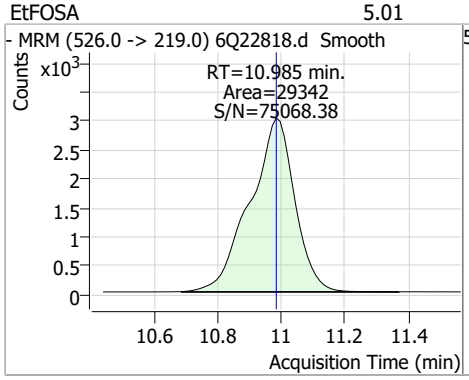


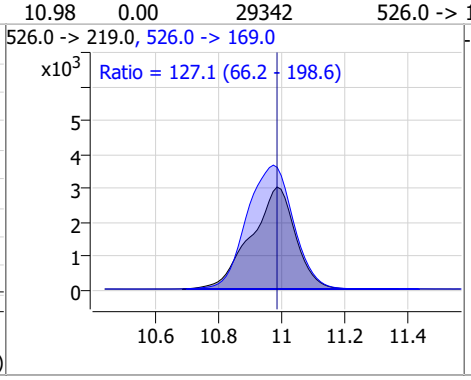


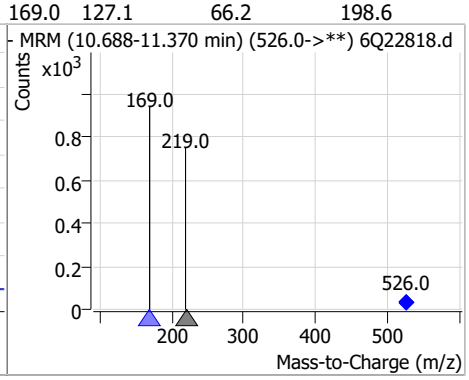


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	5.01	10.98	0.00	29342	526.0 -> 169.0	127.1	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q331-CC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22818.D	**Analyst approved:**	08/14/23 10:35 Martha Valls
Injection Time:	08/13/23 21:21	**Supervisor approved:**	08/15/23 12:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.40	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Natasha Gumtie 08/15/23 12:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22827.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/13/2023 11:30:08 PM
Sample Name : cc330-4
Vial : P1-A5
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : s6q331.batch.bin
Sample Information : OP98201,S6Q331,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	168479	10.00	µg/L	-0.012
M5-PFPeA	4.447	268.3 -> 223.0	54106	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	58793	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	58270	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	92779	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	42520	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	22955	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	32118	1.25	µg/L	-0.012
M2-PFDoDA	9.135	615.1 -> 570.0	28895	1.25	µg/L	-0.012
M2-PFTeDA	9.839	715.2 -> 670.0	16143	1.25	µg/L	-0.012
M8-FOSA	9.650	506.1 -> 77.8	32740	2.50	µg/L	-0.012
M3-PFBS	5.599	302.1 -> 79.9	22181	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	13936	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	13439	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	3151	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4737	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3949	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	31383	5.00	µg/L	-0.012
M3-HFPO-DA	6.033	286.9 -> 168.9	37608	10.00	µg/L	-0.012
M5-EtFOSAA	8.492	589.2 -> 419.0	25838	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	124328	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	168469	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	12963	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	13011	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	17123	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	71259	5.00	µg/L	0.000
18O2-PFHxS	7.341	403.0 -> 83.9	10286	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	96054	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	33880	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	51905	1.25	µg/L	-0.012
13C2-PFHxA	5.669	315.1 -> 270.0	56896	2.50	µg/L	0.000
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	3151	5.13	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.6%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4737	5.34	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.8%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3949	4.55	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.9%		
13C2-PFDoDA	9.135	615.1 -> 570.0	28895	1.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.0%		
13C2-PFTeDA	9.839	715.2 -> 670.0	16143	1.23	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.1%		
13C3-PFBS	5.599	302.1 -> 79.9	22181	2.54	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%		
13C3-PFHxS	7.342	402.1 -> 79.9	13936	2.47	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 = 98.6%	
13C4-PFBA	2.997	216.8 -> 171.9	168479	10.01 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C4-PFHpA	6.596	367.1 -> 322.0	58270	2.54 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C5-PFHxA	5.668	318.0 -> 273.0	58793	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C5-PFPeA	4.447	268.3 -> 223.0	54106	5.05 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C6-PFDA	8.238	519.1 -> 474.1	22955	1.20 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.0%	
13C7-PFUnDA	8.705	570.0 -> 525.1	32118	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C8-FOSA	9.650	506.1 -> 77.8	32740	2.53 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C8-PFOA	7.226	421.1 -> 376.0	92779	2.62 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.6%	
13C8-PFOS	8.401	507.1 -> 79.9	13439	2.68 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.2%	
13C9-PFNA	7.758	472.1 -> 427.0	42520	1.26 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.0%	
d3-MeFOSAA	8.284	573.2 -> 419.0	31383	5.06 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C3-HFPO-DA	6.033	286.9 -> 168.9	37608	10.21 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.1%	
d3-MeFOSA	10.763	515.0 -> 219.0	13011	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%	
d5-EtFOSAA	8.492	589.2 -> 419.0	25838	4.52 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.3%	
d7-MeFOSE	10.672	623.2 -> 58.9	124328	26.86 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 107.5%	
d9-EtFOSE	10.918	639.2 -> 58.9	168469	27.28 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 109.1%	
d5-EtFOSA	10.983	531.1 -> 219.0	12963	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.3%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	38761	9.51 µg/L	98
		327.1 -> 80.9	15523		
6:2FTS	7.002	427.1 -> 407.0	39022	9.21 µg/L	96
		427.1 -> 80.9	13896		
8:2FTS	8.027	527.1 -> 507.0	23177	10.97 µg/L	99
		527.1 -> 80.8	8669		
EtFOSAA	8.493	584.2 -> 419.1	8752	2.69 µg/L	92
		584.2 -> 526.0	4423		
FOSA	9.652	498.1 -> 77.9	25515	2.48 µg/L	100
		498.1 -> 478.0	843		
MeFOSAA	8.285	570.1 -> 419.0	14748	2.46 µg/L	96
		570.1 -> 483.0	2995		
PFBA	3.006	212.8 -> 168.9	52575	9.99 µg/L	100
PFBS	5.600	298.7 -> 79.9	16494	2.28 µg/L	99
		298.7 -> 98.8	6246		
PFDA	8.239	512.9 -> 469.0	68522	2.52 µg/L	98
		512.9 -> 219.0	10506		
PFDoDA	9.136	613.1 -> 569.0	45544	2.41 µg/L	99
		613.1 -> 319.0	7123		
PFDS	9.287	599.0 -> 79.9	7496	2.32 µg/L	98

Perfluorinated Compounds by LC/MS/MS

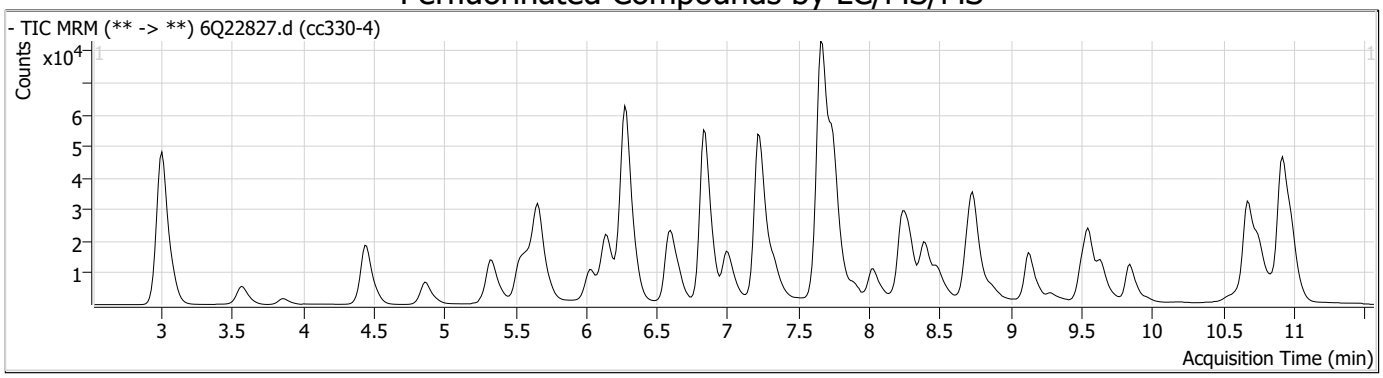
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3640				
PFHpA	6.596	363.1 -> 319.0	58321	2.54	µg/L		97
		363.1 -> 169.0	9058				
PFHpS	7.897	449.0 -> 79.9	14479	2.36	µg/L		95
		449.0 -> 98.9	7247				
PFHxA	5.670	313.0 -> 269.0	45119	2.62	µg/L		100
		313.0 -> 118.9	2418				
PFHxS	7.343	398.7 -> 79.9	14553	2.37	µg/L	m	99
		398.7 -> 98.9	6953				
PFNA	7.758	463.0 -> 419.0	70698	2.42	µg/L		99
		463.0 -> 219.0	13601				
PFNS	8.880	548.8 -> 79.9	13138	2.37	µg/L		95
		548.8 -> 98.9	6509				
PFOA	7.228	413.0 -> 369.0	89466	2.36	µg/L		97
		413.0 -> 169.0	15734				
PFOS	8.403	498.9 -> 79.9	13847	2.40	µg/L	m	92
		498.9 -> 98.8	6558				
PFPeA	4.449	263.0 -> 219.0	60500	5.08	µg/L		100
PFPeS	6.660	349.1 -> 79.9	14249	2.50	µg/L		98
		349.1 -> 98.9	6267				
PFTeDA	9.839	713.1 -> 669.0	39049	2.49	µg/L		100
		713.1 -> 168.9	3332				
PFTrDA	9.507	663.0 -> 619.0	48861	2.50	µg/L		97
		663.0 -> 168.9	5383				
PFUnDA	8.705	563.1 -> 519.0	47172	2.55	µg/L		99
		563.1 -> 269.1	7445				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	66785	4.98	µg/L		92
		632.9 -> 452.9	19964				
9Cl-PF3ONS	8.745	530.8 -> 351.0	101819	4.69	µg/L		98
		532.8 -> 353.0	33740				
ADONA	6.846	376.9 -> 250.9	238227	4.97	µg/L		100
		376.9 -> 84.8	63626				
HFPO-DA	6.034	284.9 -> 168.9	15443	4.83	µg/L		98
		284.9 -> 184.9	1731				
3:3FTCA	3.859	241.0 -> 177.0	10145	12.19	µg/L		99
		241.0 -> 117.0	1316				
5:3FTCA	6.285	341.0 -> 237.1	212677	60.13	µg/L		96
		341.0 -> 217.0	158093				
7:3FTCA	7.673	441.0 -> 316.9	158861	60.72	µg/L		93
		441.0 -> 336.9	343641				
EtFOSA	10.985	526.0 -> 219.0	29210	5.12	µg/L		99
		526.0 -> 169.0	39015				
EtFOSE	10.931	630.0 -> 58.9	87704	12.85	µg/L		100
MeFOSA	10.752	511.9 -> 219.0	24944	5.17	µg/L		94
		511.9 -> 169.0	34238				
MeFOSE	10.685	616.1 -> 58.9	58715	12.63	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	3816	2.54	µg/L		93
		699.1 -> 98.8	1923				
NFDHA	5.538	295.0 -> 201.0	10883	4.98	µg/L		96
		295.0 -> 84.9	2884				
PFMBA	4.857	279.0 -> 85.1	43272	5.13	µg/L		100
PFMPA	3.563	229.0 -> 84.9	34233	5.07	µg/L		100
PFEESA	6.151	314.8 -> 134.9	107113	4.64	µg/L		100
		314.8 -> 82.9	3684				

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

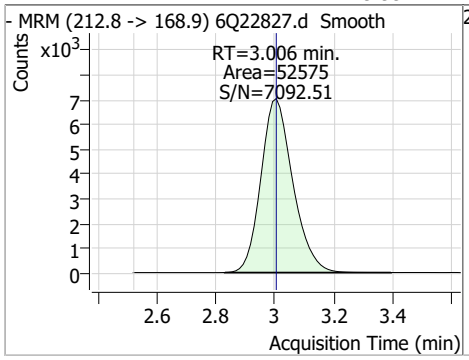
Perfluorinated Compounds by LC/MS/MS

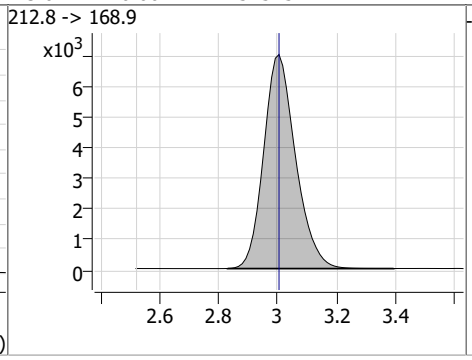
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

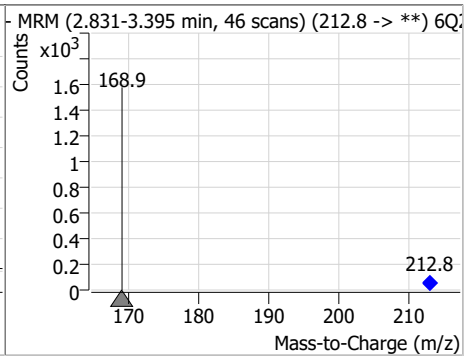
Perfluorinated Compounds by LC/MS/MS



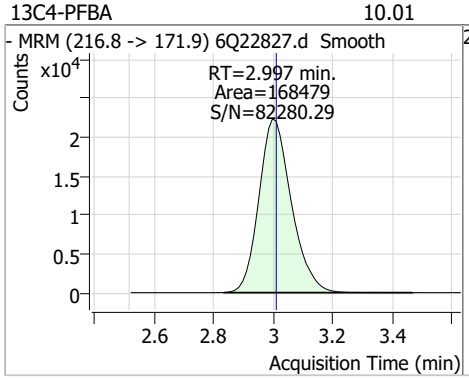
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.99	3.01	0.00	52575				

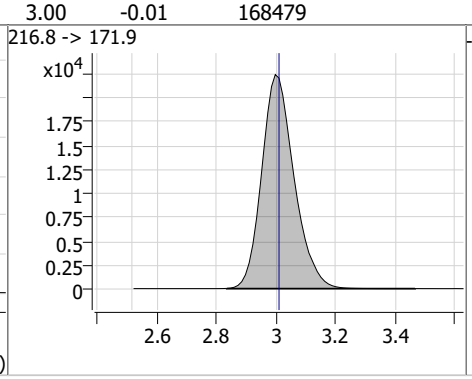


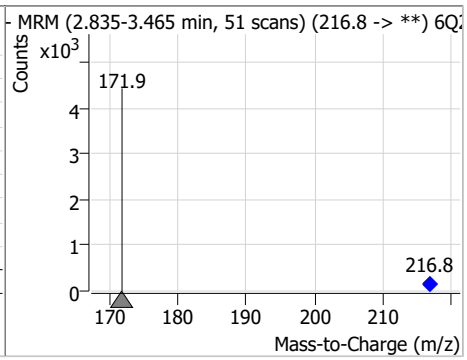




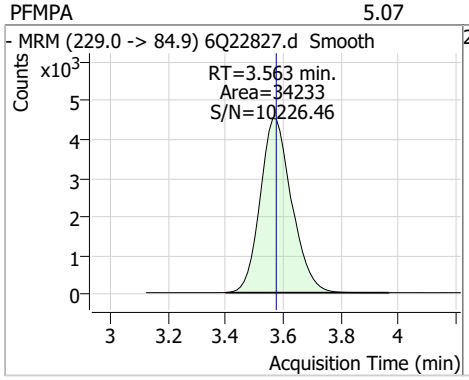
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.01	3.00	-0.01	168479				

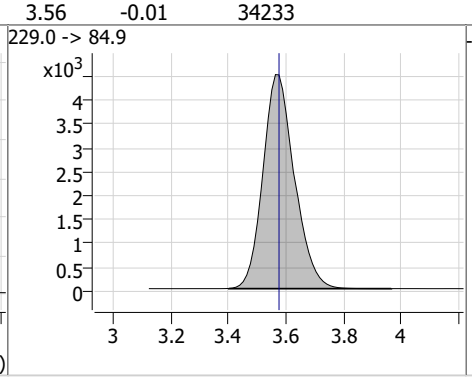


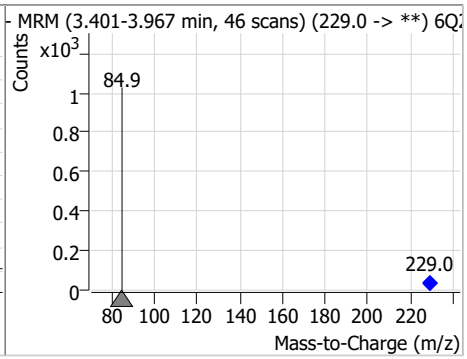




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	5.07	3.56	-0.01	34233				

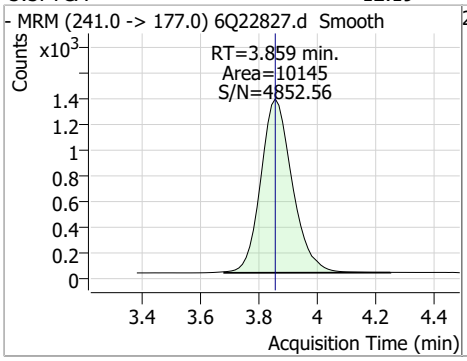


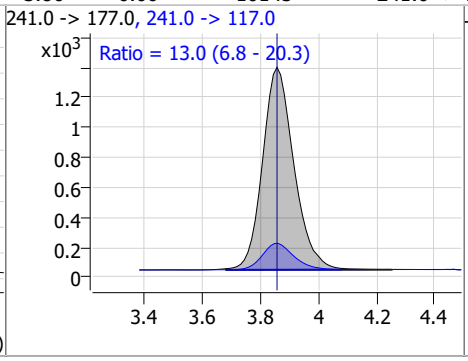


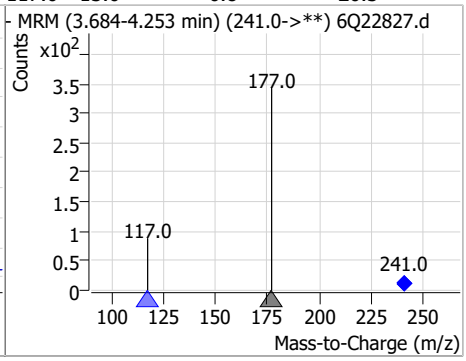


Perfluorinated Compounds by LC/MS/MS

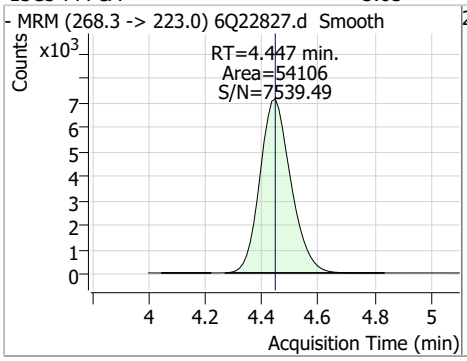
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.19	3.86	0.00	10145	241.0 -> 117.0	13.0	6.8	20.3

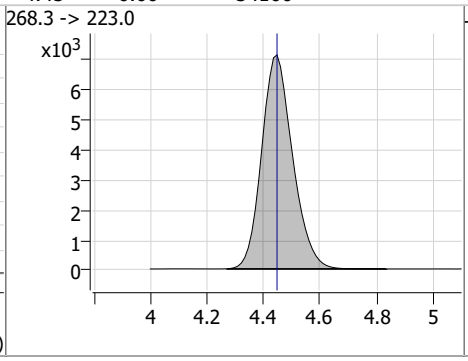


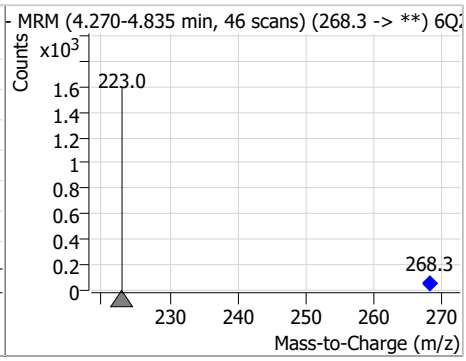




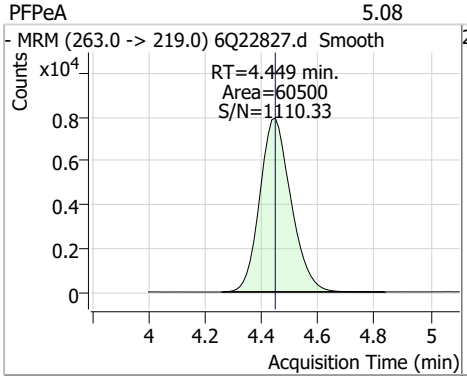
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.05	4.45	0.00	54106				

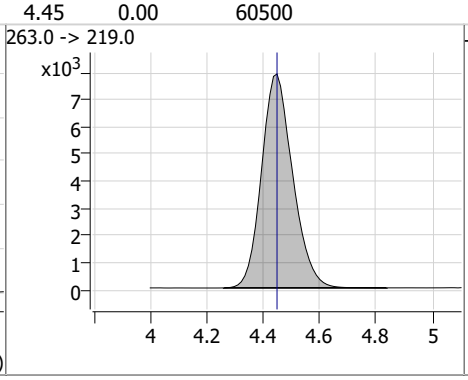


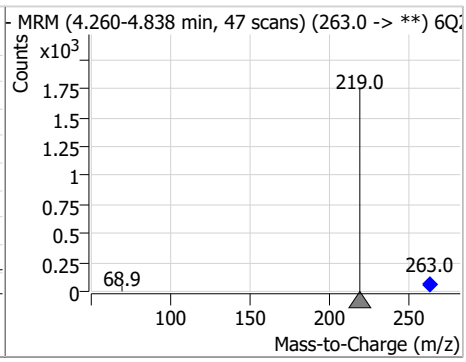




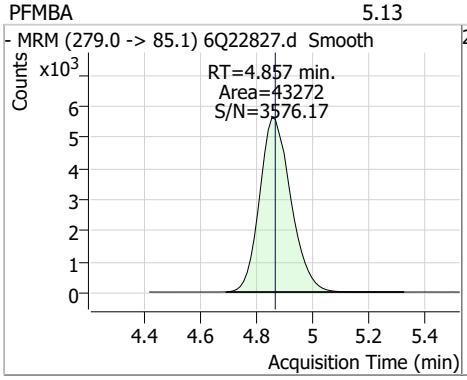
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	5.08	4.45	0.00	60500				

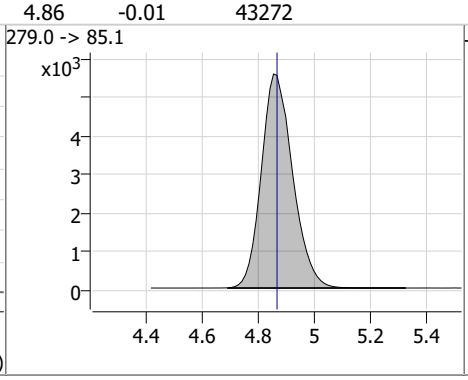


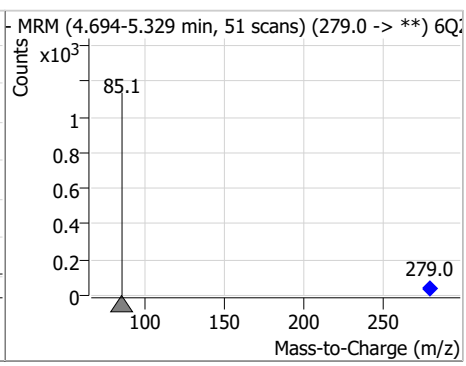




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.13	4.86	-0.01	43272				

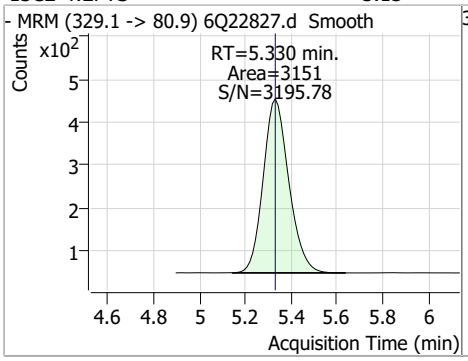


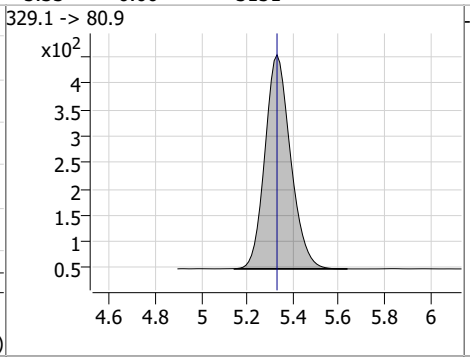


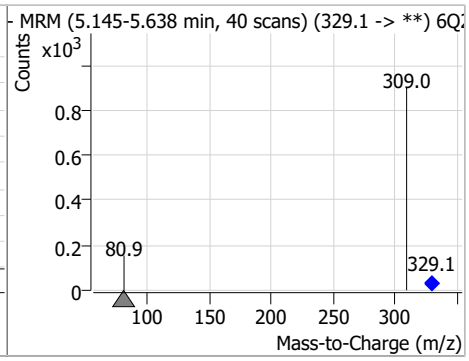


Perfluorinated Compounds by LC/MS/MS

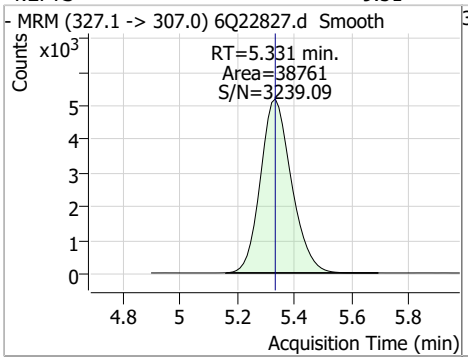
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.13	5.33	0.00	3151				

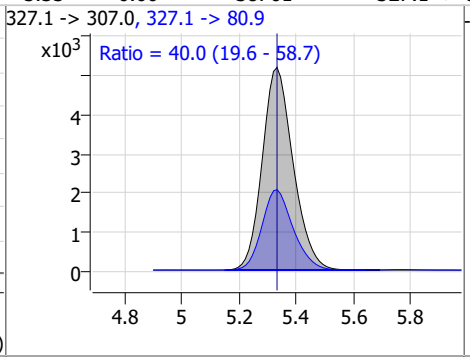


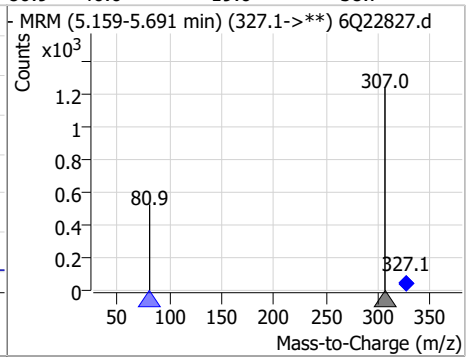




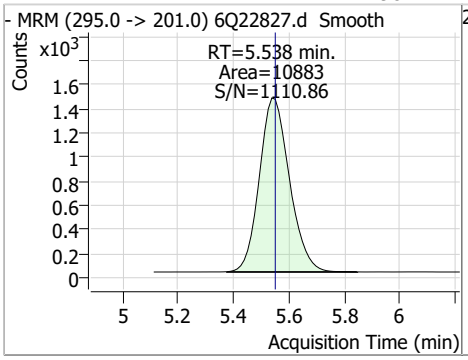
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.51	5.33	0.00	38761	327.1 -> 80.9	40.0	19.6	58.7

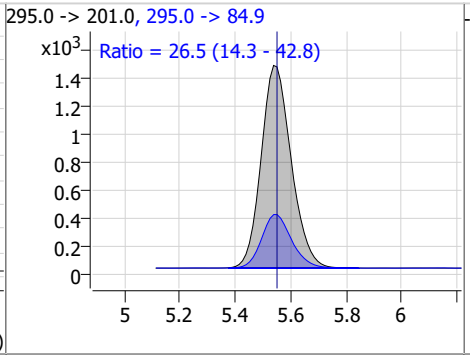


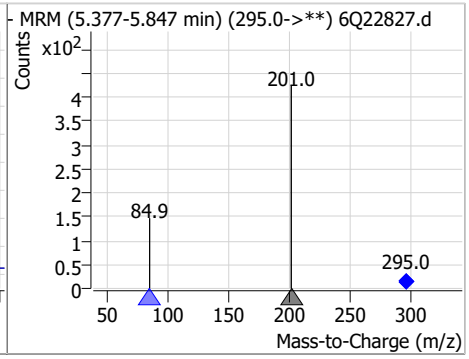




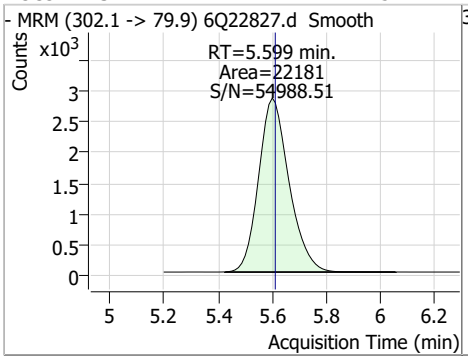
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	4.98	5.54	-0.01	10883	295.0 -> 84.9	26.5	14.3	42.8

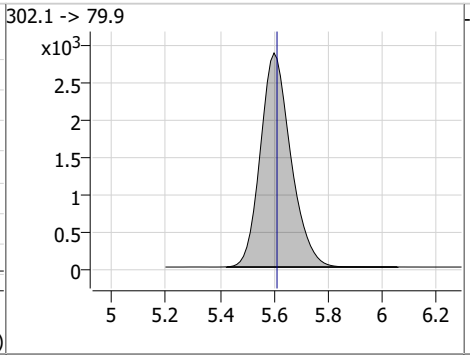


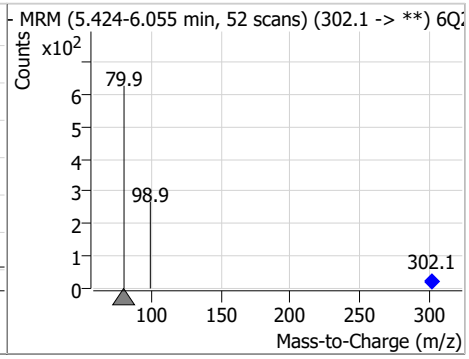




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.54	5.60	-0.01	22181				

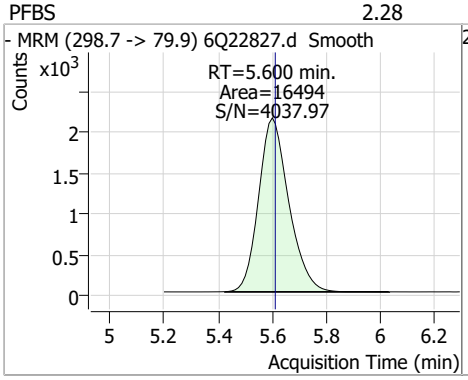


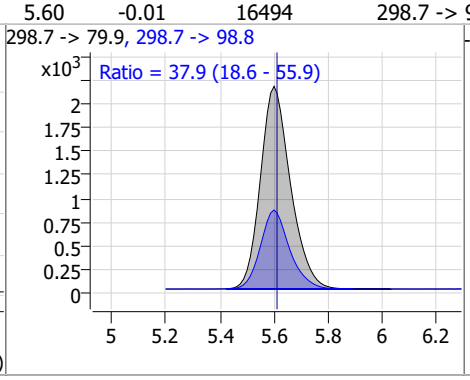


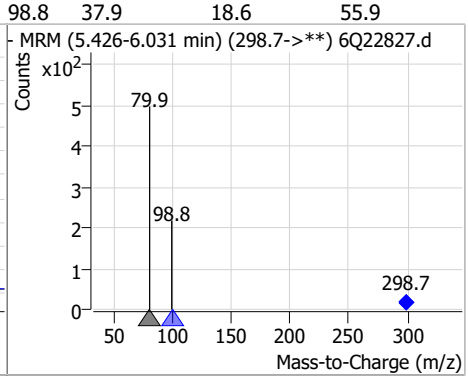


Perfluorinated Compounds by LC/MS/MS

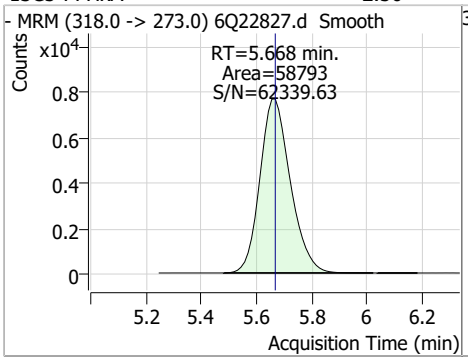
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.28	5.60	-0.01	16494	298.7 -> 98.8	37.9	18.6	55.9

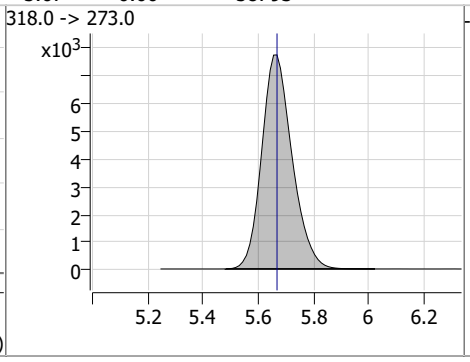


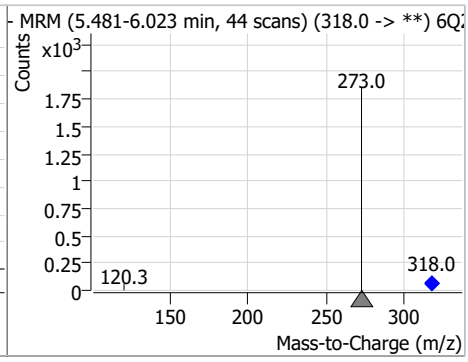




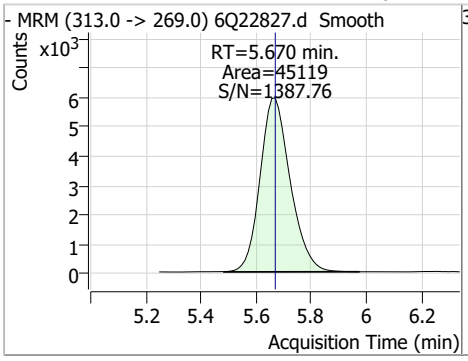
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.50	5.67	0.00	58793				

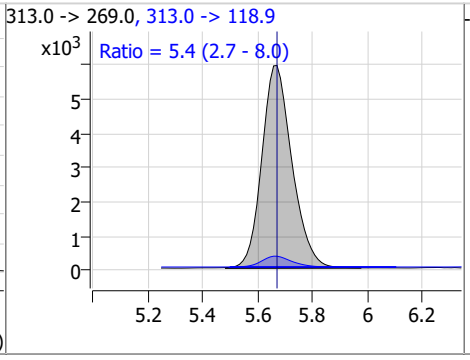


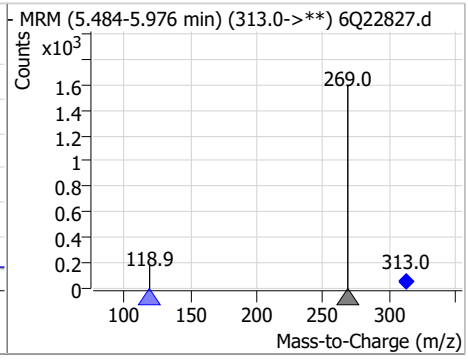




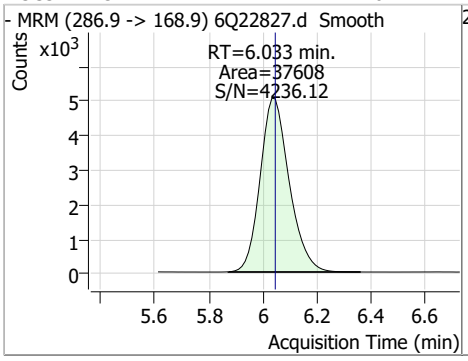
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.62	5.67	0.00	45119	313.0 -> 118.9	5.4	2.7	8.0

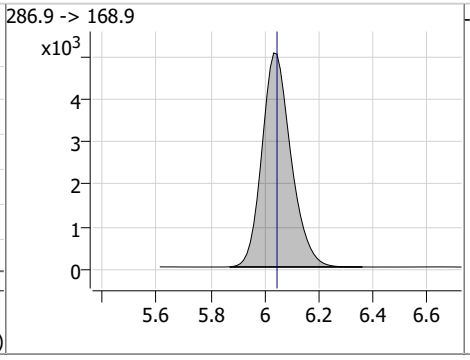


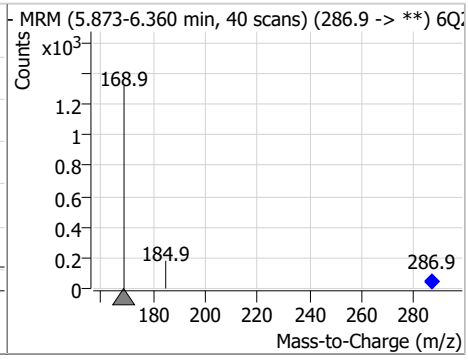




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.21	6.03	-0.01	37608				

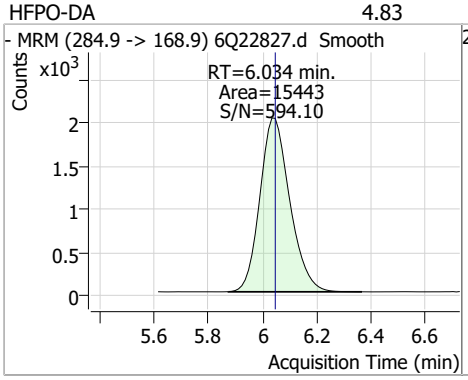


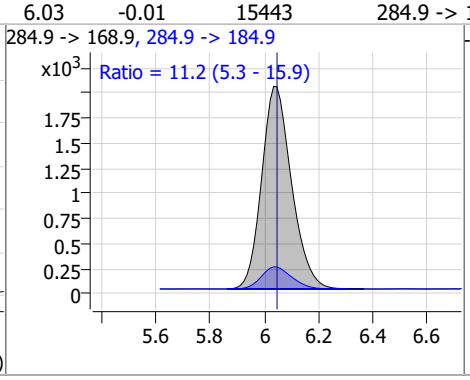


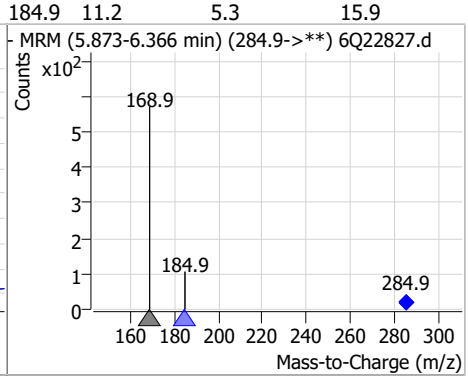


Perfluorinated Compounds by LC/MS/MS

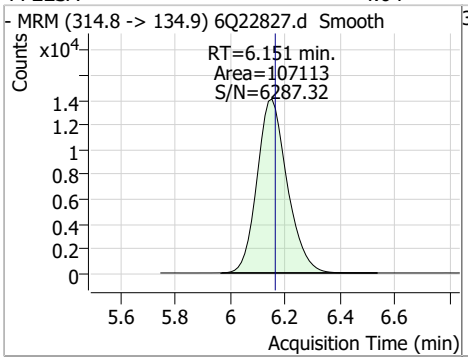
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.83	6.03	-0.01	15443	284.9 -> 184.9	11.2	5.3	15.9

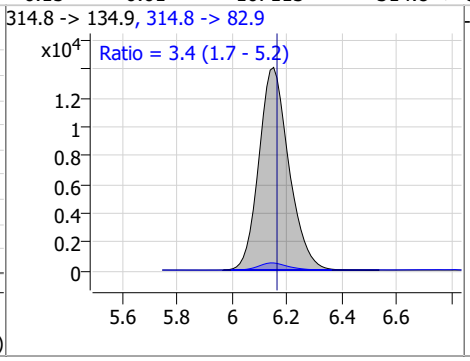


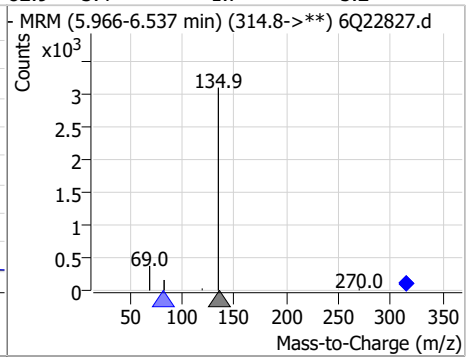




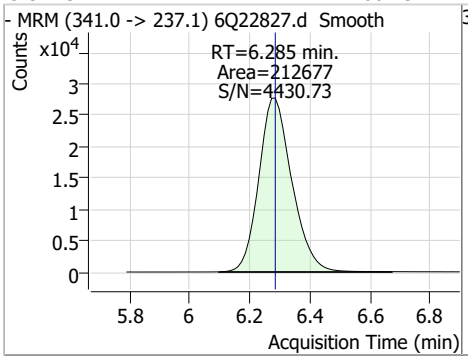
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.64	6.15	-0.01	107113	314.8 -> 82.9	3.4	1.7	5.2

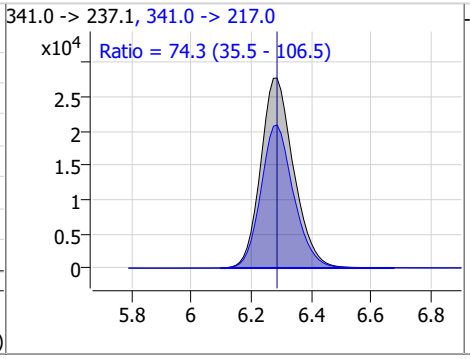


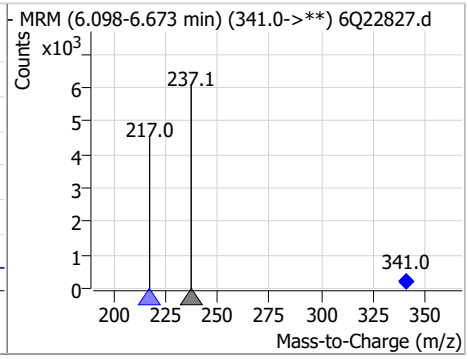




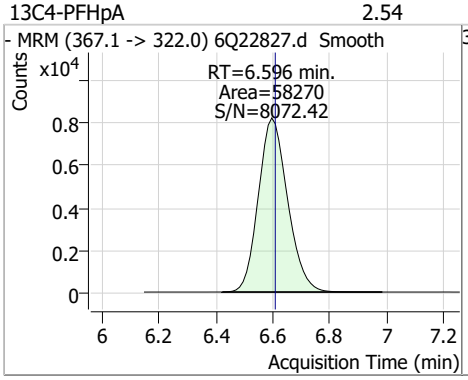
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	60.13	6.28	0.00	212677	341.0 -> 217.0	74.3	35.5	106.5

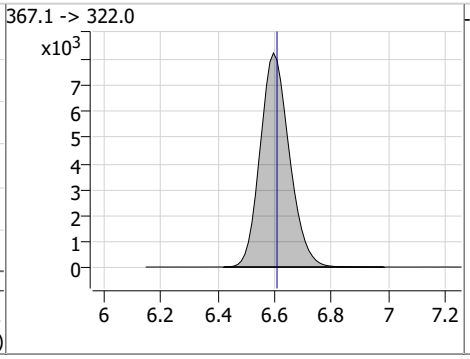


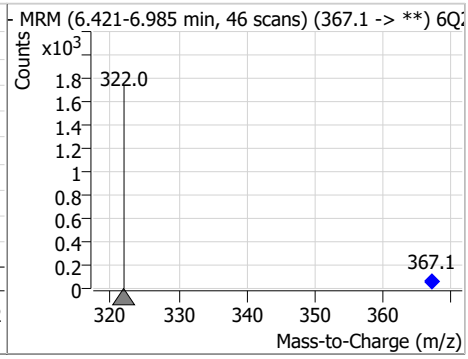




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.54	6.60	-0.01	58270				

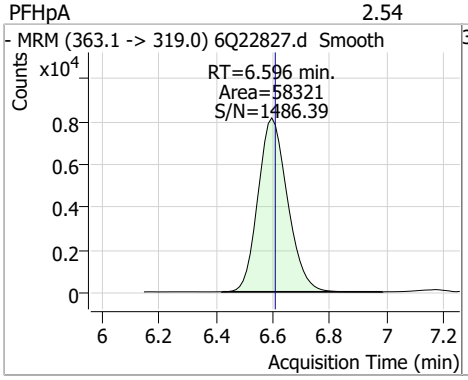


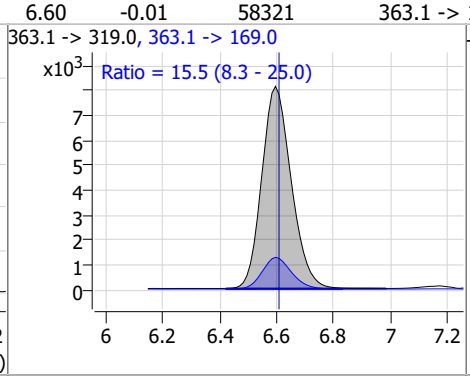


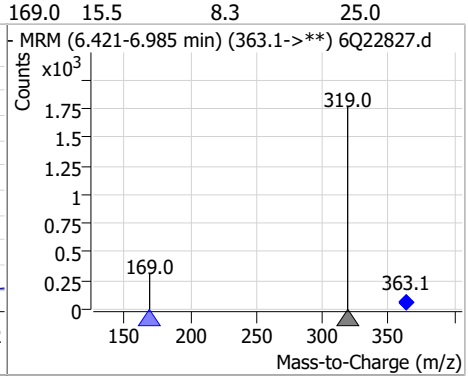


Perfluorinated Compounds by LC/MS/MS

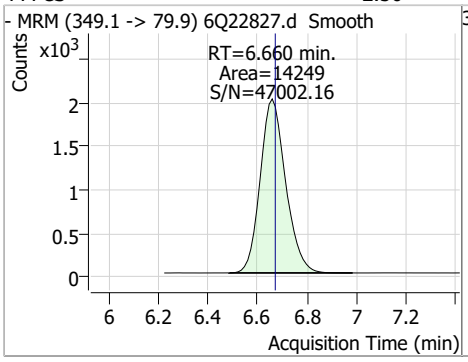
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.54	6.60	-0.01	58321	363.1 -> 169.0	15.5	8.3	25.0

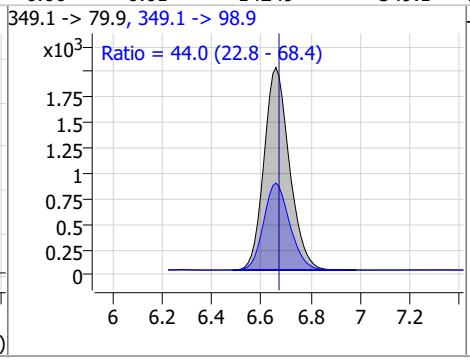


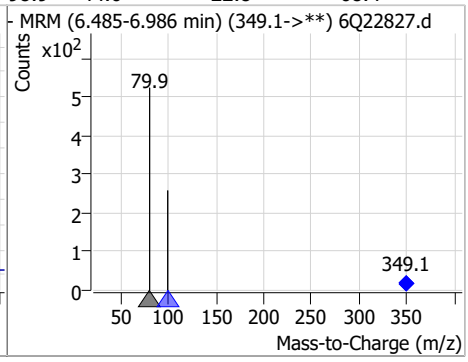




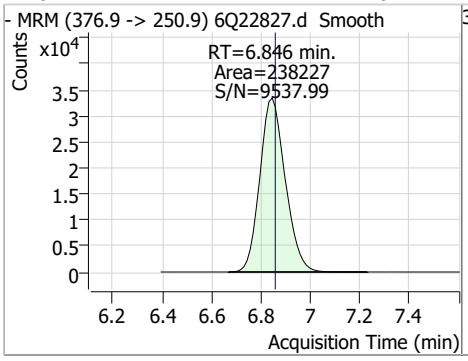
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.50	6.66	-0.01	14249	349.1 -> 98.9	44.0	22.8	68.4

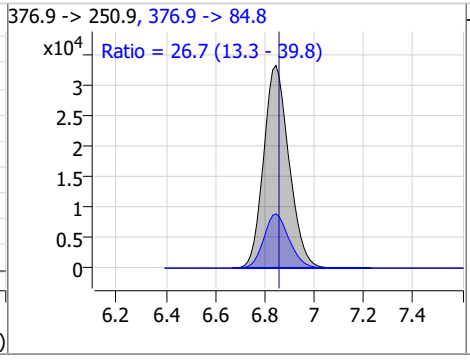


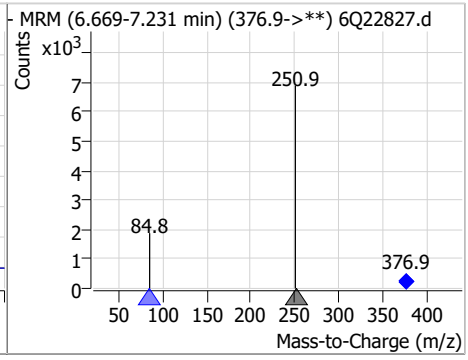




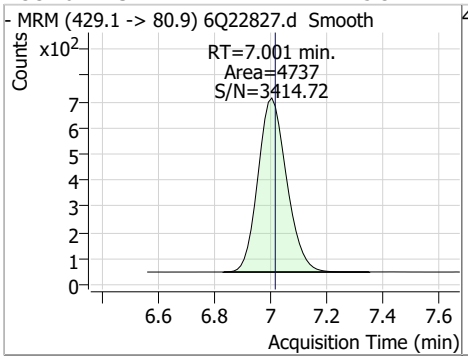
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.97	6.85	-0.01	238227	376.9 -> 84.8	26.7	13.3	39.8

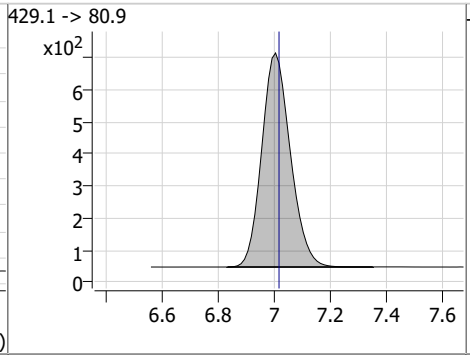


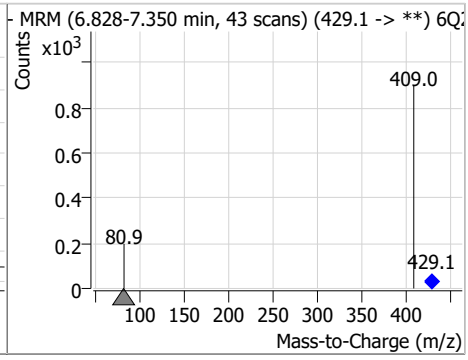




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.34	7.00	-0.01	4737				

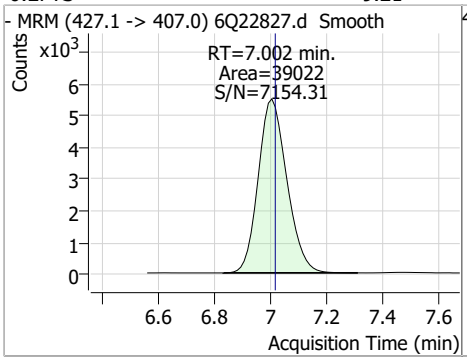


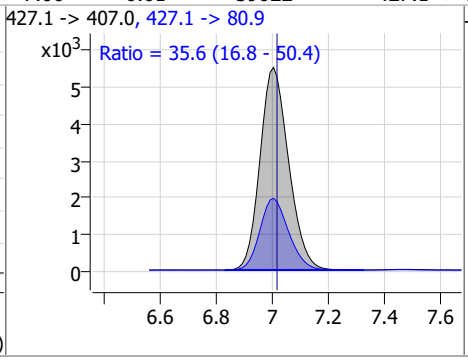


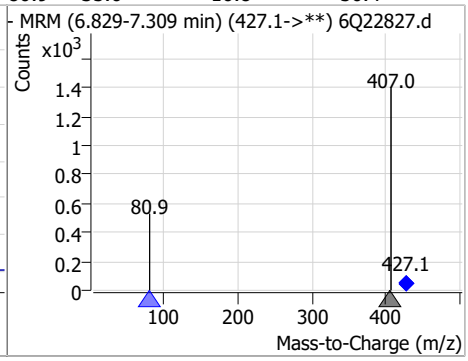


Perfluorinated Compounds by LC/MS/MS

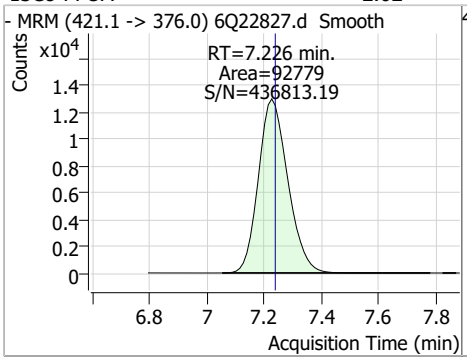
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.21	7.00	-0.01	39022	427.1 -> 80.9	35.6	16.8	50.4

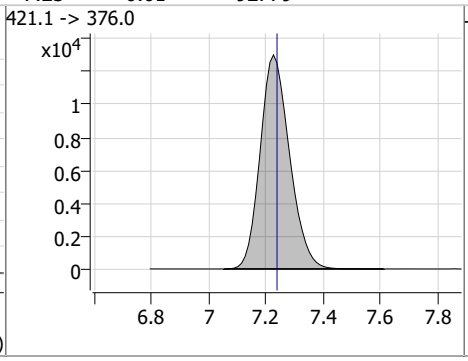


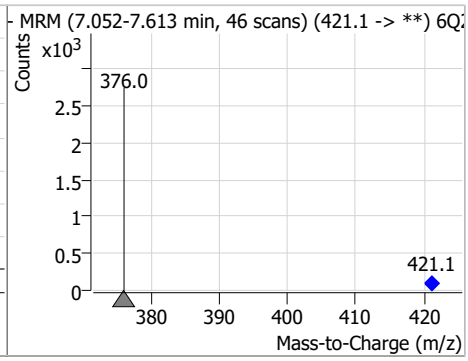




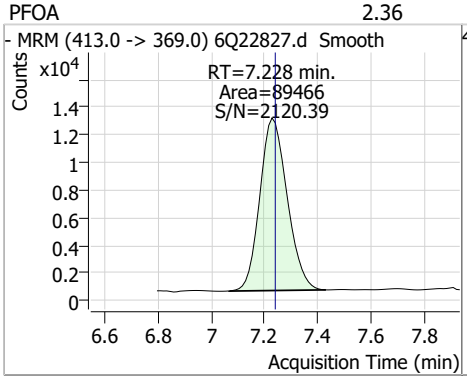
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.62	7.23	-0.01	92779				

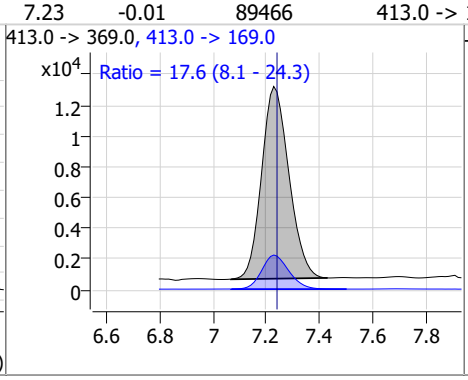


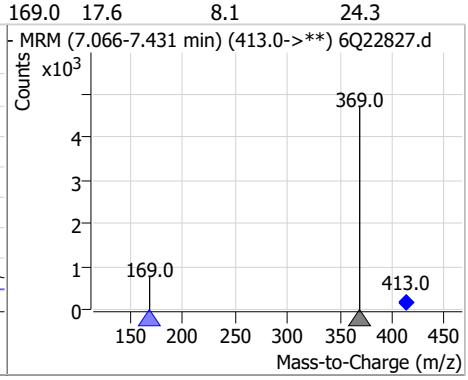




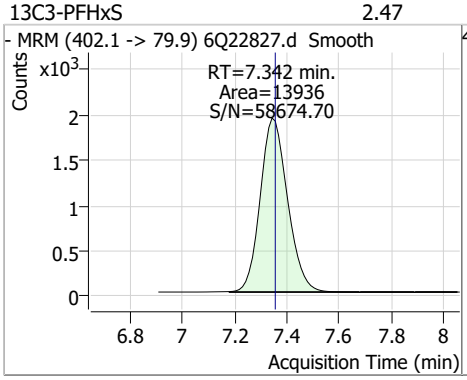
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.36	7.23	-0.01	89466	413.0 -> 169.0	17.6	8.1	24.3

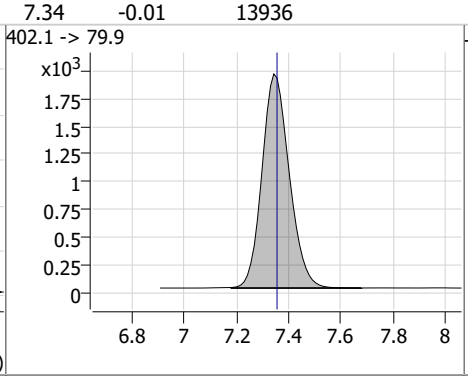


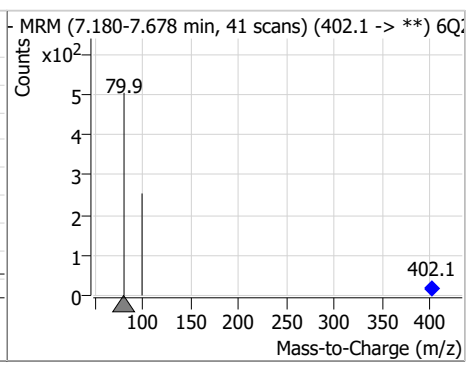




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.47	7.34	-0.01	13936				

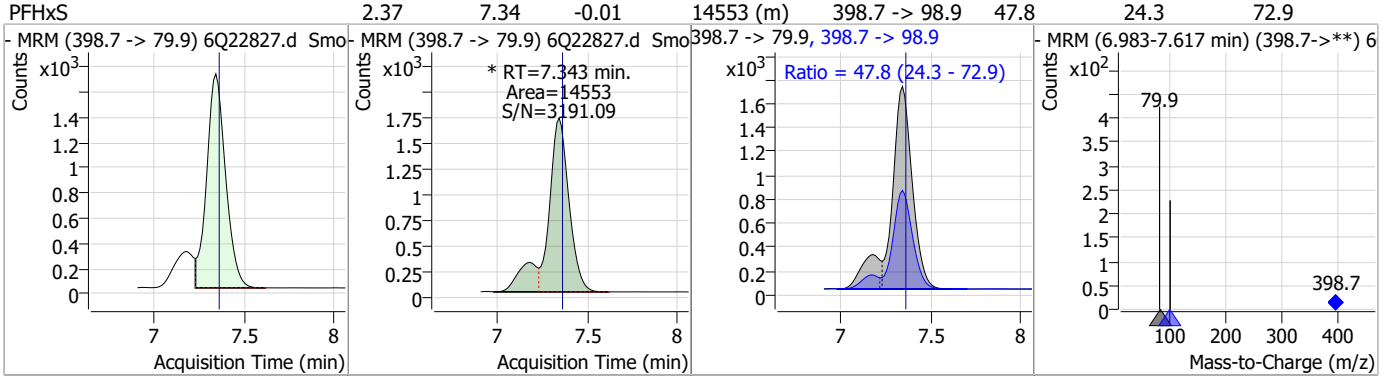




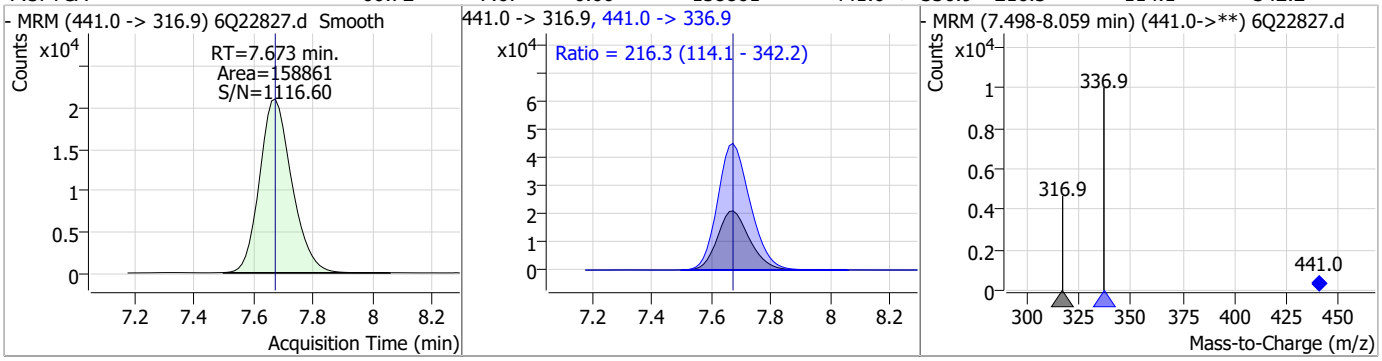


Perfluorinated Compounds by LC/MS/MS

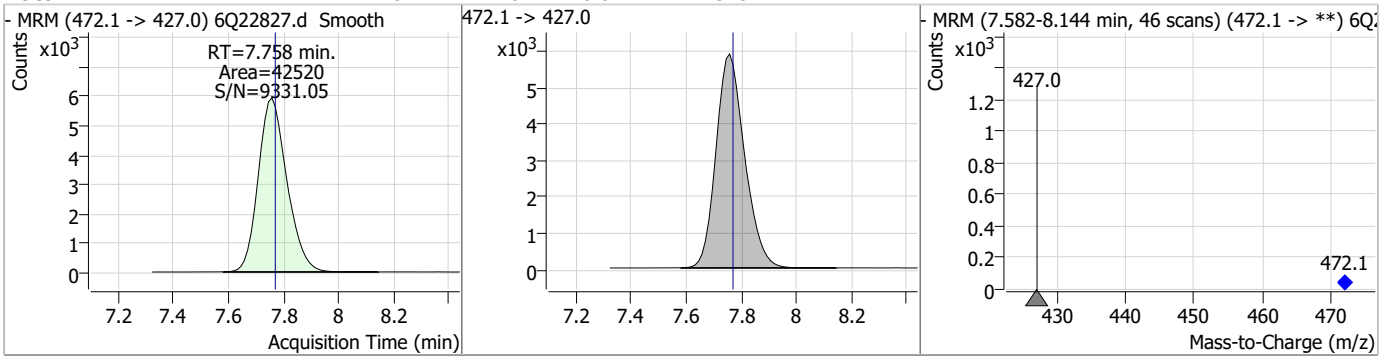
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.37	7.34	-0.01	14553 (m)	398.7 -> 98.9	47.8	24.3	72.9



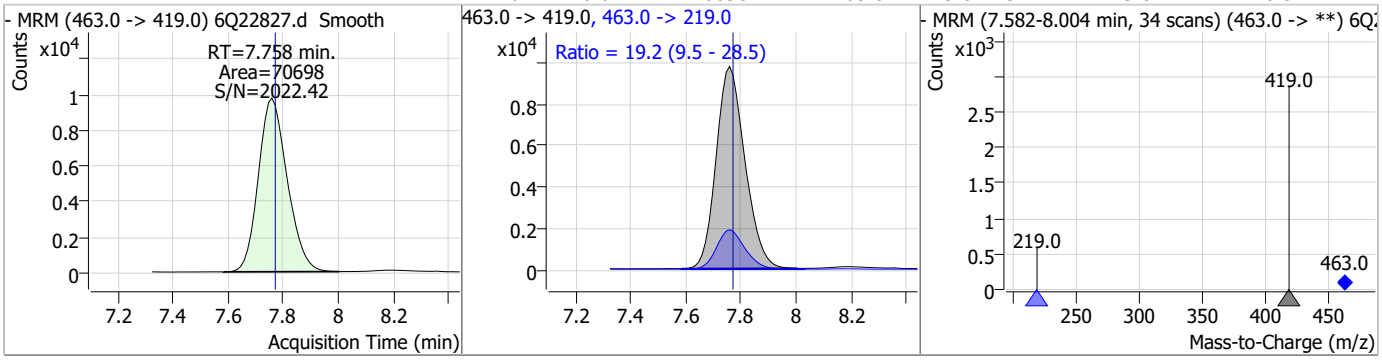
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	60.72	7.67	0.00	158861	441.0 -> 336.9	216.3	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.26	7.76	-0.01	42520				

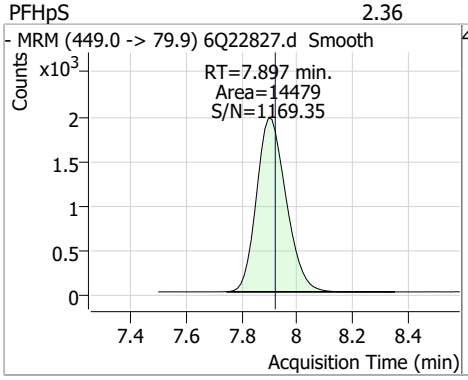


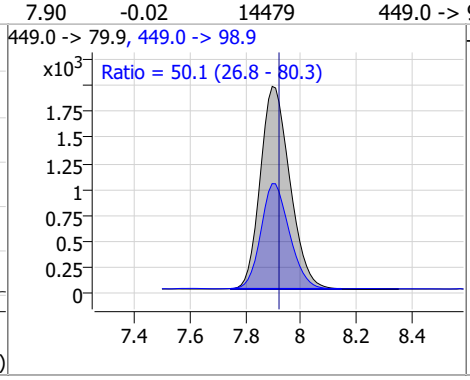
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.42	7.76	-0.01	70698	463.0 -> 219.0	19.2	9.5	28.5

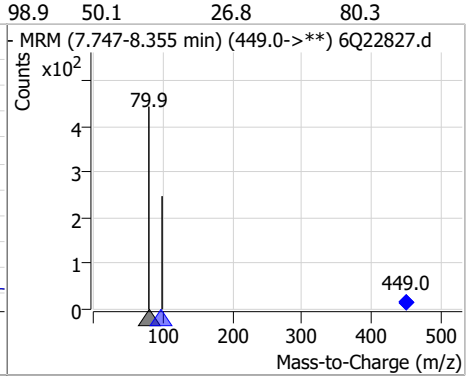


Perfluorinated Compounds by LC/MS/MS

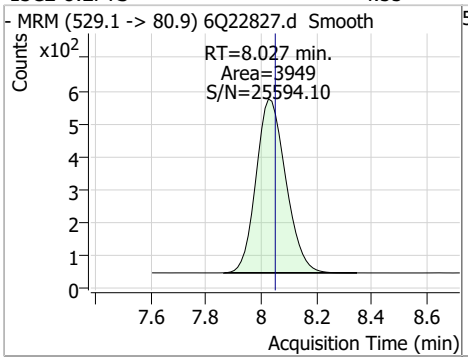
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.36	7.90	-0.02	14479	449.0 -> 98.9	50.1	26.8	80.3

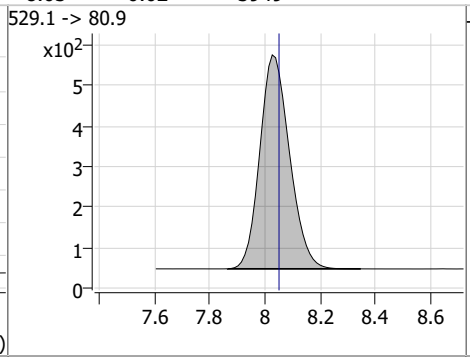


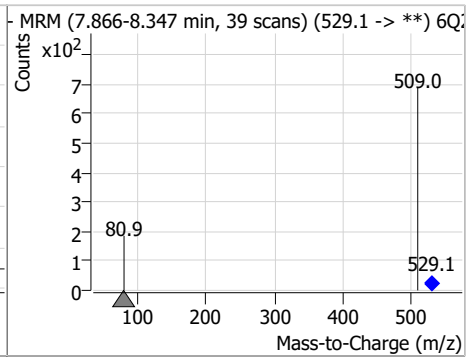




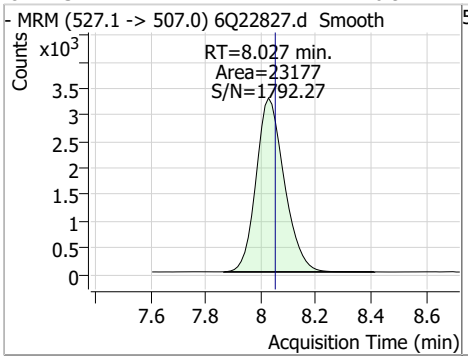
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.55	8.03	-0.02	3949				

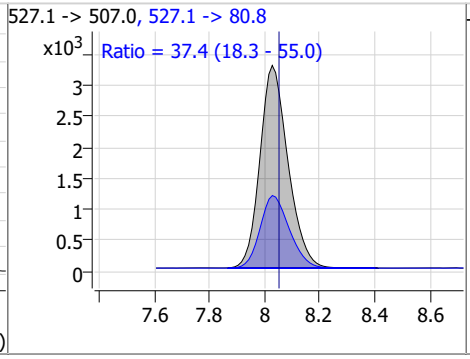


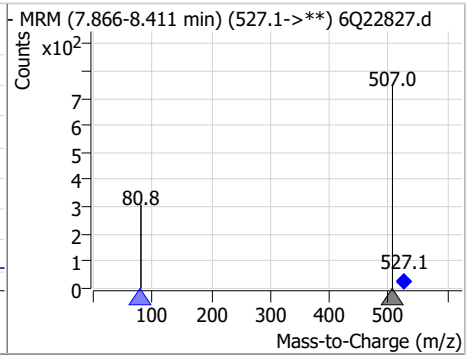




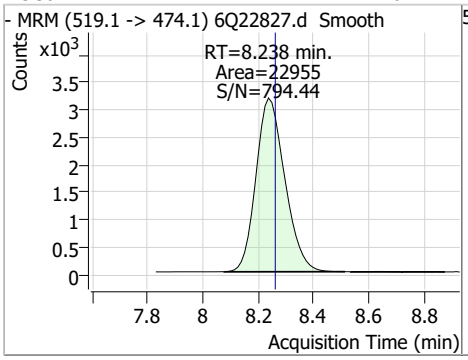
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	10.97	8.03	-0.02	23177	527.1 -> 80.8	37.4	18.3	55.0

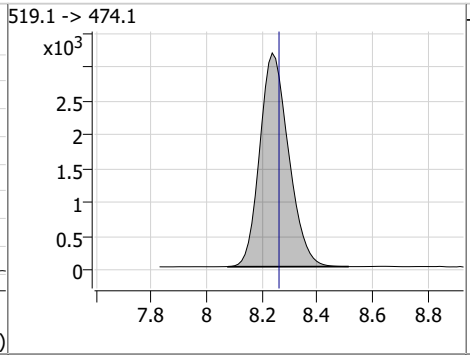


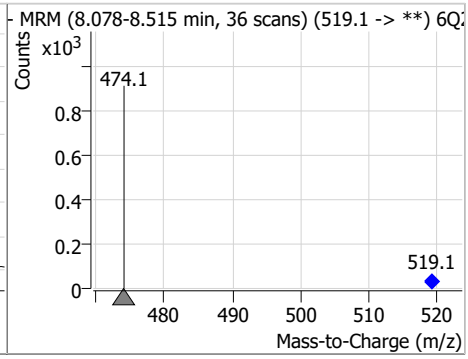




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.20	8.24	-0.02	22955				

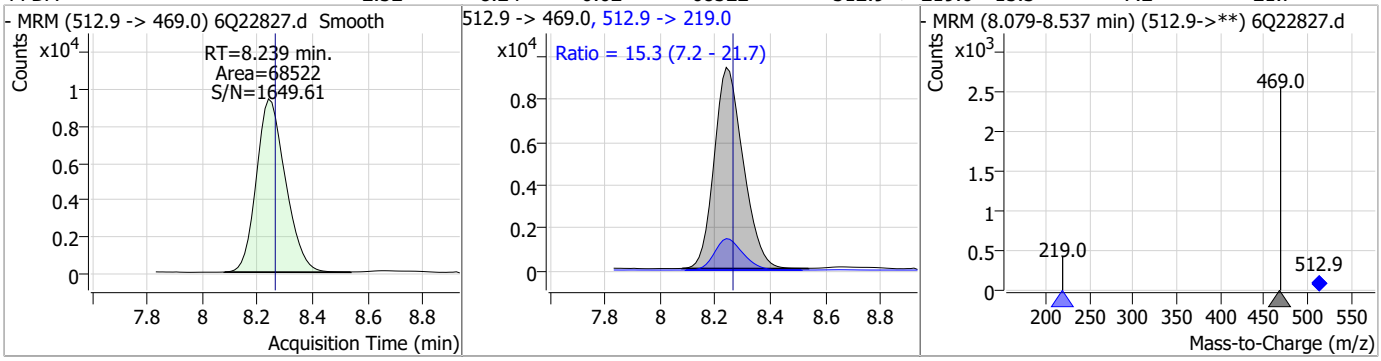




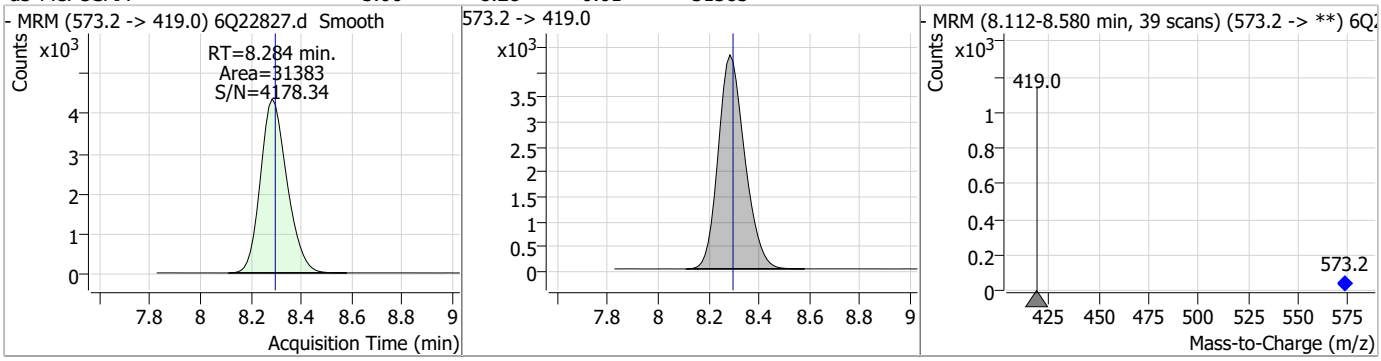


Perfluorinated Compounds by LC/MS/MS

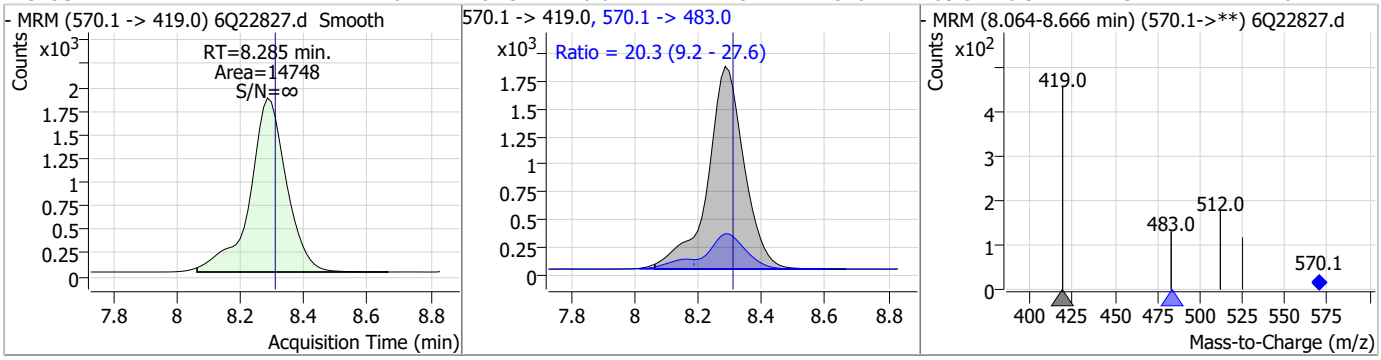
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.52	8.24	-0.02	68522	512.9 -> 219.0	15.3	7.2	21.7



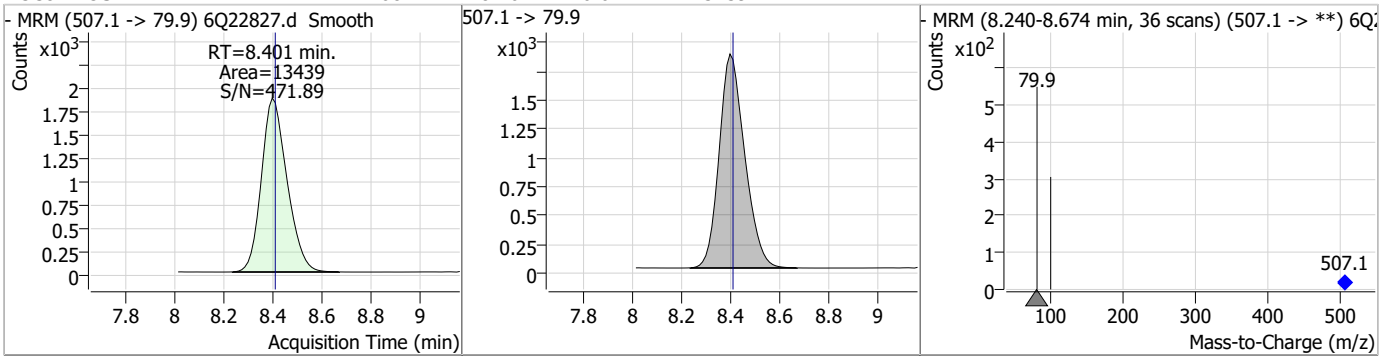
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.06	8.28	-0.01	31383				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.46	8.29	-0.02	14748	570.1 -> 483.0	20.3	9.2	27.6

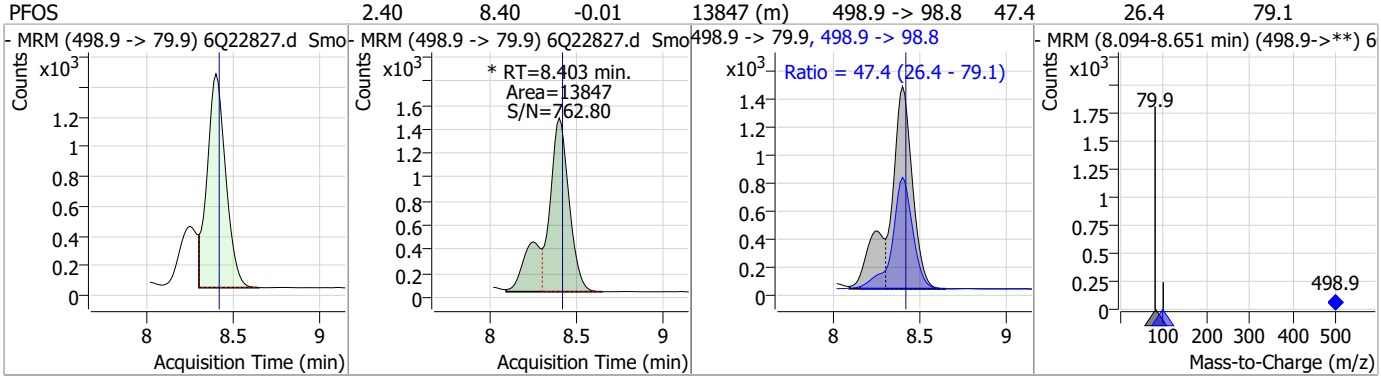


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.68	8.40	-0.01	13439				

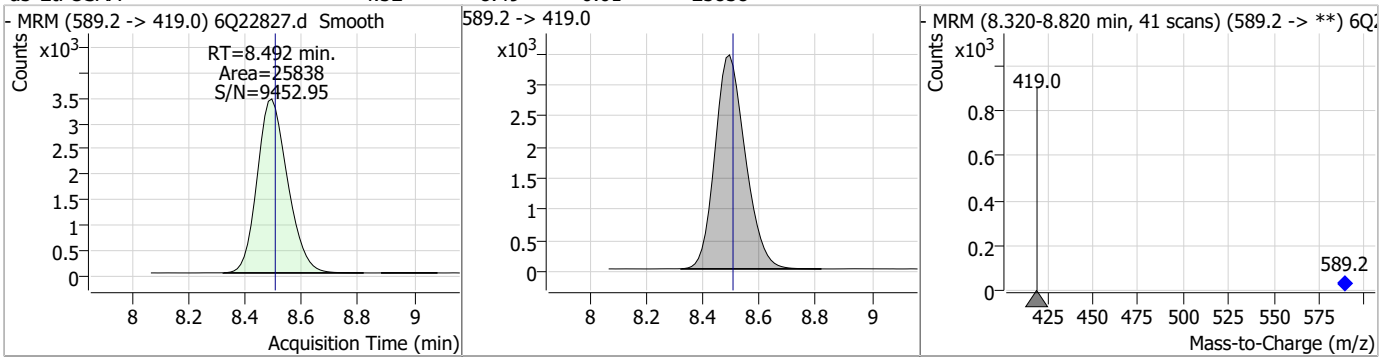


Perfluorinated Compounds by LC/MS/MS

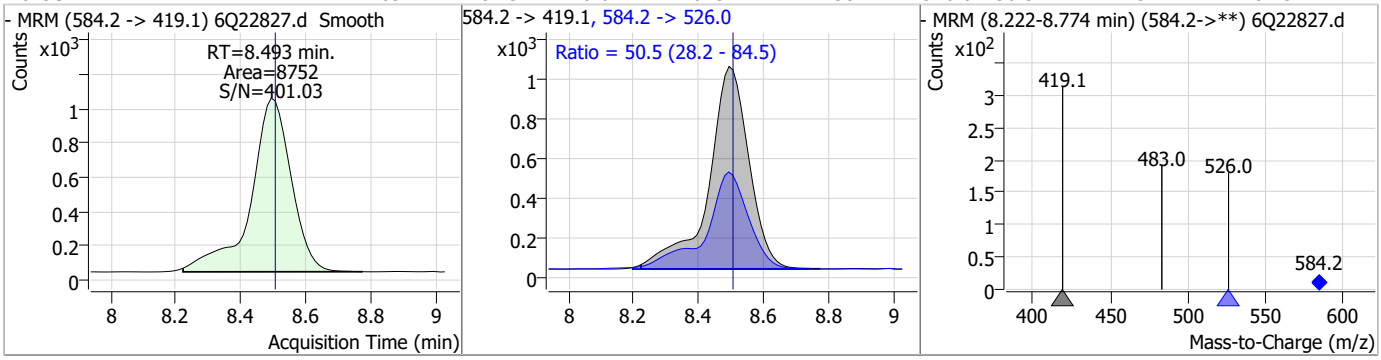
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.40	8.40	-0.01	13847 (m)	498.9 -> 98.8	47.4	26.4	79.1



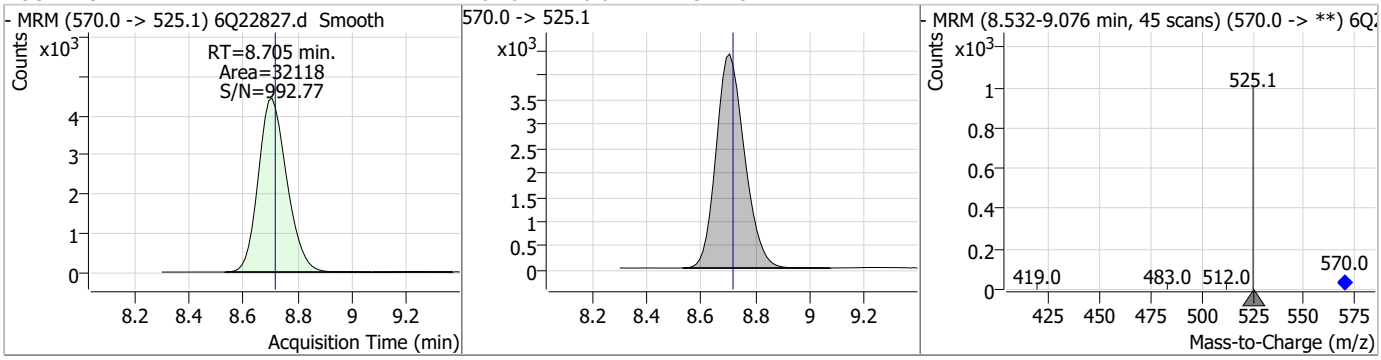
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.52	8.49	-0.01	25838				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.69	8.49	-0.01	8752	584.2 -> 526.0	50.5	28.2	84.5

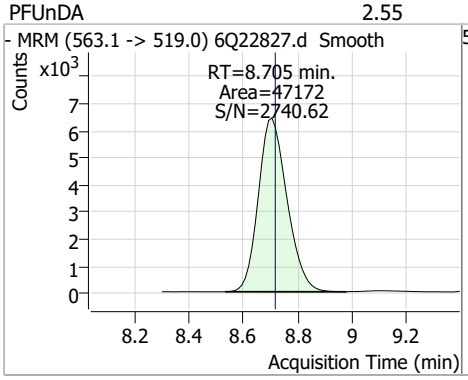


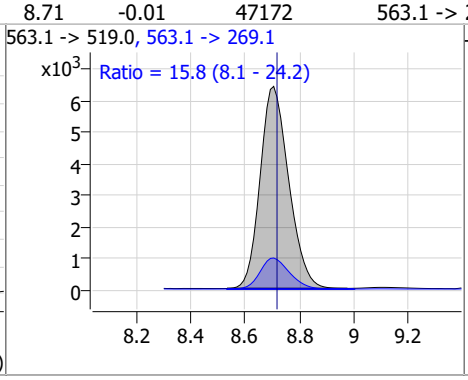
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.27	8.70	-0.01	32118				

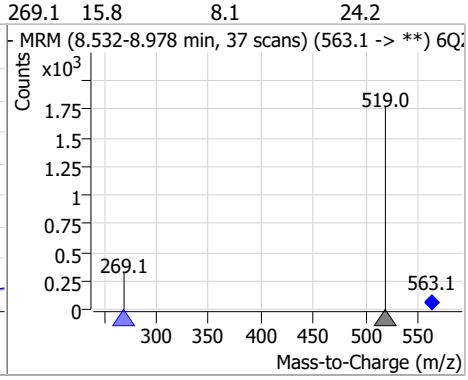


Perfluorinated Compounds by LC/MS/MS

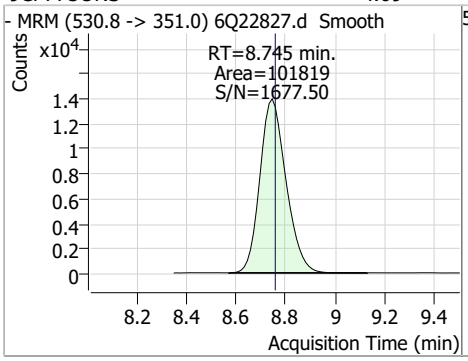
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.55	8.71	-0.01	47172	563.1 -> 269.1	15.8	8.1	24.2

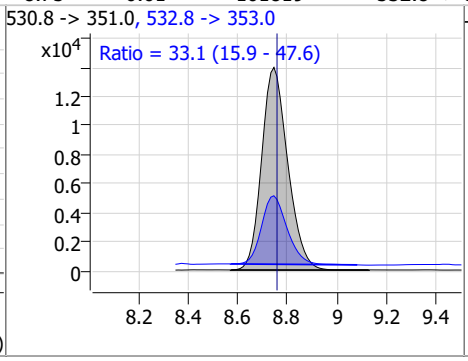


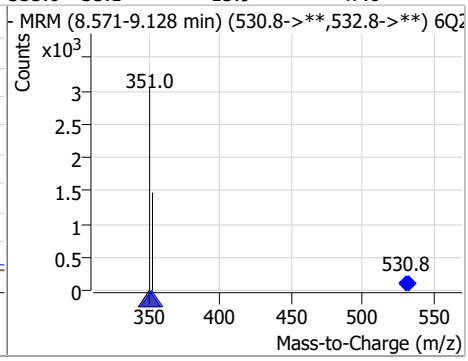




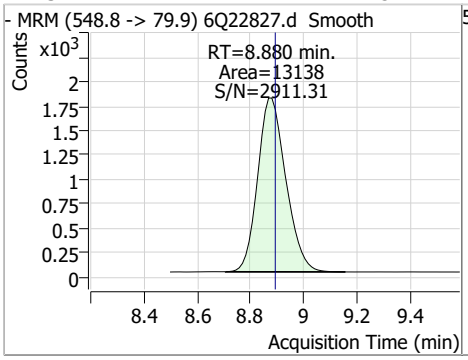
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.69	8.75	-0.01	101819	532.8 -> 353.0	33.1	15.9	47.6

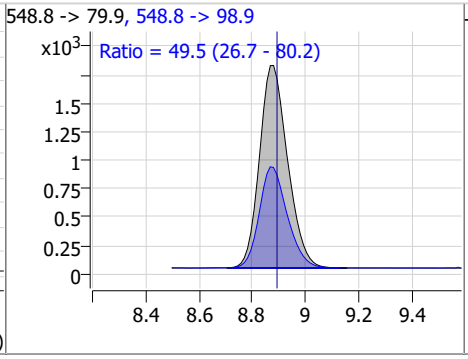


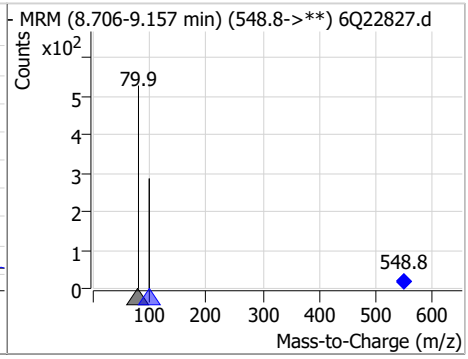




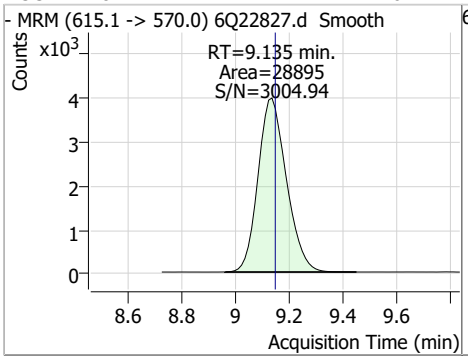
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.37	8.88	-0.01	13138	548.8 -> 98.9	49.5	26.7	80.2

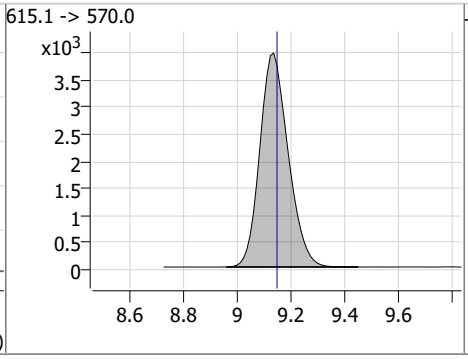


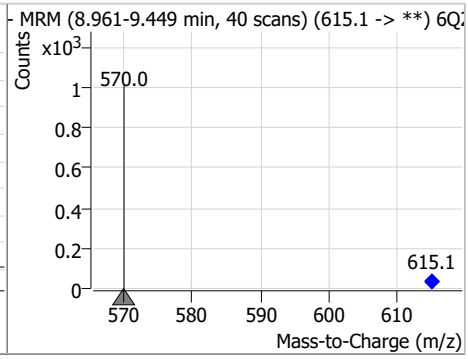




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.26	9.14	-0.01	28895				

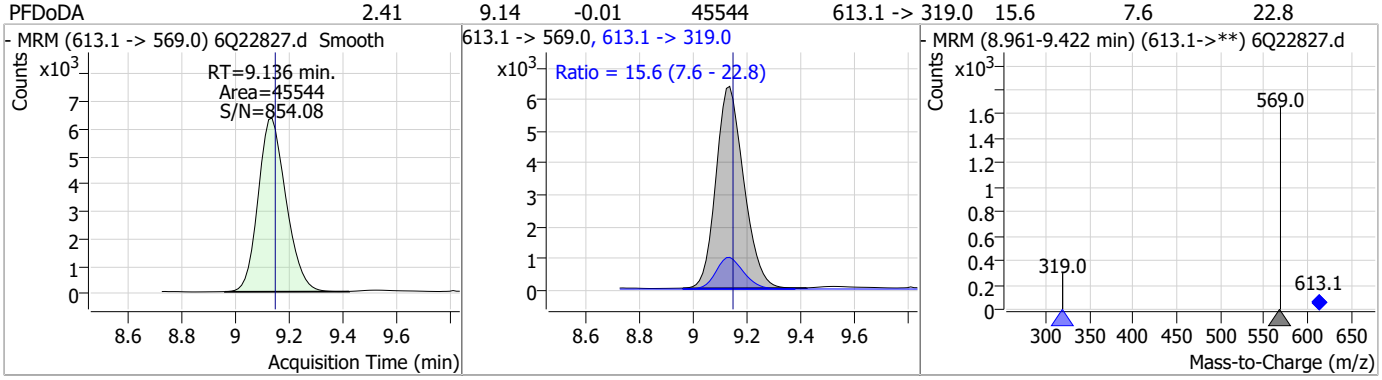




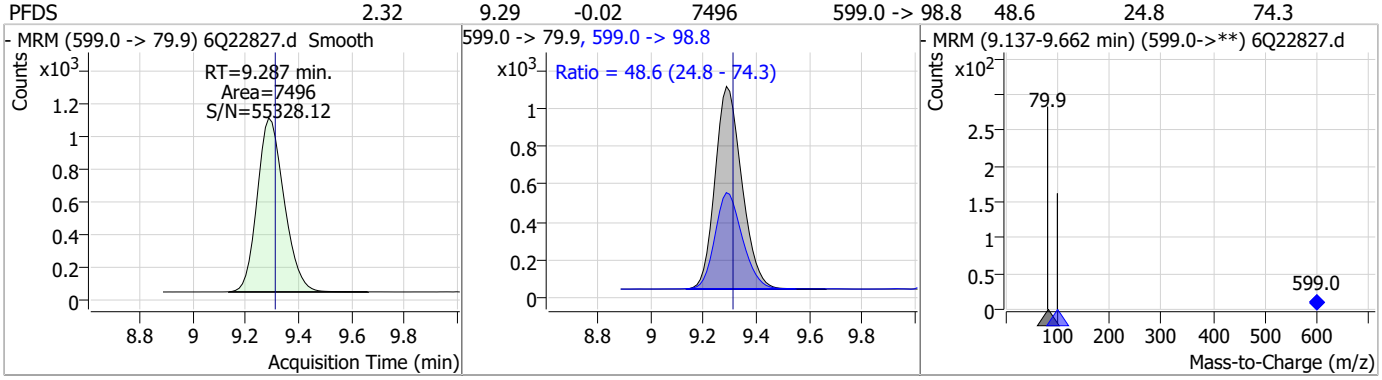


Perfluorinated Compounds by LC/MS/MS

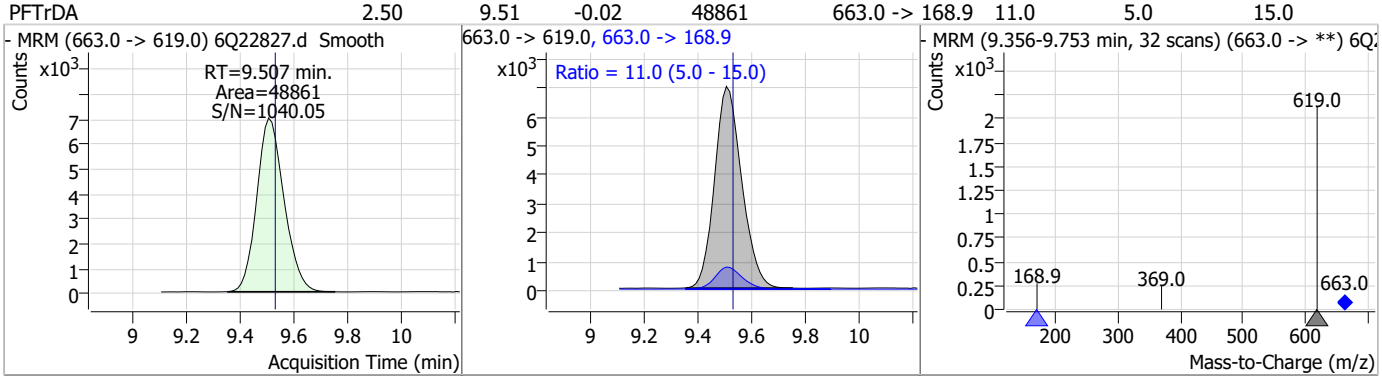
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.41	9.14	-0.01	45544	613.1 -> 319.0	15.6	7.6	22.8



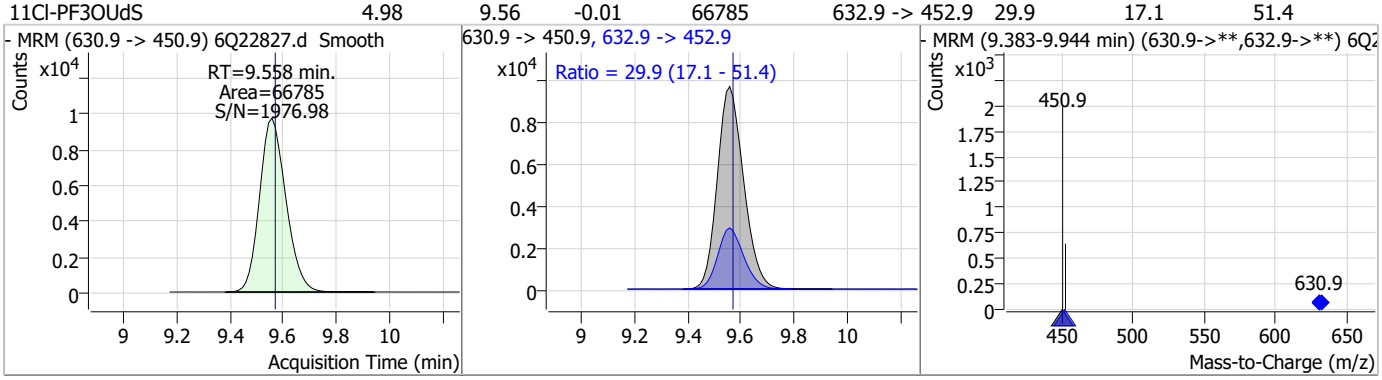
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.32	9.29	-0.02	7496	599.0 -> 98.8	48.6	24.8	74.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.50	9.51	-0.02	48861	663.0 -> 168.9	11.0	5.0	15.0

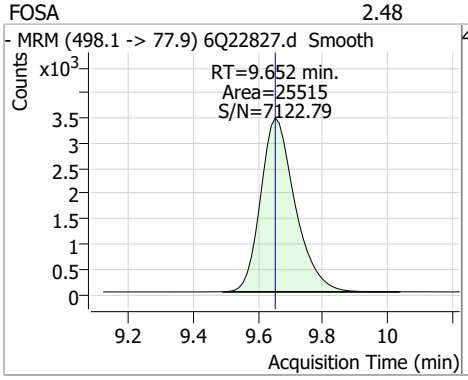


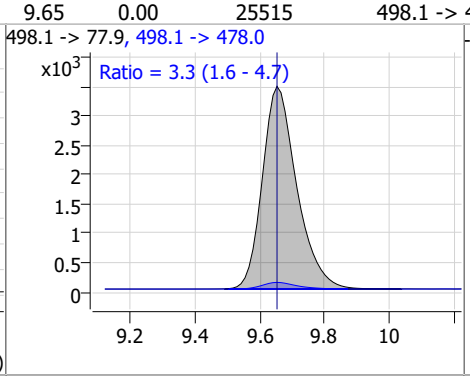
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.98	9.56	-0.01	66785	632.9 -> 452.9	29.9	17.1	51.4

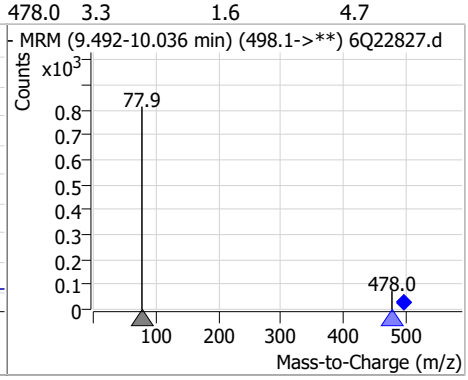


Perfluorinated Compounds by LC/MS/MS

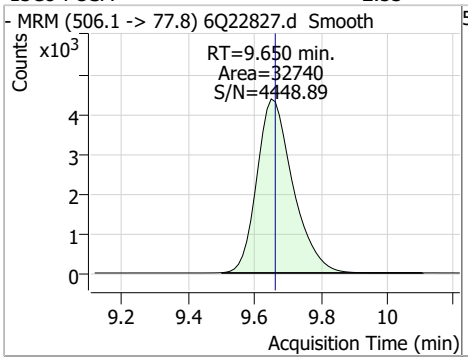
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.48	9.65	0.00	25515	498.1 -> 478.0	3.3	1.6	4.7

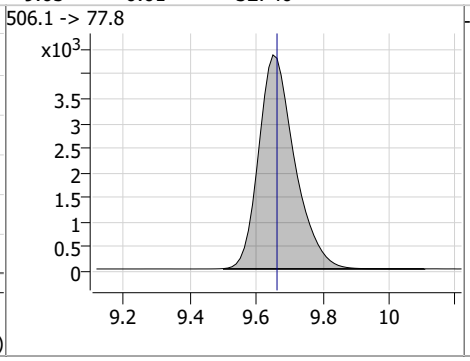


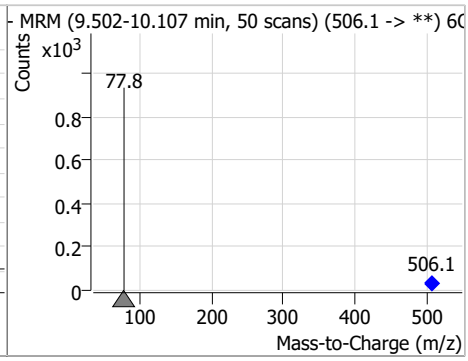




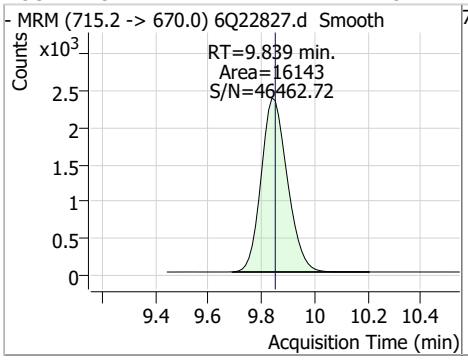
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.53	9.65	-0.01	32740				

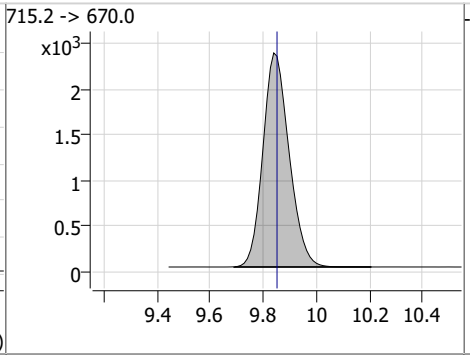


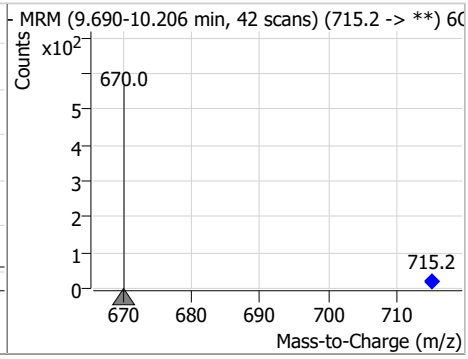




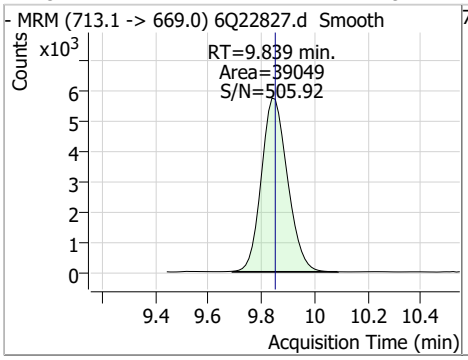
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.23	9.84	-0.01	16143				

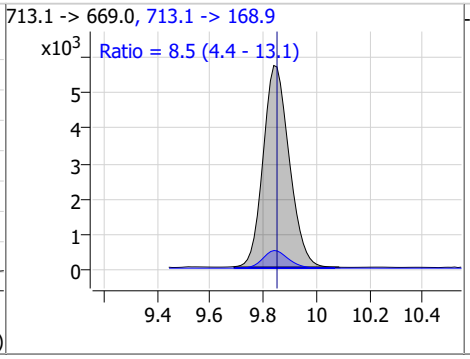


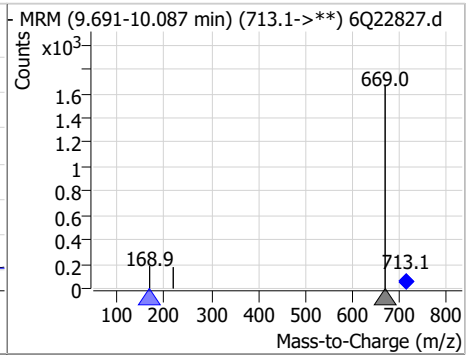




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.49	9.84	-0.01	39049	713.1 -> 168.9	8.5	4.4	13.1

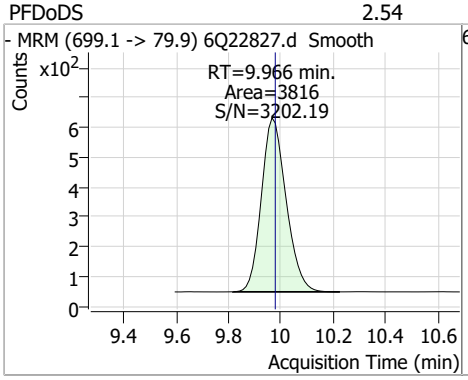


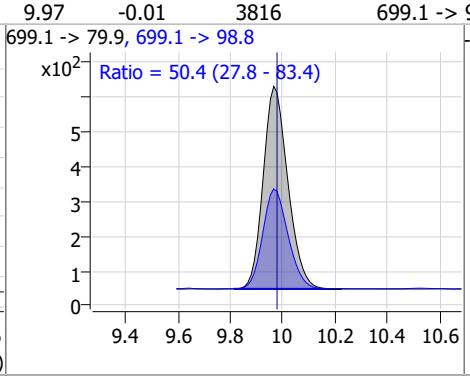


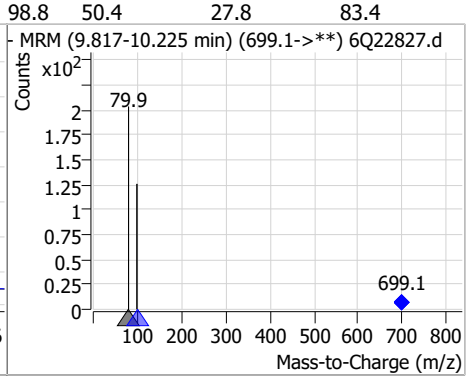


Perfluorinated Compounds by LC/MS/MS

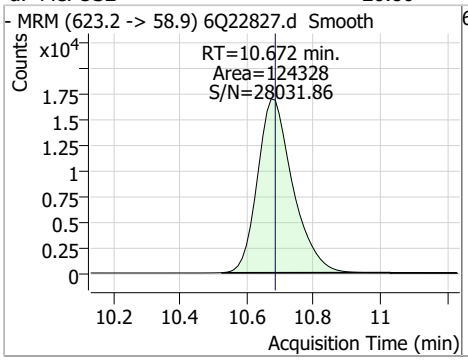
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.54	9.97	-0.01	3816	699.1 -> 98.8	50.4	27.8	83.4

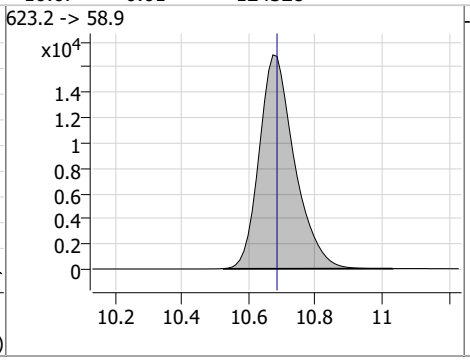


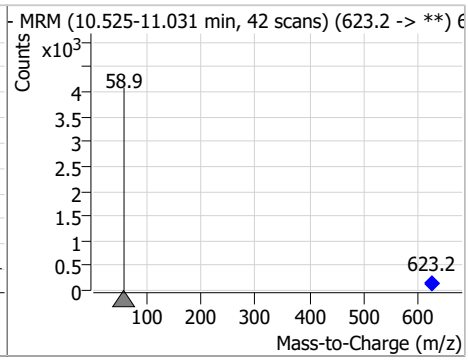




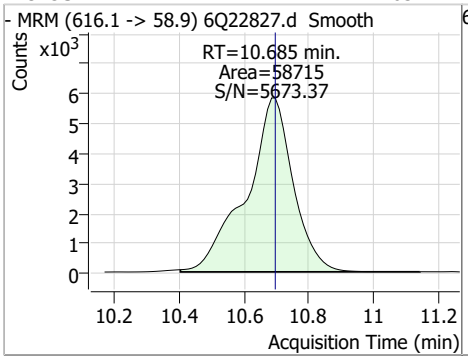
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.86	10.67	-0.01	124328				

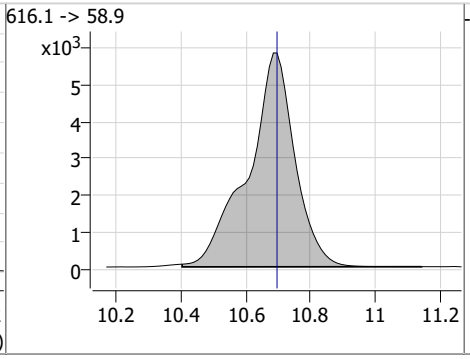


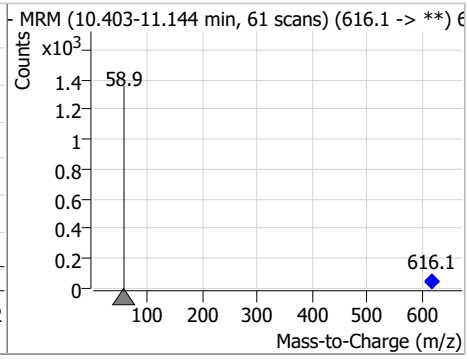




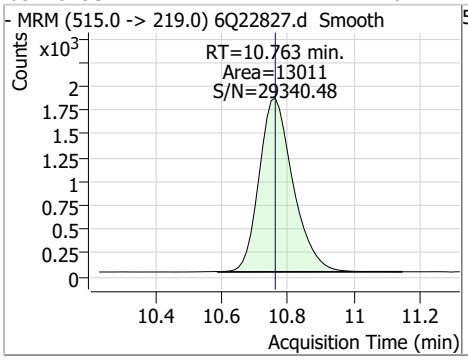
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.63	10.69	-0.01	58715				

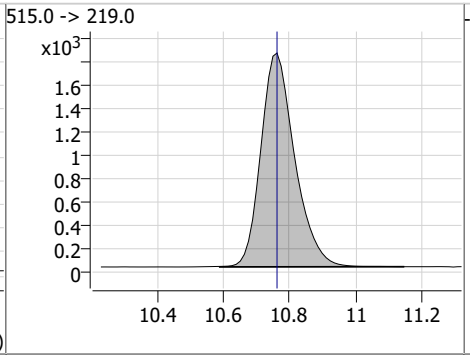


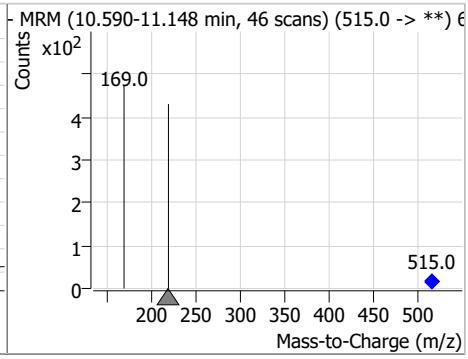




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.46	10.76	0.00	13011				

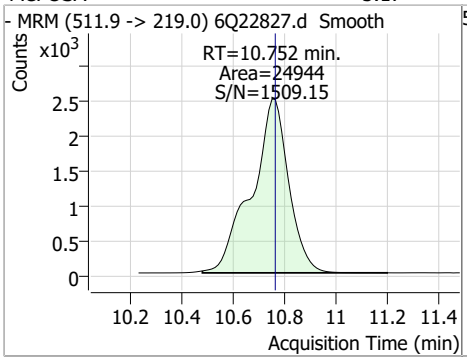


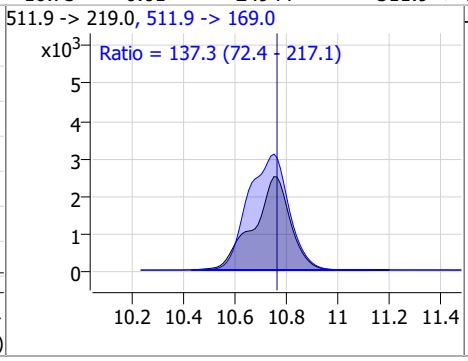


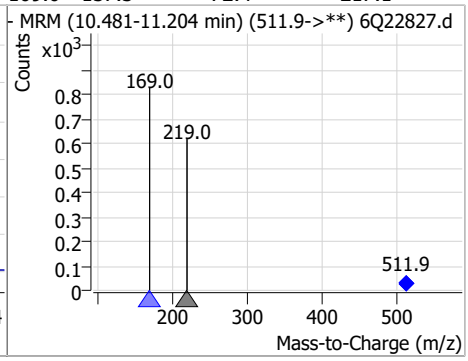


Perfluorinated Compounds by LC/MS/MS

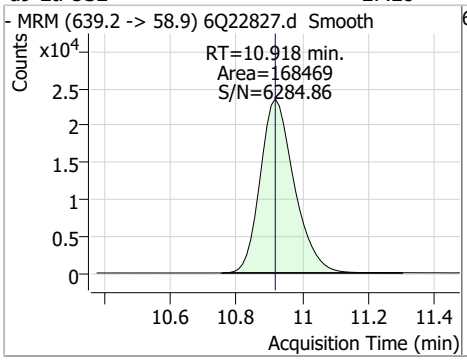
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	5.17	10.75	-0.01	24944	511.9 -> 169.0	137.3	72.4	217.1

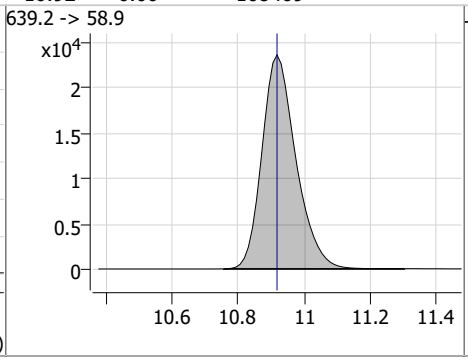


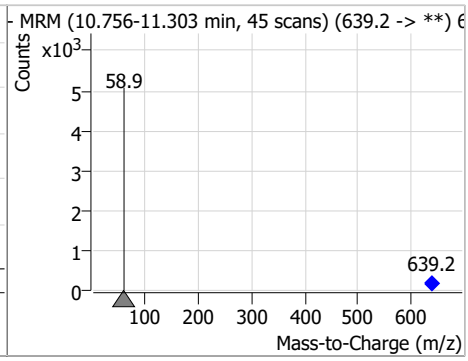




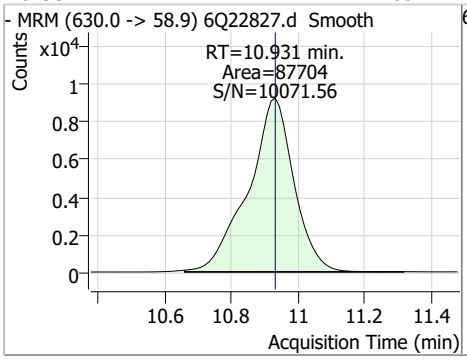
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	27.28	10.92	0.00	168469				

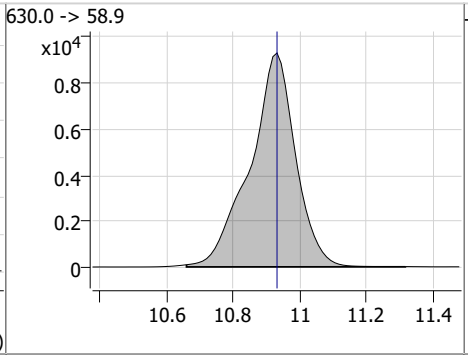


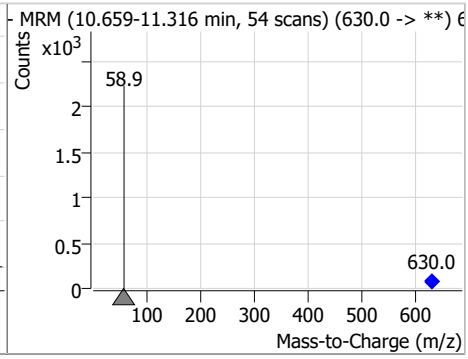




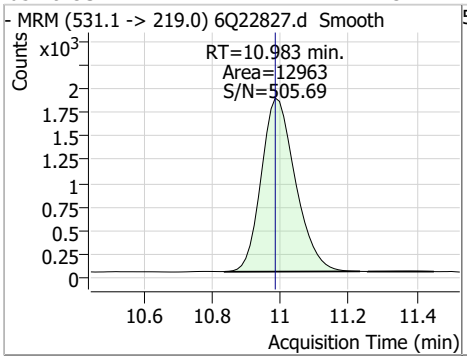
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.85	10.93	0.00	87704				

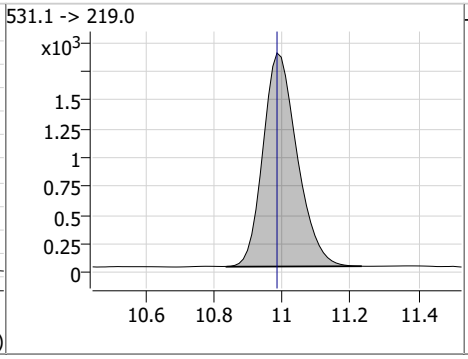


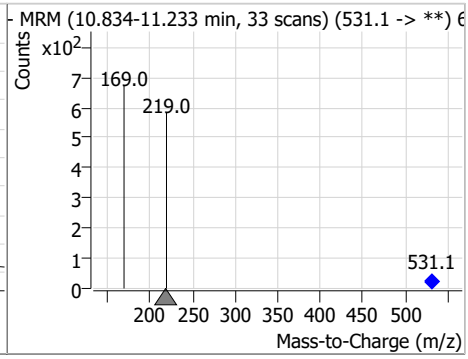




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.43	10.98	0.00	12963				

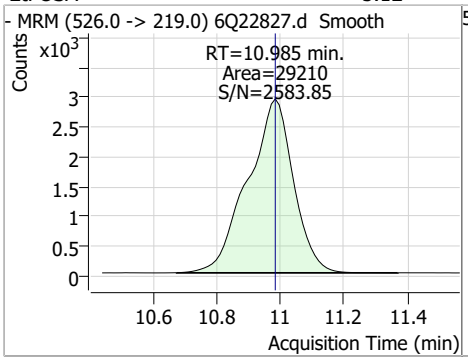


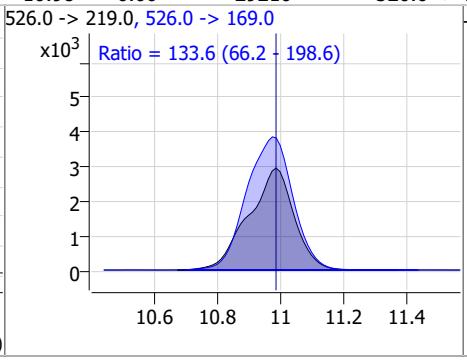


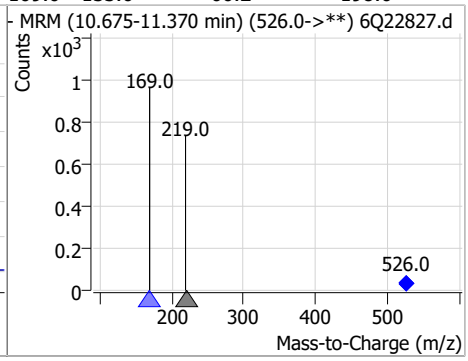


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	5.12	10.98	0.00	29210	526.0 -> 169.0	133.6	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q331-CC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22827.D	**Analyst approved:**	08/14/23 10:35 Martha Valls
Injection Time:	08/13/23 23:30	**Supervisor approved:**	08/15/23 12:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.40	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Norman Farmer 08/16/23 15:10

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22854.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/14/2023 11:44:10 AM
Sample Name : cc330-1.0LL
Vial : P1-A2
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : S6Q332.batch.bin
Sample Information : OP98201,S6Q332,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	180202	10.00	µg/L	-0.012
M5-PFPeA	4.447	268.3 -> 223.0	57694	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	62494	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	62151	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	95883	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	43869	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	27433	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	34628	1.25	µg/L	-0.012
M2-PFDoDA	9.123	615.1 -> 570.0	30032	1.25	µg/L	-0.025
M2-PFTeDA	9.839	715.2 -> 670.0	17490	1.25	µg/L	-0.012
M8-FOSA	9.650	506.1 -> 77.8	36013	2.50	µg/L	-0.012
M3-PFBS	5.599	302.1 -> 79.9	23131	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	14918	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	13994	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	3286	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	5171	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	4233	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	32647	5.00	µg/L	-0.012
M3-HFPO-DA	6.033	286.9 -> 168.9	41781	10.00	µg/L	-0.012
M5-EtFOSAA	8.492	589.2 -> 419.0	26906	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	134122	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	190306	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	15053	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	14112	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	18451	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	75894	5.00	µg/L	0.000
18O2-PFHxS	7.341	403.0 -> 83.9	10733	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	97058	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	35859	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	55955	1.25	µg/L	-0.012
13C2-PFHxA	5.656	315.1 -> 270.0	58495	2.50	µg/L	-0.012
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	3286	5.13	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.5%		
13C2-6:2FTS	7.001	429.1 -> 80.9	5171	5.59	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.7%		
13C2-8:2FTS	8.027	529.1 -> 80.9	4233	4.67	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.4%		
13C2-PFDoDA	9.123	615.1 -> 570.0	30032	1.24	µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.2%		
13C2-PFTeDA	9.839	715.2 -> 670.0	17490	1.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C3-PFBS	5.599	302.1 -> 79.9	23131	2.54	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%		
13C3-PFHxS	7.342	402.1 -> 79.9	14918	2.53	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 = 101.2%	
13C4-PFBA	2.997	216.8 -> 171.9	180202	10.05 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C4-PFHpA	6.596	367.1 -> 322.0	62151	2.63 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.3%	
13C5-PFHxA	5.668	318.0 -> 273.0	62494	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C5-PFPeA	4.447	268.3 -> 223.0	57694	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C6-PFDA	8.238	519.1 -> 474.1	27433	1.35 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.4%	
13C7-PFUnDA	8.705	570.0 -> 525.1	34628	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C8-FOSA	9.650	506.1 -> 77.8	36013	2.59 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C8-PFOA	7.226	421.1 -> 376.0	95883	2.68 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.0%	
13C8-PFOS	8.401	507.1 -> 79.9	13994	2.59 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.6%	
13C9-PFNA	7.758	472.1 -> 427.0	43869	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.7%	
d3-MeFOSAA	8.284	573.2 -> 419.0	32647	4.89 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C3-HFPO-DA	6.033	286.9 -> 168.9	41781	11.04 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 110.4%	
d3-MeFOSA	10.763	515.0 -> 219.0	14112	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	
d5-EtFOSAA	8.492	589.2 -> 419.0	26906	4.37 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 87.3%	
d7-MeFOSE	10.672	623.2 -> 58.9	134122	26.89 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 107.6%	
d9-EtFOSE	10.918	639.2 -> 58.9	190306	28.60 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 114.4%	
d5-EtFOSA	10.983	531.1 -> 219.0	15053	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.8%	
Target Compounds					**QValue**
4:2FTS	5.319	327.1 -> 307.0	3436	0.81 µg/L	95
		327.1 -> 80.9	1446		
6:2FTS	7.002	427.1 -> 407.0	3481	0.75 µg/L	97
		427.1 -> 80.9	1224		
8:2FTS	8.027	527.1 -> 507.0	1842	0.81 µg/L	95
		527.1 -> 80.8	729		
EtFOSAA	8.493	584.2 -> 419.1	771	0.23 µg/L	98
		584.2 -> 526.0	445		
FOSA	9.652	498.1 -> 77.9	2426	0.21 µg/L	98
		498.1 -> 478.0	61		
MeFOSAA	8.285	570.1 -> 419.0	1294	0.21 µg/L	87
		570.1 -> 483.0	312		
PFBA	2.993	212.8 -> 168.9	4742	0.84 µg/L	100
PFBS	5.600	298.7 -> 79.9	1593	0.21 µg/L	92
		298.7 -> 98.8	516		
PFDA	8.239	512.9 -> 469.0	6903	0.21 µg/L	97
		512.9 -> 219.0	927		
PFDoDA	9.123	613.1 -> 569.0	4283	0.22 µg/L	100
		613.1 -> 319.0	654		
PFDS	9.287	599.0 -> 79.9	687	0.20 µg/L	92

Perfluorinated Compounds by LC/MS/MS

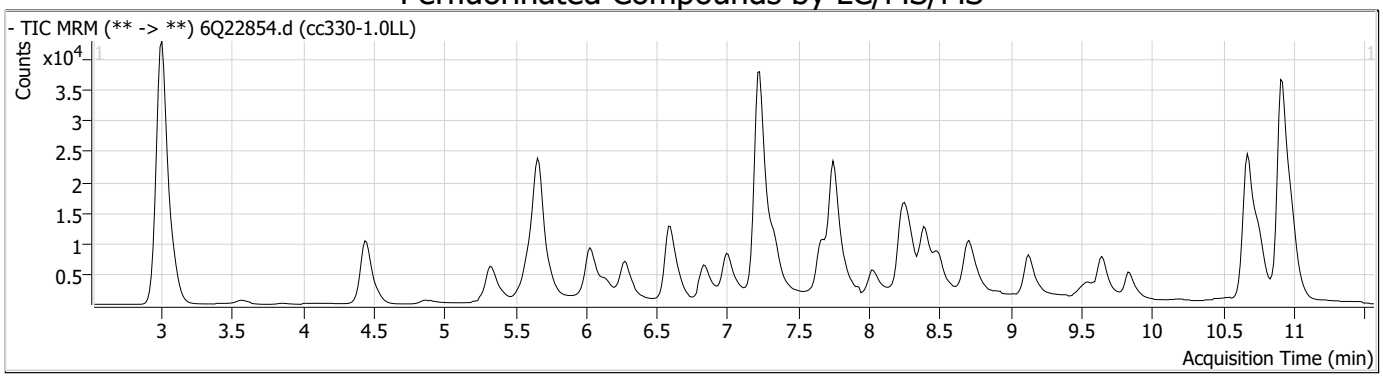
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	304				
PFHpA	6.596	363.1 -> 319.0	4927	0.20	µg/L		96
		363.1 -> 169.0	914				
PFHpS	7.909	449.0 -> 79.9	1240	0.19	µg/L		99
		449.0 -> 98.9	655				
PFHxA	5.657	313.0 -> 269.0	4328	0.24	µg/L		98
		313.0 -> 118.9	200				
PFHxS	7.343	398.7 -> 79.9	1346	0.20	µg/L	m	95
		398.7 -> 98.9	699				
PFNA	7.758	463.0 -> 419.0	6560	0.22	µg/L		98
		463.0 -> 219.0	1304				
PFNS	8.867	548.8 -> 79.9	1154	0.20	µg/L		92
		548.8 -> 98.9	549				
PFOA	7.228	413.0 -> 369.0	7718	0.20	µg/L		95
		413.0 -> 169.0	1423				
PFOS	8.403	498.9 -> 79.9	1291	0.21	µg/L	m	98
		498.9 -> 98.8	664				
PFPeA	4.449	263.0 -> 219.0	5573	0.44	µg/L	m	100
PFPeS	6.660	349.1 -> 79.9	1314	0.22	µg/L		96
		349.1 -> 98.9	560				
PFTeDA	9.839	713.1 -> 669.0	3554	0.21	µg/L		95
		713.1 -> 168.9	370				
PFTrDA	9.507	663.0 -> 619.0	4180	0.21	µg/L		98
		663.0 -> 168.9	455				
PFUnDA	8.705	563.1 -> 519.0	4315	0.22	µg/L		99
		563.1 -> 269.1	720				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	6087	0.41	µg/L		94
		632.9 -> 452.9	1891				
9Cl-PF3ONS	8.733	530.8 -> 351.0	9874	0.41	µg/L		90
		532.8 -> 353.0	2571				
ADONA	6.846	376.9 -> 250.9	20427	0.38	µg/L		94
		376.9 -> 84.8	6039				
HFPO-DA	6.046	284.9 -> 168.9	1394	0.39	µg/L		93
		284.9 -> 184.9	182				
3:3FTCA	3.859	241.0 -> 177.0	934	1.05	µg/L		99
		241.0 -> 117.0	128				
5:3FTCA	6.272	341.0 -> 237.1	20135	5.36	µg/L		94
		341.0 -> 217.0	15246				
7:3FTCA	7.673	441.0 -> 316.9	13603	4.89	µg/L		98
		441.0 -> 336.9	31507				
EtFOSA	10.985	526.0 -> 219.0	2648	0.40	µg/L		95
		526.0 -> 169.0	3667				
EtFOSE	10.931	630.0 -> 58.9	8198	1.06	µg/L		100
MeFOSA	10.752	511.9 -> 219.0	2099	0.40	µg/L		93
		511.9 -> 169.0	3220				
MeFOSE	10.685	616.1 -> 58.9	5427	1.08	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	354	0.23	µg/L		99
		699.1 -> 98.8	195				
NFDHA	5.538	295.0 -> 201.0	1016	0.44	µg/L		97
		295.0 -> 84.9	272				
PFMBA	4.857	279.0 -> 85.1	3892	0.43	µg/L		100
PFMPA	3.563	229.0 -> 84.9	3143	0.44	µg/L		100
PFEESA	6.151	314.8 -> 134.9	9765	0.40	µg/L		98
		314.8 -> 82.9	393				

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

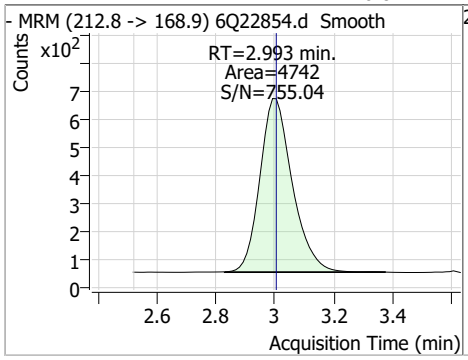
Perfluorinated Compounds by LC/MS/MS

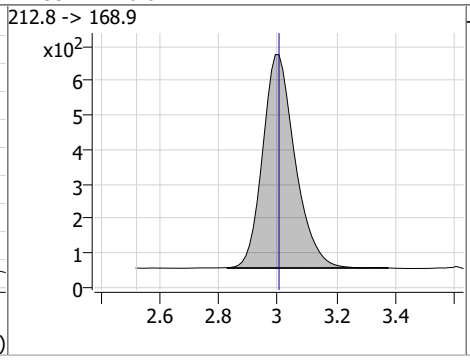
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

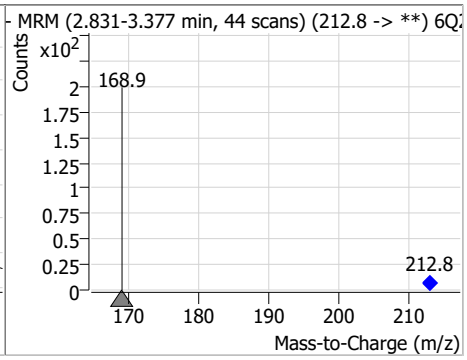
Perfluorinated Compounds by LC/MS/MS



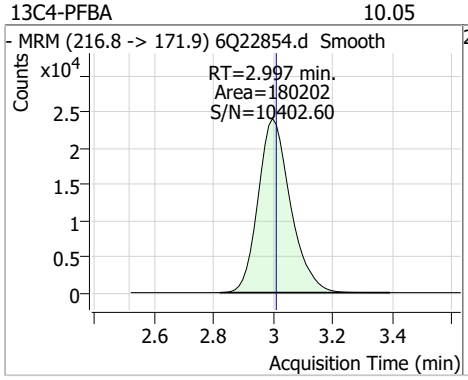
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	0.84	2.99	-0.01	4742				

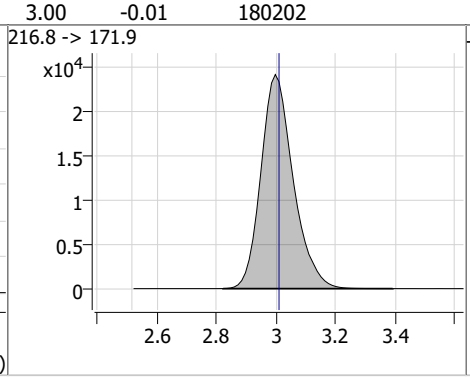


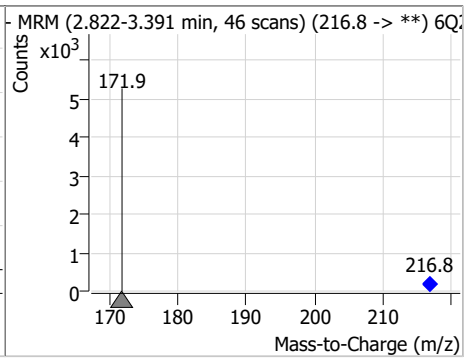




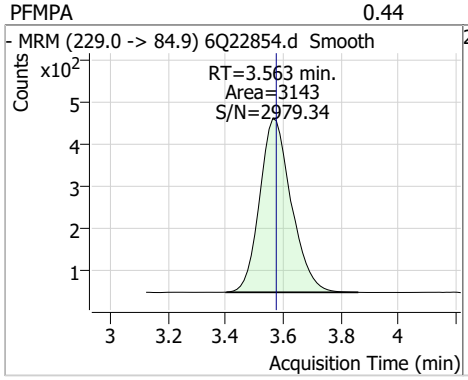
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.05	3.00	-0.01	180202				

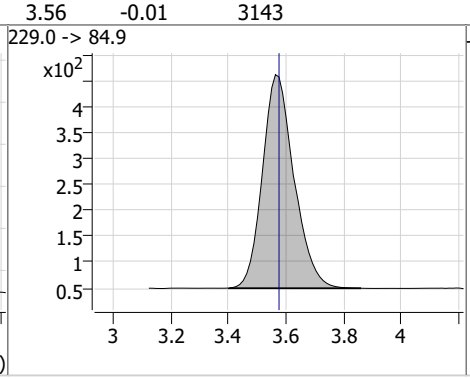


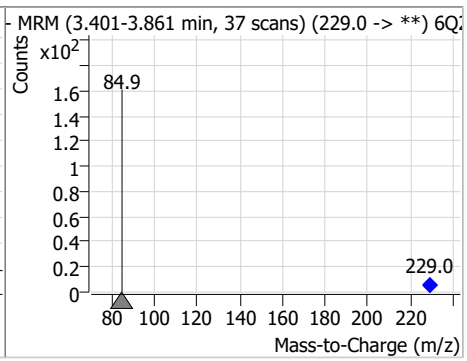




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	0.44	3.56	-0.01	3143				

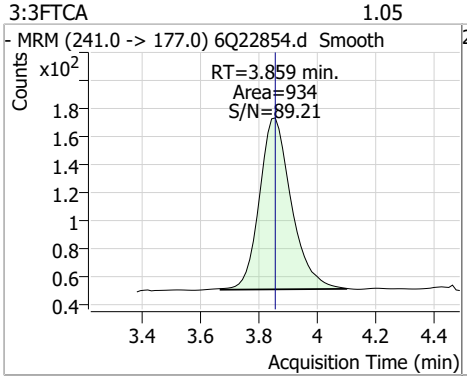


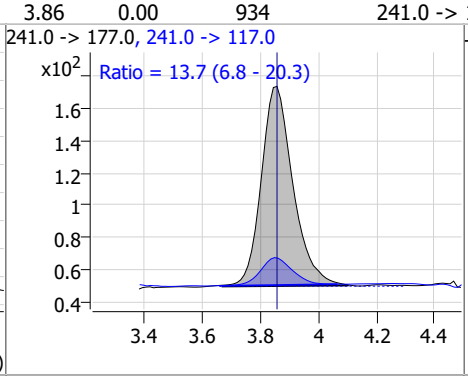


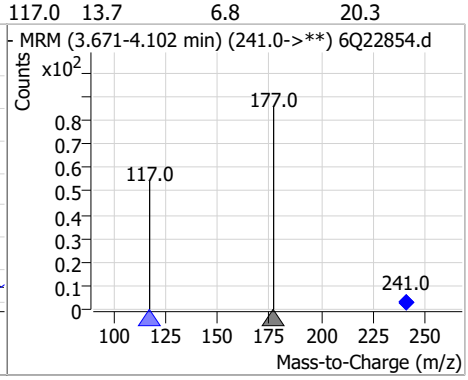


Perfluorinated Compounds by LC/MS/MS

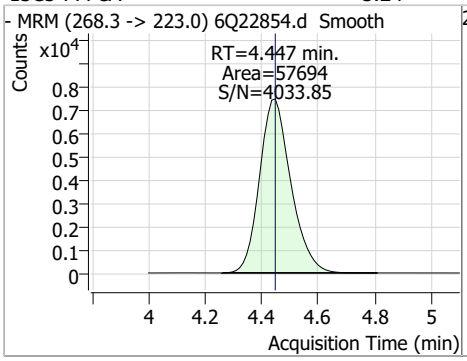
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.05	3.86	0.00	934	241.0 -> 117.0	13.7	6.8	20.3

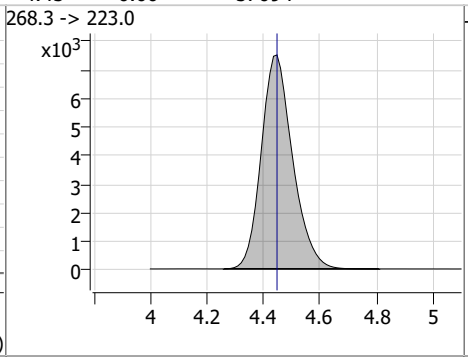


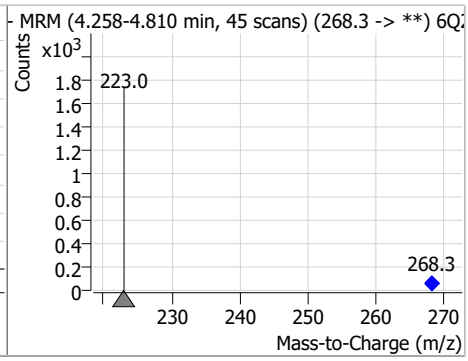




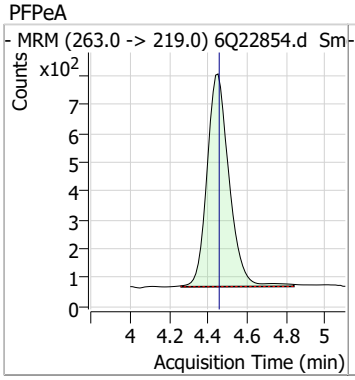
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.24	4.45	0.00	57694				

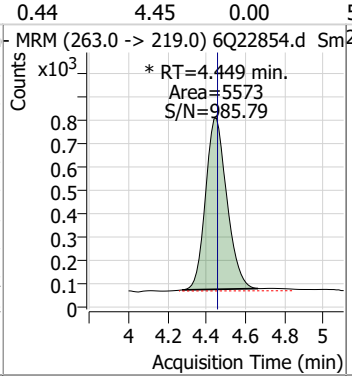


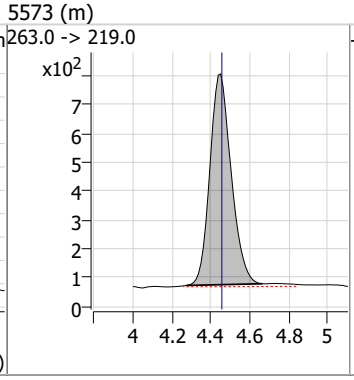


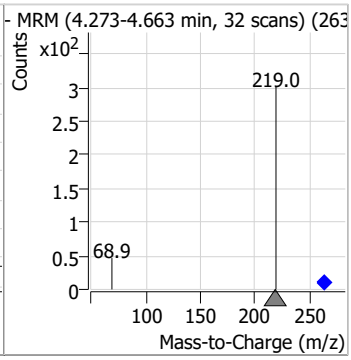


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.44	4.45	0.00	5573 (m)				

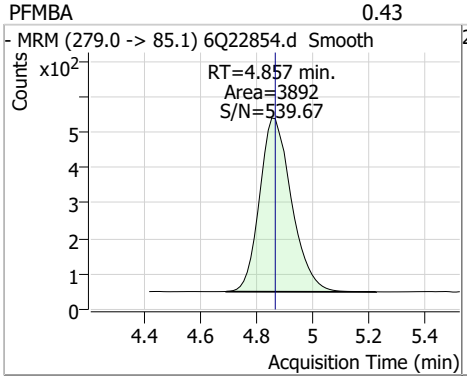


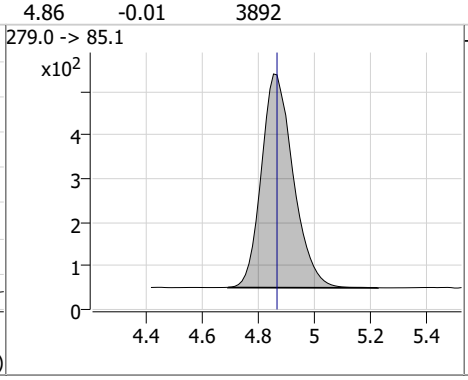


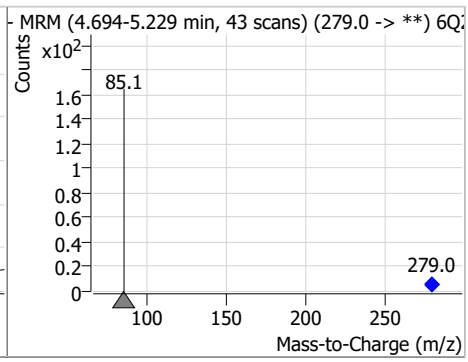




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.43	4.86	-0.01	3892				

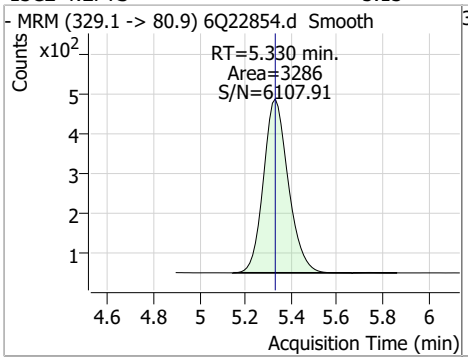


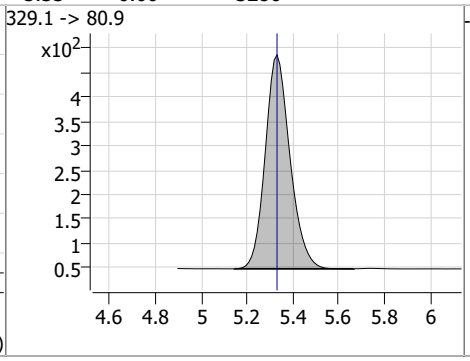


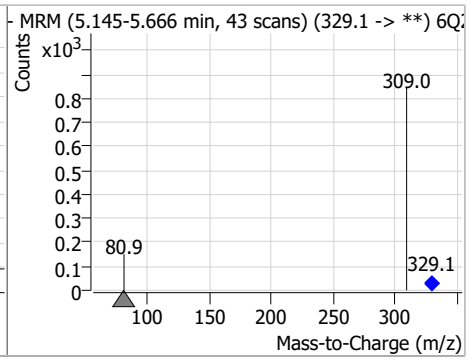


Perfluorinated Compounds by LC/MS/MS

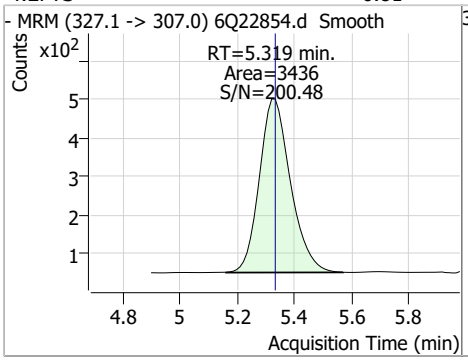
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.13	5.33	0.00	3286				

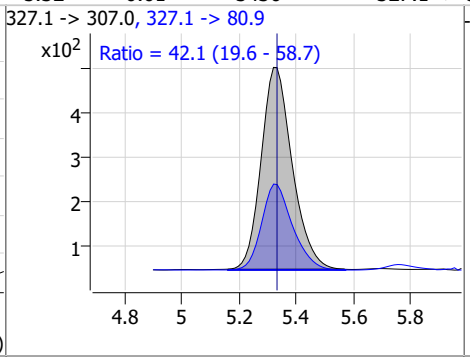


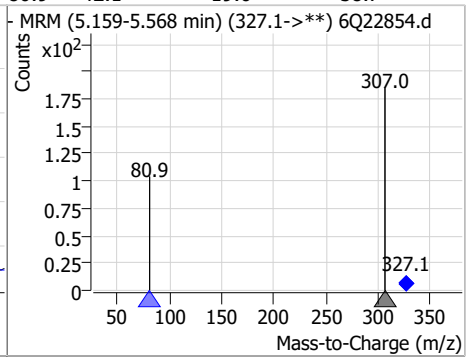




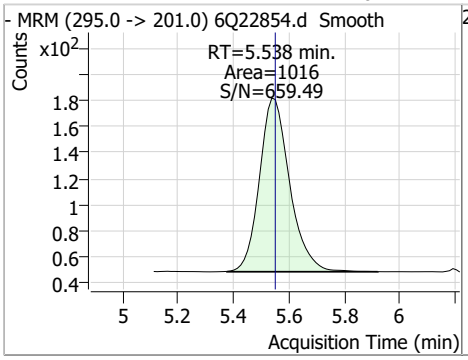
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	0.81	5.32	-0.01	3436	327.1 -> 80.9	42.1	19.6	58.7

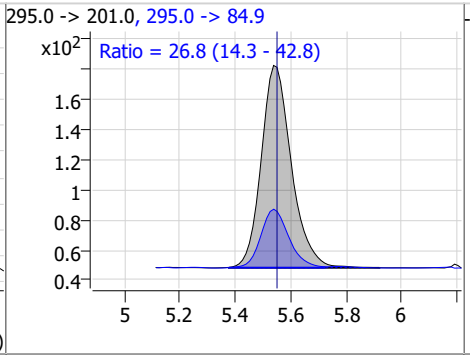


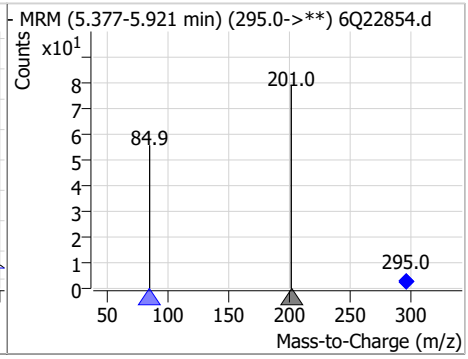




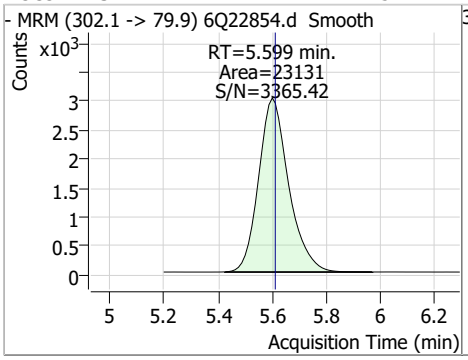
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	0.44	5.54	-0.01	1016	295.0 -> 84.9	26.8	14.3	42.8

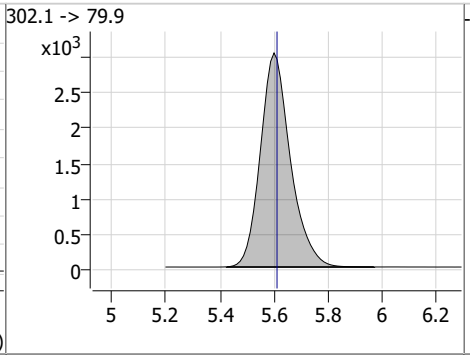


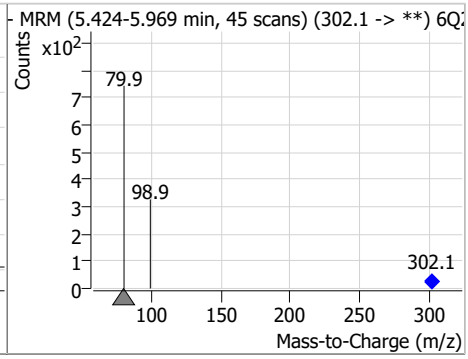




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.54	5.60	-0.01	23131				

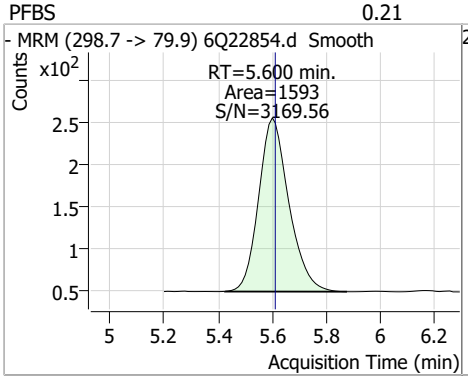


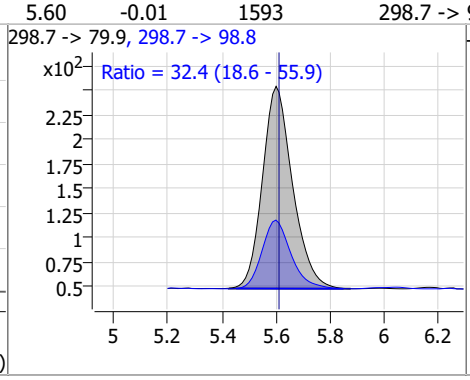


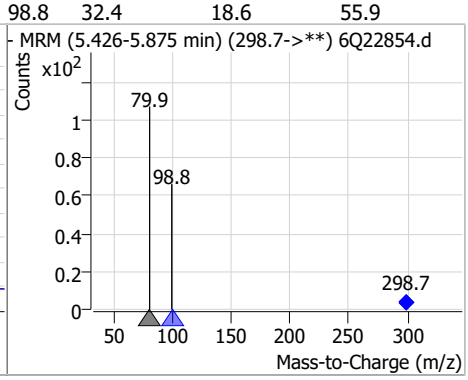


Perfluorinated Compounds by LC/MS/MS

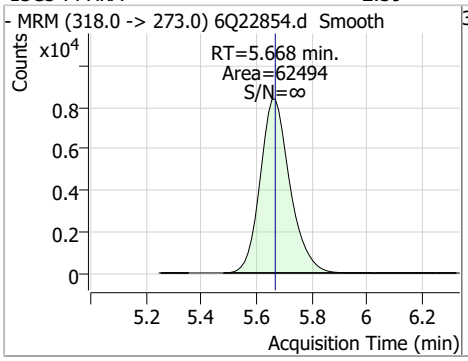
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.21	5.60	-0.01	1593	298.7 -> 98.8	32.4	18.6	55.9

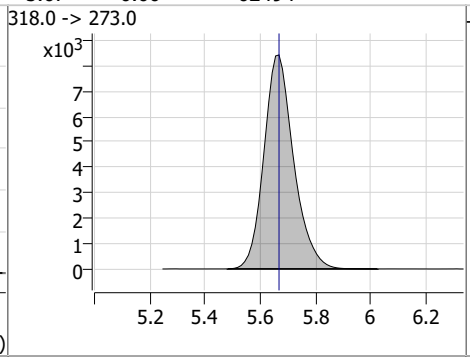


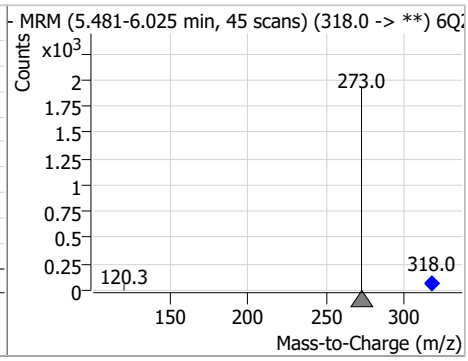




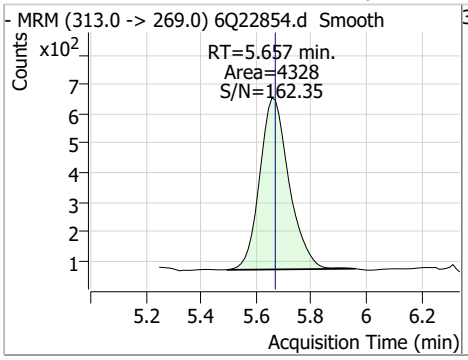
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.59	5.67	0.00	62494				

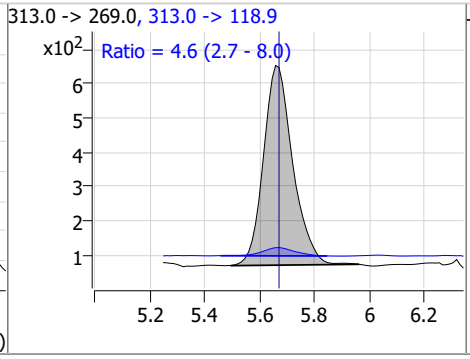


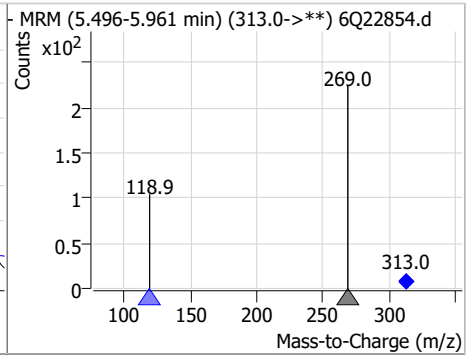




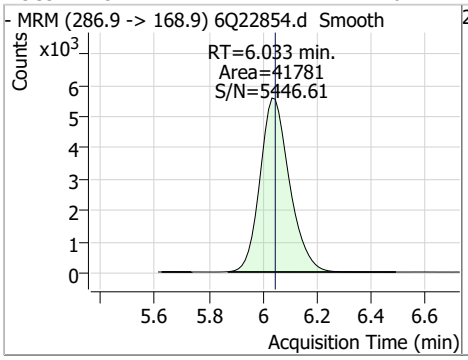
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.24	5.66	-0.01	4328	313.0 -> 118.9	4.6	2.7	8.0

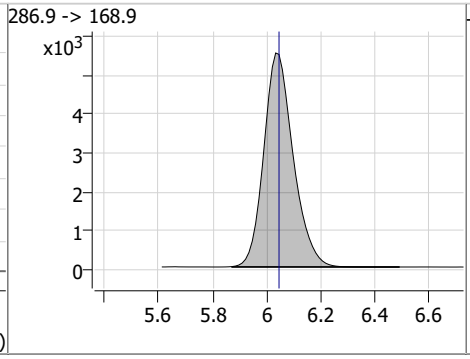


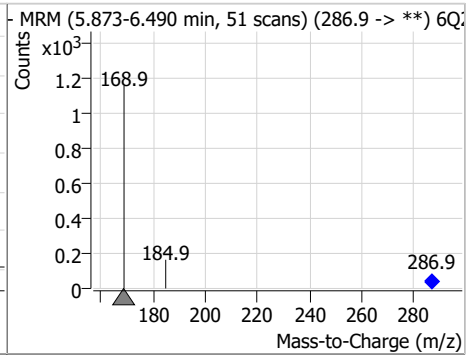




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.04	6.03	-0.01	41781				

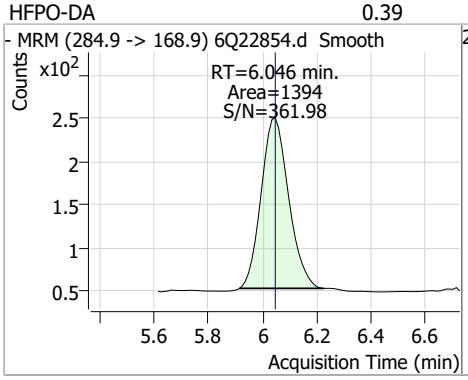


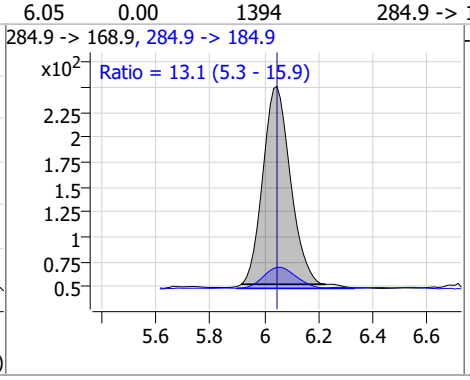


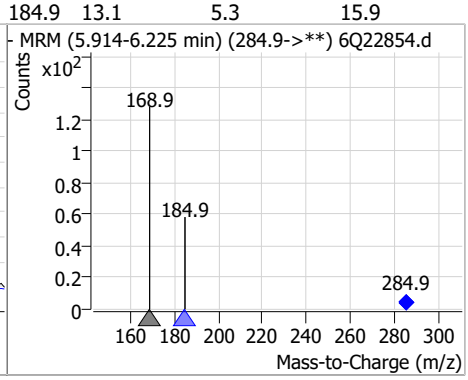


Perfluorinated Compounds by LC/MS/MS

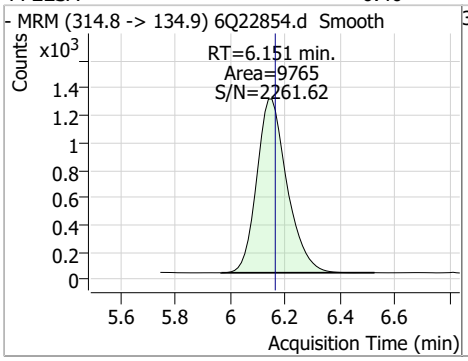
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.39	6.05	0.00	1394	284.9 -> 184.9	13.1	5.3	15.9

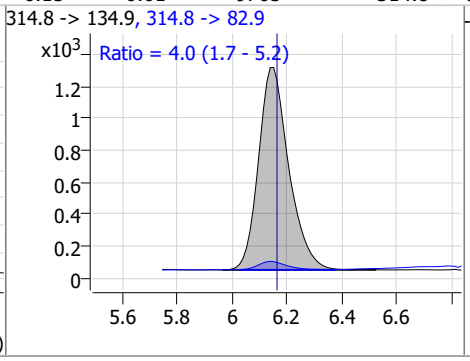


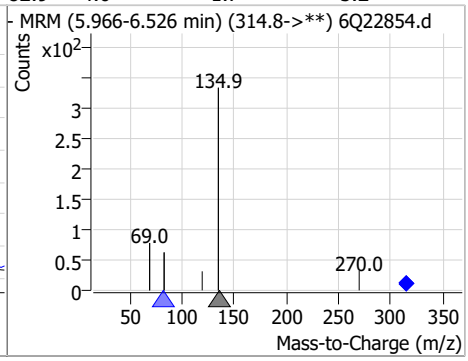




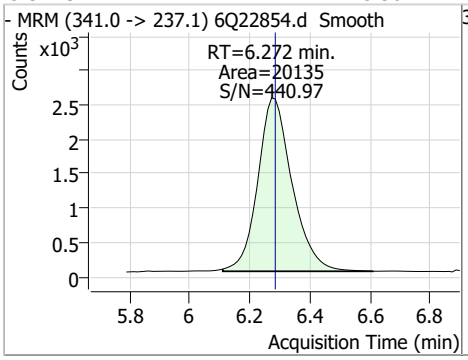
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.40	6.15	-0.01	9765	314.8 -> 82.9	4.0	1.7	5.2

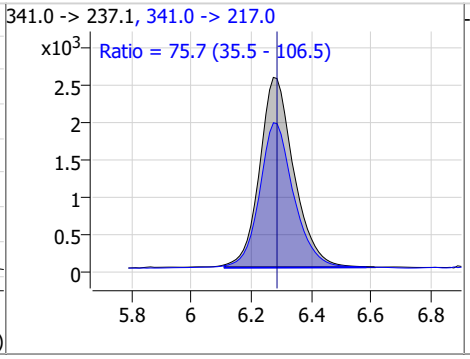


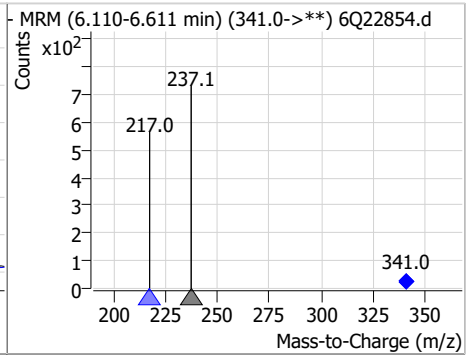




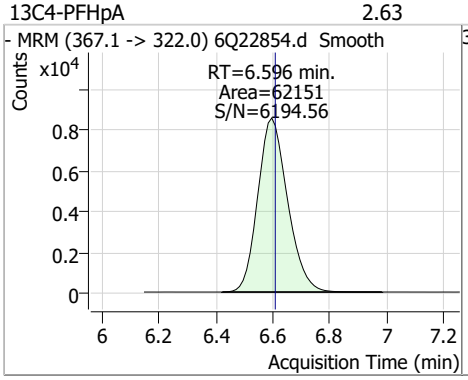
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.36	6.27	-0.01	20135	341.0 -> 217.0	75.7	35.5	106.5

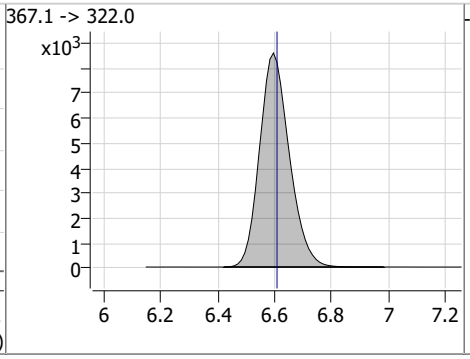


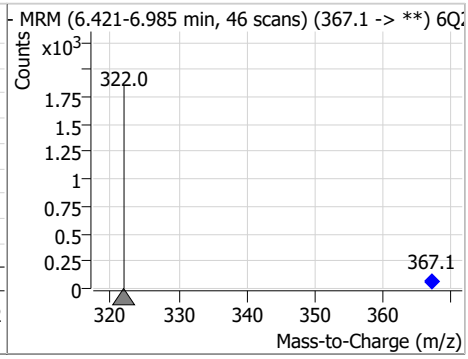




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.63	6.60	-0.01	62151				

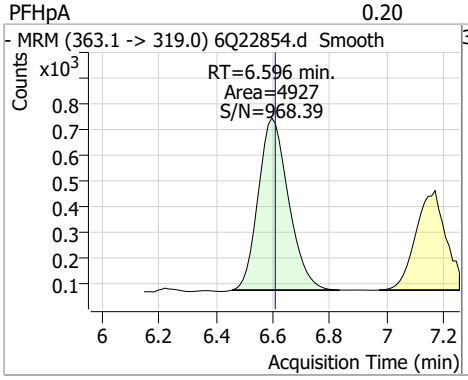


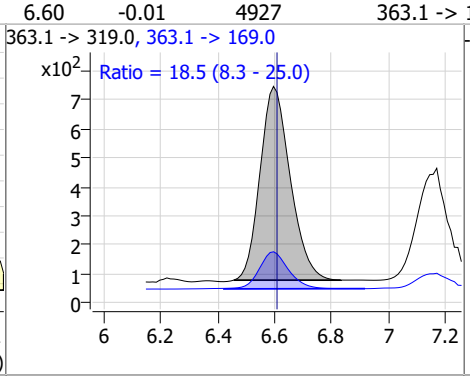


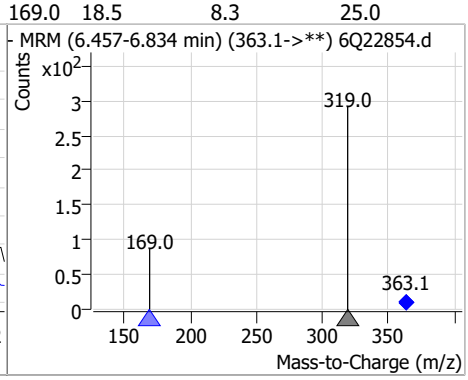


Perfluorinated Compounds by LC/MS/MS

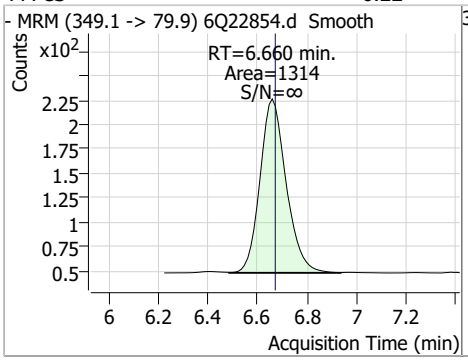
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	0.20	6.60	-0.01	4927	363.1 -> 169.0	18.5	8.3	25.0

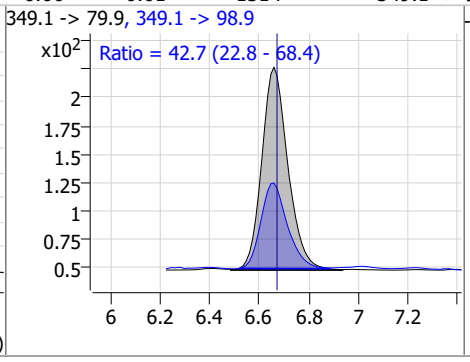


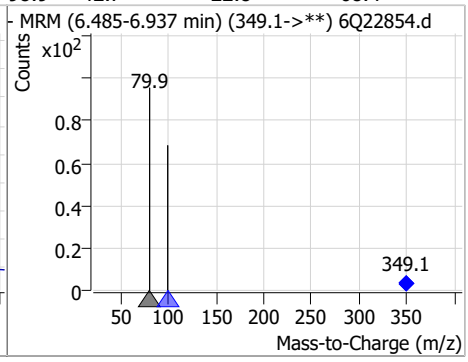




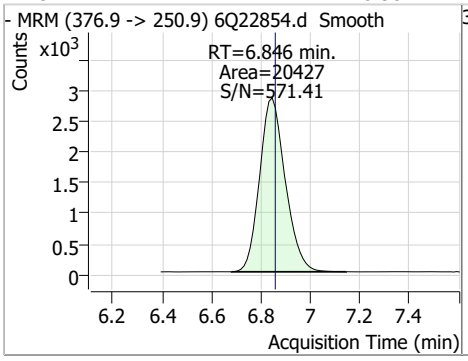
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	0.22	6.66	-0.01	1314	349.1 -> 98.9	42.7	22.8	68.4

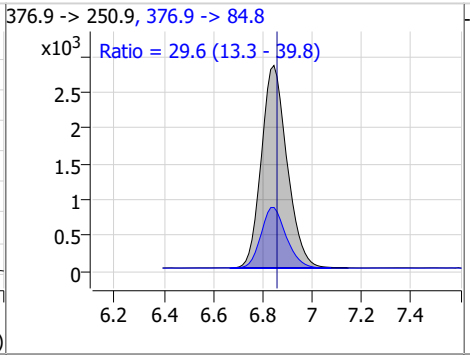


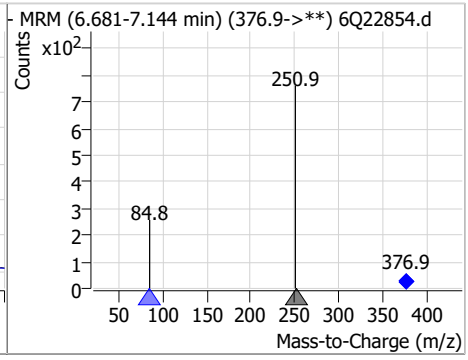




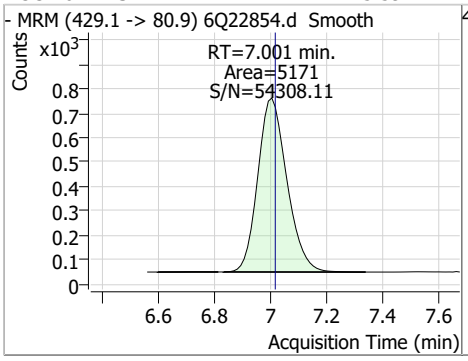
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	0.38	6.85	-0.01	20427	376.9 -> 84.8	29.6	13.3	39.8

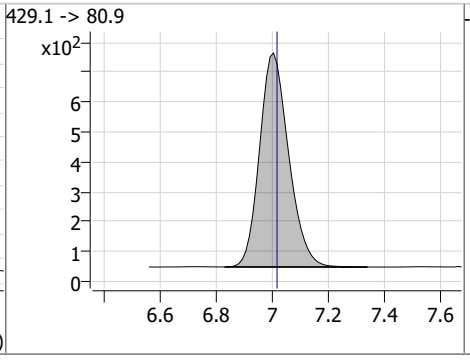


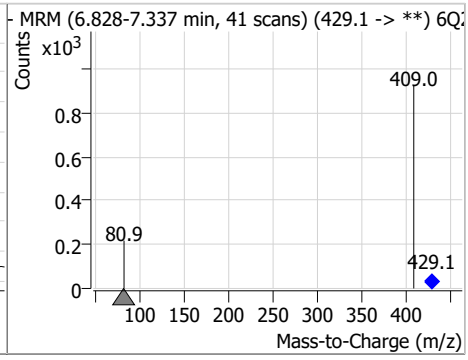




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.59	7.00	-0.01	5171				

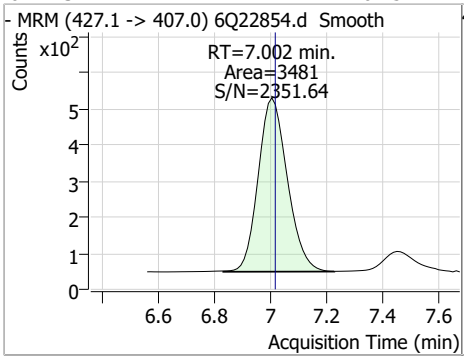


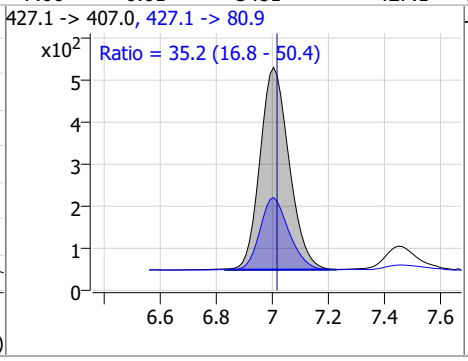


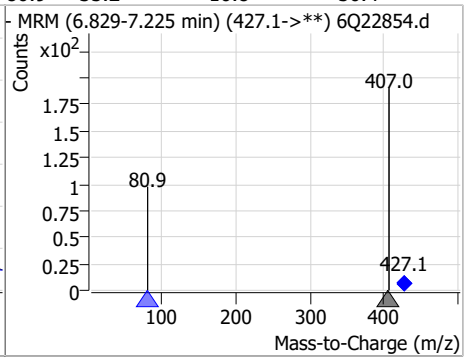


Perfluorinated Compounds by LC/MS/MS

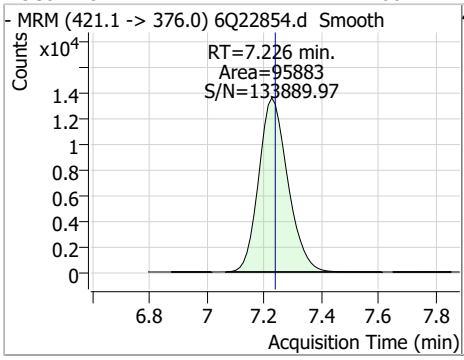
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	0.75	7.00	-0.01	3481	427.1 -> 80.9	35.2	16.8	50.4

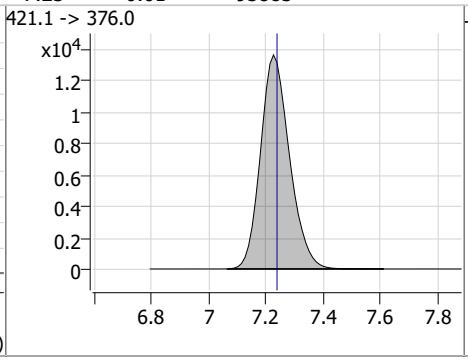


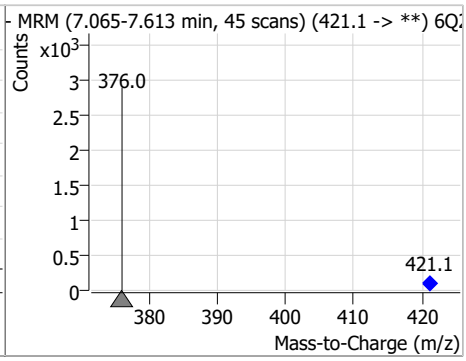




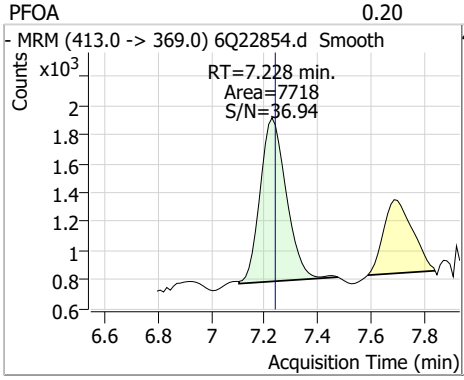
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.68	7.23	-0.01	95883				

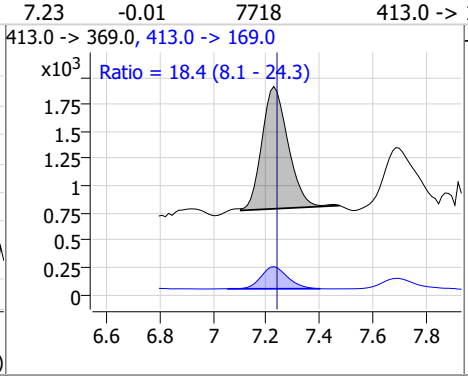


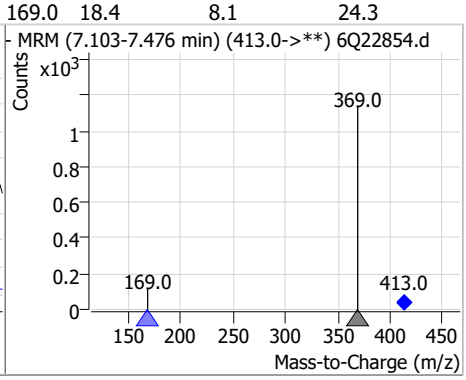




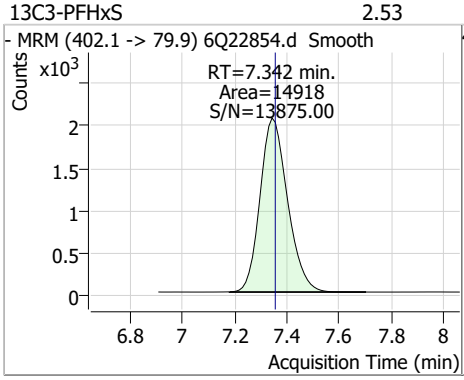
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	0.20	7.23	-0.01	7718	413.0 -> 169.0	18.4	8.1	24.3

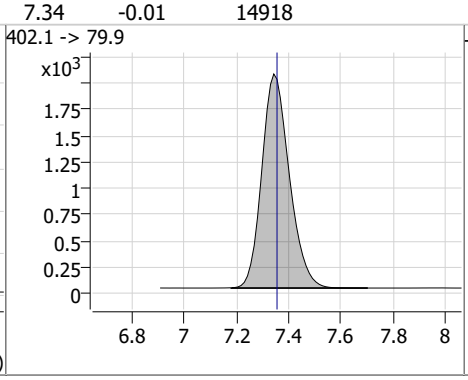


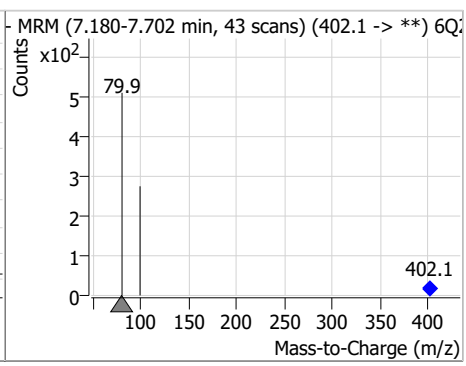




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.53	7.34	-0.01	14918				

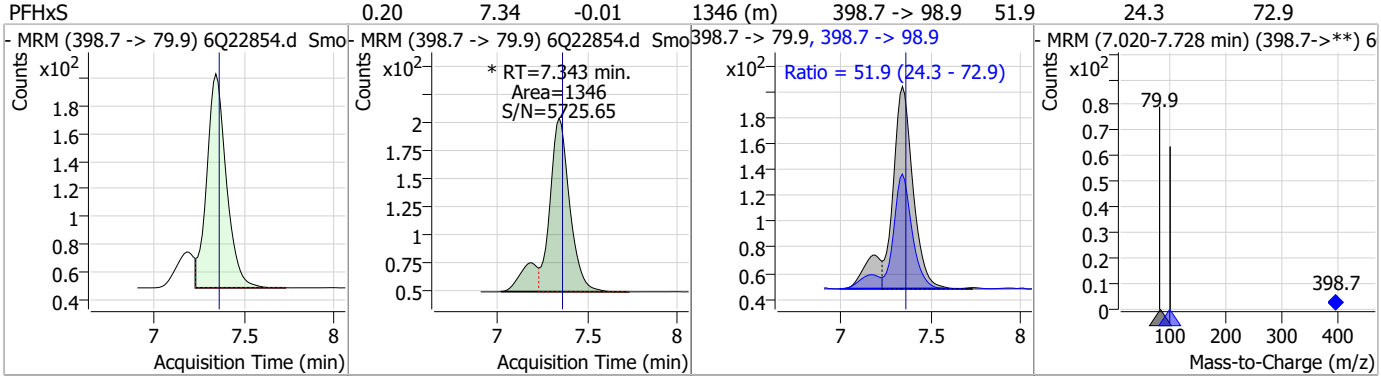




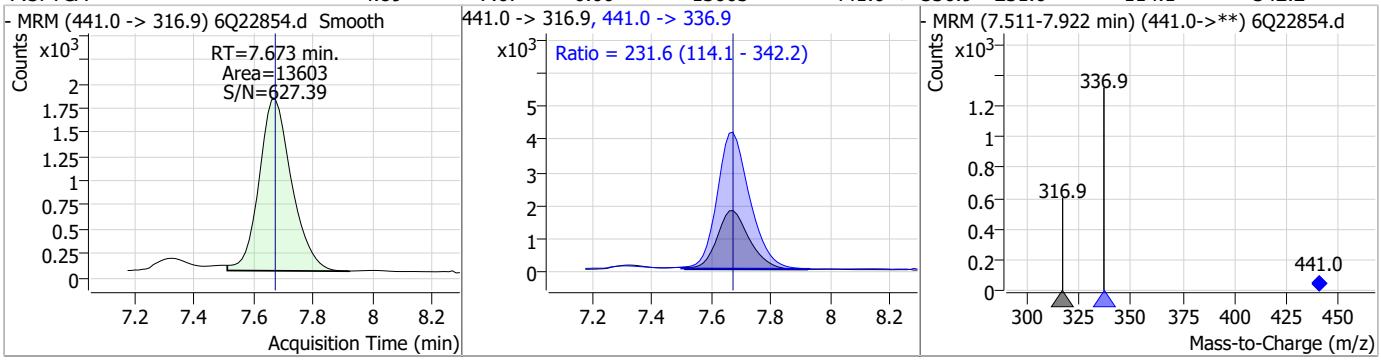


Perfluorinated Compounds by LC/MS/MS

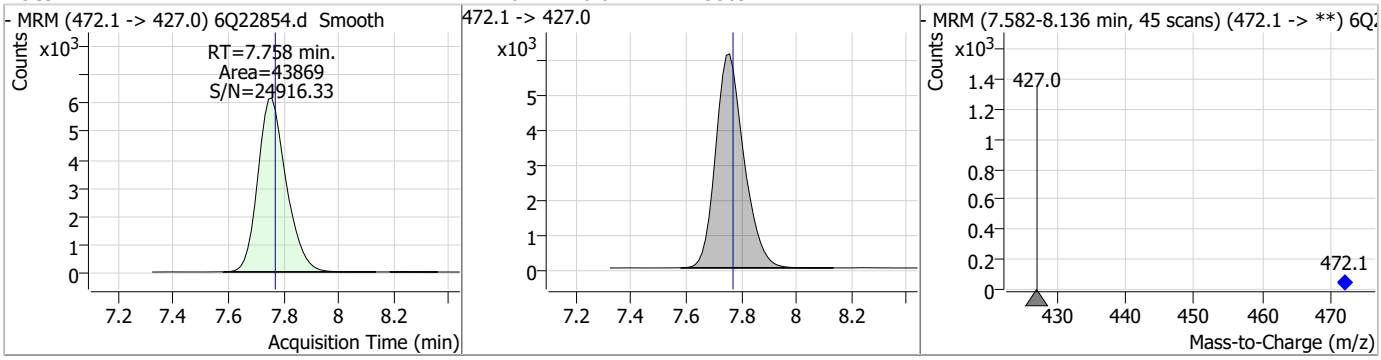
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.20	7.34	-0.01	1346 (m)	398.7 -> 98.9	51.9	24.3	72.9



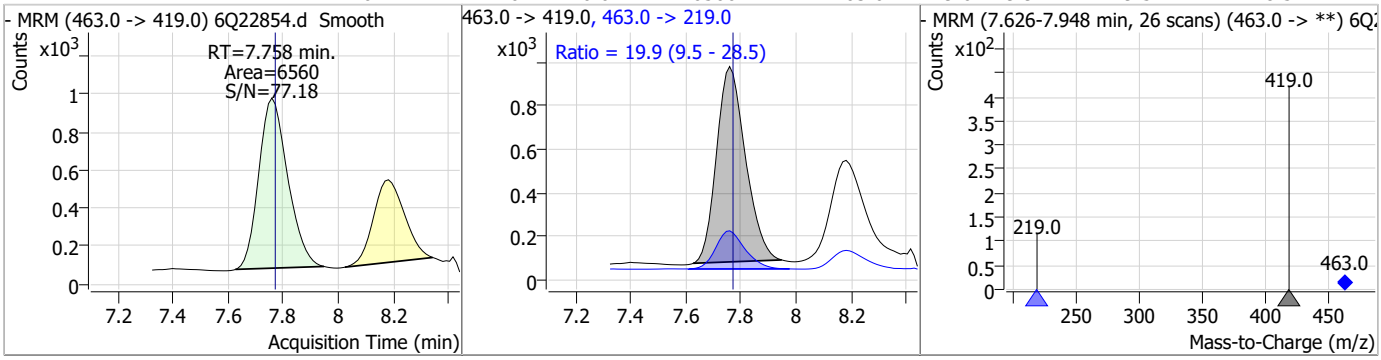
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	4.89	7.67	0.00	13603	441.0 -> 336.9	231.6	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.21	7.76	-0.01	43869				

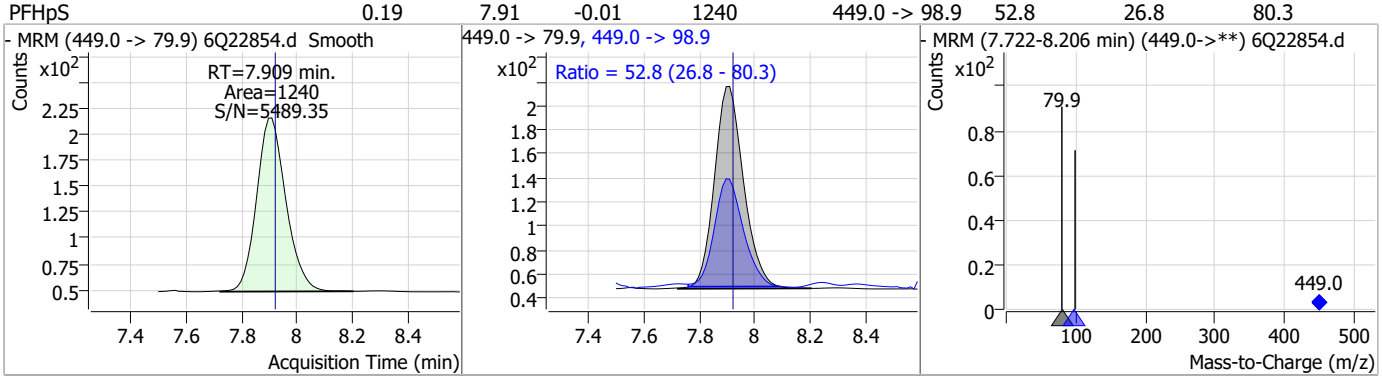


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.22	7.76	-0.01	6560	463.0 -> 219.0	19.9	9.5	28.5

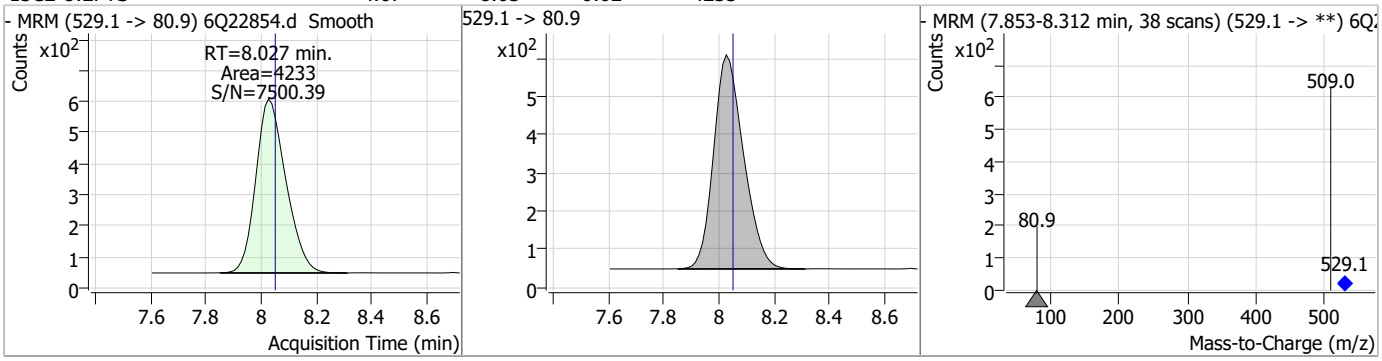


Perfluorinated Compounds by LC/MS/MS

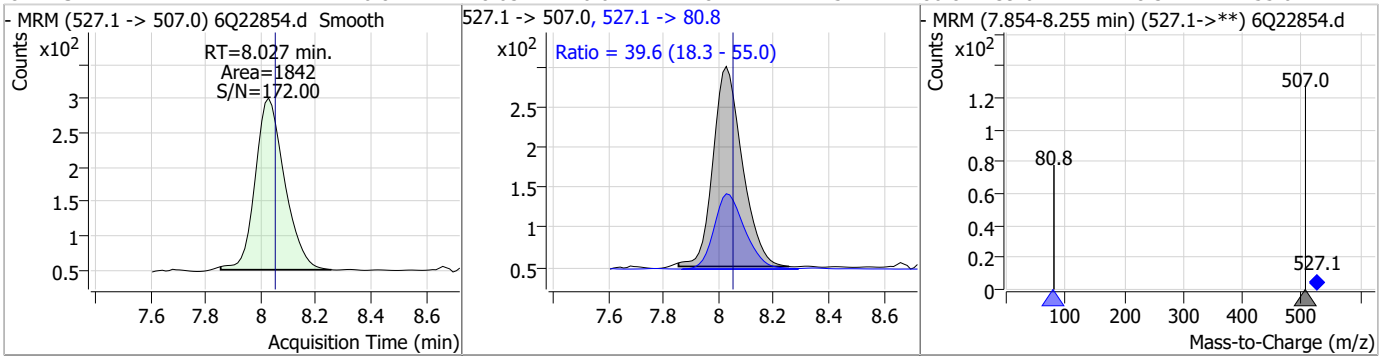
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	0.19	7.91	-0.01	1240	449.0 -> 98.9	52.8	26.8	80.3



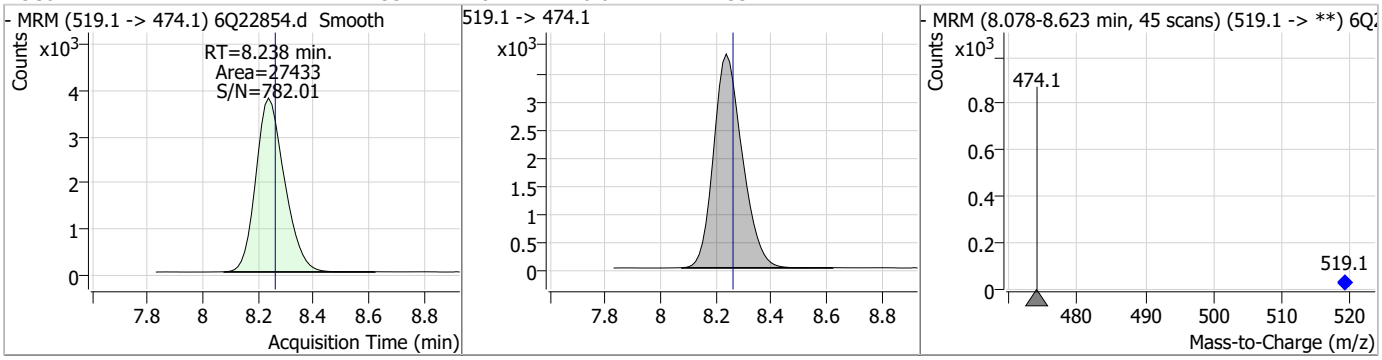
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.67	8.03	-0.02	4233				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	0.81	8.03	-0.02	1842	527.1 -> 80.8	39.6	18.3	55.0

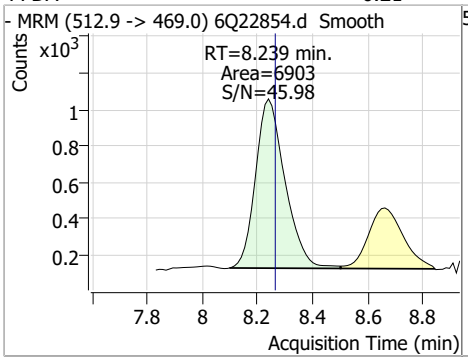


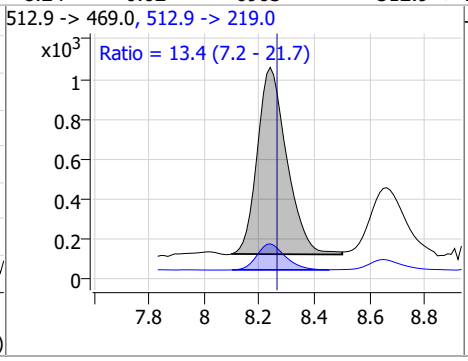
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.35	8.24	-0.02	27433				

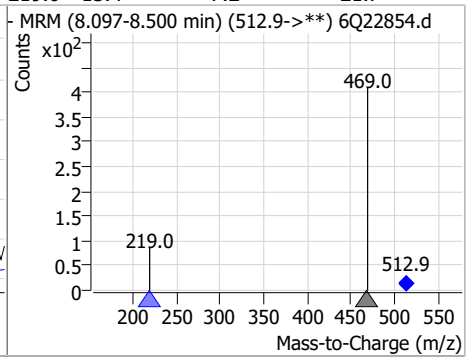


Perfluorinated Compounds by LC/MS/MS

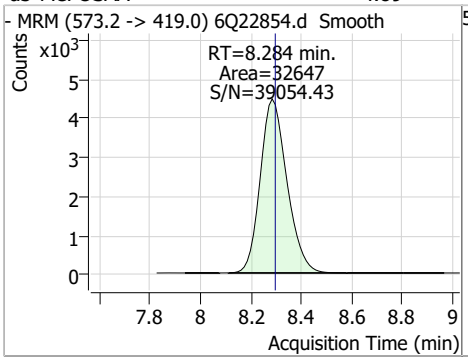
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.21	8.24	-0.02	6903	512.9 -> 219.0	13.4	7.2	21.7

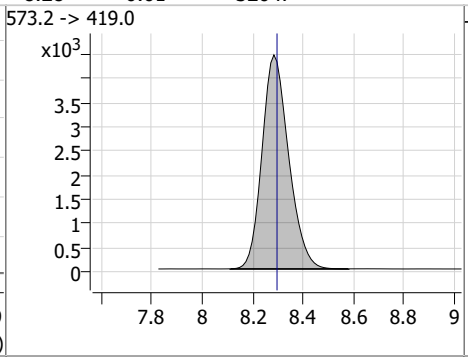


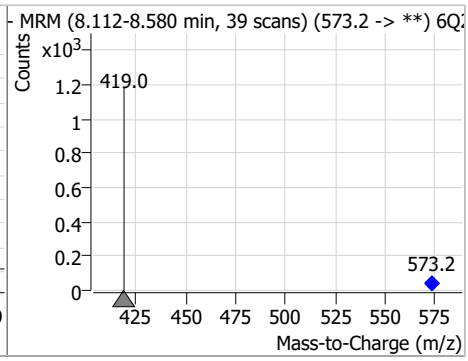




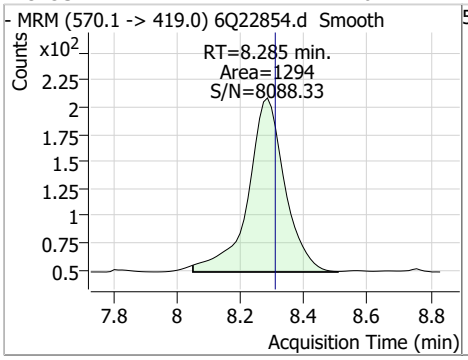
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.89	8.28	-0.01	32647				

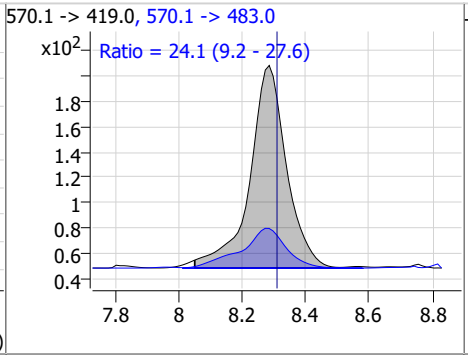


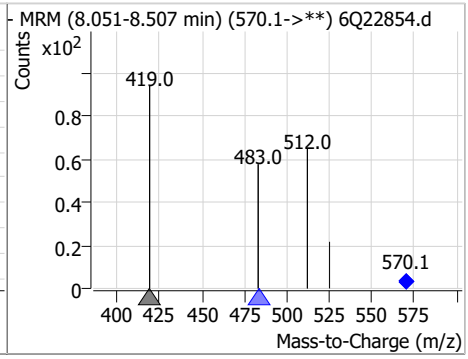




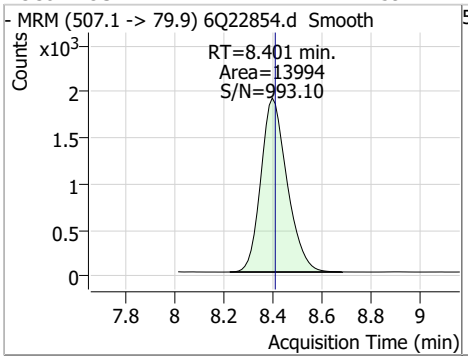
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.21	8.29	-0.02	1294	570.1 -> 483.0	24.1	9.2	27.6

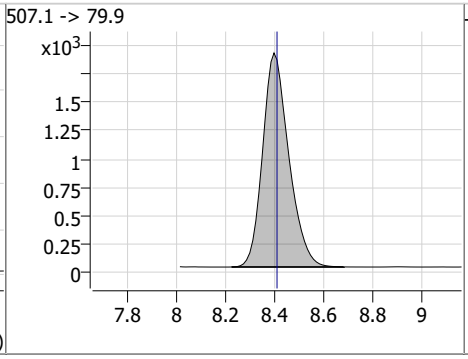


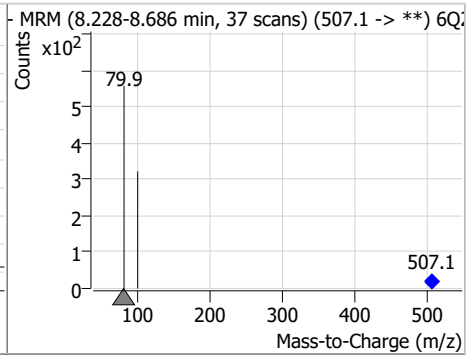




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.59	8.40	-0.01	13994				

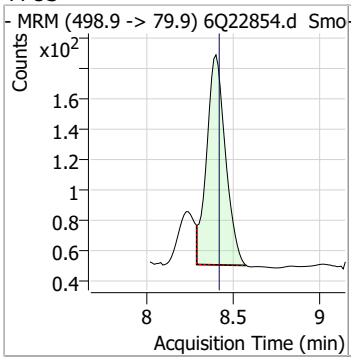


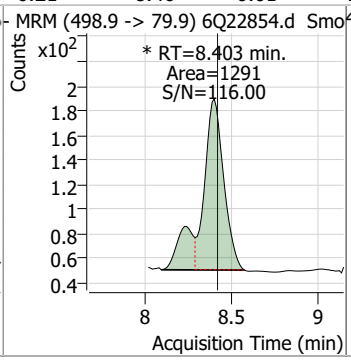


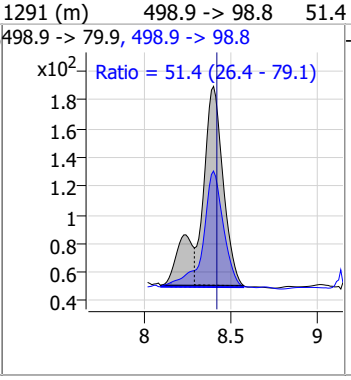


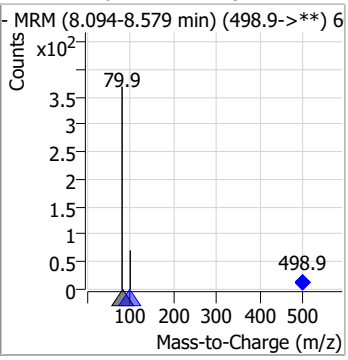
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.21	8.40	-0.01	1291 (m)	498.9 -> 98.8	51.4	26.4	79.1

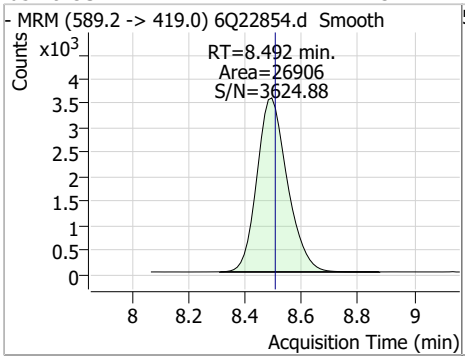


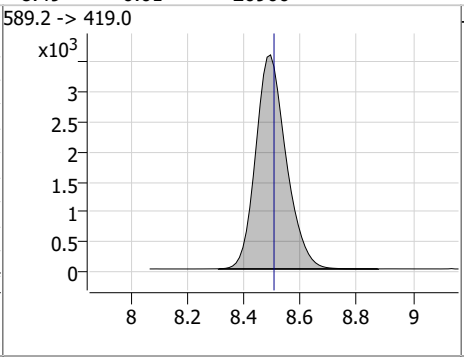


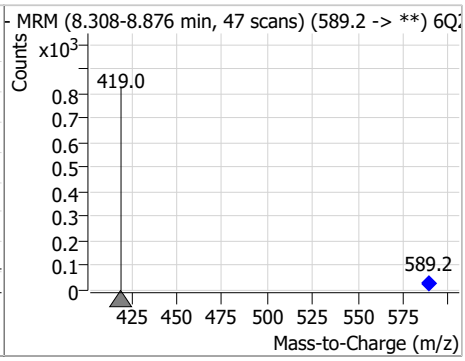




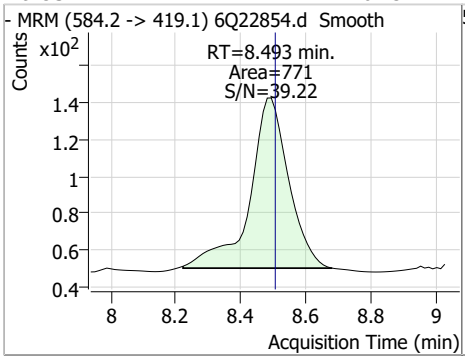
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.37	8.49	-0.01	26906				

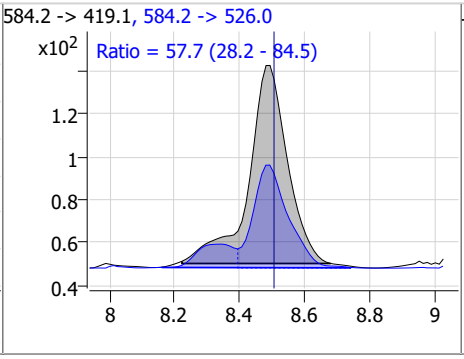


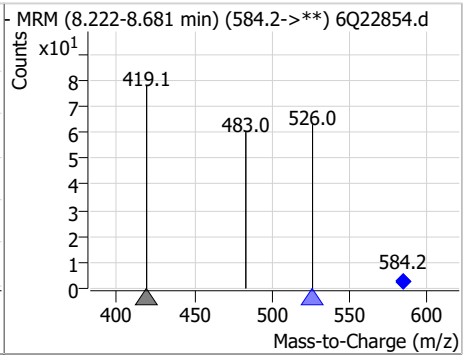




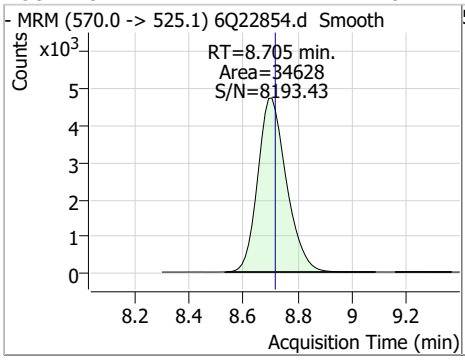
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.23	8.49	-0.01	771	584.2 -> 526.0	57.7	28.2	84.5

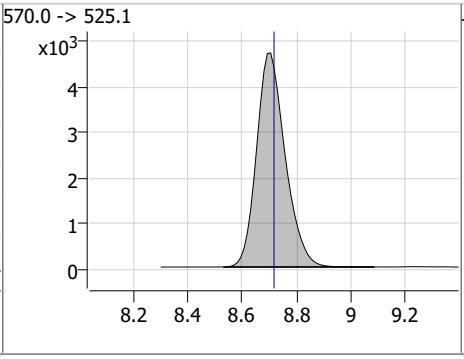


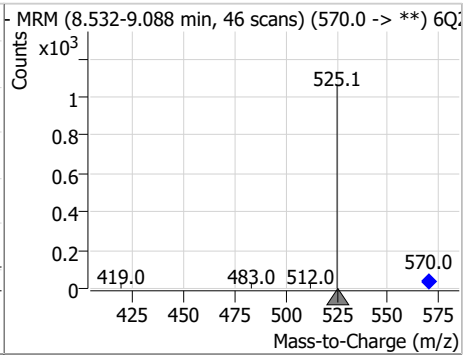




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.29	8.70	-0.01	34628				

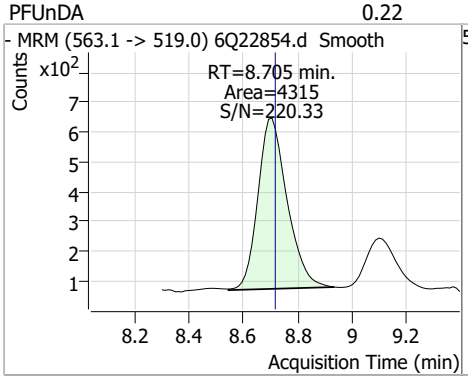


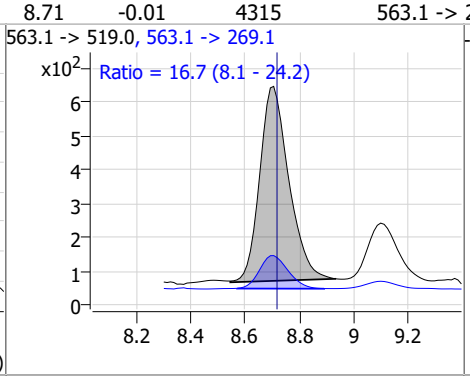


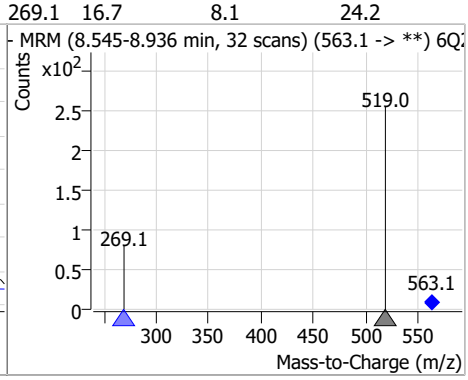


Perfluorinated Compounds by LC/MS/MS

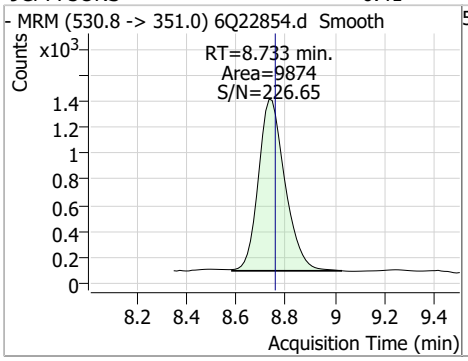
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	0.22	8.71	-0.01	4315	563.1 -> 269.1	16.7	8.1	24.2

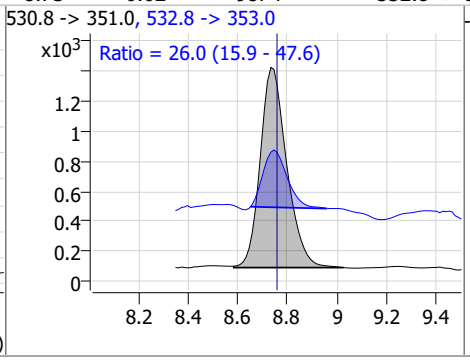


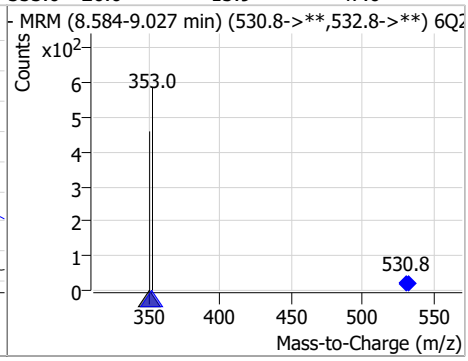




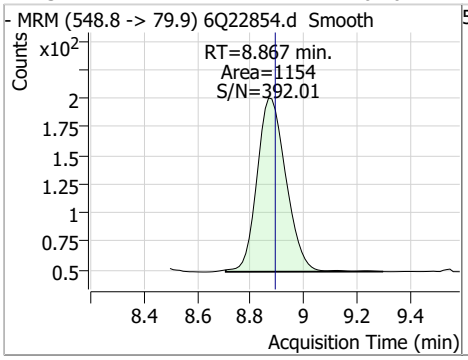
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	0.41	8.73	-0.02	9874	532.8 -> 353.0	26.0	15.9	47.6

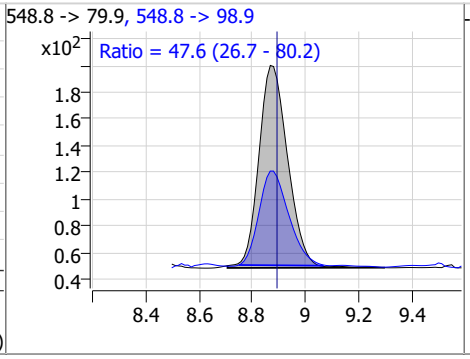


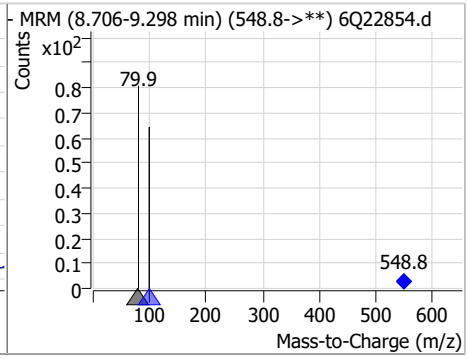




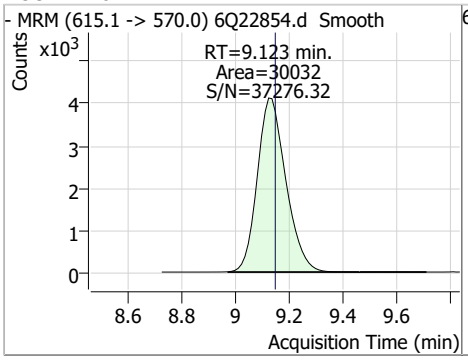
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	0.20	8.87	-0.03	1154	548.8 -> 98.9	47.6	26.7	80.2

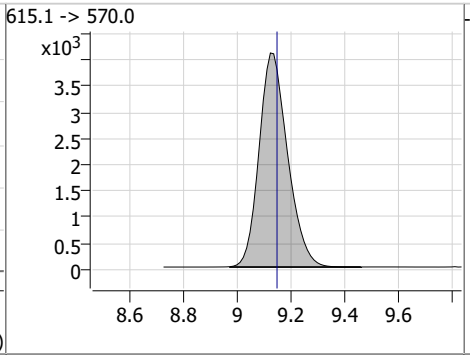


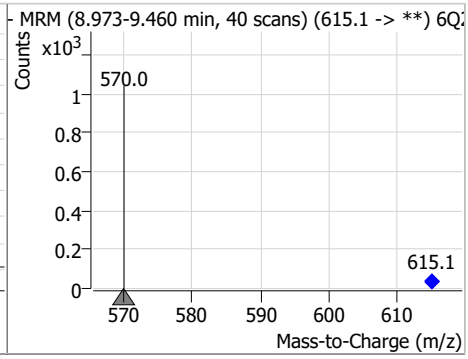




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.24	9.12	-0.02	30032				

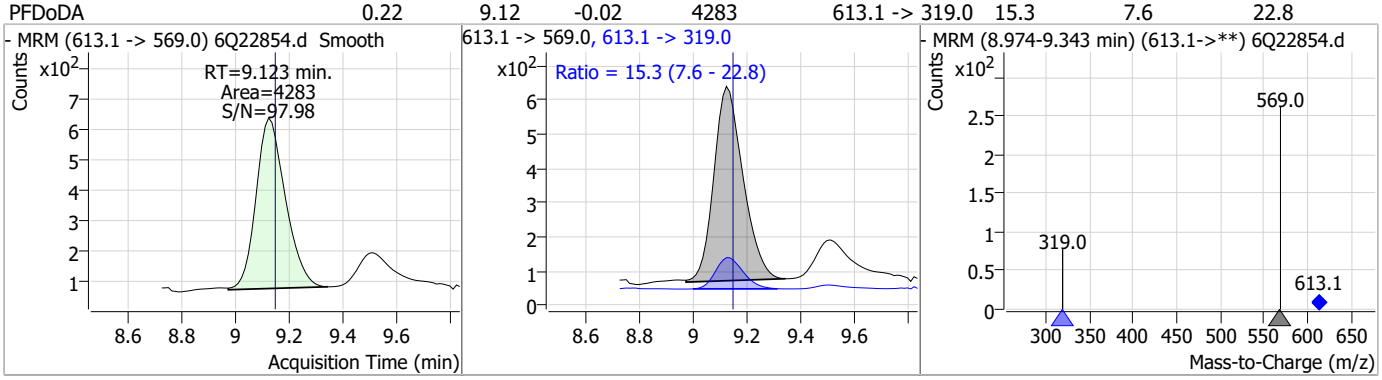




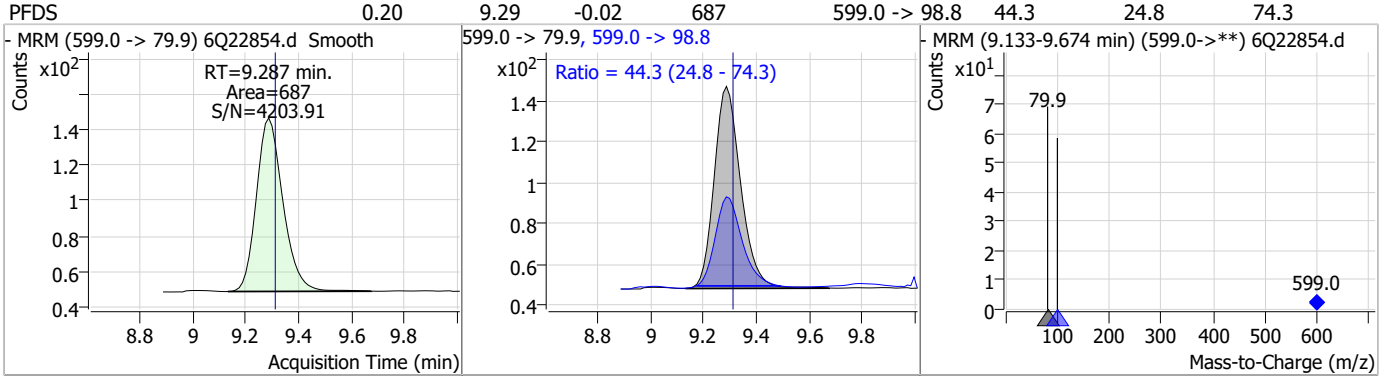


Perfluorinated Compounds by LC/MS/MS

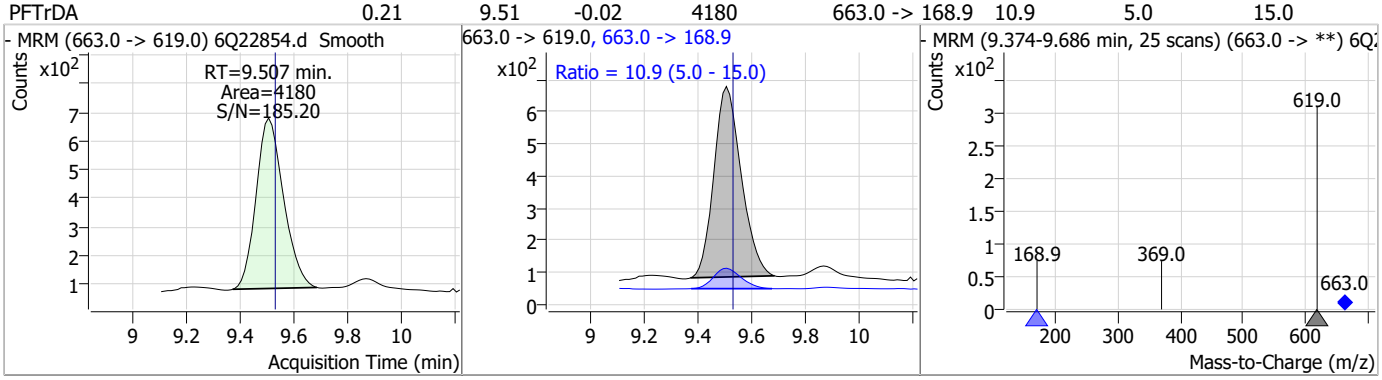
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	0.22	9.12	-0.02	4283	613.1 -> 319.0	15.3	7.6	22.8



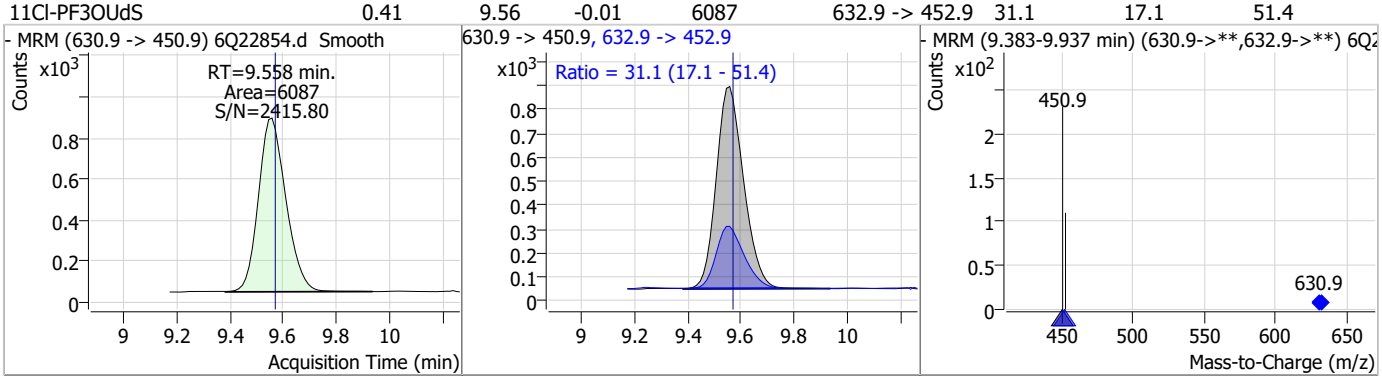
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	0.20	9.29	-0.02	687	599.0 -> 98.8	44.3	24.8	74.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	0.21	9.51	-0.02	4180	663.0 -> 168.9	10.9	5.0	15.0

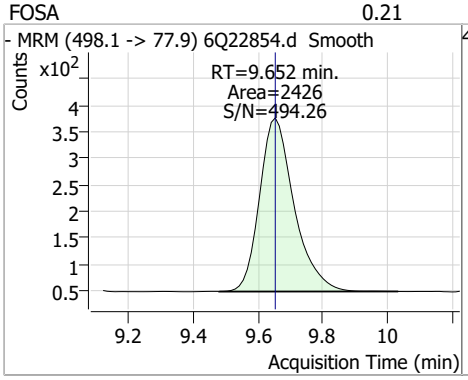


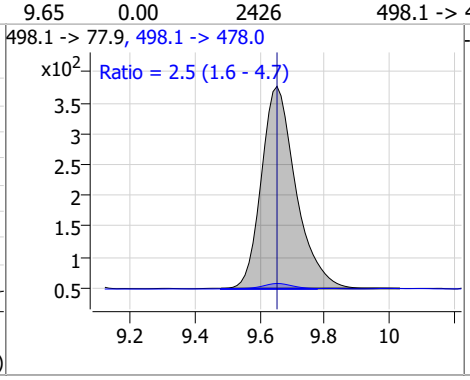
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	0.41	9.56	-0.01	6087	632.9 -> 452.9	31.1	17.1	51.4

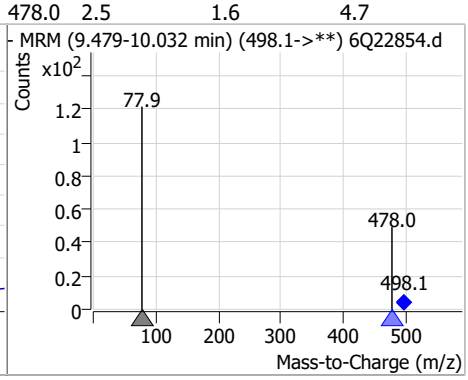


Perfluorinated Compounds by LC/MS/MS

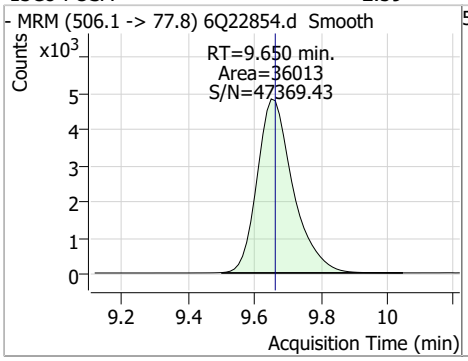
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	0.21	9.65	0.00	2426	498.1 -> 478.0	2.5	1.6	4.7

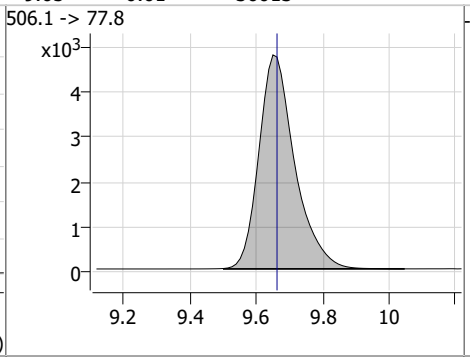


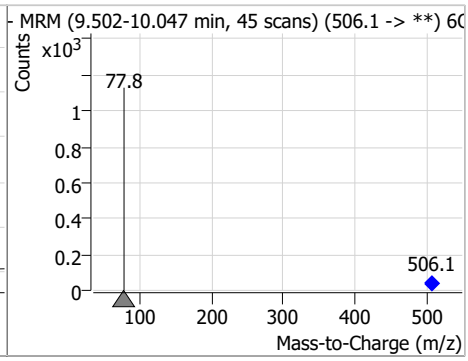




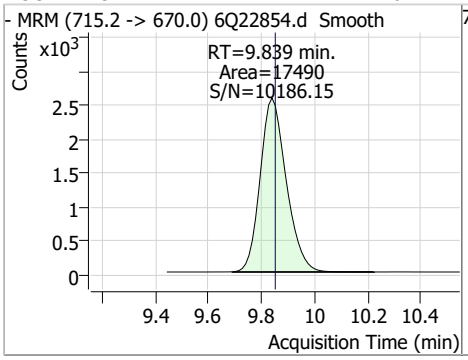
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.59	9.65	-0.01	36013				

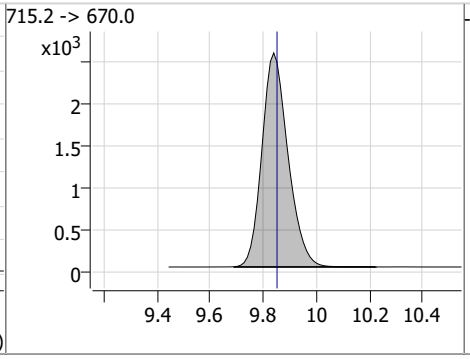


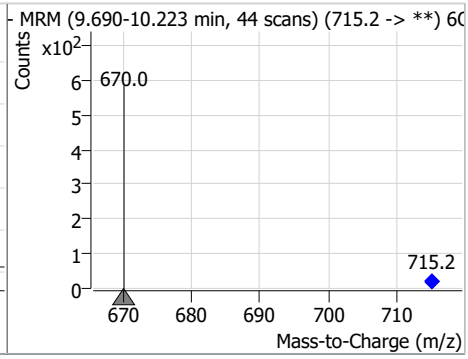




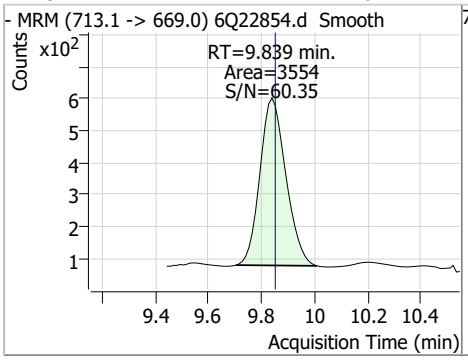
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.26	9.84	-0.01	17490				

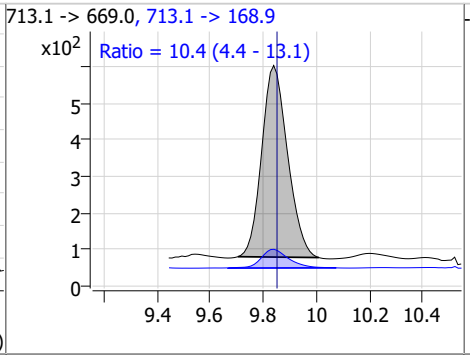


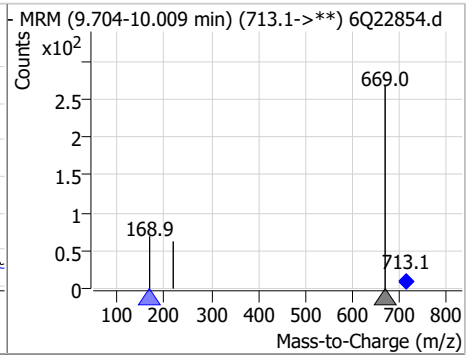




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	0.21	9.84	-0.01	3554	713.1 -> 168.9	10.4	4.4	13.1

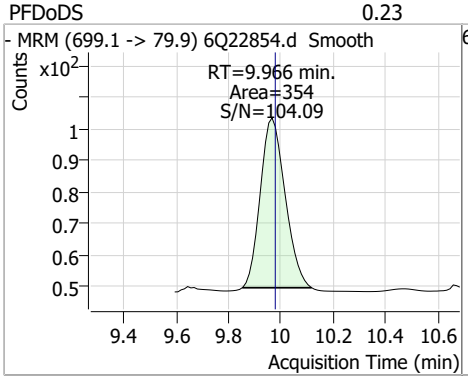


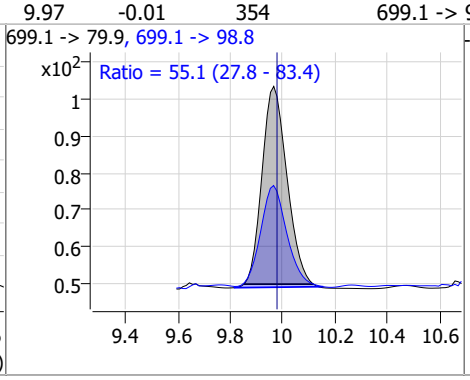


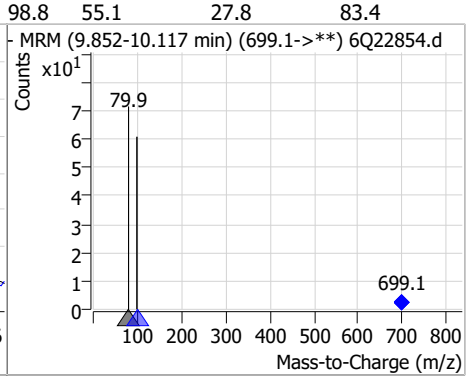


Perfluorinated Compounds by LC/MS/MS

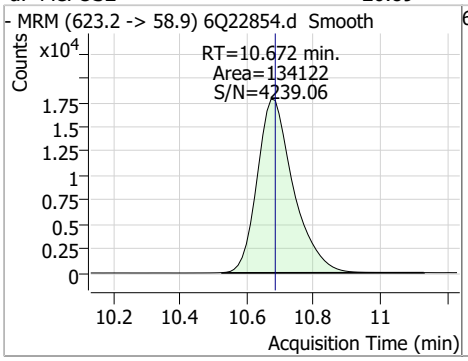
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	0.23	9.97	-0.01	354	699.1 -> 98.8	55.1	27.8	83.4

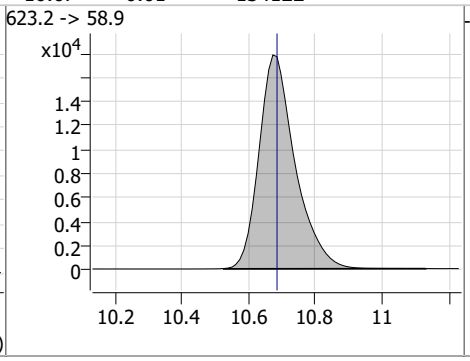


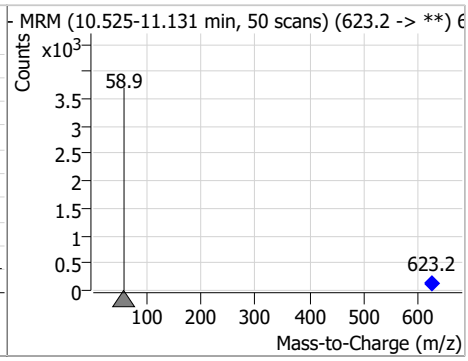




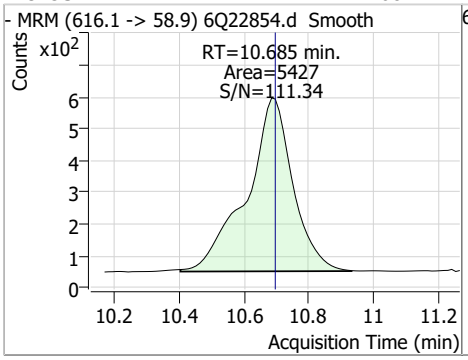
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.89	10.67	-0.01	134122				

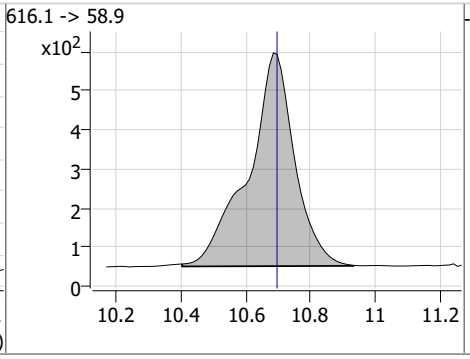


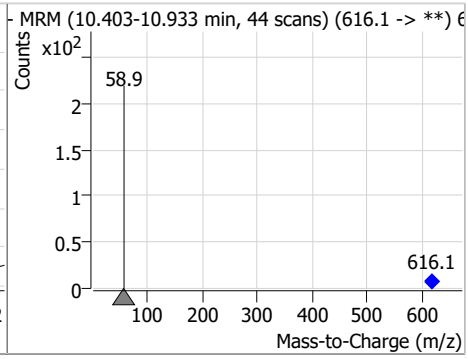




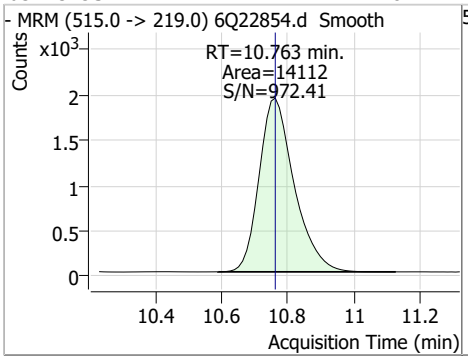
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	1.08	10.69	-0.01	5427				

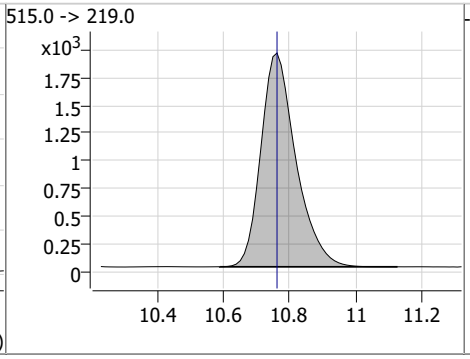


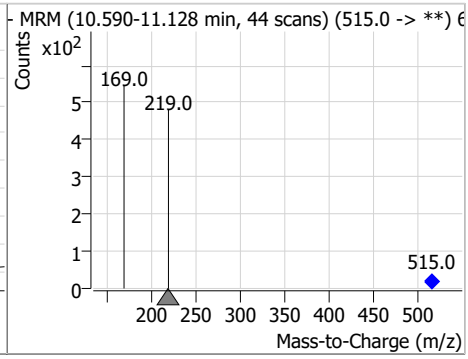




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.48	10.76	0.00	14112				

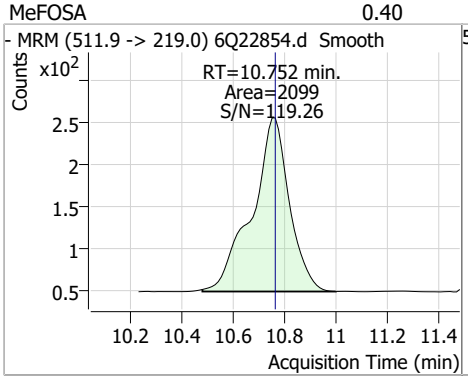


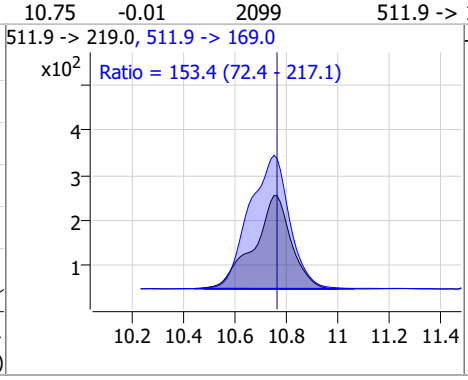


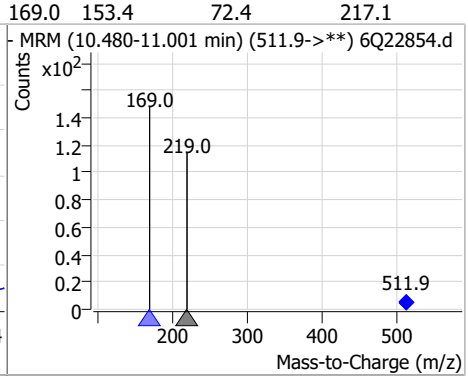


Perfluorinated Compounds by LC/MS/MS

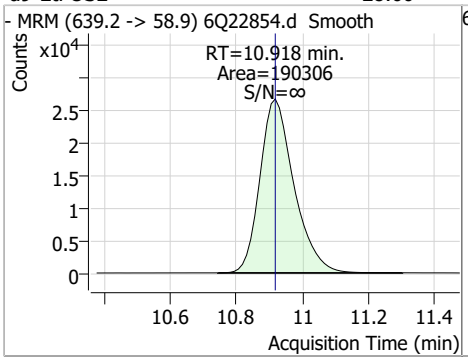
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.40	10.75	-0.01	2099	511.9 -> 169.0	153.4	72.4	217.1

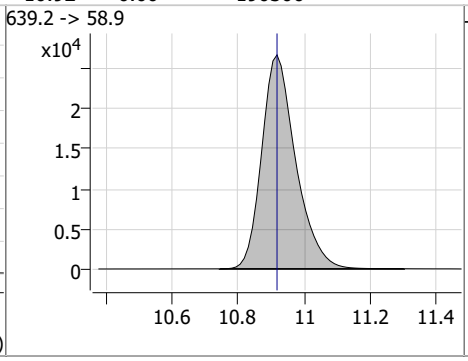


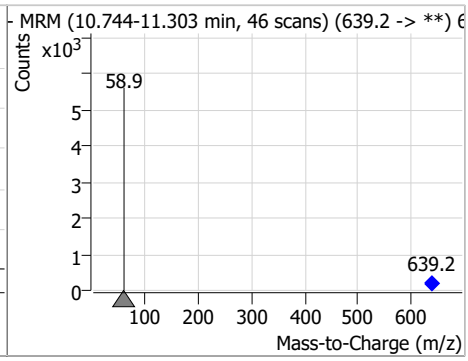




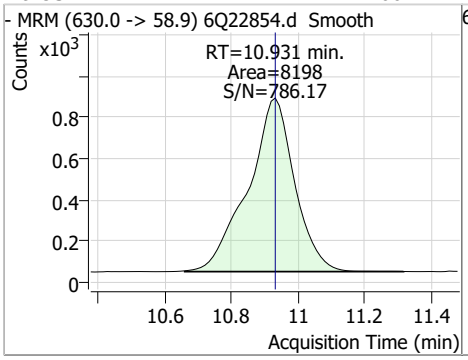
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	28.60	10.92	0.00	190306				

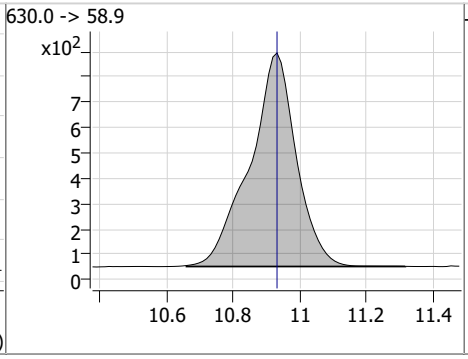


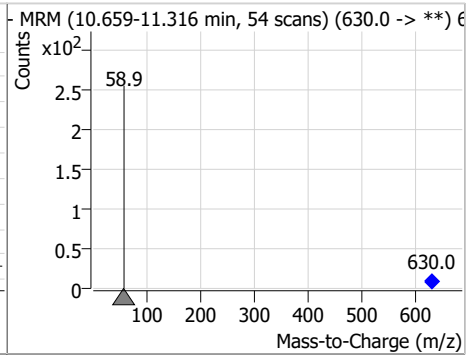




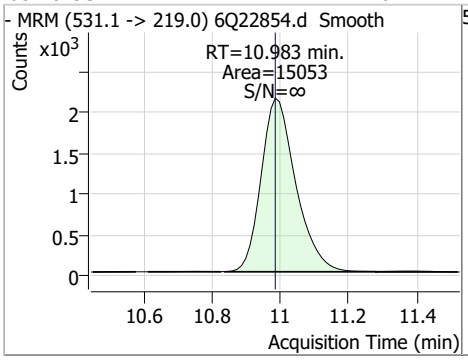
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	1.06	10.93	0.00	8198				

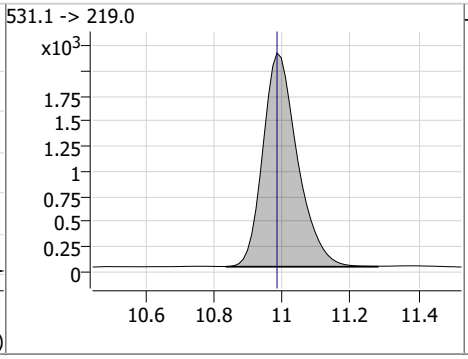


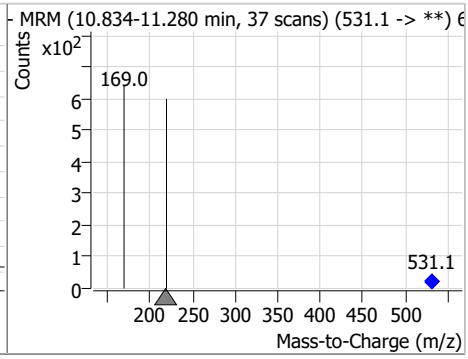




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.62	10.98	0.00	15053				

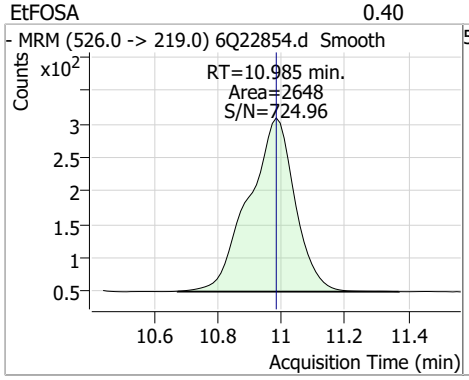


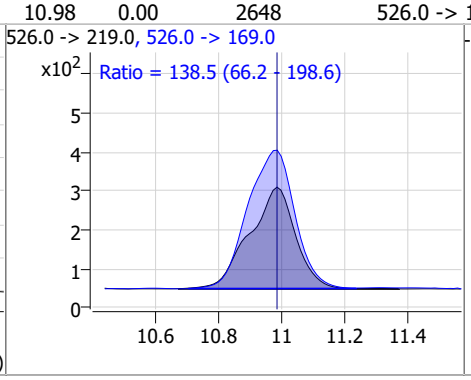


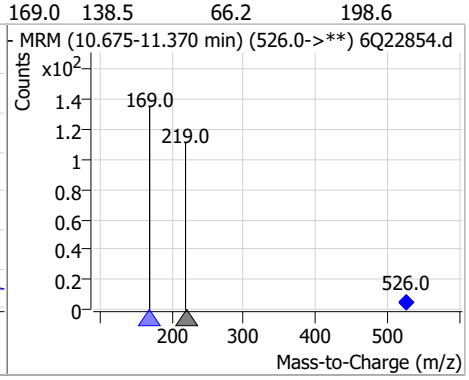


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.40	10.98	0.00	2648	526.0 -> 169.0	138.5	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q332-CC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22854.D	**Analyst approved:**	08/15/23 13:29 Martha Valls
Injection Time:	08/14/23 11:44	**Supervisor approved:**	08/16/23 15:10 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluoropentanoic acid	2706-90-3		4.45	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.40	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Norman Farmer 08/16/23 15:10

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22865.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/14/2023 2:33:02 PM
Sample Name : cc330-4
Vial : P1-A5
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : S6Q332.batch.bin
Sample Information : OP98201,S6Q332,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	171287	10.00	µg/L	-0.012
M5-PFPeA	4.447	268.3 -> 223.0	55068	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	59057	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	60054	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	85913	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	42732	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	26060	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	32171	1.25	µg/L	-0.012
M2-PFDoDA	9.123	615.1 -> 570.0	30191	1.25	µg/L	-0.025
M2-PFTeDA	9.839	715.2 -> 670.0	16549	1.25	µg/L	-0.012
M8-FOSA	9.650	506.1 -> 77.8	32883	2.50	µg/L	-0.012
M3-PFBS	5.599	302.1 -> 79.9	22603	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	14740	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	13449	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	3046	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4454	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	3704	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	32242	5.00	µg/L	-0.012
M3-HFPO-DA	6.033	286.9 -> 168.9	39941	10.00	µg/L	-0.012
M5-EtFOSAA	8.480	589.2 -> 419.0	27134	5.00	µg/L	-0.025
M7-MeFOSE	10.672	623.2 -> 58.9	124082	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	167623	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	13429	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	12688	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	18216	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	72710	5.00	µg/L	0.000
18O2-PFHxS	7.341	403.0 -> 83.9	10564	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	93073	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	33471	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	51793	1.25	µg/L	-0.012
13C2-PFHxA	5.656	315.1 -> 270.0	57046	2.50	µg/L	-0.012
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	3046	4.83	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.5%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4454	4.89	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.8%		
13C2-8:2FTS	8.027	529.1 -> 80.9	3704	4.15	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 83.1%		
13C2-PFDoDA	9.123	615.1 -> 570.0	30191	1.34	µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.8%		
13C2-PFTeDA	9.839	715.2 -> 670.0	16549	1.27	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.8%		
13C3-PFBS	5.599	302.1 -> 79.9	22603	2.52	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%		
13C3-PFHxS	7.342	402.1 -> 79.9	14740	2.54	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 = 101.5%	
13C4-PFBA	2.997	216.8 -> 171.9	171287	9.97 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFHpA	6.596	367.1 -> 322.0	60054	2.61 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C5-PFHxA	5.668	318.0 -> 273.0	59057	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C5-PFPeA	4.447	268.3 -> 223.0	55068	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C6-PFDA	8.238	519.1 -> 474.1	26060	1.38 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 110.3%	
13C7-PFUnDA	8.705	570.0 -> 525.1	32171	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C8-FOSA	9.650	506.1 -> 77.8	32883	2.39 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.7%	
13C8-PFOA	7.226	421.1 -> 376.0	85913	2.50 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C8-PFOS	8.401	507.1 -> 79.9	13449	2.52 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C9-PFNA	7.758	472.1 -> 427.0	42732	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.8%	
d3-MeFOSAA	8.284	573.2 -> 419.0	32242	4.89 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C3-HFPO-DA	6.033	286.9 -> 168.9	39941	10.82 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.2%	
d3-MeFOSA	10.763	515.0 -> 219.0	12688	2.25 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.2%	
d5-EtFOSAA	8.480	589.2 -> 419.0	27134	4.46 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 89.2%	
d7-MeFOSE	10.672	623.2 -> 58.9	124082	25.20 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
d9-EtFOSE	10.918	639.2 -> 58.9	167623	25.51 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.1%	
d5-EtFOSA	10.983	531.1 -> 219.0	13429	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.7%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	39385	9.99 µg/L	97
		327.1 -> 80.9	14758		
6:2FTS	7.002	427.1 -> 407.0	38065	9.56 µg/L	98
		427.1 -> 80.9	13267		
8:2FTS	8.027	527.1 -> 507.0	18806	9.49 µg/L	93
		527.1 -> 80.8	7659		
EtFOSAA	8.493	584.2 -> 419.1	8213	2.40 µg/L	96
		584.2 -> 526.0	4366		
FOSA	9.652	498.1 -> 77.9	25430	2.46 µg/L	100
		498.1 -> 478.0	815		
MeFOSAA	8.285	570.1 -> 419.0	14405	2.34 µg/L	90
		570.1 -> 483.0	3274		
PFBA	3.006	212.8 -> 168.9	53745	10.04 µg/L	100
PFBS	5.600	298.7 -> 79.9	17136	2.32 µg/L	99
		298.7 -> 98.8	6540		
PFDA	8.239	512.9 -> 469.0	73942	2.39 µg/L	100
		512.9 -> 219.0	10591		
PFDoDA	9.123	613.1 -> 569.0	47885	2.42 µg/L	100
		613.1 -> 319.0	7372		
PFDS	9.287	599.0 -> 79.9	7596	2.35 µg/L	99

Perfluorinated Compounds by LC/MS/MS

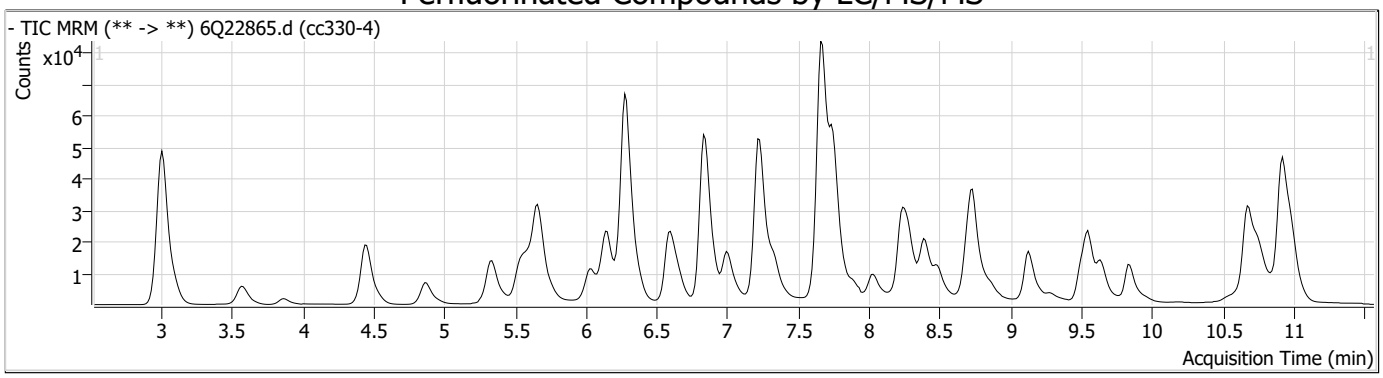
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3727				
PFHpA	6.596	363.1 -> 319.0	57124	2.41	µg/L		100
		363.1 -> 169.0	9535				
PFHpS	7.897	449.0 -> 79.9	15092	2.46	µg/L		96
		449.0 -> 98.9	7611				
PFHxA	5.670	313.0 -> 269.0	44746	2.59	µg/L		100
		313.0 -> 118.9	2350				
PFHxS	7.343	398.7 -> 79.9	14718	2.26	µg/L	m	99
		398.7 -> 98.9	7271				
PFNA	7.758	463.0 -> 419.0	74361	2.53	µg/L		99
		463.0 -> 219.0	13669				
PFNS	8.867	548.8 -> 79.9	13437	2.42	µg/L		96
		548.8 -> 98.9	6807				
PFOA	7.228	413.0 -> 369.0	94762	2.70	µg/L		99
		413.0 -> 169.0	15744				
PFOS	8.403	498.9 -> 79.9	13897	2.40	µg/L	m	95
		498.9 -> 98.8	6869				
PFPeA	4.449	263.0 -> 219.0	62477	5.15	µg/L		100
PFPeS	6.660	349.1 -> 79.9	14399	2.39	µg/L		97
		349.1 -> 98.9	6310				
PFTeDA	9.839	713.1 -> 669.0	39287	2.44	µg/L		99
		713.1 -> 168.9	3228				
PFTrDA	9.507	663.0 -> 619.0	47494	2.33	µg/L		97
		663.0 -> 168.9	5263				
PFUnDA	8.693	563.1 -> 519.0	47075	2.54	µg/L		98
		563.1 -> 269.1	7940				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	66302	4.65	µg/L		95
		632.9 -> 452.9	20677				
9Cl-PF3ONS	8.745	530.8 -> 351.0	106595	4.63	µg/L		99
		532.8 -> 353.0	33493				
ADONA	6.846	376.9 -> 250.9	241857	4.75	µg/L		99
		376.9 -> 84.8	62841				
HFPO-DA	6.034	284.9 -> 168.9	16207	4.77	µg/L		98
		284.9 -> 184.9	1834				
3:3FTCA	3.859	241.0 -> 177.0	10252	12.11	µg/L		99
		241.0 -> 117.0	1357				
5:3FTCA	6.285	341.0 -> 237.1	225500	63.47	µg/L		98
		341.0 -> 217.0	163572				
7:3FTCA	7.673	441.0 -> 316.9	159545	60.71	µg/L		89
		441.0 -> 336.9	334475				
EtFOSA	10.985	526.0 -> 219.0	29880	5.05	µg/L		99
		526.0 -> 169.0	39996				
EtFOSE	10.931	630.0 -> 58.9	89287	13.15	µg/L		100
MeFOSA	10.752	511.9 -> 219.0	24677	5.25	µg/L		99
		511.9 -> 169.0	35397				
MeFOSE	10.685	616.1 -> 58.9	57367	12.37	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	3604	2.40	µg/L		98
		699.1 -> 98.8	2060				
NFDHA	5.538	295.0 -> 201.0	11519	5.24	µg/L		96
		295.0 -> 84.9	3032				
PFMBA	4.869	279.0 -> 85.1	43400	5.06	µg/L		100
PFMPA	3.576	229.0 -> 84.9	35285	5.14	µg/L		100
PFEESA	6.151	314.8 -> 134.9	111126	4.79	µg/L		100
		314.8 -> 82.9	3949				

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

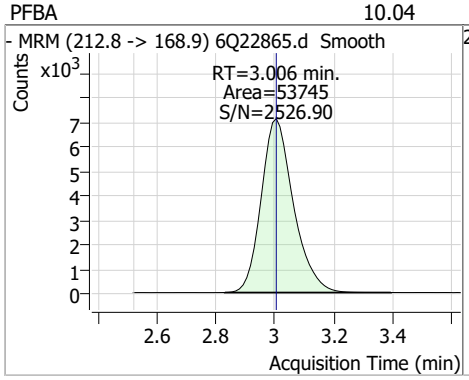
Perfluorinated Compounds by LC/MS/MS

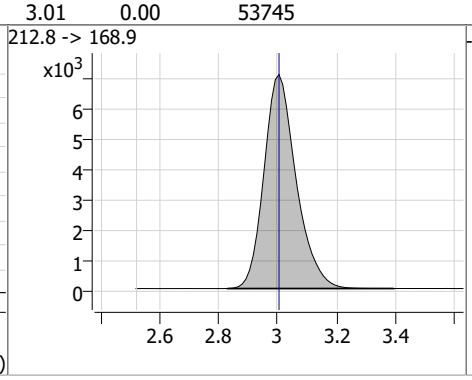
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

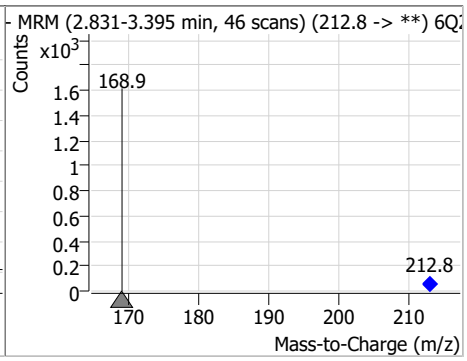
Perfluorinated Compounds by LC/MS/MS



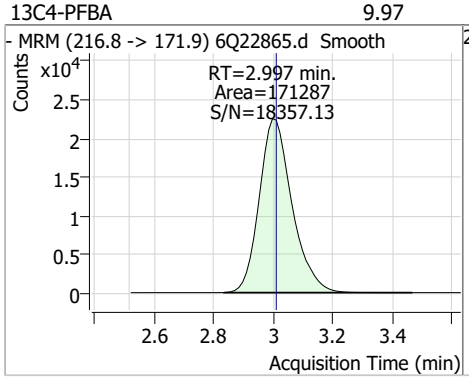
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	10.04	3.01	0.00	53745				

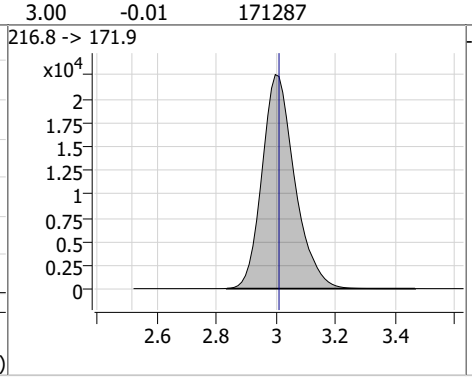


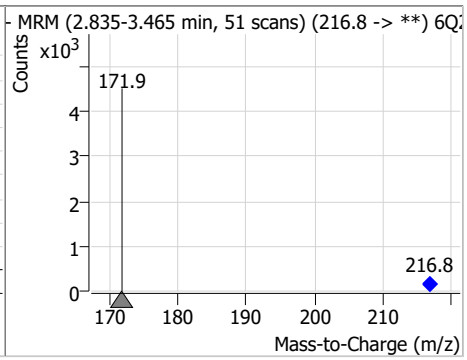




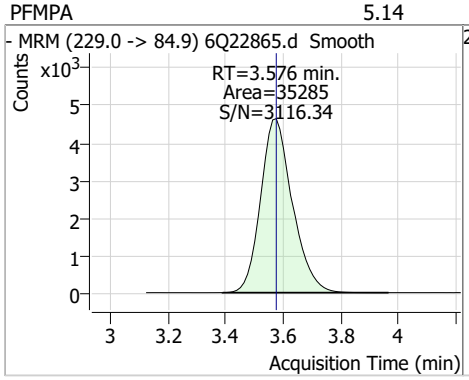
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.97	3.00	-0.01	171287				

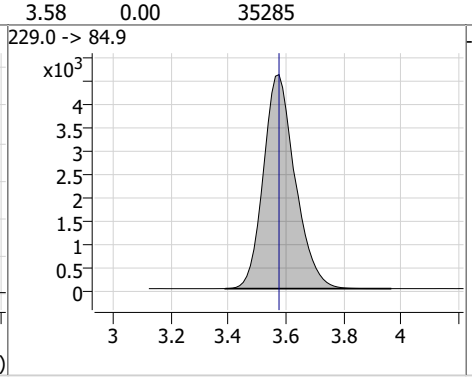


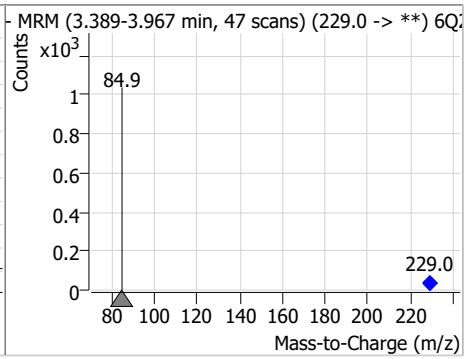




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	5.14	3.58	0.00	35285				

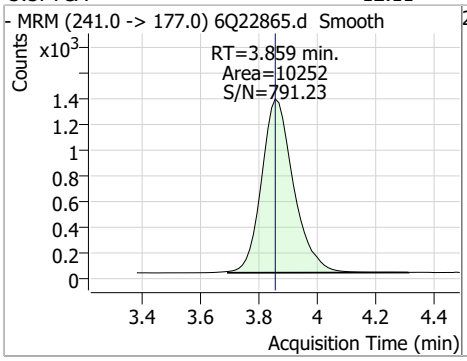


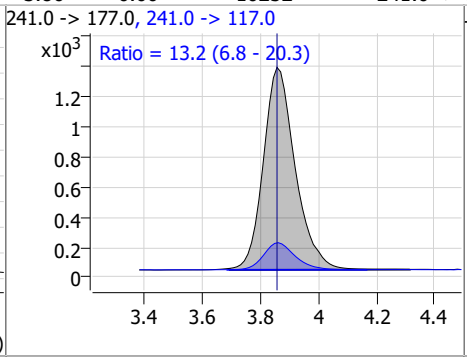


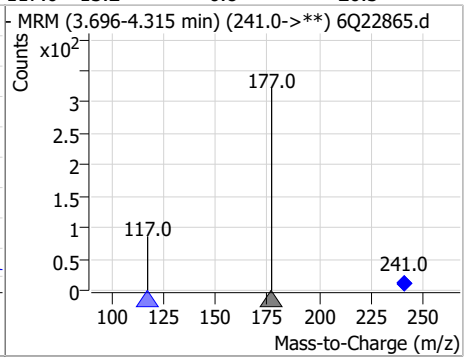


Perfluorinated Compounds by LC/MS/MS

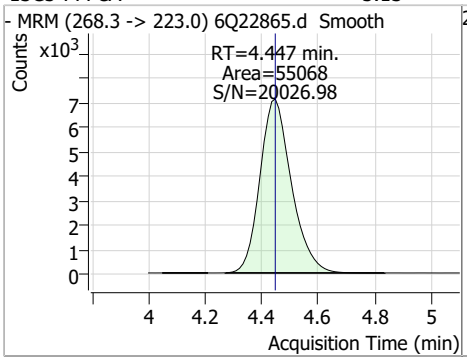
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.11	3.86	0.00	10252	241.0 -> 117.0	13.2	6.8	20.3

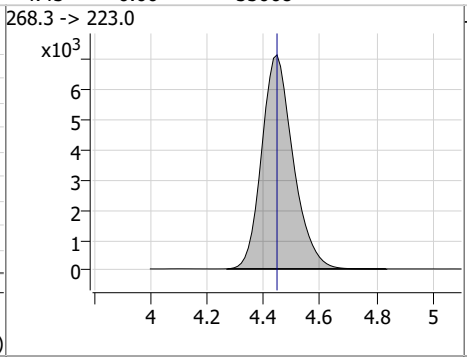


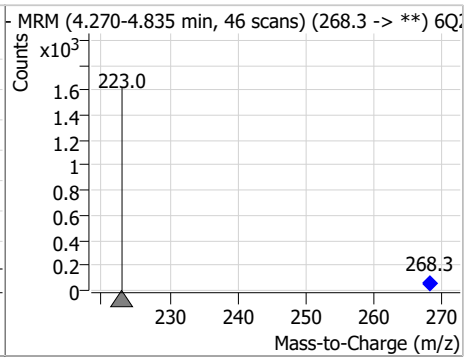




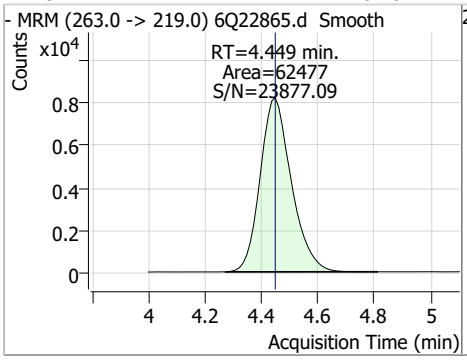
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.13	4.45	0.00	55068				

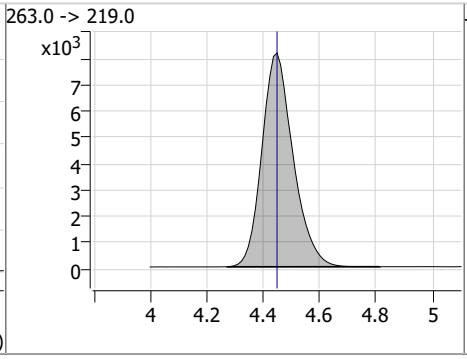


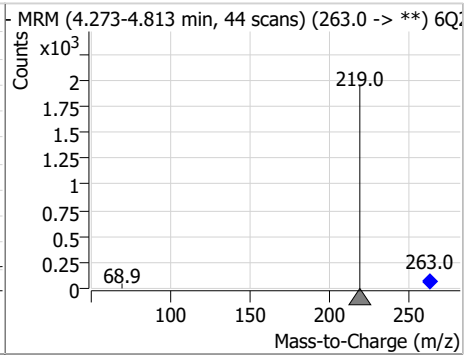




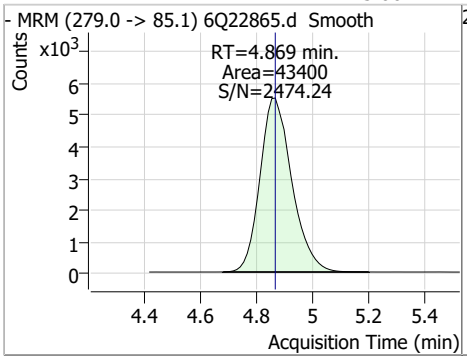
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	5.15	4.45	0.00	62477				

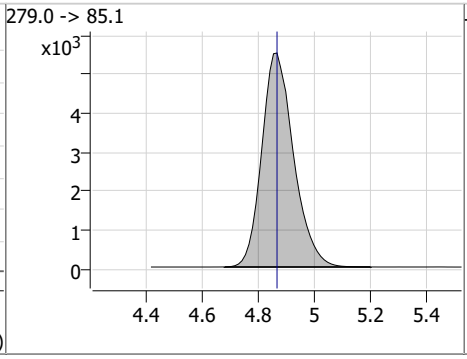


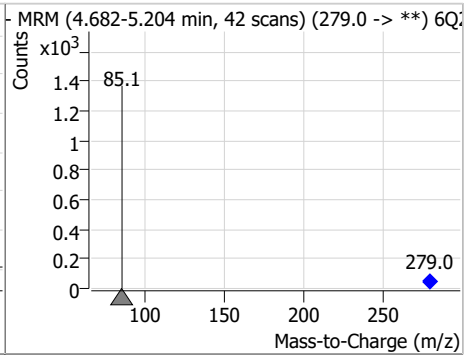




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.06	4.87	0.00	43400				

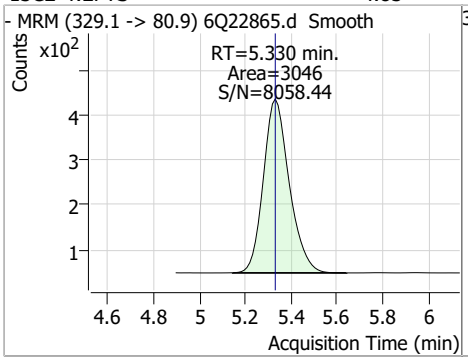


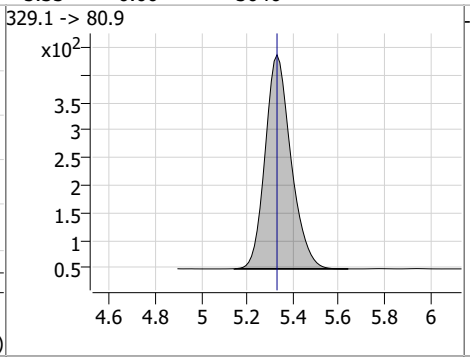


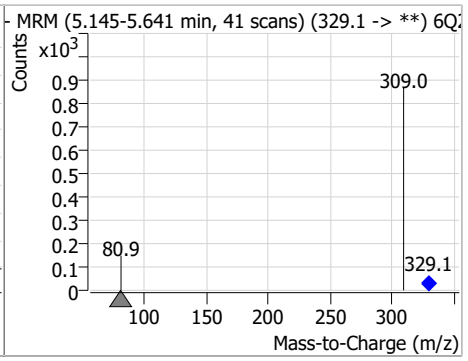


Perfluorinated Compounds by LC/MS/MS

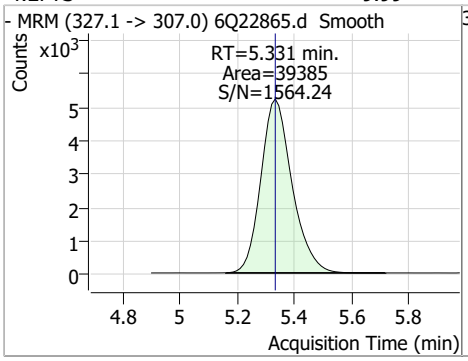
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.83	5.33	0.00	3046				

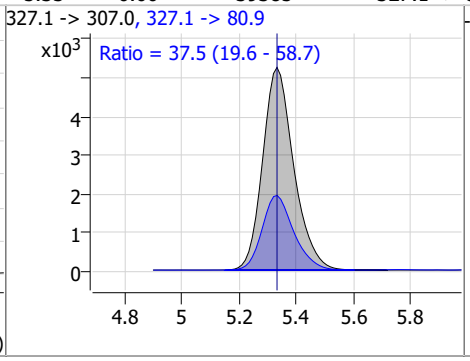


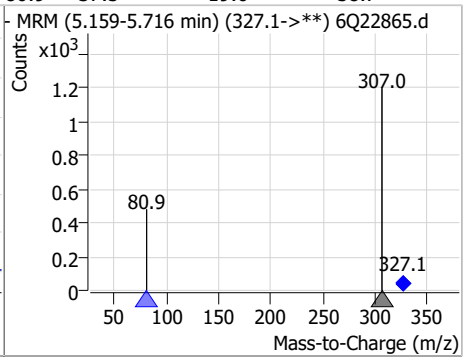




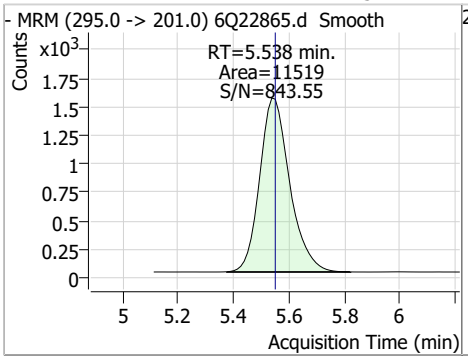
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.99	5.33	0.00	39385	327.1 -> 80.9	37.5	19.6	58.7

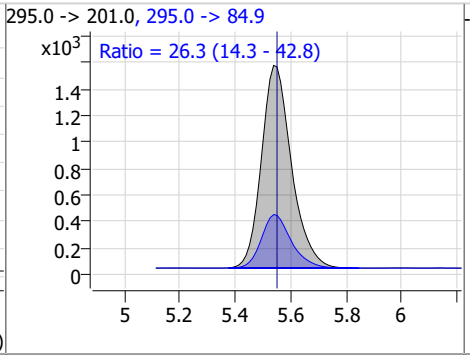


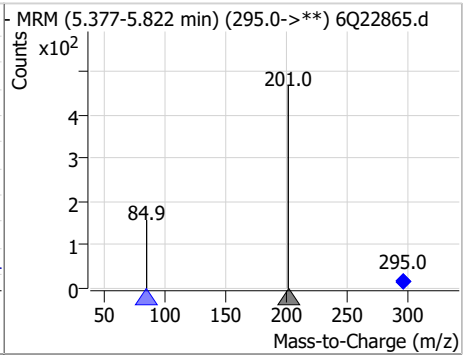




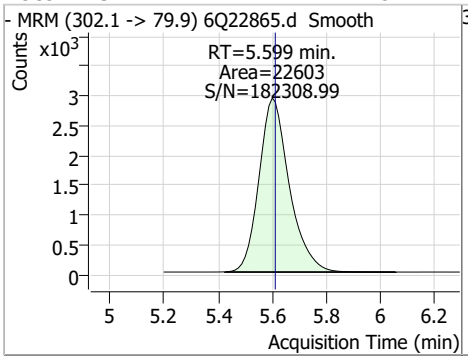
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	5.24	5.54	-0.01	11519	295.0 -> 84.9	26.3	14.3	42.8

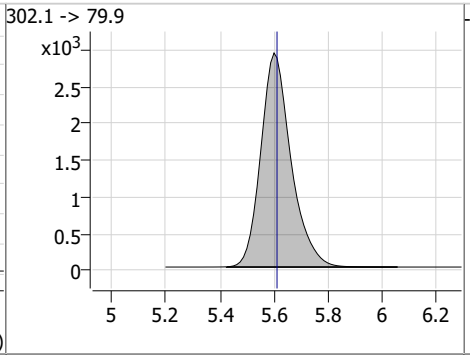


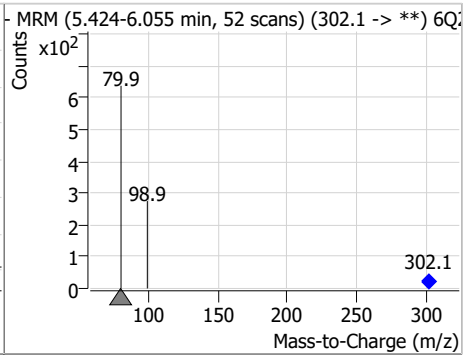




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.52	5.60	-0.01	22603				

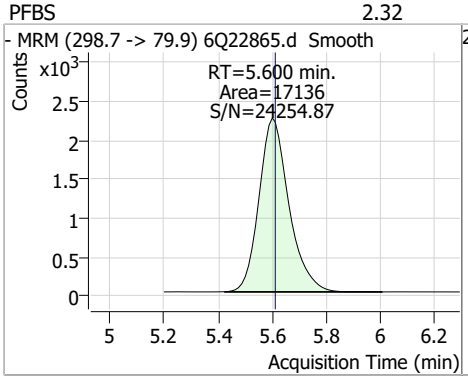


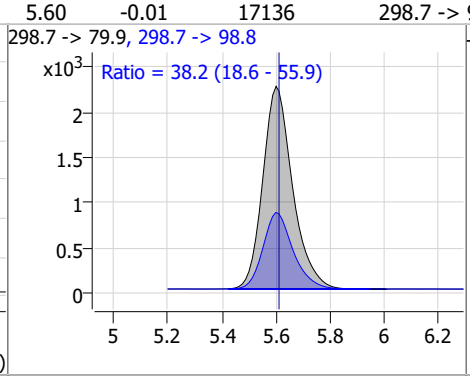


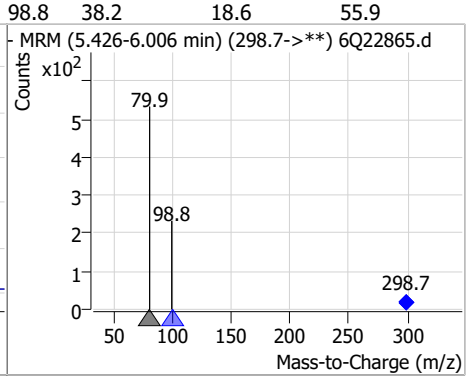


Perfluorinated Compounds by LC/MS/MS

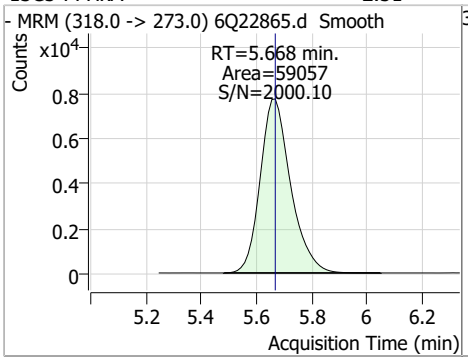
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.32	5.60	-0.01	17136	298.7 -> 98.8	38.2	18.6	55.9

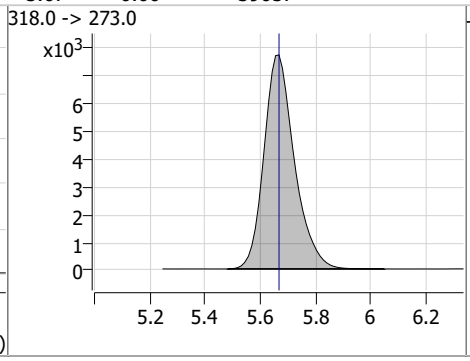


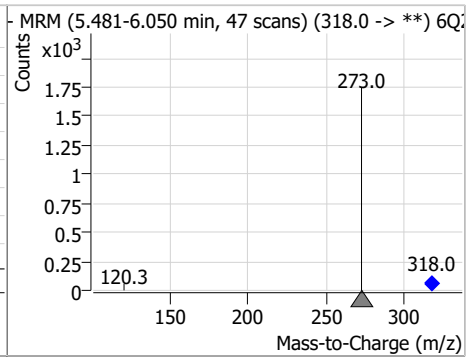




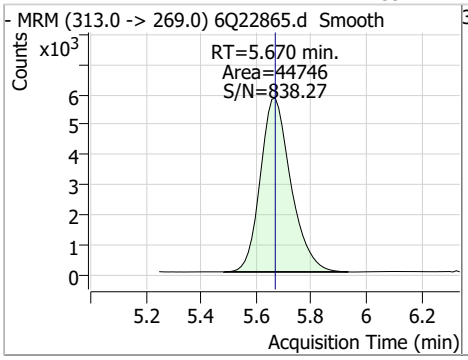
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.51	5.67	0.00	59057				

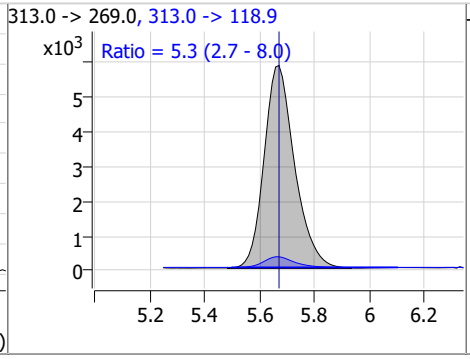


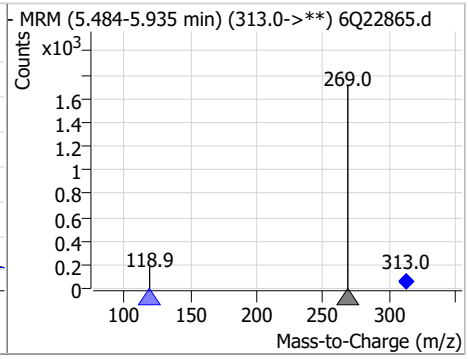




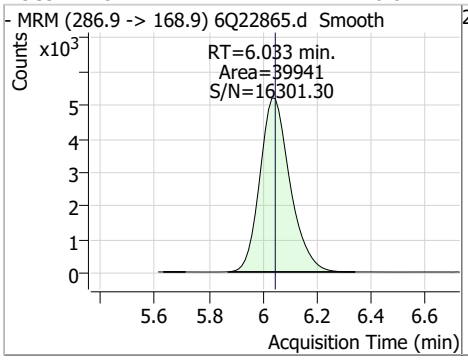
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.59	5.67	0.00	44746	313.0 -> 118.9	5.3	2.7	8.0

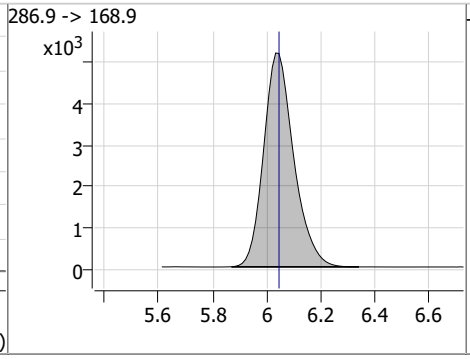


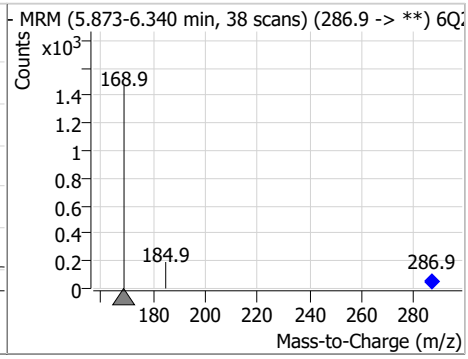




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.82	6.03	-0.01	39941				

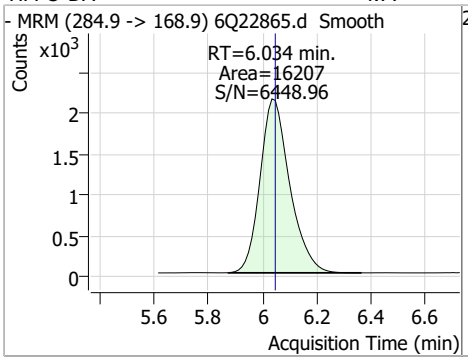


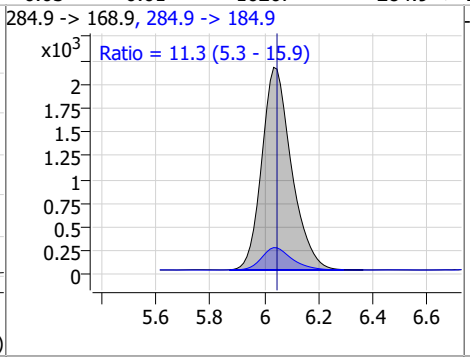


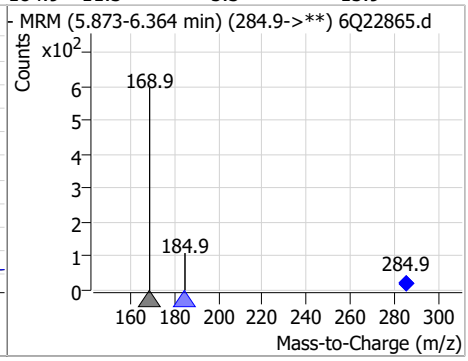


Perfluorinated Compounds by LC/MS/MS

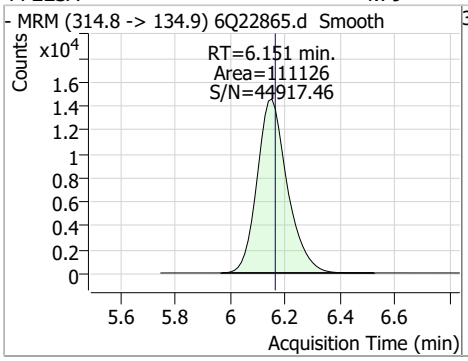
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.77	6.03	-0.01	16207	284.9 -> 184.9	11.3	5.3	15.9

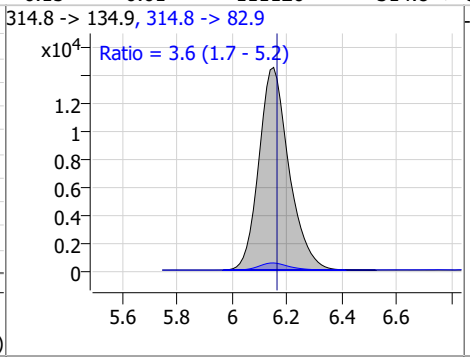


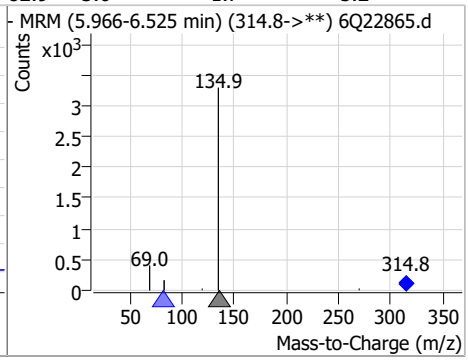




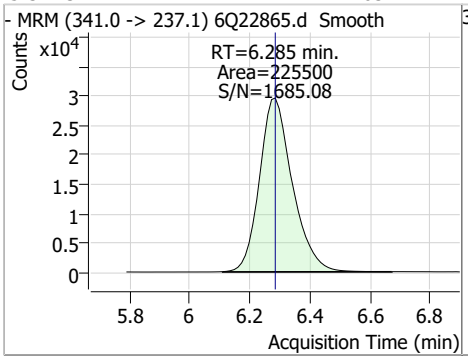
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.79	6.15	-0.01	111126	314.8 -> 82.9	3.6	1.7	5.2

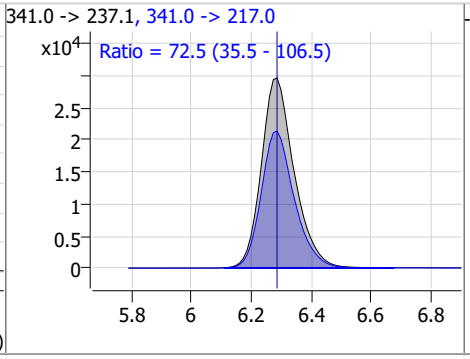


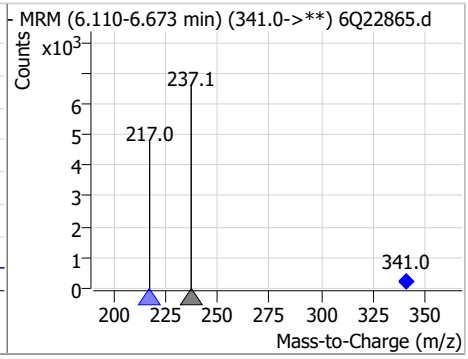




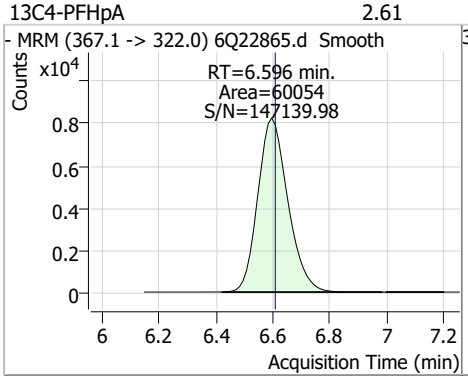
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	63.47	6.28	0.00	225500	341.0 -> 217.0	72.5	35.5	106.5

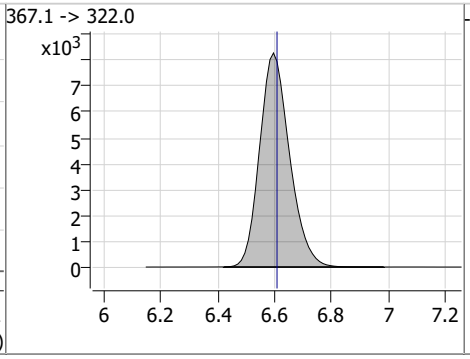


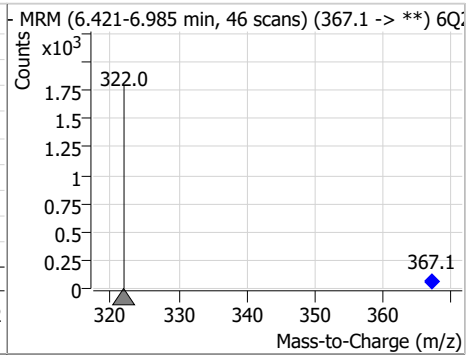




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.61	6.60	-0.01	60054				

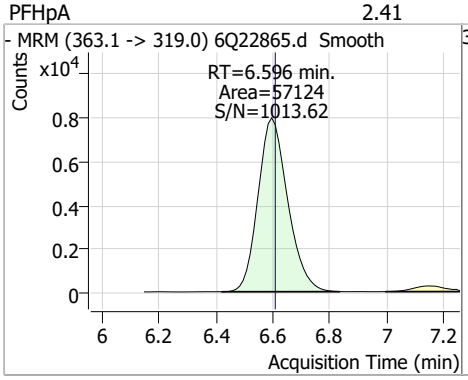


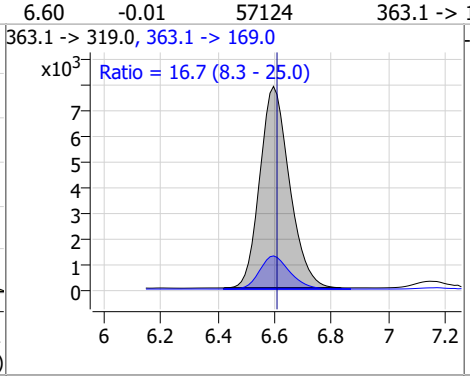


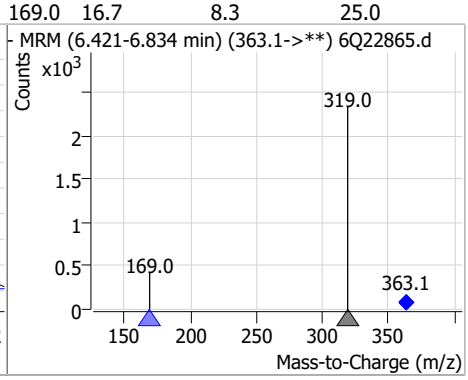


Perfluorinated Compounds by LC/MS/MS

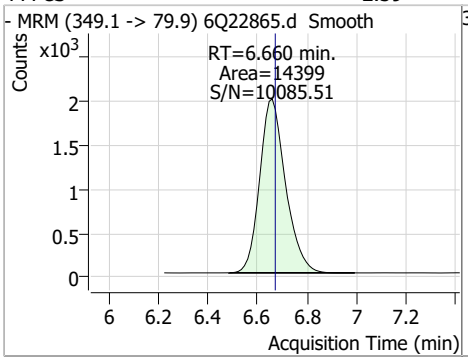
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.41	6.60	-0.01	57124	363.1 -> 169.0	16.7	8.3	25.0

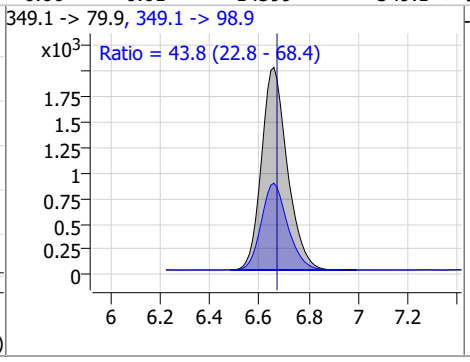


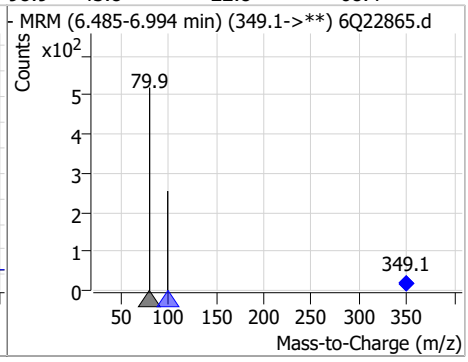




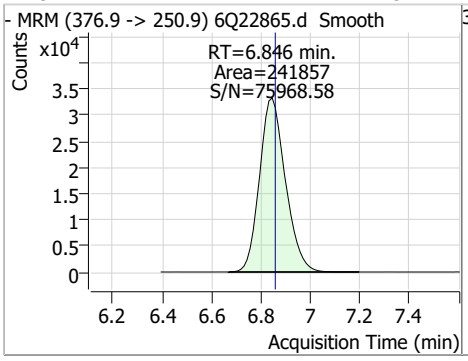
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.39	6.66	-0.01	14399	349.1 -> 98.9	43.8	22.8	68.4

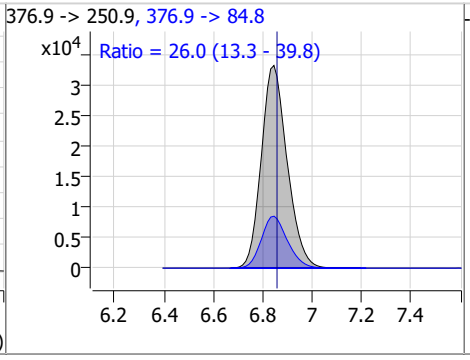


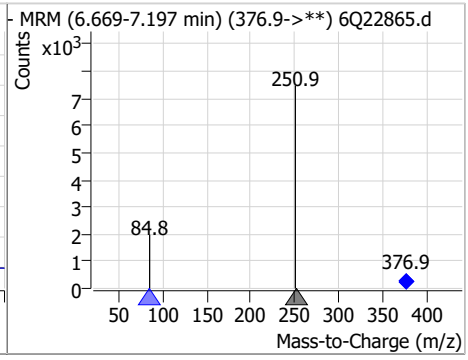




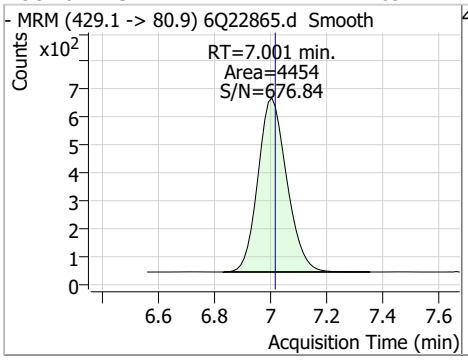
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.75	6.85	-0.01	241857	376.9 -> 84.8	26.0	13.3	39.8

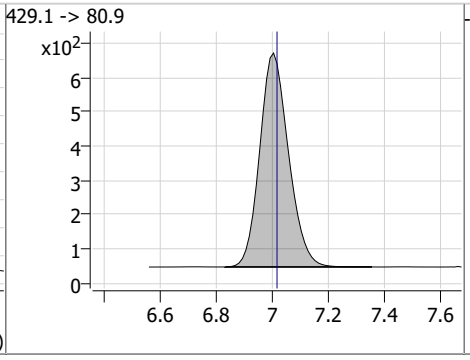


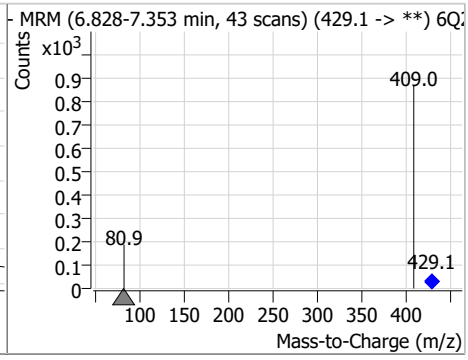




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.89	7.00	-0.01	4454				

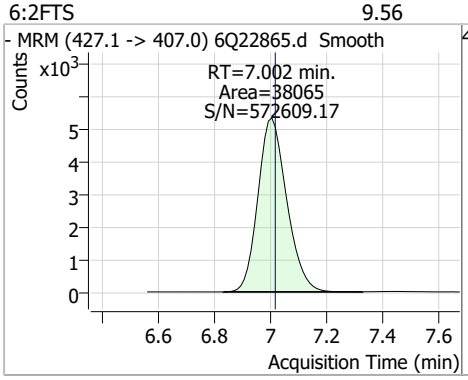


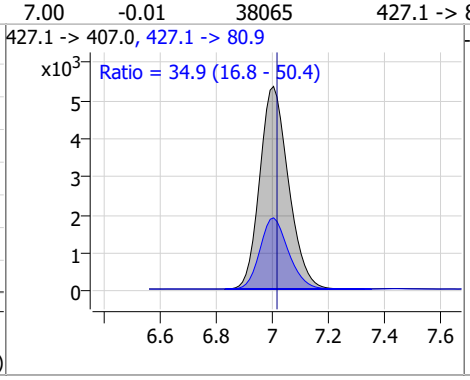


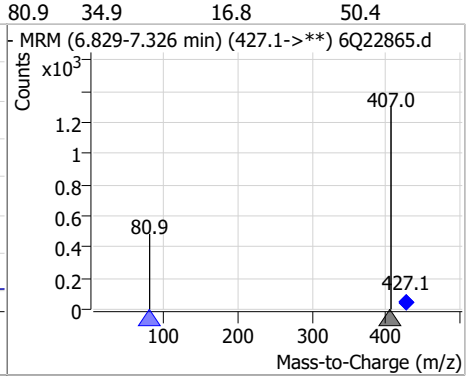


Perfluorinated Compounds by LC/MS/MS

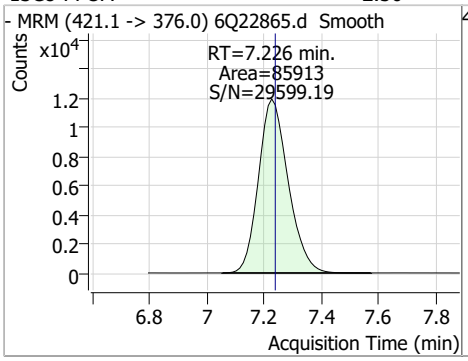
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.56	7.00	-0.01	38065	427.1 -> 80.9	34.9	16.8	50.4

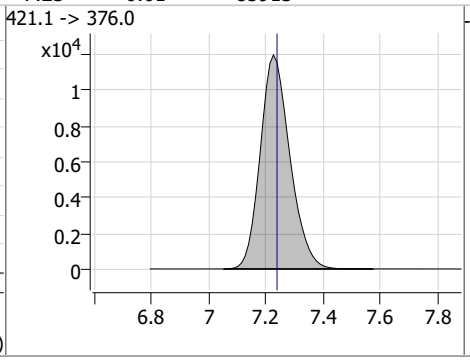


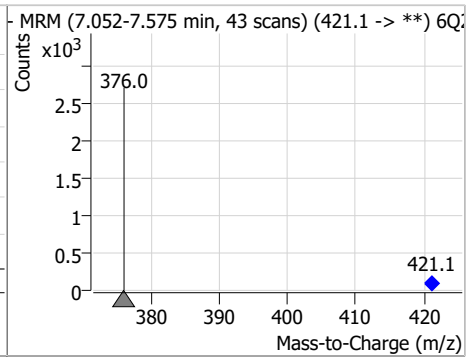




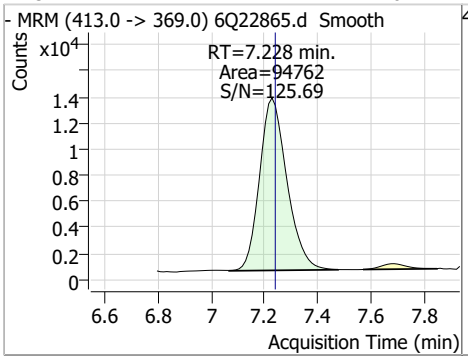
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.50	7.23	-0.01	85913				

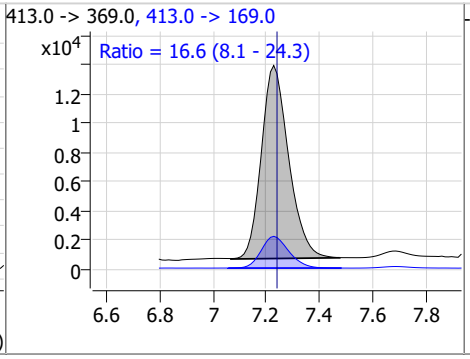


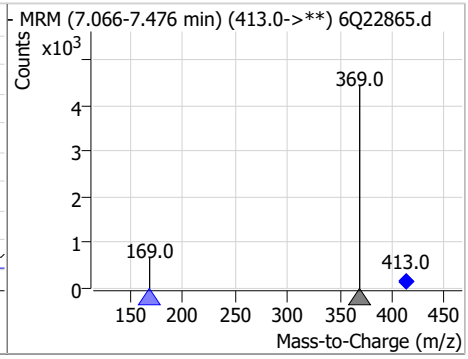




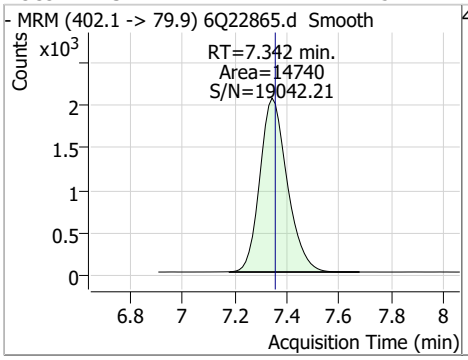
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.70	7.23	-0.01	94762	413.0 -> 169.0	16.6	8.1	24.3

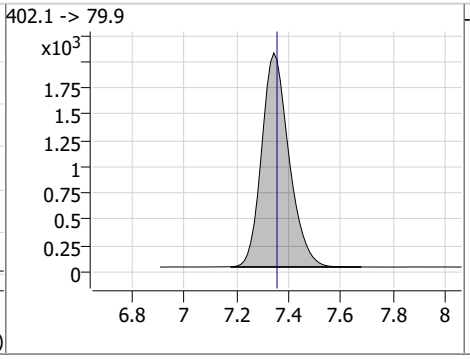


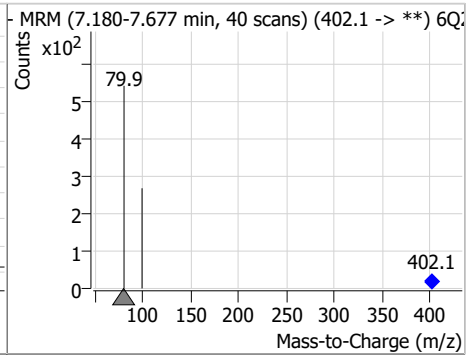




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.54	7.34	-0.01	14740				

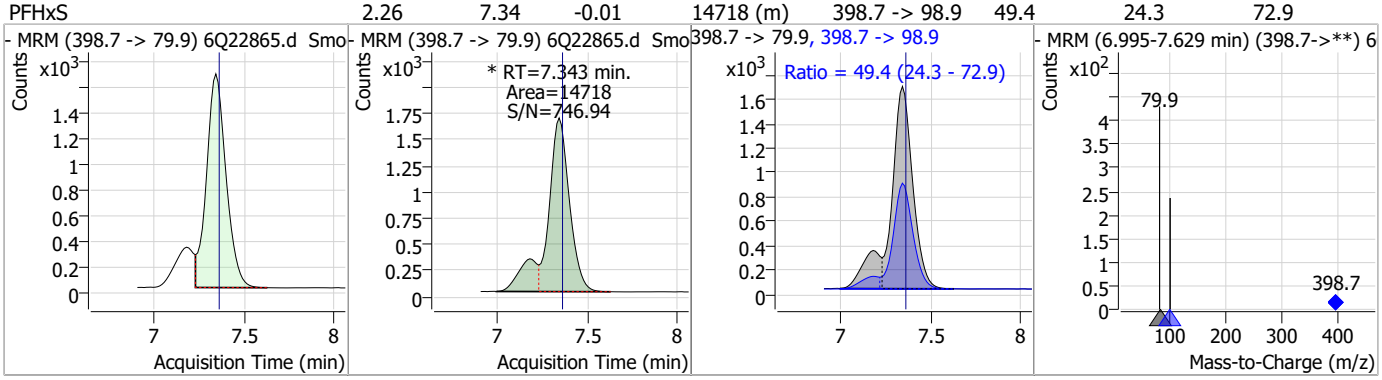




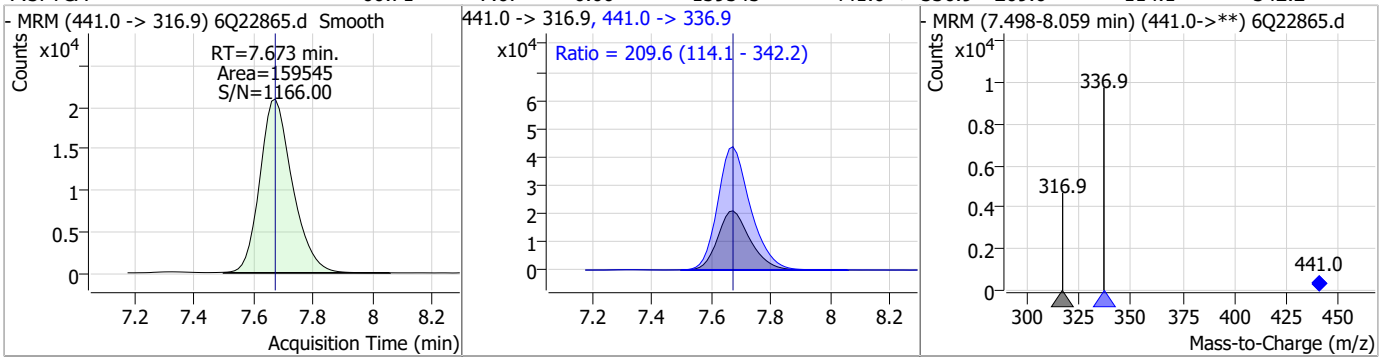


Perfluorinated Compounds by LC/MS/MS

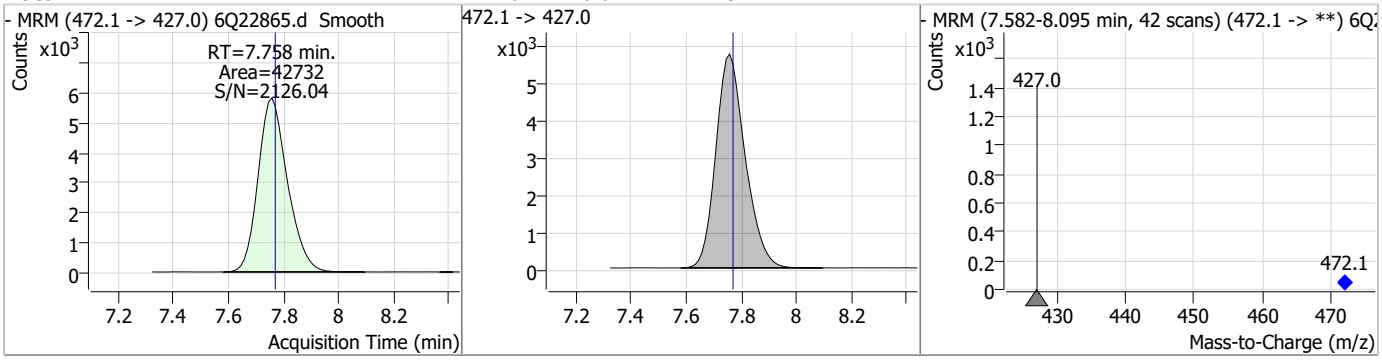
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.26	7.34	-0.01	14718 (m)	398.7 -> 98.9	49.4	24.3	72.9



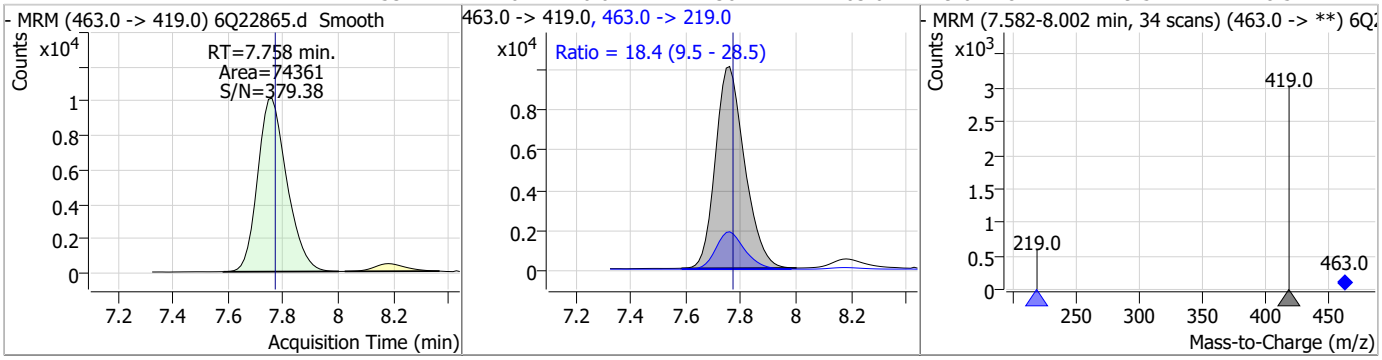
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	60.71	7.67	0.00	159545	441.0 -> 336.9	209.6	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.27	7.76	-0.01	42732				

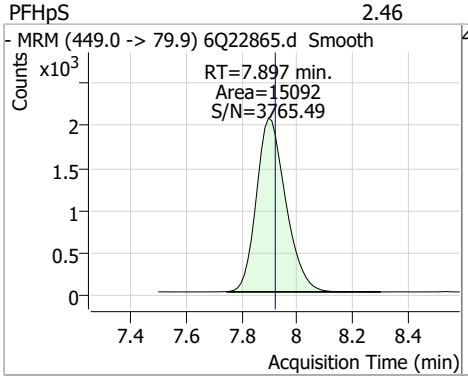


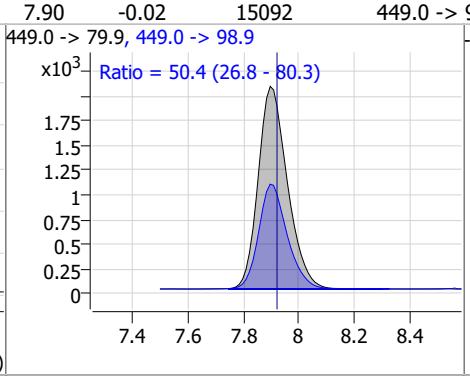
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.53	7.76	-0.01	74361	463.0 -> 219.0	18.4	9.5	28.5

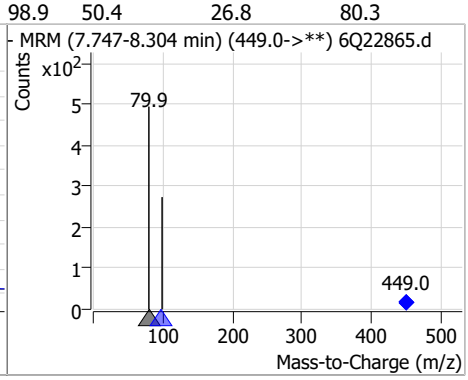


Perfluorinated Compounds by LC/MS/MS

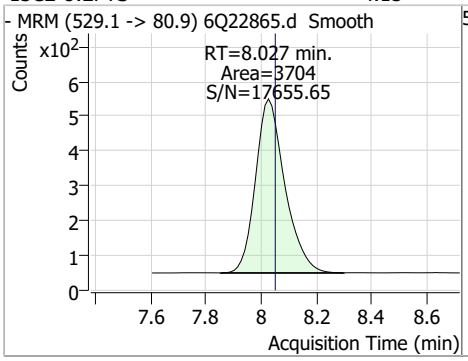
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.46	7.90	-0.02	15092	449.0 -> 98.9	50.4	26.8	80.3

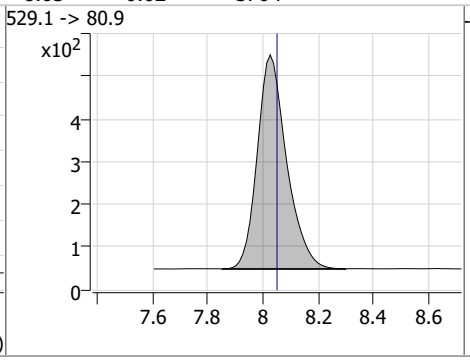


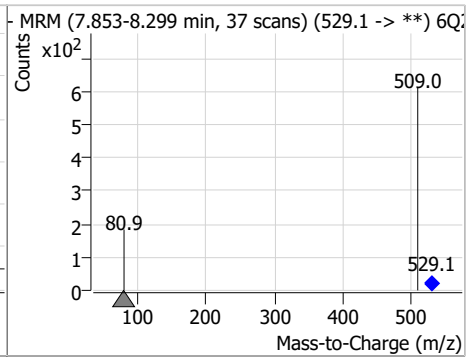




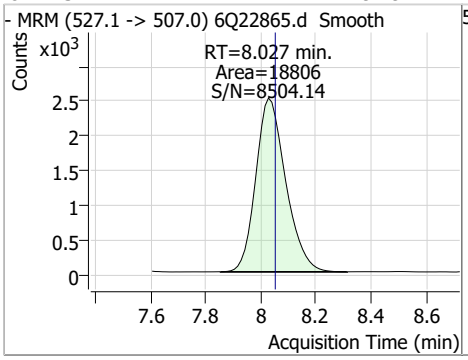
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.15	8.03	-0.02	3704				

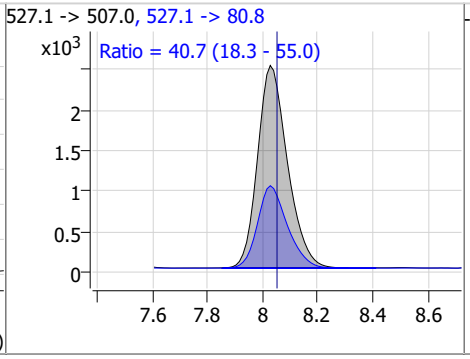


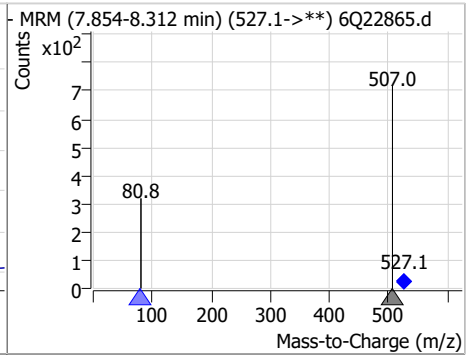




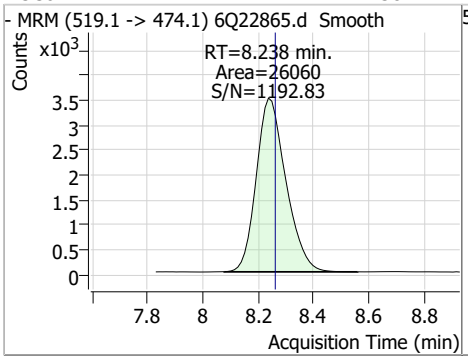
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.49	8.03	-0.02	18806	527.1 -> 80.8	40.7	18.3	55.0

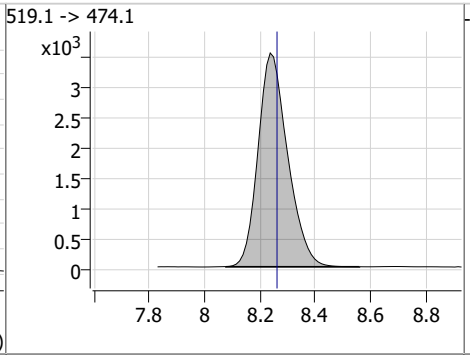


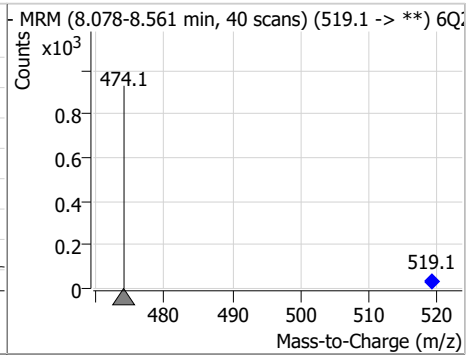




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.38	8.24	-0.02	26060				

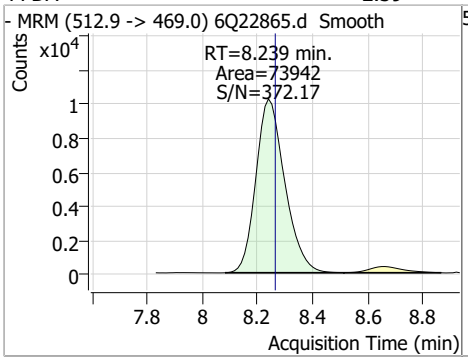


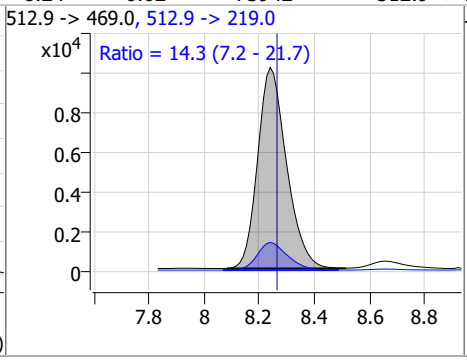


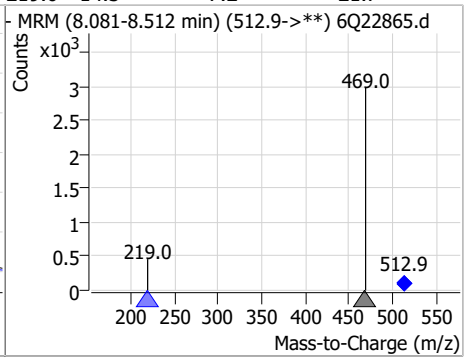


Perfluorinated Compounds by LC/MS/MS

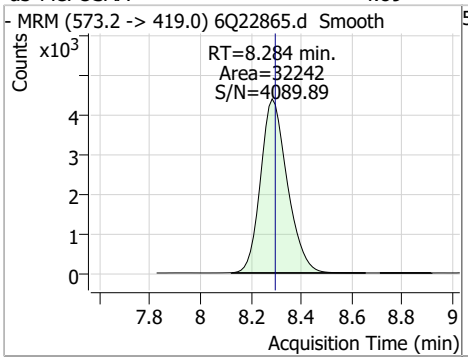
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.39	8.24	-0.02	73942	512.9 -> 219.0	14.3	7.2	21.7

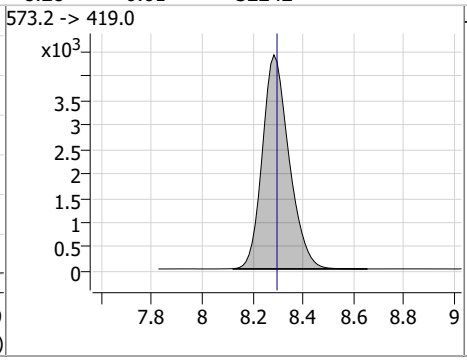


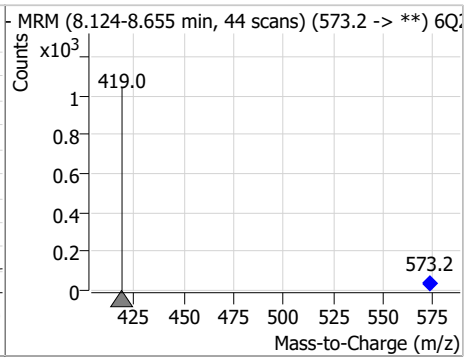




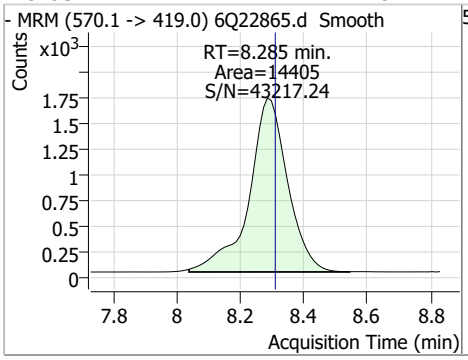
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.89	8.28	-0.01	32242				

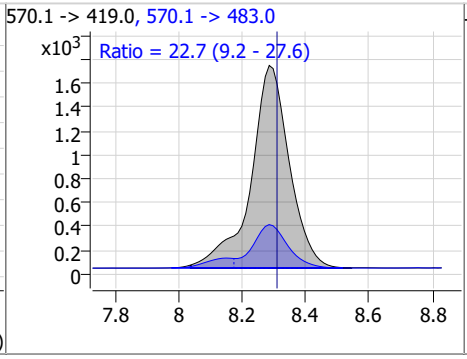


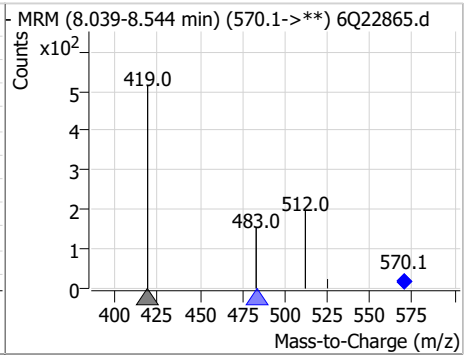




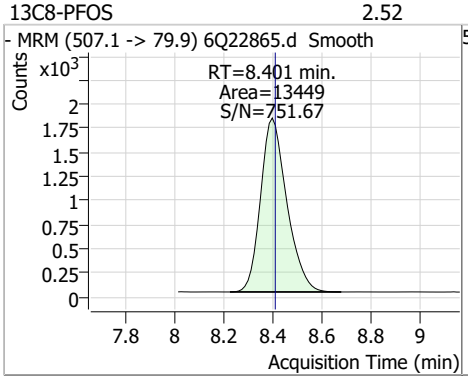
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.34	8.29	-0.02	14405	570.1 -> 483.0	22.7	9.2	27.6

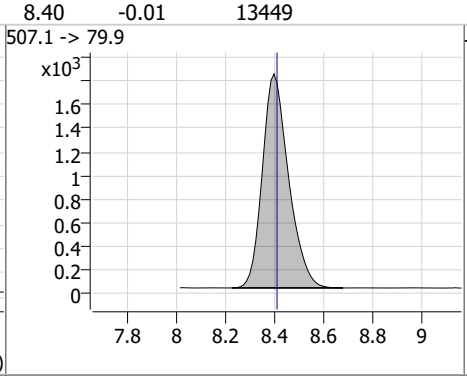


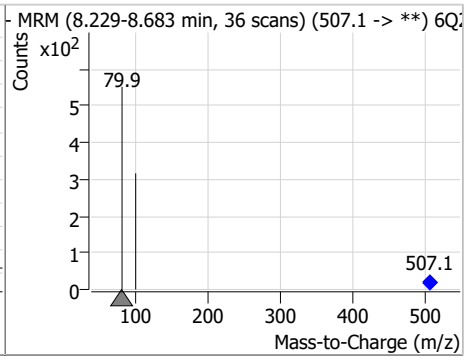




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.52	8.40	-0.01	13449				

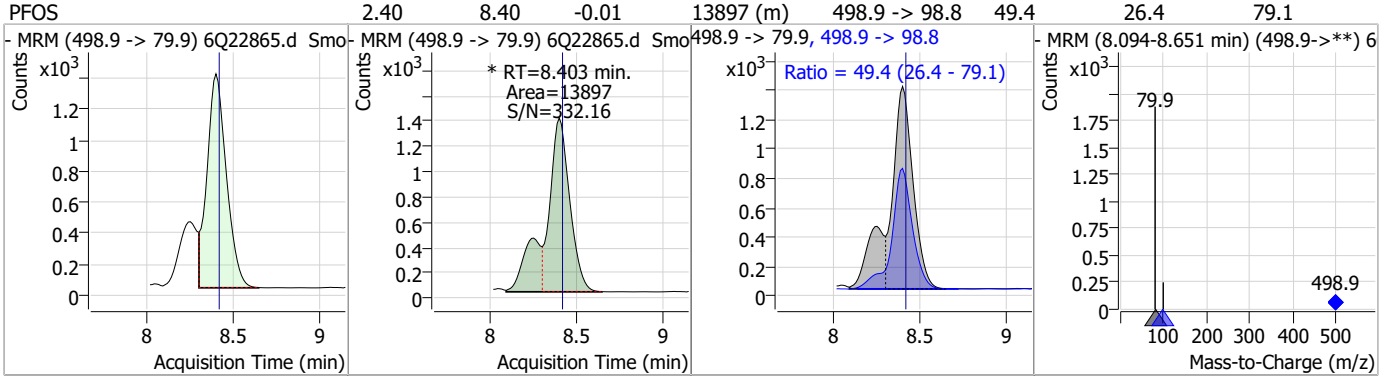




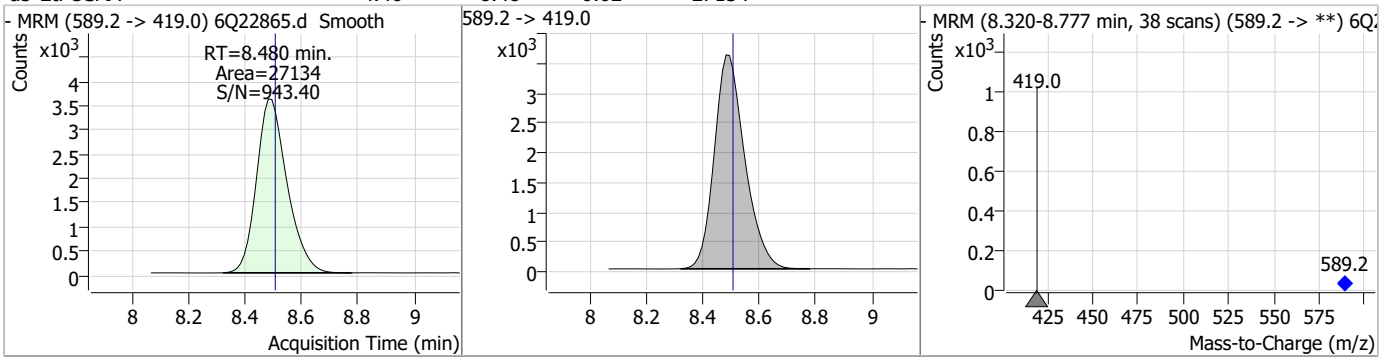


Perfluorinated Compounds by LC/MS/MS

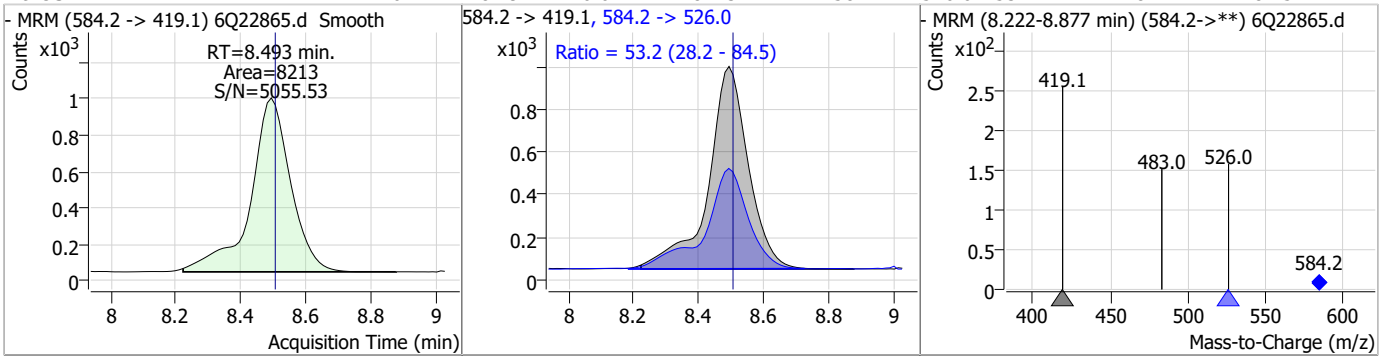
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.40	8.40	-0.01	13897 (m)	498.9 -> 98.8	49.4	26.4	79.1



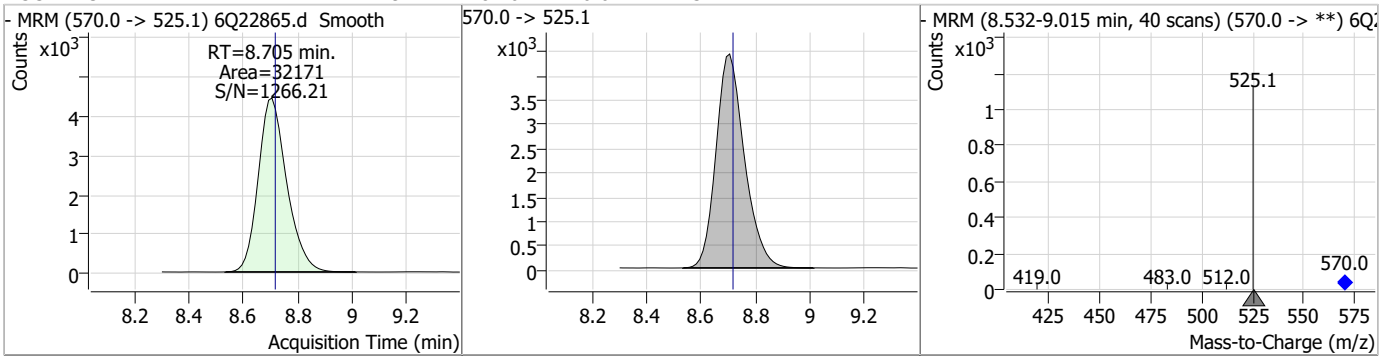
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.46	8.48	-0.02	27134				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.40	8.49	-0.01	8213	584.2 -> 526.0	53.2	28.2	84.5

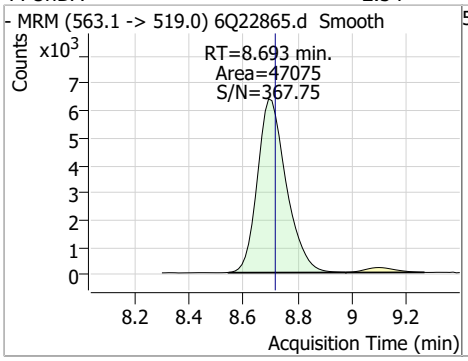


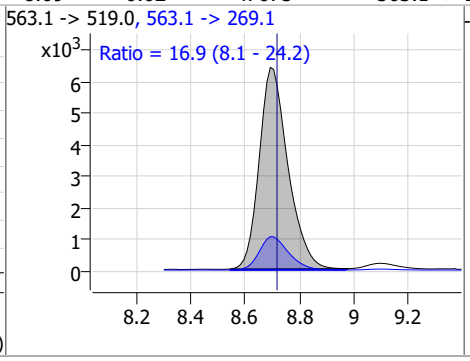
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.29	8.70	-0.01	32171				

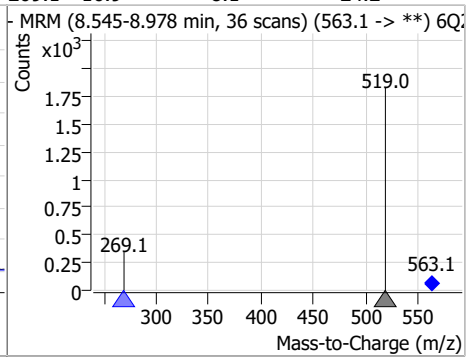


Perfluorinated Compounds by LC/MS/MS

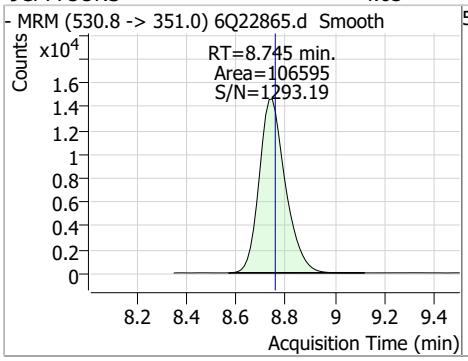
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.54	8.69	-0.02	47075	563.1 -> 269.1	16.9	8.1	24.2

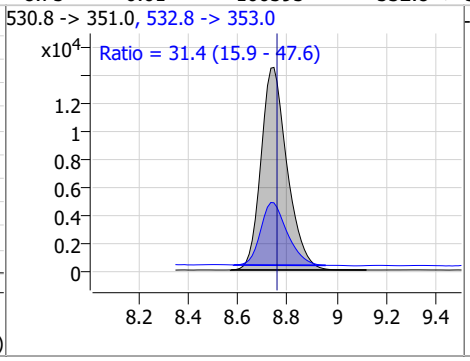


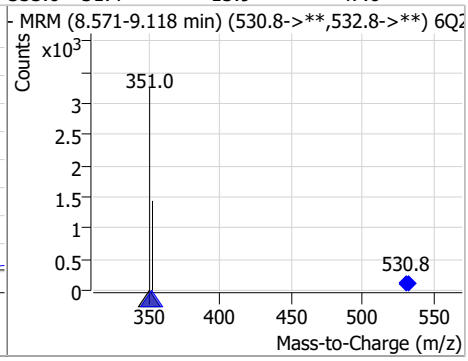




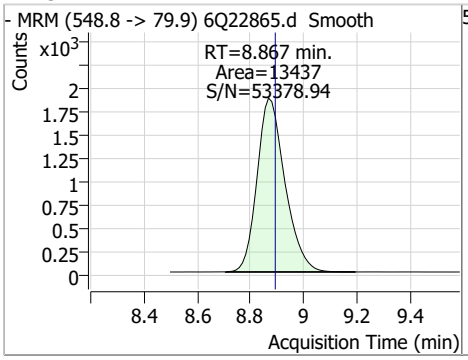
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.63	8.75	-0.01	106595	532.8 -> 353.0	31.4	15.9	47.6

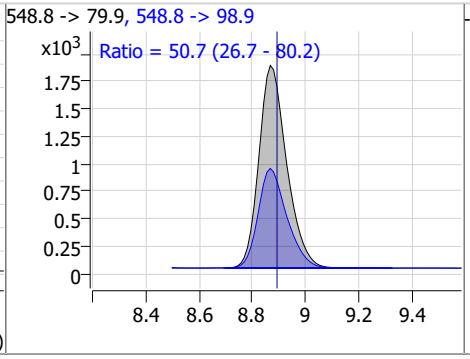


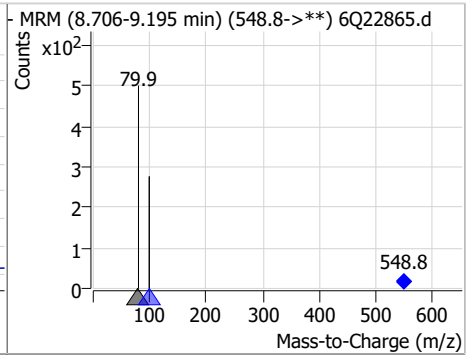




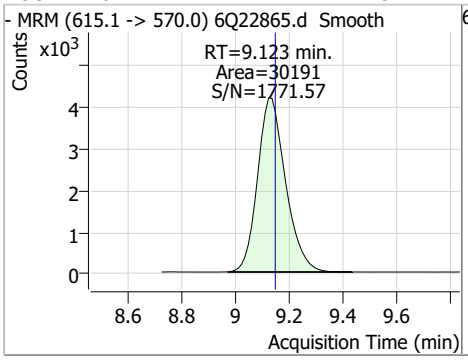
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.42	8.87	-0.03	13437	548.8 -> 98.9	50.7	26.7	80.2

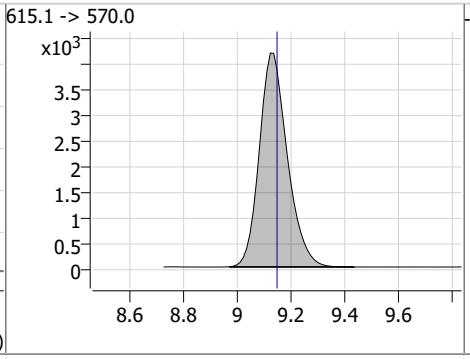


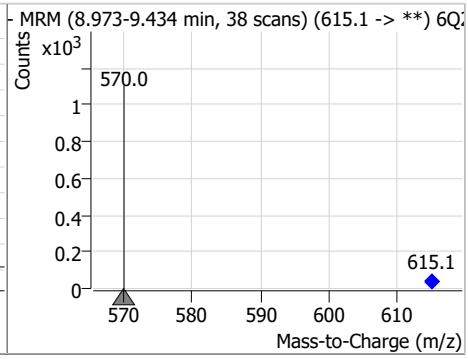




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.34	9.12	-0.02	30191				

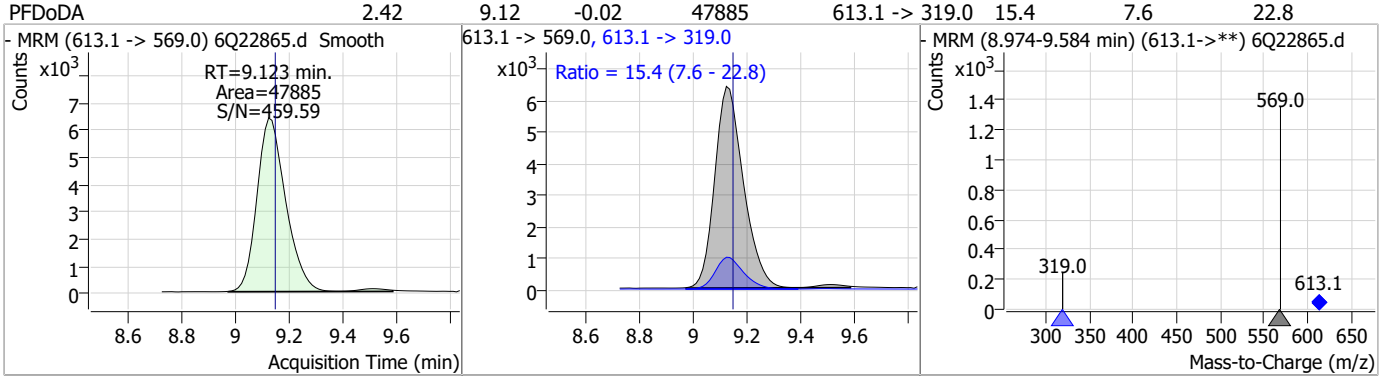




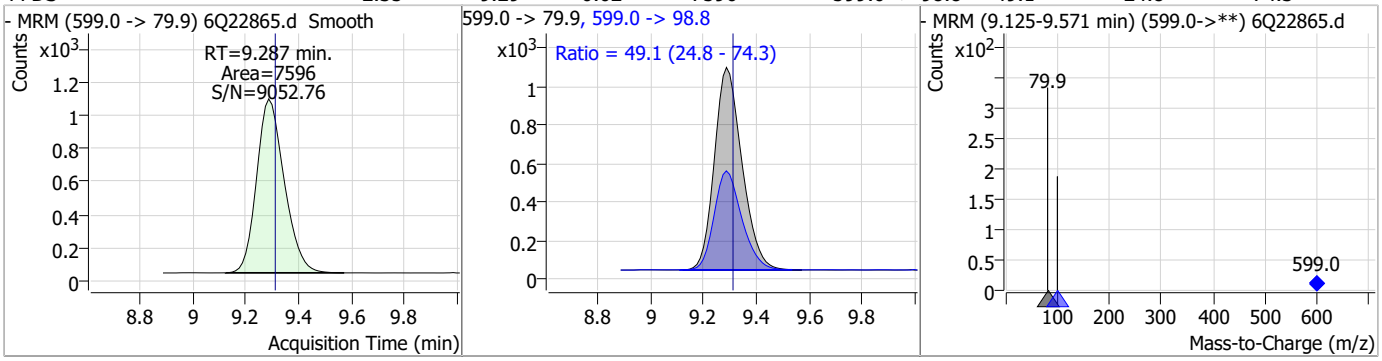


Perfluorinated Compounds by LC/MS/MS

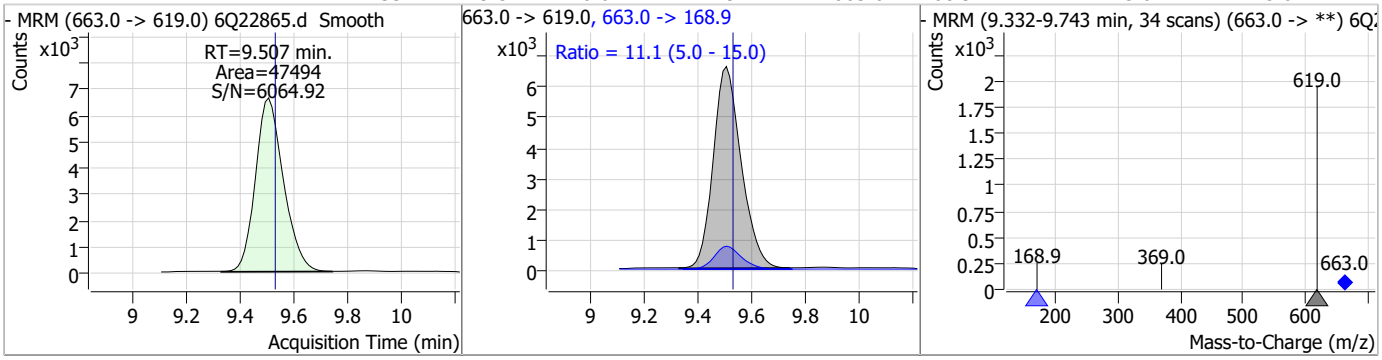
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.42	9.12	-0.02	47885	613.1 -> 319.0	15.4	7.6	22.8



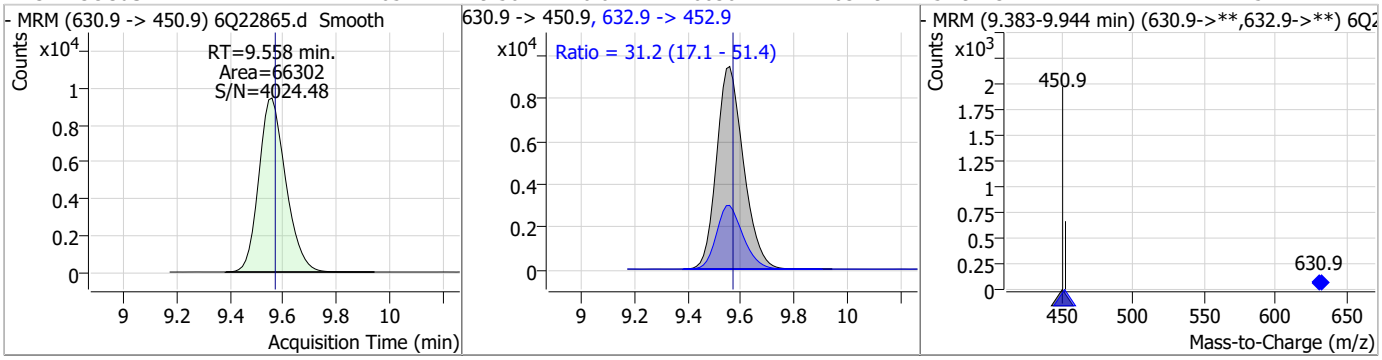
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.35	9.29	-0.02	7596	599.0 -> 98.8	49.1	24.8	74.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.33	9.51	-0.02	47494	663.0 -> 168.9	11.1	5.0	15.0

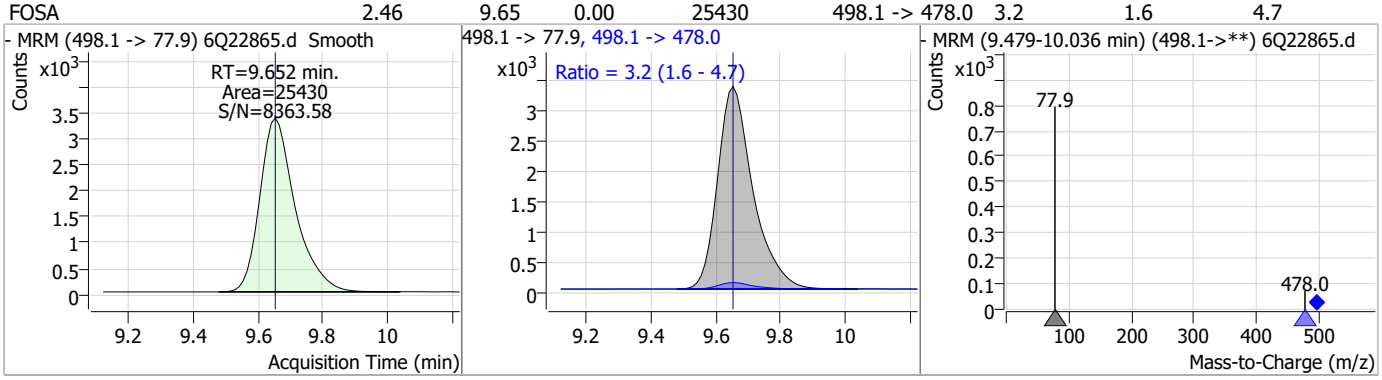


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.65	9.56	-0.01	66302	632.9 -> 452.9	31.2	17.1	51.4

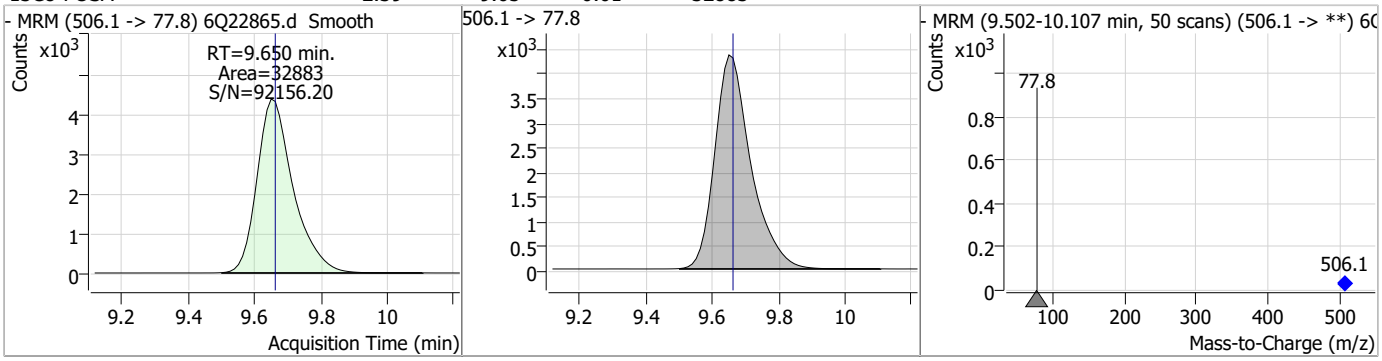


Perfluorinated Compounds by LC/MS/MS

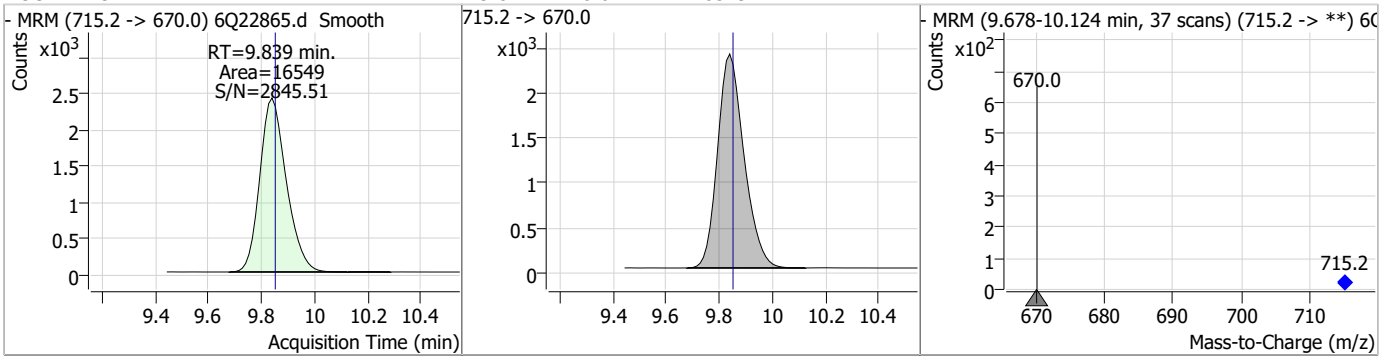
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.46	9.65	0.00	25430	498.1 -> 478.0	3.2	1.6	4.7



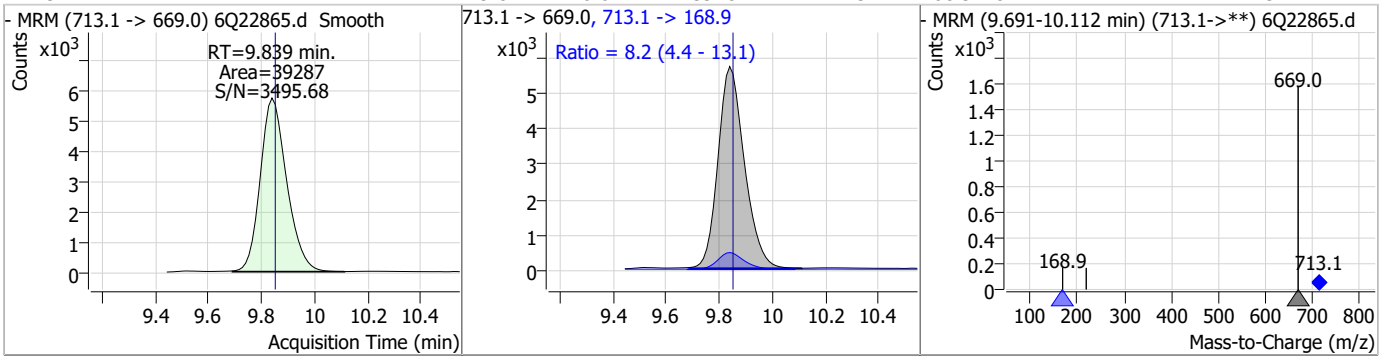
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.39	9.65	-0.01	32883				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.27	9.84	-0.01	16549				

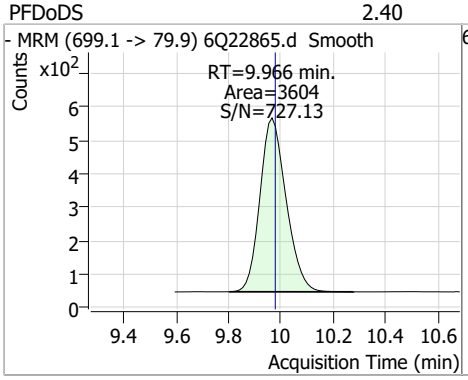


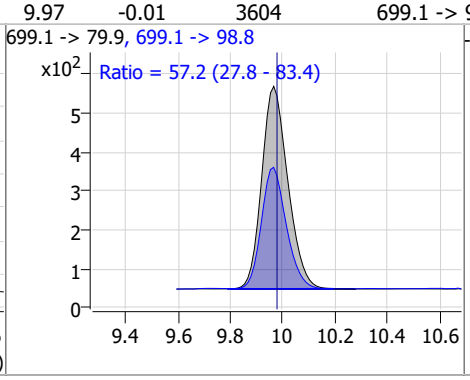
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.44	9.84	-0.01	39287	713.1 -> 168.9	8.2	4.4	13.1

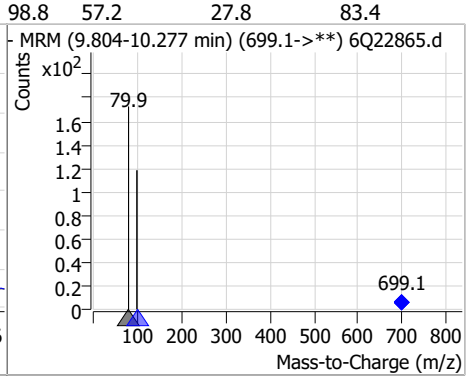


Perfluorinated Compounds by LC/MS/MS

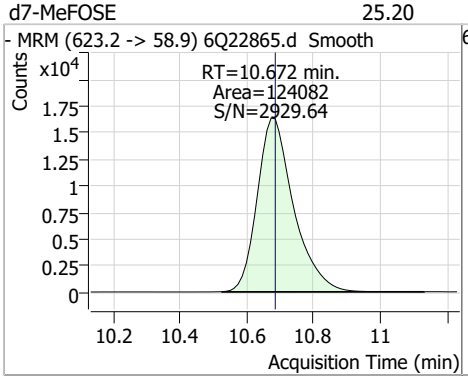
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.40	9.97	-0.01	3604	699.1 -> 98.8	57.2	27.8	83.4

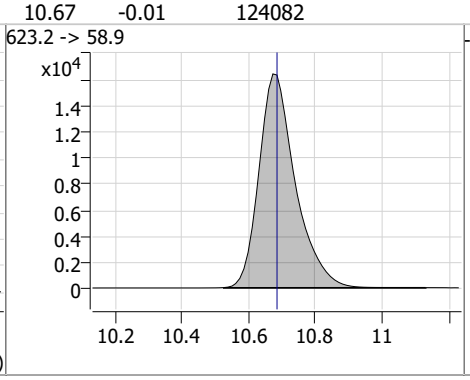


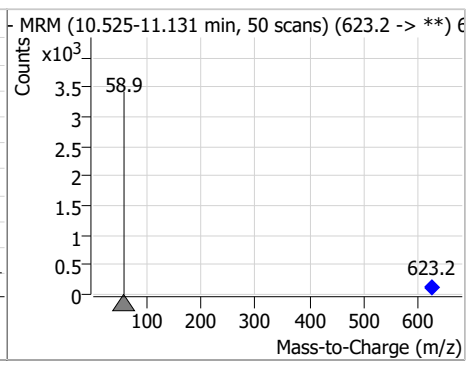




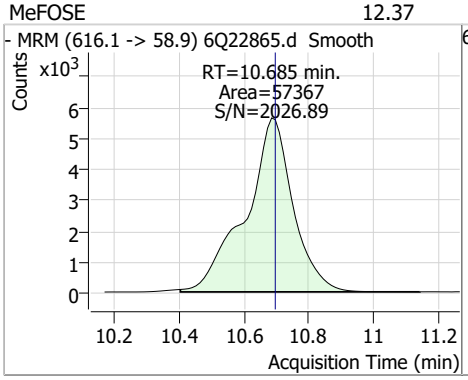
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.20	10.67	-0.01	124082				

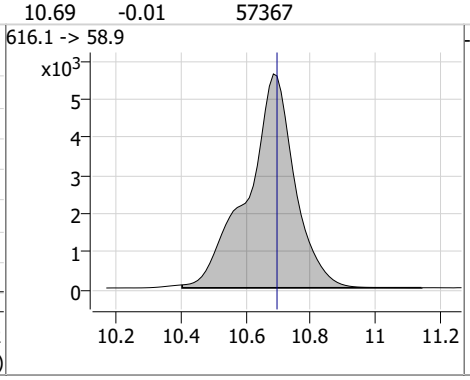


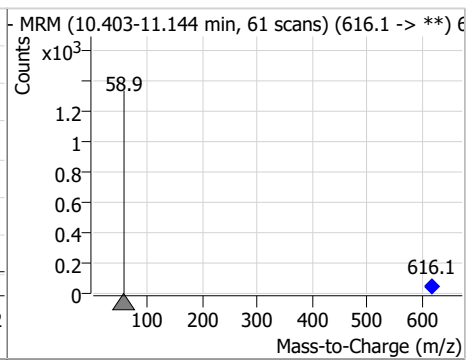




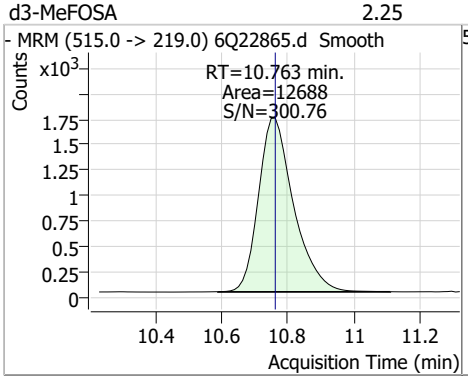
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.37	10.69	-0.01	57367				

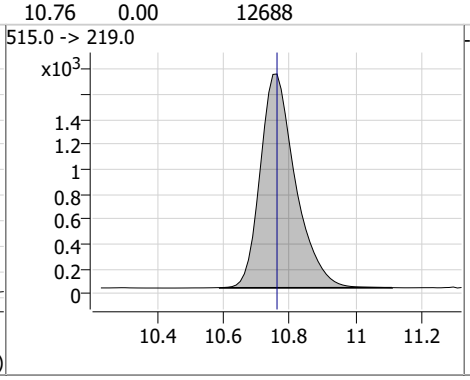


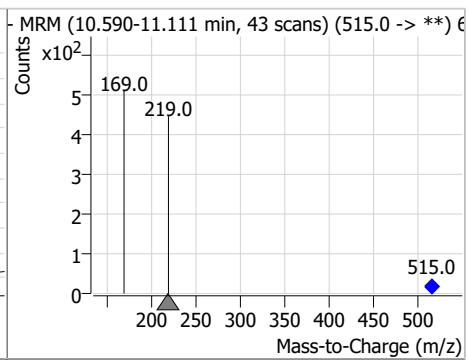




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.25	10.76	0.00	12688				

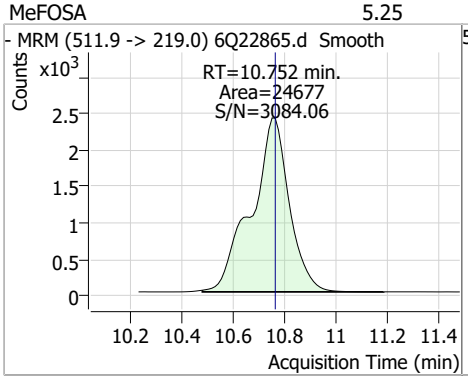


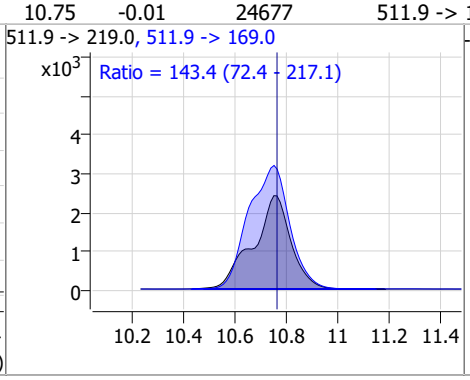


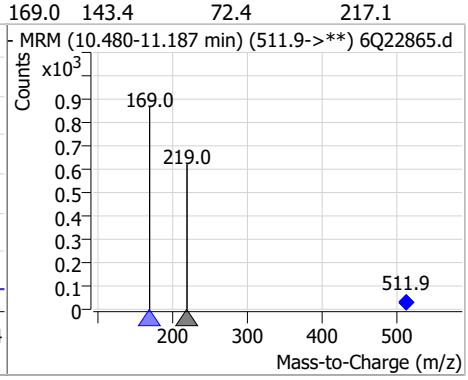


Perfluorinated Compounds by LC/MS/MS

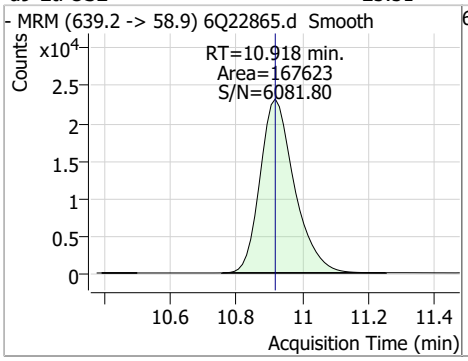
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	5.25	10.75	-0.01	24677	511.9 -> 169.0	143.4	72.4	217.1

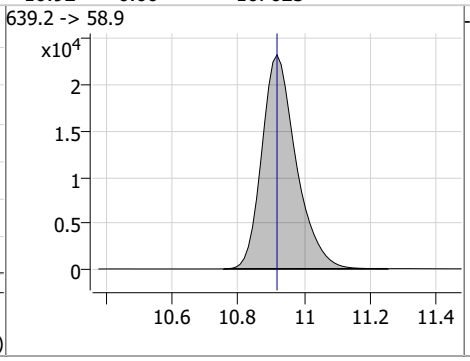


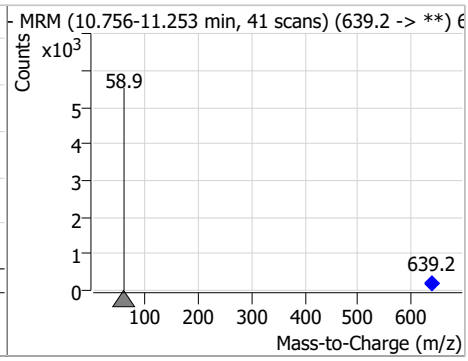




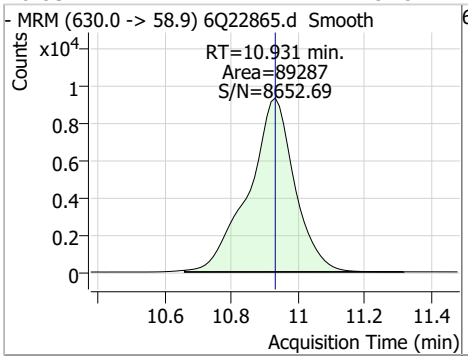
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.51	10.92	0.00	167623				

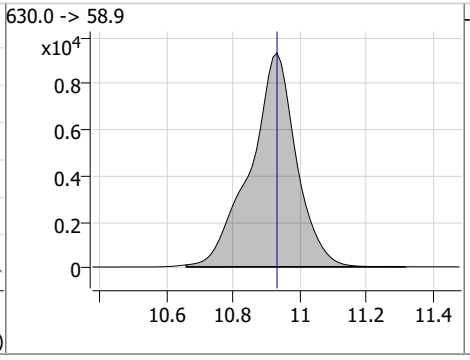


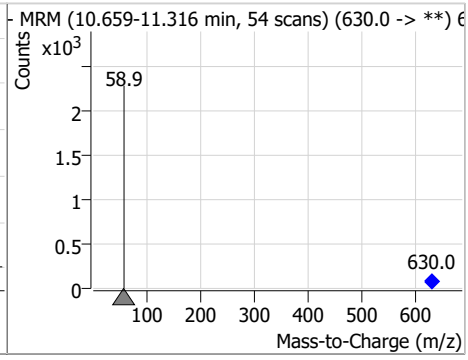




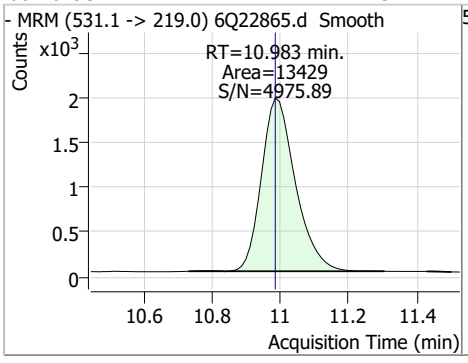
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	13.15	10.93	0.00	89287				

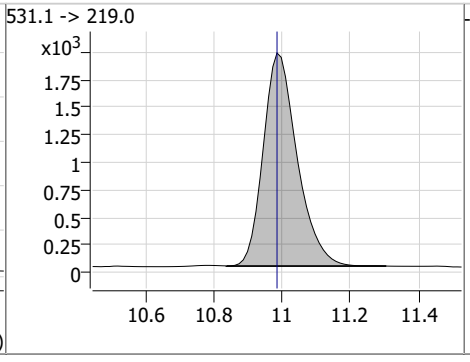


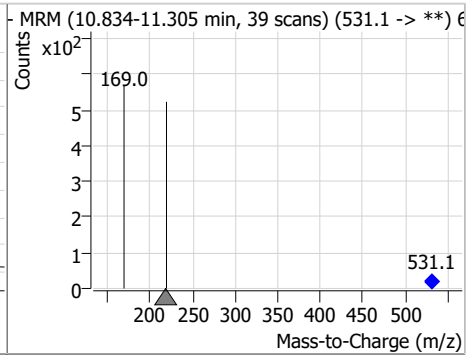




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.37	10.98	0.00	13429				

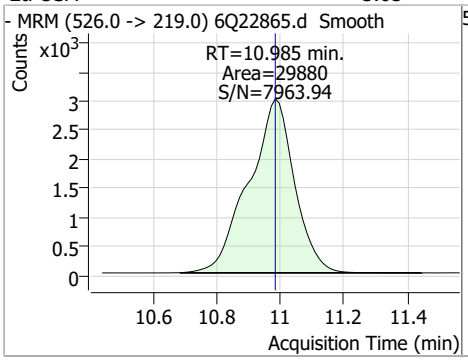


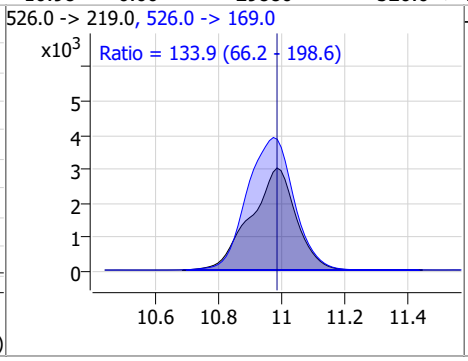


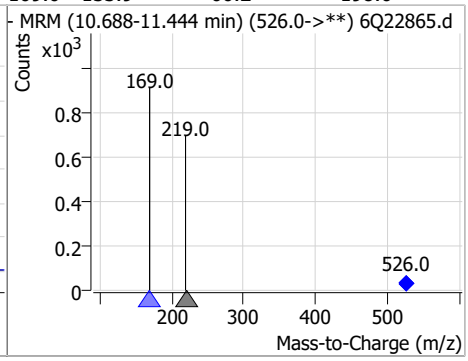


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	5.05	10.98	0.00	29880	526.0 -> 169.0	133.9	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q332-CC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22865.D	**Analyst approved:**	08/15/23 13:29 Martha Valls
Injection Time:	08/14/23 14:33	**Supervisor approved:**	08/16/23 15:10 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.40	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Norman Farmer 08/16/23 15:10

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22886.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/14/2023 7:34:07 PM
Sample Name : cc330-4
Vial : P1-A5
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : S6Q332.batch.bin
Sample Information : OP98201,S6Q332,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	171673	10.00	µg/L	-0.012
M5-PFPeA	4.434	268.3 -> 223.0	55071	5.00	µg/L	-0.012
M5-PFHxA	5.668	318.0 -> 273.0	61043	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	56758	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	89494	2.50	µg/L	-0.012
M9-PFNA	7.758	472.1 -> 427.0	42096	1.25	µg/L	-0.012
M6-PFDA	8.238	519.1 -> 474.1	25495	1.25	µg/L	-0.025
M7-PFUnDA	8.705	570.0 -> 525.1	33376	1.25	µg/L	-0.012
M2-PFDoDA	9.123	615.1 -> 570.0	29977	1.25	µg/L	-0.025
M2-PFTeDA	9.839	715.2 -> 670.0	16901	1.25	µg/L	-0.012
M8-FOSA	9.650	506.1 -> 77.8	34356	2.50	µg/L	-0.012
M3-PFBS	5.599	302.1 -> 79.9	22419	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	14106	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	12989	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	3391	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4892	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	4197	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	32812	5.00	µg/L	-0.012
M3-HFPO-DA	6.033	286.9 -> 168.9	37656	10.00	µg/L	-0.012
M5-EtFOSAA	8.492	589.2 -> 419.0	27965	5.00	µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	142862	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	201890	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	14263	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	13869	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	17939	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	72599	5.00	µg/L	0.000
18O2-PFHxS	7.341	403.0 -> 83.9	10568	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	98454	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	34393	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	53837	1.25	µg/L	-0.012
13C2-PFHxA	5.656	315.1 -> 270.0	56668	2.50	µg/L	-0.012
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	3391	5.37	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.4%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4892	5.37	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.3%		
13C2-8:2FTS	8.027	529.1 -> 80.9	4197	4.70	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.1%		
13C2-PFDoDA	9.123	615.1 -> 570.0	29977	1.29	µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C2-PFTeDA	9.839	715.2 -> 670.0	16901	1.26	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.2%		
13C3-PFBS	5.599	302.1 -> 79.9	22419	2.50	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.0%		
13C3-PFHxS	7.342	402.1 -> 79.9	14106	2.43	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 = 97.1%	
13C4-PFBA	2.997	216.8 -> 171.9	171673	10.01 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C4-PFHpA	6.596	367.1 -> 322.0	56758	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C5-PFHxA	5.668	318.0 -> 273.0	61043	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C5-PFPeA	4.434	268.3 -> 223.0	55071	5.16 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C6-PFDA	8.238	519.1 -> 474.1	25495	1.31 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C7-PFUnDA	8.705	570.0 -> 525.1	33376	1.30 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.9%	
13C8-FOSA	9.650	506.1 -> 77.8	34356	2.54 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C8-PFOA	7.226	421.1 -> 376.0	89494	2.46 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.5%	
13C8-PFOS	8.401	507.1 -> 79.9	12989	2.47 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C9-PFNA	7.758	472.1 -> 427.0	42096	1.21 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.4%	
d3-MeFOSAA	8.284	573.2 -> 419.0	32812	5.05 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C3-HFPO-DA	6.033	286.9 -> 168.9	37656	10.27 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
d3-MeFOSA	10.763	515.0 -> 219.0	13869	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.1%	
d5-EtFOSAA	8.492	589.2 -> 419.0	27965	4.67 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.3%	
d7-MeFOSE	10.672	623.2 -> 58.9	142862	29.47 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 117.9%	
d9-EtFOSE	10.918	639.2 -> 58.9	201890	31.20 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 124.8%	
d5-EtFOSA	10.983	531.1 -> 219.0	14263	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	41149	9.38 µg/L	98
		327.1 -> 80.9	16470		
6:2FTS	7.002	427.1 -> 407.0	42330	9.67 µg/L	98
		427.1 -> 80.9	13733		
8:2FTS	8.027	527.1 -> 507.0	21352	9.51 µg/L	93
		527.1 -> 80.8	8727		
EtFOSAA	8.493	584.2 -> 419.1	8775	2.49 µg/L	97
		584.2 -> 526.0	4771		
FOSA	9.652	498.1 -> 77.9	26522	2.46 µg/L	99
		498.1 -> 478.0	922		
MeFOSAA	8.285	570.1 -> 419.0	15428	2.46 µg/L	97
		570.1 -> 483.0	3069		
PFBA	3.006	212.8 -> 168.9	53486	9.97 µg/L	100
PFBS	5.600	298.7 -> 79.9	16706	2.28 µg/L	98
		298.7 -> 98.8	6388		
PFDA	8.239	512.9 -> 469.0	70018	2.32 µg/L	95
		512.9 -> 219.0	11542		
PFDoDA	9.123	613.1 -> 569.0	51006	2.60 µg/L	98
		613.1 -> 319.0	7272		
PFDS	9.287	599.0 -> 79.9	7730	2.48 µg/L	97

Perfluorinated Compounds by LC/MS/MS

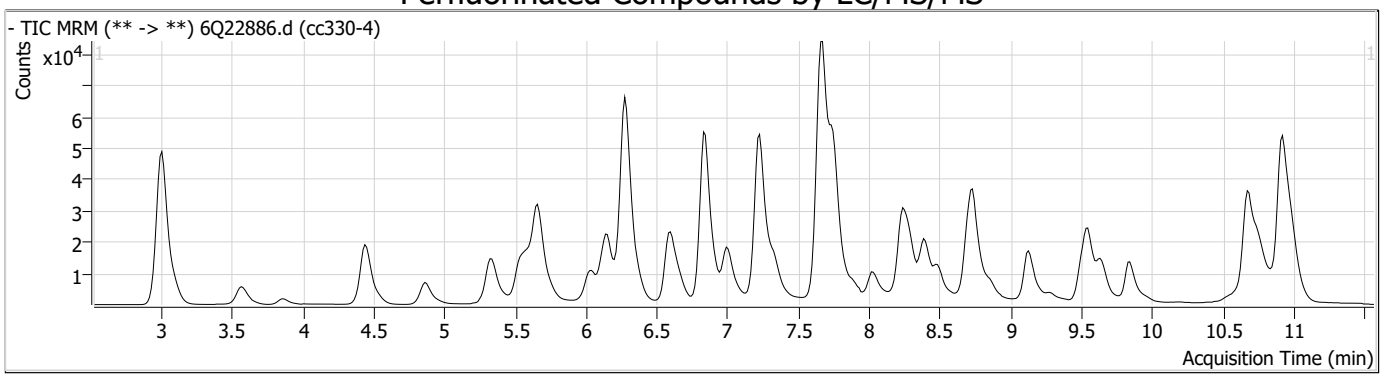
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3692				
PFHpA	6.596	363.1 -> 319.0	59121	2.64	µg/L		99
		363.1 -> 169.0	9661				
PFHpS	7.897	449.0 -> 79.9	14705	2.48	µg/L		99
		449.0 -> 98.9	7764				
PFHxA	5.657	313.0 -> 269.0	45080	2.52	µg/L		100
		313.0 -> 118.9	2338				
PFHxS	7.343	398.7 -> 79.9	15066	2.42	µg/L	m	99
		398.7 -> 98.9	7217				
PFNA	7.758	463.0 -> 419.0	72297	2.50	µg/L		100
		463.0 -> 219.0	13619				
PFNS	8.867	548.8 -> 79.9	13795	2.57	µg/L		96
		548.8 -> 98.9	6994				
PFOA	7.228	413.0 -> 369.0	90078	2.46	µg/L		95
		413.0 -> 169.0	16423				
PFOS	8.403	498.9 -> 79.9	14222	2.55	µg/L	m	94
		498.9 -> 98.8	6939				
PFPeA	4.437	263.0 -> 219.0	63030	5.20	µg/L		100
PFPeS	6.660	349.1 -> 79.9	14466	2.50	µg/L		99
		349.1 -> 98.9	6532				
PFTeDA	9.839	713.1 -> 669.0	43251	2.63	µg/L		99
		713.1 -> 168.9	3616				
PFTrDA	9.507	663.0 -> 619.0	53169	2.62	µg/L		99
		663.0 -> 168.9	5535				
PFUnDA	8.705	563.1 -> 519.0	49854	2.59	µg/L		98
		563.1 -> 269.1	7500				
11Cl-PF3OUdS	9.558	630.9 -> 450.9	68615	5.11	µg/L		93
		632.9 -> 452.9	20722				
9Cl-PF3ONS	8.745	530.8 -> 351.0	109273	5.03	µg/L		97
		532.8 -> 353.0	33153				
ADONA	6.846	376.9 -> 250.9	235938	4.92	µg/L		98
		376.9 -> 84.8	64875				
HFPO-DA	6.034	284.9 -> 168.9	16508	5.15	µg/L		98
		284.9 -> 184.9	1875				
3:3FTCA	3.859	241.0 -> 177.0	10179	12.00	µg/L		99
		241.0 -> 117.0	1349				
5:3FTCA	6.272	341.0 -> 237.1	225222	61.33	µg/L		99
		341.0 -> 217.0	158438				
7:3FTCA	7.673	441.0 -> 316.9	160545	59.10	µg/L		95
		441.0 -> 336.9	351765				
EtFOSA	10.985	526.0 -> 219.0	31237	4.97	µg/L		99
		526.0 -> 169.0	41592				
EtFOSE	10.931	630.0 -> 58.9	100388	12.27	µg/L		100
MeFOSA	10.752	511.9 -> 219.0	25687	5.00	µg/L		97
		511.9 -> 169.0	36058				
MeFOSE	10.685	616.1 -> 58.9	67841	12.70	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	3904	2.69	µg/L		94
		699.1 -> 98.8	2008				
NFDHA	5.538	295.0 -> 201.0	11413	5.03	µg/L		96
		295.0 -> 84.9	2984				
PFMBA	4.857	279.0 -> 85.1	43682	5.09	µg/L		100
PFMPA	3.563	229.0 -> 84.9	34654	5.05	µg/L		100
PFEESA	6.151	314.8 -> 134.9	110266	4.60	µg/L		99
		314.8 -> 82.9	4107				

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

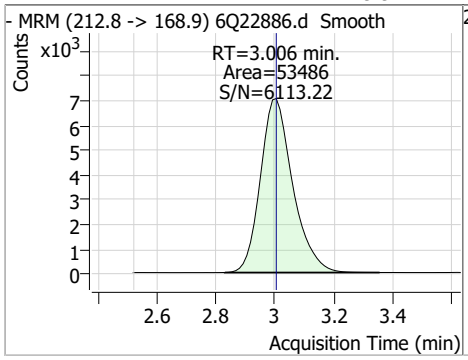
Perfluorinated Compounds by LC/MS/MS

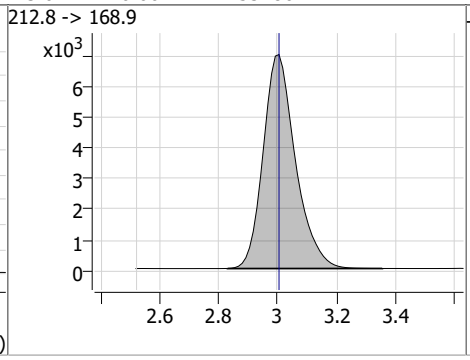
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

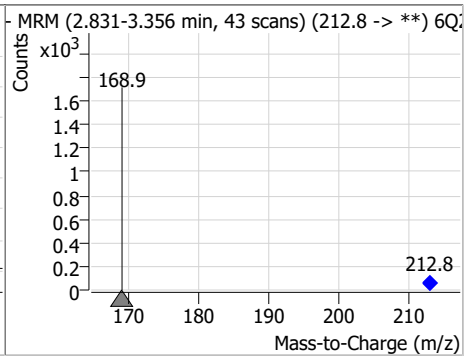
Perfluorinated Compounds by LC/MS/MS



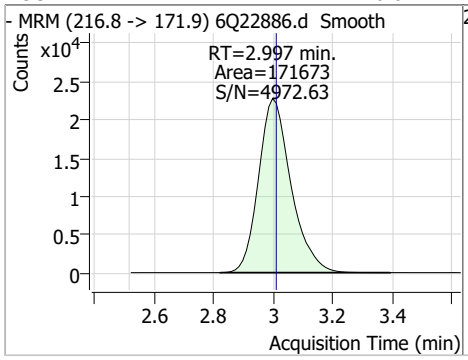
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	9.97	3.01	0.00	53486				

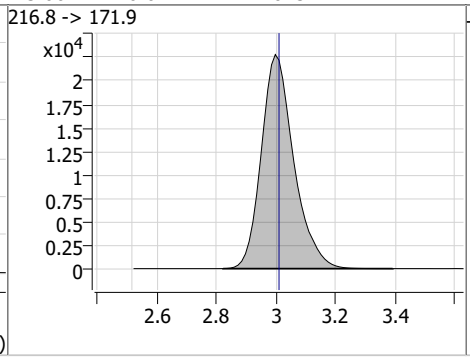


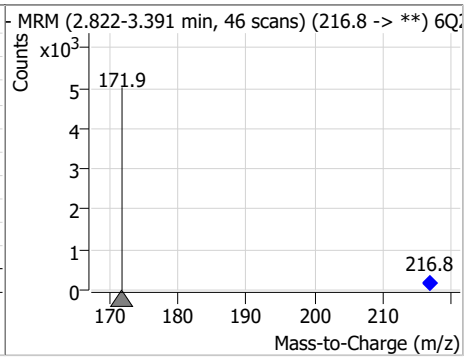




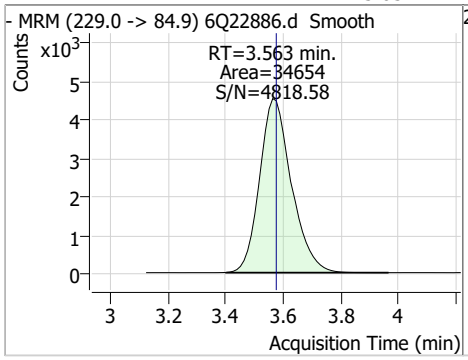
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	10.01	3.00	-0.01	171673				

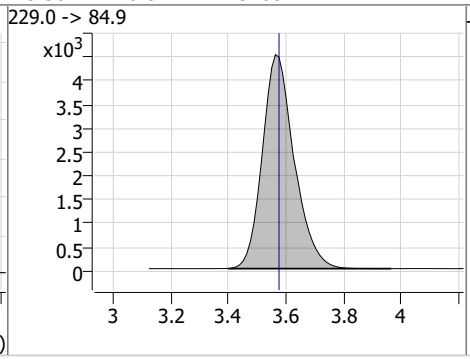


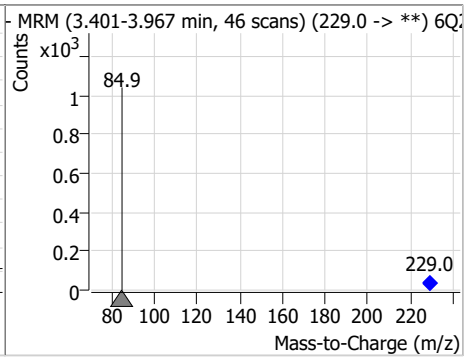




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	5.05	3.56	-0.01	34654				

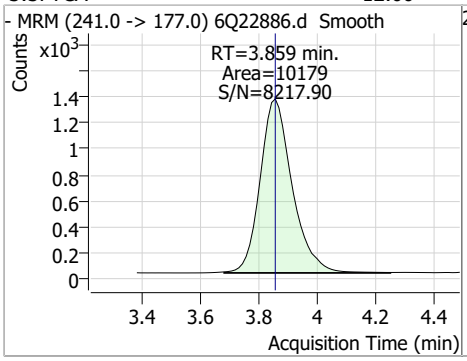


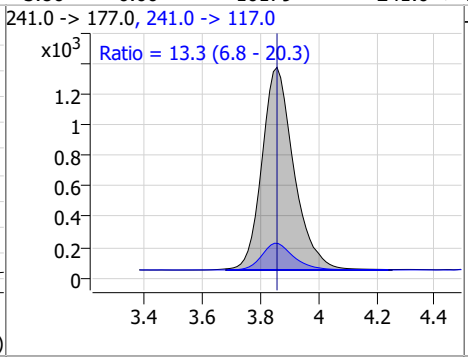


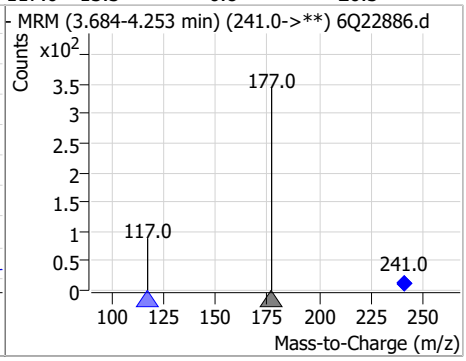


Perfluorinated Compounds by LC/MS/MS

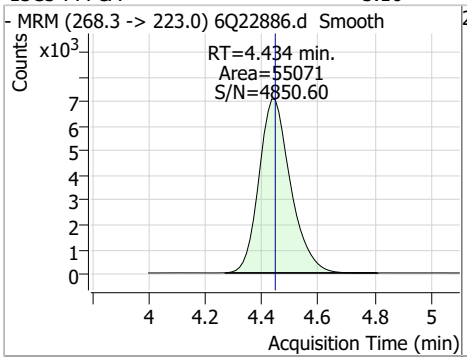
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.00	3.86	0.00	10179	241.0 -> 117.0	13.3	6.8	20.3

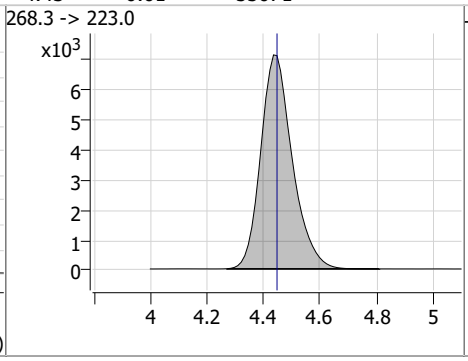


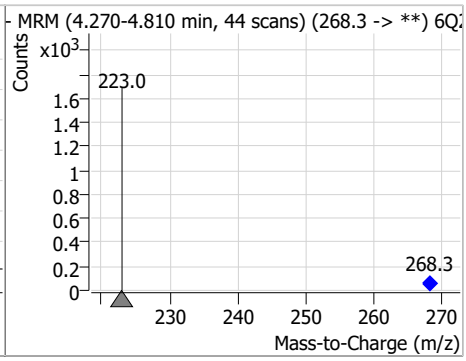




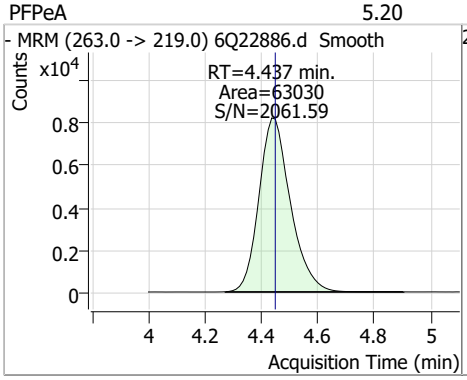
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.16	4.43	-0.01	55071				

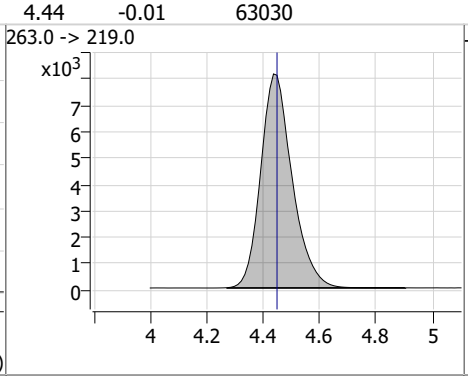


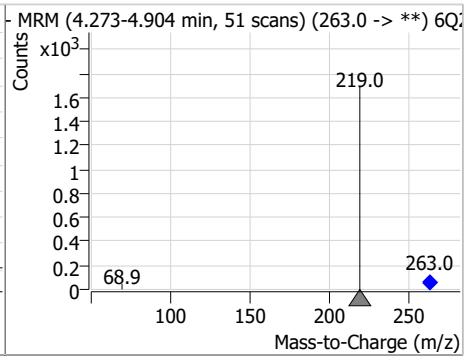




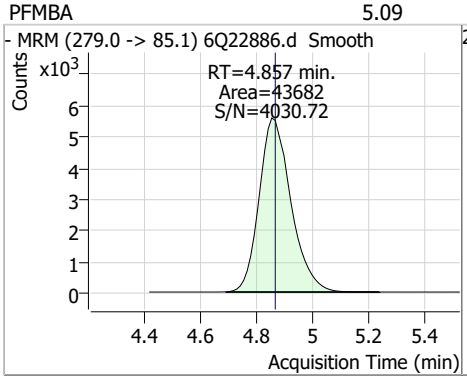
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	5.20	4.44	-0.01	63030				

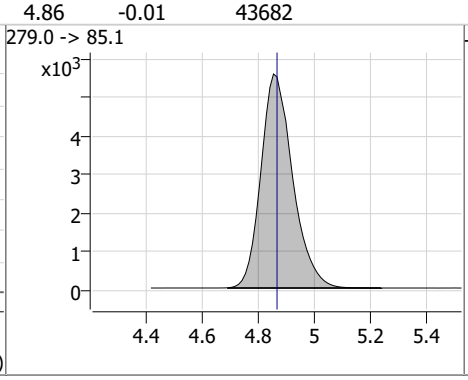


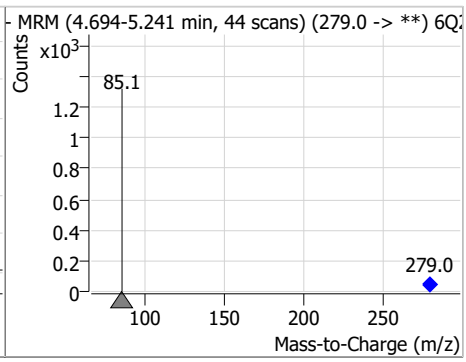




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.09	4.86	-0.01	43682				

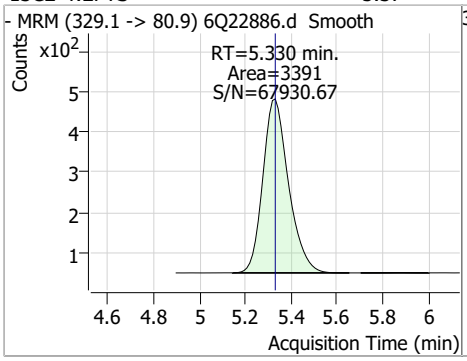


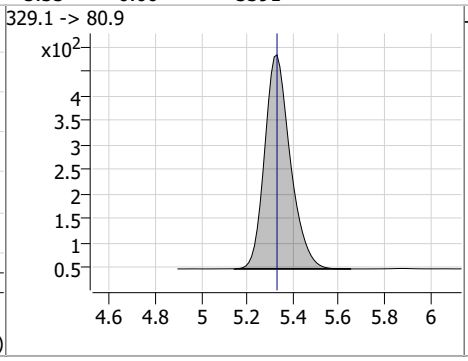


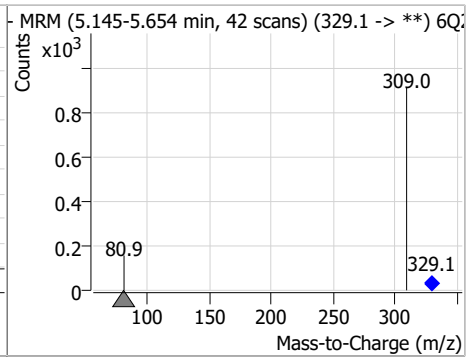


Perfluorinated Compounds by LC/MS/MS

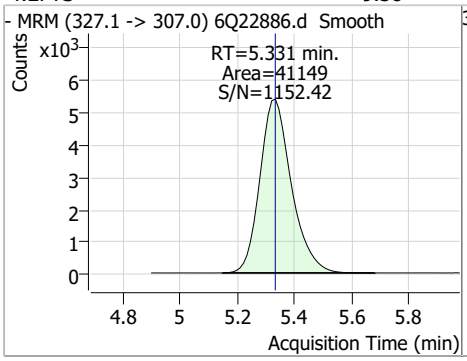
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	5.37	5.33	0.00	3391				

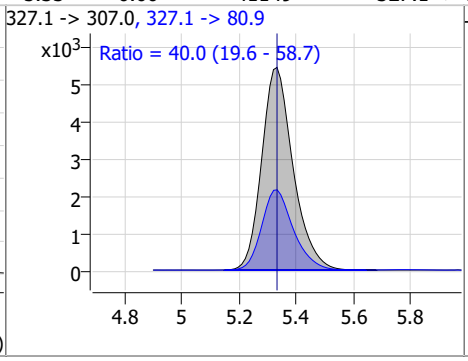


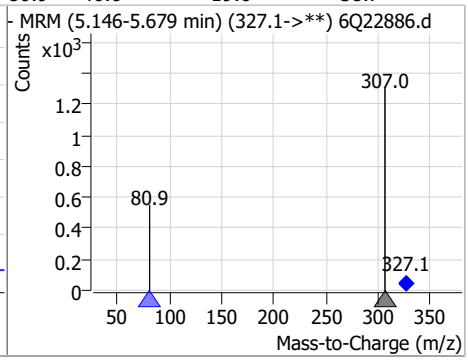




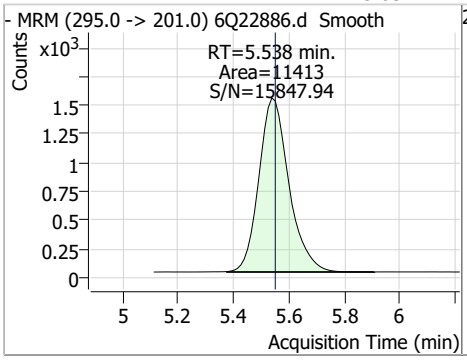
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.38	5.33	0.00	41149	327.1 -> 80.9	40.0	19.6	58.7

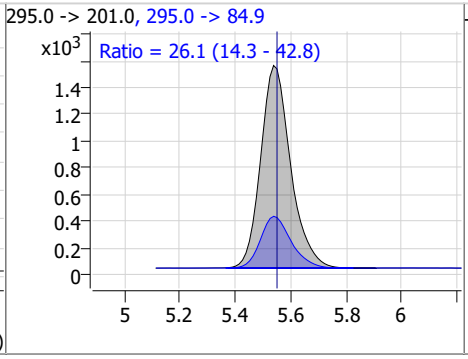


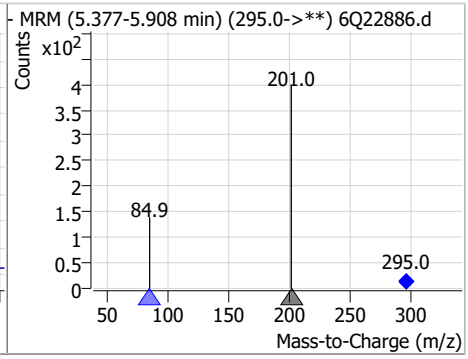




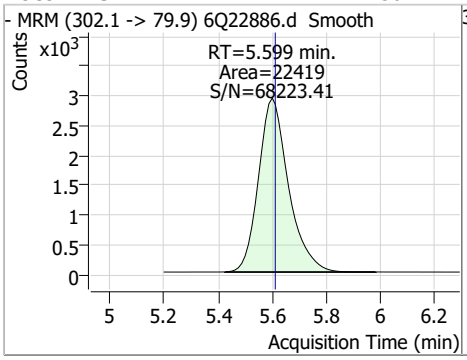
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	5.03	5.54	-0.01	11413	295.0 -> 84.9	26.1	14.3	42.8

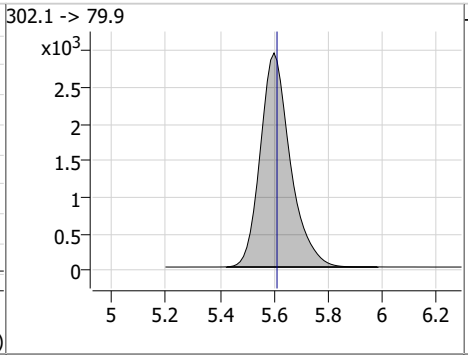


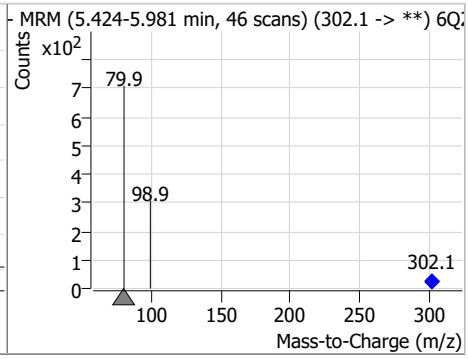




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.50	5.60	-0.01	22419				

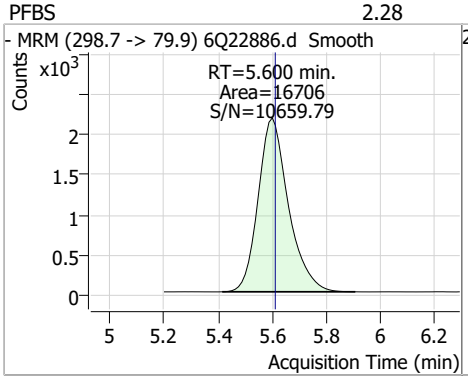


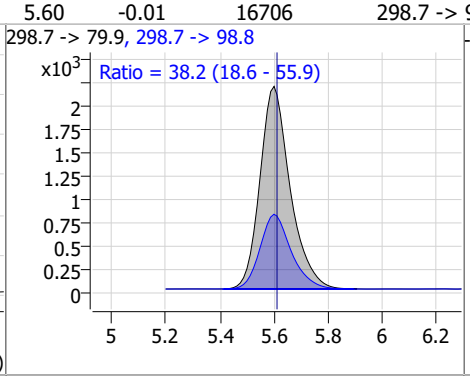


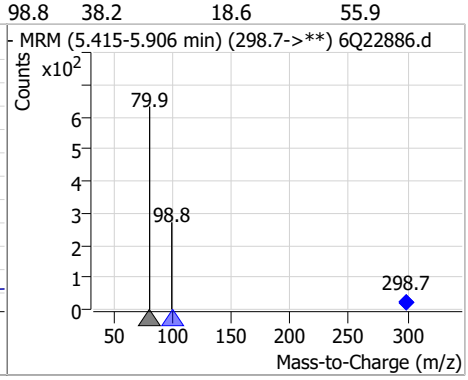


Perfluorinated Compounds by LC/MS/MS

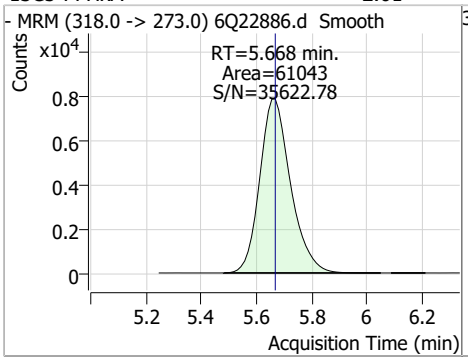
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.28	5.60	-0.01	16706	298.7 -> 98.8	38.2	18.6	55.9

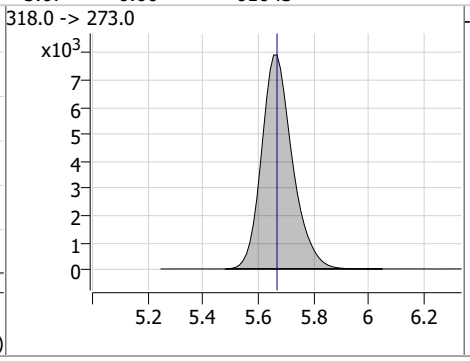


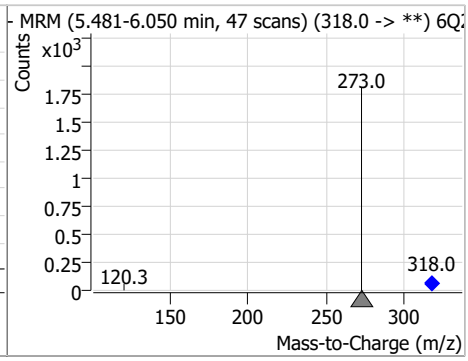




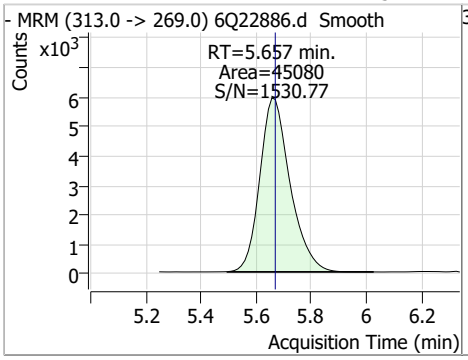
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.61	5.67	0.00	61043				

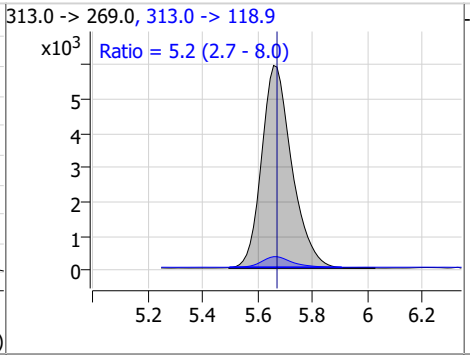


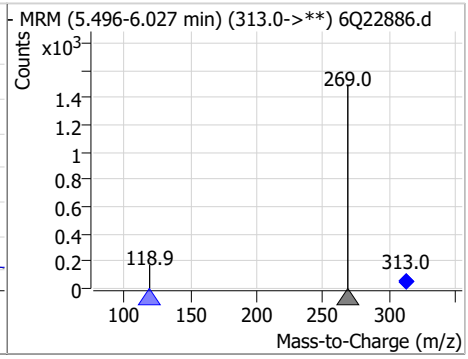




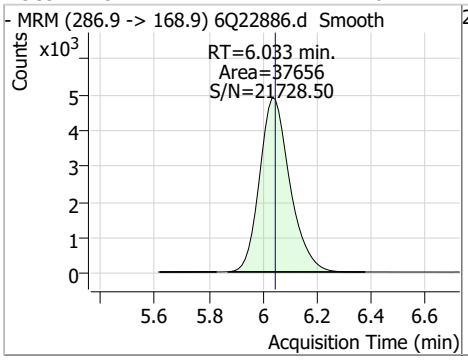
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.52	5.66	-0.01	45080	313.0 -> 118.9	5.2	2.7	8.0

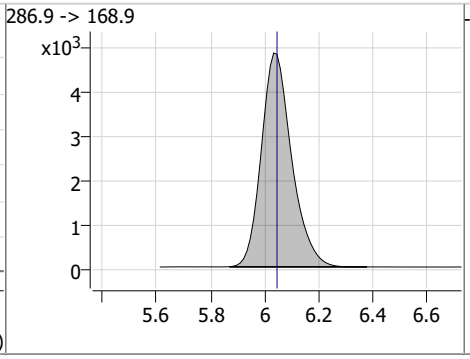


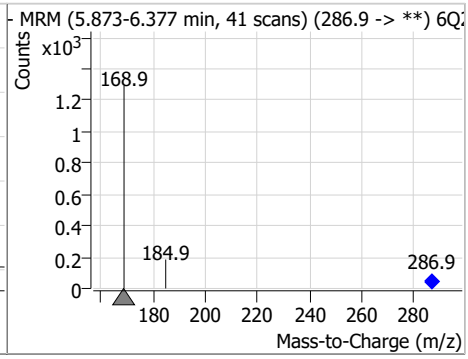




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.27	6.03	-0.01	37656				

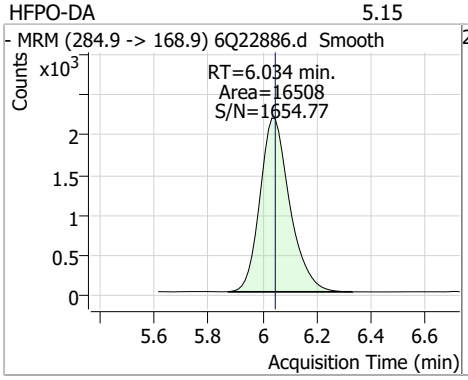


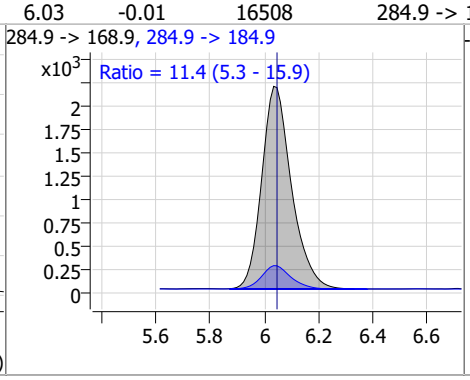


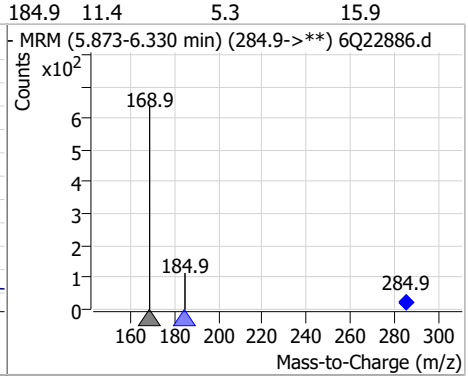


Perfluorinated Compounds by LC/MS/MS

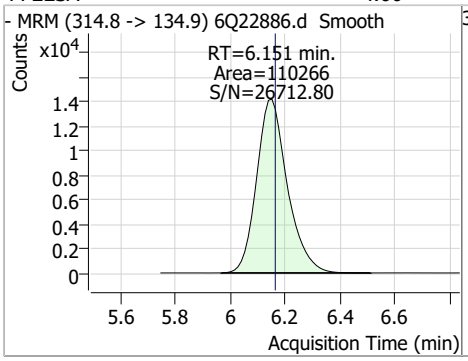
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.15	6.03	-0.01	16508	284.9 -> 184.9	11.4	5.3	15.9

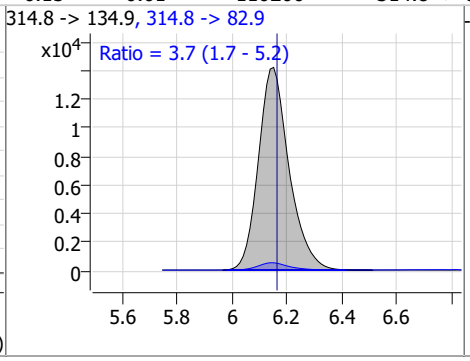


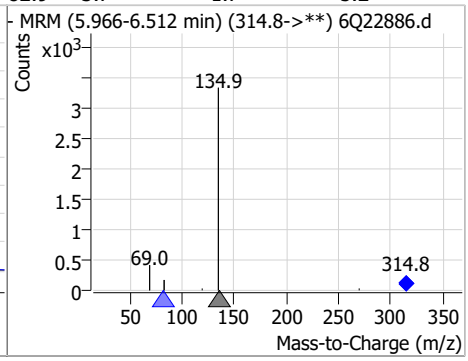




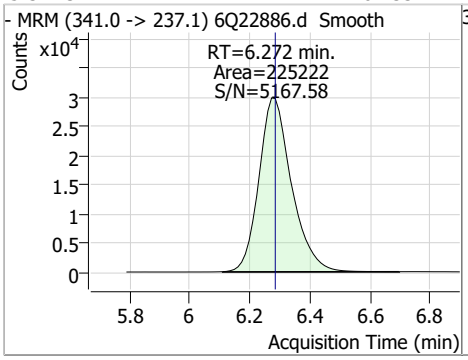
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.60	6.15	-0.01	110266	314.8 -> 82.9	3.7	1.7	5.2

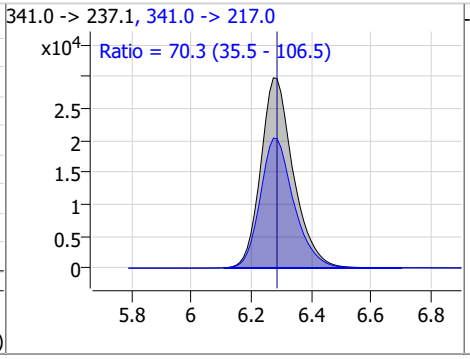


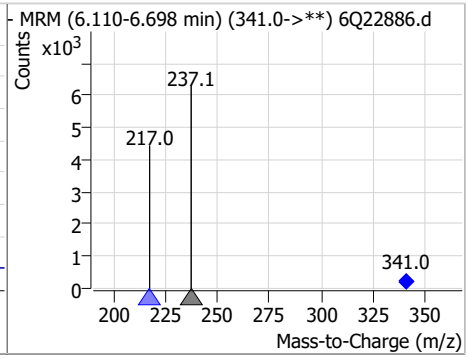




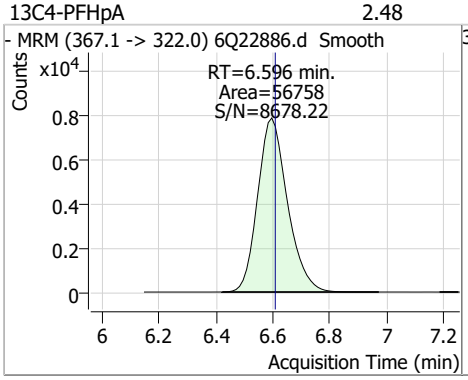
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	61.33	6.27	-0.01	225222	341.0 -> 217.0	70.3	35.5	106.5

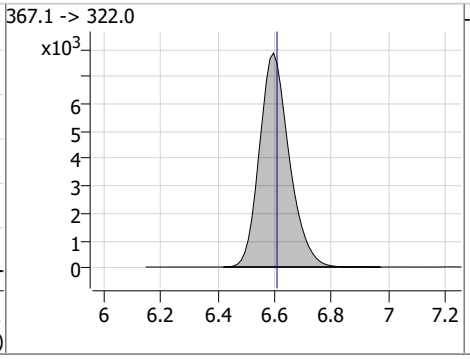


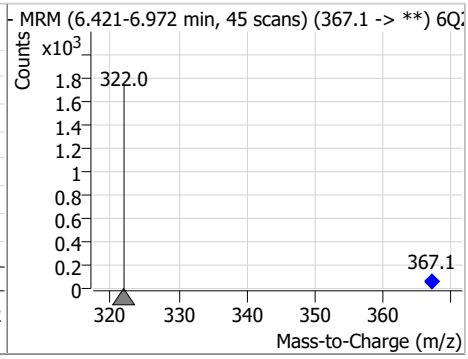




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.48	6.60	-0.01	56758				

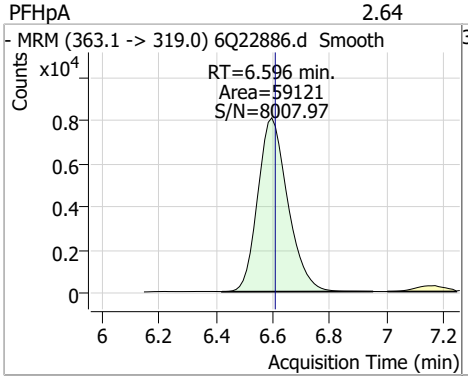


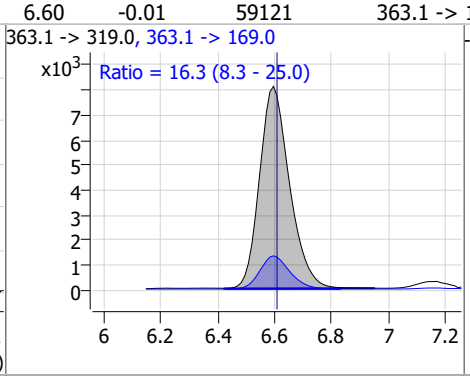


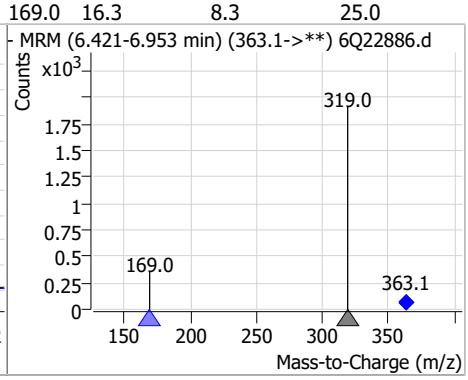


Perfluorinated Compounds by LC/MS/MS

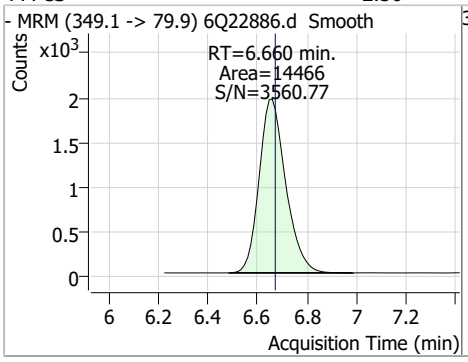
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.64	6.60	-0.01	59121	363.1 -> 169.0	16.3	8.3	25.0

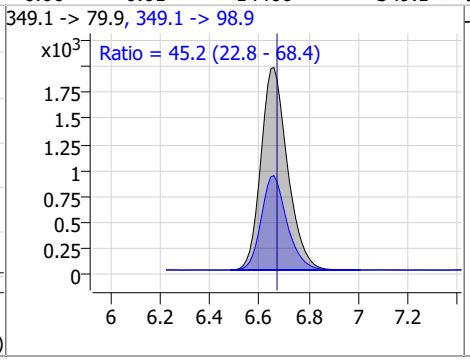


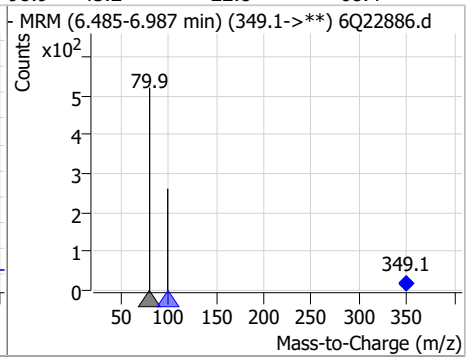




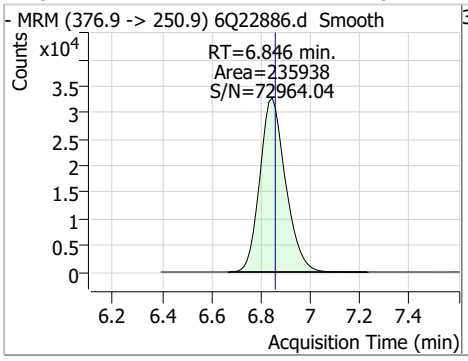
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.50	6.66	-0.01	14466	349.1 -> 98.9	45.2	22.8	68.4

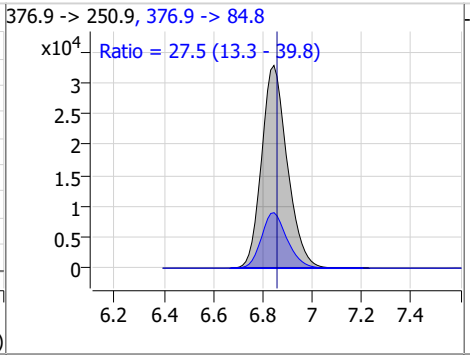


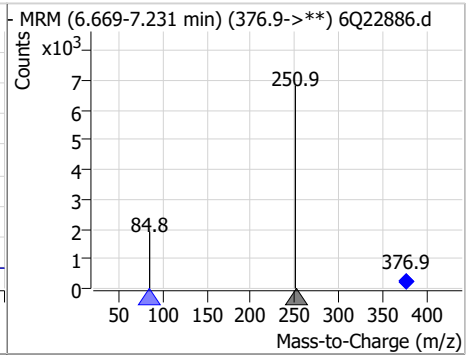




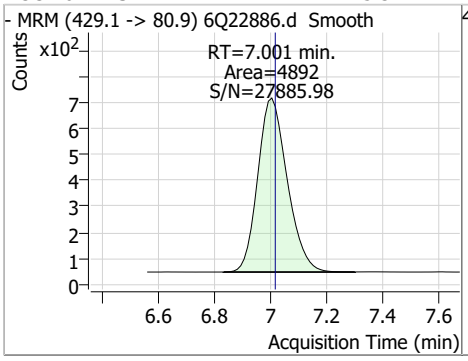
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.92	6.85	-0.01	235938	376.9 -> 84.8	27.5	13.3	39.8

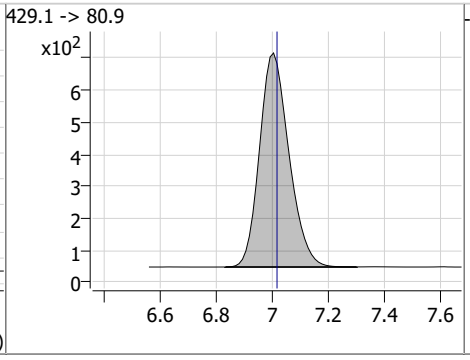


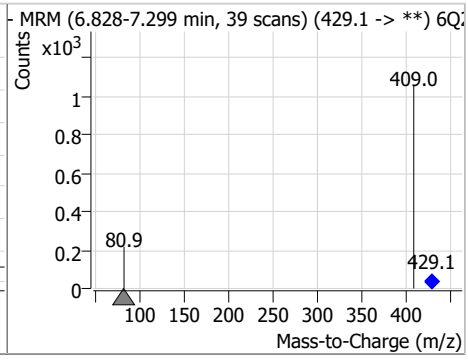




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.37	7.00	-0.01	4892				

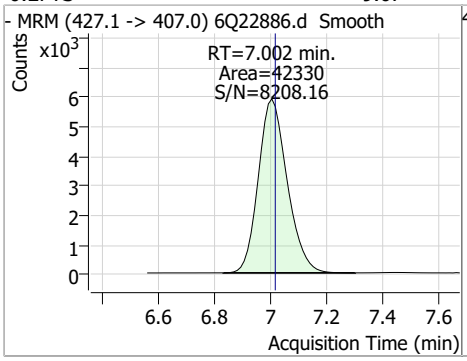


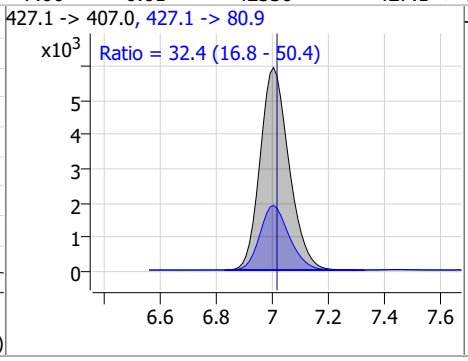


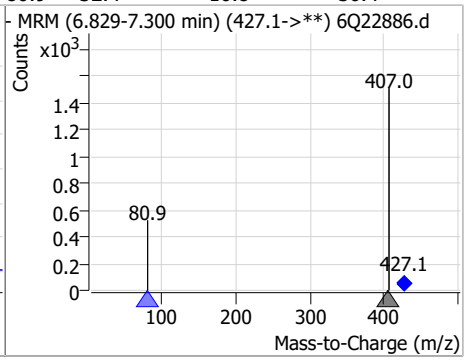


Perfluorinated Compounds by LC/MS/MS

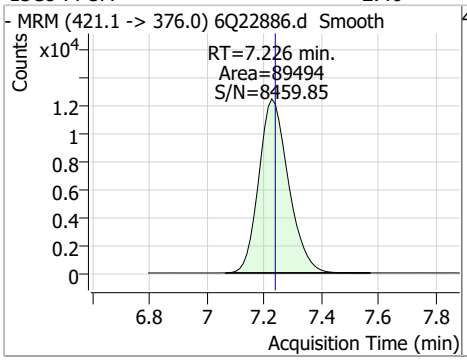
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.67	7.00	-0.01	42330	427.1 -> 80.9	32.4	16.8	50.4

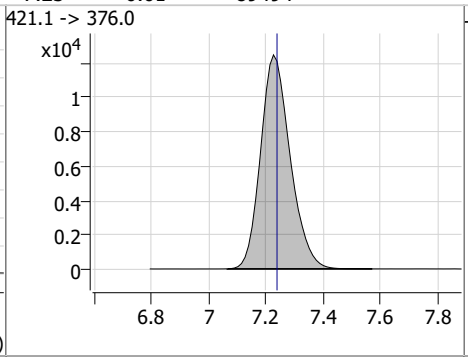


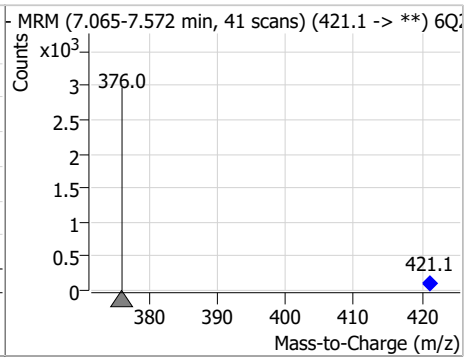




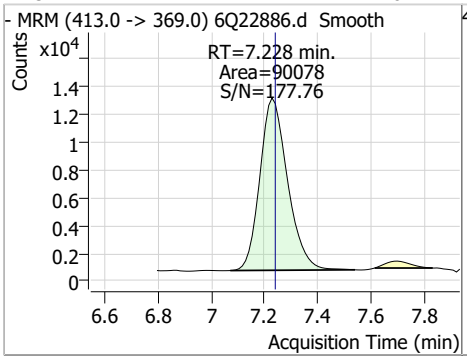
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.46	7.23	-0.01	89494				

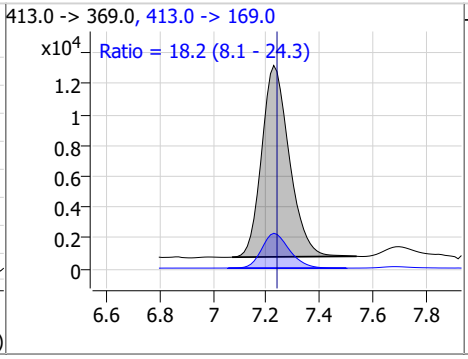


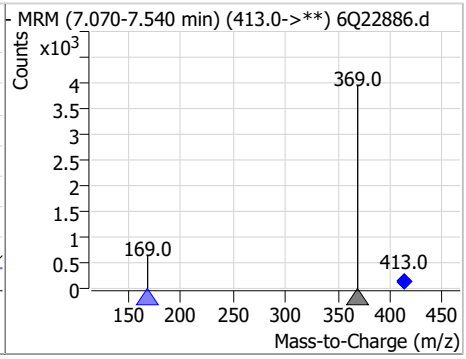




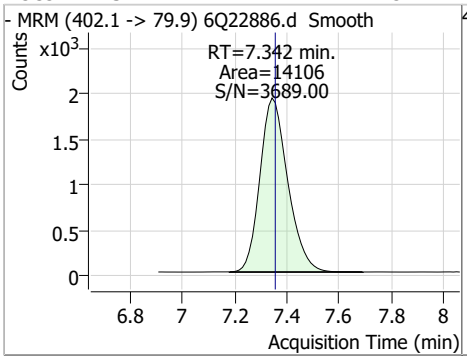
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.46	7.23	-0.01	90078	413.0 -> 169.0	18.2	8.1	24.3

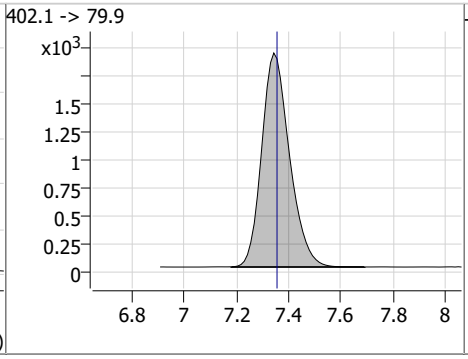


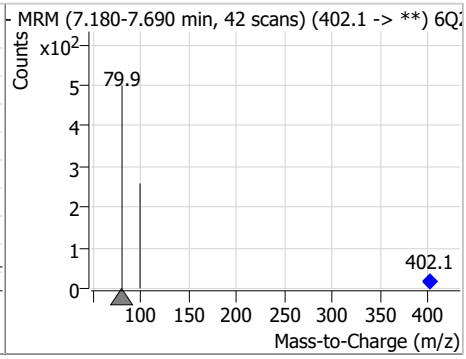




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.43	7.34	-0.01	14106				

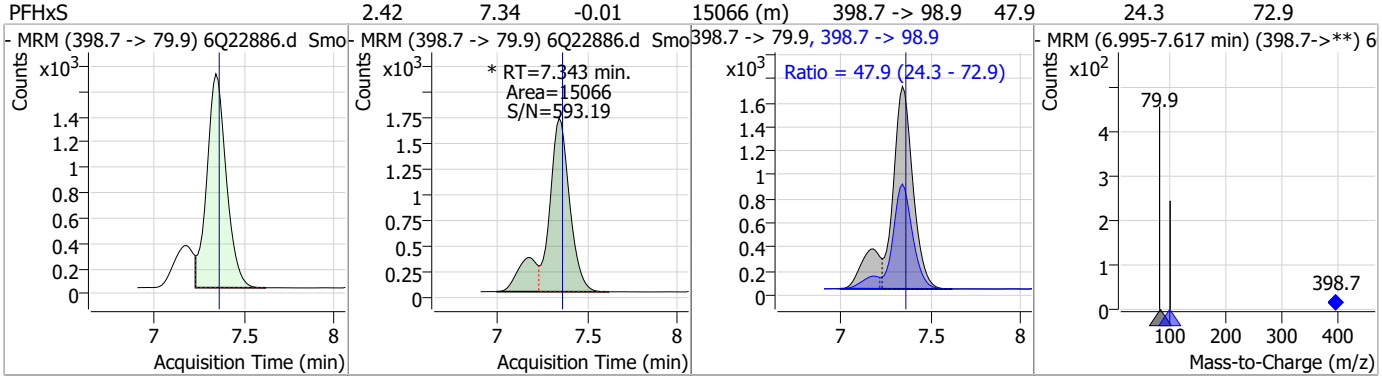




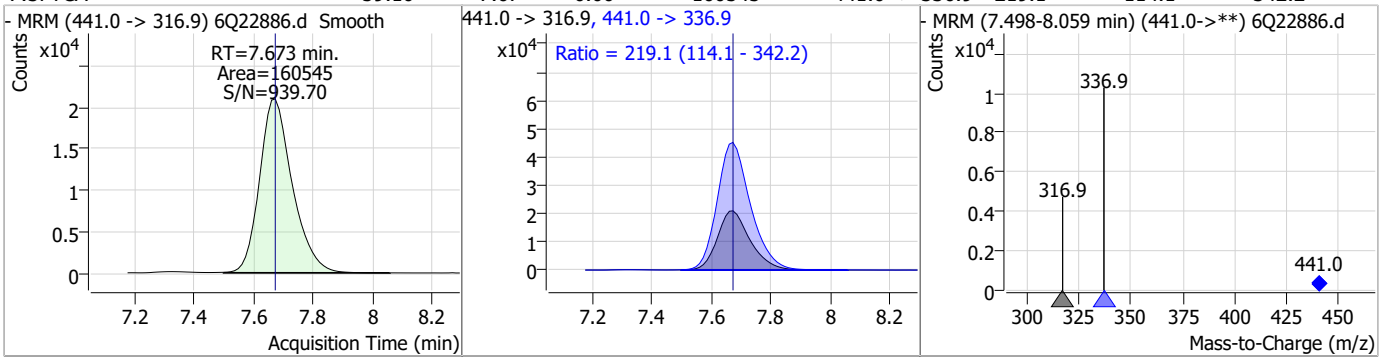


Perfluorinated Compounds by LC/MS/MS

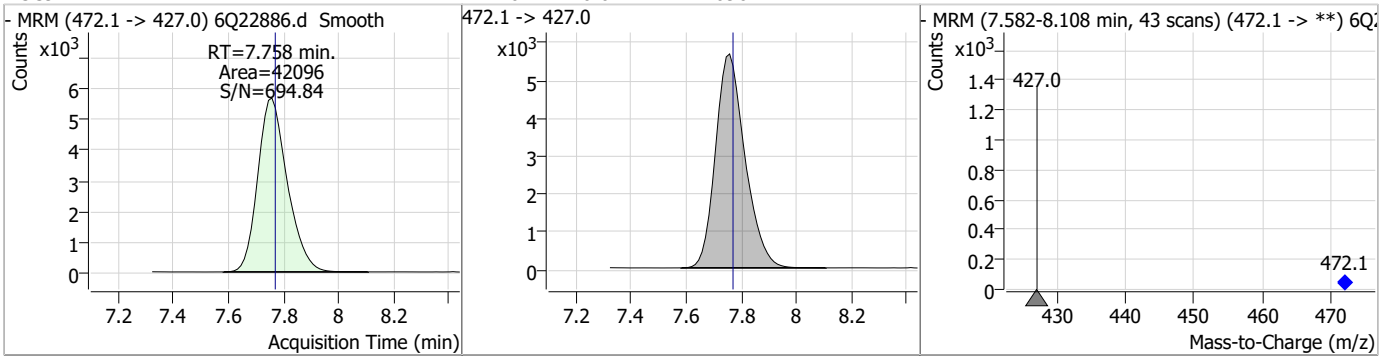
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.42	7.34	-0.01	15066 (m)	398.7 -> 98.9	47.9	24.3	72.9



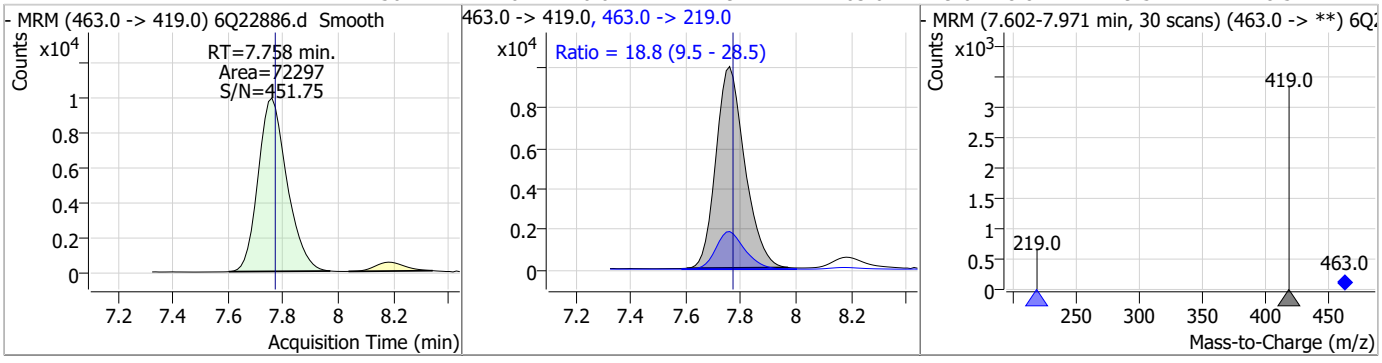
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	59.10	7.67	0.00	160545	441.0 -> 336.9	219.1	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.21	7.76	-0.01	42096				

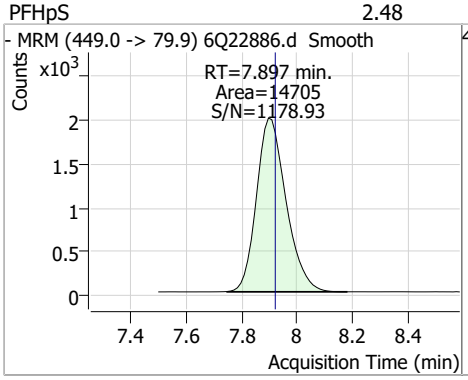


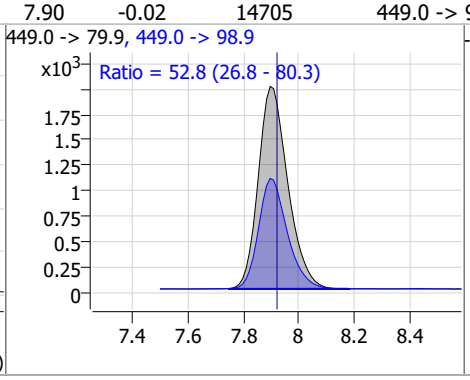
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.50	7.76	-0.01	72297	463.0 -> 219.0	18.8	9.5	28.5

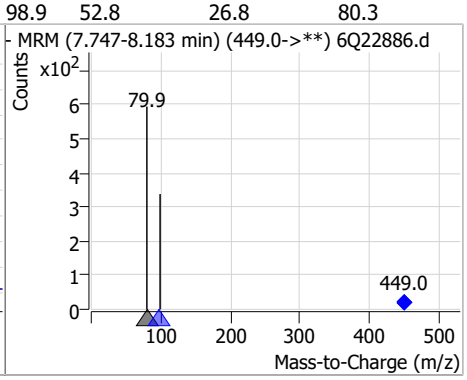


Perfluorinated Compounds by LC/MS/MS

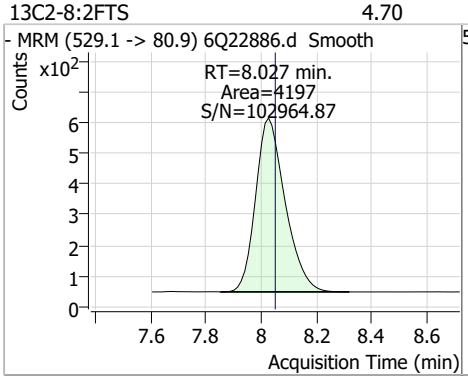
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.48	7.90	-0.02	14705	449.0 -> 98.9	52.8	26.8	80.3

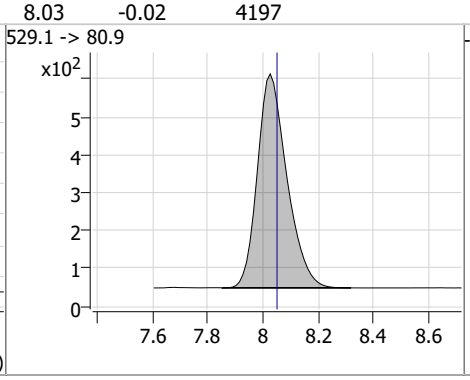


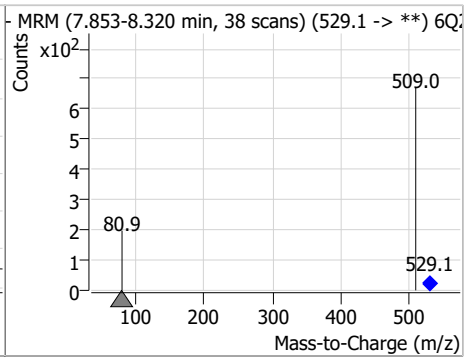




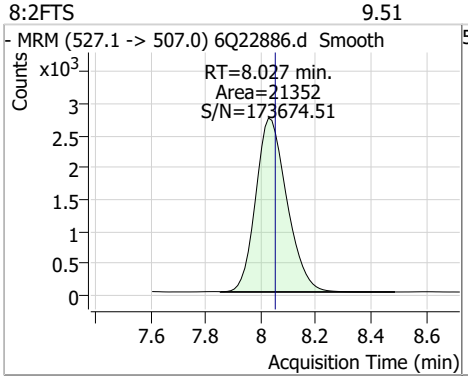
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.70	8.03	-0.02	4197				

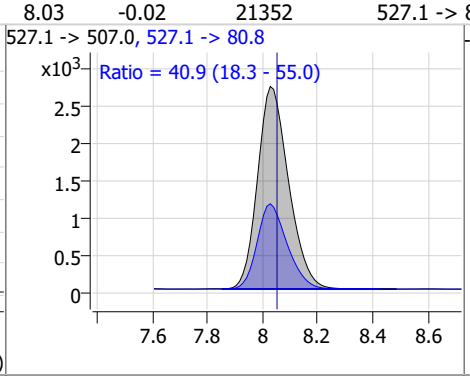


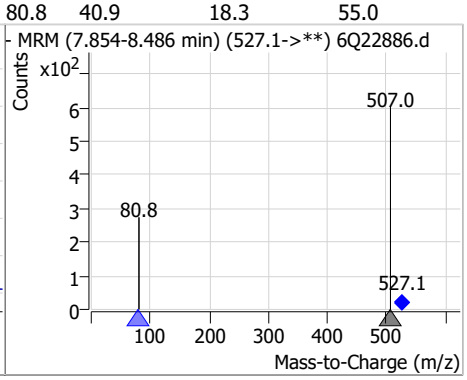




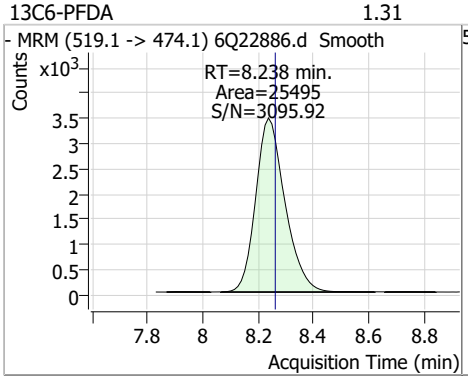
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	9.51	8.03	-0.02	21352	527.1 -> 80.8	40.9	18.3	55.0

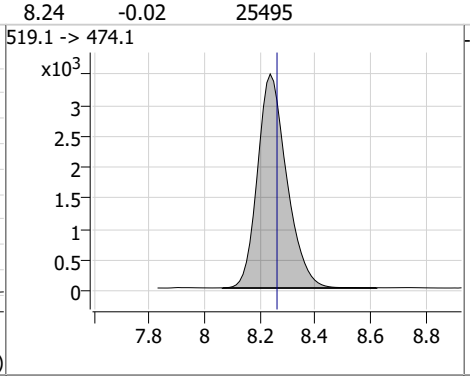


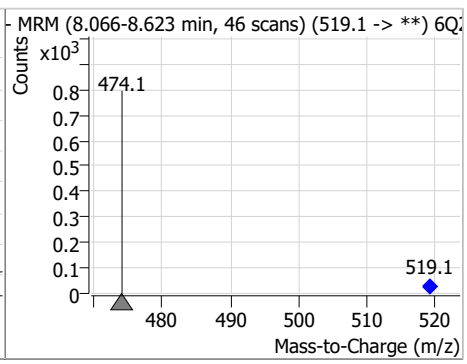




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.31	8.24	-0.02	25495				

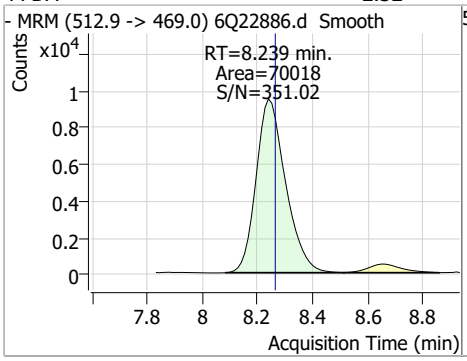


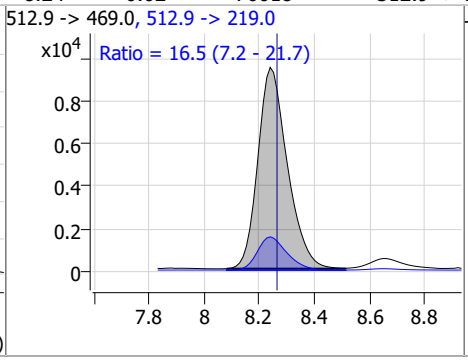


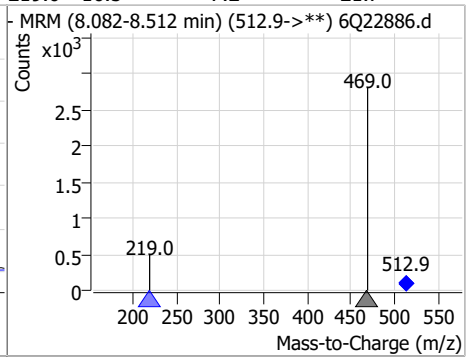


Perfluorinated Compounds by LC/MS/MS

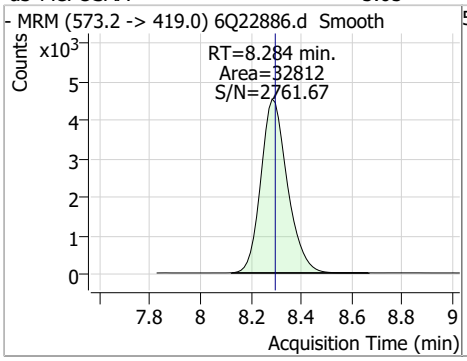
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.32	8.24	-0.02	70018	512.9 -> 219.0	16.5	7.2	21.7

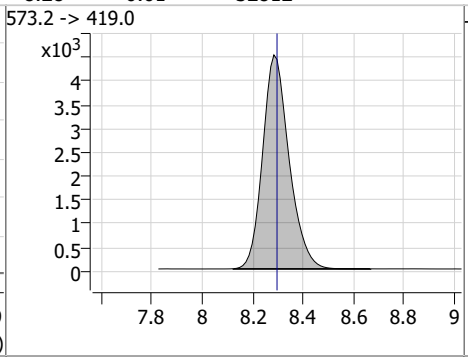


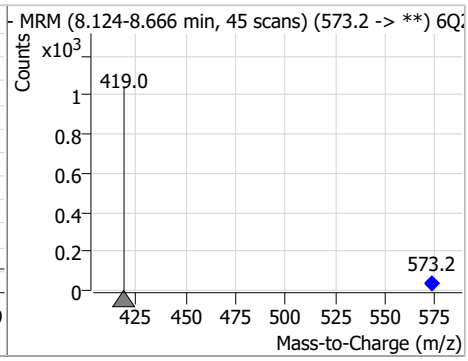




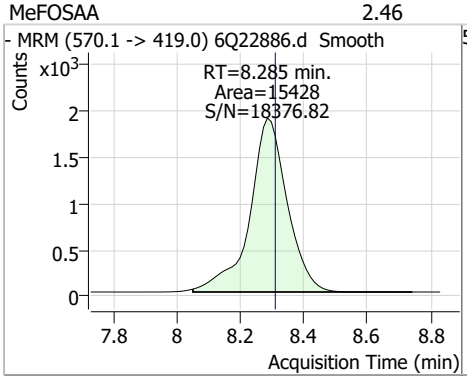
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.05	8.28	-0.01	32812				

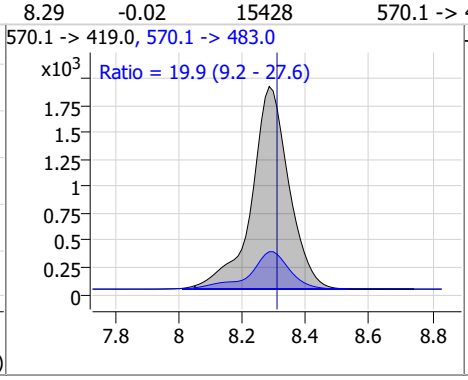


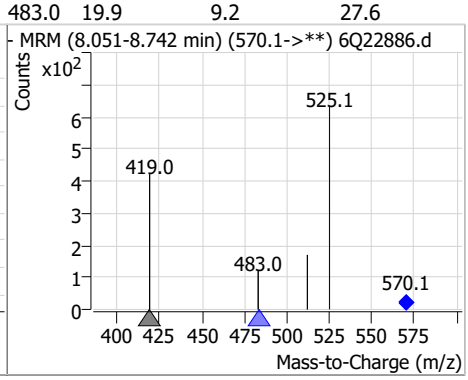




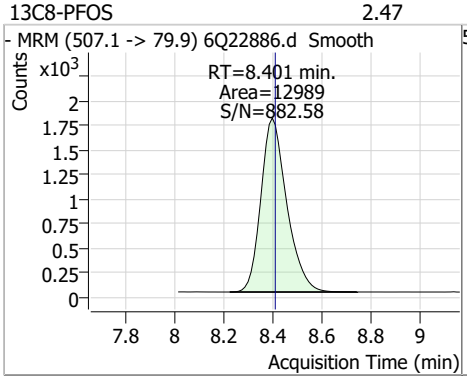
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.46	8.29	-0.02	15428	570.1 -> 483.0	19.9	9.2	27.6

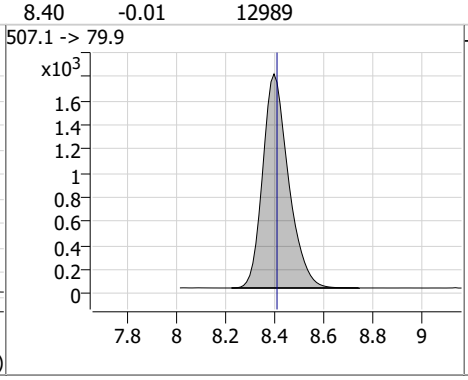


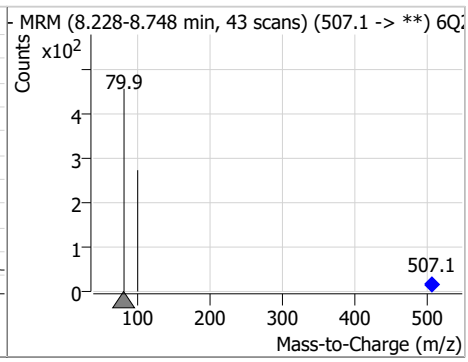




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.47	8.40	-0.01	12989				

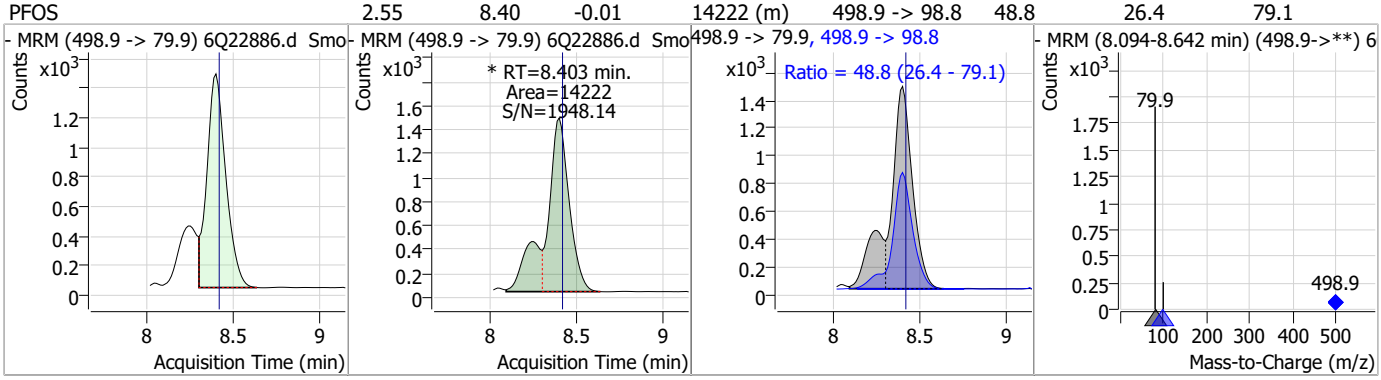




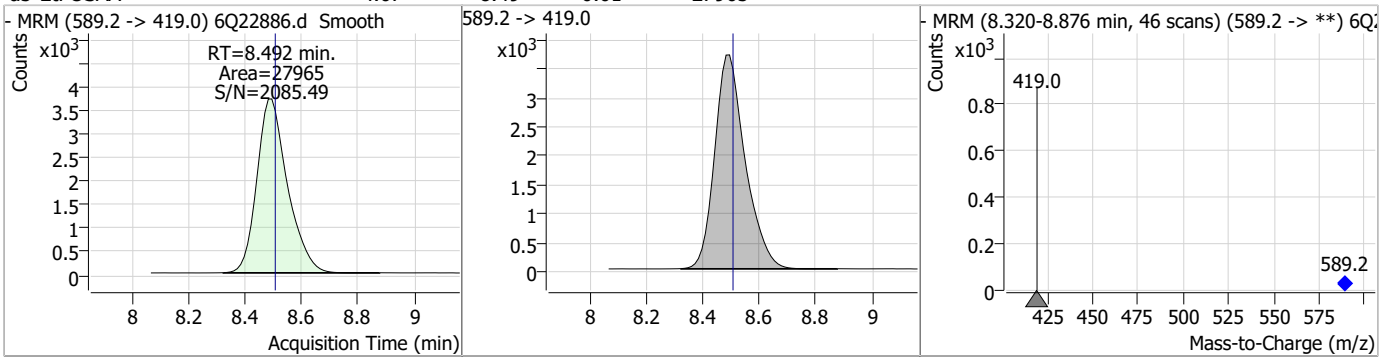


Perfluorinated Compounds by LC/MS/MS

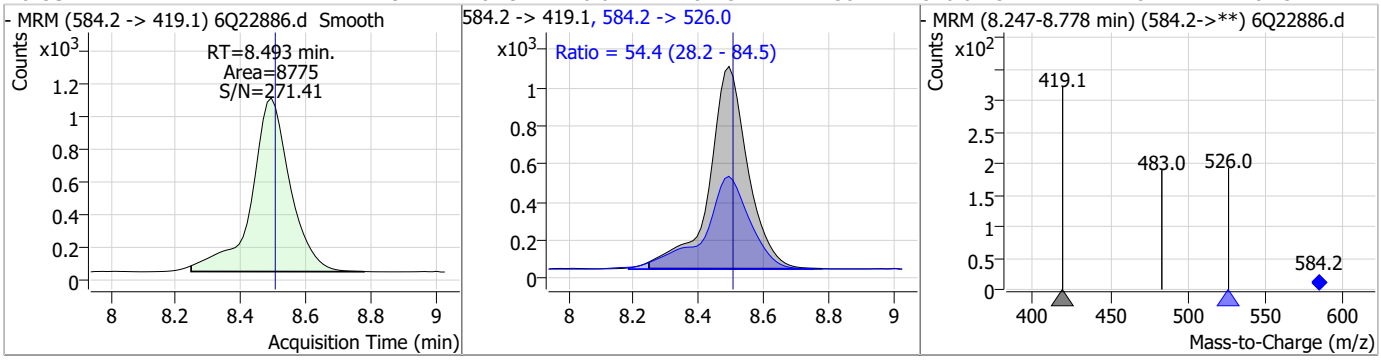
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.55	8.40	-0.01	14222 (m)	498.9 -> 98.8	48.8	26.4	79.1



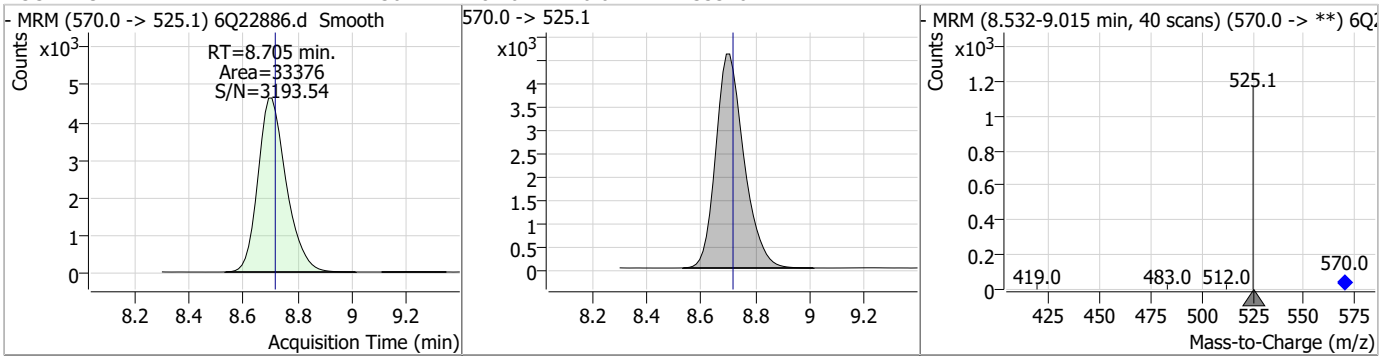
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.67	8.49	-0.01	27965				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.49	8.49	-0.01	8775	584.2 -> 526.0	54.4	28.2	84.5

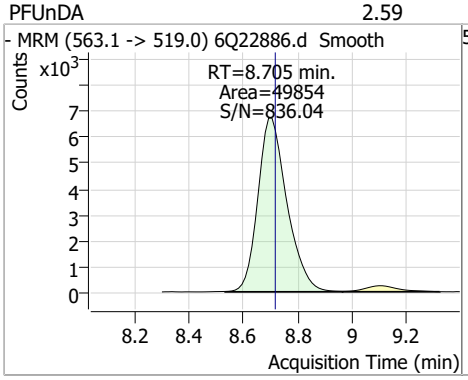


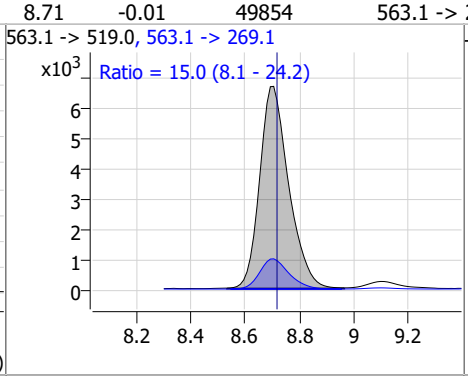
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.30	8.70	-0.01	33376				

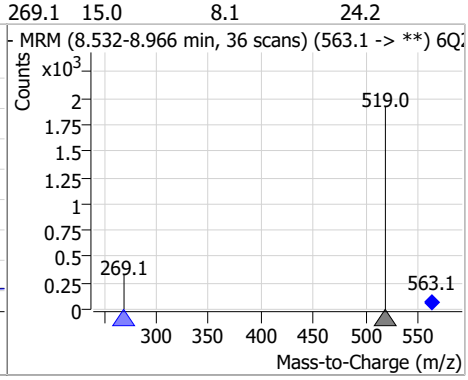


Perfluorinated Compounds by LC/MS/MS

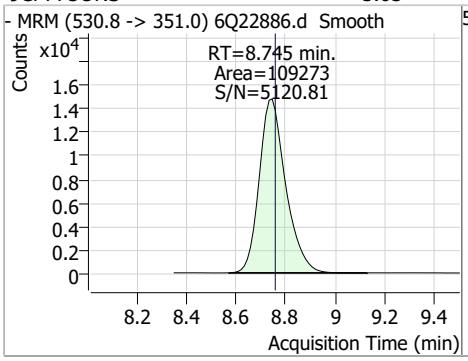
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.59	8.71	-0.01	49854	563.1 -> 269.1	15.0	8.1	24.2

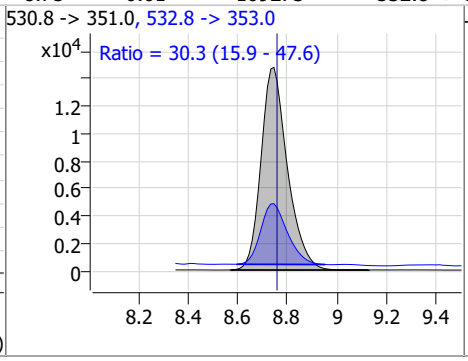


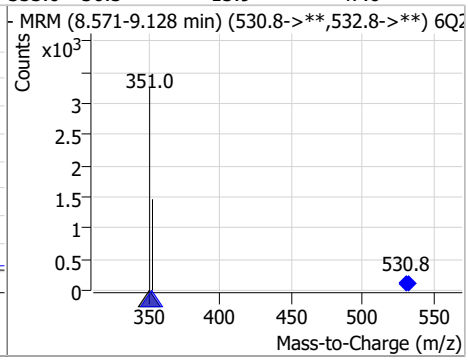




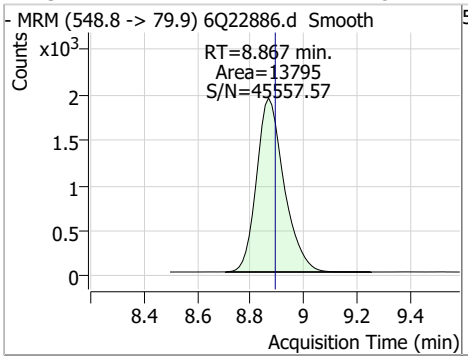
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	5.03	8.75	-0.01	109273	532.8 -> 353.0	30.3	15.9	47.6

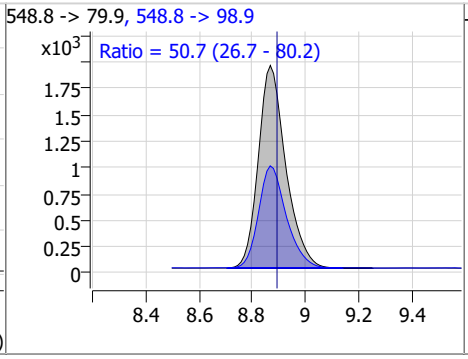


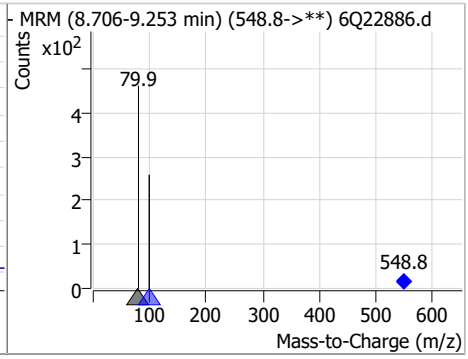




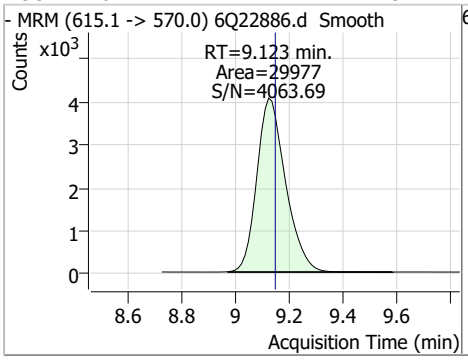
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.57	8.87	-0.03	13795	548.8 -> 98.9	50.7	26.7	80.2

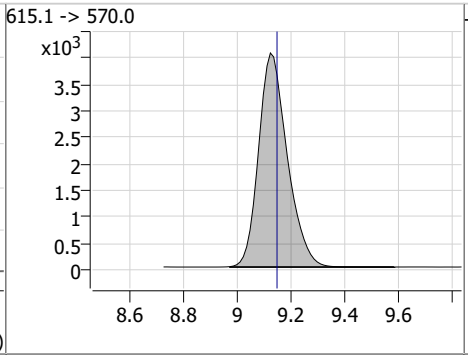


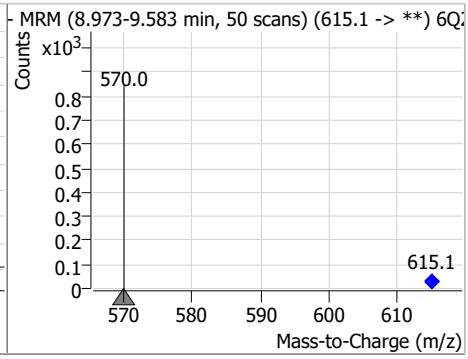




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.29	9.12	-0.02	29977				

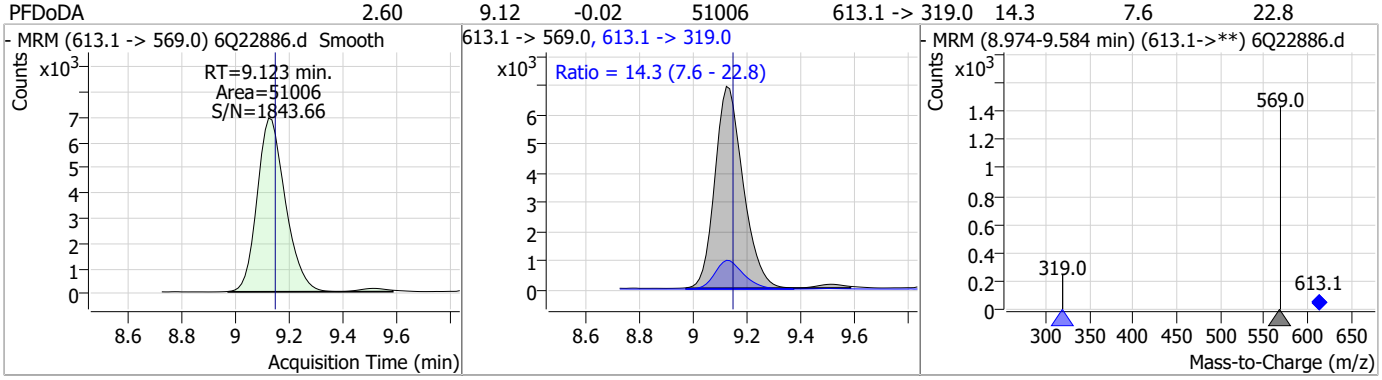




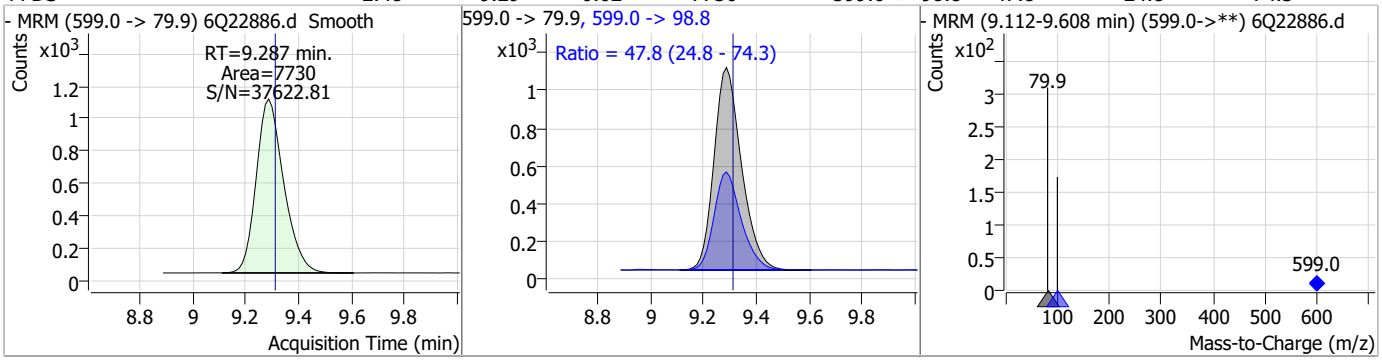


Perfluorinated Compounds by LC/MS/MS

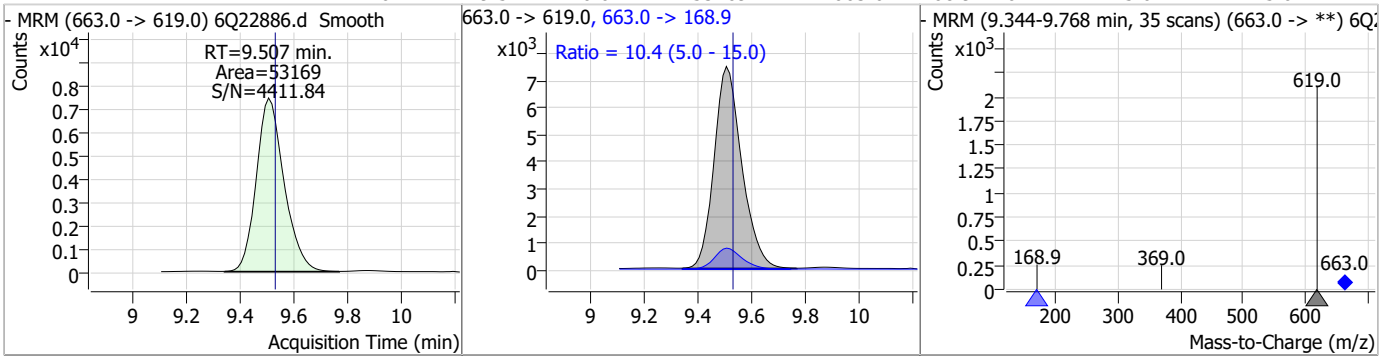
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.60	9.12	-0.02	51006	613.1 -> 319.0	14.3	7.6	22.8



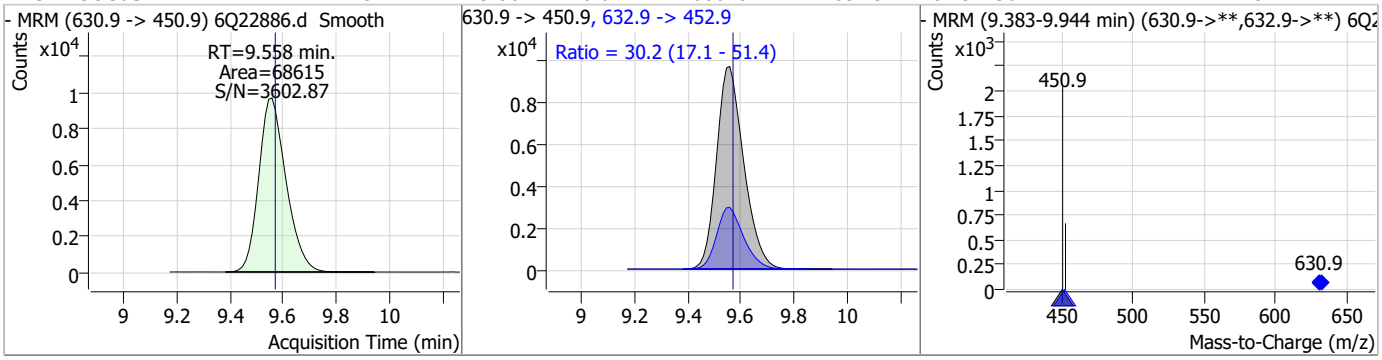
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.48	9.29	-0.02	7730	599.0 -> 98.8	47.8	24.8	74.3



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.62	9.51	-0.02	53169	663.0 -> 168.9	10.4	5.0	15.0

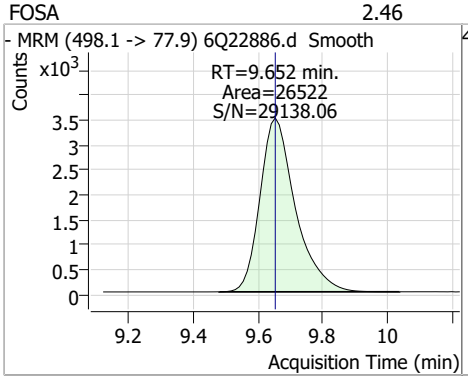


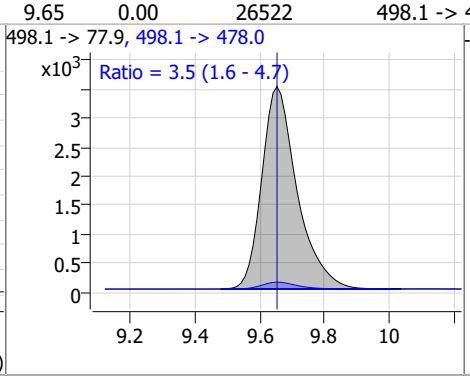
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	5.11	9.56	-0.01	68615	632.9 -> 452.9	30.2	17.1	51.4

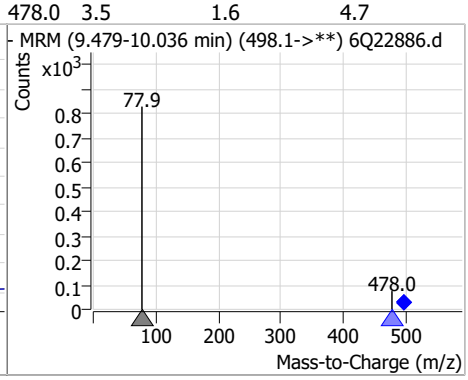


Perfluorinated Compounds by LC/MS/MS

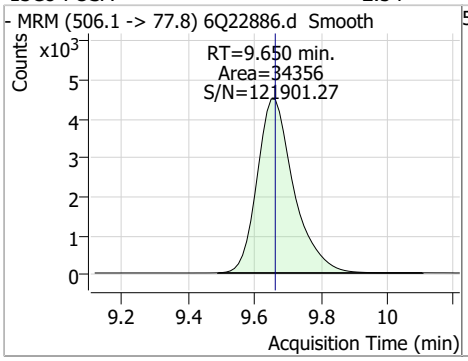
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.46	9.65	0.00	26522	498.1 -> 478.0	3.5	1.6	4.7

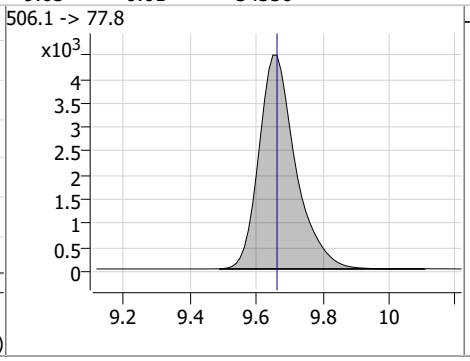


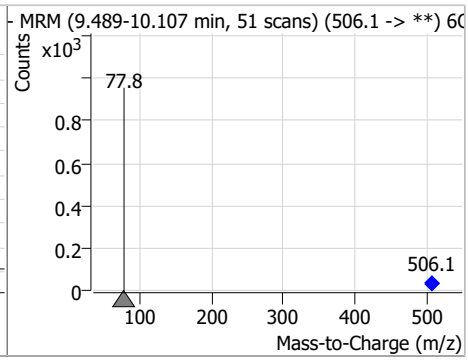




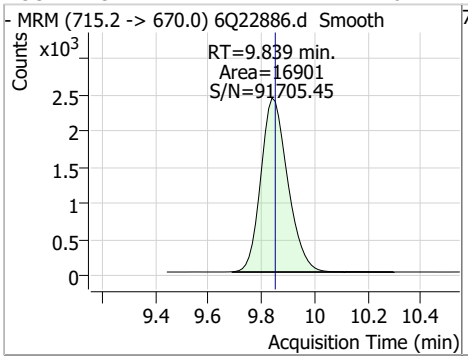
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.54	9.65	-0.01	34356				

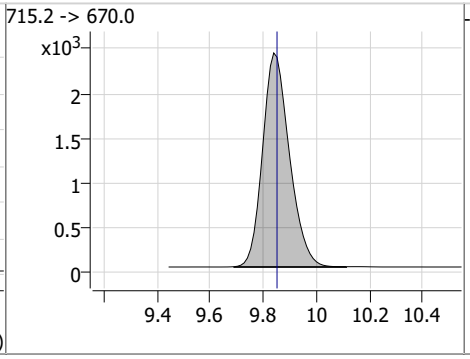


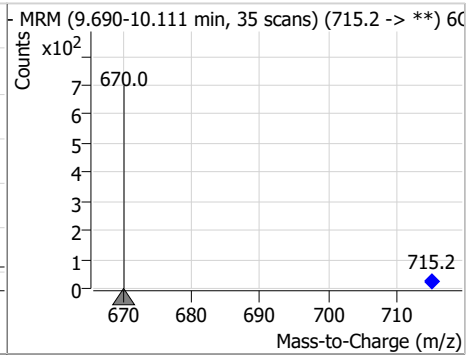




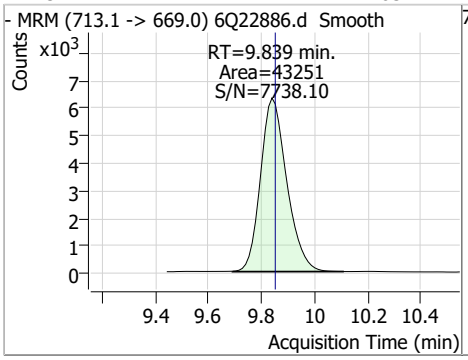
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.26	9.84	-0.01	16901				

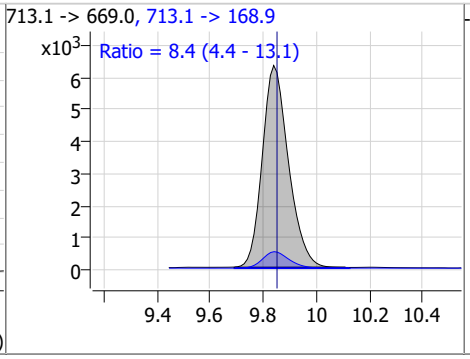


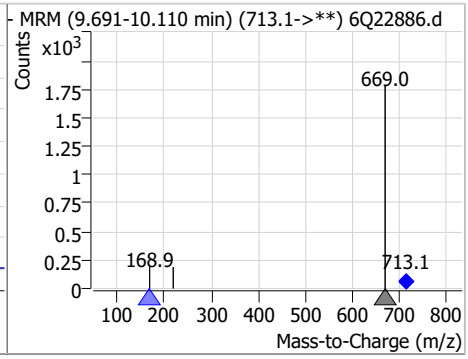




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.63	9.84	-0.01	43251	713.1 -> 168.9	8.4	4.4	13.1

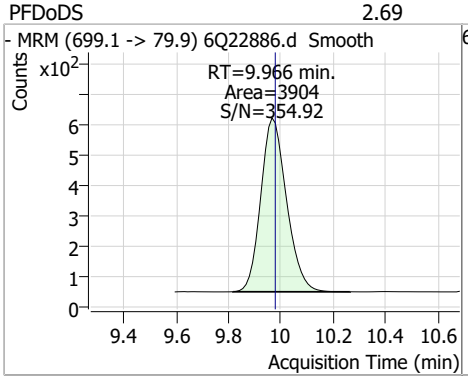


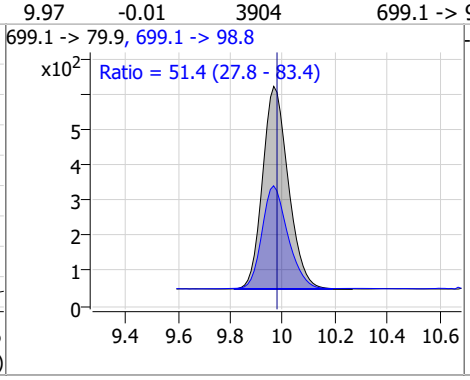


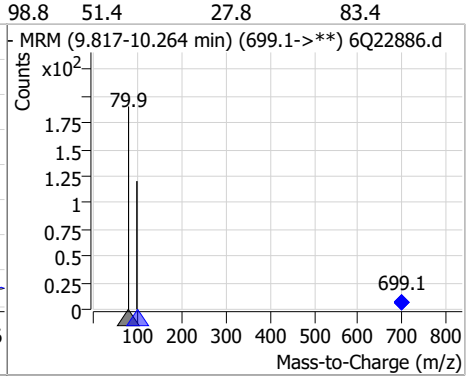


Perfluorinated Compounds by LC/MS/MS

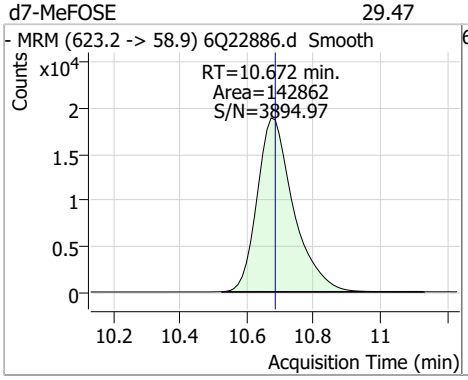
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.69	9.97	-0.01	3904	699.1 -> 98.8	51.4	27.8	83.4

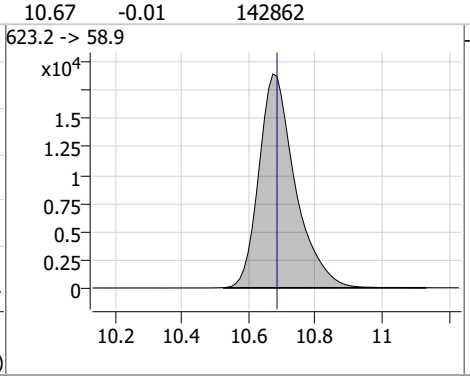


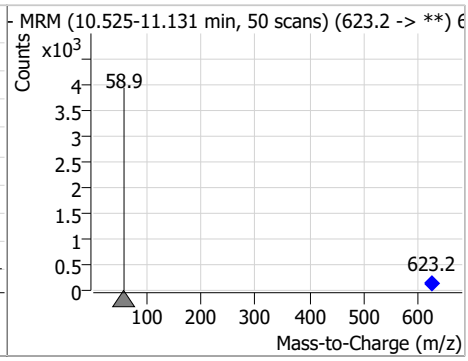




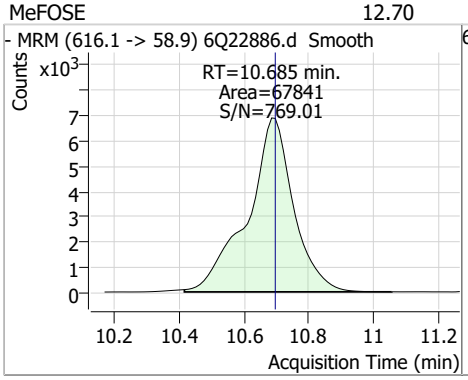
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	29.47	10.67	-0.01	142862				

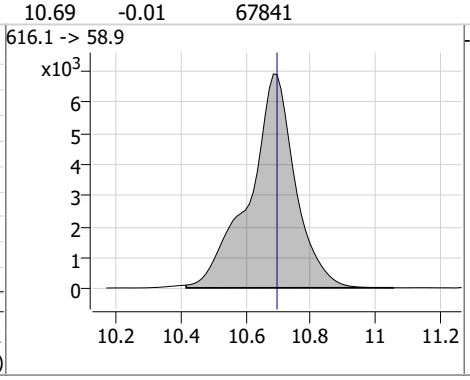


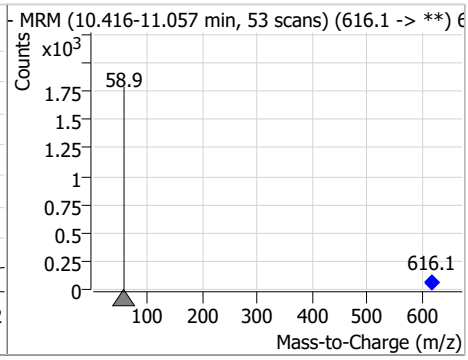




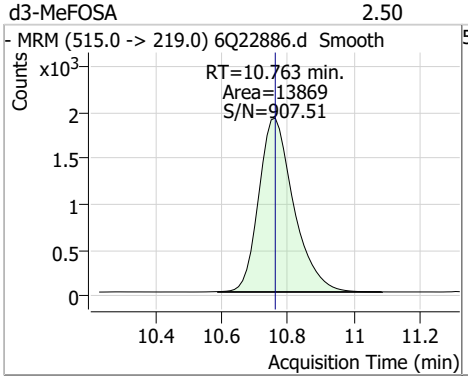
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.70	10.69	-0.01	67841				

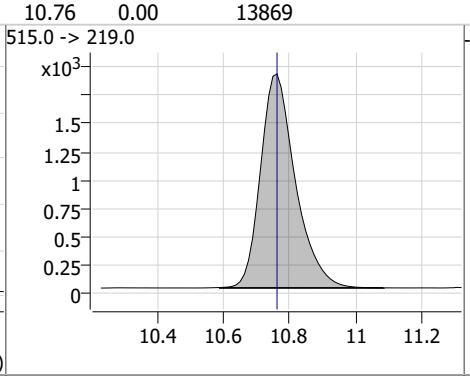


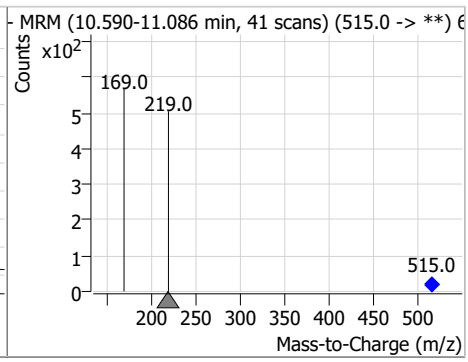




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.50	10.76	0.00	13869				

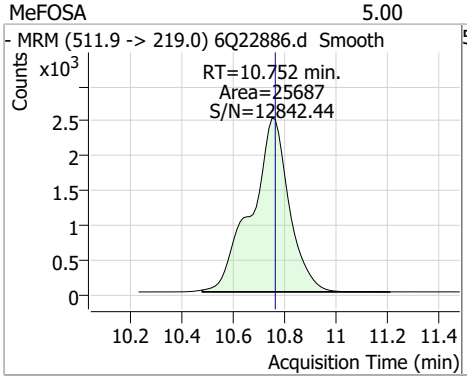


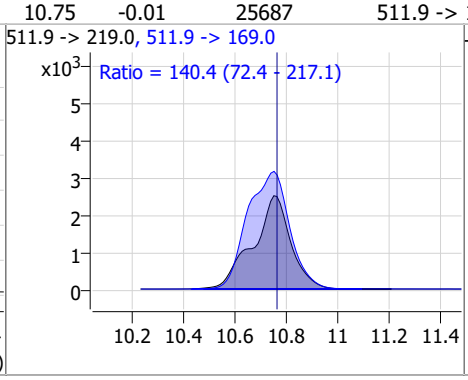


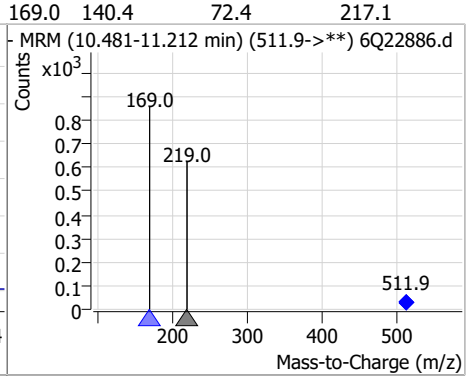


Perfluorinated Compounds by LC/MS/MS

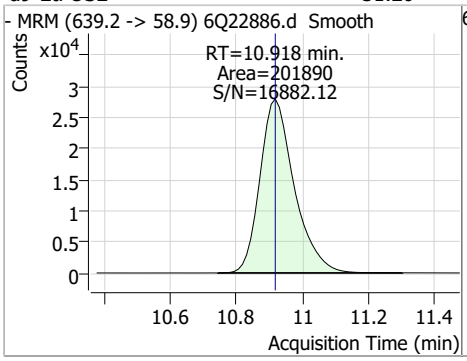
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	5.00	10.75	-0.01	25687	511.9 -> 169.0	140.4	72.4	217.1

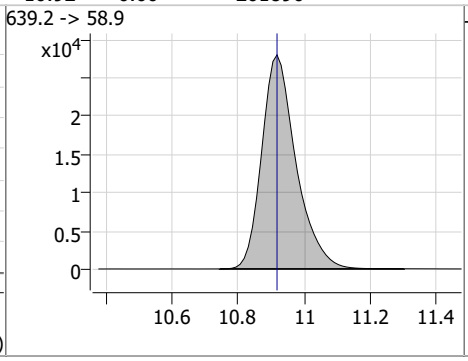


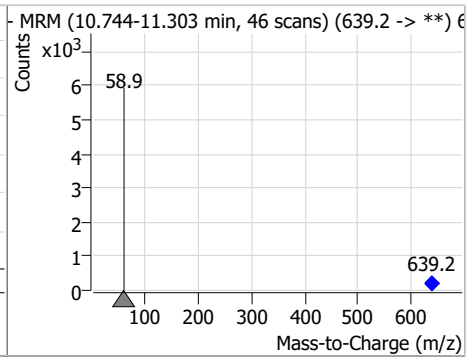




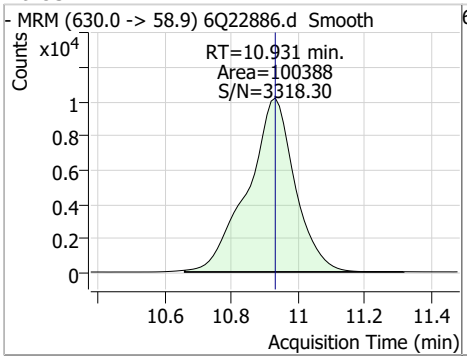
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	31.20	10.92	0.00	201890				

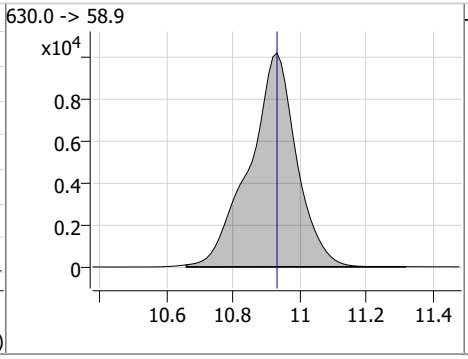


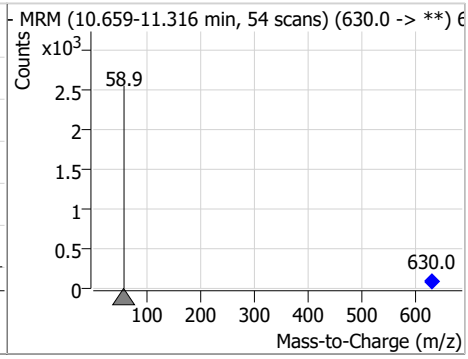




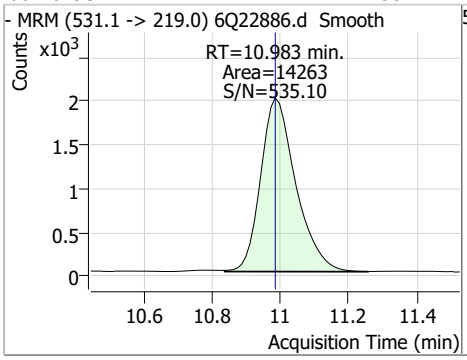
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.27	10.93	0.00	100388				

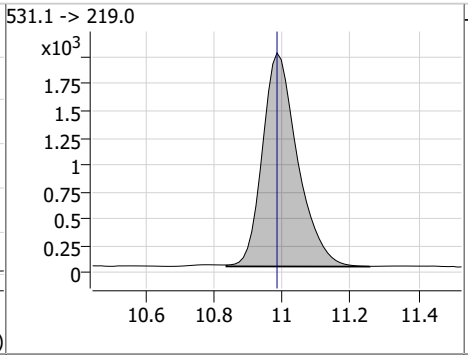


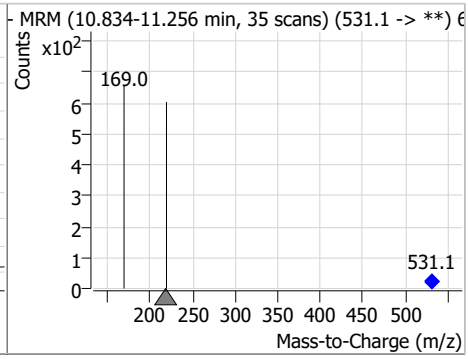




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.55	10.98	0.00	14263				

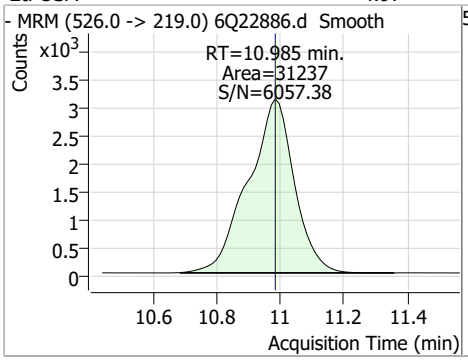


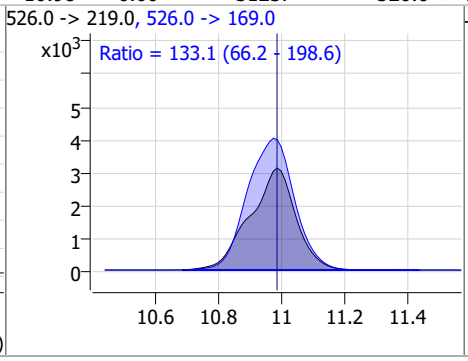


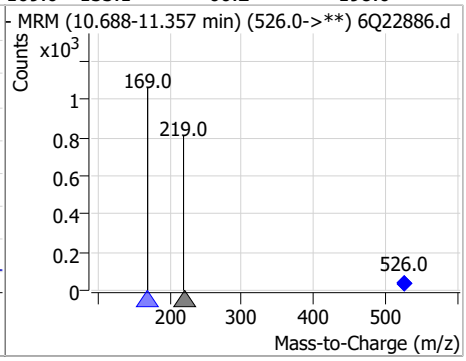


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.97	10.98	0.00	31237	526.0 -> 169.0	133.1	66.2	198.6







Manual Integration Approval Summary

Sample Number:	S6Q332-CC330	**Method:**	EPA DRAFT 1633
Lab FileID:	6Q22886.D	**Analyst approved:**	08/15/23 13:29 Martha Valls
Injection Time:	08/14/23 19:34	**Supervisor approved:**	08/16/23 15:10 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.40	Split peak

Manual Integrations APPROVED (compounds with "m" flag)
Norman Farmer 08/16/23 15:15

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q22899.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 8/14/2023 10:46:32 PM
Sample Name : cc330-4
Vial : P1-A5
DA Method File : 1633_081023_S6Q330.quantmethod.xml
Batch Name : S6Q332.batch.bin
Sample Information : OP98201,S6Q332,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Internal Standards						
M4-PFBA	2.997	216.8 -> 171.9	178162	10.00	µg/L	-0.012
M5-PFPeA	4.447	268.3 -> 223.0	58089	5.00	µg/L	0.000
M5-PFHxA	5.668	318.0 -> 273.0	60285	2.50	µg/L	0.000
M4-PFHpA	6.596	367.1 -> 322.0	58424	2.50	µg/L	-0.012
M8-PFOA	7.226	421.1 -> 376.0	96633	2.50	µg/L	-0.012
M9-PFNA	7.745	472.1 -> 427.0	44031	1.25	µg/L	-0.025
M6-PFDA	8.238	519.1 -> 474.1	26458	1.25	µg/L	-0.025
M7-PFUnDA	8.692	570.0 -> 525.1	33729	1.25	µg/L	-0.025
M2-PFDoDA	9.123	615.1 -> 570.0	31196	1.25	µg/L	-0.025
M2-PFTeDA	9.839	715.2 -> 670.0	16405	1.25	µg/L	-0.012
M8-FOSA	9.650	506.1 -> 77.8	33856	2.50	µg/L	-0.012
M3-PFBS	5.599	302.1 -> 79.9	23530	2.50	µg/L	-0.011
M3-PFHxS	7.342	402.1 -> 79.9	14370	2.50	µg/L	-0.012
M8-PFOS	8.401	507.1 -> 79.9	15033	2.50	µg/L	-0.012
M2-4:2FTS	5.330	329.1 -> 80.9	3310	5.00	µg/L	0.000
M2-6:2FTS	7.001	429.1 -> 80.9	4962	5.00	µg/L	-0.012
M2-8:2FTS	8.027	529.1 -> 80.9	4633	5.00	µg/L	-0.025
M3-MeFOSAA	8.284	573.2 -> 419.0	32990	5.00	µg/L	-0.012
M3-HFPO-DA	6.033	286.9 -> 168.9	40370	10.00	µg/L	-0.012
M5-EtFOSAA	8.480	589.2 -> 419.0	28148	5.00	µg/L	-0.025
M7-MeFOSE	10.672	623.2 -> 58.9	130341	25.00	µg/L	-0.012
M9-EtFOSE	10.918	639.2 -> 58.9	178090	25.00	µg/L	0.000
M5-EtFOSA	10.983	531.1 -> 219.0	13929	2.50	µg/L	0.000
M3-MeFOSA	10.763	515.0 -> 219.0	14239	2.50	µg/L	0.000
13C4-PFOS	8.402	502.8 -> 79.9	19052	2.50	µg/L	-0.025
13C3-PFBA	3.001	216.0 -> 172.0	75542	5.00	µg/L	0.000
18O2-PFHxS	7.341	403.0 -> 83.9	11243	2.50	µg/L	-0.012
13C4-PFOA	7.227	417.1 -> 372.0	100801	2.50	µg/L	-0.012
13C2-PFDA	8.239	515.1 -> 470.1	34611	1.25	µg/L	-0.012
13C5-PFNA	7.758	468.0 -> 423.0	53766	1.25	µg/L	-0.012
13C2-PFHxA	5.656	315.1 -> 270.0	59478	2.50	µg/L	-0.012
System Monitoring Compounds						
13C2-4:2FTS	5.330	329.1 -> 80.9	3310	4.93	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C2-6:2FTS	7.001	429.1 -> 80.9	4962	5.12	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.4%		
13C2-8:2FTS	8.027	529.1 -> 80.9	4633	4.88	µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.6%		
13C2-PFDoDA	9.123	615.1 -> 570.0	31196	1.33	µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.7%		
13C2-PFTeDA	9.839	715.2 -> 670.0	16405	1.22	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.6%		
13C3-PFBS	5.599	302.1 -> 79.9	23530	2.47	µg/L	-0.011
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.6%		
13C3-PFHxS	7.342	402.1 -> 79.9	14370	2.33	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 = 93.0%	
13C4-PFBA	2.997	216.8 -> 171.9	178162	9.99 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.596	367.1 -> 322.0	58424	2.43 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.3%	
13C5-PFHxA	5.668	318.0 -> 273.0	60285	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C5-PFPeA	4.447	268.3 -> 223.0	58089	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.7%	
13C6-PFDA	8.238	519.1 -> 474.1	26458	1.35 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.3%	
13C7-PFUnDA	8.692	570.0 -> 525.1	33729	1.30 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C8-FOSA	9.650	506.1 -> 77.8	33856	2.35 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.2%	
13C8-PFOA	7.226	421.1 -> 376.0	96633	2.60 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C8-PFOS	8.401	507.1 -> 79.9	15033	2.69 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.8%	
13C9-PFNA	7.745	472.1 -> 427.0	44031	1.26 µg/L	-0.025
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.0%	
d3-MeFOSAA	8.284	573.2 -> 419.0	32990	4.79 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.7%	
13C3-HFPO-DA	6.033	286.9 -> 168.9	40370	10.49 µg/L	-0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.9%	
d3-MeFOSA	10.763	515.0 -> 219.0	14239	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
d5-EtFOSAA	8.480	589.2 -> 419.0	28148	4.42 µg/L	-0.025
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.5%	
d7-MeFOSE	10.672	623.2 -> 58.9	130341	25.31 µg/L	-0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
d9-EtFOSE	10.918	639.2 -> 58.9	178090	25.92 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.7%	
d5-EtFOSA	10.983	531.1 -> 219.0	13929	2.35 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.9%	
Target Compounds					**QValue**
4:2FTS	5.331	327.1 -> 307.0	42251	9.87 µg/L	99
		327.1 -> 80.9	16251		
6:2FTS	6.990	427.1 -> 407.0	43624	9.83 µg/L	98
		427.1 -> 80.9	14247		
8:2FTS	8.027	527.1 -> 507.0	22243	8.97 µg/L	92
		527.1 -> 80.8	9271		
EtFOSAA	8.493	584.2 -> 419.1	8599	2.42 µg/L	96
		584.2 -> 526.0	4586		
FOSA	9.652	498.1 -> 77.9	27713	2.61 µg/L	99
		498.1 -> 478.0	834		
MeFOSAA	8.285	570.1 -> 419.0	15389	2.44 µg/L	95
		570.1 -> 483.0	3158		
PFBA	3.006	212.8 -> 168.9	56228	10.10 µg/L	100
PFBS	5.600	298.7 -> 79.9	18312	2.38 µg/L	95
		298.7 -> 98.8	6262		
PFDA	8.239	512.9 -> 469.0	70586	2.25 µg/L	96
		512.9 -> 219.0	11442		
PFDoDA	9.123	613.1 -> 569.0	45919	2.25 µg/L	98
		613.1 -> 319.0	7389		
PFDS	9.287	599.0 -> 79.9	7865	2.18 µg/L	99

Perfluorinated Compounds by LC/MS/MS

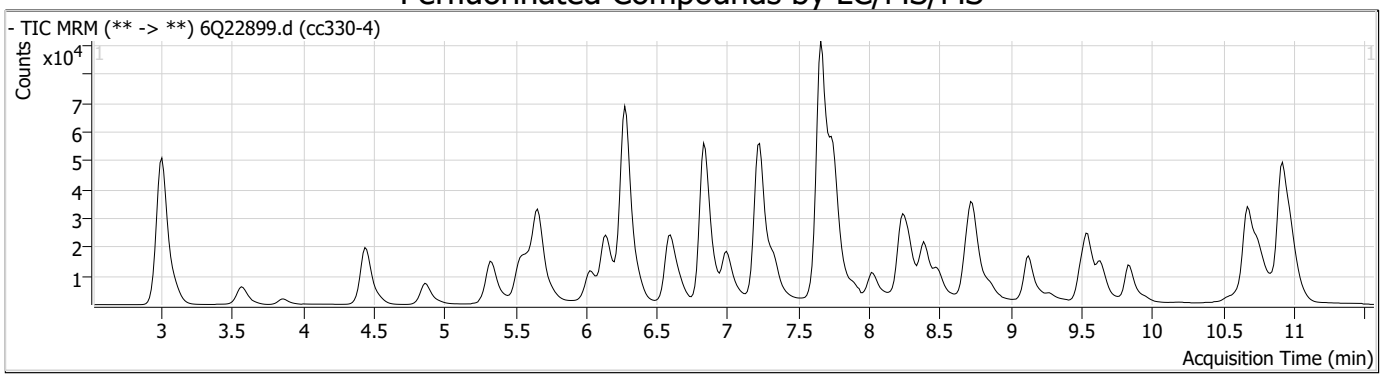
Compound	RT	Transition	Response	Conc.	Units		Dev(Min)
		599.0 -> 98.8	3842				
PFHpA	6.596	363.1 -> 319.0	61170	2.65	µg/L		99
		363.1 -> 169.0	10409				
PFHpS	7.897	449.0 -> 79.9	15594	2.27	µg/L		93
		449.0 -> 98.9	7563				
PFHxA	5.657	313.0 -> 269.0	46640	2.64	µg/L		99
		313.0 -> 118.9	2563				
PFHxS	7.343	398.7 -> 79.9	15523	2.45	µg/L	m	97
		398.7 -> 98.9	7280				
PFNA	7.758	463.0 -> 419.0	76370	2.52	µg/L		99
		463.0 -> 219.0	14328				
PFNS	8.867	548.8 -> 79.9	13812	2.23	µg/L		92
		548.8 -> 98.9	6626				
PFOA	7.228	413.0 -> 369.0	94307	2.39	µg/L		98
		413.0 -> 169.0	16036				
PFOS	8.403	498.9 -> 79.9	14277	2.21	µg/L	m	90
		498.9 -> 98.8	6568				
PFPeA	4.449	263.0 -> 219.0	63495	4.96	µg/L		100
PFPeS	6.660	349.1 -> 79.9	15190	2.58	µg/L		96
		349.1 -> 98.9	6517				
PFTeDA	9.839	713.1 -> 669.0	43106	2.71	µg/L		98
		713.1 -> 168.9	3511				
PFTrDA	9.507	663.0 -> 619.0	51379	2.44	µg/L		97
		663.0 -> 168.9	5778				
PFUnDA	8.693	563.1 -> 519.0	48951	2.52	µg/L		97
		563.1 -> 269.1	8447				
11Cl-PF3OUdS	9.546	630.9 -> 450.9	69010	4.79	µg/L		95
		632.9 -> 452.9	21847				
9Cl-PF3ONS	8.745	530.8 -> 351.0	105954	4.55	µg/L		99
		532.8 -> 353.0	34223				
ADONA	6.846	376.9 -> 250.9	243200	4.73	µg/L		98
		376.9 -> 84.8	66408				
HFPO-DA	6.034	284.9 -> 168.9	16751	4.88	µg/L		96
		284.9 -> 184.9	2041				
3:3FTCA	3.859	241.0 -> 177.0	10597	12.04	µg/L		100
		241.0 -> 117.0	1418				
5:3FTCA	6.272	341.0 -> 237.1	233833	64.47	µg/L		100
		341.0 -> 217.0	166002				
7:3FTCA	7.660	441.0 -> 316.9	164726	61.41	µg/L		96
		441.0 -> 336.9	365397				
EtFOSA	10.985	526.0 -> 219.0	30756	5.01	µg/L		97
		526.0 -> 169.0	41733				
EtFOSE	10.931	630.0 -> 58.9	95849	13.28	µg/L		100
MeFOSA	10.752	511.9 -> 219.0	25443	4.82	µg/L		98
		511.9 -> 169.0	37466				
MeFOSE	10.685	616.1 -> 58.9	62870	12.90	µg/L		100
PFDoDS	9.966	699.1 -> 79.9	3890	2.32	µg/L		99
		699.1 -> 98.8	2141				
NFDHA	5.538	295.0 -> 201.0	12047	5.37	µg/L		96
		295.0 -> 84.9	3156				
PFMBA	4.857	279.0 -> 85.1	45333	5.01	µg/L		100
PFMPA	3.563	229.0 -> 84.9	36621	5.06	µg/L		100
PFEESA	6.138	314.8 -> 134.9	116400	4.91	µg/L		100
		314.8 -> 82.9	4033				

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

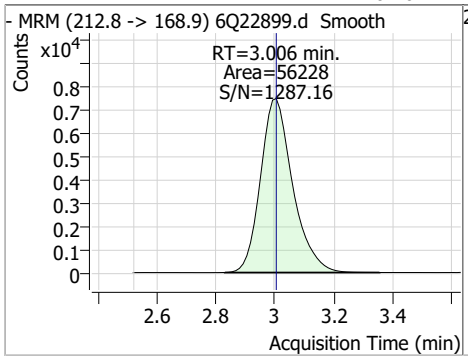
Perfluorinated Compounds by LC/MS/MS

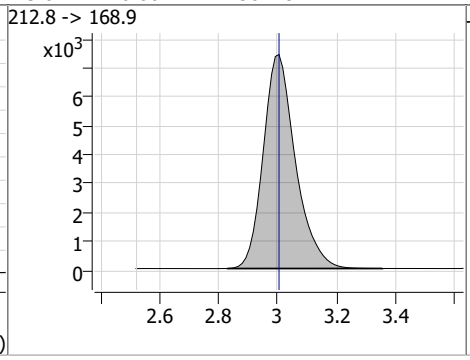
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)

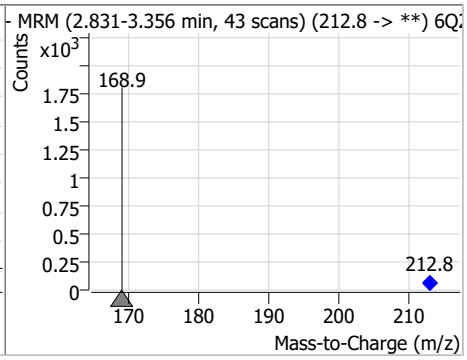
Perfluorinated Compounds by LC/MS/MS



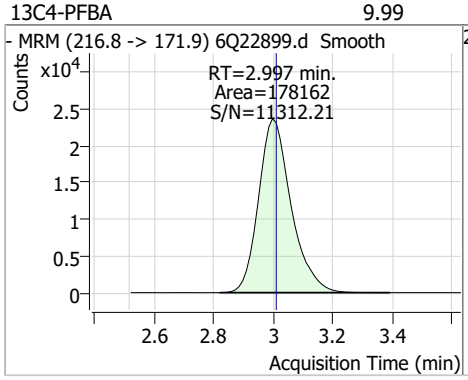
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBA	10.10	3.01	0.00	56228				

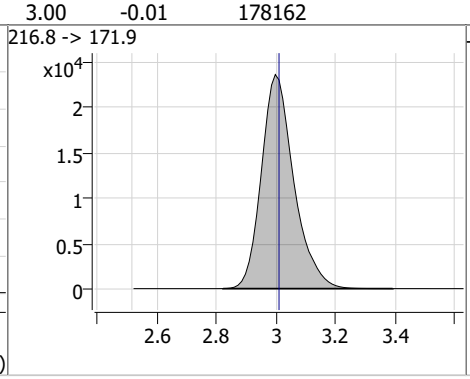


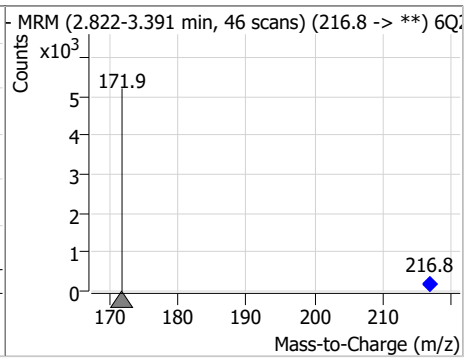




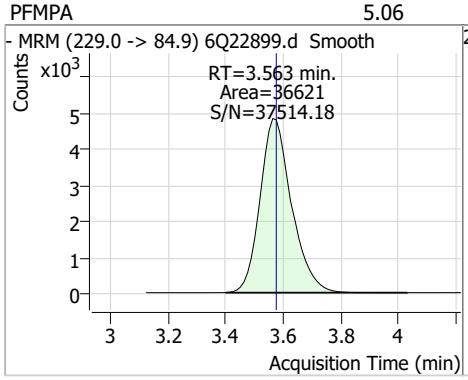
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFBA	9.99	3.00	-0.01	178162				

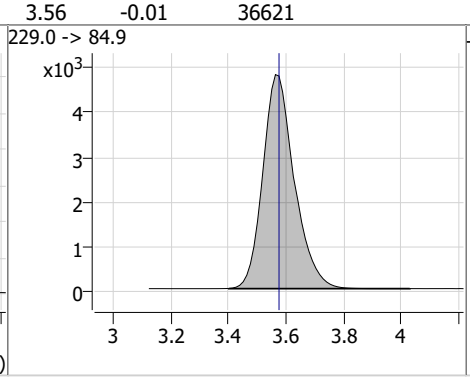


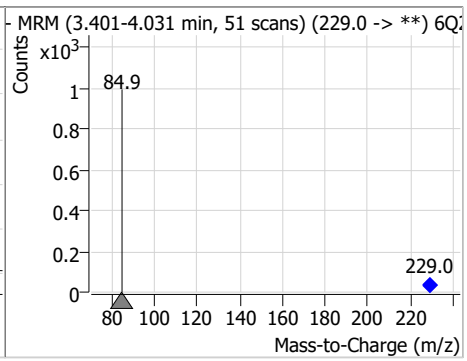




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMPA	5.06	3.56	-0.01	36621				

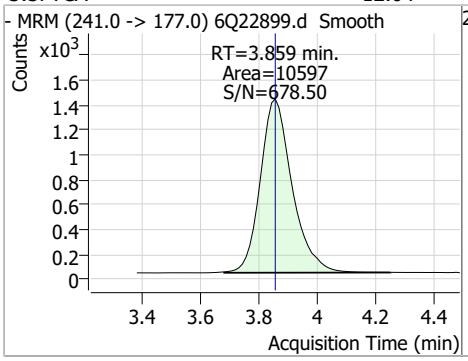


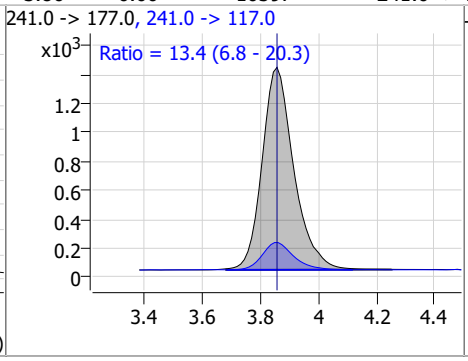


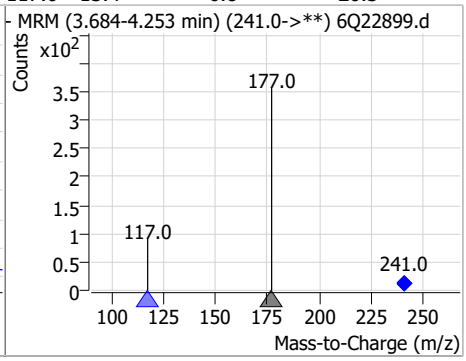


Perfluorinated Compounds by LC/MS/MS

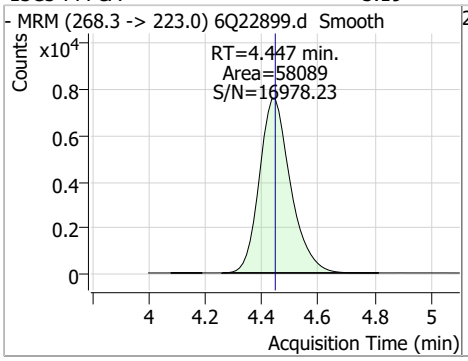
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.04	3.86	0.00	10597	241.0 -> 117.0	13.4	6.8	20.3

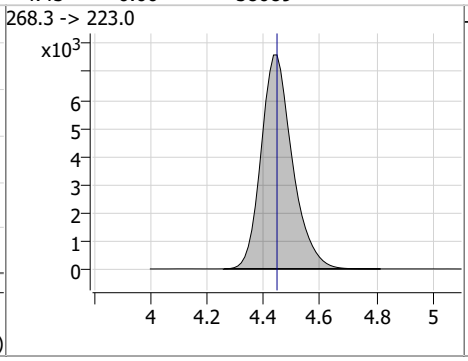


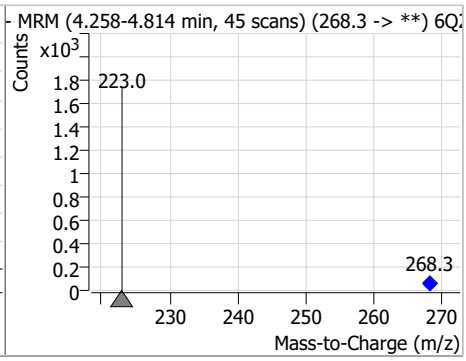




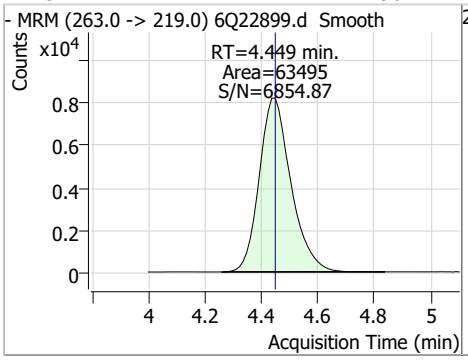
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.19	4.45	0.00	58089				

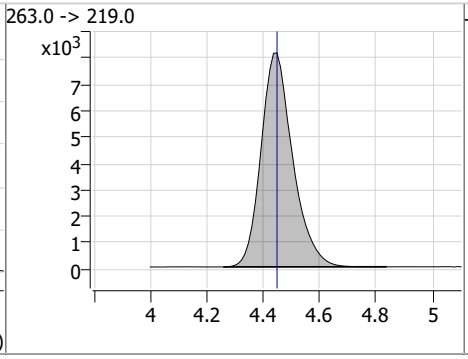


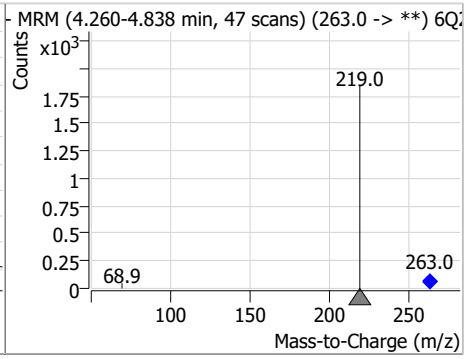




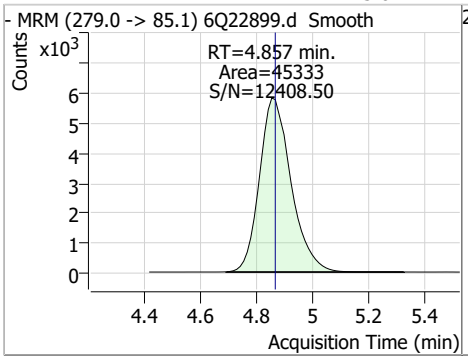
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.96	4.45	0.00	63495				

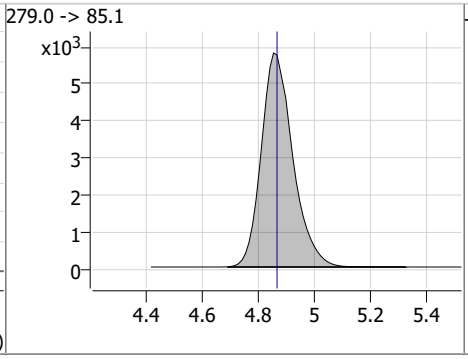


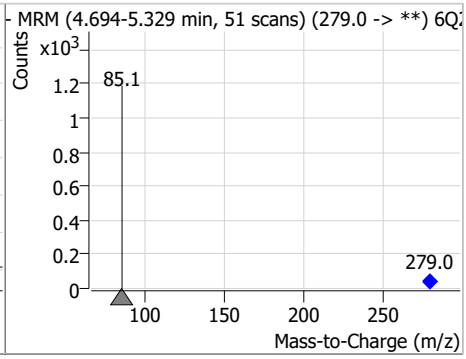




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.01	4.86	-0.01	45333				

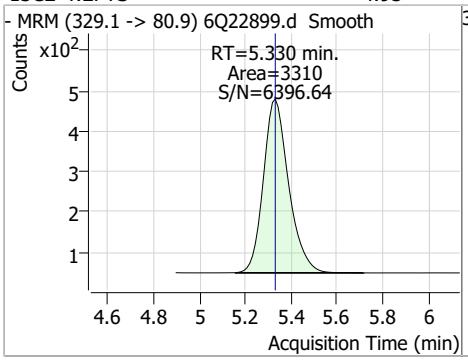


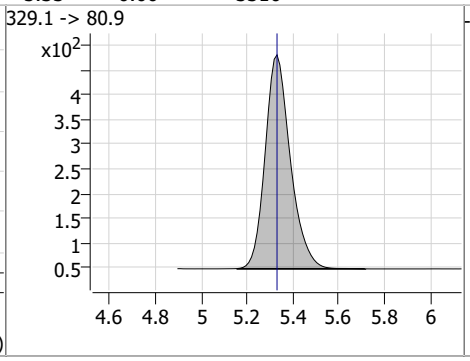


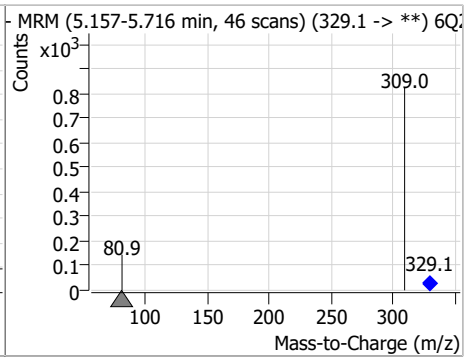


Perfluorinated Compounds by LC/MS/MS

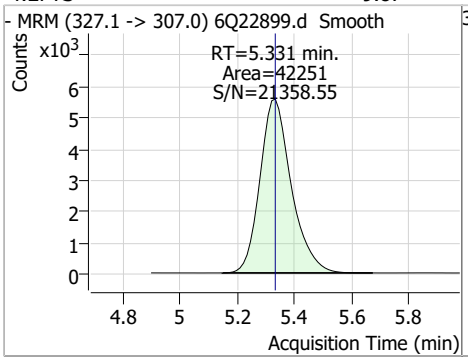
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-4:2FTS	4.93	5.33	0.00	3310				

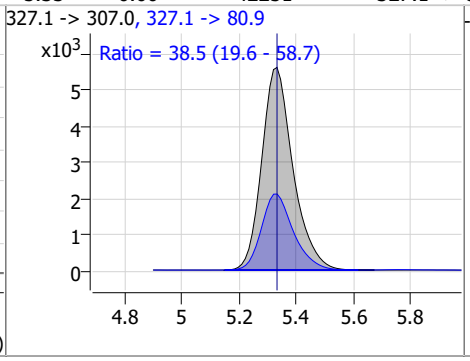


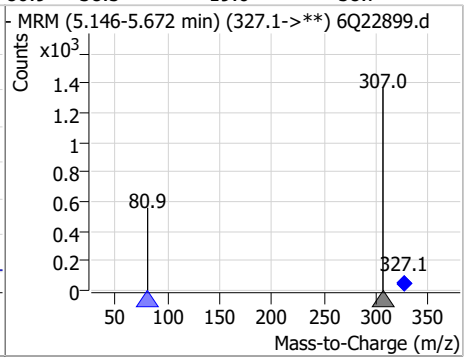




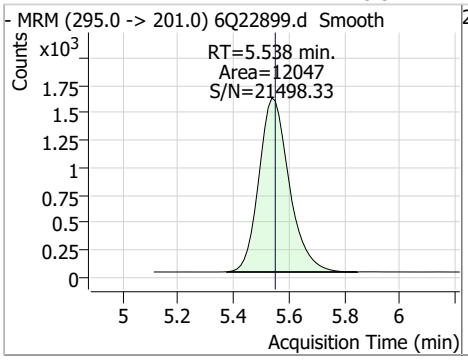
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
4:2FTS	9.87	5.33	0.00	42251	327.1 -> 80.9	38.5	19.6	58.7

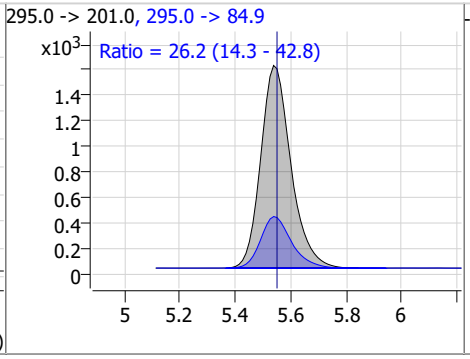


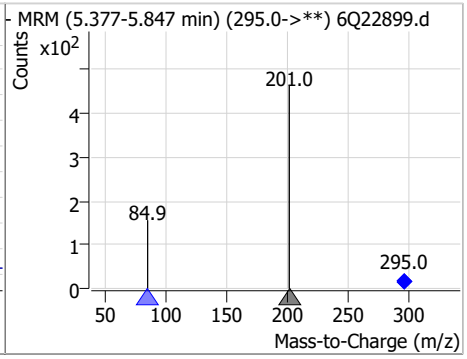




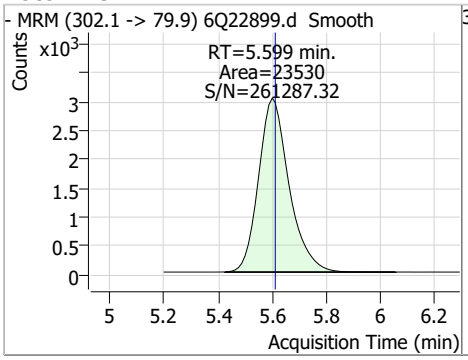
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
NFDHA	5.37	5.54	-0.01	12047	295.0 -> 84.9	26.2	14.3	42.8

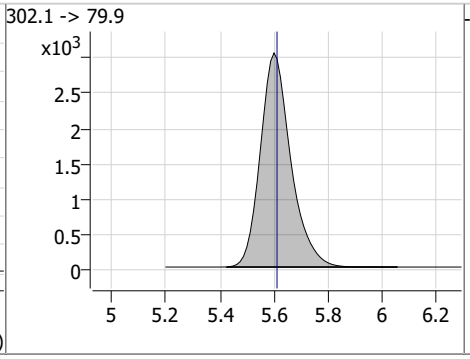


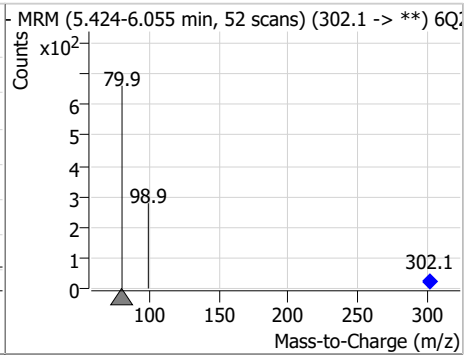




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.47	5.60	-0.01	23530				

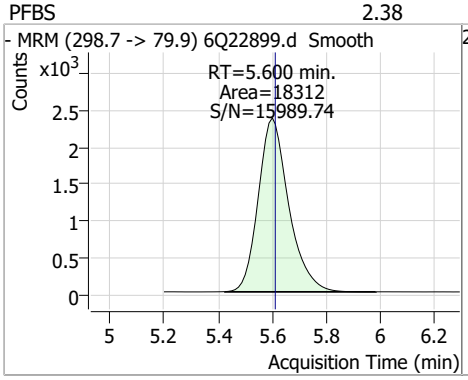


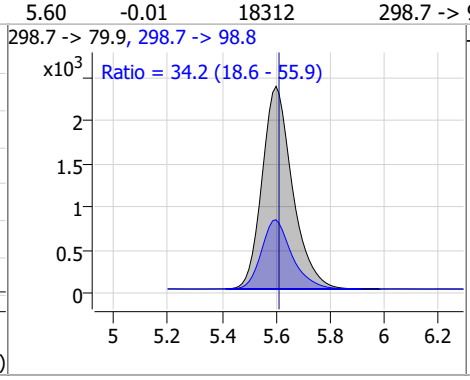


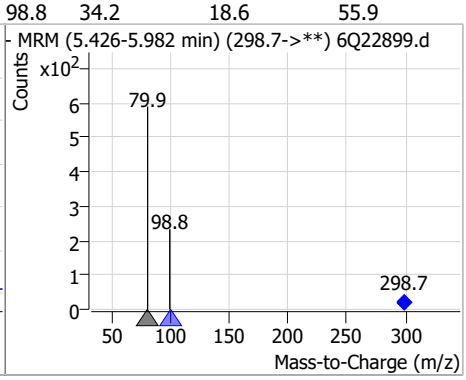


Perfluorinated Compounds by LC/MS/MS

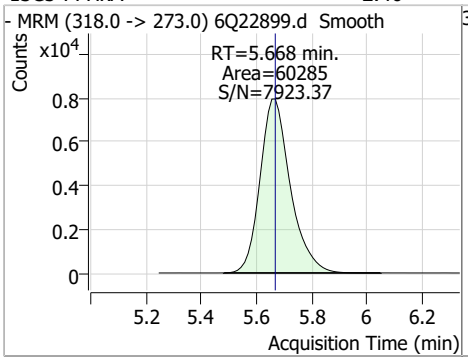
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.38	5.60	-0.01	18312	298.7 -> 98.8	34.2	18.6	55.9

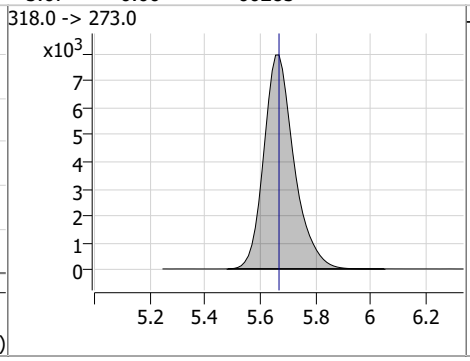


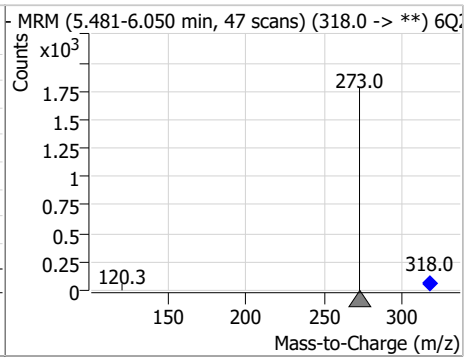




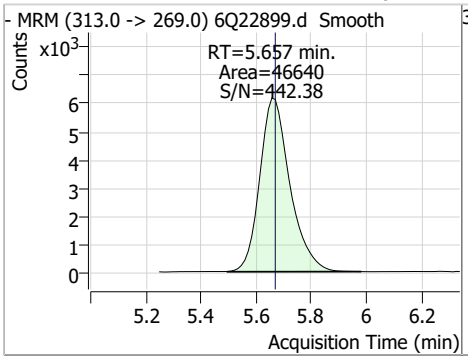
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.46	5.67	0.00	60285				

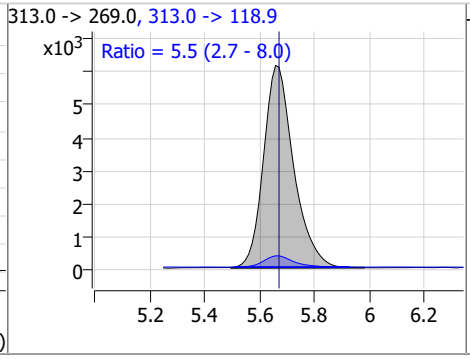


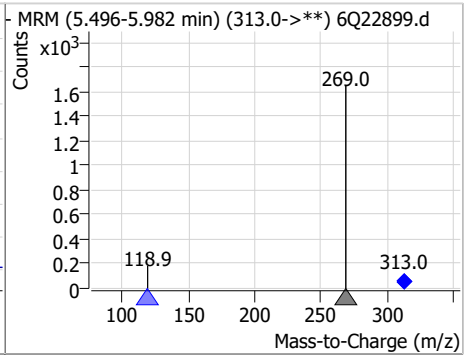




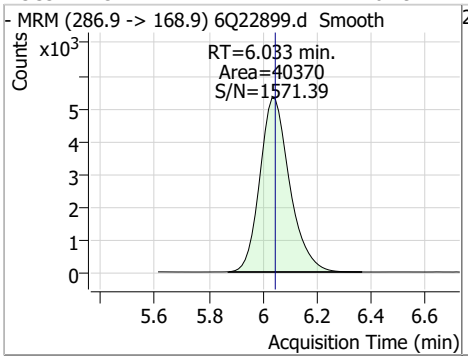
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.64	5.66	-0.01	46640	313.0 -> 118.9	5.5	2.7	8.0

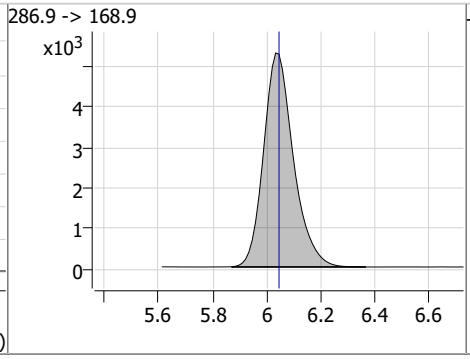


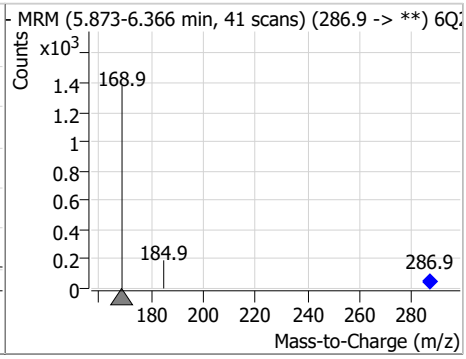




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.49	6.03	-0.01	40370				

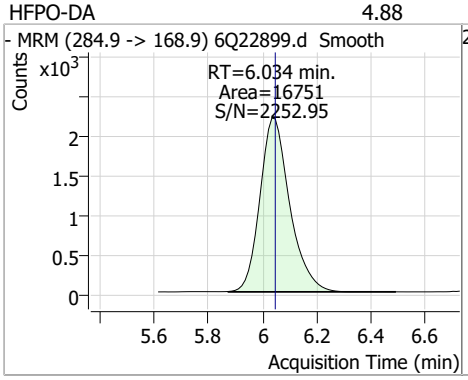


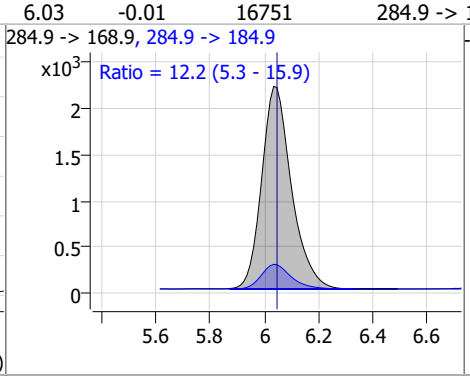


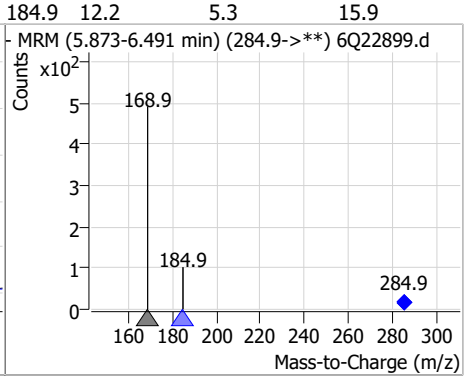


Perfluorinated Compounds by LC/MS/MS

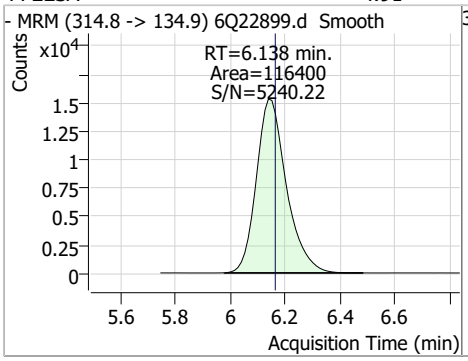
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.88	6.03	-0.01	16751	284.9 -> 184.9	12.2	5.3	15.9

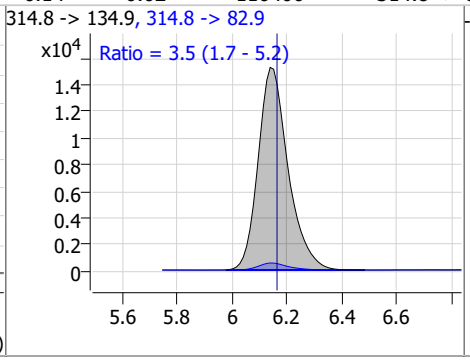


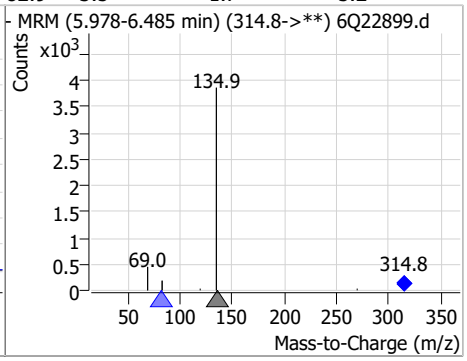




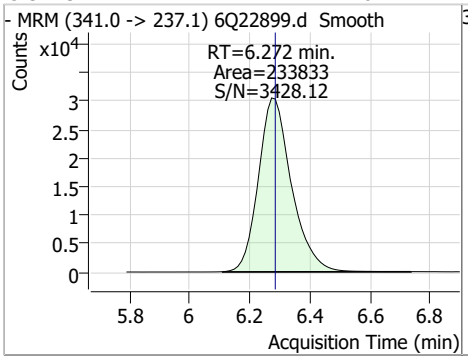
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.91	6.14	-0.02	116400	314.8 -> 82.9	3.5	1.7	5.2

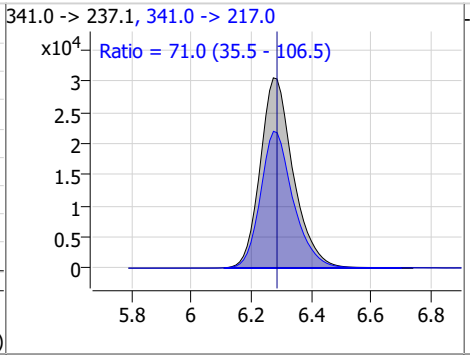


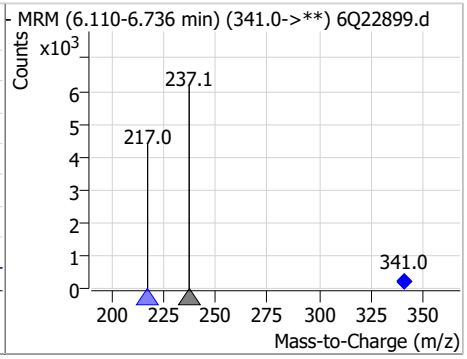




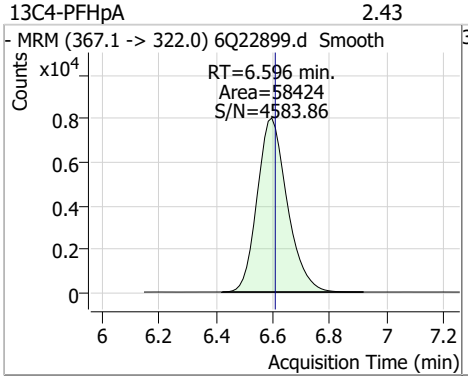
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	64.47	6.27	-0.01	233833	341.0 -> 217.0	71.0	35.5	106.5

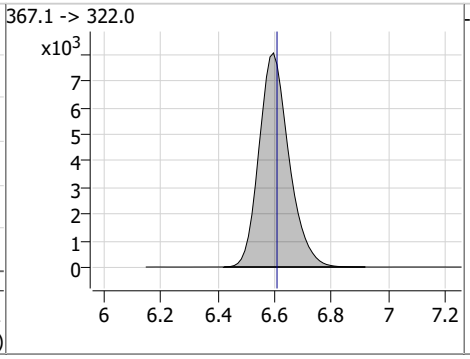


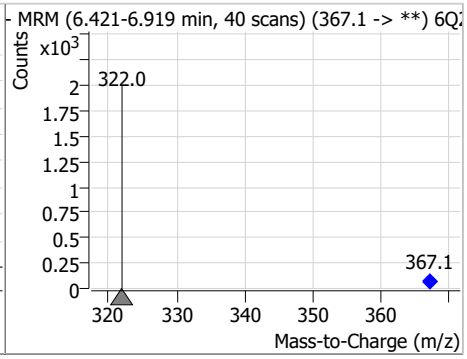




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.43	6.60	-0.01	58424				

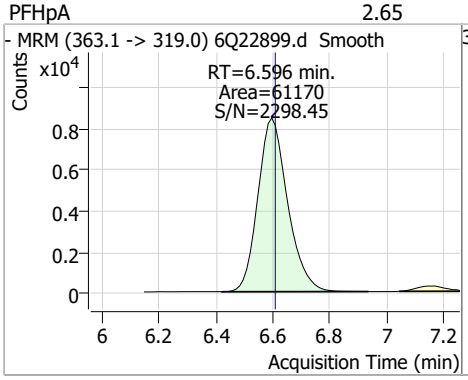


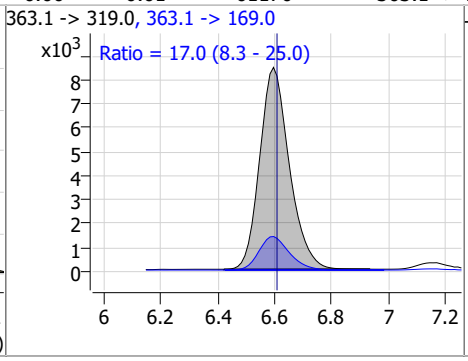


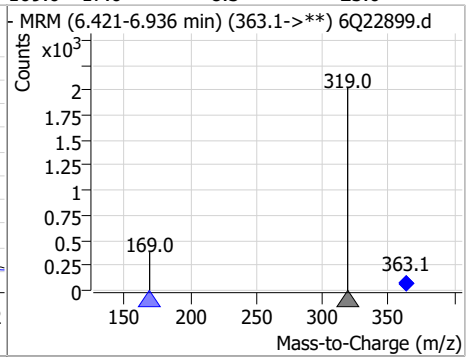


Perfluorinated Compounds by LC/MS/MS

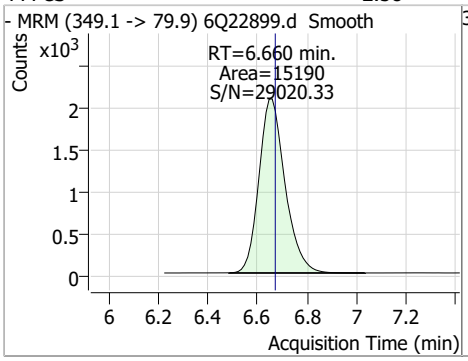
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.65	6.60	-0.01	61170	363.1 -> 169.0	17.0	8.3	25.0

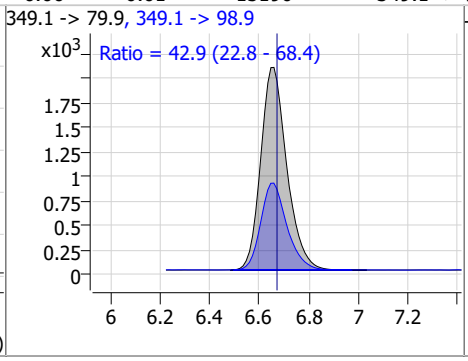


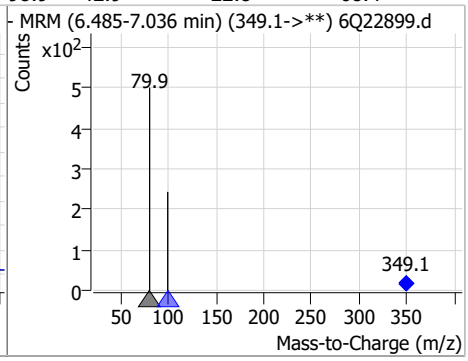




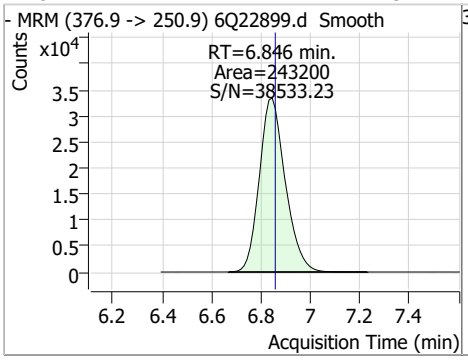
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.58	6.66	-0.01	15190	349.1 -> 98.9	42.9	22.8	68.4

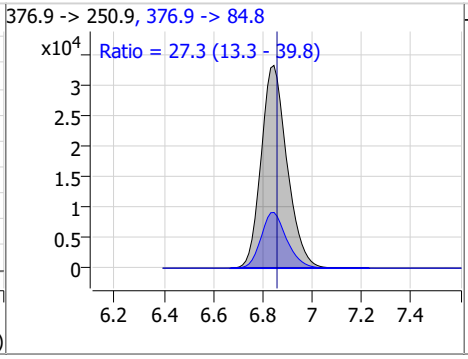


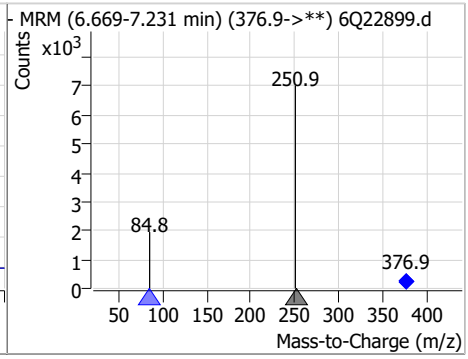




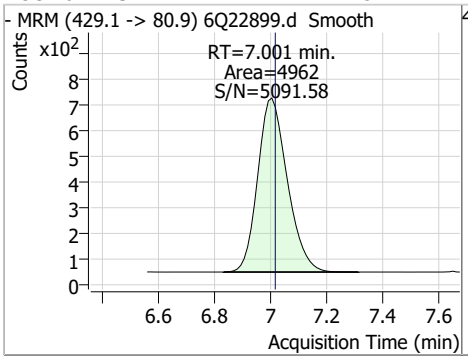
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.73	6.85	-0.01	243200	376.9 -> 84.8	27.3	13.3	39.8

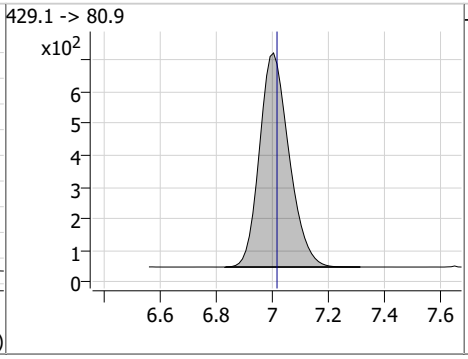


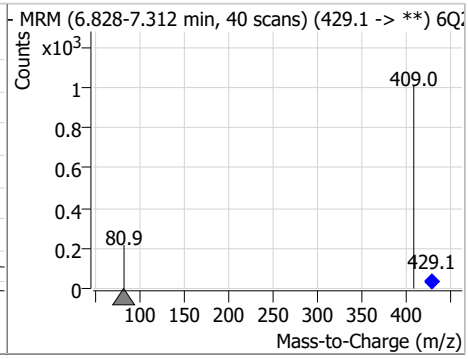




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.12	7.00	-0.01	4962				

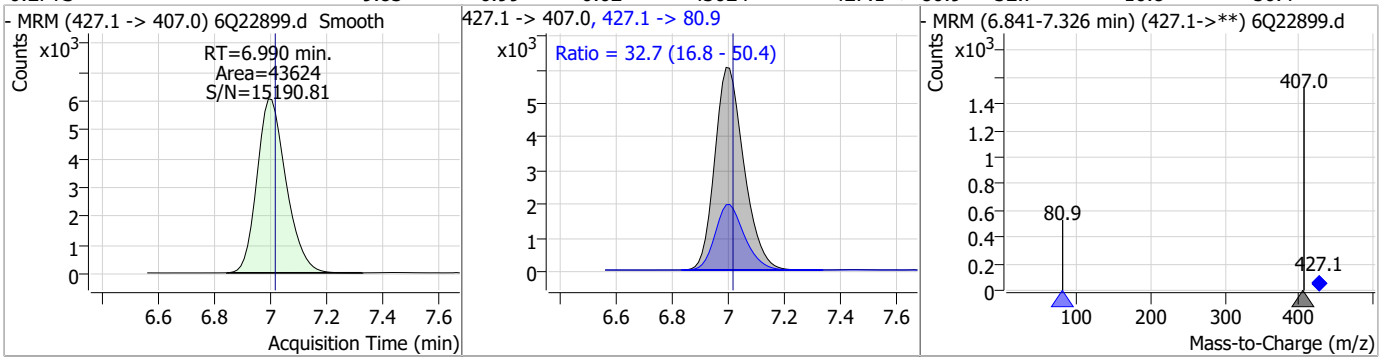




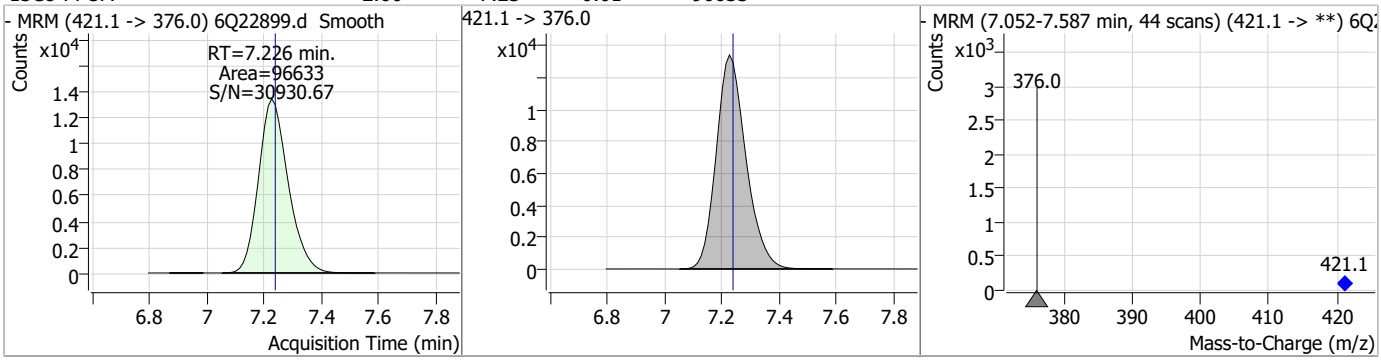


Perfluorinated Compounds by LC/MS/MS

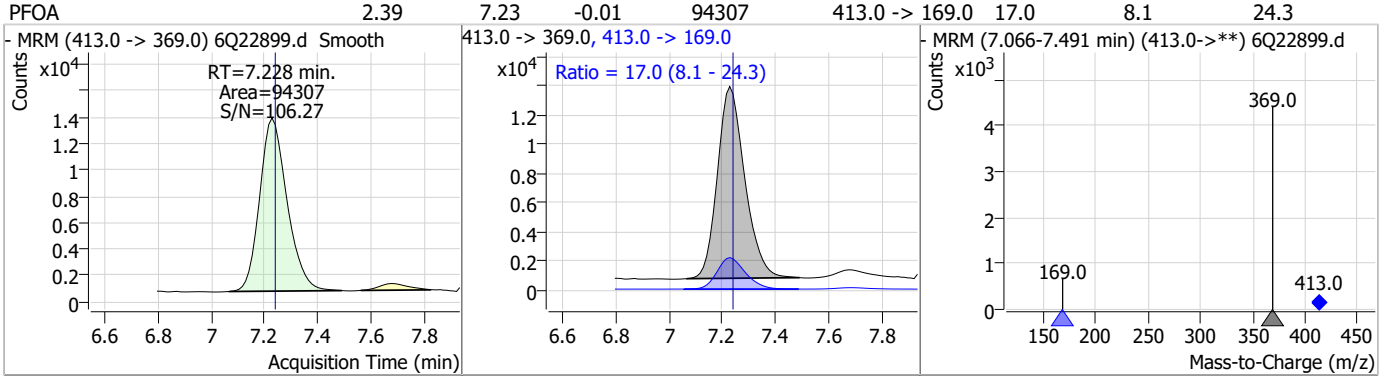
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	9.83	6.99	-0.02	43624	427.1 -> 80.9	32.7	16.8	50.4



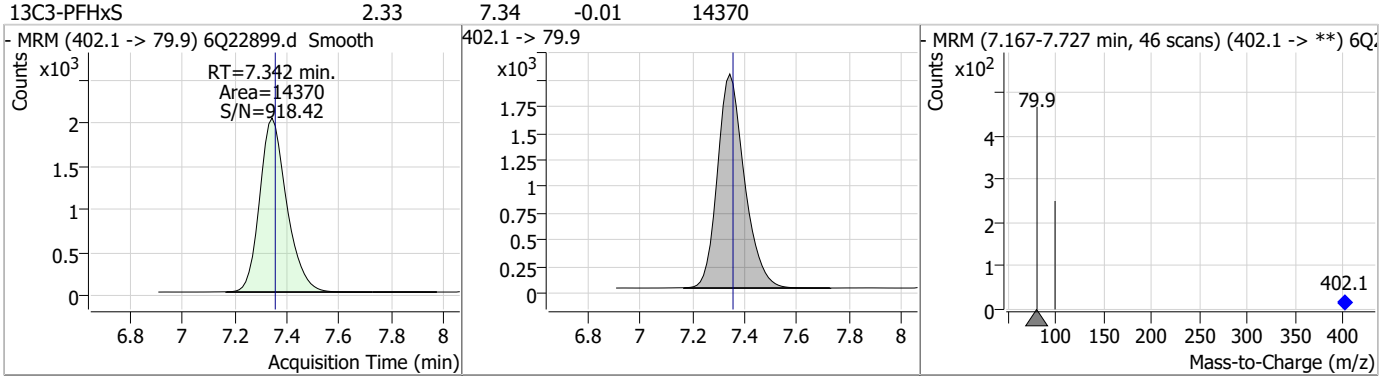
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.60	7.23	-0.01	96633				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	2.39	7.23	-0.01	94307	413.0 -> 169.0	17.0	8.1	24.3

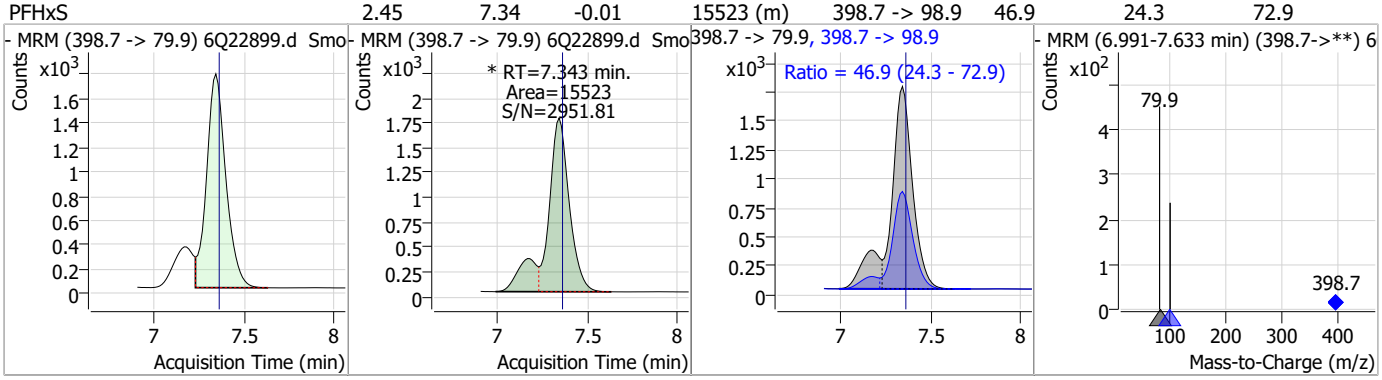


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.33	7.34	-0.01	14370				

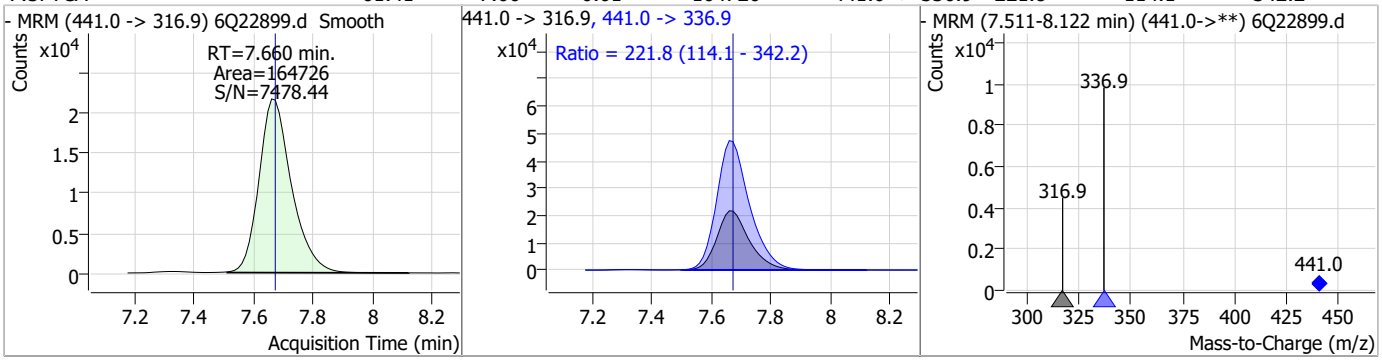


Perfluorinated Compounds by LC/MS/MS

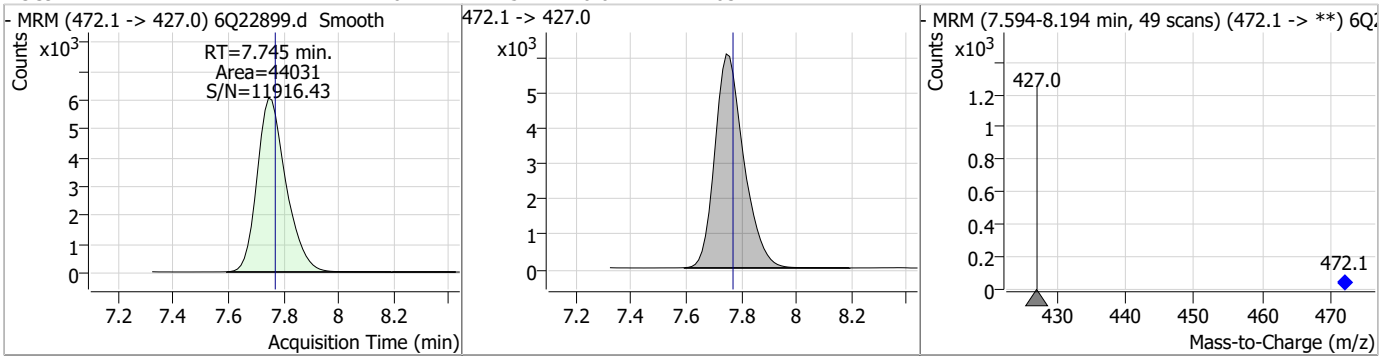
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.45	7.34	-0.01	15523 (m)	398.7 -> 98.9	46.9	24.3	72.9



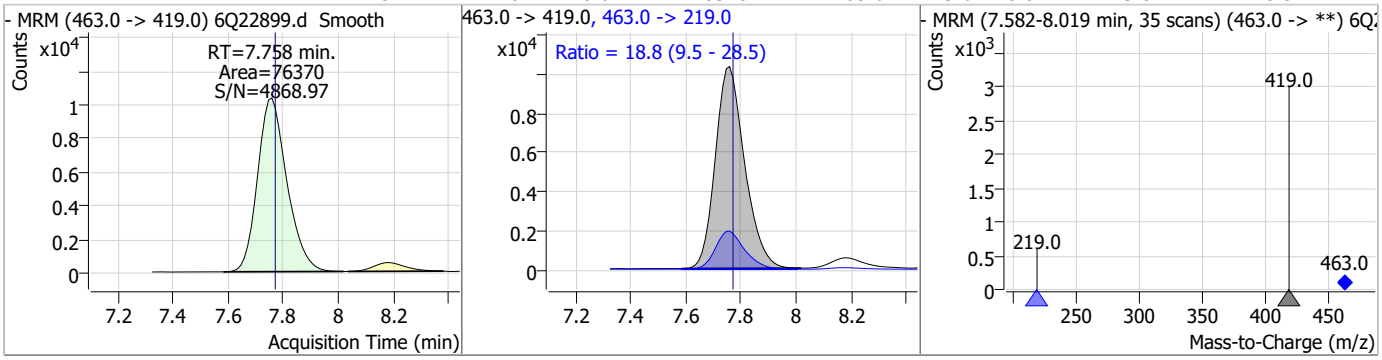
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	61.41	7.66	-0.01	164726	441.0 -> 336.9	221.8	114.1	342.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.26	7.75	-0.02	44031				

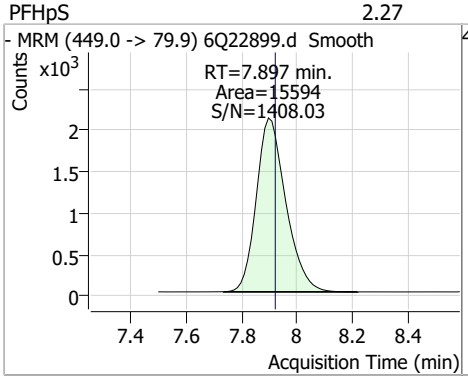


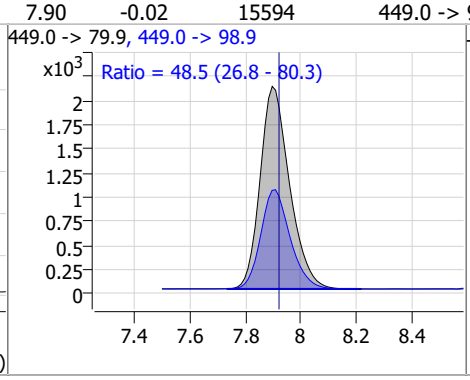
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.52	7.76	-0.01	76370	463.0 -> 219.0	18.8	9.5	28.5

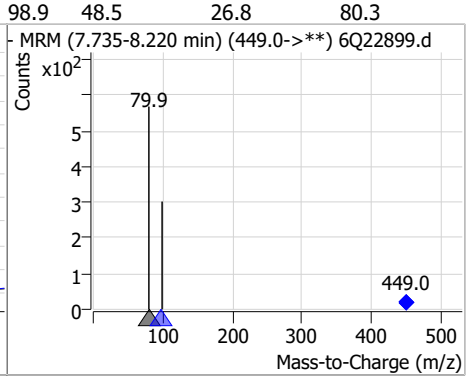


Perfluorinated Compounds by LC/MS/MS

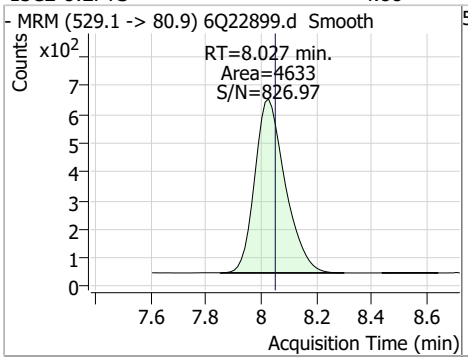
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	2.27	7.90	-0.02	15594	449.0 -> 98.9	48.5	26.8	80.3

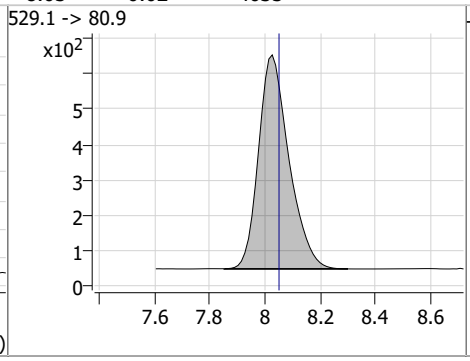


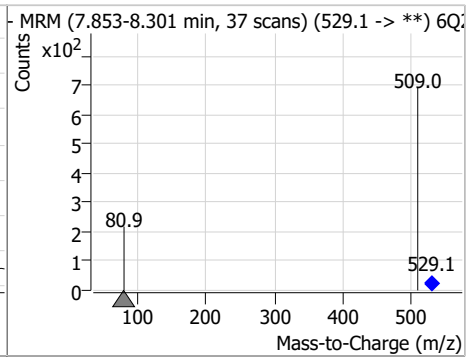




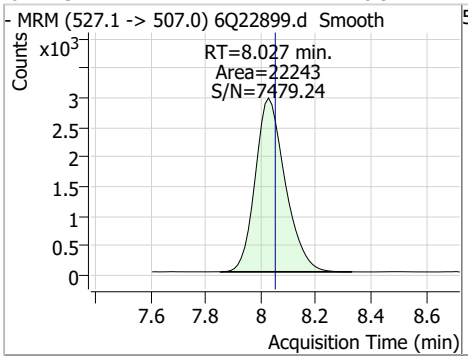
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	4.88	8.03	-0.02	4633				

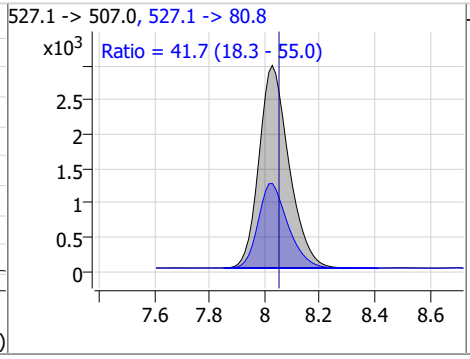


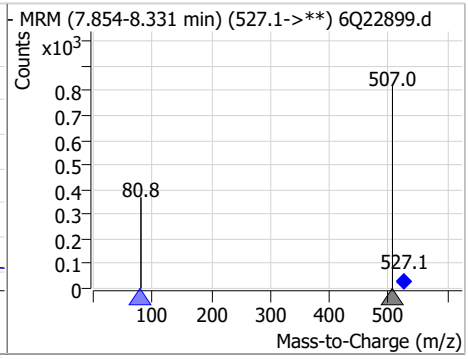




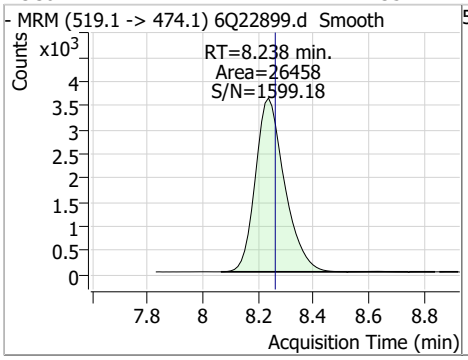
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
8:2FTS	8.97	8.03	-0.02	22243	527.1 -> 80.8	41.7	18.3	55.0

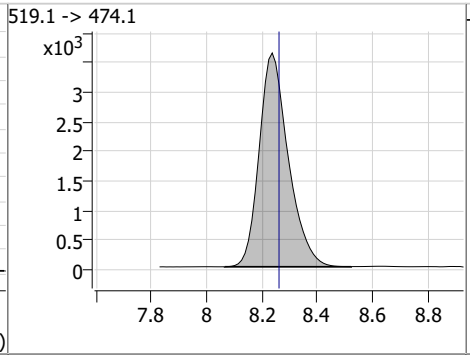


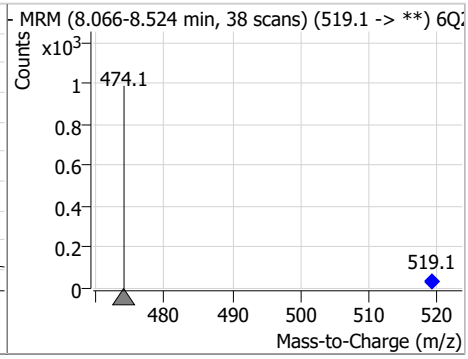




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C6-PFDA	1.35	8.24	-0.02	26458				

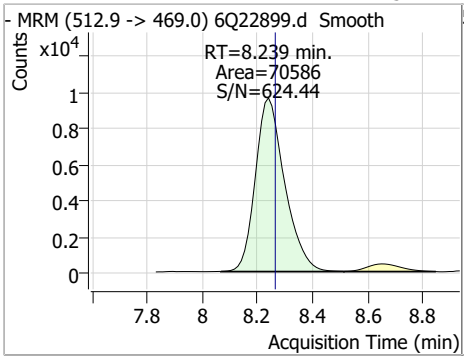


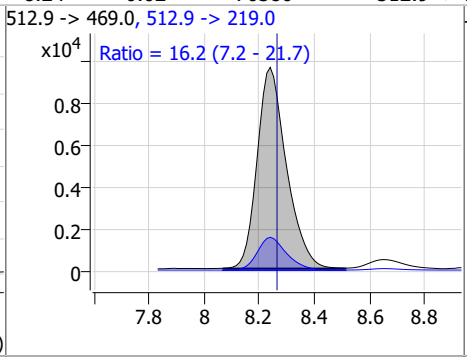


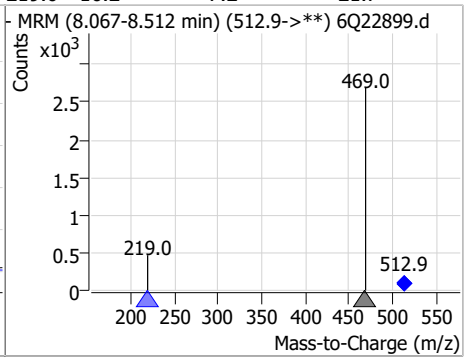


Perfluorinated Compounds by LC/MS/MS

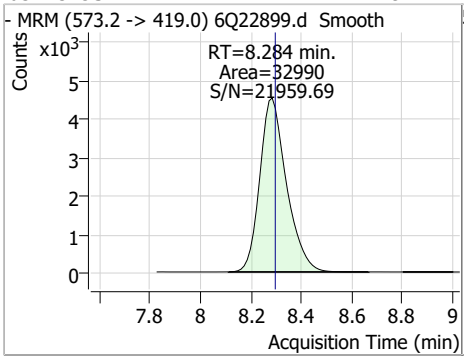
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.25	8.24	-0.02	70586	512.9 -> 219.0	16.2	7.2	21.7

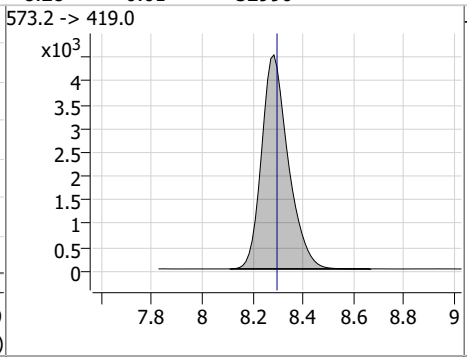


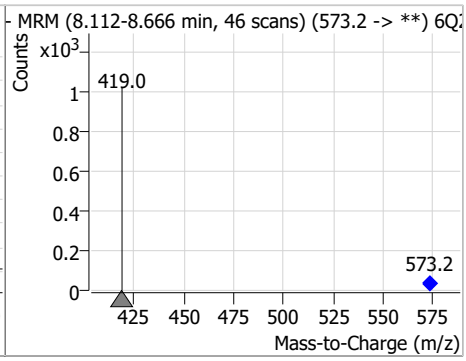




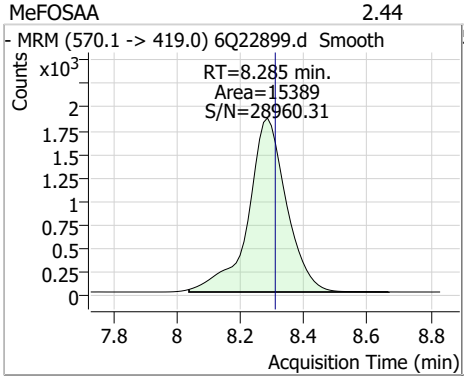
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.79	8.28	-0.01	32990				

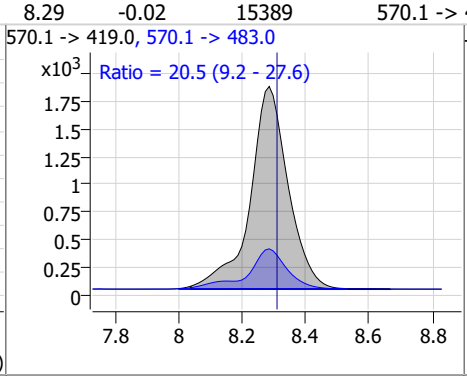


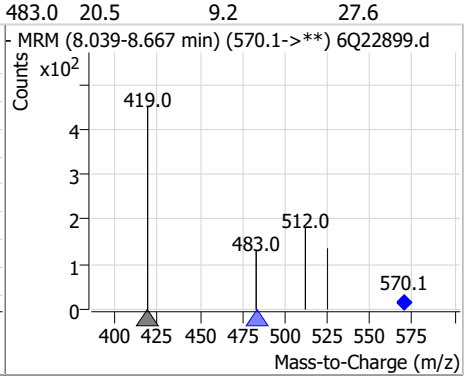




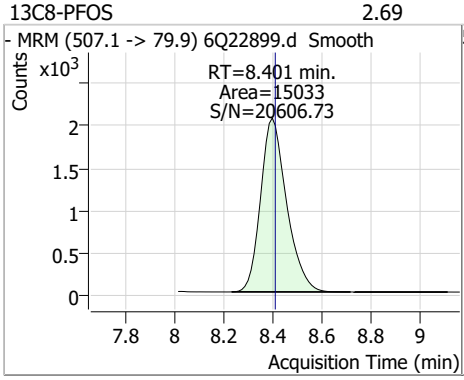
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.44	8.29	-0.02	15389	570.1 -> 483.0	20.5	9.2	27.6

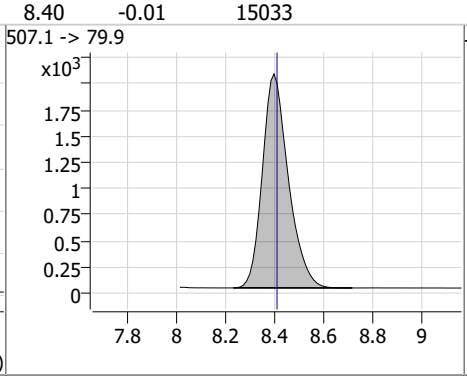


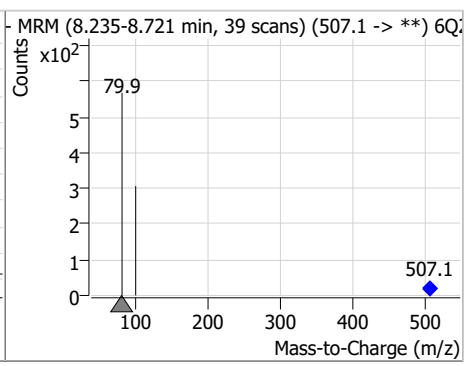




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.69	8.40	-0.01	15033				

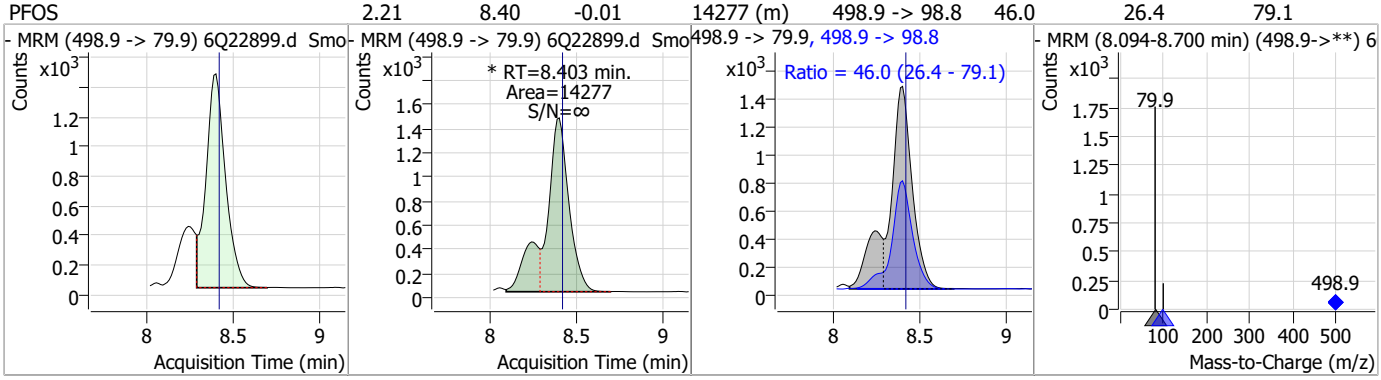




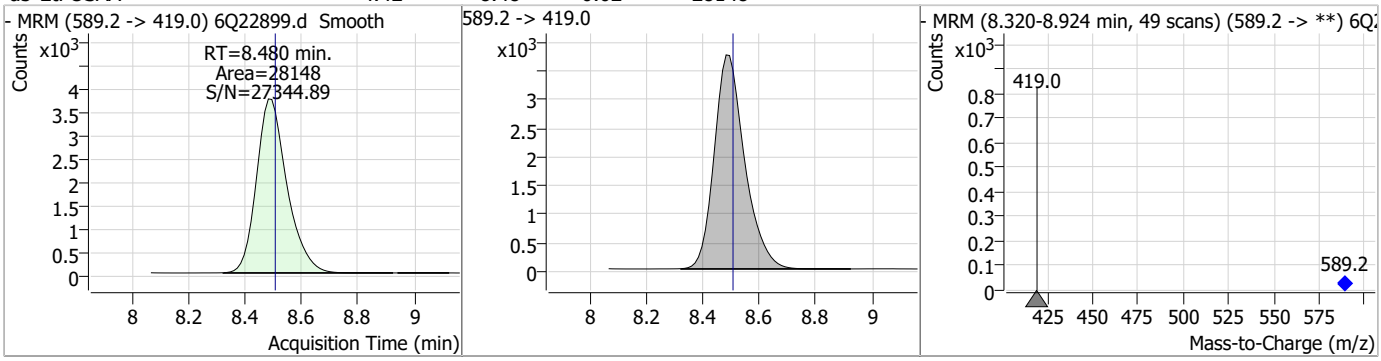


Perfluorinated Compounds by LC/MS/MS

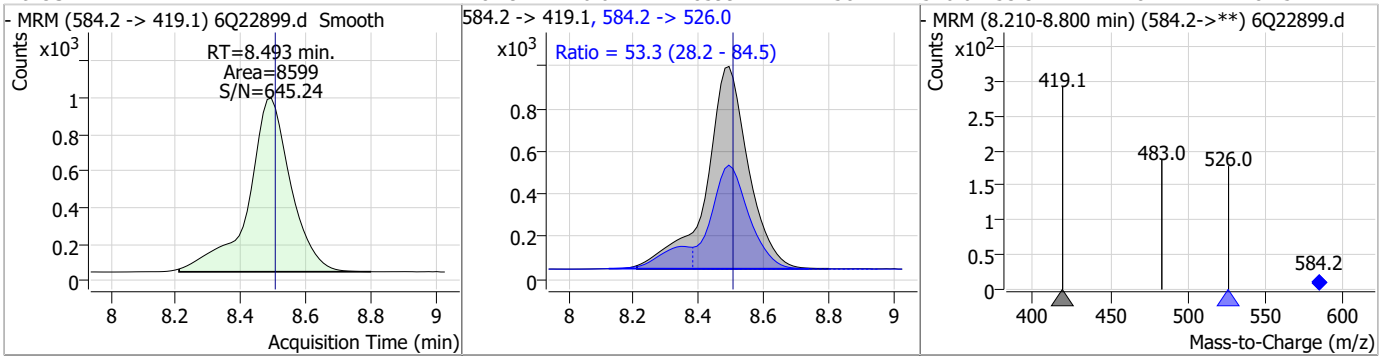
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.21	8.40	-0.01	14277 (m)	498.9 -> 98.8	46.0	26.4	79.1



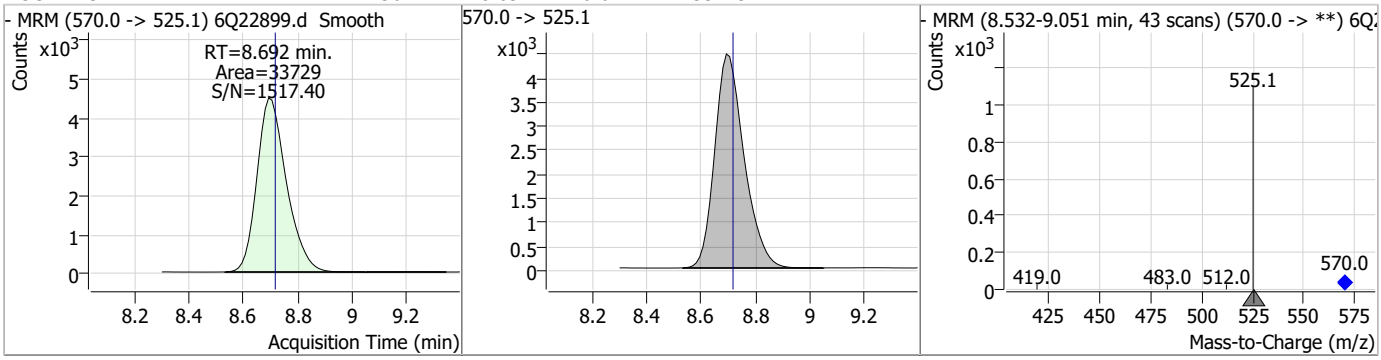
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.42	8.48	-0.02	28148				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.42	8.49	-0.01	8599	584.2 -> 526.0	53.3	28.2	84.5

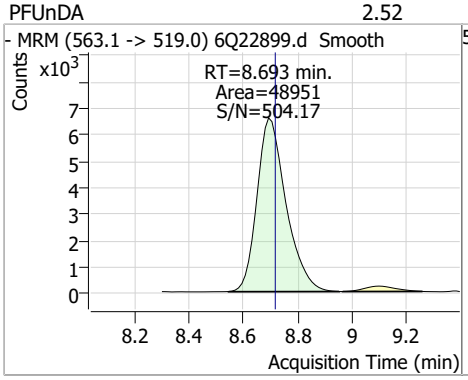


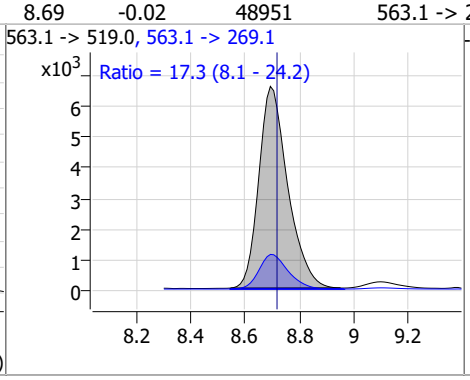
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.30	8.69	-0.02	33729				

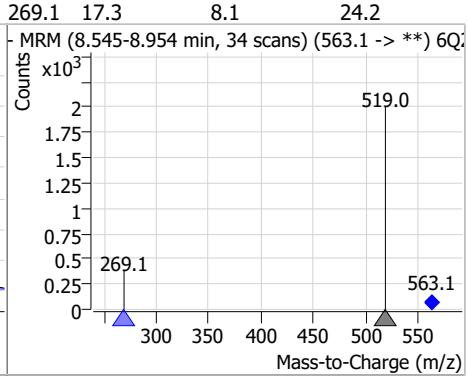


Perfluorinated Compounds by LC/MS/MS

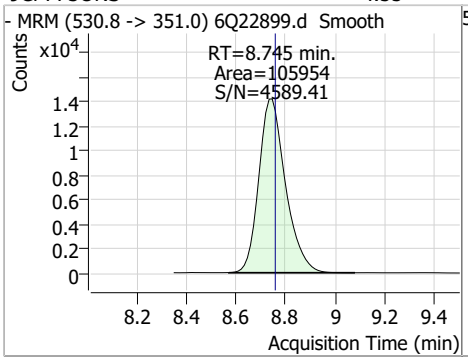
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.52	8.69	-0.02	48951	563.1 -> 269.1	17.3	8.1	24.2

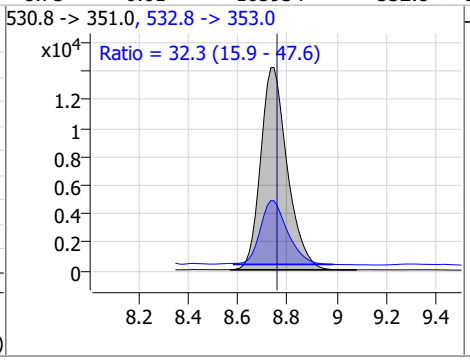


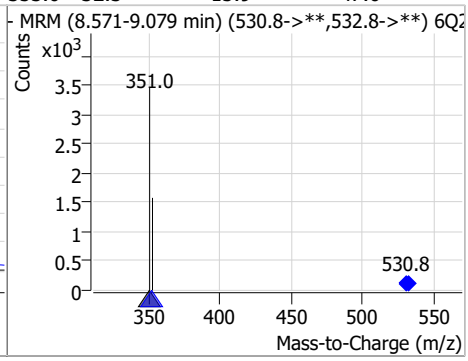




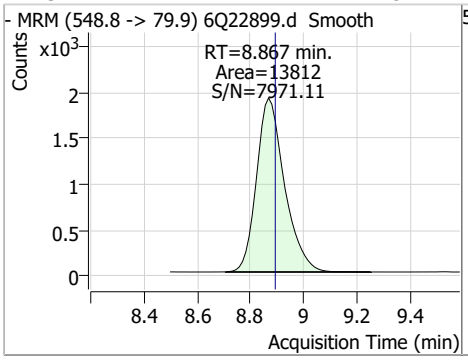
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.55	8.75	-0.01	105954	532.8 -> 353.0	32.3	15.9	47.6

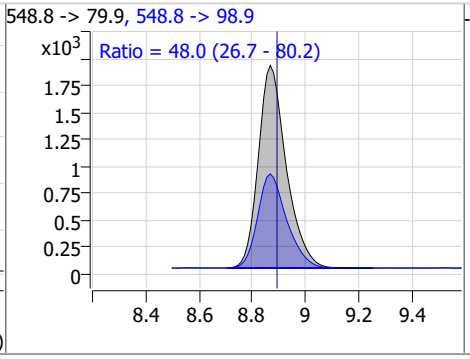


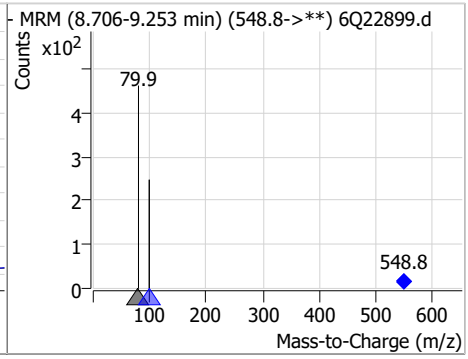




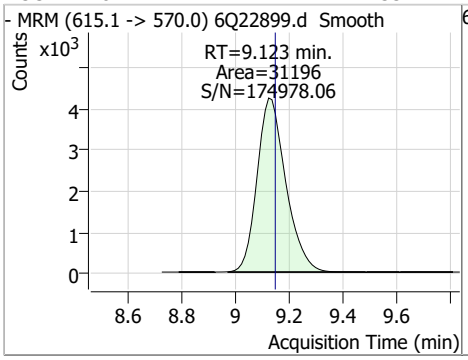
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.23	8.87	-0.03	13812	548.8 -> 98.9	48.0	26.7	80.2

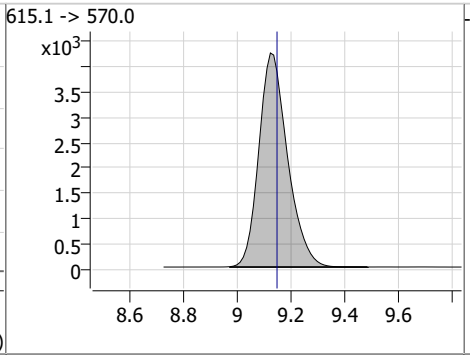


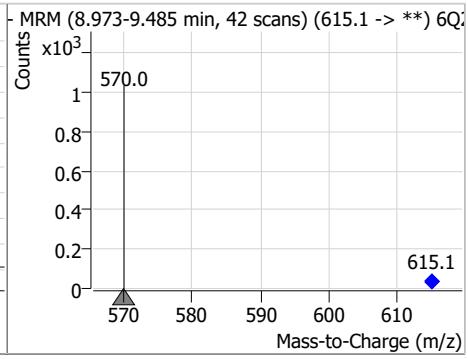




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.33	9.12	-0.02	31196				

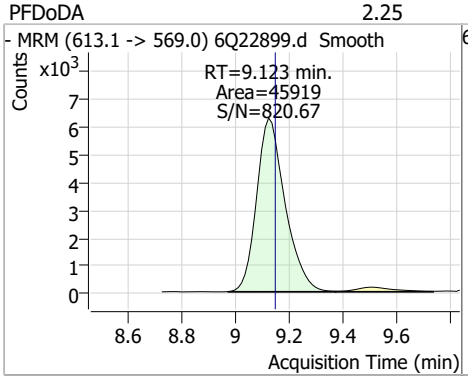


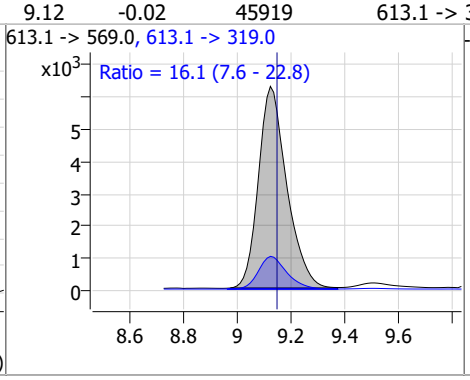


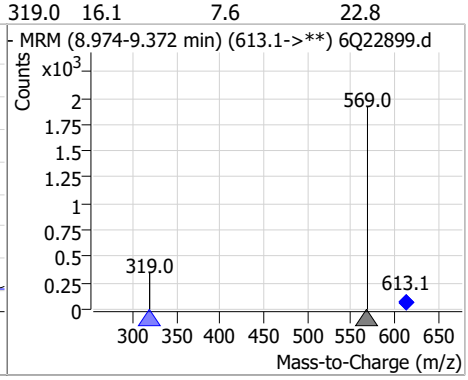


Perfluorinated Compounds by LC/MS/MS

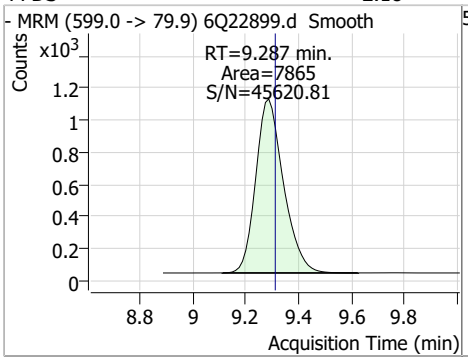
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDA	2.25	9.12	-0.02	45919	613.1 -> 319.0	16.1	7.6	22.8

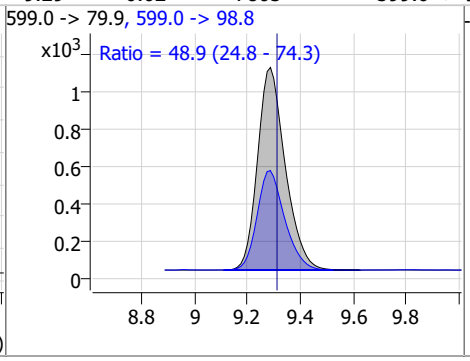


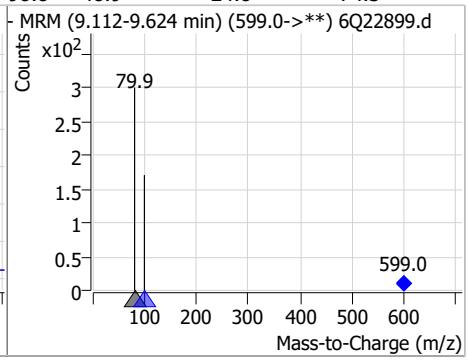




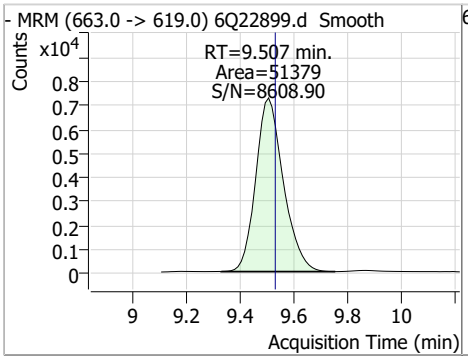
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	2.18	9.29	-0.02	7865	599.0 -> 98.8	48.9	24.8	74.3

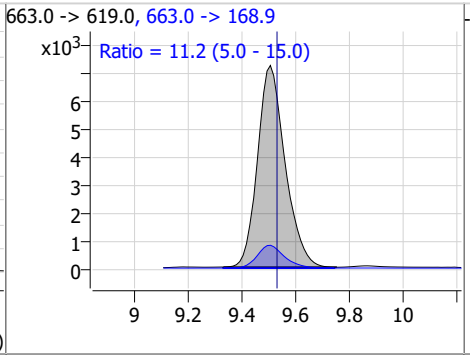


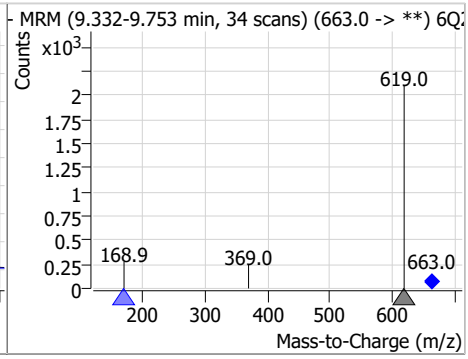




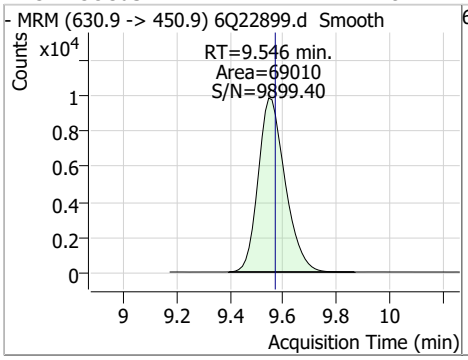
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	2.44	9.51	-0.02	51379	663.0 -> 168.9	11.2	5.0	15.0

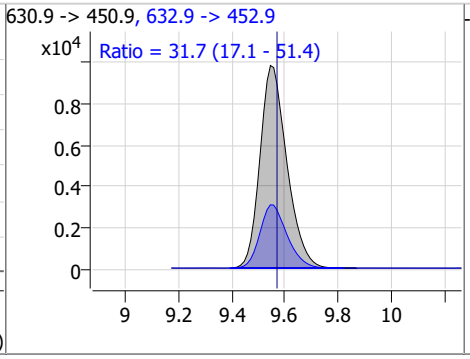


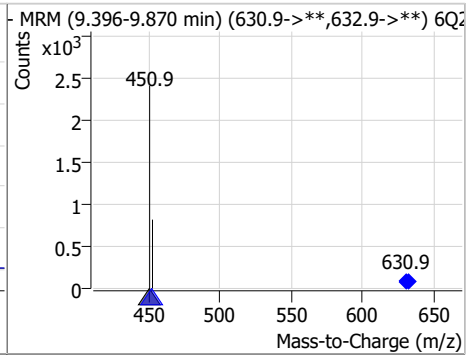




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUdS	4.79	9.55	-0.02	69010	632.9 -> 452.9	31.7	17.1	51.4

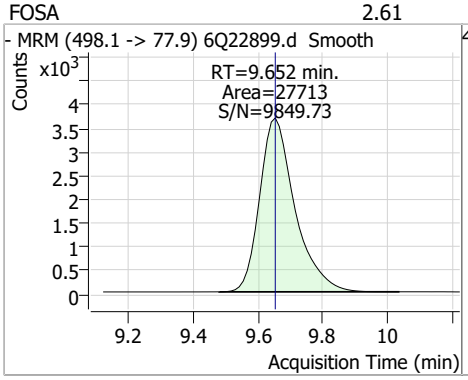


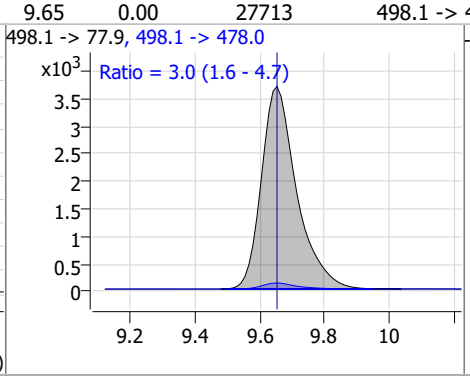


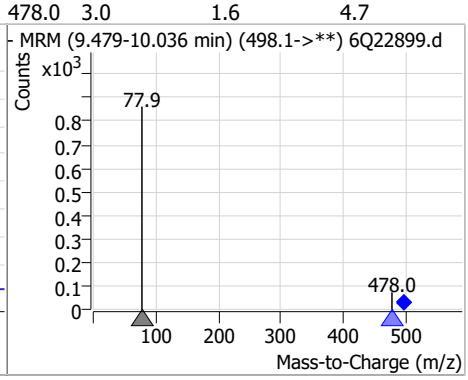


Perfluorinated Compounds by LC/MS/MS

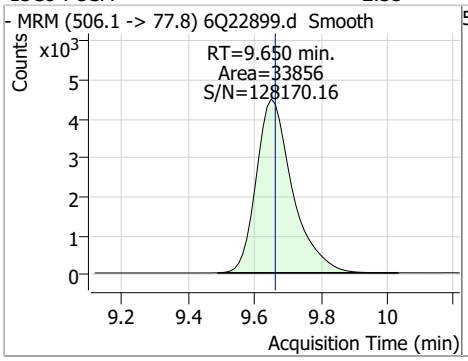
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	2.61	9.65	0.00	27713	498.1 -> 478.0	3.0	1.6	4.7

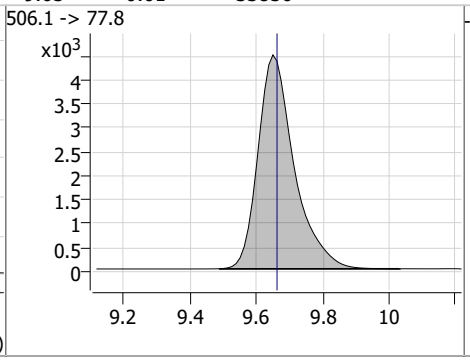


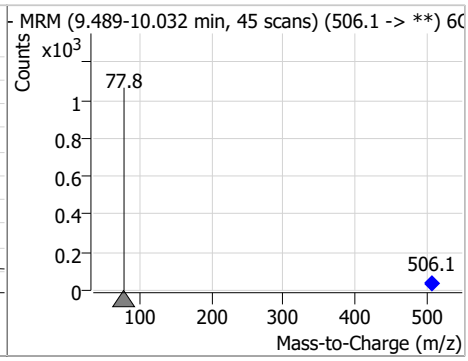




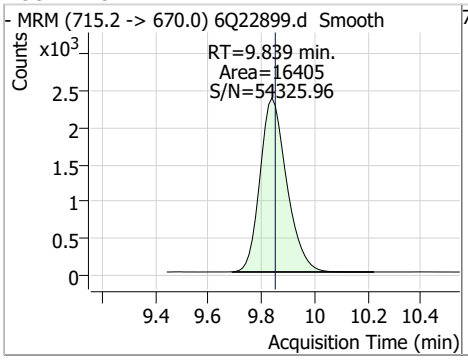
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.35	9.65	-0.01	33856				

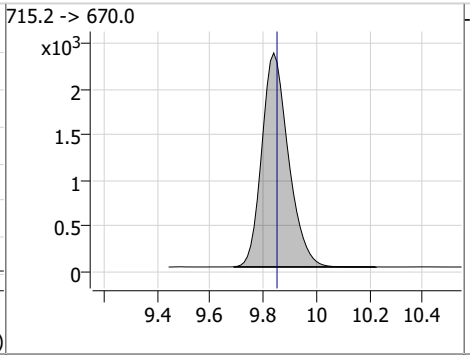


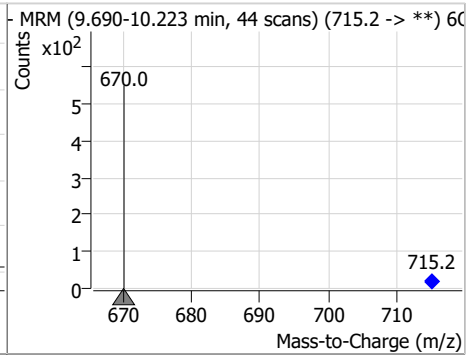




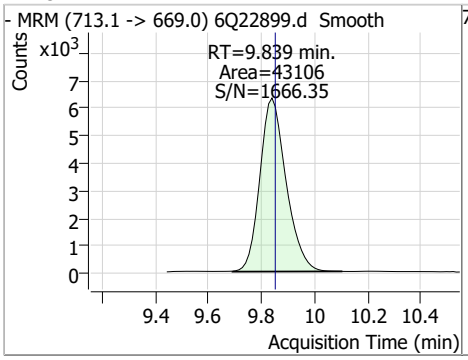
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.22	9.84	-0.01	16405				

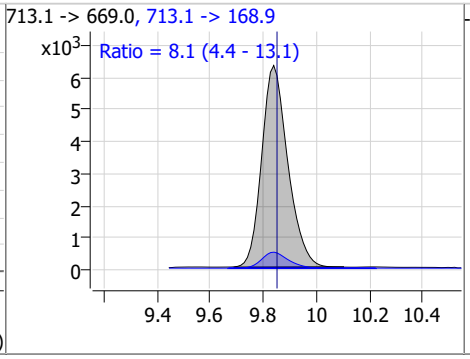


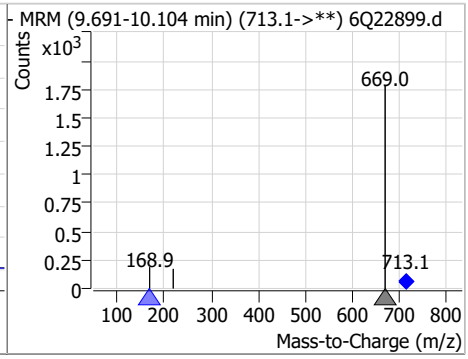




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	2.71	9.84	-0.01	43106	713.1 -> 168.9	8.1	4.4	13.1

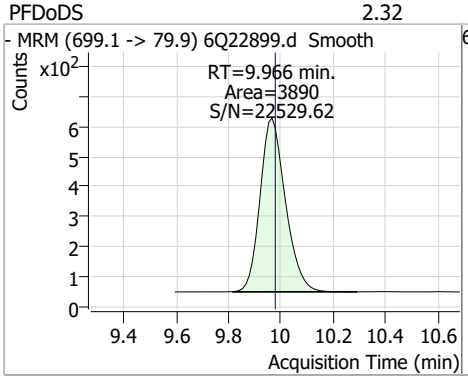


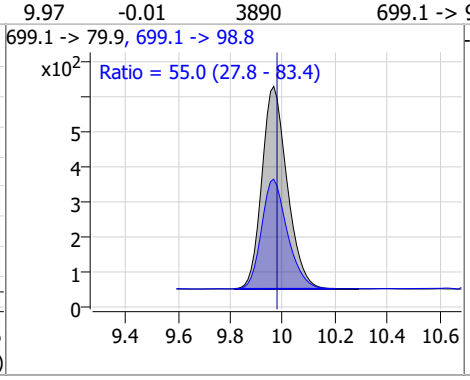


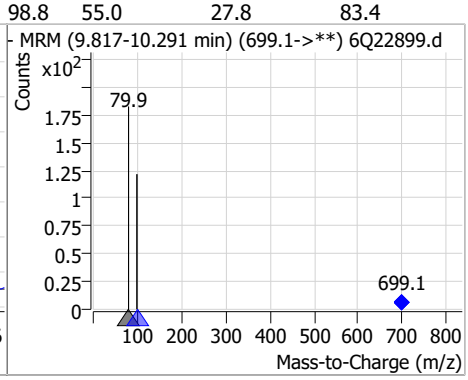


Perfluorinated Compounds by LC/MS/MS

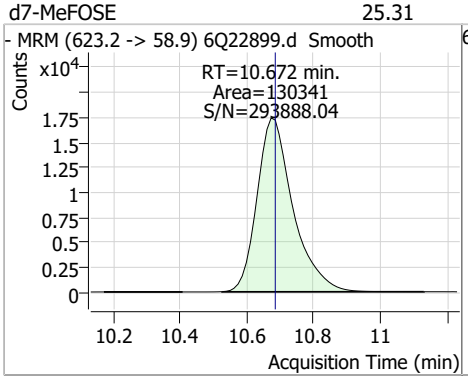
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoDS	2.32	9.97	-0.01	3890	699.1 -> 98.8	55.0	27.8	83.4

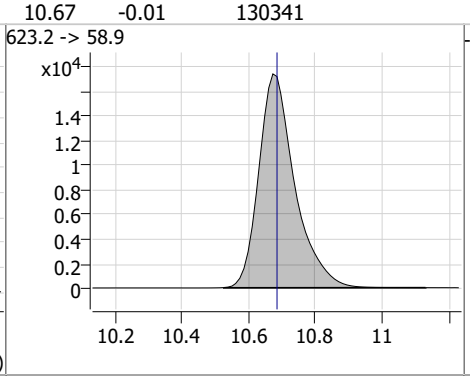


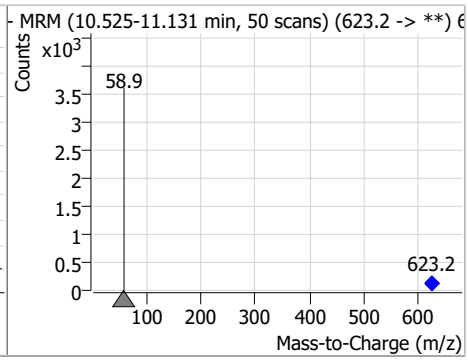




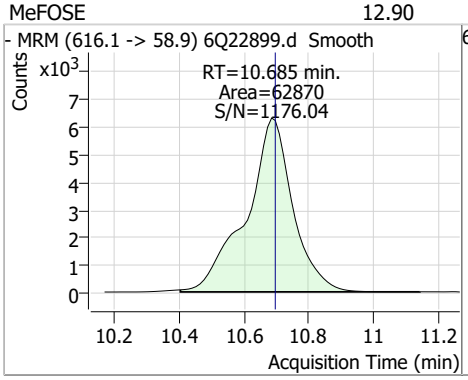
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.31	10.67	-0.01	130341				

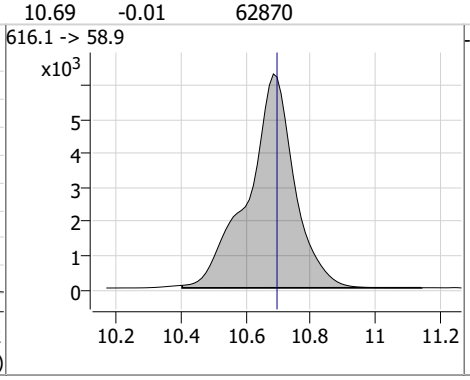


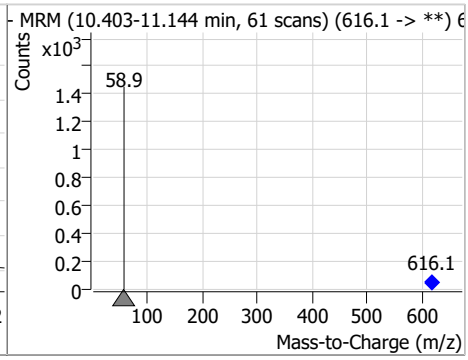




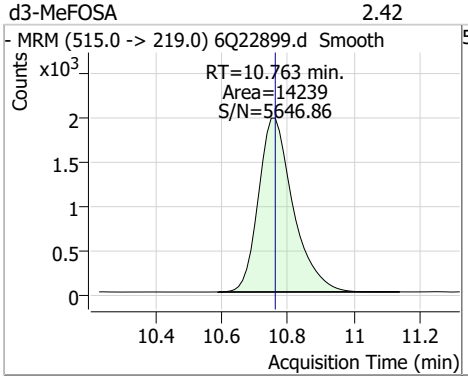
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.90	10.69	-0.01	62870				

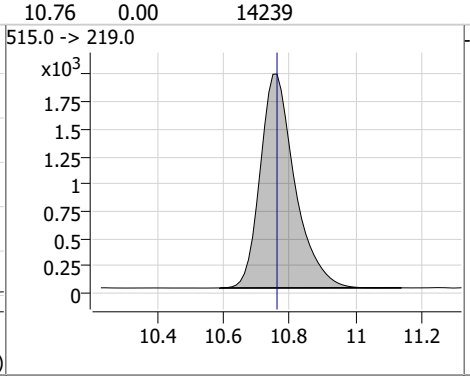


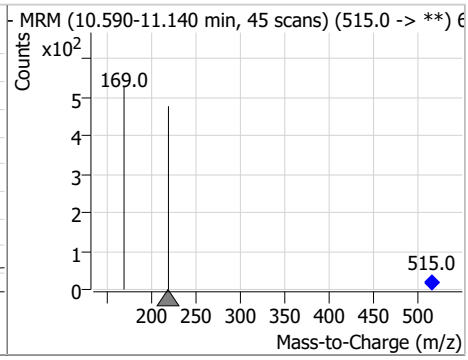




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.42	10.76	0.00	14239				

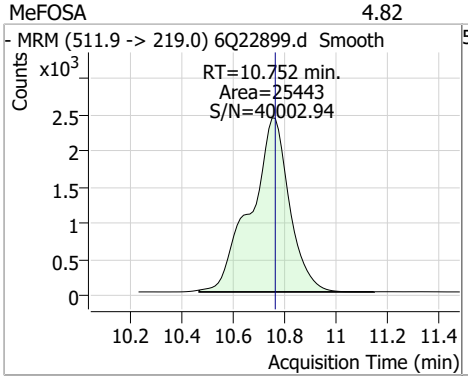


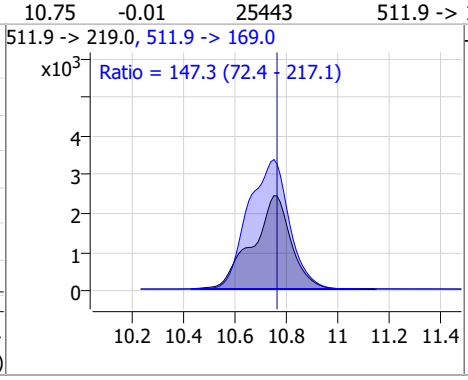


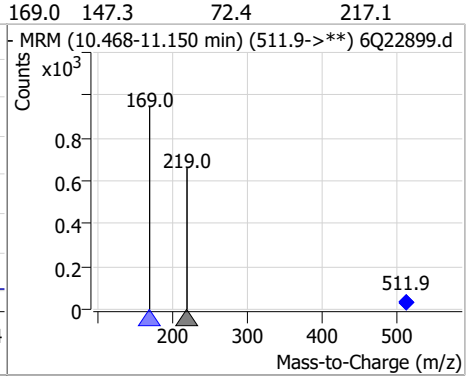


Perfluorinated Compounds by LC/MS/MS

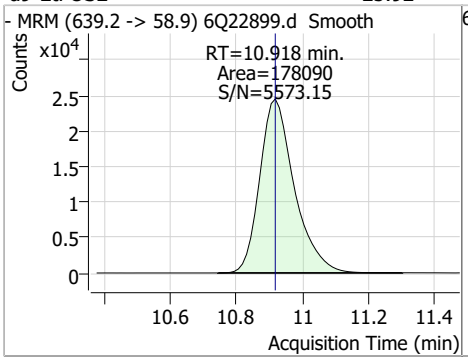
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.82	10.75	-0.01	25443	511.9 -> 169.0	147.3	72.4	217.1

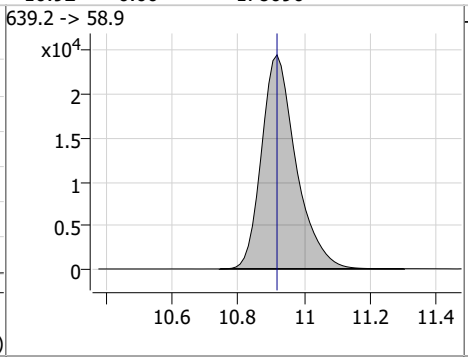


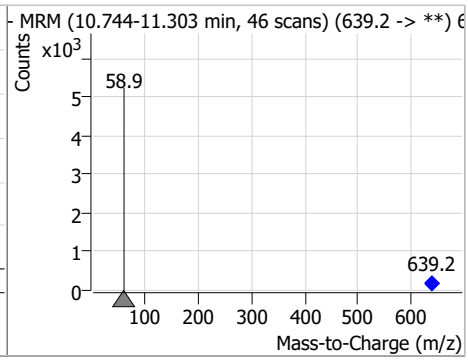




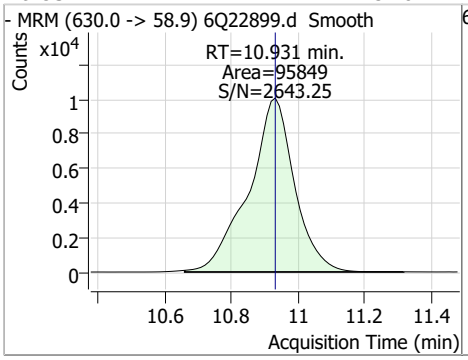
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.92	10.92	0.00	178090				

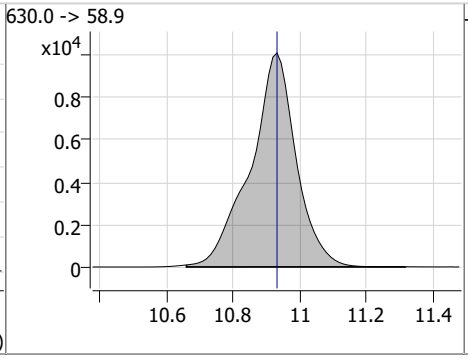


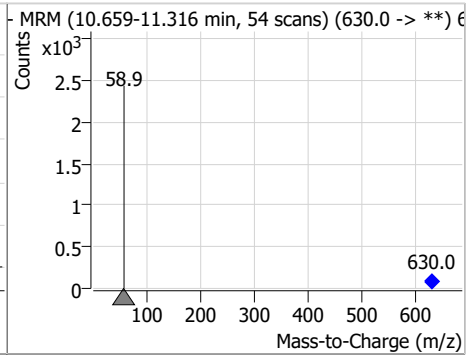




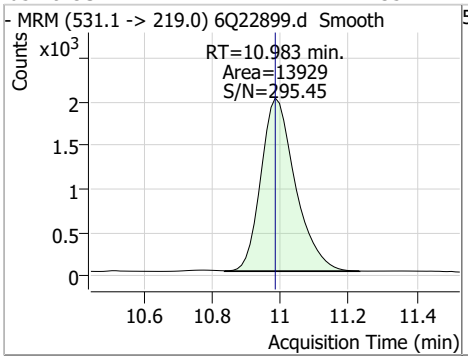
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	13.28	10.93	0.00	95849				

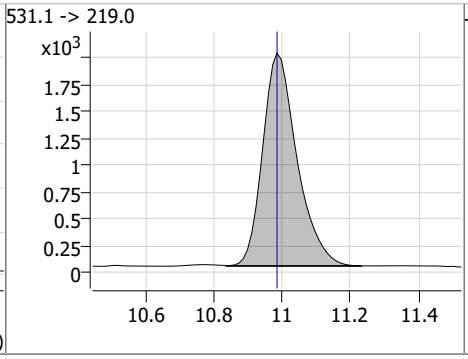


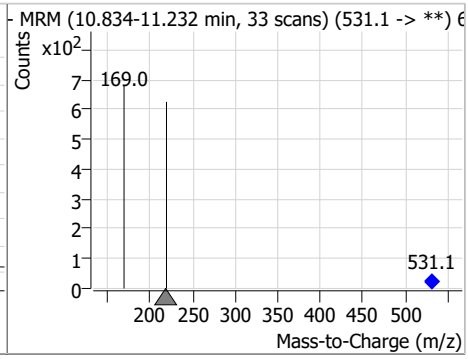




Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.35	10.98	0.00	13929				

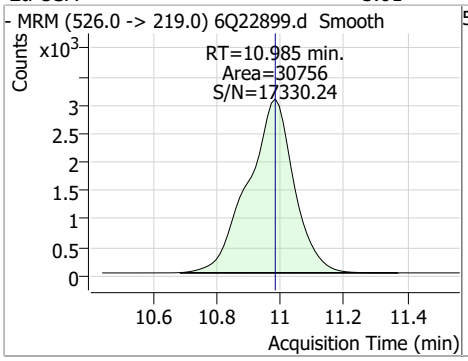


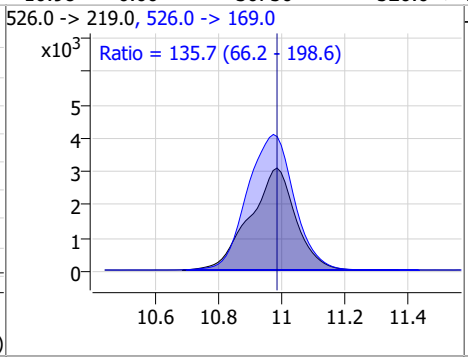


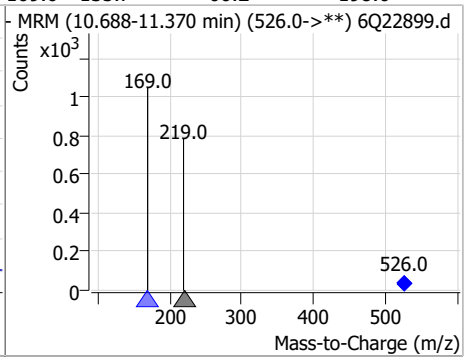


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	5.01	10.98	0.00	30756	526.0 -> 169.0	135.7	66.2	198.6







Manual Integration Approval Summary

Sample Number: S6Q332-CC330
Lab FileID: 6Q22899.D
Injection Time: 08/14/23 22:46
Method: EPA DRAFT 1633
Analyst approved: 08/15/23 13:29 Martha Valls
Supervisor approved: 08/16/23 15:15 Norman Farmer

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.34	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.40	Split peak

SGS ORLANDO

LCMS6-6Q ANALYSIS LOG

DATE:	08/10/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS6-6Q

METHODS:	1633
PROC. METH:	1633_081023_S6Q330
CAL DATE:	08/10/23
ANALYST:	M.Valls
RUN BATCH:	S6Q330

ELUENT A LOT #:	ACN 220213
ELUENT B LOT #:	HPLC WATER LOT: 230470 W/5% Methanol 224279 2mM AMAC: 11387
IC/CC STD LOT #:	LCMS 2143-B
ICV STD LOT #:	LCMS 2143B/2145
ISTD/ID STD LOT #:	11851/11850

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q22634.d	P1-B9	CCB	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
2	6Q22635.d	P1-B9	CCB	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
3	6Q22636.d	P1-B9	CCB	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
4	6Q22637.d	P1-B3	RT TDCA	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
5	6Q22638.d	P1-B4	RT BR-LN	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
6	6Q22639.d	P1-A1	ic330-0	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
7	6Q22640.d	P1-A2	ic330-1	1633full.m	Calibration	1.6/500	OP98201,S6Q330,500,,,5.0,1,water	✓
8	6Q22641.d	P1-A3	ic330-2	1633full.m	Calibration	3.2/500	OP98201,S6Q330,500,,,5.0,1,water	✓
9	6Q22642.d	P1-A4	ic330-3	1633full.m	Calibration	10/500	OP98201,S6Q330,500,,,5.0,1,water	✓
10	6Q22643.d	P1-A5	ic330-4	1633full.m	Calibration	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
11	6Q22644.d	P1-A6	ic330-5	1633full.m	Calibration	40/500	OP98201,S6Q330,500,,,5.0,1,water	✓
12	6Q22645.d	P1-A7	ic330-6	1633full.m	Calibration	100/500	OP98201,S6Q330,500,,,5.0,1,water	✓
13	6Q22646.d	P1-A8	ic330-7	1633full.m	Calibration	200/500	OP98201,S6Q330,500,,,5.0,1,water	✓
14	6Q22647.d	P1-A9	ic330-8	1633full.m	Calibration	1x	OP98201,S6Q330,500,,,5.0,1,water	✓
15	6Q22648.d	P1-A1	IBLK	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
16	6Q22649.d	P1-B1	icv330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
17	6Q22650.d	P1-B2	icv330-20	1633full.m	QC	100/500	OP98201,S6Q330,500,,,5.0,1,water	✓
18	6Q22651.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
19	6Q22652.d	P1-A2	cc330-1.0LL	1633full.m	QC	1.6/500	OP98201,S6Q330,500,,,5.0,1,water	✓
20	6Q22653.d	P4-A1	op98337-bs:6	1633full.m	Sample		OP98337,S6Q330,500,,,5.0,1,water	✓
21	6Q22654.d	P4-A2	op98337-bsd:6	1633full.m	Sample		OP98337,S6Q330,500,,,5.0,1,water	✓
22	6Q22655.d	P4-A3	op98337-llbs:7	1633full.m	Sample		OP98337,S6Q330,500,,,5.0,1,water	✓
23	6Q22656.d	P4-A4	op98337-mb	1633full.m	Sample		OP98337,S6Q330,500,,,5.0,1,water	✓
24	6Q22657.d	P4-A5	JD69487-14T	1633full.m	Sample		OP98337,S6Q330,540,,,5.0,1,water	✓
25	6Q22658.d	P4-A6	JD69487-14T	1633full.m	Sample		OP98337,S6Q330,60,,,5.0,1,water	Low volume not use.
26	6Q22659.d	P3-F8	FC7955-5	1633full.m	Sample		OP98248,S6Q330,490,,,5.0,1,water	✓
27	6Q22660.d	P1-F8	FC7955-5	1633full.m	Sample	100/500	OP98248,S6Q330,490,,,5.0,5,water	✓
28	6Q22661.d	P1-F9	FC7642-3	1633full.m	Sample	50/500	OP98156,S6Q330,465,,,5.0,10,water	
29	6Q22662.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
30	6Q22663.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
31	6Q22664.d	P1-E1	FC7802-8	1633full.m	Sample	250/500	OP98181,S6Q330,530,,,5.0,2,water	✓
32	6Q22665.d	P1-E2	FC7802-9	1633full.m	Sample	250/500	OP98181,S6Q330,525,,,5.0,2,water	✓
33	6Q22666.d	P4-A7	FC8439-2	1633full.m	Sample	100/500	OP98297,S6Q330,500,,,5.0,5,water	✓
34	6Q22667.d	P4-A8	FC8439-4	1633full.m	Sample	50/500	OP98297,S6Q330,540,,,5.0,10,water	✓
35	6Q22668.d	P4-A9	OP98297-DUP	1633full.m	Sample	50/500	OP98297,S6Q330,540,,,5.0,10,water	✓

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

36	6Q22669.d	P4-B1	FC8439-5	1633full.m	Sample	50/500	OP98297,S6Q330,540,,,5.0,10,water	✓
37	6Q22670.d	P4-B2	FC8439-6	1633full.m	Sample	50/500	OP98297,S6Q330,520,,,5.0,10,water	Redo, surr high in 1x
38	6Q22671.d	P4-B3	FC7717-4	1633full.m	Sample	250/500	OP98159,S6Q330,530,,,5.0,2,water	✓
39	6Q22672.d	P4-B4	FC7717-5	1633full.m	Sample	250/500	OP98159,S6Q330,540,,,5.0,2,water	✓
40	6Q22673.d	P4-B5	FC7717-10	1633full.m	Sample	100/500	OP98159,S6Q330,535,,,5.0,5,water	✓
41	6Q22674.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
42	6Q22675.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
43	6Q22676.d	P4-B6	FC7717-11	1633full.m	Sample	100/500	OP98159,S6Q330,530,,,5.0,5,water	✓
44	6Q22677.d	P4-B7	FC7717-12	1633full.m	Sample	100/500	OP98159,S6Q330,530,,,5.0,5,water	✓
45	6Q22678.d	P4-B8	FC7717-13	1633full.m	Sample	100/500	OP98159,S6Q330,535,,,5.0,5,water	✓
46	6Q22679.d	P4-B9	FC7717-16	1633full.m	Sample	100/500	OP98159,S6Q330,540,,,5.0,5,water	✓
47	6Q22680.d	P4-C1	FC7717-17	1633full.m	Sample	250/500	OP98159,S6Q330,530,,,5.0,2,water	✓
48	6Q22681.d	P4-C2	FC7717-18	1633full.m	Sample	250/500	OP98159,S6Q330,535,,,5.0,2,water	✓
49	6Q22682.d	P4-C3	FC7675-9	1633full.m	Sample	250/500	OP98138,S6Q330,530,,,5.0,2,water	✓
50	6Q22683.d	P4-C4	FC7674-13	1633full.m	Sample	250/500	OP98155,S6Q330,515,,,5.0,2,water	✓
51	6Q22684.d	P4-C5	FC7674-17	1633full.m	Sample	250/500	OP98155,S6Q330,515,,,5.0,2,water	✓
52	6Q22685.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
53	6Q22686.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
54	6Q22687.d	P4-C6	op98277-bs	1633full.m	Sample		OP98277,S6Q330,500,,,5.0,1,water	✓
55	6Q22688.d	P4-C7	op98277-llbs:3	1633full.m	Sample		OP98277,S6Q330,500,,,5.0,1,water	✓
56	6Q22689.d	P4-C8	op98277-mb	1633full.m	Sample		OP98277,S6Q330,500,,,5.0,1,water	HxA > 1/2 RL
57	6Q22690.d	P4-C9	JD69300-1A	1633full.m	Sample		OP98277,S6Q330,535,,,5.0,1,water	✓
58	6Q22691.d	P4-D1	FC8066-1	1633full.m	Sample		OP98277,S6Q330,545,,,5.0,1,water	✓
59	6Q22692.d	P4-D2	FC8066-2	1633full.m	Sample		OP98277,S6Q330,485,,,5.0,1,water	✓
60	6Q22693.d	P4-D3	FC8066-3	1633full.m	Sample		OP98277,S6Q330,475,,,5.0,1,water	✓
61	6Q22694.d	P4-D5	FC8066-5	1633full.m	Sample		OP98277,S6Q330,525,,,5.0,1,water	✓
62	6Q22695.d	P4-D6	op98277-ms	1633full.m	Sample		OP98277,S6Q330,525,,,5.0,1,water	✓
63	6Q22696.d	P4-D7	op98277-msd	1633full.m	Sample		OP98277,S6Q330,510,,,5.0,1,water	✓
64	6Q22697.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
65	6Q22698.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
66	6Q22699.d	P4-D4	FC8066-4	1633full.m	Sample		OP98277,S6Q330,550,,,5.0,1,water	✓
67	6Q22700.d	P4-D8	FC8066-6	1633full.m	Sample		OP98277,S6Q330,540,,,5.0,1,water	✓
68	6Q22701.d	P4-D9	FC8066-7	1633full.m	Sample		OP98277,S6Q330,510,,,5.0,1,water	✓
69	6Q22702.d	P4-E1	FC8066-8	1633full.m	Sample		OP98277,S6Q330,520,,,5.0,1,water	✓
70	6Q22703.d	P4-E2	FC8066-9	1633full.m	Sample		OP98277,S6Q330,465,,,5.0,1,water	✓
71	6Q22704.d	P4-E3	FC8066-10	1633full.m	Sample		OP98277,S6Q330,515,,,5.0,1,water	✓
72	6Q22705.d	P4-E4	FC8066-11	1633full.m	Sample		OP98277,S6Q330,525,,,5.0,1,water	✓
73	6Q22706.d	P4-E5	FC8066-12	1633full.m	Sample		OP98277,S6Q330,545,,,5.0,1,water	✓
74	6Q22707.d	P4-E6	FC8066-13	1633full.m	Sample		OP98277,S6Q330,530,,,5.0,1,water	✓
75	6Q22708.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
76	6Q22709.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
77	6Q22710.d	P4-E7	op98222-bs	1633full.m	Sample		OP98222,S6Q330,500,,,5.0,1,water	✓
78	6Q22711.d	P4-E8	op98222-llbs:3	1633full.m	Sample		OP98222,S6Q330,500,,,5.0,1,water	✓

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

79	6Q22712.d	P4-E9	op98222-mb	1633full.m	Sample		OP98222,S6Q330,500,,,5.0,1,water	✓
80	6Q22713.d	P4-F1	FC7807-1	1633full.m	Sample		OP98222,S6Q330,450,,,5.0,1,water	✓
81	6Q22714.d	P4-F2	FC7822-1	1633full.m	Sample		OP98222,S6Q330,500,,,5.0,1,water	✓
82	6Q22715.d	P4-F3	op98222-ms	1633full.m	Sample		OP98222,S6Q330,490,,,5.0,1,water	✓
83	6Q22716.d	P4-F4	FC7822-2	1633full.m	Sample		OP98222,S6Q330,490,,,5.0,1,water	✓
84	6Q22717.d	P4-F5	op98222-dup	1633full.m	Sample		OP98222,S6Q330,500,,,5.0,1,water	✓
85	6Q22718.d	P4-F6	FC7822-3	1633full.m	Sample		OP98222,S6Q330,515,,,5.0,1,water	✓
86	6Q22719.d	P4-F7	FC7822-4	1633full.m	Sample		OP98222,S6Q330,495,,,5.0,1,water	✓
87	6Q22720.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
88	6Q22721.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
89	6Q22722.d	P4-F8	FC7822-5	1633full.m	Sample		OP98222,S6Q330,495,,,5.0,1,water	✓
90	6Q22723.d	P4-F9	FC7822-6	1633full.m	Sample		OP98222,S6Q330,500,,,5.0,1,water	✓
91	6Q22724.d	P5-A1	FC7822-7	1633full.m	Sample		OP98222,S6Q330,515,,,5.0,1,water	rr5x pfba low
92	6Q22725.d	P5-A2	FC7823-1	1633full.m	Sample		OP98222,S6Q330,520,,,5.0,1,water	✓
93	6Q22726.d	P5-A3	FC7823-2	1633full.m	Sample		OP98222,S6Q330,450,,,5.0,1,water	✓
94	6Q22727.d	P5-A4	FC7823-3	1633full.m	Sample		OP98222,S6Q330,475,,,5.0,1,water	✓
95	6Q22728.d	P5-A5	FC7823-4	1633full.m	Sample		OP98222,S6Q330,475,,,5.0,1,water	✓
96	6Q22729.d	P5-A6	FC7823-5	1633full.m	Sample		OP98222,S6Q330,525,,,5.0,1,water	✓
97	6Q22730.d	P5-A7	FC7823-6	1633full.m	Sample		OP98222,S6Q330,520,,,5.0,1,water	✓
98	6Q22731.d	P5-A8	FC7823-7	1633full.m	Sample		OP98222,S6Q330,505,,,5.0,1,water	✓
99	6Q22732.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
100	6Q22733.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
101	6Q22734.d	P1-B3	RT TDCA	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
102	6Q22735.d	P1-B4	RT BR-LN	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
103	6Q22736.d	P1-A9	High Std	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
104	6Q22737.d	P1-A1	IBLK	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
105	6Q22738.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
106	6Q22739.d	P1-A2	cc330-1.0LL	1633full.m	QC	1.6/500	OP98201,S6Q330,500,,,5.0,1,water	✓
107	6Q22740.d	P5-A9	FC7823-8	1633full.m	Sample		OP98222,S6Q330,510,,,5.0,1,water	✓
108	6Q22741.d	P5-B1	op98223-bs	1633full.m	Sample		OP98223,S6Q330,500,,,5.0,1,water	✓
109	6Q22742.d	P5-B2	op98223-llbs:2	1633full.m	Sample		OP98223,S6Q330,500,,,5.0,1,water	✓
110	6Q22743.d	P5-B3	op98223-mb	1633full.m	Sample		OP98223,S6Q330,500,,,5.0,1,water	✓
111	6Q22744.d	P5-B4	FC7824-1	1633full.m	Sample		OP98223,S6Q330,475,,,5.0,1,water	✓
112	6Q22745.d	P5-B5	FC7824-2	1633full.m	Sample		OP98223,S6Q330,505,,,5.0,1,water	✓
113	6Q22746.d	P5-B6	FC7824-3	1633full.m	Sample		OP98223,S6Q330,520,,,5.0,1,water	✓
114	6Q22747.d	P5-B7	FC7824-4	1633full.m	Sample		OP98223,S6Q330,505,,,5.0,1,water	✓
115	6Q22748.d	P5-B8	FC7824-5	1633full.m	Sample		OP98223,S6Q330,495,,,5.0,1,water	✓
116	6Q22749.d	P5-B9	FC7824-6	1633full.m	Sample		OP98223,S6Q330,500,,,5.0,1,water	✓
117	6Q22750.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
118	6Q22751.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
119	6Q22752.d	P5-C1	FC7824-7	1633full.m	Sample		OP98223,S6Q330,490,,,5.0,1,water	✓
120	6Q22753.d	P5-C2	FC7824-8	1633full.m	Sample		OP98223,S6Q330,515,,,5.0,1,water	✓
121	6Q22754.d	P5-C3	op98223-ms	1633full.m	Sample		OP98223,S6Q330,525,,,5.0,1,water	✓

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

122	6Q22755.d	P5-C4	FC7824-9	1633full.m	Sample		OP98223,S6Q330,495,,,5.0,1,water	✓
123	6Q22756.d	P5-C5	op98223-dup	1633full.m	Sample		OP98223,S6Q330,485,,,5.0,1,water	✓
124	6Q22757.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
125	6Q22758.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
126	6Q22759.d	P5-C6	op98278-bs	1633full.m	Sample		OP98278,S6Q330,500,,,5.0,1,water	✓
127	6Q22760.d	P5-C7	op98278-llbs:3	1633full.m	Sample		OP98278,S6Q330,500,,,5.0,1,water	✓
128	6Q22761.d	P5-C8	op98278-mb	1633full.m	Sample		OP98278,S6Q330,500,,,5.0,1,water	✓
129	6Q22762.d	P5-C9	FC7901-1	1633full.m	Sample		OP98278,S6Q330,510,,,5.0,1,water	✓
130	6Q22763.d	P5-D1	FC7901-2	1633full.m	Sample		OP98278,S6Q330,525,,,5.0,1,water	✓
131	6Q22764.d	P5-D2	FC7901-3	1633full.m	Sample		OP98278,S6Q330,510,,,5.0,1,water	✓
132	6Q22765.d	P5-D3	FC7901-4	1633full.m	Sample		OP98278,S6Q330,510,,,5.0,1,water	✓
133	6Q22766.d	P5-D5	FC7901-6	1633full.m	Sample		OP98278,S6Q330,525,,,5.0,1,water	✓
134	6Q22767.d	P5-D6	op98278-ms	1633full.m	Sample		OP98278,S6Q330,535,,,5.0,1,water	✓
135	6Q22768.d	P5-D7	op98278-msd	1633full.m	Sample		OP98278,S6Q330,515,,,5.0,1,water	✓
136	6Q22769.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
137	6Q22770.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
138	6Q22771.d	P5-D4	FC7901-5	1633full.m	Sample		OP98278,S6Q330,520,,,5.0,1,water	✓
139	6Q22772.d	P5-D8	FC7901-7	1633full.m	Sample		OP98278,S6Q330,505,,,5.0,1,water	✓
140	6Q22773.d	P5-D9	FC7901-8	1633full.m	Sample		OP98278,S6Q330,525,,,5.0,1,water	✓
141	6Q22774.d	P5-E1	FC7901-9	1633full.m	Sample		OP98278,S6Q330,525,,,5.0,1,water	✓
142	6Q22775.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
143	6Q22776.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓
144	6Q22777.d	P5-E2	op98280-bs	1633full.m	Sample		OP98280,S6Q330,500,,,5.0,1,water	✓
145	6Q22778.d	P5-E3	op98280-llbs:3	1633full.m	Sample		OP98280,S6Q330,500,,,5.0,1,water	✓
146	6Q22779.d	P5-E4	op98280-mb	1633full.m	Sample		OP98280,S6Q330,500,,,5.0,1,water	✓
147	6Q22780.d	P5-E5	FC7902-1	1633full.m	Sample		OP98280,S6Q330,530,,,5.0,1,water	✓
148	6Q22781.d	P5-E6	FC7902-2	1633full.m	Sample		OP98280,S6Q330,520,,,5.0,1,water	✓
149	6Q22782.d	P5-E7	op98280-ms	1633full.m	Sample		OP98280,S6Q330,525,,,5.0,1,water	✓
150	6Q22783.d	P5-E8	op98280-msd	1633full.m	Sample		OP98280,S6Q330,515,,,5.0,1,water	✓
151	6Q22784.d	P5-E9	FC7902-3	1633full.m	Sample		OP98280,S6Q330,520,,,5.0,1,water	✓
152	6Q22785.d	P5-F1	FC7902-4	1633full.m	Sample		OP98280,S6Q330,525,,,5.0,1,water	✓
153	6Q22786.d	P1-A5	ecc330-4	1633full.m	QC	20/500	OP98201,S6Q330,500,,,5.0,1,water	✓
154	6Q22787.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q330,500,,,5.0,1,water	✓

SGS ORLANDO

LCMS6-6Q ANALYSIS LOG

DATE:	08/13/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS6-6Q

METHODS:	1633
PROC. METH:	1633_081023_S6Q330
CAL DATE:	08/10/23
ANALYST:	M.Valls
RUN BATCH:	S6Q331

ELUENT A LOT #:	ACN 220213
ELUENT B LOT #:	HPLC WATER LOT: 230470 W/5% Methanol 224279 2mM AMAC: 11387
IC/CC STD LOT #:	LCMS 2143-B
ICV STD LOT #:	LCMS 2143B/2145
ISTD/ID STD LOT #:	11851/11850

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q22788.d	P1-B9	CCB	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓
2	6Q22789.d	P1-B9	CCB	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓
3	6Q22790.d	P1-B3	RT TDCA	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓
4	6Q22791.d	P1-B4	RT BR-LN	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓
5	6Q22792.d	P1-A9	HIGH STD	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓
6	6Q22793.d	P1-A1	IBLK	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓
7	6Q22794.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q331,500,,,5.0,1,water	✓
8	6Q22795.d	P1-A2	cc330-1.0LL	1633full.m	QC	1.6/500	OP98201,S6Q331,500,,,5.0,1,water	✓
9	6Q22796.d	P6-A1	op98352-bs	1633full.m	Sample		OP98352,S6Q331,500,,,5.0,1,water	✓
10	6Q22797.d	P6-A2	op98352-llbs:3	1633full.m	Sample		OP98352,S6Q331,500,,,5.0,1,water	✓
11	6Q22798.d	P6-A3	op98352-mb	1633full.m	Sample		OP98352,S6Q331,500,,,5.0,1,water	✓
12	6Q22799.d	P6-A4	FC7629-1	1633full.m	Sample		OP98352,S6Q331,515,,,5.0,1,water	cf
13	6Q22800.d	P6-A5	FC7804-11	1633full.m	Sample		OP98352,S6Q331,515,,,5.0,1,water	cf
14	6Q22801.d	P6-A6	FC7997-1	1633full.m	Sample		OP98352,S6Q331,525,,,5.0,1,water	✓
15	6Q22802.d	P6-A7	FC7997-2	1633full.m	Sample		OP98352,S6Q331,525,,,5.0,1,water	✓
16	6Q22803.d	P6-A8	op98352-ms	1633full.m	Sample		OP98352,S6Q331,510,,,5.0,1,water	✓
17	6Q22804.d	P6-A9	op98352-msd	1633full.m	Sample		OP98352,S6Q331,530,,,5.0,1,water	✓
18	6Q22805.d	P6-B1	FC7997-3	1633full.m	Sample		OP98352,S6Q331,525,,,5.0,1,water	✓
19	6Q22806.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q331,500,,,5.0,1,water	✓
20	6Q22807.d	P1-B9	iccb	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓
21	6Q22808.d	P6-B2	FC7997-4	1633full.m	Sample		OP98352,S6Q331,515,,,5.0,1,water	✓
22	6Q22809.d	P6-B3	op98380-bs	1633full.m	Sample		OP98380,S6Q331,500,,,5.0,1,water	✓
23	6Q22810.d	P6-B4	op98380-llbs:3	1633full.m	Sample		OP98380,S6Q331,500,,,5.0,1,water	✓
24	6Q22811.d	P6-B5	op98380-mb	1633full.m	Sample		OP98380,S6Q331,500,,,5.0,1,water	✓
25	6Q22812.d	P6-B6	FC8547-1	1633full.m	Sample		OP98380,S6Q331,550,,,5.0,1,water	✓
26	6Q22813.d	P6-B7	FC8547-2	1633full.m	Sample		OP98380,S6Q331,570,,,5.0,1,water	✓
27	6Q22814.d	P6-B8	op98380-ms	1633full.m	Sample		OP98380,S6Q331,560,,,5.0,1,water	✓
28	6Q22815.d	P6-B9	FC8547-3	1633full.m	Sample		OP98380,S6Q331,530,,,5.0,1,water	✓
29	6Q22816.d	P6-C1	FC8547-4	1633full.m	Sample		OP98380,S6Q331,570,,,5.0,1,water	✓
30	6Q22817.d	P6-C2	op98380-dup	1633full.m	Sample		OP98380,S6Q331,510,,,5.0,1,water	✓
31	6Q22818.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q331,500,,,5.0,1,water	✓
32	6Q22819.d	P1-B9	iccb	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓
33	6Q22820.d	P6-C3	FC8547-5	1633full.m	Sample		OP98380,S6Q331,570,,,5.0,1,water	✓
34	6Q22821.d	P6-C4	FC8547-6	1633full.m	Sample		OP98380,S6Q331,560,,,5.0,1,water	rr5x for 4:2 surr high
35	6Q22822.d	P6-C5	FC8547-7	1633full.m	Sample		OP98380,S6Q331,540,,,5.0,1,water	✓

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

36	6Q22823.d	P6-C6	op98330-bs	1633full.m	Sample		OP98330,S6Q331,500,,,5.0,1,water	✓
37	6Q22824.d	P6-C7	op98330-llbs:3	1633full.m	Sample		OP98330,S6Q331,500,,,5.0,1,water	✓
38	6Q22825.d	P6-C8	op98330-mb	1633full.m	Sample		OP98330,S6Q331,500,,,5.0,1,water	✓
39	6Q22826.d	P6-C9	FC7580-6	1633full.m	Sample		OP98330,S6Q331,500,,,5.0,1,water	cf
40	6Q22827.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q331,500,,,5.0,1,water	✓
41	6Q22828.d	P1-B9	iccb	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓
42	6Q22829.d	P6-D1	op98302-bs	1633full.m	Sample		OP98302,S6Q331,500,,,5.0,1,water	✓
43	6Q22830.d	P6-D2	op98302-llbs:3	1633full.m	Sample		OP98302,S6Q331,500,,,5.0,1,water	✓
44	6Q22831.d	P6-D3	op98302-mb	1633full.m	Sample		OP98302,S6Q331,500,,,5.0,1,water	✓
45	6Q22832.d	P6-D4	FC7395-2	1633full.m	Sample		OP98302,S6Q331,60,,,5.0,1,water	✓
46	6Q22833.d	P6-D5	FC7395-2	1633full.m	Sample	50/500	OP98302,S6Q331,60,,,5.0,10,water	✓
47	6Q22834.d	P6-D6	FC8220-11	1633full.m	Sample		OP98302,S6Q331,515,,,5.0,1,water	✓
48	6Q22835.d	P6-D7	op98302-ms	1633full.m	Sample		OP98302,S6Q331,520,,,5.0,1,water	✓
49	6Q22836.d	P6-D8	FC8220-13	1633full.m	Sample		OP98302,S6Q331,520,,,5.0,1,water	rr5x for 6:2, 8:2 surr high
50	6Q22837.d	P6-D9	op98302-dup	1633full.m	Sample		OP98302,S6Q331,520,,,5.0,1,water	✓
51	6Q22838.d	P6-E1	FC8220-14	1633full.m	Sample		OP98302,S6Q331,495,,,5.0,1,water	✓
52	6Q22839.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q331,500,,,5.0,1,water	✓
53	6Q22840.d	P1-B9	iccb	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓
54	6Q22841.d	P6-E2	FC8220-17	1633full.m	Sample		OP98302,S6Q331,505,,,5.0,1,water	rr5x for 6:2 surr high
55	6Q22842.d	P6-E3	FC8220-18	1633full.m	Sample		OP98302,S6Q331,515,,,5.0,1,water	✓
56	6Q22843.d	P6-E4	FC8220-19	1633full.m	Sample		OP98302,S6Q331,520,,,5.0,1,water	✓
57	6Q22844.d	P6-E5	FC8220-20	1633full.m	Sample		OP98302,S6Q331,490,,,5.0,1,water	✓
58	6Q22845.d	P1-A5	ecc330-4	1633full.m	QC	20/500	OP98201,S6Q331,500,,,5.0,1,water	✓
59	6Q22846.d	P1-B9	iccb	1633full.m	Sample		OP98201,S6Q331,500,,,5.0,1,water	✓

SGS ORLANDO

LCMS6-6Q ANALYSIS LOG

DATE:	08/14/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS6-6Q

METHODS:	1633
PROC. METH:	1633_081023_S6Q330
CAL DATE:	08/10/23
ANALYST:	M.Valls
RUN BATCH:	S6Q332

ELUENT A LOT #:	ACN 220213
ELUENT B LOT #:	HPLC WATER LOT: 230470 W/5% Methanol 224279 2mM AMAC: 11387
IC/CC STD LOT #:	LCMS 2143-B
ICV STD LOT #:	LCMS 2143B/2145
ISTD/ID STD LOT #:	11851/11850

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q22847.d	P1-B9	CCB	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓
2	6Q22848.d	P1-B9	CCB	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓
3	6Q22849.d	P1-B3	RT TDCA	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓
4	6Q22850.d	P1-B4	RT BR-LN	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓
5	6Q22851.d	P1-A9	HIGH STD	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓
6	6Q22852.d	P1-A1	IBLK	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓
7	6Q22853.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q332,500,,,5.0,1,water	✓
8	6Q22854.d	P1-A2	cc330-1.0LL	1633full.m	QC	1.6/500	OP98201,S6Q332,500,,,5.0,1,water	✓
9	6Q22855.d	P2-A1	op98329-bs	1633full.m	Sample		OP98329,S6Q332,500,,,5.0,1,water	✓
10	6Q22856.d	P2-A2	op98329-llbs:2	1633full.m	Sample		OP98329,S6Q332,500,,,5.0,1,water	✓
11	6Q22857.d	P2-A3	op98329-mb	1633full.m	Sample		OP98329,S6Q332,500,,,5.0,1,water	✓
12	6Q22858.d	P2-A4	FC7644-1	1633full.m	Sample		OP98329,S6Q332,60,,,5.0,1,water	cf
13	6Q22859.d	P2-A5	FC7644-1	1633full.m	Sample	50/500	OP98329,S6Q332,60,,,5.0,10,water	cf
14	6Q22860.d	P2-A6	FC7962-1	1633full.m	Sample		OP98329,S6Q332,470,,,5.0,1,water	✓
15	6Q22861.d	P2-A7	FC7962-2	1633full.m	Sample		OP98329,S6Q332,460,,,5.0,1,water	✓
16	6Q22862.d	P2-A8	FC7978-1	1633full.m	Sample		OP98329,S6Q332,500,,,5.0,1,water	rr5x pfba low
17	6Q22863.d	P2-A9	FC7978-2	1633full.m	Sample		OP98329,S6Q332,495,,,5.0,1,water	rr5x pfba low
18	6Q22864.d	P2-B1	FC7978-3	1633full.m	Sample		OP98329,S6Q332,465,,,5.0,1,water	✓
19	6Q22865.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q332,500,,,5.0,1,water	✓
20	6Q22866.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓
21	6Q22867.d	P2-B2	FC7978-4	1633full.m	Sample		OP98329,S6Q332,480,,,5.0,1,water	rr due to no after ccv
22	6Q22868.d	P2-B3	FC7978-5	1633full.m	Sample		OP98329,S6Q332,500,,,5.0,1,water	↓
23	6Q22869.d	P2-B4	FC7978-6	1633full.m	Sample		OP98329,S6Q332,480,,,5.0,1,water	↓
24	6Q22870.d	P2-B5	FC7978-7	1633full.m	Sample		OP98329,S6Q332,465,,,5.0,1,water	↓
25	6Q22871.d	P2-B6	FC7978-8	1633full.m	Sample		OP98329,S6Q332,495,,,5.0,1,water	↓
26	6Q22872.d	P2-B7	FC7978-9	1633full.m	Sample		OP98329,S6Q332,490,,,5.0,1,water	↓
27	6Q22873.d	P2-B8	FC8016-1	1633full.m	Sample		OP98329,S6Q332,475,,,5.0,1,water	↓
28	6Q22874.d	P2-B9	FC8036-1	1633full.m	Sample		OP98329,S6Q332,515,,,5.0,1,water	↓
29	6Q22875.d	P2-C1	op98329-ms	1633full.m	Sample		OP98329,S6Q332,500,,,5.0,1,water	↓
30	6Q22876.d	P2-C2	FC8036-2	1633full.m	Sample		OP98329,S6Q332,470,,,5.0,1,water	↓
31	6Q22877.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q332,500,,,5.0,1,water	ccv fail high
32	6Q22878.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	surr high
33	6Q22879.d	P2-C3	FC8036-3	1633full.m	Sample		OP98329,S6Q332,460,,,5.0,1,water	rr due to ccv high
34	6Q22880.d	P2-C4	FC8036-4	1633full.m	Sample		OP98329,S6Q332,480,,,5.0,1,water	↓
35	6Q22881.d	P2-C5	op98329-dup	1633full.m	Sample		OP98329,S6Q332,495,,,5.0,1,water	↓

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

36	6Q22882.d	P2-C6	FC8547-6	1633full.m	Sample		OP98380,S6Q332,560,,,5.0,5,water	↓
37	6Q22883.d	P2-C7	FC8220-13	1633full.m	Sample		OP98302,S6Q332,520,,,5.0,5,water	↓
38	6Q22884.d	P2-C8	FC8220-17	1633full.m	Sample		OP98302,S6Q332,505,,,5.0,5,water	↓
39	6Q22885.d	P1-F9	FC7822-7	1633full.m	Sample		OP98222,S6Q332,515,,,5.0,5,water	↓
40	6Q22886.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q332,500,,,5.0,1,water	✓
41	6Q22887.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓
42	6Q22888.d	P2-B2	FC7978-4	1633full.m	Sample		OP98329,S6Q332,480,,,5.0,1,water	rr5x pfba low
43	6Q22889.d	P2-B3	FC7978-5	1633full.m	Sample		OP98329,S6Q332,500,,,5.0,1,water	rr5x pfba low
44	6Q22890.d	P2-B4	FC7978-6	1633full.m	Sample		OP98329,S6Q332,480,,,5.0,1,water	Redo for HxA
45	6Q22891.d	P2-B5	FC7978-7	1633full.m	Sample		OP98329,S6Q332,465,,,5.0,1,water	✓
46	6Q22892.d	P2-B6	FC7978-8	1633full.m	Sample		OP98329,S6Q332,495,,,5.0,1,water	✓
47	6Q22893.d	P2-B7	FC7978-9	1633full.m	Sample		OP98329,S6Q332,490,,,5.0,1,water	rr5x pfba low
48	6Q22894.d	P2-B8	FC8016-1	1633full.m	Sample		OP98329,S6Q332,475,,,5.0,1,water	✓
49	6Q22895.d	P2-C6	FC8547-6	1633full.m	Sample	100/500	OP98380,S6Q332,560,,,5.0,5,water	✓
50	6Q22896.d	P2-C7	FC8220-13	1633full.m	Sample	100/500	OP98302,S6Q332,520,,,5.0,5,water	✓
51	6Q22897.d	P2-C8	FC8220-17	1633full.m	Sample	100/500	OP98302,S6Q332,505,,,5.0,5,water	✓
52	6Q22898.d	P1-F9	FC7822-7	1633full.m	Sample	100/500	OP98222,S6Q332,515,,,5.0,5,water	Redo, pfba low
53	6Q22899.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q332,500,,,5.0,1,water	✓
54	6Q22900.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓
55	6Q22901.d	P2-C9	op98378-bs	1633full.m	Sample		OP98378,S6Q332,500,,,5.0,1,water	✓
56	6Q22902.d	P2-D1	op98378-llbs:2	1633full.m	Sample		OP98378,S6Q332,500,,,5.0,1,water	✓
57	6Q22903.d	P2-D2	op98378-mb	1633full.m	Sample		OP98378,S6Q332,500,,,5.0,1,water	✓
58	6Q22904.d	P2-D3	FC7642-3	1633full.m	Sample		OP98378,S6Q332,490,,,5.0,1,water	cf
59	6Q22905.d	P2-D4	FC7642-3	1633full.m	Sample	50/500	OP98378,S6Q332,490,,,5.0,10,water	cf
60	6Q22906.d	P2-D5	FC8049-1	1633full.m	Sample		OP98378,S6Q332,470,,,5.0,1,water	✓
61	6Q22907.d	P2-D6	op98378-ms	1633full.m	Sample		OP98378,S6Q332,445,,,5.0,1,water	✓
62	6Q22908.d	P2-D7	FC8049-2	1633full.m	Sample		OP98378,S6Q332,455,,,5.0,1,water	✓
63	6Q22909.d	P2-D8	FC8049-3	1633full.m	Sample		OP98378,S6Q332,480,,,5.0,1,water	✓
64	6Q22910.d	P2-D9	op98378-dup	1633full.m	Sample		OP98378,S6Q332,475,,,5.0,1,water	✓
65	6Q22911.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q332,500,,,5.0,1,water	✓
66	6Q22912.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓
67	6Q22913.d	P2-E1	FC8049-4	1633full.m	Sample		OP98378,S6Q332,460,,,5.0,1,water	rr1x + 5x Teda low
68	6Q22914.d	P2-E2	FC8049-5	1633full.m	Sample		OP98378,S6Q332,470,,,5.0,1,water	rr5x pfba low
69	6Q22915.d	P2-E3	FC8049-6	1633full.m	Sample		OP98378,S6Q332,495,,,5.0,1,water	rr5x pfba low
70	6Q22916.d	P2-E4	FC8049-7	1633full.m	Sample		OP98378,S6Q332,460,,,5.0,1,water	✓
71	6Q22917.d	P2-E5	FC8049-8	1633full.m	Sample		OP98378,S6Q332,465,,,5.0,1,water	rr5x pfba low
72	6Q22918.d	P2-E6	op98377-bs	1633full.m	Sample		OP98377,S6Q332,500,,,5.0,1,water	✓
73	6Q22919.d	P2-E7	op98377-llbs:3	1633full.m	Sample		OP98377,S6Q332,500,,,5.0,1,water	✓
74	6Q22920.d	P2-E8	op98377-mb	1633full.m	Sample		OP98377,S6Q332,500,,,5.0,1,water	✓
75	6Q22921.d	P2-E9	FC7802-5	1633full.m	Sample		OP98377,S6Q332,500,,,5.0,1,water	cf
76	6Q22922.d	P2-F1	FC8007-1	1633full.m	Sample		OP98377,S6Q332,500,,,5.0,1,water	✓
77	6Q22923.d	P1-A5	Ecc330-4	1633full.m	QC	20/500	OP98201,S6Q332,500,,,5.0,1,water	✓
78	6Q22924.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	✓

SGS ORLANDO LCMS6-6Q ANALYSIS LOG

79	6Q22925.d	P2-F2	FC7995-1	1633full.m	Sample		OP98377,S6Q332,525,,,5.0,1,water	rr computer shut down
80	6Q22926.d	P2-F3	FC7995-2	1633full.m	Sample		OP98377,S6Q332,520,,,5.0,1,water	↓
81	6Q22927.d	P2-F4	FC7995-3	1633full.m	Sample		OP98377,S6Q332,520,,,5.0,1,water	↓
82	6Q22928.d	P2-F5	FC7995-4	1633full.m	Sample		OP98377,S6Q332,525,,,5.0,1,water	↓
83	6Q22929.d	P2-F6	FC7995-5	1633full.m	Sample		OP98377,S6Q332,525,,,5.0,1,water	↓
84	6Q22930.d	P2-F7	FC7995-6	1633full.m	Sample		OP98377,S6Q332,525,,,5.0,1,water	↓
85	6Q22931.d	P2-F8	FC7995-7	1633full.m	Sample		OP98377,S6Q332,525,,,5.0,1,water	↓
86	6Q22932.d	P2-F9	FC7995-8	1633full.m	Sample		OP98377,S6Q332,525,,,5.0,1,water	↓
87	6Q22933.d	P1-F1	FC7995-9	1633full.m	Sample		OP98377,S6Q332,525,,,5.0,1,water	↓
88	6Q22934.d	P1-F9	FC7822-7	1633full.m	Sample	100/500	OP98222,S6Q332,515,,,5.0,5,water	↓
89	6Q22935.d	P1-A5	cc330-4	1633full.m	QC	20/500	OP98201,S6Q332,500,,,5.0,1,water	↓
90	6Q22936.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q332,500,,,5.0,1,water	↓
91	6Q22937.d	P1-F2	FC7995-10	1633full.m	Sample		OP98377,S6Q332,515,,,5.0,1,water	↓
92	6Q22938.d	P1-F3	op98377-ms	1633full.m	Sample		OP98377,S6Q332,545,,,5.0,1,water	↓
93	6Q22939.d	P1-F4	FC7995-11	1633full.m	Sample		OP98377,S6Q332,525,,,5.0,1,water	↓
94	6Q22940.d	P1-F5	op98377-dup	1633full.m	Sample		OP98377,S6Q332,520,,,5.0,1,water	↓
95	6Q22941.d	P1-F6	FC7995-12	1633full.m	Sample		OP98377,S6Q332,530,,,5.0,1,water	↓
96	6Q22942.d	P1-F7	FC7995-13	1633full.m	Sample		OP98377,S6Q332,530,,,5.0,1,water	↓
97	6Q22943.d	P1-F8	FC8126-1	1633full.m	Sample		OP98377,S6Q332,525,,,5.0,1,water	↓
98	6Q22944.d	P1-A5	ecc330-4	1633full.m	QC	20/500	OP98201,S6Q332,500,,,5.0,1,water	↓
99	6Q22945.d	P1-A1	iccb	1633full.m	Sample		OP98201,S6Q332,500,,,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 2142A-J (tested & passed on SQ267)	PFC ID Surr (10 ppb)	11887A-J	MPFAC-24ES	Wellington Labs	06/08/28	07/12/24	1.0 ppm	1.2 mL	~2.5 mL	0.5 ppm	95% MeOH 5% H_2O	07/12/23	01/12/24	LR
		11635-B	M3HFPO-DA		11/08/25	06/21/24	50 ppm	24 µL						LR
		11584	d-N-MeFOSA		11/11/27	06/01/24	50 ppm	24 µL						LR
LCMS 2143A-E (Verified SQ310 SQ311)	1633 spike Cal std.	11852 11862	PFAC MxH	Wellington	4.19.28	6.21.24 7.16.24	1-4 ppm	250 NL	4 mL	62.5 125 250 ppb	1633 mix (2688 mL)	7/16/23	12/28/23 1/16/24 KW	MW
		LCMS 2140	Br-Ln Et-me	Sgs Labs	NA	12/28/23	2 ppm 5 ppm			125 312.5 ppb				
		11853 11891	PFAC MxF	Wellington	3.24.26	6.21.24	2 ppm			125 ppb				
		~~11809~~ MW 11854	PFAC MxG		12.1.27	7.16.24	2 ppm			125 ppb				
		11855 11805	PFAC MxJ		3.28.28	7.16.24 7.16.24	4-20 ppm	312 NL		312 1160 ppb				
LCMS 2144 ~~A-B~~ * (accepted & passed on SQ269)	PFC Spike	11849	PFOA-DoD (28 comp)	Absolute	3/13/28	6/21/24	1.0 ppm	2 mL	5 mL	* 400 ppb	95% MeOH 5% H_2O	7/19/23	01/17/24	LR
		11432	N-Me-FOSA-M	Wellington Labs	02/28/27	3/13/24	50 ppm	40 mL						LR
		11513	FBSA-I		11/10/26	4/18/24								LR
		11514	FHxSA-I		12/29/26	4/18/24								LR
		11332	PFECHS		3/28/27	4/16/24								LR

Continue next page

MW 7/17/23

* LR 7/17/23

* 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 2139	1633 RT BR-LN	11496	br-FOSA	Wellington Labs	10/7/27	12/28/23	50ppm	5NL	2.5mL	100ppb	1633 mix	6/28/23	12/28/23	MJ
		11497	br-N-MeFOSA		8/23/27									
		11498	br N-EtFOSA		10/7/27									
		11494	br-N-MeFOSE		10/7/27									
		11495	br-N-EtFOSE		10/7/27									
		11502	T-PFOA		01/27/27									
		11527	1P PFNA		01/10/27									
LCMS 2140	1633 BR-LN Me+Et	11497	br-N MeFOSA	Wellington Labs	8/23/27	12/28/23	50ppm	200mL	5mL	2ppm	1633 mix (3600mL)	6/28/23	12/28/23	MJ
		11498	br-N EtFOSA		10/7/27	12/28/23		200mL		2ppm				
		11795	br-N MeFOSE		10/7/27	6/28/24		500mL		5ppm				
		11796	br-N EtFOSE		10/7/27	6/28/24		500mL		5ppm				
LCMS 2141	List 40 Surr ADD-ON Isotope	11523	d7-N-MeFOSE	Wellington Labs	1/27/27	5/9/24	50ppm	400mL	4mL	5ppm	95%MeOH 5%H2O	7/11/23	01/11/24	MJ
		11537	d9-N EtFOSE		1/27/27	6/1/24		400mL		5ppm				
		11334	M2-PFHxDA		11/23/26	6/1/24		80mL		1ppm				
		11335	D-N-EtFOSA		3/17/27	6/1/24		80mL		1ppm				
						LR 7/12/23								

*** 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 2145	Full List 40 Spike (Cal std)	11849	PFOA 28Comp	Absolute	3/13/28	6/21/24	1.0ppm	400uL	4.0ml	100ppb	95% meoH 5% H2O (2,400mL)	7/17/23	8/23/23	MW
		LCMS 2067	40 List Add on #1	Sgs std	—	8/23/23	1.0ppm	400NL						
		LCMS 2117	40 List Add on #2		—	11/8/23	1.0ppm	400NL						
		LCMS 2101	Fose std.		—	9/19/23	5.0ppm	400NL		500ppb				
LCMS 2146 A-E	1633 spike Cal. std.	LCMS 2140	Br_LN Et-me	SGS Labs.	N/A	12/28/23	2ppm 5ppm	250NL	4mL	125 312.5ppb	1633 mix (2688HI)	7/18/23	12/28/23	MW
		11862 11890	PFAC MxH	Wellington	4.19.28	7.16.24 7.19.24	1-4 ppm			62.5 125 250ppb				
		11891 11900	PFAC MxF		3.24.26	7.16.24 7.19.24	2 ppm			125ppb				
		11864 11892	PFAC MxG		12.1.27	7.19.24	2ppm			125ppb				
		11865 11893	PFAC MxJ		3.28.28	7.16.24 7.19.24	4-20 ppm	312NL		312 1100ppb				
LCMS 2147	PFC ID Std	11849	PFOA-DOD (28 comp)	Absolute	4/21/24 → 3/13/28		1mg/mL	400uL	4.0 mL	100PPB	95% MeOH 5% H_2O	07/21/23 → 22	01/21/24	LR * LR 7/21/23
		11432	N-MeFOSA	Wellington Labs	02/28/27	3/13/24	50 mg/mL	8 uL						LR
		11513	FBSA-I		11/10/26	4/18/24								LR
		11514	FHxSA-I		12/29/26	4/18/24								LR
		11332	PFECHS		3/28/27	4/18/24								LR
						LR 7/20/23								

* 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 2067	40 List std. ADD-ON #1	10726A	10:2 FTS	Wellington	3/3/26	3/21/23	50ppm	80uL	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		11/11/25	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 ~~#1~~ 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 ~~11/8/23~~	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 (2,450ml)	5/9/23	8/23/23	MV
↓	↓	LCMS 2067	40 List Add on #1	Sgs std.	—	8/23/23	1.0ppm	400NL	↓	↓	↓	↓	↓	↓
↓	↓	LCMS 2117	40 List Add on #2	↓	—	~~5/9/23~~ 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-1	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-1	↓	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 mefosa-m	↓	5/6/27	3/13/24	50ppm	48NL	↓	↓	↓	↓	↓	↓
					NG 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	MW
		LCMS 2097	Br-In Et, Me	Sgs labs	n/a	10/28/23	2ppm 5ppm	250NL		125ppb 312.5ppb				
		116748	PFAC MxF	Wellington	1/11/25	3/30/24	2ppm	250NL ~~500NL~~ 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% H2O	04/06/23	08/15/23	NG
		104356A	M262 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 DOP 28 Comp.	Absolute	11/9/27 ~~4/11/24~~ MW	4/11/24	1.0ppm	400NL	4.0mL	100ppb	75% MeOH 5% H2O (2,4C031)	4/11/23	7/24/23	MW
		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% H2O	4/11/23	9/19/23	MW
		11338	N-me fose		5/13/27	9/19/23	50ppm	200NL						

* based on date opened as specified in each SGS - Orlando SOP.

(1,600)

11852
rec'd: 06/01/23

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

11853
rec'd: 06/01/23

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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
(mm/dd/yyyy)
B.G. Chittim, General Manager

Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

PFACMXF0323 (3 of 5)
rev0

11854
rec'd: 06/01/23

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

11855
rec'd: 06/01/23

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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
B.G. Chittim, General Manager (mm/dd/yyyy)

11862
rec'd:06/09/23

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

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

11865
rec'd: 06/09/23

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

PFACMXJ0323 (3 of 5)
rev0

11891
rec'd: 06/29/23

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

e 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
(mm/dd/yyyy)
B.G. Chittim, General Manager

Absolute Standards, Inc.
800-368-1131
www.absolutestandards.com

Certified Reference Material CRM

ANAB ISO 17034 Accredited
AR-1539 Certificate Number
https://Absolutestandards.com

CERTIFIED WEIGHT REPORT

Part Number:	64029A				
Lot Number:	031323	Solvent(s):	Lot#		
Description:	PFOA - 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	110822	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	FOSA03221	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	47.9	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	8.5	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	36.5	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 Results," NIST Technical Note 1297, U.S. Government Printing Office, Washington, DC, (1994).

Rec'd: 06/01/23 11849

11796
rec'd: 05/15/23

WELLINGTON LABORATORIES

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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

11795
rec'd: 05/15/23

WELLINGTON LABORATORIES

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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

11498

WELLINGTON LABORATORIES

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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

11497

WELLINGTON LABORATORIES

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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

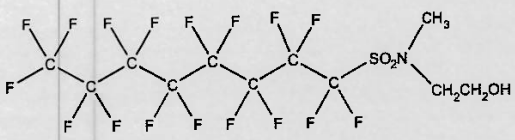
11338

WELLINGTON LABORATORIES

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim, General Manager **Date:** 06/14/2022 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

11336

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

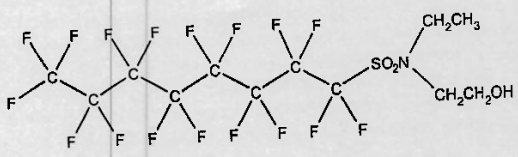
PRODUCT CODE: N-EtFOSE-M

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/13/2022 (mm/dd/yyyy)

B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

11332

WELLINGTON LABORATORIES

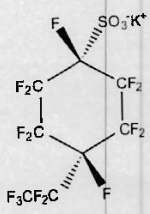
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFECHS
LOT NUMBER: PFECHS0222

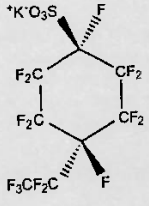
COMPOUND: Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

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*).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim, General Manager **Date:** 03/30/2022 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

11250 KA 8/11/22

WELLINGTON LABORATORIES

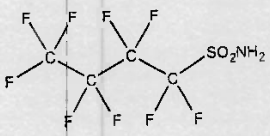
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/10/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

11852 11249 7/1/22 KA

WELLINGTON LABORATORIES

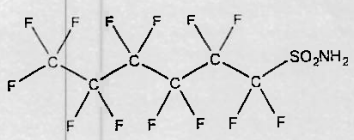
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FHxSA-I
COMPOUND: Perfluoro-1-hexanesulfonamide

LOT NUMBER: FHxSA1221I

CAS #: 41997-13-1

STRUCTURE:



MOLECULAR FORMULA:	$C_6H_2F_{13}NO_2S$	**MOLECULAR WEIGHT:**	399.13
CONCENTRATION:	50.0 ± 2.5 µg/mL	**SOLVENT(S):**	Isopropanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	12/29/2021		
EXPIRY DATE: (mm/dd/yyyy)	12/29/2026		
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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 01/10/2022 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

11140

WELLINGTON LABORATORIES

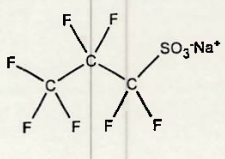
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim, General Manager **Date:** 08/04/2021 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

#1116 A-B MW

111168 on the back MW

WELLINGTON LABORATORIES

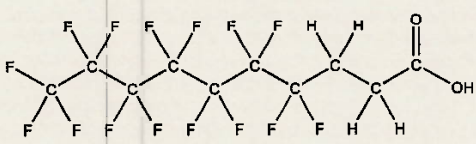
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FHpPA
COMPOUND: 3-Perfluoroheptyl propanoic acid

LOT NUMBER: FHpPA1020

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:

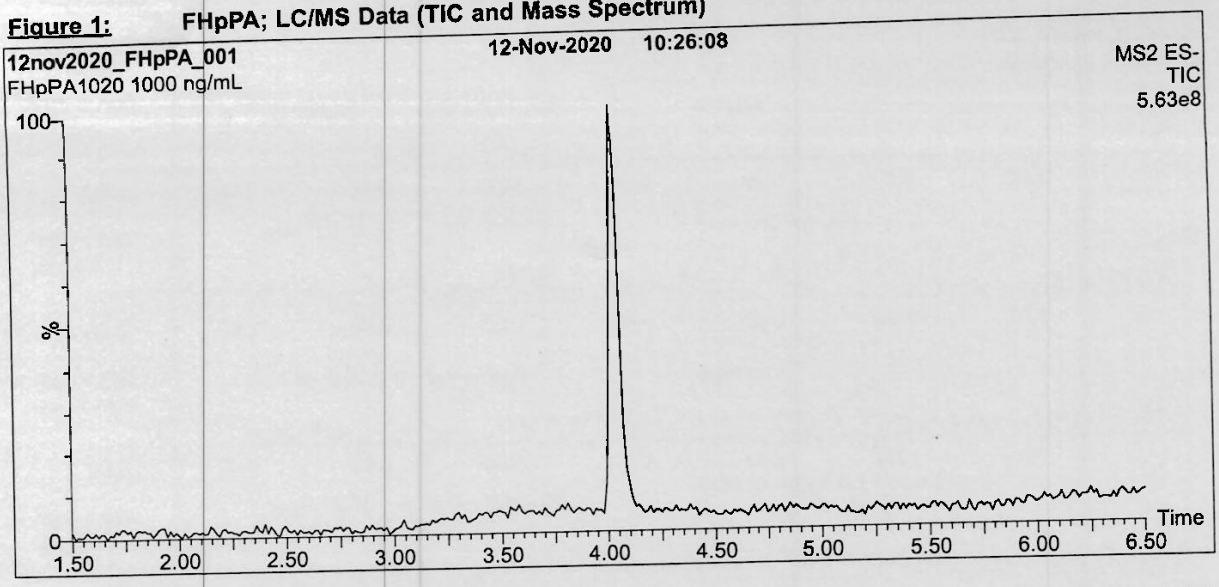
- See page 2 for further details.

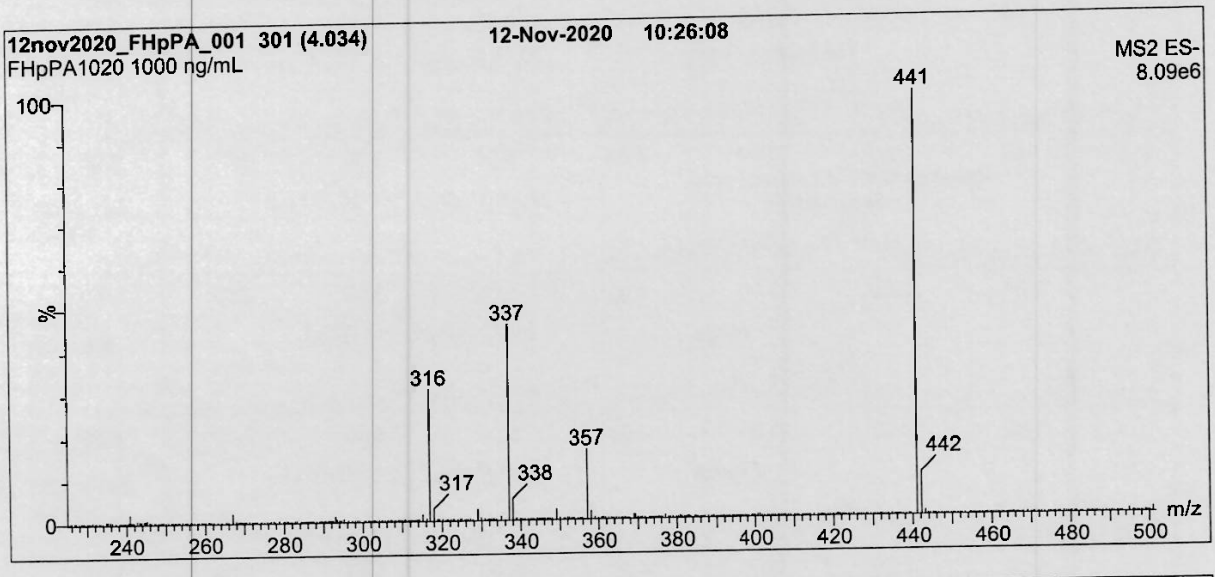
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/27/2020 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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)

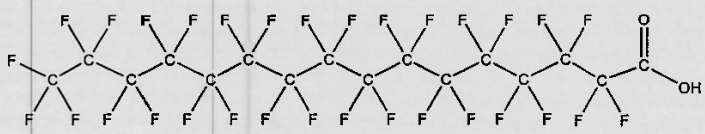
Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 28.50
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (L/hr) = 1000

WELLINGTON LABORATORIES

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/25/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

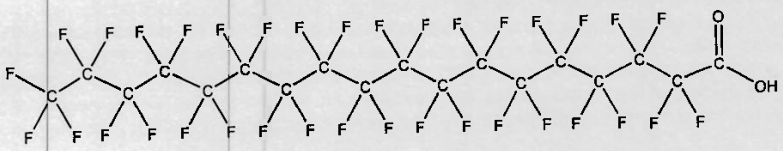
10847 NG 01/18/23

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim, General Manager

Date: 09/28/2021 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

10

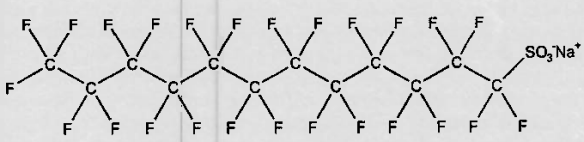
WELLINGTON LABORATORIES

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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/16/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

WELLINGTON LABORATORIES

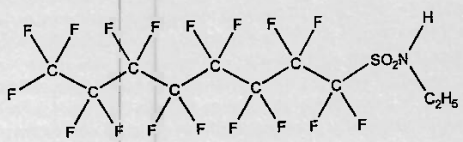
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-EtFOSA-M 10837
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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/16/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

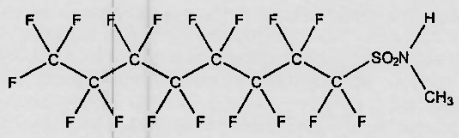
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA

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



received with 10/5/21

MOLECULAR FORMULA:	$C_8H_4F_{17}NO_2S$	**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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/04/2021 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

10765 A-13

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

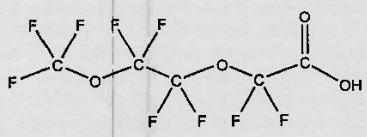
recd WFH 8/20/21

PRODUCT CODE: 3,6-OPFHpA
COMPOUND: Perfluoro-3,6-dioxaheptanoic acid

LOT NUMBER: 36OPFHpA0320

STRUCTURE:

CAS #: 151772-58-6



MOLECULAR FORMULA:	$C_5HF_9O_4$	**MOLECULAR WEIGHT:**	296.04
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:** 05/27/2020 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

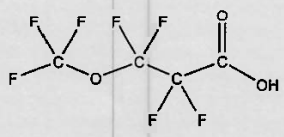
10764 A-B

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)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

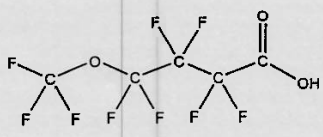
10763 A-B

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

reold 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)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

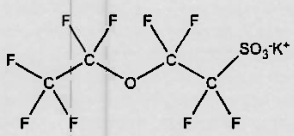
10762 A-B

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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/29/2020 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

10726 A

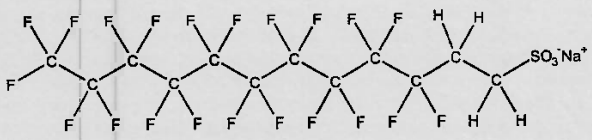
WELLINGTON LABORATORIES

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:

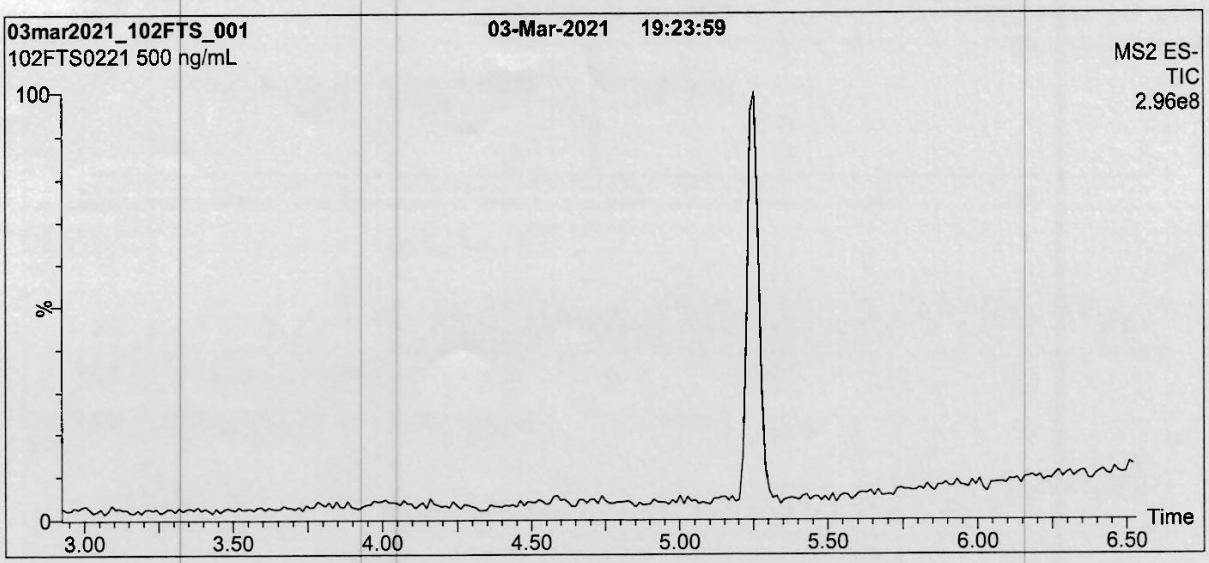
- See page 2 for further details.

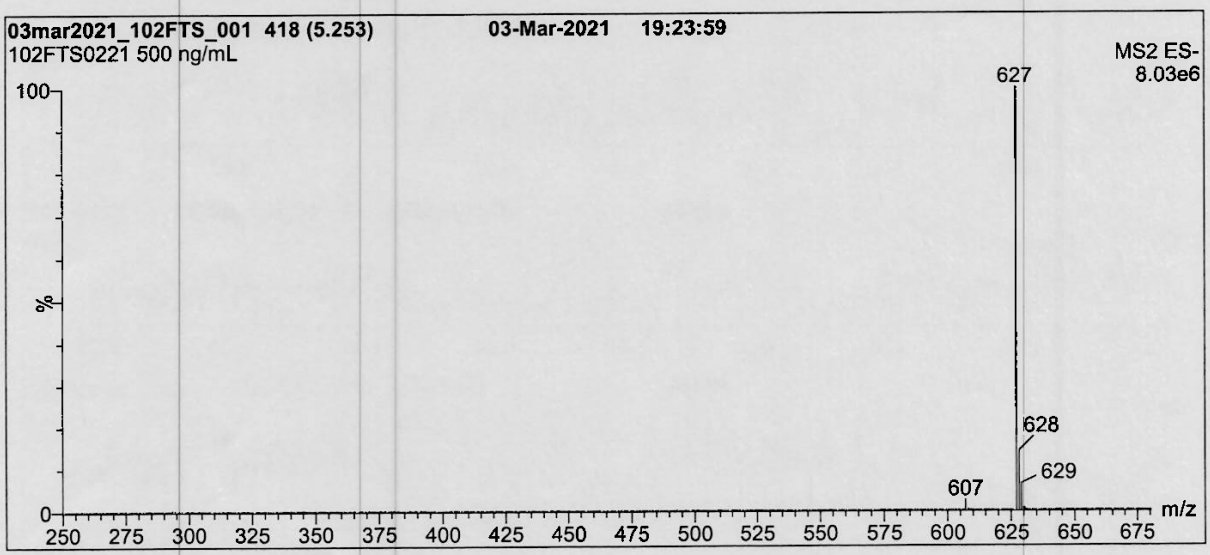
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim, General Manager **Date:** 03/05/2021 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

11851 A-J
rec'd: 06/01/23

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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: _____ **Date:** 12/05/2022
(mm/dd/yyyy)

B.G. Chittim, General Manager

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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

SGS - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time Started: 08/11/23 09:00 (mm/dd/yy 24:00)

Date/Time Finished: 8/13/23 9:15 (mm/dd/yy 24:00)

Method: EPA 1633 Draft (QSM) List 40

Balance ID: _____

Batch#: OP98380 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 98380 MB		500	7	N/A	25		5	A4	
OP 98380 BS		500	7	N/A		200			
OP 98380 LLBS		500	7	N/A		60			
FC8547-1	2	550	7						
2	2	570	7						
3	2	530	7						
4	2	570	7						
5	2	570	7	N/A					
6	2	560	8	7					
7	2	540	7	N/A	25		5	A4	
OP FC8547-2 MS	3	560	7	N/A	25	200	5	A4	
OP MSD									
OP FC8547-4 DUP	3	510	7	N/A	25		5	A4	

GH 08/11/23

Comments:

EIS (SURR) ID: 11945A-C Conc: 250-5000ng/mL Exp. Date: 08/09/24 Inj. By: GH Ver. By: AG

SPIKE 1 ID: LCMS 2151C Conc: VARIED Exp. Date: 12/28/23 Inj. By: GH Ver. By: AG

SPIKE 2 ID: _____ Conc: _____ Exp. Date: _____ Inj. By: _____ Ver. By: _____

NIS (ISTD) ID: 11935 m-O Conc: 250-1000 ng/mL Exp. Date: 8/9/24 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 # 232031

Water Lot# DIH2O

Acetic Acid# 194003

0.1M Formic PF532

1% NH4OH MeOH PF535

0.3M Formic Acid PF522

3% NH4OH Sol _____

5% Formic Acid PF490

SPE Lot # 6748887-01

Syringe filter Lot # _____

pH paper Lot# 205423

Carbon Lot# 99687

Relinquished By: _____ Date: 08/11/23

Accepted By: _____ Date: 8/13/23

1633 AQ extraction 042222 xls NF