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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC6479

Sampling Date: 05/30/23



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: 994



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

Norm Farmer
Technical Director

Client Service contact: Elvin Kumar 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001)
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Test results relate only to samples analyzed.

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Sample Summary

AECOM, INC.

Job No: FC6479

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC6479-1	05/30/23	08:55	EMCW05/31/23	AQ	Ground Water	AF-RHMW225401-WGN01B-2305W5
FC6479-2	05/30/23	09:50	AYCP 05/31/23	AQ	Ground Water	AF-HDMW225303-WGN01LF-2305W5
FC6479-3	05/30/23	11:50	AYCP 05/31/23	AQ	Ground Water	AF-RHMW10-WGN01LF-2305W5

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC6479

Site: N6274223F0104 RH Fire Suppression System

Report Date: 6/9/2023 2:47:53 PM

On 05/31/2023, 3 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS North America Inc - Orlando. at a maximum corrected temperature of 3.2 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC6479 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: OP97179

Sample(s) FC6237-19MS, FC6479-2DUP were used as the QC samples indicated.

Matrix Spike Recovery(s) for Perfluorobutanesulfonic acid, Perfluoroheptanesulfonic acid, Perfluorohexanoic acid, Perfluoropentanesulfonic acid, Perfluorohexanesulfonic acid, Perfluorooctanesulfonic acid are outside control limits. Outside control limits due to high level in sample relative to spike amount.

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: FC6479
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/30/23



Lab Sample ID	Client Sample ID	Result/ Analyte	LOQ	LOD	Units	Method
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FC6479-1 AF-RHMW225401-WGN01B-2305W5

Perfluoropentanoic acid	1.7 J	7.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	1.2 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluoroheptanoic acid	0.78 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanoic acid	1.4 J	3.6	0.89	ng/l	EPA DRAFT 1633
Perfluorobutanesulfonic acid	0.68 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanesulfonic acid	0.79 J	3.6	1.8	ng/l	EPA DRAFT 1633
Perfluorooctanesulfonic acid	1.3 J	3.6	1.8	ng/l	EPA DRAFT 1633

FC6479-2 AF-HDMW225303-WGN01LF-2305W5

No hits reported in this sample.

FC6479-3 AF-RHMW10-WGN01LF-2305W5

No hits reported in this sample.

Sample Results

Report of Analysis

SGS North America Inc.

Report of Analysis

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Client Sample ID:	AF-RHMW225401-WGN01B-2305W5		
Lab Sample ID:	FC6479-1	Date Sampled:	05/30/23
Matrix:	AQ - Ground Water	Date Received:	05/31/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q18936.D	1	06/07/23 12:07	MV	06/02/23 12:15	OP97179	S6Q283
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	14	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.7	7.1	1.8	0.84	ng/l	J
307-24-4	Perfluorohexanoic acid	1.2	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	0.78	3.6	1.8	0.45	ng/l	J
335-67-1	Perfluorooctanoic acid	1.4	3.6	0.89	0.45	ng/l	J
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	0.68	3.6	1.8	0.45	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	0.79	3.6	1.8	0.62	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.3	3.6	1.8	0.48	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.57	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.1 U	18	7.1	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.1	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	
PERFLUOROOCCTANE 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-RHMW225401-WGN01B-2305W5	
Lab Sample ID:	FC6479-1	Date Sampled: 05/30/23
Matrix:	AQ - Ground Water	Date Received: 05/31/23
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
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PERFLUOROOCCTANE 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	

PERFLUOROOCCTANE 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
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	13C4-PFBA	95%		20-150%
	13C5-PFPeA	101%		20-150%
	13C5-PFHxA	99%		20-150%
	13C4-PFHpA	98%		20-150%
	13C8-PFOA	98%		20-150%
	13C9-PFNA	95%		20-150%
	13C6-PFDA	92%		20-150%
	13C7-PFUnDA	90%		20-150%
	13C2-PFDoDA	78%		20-150%
	13C2-PFTeDA	73%		20-150%
	13C3-PFBS	108%		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

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Report of Analysis

Client Sample ID:	AF-RHMW225401-WGN01B-2305W5	
Lab Sample ID:	FC6479-1	Date Sampled: 05/30/23
Matrix:	AQ - Ground Water	Date Received: 05/31/23
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	93%		20-150%
	13C8-FOSA	99%		20-150%
	d3-MeFOSA	82%		20-150%
	d5-EtFOSA	77%		20-150%
	d3-MeFOSAA	98%		20-150%
	d5-EtFOSAA	96%		20-150%
	d7-MeFOSE	76%		20-150%
	d9-EtFOSE	74%		20-150%
	13C2-4:2FTS	113%		20-180%
	13C2-6:2FTS	109%		20-180%
	13C2-8:2FTS	106%		20-180%
	13C3-HFPO-DA	102%		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

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Report of Analysis

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Client Sample ID:	AF-HDMW225303-WGN01LF-2305W5		
Lab Sample ID:	FC6479-2	Date Sampled:	05/30/23
Matrix:	AQ - Ground Water	Date Received:	05/31/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q18937.D	1	06/07/23 12:21	MV	06/02/23 12:15	OP97179	S6Q283
Run #2							

Run #	Initial Volume	Final Volume
Run #1	425 ml	5.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	4.7 U	19	4.7	2.2	ng/l	
2706-90-3	Perfluoropentanoic acid	2.4 U	9.4	2.4	1.1	ng/l	
307-24-4	Perfluorohexanoic acid	2.4 U	4.7	2.4	0.59	ng/l	
375-85-9	Perfluoroheptanoic acid	2.4 U	4.7	2.4	0.59	ng/l	
335-67-1	Perfluorooctanoic acid	1.2 U	4.7	1.2	0.59	ng/l	
375-95-1	Perfluorononanoic acid	2.4 U	4.7	2.4	0.72	ng/l	
335-76-2	Perfluorodecanoic acid	2.4 U	4.7	2.4	0.59	ng/l	
2058-94-8	Perfluoroundecanoic acid	2.4 U	4.7	2.4	0.71	ng/l	
307-55-1	Perfluorododecanoic acid	2.4 U	4.7	2.4	0.71	ng/l	
72629-94-8	Perfluorotridecanoic acid	2.4 U	4.7	2.4	0.99	ng/l	
376-06-7	Perfluorotetradecanoic acid	2.4 U	4.7	2.4	0.59	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	2.4 U	4.7	2.4	0.59	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	4.7 U	5.9	4.7	1.3	ng/l	
355-46-4	Perfluorohexanesulfonic acid	2.4 U	4.7	2.4	0.82	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	2.4 U	4.7	2.4	0.59	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	2.4 U	4.7	2.4	0.64	ng/l	
68259-12-1	Perfluorononanesulfonic acid	2.4 U	4.7	2.4	0.67	ng/l	
335-77-3	Perfluorodecanesulfonic acid	2.4 U	4.7	2.4	0.75	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	4.7 U	5.9	4.7	1.3	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	9.4 U	24	9.4	3.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	9.4 U	24	9.4	4.1	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	9.4 U	24	9.4	4.8	ng/l	
PERFLUOROOCCTANE SULFONAMIDES							
754-91-6	PFOSA	2.4 U	4.7	2.4	0.79	ng/l	
31506-32-8	MeFOSA	4.7 U	9.4	4.7	1.2	ng/l	
4151-50-2	EtFOSA	4.7 U	9.4	4.7	1.2	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-HDMW225303-WGN01LF-2305W5		
Lab Sample ID:	FC6479-2	Date Sampled:	05/30/23
Matrix:	AQ - Ground Water	Date Received:	05/31/23
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
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PERFLUOROOCTANE SULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	4.7 U	5.9	4.7	1.2	ng/l	
2991-50-6	EtFOSAA	4.7 U	5.9	4.7	1.6	ng/l	

PERFLUOROOCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	24 U	47	24	5.2	ng/l	
1691-99-2	EtFOSE	24 U	47	24	8.7	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	2.4 U	4.7	2.4	1.2	ng/l	
919005-14-4	ADONA	4.7 U	9.4	4.7	2.2	ng/l	
377-73-1	PFMPA	2.4 U	9.4	2.4	1.2	ng/l	
863090-89-5	PFMBA	4.7 U	9.4	4.7	1.3	ng/l	
151772-58-6	NFDHA	4.7 U	9.4	4.7	1.4	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	4.7 U	9.4	4.7	1.6	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	4.7 U	9.4	4.7	2.1	ng/l	
113507-82-7	PFEESA	2.4 U	9.4	2.4	0.92	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	12 U	24	12	5.3	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	24 U	120	24	10	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	24 U	120	24	9.2	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
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	13C4-PFBA	79%		20-150%
	13C5-PFPeA	82%		20-150%
	13C5-PFHxA	85%		20-150%
	13C4-PFHpA	83%		20-150%
	13C8-PFOA	78%		20-150%
	13C9-PFNA	77%		20-150%
	13C6-PFDA	73%		20-150%
	13C7-PFUnDA	63%		20-150%
	13C2-PFDoDA	57%		20-150%
	13C2-PFTeDA	51%		20-150%
	13C3-PFBS	79%		20-150%
	13C3-PFHxS	79%		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

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Report of Analysis

Client Sample ID:	AF-HDMW225303-WGN01LF-2305W5		
Lab Sample ID:	FC6479-2	Date Sampled:	05/30/23
Matrix:	AQ - Ground Water	Date Received:	05/31/23
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	69%		20-150%
	13C8-FOSA	63%		20-150%
	d3-MeFOSA	60%		20-150%
	d5-EtFOSA	62%		20-150%
	d3-MeFOSAA	75%		20-150%
	d5-EtFOSAA	68%		20-150%
	d7-MeFOSE	56%		20-150%
	d9-EtFOSE	59%		20-150%
	13C2-4:2FTS	80%		20-180%
	13C2-6:2FTS	85%		20-180%
	13C2-8:2FTS	77%		20-180%
	13C3-HFPO-DA	84%		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

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Client Sample ID:	AF-RHMW10-WGN01LF-2305W5		
Lab Sample ID:	FC6479-3	Date Sampled:	05/30/23
Matrix:	AQ - Ground Water	Date Received:	05/31/23
Method:	EPA DRAFT 1633 EPA 1633 DRAFT	Percent Solids:	n/a
Project:	N6274223F0104 RH Fire Suppression System		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	6Q18939.D	1	06/07/23 12:50	MV	06/02/23 12:15	OP97179	S6Q283
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	14	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.8 U	7.1	1.8	0.84	ng/l	
307-24-4	Perfluorohexanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
375-85-9	Perfluoroheptanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.89 U	3.6	0.89	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.54	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.75	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.62	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.48	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.51	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.57	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.1 U	18	7.1	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.1	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.1 U	18	7.1	3.7	ng/l	
PERFLUOROOCCTANE 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-RHMW10-WGN01LF-2305W5		Date Sampled:	05/30/23
Lab Sample ID:	FC6479-3	Date Received:	05/31/23	
Matrix:	AQ - Ground Water	Percent Solids:	n/a	
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
Project:	N6274223F0104 RH Fire Suppression System			

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
---------	----------	--------	-----	-----	----	-------	---

PERFLUOROOCCTANE 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	

PERFLUOROOCCTANE 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	91%		20-150%
	13C5-PFPeA	93%		20-150%
	13C5-PFHxA	90%		20-150%
	13C4-PFHpA	91%		20-150%
	13C8-PFOA	87%		20-150%
	13C9-PFNA	86%		20-150%
	13C6-PFDA	81%		20-150%
	13C7-PFUnDA	83%		20-150%
	13C2-PFDoDA	75%		20-150%
	13C2-PFTeDA	61%		20-150%
	13C3-PFBS	94%		20-150%
	13C3-PFHxS	86%		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-RHMW10-WGN01LF-2305W5		Date Sampled:	05/30/23
Lab Sample ID:	FC6479-3		Date Received:	05/31/23
Matrix:	AQ - Ground Water		Percent Solids:	n/a
Method:	EPA DRAFT 1633 EPA 1633 DRAFT			
Project:	N6274223F0104 RH Fire Suppression System			

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C8-PFOS	90%		20-150%
	13C8-FOSA	93%		20-150%
	d3-MeFOSA	74%		20-150%
	d5-EtFOSA	71%		20-150%
	d3-MeFOSAA	102%		20-150%
	d5-EtFOSAA	93%		20-150%
	d7-MeFOSE	70%		20-150%
	d9-EtFOSE	69%		20-150%
	13C2-4:2FTS	97%		20-180%
	13C2-6:2FTS	95%		20-180%
	13C2-8:2FTS	90%		20-180%
	13C3-HFPO-DA	98%		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 #: 2305W5AFSG04

PAGE 1 OF 1

SGS - ORLANDO JOB # :

SGS - ORLANDO Quote #

FC6479

Client / Reporting Information		Project Information		Analytical Information										Matrix Codes				
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System		<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-size: small;">PFAS EPA Draft 1633</div> <div style="flex-grow: 1;"> </div> </div>										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				
Address: 1001 Bishop St. ste 1600		Street																
City: Honolulu State: HI Zip: 96813		City: Honolulu State: Hawaii																
Project Contact: Katie Abbott Email: katie.abbott@aecom.com		Project # 60697810																
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #																
Sampler(s) Name(s) (Printed) Sampler 1: Andy Young Sampler 2: Cristian Perez		Client Purchase Order #												LAB USE ONLY				
SGS Orlando Sample	Field ID / Point of Collection	COLLECTION		CONTAINER INFORMATION														
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	PCB	NIOSH	ENDS	PERCA	NACH-ZNAC		D/WATER	MICH		
②	AF-HDMW225303-WGN01LF-2305W5	5/30/23	09:50	AMC/W	GW	3		X										
Turnaround Time (Business days)		Data Deliverable Information		Comments / Remarks														
10 Day (Business) 7 Day <input checked="" type="checkbox"/> 5 Day 3 Day RUSH 2 Day RUSH 1 Day RUSH Other		Approved By: / Date:		<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4) <input checked="" type="checkbox"/> EDD'S										EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW UNITED ANWB 016-2820636				
Rush T/A Data Available VIA Email or Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.																
Relinquished by Sampler/Affiliation		Date Time:		Received By/Affiliation		Date Time:		Relinquished By/Affiliation		Date Time:		Received By/Affiliation						
1 Hunter Nishimura		05/15/23		2 Mariah Gascho AECOM		05/21/23 1515		3 Mariah Gascho		05/21/23		4 United Cargo						
5 United Cargo				6				7				8						
Lab Use Only: Cooler Temperature (s) Celsius (corrected):												http://www.sgs.com/en/terms-and-conditions						

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FC6479: Chain of Custody

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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 #: 2305W5AFSG03

SGS - ORLANDO JOB # :

PAGE 1 OF 1

FC6479

Client / Reporting Information		Project Information		Analytical Information										Matrix Codes											
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System		<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg);">PFAS EPA Draft 1633</div> <div style="text-align: center;"> <p>HW</p> <p>5/30/23</p> </div> </div>										DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL - Sludge OL - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe											
Address: 1001 Bishop St. ste 1600		Street																							
City: Honolulu State: HI Zip: 96813		City Honolulu State Hawaii																							
Project Contact: Katie Abbott Email: katie.abbott@aecom.com		Project # 60697810																							
Project Manager: Watson Tanji Email: watson.tanji@aecom.com		Fax #																							
Phone #: 303-796-4624 / 808-954-4512		Client Purchase Order #																							
Sampler(s) Name(s) (Printed) Sampler 1: Andy Young Sampler 2: Cristian Perez																									
SGS Orlando Sample	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION										LAB USE ONLY										
		DATE	TIME	SAMPLED BY	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	PFO	PFOS	PFNA	PFDA	PFNA	PFNA		PFNA	PFNA	PFNA	PFNA	PFNA	PFNA	PFNA	PFNA	PFNA	
②	AF-RHMM10-WGN01LF-2305W5	5/30/23	1150	Andy Young	GW	3		X																	
Turnaround Time (Business days)		Data Deliverable Information										Comments / Remarks													
10 Day (Business) 7 Day <input checked="" type="checkbox"/> 5 Day 3 Day RUSH 2 Day RUSH 1 Day RUSH Other		Approved By: / Date:		<input type="checkbox"/> COMMERCIAL "A" (RESULTS ONLY) <input type="checkbox"/> COMMERCIAL "B" (RESULTS PLUS QC) <input type="checkbox"/> REDT1 (EPA LEVEL 3) <input checked="" type="checkbox"/> FULLT1 (EPA LEVEL 4) <input checked="" type="checkbox"/> EDDS										EDMS upload database: JBPHE EDMS Coverage: AFFF Assessment Sampling GW UNITED AIR 010-28260136											
Rush T/A Data Available VIA Email or Lablink		Sample Custody must be documented below each time samples change possession, including courier delivery.																							
Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation											
1 Andy Young AECOM	5/30/23 1310	2 Marial Gascho AECOM	3 Marial Gascho AECOM	5/30/23 1515	4 United Cargo	5 United Cargo	6 [Signature]	05/31/23	7	8															
Lab Use Only: Cooler Temperature (s) Celsius (corrected):														http://www.sgs.com/en/terms-and-conditions											

PFAS_COCS_ALL.xls Rev 031318

FC6479: Chain of Custody

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SGS Sample Receipt Summary

Job Number: FC6479

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 5/31/2023 3:15:00 PM

Delivery Method: United Cargo/Airspace

Airbill #'s: United Cargo AWB #: 016-28266136

Therm ID: IR 1;

Therm CF: -0.1;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.3);

Cooler Temps (Corrected) °C: Cooler 1: (3.2);

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: 5/31/2023 3:15:00 PM

Reviewer: CD

Date: 6/1/2023

FC6479: Chain of Custody

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QC Evaluation: DOD QSM5.x Limits

Job Number: FC6479
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/30/23

QC Sample ID	CAS#	Analyte	Sample Result Type	Result Type	Units	Limits
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No DOD QSM5.x Limits found for methods in this job.

* Sample used for QC is not from job FC6479

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MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

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

Instrument Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-IBLK	6Q18930.D	1	06/07/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

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	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-IBLK	6Q18930.D	1	06/07/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

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	
914637-49-35:3	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	101% 20-150%
	13C5-PFHxA	100% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	93% 20-150%
	13C9-PFNA	98% 20-150%
	13C6-PFDA	96% 20-150%
	13C7-PFUnDA	97% 20-150%
	13C2-PFDoDA	97% 20-150%
	13C2-PFTeDA	97% 20-150%
	13C3-PFBS	102% 20-150%
	13C3-PFHxS	102% 20-150%
	13C8-PFOS	105% 20-150%
	13C8-FOSA	104% 20-150%
	d3-MeFOSA	101% 20-150%
	d5-EtFOSA	107% 20-150%
	d3-MeFOSAA	112% 20-150%
	d5-EtFOSAA	114% 20-150%
	d7-MeFOSE	112% 20-150%
	d9-EtFOSE	108% 20-150%
	13C2-4:2FTS	111% 20-180%
	13C2-6:2FTS	102% 20-180%
	13C2-8:2FTS	105% 20-180%
	13C3-HFPO-DA	102% 20-150%

6.1.1
6

Instrument Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-IBLK	6Q19030.D	1	06/08/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

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	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-IBLK	6Q19030.D	1	06/08/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

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	
914637-49-35:3	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	101% 20-150%
	13C5-PFHxA	108% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	95% 20-150%
	13C9-PFNA	103% 20-150%
	13C6-PFDA	100% 20-150%
	13C7-PFUnDA	101% 20-150%
	13C2-PFDoDA	94% 20-150%
	13C2-PFTeDA	96% 20-150%
	13C3-PFBS	103% 20-150%
	13C3-PFHxS	102% 20-150%
	13C8-PFOS	95% 20-150%
	13C8-FOSA	94% 20-150%
	d3-MeFOSA	98% 20-150%
	d5-EtFOSA	99% 20-150%
	d3-MeFOSAA	111% 20-150%
	d5-EtFOSAA	107% 20-150%
	d7-MeFOSE	98% 20-150%
	d9-EtFOSE	98% 20-150%
	13C2-4:2FTS	118% 20-180%
	13C2-6:2FTS	110% 20-180%
	13C2-8:2FTS	103% 20-180%
	13C3-HFPO-DA	108% 20-150%

6.12
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Method Blank Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-MB	6Q18911.D	1	06/06/23	MV	06/02/23	OP97179	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

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	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Method Blank Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-MB	6Q18911.D	1	06/06/23	MV	06/02/23	OP97179	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

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	
914637-49-35:3	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	97% 20-150%
	13C5-PFPeA	96% 20-150%
	13C5-PFHxA	98% 20-150%
	13C4-PFHpA	96% 20-150%
	13C8-PFOA	91% 20-150%
	13C9-PFNA	94% 20-150%
	13C6-PFDA	96% 20-150%
	13C7-PFUnDA	92% 20-150%
	13C2-PFDoDA	84% 20-150%
	13C2-PFTeDA	82% 20-150%
	13C3-PFBS	96% 20-150%
	13C3-PFHxS	99% 20-150%
	13C8-PFOS	94% 20-150%
	13C8-FOSA	94% 20-150%
	d3-MeFOSA	84% 20-150%
	d5-EtFOSA	87% 20-150%
	d3-MeFOSAA	101% 20-150%
	d5-EtFOSAA	95% 20-150%
	d7-MeFOSE	90% 20-150%
	d9-EtFOSE	97% 20-150%
	13C2-4:2FTS	101% 20-180%
	13C2-6:2FTS	113% 20-180%
	13C2-8:2FTS	105% 20-180%
	13C3-HFPO-DA	95% 20-150%

6.1.3
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Method Blank Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-MB	6Q18935.D	1	06/07/23	MV	06/02/23	OP97179	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

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	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Method Blank Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-MB	6Q18935.D	1	06/07/23	MV	06/02/23	OP97179	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

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	
914637-49-35:3	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	96% 20-150%
	13C5-PFPeA	98% 20-150%
	13C5-PFHxA	97% 20-150%
	13C4-PFHpA	98% 20-150%
	13C8-PFOA	96% 20-150%
	13C9-PFNA	91% 20-150%
	13C6-PFDA	98% 20-150%
	13C7-PFUnDA	99% 20-150%
	13C2-PFDoDA	89% 20-150%
	13C2-PFTeDA	83% 20-150%
	13C3-PFBS	93% 20-150%
	13C3-PFHxS	93% 20-150%
	13C8-PFOS	95% 20-150%
	13C8-FOSA	86% 20-150%
	d3-MeFOSA	82% 20-150%
	d5-EtFOSA	81% 20-150%
	d3-MeFOSAA	95% 20-150%
	d5-EtFOSAA	95% 20-150%
	d7-MeFOSE	89% 20-150%
	d9-EtFOSE	91% 20-150%
	13C2-4:2FTS	104% 20-180%
	13C2-6:2FTS	100% 20-180%
	13C2-8:2FTS	96% 20-180%
	13C3-HFPO-DA	98% 20-150%

Instrument Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q282-IBLK	6Q18879.D	1	06/06/23	MV	n/a	n/a	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97179-BS, OP97179-LLBS, OP97179-MS

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Instrument Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q282-IBLK	6Q18879.D	1	06/06/23	MV	n/a	n/a	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97179-BS, OP97179-LLBS, OP97179-MS

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	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	102% 20-150%
	13C4-PFHpA	100% 20-150%
	13C8-PFOA	102% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	104% 20-150%
	13C7-PFUnDA	108% 20-150%
	13C2-PFDoDA	100% 20-150%
	13C2-PFTeDA	101% 20-150%
	13C3-PFBS	105% 20-150%
	13C3-PFHxS	102% 20-150%
	13C8-PFOS	102% 20-150%
	13C8-FOSA	107% 20-150%
	d3-MeFOSA	106% 20-150%
	d5-EtFOSA	103% 20-150%
	d3-MeFOSAA	106% 20-150%
	d5-EtFOSAA	109% 20-150%
	d7-MeFOSE	105% 20-150%
	d9-EtFOSE	103% 20-150%
	13C2-4:2FTS	114% 20-180%
	13C2-6:2FTS	108% 20-180%
	13C2-8:2FTS	104% 20-180%
	13C3-HFPO-DA	99% 20-150%

Continuing Calibration Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q282-ICCB	6Q18908.D	1	06/06/23	MV	n/a	n/a	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97179-BS, OP97179-LLBS, OP97179-MB, OP97179-MS

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q282-ICCB	6Q18908.D	1	06/06/23	MV	n/a	n/a	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97179-BS, OP97179-LLBS, OP97179-MB, OP97179-MS

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	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	101% 20-150%
	13C5-PFHxA	104% 20-150%
	13C4-PFHpA	101% 20-150%
	13C8-PFOA	96% 20-150%
	13C9-PFNA	90% 20-150%
	13C6-PFDA	103% 20-150%
	13C7-PFUnDA	97% 20-150%
	13C2-PFDoDA	92% 20-150%
	13C2-PFTeDA	96% 20-150%
	13C3-PFBS	94% 20-150%
	13C3-PFHxS	98% 20-150%
	13C8-PFOS	101% 20-150%
	13C8-FOSA	102% 20-150%
	d3-MeFOSA	100% 20-150%
	d5-EtFOSA	102% 20-150%
	d3-MeFOSAA	98% 20-150%
	d5-EtFOSAA	104% 20-150%
	d7-MeFOSE	103% 20-150%
	d9-EtFOSE	104% 20-150%
	13C2-4:2FTS	108% 20-180%
	13C2-6:2FTS	102% 20-180%
	13C2-8:2FTS	96% 20-180%
	13C3-HFPO-DA	101% 20-150%

Continuing Calibration Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q282-ICCB	6Q18919.D	1	06/07/23	MV	n/a	n/a	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97179-BS, OP97179-LLBS, OP97179-MB, OP97179-MS

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q282-ICCB	6Q18919.D	1	06/07/23	MV	n/a	n/a	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

OP97179-BS, OP97179-LLBS, OP97179-MB, OP97179-MS

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	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	101% 20-150%
	13C5-PFHxA	106% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	102% 20-150%
	13C9-PFNA	95% 20-150%
	13C6-PFDA	92% 20-150%
	13C7-PFUnDA	91% 20-150%
	13C2-PFDoDA	96% 20-150%
	13C2-PFTeDA	95% 20-150%
	13C3-PFBS	94% 20-150%
	13C3-PFHxS	98% 20-150%
	13C8-PFOS	95% 20-150%
	13C8-FOSA	99% 20-150%
	d3-MeFOSA	96% 20-150%
	d5-EtFOSA	98% 20-150%
	d3-MeFOSAA	102% 20-150%
	d5-EtFOSAA	103% 20-150%
	d7-MeFOSE	98% 20-150%
	d9-EtFOSE	100% 20-150%
	13C2-4:2FTS	108% 20-180%
	13C2-6:2FTS	106% 20-180%
	13C2-8:2FTS	102% 20-180%
	13C3-HFPO-DA	97% 20-150%

Continuing Calibration Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-ICCB	6Q19026.D	1	06/08/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q283-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-ICCB	6Q19026.D	1	06/08/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q283-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	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	108% 20-150%
	13C5-PFHxA	110% 20-150%
	13C4-PFHpA	105% 20-150%
	13C8-PFOA	96% 20-150%
	13C9-PFNA	105% 20-150%
	13C6-PFDA	98% 20-150%
	13C7-PFUnDA	101% 20-150%
	13C2-PFDoDA	99% 20-150%
	13C2-PFTeDA	99% 20-150%
	13C3-PFBS	104% 20-150%
	13C3-PFHxS	103% 20-150%
	13C8-PFOS	97% 20-150%
	13C8-FOSA	102% 20-150%
	d3-MeFOSA	101% 20-150%
	d5-EtFOSA	99% 20-150%
	d3-MeFOSAA	112% 20-150%
	d5-EtFOSAA	111% 20-150%
	d7-MeFOSE	100% 20-150%
	d9-EtFOSE	102% 20-150%
	13C2-4:2FTS	109% 20-180%
	13C2-6:2FTS	111% 20-180%
	13C2-8:2FTS	103% 20-180%
	13C3-HFPO-DA	110% 20-150%

Continuing Calibration Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-ICCB	6Q19041.D	1	06/08/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q283-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	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	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0014	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0018	ug/l	

Continuing Calibration Blank

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-ICCB	6Q19041.D	1	06/08/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

S6Q283-IBLK

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	Fluorotelomer carboxylate	ND	0.10	0.0087	ug/l	
812-70-4	7:3 Fluorotelomer carboxylate	ND	0.10	0.0079	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 20-150%
	13C5-PFPeA	107% 20-150%
	13C5-PFHxA	105% 20-150%
	13C4-PFHpA	106% 20-150%
	13C8-PFOA	96% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	106% 20-150%
	13C7-PFUnDA	102% 20-150%
	13C2-PFDoDA	99% 20-150%
	13C2-PFTeDA	103% 20-150%
	13C3-PFBS	105% 20-150%
	13C3-PFHxS	107% 20-150%
	13C8-PFOS	104% 20-150%
	13C8-FOSA	104% 20-150%
	d3-MeFOSA	105% 20-150%
	d5-EtFOSA	107% 20-150%
	d3-MeFOSAA	119% 20-150%
	d5-EtFOSAA	113% 20-150%
	d7-MeFOSE	104% 20-150%
	d9-EtFOSE	102% 20-150%
	13C2-4:2FTS	115% 20-180%
	13C2-6:2FTS	115% 20-180%
	13C2-8:2FTS	106% 20-180%
	13C3-HFPO-DA	114% 20-150%

Blank Spike Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-LLBS	6Q18910.D	1	06/06/23	MV	06/02/23	OP97179	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0359	120	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0177	118	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0096	128	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0094	125	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0084	112	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0093	124	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0082	109	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0073	97	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0091	121	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0084	112	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0092	123	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0080	120	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0081	115	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0080	117	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0086	120	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0084	121	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0083	115	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0079	109	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0072	99	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0336	119	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0351	123	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0380	132	40-150
754-91-6	PFOSA	0.0075	0.0090	120	40-150
31506-32-8	MeFOSA	0.015	0.0180	120	40-150
4151-50-2	EtFOSA	0.015	0.0176	117	40-150
2355-31-9	MeFOSAA	0.0075	0.0088	117	40-150
2991-50-6	EtFOSAA	0.0075	0.0091	121	40-150
24448-09-7	MeFOSE	0.0375	0.0435	116	40-150
1691-99-2	EtFOSE	0.0375	0.0416	111	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0177	118	40-150
919005-14-4	ADONA	0.0142	0.0167	118	40-150
377-73-1	PFMPA	0.015	0.0185	123	40-150
863090-89-5	PFMBA	0.015	0.0182	121	40-150
151772-58-6	NFDHA	0.015	0.0186	124	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0165	118	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0152	107	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-LLBS	6Q18910.D	1	06/06/23	MV	06/02/23	OP97179	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0158	118	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0453	121	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.223	119	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.223	119	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	101%	20-150%
	13C5-PFPeA	99%	20-150%
	13C5-PFHxA	100%	20-150%
	13C4-PFHpA	97%	20-150%
	13C8-PFOA	99%	20-150%
	13C9-PFNA	96%	20-150%
	13C6-PFDA	97%	20-150%
	13C7-PFUnDA	96%	20-150%
	13C2-PFDoDA	89%	20-150%
	13C2-PFTeDA	78%	20-150%
	13C3-PFBS	100%	20-150%
	13C3-PFHxS	102%	20-150%
	13C8-PFOS	103%	20-150%
	13C8-FOSA	100%	20-150%
	d3-MeFOSA	88%	20-150%
	d5-EtFOSA	86%	20-150%
	d3-MeFOSAA	109%	20-150%
	d5-EtFOSAA	104%	20-150%
	d7-MeFOSE	92%	20-150%
	d9-EtFOSE	103%	20-150%
	13C2-4:2FTS	107%	20-180%
	13C2-6:2FTS	111%	20-180%
	13C2-8:2FTS	106%	20-180%
	13C3-HFPO-DA	101%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-LLBS	6Q18934.D	1	06/07/23	MV	06/02/23	OP97179	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0360	120	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0178	119	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0094	125	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0088	117	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0091	121	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0089	119	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0089	119	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0090	120	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0096	128	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0089	119	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0096	128	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0082	123	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0081	115	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0077	112	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0087	122	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0082	118	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0090	125	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0080	111	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0074	102	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0326	116	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0345	121	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0343	119	40-150
754-91-6	PFOSA	0.0075	0.0087	116	40-150
31506-32-8	MeFOSA	0.015	0.0181	121	40-150
4151-50-2	EtFOSA	0.015	0.0160	107	40-150
2355-31-9	MeFOSAA	0.0075	0.0080	107	40-150
2991-50-6	EtFOSAA	0.0075	0.0080	107	40-150
24448-09-7	MeFOSE	0.0375	0.0434	116	40-150
1691-99-2	EtFOSE	0.0375	0.0434	116	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0183	122	40-150
919005-14-4	ADONA	0.0142	0.0173	122	40-150
377-73-1	PFMPA	0.015	0.0185	123	40-150
863090-89-5	PFMBA	0.015	0.0185	123	40-150
151772-58-6	NFDHA	0.015	0.0186	124	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0171	122	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0156	110	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-LLBS	6Q18934.D	1	06/07/23	MV	06/02/23	OP97179	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0163	122	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0439	117	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.221	118	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.217	116	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	100%	20-150%
	13C5-PFPeA	102%	20-150%
	13C5-PFHxA	101%	20-150%
	13C4-PFHpA	102%	20-150%
	13C8-PFOA	98%	20-150%
	13C9-PFNA	96%	20-150%
	13C6-PFDA	105%	20-150%
	13C7-PFUnDA	99%	20-150%
	13C2-PFDoDA	91%	20-150%
	13C2-PFTeDA	87%	20-150%
	13C3-PFBS	100%	20-150%
	13C3-PFHxS	104%	20-150%
	13C8-PFOS	100%	20-150%
	13C8-FOSA	100%	20-150%
	d3-MeFOSA	85%	20-150%
	d5-EtFOSA	92%	20-150%
	d3-MeFOSAA	114%	20-150%
	d5-EtFOSAA	111%	20-150%
	d7-MeFOSE	92%	20-150%
	d9-EtFOSE	94%	20-150%
	13C2-4:2FTS	112%	20-180%
	13C2-6:2FTS	112%	20-180%
	13C2-8:2FTS	105%	20-180%
	13C3-HFPO-DA	100%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-BS	6Q18909.D	1	06/06/23	MV	06/02/23	OP97179	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.118	118	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0607	121	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0307	123	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0308	123	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0310	124	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0311	124	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0285	114	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0301	120	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0304	122	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0312	125	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0316	126	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0287	129	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0286	122	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0295	129	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0292	123	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0274	118	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0301	125	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0293	121	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0285	118	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.110	117	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.118	124	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.126	131	40-150
754-91-6	PFOSA	0.025	0.0286	114	40-150
31506-32-8	MeFOSA	0.05	0.0624	125	40-150
4151-50-2	EtFOSA	0.05	0.0608	122	40-150
2355-31-9	MeFOSAA	0.025	0.0308	123	40-150
2991-50-6	EtFOSAA	0.025	0.0307	123	40-150
24448-09-7	MeFOSE	0.125	0.163	130	40-150
1691-99-2	EtFOSE	0.125	0.162	130	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0606	121	40-150
919005-14-4	ADONA	0.0473	0.0555	117	40-150
377-73-1	PFMPA	0.05	0.0301	60	40-150
863090-89-5	PFMBA	0.05	0.0665	133	40-150
151772-58-6	NFDHA	0.05	0.0653	131	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0570	122	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0523	111	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-BS	6Q18909.D	1	06/06/23	MV	06/02/23	OP97179	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0534	120	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0877	70	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.761	122	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.778	124	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	22%	20-150%
	13C5-PFPeA	80%	20-150%
	13C5-PFHxA	85%	20-150%
	13C4-PFHpA	88%	20-150%
	13C8-PFOA	87%	20-150%
	13C9-PFNA	85%	20-150%
	13C6-PFDA	97%	20-150%
	13C7-PFUnDA	93%	20-150%
	13C2-PFDoDA	89%	20-150%
	13C2-PFTeDA	82%	20-150%
	13C3-PFBS	83%	20-150%
	13C3-PFHxS	83%	20-150%
	13C8-PFOS	90%	20-150%
	13C8-FOSA	98%	20-150%
	d3-MeFOSA	90%	20-150%
	d5-EtFOSA	88%	20-150%
	d3-MeFOSAA	94%	20-150%
	d5-EtFOSAA	91%	20-150%
	d7-MeFOSE	81%	20-150%
	d9-EtFOSE	83%	20-150%
	13C2-4:2FTS	98%	20-180%
	13C2-6:2FTS	99%	20-180%
	13C2-8:2FTS	95%	20-180%
	13C3-HFPO-DA	91%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-BS	6Q18933.D	1	06/07/23	MV	06/02/23	OP97179	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.119	119	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0605	121	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0313	125	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0306	122	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0301	120	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0319	128	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0313	125	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0319	128	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0328	131	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0318	127	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0308	123	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0265	120	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0279	119	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0267	117	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0307	129	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0296	128	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0303	126	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0302	125	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0293	121	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.109	116	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.120	126	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.119	124	40-150
754-91-6	PFOSA	0.025	0.0296	118	40-150
31506-32-8	MeFOSA	0.05	0.0613	123	40-150
4151-50-2	EtFOSA	0.05	0.0594	119	40-150
2355-31-9	MeFOSAA	0.025	0.0321	128	40-150
2991-50-6	EtFOSAA	0.025	0.0294	118	40-150
24448-09-7	MeFOSE	0.125	0.162	130	40-150
1691-99-2	EtFOSE	0.125	0.166	133	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0617	123	40-150
919005-14-4	ADONA	0.0473	0.0584	124	40-150
377-73-1	PFMPA	0.05	0.0303	61	40-150
863090-89-5	PFMBA	0.05	0.0661	132	40-150
151772-58-6	NFDHA	0.05	0.0634	127	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0558	119	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0561	119	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-BS	6Q18933.D	1	06/07/23	MV	06/02/23	OP97179	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0531	119	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0872	70	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.773	124	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.780	125	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	22%	20-150%
	13C5-PFPeA	83%	20-150%
	13C5-PFHxA	87%	20-150%
	13C4-PFHpA	87%	20-150%
	13C8-PFOA	93%	20-150%
	13C9-PFNA	84%	20-150%
	13C6-PFDA	89%	20-150%
	13C7-PFUnDA	94%	20-150%
	13C2-PFDoDA	88%	20-150%
	13C2-PFTeDA	85%	20-150%
	13C3-PFBS	83%	20-150%
	13C3-PFHxS	86%	20-150%
	13C8-PFOS	89%	20-150%
	13C8-FOSA	101%	20-150%
	d3-MeFOSA	92%	20-150%
	d5-EtFOSA	91%	20-150%
	d3-MeFOSAA	99%	20-150%
	d5-EtFOSAA	97%	20-150%
	d7-MeFOSE	82%	20-150%
	d9-EtFOSE	82%	20-150%
	13C2-4:2FTS	95%	20-180%
	13C2-6:2FTS	95%	20-180%
	13C2-8:2FTS	94%	20-180%
	13C3-HFPO-DA	90%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-MS	6Q18913.D	1	06/07/23	MV	06/02/23	OP97179	S6Q282
FC6237-19	6Q18912.D	1	06/07/23	MV	06/02/23	OP97179	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	FC6237-19 ug/l	Spike Q	MS ug/l	MS %	Limits	
375-22-4	Perfluorobutanoic acid	0.0072	J	0.133	0.171	123	40-150
2706-90-3	Perfluoropentanoic acid	0.0106	J	0.0667	0.0975	130	40-150
307-24-4	Perfluorohexanoic acid	0.0278		0.0333	0.0920	193*	40-150
375-85-9	Perfluoroheptanoic acid	0.0112		0.0333	0.0582	141	40-150
335-67-1	Perfluorooctanoic acid	0.0115		0.0333	0.0611	149	40-150
375-95-1	Perfluorononanoic acid	0.0053	U	0.0333	0.0439	132	40-150
335-76-2	Perfluorodecanoic acid	0.0053	U	0.0333	0.0401	120	40-150
2058-94-8	Perfluoroundecanoic acid	0.0053	U	0.0333	0.0425	128	40-150
307-55-1	Perfluorododecanoic acid	0.0053	U	0.0333	0.0429	129	40-150
72629-94-8	Perfluorotridecanoic acid	0.0053	U	0.0333	0.0431	129	40-150
376-06-7	Perfluorotetradecanoic acid	0.0053	U	0.0333	0.0425	128	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0240		0.0296	0.0835	201*	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0365		0.0314	0.112	241*	40-150
355-46-4	Perfluorohexanesulfonic acid	0.221		0.0305	0.485	867* a	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0086		0.0318	0.0649	177*	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.486		0.0309	1.06	1856* a	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0053	U	0.0321	0.0402	125	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0053	U	0.0322	0.0343	107	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0067	U	0.0323	0.0315	97	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.027	U	0.125	0.156	125	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0114	J	0.127	0.174	128	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.027	U	0.128	0.166	130	40-150
754-91-6	PFOSA	0.0053	U	0.0333	0.0441	132	40-150
31506-32-8	MeFOSA	0.011	U	0.0667	0.0797	120	40-150
4151-50-2	EtFOSA	0.011	U	0.0667	0.0797	120	40-150
2355-31-9	MeFOSAA	0.0067	U	0.0333	0.0409	123	40-150
2991-50-6	EtFOSAA	0.0067	U	0.0333	0.0385	116	40-150
24448-09-7	MeFOSE	0.053	U	0.167	0.205	123	40-150
1691-99-2	EtFOSE	0.053	U	0.167	0.215	129	40-150
13252-13-6	HFPO-DA (GenX)	0.0053	U	0.0667	0.0798	120	40-150
919005-14-4	ADONA	0.011	U	0.063	0.0806	128	40-150
377-73-1	PFMPA	0.011	U	0.0667	0.0814	122	40-150
863090-89-5	PFMBA	0.011	U	0.0667	0.0809	121	40-150
151772-58-6	NFDHA	0.011	U	0.0667	0.0806	121	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.011	U	0.0623	0.0755	121	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.011	U	0.063	0.0640	102	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-MS	6Q18913.D	1	06/07/23	MV	06/02/23	OP97179	S6Q282
FC6237-19	6Q18912.D	1	06/07/23	MV	06/02/23	OP97179	S6Q282

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	FC6237-19 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.011 U	0.0593	0.0713	120	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.027 U	0.167	0.205	123	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.13 U	0.833	1.01	121	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.13 U	0.833	1.02	122	40-150

CAS No.	ID Standard Recoveries	MS	FC6237-19	Limits
	13C4-PFBA	88%	93%	20-150%
	13C5-PFPeA	88%	91%	20-150%
	13C5-PFHxA	88%	90%	20-150%
	13C4-PFHpA	88%	89%	20-150%
	13C8-PFOA	84%	96%	20-150%
	13C9-PFNA	83%	86%	20-150%
	13C6-PFDA	81%	93%	20-150%
	13C7-PFUnDA	72%	84%	20-150%
	13C2-PFDoDA	64%	76%	20-150%
	13C2-PFTeDA	59%	66%	20-150%
	13C3-PFBS	85%	98%	20-150%
	13C3-PFHxS	84%	99%	20-150%
	13C8-PFOS	79%	94%	20-150%
	13C8-FOSA	80%		20-150%
	d3-MeFOSA	73%		20-150%
	d5-EtFOSA	72%		20-150%
	d3-MeFOSAA	82%	93%	20-150%
	d5-EtFOSAA	76%	85%	20-150%
	d7-MeFOSE	70%		20-150%
	d9-EtFOSE	71%		20-150%
	13C2-4:2FTS	84%		20-180%
	13C2-6:2FTS	84%	97%	20-180%
	13C2-8:2FTS	79%	97%	20-180%
	13C3-HFPO-DA	84%		20-150%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-DUP	6Q18938.D	1	06/07/23	MV	06/02/23	OP97179	S6Q283
FC6479-2	6Q18937.D	1	06/07/23	MV	06/02/23	OP97179	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	FC6479-2 ug/l	DUP Q ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.019 U	ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0094 U	ND		nc	30
307-24-4	Perfluorohexanoic acid	0.0047 U	ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.0047 U	ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0047 U	ND		nc	30
375-95-1	Perfluorononanoic acid	0.0047 U	ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0047 U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0047 U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0047 U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0047 U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0047 U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0047 U	ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0059 U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0047 U	ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0047 U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0047 U	ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0047 U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0047 U	ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0059 U	ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.024 U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.024 U	ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.024 U	ND		nc	30
754-91-6	PFOSA	0.0047 U	ND		nc	30
31506-32-8	MeFOSA	0.0094 U	ND		nc	30
4151-50-2	EtFOSA	0.0094 U	ND		nc	30
2355-31-9	MeFOSAA	0.0059 U	ND		nc	30
2991-50-6	EtFOSAA	0.0059 U	ND		nc	30
24448-09-7	MeFOSE	0.047 U	ND		nc	30
1691-99-2	EtFOSE	0.047 U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0047 U	ND		nc	30
919005-14-4	ADONA	0.0094 U	ND		nc	30
377-73-1	PFMPA	0.0094 U	ND		nc	30
863090-89-5	PFMBA	0.0094 U	ND		nc	30
151772-58-6	NFDHA	0.0094 U	ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0094 U	ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0094 U	ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97179-DUP	6Q18938.D	1	06/07/23	MV	06/02/23	OP97179	S6Q283
FC6479-2	6Q18937.D	1	06/07/23	MV	06/02/23	OP97179	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6479-1, FC6479-2, FC6479-3

CAS No.	Compound	FC6479-2 ug/l	DUP Q	ug/l	Q	RPD	Limits
113507-82-7PFEESA		0.0094 U	ND			nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.024 U	ND			nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.12 U	ND			nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.12 U	ND			nc	30

CAS No.	ID Standard Recoveries	DUP	FC6479-2	Limits
	13C4-PFBA	87%	79%	20-150%
	13C5-PFPeA	88%	82%	20-150%
	13C5-PFHxA	89%	85%	20-150%
	13C4-PFHpA	88%	83%	20-150%
	13C8-PFOA	86%	78%	20-150%
	13C9-PFNA	84%	77%	20-150%
	13C6-PFDA	68%	73%	20-150%
	13C7-PFUnDA	66%	63%	20-150%
	13C2-PFDoDA	61%	57%	20-150%
	13C2-PFTeDA	56%	51%	20-150%
	13C3-PFBS	94%	79%	20-150%
	13C3-PFHxS	88%	79%	20-150%
	13C8-PFOS	76%	69%	20-150%
	13C8-FOSA	68%	63%	20-150%
	d3-MeFOSA	66%	60%	20-150%
	d5-EtFOSA	73%	62%	20-150%
	d3-MeFOSAA	78%	75%	20-150%
	d5-EtFOSAA	77%	68%	20-150%
	d7-MeFOSE	68%	56%	20-150%
	d9-EtFOSE	71%	59%	20-150%
	13C2-4:2FTS	89%	80%	20-180%
	13C2-6:2FTS	92%	85%	20-180%
	13C2-8:2FTS	79%	77%	20-180%
	13C3-HFPO-DA	90%	84%	20-150%

* = Outside of Control Limits.

Injection Standard Area Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q282-CC282	Injection Date:	06/06/23
Lab File ID:	6Q18906.D	Injection Time:	22:42
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	76690	2.86	63741	5.47	100836	7.05	53891	7.57	35349	8.04
Check Std ^c	78218	2.85	63210	5.47	104526	7.05	55101	7.57	36658	8.04
Upper Limit ^d	153380	3.25	127482	5.87	201672	7.45	107782	7.97	70698	8.44
Lower Limit ^e	23007	2.45	19122	5.07	30251	6.65	16167	7.17	10605	7.64

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
S6Q282-ICCB	75861	2.86	62732	5.47	102174	7.05	58312	7.56	36851	8.03	1
S6Q282-ICCB	75861	2.86	62732	5.47	102174	7.05	58312	7.56	36851	8.03	1
OP97179-BS	65164	2.89	52796	5.48	80345	7.05	45459	7.57	28501	8.04	1
OP97179-LLBS	64215	2.89	51999	5.47	82371	7.07	45922	7.57	30066	8.04	1
OP97179-MB	67075	2.90	53546	5.48	88284	7.05	47916	7.57	31006	8.04	1
FC6237-19	68643	2.88	57241	5.47	86442	7.05	49493	7.57	32448	8.04	1
OP97179-MS	69750	2.89	55920	5.48	90520	7.05	48860	7.57	31738	8.04	1
ZZZZZZ	68222	2.86	57369	5.48	91893	7.07	51704	7.57	34317	8.04	1
ZZZZZZ	72820	2.88	57019	5.48	95230	7.07	50796	7.57	32074	8.04	1
ZZZZZZ	67775	2.85	55465	5.48	87233	7.07	49827	7.57	30646	8.04	1
ZZZZZZ	67389	2.86	53809	5.48	87957	7.05	48855	7.57	29705	8.04	1
S6Q282-ECC282	77797	2.86	64028	5.47	102756	7.05	56830	7.57	35169	8.04	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: S6Q282-ICCB 6Q18874.D 06/06/23 14:59. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to +100% of initial cal area.
- (d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

6.5.1
6

Injection Standard Area Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q282-CC282	Injection Date:	06/06/23
Lab File ID:	6Q18906.D	Injection Time:	22:42
Instrument ID:	GCMS6Q	Method:	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal ^b	11172	7.15	19154	8.19
Check Std ^c	10982	7.15	18700	8.19
Upper Limit ^d	22344	7.55	38308	8.59
Lower Limit ^e	3352	6.75	5746	7.79

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF ^a
S6Q282-ICCB	11366	7.15	18916	8.19	1
S6Q282-ICCB	11366	7.15	18916	8.19	1
OP97179-BS	9076	7.15	15049	8.19	1
OP97179-LLBS	8930	7.15	15143	8.19	1
OP97179-MB	9073	7.17	16296	8.19	1
FC6237-19	9471	7.15	16597	8.19	1
OP97179-MS	10109	7.15	16357	8.19	1
ZZZZZZ	10136	7.17	17738	8.19	1
ZZZZZZ	10198	7.17	16607	8.19	1
ZZZZZZ	9736	7.17	16718	8.19	1
ZZZZZZ	9589	7.15	15793	8.19	1
S6Q282-ECC282	10686	7.17	19436	8.19	1

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

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q282-ICC282 6Q18874.D 06/06/23 14:59. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to + 100% of initial cal area.
- (d) Upper Limit = + 100% of initial standard area; Retention time + 0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

6.5.1
6

Injection Standard Area Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q283-CC282	Injection Date:	06/07/23
Lab File ID:	6Q18931.D	Injection Time:	10:54
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	76690	2.86	63741	5.47	100836	7.05	53891	7.57	35349	8.04
Check Std ^c	82417	2.86	65213	5.47	107968	7.07	57952	7.58	38188	8.04
Upper Limit ^d	153380	3.26	127482	5.87	201672	7.47	107782	7.98	70698	8.44
Lower Limit ^e	23007	2.46	19122	5.07	30251	6.67	16167	7.18	10605	7.64

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
OP97179-BS	69363	2.90	54054	5.48	85457	7.07	48164	7.57	28671	8.04	1
OP97179-LLBS	71020	2.89	54582	5.48	88581	7.07	48193	7.58	30406	8.05	1
OP97179-MB	71760	2.90	54903	5.48	89224	7.07	49015	7.58	31341	8.04	1
FC6479-1	64716	2.89	50846	5.48	82504	7.07	45216	7.58	28545	8.05	1
FC6479-2	77193	2.88	59982	5.48	99712	7.05	51439	7.57	34452	8.04	1
OP97179-DUP	78267	2.88	61601	5.48	99973	7.07	53060	7.57	37294	8.04	1
FC6479-3	81920	2.90	64090	5.48	104061	7.05	54690	7.57	36009	8.04	1
ZZZZZZ	65970	2.90	53430	5.48	82110	7.05	43230	7.57	28930	8.04	10

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

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q282-ICC282 6Q18874.D 06/06/23 14:59. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to + 100% of initial cal area.
- (d) Upper Limit = + 100% of initial standard area; Retention time + 0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

6.5.2
6

Injection Standard Area Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q283-CC282	Injection Date:	06/07/23
Lab File ID:	6Q18931.D	Injection Time:	10:54
Instrument ID:	GCMS6Q	Method:	EPA DRAFT 1633

	IS 6 AREA	RT	IS 7 AREA	RT
Initial Cal ^b	11172	7.15	19154	8.19
Check Std ^c	11333	7.17	20179	8.19
Upper Limit ^d	22344	7.57	38308	8.59
Lower Limit ^e	3352	6.77	5746	7.79

Lab Sample ID	IS 6 AREA	RT	IS 7 AREA	RT	DF ^a
OP97179-BS	9716	7.17	15397	8.19	1
OP97179-LLBS	9708	7.17	16592	8.19	1
OP97179-MB	10214	7.17	17822	8.19	1
FC6479-1	8699	7.17	15087	8.20	1
FC6479-2	10929	7.15	18136	8.19	1
OP97179-DUP	10918	7.17	18510	8.19	1
FC6479-3	11420	7.17	18161	8.19	1
ZZZZZZ	8680	7.17	14530	8.19	10

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

- (a) Sample areas corrected for dilution where applicable.
- (b) Initial Cal is: S6Q282-ICC282 6Q18874.D 06/06/23 14:59. Area is AVERAGE of initial cal points.
- (c) Check Std Limit = -70 to +100% of initial cal area.
- (d) Upper Limit = +100% of initial standard area; Retention time +0.4 minutes of check standard.
- (e) Lower Limit = -70% of initial standard area; Retention time -0.4 minutes of check standard.

TDCA Retention Time Check

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q282-RT	Injection Date:	06/06/23
Lab File ID:	6Q18868.D	Injection Time:	13:32
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.191	--	--
TDCA	6.787	1.404	1.000
TCDCA	6.638	1.553	1.000
TUDCA	5.797	2.394	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
S6Q282-IC282	6Q18870.D	06/06/23	14:01	00:29	Mass Calibration Verification
S6Q282-IC282	6Q18871.D	06/06/23	14:15	00:43	Initial cal 1
S6Q282-IC282	6Q18872.D	06/06/23	14:30	00:58	Initial cal 2
S6Q282-IC282	6Q18873.D	06/06/23	14:44	01:12	Initial cal 3
S6Q282-ICC282	6Q18874.D	06/06/23	14:59	01:27	Initial cal 4
S6Q282-IC282	6Q18875.D	06/06/23	15:13	01:41	Initial cal 5
S6Q282-IC282	6Q18876.D	06/06/23	15:28	01:56	Initial cal 6
S6Q282-IC282	6Q18877.D	06/06/23	15:42	02:10	Initial cal 7
S6Q282-IC282	6Q18878.D	06/06/23	15:57	02:25	Initial cal 8
S6Q282-IBLK	6Q18879.D	06/06/23	16:11	02:39	Instrument Blank
S6Q282-IBLK	6Q18879.D	06/06/23	16:11	02:39	Instrument Blank
S6Q282-ICV282	6Q18880.D	06/06/23	16:26	02:54	Initial cal verification 4
S6Q282-ICV282	6Q18881.D	06/06/23	16:40	03:08	Initial cal verification 20
S6Q282-CC282	6Q18882.D	06/06/23	16:55	03:23	Continuing cal 4
S6Q282-CC282	6Q18883.D	06/06/23	17:09	03:37	Continuing cal 1.0LL
OP97180-BS	6Q18884.D	06/06/23	17:24	03:52	Blank Spike
OP97180-LLBS	6Q18885.D	06/06/23	17:38	04:06	Blank Spike
OP97180-MB	6Q18886.D	06/06/23	17:53	04:21	Method Blank
ZZZZZZ	6Q18887.D	06/06/23	18:07	04:35	(unrelated sample)
ZZZZZZ	6Q18888.D	06/06/23	18:21	04:49	(unrelated sample)
ZZZZZZ	6Q18889.D	06/06/23	18:36	05:04	(unrelated sample)
ZZZZZZ	6Q18890.D	06/06/23	18:50	05:18	(unrelated sample)
ZZZZZZ	6Q18891.D	06/06/23	19:05	05:33	(unrelated sample)
ZZZZZZ	6Q18892.D	06/06/23	19:19	05:47	(unrelated sample)
FC6086-17	6Q18893.D	06/06/23	19:34	06:02	(used for QC only; not part of job FC6479)
S6Q282-CC282	6Q18894.D	06/06/23	19:48	06:16	Continuing cal 4
S6Q282-ICCB	6Q18895.D	06/06/23	20:03	06:31	Continuing Calibration Blank
S6Q282-ICCB	6Q18895.D	06/06/23	20:03	06:31	Continuing Calibration Blank
OP97180-MS	6Q18896.D	06/06/23	20:17	06:45	Matrix Spike
OP97180-MSD	6Q18897.D	06/06/23	20:32	07:00	Matrix Spike Duplicate
ZZZZZZ	6Q18898.D	06/06/23	20:46	07:14	(unrelated sample)
ZZZZZZ	6Q18899.D	06/06/23	21:01	07:29	(unrelated sample)
OP97161-BS	6Q18900.D	06/06/23	21:15	07:43	Blank Spike
OP97161-LLBS	6Q18901.D	06/06/23	21:30	07:58	Blank Spike

TDCA Retention Time Check

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q282-RT	Injection Date:	06/06/23
Lab File ID:	6Q18868.D	Injection Time:	13:32
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
OP97161-MB	6Q18902.D	06/06/23	21:44	08:12	Method Blank
ZZZZZZ	6Q18903.D	06/06/23	21:59	08:27	(unrelated sample)
ZZZZZZ	6Q18904.D	06/06/23	22:13	08:41	(unrelated sample)
S6Q282-CC282	6Q18906.D	06/06/23	22:42	09:10	Continuing cal 4
S6Q282-CC282	6Q18907.D	06/06/23	22:57	09:25	Continuing cal 1.0LL
S6Q282-ICCB	6Q18908.D	06/06/23	23:11	09:39	Continuing Calibration Blank
S6Q282-ICCB	6Q18908.D	06/06/23	23:11	09:39	Continuing Calibration Blank
OP97179-BS	6Q18909.D	06/06/23	23:26	09:54	Blank Spike
OP97179-LLBS	6Q18910.D	06/06/23	23:40	10:08	Blank Spike
OP97179-MB	6Q18911.D	06/06/23	23:55	10:23	Method Blank
FC6237-19	6Q18912.D	06/07/23	00:09	10:37	(used for QC only; not part of job FC6479)
OP97179-MS	6Q18913.D	06/07/23	00:24	10:52	Matrix Spike
ZZZZZZ	6Q18914.D	06/07/23	00:38	11:06	(unrelated sample)
ZZZZZZ	6Q18915.D	06/07/23	00:53	11:21	(unrelated sample)
ZZZZZZ	6Q18916.D	06/07/23	01:07	11:35	(unrelated sample)
ZZZZZZ	6Q18917.D	06/07/23	01:21	11:49	(unrelated sample)
S6Q282-ECC282	6Q18918.D	06/07/23	01:36	12:04	Ending cal 4
S6Q282-ICCB	6Q18919.D	06/07/23	01:50	12:18	Continuing Calibration Blank

6.6.1
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TDCA Retention Time Check

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q283-RT	Injection Date:	06/07/23
Lab File ID:	6Q18927.D	Injection Time:	09:56
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.191	--	--
TDCA	6.799	1.392	1.000
TCDCA	6.650	1.541	1.000
TUDCA	5.809	2.382	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
S6Q283-IBLK	6Q18930.D	06/07/23	10:40	00:44	Instrument Blank
S6Q283-IBLK	6Q18930.D	06/07/23	10:40	00:44	Instrument Blank
S6Q283-CC282	6Q18931.D	06/07/23	10:54	00:58	Continuing cal 4
S6Q283-CC282	6Q18932.D	06/07/23	11:09	01:13	Continuing cal 1.0LL
OP97179-BS	6Q18933.D	06/07/23	11:23	01:27	Blank Spike
OP97179-LLBS	6Q18934.D	06/07/23	11:38	01:42	Blank Spike
OP97179-MB	6Q18935.D	06/07/23	11:52	01:56	Method Blank
FC6479-1	6Q18936.D	06/07/23	12:07	02:11	AF-RHMW225401-WGN01B-2305W5
FC6479-2	6Q18937.D	06/07/23	12:21	02:25	AF-HDMW225303-WGN01LF-2305W5
OP97179-DUP	6Q18938.D	06/07/23	12:36	02:40	Duplicate
FC6479-3	6Q18939.D	06/07/23	12:50	02:54	AF-RHMW10-WGN01LF-2305W5
ZZZZZZ	6Q18940.D	06/07/23	13:05	03:09	(unrelated sample)
S6Q283-CC282	6Q18942.D	06/07/23	13:34	03:38	Continuing cal 4
S6Q283-ICCB	6Q18943.D	06/07/23	13:48	03:52	Continuing Calibration Blank
S6Q283-ICCB	6Q18943.D	06/07/23	13:48	03:52	Continuing Calibration Blank
OP97120-BS	6Q18944.D	06/07/23	14:03	04:07	Blank Spike
OP97120-LLBS	6Q18945.D	06/07/23	14:17	04:21	Blank Spike
OP97120-MB	6Q18946.D	06/07/23	14:32	04:36	Method Blank
FC6147-1	6Q18947.D	06/07/23	14:46	04:50	(used for QC only; not part of job FC6479)
ZZZZZZ	6Q18950.D	06/07/23	15:29	05:33	(unrelated sample)
ZZZZZZ	6Q18953.D	06/07/23	16:13	06:17	(unrelated sample)
S6Q283-CC282	6Q18954.D	06/07/23	16:27	06:31	Continuing cal 4
S6Q283-ICCB	6Q18955.D	06/07/23	16:42	06:46	Continuing Calibration Blank
S6Q283-ICCB	6Q18955.D	06/07/23	16:42	06:46	Continuing Calibration Blank
ZZZZZZ	6Q18956.D	06/07/23	16:56	07:00	(unrelated sample)
ZZZZZZ	6Q18957.D	06/07/23	17:11	07:15	(unrelated sample)
ZZZZZZ	6Q18958.D	06/07/23	17:25	07:29	(unrelated sample)
ZZZZZZ	6Q18959.D	06/07/23	17:40	07:44	(unrelated sample)
ZZZZZZ	6Q18960.D	06/07/23	17:54	07:58	(unrelated sample)
ZZZZZZ	6Q18961.D	06/07/23	18:09	08:13	(unrelated sample)
ZZZZZZ	6Q18962.D	06/07/23	18:23	08:27	(unrelated sample)
ZZZZZZ	6Q18963.D	06/07/23	18:38	08:42	(unrelated sample)
ZZZZZZ	6Q18964.D	06/07/23	18:52	08:56	(unrelated sample)
S6Q283-CC282	6Q18966.D	06/07/23	19:21	09:25	Continuing cal 4

TDCA Retention Time Check

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q283-RT	Injection Date:	06/07/23
Lab File ID:	6Q18927.D	Injection Time:	09:56
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
S6Q283-CC282	6Q18967.D	06/07/23	19:36	09:40	Continuing cal 1.0LL
S6Q283-ICCB	6Q18968.D	06/07/23	19:50	09:54	Continuing Calibration Blank
S6Q283-ICCB	6Q18968.D	06/07/23	19:50	09:54	Continuing Calibration Blank
OP97121-BS	6Q18969.D	06/07/23	20:05	10:09	Blank Spike
OP97121-LLBS	6Q18970.D	06/07/23	20:19	10:23	Blank Spike
OP97121-MB	6Q18971.D	06/07/23	20:34	10:38	Method Blank
FC6215-1	6Q18972.D	06/07/23	20:48	10:52	(used for QC only; not part of job FC6479)
OP97121-MS	6Q18973.D	06/07/23	21:03	11:07	Matrix Spike
OP97121-MSD	6Q18974.D	06/07/23	21:17	11:21	Matrix Spike Duplicate
ZZZZZZ	6Q18975.D	06/07/23	21:32	11:36	(unrelated sample)
ZZZZZZ	6Q18976.D	06/07/23	21:46	11:50	(unrelated sample)
ZZZZZZ	6Q18977.D	06/07/23	22:01	12:05	(unrelated sample)
ZZZZZZ	6Q18978.D	06/07/23	22:15	12:19	(unrelated sample)
S6Q283-CC282	6Q18979.D	06/07/23	22:30	12:34	Continuing cal 4
S6Q283-CC282	6Q18980.D	06/07/23	22:44	12:48	Continuing cal 1.0LL
S6Q283-ICCB	6Q18981.D	06/07/23	22:59	13:03	Continuing Calibration Blank
S6Q283-ICCB	6Q18981.D	06/07/23	22:59	13:03	Continuing Calibration Blank
ZZZZZZ	6Q18982.D	06/07/23	23:13	13:17	(unrelated sample)
ZZZZZZ	6Q18983.D	06/07/23	23:27	13:31	(unrelated sample)
ZZZZZZ	6Q18984.D	06/07/23	23:42	13:46	(unrelated sample)
ZZZZZZ	6Q18985.D	06/07/23	23:56	14:00	(unrelated sample)
ZZZZZZ	6Q18986.D	06/08/23	00:11	14:15	(unrelated sample)
ZZZZZZ	6Q18987.D	06/08/23	00:25	14:29	(unrelated sample)
ZZZZZZ	6Q18988.D	06/08/23	00:40	14:44	(unrelated sample)
ZZZZZZ	6Q18989.D	06/08/23	00:54	14:58	(unrelated sample)
ZZZZZZ	6Q18990.D	06/08/23	01:09	15:13	(unrelated sample)
ZZZZZZ	6Q18991.D	06/08/23	01:23	15:27	(unrelated sample)
S6Q283-CC282	6Q18992.D	06/08/23	01:38	15:42	Continuing cal 4
S6Q283-ICCB	6Q18993.D	06/08/23	01:52	15:56	Continuing Calibration Blank
S6Q283-ICCB	6Q18993.D	06/08/23	01:52	15:56	Continuing Calibration Blank
ZZZZZZ	6Q18994.D	06/08/23	02:07	16:11	(unrelated sample)
OP97216-BS	6Q18995.D	06/08/23	02:21	16:25	Blank Spike
OP97216-LLBS	6Q18996.D	06/08/23	02:36	16:40	Blank Spike
OP97216-MB	6Q18997.D	06/08/23	02:50	16:54	Method Blank
ZZZZZZ	6Q18998.D	06/08/23	03:05	17:09	(unrelated sample)
FC6537-2	6Q18999.D	06/08/23	03:19	17:23	(used for QC only; not part of job FC6479)
OP97216-MS	6Q19000.D	06/08/23	03:34	17:38	Matrix Spike
FC6537-3	6Q19001.D	06/08/23	03:48	17:52	(used for QC only; not part of job FC6479)
OP97216-DUP	6Q19002.D	06/08/23	04:03	18:07	Duplicate
ZZZZZZ	6Q19003.D	06/08/23	04:17	18:21	(unrelated sample)
S6Q283-CC282	6Q19004.D	06/08/23	04:32	18:36	Continuing cal 4
S6Q283-ICCB	6Q19005.D	06/08/23	04:46	18:50	Continuing Calibration Blank
S6Q283-ICCB	6Q19005.D	06/08/23	04:46	18:50	Continuing Calibration Blank
ZZZZZZ	6Q19006.D	06/08/23	05:01	19:05	(unrelated sample)

6.6.2

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TDCA Retention Time Check

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q283-RT	Injection Date:	06/07/23
Lab File ID:	6Q18927.D	Injection Time:	09:56
Instrument ID:	GCMS6Q		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
OP97178-BS	6Q19007.D	06/08/23	05:15	19:19	Blank Spike
OP97178-LLBS	6Q19008.D	06/08/23	05:30	19:34	Blank Spike
OP97178-MB	6Q19009.D	06/08/23	05:44	19:48	Method Blank
ZZZZZZ	6Q19010.D	06/08/23	05:59	20:03	(unrelated sample)
ZZZZZZ	6Q19012.D	06/08/23	06:28	20:32	(unrelated sample)
ZZZZZZ	6Q19014.D	06/08/23	06:57	21:01	(unrelated sample)
S6Q283-CC282	6Q19016.D	06/08/23	07:26	21:30	Continuing cal 4
S6Q283-ICCB	6Q19017.D	06/08/23	07:40	21:44	Continuing Calibration Blank
ZZZZZZ	6Q19018.D	06/08/23	07:55	21:59	(unrelated sample)
FC6237-7	6Q19019.D	06/08/23	08:09	22:13	(used for QC only; not part of job FC6479)
OP97178-MS	6Q19020.D	06/08/23	08:23	22:27	Matrix Spike
OP97178-MSD	6Q19021.D	06/08/23	08:38	22:42	Matrix Spike Duplicate
ZZZZZZ	6Q19022.D	06/08/23	08:52	22:56	(unrelated sample)
ZZZZZZ	6Q19023.D	06/08/23	09:07	23:11	(unrelated sample)
ZZZZZZ	6Q19024.D	06/08/23	09:21	23:25	(unrelated sample)
S6Q283-CC282	6Q19025.D	06/08/23	09:36	23:40	Continuing cal 4
S6Q283-ICCB	6Q19026.D	06/08/23	09:50	23:54	Continuing Calibration Blank

6.6.2
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TDCA Retention Time Check

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample:	S6Q283-RT	Injection Date:	06/08/23
Lab File ID:	6Q19027.D	Injection Time:	10:05
Instrument ID:	GCMS6Q		

Compound	RT (min)	RT Difference	Low Limit
PFOS	8.191	--	--
TDCA	6.799	1.392	1.000
TCDCA	6.650	1.541	1.000
TUDCA	5.797	2.394	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
S6Q283-IBLK	6Q19030.D	06/08/23	10:48	00:43	Instrument Blank
S6Q283-IBLK	6Q19030.D	06/08/23	10:48	00:43	Instrument Blank
S6Q283-CC282	6Q19031.D	06/08/23	11:03	00:58	Continuing cal 1.0LL
ZZZZZZ	6Q19032.D	06/08/23	11:17	01:12	(unrelated sample)
ZZZZZZ	6Q19033.D	06/08/23	11:32	01:27	(unrelated sample)
ZZZZZZ	6Q19035.D	06/08/23	12:01	01:56	(unrelated sample)
ZZZZZZ	6Q19036.D	06/08/23	12:15	02:10	(unrelated sample)
ZZZZZZ	6Q19038.D	06/08/23	12:44	02:39	(unrelated sample)
S6Q283-ECC282	6Q19040.D	06/08/23	13:13	03:08	Ending cal 4
S6Q283-ICCB	6Q19041.D	06/08/23	13:28	03:23	Continuing Calibration Blank

Ion Ratio Summary

Job Number: FC6479
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q283 Method: EPA DRAFT 1633

Lab Sample ID	Lab File ID	Ion Ratios						
		PFPeA	PFHxA	PFHpA	PFOA	PFBS	PFHxS	PFOS
S6Q282-ICC282	6Q18874.D	0	5.4	16.3	17.9	39.3	48	48.9
FC6479-1	6Q18936.D	0	5.2	18.2	13.9	43.3	44.6	40.2
FC6479-2	6Q18937.D							
FC6479-3	6Q18939.D							

6.7.1

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Isotope Dilution Standard Recovery Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6	S7	S8
FC6479-1	6Q18936.D	95	101	99	98	98	95	92	90
FC6479-2	6Q18937.D	79	82	85	83	78	77	73	63
FC6479-3	6Q18939.D	91	93	90	91	87	86	81	83
OP97179-BS	6Q18909.D	22	80	85	88	87	85	97	93
OP97179-BS	6Q18933.D	22	83	87	87	93	84	89	94
OP97179-DUP	6Q18938.D	87	88	89	88	86	84	68	66
OP97179-LLBS	6Q18910.D	101	99	100	97	99	96	97	96
OP97179-LLBS	6Q18934.D	100	102	101	102	98	96	105	99
OP97179-MB	6Q18911.D	97	96	98	96	91	94	96	92
OP97179-MB	6Q18935.D	96	98	97	98	96	91	98	99
OP97179-MS	6Q18913.D	88	88	88	88	84	83	81	72
S6Q283-IBLK	6Q18930.D	100	101	100	101	93	98	96	97
S6Q283-IBLK	6Q19030.D	101	101	108	101	95	103	100	101
S6Q282-IBLK	6Q18879.D	100	100	102	100	102	99	104	108
S6Q282-ICCB	6Q18908.D	100	101	104	101	96	90	103	97
S6Q282-ICCB	6Q18919.D	101	101	106	102	102	95	92	91
S6Q283-ICCB	6Q19026.D	100	108	110	105	96	105	98	101
S6Q283-ICCB	6Q19041.D	100	107	105	106	96	99	106	102

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: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S9	S10	S11	S12	S13	S14	S15	S16
FC6479-1	6Q18936.D	78	73	108	104	93	99	82	77
FC6479-2	6Q18937.D	57	51	79	79	69	63	60	62
FC6479-3	6Q18939.D	75	61	94	86	90	93	74	71
OP97179-BS	6Q18909.D	89	82	83	83	90	98	90	88
OP97179-BS	6Q18933.D	88	85	83	86	89	101	92	91
OP97179-DUP	6Q18938.D	61	56	94	88	76	68	66	73
OP97179-LLBS	6Q18910.D	89	78	100	102	103	100	88	86
OP97179-LLBS	6Q18934.D	91	87	100	104	100	100	85	92
OP97179-MB	6Q18911.D	84	82	96	99	94	94	84	87
OP97179-MB	6Q18935.D	89	83	93	93	95	86	82	81
OP97179-MS	6Q18913.D	64	59	85	84	79	80	73	72
S6Q283-IBLK	6Q18930.D	97	97	102	102	105	104	101	107
S6Q283-IBLK	6Q19030.D	94	96	103	102	95	94	98	99
S6Q282-IBLK	6Q18879.D	100	101	105	102	102	107	106	103
S6Q282-ICCB	6Q18908.D	92	96	94	98	101	102	100	102
S6Q282-ICCB	6Q18919.D	96	95	94	98	95	99	96	98
S6Q283-ICCB	6Q19026.D	99	99	104	103	97	102	101	99
S6Q283-ICCB	6Q19041.D	99	103	105	107	104	104	105	107

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%

6.8.1

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Isotope Dilution Standard Recovery Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Method: EPA DRAFT 1633	Matrix: AQ
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Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S17	S18	S19	S20	S21	S22	S23	S24
FC6479-1	6Q18936.D	98	96	76	74	113	109	106	102
FC6479-2	6Q18937.D	75	68	56	59	80	85	77	84
FC6479-3	6Q18939.D	102	93	70	69	97	95	90	98
OP97179-BS	6Q18909.D	94	91	81	83	98	99	95	91
OP97179-BS	6Q18933.D	99	97	82	82	95	95	94	90
OP97179-DUP	6Q18938.D	78	77	68	71	89	92	79	90
OP97179-LLBS	6Q18910.D	109	104	92	103	107	111	106	101
OP97179-LLBS	6Q18934.D	114	111	92	94	112	112	105	100
OP97179-MB	6Q18911.D	101	95	90	97	101	113	105	95
OP97179-MB	6Q18935.D	95	95	89	91	104	100	96	98
OP97179-MS	6Q18913.D	82	76	70	71	84	84	79	84
S6Q283-IBLK	6Q18930.D	112	114	112	108	111	102	105	102
S6Q283-IBLK	6Q19030.D	111	107	98	98	118	110	103	108
S6Q282-IBLK	6Q18879.D	106	109	105	103	114	108	104	99
S6Q282-ICCB	6Q18908.D	98	104	103	104	108	102	96	101
S6Q282-ICCB	6Q18919.D	102	103	98	100	108	106	102	97
S6Q283-ICCB	6Q19026.D	112	111	100	102	109	111	103	110
S6Q283-ICCB	6Q19041.D	119	113	104	102	115	115	106	114

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%

6.8.1
6

Initial Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-ICC282
 Lab FileID: 6Q18874.D

Initial Calibration Report

Method Path	Method File	Batch Name	Last Calib Update	Calibration Files	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD	Level Last Update Time
D:\MassHunter\Methods	1633_060623_S6Q282.quantmethod.xml	D:\MassHunter\Data\060623_1633_S6Q282\QuantResults\6q282.batch.bin	6/7/2023 3:29:01 PM	D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d	Avg RF	0.3231	0.3347	0.3258	0.3209	0.3202	0.3271	0.3352	0.3193	0.3258	1.924	6/7/2023 3:29:01 PM
D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d	D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d	D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d	D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d	D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d	D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d	D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d										
I M4-PFBA	T PFBA															
I M5-PFPeA	T PFMPA															
T 3:3FTCA	T PFEEA															
T PFMB																
I M5-PFHxA	T NFDHA															
T PFHxA	T PFEEA															
T 5:3FTCA	T 7:3FTCA															
I M4-PFHpA	T PFHpA															
I M8-PFOA	T PFOA															
I M9-PFNA	T PFNA															
I M6-PFDA	T PFDA															
I M7-PFUnDA	T PFUnDA															
I M2-PFDODA																

Page 1 of 4
 Generated at 3:29 PM on 6/7/2023

Initial Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-ICC282
 Lab FileID: 6Q18874.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
T PFDoDA	Avg RF	0.8421	0.8438	0.7609	0.7942	0.8084	0.8379	0.8368	0.7877	0.8140	3.803
T PFTfDA	Avg RF	0.9228	0.8802	0.7836	0.8450	0.8421	0.8244	0.8125	0.7342	0.8306	6.929
I M2-PFTeDA	Avg RF	1.3410	1.2704	1.2325	1.2049	1.2696	1.2287	1.1947	1.1101	1.2315	5.468
I M8-FOSA	Avg RF	0.8840	0.8304	0.8443	0.8318	0.8053	0.8725	0.8637	0.8088	0.8426	3.432
I M3-PFBS	Avg RF	0.8318	0.9175	0.8785	0.8436	0.8311	0.9117	0.8773	0.8398	0.8664	4.045
I M3-PFHxS	Avg RF	1.2325	1.1233	1.1900	1.1056	1.0588	1.1070	1.1312	1.0513	1.1250	5.452
T PFPeS	Avg RF	1.3238	1.1505	1.1550	1.1769	1.1194	1.1421	1.2354	1.0711	1.1718	6.586
I M8-PFOS	Avg RF	1.1903	1.1379	1.0909	1.1512	1.0462	1.1253	1.2301	1.1014	1.1342	5.099
T PFHpS	Avg RF	1.2544	1.1873	1.1070	1.1562	1.0974	1.1199	1.1938	1.0340	1.1438	5.996
T PFOS	Avg RF	1.0249	0.9871	1.0465	1.0178	0.9426	0.9684	1.0779	0.9022	0.9959	5.763
T PFNS	Avg RF	0.6276	0.5419	0.6076	0.6150	0.5594	0.6098	0.6401	0.5783	0.5975	5.722
T PFDoDS	Avg RF	0.2829	0.2678	0.2820	0.2942	0.2719	0.2798	0.3062	0.2720	0.2821	4.531
I M2-4:2FTS	Avg RF	6.8076	7.1128	6.6553	7.2984	6.8085	6.8824	7.1322	6.0881	6.8482	5.443
T 4:2FTS	Avg RF	4.7793	5.0196	4.7775	4.7929	4.9256	4.9621	4.5555	4.0949	4.7384	6.270
I M2-6:2FTS	Avg RF	2.6630	2.6560	2.8477	2.7870	2.8144	2.6807	2.6714	2.3334	2.6817	5.957
T 6:2FTS	Avg RF	0.9487	0.9921	0.9984	1.0187	0.9917	1.0259	1.0238	0.9931	0.9990	2.506
I M3-MeFOSAA	Avg RF	0.8837	0.8526	0.8515	0.8589	0.8047	0.8020	0.8448	0.7835	0.8352	4.119
T HFPO-DA	Avg RF	13.59	14.69	14.51	14.05	13.18	13.27	13.89	12.69	13.73	4.977
T ADONA	Avg RF	6.3248	6.2829	6.1474	6.1752	5.9078	5.8281	5.9696	5.7999	6.0545	3.380
T 9Cl-PF3ONS	Avg RF	4.0786	3.9130	3.9280	3.8860	3.6612	3.7269	3.7998	3.5951	3.8236	4.151
T 11Cl-PF3OUds	Avg RF	0.7539	0.7086	0.7194	0.6491	0.6173	0.6635	0.6801	0.6616	0.6817	6.395
I M5-EFOSAA	Avg RF	0.9567	0.9983	0.9790	0.9258	0.9272	0.9722	1.0177	0.9663	0.9679	3.291
T EFOSAA	Avg RF	1.0971	1.1213	1.0644	1.0872	1.0560	1.0902	1.1229	1.0846	1.0905	2.183
I M7-MeFOSE	Avg RF	1.0971	1.1213	1.0644	1.0872	1.0560	1.0902	1.1229	1.0846	1.0905	2.183
T MeFOSE	Avg RF	1.0971	1.1213	1.0644	1.0872	1.0560	1.0902	1.1229	1.0846	1.0905	2.183
I M9-EFOSE	Avg RF	1.0971	1.1213	1.0644	1.0872	1.0560	1.0902	1.1229	1.0846	1.0905	2.183
T EFOSE	Avg RF	1.0971	1.1213	1.0644	1.0872	1.0560	1.0902	1.1229	1.0846	1.0905	2.183

Generated at 3:29 PM on 6/7/2023

Page 2 of 4

Initial Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-ICC282
 Lab FileID: 6Q18874.D

Initial Calibration Report

Compound	Curve Fit	1	2	3	4	5	6	7	8	Avg RF	%RSD
I M5-EFOSA		1.1431	1.1876	1.1813	1.1265	1.1304	1.1635	1.1613	1.1225	1.1520	2.179
T EtFOSA	Avg RF					ISTD					
I M3-MeFOSA		1.0476	0.9715	0.9648	0.9351	0.9166	0.9657	0.9566	0.8614	0.9524	5.561
T MeFOSA	Avg RF					ISTD					
I 13C4-PFOS		0.9459	0.9000	0.9295	0.8716	0.9501	0.9233	0.8605	0.8219	0.9003	5.053
S d3-MeFOSAA	Linear					ISTD					
S 13C8-PFOS	Linear	0.7774	0.7583	0.7802	0.7116	0.7983	0.7575	0.7038	0.7825	0.7587	4.509
S d5-EFOSAA	Linear	0.8151	0.8196	0.8296	0.7672	0.8482	0.8254	0.7834	0.7708	0.8074	3.693
S 13C8-FOSA	Linear	1.9140	1.8624	1.8926	1.7728	1.9116	1.7371	1.7181	1.7471	1.8195	4.603
S d7-MeFOSE	Linear	0.6548	0.6233	0.6488	0.6328	0.6604	0.6438	0.5811	0.5753	0.6275	5.205
S d3-MeFOFA	Linear	0.7073	0.6771	0.7282	0.6859	0.7336	0.6966	0.6879	0.7482	0.7081	3.642
S d9-EFOFA	Linear	0.8534	0.7811	0.8411	0.7850	0.8303	0.8194	0.7648	0.7185	0.7992	5.654
S d5-EFOFA	Linear	0.7020	0.6764	0.6827	0.6755	0.7120	0.6821	0.6508	0.6523	0.6792	3.132
I 13C3-PFBA		1.1825	1.1942	1.1827	1.1881	1.1895	1.1842	1.1928	1.1779	1.1865	0.474
S 13C4-PFBA	Linear					ISTD					
I 1802-PFHxS		0.2192	0.2172	0.2191	0.2080	0.2157	0.2025	0.1889	0.1740	0.2056	8.005
S 13C2-4:2FTS	Linear	2.1794	2.1763	2.1488	2.2673	2.1764	2.2145	2.2507	2.1672	2.1976	1.924
S 13C3-PFBS	Linear	0.3108	0.3084	0.3081	0.3121	0.2997	0.2995	0.2769	0.2481	0.2955	7.520
S 13C2-6:2FTS	Linear	1.2708	1.3838	1.3060	1.3466	1.3563	1.4293	1.3454	1.3536	1.3490	3.513
S 13C3-PFHxS	Linear	0.3074	0.3146	0.3013	0.2968	0.2904	0.3031	0.2858	0.2547	0.2943	6.263
S 13C2-8:2FTS	Linear					ISTD					
I 13C4-PFOA		0.9910	0.9758	0.9441	0.9278	1.0015	0.8910	0.9545	0.9843	0.9587	3.860
S 13C8-PFOA	Linear					ISTD					
I 13C2-PFDA		0.7277	0.7392	0.7851	0.7476	0.7789	0.7614	0.7602	0.6338	0.7417	6.420
S 13C6-PFDA	Linear	0.9456	0.9486	1.0524	1.0121	0.9286	1.0264	0.9822	0.8605	0.9696	6.363
S 13C7-PFUnDA	Linear	0.8998	0.8735	0.9716	0.8724	0.8992	0.9480	0.9697	0.8739	0.9135	4.712
S 13C2-PFDODA	Linear	0.4879	0.4849	0.5151	0.4859	0.4925	0.5276	0.5352	0.4766	0.5007	4.405
S 13C2-PTEdA	Linear					ISTD					
I 13C5-PFNA		0.8230	0.8442	0.8281	0.8614	0.8079	0.7927	0.7953	0.8238	0.8220	2.856
S 13C9-PFNA	Linear					ISTD					
I 13C2-PFHxA		0.5027	0.4764	0.4876	0.4947	0.4821	0.4822	0.4748	0.4802	0.4851	1.957
S 13C5-PPeA	Linear	1.0913	1.0653	1.0451	1.0828	1.0484	1.0412	1.0522	1.0388	1.0581	1.865
S 13C5-PFHxA	Linear	0.1557	0.1497	0.1512	0.1568	0.1568	0.1612	0.1625	0.1662	0.1575	3.556
S 13C3-HFPO-Da	Linear	1.0186	0.9913	0.9812	1.0107	1.0080	1.0039	0.9666	0.9914	0.9965	1.722
S 13C4-PFHpA	Linear					ISTD					

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

Initial Calibration Summary

Job Number: FC6479
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-ICC282
Lab FileID: 6Q18874.D

Initial Calibration Report

Compounds with Curve fitting not using Avg Response Factor:

Compound	Curve Fit	Curve Fit Formula	%RSE
S 13C4-PBBA	Linear	$y = 1.186483 * x$	
S 13C5-PFPeA	Linear	$y = 0.485069 * x$	
S 13C2-4:2FTS	Linear	$y = 0.205584 * x$	
S 13C3-PFBS	Linear	$y = 2.197564 * x$	
S 13C5-PFHxA	Linear	$y = 1.058143 * x$	
S 13C3-HFPO-DA	Linear	$y = 0.157516 * x$	
S 13C4-PFHpA	Linear	$y = 0.996455 * x$	
S 13C2-6:2FTS	Linear	$y = 0.295455 * x$	
S 13C8-PFOA	Linear	$y = 0.958748 * x$	
S 13C3-PFHxS	Linear	$y = 1.348966 * x$	
S 13C9-PFNA	Linear	$y = 0.822047 * x$	
S 13C2-8:2FTS	Linear	$y = 0.294269 * x$	
S 13C6-PEDA	Linear	$y = 0.741737 * x$	
S d3-MeFOSAA	Linear	$y = 0.900336 * x$	
S 13C8-PFOS	Linear	$y = 0.758684 * x$	
S d5-EFOSAA	Linear	$y = 0.807398 * x$	
S 13C7-PFUridA	Linear	$y = 0.969554 * x$	
S 13C2-PFDODA	Linear	$y = 0.913518 * x$	
S 13C8-FOSA	Linear	$y = 1.819476 * x$	
S 13C2-PFTeDA	Linear	$y = 0.500712 * x$	
S d7-MeFOSE	Linear	$y = 0.627532 * x$	
S d3-MeFOSA	Linear	$y = 0.708102 * x$	
S d9-EFOSE	Linear	$y = 0.799203 * x$	
S d5-EFOSA	Linear	$y = 0.679243 * x$	

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

Initial Calibration Verification

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-ICV282
 Lab FileID: 6Q18880.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060623_1633_S6Q282\s6q282.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18880
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.199	4.0	104.0
13C2-6:2FTS	5.000	5.330	6.6	106.6
13C2-8:2FTS	5.000	5.550	11.0	111.0
13C2-PFDoDA	1.250	1.223	-2.2	97.8
13C2-PFTeDA	1.250	1.202	-3.9	96.1
13C3-PFBS	2.500	2.567	2.7	102.7
13C3-PFHxS	2.500	2.594	3.8	103.8
13C4-PFBA	10.000	10.031	0.3	100.3
13C4-PFHpA	2.500	2.511	0.4	100.4
13C5-PFHxA	2.500	2.595	3.8	103.8
13C5-PFPeA	5.000	5.014	0.3	100.3
13C6-PFDA	1.250	1.233	-1.3	98.7
13C7-PFUnDA	1.250	1.251	0.1	100.1
13C8-FOSA	2.500	2.618	4.7	104.7
13C8-PFOA	2.500	2.460	-1.6	98.4
13C8-PFOS	2.500	2.661	6.4	106.4
13C9-PFNA	1.250	1.250	0.0	100.0
4:2FTS	9.375	9.643	2.9	102.9
6:2FTS	9.500	9.865	3.8	103.8
8:2FTS	9.600	8.446	-12.0	88.0
d3-MeFOSAA	5.000	5.174	3.5	103.5
EtFOSAA	2.500	2.288	-8.5	91.5
FOSA	2.500	2.421	-3.1	96.9
MeFOSAA	2.500	2.580	3.2	103.2
PFBA	10.000	9.710	-2.9	97.1
PFBS	2.218	2.204	-0.6	99.4
PFDA	2.500	2.348	-6.1	93.9
PFDoDA	2.500	2.518	0.7	100.7
PFDS	2.413	2.231	-7.6	92.4
PFHpA	2.500	2.421	-3.1	96.9
PFHpS	2.383	2.263	-5.0	95.0
PFHxA	2.500	2.276	-8.9	91.1
PFHxS	2.285	2.158	-5.6	94.4
PFNA	2.500	2.285	-8.6	91.4
PFNS	2.405	2.184	-9.2	90.8
PFOA	2.500	2.509	0.4	100.4
PFOS	2.320	2.126	-8.3	91.7

Initial Calibration Verification

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-ICV282
 Lab FileID: 6Q18880.D

PFPeA	5.000	4.830	-3.4	96.6
PFPeS	2.353	2.253	-4.3	95.7
PFTeDA	2.500	2.439	-2.4	97.6
PFTrDA	2.500	2.583	3.3	103.3
PFUnDA	2.500	2.429	-2.9	97.1
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	4.704	-0.4	99.6
13C3-HFPO-DA	10.000	9.804	-2.0	98.0
9C1-PF3ONS	4.675	4.657	-0.4	99.6
ADONA	4.725	4.698	-0.6	99.4
HFPO-DA	5.000	5.266	5.3	105.3
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.848	-5.1	94.9
5:3FTCA	62.400	58.204	-6.7	93.3
7:3FTCA	62.400	58.313	-6.5	93.5
d3-MeFOSA	2.500	2.467	-1.3	98.7
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.685	-6.3	93.7
EtFOSE	12.500	12.023	-3.8	96.2
MeFOSA	5.000	4.917	-1.7	98.3
MeFOSE	12.500	12.066	-3.5	96.5
PFDoDS	2.425	2.234	-7.9	92.1
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.223	4.5	104.5
d7-MeFOSE	25.000	26.011	4.0	104.0
d9-EtFOSE	25.000	25.738	3.0	103.0
d5-EtFOSA	2.500	2.578	3.1	103.1
NFDHA	5.000	4.704	-5.9	94.1
PFMBA	5.000	4.947	-1.1	98.9
PFMPA	5.000	4.854	-2.9	97.1
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.146	-6.8	93.2

CC Criteria: +/- 30%

Initial Calibration Verification

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-ICV282
 Lab FileID: 6Q18881.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060623_1633_S6Q282\s6q282.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18881
 Type : QC
 Level : 20

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.703	14.1	114.1
13C2-6:2FTS	5.000	5.453	9.1	109.1
13C2-8:2FTS	5.000	5.499	10.0	110.0
13C2-PFDoDA	1.250	1.219	-2.5	97.5
13C2-PFTeDA	1.250	1.173	-6.2	93.8
13C3-PFBS	2.500	2.664	6.6	106.6
13C3-PFHxS	2.500	2.733	9.3	109.3
13C4-PFBA	10.000	10.144	1.4	101.4
13C4-PFHpA	2.500	2.445	-2.2	97.8
13C5-PFHxA	2.500	2.471	-1.2	98.8
13C5-PFPeA	5.000	5.022	0.4	100.4
13C6-PFDA	1.250	1.185	-5.2	94.8
13C7-PFUnDA	1.250	1.171	-6.4	93.6
13C8-FOSA	2.500	2.395	-4.2	95.8
13C8-PFOA	2.500	2.416	-3.3	96.7
13C8-PFOS	2.500	2.392	-4.3	95.7
13C9-PFNA	1.250	1.267	1.4	101.4
4:2FTS	20.000	19.468	-2.7	97.3
6:2FTS	20.000	20.895	4.5	104.5
8:2FTS	20.000	20.719	3.6	103.6
d3-MeFOSAA	5.000	4.867	-2.7	97.3
EtFOSAA	20.000	19.148	-4.3	95.7
FOSA	20.000	19.002	-5.0	95.0
MeFOSAA	20.000	20.599	3.0	103.0
PFBA	20.000	19.137	-4.3	95.7
PFBS	20.000	20.489	2.4	102.4
PFDA	20.000	19.866	-0.7	99.3
PFDoDA	20.000	18.239	-8.8	91.2
PFDS	20.000	19.002	-5.0	95.0
PFHpA	20.000	19.851	-0.7	99.3
PFHpS	20.000	20.888	4.4	104.4
PFHxA	20.000	20.126	0.6	100.6
PFHxS	20.000	20.363	1.8	101.8
PFNA	20.000	20.870	4.3	104.3
PFNS	20.000	19.652	-1.7	98.3
PFOA	20.000	19.994	0.0	100.0
PFOS	20.000	18.338	-8.3	91.7

Initial Calibration Verification

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-ICV282
 Lab FileID: 6Q18881.D

PFPeA	20.000	19.933	-0.3	99.7
PFPeS	20.000	19.339	-3.3	96.7
PFTeDA	20.000	20.097	0.5	100.5
PFTrDA	20.000	16.681	-16.6	83.4
PFUnDA	20.000	20.137	0.7	100.7
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--		
11C1-PF3OUdS	20.000	19.900	-0.5	99.5
13C3-HFPO-DA	10.000	9.940	-0.6	99.4
9C1-PF3ONS	20.000	20.873	4.4	104.4
ADONA	20.000	18.243	-8.8	91.2
HFPO-DA	20.000	19.043	-4.8	95.2
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	20.000	18.789	-6.1	93.9
5:3FTCA	20.000	20.443	2.2	102.2
7:3FTCA	20.000	20.032	0.2	100.2
d3-MeFOSA	2.500	2.370	-5.2	94.8
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	20.000	18.581	-7.1	92.9
EtFOSE	100.000	101.361	1.4	101.4
MeFOSA	20.000	19.194	-4.0	96.0
MeFOSE	100.000	102.010	2.0	102.0
PFDoDS	20.000	18.544	-7.3	92.7
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	4.835	-3.3	96.7
d7-MeFOSE	25.000	23.720	-5.1	94.9
d9-EtFOSE	25.000	23.837	-4.7	95.3
d5-EtFOSA	2.500	2.358	-5.7	94.3
NFDHA	20.000	20.315	1.6	101.6
PFMBA	20.000	20.194	1.0	101.0
PFMPA	20.000	20.054	0.3	100.3
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	20.000	17.907	-10.5	89.5

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-CC282
 Lab FileID: 6Q18882.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060623_1633_S6Q282\s6q282.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18882
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.225	4.5	104.5
13C2-6:2FTS	5.000	5.187	3.7	103.7
13C2-8:2FTS	5.000	4.887	-2.3	97.7
13C2-PFDoDA	1.250	1.245	-0.4	99.6
13C2-PFTeDA	1.250	1.244	-0.4	99.6
13C3-PFBS	2.500	2.412	-3.5	96.5
13C3-PFHxS	2.500	2.435	-2.6	97.4
13C4-PFBA	10.000	10.000	0.0	100.0
13C4-PFHpA	2.500	2.447	-2.1	97.9
13C5-PFHxA	2.500	2.554	2.1	102.1
13C5-PFPeA	5.000	5.064	1.3	101.3
13C6-PFDA	1.250	1.333	6.7	106.7
13C7-PFUnDA	1.250	1.302	4.2	104.2
13C8-FOSA	2.500	2.556	2.2	102.2
13C8-PFOA	2.500	2.582	3.3	103.3
13C8-PFOS	2.500	2.593	3.7	103.7
13C9-PFNA	1.250	1.192	-4.6	95.4
4:2FTS	9.375	9.241	-1.4	98.6
6:2FTS	9.500	9.611	1.2	101.2
8:2FTS	9.600	9.518	-0.9	99.1
d3-MeFOSAA	5.000	5.198	4.0	104.0
EtFOSAA	2.500	2.591	3.6	103.6
FOSA	2.500	2.485	-0.6	99.4
MeFOSAA	2.500	2.494	-0.2	99.8
PFBA	10.000	9.795	-2.1	97.9
PFBS	2.218	2.230	0.5	100.5
PFDA	2.500	2.443	-2.3	97.7
PFDoDA	2.500	2.539	1.6	101.6
PFDS	2.413	2.268	-6.0	94.0
PFHpA	2.500	2.588	3.5	103.5
PFHpS	2.383	2.265	-4.9	95.1
PFHxA	2.500	2.423	-3.1	96.9
PFHxS	2.285	2.320	1.5	101.5
PFNA	2.500	2.536	1.4	101.4
PFNS	2.405	2.325	-3.3	96.7
PFOA	2.500	2.387	-4.5	95.5
PFOS	2.320	2.248	-3.1	96.9

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-CC282
 Lab FileID: 6Q18882.D

PFPeA	5.000	4.871	-2.6	97.4
PFPeS	2.353	2.381	1.2	101.2
PFTeDA	2.500	2.566	2.6	102.6
PFTTrDA	2.500	2.573	2.9	102.9
PFUnDA	2.500	2.392	-4.3	95.7
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--		
11C1-PF3OUdS	4.725	4.744	0.4	100.4
13C3-HFPO-DA	10.000	9.872	-1.3	98.7
9C1-PF3ONS	4.675	4.841	3.6	103.6
ADONA	4.725	4.730	0.1	100.1
HFPO-DA	5.000	5.093	1.9	101.9
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.090	-3.1	96.9
5:3FTCA	62.400	61.117	-2.1	97.9
7:3FTCA	62.400	63.123	1.2	101.2
d3-MeFOSA	2.500	2.497	-0.1	99.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.085	1.7	101.7
EtFOSE	12.500	12.144	-2.8	97.2
MeFOSA	5.000	5.081	1.6	101.6
MeFOSE	12.500	12.522	0.2	100.2
PFDODS	2.425	2.319	-4.4	95.6
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.049	1.0	101.0
d7-MeFOSE	25.000	25.651	2.6	102.6
d9-EtFOSE	25.000	25.785	3.1	103.1
d5-EtFOSA	2.500	2.527	1.1	101.1
NFDHA	5.000	4.983	-0.3	99.7
PFMBA	5.000	5.011	0.2	100.2
PFMPA	5.000	5.054	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	4.397	-1.2	98.8

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-CC282
 Lab FileID: 6Q18883.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060623_1633_S6Q282\s6q282.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18883
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.377	7.5	107.5
13C2-6:2FTS	5.000	5.449	9.0	109.0
13C2-8:2FTS	5.000	5.168	3.4	103.4
13C2-PFDoDA	1.250	1.287	2.9	102.9
13C2-PFTeDA	1.250	1.276	2.1	102.1
13C3-PFBS	2.500	2.363	-5.5	94.5
13C3-PFHxS	2.500	2.470	-1.2	98.8
13C4-PFBA	10.000	10.079	0.8	100.8
13C4-PFHpA	2.500	2.527	1.1	101.1
13C5-PFHxA	2.500	2.484	-0.6	99.4
13C5-PFPeA	5.000	5.067	1.3	101.3
13C6-PFDA	1.250	1.320	5.6	105.6
13C7-PFUnDA	1.250	1.338	7.1	107.1
13C8-FOSA	2.500	2.621	4.8	104.8
13C8-PFOA	2.500	2.526	1.1	101.1
13C8-PFOS	2.500	2.570	2.8	102.8
13C9-PFNA	1.250	1.251	0.0	100.0
4:2FTS	0.750	0.745	-0.7	99.3
6:2FTS	0.760	0.764	0.5	100.5
8:2FTS	0.768	0.844	9.9	109.9
d3-MeFOSAA	5.000	5.147	2.9	102.9
EtFOSAA	0.200	0.218	8.8	108.8
FOSA	0.200	0.219	9.3	109.3
MeFOSAA	0.200	0.216	8.1	108.1
PFBA	0.800	0.805	0.6	100.6
PFBS	0.177	0.192	8.2	108.2
PFDA	0.200	0.214	7.0	107.0
PFDoDA	0.200	0.210	4.9	104.9
PFDS	0.193	0.186	-3.4	96.6
PFHpA	0.200	0.202	1.0	101.0
PFHpS	0.191	0.193	1.3	101.3
PFHxA	0.200	0.218	8.8	108.8
PFHxS	0.183	0.195	6.4	106.4
PFNA	0.200	0.205	2.6	102.6
PFNS	0.192	0.213	10.9	110.9
PFOA	0.200	0.190	-4.8	95.2
PFOS	0.186	0.201	7.8	107.8

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-CC282
 Lab FileID: 6Q18883.D

PFPeA	0.400	0.416	3.9	103.9
PFPeS	0.188	0.205	9.1	109.1
PFTeDA	0.200	0.216	8.0	108.0
PFTTrDA	0.200	0.200	0.2	100.2
PFUnDA	0.200	0.183	-8.3	91.7
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--		
11C1-PF3OUdS	0.378	0.368	-2.7	97.3
13C3-HFPO-DA	10.000	10.388	3.9	103.9
9C1-PF3ONS	0.367	0.364	-0.8	99.2
ADONA	0.378	0.369	-2.4	97.6
HFPO-DA	0.400	0.372	-6.9	93.1
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	1.033	3.5	103.5
5:3FTCA	4.992	5.397	8.1	108.1
7:3FTCA	4.992	5.696	14.1	114.1
d3-MeFOSA	2.500	2.562	2.5	102.5
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.408	2.1	102.1
EtFOSE	1.000	1.015	1.5	101.5
MeFOSA	0.400	0.403	0.8	100.8
MeFOSE	1.000	1.028	2.8	102.8
PFDoDS	0.194	0.186	-4.0	96.0
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.414	8.3	108.3
d7-MeFOSE	25.000	26.542	6.2	106.2
d9-EtFOSE	25.000	25.891	3.6	103.6
d5-EtFOSA	2.500	2.647	5.9	105.9
NFDHA	0.400	0.412	3.0	103.0
PFMBA	0.400	0.396	-0.9	99.1
PFMPA	0.400	0.406	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--		
PFEEESA	0.356	0.360	1.0	101.0

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-CC282
 Lab FileID: 6Q18906.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060623_1633_S6Q282\s6q282.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18906
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.408	8.2	108.2
13C2-6:2FTS	5.000	5.376	7.5	107.5
13C2-8:2FTS	5.000	5.639	12.8	112.8
13C2-PFDoDA	1.250	1.234	-1.3	98.7
13C2-PFTeDA	1.250	1.286	2.9	102.9
13C3-PFBS	2.500	2.566	2.6	102.6
13C3-PFHxS	2.500	2.568	2.7	102.7
13C4-PFBA	10.000	10.072	0.7	100.7
13C4-PFHpA	2.500	2.431	-2.8	97.2
13C5-PFHxA	2.500	2.592	3.7	103.7
13C5-PFPeA	5.000	5.170	3.4	103.4
13C6-PFDA	1.250	1.203	-3.7	96.3
13C7-PFUnDA	1.250	1.281	2.5	102.5
13C8-FOSA	2.500	2.621	4.8	104.8
13C8-PFOA	2.500	2.487	-0.5	99.5
13C8-PFOS	2.500	2.565	2.6	102.6
13C9-PFNA	1.250	1.251	0.1	100.1
4:2FTS	9.375	9.415	0.4	100.4
6:2FTS	9.500	10.319	8.6	108.6
8:2FTS	9.600	10.173	6.0	106.0
d3-MeFOSAA	5.000	5.883	17.7	117.7
EtFOSAA	2.500	2.369	-5.2	94.8
FOSA	2.500	2.512	0.5	100.5
MeFOSAA	2.500	2.320	-7.2	92.8
PFBA	10.000	9.849	-1.5	98.5
PFBS	2.218	2.183	-1.6	98.4
PFDA	2.500	2.500	0.0	100.0
PFDoDA	2.500	2.510	0.4	100.4
PFDS	2.413	2.331	-3.4	96.6
PFHpA	2.500	2.521	0.8	100.8
PFHpS	2.383	2.406	0.9	100.9
PFHxA	2.500	2.388	-4.5	95.5
PFHxS	2.285	2.157	-5.6	94.4
PFNA	2.500	2.447	-2.1	97.9
PFNS	2.405	2.386	-0.8	99.2
PFOA	2.500	2.501	0.1	100.1
PFOS	2.320	2.347	1.2	101.2

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-CC282
 Lab FileID: 6Q18906.D

PFPeA	5.000	4.827	-3.5	96.5
PFPeS	2.353	2.227	-5.3	94.7
PFTeDA	2.500	2.524	1.0	101.0
PFTTrDA	2.500	2.567	2.7	102.7
PFUnDA	2.500	2.461	-1.6	98.4
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	4.567	-3.3	96.7
13C3-HFPO-DA	10.000	10.215	2.2	102.2
9C1-PF3ONS	4.675	4.847	3.7	103.7
ADONA	4.725	4.690	-0.7	99.3
HFPO-DA	5.000	4.935	-1.3	98.7
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.911	-4.6	95.4
5:3FTCA	62.400	59.792	-4.2	95.8
7:3FTCA	62.400	61.468	-1.5	98.5
d3-MeFOSA	2.500	2.633	5.3	105.3
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.154	3.1	103.1
EtFOSE	12.500	12.000	-4.0	96.0
MeFOSA	5.000	4.915	-1.7	98.3
MeFOSE	12.500	12.323	-1.4	98.6
PFDoDS	2.425	2.385	-1.7	98.3
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	6.180	23.6	123.6
d7-MeFOSE	25.000	27.264	9.1	109.1
d9-EtFOSE	25.000	28.285	13.1	113.1
d5-EtFOSA	2.500	2.581	3.2	103.2
NFDHA	5.000	4.886	-2.3	97.7
PFMBA	5.000	4.930	-1.4	98.6
PFMPA	5.000	4.959	-0.8	99.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.191	-5.8	94.2

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-CC282
 Lab FileID: 6Q18907.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060623_1633_S6Q282\s6q282.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18907
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.272	5.4	105.4
13C2-6:2FTS	5.000	5.389	7.8	107.8
13C2-8:2FTS	5.000	5.298	6.0	106.0
13C2-PFDoDA	1.250	1.200	-4.0	96.0
13C2-PFTeDA	1.250	1.268	1.4	101.4
13C3-PFBS	2.500	2.512	0.5	100.5
13C3-PFHxS	2.500	2.487	-0.5	99.5
13C4-PFBA	10.000	10.145	1.4	101.4
13C4-PFHpA	2.500	2.598	3.9	103.9
13C5-PFHxA	2.500	2.512	0.5	100.5
13C5-PFPeA	5.000	5.107	2.1	102.1
13C6-PFDA	1.250	1.258	0.6	100.6
13C7-PFUnDA	1.250	1.291	3.2	103.2
13C8-FOSA	2.500	2.445	-2.2	97.8
13C8-PFOA	2.500	2.588	3.5	103.5
13C8-PFOS	2.500	2.483	-0.7	99.3
13C9-PFNA	1.250	1.131	-9.5	90.5
4:2FTS	0.750	0.801	6.8	106.8
6:2FTS	0.760	0.780	2.6	102.6
8:2FTS	0.768	0.780	1.6	101.6
d3-MeFOSAA	5.000	5.341	6.8	106.8
EtFOSAA	0.200	0.192	-3.8	96.2
FOSA	0.200	0.201	0.4	100.4
MeFOSAA	0.200	0.201	0.6	100.6
PFBA	0.800	0.804	0.6	100.6
PFBS	0.177	0.181	2.1	102.1
PFDA	0.200	0.188	-6.2	93.8
PFDoDA	0.200	0.223	11.4	111.4
PFDS	0.193	0.204	5.7	105.7
PFHpA	0.200	0.200	0.0	100.0
PFHpS	0.191	0.203	6.3	106.3
PFHxA	0.200	0.216	8.0	108.0
PFHxS	0.183	0.181	-1.3	98.7
PFNA	0.200	0.211	5.4	105.4
PFNS	0.192	0.190	-1.0	99.0
PFOA	0.200	0.182	-9.1	90.9
PFOS	0.186	0.201	8.0	108.0

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-CC282
 Lab FileID: 6Q18907.D

PFPeA	0.400	0.414	3.5	103.5
PFPeS	0.188	0.196	4.1	104.1
PFTeDA	0.200	0.207	3.5	103.5
PFTTrDA	0.200	0.227	13.4	113.4
PFUnDA	0.200	0.191	-4.3	95.7
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--		
11C1-PF3OUdS	0.378	0.387	2.4	102.4
13C3-HFPO-DA	10.000	10.082	0.8	100.8
9C1-PF3ONS	0.367	0.381	3.7	103.7
ADONA	0.378	0.391	3.4	103.4
HFPO-DA	0.400	0.422	5.4	105.4
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	1.039	4.1	104.1
5:3FTCA	4.992	5.395	8.1	108.1
7:3FTCA	4.992	5.507	10.3	110.3
d3-MeFOSA	2.500	2.398	-4.1	95.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.428	7.1	107.1
EtFOSE	1.000	1.047	4.7	104.7
MeFOSA	0.400	0.407	1.7	101.7
MeFOSE	1.000	1.019	1.9	101.9
PFDoDS	0.194	0.195	0.6	100.6
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.310	6.2	106.2
d7-MeFOSE	25.000	25.165	0.7	100.7
d9-EtFOSE	25.000	24.725	-1.1	98.9
d5-EtFOSA	2.500	2.340	-6.4	93.6
NFDHA	0.400	0.404	1.0	101.0
PFMBA	0.400	0.393	-1.7	98.3
PFMPA	0.400	0.391	-2.2	97.8
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	0.356	0.370	3.8	103.8

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-ECC282
 Lab FileID: 6Q18918.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060623_1633_S6Q282\s6q282.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18918
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.397	7.9	107.9
13C2-6:2FTS	5.000	5.587	11.7	111.7
13C2-8:2FTS	5.000	5.627	12.5	112.5
13C2-PFDoDA	1.250	1.266	1.3	101.3
13C2-PFTeDA	1.250	1.264	1.1	101.1
13C3-PFBS	2.500	2.585	3.4	103.4
13C3-PFHxS	2.500	2.615	4.6	104.6
13C4-PFBA	10.000	10.058	0.6	100.6
13C4-PFHpA	2.500	2.467	-1.3	98.7
13C5-PFHxA	2.500	2.494	-0.2	99.8
13C5-PFPeA	5.000	4.992	-0.2	99.8
13C6-PFDA	1.250	1.361	8.9	108.9
13C7-PFUnDA	1.250	1.274	1.9	101.9
13C8-FOSA	2.500	2.539	1.6	101.6
13C8-PFOA	2.500	2.508	0.3	100.3
13C8-PFOS	2.500	2.450	-2.0	98.0
13C9-PFNA	1.250	1.213	-3.0	97.0
4:2FTS	9.375	10.104	7.8	107.8
6:2FTS	9.500	9.811	3.3	103.3
8:2FTS	9.600	9.495	-1.1	98.9
d3-MeFOSAA	5.000	5.114	2.3	102.3
EtFOSAA	2.500	2.252	-9.9	90.1
FOSA	2.500	2.389	-4.4	95.6
MeFOSAA	2.500	2.568	2.7	102.7
PFBA	10.000	9.846	-1.5	98.5
PFBS	2.218	2.255	1.7	101.7
PFDA	2.500	2.272	-9.1	90.9
PFDoDA	2.500	2.426	-2.9	97.1
PFDS	2.413	2.428	0.6	100.6
PFHpA	2.500	2.521	0.8	100.8
PFHpS	2.383	2.330	-2.2	97.8
PFHxA	2.500	2.432	-2.7	97.3
PFHxS	2.285	2.312	1.2	101.2
PFNA	2.500	2.555	2.2	102.2
PFNS	2.405	2.364	-1.7	98.3
PFOA	2.500	2.488	-0.5	99.5
PFOS	2.320	2.212	-4.7	95.3

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q282-ECC282
 Lab FileID: 6Q18918.D

PFPeA	5.000	4.889	-2.2	97.8
PFPeS	2.353	2.312	-1.8	98.2
PFTeDA	2.500	2.397	-4.1	95.9
PFTTrDA	2.500	2.417	-3.3	96.7
PFUnDA	2.500	2.630	5.2	105.2
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--		
11C1-PF3OUdS	4.725	4.700	-0.5	99.5
13C3-HFPO-DA	10.000	10.201	2.0	102.0
9C1-PF3ONS	4.675	4.871	4.2	104.2
ADONA	4.725	4.703	-0.5	99.5
HFPO-DA	5.000	5.021	0.4	100.4
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.165	-2.5	97.5
5:3FTCA	62.400	61.652	-1.2	98.8
7:3FTCA	62.400	62.826	0.7	100.7
d3-MeFOSA	2.500	2.513	0.5	100.5
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.904	-1.9	98.1
EtFOSE	12.500	12.551	0.4	100.4
MeFOSA	5.000	5.030	0.6	100.6
MeFOSE	12.500	12.130	-3.0	97.0
PFDODS	2.425	2.538	4.7	104.7
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.475	9.5	109.5
d7-MeFOSE	25.000	24.878	-0.5	99.5
d9-EtFOSE	25.000	24.610	-1.6	98.4
d5-EtFOSA	2.500	2.534	1.4	101.4
NFDHA	5.000	5.024	0.5	100.5
PFMBA	5.000	5.011	0.2	100.2
PFMPA	5.000	5.018	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--		
PFEEESA	4.450	4.464	0.3	100.3

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q18931.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060723_1633_S6Q283\s6q283.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18931
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.408	8.2	108.2
13C2-6:2FTS	5.000	5.801	16.0	116.0
13C2-8:2FTS	5.000	5.508	10.2	110.2
13C2-PFDoDA	1.250	1.182	-5.5	94.5
13C2-PFTeDA	1.250	1.220	-2.4	97.6
13C3-PFBS	2.500	2.687	7.5	107.5
13C3-PFHxS	2.500	2.636	5.4	105.4
13C4-PFBA	10.000	10.014	0.1	100.1
13C4-PFHpA	2.500	2.566	2.6	102.6
13C5-PFHxA	2.500	2.629	5.2	105.2
13C5-PFPeA	5.000	5.188	3.8	103.8
13C6-PFDA	1.250	1.240	-0.8	99.2
13C7-PFUnDA	1.250	1.234	-1.3	98.7
13C8-FOSA	2.500	2.441	-2.4	97.6
13C8-PFOA	2.500	2.479	-0.8	99.2
13C8-PFOS	2.500	2.538	1.5	101.5
13C9-PFNA	1.250	1.232	-1.4	98.6
4:2FTS	9.375	9.253	-1.3	98.7
6:2FTS	9.500	9.046	-4.8	95.2
8:2FTS	9.600	9.028	-6.0	94.0
d3-MeFOSAA	5.000	5.312	6.2	106.2
EtFOSAA	2.500	2.315	-7.4	92.6
FOSA	2.500	2.486	-0.6	99.4
MeFOSAA	2.500	2.572	2.9	102.9
PFBA	10.000	9.904	-1.0	99.0
PFBS	2.218	2.184	-1.5	98.5
PFDA	2.500	2.423	-3.1	96.9
PFDoDA	2.500	2.510	0.4	100.4
PFDS	2.413	2.435	0.9	100.9
PFHpA	2.500	2.495	-0.2	99.8
PFHpS	2.383	2.376	-0.3	99.7
PFHxA	2.500	2.341	-6.3	93.7
PFHxS	2.285	2.181	-4.6	95.4
PFNA	2.500	2.533	1.3	101.3
PFNS	2.405	2.385	-0.8	99.2
PFOA	2.500	2.436	-2.5	97.5
PFOS	2.320	2.268	-2.2	97.8

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q18931.D

PFPeA	5.000	4.819	-3.6	96.4
PFPeS	2.353	2.307	-1.9	98.1
PFTeDA	2.500	2.498	-0.1	99.9
PFTTrDA	2.500	2.653	6.1	106.1
PFUnDA	2.500	2.456	-1.7	98.3
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--		
11C1-PF3OUdS	4.725	4.453	-5.8	94.2
13C3-HFPO-DA	10.000	10.831	8.3	108.3
9C1-PF3ONS	4.675	4.578	-2.1	97.9
ADONA	4.725	4.548	-3.7	96.3
HFPO-DA	5.000	4.836	-3.3	96.7
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.233	-2.0	98.0
5:3FTCA	62.400	58.600	-6.1	93.9
7:3FTCA	62.400	59.073	-5.3	94.7
d3-MeFOSA	2.500	2.488	-0.5	99.5
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.803	-3.9	96.1
EtFOSE	12.500	13.106	4.8	104.8
MeFOSA	5.000	4.952	-1.0	99.0
MeFOSE	12.500	12.921	3.4	103.4
PFDoDS	2.425	2.471	1.9	101.9
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.306	6.1	106.1
d7-MeFOSE	25.000	25.339	1.4	101.4
d9-EtFOSE	25.000	25.275	1.1	101.1
d5-EtFOSA	2.500	2.573	2.9	102.9
NFDHA	5.000	4.927	-1.5	98.5
PFMBA	5.000	4.958	-0.8	99.2
PFMPA	5.000	5.061	1.2	101.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.339	-2.5	97.5

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q18932.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060723_1633_S6Q283\s6q283.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18932
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.209	4.2	104.2
13C2-6:2FTS	5.000	5.415	8.3	108.3
13C2-8:2FTS	5.000	5.228	4.6	104.6
13C2-PFDoDA	1.250	1.115	-10.8	89.2
13C2-PFTeDA	1.250	1.224	-2.0	98.0
13C3-PFBS	2.500	2.512	0.5	100.5
13C3-PFHxS	2.500	2.645	5.8	105.8
13C4-PFBA	10.000	10.006	0.1	100.1
13C4-PFHpA	2.500	2.527	1.1	101.1
13C5-PFHxA	2.500	2.579	3.2	103.2
13C5-PFPeA	5.000	5.000	0.0	100.0
13C6-PFDA	1.250	1.242	-0.6	99.4
13C7-PFUnDA	1.250	1.243	-0.5	99.5
13C8-FOSA	2.500	2.574	2.9	102.9
13C8-PFOA	2.500	2.456	-1.8	98.2
13C8-PFOS	2.500	2.557	2.3	102.3
13C9-PFNA	1.250	1.323	5.9	105.9
4:2FTS	0.750	0.775	3.4	103.4
6:2FTS	0.760	0.757	-0.5	99.5
8:2FTS	0.768	0.824	7.3	107.3
d3-MeFOSAA	5.000	5.832	16.6	116.6
EtFOSAA	0.200	0.180	-9.8	90.2
FOSA	0.200	0.200	-0.1	99.9
MeFOSAA	0.200	0.214	6.9	106.9
PFBA	0.800	0.814	1.7	101.7
PFBS	0.177	0.181	2.1	102.1
PFDA	0.200	0.189	-5.7	94.3
PFDoDA	0.200	0.227	13.5	113.5
PFDS	0.193	0.203	5.2	105.2
PFHpA	0.200	0.210	5.2	105.2
PFHpS	0.191	0.176	-8.0	92.0
PFHxA	0.200	0.193	-3.6	96.4
PFHxS	0.183	0.178	-2.8	97.2
PFNA	0.200	0.190	-4.9	95.1
PFNS	0.192	0.188	-1.9	98.1
PFOA	0.200	0.209	4.4	104.4
PFOS	0.186	0.201	8.0	108.0

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q18932.D

PFPeA	0.400	0.411	2.7	102.7
PFPeS	0.188	0.199	5.7	105.7
PFTeDA	0.200	0.207	3.7	103.7
PFTTrDA	0.200	0.216	7.9	107.9
PFUnDA	0.200	0.202	1.1	101.1
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDODA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	0.378	0.363	-4.0	96.0
13C3-HFPO-DA	10.000	10.304	3.0	103.0
9C1-PF3ONS	0.367	0.379	3.2	103.2
ADONA	0.378	0.367	-2.9	97.1
HFPO-DA	0.400	0.418	4.6	104.6
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	0.996	-0.2	99.8
5:3FTCA	4.992	4.951	-0.8	99.2
7:3FTCA	4.992	4.990	0.0	100.0
d3-MeFOSA	2.500	2.569	2.8	102.8
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.400	0.0	100.0
EtFOSE	1.000	1.022	2.2	102.2
MeFOSA	0.400	0.409	2.3	102.3
MeFOSE	1.000	1.020	2.0	102.0
PFDODS	0.194	0.203	4.6	104.6
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.675	13.5	113.5
d7-MeFOSE	25.000	26.595	6.4	106.4
d9-EtFOSE	25.000	26.943	7.8	107.8
d5-EtFOSA	2.500	2.672	6.9	106.9
NFDHA	0.400	0.397	-0.6	99.4
PFMBA	0.400	0.396	-1.1	98.9
PFMPA	0.400	0.411	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--		
PFEEESA	0.356	0.343	-3.8	96.2

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q18942.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060723_1633_S6Q283\s6q283.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18942
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.322	6.4	106.4
13C2-6:2FTS	5.000	5.239	4.8	104.8
13C2-8:2FTS	5.000	5.287	5.7	105.7
13C2-PFDoDA	1.250	1.302	4.1	104.1
13C2-PFTeDA	1.250	1.273	1.8	101.8
13C3-PFBS	2.500	2.493	-0.3	99.7
13C3-PFHxS	2.500	2.519	0.8	100.8
13C4-PFBA	10.000	10.036	0.4	100.4
13C4-PFHpA	2.500	2.509	0.4	100.4
13C5-PFHxA	2.500	2.494	-0.2	99.8
13C5-PFPeA	5.000	5.059	1.2	101.2
13C6-PFDA	1.250	1.360	8.8	108.8
13C7-PFUnDA	1.250	1.444	15.5	115.5
13C8-FOSA	2.500	2.483	-0.7	99.3
13C8-PFOA	2.500	2.537	1.5	101.5
13C8-PFOS	2.500	2.448	-2.1	97.9
13C9-PFNA	1.250	1.274	1.9	101.9
4:2FTS	9.375	9.560	2.0	102.0
6:2FTS	9.500	9.767	2.8	102.8
8:2FTS	9.600	9.847	2.6	102.6
d3-MeFOSAA	5.000	5.349	7.0	107.0
EtFOSAA	2.500	2.444	-2.3	97.7
FOSA	2.500	2.451	-2.0	98.0
MeFOSAA	2.500	2.377	-4.9	95.1
PFBA	10.000	9.901	-1.0	99.0
PFBS	2.218	2.207	-0.5	99.5
PFDA	2.500	2.317	-7.3	92.7
PFDoDA	2.500	2.415	-3.4	96.6
PFDS	2.413	2.402	-0.5	99.5
PFHpA	2.500	2.490	-0.4	99.6
PFHpS	2.383	2.455	3.0	103.0
PFHxA	2.500	2.352	-5.9	94.1
PFHxS	2.285	2.172	-4.9	95.1
PFNA	2.500	2.474	-1.0	99.0
PFNS	2.405	2.469	2.6	102.6
PFOA	2.500	2.468	-1.3	98.7
PFOS	2.320	2.330	0.4	100.4

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q18942.D

PFPeA	5.000	4.866	-2.7	97.3
PFPeS	2.353	2.311	-1.8	98.2
PFTeDA	2.500	2.562	2.5	102.5
PFTTrDA	2.500	2.474	-1.0	99.0
PFUnDA	2.500	2.129	-14.8	85.2
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--		
11C1-PF3OUdS	4.725	4.662	-1.3	98.7
13C3-HFPO-DA	10.000	10.263	2.6	102.6
9C1-PF3ONS	4.675	4.686	0.2	100.2
ADONA	4.725	4.635	-1.9	98.1
HFPO-DA	5.000	5.053	1.1	101.1
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.074	-3.3	96.7
5:3FTCA	62.400	61.750	-1.0	99.0
7:3FTCA	62.400	61.483	-1.5	98.5
d3-MeFOSA	2.500	2.490	-0.4	99.6
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.924	-1.5	98.5
EtFOSE	12.500	12.388	-0.9	99.1
MeFOSA	5.000	4.998	0.0	100.0
MeFOSE	12.500	12.119	-3.0	97.0
PFDoDS	2.425	2.338	-3.6	96.4
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.499	10.0	110.0
d7-MeFOSE	25.000	26.683	6.7	106.7
d9-EtFOSE	25.000	26.766	7.1	107.1
d5-EtFOSA	2.500	2.528	1.1	101.1
NFDHA	5.000	5.043	0.9	100.9
PFMBA	5.000	4.987	-0.3	99.7
PFMPA	5.000	5.062	1.2	101.2
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.533	1.9	101.9

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q18980.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060723_1633_S6Q283\s6q283.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18980
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.682	13.6	113.6
13C2-6:2FTS	5.000	5.455	9.1	109.1
13C2-8:2FTS	5.000	5.644	12.9	112.9
13C2-PFDoDA	1.250	1.193	-4.5	95.5
13C2-PFTeDA	1.250	1.252	0.2	100.2
13C3-PFBS	2.500	2.546	1.8	101.8
13C3-PFHxS	2.500	2.495	-0.2	99.8
13C4-PFBA	10.000	9.970	-0.3	99.7
13C4-PFHpA	2.500	2.582	3.3	103.3
13C5-PFHxA	2.500	2.525	1.0	101.0
13C5-PFPeA	5.000	5.247	4.9	104.9
13C6-PFDA	1.250	1.330	6.4	106.4
13C7-PFUnDA	1.250	1.246	-0.3	99.7
13C8-FOSA	2.500	2.611	4.4	104.4
13C8-PFOA	2.500	2.333	-6.7	93.3
13C8-PFOS	2.500	2.512	0.5	100.5
13C9-PFNA	1.250	1.216	-2.7	97.3
4:2FTS	0.750	0.739	-1.4	98.6
6:2FTS	0.760	0.801	5.3	105.3
8:2FTS	0.768	0.737	-4.0	96.0
d3-MeFOSAA	5.000	5.777	15.5	115.5
EtFOSAA	0.200	0.195	-2.6	97.4
FOSA	0.200	0.199	-0.5	99.5
MeFOSAA	0.200	0.215	7.3	107.3
PFBA	0.800	0.796	-0.4	99.6
PFBS	0.177	0.178	0.4	100.4
PFDA	0.200	0.194	-3.0	97.0
PFDoDA	0.200	0.221	10.4	110.4
PFDS	0.193	0.197	1.9	101.9
PFHpA	0.200	0.206	3.1	103.1
PFHpS	0.191	0.200	4.8	104.8
PFHxA	0.200	0.219	9.7	109.7
PFHxS	0.183	0.179	-1.9	98.1
PFNA	0.200	0.213	6.4	106.4
PFNS	0.192	0.192	-0.2	99.8
PFOA	0.200	0.179	-10.7	89.3
PFOS	0.186	0.205	10.1	110.1

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q18980.D

PFPeA	0.400	0.413	3.4	103.4
PFPeS	0.188	0.207	10.2	110.2
PFTeDA	0.200	0.209	4.3	104.3
PFTTrDA	0.200	0.216	7.8	107.8
PFUnDA	0.200	0.199	-0.4	99.6
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--		
11C1-PF3OUdS	0.378	0.373	-1.4	98.6
13C3-HFPO-DA	10.000	10.919	9.2	109.2
9C1-PF3ONS	0.367	0.361	-1.8	98.2
ADONA	0.378	0.378	0.1	100.1
HFPO-DA	0.400	0.393	-1.8	98.2
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	0.957	-4.2	95.8
5:3FTCA	4.992	5.387	7.9	107.9
7:3FTCA	4.992	4.753	-4.8	95.2
d3-MeFOSA	2.500	2.523	0.9	100.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.401	0.2	100.2
EtFOSE	1.000	0.993	-0.7	99.3
MeFOSA	0.400	0.407	1.8	101.8
MeFOSE	1.000	0.975	-2.5	97.5
PFDoDS	0.194	0.192	-1.0	99.0
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.735	14.7	114.7
d7-MeFOSE	25.000	25.368	1.5	101.5
d9-EtFOSE	25.000	25.824	3.3	103.3
d5-EtFOSA	2.500	2.564	2.5	102.5
NFDHA	0.400	0.392	-2.1	97.9
PFMBA	0.400	0.395	-1.3	98.7
PFMPA	0.400	0.403	0.8	100.8
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	0.356	0.363	1.9	101.9

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q18992.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060723_1633_S6Q283\s6q283.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q18992
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.654	13.1	113.1
13C2-6:2FTS	5.000	5.253	5.1	105.1
13C2-8:2FTS	5.000	5.301	6.0	106.0
13C2-PFDoDA	1.250	1.202	-3.9	96.1
13C2-PFTeDA	1.250	1.220	-2.4	97.6
13C3-PFBS	2.500	2.490	-0.4	99.6
13C3-PFHxS	2.500	2.533	1.3	101.3
13C4-PFBA	10.000	9.994	-0.1	99.9
13C4-PFHpA	2.500	2.521	0.8	100.8
13C5-PFHxA	2.500	2.538	1.5	101.5
13C5-PFPeA	5.000	5.062	1.2	101.2
13C6-PFDA	1.250	1.301	4.1	104.1
13C7-PFUnDA	1.250	1.276	2.1	102.1
13C8-FOSA	2.500	2.522	0.9	100.9
13C8-PFOA	2.500	2.440	-2.4	97.6
13C8-PFOS	2.500	2.477	-0.9	99.1
13C9-PFNA	1.250	1.255	0.4	100.4
4:2FTS	9.375	9.297	-0.8	99.2
6:2FTS	9.500	10.332	8.8	108.8
8:2FTS	9.600	9.835	2.4	102.4
d3-MeFOSAA	5.000	5.435	8.7	108.7
EtFOSAA	2.500	2.339	-6.4	93.6
FOSA	2.500	2.349	-6.0	94.0
MeFOSAA	2.500	2.449	-2.0	98.0
PFBA	10.000	9.944	-0.6	99.4
PFBS	2.218	2.271	2.4	102.4
PFDA	2.500	2.185	-12.6	87.4
PFDoDA	2.500	2.565	2.6	102.6
PFDS	2.413	2.348	-2.7	97.3
PFHpA	2.500	2.379	-4.8	95.2
PFHpS	2.383	2.427	1.9	101.9
PFHxA	2.500	2.304	-7.9	92.1
PFHxS	2.285	2.231	-2.3	97.7
PFNA	2.500	2.492	-0.3	99.7
PFNS	2.405	2.354	-2.1	97.9
PFOA	2.500	2.429	-2.8	97.2
PFOS	2.320	2.252	-2.9	97.1

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q18992.D

PFPeA	5.000	4.808	-3.8	96.2
PFPeS	2.353	2.314	-1.6	98.4
PFTeDA	2.500	2.462	-1.5	98.5
PFTTrDA	2.500	2.500	0.0	100.0
PFUnDA	2.500	2.470	-1.2	98.8
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--		
11C1-PF3OUdS	4.725	4.565	-3.4	96.6
13C3-HFPO-DA	10.000	10.474	4.7	104.7
9C1-PF3ONS	4.675	4.614	-1.3	98.7
ADONA	4.725	4.505	-4.7	95.3
HFPO-DA	5.000	4.894	-2.1	97.9
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.625	-6.9	93.1
5:3FTCA	62.400	59.060	-5.4	94.6
7:3FTCA	62.400	59.283	-5.0	95.0
d3-MeFOSA	2.500	2.530	1.2	101.2
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.940	-1.2	98.8
EtFOSE	12.500	12.391	-0.9	99.1
MeFOSA	5.000	4.978	-0.4	99.6
MeFOSE	12.500	12.179	-2.6	97.4
PFDoDS	2.425	2.467	1.7	101.7
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.329	6.6	106.6
d7-MeFOSE	25.000	24.995	0.0	100.0
d9-EtFOSE	25.000	25.867	3.5	103.5
d5-EtFOSA	2.500	2.578	3.1	103.1
NFDHA	5.000	4.884	-2.3	97.7
PFMBA	5.000	4.887	-2.3	97.7
PFMPA	5.000	4.986	-0.3	99.7
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.261	-4.2	95.8

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q19025.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060723_1633_S6Q283\s6q283.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q19025
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.482	9.6	109.6
13C2-6:2FTS	5.000	5.556	11.1	111.1
13C2-8:2FTS	5.000	5.071	1.4	101.4
13C2-PFDoDA	1.250	1.179	-5.7	94.3
13C2-PFTeDA	1.250	1.212	-3.1	96.9
13C3-PFBS	2.500	2.608	4.3	104.3
13C3-PFHxS	2.500	2.670	6.8	106.8
13C4-PFBA	10.000	10.033	0.3	100.3
13C4-PFHpA	2.500	2.533	1.3	101.3
13C5-PFHxA	2.500	2.538	1.5	101.5
13C5-PFPeA	5.000	5.155	3.1	103.1
13C6-PFDA	1.250	1.239	-0.9	99.1
13C7-PFUnDA	1.250	1.270	1.6	101.6
13C8-FOSA	2.500	2.691	7.7	107.7
13C8-PFOA	2.500	2.297	-8.1	91.9
13C8-PFOS	2.500	2.675	7.0	107.0
13C9-PFNA	1.250	1.247	-0.2	99.8
4:2FTS	9.375	9.526	1.6	101.6
6:2FTS	9.500	9.227	-2.9	97.1
8:2FTS	9.600	10.392	8.2	108.2
d3-MeFOSAA	5.000	6.052	21.0	121.0
EtFOSAA	2.500	2.200	-12.0	88.0
FOSA	2.500	2.445	-2.2	97.8
MeFOSAA	2.500	2.338	-6.5	93.5
PFBA	10.000	9.948	-0.5	99.5
PFBS	2.218	2.168	-2.3	97.7
PFDA	2.500	2.401	-4.0	96.0
PFDoDA	2.500	2.579	3.2	103.2
PFDS	2.413	2.507	3.9	103.9
PFHpA	2.500	2.455	-1.8	98.2
PFHpS	2.383	2.436	2.2	102.2
PFHxA	2.500	2.421	-3.1	96.9
PFHxS	2.285	2.190	-4.1	95.9
PFNA	2.500	2.542	1.7	101.7
PFNS	2.405	2.530	5.2	105.2
PFOA	2.500	2.444	-2.2	97.8
PFOS	2.320	2.306	-0.6	99.4

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q19025.D

PFPeA	5.000	4.869	-2.6	97.4
PFPeS	2.353	2.164	-8.0	92.0
PFTeDA	2.500	2.448	-2.1	97.9
PFTTrDA	2.500	2.559	2.4	102.4
PFUnDA	2.500	2.378	-4.9	95.1
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDoDA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	4.528	-4.2	95.8
13C3-HFPO-DA	10.000	10.577	5.8	105.8
9C1-PF3ONS	4.675	4.492	-3.9	96.1
ADONA	4.725	4.626	-2.1	97.9
HFPO-DA	5.000	5.238	4.8	104.8
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.761	-5.8	94.2
5:3FTCA	62.400	60.298	-3.4	96.6
7:3FTCA	62.400	60.633	-2.8	97.2
d3-MeFOSA	2.500	2.716	8.6	108.6
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.772	-4.6	95.4
EtFOSE	12.500	11.935	-4.5	95.5
MeFOSA	5.000	4.893	-2.1	97.9
MeFOSE	12.500	12.507	0.1	100.1
PFDoDS	2.425	2.424	0.0	100.0
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	6.092	21.8	121.8
d7-MeFOSE	25.000	26.717	6.9	106.9
d9-EtFOSE	25.000	27.423	9.7	109.7
d5-EtFOSA	2.500	2.864	14.6	114.6
NFDHA	5.000	5.181	3.6	103.6
PFMBA	5.000	4.954	-0.9	99.1
PFMPA	5.000	5.019	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--		
PFEEESA	4.450	4.538	2.0	102.0

CC Criteria: +/- 30%

6.9.14
6

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q19031.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060723_1633_S6Q283\s6q283.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q19031
 Type : QC
 Level : 1

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.588	11.8	111.8
13C2-6:2FTS	5.000	5.594	11.9	111.9
13C2-8:2FTS	5.000	5.921	18.4	118.4
13C2-PFDoDA	1.250	1.232	-1.4	98.6
13C2-PFTeDA	1.250	1.200	-4.0	96.0
13C3-PFBS	2.500	2.458	-1.7	98.3
13C3-PFHxS	2.500	2.530	1.2	101.2
13C4-PFBA	10.000	10.083	0.8	100.8
13C4-PFHpA	2.500	2.483	-0.7	99.3
13C5-PFHxA	2.500	2.620	4.8	104.8
13C5-PFPeA	5.000	5.070	1.4	101.4
13C6-PFDA	1.250	1.253	0.2	100.2
13C7-PFUnDA	1.250	1.241	-0.7	99.3
13C8-FOSA	2.500	2.545	1.8	101.8
13C8-PFOA	2.500	2.519	0.8	100.8
13C8-PFOS	2.500	2.566	2.6	102.6
13C9-PFNA	1.250	1.272	1.8	101.8
4:2FTS	0.750	0.763	1.7	101.7
6:2FTS	0.760	0.857	12.8	112.8
8:2FTS	0.768	0.812	5.7	105.7
d3-MeFOSAA	5.000	6.078	21.6	121.6
EtFOSAA	0.200	0.210	5.0	105.0
FOSA	0.200	0.207	3.6	103.6
MeFOSAA	0.200	0.201	0.6	100.6
PFBA	0.800	0.806	0.7	100.7
PFBS	0.177	0.179	1.1	101.1
PFDA	0.200	0.201	0.5	100.5
PFDoDA	0.200	0.209	4.4	104.4
PFDS	0.193	0.187	-3.1	96.9
PFHpA	0.200	0.207	3.5	103.5
PFHpS	0.191	0.207	8.2	108.2
PFHxA	0.200	0.206	3.0	103.0
PFHxS	0.183	0.185	0.8	100.8
PFNA	0.200	0.188	-6.0	94.0
PFNS	0.192	0.202	5.1	105.1
PFOA	0.200	0.225	12.7	112.7
PFOS	0.186	0.184	-1.3	98.7

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q19031.D

PFPeA	0.400	0.409	2.2	102.2
PFPeS	0.188	0.187	-0.4	99.6
PFTeDA	0.200	0.216	7.9	107.9
PFTTrDA	0.200	0.200	0.1	100.1
PFUnDA	0.200	0.178	-10.9	89.1
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDODA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	0.378	0.346	-8.6	91.4
13C3-HFPO-DA	10.000	10.993	9.9	109.9
9C1-PF3ONS	0.367	0.378	2.8	102.8
ADONA	0.378	0.351	-7.1	92.9
HFPO-DA	0.400	0.428	7.0	107.0
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	0.998	1.027	2.8	102.8
5:3FTCA	4.992	5.003	0.2	100.2
7:3FTCA	4.992	4.919	-1.5	98.5
d3-MeFOSA	2.500	2.573	2.9	102.9
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	0.400	0.407	1.7	101.7
EtFOSE	1.000	1.084	8.4	108.4
MeFOSA	0.400	0.408	2.0	102.0
MeFOSE	1.000	0.987	-1.3	98.7
PFDODS	0.194	0.218	12.5	112.5
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.904	18.1	118.1
d7-MeFOSE	25.000	25.922	3.7	103.7
d9-EtFOSE	25.000	25.718	2.9	102.9
d5-EtFOSA	2.500	2.591	3.6	103.6
NFDHA	0.400	0.406	1.6	101.6
PFMBA	0.400	0.389	-2.8	97.2
PFMPA	0.400	0.398	-0.4	99.6
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	0.356	0.345	-3.2	96.8

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-ECC282
 Lab FileID: 6Q19040.D

Continuing Calibration Report

Batch: D:\MassHunter\Data\060723_1633_S6Q283\s6q283.batch.bin

Level ID: Calibration File

1:D:\MassHunter\Data\060623_1633_S6Q282\6Q18871.d
 2:D:\MassHunter\Data\060623_1633_S6Q282\6Q18872.d
 3:D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d
 4:D:\MassHunter\Data\060623_1633_S6Q282\6Q18874.d
 5:D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d
 6:D:\MassHunter\Data\060623_1633_S6Q282\6Q18876.d
 7:D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d
 8:D:\MassHunter\Data\060623_1633_S6Q282\6Q18878.d

Data File: 6Q19040
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.363	7.3	107.3
13C2-6:2FTS	5.000	5.544	10.9	110.9
13C2-8:2FTS	5.000	5.581	11.6	111.6
13C2-PFDoDA	1.250	1.283	2.6	102.6
13C2-PFTeDA	1.250	1.281	2.5	102.5
13C3-PFBS	2.500	2.523	0.9	100.9
13C3-PFHxS	2.500	2.445	-2.2	97.8
13C4-PFBA	10.000	10.075	0.8	100.8
13C4-PFHpA	2.500	2.627	5.1	105.1
13C5-PFHxA	2.500	2.584	3.4	103.4
13C5-PFPeA	5.000	5.106	2.1	102.1
13C6-PFDA	1.250	1.229	-1.7	98.3
13C7-PFUnDA	1.250	1.269	1.5	101.5
13C8-FOSA	2.500	2.452	-1.9	98.1
13C8-PFOA	2.500	2.421	-3.1	96.9
13C8-PFOS	2.500	2.479	-0.8	99.2
13C9-PFNA	1.250	1.138	-8.9	91.1
4:2FTS	9.375	9.327	-0.5	99.5
6:2FTS	9.500	9.402	-1.0	99.0
8:2FTS	9.600	8.979	-6.5	93.5
d3-MeFOSAA	5.000	5.365	7.3	107.3
EtFOSAA	2.500	2.376	-4.9	95.1
FOSA	2.500	2.478	-0.9	99.1
MeFOSAA	2.500	2.501	0.0	100.0
PFBA	10.000	9.900	-1.0	99.0
PFBS	2.218	2.236	0.8	100.8
PFDA	2.500	2.487	-0.5	99.5
PFDoDA	2.500	2.348	-6.1	93.9
PFDS	2.413	2.512	4.1	104.1
PFHpA	2.500	2.389	-4.4	95.6
PFHpS	2.383	2.602	9.2	109.2
PFHxA	2.500	2.393	-4.3	95.7
PFHxS	2.285	2.320	1.5	101.5
PFNA	2.500	2.527	1.1	101.1
PFNS	2.405	2.533	5.3	105.3
PFOA	2.500	2.458	-1.7	98.3
PFOS	2.320	2.342	0.9	100.9

Continuing Calibration Summary

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-ECC282
 Lab FileID: 6Q19040.D

PFPeA	5.000	4.935	-1.3	98.7
PFPeS	2.353	2.321	-1.4	98.6
PFTeDA	2.500	2.425	-3.0	97.0
PFTTrDA	2.500	2.341	-6.4	93.6
PFUnDA	2.500	2.446	-2.1	97.9
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--		
11C1-PF3OUdS	4.725	4.619	-2.2	97.8
13C3-HFPO-DA	10.000	10.591	5.9	105.9
9C1-PF3ONS	4.675	4.848	3.7	103.7
ADONA	4.725	4.535	-4.0	96.0
HFPO-DA	5.000	5.170	3.4	103.4
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.817	-5.3	94.7
5:3FTCA	62.400	58.722	-5.9	94.1
7:3FTCA	62.400	60.532	-3.0	97.0
d3-MeFOSA	2.500	2.615	4.6	104.6
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	5.125	2.5	102.5
EtFOSE	12.500	11.911	-4.7	95.3
MeFOSA	5.000	4.846	-3.1	96.9
MeFOSE	12.500	12.479	-0.2	99.8
PFDoDS	2.425	2.464	1.6	101.6
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.515	10.3	110.3
d7-MeFOSE	25.000	24.799	-0.8	99.2
d9-EtFOSE	25.000	25.577	2.3	102.3
d5-EtFOSA	2.500	2.571	2.9	102.9
NFDHA	5.000	4.972	-0.6	99.4
PFMBA	5.000	5.058	1.2	101.2
PFMPA	5.000	5.088	1.8	101.8
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEESA	4.450	4.439	-0.2	99.8

CC Criteria: +/- 30%

Run Sequence Report

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q282	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q		
Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q282-RT	6Q18868.D	06/06/23 13:32	n/a	Retention Time Marker
S6Q282-RT	6Q18869.D	06/06/23 13:46	n/a	Retention Time Marker
S6Q282-IC282	6Q18870.D	06/06/23 14:01	n/a	Mass Calibration Verification
S6Q282-IC282	6Q18871.D	06/06/23 14:15	n/a	Initial cal 1
S6Q282-IC282	6Q18872.D	06/06/23 14:30	n/a	Initial cal 2
S6Q282-IC282	6Q18873.D	06/06/23 14:44	n/a	Initial cal 3
S6Q282-ICC282	6Q18874.D	06/06/23 14:59	n/a	Initial cal 4
S6Q282-IC282	6Q18875.D	06/06/23 15:13	n/a	Initial cal 5
S6Q282-IC282	6Q18876.D	06/06/23 15:28	n/a	Initial cal 6
S6Q282-IC282	6Q18877.D	06/06/23 15:42	n/a	Initial cal 7
S6Q282-IC282	6Q18878.D	06/06/23 15:57	n/a	Initial cal 8
S6Q282-IBLK	6Q18879.D	06/06/23 16:11	n/a	Instrument Blank
S6Q282-IBLK	6Q18879.D	06/06/23 16:11	n/a	Instrument Blank
S6Q282-ICV282	6Q18880.D	06/06/23 16:26	n/a	Initial cal verification 4
S6Q282-ICV282	6Q18881.D	06/06/23 16:40	n/a	Initial cal verification 20
S6Q282-CC282	6Q18882.D	06/06/23 16:55	n/a	Continuing cal 4
S6Q282-CC282	6Q18883.D	06/06/23 17:09	n/a	Continuing cal 1.0LL
OP97180-BS	6Q18884.D	06/06/23 17:24	OP97180	Blank Spike
OP97180-LLBS	6Q18885.D	06/06/23 17:38	OP97180	Blank Spike
OP97180-MB	6Q18886.D	06/06/23 17:53	OP97180	Method Blank
ZZZZZZ	6Q18887.D	06/06/23 18:07	OP97180	(unrelated sample)
ZZZZZZ	6Q18888.D	06/06/23 18:21	OP97180	(unrelated sample)
ZZZZZZ	6Q18889.D	06/06/23 18:36	OP97180	(unrelated sample)
ZZZZZZ	6Q18890.D	06/06/23 18:50	OP97180	(unrelated sample)
ZZZZZZ	6Q18891.D	06/06/23 19:05	OP97180	(unrelated sample)
ZZZZZZ	6Q18892.D	06/06/23 19:19	OP97180	(unrelated sample)
FC6086-17	6Q18893.D	06/06/23 19:34	OP97180	(used for QC only; not part of job FC6479)
S6Q282-CC282	6Q18894.D	06/06/23 19:48	n/a	Continuing cal 4
S6Q282-ICCB	6Q18895.D	06/06/23 20:03	n/a	Continuing Calibration Blank
S6Q282-ICCB	6Q18895.D	06/06/23 20:03	n/a	Continuing Calibration Blank
OP97180-MS	6Q18896.D	06/06/23 20:17	OP97180	Matrix Spike
OP97180-MSD	6Q18897.D	06/06/23 20:32	OP97180	Matrix Spike Duplicate
ZZZZZZ	6Q18898.D	06/06/23 20:46	OP97180	(unrelated sample)
ZZZZZZ	6Q18899.D	06/06/23 21:01	OP97180	(unrelated sample)
OP97161-BS	6Q18900.D	06/06/23 21:15	OP97161	Blank Spike
OP97161-LLBS	6Q18901.D	06/06/23 21:30	OP97161	Blank Spike
OP97161-MB	6Q18902.D	06/06/23 21:44	OP97161	Method Blank
ZZZZZZ	6Q18903.D	06/06/23 21:59	OP97161	(unrelated sample)
ZZZZZZ	6Q18904.D	06/06/23 22:13	OP97161	(unrelated sample)
S6Q282-CC282	6Q18906.D	06/06/23 22:42	n/a	Continuing cal 4
S6Q282-CC282	6Q18907.D	06/06/23 22:57	n/a	Continuing cal 1.0LL
S6Q282-ICCB	6Q18908.D	06/06/23 23:11	n/a	Continuing Calibration Blank
S6Q282-ICCB	6Q18908.D	06/06/23 23:11	n/a	Continuing Calibration Blank
OP97179-BS	6Q18909.D	06/06/23 23:26	OP97179	Blank Spike
OP97179-LLBS	6Q18910.D	06/06/23 23:40	OP97179	Blank Spike
OP97179-MB	6Q18911.D	06/06/23 23:55	OP97179	Method Blank

Run Sequence Report

Job Number: FC6479
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q282	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
FC6237-19	6Q18912.D	06/07/23 00:09	OP97179	(used for QC only; not part of job FC6479)
OP97179-MS	6Q18913.D	06/07/23 00:24	OP97179	Matrix Spike
ZZZZZZ	6Q18914.D	06/07/23 00:38	OP97179	(unrelated sample)
ZZZZZZ	6Q18915.D	06/07/23 00:53	OP97179	(unrelated sample)
ZZZZZZ	6Q18916.D	06/07/23 01:07	OP97179	(unrelated sample)
ZZZZZZ	6Q18917.D	06/07/23 01:21	OP97179	(unrelated sample)
S6Q282-ECC282	6Q18918.D	06/07/23 01:36	n/a	Ending cal 4
S6Q282-ICCB	6Q18919.D	06/07/23 01:50	n/a	Continuing Calibration Blank

6.10.1
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Run Sequence Report

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q283	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q		
Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
S6Q283-RT	6Q18927.D	06/07/23 09:56	n/a	Retention Time Marker
S6Q283-RT	6Q18928.D	06/07/23 10:11	n/a	Retention Time Marker
S6Q283-IBLK	6Q18930.D	06/07/23 10:40	n/a	Instrument Blank
S6Q283-IBLK	6Q18930.D	06/07/23 10:40	n/a	Instrument Blank
S6Q283-CC282	6Q18931.D	06/07/23 10:54	n/a	Continuing cal 4
S6Q283-CC282	6Q18932.D	06/07/23 11:09	n/a	Continuing cal 1.0LL
OP97179-BS	6Q18933.D	06/07/23 11:23	OP97179	Blank Spike
OP97179-LLBS	6Q18934.D	06/07/23 11:38	OP97179	Blank Spike
OP97179-MB	6Q18935.D	06/07/23 11:52	OP97179	Method Blank
FC6479-1	6Q18936.D	06/07/23 12:07	OP97179	AF-RHMW225401-WGN01B-2305W5
FC6479-2	6Q18937.D	06/07/23 12:21	OP97179	AF-HDMW225303-WGN01LF-2305W5
OP97179-DUP	6Q18938.D	06/07/23 12:36	OP97179	Duplicate
FC6479-3	6Q18939.D	06/07/23 12:50	OP97179	AF-RHMW10-WGN01LF-2305W5
ZZZZZZ	6Q18940.D	06/07/23 13:05	OP97124	(unrelated sample)
S6Q283-CC282	6Q18942.D	06/07/23 13:34	n/a	Continuing cal 4
S6Q283-ICCB	6Q18943.D	06/07/23 13:48	n/a	Continuing Calibration Blank
S6Q283-ICCB	6Q18943.D	06/07/23 13:48	n/a	Continuing Calibration Blank
OP97120-BS	6Q18944.D	06/07/23 14:03	OP97120	Blank Spike
OP97120-LLBS	6Q18945.D	06/07/23 14:17	OP97120	Blank Spike
OP97120-MB	6Q18946.D	06/07/23 14:32	OP97120	Method Blank
FC6147-1	6Q18947.D	06/07/23 14:46	OP97120	(used for QC only; not part of job FC6479)
ZZZZZZ	6Q18950.D	06/07/23 15:29	OP97120	(unrelated sample)
ZZZZZZ	6Q18953.D	06/07/23 16:13	OP97120	(unrelated sample)
S6Q283-CC282	6Q18954.D	06/07/23 16:27	n/a	Continuing cal 4
S6Q283-ICCB	6Q18955.D	06/07/23 16:42	n/a	Continuing Calibration Blank
S6Q283-ICCB	6Q18955.D	06/07/23 16:42	n/a	Continuing Calibration Blank
ZZZZZZ	6Q18956.D	06/07/23 16:56	OP97120	(unrelated sample)
ZZZZZZ	6Q18957.D	06/07/23 17:11	OP97120	(unrelated sample)
ZZZZZZ	6Q18958.D	06/07/23 17:25	OP97120	(unrelated sample)
ZZZZZZ	6Q18959.D	06/07/23 17:40	OP97120	(unrelated sample)
ZZZZZZ	6Q18960.D	06/07/23 17:54	OP97120	(unrelated sample)
ZZZZZZ	6Q18961.D	06/07/23 18:09	OP97120	(unrelated sample)
ZZZZZZ	6Q18962.D	06/07/23 18:23	OP97120	(unrelated sample)
ZZZZZZ	6Q18963.D	06/07/23 18:38	OP97120	(unrelated sample)
ZZZZZZ	6Q18964.D	06/07/23 18:52	OP97120	(unrelated sample)
S6Q283-CC282	6Q18966.D	06/07/23 19:21	n/a	Continuing cal 4
S6Q283-CC282	6Q18967.D	06/07/23 19:36	n/a	Continuing cal 1.0LL
S6Q283-ICCB	6Q18968.D	06/07/23 19:50	n/a	Continuing Calibration Blank
S6Q283-ICCB	6Q18968.D	06/07/23 19:50	n/a	Continuing Calibration Blank
OP97121-BS	6Q18969.D	06/07/23 20:05	OP97121	Blank Spike
OP97121-LLBS	6Q18970.D	06/07/23 20:19	OP97121	Blank Spike
OP97121-MB	6Q18971.D	06/07/23 20:34	OP97121	Method Blank
FC6215-1	6Q18972.D	06/07/23 20:48	OP97121	(used for QC only; not part of job FC6479)
OP97121-MS	6Q18973.D	06/07/23 21:03	OP97121	Matrix Spike
OP97121-MSD	6Q18974.D	06/07/23 21:17	OP97121	Matrix Spike Duplicate
ZZZZZZ	6Q18975.D	06/07/23 21:32	OP97121	(unrelated sample)

Run Sequence Report

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q283	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	6Q18976.D	06/07/23 21:46	OP97121	(unrelated sample)
ZZZZZZ	6Q18977.D	06/07/23 22:01	OP97121	(unrelated sample)
ZZZZZZ	6Q18978.D	06/07/23 22:15	OP97121	(unrelated sample)
S6Q283-CC282	6Q18979.D	06/07/23 22:30	n/a	Continuing cal 4
S6Q283-CC282	6Q18980.D	06/07/23 22:44	n/a	Continuing cal 1.0LL
S6Q283-ICCB	6Q18981.D	06/07/23 22:59	n/a	Continuing Calibration Blank
S6Q283-ICCB	6Q18981.D	06/07/23 22:59	n/a	Continuing Calibration Blank
ZZZZZZ	6Q18982.D	06/07/23 23:13	OP97121	(unrelated sample)
ZZZZZZ	6Q18983.D	06/07/23 23:27	OP97121	(unrelated sample)
ZZZZZZ	6Q18984.D	06/07/23 23:42	OP97121	(unrelated sample)
ZZZZZZ	6Q18985.D	06/07/23 23:56	OP97121	(unrelated sample)
ZZZZZZ	6Q18986.D	06/08/23 00:11	OP97121	(unrelated sample)
ZZZZZZ	6Q18987.D	06/08/23 00:25	OP97121	(unrelated sample)
ZZZZZZ	6Q18988.D	06/08/23 00:40	OP97121	(unrelated sample)
ZZZZZZ	6Q18989.D	06/08/23 00:54	OP97121	(unrelated sample)
ZZZZZZ	6Q18990.D	06/08/23 01:09	OP97121	(unrelated sample)
ZZZZZZ	6Q18991.D	06/08/23 01:23	OP97121	(unrelated sample)
S6Q283-CC282	6Q18992.D	06/08/23 01:38	n/a	Continuing cal 4
S6Q283-ICCB	6Q18993.D	06/08/23 01:52	n/a	Continuing Calibration Blank
S6Q283-ICCB	6Q18993.D	06/08/23 01:52	n/a	Continuing Calibration Blank
ZZZZZZ	6Q18994.D	06/08/23 02:07	OP97121	(unrelated sample)
OP97216-BS	6Q18995.D	06/08/23 02:21	OP97216	Blank Spike
OP97216-LLBS	6Q18996.D	06/08/23 02:36	OP97216	Blank Spike
OP97216-MB	6Q18997.D	06/08/23 02:50	OP97216	Method Blank
ZZZZZZ	6Q18998.D	06/08/23 03:05	OP97216	(unrelated sample)
FC6537-2	6Q18999.D	06/08/23 03:19	OP97216	(used for QC only; not part of job FC6479)
OP97216-MS	6Q19000.D	06/08/23 03:34	OP97216	Matrix Spike
FC6537-3	6Q19001.D	06/08/23 03:48	OP97216	(used for QC only; not part of job FC6479)
OP97216-DUP	6Q19002.D	06/08/23 04:03	OP97216	Duplicate
ZZZZZZ	6Q19003.D	06/08/23 04:17	OP97216	(unrelated sample)
S6Q283-CC282	6Q19004.D	06/08/23 04:32	n/a	Continuing cal 4
S6Q283-ICCB	6Q19005.D	06/08/23 04:46	n/a	Continuing Calibration Blank
S6Q283-ICCB	6Q19005.D	06/08/23 04:46	n/a	Continuing Calibration Blank
ZZZZZZ	6Q19006.D	06/08/23 05:01	OP97216	(unrelated sample)
OP97178-BS	6Q19007.D	06/08/23 05:15	OP97178	Blank Spike
OP97178-LLBS	6Q19008.D	06/08/23 05:30	OP97178	Blank Spike
OP97178-MB	6Q19009.D	06/08/23 05:44	OP97178	Method Blank
ZZZZZZ	6Q19010.D	06/08/23 05:59	OP97178	(unrelated sample)
ZZZZZZ	6Q19012.D	06/08/23 06:28	OP97178	(unrelated sample)
ZZZZZZ	6Q19014.D	06/08/23 06:57	OP97178	(unrelated sample)
S6Q283-CC282	6Q19016.D	06/08/23 07:26	n/a	Continuing cal 4
S6Q283-ICCB	6Q19017.D	06/08/23 07:40	n/a	Continuing Calibration Blank
ZZZZZZ	6Q19018.D	06/08/23 07:55	OP97178	(unrelated sample)
FC6237-7	6Q19019.D	06/08/23 08:09	OP97178	(used for QC only; not part of job FC6479)
OP97178-MS	6Q19020.D	06/08/23 08:23	OP97178	Matrix Spike
OP97178-MSD	6Q19021.D	06/08/23 08:38	OP97178	Matrix Spike Duplicate

6:10.2

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Run Sequence Report

Job Number: FC6479
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q283	Method: EPA DRAFT 1633	Instrument ID: GCMS6Q
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Lab Sample ID	Lab File ID	Date/Time Analyzed	Prep QC Batch	Client Sample ID
ZZZZZZ	6Q19022.D	06/08/23 08:52	OP97178	(unrelated sample)
ZZZZZZ	6Q19023.D	06/08/23 09:07	OP97178	(unrelated sample)
ZZZZZZ	6Q19024.D	06/08/23 09:21	OP97178	(unrelated sample)
S6Q283-CC282	6Q19025.D	06/08/23 09:36	n/a	Continuing cal 4
S6Q283-ICCB	6Q19026.D	06/08/23 09:50	n/a	Continuing Calibration Blank
S6Q283-RT	6Q19027.D	06/08/23 10:05	n/a	Retention Time Marker
S6Q283-RT	6Q19028.D	06/08/23 10:19	n/a	Retention Time Marker
S6Q283-IBLK	6Q19030.D	06/08/23 10:48	n/a	Instrument Blank
S6Q283-IBLK	6Q19030.D	06/08/23 10:48	n/a	Instrument Blank
S6Q283-CC282	6Q19031.D	06/08/23 11:03	n/a	Continuing cal 1.0LL
ZZZZZZ	6Q19032.D	06/08/23 11:17	OP97178	(unrelated sample)
ZZZZZZ	6Q19033.D	06/08/23 11:32	OP97178	(unrelated sample)
ZZZZZZ	6Q19035.D	06/08/23 12:01	OP97178	(unrelated sample)
ZZZZZZ	6Q19036.D	06/08/23 12:15	OP97178	(unrelated sample)
ZZZZZZ	6Q19038.D	06/08/23 12:44	OP97178	(unrelated sample)
S6Q283-ECC282	6Q19040.D	06/08/23 13:13	n/a	Ending cal 4
S6Q283-ICCB	6Q19041.D	06/08/23 13:28	n/a	Continuing Calibration Blank

6.10.2
6

MS Semi-volatiles

Raw Data

Manual Integrations
APPROVED
 (compounds with "m" flag)
 Natasha Gumtje
 06/09/23 13:53

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18936.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 12:07:16 PM
 Sample Name : FC6479-1
 Vial : P6-B1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97179,S6Q283,560,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.888	216.8 -> 171.9	146304	10.00 µg/L	0.028
M5-PFPeA	4.284	268.3 -> 223.0	49818	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	53444	2.50 µg/L	0.000
M4-PFHpA	6.432	367.1 -> 322.0	49583	2.50 µg/L	0.012
M8-PFOA	7.064	421.1 -> 376.0	77852	2.50 µg/L	0.013
M9-PFNA	7.583	472.1 -> 427.0	35298	1.25 µg/L	0.014
M6-PFDA	8.039	519.1 -> 474.1	19578	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	24935	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	20311	1.25 µg/L	0.012
M2-PFTeDA	9.627	715.2 -> 670.0	10503	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	27265	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	20670	2.50 µg/L	0.013
M3-PFHxS	7.167	402.1 -> 79.9	12238	2.50 µg/L	0.012
M8-PFOS	8.202	507.1 -> 79.9	10601	2.50 µg/L	0.012
M2-4:2FTS	5.156	329.1 -> 80.9	4050	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	5605	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5405	5.00 µg/L	0.000
M3-MeFOSAA	8.108	573.2 -> 419.0	26611	5.00 µg/L	0.012
M3-HFPO-DA	5.856	286.9 -> 168.9	32835	10.00 µg/L	0.025
M5-EtFOSAA	8.292	589.2 -> 419.0	23305	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	71709	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	89751	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	7884	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	8775	2.50 µg/L	0.000
13C4-PFOS	8.202	502.8 -> 79.9	15087	2.50 µg/L	0.012
13C3-PFBA	2.891	216.0 -> 172.0	64716	5.00 µg/L	0.027
18O2-PFHxS	7.166	403.0 -> 83.9	8699	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	82504	2.50 µg/L	0.013
13C2-PFDA	8.052	515.1 -> 470.1	28545	1.25 µg/L	0.012
13C5-PFNA	7.583	468.0 -> 423.0	45216	1.25 µg/L	0.014
13C2-PFHxA	5.479	315.1 -> 270.0	50846	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4050	5.66 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.2%		
13C2-6:2FTS	6.838	429.1 -> 80.9	5605	5.45 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.0%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5405	5.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.6%		
13C2-PFDoDA	8.912	615.1 -> 570.0	20311	0.97 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 77.9%		
13C2-PFTeDA	9.627	715.2 -> 670.0	10503	0.92 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 73.5%		
13C3-PFBS	5.397	302.1 -> 79.9	20670	2.70 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 108.1%		
13C3-PFHxS	7.167	402.1 -> 79.9	12238	2.61 µg/L	0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C4-PFBA	2.888	216.8 -> 171.9	146304	9.53 µg/L	0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.3%	
13C4-PFHpA	6.432	367.1 -> 322.0	49583	2.45 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C5-PFHxA	5.478	318.0 -> 273.0	53444	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C5-PFPeA	4.284	268.3 -> 223.0	49818	5.05 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C6-PFDA	8.039	519.1 -> 474.1	19578	1.16 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.5%	
13C7-PFUnDA	8.480	570.0 -> 525.1	24935	1.13 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.1%	
13C8-FOSA	9.623	506.1 -> 77.8	27265	2.48 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C8-PFOA	7.064	421.1 -> 376.0	77852	2.46 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C8-PFOS	8.202	507.1 -> 79.9	10601	2.32 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.6%	
13C9-PFNA	7.583	472.1 -> 427.0	35298	1.19 µg/L	0.014
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.0%	
d3-MeFOSAA	8.108	573.2 -> 419.0	26611	4.90 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.0%	
13C3-HFPO-DA	5.856	286.9 -> 168.9	32835	10.25 µg/L	0.025
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
d3-MeFOSA	10.752	515.0 -> 219.0	8775	2.05 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.1%	
d5-EtFOSAA	8.292	589.2 -> 419.0	23305	4.78 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.7%	
d7-MeFOSE	10.672	623.2 -> 58.9	71709	18.94 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 75.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	89751	18.61 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 74.4%	
d5-EtFOSA	10.984	531.1 -> 219.0	7884	1.92 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 76.9%	

Target Compounds

Compound	RT	Transition	Response	Conc. Units	QValue
4:2FTS	-	327.1 -> 307.0	-	N.D.	
		327.1 -> 80.9			
6:2FTS	-	427.1 -> 407.0	-	N.D.	
		427.1 -> 80.9			
8:2FTS	-	527.1 -> 507.0	-	N.D.	
		527.1 -> 80.8			
EtFOSAA	-	584.2 -> 419.1	-	N.D.	
		584.2 -> 526.0			
FOSA	-	498.1 -> 77.9	-	N.D.	
		498.1 -> 478.0			
MeFOSAA	-	570.1 -> 419.0	-	N.D.	
		570.1 -> 483.0			
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	5.398	298.7 -> 79.9	550	0.08 µg/L	93
		298.7 -> 98.8	238		
PFDA	-	512.9 -> 469.0	-	N.D.	
		512.9 -> 219.0			
PFDODA	8.836	613.1 -> 569.0	0	µg/L m	1
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8				
PFHpA	6.433	363.1 -> 319.0	1829	0.09	µg/L	95
		363.1 -> 169.0	333			
PFHpS	-	449.0 -> 79.9	-	N.D.		
		449.0 -> 98.9				
PFHxA	5.481	313.0 -> 269.0	2387	0.14	µg/L	99
		313.0 -> 118.9	124			
PFHxS	7.168	398.7 -> 79.9	510	0.09	µg/L	m 95
		398.7 -> 98.9	227			
PFNA	8.031	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	7.066	413.0 -> 369.0	5305	0.16	µg/L	m 91
		413.0 -> 169.0	736			
PFOS	8.203	498.9 -> 79.9	707	0.15	µg/L	m 87
		498.9 -> 98.8	284			
PFPeA	4.287	263.0 -> 219.0	2281	0.19	µg/L	100
PFPeS	-	349.1 -> 79.9	-	N.D.		
		349.1 -> 98.9				
PFTeDA	-	713.1 -> 669.0	-	N.D.		
		713.1 -> 168.9				
PFTrDA	-	663.0 -> 619.0	-	N.D.		
		663.0 -> 168.9				
PFUnDA	-	563.1 -> 519.0	-	N.D.		
		563.1 -> 269.1				
11Cl-PF3OUdS	-	630.9 -> 450.9	-	N.D.		
		632.9 -> 452.9				
9Cl-PF3ONS	-	530.8 -> 351.0	-	N.D.		
		532.8 -> 353.0				
ADONA	-	376.9 -> 250.9	-	N.D.		
		376.9 -> 84.8				
HFPO-DA	-	284.9 -> 168.9	-	N.D.		
		284.9 -> 184.9				
3:3FTCA	-	241.0 -> 177.0	-	N.D.		
		241.0 -> 117.0				
5:3FTCA	-	341.0 -> 237.1	-	N.D.		
		341.0 -> 217.0				
7:3FTCA	-	441.0 -> 316.9	-	N.D.		
		441.0 -> 336.9				
EtFOSA	-	526.0 -> 219.0	-	N.D.		
		526.0 -> 169.0				
EtFOSE	-	630.0 -> 58.9	-	N.D.		
MeFOSA	-	511.9 -> 219.0	-	N.D.		
		511.9 -> 169.0				
MeFOSE	-	616.1 -> 58.9	-	N.D.		
PFDoDS	-	699.1 -> 79.9	-	N.D.		
		699.1 -> 98.8				
NFDHA	-	295.0 -> 201.0	-	N.D.		
		295.0 -> 84.9				
PFMBA	-	279.0 -> 85.1	-	N.D.		
PFMPA	-	229.0 -> 84.9	-	N.D.		
PFEESA	-	314.8 -> 134.9	-	N.D.		
		314.8 -> 82.9				

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

7.1.1
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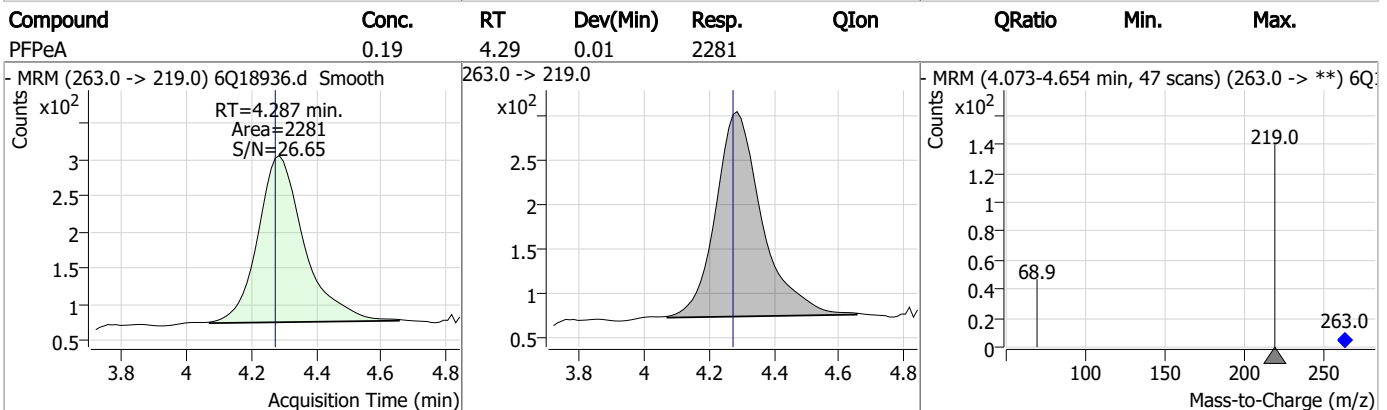
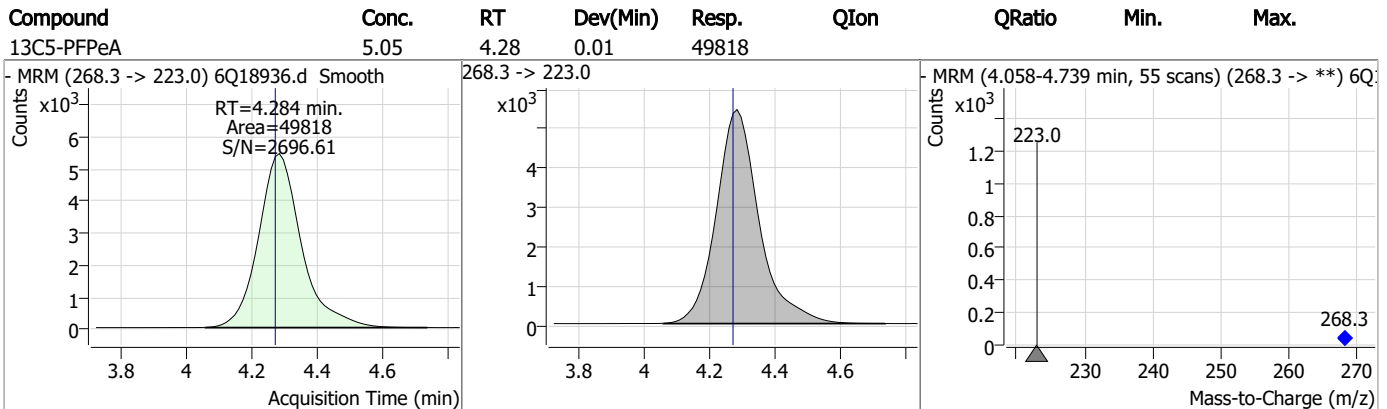
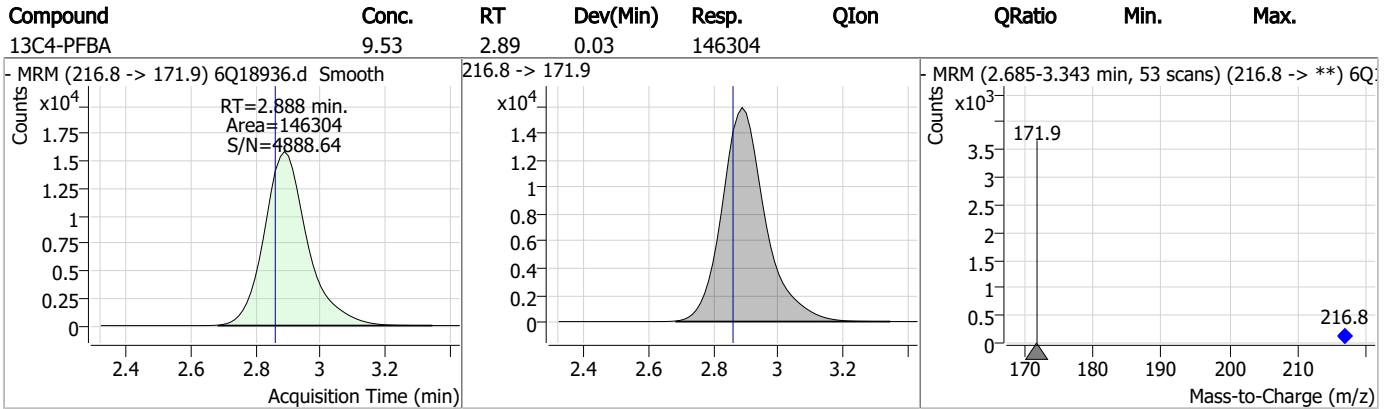
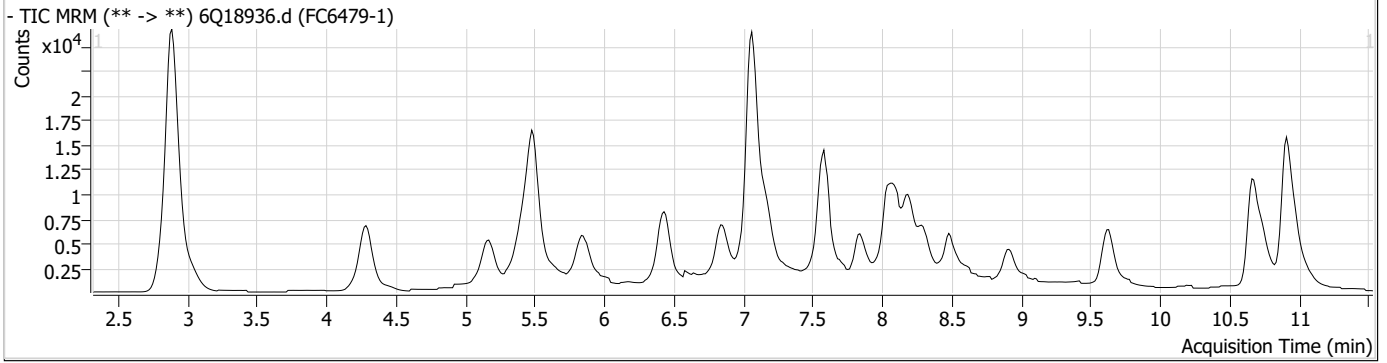
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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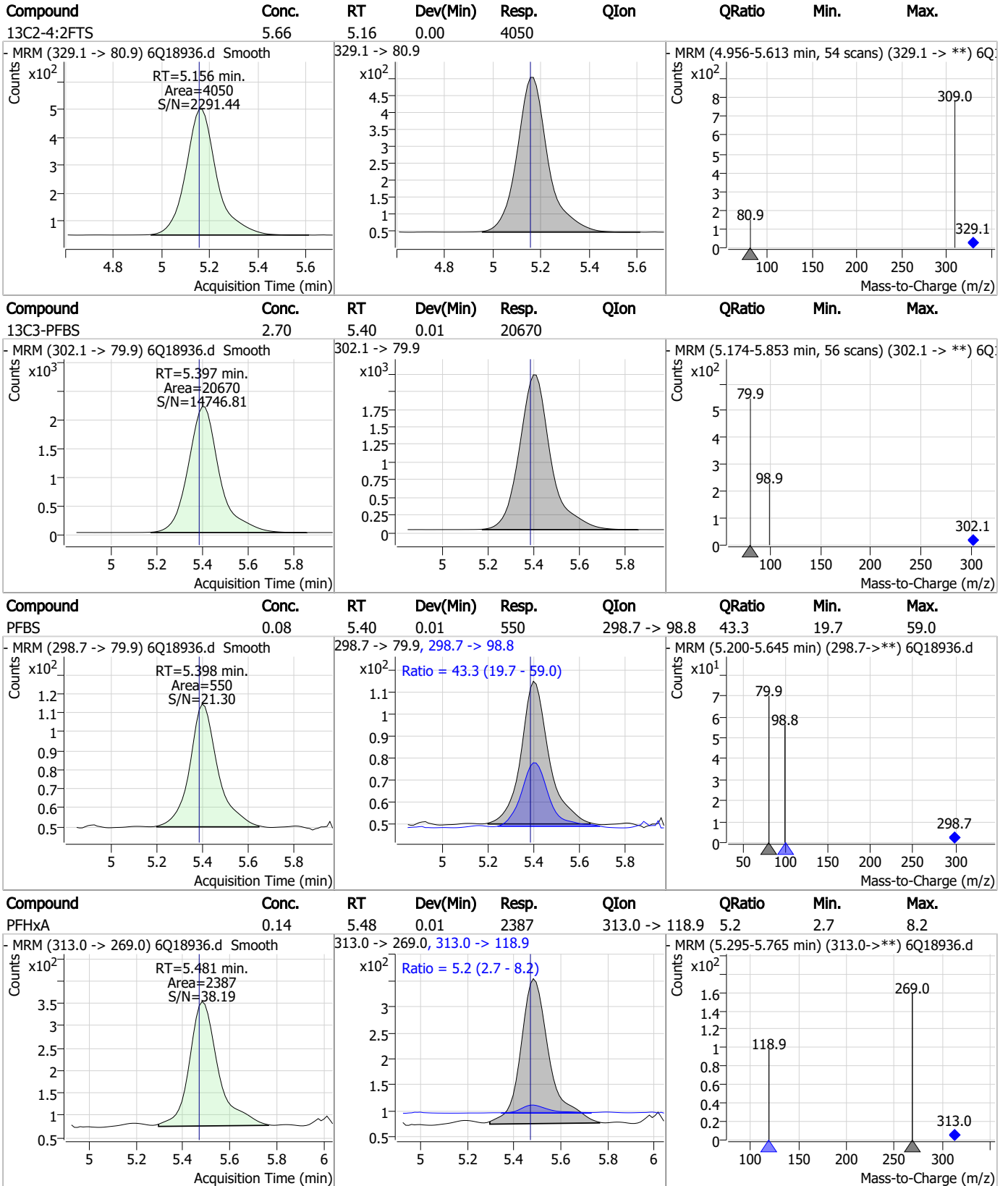
7.1.1
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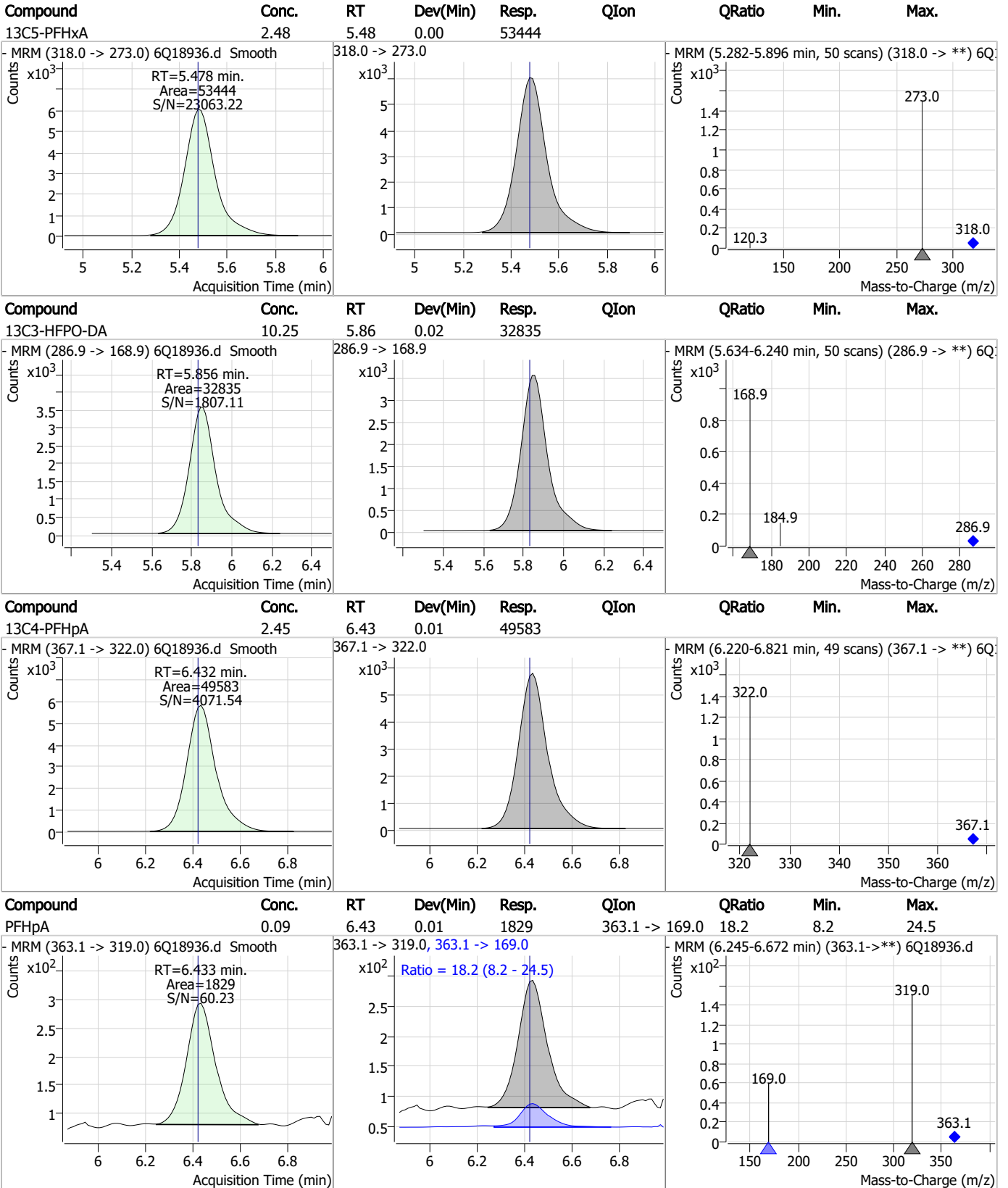
Perfluorinated Compounds by LC/MS/MS



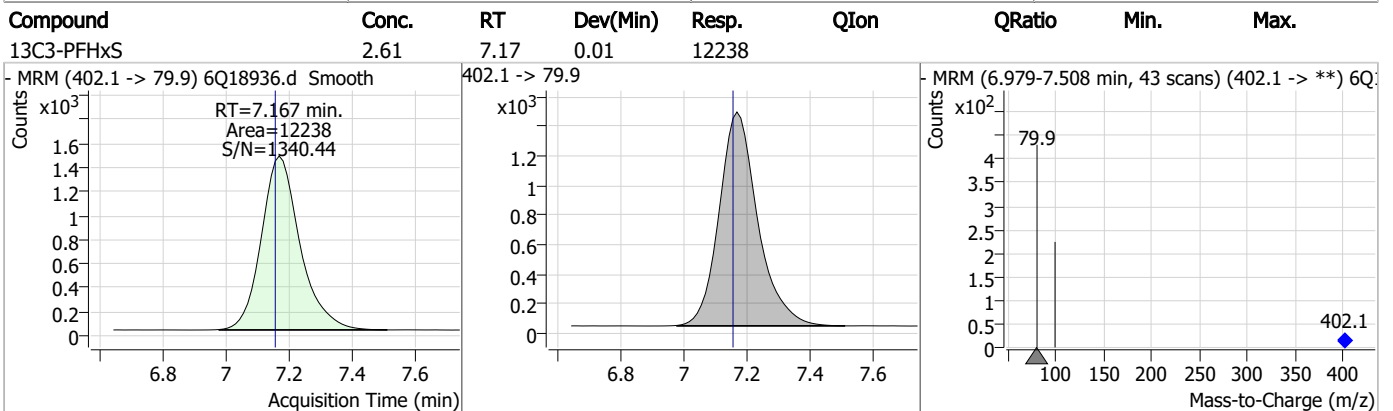
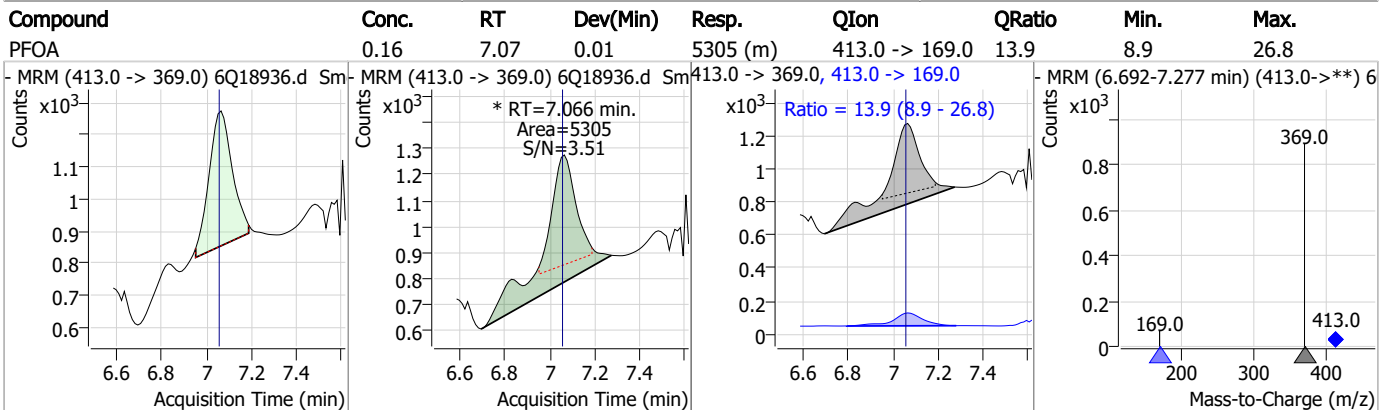
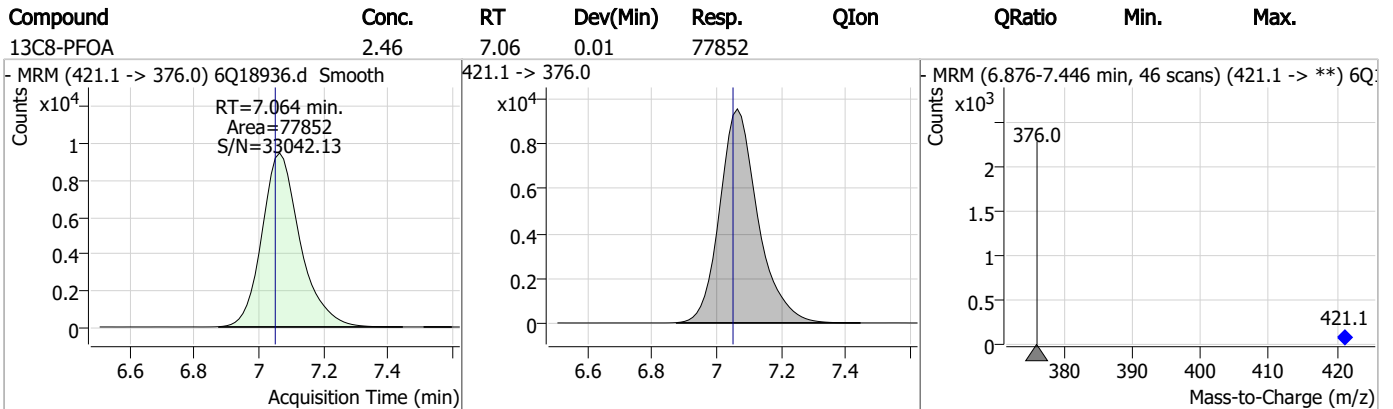
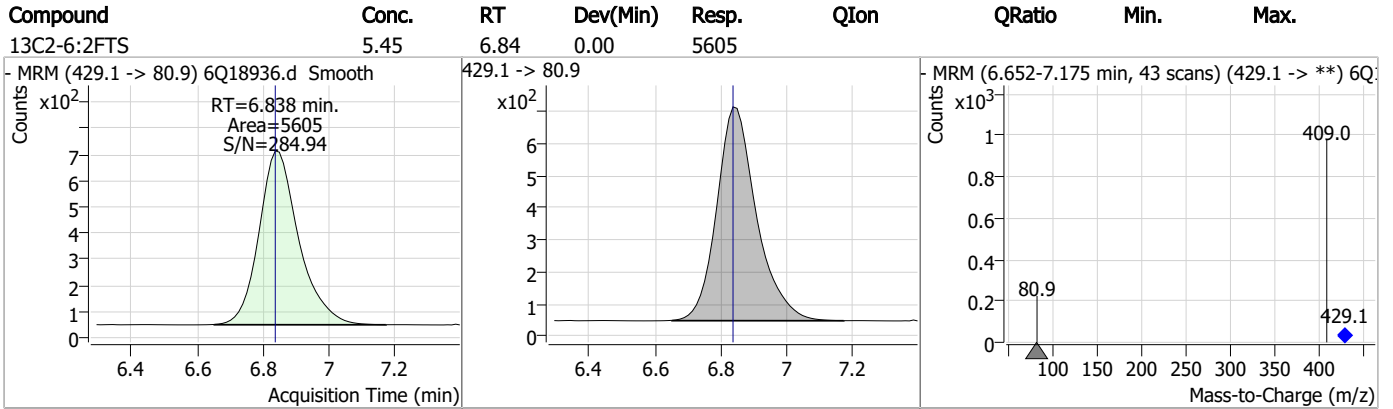
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

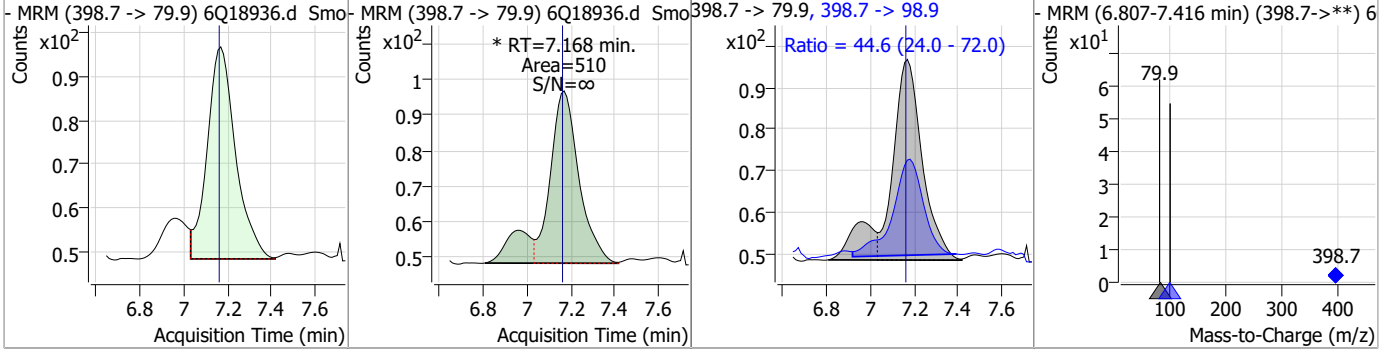


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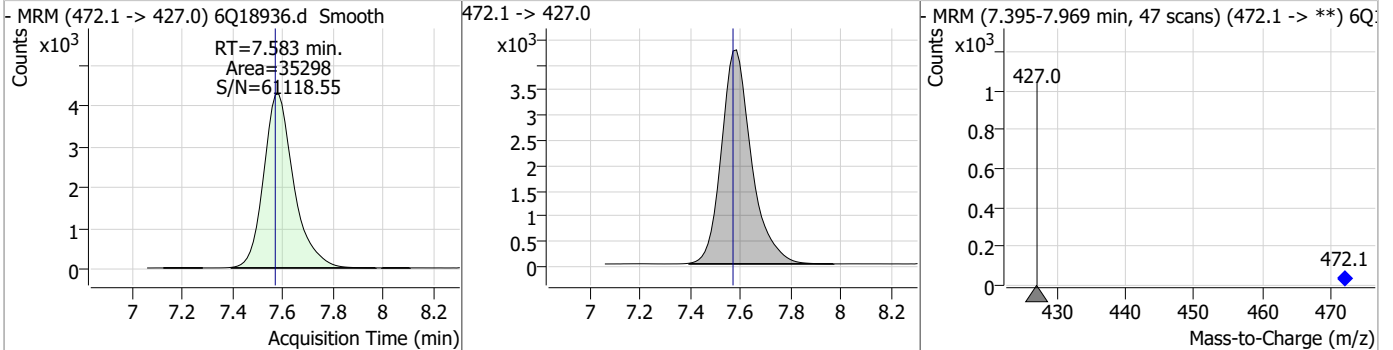


Perfluorinated Compounds by LC/MS/MS

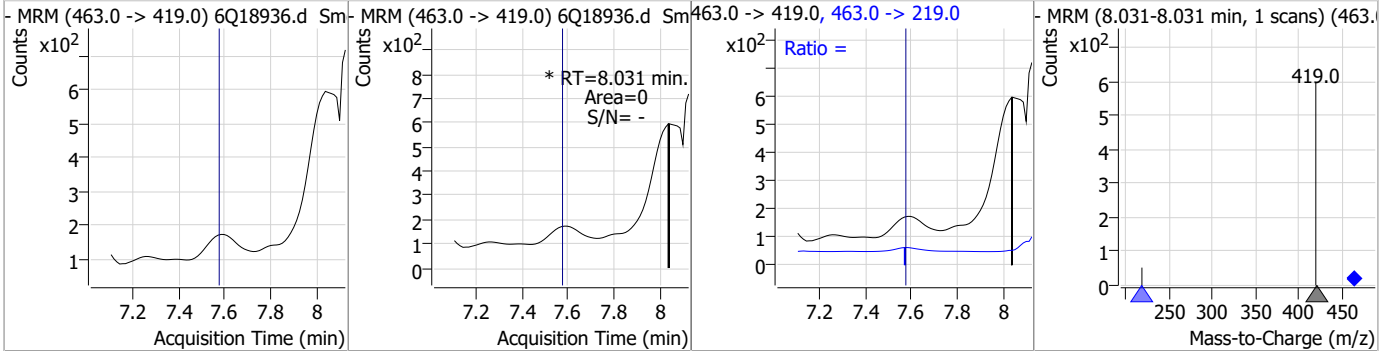
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.09	7.17	0.01	510 (m)	398.7 -> 98.9	44.6	24.0	72.0



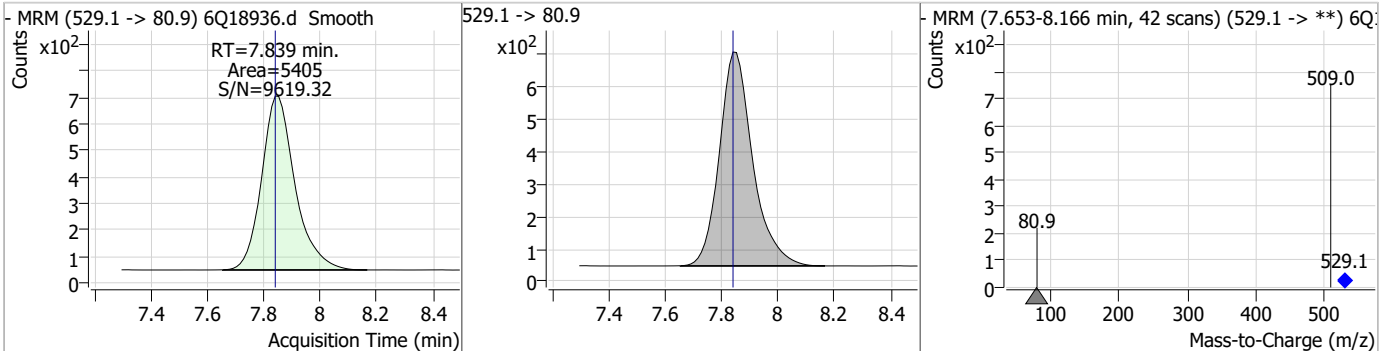
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.19	7.58	0.01	35298				



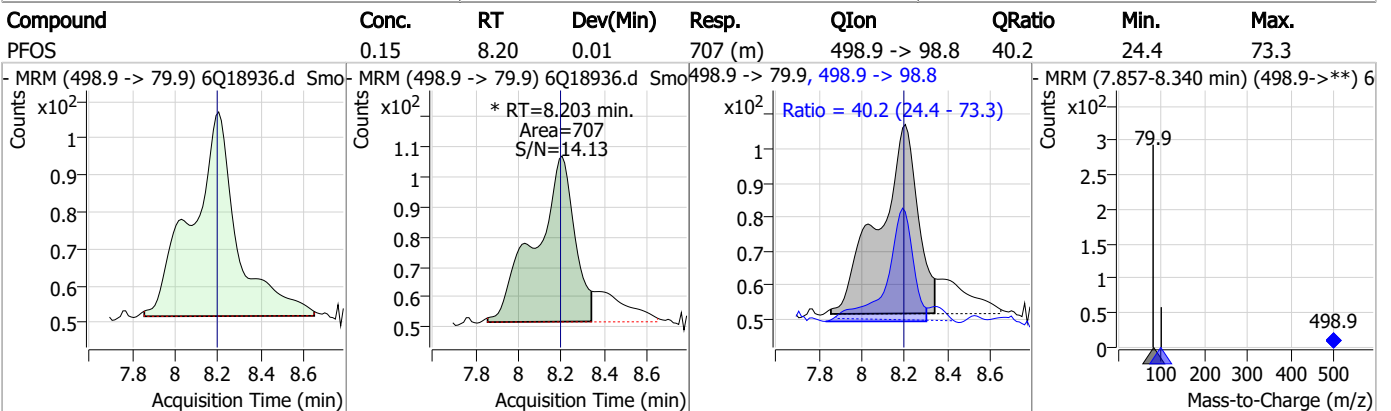
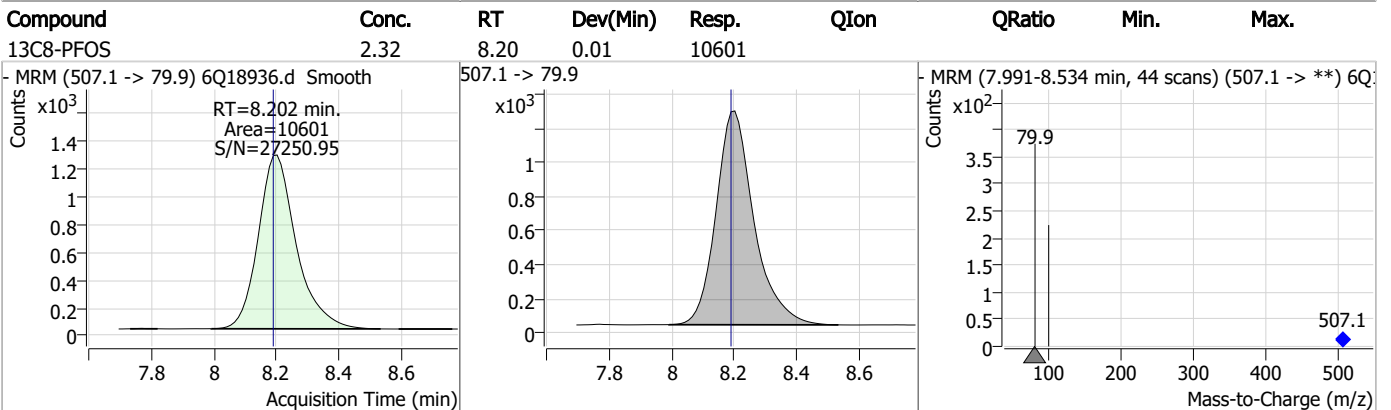
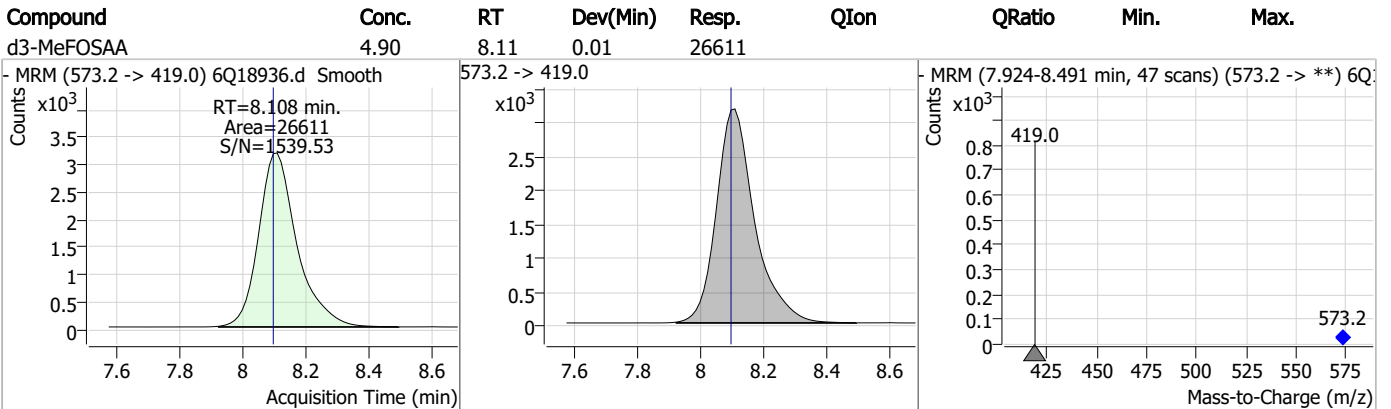
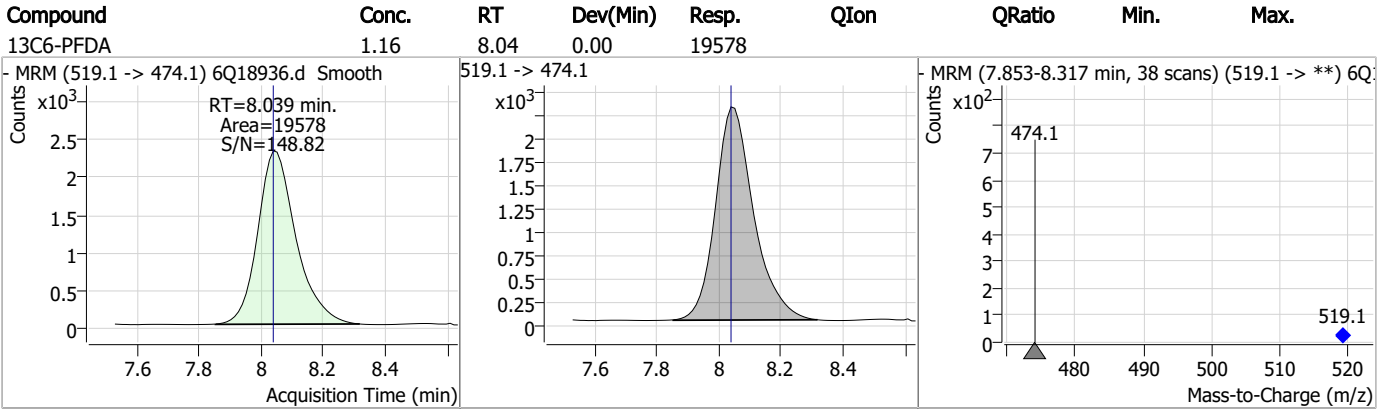
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0	0		0	463.0 -> 219.0		10.1	30.3



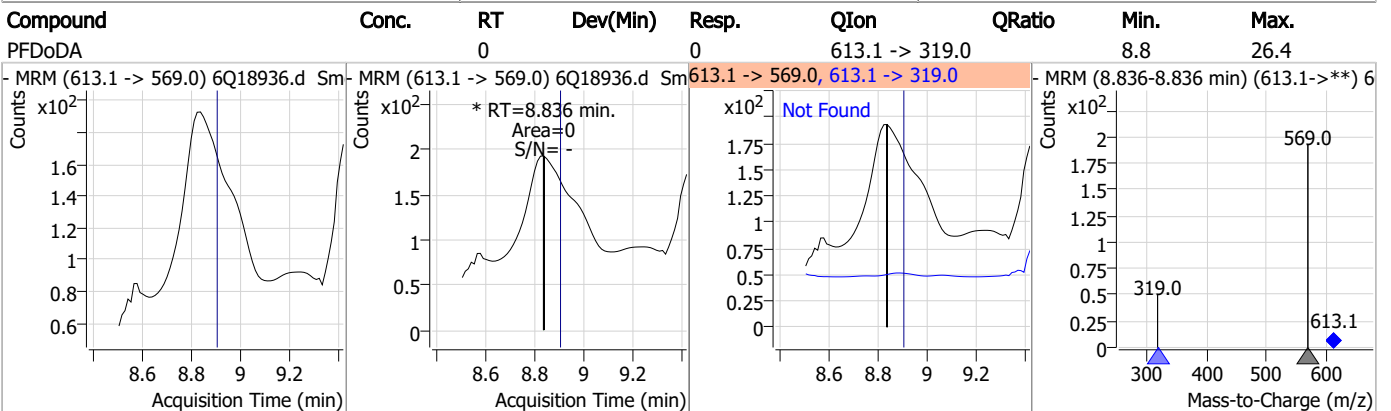
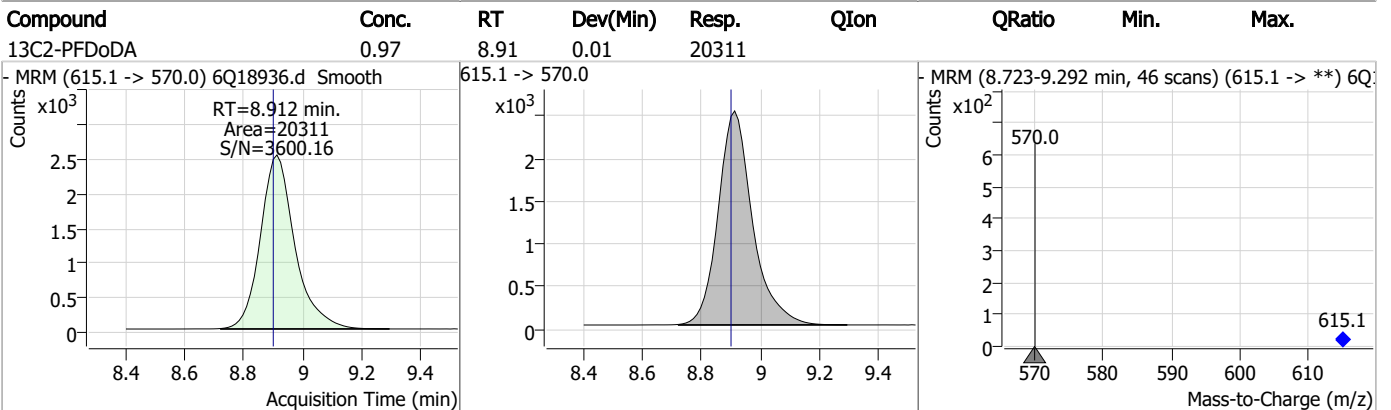
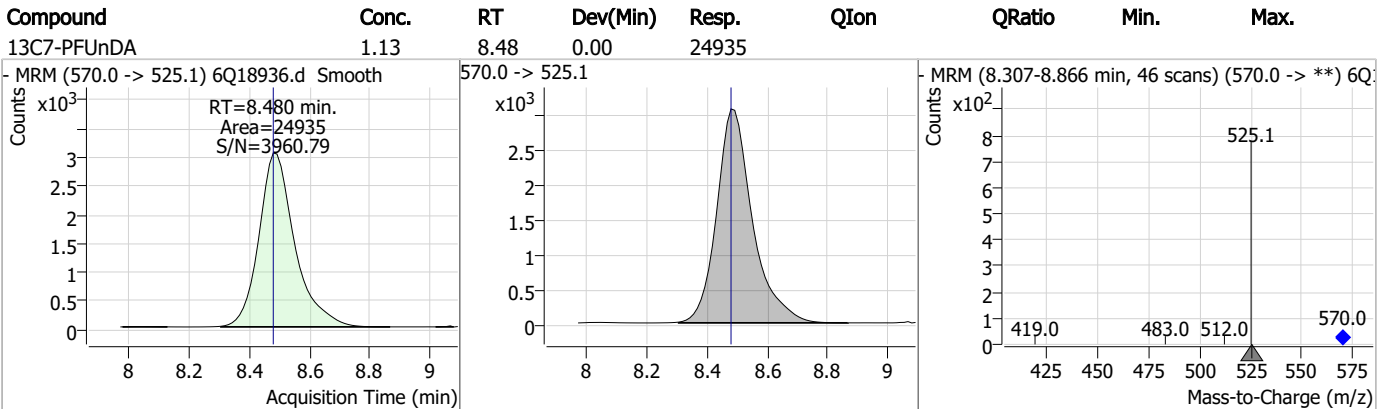
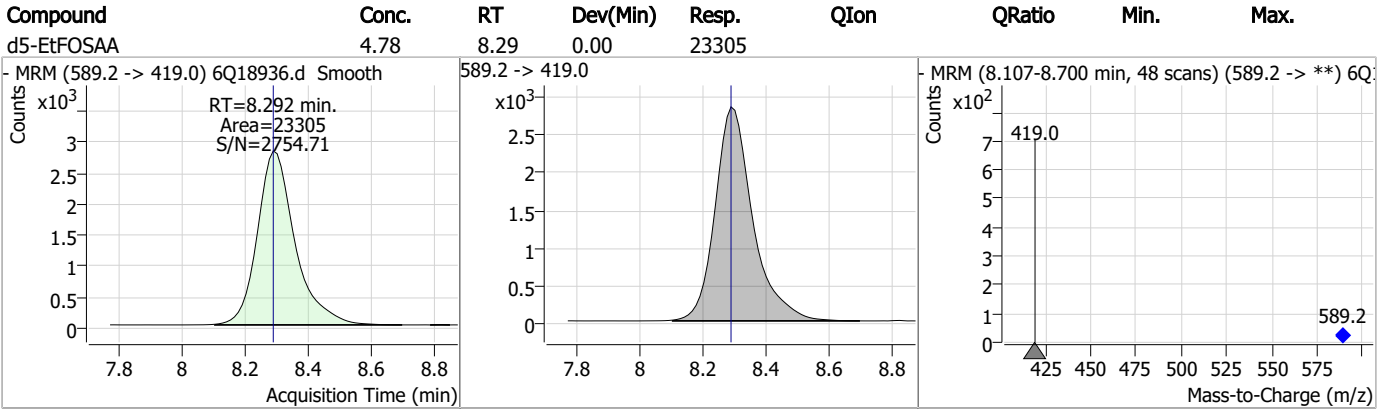
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-8:2FTS	5.28	7.84	0.00	5405				



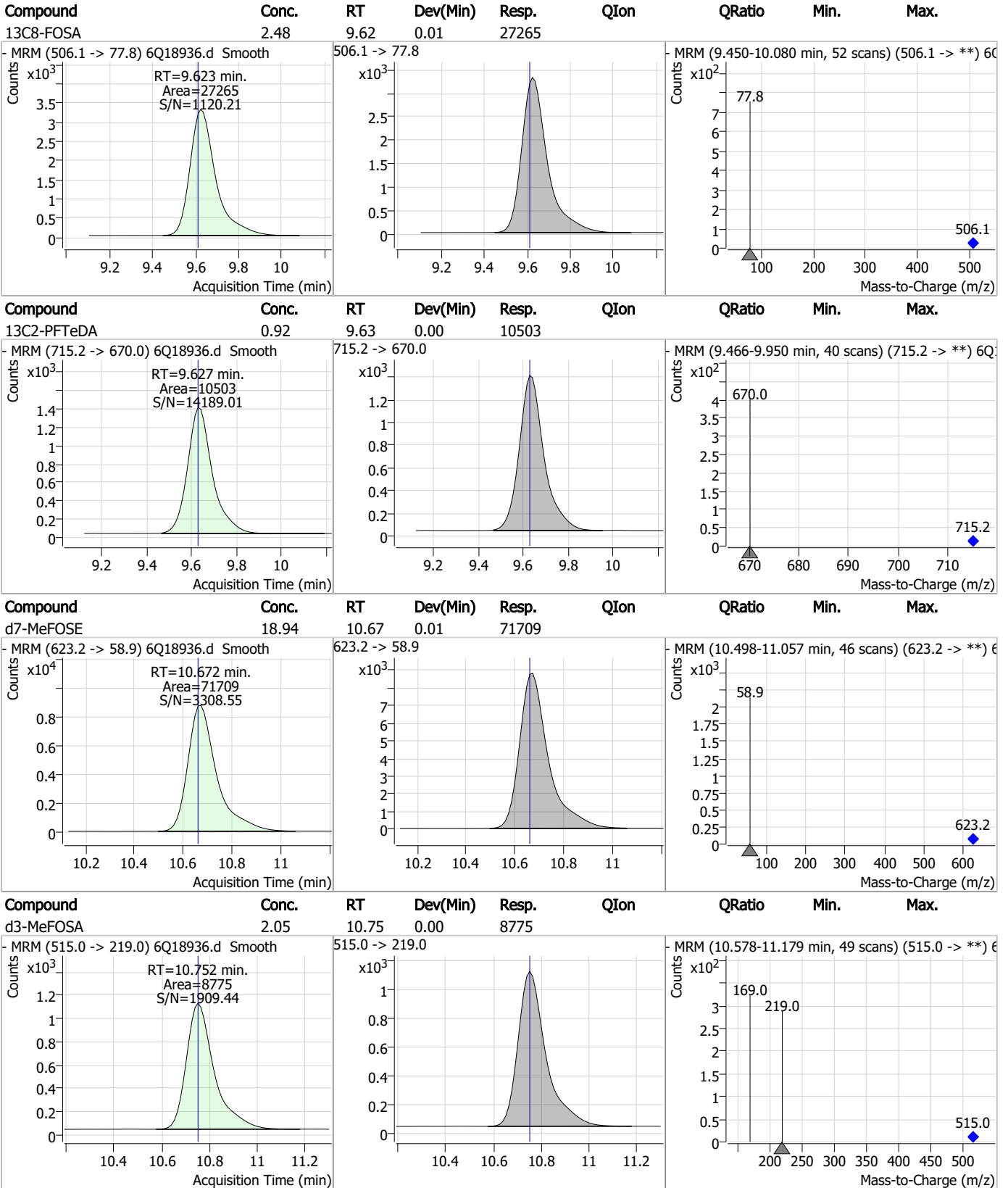
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

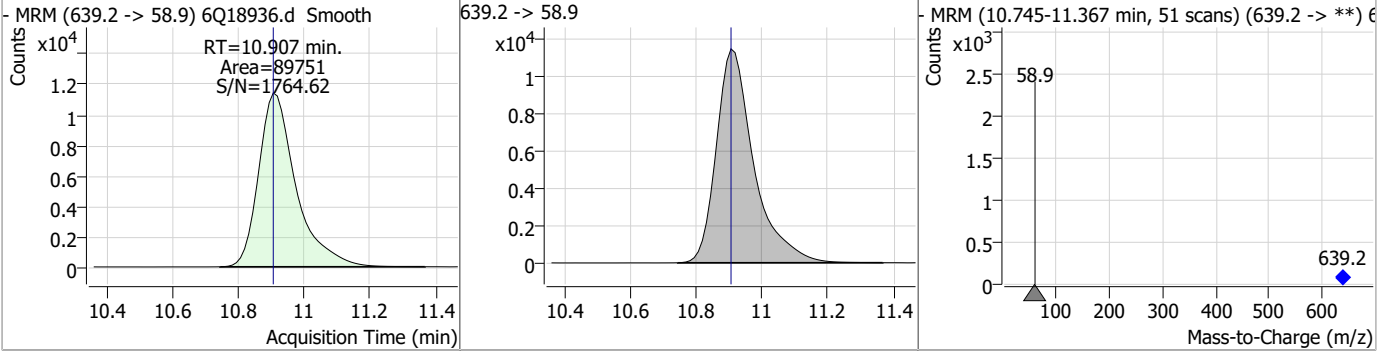


Perfluorinated Compounds by LC/MS/MS

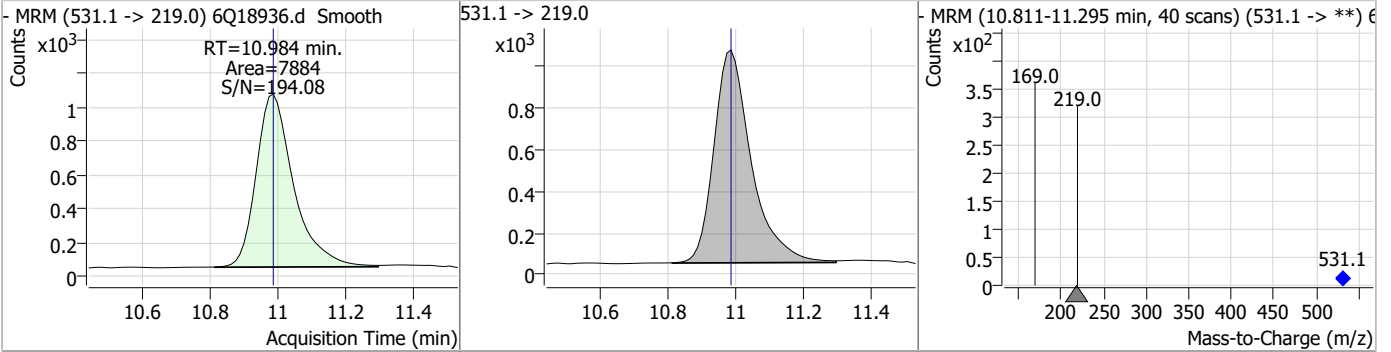


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	18.61	10.91	0.00	89751				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOFA	1.92	10.98	0.00	7884				



Manual Integration Approval Summary

Sample Number: FC6479-1 Method: EPA DRAFT 1633
Lab FileID: 6Q18936.D Analyst approved: 06/09/23 13:52 Natasha Gumtie
Injection Time: 06/07/23 12:07 Supervisor approved: 06/09/23 13:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanoic acid	335-67-1		7.07	Split peak
Perfluorohexanesulfonic acid	355-46-4		7.17	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.20	Split peak

7.1.1.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18937.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 12:21:44 PM
 Sample Name : FC6479-2
 Vial : P6-B2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97179,S6Q283,425,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.888	216.8 -> 171.9	144873	10.00 µg/L	0.028
M5-PFPeA	4.284	268.3 -> 223.0	47929	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	53884	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	49517	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	74571	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	32419	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	18647	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	21094	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	18090	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	8736	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	20636	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	18931	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	11608	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	9559	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	3596	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	5478	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	4955	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	24341	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	31889	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	20008	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	63396	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	85510	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	7601	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	7642	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18136	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	77193	5.00 µg/L	0.015
18O2-PFHxS	7.154	403.0 -> 83.9	10929	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	99712	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	34452	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	51439	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	59982	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	3596	4.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 80.0%		
13C2-6:2FTS	6.838	429.1 -> 80.9	5478	4.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 84.8%		
13C2-8:2FTS	7.839	529.1 -> 80.9	4955	3.85 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 77.0%		
13C2-PFDoDA	8.900	615.1 -> 570.0	18090	0.72 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 57.5%		
13C2-PFTeDA	9.627	715.2 -> 670.0	8736	0.63 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 50.6%		
13C3-PFBS	5.397	302.1 -> 79.9	18931	1.97 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 78.8%		
13C3-PFHxS	7.155	402.1 -> 79.9	11608	1.97 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.7%	
13C4-PFBA	2.888	216.8 -> 171.9	144873	7.91 µg/L	0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 79.1%	
13C4-PFHpA	6.420	367.1 -> 322.0	49517	2.07 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.8%	
13C5-PFHxA	5.478	318.0 -> 273.0	53884	2.12 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 84.9%	
13C5-PFPeA	4.284	268.3 -> 223.0	47929	4.12 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 82.4%	
13C6-PFDA	8.039	519.1 -> 474.1	18647	0.91 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 73.0%	
13C7-PFUnDA	8.480	570.0 -> 525.1	21094	0.79 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 63.2%	
13C8-FOSA	9.623	506.1 -> 77.8	20636	1.56 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 62.5%	
13C8-PFOA	7.051	421.1 -> 376.0	74571	1.95 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.0%	
13C8-PFOS	8.189	507.1 -> 79.9	9559	1.74 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 69.5%	
13C9-PFNA	7.569	472.1 -> 427.0	32419	0.96 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 76.7%	
d3-MeFOSAA	8.096	573.2 -> 419.0	24341	3.73 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 74.5%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	31889	8.44 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 84.4%	
d3-MeFOSA	10.752	515.0 -> 219.0	7642	1.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 59.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	20008	3.42 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 68.3%	
d7-MeFOSE	10.672	623.2 -> 58.9	63396	13.93 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 55.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	85510	14.75 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 59.0%	
d5-EtFOSA	10.984	531.1 -> 219.0	7601	1.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 61.7%	

Target Compounds

Compound	RT	Transition	Response	Conc. Units	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.	

7.12
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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				
PFTTrDA	-	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

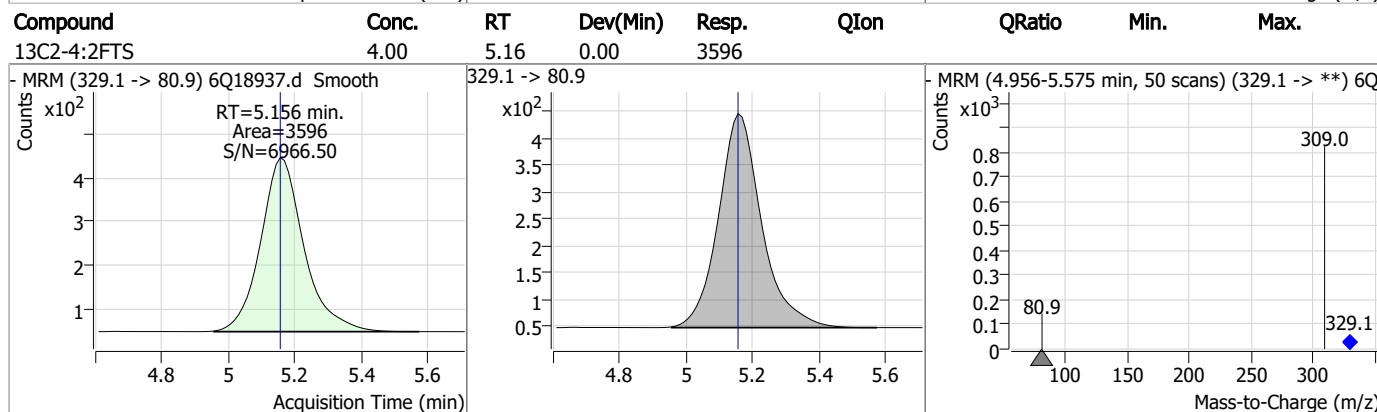
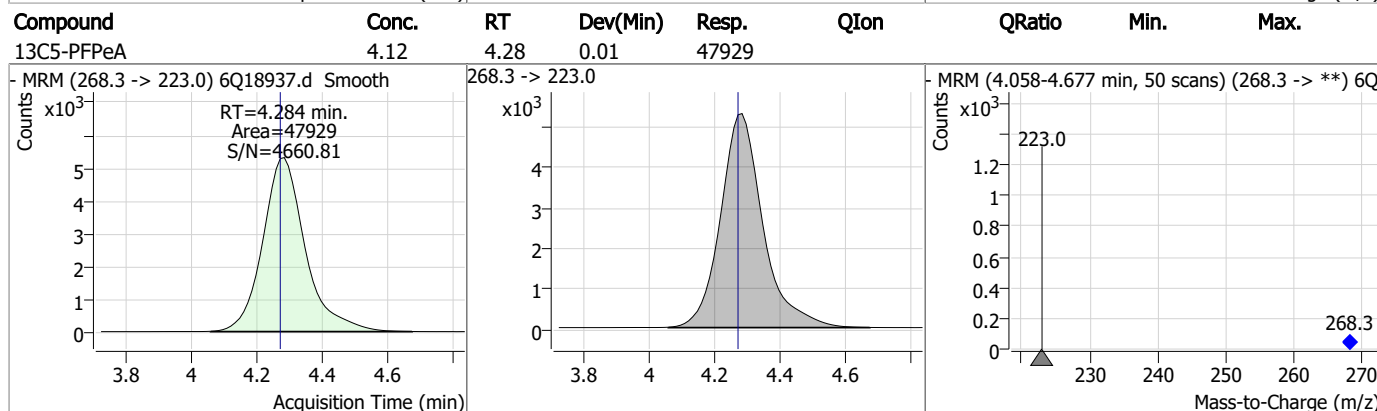
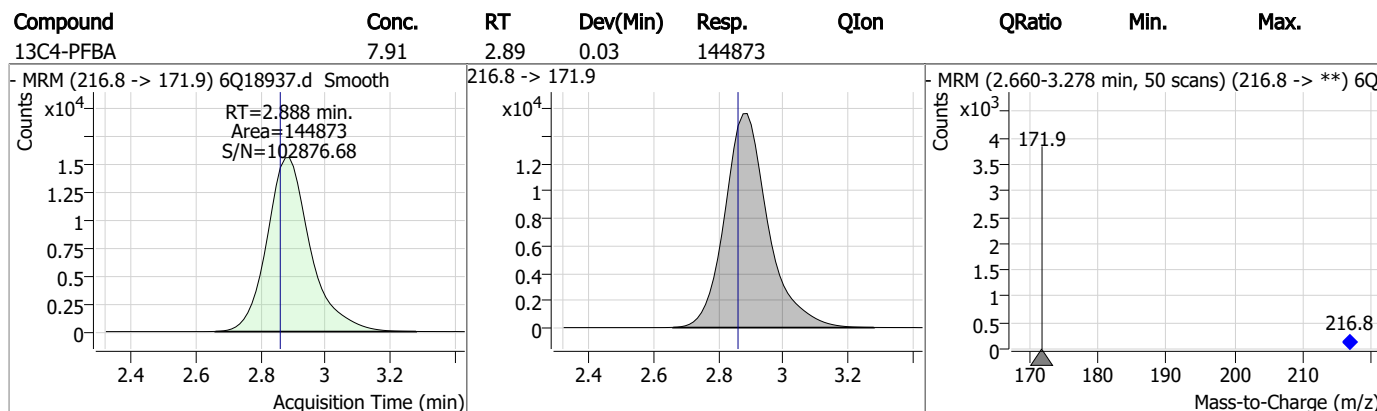
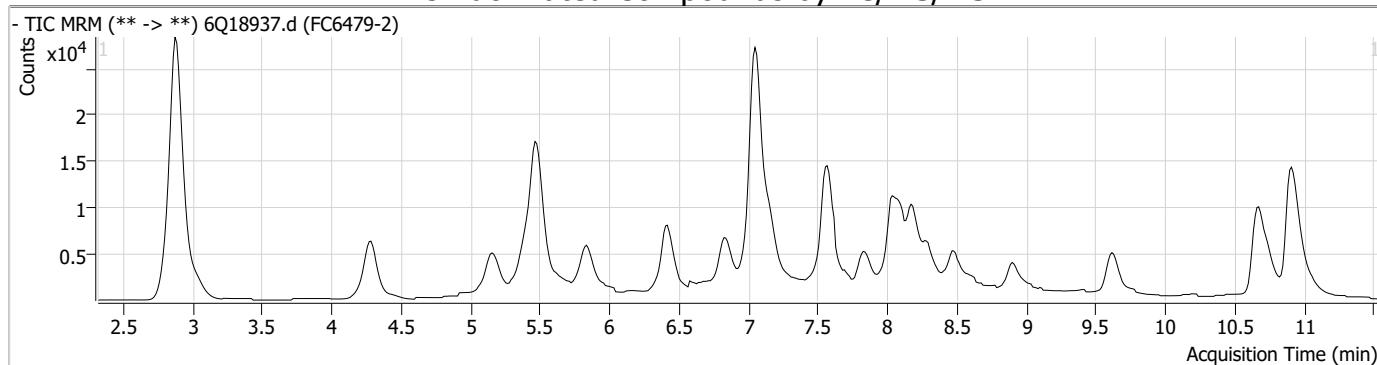
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.1.2
7



Perfluorinated Compounds by LC/MS/MS



7.1.2
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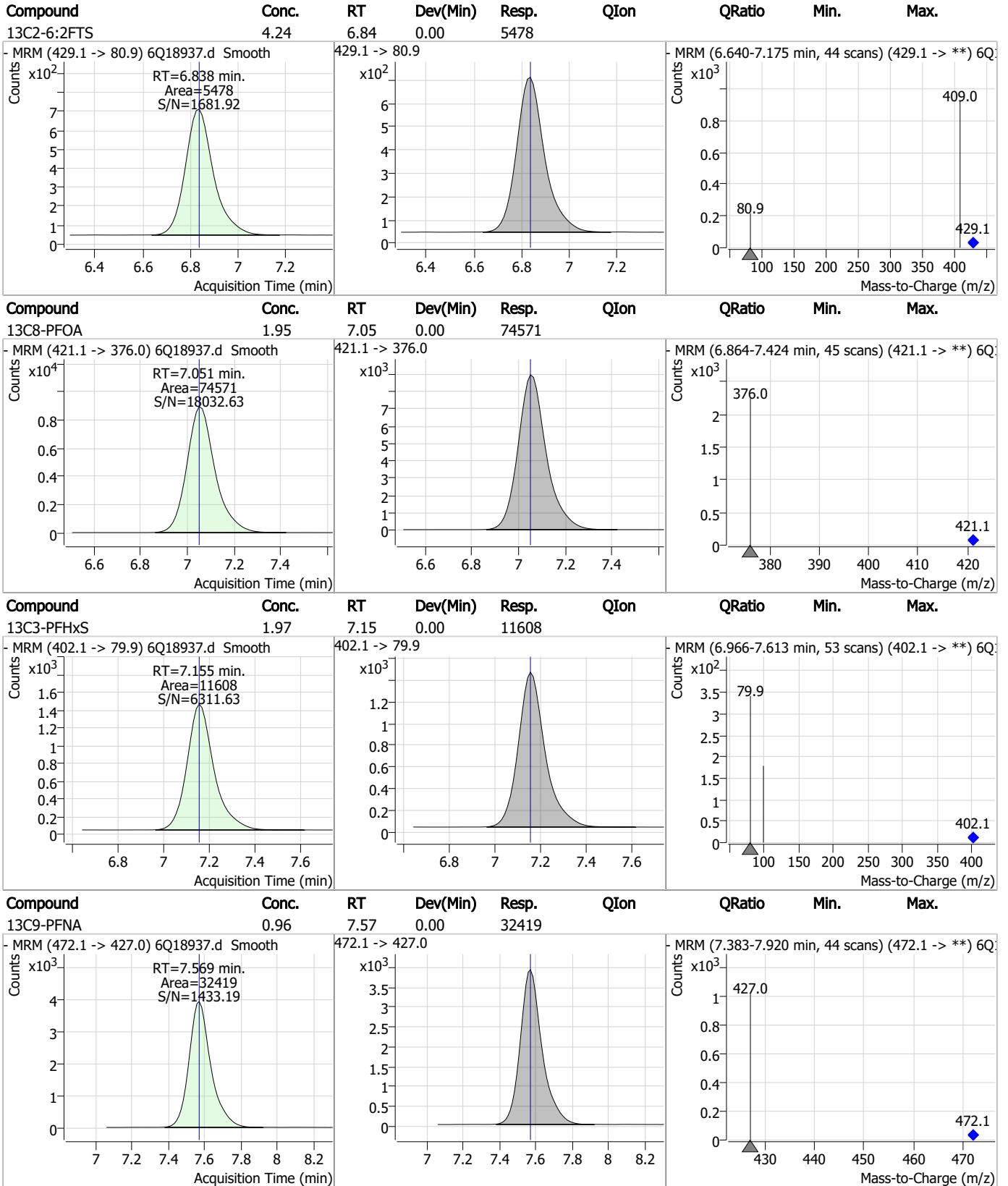
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	1.97	5.40	0.01	18931				
13C5-PFHxA	2.12	5.48	0.00	53884				
13C3-HFPO-DA	8.44	5.84	0.01	31889				
13C4-PFHpA	2.07	6.42	0.00	49517				

7.1.2

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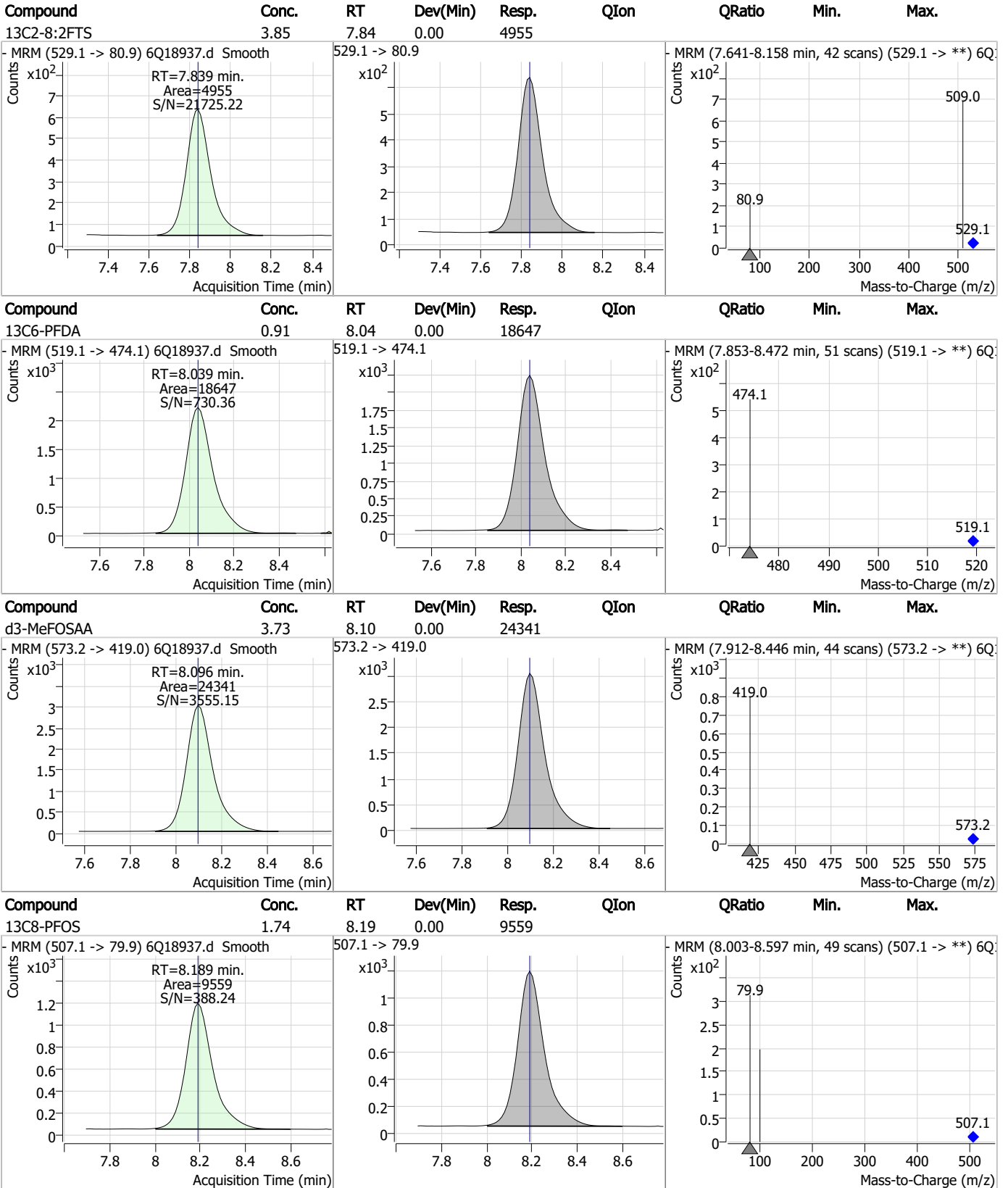
Perfluorinated Compounds by LC/MS/MS



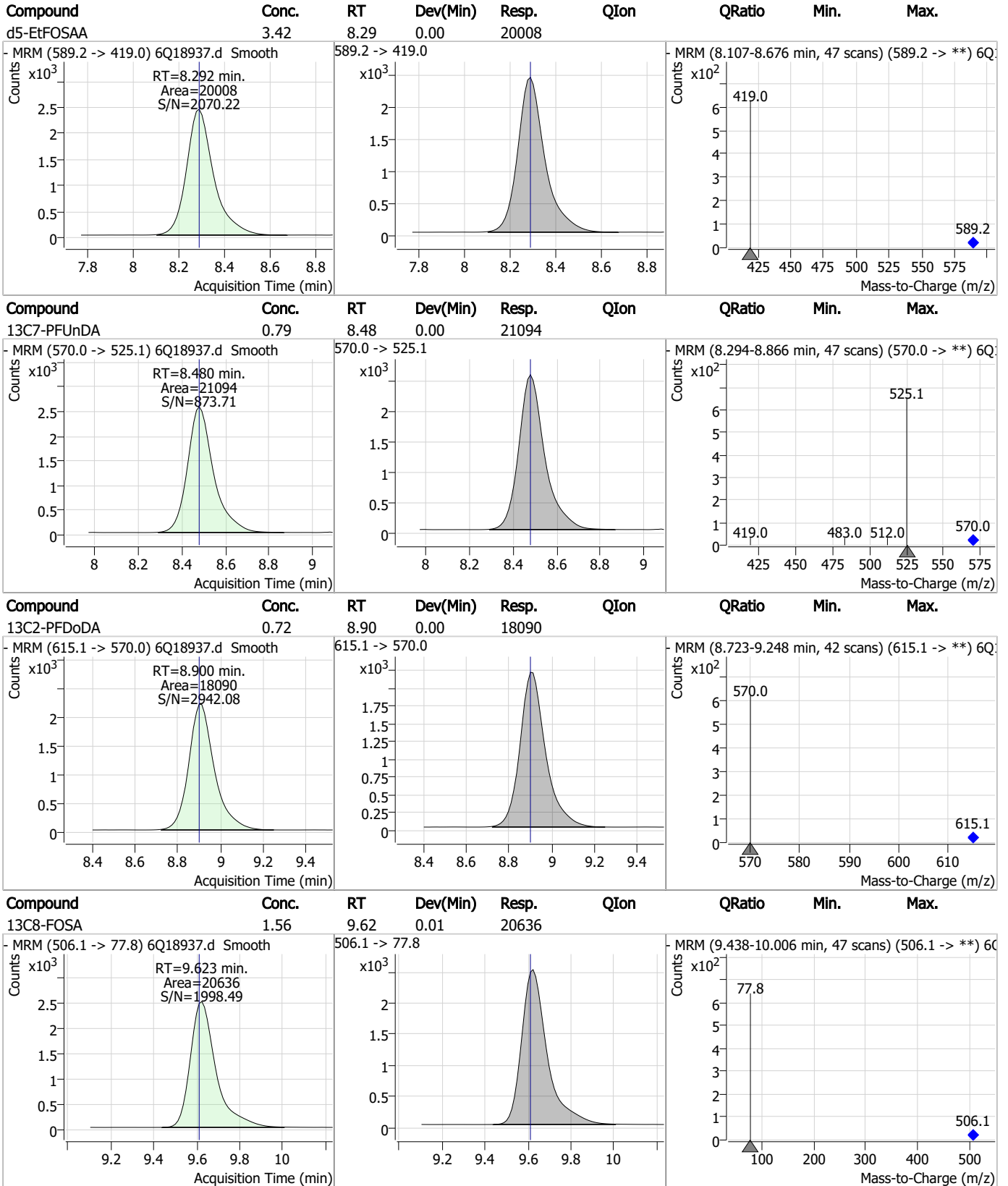
7.1.2

7

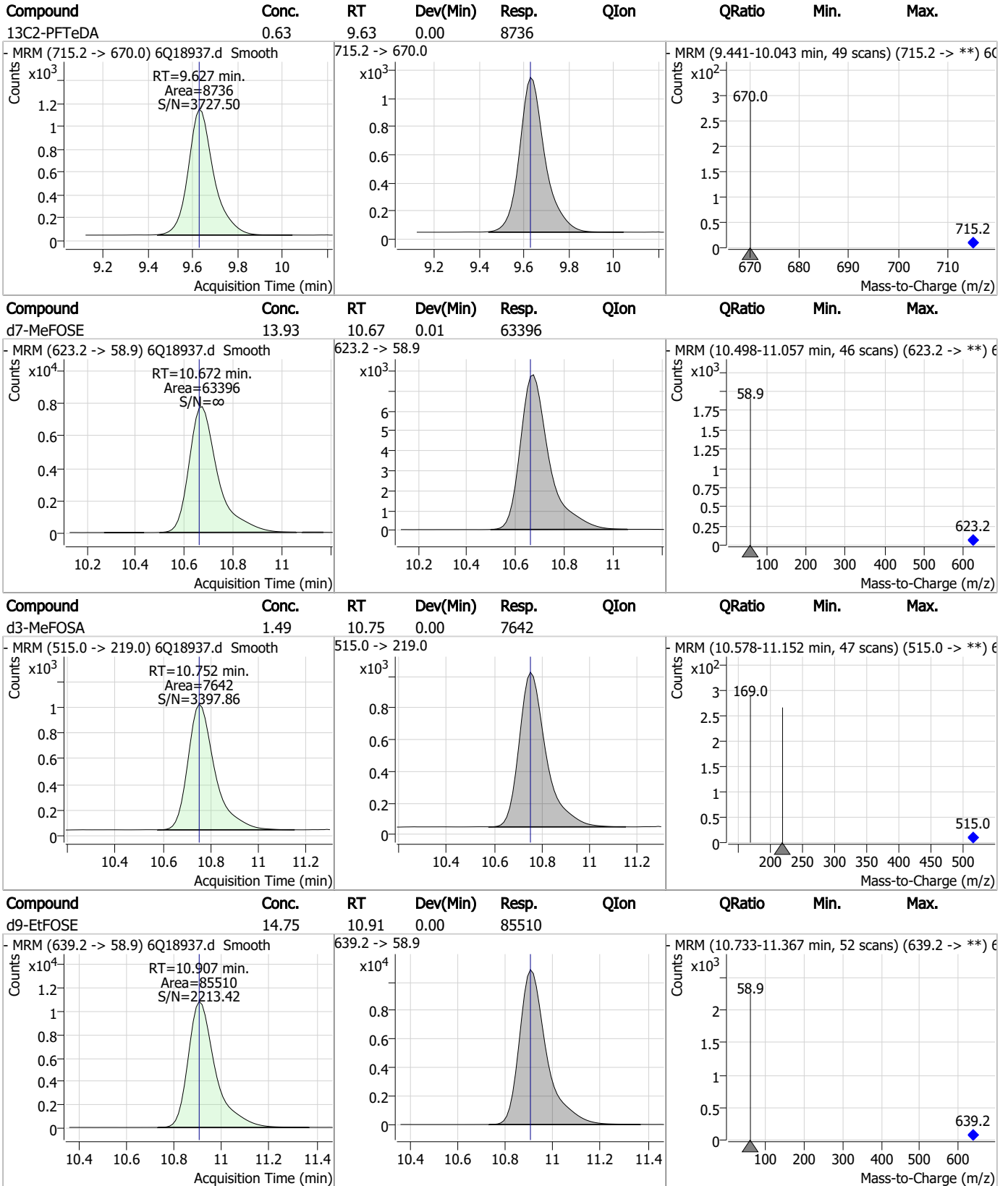
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



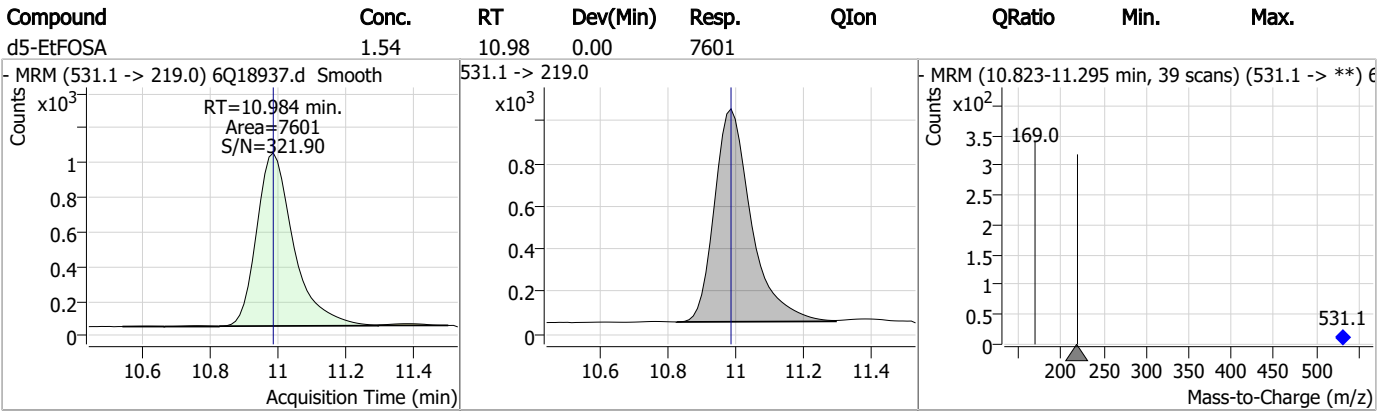
Perfluorinated Compounds by LC/MS/MS



7.1.2

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Perfluorinated Compounds by LC/MS/MS



7.1.2

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Perfluorinated Compounds by LC/MS/MS

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 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 12:50:41 PM
 Sample Name : FC6479-3
 Vial : P6-B4
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97179,S6Q283,560,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	176087	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	57799	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	60791	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	58415	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	86646	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	38547	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	21581	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	28891	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	24584	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	10950	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	30672	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	23466	2.50 µg/L	0.013
M3-PFHxS	7.167	402.1 -> 79.9	13254	2.50 µg/L	0.012
M8-PFOS	8.189	507.1 -> 79.9	12464	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4566	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6419	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6044	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	33277	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	39567	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	27261	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	79378	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	99547	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	8762	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	9469	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18161	2.50 µg/L	0.000
13C3-PFBA	2.904	216.0 -> 172.0	81920	5.00 µg/L	0.040
18O2-PFHxS	7.166	403.0 -> 83.9	11420	2.50 µg/L	0.012
13C4-PFOA	7.051	417.1 -> 372.0	104061	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	36009	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	54690	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	64090	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4566	4.86 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.2%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6419	4.76 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 95.1%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6044	4.50 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 89.9%		
13C2-PFDoDA	8.900	615.1 -> 570.0	24584	0.93 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 74.7%		
13C2-PFTeDA	9.627	715.2 -> 670.0	10950	0.76 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 60.7%		
13C3-PFBS	5.397	302.1 -> 79.9	23466	2.34 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 93.5%		
13C3-PFHxS	7.167	402.1 -> 79.9	13254	2.15 µg/L	0.012



7.1.3
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.0%	
13C4-PFBA	2.913	216.8 -> 171.9	176087	9.06 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 90.6%	
13C4-PFHpA	6.420	367.1 -> 322.0	58415	2.29 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.5%	
13C5-PFHxA	5.478	318.0 -> 273.0	60791	2.24 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.6%	
13C5-PFPeA	4.284	268.3 -> 223.0	57799	4.65 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.0%	
13C6-PFDA	8.039	519.1 -> 474.1	21581	1.01 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 80.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	28891	1.03 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 82.8%	
13C8-FOSA	9.623	506.1 -> 77.8	30672	2.32 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.8%	
13C8-PFOA	7.051	421.1 -> 376.0	86646	2.17 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.8%	
13C8-PFOS	8.189	507.1 -> 79.9	12464	2.26 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.5%	
13C9-PFNA	7.569	472.1 -> 427.0	38547	1.07 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 85.7%	
d3-MeFOSAA	8.096	573.2 -> 419.0	33277	5.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	39567	9.80 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.0%	
d3-MeFOSA	10.752	515.0 -> 219.0	9469	1.84 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 73.6%	
d5-EtFOSAA	8.292	589.2 -> 419.0	27261	4.65 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 93.0%	
d7-MeFOSE	10.672	623.2 -> 58.9	79378	17.41 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 69.6%	
d9-EtFOSE	10.907	639.2 -> 58.9	99547	17.15 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 68.6%	
d5-EtFOSA	10.984	531.1 -> 219.0	8762	1.78 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 71.0%	

7.13
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Target Compounds	RT	Transition	Response	Conc. Units	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)
PFHpA	-	599.0 -> 98.8	-	N.D.	
		363.1 -> 319.0			
PFHpS	-	363.1 -> 169.0	-	N.D.	
		449.0 -> 79.9			
PFHxA	-	449.0 -> 98.9	-	N.D.	
		313.0 -> 269.0			
PFHxS	-	313.0 -> 118.9	-	N.D.	
		398.7 -> 79.9			
PFNA	-	398.7 -> 98.9	-	N.D.	
		463.0 -> 419.0			
PFNS	-	463.0 -> 219.0	-	N.D.	
		548.8 -> 79.9			
PFOA	-	548.8 -> 98.9	-	N.D.	
		413.0 -> 369.0			
PFOS	-	413.0 -> 169.0	-	N.D.	
		498.9 -> 79.9			
PFPeA	-	498.9 -> 98.8	-	N.D.	
		263.0 -> 219.0			
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.	
		511.9 -> 219.0			
MeFOSA	-	511.9 -> 169.0	-	N.D.	
		616.1 -> 58.9			
MeFOSE	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
PFDoDS	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
NFDHA	-	279.0 -> 85.1	-	N.D.	
		229.0 -> 84.9			
PFMBA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

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

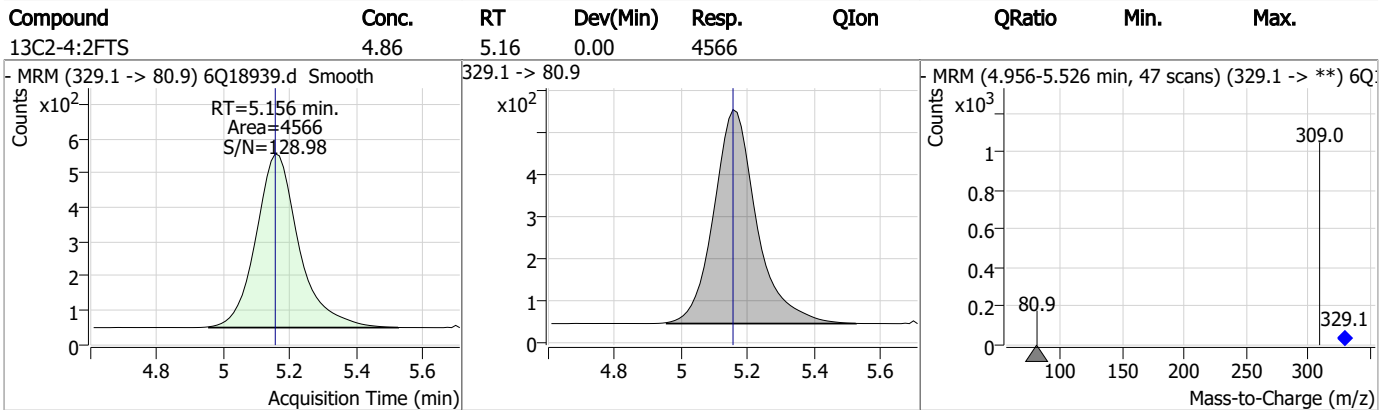
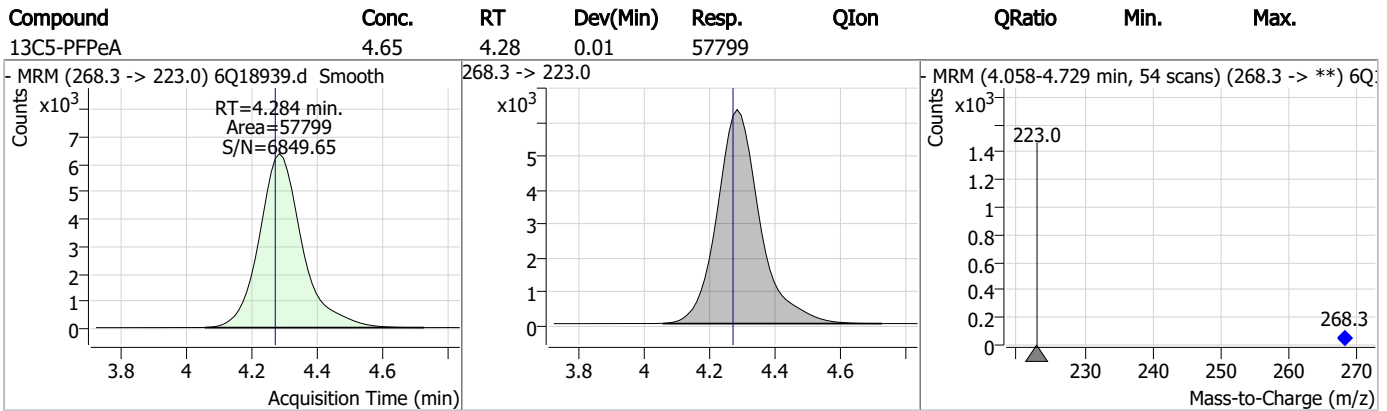
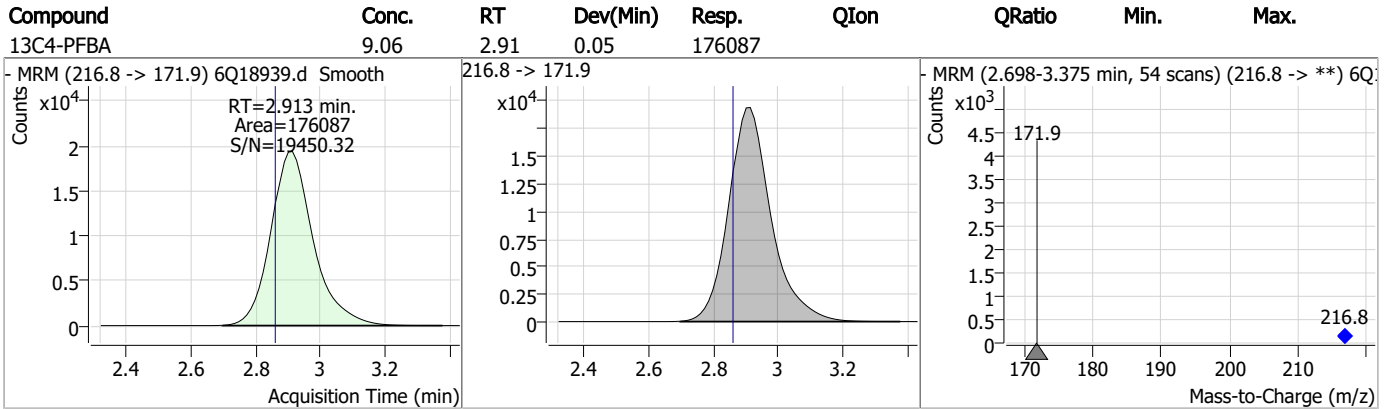
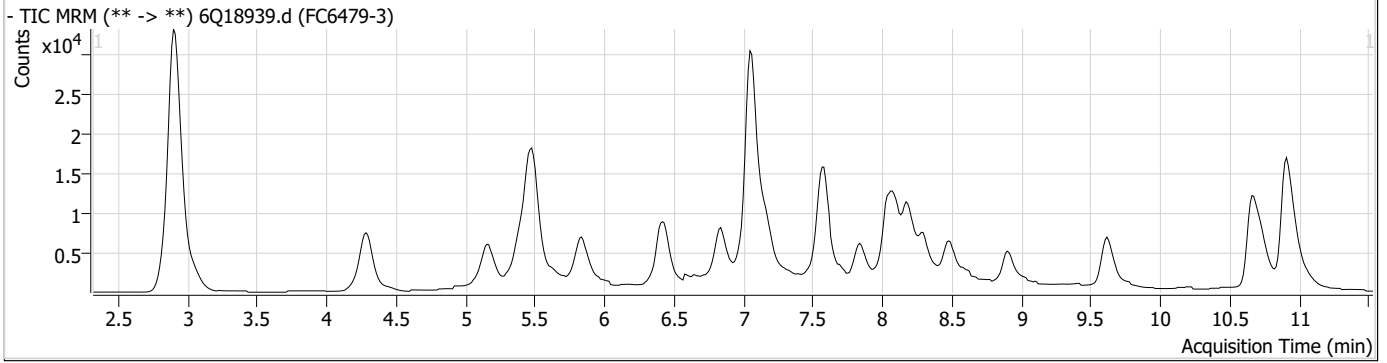
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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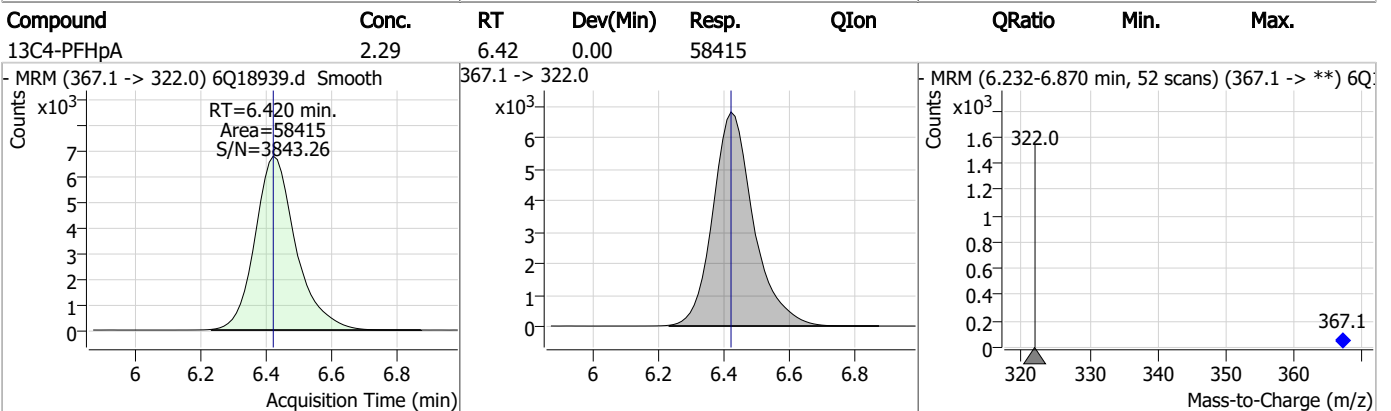
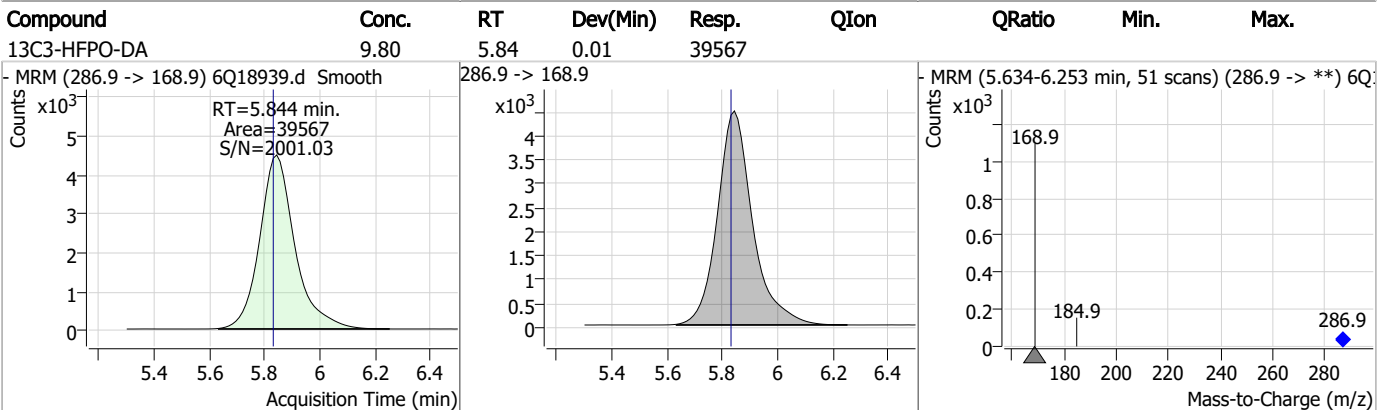
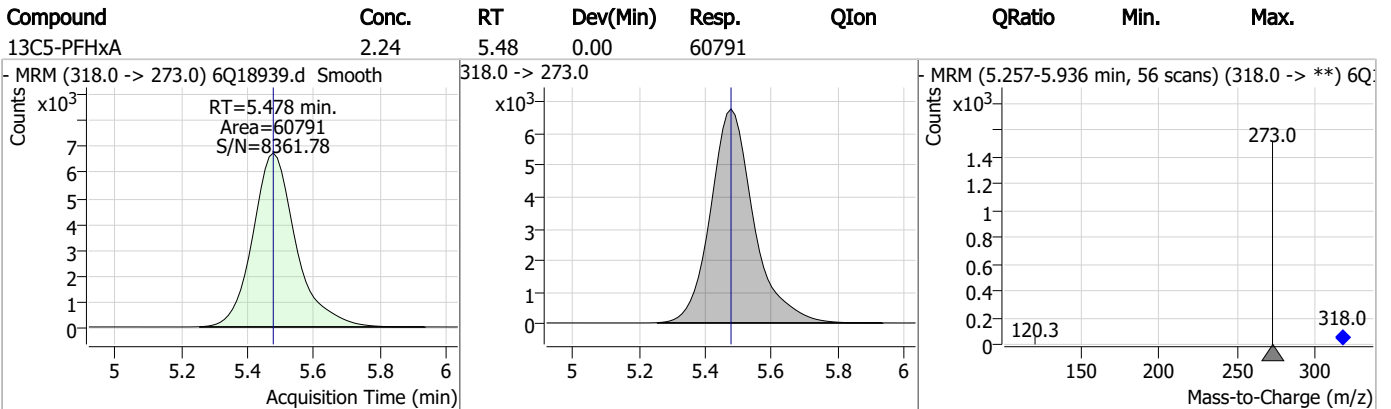
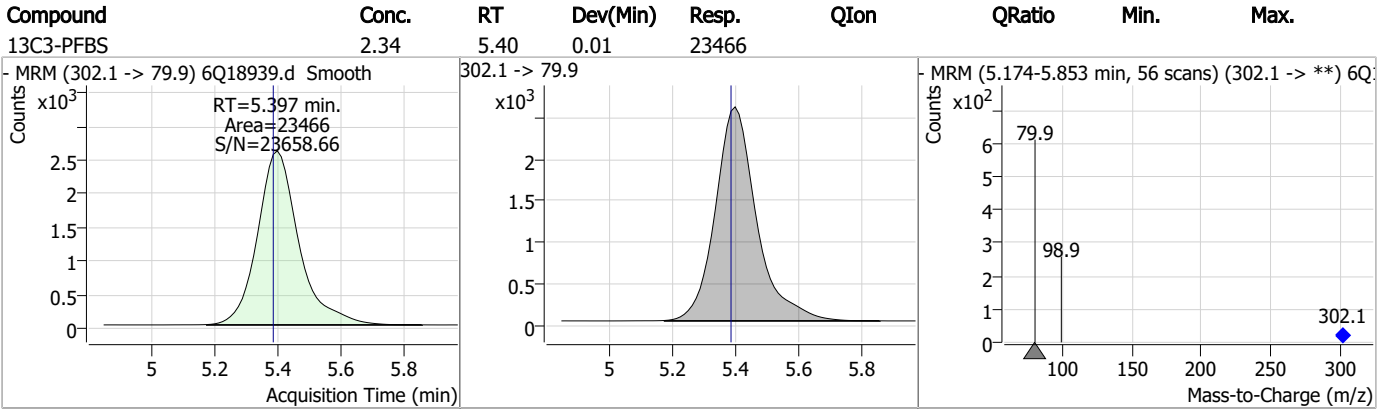
7.1.3
7



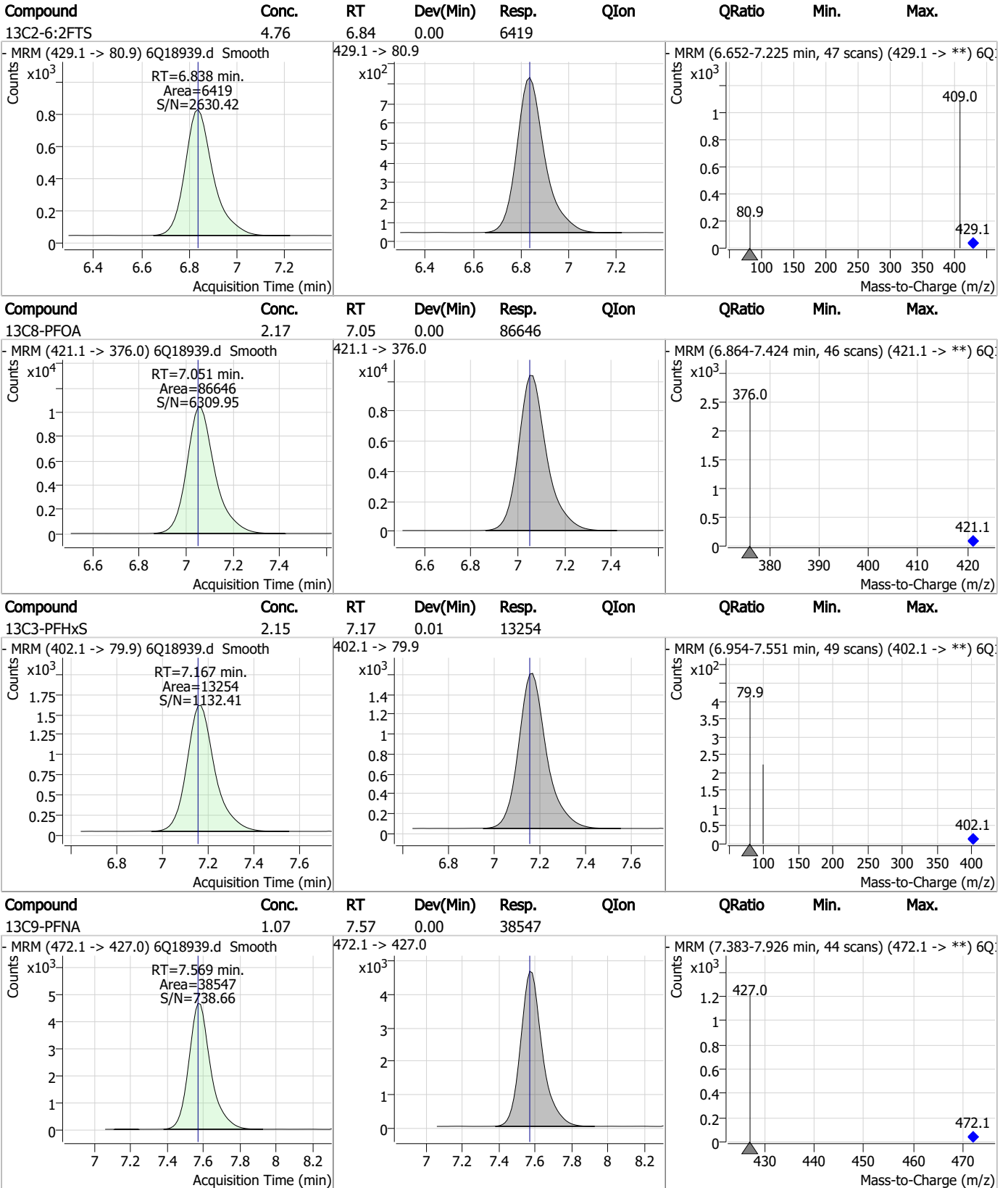
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



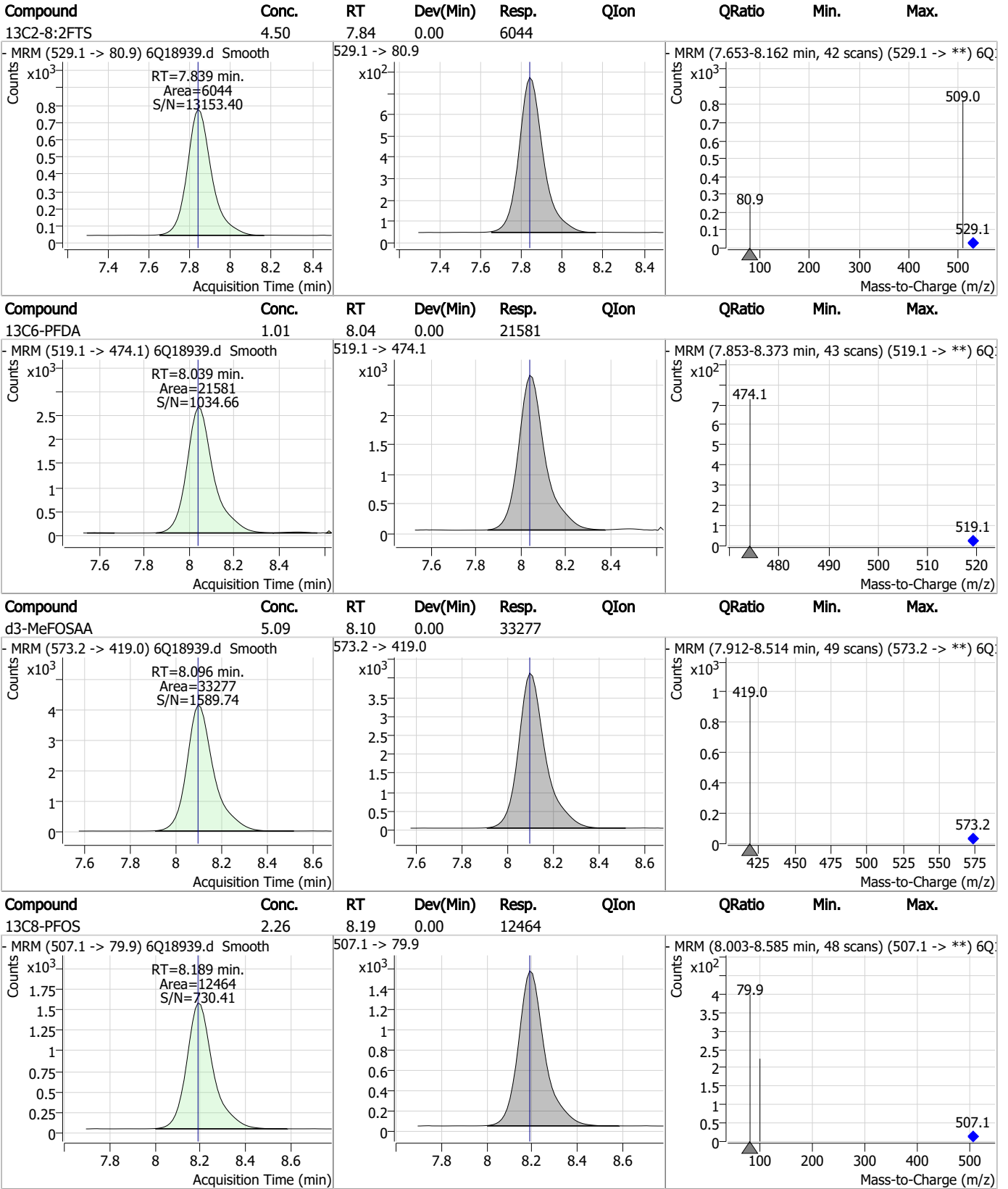
Perfluorinated Compounds by LC/MS/MS



7.1.3

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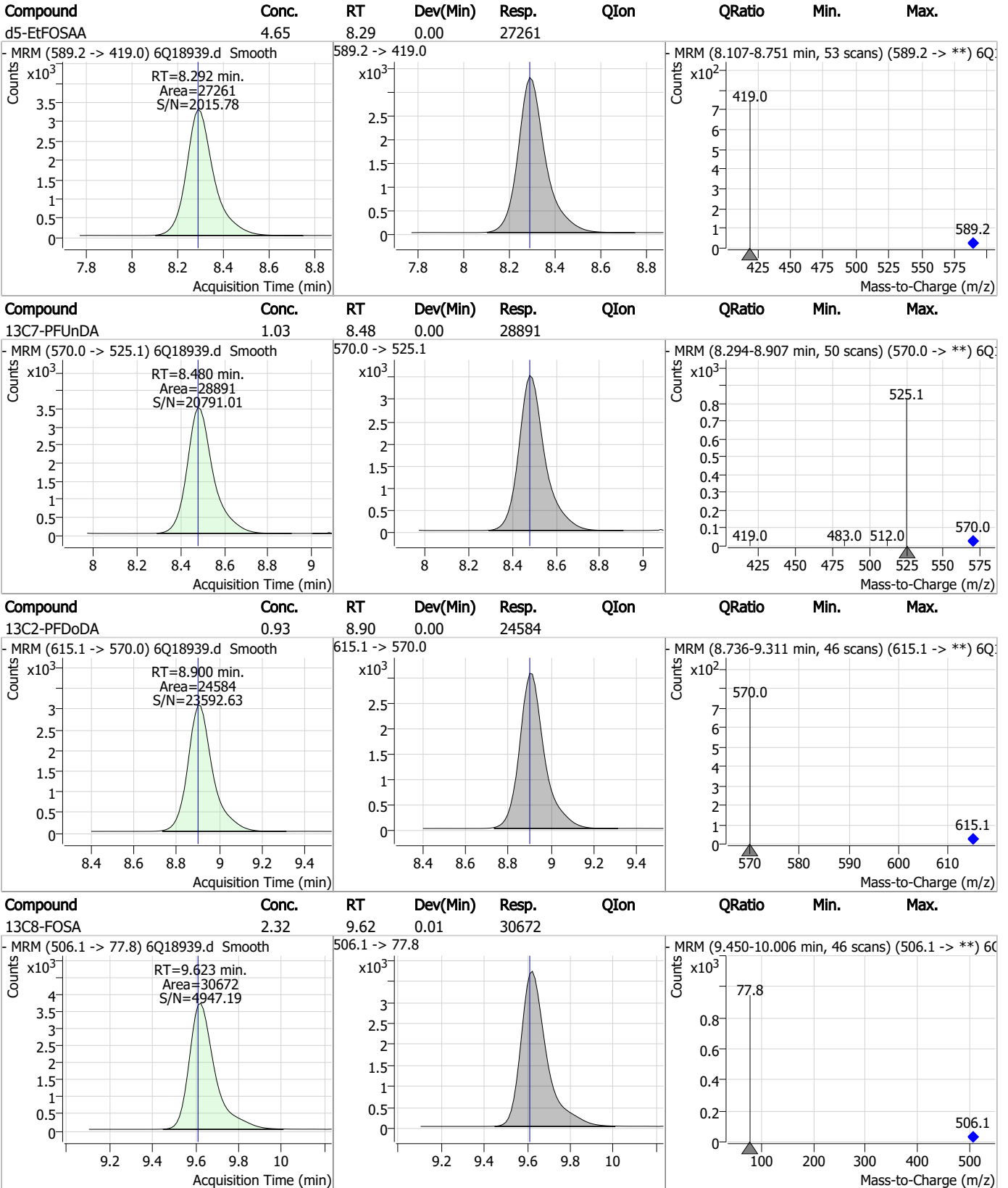
Perfluorinated Compounds by LC/MS/MS



7.1.3

7

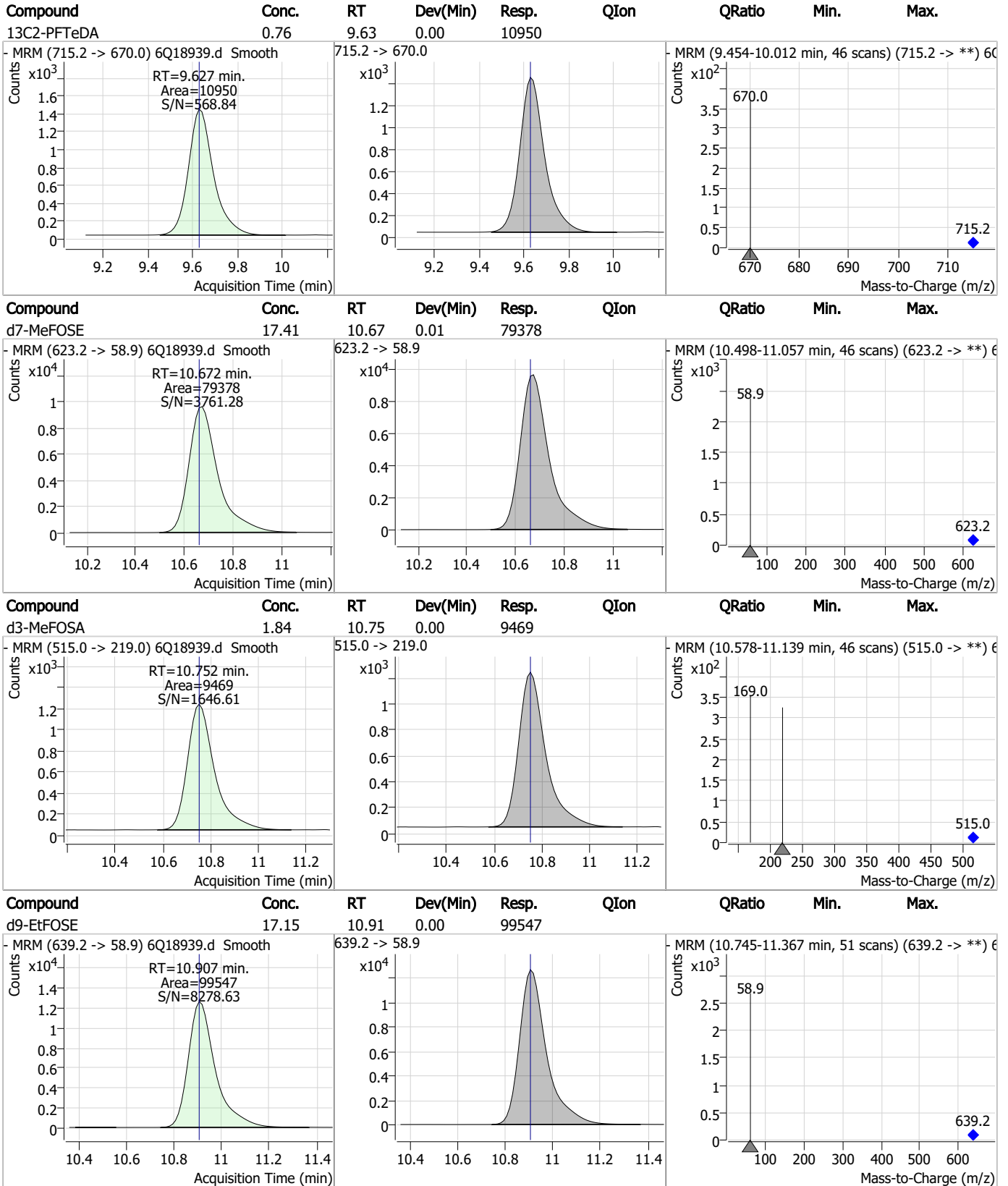
Perfluorinated Compounds by LC/MS/MS



7.1.3

7

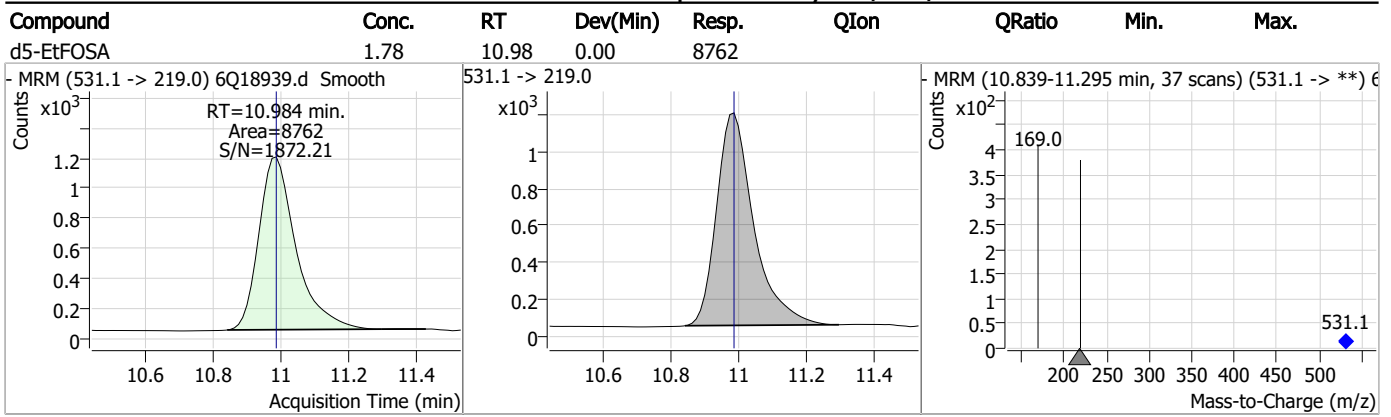
Perfluorinated Compounds by LC/MS/MS



7.1.3

7

Perfluorinated Compounds by LC/MS/MS



7.1.3
7



Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18911.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 11:55:03 PM
 Sample Name : op97179-mb
 Vial : P6-A3
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97179,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.901	216.8 -> 171.9	154614	10.00 µg/L	0.041
M5-PFPeA	4.284	268.3 -> 223.0	49670	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	55745	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	50959	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	76668	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	37175	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	22185	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	27546	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	23796	1.25 µg/L	0.012
M2-PFTeDA	9.627	715.2 -> 670.0	12718	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	27857	2.50 µg/L	0.000
M3-PFBS	5.397	302.1 -> 79.9	19224	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	12124	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	11592	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	3782	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6057	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5630	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	29695	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	31882	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	24876	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	92194	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	126046	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	9678	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	9738	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	16296	2.50 µg/L	0.000
13C3-PFBA	2.904	216.0 -> 172.0	67075	5.00 µg/L	0.040
18O2-PFHxS	7.166	403.0 -> 83.9	9073	2.50 µg/L	0.012
13C4-PFOA	7.051	417.1 -> 372.0	88284	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	31006	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	47916	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	53546	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	3782	5.07 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6057	5.65 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.0%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5630	5.27 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.4%		
13C2-PFDoDA	8.912	615.1 -> 570.0	23796	1.05 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 84.0%		
13C2-PFTeDA	9.627	715.2 -> 670.0	12718	1.02 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 81.9%		
13C3-PFBS	5.397	302.1 -> 79.9	19224	2.41 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 96.4%		
13C3-PFHxS	7.155	402.1 -> 79.9	12124	2.48 µg/L	0.000

7.2.1
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%		
13C4-PFBA	2.901	216.8 -> 171.9	154614	9.71	µg/L	0.041
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.1%		
13C4-PFHpA	6.420	367.1 -> 322.0	50959	2.39	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.5%		
13C5-PFHxA	5.478	318.0 -> 273.0	55745	2.46	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%		
13C5-PFPeA	4.284	268.3 -> 223.0	49670	4.78	µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.6%		
13C6-PFDA	8.039	519.1 -> 474.1	22185	1.21	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.5%		
13C7-PFUnDA	8.480	570.0 -> 525.1	27546	1.15	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.6%		
13C8-FOSA	9.611	506.1 -> 77.8	27857	2.35	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.0%		
13C8-PFOA	7.051	421.1 -> 376.0	76668	2.26	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.6%		
13C8-PFOS	8.189	507.1 -> 79.9	11592	2.34	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.8%		
13C9-PFNA	7.569	472.1 -> 427.0	37175	1.18	µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.4%		
d3-MeFOSAA	8.096	573.2 -> 419.0	29695	5.06	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.2%		
13C3-HFPO-DA	5.844	286.9 -> 168.9	31882	9.45	µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 94.5%		
d3-MeFOSA	10.752	515.0 -> 219.0	9738	2.11	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 84.4%		
d5-EtFOSAA	8.292	589.2 -> 419.0	24876	4.73	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.5%		
d7-MeFOSE	10.660	623.2 -> 58.9	92194	22.54	µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.2%		
d9-EtFOSE	10.907	639.2 -> 58.9	126046	24.20	µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 96.8%		
d5-EtFOSA	10.984	531.1 -> 219.0	9678	2.19	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.4%		

Target Compounds	RT	Transition	Response	Conc.	Units	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	8.608	512.9 -> 469.0	0	µg/L	m	1
		512.9 -> 219.0	0			
PFDODA	8.836	613.1 -> 569.0	0	µg/L	m	1
		613.1 -> 319.0				
PFDS	-	599.0 -> 79.9	-	N.D.		

7.2.1
7

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			
PFTTrDA	-	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

7.2.1
7

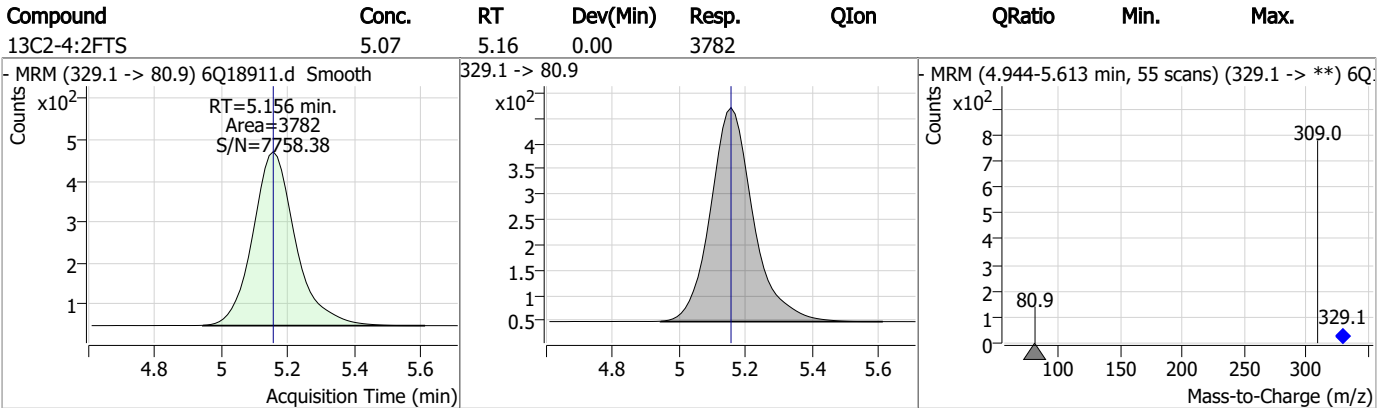
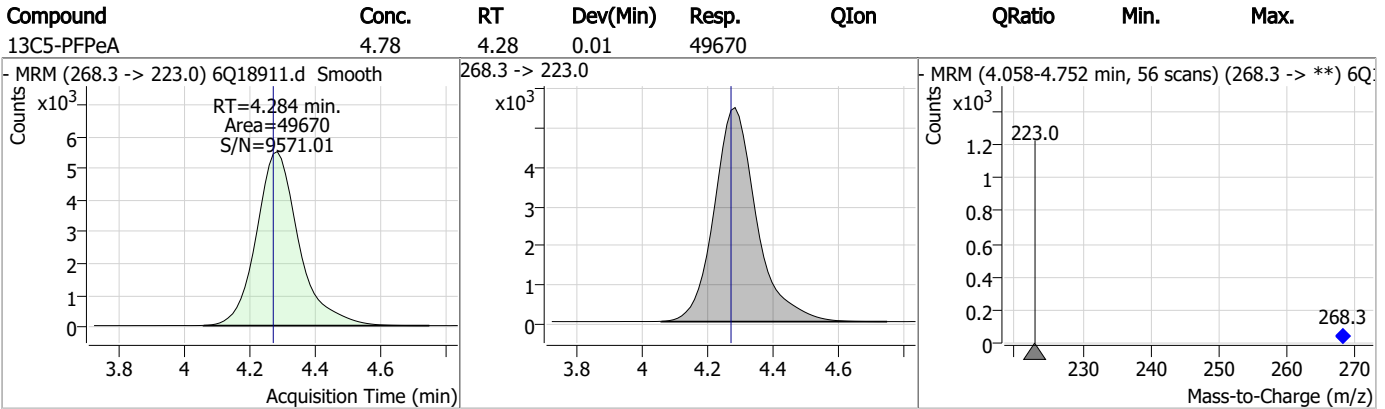
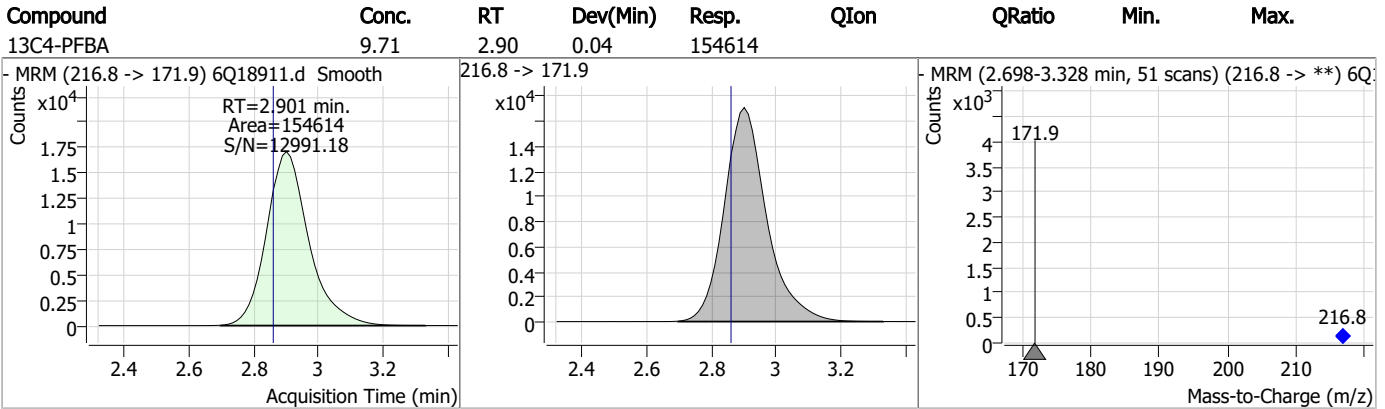
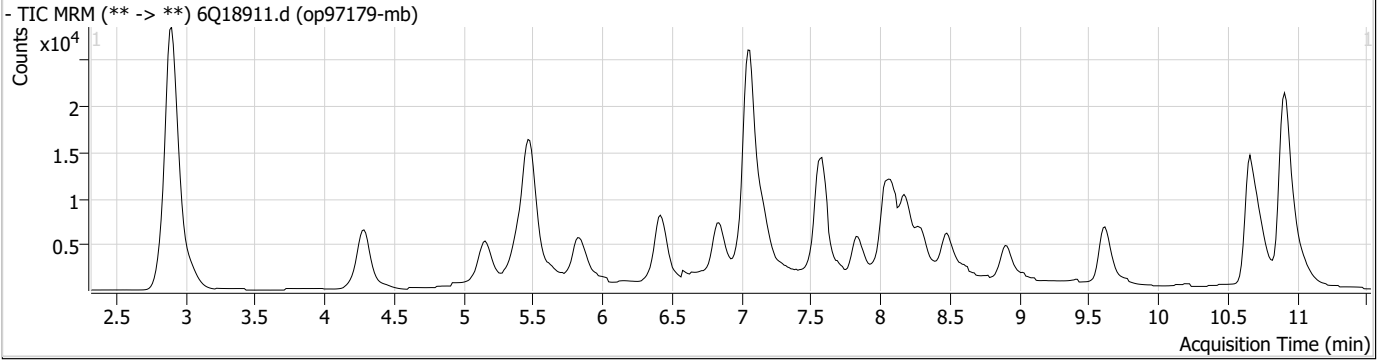
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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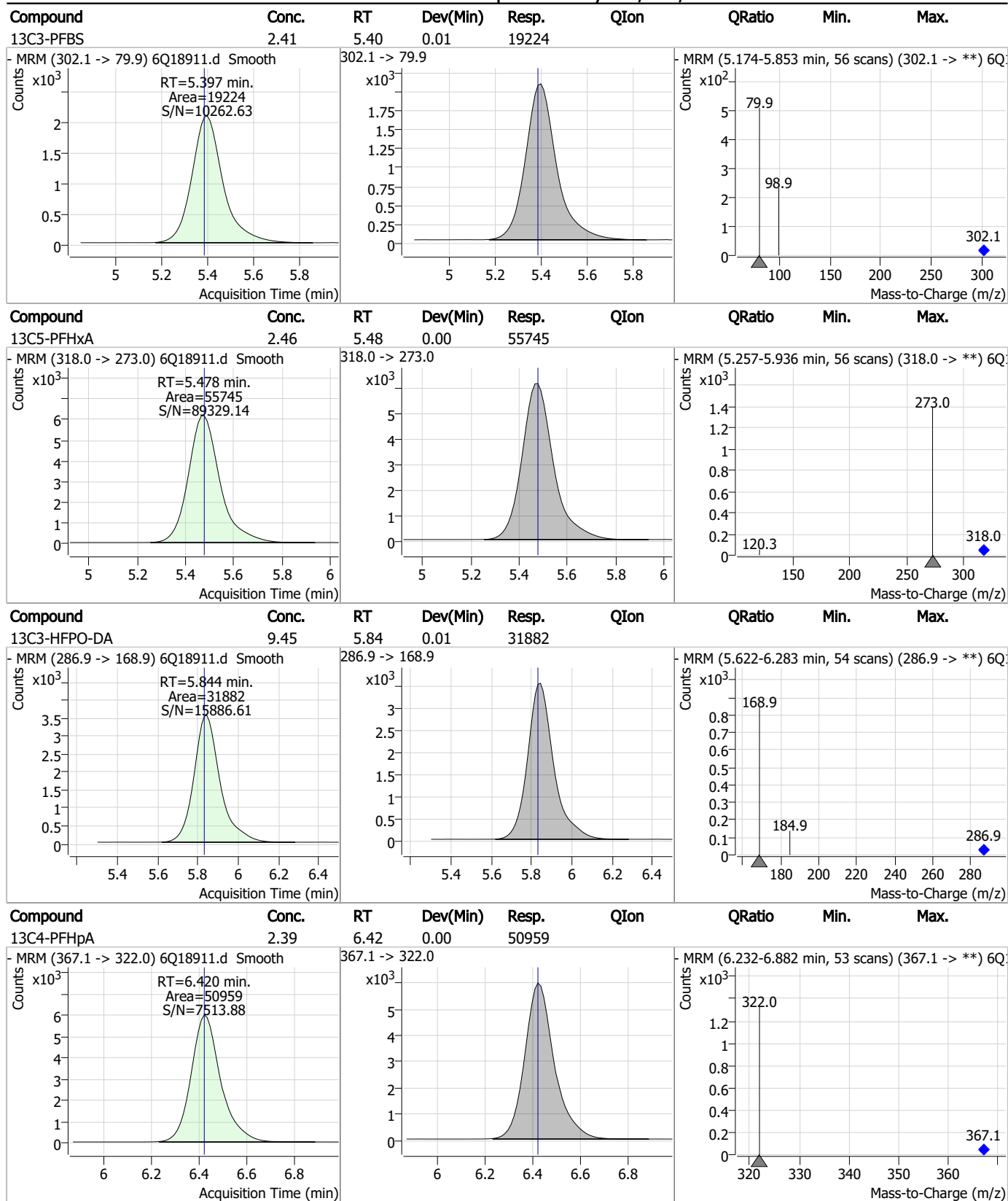
7.2.1

7

Perfluorinated Compounds by LC/MS/MS

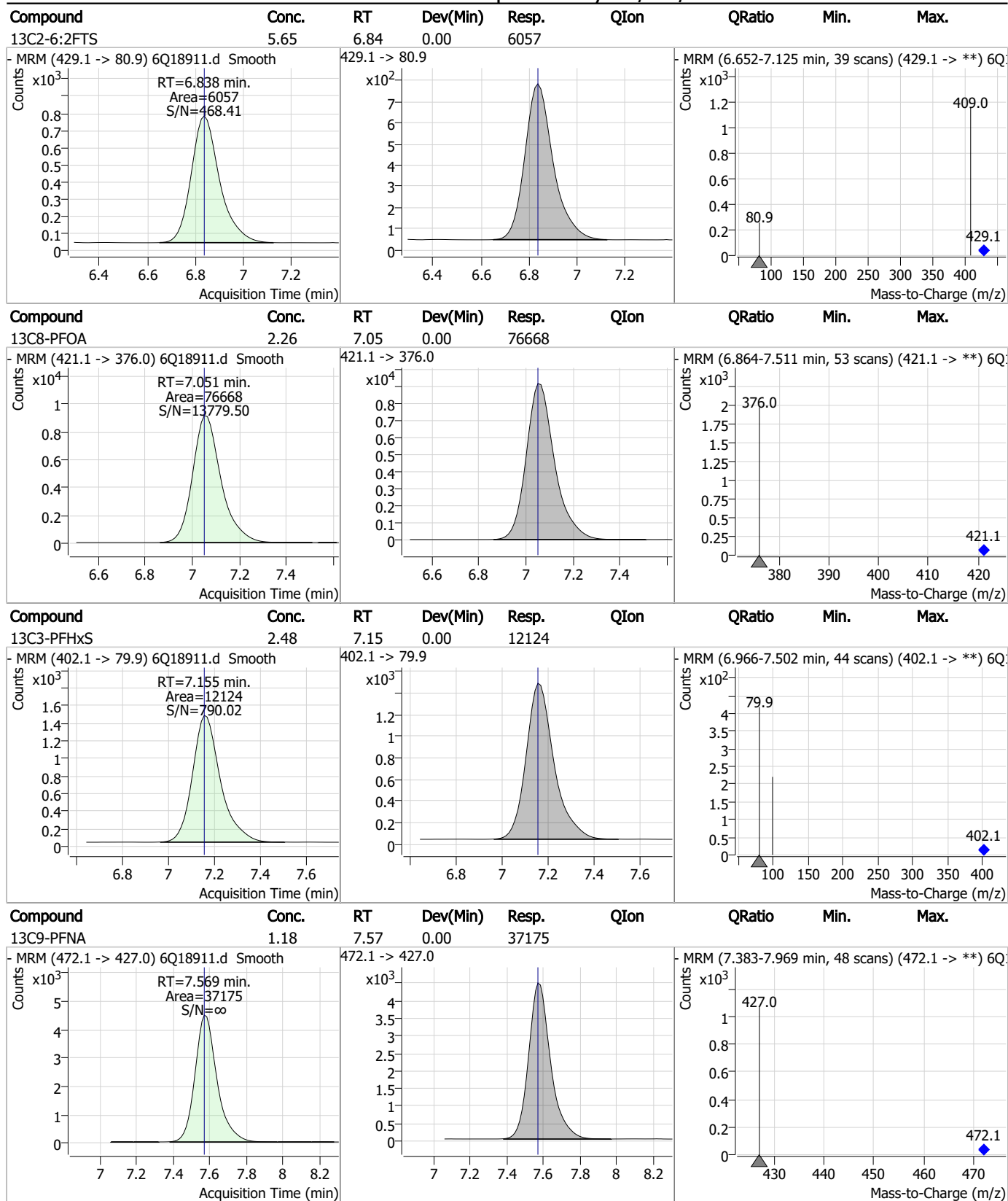


Perfluorinated Compounds by LC/MS/MS



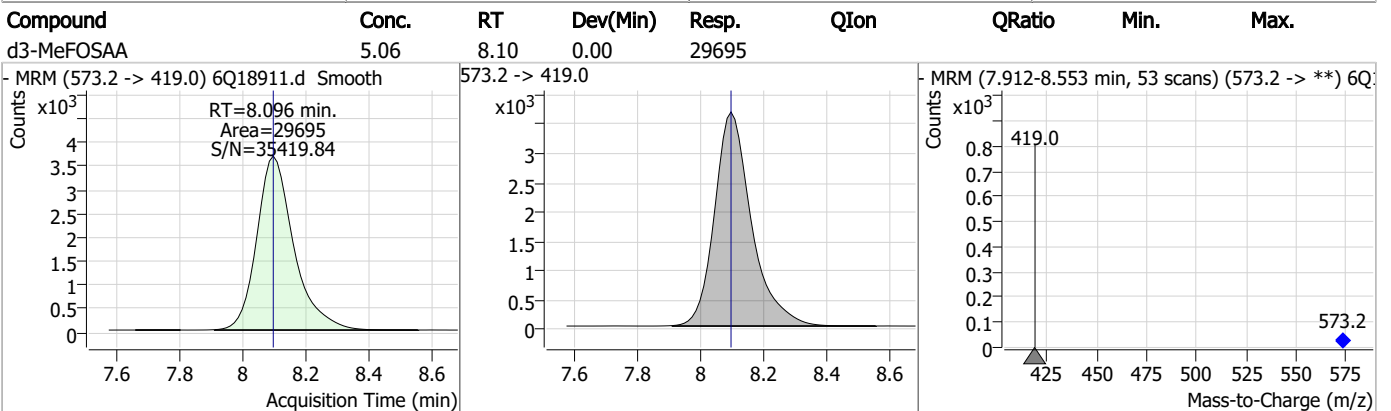
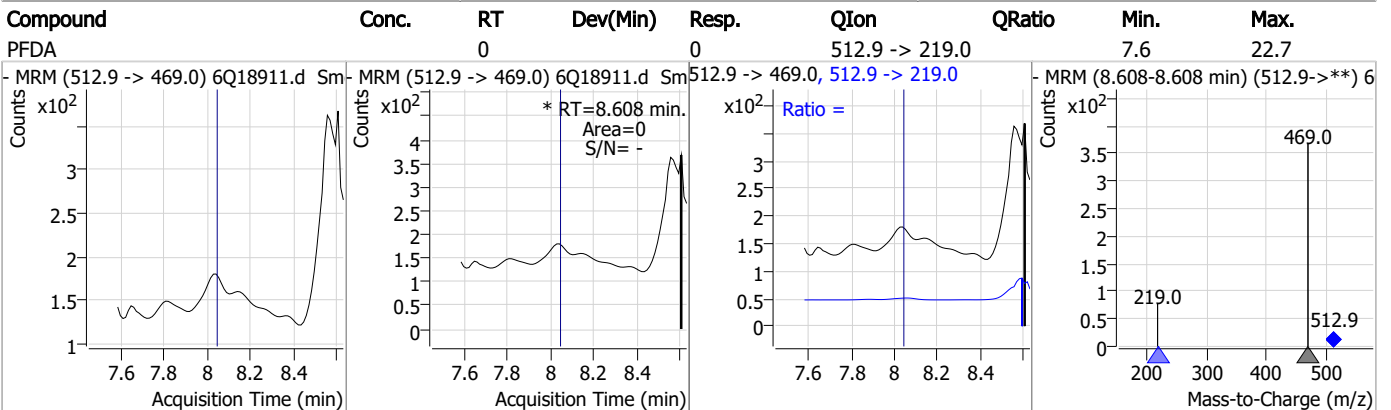
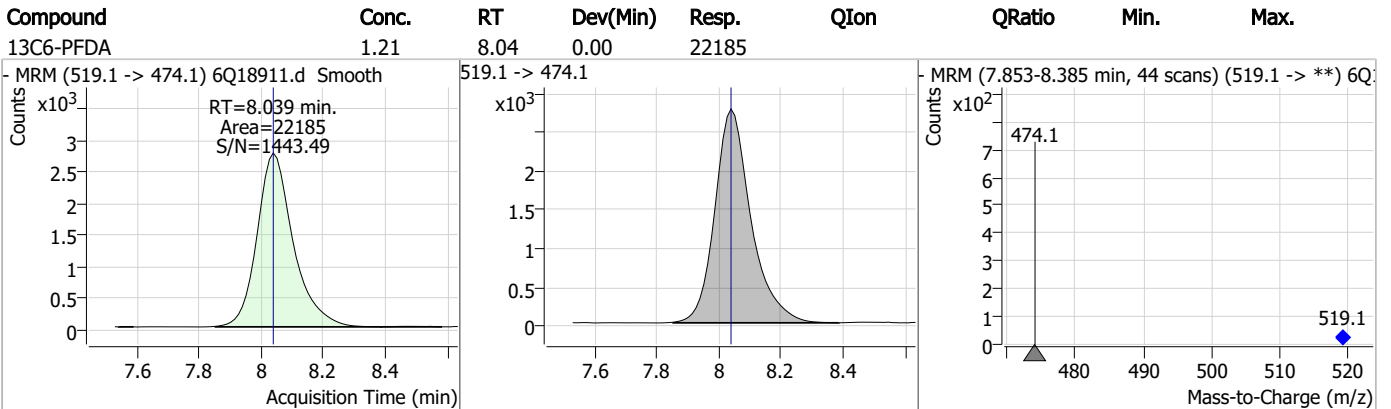
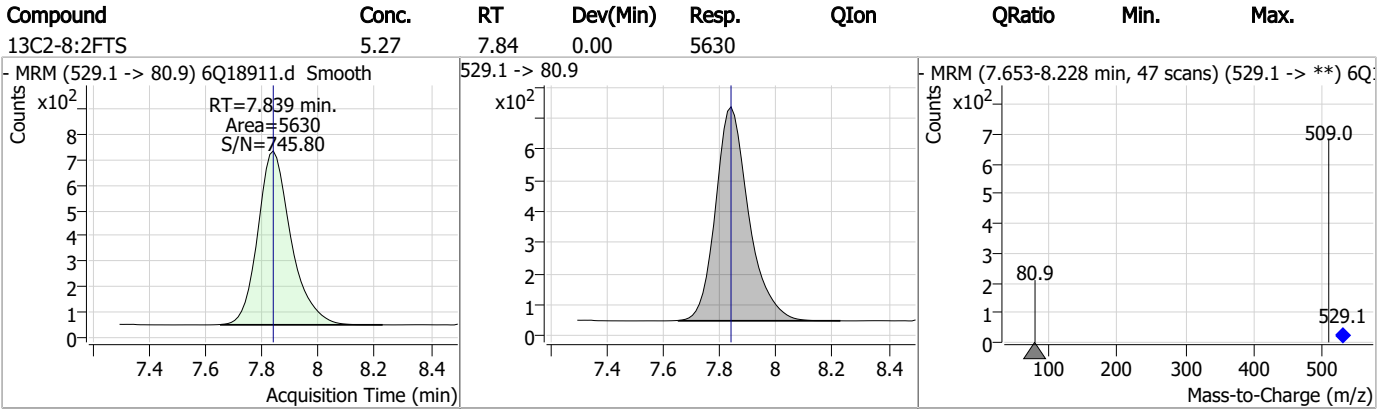
7.2.1
7

Perfluorinated Compounds by LC/MS/MS



7.2.1
7

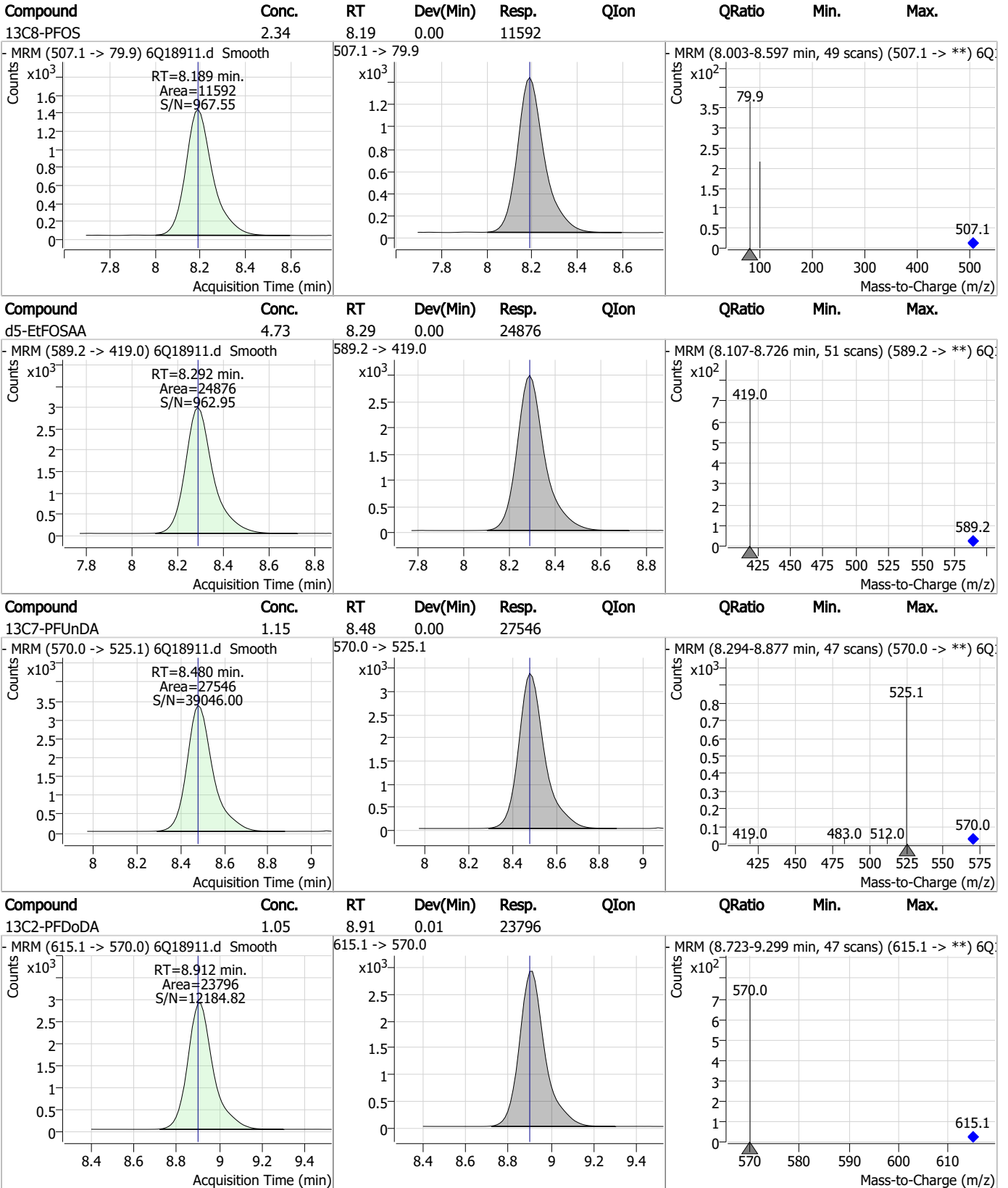
Perfluorinated Compounds by LC/MS/MS



7.2.1

7

Perfluorinated Compounds by LC/MS/MS

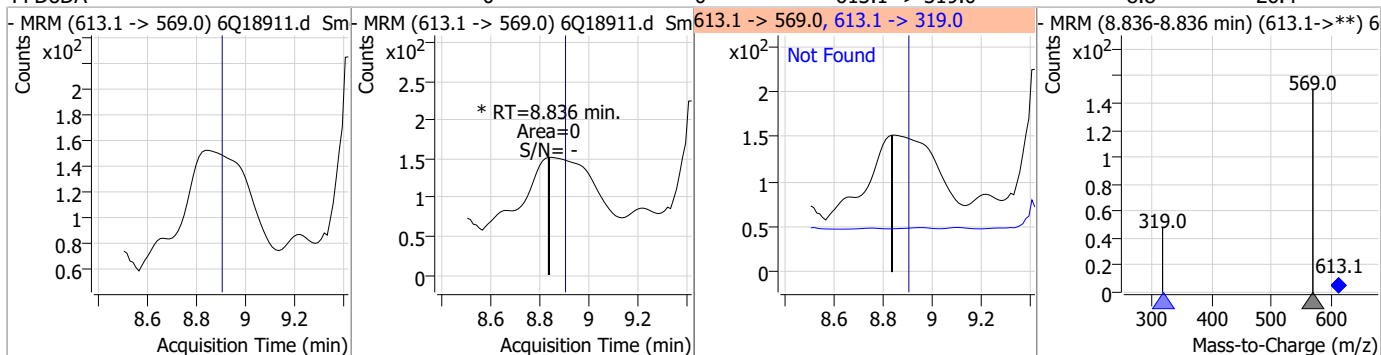


7.2.1

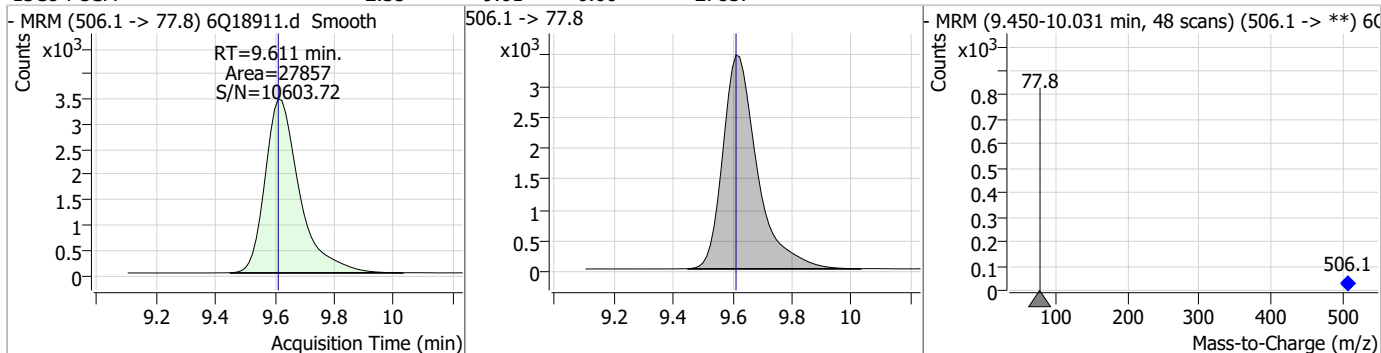
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Perfluorinated Compounds by LC/MS/MS

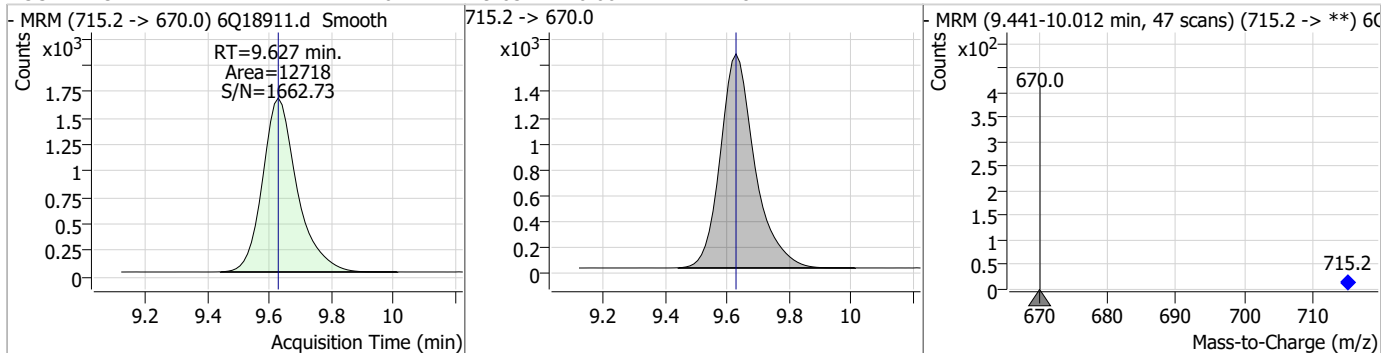
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DA	0	0		0	613.1 -> 319.0		8.8	26.4



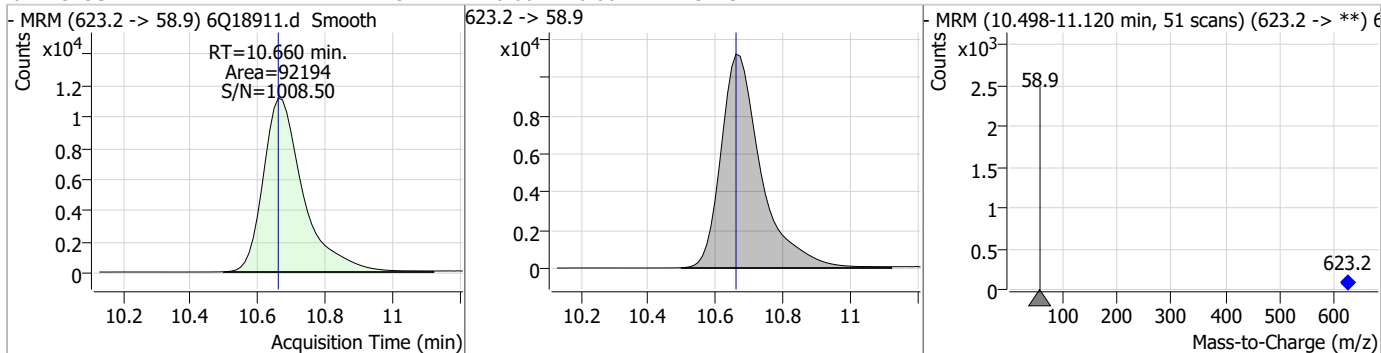
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.35	9.61	0.00	27857				



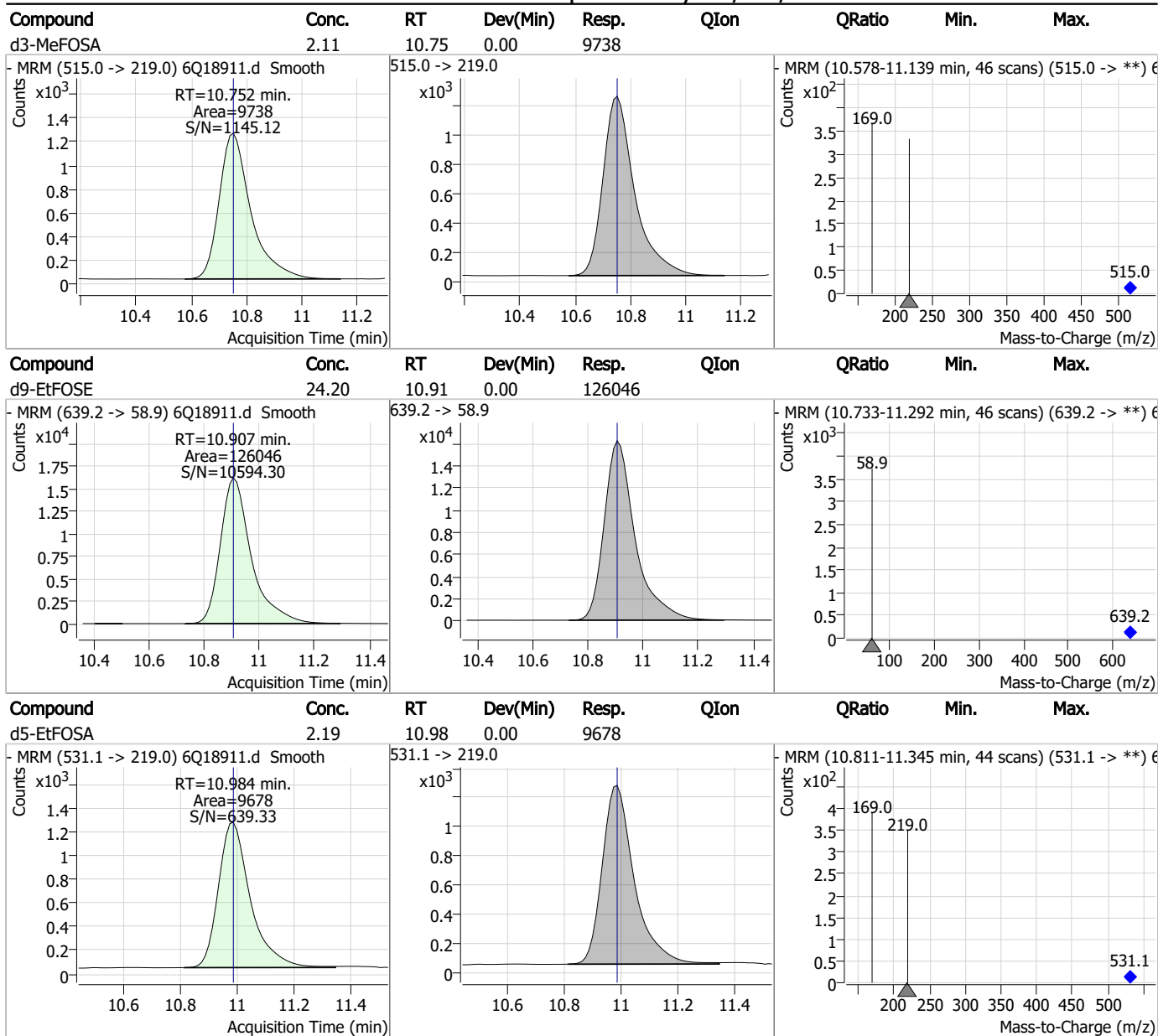
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.02	9.63	0.00	12718				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	22.54	10.66	0.00	92194				



Perfluorinated Compounds by LC/MS/MS



7.2.1
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18935.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 11:52:47 AM
 Sample Name : op97179-mb
 Vial : P6-A3
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97179,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.901	216.8 -> 171.9	163346	10.00 µg/L	0.041
M5-PFPeA	4.284	268.3 -> 223.0	52166	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	56607	2.50 µg/L	0.000
M4-PFHpA	6.432	367.1 -> 322.0	53360	2.50 µg/L	0.012
M8-PFOA	7.064	421.1 -> 376.0	81994	2.50 µg/L	0.013
M9-PFNA	7.583	472.1 -> 427.0	36817	1.25 µg/L	0.014
M6-PFDA	8.051	519.1 -> 474.1	22863	1.25 µg/L	0.012
M7-PFUnDA	8.480	570.0 -> 525.1	30136	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	25504	1.25 µg/L	0.012
M2-PFTeDA	9.627	715.2 -> 670.0	13097	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	27858	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	20783	2.50 µg/L	0.013
M3-PFHxS	7.167	402.1 -> 79.9	12784	2.50 µg/L	0.012
M8-PFOS	8.189	507.1 -> 79.9	12826	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4375	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6049	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5786	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	30409	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	33902	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	27444	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	99829	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	130284	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	9833	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	10305	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	17822	2.50 µg/L	0.000
13C3-PFBA	2.904	216.0 -> 172.0	71760	5.00 µg/L	0.040
18O2-PFHxS	7.166	403.0 -> 83.9	10214	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	89224	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	31341	1.25 µg/L	0.000
13C5-PFNA	7.583	468.0 -> 423.0	49015	1.25 µg/L	0.014
13C2-PFHxA	5.479	315.1 -> 270.0	54903	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4375	5.21 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.2%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6049	5.01 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5786	4.81 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 96.2%		
13C2-PFDoDA	8.912	615.1 -> 570.0	25504	1.11 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 89.1%		
13C2-PFTeDA	9.627	715.2 -> 670.0	13097	1.04 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 83.5%		
13C3-PFBS	5.397	302.1 -> 79.9	20783	2.31 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 92.6%		
13C3-PFHxS	7.167	402.1 -> 79.9	12784	2.32 µg/L	0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.8%	
13C4-PFBA	2.901	216.8 -> 171.9	163346	9.59 µg/L	0.041
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C4-PFHpA	6.432	367.1 -> 322.0	53360	2.44 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.5%	
13C5-PFHxA	5.478	318.0 -> 273.0	56607	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C5-PFPeA	4.284	268.3 -> 223.0	52166	4.90 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C6-PFDA	8.051	519.1 -> 474.1	22863	1.23 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C7-PFUnDA	8.480	570.0 -> 525.1	30136	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C8-FOSA	9.623	506.1 -> 77.8	27858	2.15 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 85.9%	
13C8-PFOA	7.064	421.1 -> 376.0	81994	2.40 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C8-PFOS	8.189	507.1 -> 79.9	12826	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.9%	
13C9-PFNA	7.583	472.1 -> 427.0	36817	1.14 µg/L	0.014
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.4%	
d3-MeFOSAA	8.096	573.2 -> 419.0	30409	4.74 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.8%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	33902	9.80 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.0%	
d3-MeFOSA	10.752	515.0 -> 219.0	10305	2.04 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 81.7%	
d5-EtFOSAA	8.292	589.2 -> 419.0	27444	4.77 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.4%	
d7-MeFOSE	10.672	623.2 -> 58.9	99829	22.31 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 89.3%	
d9-EtFOSE	10.907	639.2 -> 58.9	130284	22.87 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.5%	
d5-EtFOSA	10.984	531.1 -> 219.0	9833	2.03 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 81.2%	

Target Compounds	RT	Transition	Response	Conc. Units	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	8.861	613.1 -> 569.0	0	µg/L m	1
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

7.2.2
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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	8.031	463.0 -> 419.0	0	µg/L	m	1
		463.0 -> 219.0	21			
PFNS	-	548.8 -> 79.9	-	N.D.		
		548.8 -> 98.9				
PFOA	6.939	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				
PFTTrDA	-	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

7.2.2
7

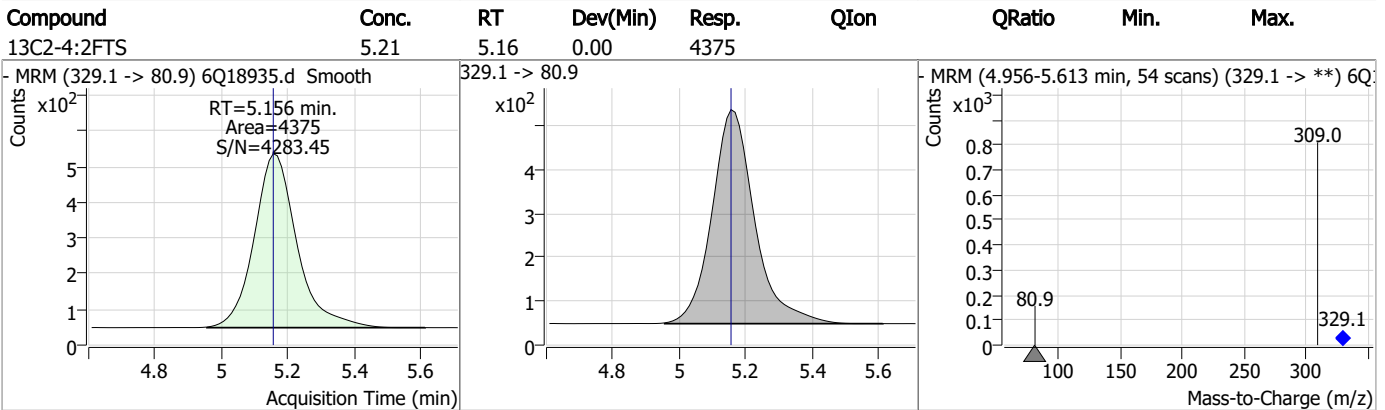
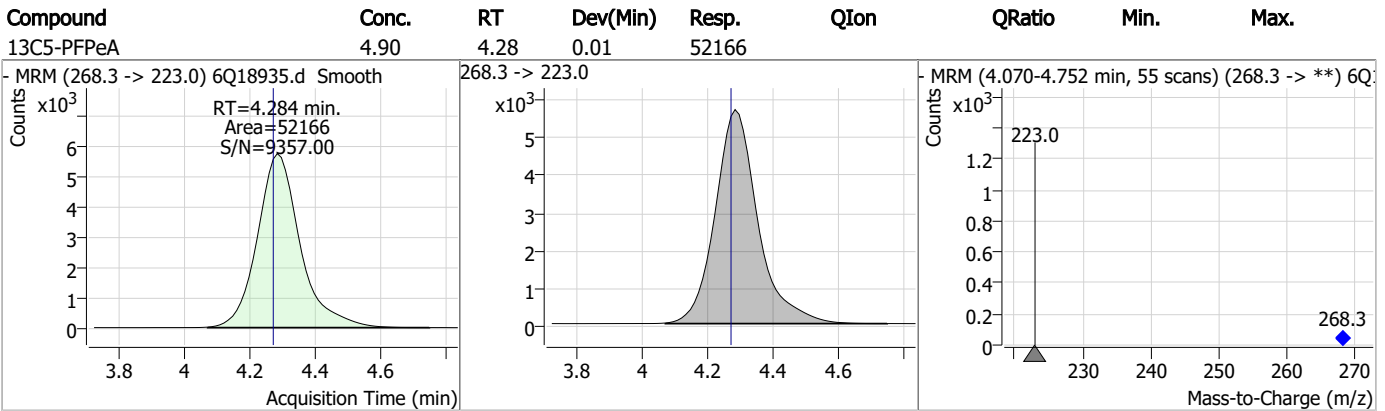
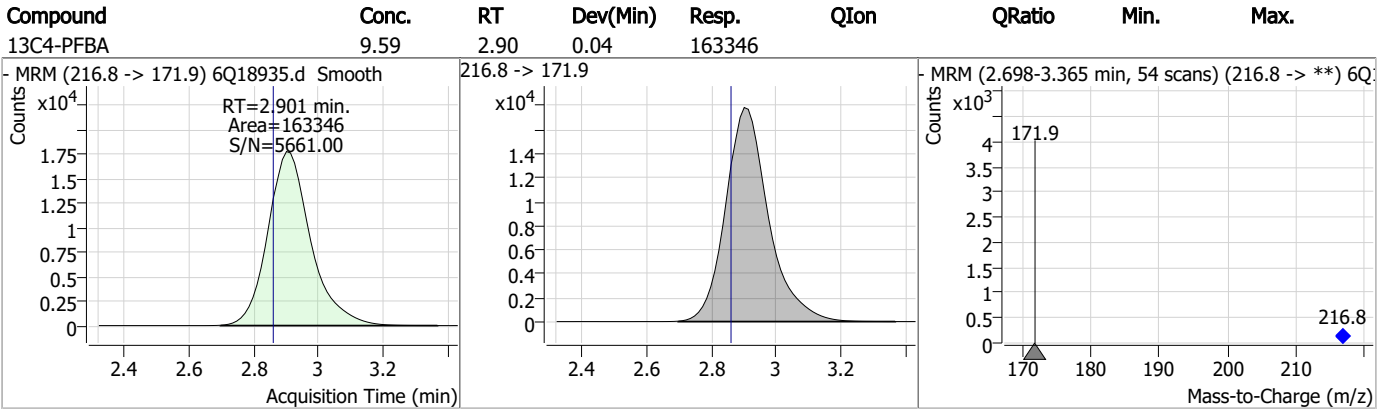
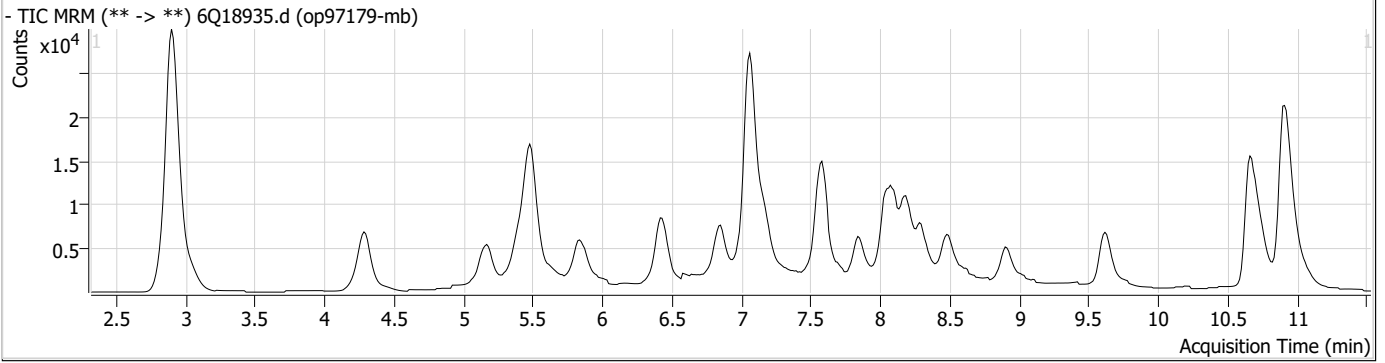
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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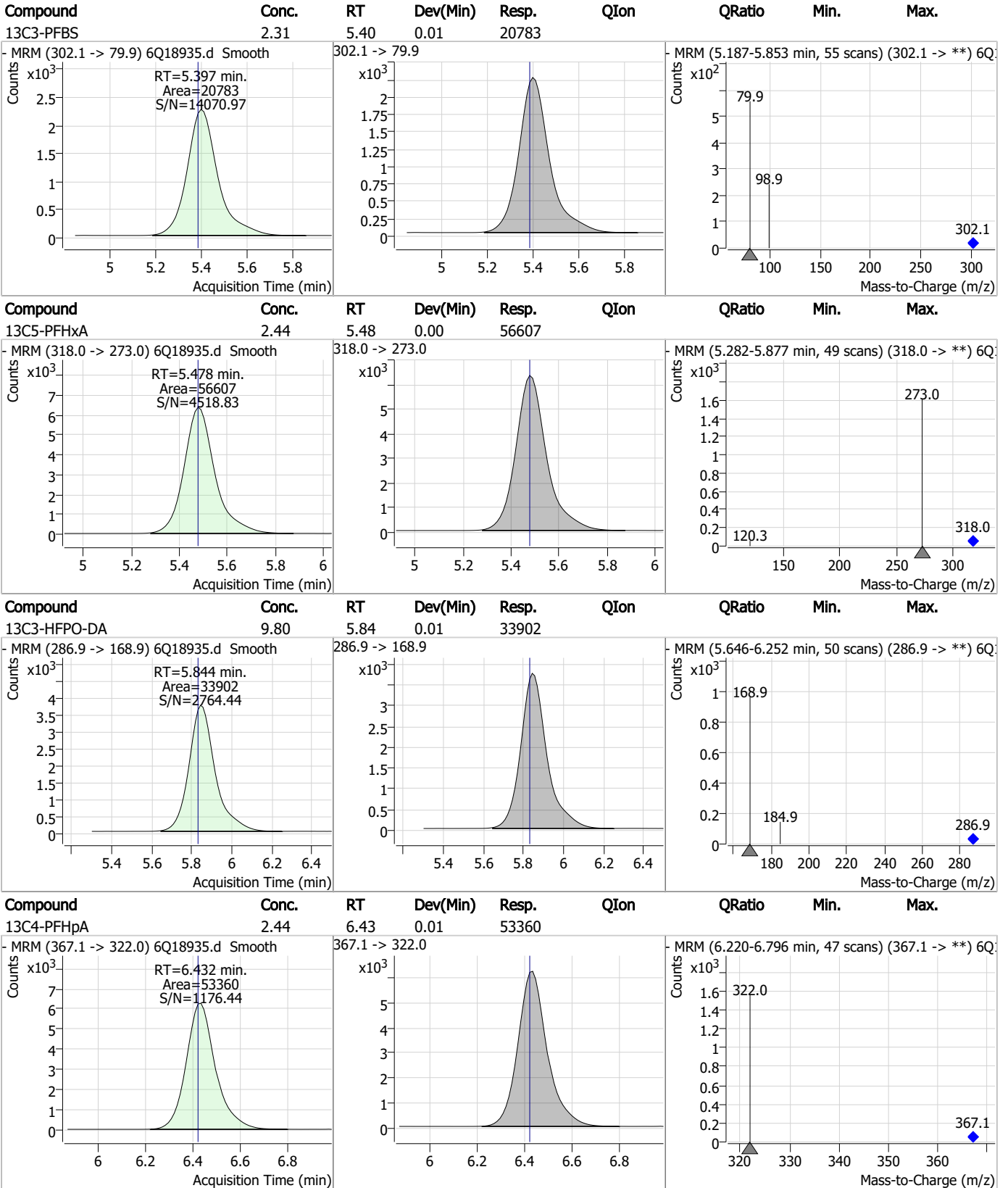
7.2.2

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

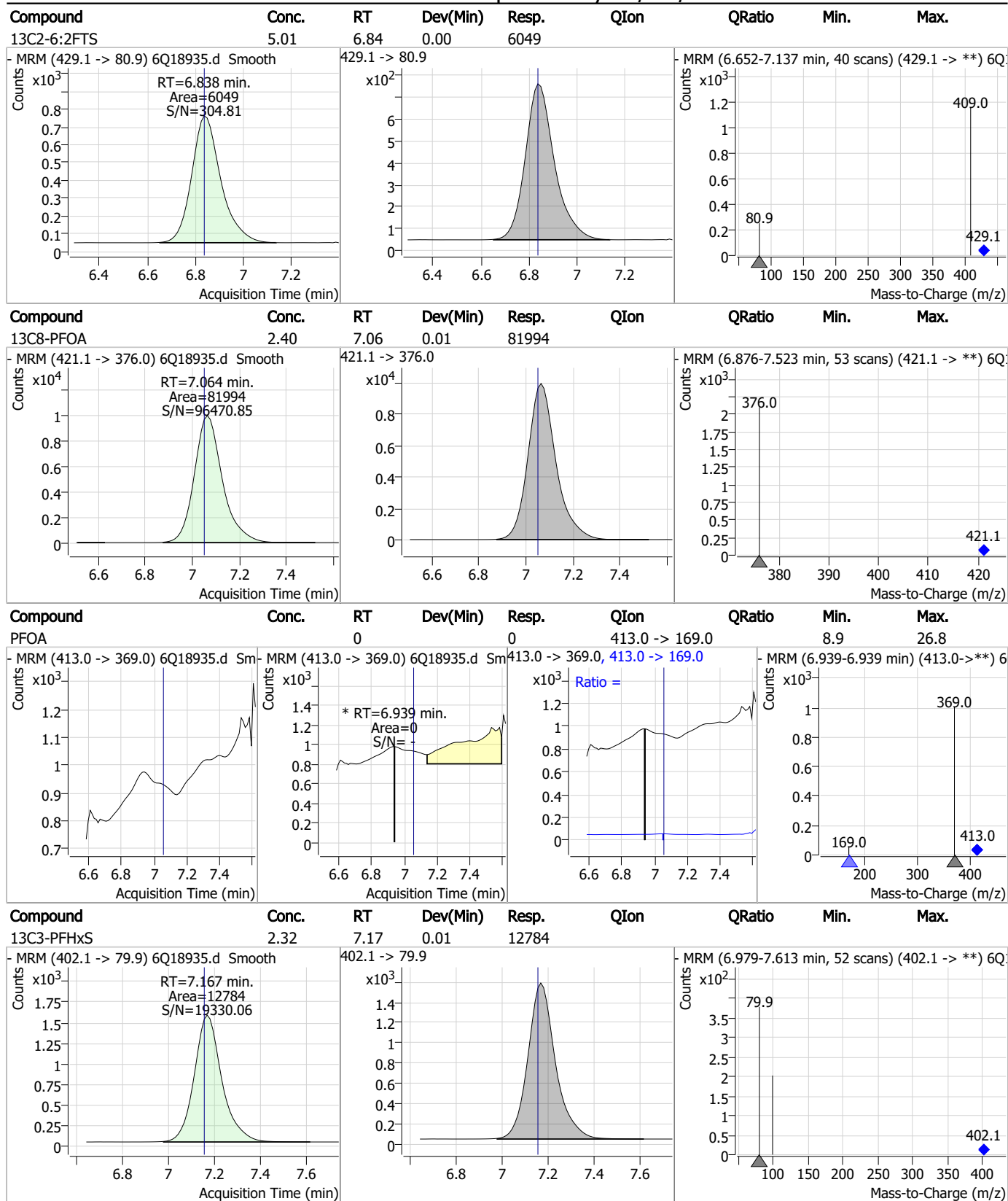


7.2.2

7

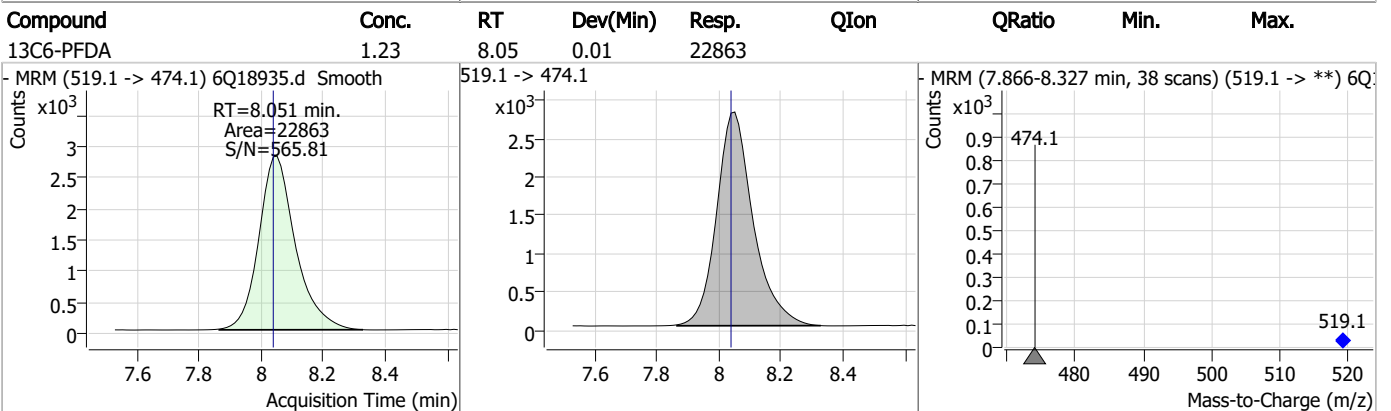
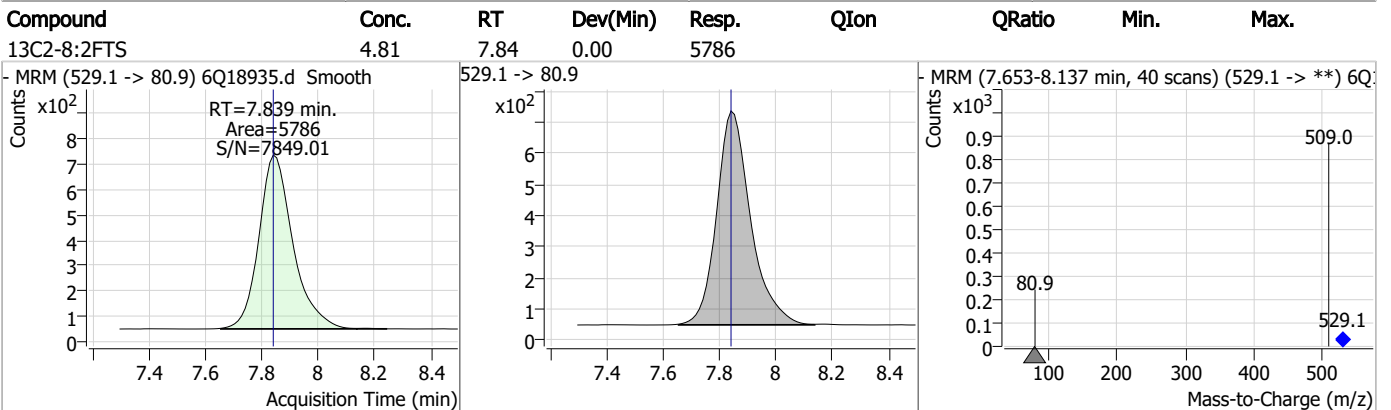
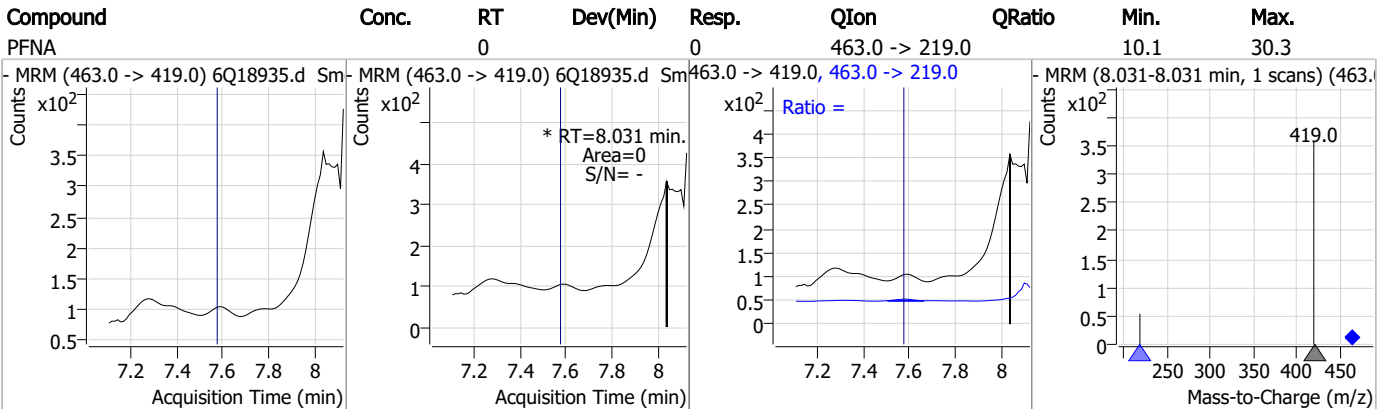
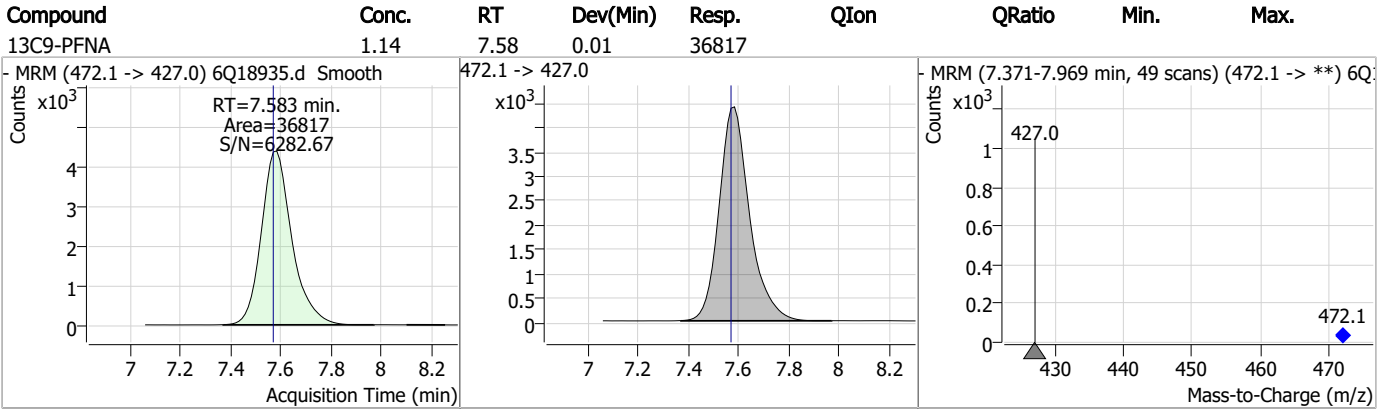


Perfluorinated Compounds by LC/MS/MS

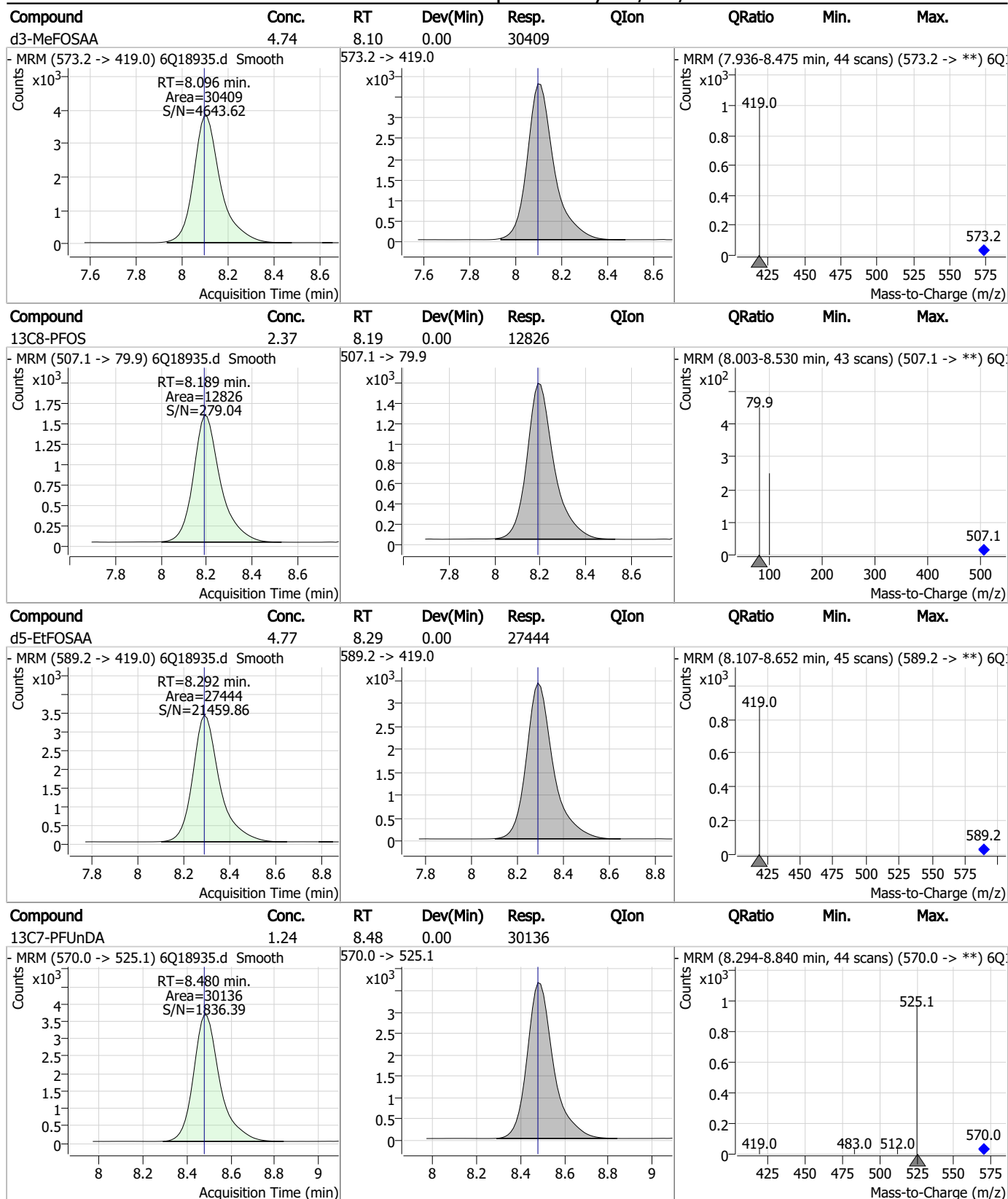


7.2.2
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Perfluorinated Compounds by LC/MS/MS

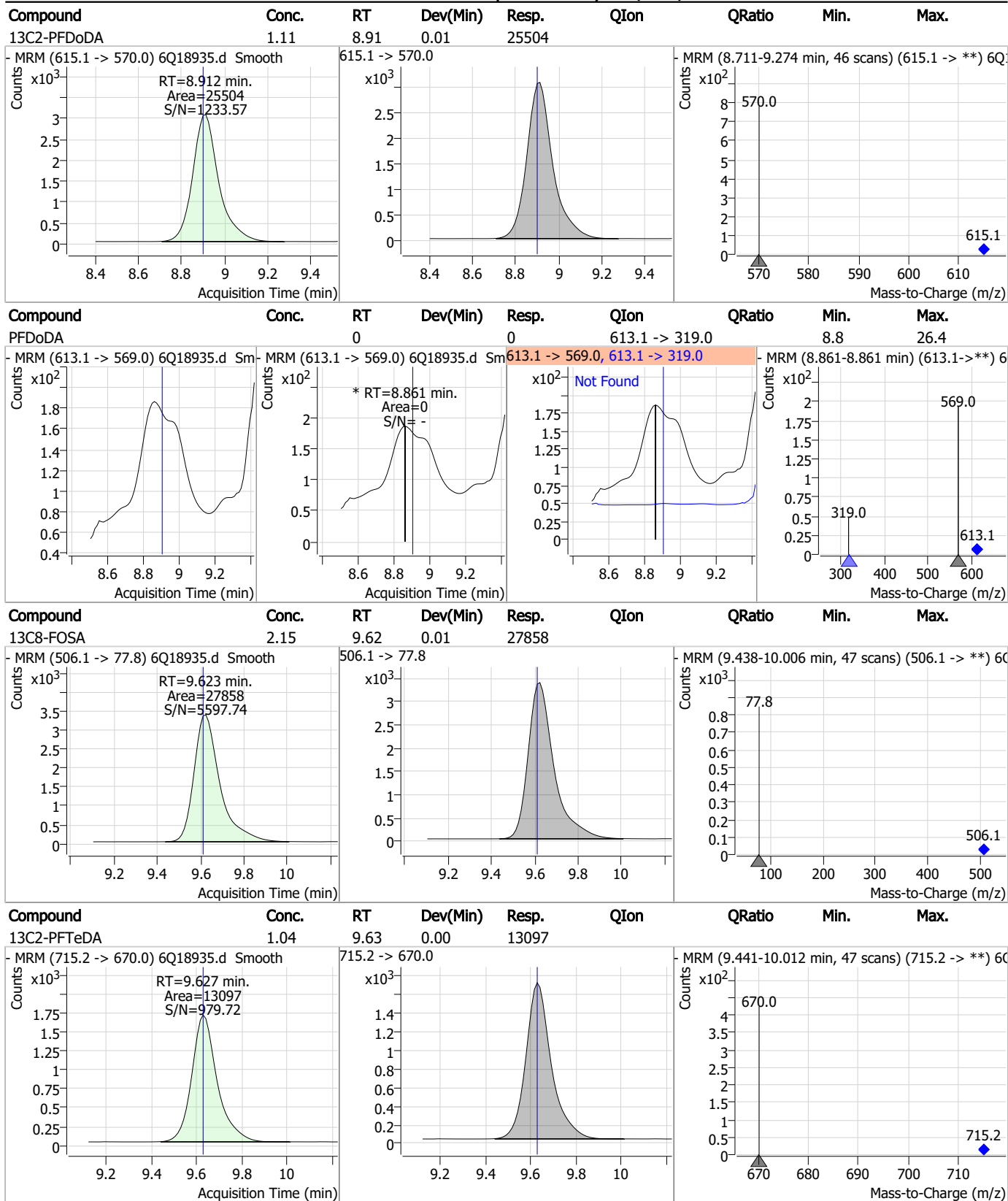


Perfluorinated Compounds by LC/MS/MS



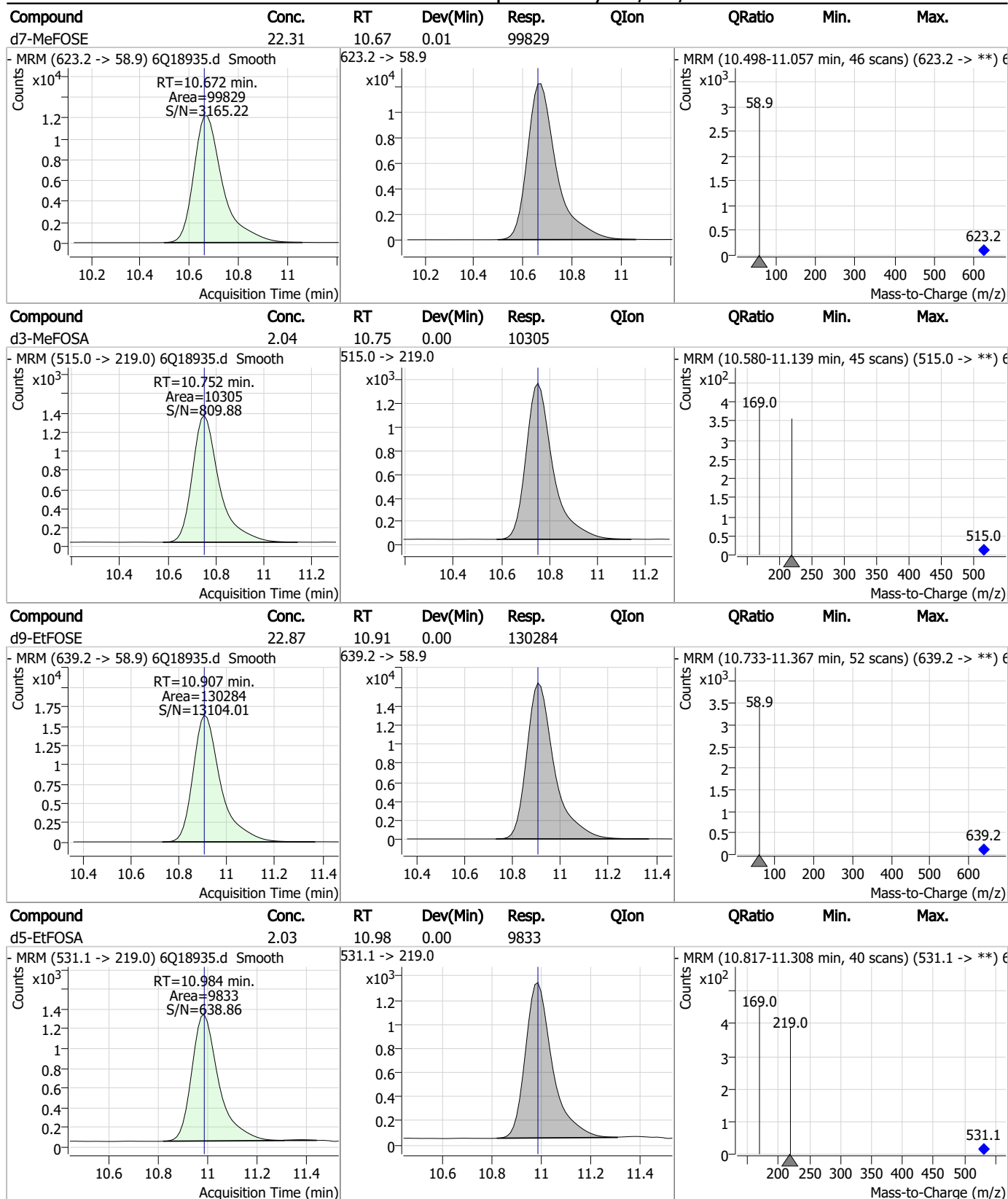
7.2.2
7

Perfluorinated Compounds by LC/MS/MS



7.2.2
7

Perfluorinated Compounds by LC/MS/MS



7.22
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18930.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 10:40:20 AM
 Sample Name : iblk
 Vial : P1-A1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	191357	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	63952	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	69041	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	65658	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	98372	2.50 µg/L	0.013
M9-PFNA	7.583	472.1 -> 427.0	45707	1.25 µg/L	0.014
M6-PFDA	8.039	519.1 -> 474.1	27028	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	35557	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	33642	1.25 µg/L	0.012
M2-PFTeDA	9.627	715.2 -> 670.0	18509	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	35814	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	25689	2.50 µg/L	0.013
M3-PFHxS	7.167	402.1 -> 79.9	15769	2.50 µg/L	0.012
M8-PFOS	8.189	507.1 -> 79.9	15076	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5246	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6886	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7061	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	38032	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	42032	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	34773	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	133009	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	163012	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13704	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13515	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18930	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	80680	5.00 µg/L	0.000
18O2-PFHxS	7.166	403.0 -> 83.9	11454	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	110283	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	37960	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	56946	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	65535	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5246	5.57 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.4%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6886	5.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.7%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7061	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.7%		
13C2-PFDoDA	8.912	615.1 -> 570.0	33642	1.21 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.0%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18509	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.4%		
13C3-PFBS	5.397	302.1 -> 79.9	25689	2.55 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.1%		
13C3-PFHxS	7.167	402.1 -> 79.9	15769	2.55 µg/L	0.012

7.2.3
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50 13C4-PFBA	Range: 50.0 - 150.0% 2.860	216.8 -> 171.9	191357	Recovery = 102.1% 10.00 µg/L	0.000
Spiked Amount: 10.00 13C4-PFHpA	Range: 50.0 - 150.0% 6.420	367.1 -> 322.0	65658	Recovery = 100.0% 2.51 µg/L	0.000
Spiked Amount: 2.50 13C5-PFHxA	Range: 50.0 - 150.0% 5.478	318.0 -> 273.0	69041	Recovery = 100.5% 2.49 µg/L	0.000
Spiked Amount: 2.50 13C5-PFPeA	Range: 50.0 - 150.0% 4.272	268.3 -> 223.0	63952	Recovery = 99.6% 5.03 µg/L	0.000
Spiked Amount: 5.00 13C6-PFDA	Range: 50.0 - 150.0% 8.039	519.1 -> 474.1	27028	Recovery = 100.6% 1.20 µg/L	0.000
Spiked Amount: 1.25 13C7-PFUnDA	Range: 50.0 - 150.0% 8.480	570.0 -> 525.1	35557	Recovery = 96.0% 1.21 µg/L	0.000
Spiked Amount: 1.25 13C8-FOSA	Range: 50.0 - 150.0% 9.623	506.1 -> 77.8	35814	Recovery = 96.6% 2.60 µg/L	0.012
Spiked Amount: 2.50 13C8-PFOA	Range: 50.0 - 150.0% 7.064	421.1 -> 376.0	98372	Recovery = 104.0% 2.33 µg/L	0.013
Spiked Amount: 2.50 13C8-PFOS	Range: 50.0 - 150.0% 8.189	507.1 -> 79.9	15076	Recovery = 93.0% 2.62 µg/L	0.000
Spiked Amount: 2.50 13C9-PFNA	Range: 50.0 - 150.0% 7.583	472.1 -> 427.0	45707	Recovery = 105.0% 1.22 µg/L	0.014
Spiked Amount: 1.25 d3-MeFOSAA	Range: 50.0 - 150.0% 8.096	573.2 -> 419.0	38032	Recovery = 97.6% 5.58 µg/L	0.000
Spiked Amount: 5.00 13C3-HFPO-DA	Range: 50.0 - 150.0% 5.844	286.9 -> 168.9	42032	Recovery = 111.6% 10.18 µg/L	0.012
Spiked Amount: 10.00 d3-MeFOSA	Range: 50.0 - 150.0% 10.752	515.0 -> 219.0	13515	Recovery = 101.8% 2.52 µg/L	0.000
Spiked Amount: 2.50 d5-EtFOSAA	Range: 50.0 - 150.0% 8.292	589.2 -> 419.0	34773	Recovery = 100.8% 5.69 µg/L	0.000
Spiked Amount: 5.00 d7-MeFOSE	Range: 50.0 - 150.0% 10.672	623.2 -> 58.9	133009	Recovery = 113.8% 27.99 µg/L	0.012
Spiked Amount: 25.00 d9-EtFOSE	Range: 50.0 - 150.0% 10.907	639.2 -> 58.9	163012	Recovery = 112.0% 26.94 µg/L	0.000
Spiked Amount: 25.00 d5-EtFOSA	Range: 50.0 - 150.0% 10.984	531.1 -> 219.0	13704	Recovery = 107.7% 2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.6%	

7.2.3
7

Target Compounds	RT	Transition	Response	Conc. Units	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			
PFTTrDA	-	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

7.2.3
7

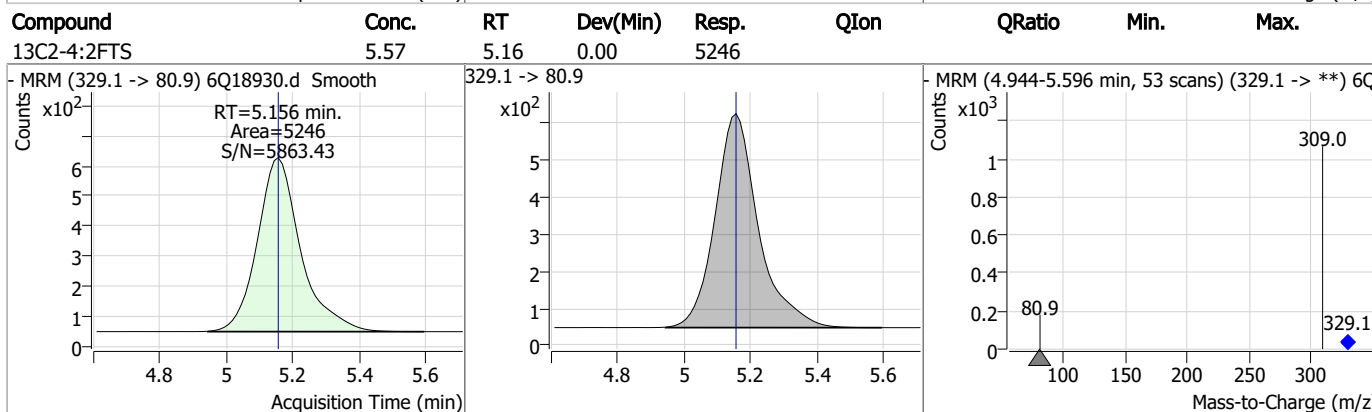
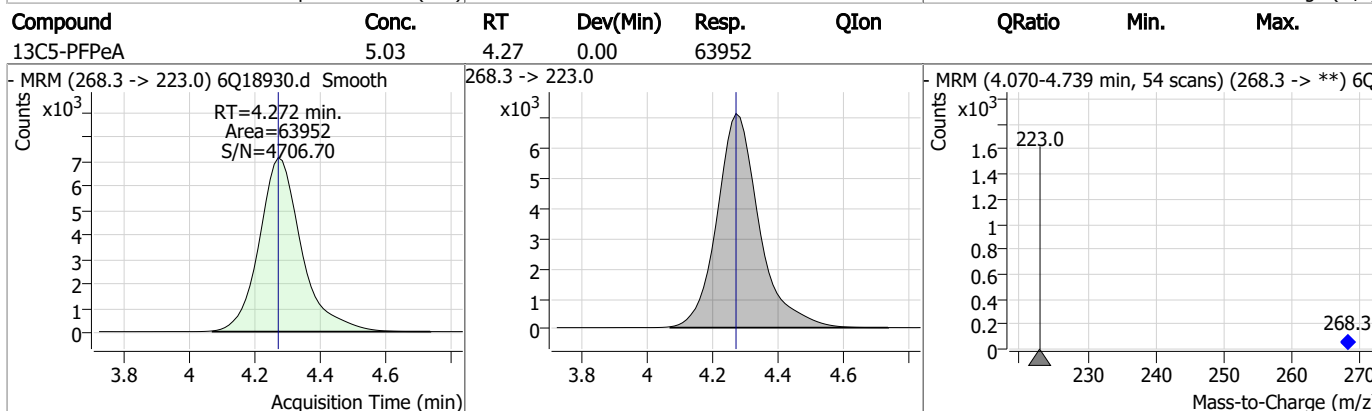
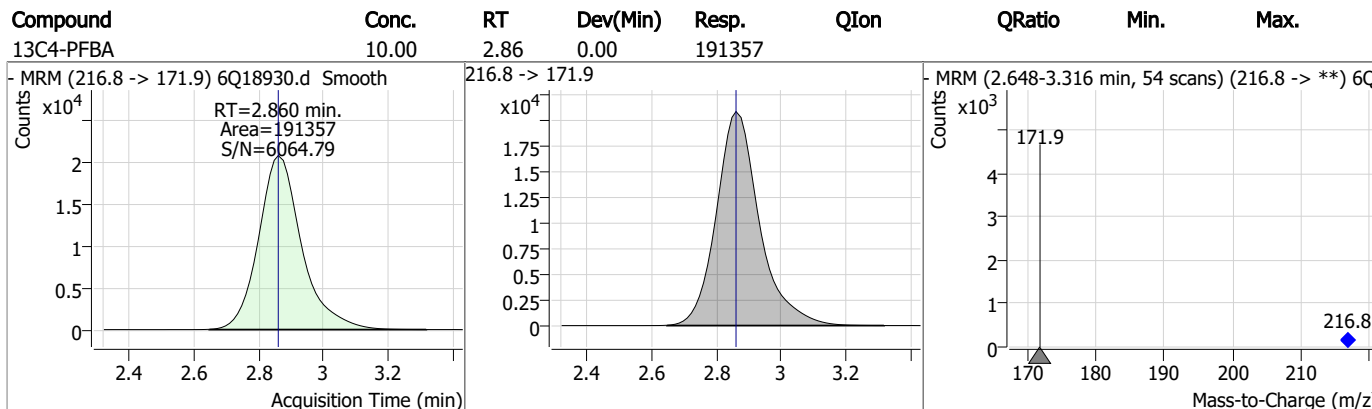
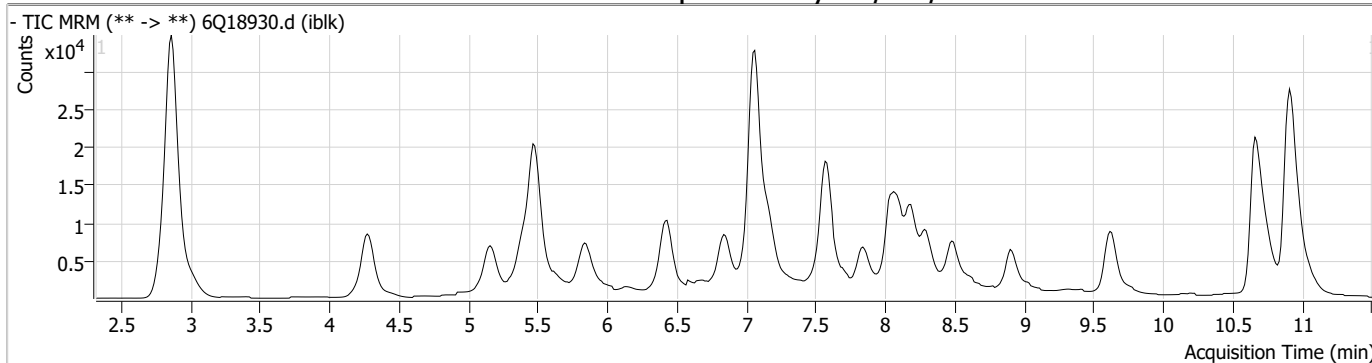
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.2.3

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Perfluorinated Compounds by LC/MS/MS



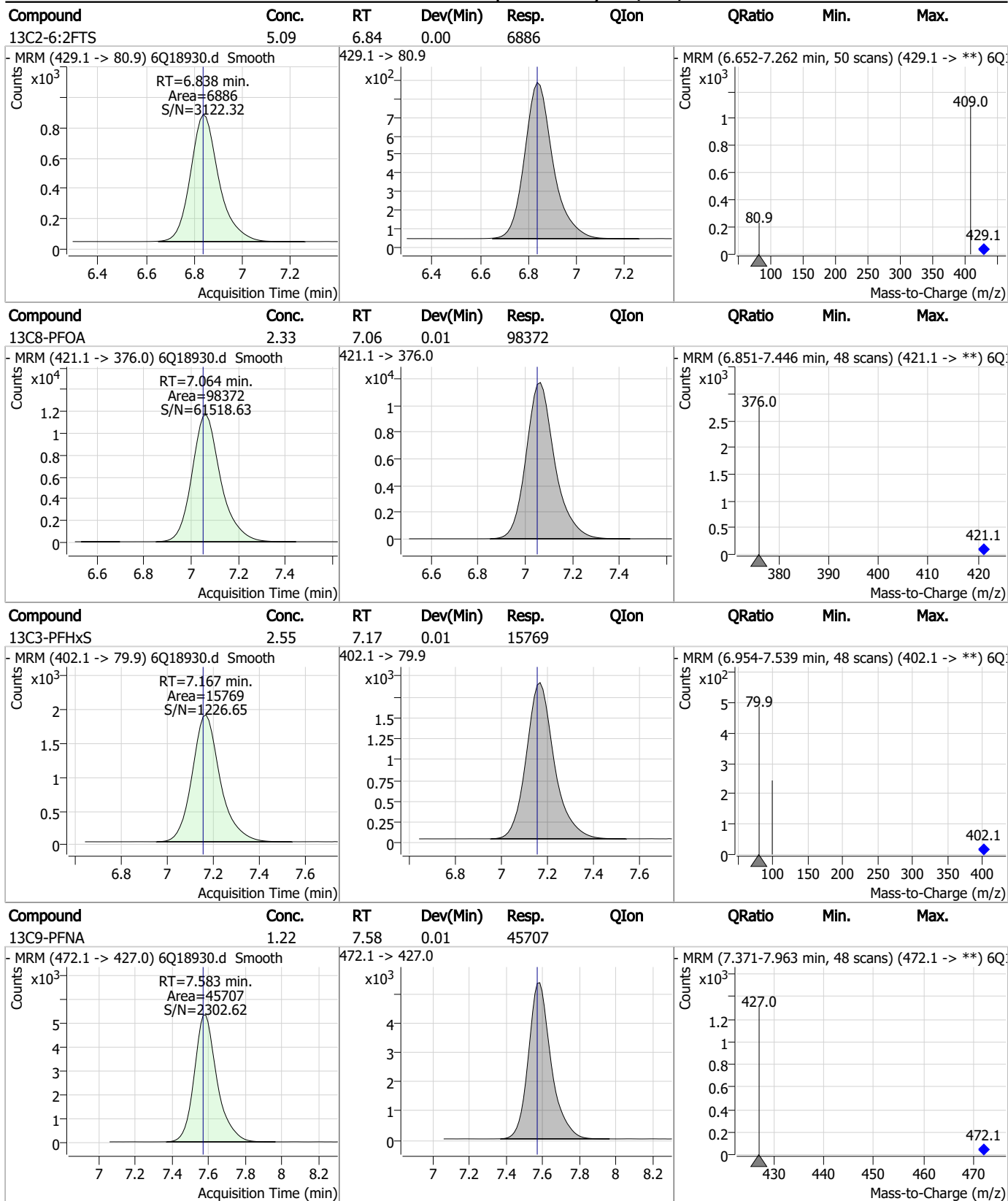
7.2.3
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.55	5.40	0.01	25689				
13C5-PFHxA	2.49	5.48	0.00	69041				
13C3-HFPO-DA	10.18	5.84	0.01	42032				
13C4-PFHpA	2.51	6.42	0.00	65658				

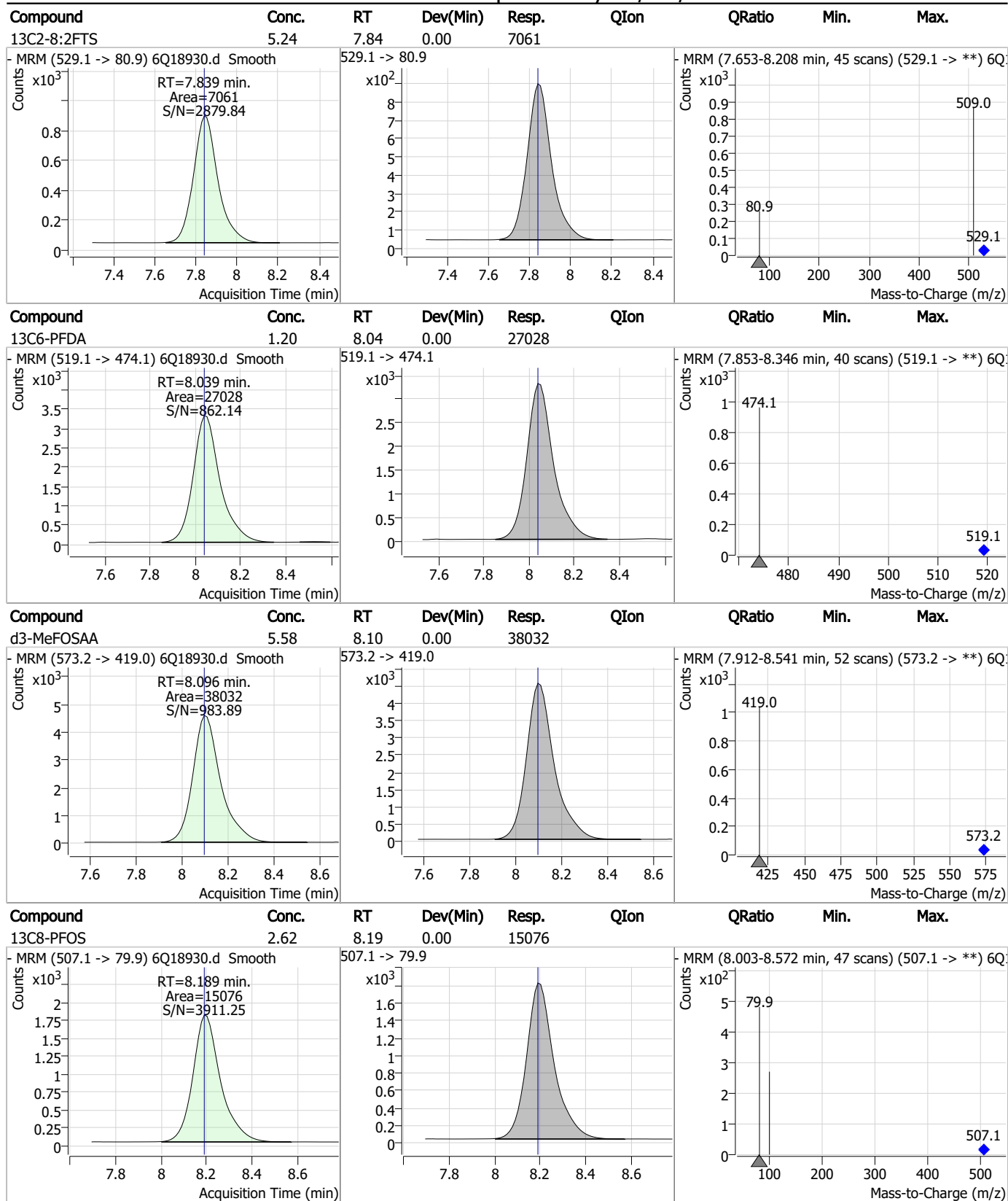
7.2.3
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Perfluorinated Compounds by LC/MS/MS



7.2.3
7

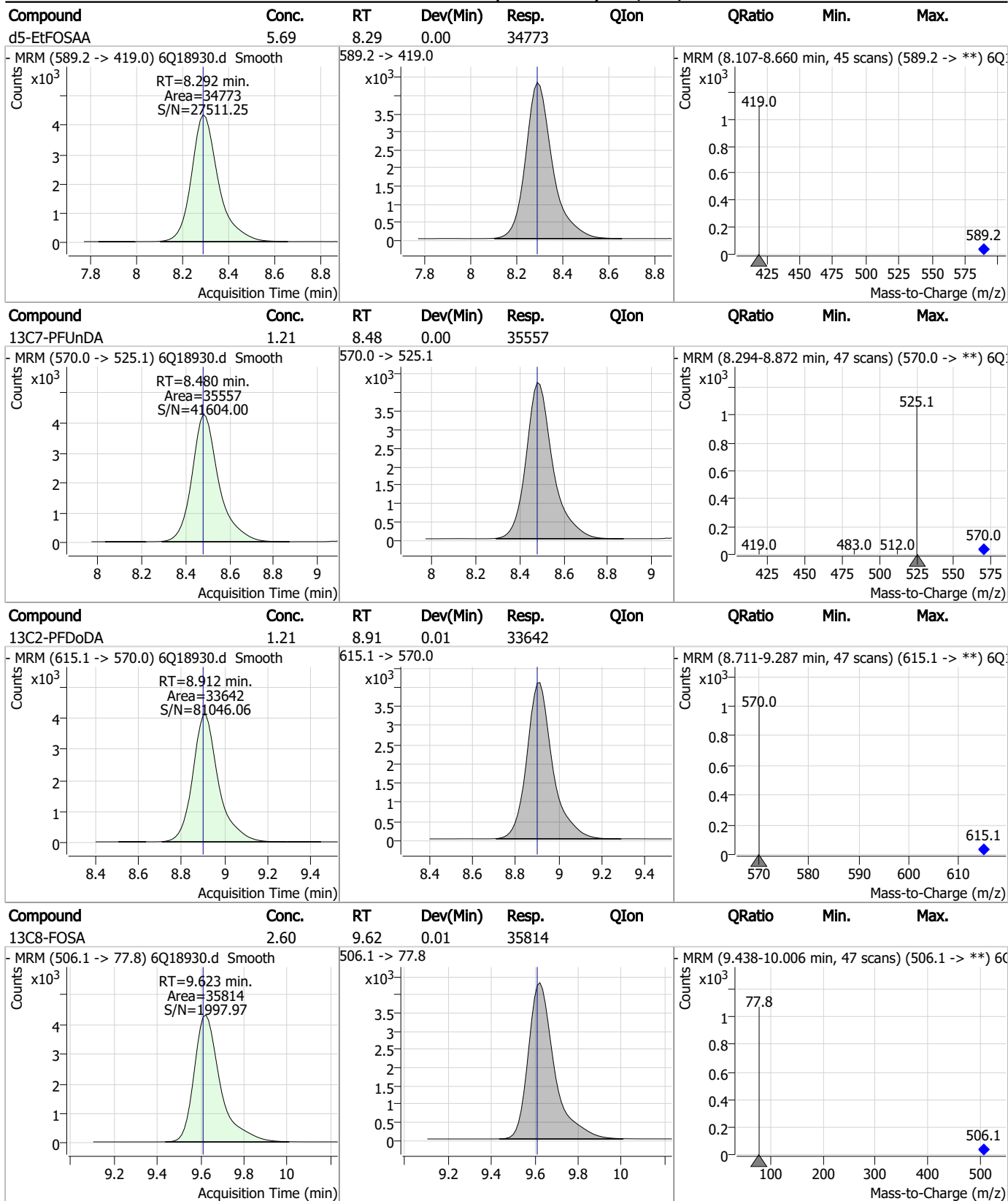
Perfluorinated Compounds by LC/MS/MS



7.2.3
7

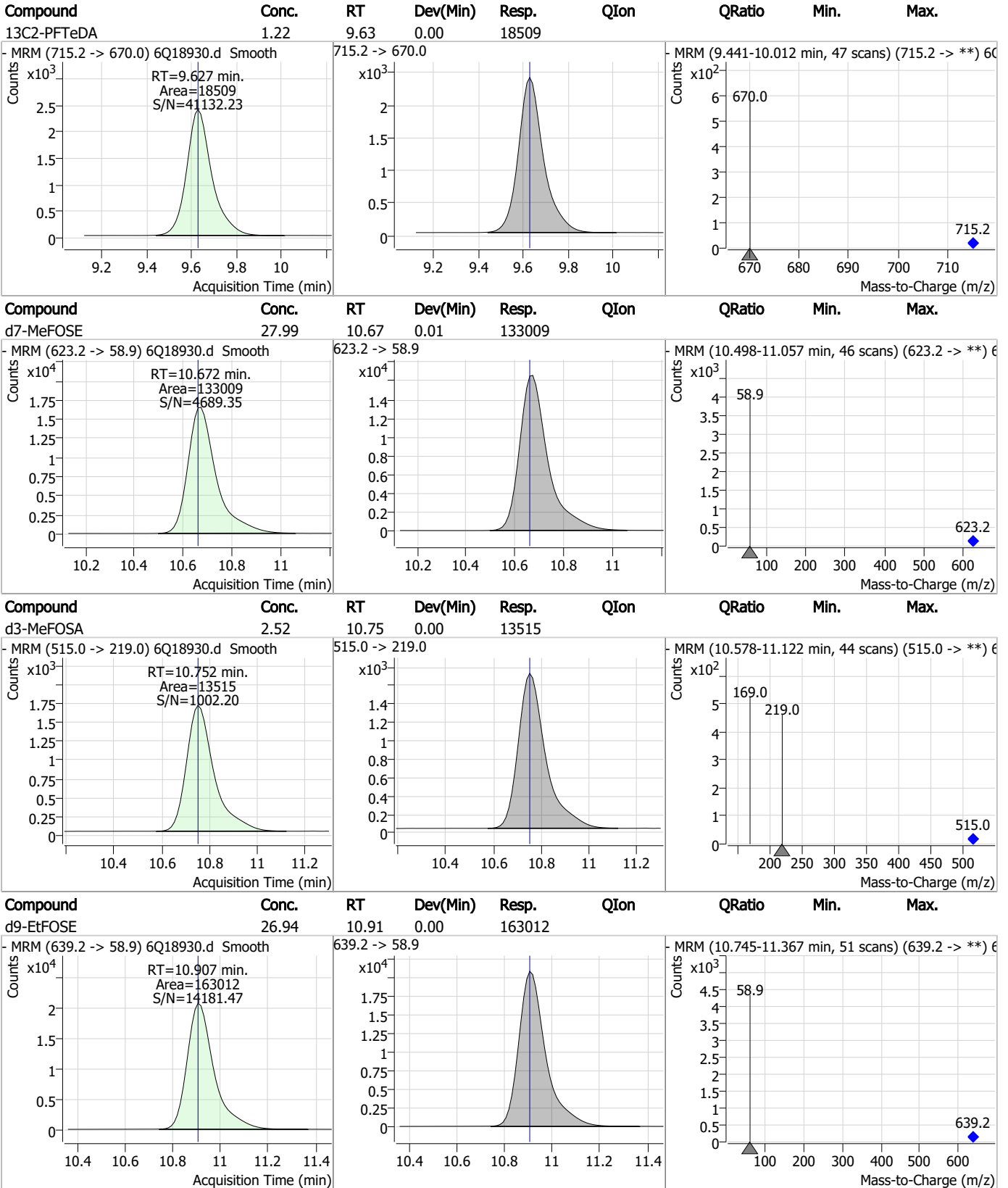


Perfluorinated Compounds by LC/MS/MS



7.2.3
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Perfluorinated Compounds by LC/MS/MS

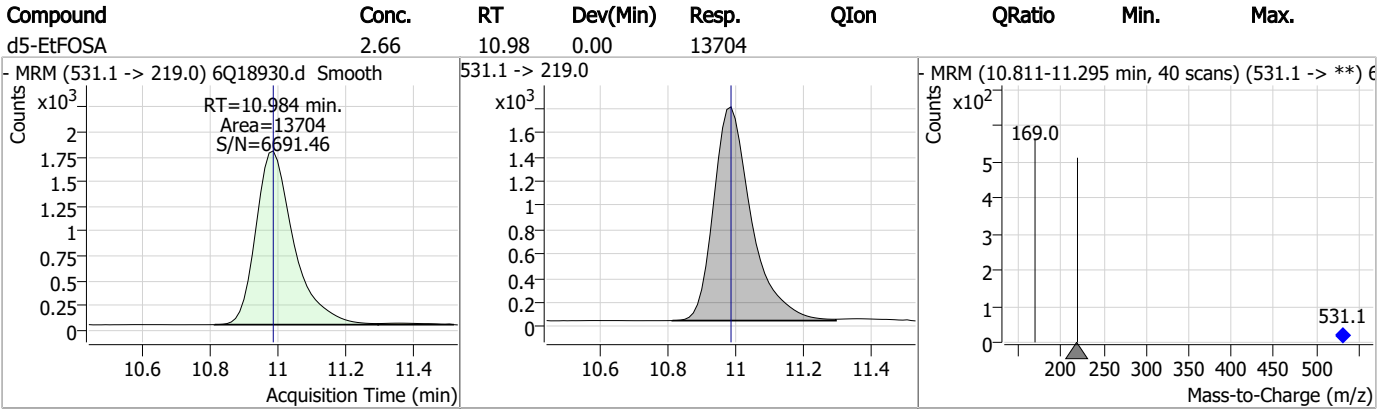


7.2.3

7



Perfluorinated Compounds by LC/MS/MS



7.2.3

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19030.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 10:48:49 AM
 Sample Name : iblk
 Vial : P1-A1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	194227	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	63993	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	75001	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	65833	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	99606	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	47919	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	27690	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	36531	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	32003	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17945	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	34445	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	26666	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	16097	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14596	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5691	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7635	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	7149	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	40266	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	44600	10.00 µg/L	0.000
M5-EtFOSAA	8.279	589.2 -> 419.0	34775	5.00 µg/L	-0.012
M7-MeFOSE	10.660	623.2 -> 58.9	124266	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	157558	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13587	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14023	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20176	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	81164	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11738	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	109406	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	37397	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	56734	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	65390	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5691	5.90 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 117.9%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7635	5.50 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.1%		
13C2-8:2FTS	7.827	529.1 -> 80.9	7149	5.17 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.5%		
13C2-PFDoDA	8.900	615.1 -> 570.0	32003	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.7%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17945	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.8%		
13C3-PFBS	5.384	302.1 -> 79.9	26666	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.4%		
13C3-PFHxS	7.155	402.1 -> 79.9	16097	2.54 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C4-PFBA	2.860	216.8 -> 171.9	194227	10.08 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFHpA	6.420	367.1 -> 322.0	65833	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C5-PFHxA	5.466	318.0 -> 273.0	75001	2.71 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.4%	
13C5-PFPeA	4.272	268.3 -> 223.0	63993	5.04 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C6-PFDA	8.039	519.1 -> 474.1	27690	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	36531	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C8-FOSA	9.623	506.1 -> 77.8	34445	2.35 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.8%	
13C8-PFOA	7.051	421.1 -> 376.0	99606	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.0%	
13C8-PFOS	8.189	507.1 -> 79.9	14596	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C9-PFNA	7.569	472.1 -> 427.0	47919	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.7%	
d3-MeFOSAA	8.096	573.2 -> 419.0	40266	5.54 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.8%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	44600	10.83 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.3%	
d3-MeFOSA	10.752	515.0 -> 219.0	14023	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.2%	
d5-EtFOSAA	8.279	589.2 -> 419.0	34775	5.34 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.7%	
d7-MeFOSE	10.660	623.2 -> 58.9	124266	24.54 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.1%	
d9-EtFOSE	10.907	639.2 -> 58.9	157558	24.43 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.7%	
d5-EtFOSA	10.984	531.1 -> 219.0	13587	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%	

Target Compounds

Target Compounds	RT	Transition	Response	Conc. Units	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.	

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7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	-	599.0 -> 98.8	-	N.D.	
		363.1 -> 319.0			
PFHpS	-	363.1 -> 169.0	-	N.D.	
		449.0 -> 79.9			
PFHxA	-	449.0 -> 98.9	-	N.D.	
		313.0 -> 269.0			
PFHxS	-	313.0 -> 118.9	-	N.D.	
		398.7 -> 79.9			
PFNA	-	398.7 -> 98.9	-	N.D.	
		463.0 -> 419.0			
PFNS	-	463.0 -> 219.0	-	N.D.	
		548.8 -> 79.9			
PFOA	-	548.8 -> 98.9	-	N.D.	
		413.0 -> 369.0			
PFOS	-	413.0 -> 169.0	-	N.D.	
		498.9 -> 79.9			
PFPeA	-	498.9 -> 98.8	-	N.D.	
		263.0 -> 219.0			
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.	
		511.9 -> 219.0			
MeFOSA	-	511.9 -> 169.0	-	N.D.	
		616.1 -> 58.9			
MeFOSE	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
PFDoDS	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
NFDHA	-	279.0 -> 85.1	-	N.D.	
		229.0 -> 84.9			
PFMBA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

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

7.2.4
7

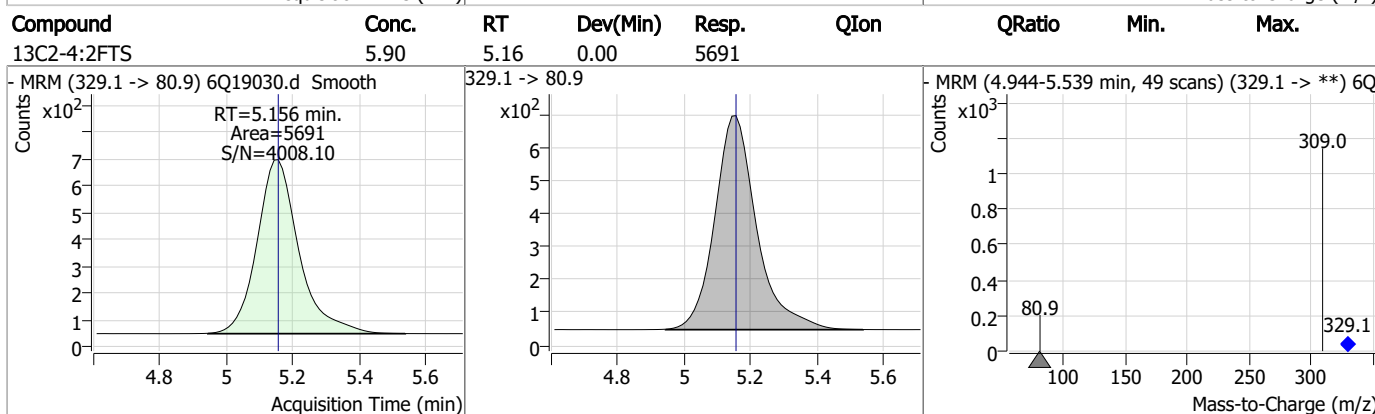
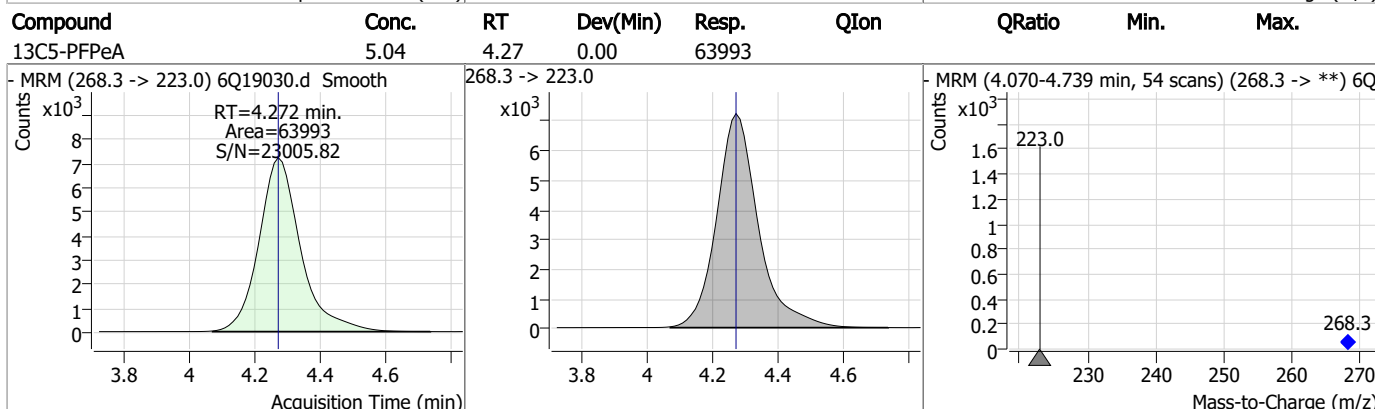
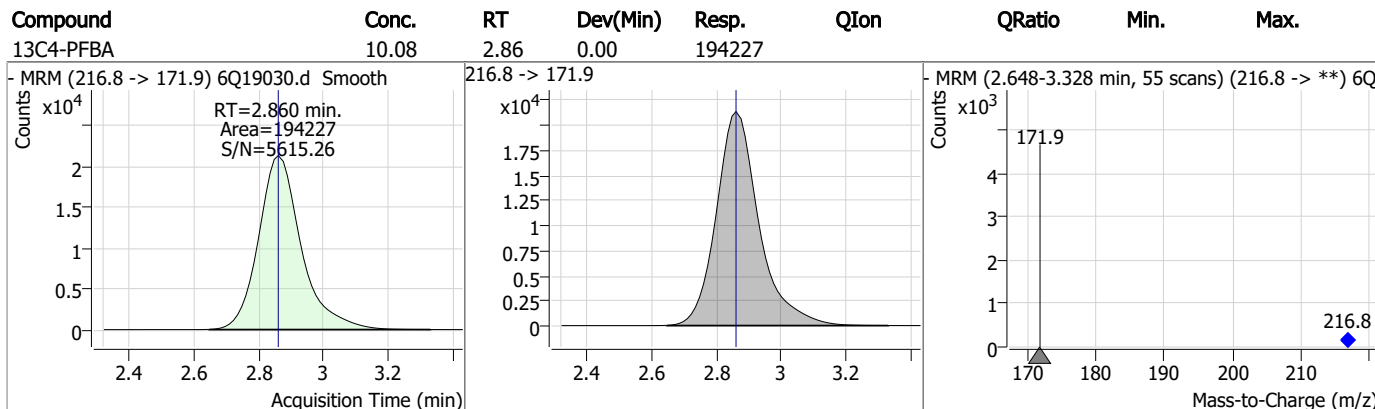
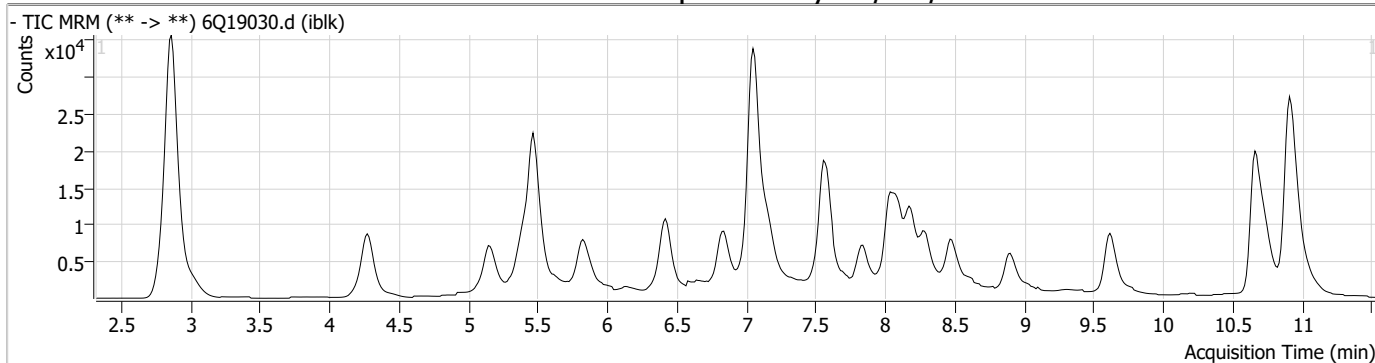
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.2.4

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Perfluorinated Compounds by LC/MS/MS



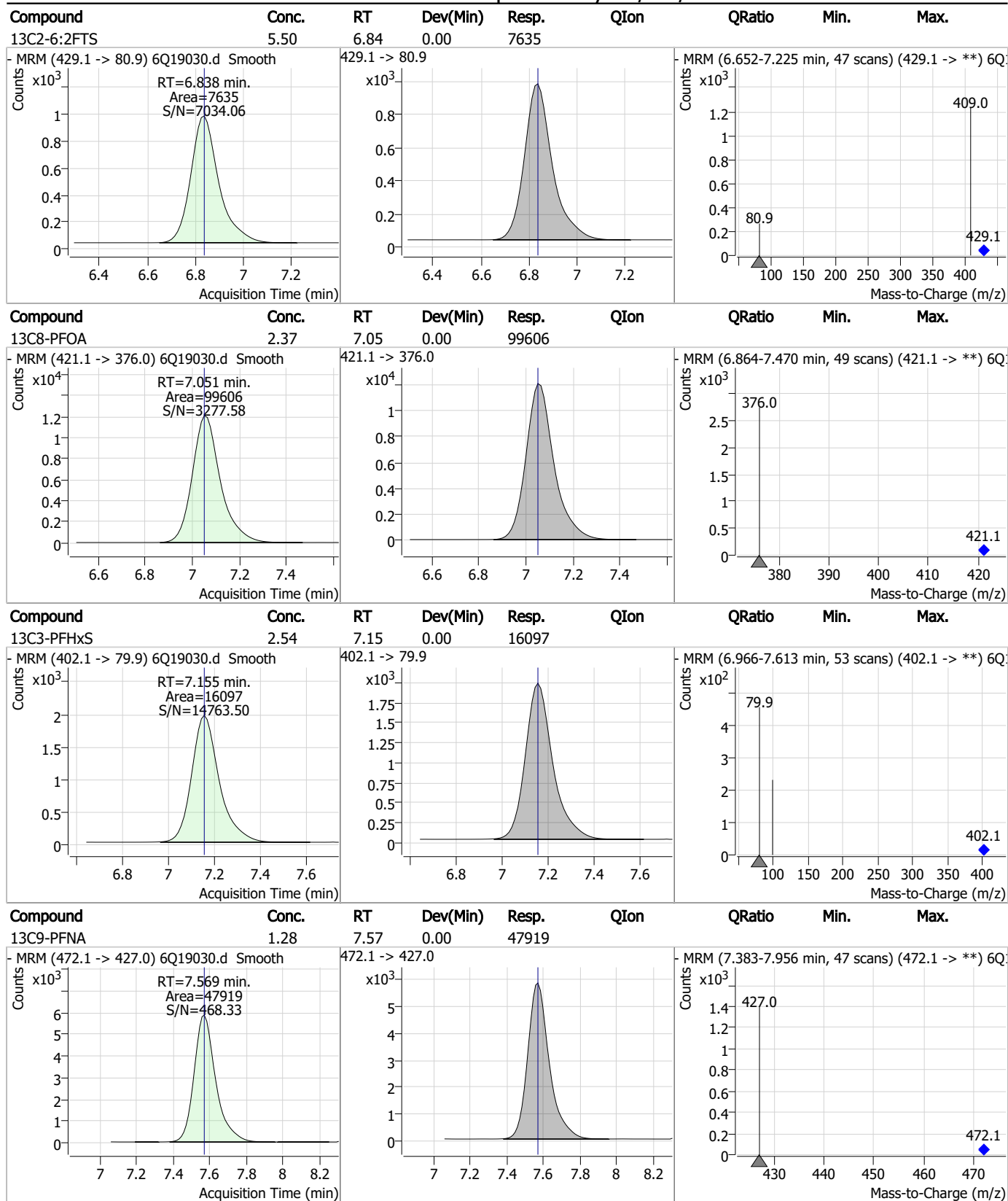
7.2.4
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.58	5.38	0.00	26666				
<p>MRM (302.1 -> 79.9) 6Q19030.d Smooth RT=5.384 min. Area=26666 S/N=20775.19</p>			<p>302.1 -> 79.9</p>			<p>MRM (5.187-5.841 min, 54 scans) (302.1 -> **) 6Q19030.d Smooth</p>		
13C5-PFHxA	2.71	5.47	-0.01	75001				
<p>MRM (318.0 -> 273.0) 6Q19030.d Smooth RT=5.466 min. Area=75001 S/N=15879.49</p>			<p>318.0 -> 273.0</p>			<p>MRM (5.269-5.924 min, 54 scans) (318.0 -> **) 6Q19030.d Smooth</p>		
13C3-HFPO-DA	10.83	5.83	0.00	44600				
<p>MRM (286.9 -> 168.9) 6Q19030.d Smooth RT=5.831 min. Area=44600 S/N=17289.16</p>			<p>286.9 -> 168.9</p>			<p>MRM (5.634-6.289 min, 54 scans) (286.9 -> **) 6Q19030.d Smooth</p>		
13C4-PFHpA	2.53	6.42	0.00	65833				
<p>MRM (367.1 -> 322.0) 6Q19030.d Smooth RT=6.420 min. Area=65833 S/N=3536.61</p>			<p>367.1 -> 322.0</p>			<p>MRM (6.220-6.808 min, 48 scans) (367.1 -> **) 6Q19030.d Smooth</p>		

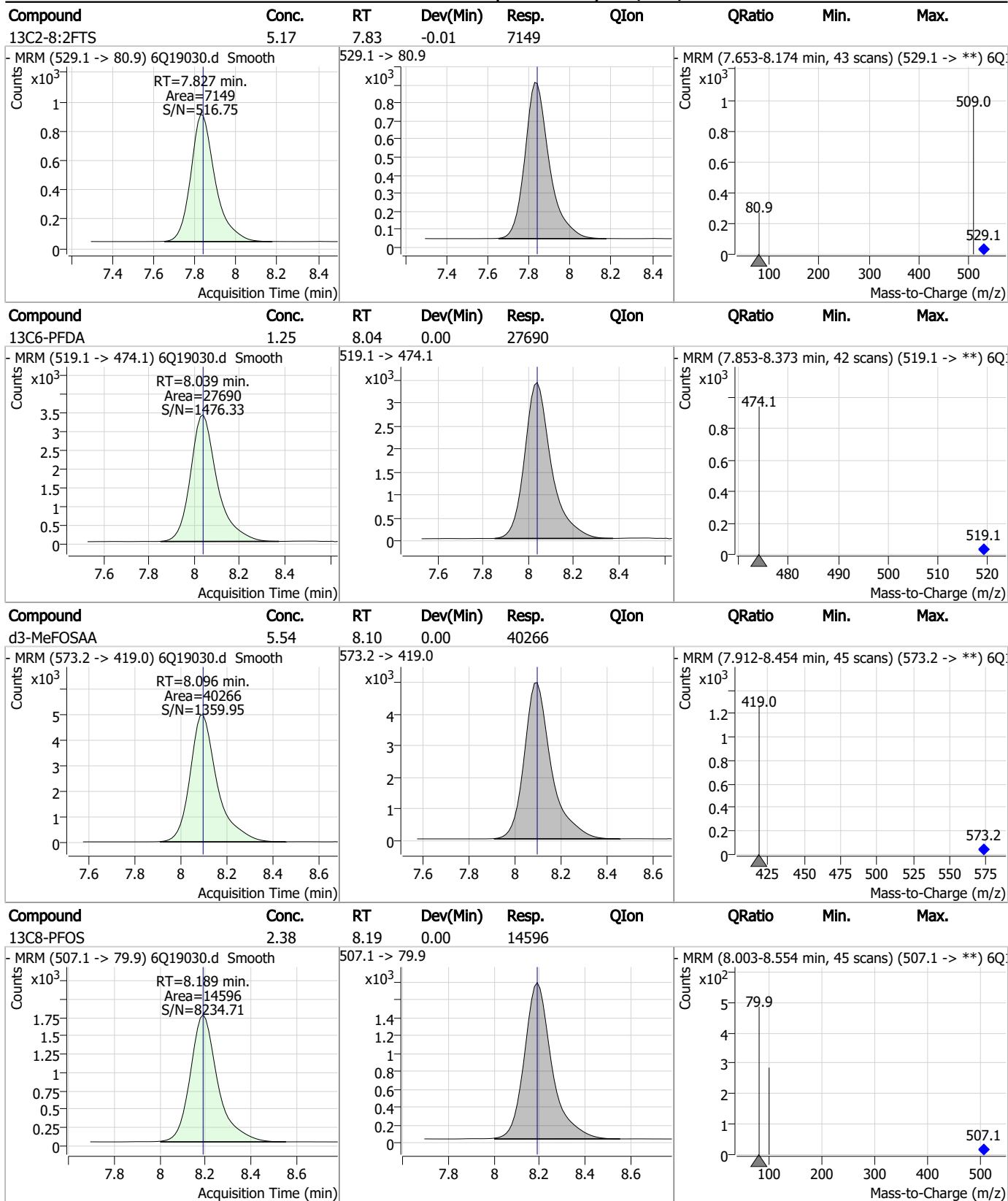
7.2.4
7

Perfluorinated Compounds by LC/MS/MS



7.2.4
7

Perfluorinated Compounds by LC/MS/MS



7.2.4
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.34	8.28	-0.01	34775				
- MRM (589.2 -> 419.0) 6Q19030.d Smooth Counts x10 ³ RT=8.279 min. Area=34775 S/N=10925.30 Acquisition Time (min)			589.2 -> 419.0 x10 ³ Acquisition Time (min)			- MRM (8.119-8.738 min, 51 scans) (589.2 -> **) 6Q Counts x10 ³ 419.0 589.2 Mass-to-Charge (m/z)		
13C7-PFUnDA	1.26	8.48	0.00	36531				
- MRM (570.0 -> 525.1) 6Q19030.d Smooth Counts x10 ³ RT=8.480 min. Area=36531 S/N=318.12 Acquisition Time (min)			570.0 -> 525.1 x10 ³ Acquisition Time (min)			- MRM (8.294-8.816 min, 43 scans) (570.0 -> **) 6Q Counts x10 ³ 525.1 419.0 483.0 512.0 570.0 Mass-to-Charge (m/z)		
13C2-PFDoDA	1.17	8.90	0.00	32003				
- MRM (615.1 -> 570.0) 6Q19030.d Smooth Counts x10 ³ RT=8.900 min. Area=32003 S/N=872.07 Acquisition Time (min)			615.1 -> 570.0 x10 ³ Acquisition Time (min)			- MRM (8.711-9.287 min, 47 scans) (615.1 -> **) 6Q Counts x10 ³ 570.0 615.1 Mass-to-Charge (m/z)		
13C8-FOSA	2.35	9.62	0.01	34445				
- MRM (506.1 -> 77.8) 6Q19030.d Smooth Counts x10 ³ RT=9.623 min. Area=34445 S/N=2195.77 Acquisition Time (min)			506.1 -> 77.8 x10 ³ Acquisition Time (min)			- MRM (9.450-10.080 min, 52 scans) (506.1 -> **) 6Q Counts x10 ³ 77.8 506.1 Mass-to-Charge (m/z)		

7.2.4

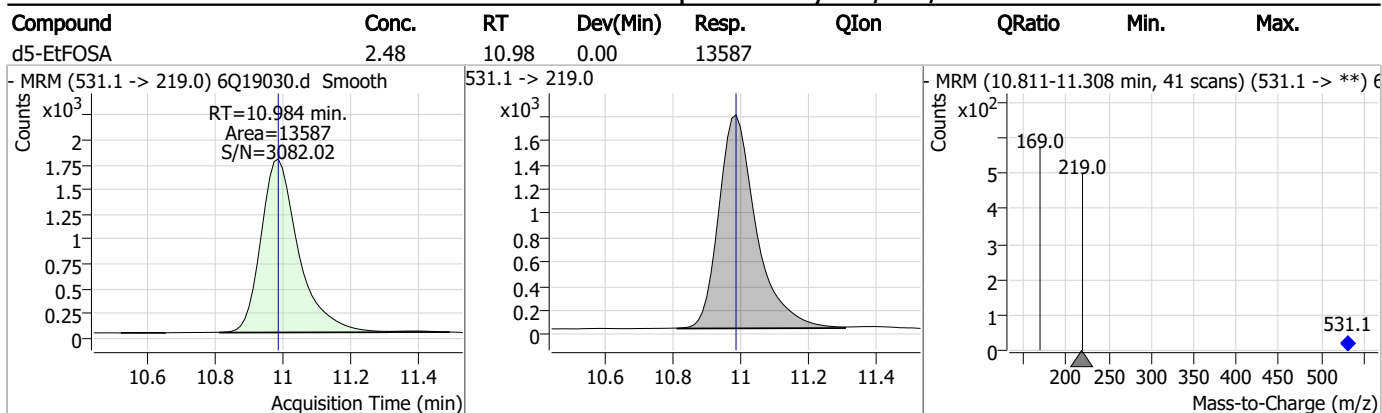
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.20	9.63	0.00	17945				
d7-MeFOSE	24.54	10.66	0.00	124266				
d3-MeFOSA	2.45	10.75	0.00	14023				
d9-EtFOSE	24.43	10.91	0.00	157558				

7.2.4
7

Perfluorinated Compounds by LC/MS/MS



7.2.4

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18879.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 4:11:38 PM
 Sample Name : IBLK
 Vial : P1-A1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	175043	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	59204	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	65922	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	61126	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	93676	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	41908	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	25361	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34467	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	29968	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	16667	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	33626	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	24173	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	14413	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13406	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	4889	5.00 µg/L	-0.012
M2-6:2FTS	6.838	429.1 -> 80.9	6673	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6409	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	32977	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	38095	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	30376	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	114356	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	142666	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	12081	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13029	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	17328	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	73560	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	10454	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	96081	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	32941	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	51725	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	61213	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	4889	5.69 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.7%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6673	5.40 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.0%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6409	5.21 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.2%		
13C2-PFDoDA	8.900	615.1 -> 570.0	29968	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C2-PFTeDA	9.627	715.2 -> 670.0	16667	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.0%		
13C3-PFBS	5.384	302.1 -> 79.9	24173	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 105.2%		
13C3-PFHxS	7.155	402.1 -> 79.9	14413	2.55 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C4-PFBA	2.860	216.8 -> 171.9	175043	10.03 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C4-PFHpA	6.420	367.1 -> 322.0	61126	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C5-PFHxA	5.466	318.0 -> 273.0	65922	2.54 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C5-PFPeA	4.272	268.3 -> 223.0	59204	4.98 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C6-PFDA	8.039	519.1 -> 474.1	25361	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	34467	1.35 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.9%	
13C8-FOSA	9.611	506.1 -> 77.8	33626	2.67 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.7%	
13C8-PFOA	7.051	421.1 -> 376.0	93676	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C8-PFOS	8.189	507.1 -> 79.9	13406	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C9-PFNA	7.569	472.1 -> 427.0	41908	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.6%	
d3-MeFOSAA	8.096	573.2 -> 419.0	32977	5.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.7%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	38095	9.88 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.8%	
d3-MeFOSA	10.752	515.0 -> 219.0	13029	2.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.2%	
d5-EtFOSAA	8.292	589.2 -> 419.0	30376	5.43 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.6%	
d7-MeFOSE	10.660	623.2 -> 58.9	114356	26.29 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.2%	
d9-EtFOSE	10.907	639.2 -> 58.9	142666	25.76 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
d5-EtFOSA	10.984	531.1 -> 219.0	12081	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.6%	

7.25
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Target Compounds	RT	Transition	Response	Conc. Units	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	8.293	584.2 -> 419.1	215	0.05 µg/L	# 60
		584.2 -> 526.0	56		
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			
PFTTrDA	-	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

7.2.5
7

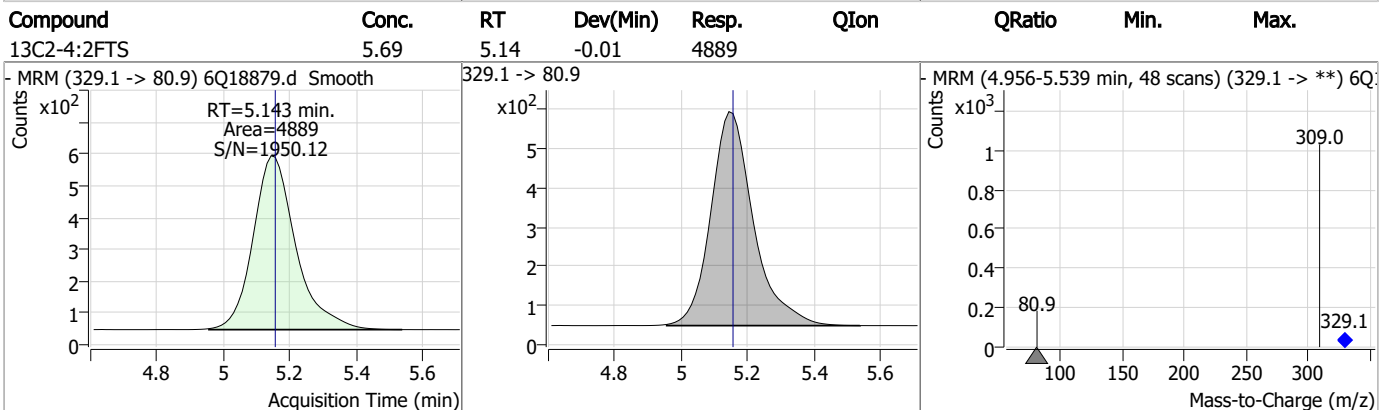
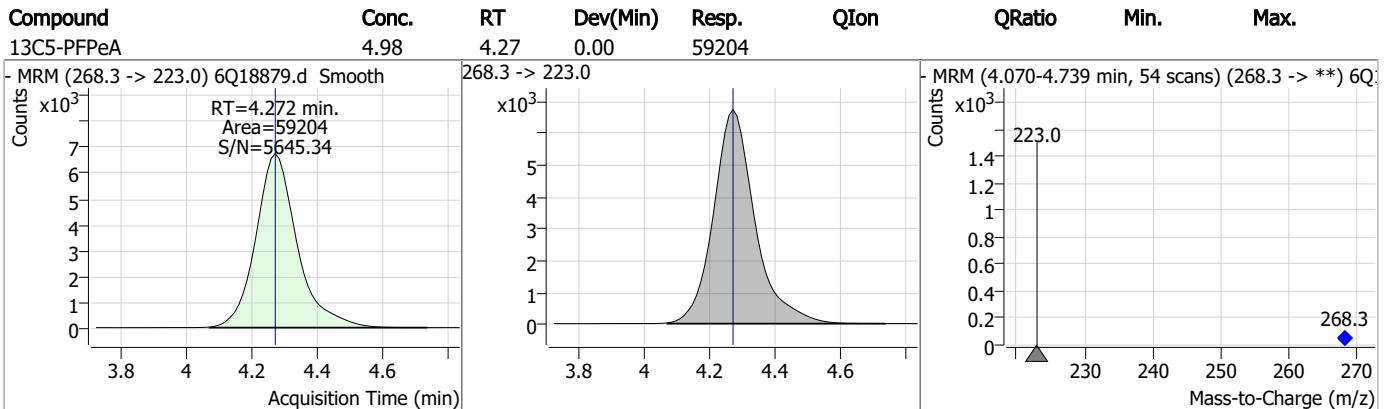
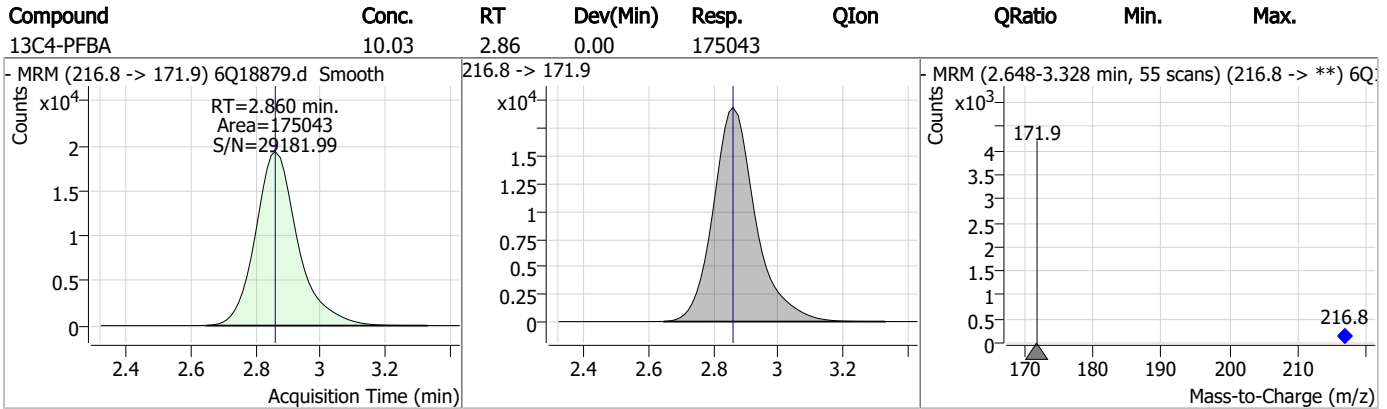
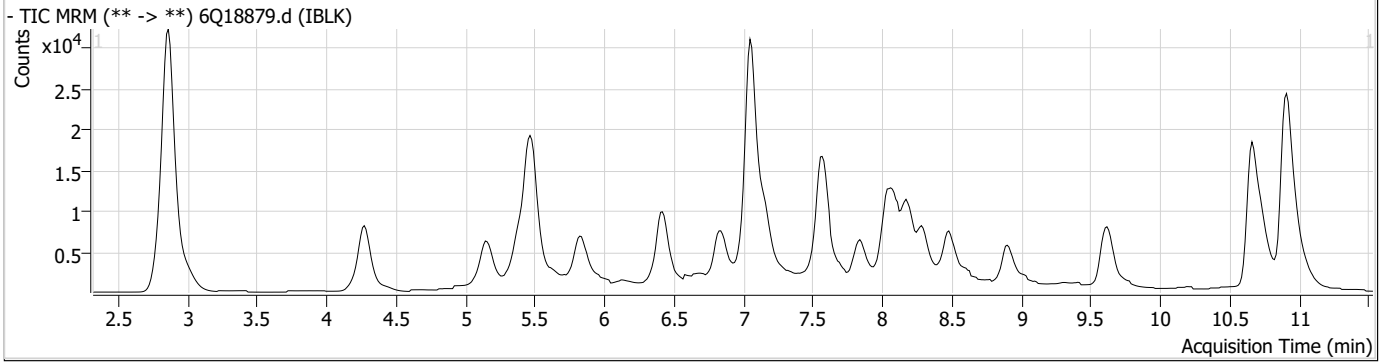
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.2.5

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Perfluorinated Compounds by LC/MS/MS



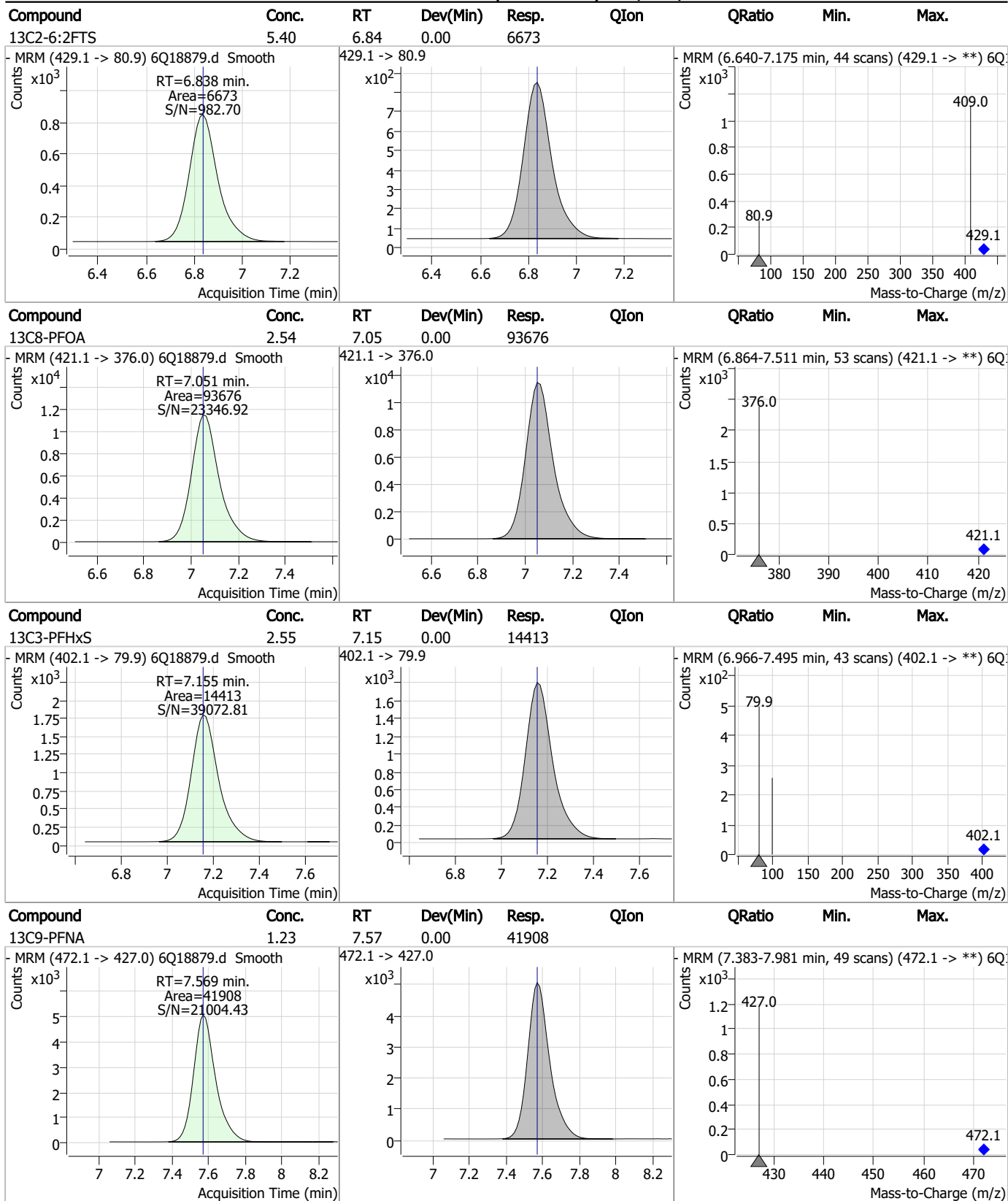
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.63	5.38	0.00	24173				
13C5-PFHxA	2.54	5.47	-0.01	65922				
13C3-HFPO-DA	9.88	5.83	0.00	38095				
13C4-PFHpA	2.51	6.42	0.00	61126				

7.2.5
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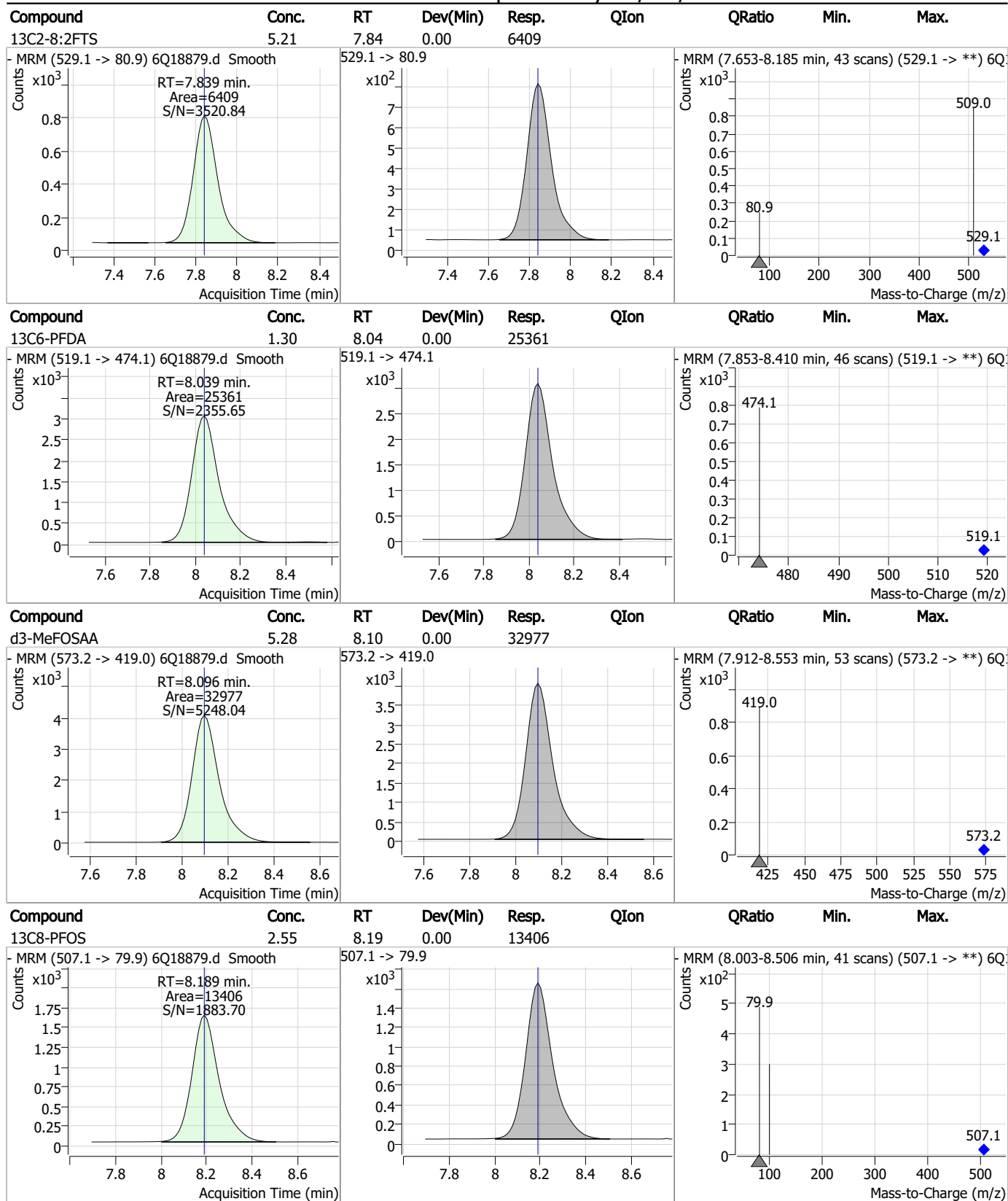


Perfluorinated Compounds by LC/MS/MS



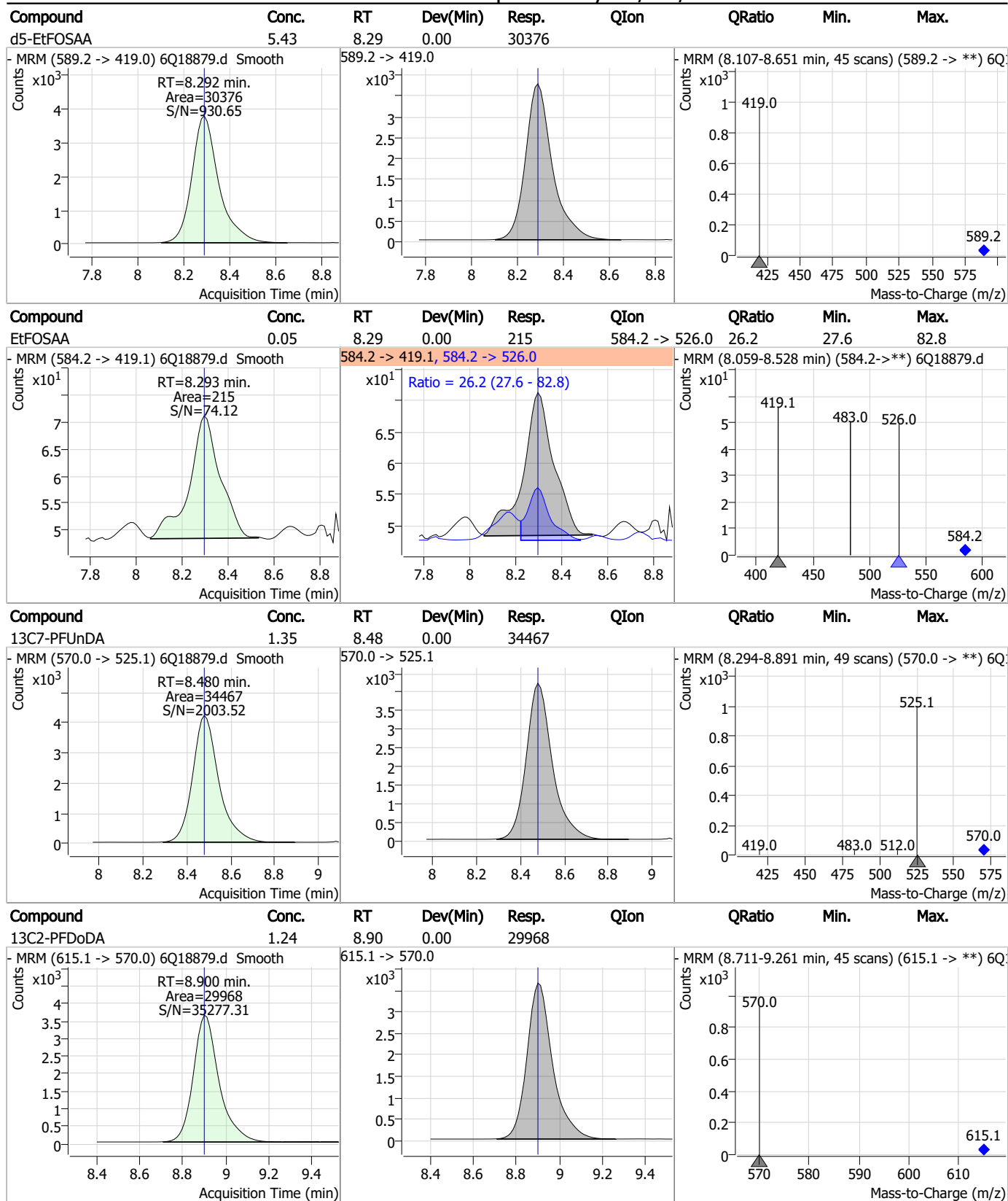
7.25
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Perfluorinated Compounds by LC/MS/MS



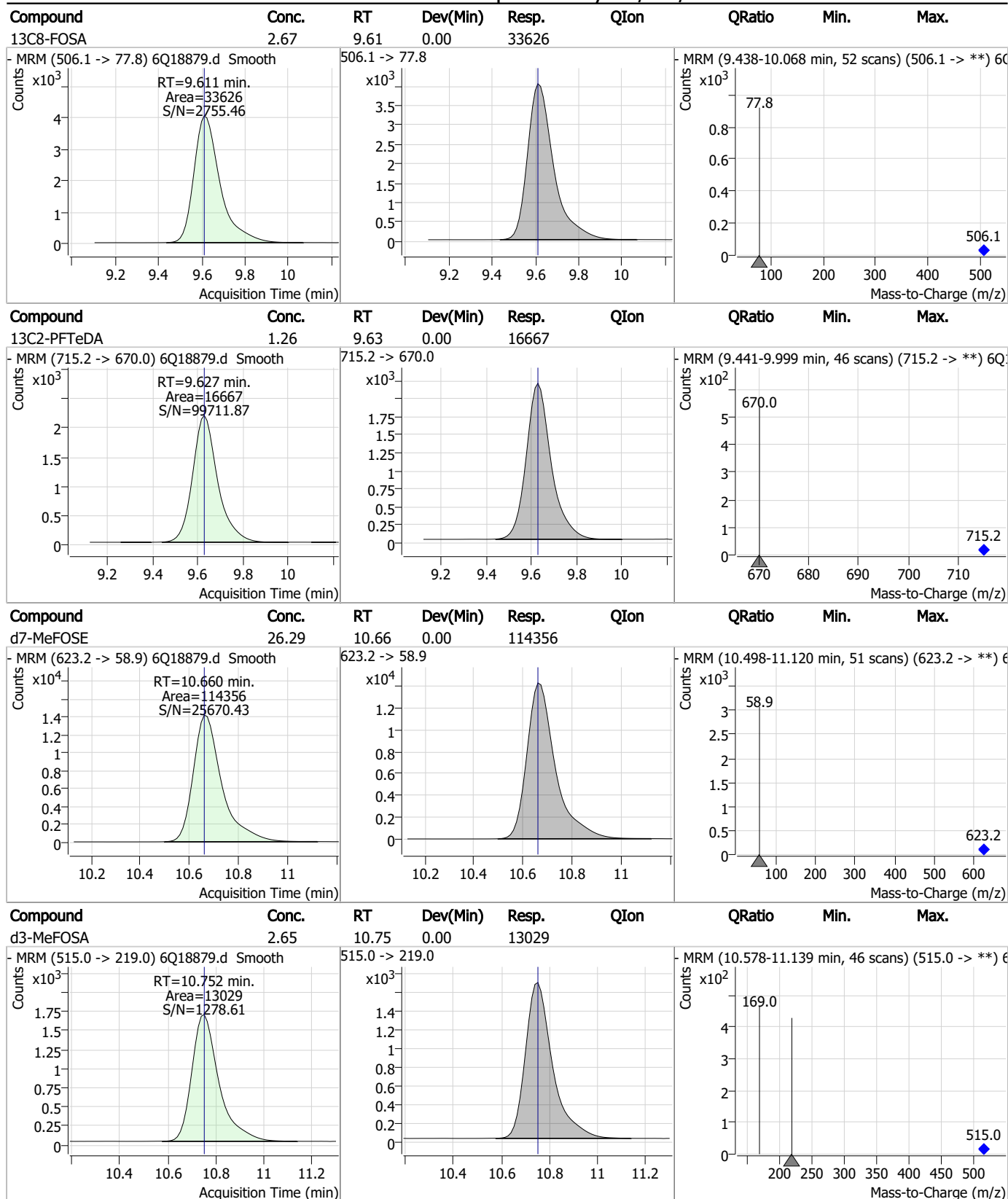
7.25
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Perfluorinated Compounds by LC/MS/MS



7.25
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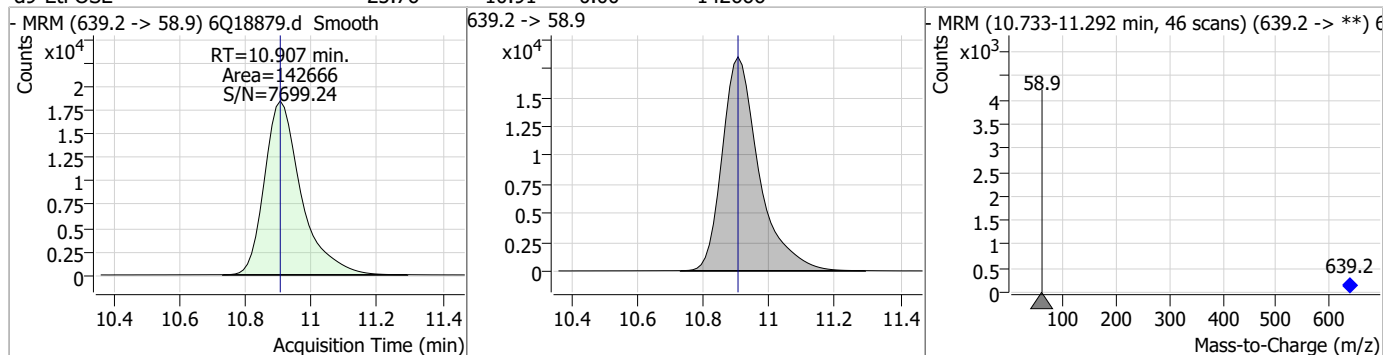
Perfluorinated Compounds by LC/MS/MS



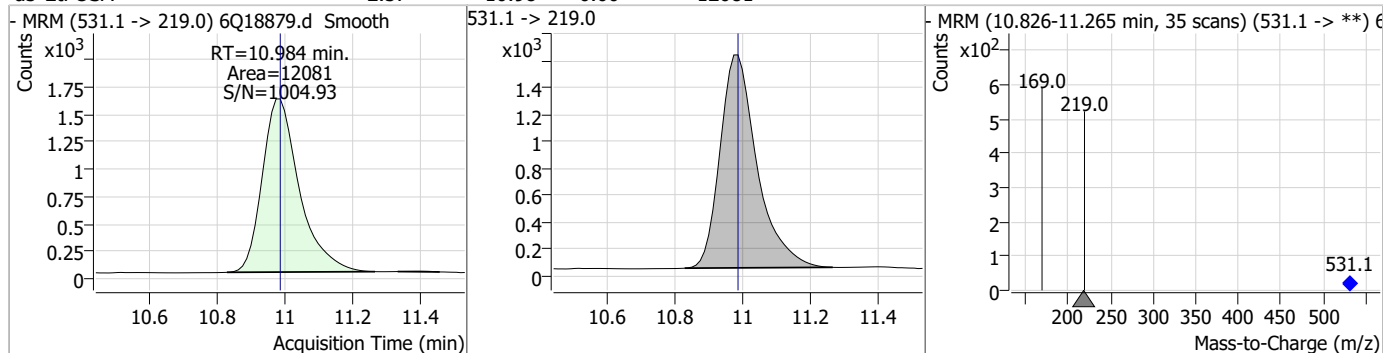
7.2.5
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.76	10.91	0.00	142666				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOFA	2.57	10.98	0.00	12081				



7.2.5
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18908.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 11:11:37 PM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP96663,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	180671	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	61200	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	68884	2.50 µg/L	-0.012
M4-PFHpA	6.407	367.1 -> 322.0	62831	2.50 µg/L	-0.012
M8-PFOA	7.051	421.1 -> 376.0	94049	2.50 µg/L	0.000
M9-PFNA	7.557	472.1 -> 427.0	43369	1.25 µg/L	-0.012
M6-PFDA	8.027	519.1 -> 474.1	28208	1.25 µg/L	-0.012
M7-PFUnDA	8.468	570.0 -> 525.1	34697	1.25 µg/L	-0.012
M2-PFDoDA	8.900	615.1 -> 570.0	31033	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17639	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	34966	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	23593	2.50 µg/L	0.000
M3-PFHxS	7.142	402.1 -> 79.9	14952	2.50 µg/L	-0.012
M8-PFOS	8.177	507.1 -> 79.9	14477	2.50 µg/L	-0.012
M2-4:2FTS	5.156	329.1 -> 80.9	5050	5.00 µg/L	0.000
M2-6:2FTS	6.825	429.1 -> 80.9	6865	5.00 µg/L	-0.012
M2-8:2FTS	7.827	529.1 -> 80.9	6402	5.00 µg/L	-0.012
M3-MeFOSAA	8.084	573.2 -> 419.0	33470	5.00 µg/L	-0.012
M3-HFPO-DA	5.831	286.9 -> 168.9	39726	10.00 µg/L	0.000
M5-EtFOSAA	8.279	589.2 -> 419.0	31659	5.00 µg/L	-0.012
M7-MeFOSE	10.660	623.2 -> 58.9	122307	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	156488	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13113	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13434	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18916	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	75861	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11366	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	102174	2.50 µg/L	0.000
13C2-PFDA	8.027	515.1 -> 470.1	36851	1.25 µg/L	-0.012
13C5-PFNA	7.557	468.0 -> 423.0	58312	1.25 µg/L	-0.012
13C2-PFHxA	5.467	315.1 -> 270.0	62732	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5050	5.40 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.1%		
13C2-6:2FTS	6.825	429.1 -> 80.9	6865	5.11 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.2%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6402	4.79 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 95.7%		
13C2-PFDoDA	8.900	615.1 -> 570.0	31033	1.15 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 92.2%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17639	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.6%		
13C3-PFBS	5.384	302.1 -> 79.9	23593	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 94.5%		
13C3-PFHxS	7.142	402.1 -> 79.9	14952	2.44 µg/L	-0.012

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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	2.860	216.8 -> 171.9	180671	10.04	µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%		
13C4-PFHpA	6.407	367.1 -> 322.0	62831	2.51	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%		
13C5-PFHxA	5.466	318.0 -> 273.0	68884	2.59	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.8%		
13C5-PFPeA	4.272	268.3 -> 223.0	61200	5.03	µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.6%		
13C6-PFDA	8.027	519.1 -> 474.1	28208	1.29	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.2%		
13C7-PFUnDA	8.468	570.0 -> 525.1	34697	1.21	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.1%		
13C8-FOSA	9.611	506.1 -> 77.8	34966	2.54	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%		
13C8-PFOA	7.051	421.1 -> 376.0	94049	2.40	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.0%		
13C8-PFOS	8.177	507.1 -> 79.9	14477	2.52	µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.9%		
13C9-PFNA	7.557	472.1 -> 427.0	43369	1.13	µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.5%		
d3-MeFOSAA	8.084	573.2 -> 419.0	33470	4.91	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.3%		
13C3-HFPO-DA	5.831	286.9 -> 168.9	39726	10.05	µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.5%		
d3-MeFOSA	10.752	515.0 -> 219.0	13434	2.51	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.3%		
d5-EtFOSAA	8.279	589.2 -> 419.0	31659	5.18	µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.6%		
d7-MeFOSE	10.660	623.2 -> 58.9	122307	25.76	µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.0%		
d9-EtFOSE	10.907	639.2 -> 58.9	156488	25.88	µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.5%		
d5-EtFOSA	10.984	531.1 -> 219.0	13113	2.55	µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.1%		

Target Compounds	RT	Transition	Response	Conc.	Units	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	8.571	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.		

7.2.6
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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			
PFTTrDA	-	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

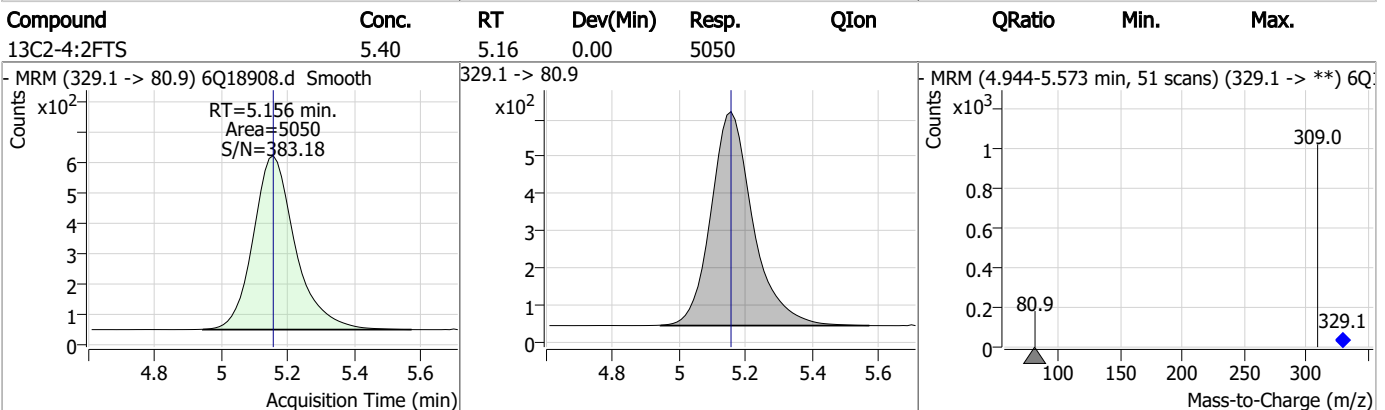
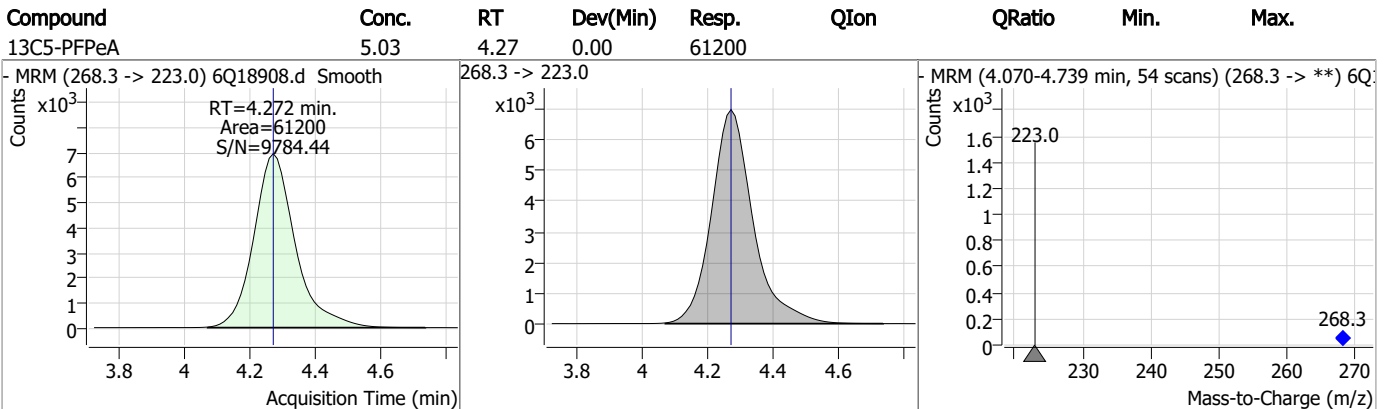
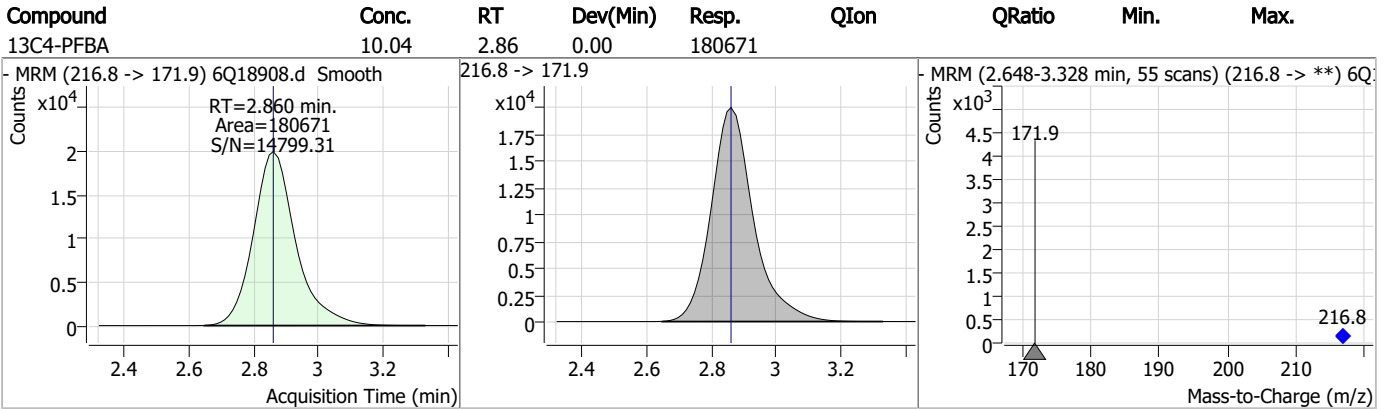
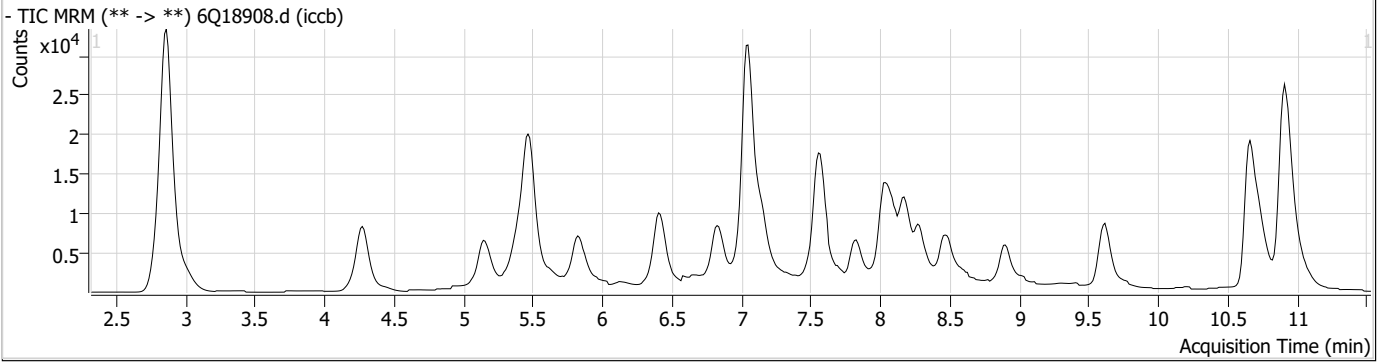
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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Perfluorinated Compounds by LC/MS/MS

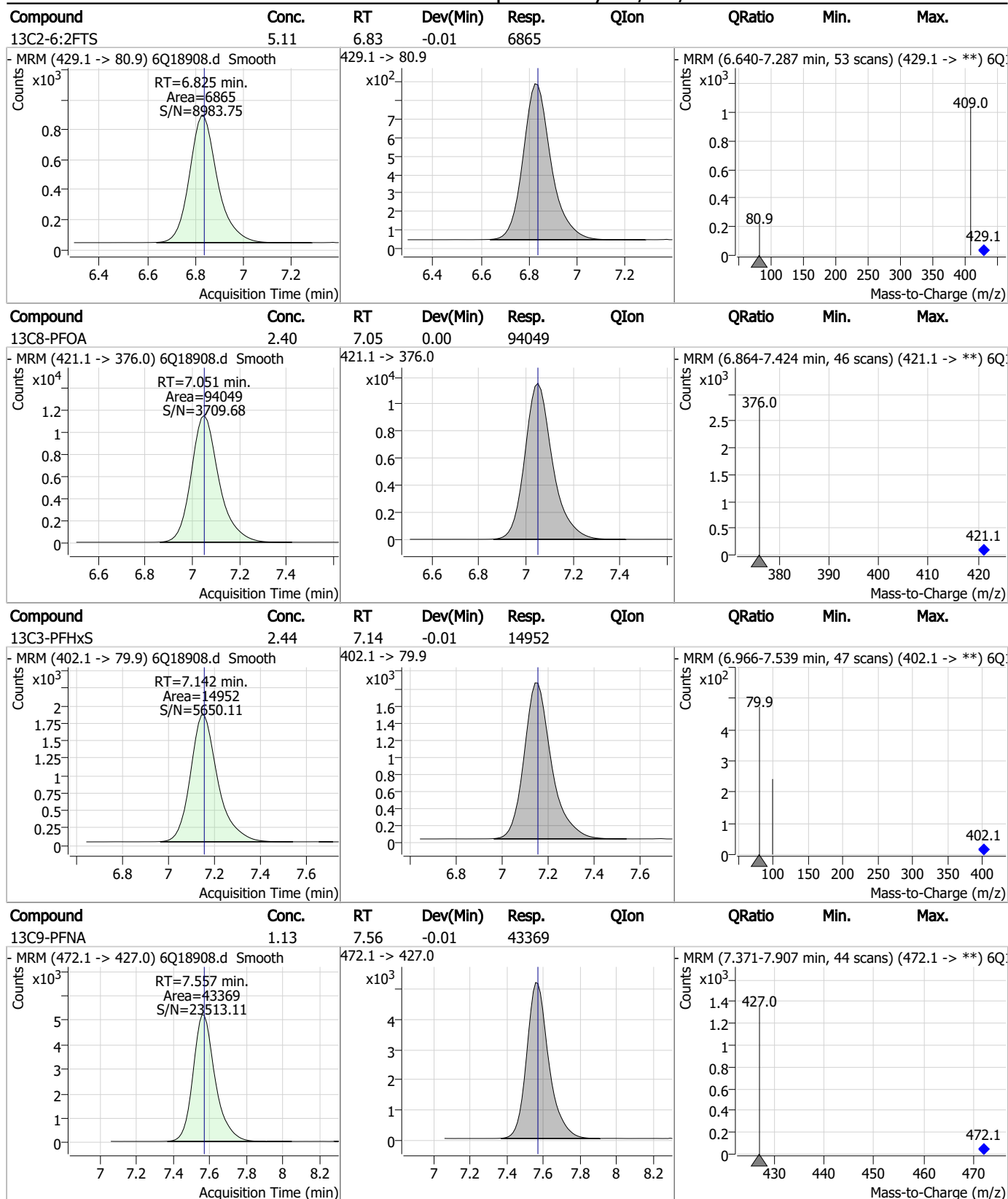


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.36	5.38	0.00	23593				
13C5-PFHxA	2.59	5.47	-0.01	68884				
13C3-HFPO-DA	10.05	5.83	0.00	39726				
13C4-PFHpA	2.51	6.41	-0.01	62831				

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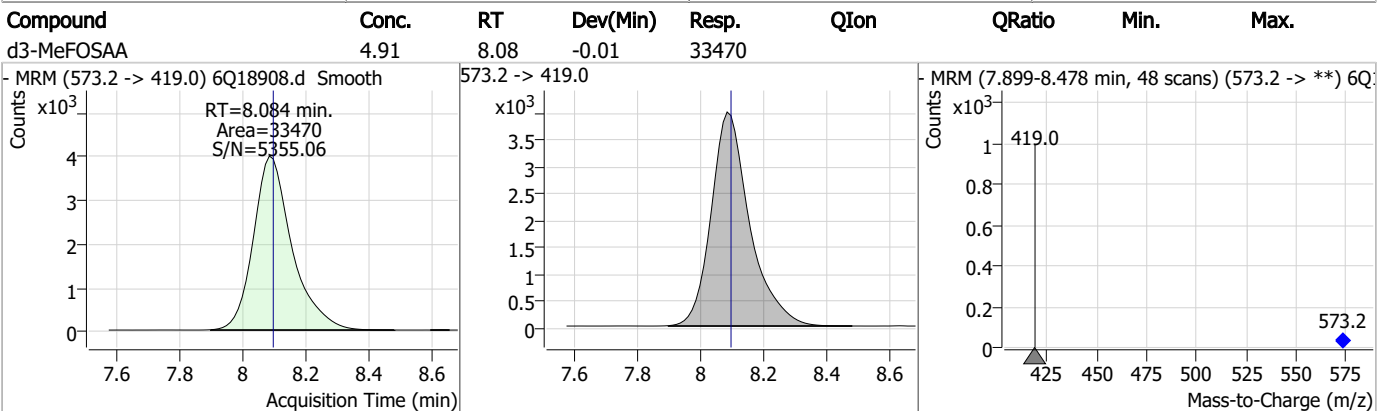
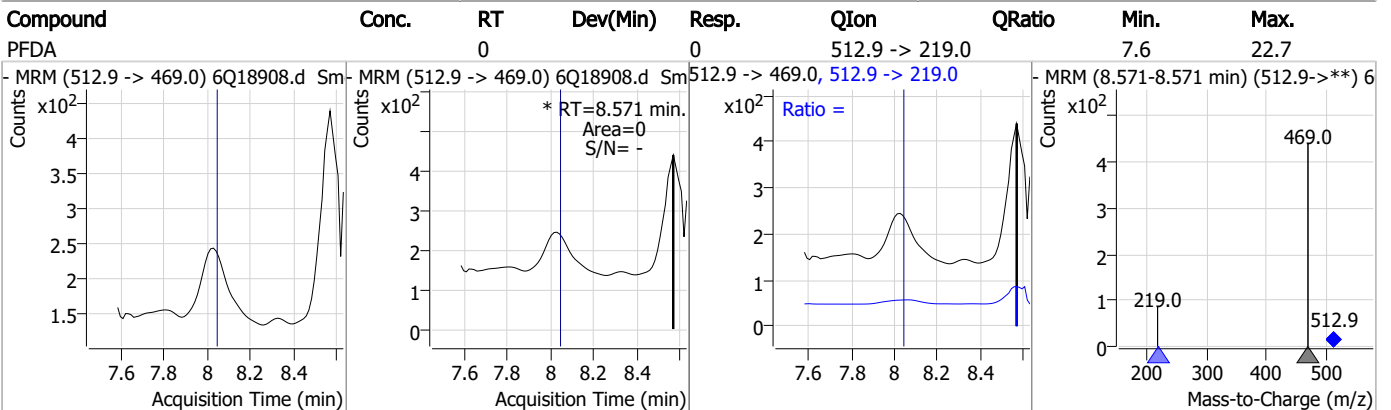
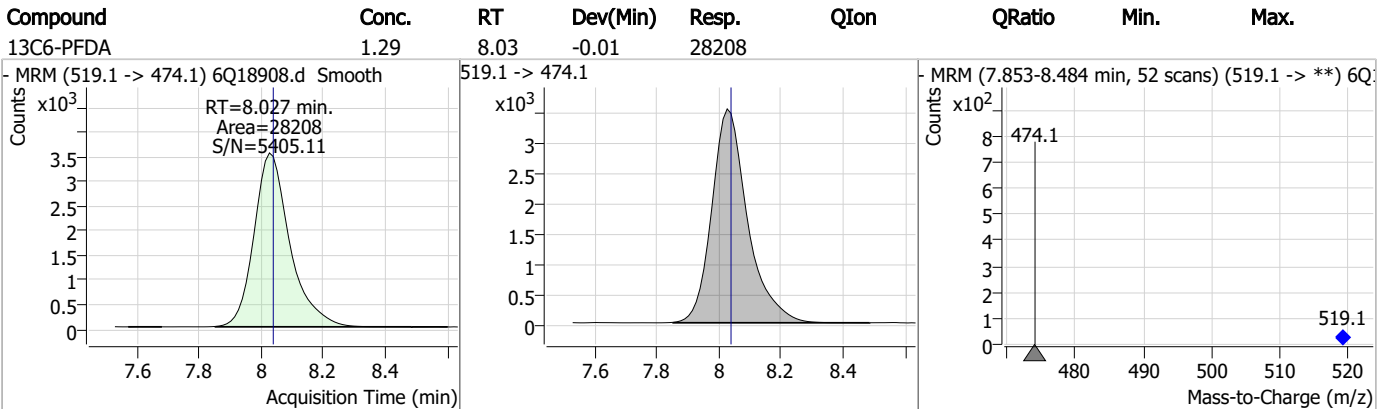
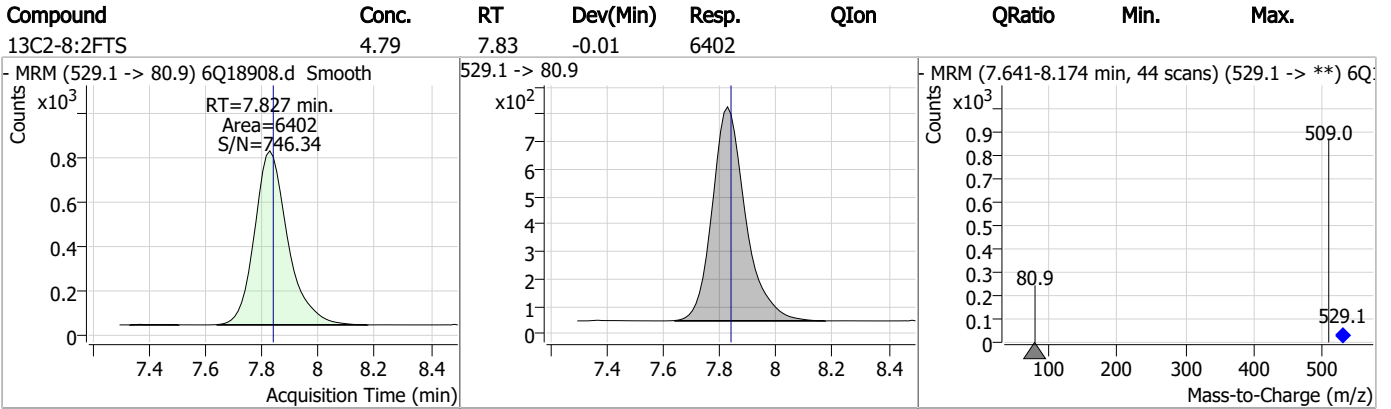
Perfluorinated Compounds by LC/MS/MS



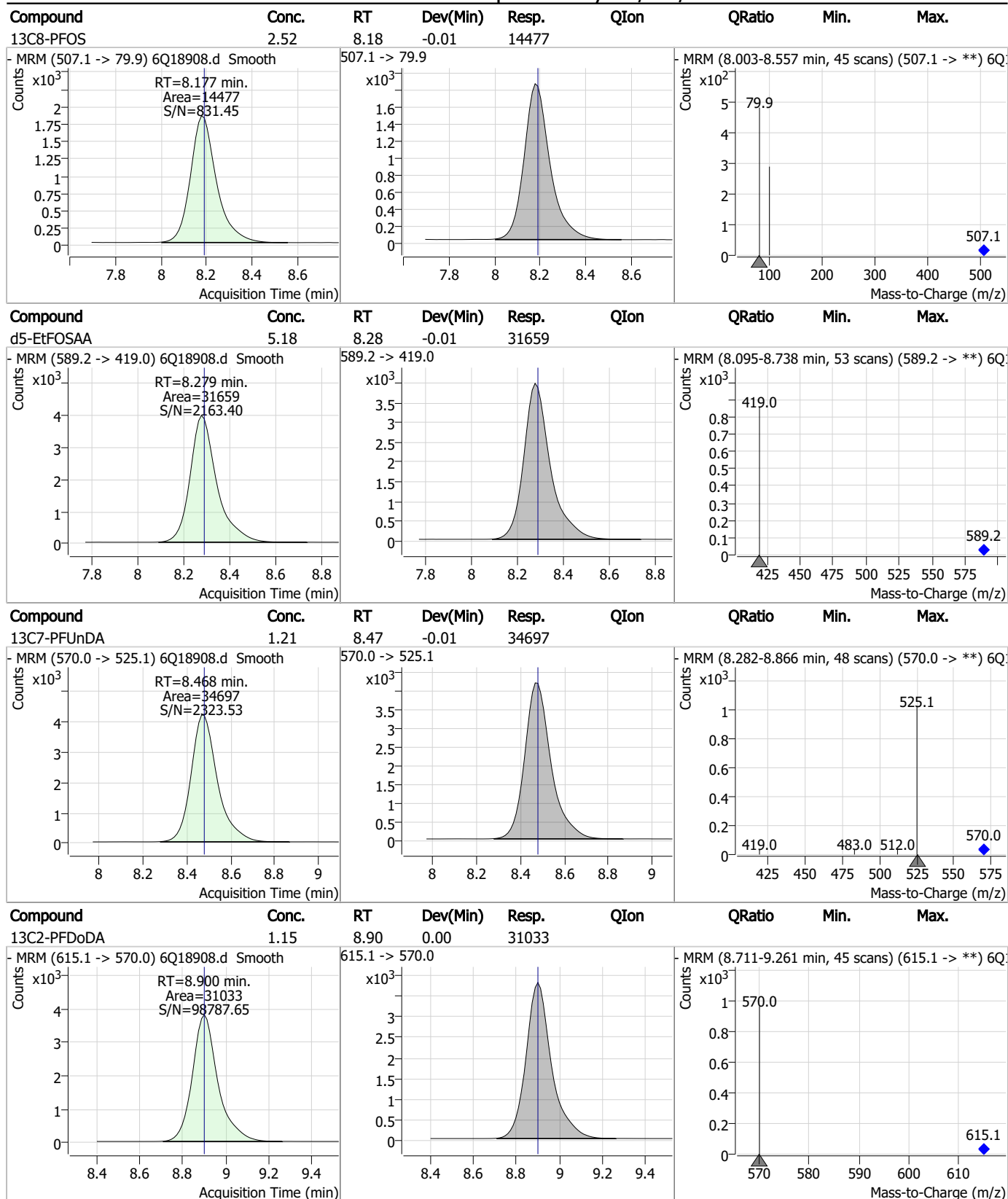
7.2.6

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Perfluorinated Compounds by LC/MS/MS



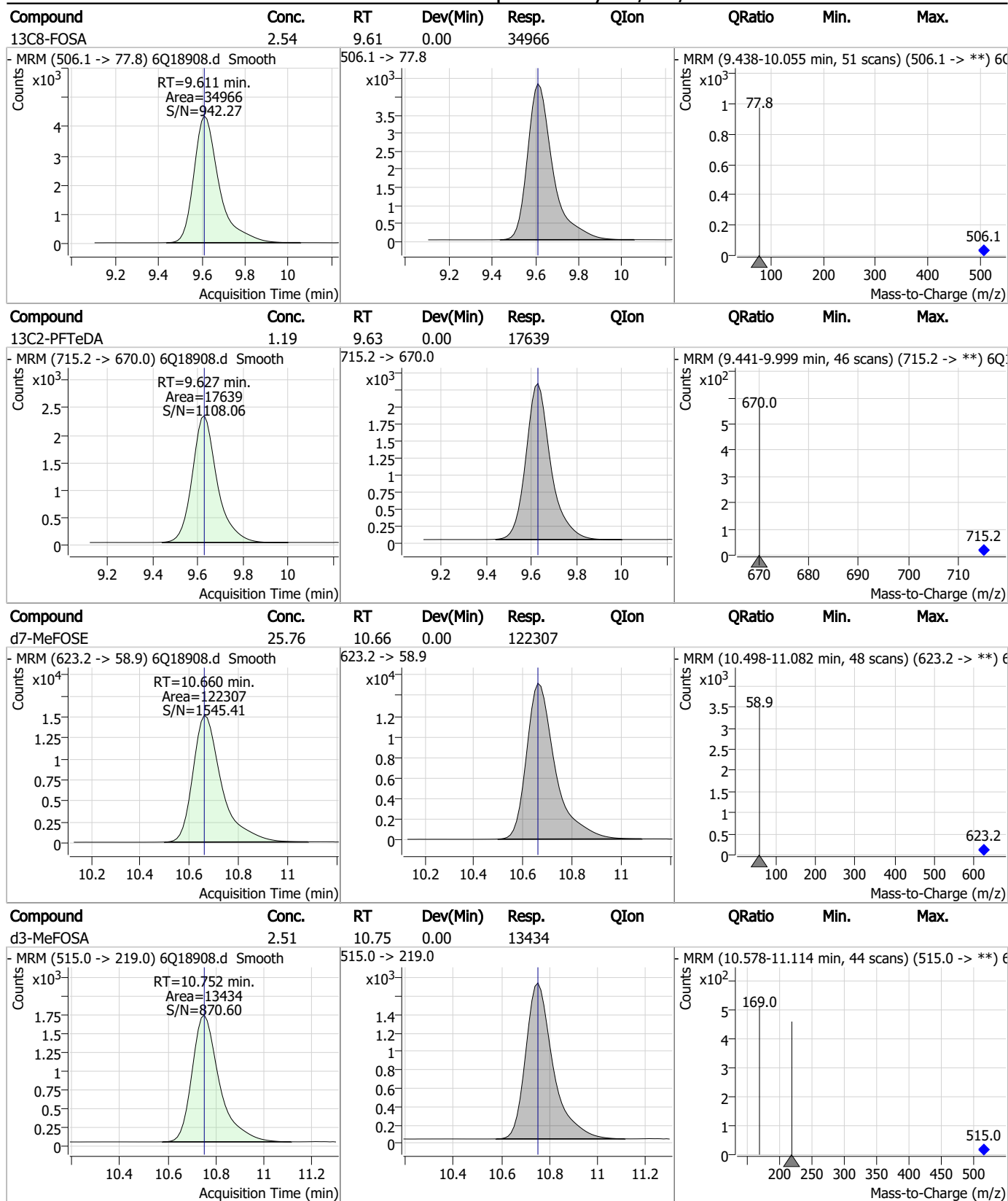
Perfluorinated Compounds by LC/MS/MS



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7



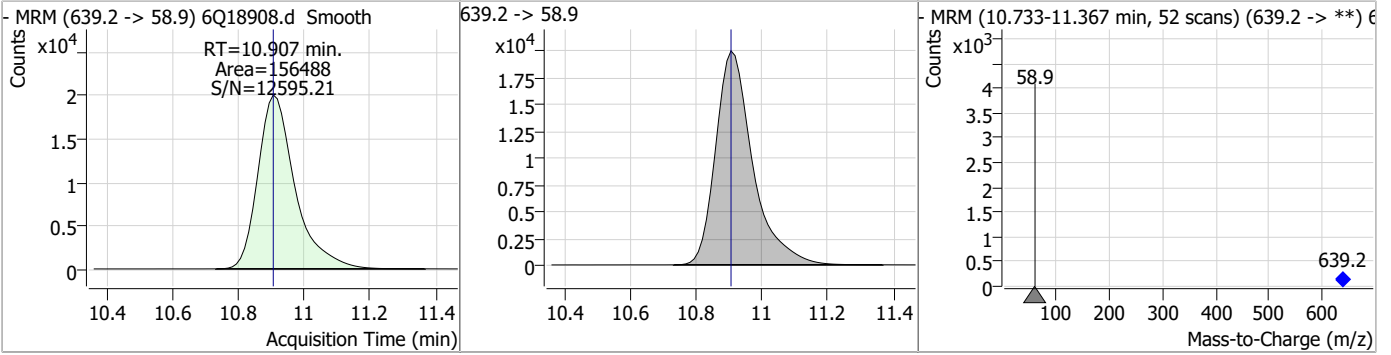
Perfluorinated Compounds by LC/MS/MS



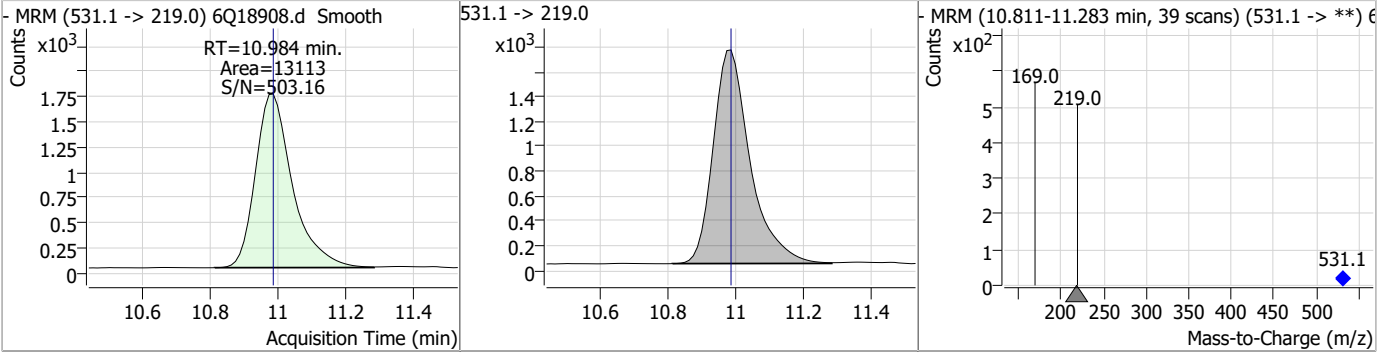
7.2.6
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.88	10.91	0.00	156488				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOFA	2.55	10.98	0.00	13113				



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18919.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 1:50:55 AM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP96663,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	182622	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	60987	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	69750	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	63560	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	96911	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	42957	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	25277	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	32567	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	32316	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17486	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	34865	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	23395	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	14963	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13914	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5005	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7061	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6757	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	35651	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	38204	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	32005	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	118589	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	155095	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	12878	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13081	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19317	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	76254	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11283	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	98761	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	36911	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	55235	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	62451	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5005	5.39 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.9%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7061	5.29 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.9%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6757	5.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.8%		
13C2-PFDoDA	8.900	615.1 -> 570.0	32316	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.8%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17486	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.6%		
13C3-PFBS	5.384	302.1 -> 79.9	23395	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 94.4%		
13C3-PFHxS	7.155	402.1 -> 79.9	14963	2.46 µg/L	0.000

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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	2.860	216.8 -> 171.9	182622	10.09 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C4-PFHpA	6.420	367.1 -> 322.0	63560	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C5-PFHxA	5.478	318.0 -> 273.0	69750	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.6%	
13C5-PFPeA	4.272	268.3 -> 223.0	60987	5.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C6-PFDA	8.039	519.1 -> 474.1	25277	1.15 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.3%	
13C7-PFUnDA	8.480	570.0 -> 525.1	32567	1.14 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.0%	
13C8-FOSA	9.611	506.1 -> 77.8	34865	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C8-PFOA	7.051	421.1 -> 376.0	96911	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C8-PFOS	8.189	507.1 -> 79.9	13914	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.9%	
13C9-PFNA	7.569	472.1 -> 427.0	42957	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.6%	
d3-MeFOSAA	8.096	573.2 -> 419.0	35651	5.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	38204	9.71 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 97.1%	
d3-MeFOSA	10.752	515.0 -> 219.0	13081	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.6%	
d5-EtFOSAA	8.292	589.2 -> 419.0	32005	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.6%	
d7-MeFOSE	10.660	623.2 -> 58.9	118589	24.46 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
d9-EtFOSE	10.907	639.2 -> 58.9	155095	25.11 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.5%	
d5-EtFOSA	10.984	531.1 -> 219.0	12878	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.1%	

Target Compounds	RT	Transition	Response	Conc. Units	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.	

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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			
PFTTrDA	-	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

7.27
7

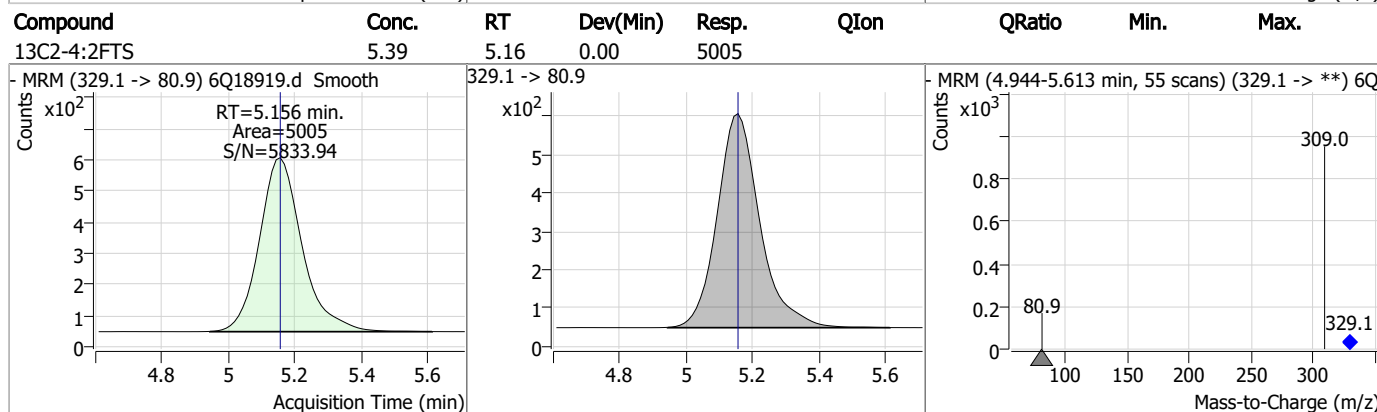
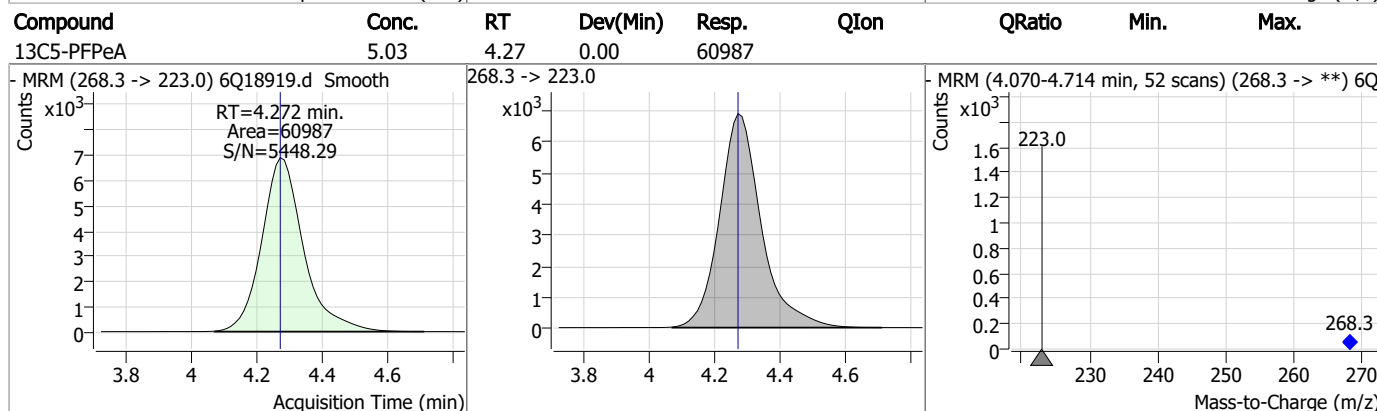
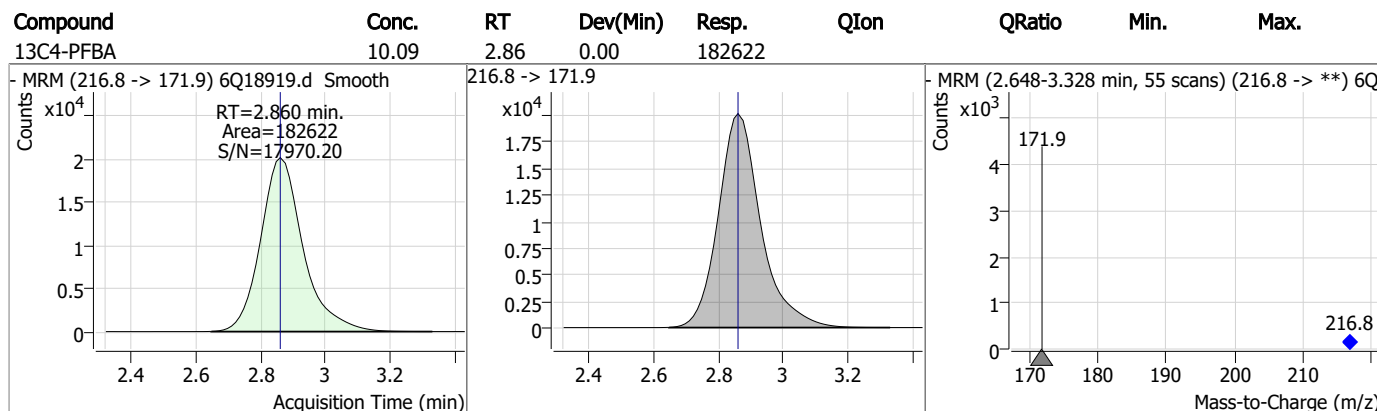
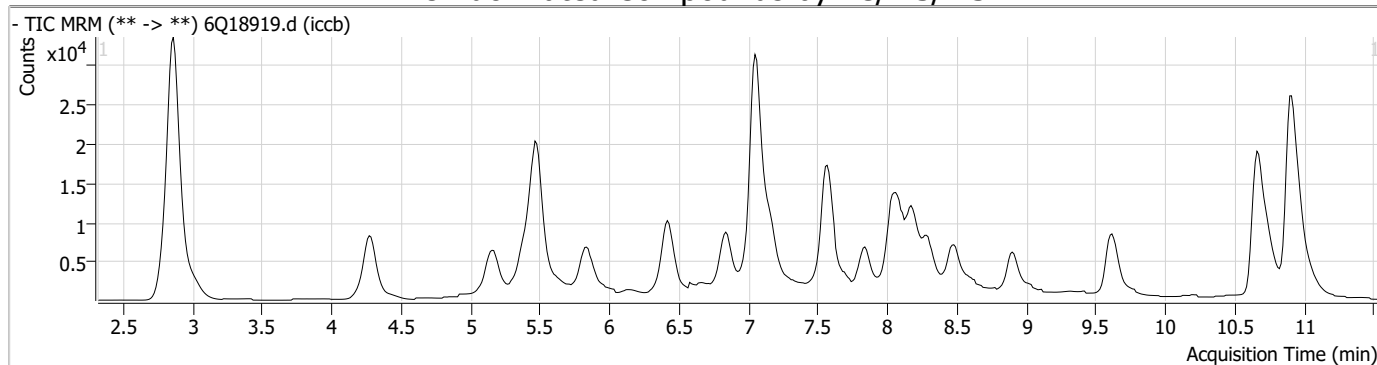
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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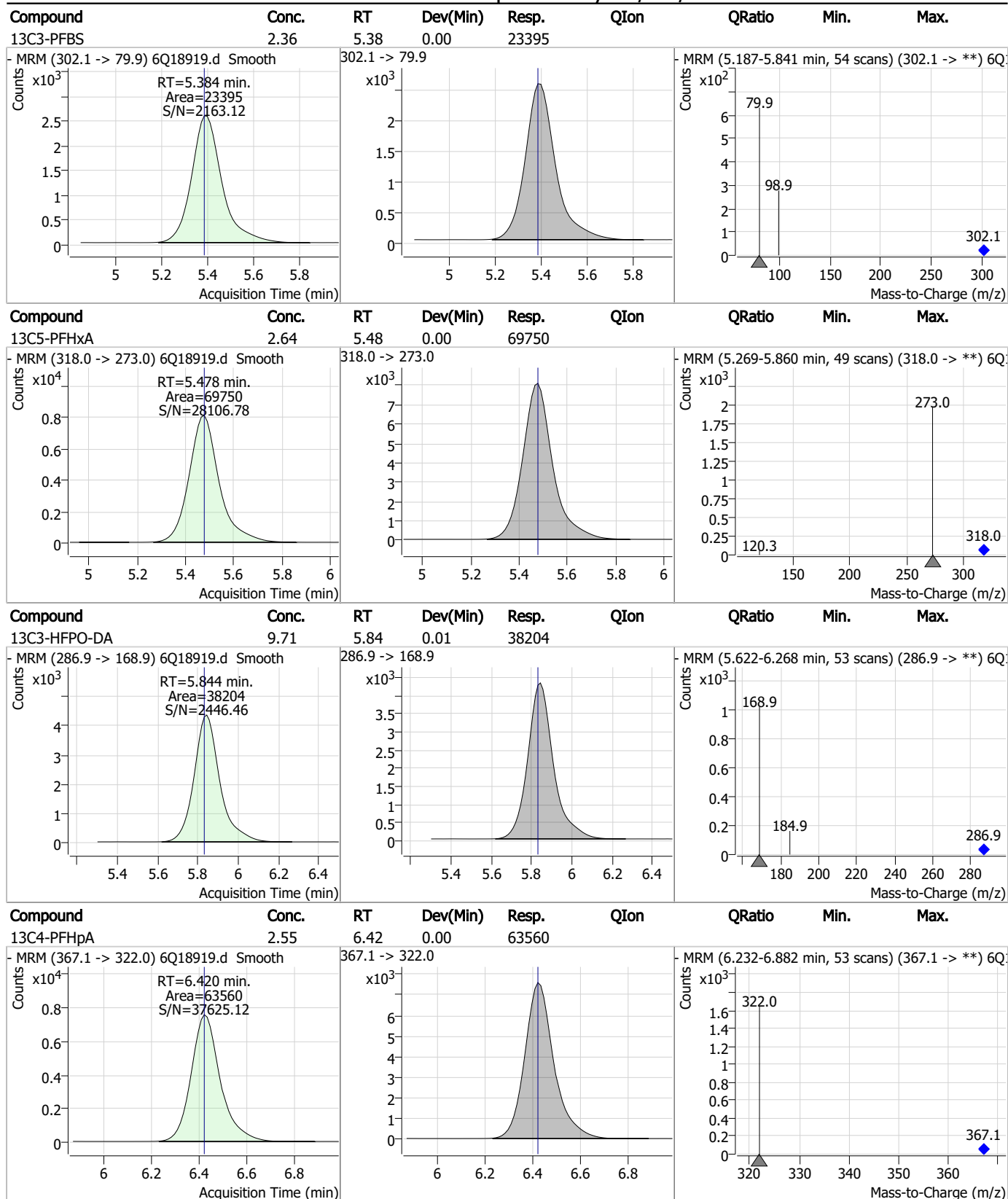
7.2.7

7

Perfluorinated Compounds by LC/MS/MS

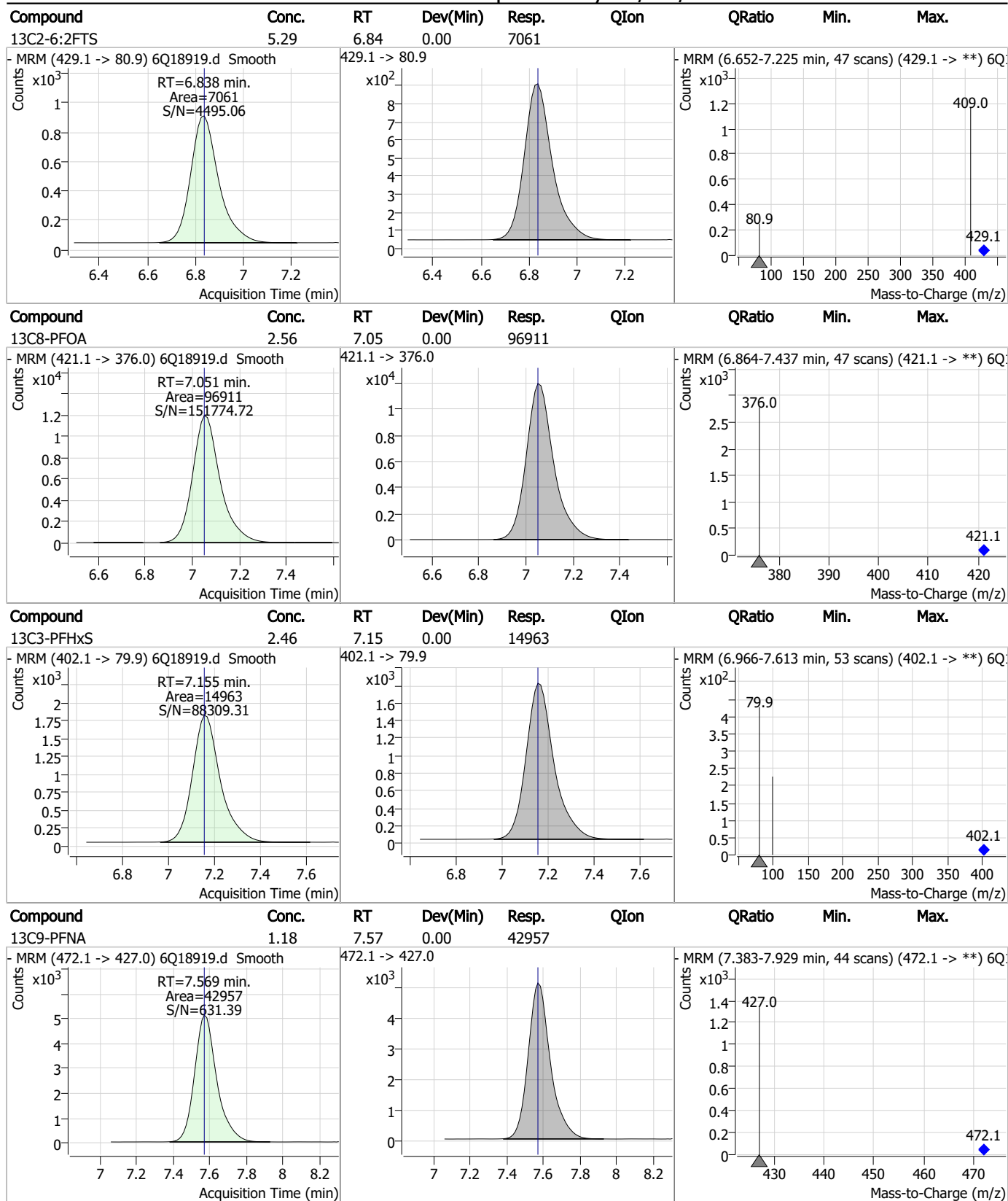


Perfluorinated Compounds by LC/MS/MS



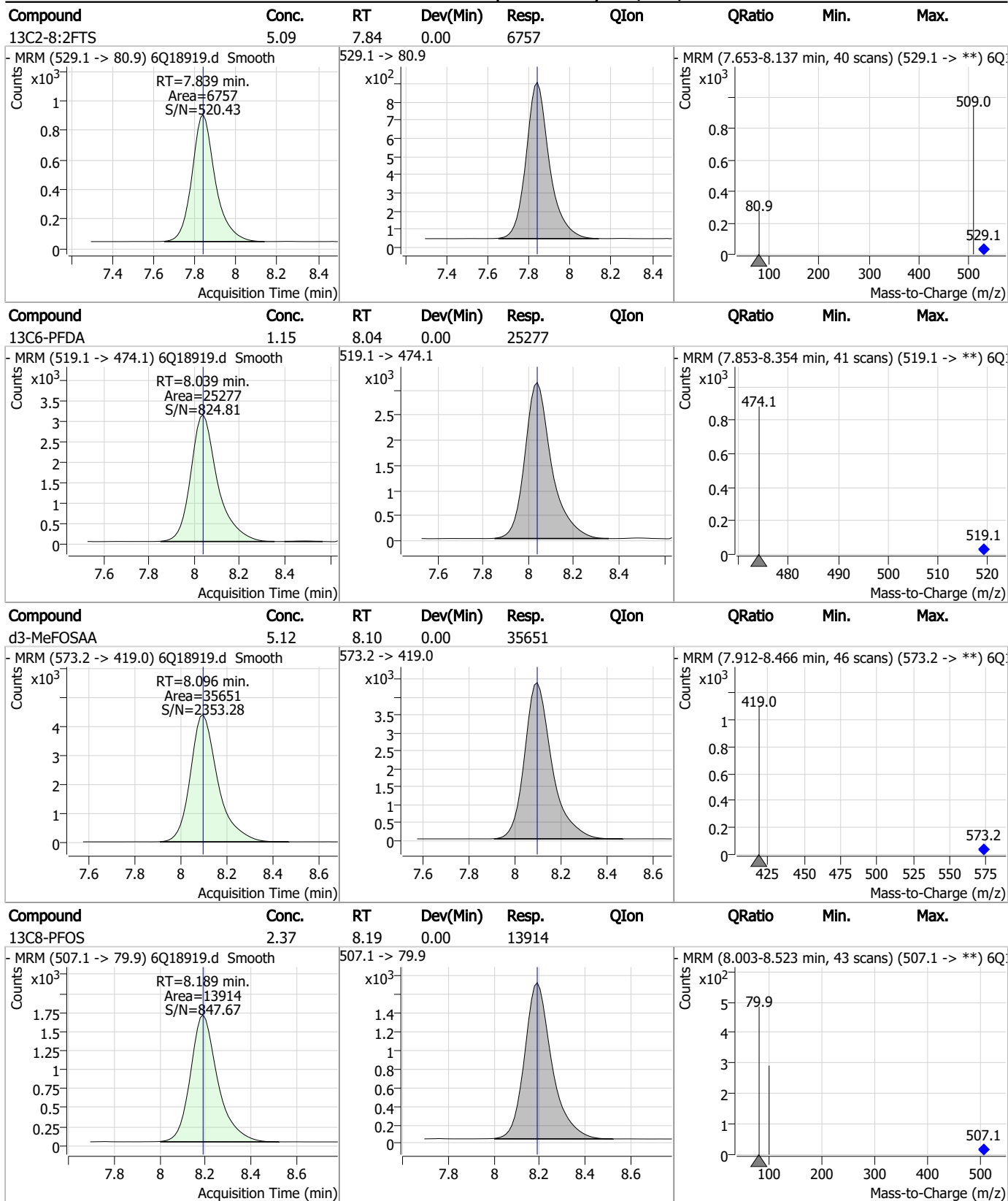
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Perfluorinated Compounds by LC/MS/MS



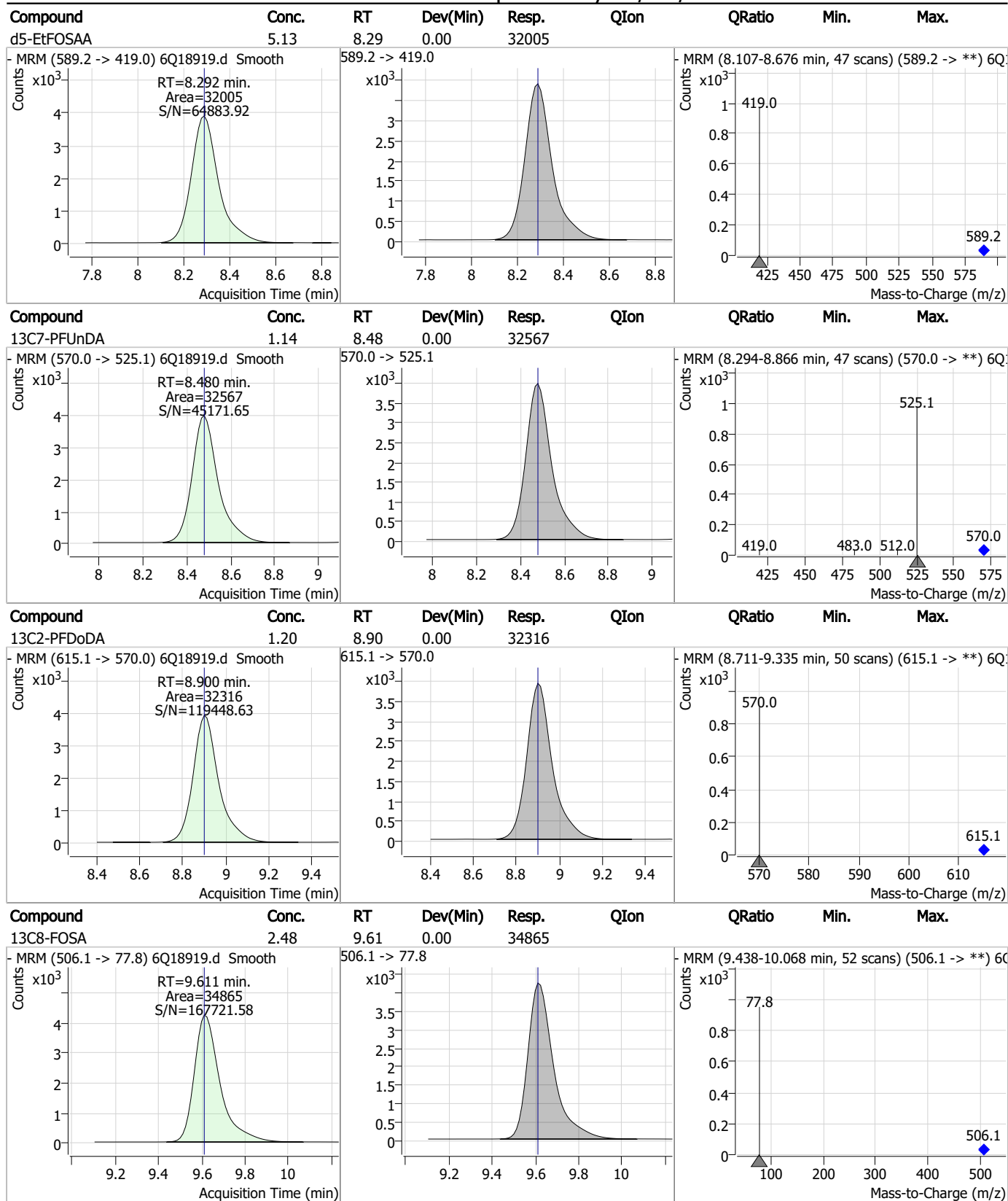
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Perfluorinated Compounds by LC/MS/MS



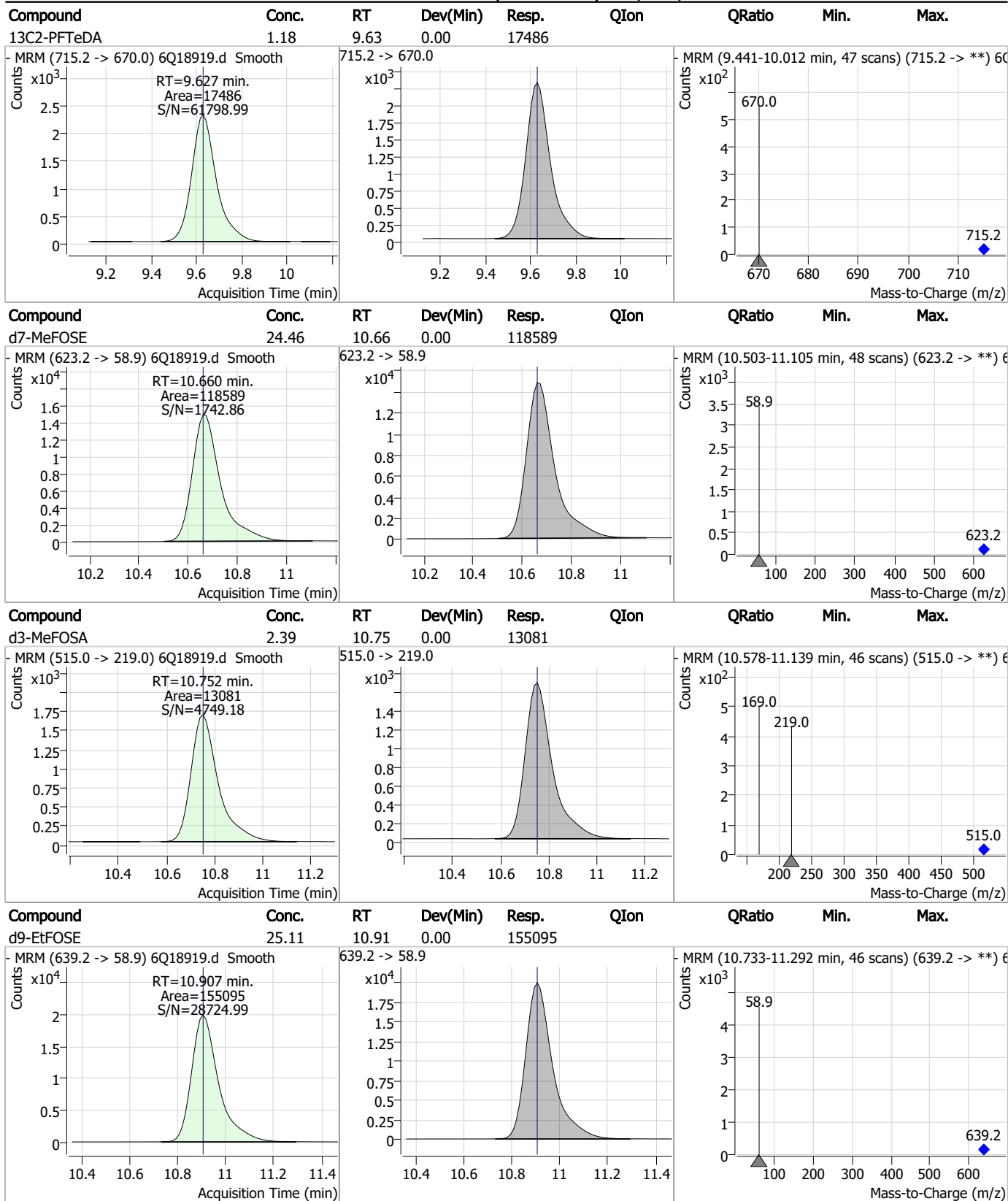
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Perfluorinated Compounds by LC/MS/MS



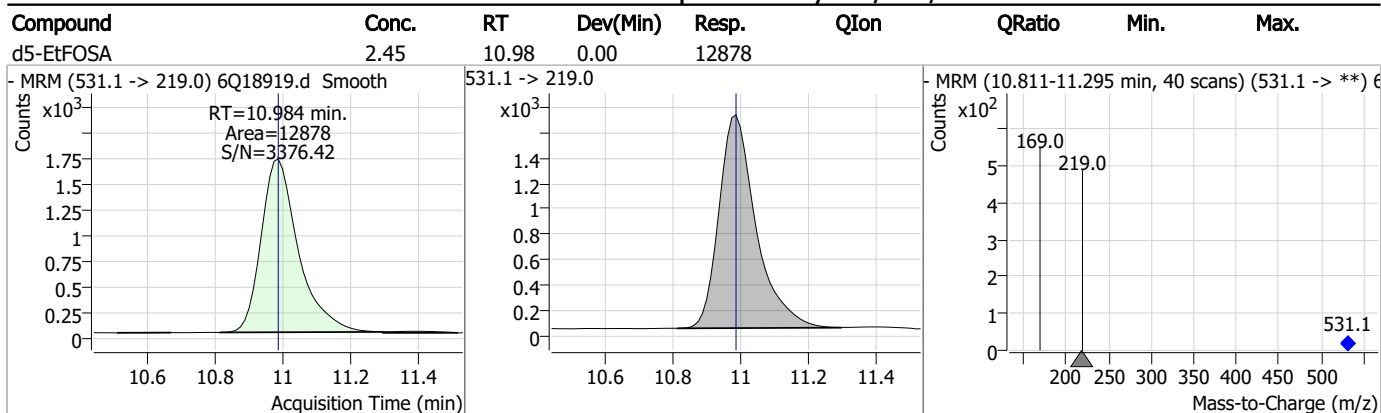
7.2.7
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Perfluorinated Compounds by LC/MS/MS



7.27
7

Perfluorinated Compounds by LC/MS/MS



7.27
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19026.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 9:50:54 AM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	196310	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	65983	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	73628	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	65863	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	100693	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	48741	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	27419	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	36693	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	34084	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18586	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	36964	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	27288	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	16582	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14691	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5359	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7830	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7253	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	40189	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	43920	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	35994	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	125737	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	163419	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13411	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14371	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20001	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	83079	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11956	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	109464	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	37585	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	56512	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	63213	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5359	5.45 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.0%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7830	5.54 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.8%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7253	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.1%		
13C2-PFDoDA	8.900	615.1 -> 570.0	34084	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.3%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18586	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.8%		
13C3-PFBS	5.384	302.1 -> 79.9	27288	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.9%		
13C3-PFHxS	7.155	402.1 -> 79.9	16582	2.57 µg/L	0.000

7.2.8
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C4-PFBA	2.860	216.8 -> 171.9	196310	9.96 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.420	367.1 -> 322.0	65863	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.6%	
13C5-PFHxA	5.466	318.0 -> 273.0	73628	2.75 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.1%	
13C5-PFPeA	4.272	268.3 -> 223.0	65983	5.38 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.6%	
13C6-PFDA	8.039	519.1 -> 474.1	27419	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C7-PFUnDA	8.480	570.0 -> 525.1	36693	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C8-FOSA	9.623	506.1 -> 77.8	36964	2.54 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C8-PFOA	7.051	421.1 -> 376.0	100693	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%	
13C8-PFOS	8.189	507.1 -> 79.9	14691	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C9-PFNA	7.569	472.1 -> 427.0	48741	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.9%	
d3-MeFOSAA	8.096	573.2 -> 419.0	40189	5.58 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.6%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	43920	11.03 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 110.3%	
d3-MeFOSA	10.752	515.0 -> 219.0	14371	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	35994	5.57 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.4%	
d7-MeFOSE	10.660	623.2 -> 58.9	125737	25.04 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.2%	
d9-EtFOSE	10.907	639.2 -> 58.9	163419	25.56 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
d5-EtFOSA	10.984	531.1 -> 219.0	13411	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%	

Target Compounds

Compound	RT	Transition	Response	Conc. Units	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.	



7.2.8
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	-	599.0 -> 98.8	-	N.D.	
		363.1 -> 319.0			
PFHpS	-	363.1 -> 169.0	-	N.D.	
		449.0 -> 79.9			
PFHxA	-	449.0 -> 98.9	-	N.D.	
		313.0 -> 269.0			
PFHxS	-	313.0 -> 118.9	-	N.D.	
		398.7 -> 79.9			
PFNA	-	398.7 -> 98.9	-	N.D.	
		463.0 -> 419.0			
PFNS	-	463.0 -> 219.0	-	N.D.	
		548.8 -> 79.9			
PFOA	-	548.8 -> 98.9	-	N.D.	
		413.0 -> 369.0			
PFOS	-	413.0 -> 169.0	-	N.D.	
		498.9 -> 79.9			
PFPeA	-	498.9 -> 98.8	-	N.D.	
		263.0 -> 219.0			
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.	
		511.9 -> 219.0			
MeFOSA	-	511.9 -> 169.0	-	N.D.	
		616.1 -> 58.9			
MeFOSE	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
PFDoDS	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
NFDHA	-	279.0 -> 85.1	-	N.D.	
		229.0 -> 84.9			
PFMBA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

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



7.2.8
7

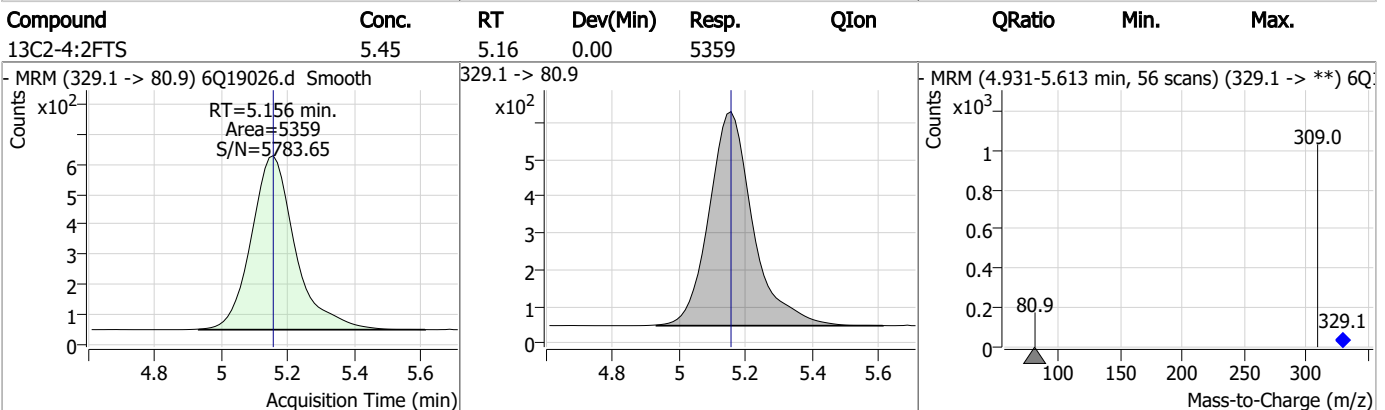
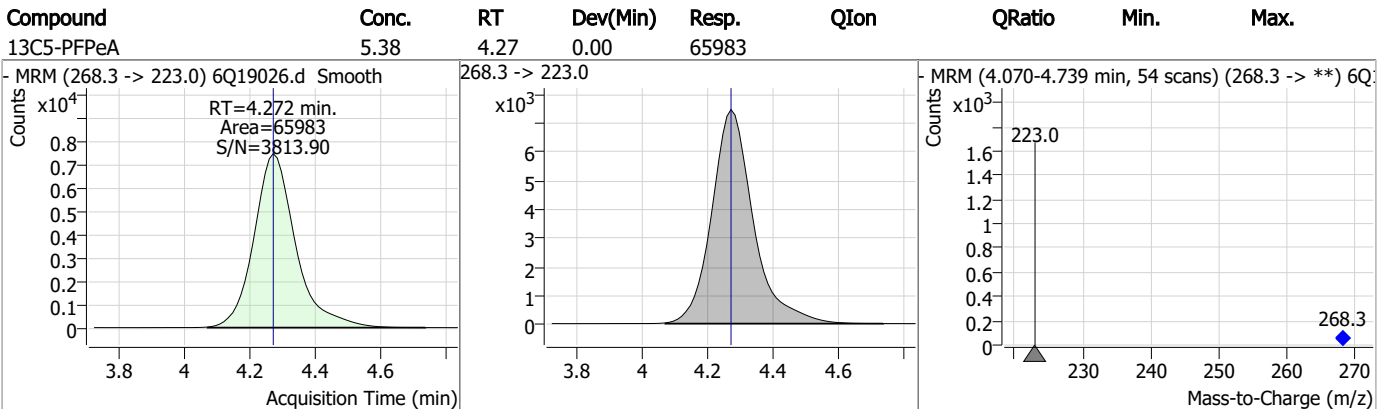
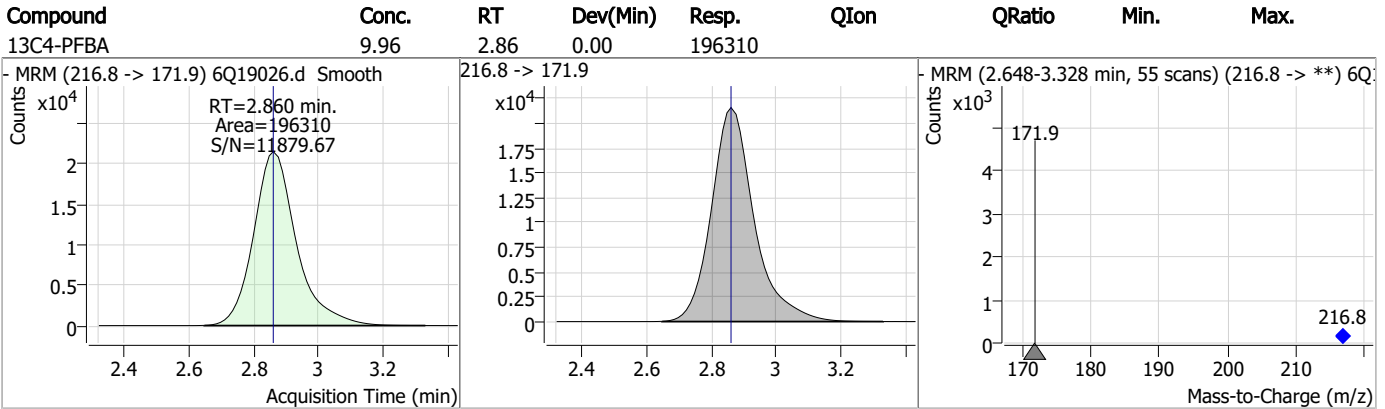
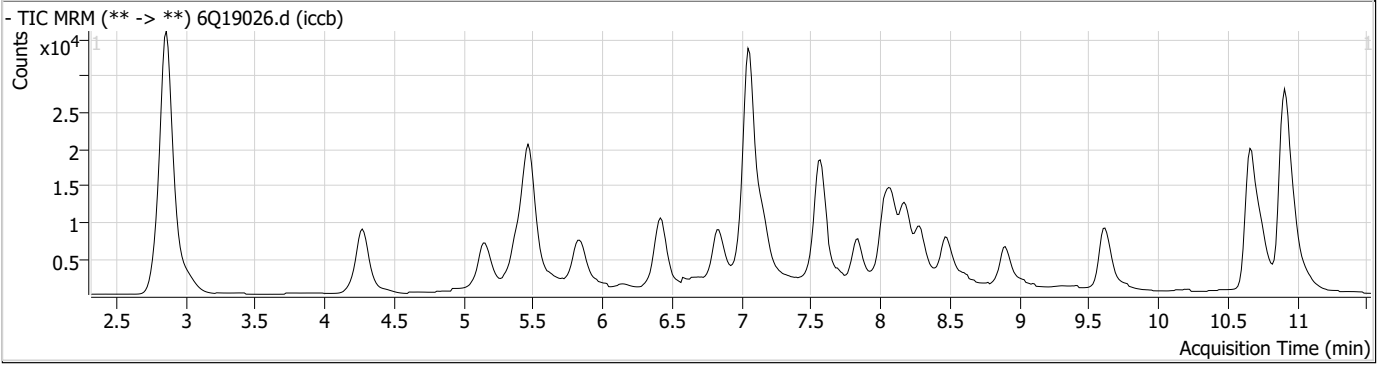
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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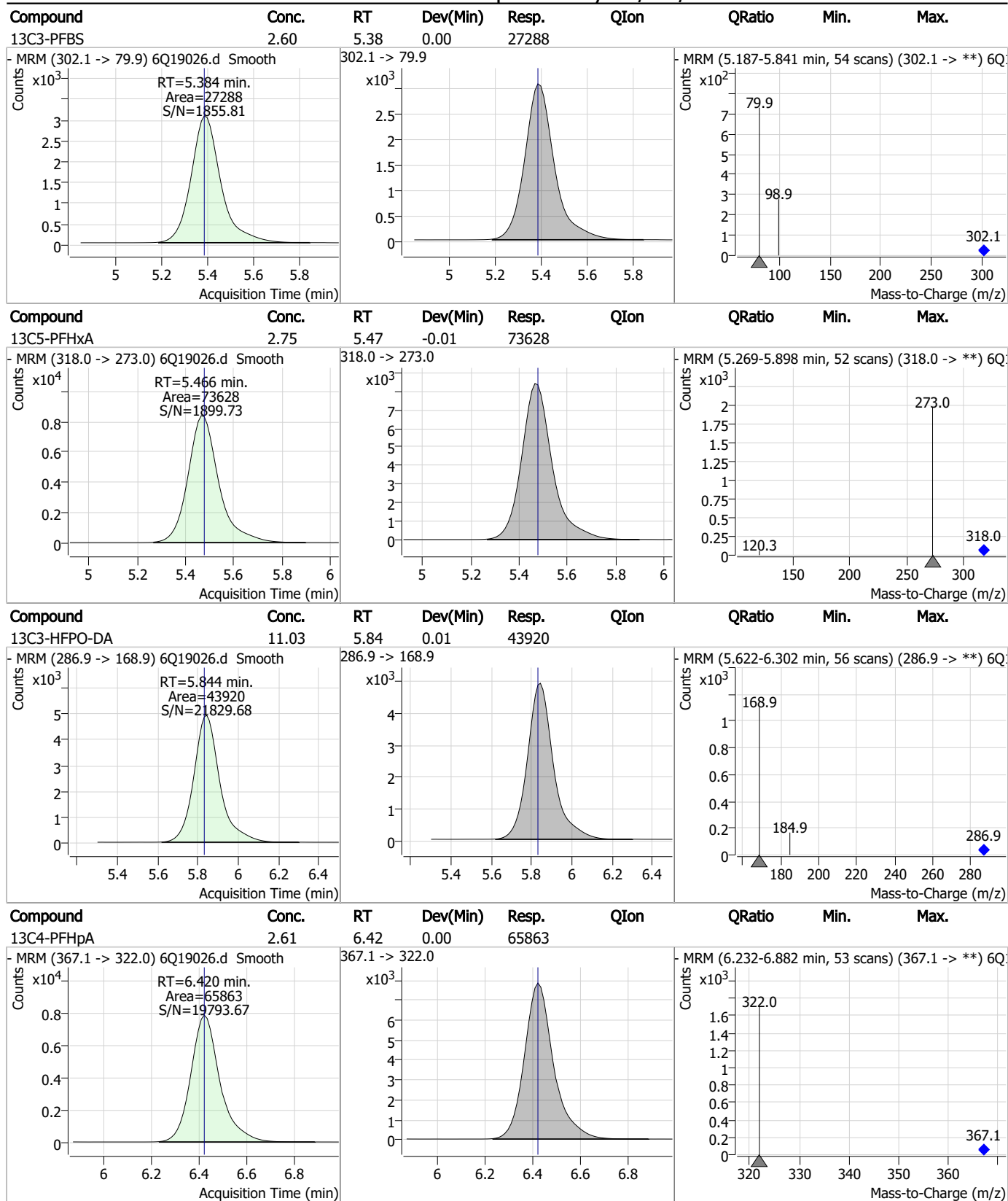
7.2.8

7

Perfluorinated Compounds by LC/MS/MS

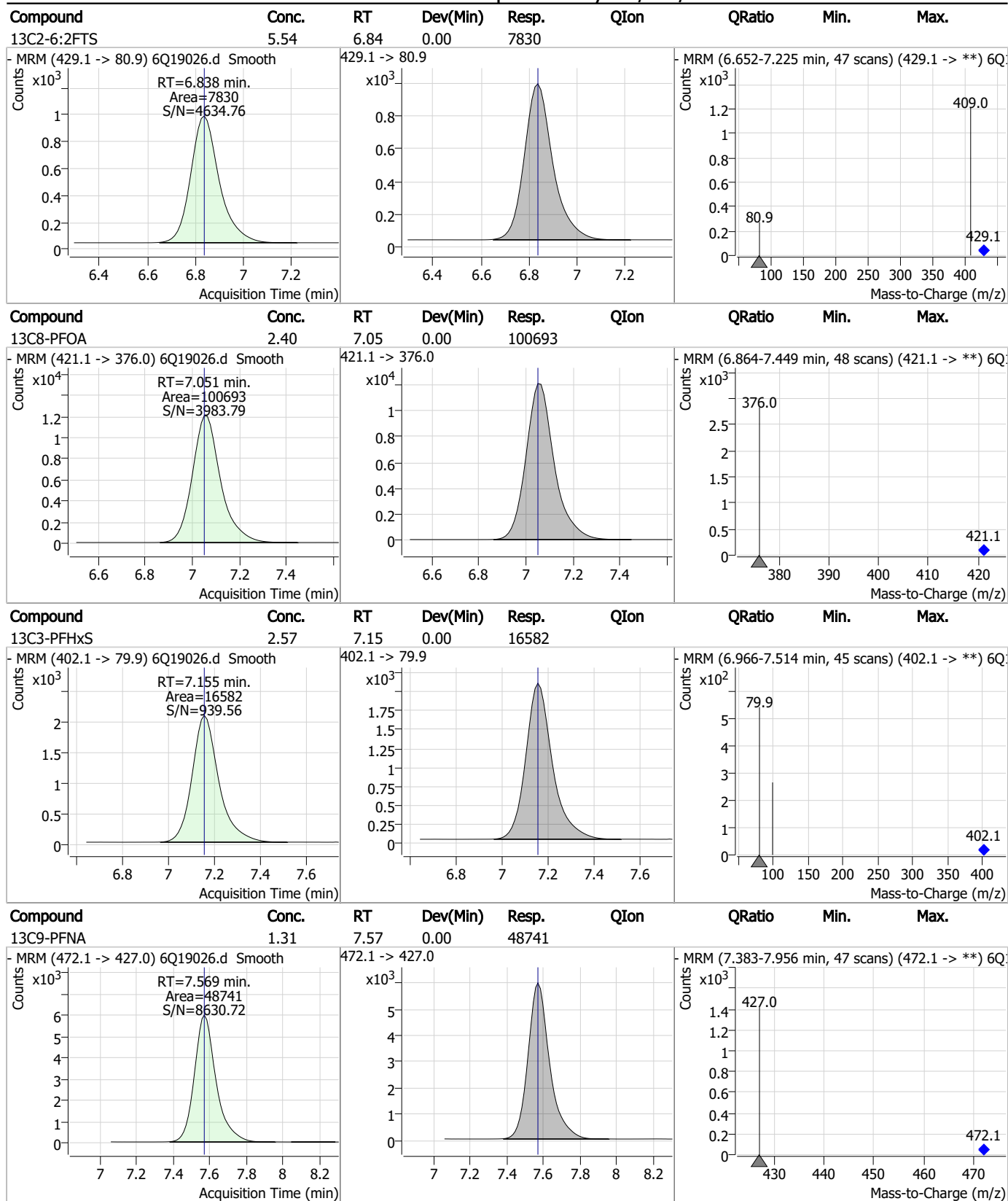


Perfluorinated Compounds by LC/MS/MS



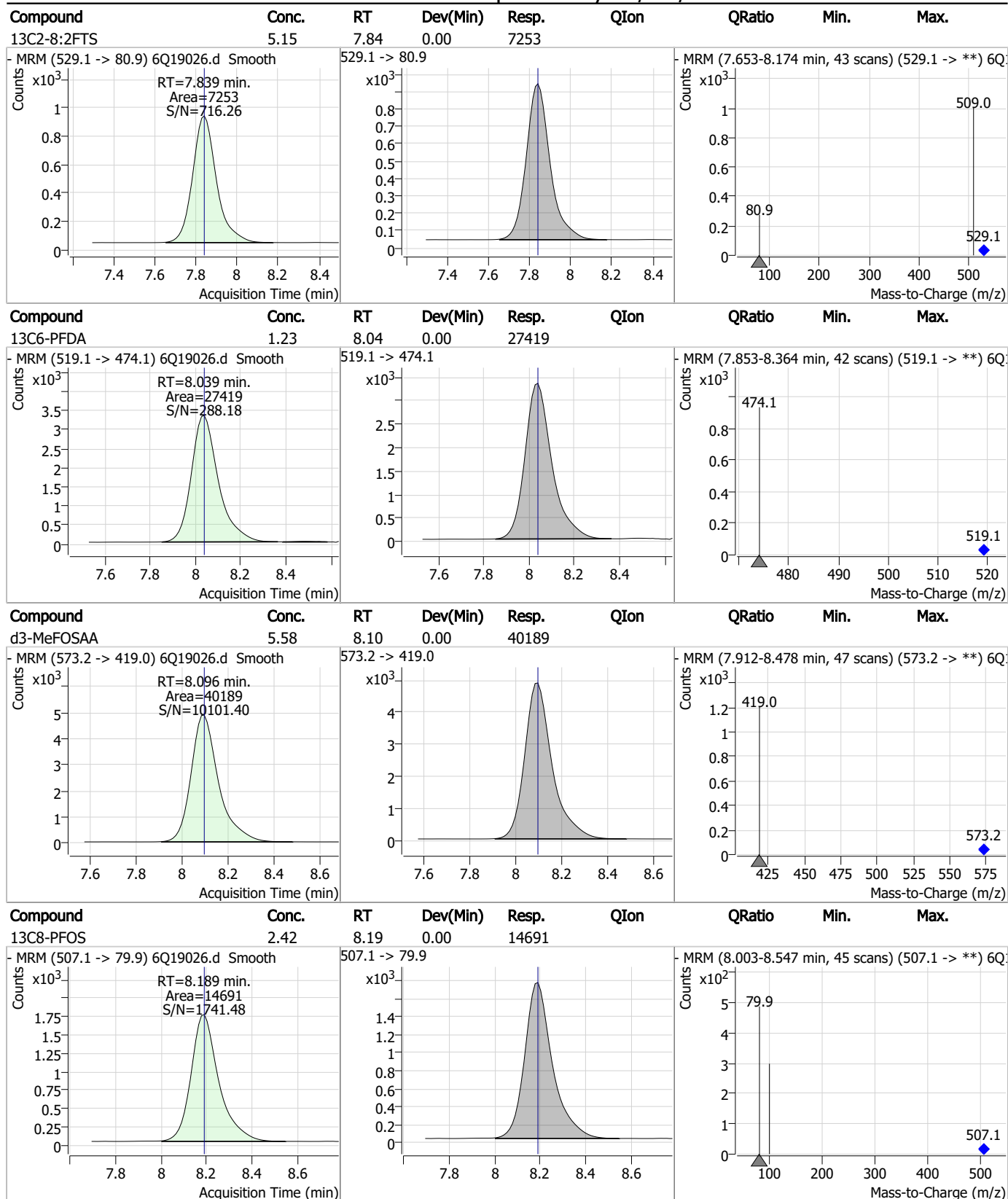
7.2.8
7

Perfluorinated Compounds by LC/MS/MS



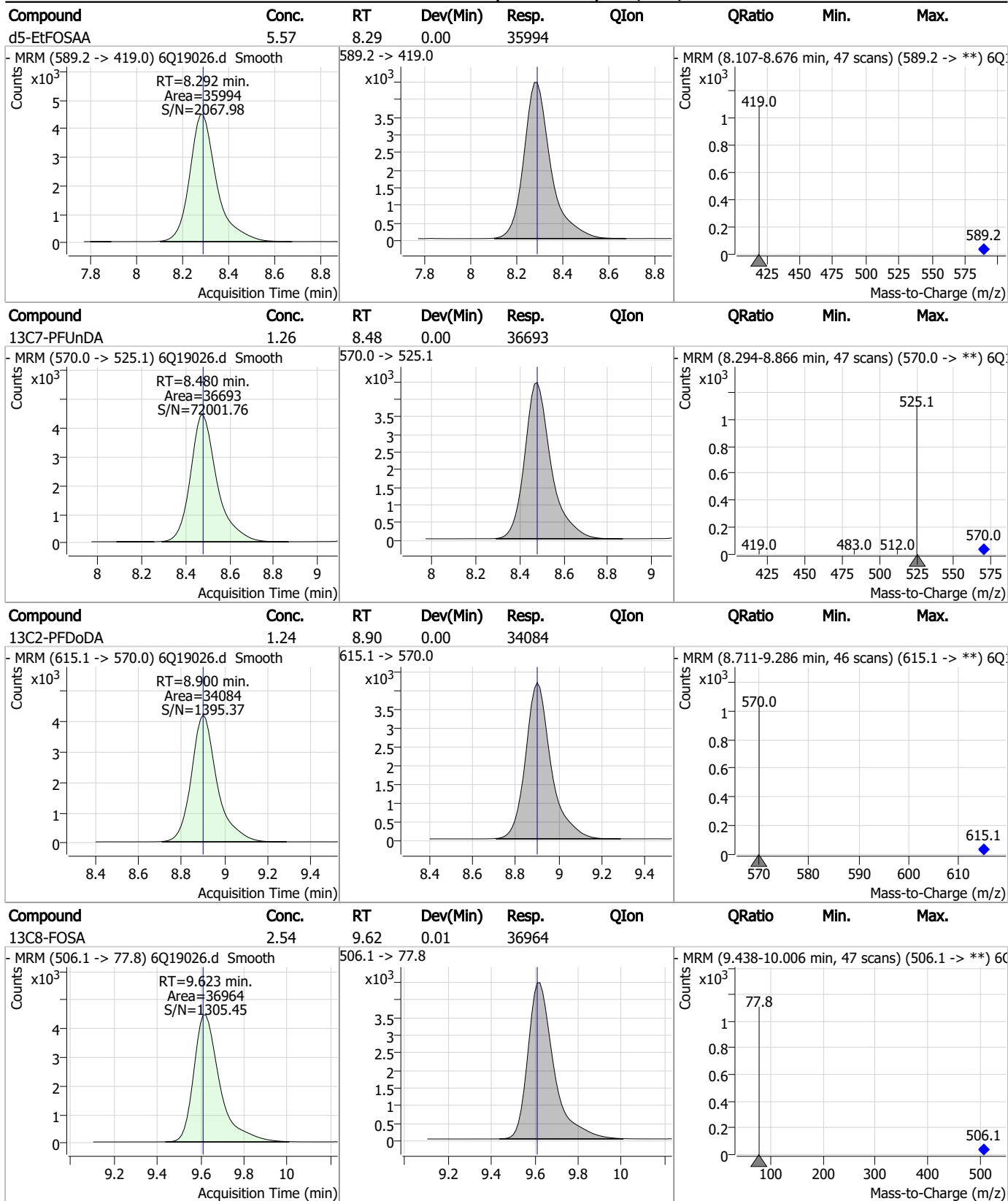
7.2.8
7

Perfluorinated Compounds by LC/MS/MS



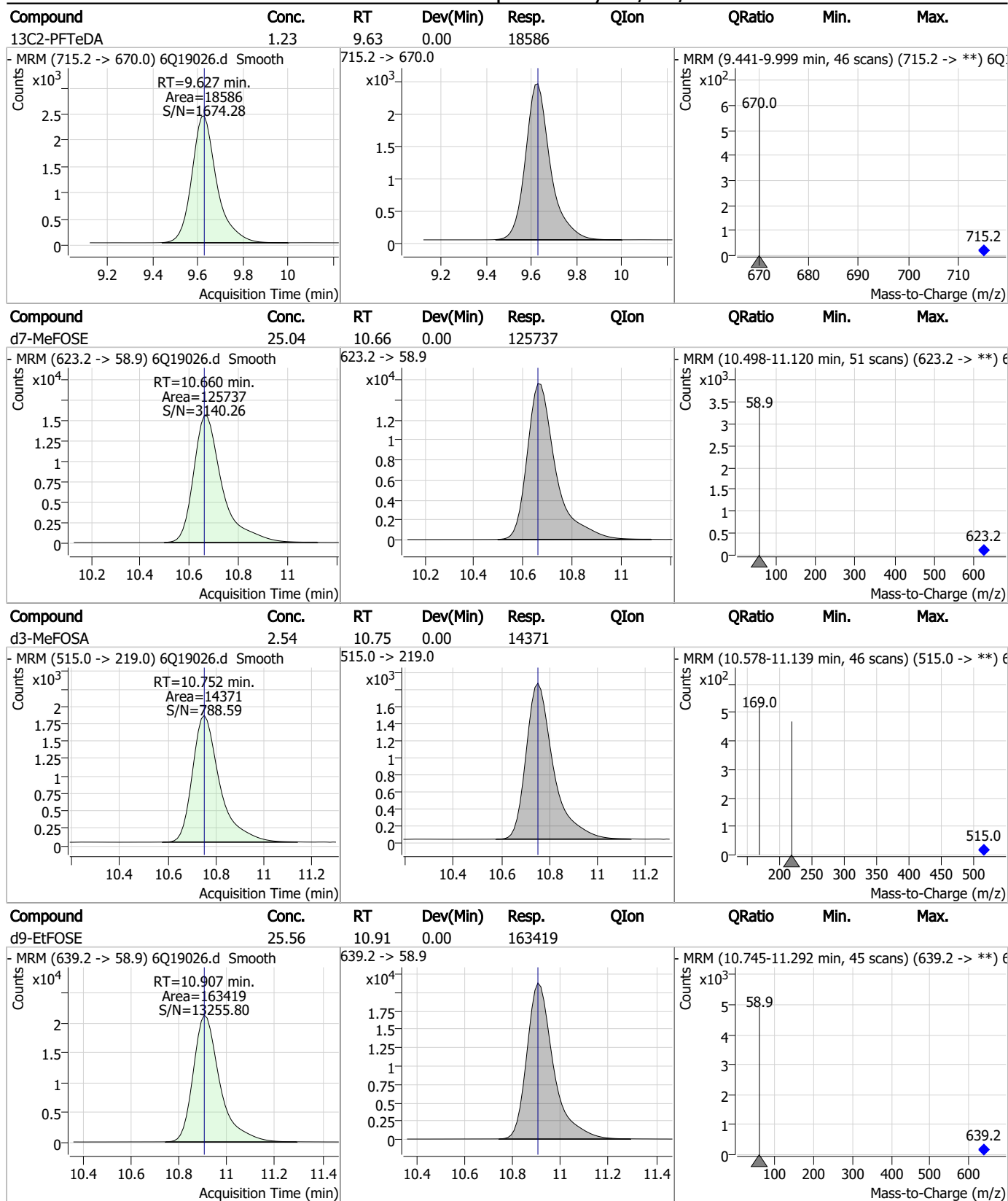
7.2.8
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Perfluorinated Compounds by LC/MS/MS



7.2.8
7

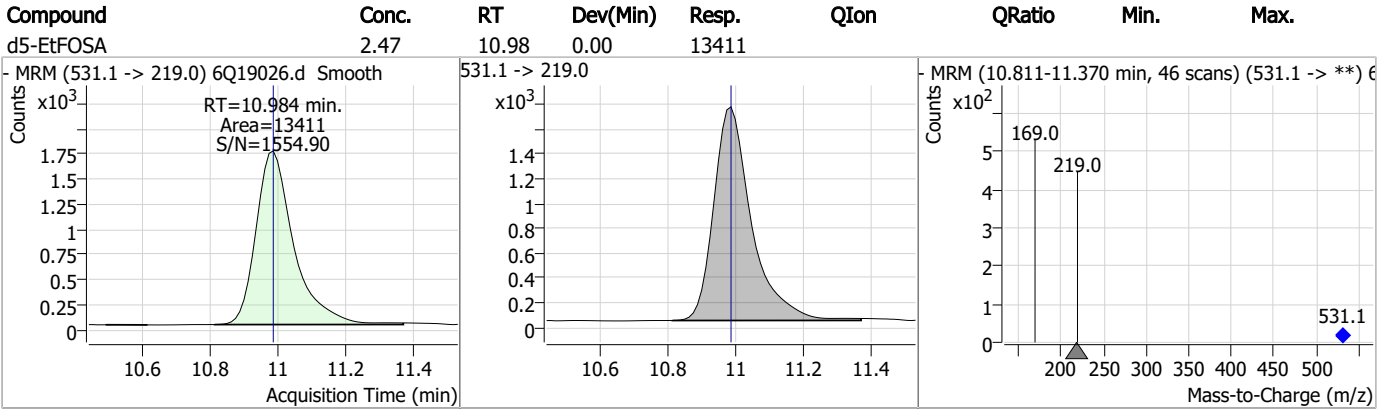
Perfluorinated Compounds by LC/MS/MS



7.2.8

7

Perfluorinated Compounds by LC/MS/MS



7.2.8

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19041.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 1:28:11 PM
 Sample Name : iccb
 Vial : P1-A1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	192096	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	64097	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	68721	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	65298	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	98962	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	45495	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	28565	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	35691	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	32830	1.25 µg/L	0.000
M2-PFTeDA	9.615	715.2 -> 670.0	18713	1.25 µg/L	-0.012
M8-FOSA	9.623	506.1 -> 77.8	35473	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	25524	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15951	2.50 µg/L	0.000
M8-PFOS	8.177	507.1 -> 79.9	14798	2.50 µg/L	-0.012
M2-4:2FTS	5.156	329.1 -> 80.9	5221	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7496	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6905	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	40348	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	44509	10.00 µg/L	0.000
M5-EtFOSAA	8.279	589.2 -> 419.0	34271	5.00 µg/L	-0.012
M7-MeFOSE	10.660	623.2 -> 58.9	122355	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	153495	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13625	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13953	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18824	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	81042	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11066	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	107543	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	36224	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	56147	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	61958	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5221	5.74 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 114.8%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7496	5.73 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 114.6%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6905	5.30 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.0%		
13C2-PFDoDA	8.900	615.1 -> 570.0	32830	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C2-PFTeDA	9.615	715.2 -> 670.0	18713	1.29 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.2%		
13C3-PFBS	5.384	302.1 -> 79.9	25524	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 105.0%		
13C3-PFHxS	7.155	402.1 -> 79.9	15951	2.67 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.9%	
13C4-PFBA	2.860	216.8 -> 171.9	192096	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.420	367.1 -> 322.0	65298	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C5-PFHxA	5.466	318.0 -> 273.0	68721	2.62 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C5-PFPeA	4.272	268.3 -> 223.0	64097	5.33 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.6%	
13C6-PFDA	8.039	519.1 -> 474.1	28565	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.3%	
13C7-PFUnDA	8.480	570.0 -> 525.1	35691	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C8-FOSA	9.623	506.1 -> 77.8	35473	2.59 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.6%	
13C8-PFOA	7.051	421.1 -> 376.0	98962	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.0%	
13C8-PFOS	8.177	507.1 -> 79.9	14798	2.59 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.6%	
13C9-PFNA	7.569	472.1 -> 427.0	45495	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.6%	
d3-MeFOSAA	8.096	573.2 -> 419.0	40348	5.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.0%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	44509	11.40 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 114.0%	
d3-MeFOSA	10.752	515.0 -> 219.0	13953	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.7%	
d5-EtFOSAA	8.279	589.2 -> 419.0	34271	5.64 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.7%	
d7-MeFOSE	10.660	623.2 -> 58.9	122355	25.90 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.6%	
d9-EtFOSE	10.907	639.2 -> 58.9	153495	25.51 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.0%	
d5-EtFOSA	10.984	531.1 -> 219.0	13625	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.6%	

7.2.9
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Target Compounds	RT	Transition	Response	Conc. Units	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)
PFHpA	-	599.0 -> 98.8	-	N.D.	
		363.1 -> 319.0			
PFHpS	-	363.1 -> 169.0	-	N.D.	
		449.0 -> 79.9			
PFHxA	-	449.0 -> 98.9	-	N.D.	
		313.0 -> 269.0			
PFHxS	-	313.0 -> 118.9	-	N.D.	
		398.7 -> 79.9			
PFNA	-	398.7 -> 98.9	-	N.D.	
		463.0 -> 419.0			
PFNS	-	463.0 -> 219.0	-	N.D.	
		548.8 -> 79.9			
PFOA	-	548.8 -> 98.9	-	N.D.	
		413.0 -> 369.0			
PFOS	-	413.0 -> 169.0	-	N.D.	
		498.9 -> 79.9			
PFPeA	-	498.9 -> 98.8	-	N.D.	
		263.0 -> 219.0			
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.	
		511.9 -> 219.0			
MeFOSA	-	511.9 -> 169.0	-	N.D.	
		616.1 -> 58.9			
MeFOSE	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
PFDoDS	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
NFDHA	-	279.0 -> 85.1	-	N.D.	
		229.0 -> 84.9			
PFMBA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

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



7.2.9
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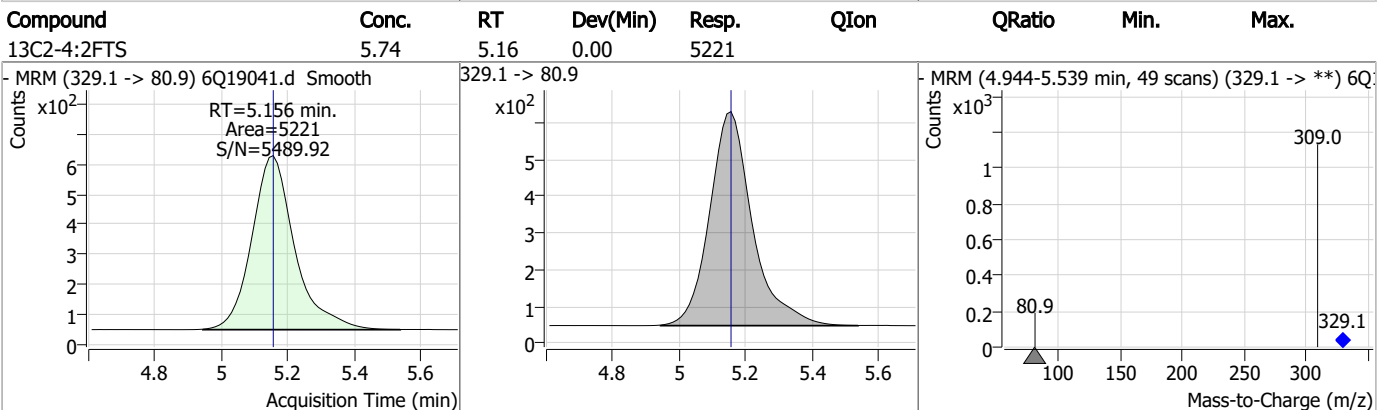
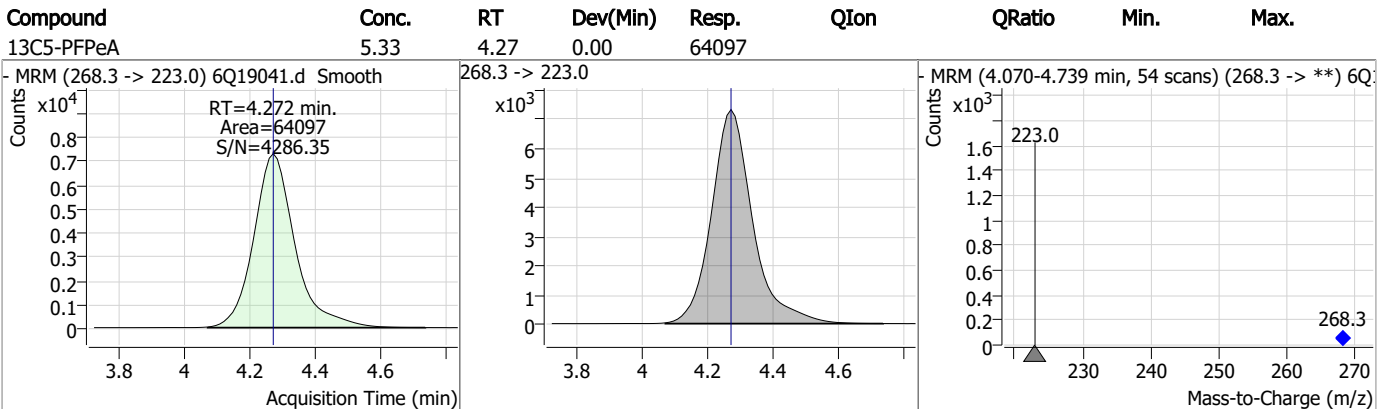
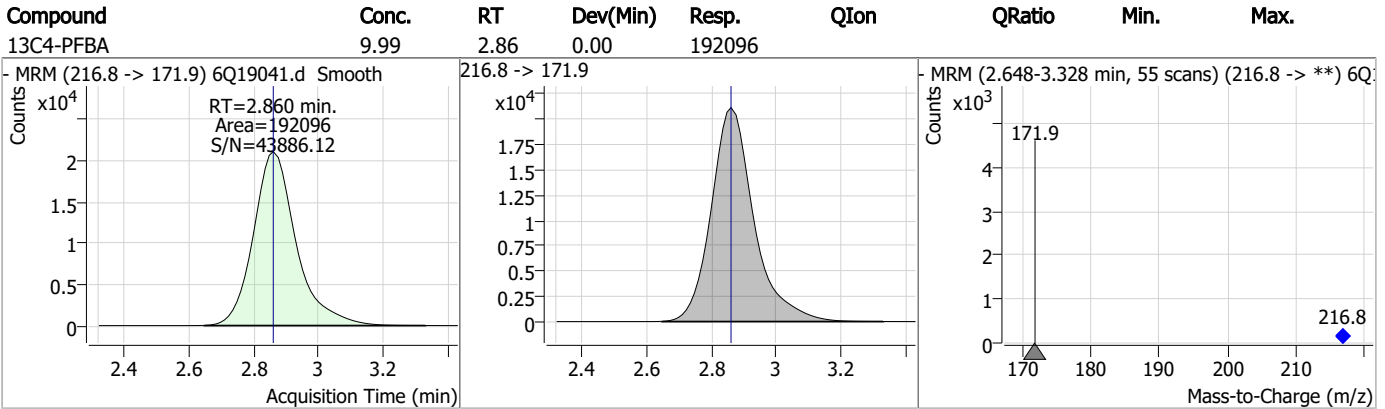
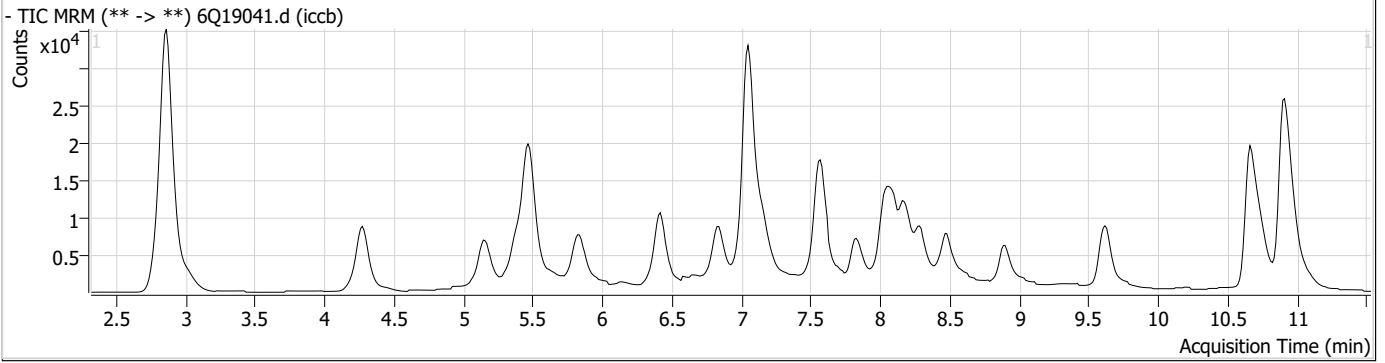
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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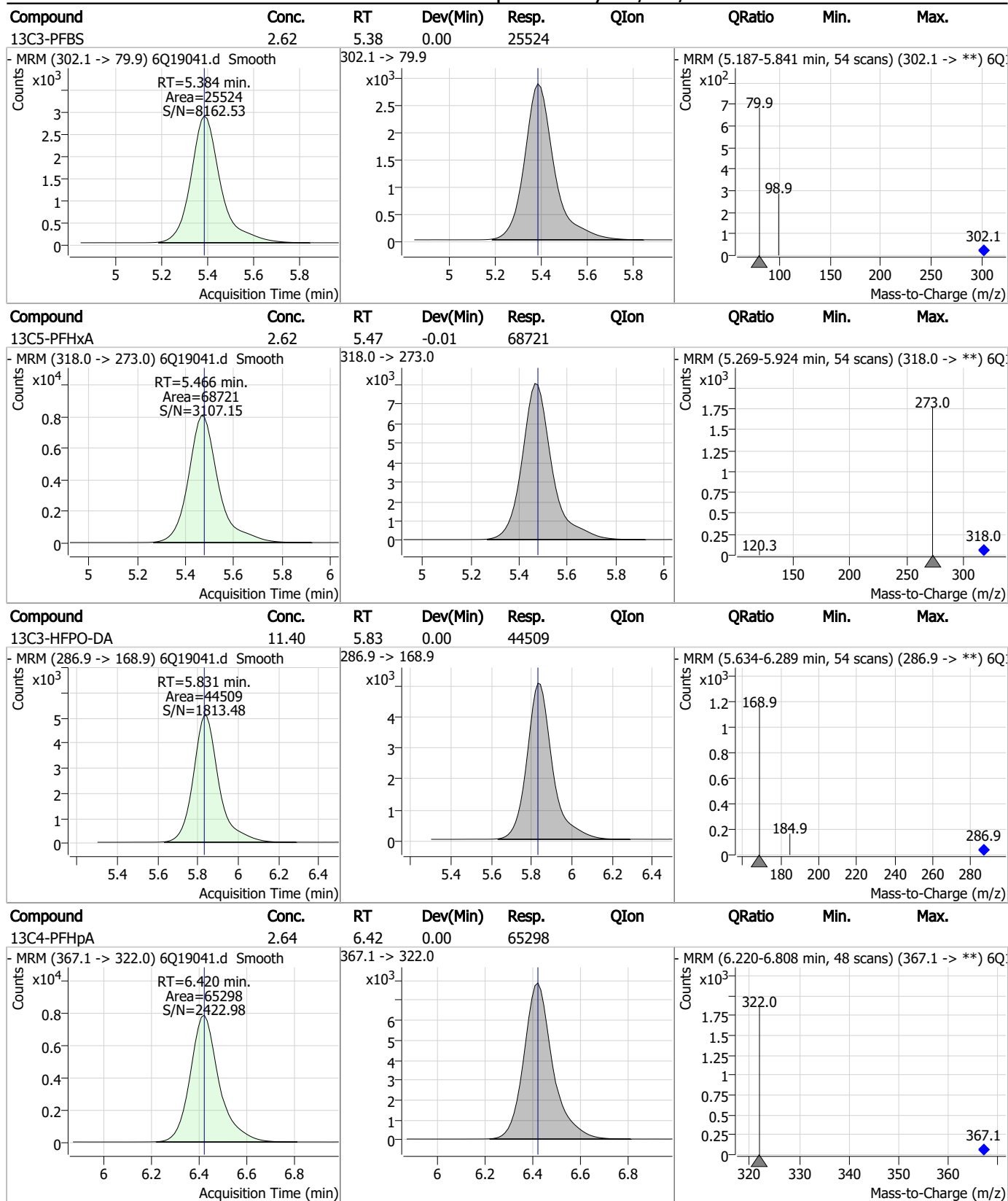
7.2.9

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



7.29
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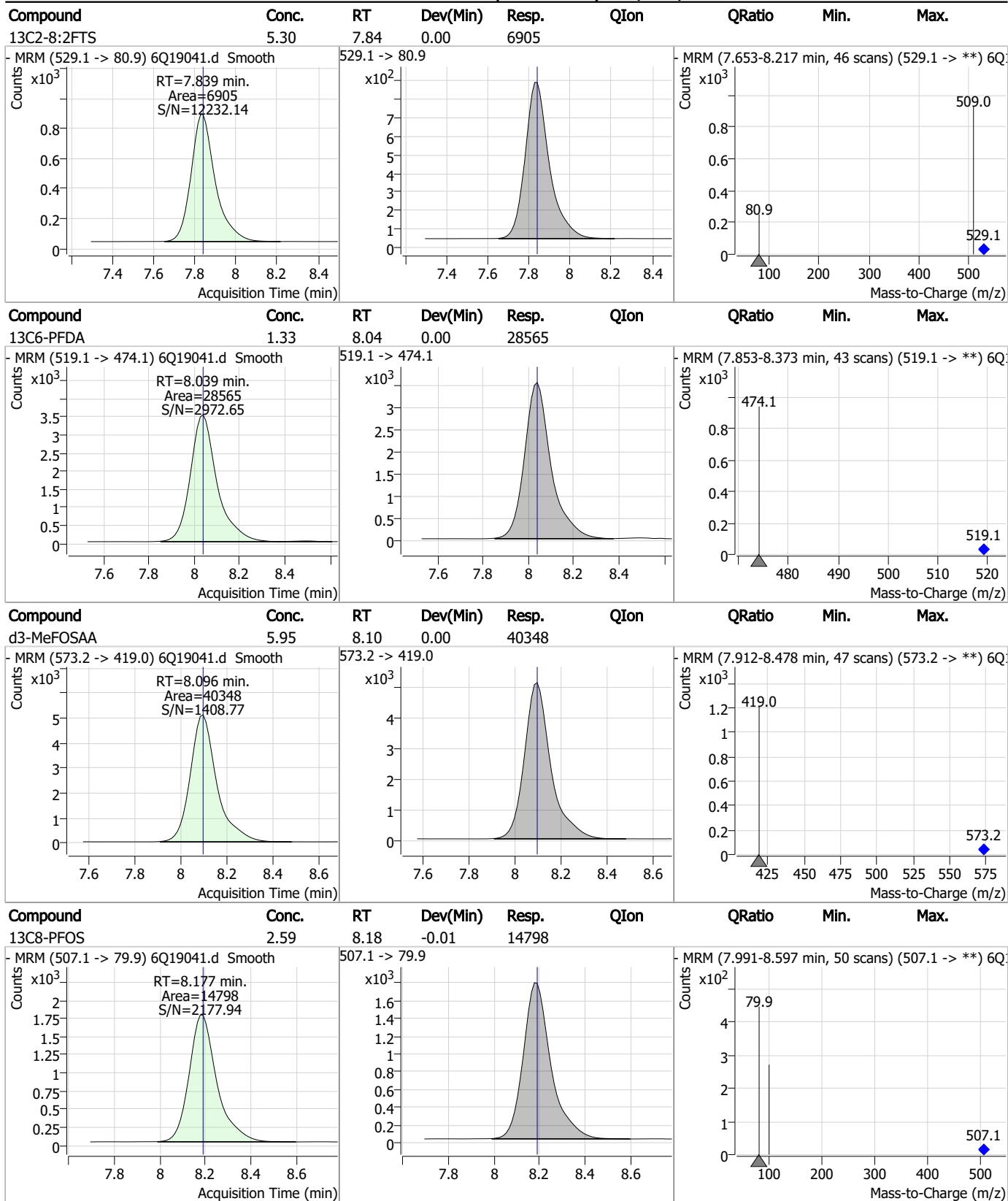
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.73	6.84	0.00	7496				
13C8-PFOA	2.40	7.05	0.00	98962				
13C3-PFHxS	2.67	7.15	0.00	15951				
13C9-PFNA	1.23	7.57	0.00	45495				

7.2.9

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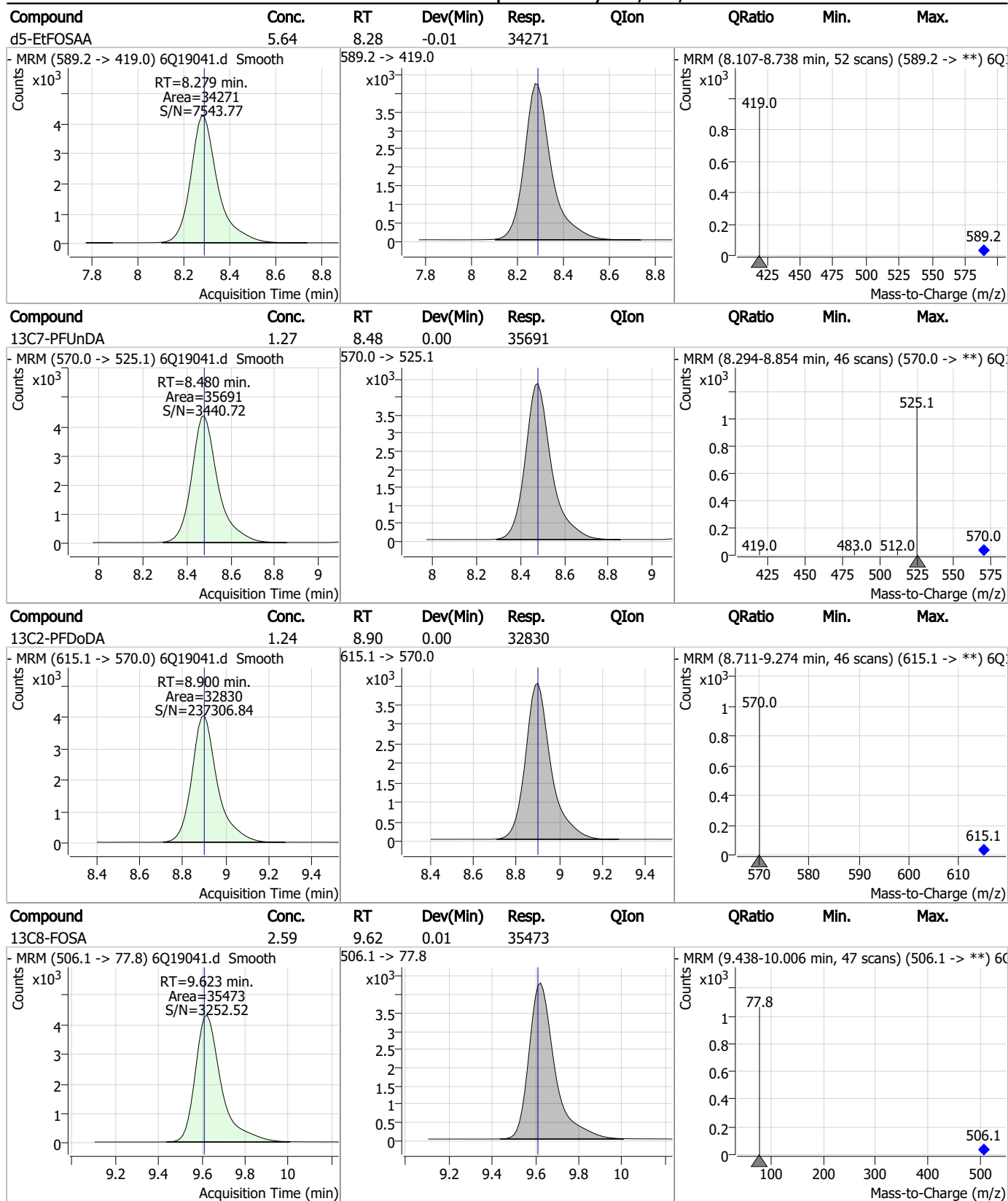
Perfluorinated Compounds by LC/MS/MS



7.29

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Perfluorinated Compounds by LC/MS/MS



7.29
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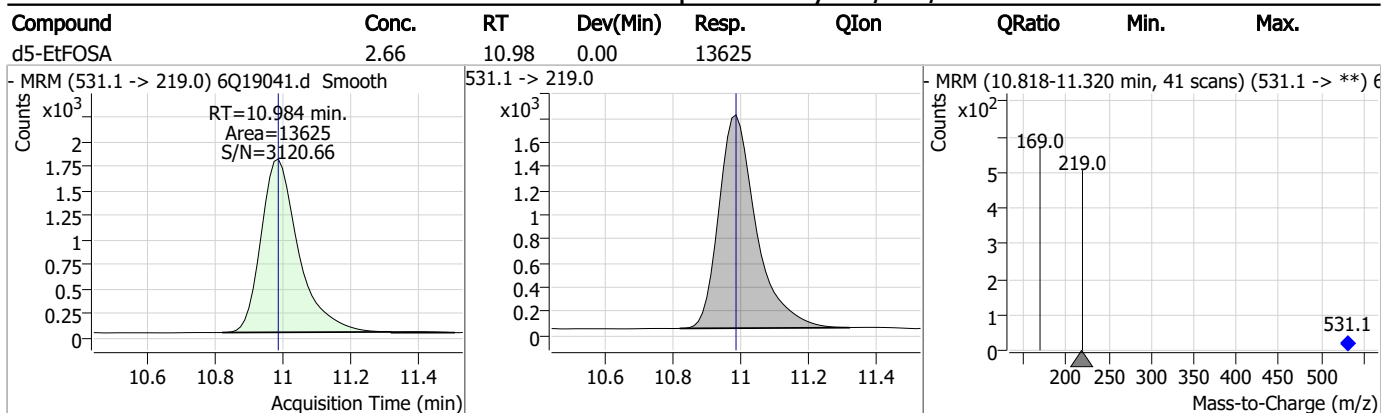
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.29	9.61	-0.01	18713				
- MRM (715.2 -> 670.0) 6Q19041.d Smooth Counts x10 ³ RT=9.615 min. Area=18713 S/N=1712.60 Acquisition Time (min)			715.2 -> 670.0 x10 ³ Acquisition Time (min)			- MRM (9.454-9.987 min, 44 scans) (715.2 -> **) 6Q19041.d Smooth Counts x10 ² 670.0 715.2 Mass-to-Charge (m/z)		
d7-MeFOSE	25.90	10.66	0.00	122355				
- MRM (623.2 -> 58.9) 6Q19041.d Smooth Counts x10 ⁴ RT=10.660 min. Area=122355 S/N=1355.19 Acquisition Time (min)			623.2 -> 58.9 x10 ⁴ Acquisition Time (min)			- MRM (10.511-11.120 min, 50 scans) (623.2 -> **) 6Q19041.d Smooth Counts x10 ³ 58.9 623.2 Mass-to-Charge (m/z)		
d3-MeFOSA	2.62	10.75	0.00	13953				
- MRM (515.0 -> 219.0) 6Q19041.d Smooth Counts x10 ³ RT=10.752 min. Area=13953 S/N=1097.52 Acquisition Time (min)			515.0 -> 219.0 x10 ³ Acquisition Time (min)			- MRM (10.578-11.139 min, 46 scans) (515.0 -> **) 6Q19041.d Smooth Counts x10 ² 169.0 219.0 515.0 Mass-to-Charge (m/z)		
d9-EtFOSE	25.51	10.91	0.00	153495				
- MRM (639.2 -> 58.9) 6Q19041.d Smooth Counts x10 ⁴ RT=10.907 min. Area=153495 S/N=2304.41 Acquisition Time (min)			639.2 -> 58.9 x10 ⁴ Acquisition Time (min)			- MRM (10.733-11.292 min, 46 scans) (639.2 -> **) 6Q19041.d Smooth Counts x10 ³ 58.9 639.2 Mass-to-Charge (m/z)		

7.2.9

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Perfluorinated Compounds by LC/MS/MS



7.2.9

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18909.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 11:26:06 PM
 Sample Name : op97179-bs
 Vial : P6-A1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97179,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.901	216.8 -> 171.9	34533	10.00 µg/L	0.041
M5-PFPeA	4.284	268.3 -> 223.0	41029	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	47727	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	46181	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	66748	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	31734	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	20467	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	25787	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	23170	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	11738	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	26888	2.50 µg/L	0.000
M3-PFBS	5.397	302.1 -> 79.9	16644	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	10197	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	10223	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	3661	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	5296	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5078	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	25474	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	30345	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	22058	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	76856	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	99575	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	8981	2.50 µg/L	-0.012
M3-MeFOSA	10.752	515.0 -> 219.0	9601	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	15049	2.50 µg/L	0.000
13C3-PFBA	2.891	216.0 -> 172.0	65164	5.00 µg/L	0.027
18O2-PFHxS	7.154	403.0 -> 83.9	9076	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	80345	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	28501	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	45459	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	52796	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	3661	4.91 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.1%		
13C2-6:2FTS	6.838	429.1 -> 80.9	5296	4.94 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.7%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5078	4.75 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 95.1%		
13C2-PFDoDA	8.900	615.1 -> 570.0	23170	1.11 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 89.0%		
13C2-PFTeDA	9.627	715.2 -> 670.0	11738	1.03 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 82.3%		
13C3-PFBS	5.397	302.1 -> 79.9	16644	2.09 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 83.5%		
13C3-PFHxS	7.155	402.1 -> 79.9	10197	2.08 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.3%	
13C4-PFBA	2.901	216.8 -> 171.9	34533	2.23 µg/L	0.041
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 22.3%	
13C4-PFHpA	6.420	367.1 -> 322.0	46181	2.19 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.8%	
13C5-PFHxA	5.478	318.0 -> 273.0	47727	2.14 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 85.4%	
13C5-PFPeA	4.284	268.3 -> 223.0	41029	4.01 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 80.1%	
13C6-PFDA	8.039	519.1 -> 474.1	20467	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	25787	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.3%	
13C8-FOSA	9.611	506.1 -> 77.8	26888	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C8-PFOA	7.051	421.1 -> 376.0	66748	2.17 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.7%	
13C8-PFOS	8.189	507.1 -> 79.9	10223	2.24 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.5%	
13C9-PFNA	7.569	472.1 -> 427.0	31734	1.06 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 84.9%	
d3-MeFOSAA	8.096	573.2 -> 419.0	25474	4.70 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 94.0%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	30345	9.12 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 91.2%	
d3-MeFOSA	10.752	515.0 -> 219.0	9601	2.25 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.1%	
d5-EtFOSAA	8.292	589.2 -> 419.0	22058	4.54 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 90.8%	
d7-MeFOSE	10.660	623.2 -> 58.9	76856	20.35 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 81.4%	
d9-EtFOSE	10.907	639.2 -> 58.9	99575	20.70 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 82.8%	
d5-EtFOSA	10.972	531.1 -> 219.0	8981	2.20 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.9%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	54987	10.97 µg/L	97
		327.1 -> 80.9	21492		
6:2FTS	6.838	427.1 -> 407.0	59216	11.80 µg/L	99
		427.1 -> 80.9	19437		
8:2FTS	7.840	527.1 -> 507.0	34401	12.63 µg/L	99
		527.1 -> 80.8	13646		
EtFOSAA	8.293	584.2 -> 419.1	9233	3.07 µg/L	96
		584.2 -> 526.0	4813		
FOSA	9.614	498.1 -> 77.9	25954	2.86 µg/L	100
		498.1 -> 478.0	814		
MeFOSAA	8.097	570.1 -> 419.0	15656	3.08 µg/L	93
		570.1 -> 483.0	3379		
PFBA	2.894	212.8 -> 168.9	13297	11.82 µg/L	100
PFBS	5.398	298.7 -> 79.9	16574	2.87 µg/L	91
		298.7 -> 98.8	5561		
PFDA	8.040	512.9 -> 469.0	70201	2.85 µg/L	100
		512.9 -> 219.0	10614		
PFDoDA	8.900	613.1 -> 569.0	45810	3.04 µg/L	97
		613.1 -> 319.0	7401		
PFDS	9.064	599.0 -> 79.9	7161	2.93 µg/L	97

7.3.1
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	3483	3.08 µg/L	99
		363.1 -> 319.0	60388		
PFHpS	7.698	363.1 -> 169.0	9650	2.92 µg/L	99
		449.0 -> 79.9	13528		
PFHxA	5.481	449.0 -> 98.9	6721	3.07 µg/L	99
		313.0 -> 269.0	48048		
PFHxS	7.156	313.0 -> 118.9	2425	2.95 µg/L	96
		398.7 -> 79.9	14109		
PFNA	7.570	398.7 -> 98.9	6421	3.11 µg/L	99
		463.0 -> 419.0	69873		
PFNS	8.644	463.0 -> 219.0	13668	3.01 µg/L	98
		548.8 -> 79.9	12274		
PFOA	7.052	548.8 -> 98.9	6528	3.10 µg/L	99
		413.0 -> 369.0	87148		
PFOS	8.191	413.0 -> 169.0	15861	2.74 µg/L	99
		498.9 -> 79.9	12805		
PFPeA	4.287	498.9 -> 98.8	6152	6.07 µg/L	100
		263.0 -> 219.0	58849		
PFPeS	6.471	349.1 -> 79.9	13132	2.86 µg/L	100
		349.1 -> 98.9	5993		
PFTeDA	9.628	713.1 -> 669.0	36554	3.16 µg/L	98
		713.1 -> 168.9	3150		
PFTrDA	9.284	663.0 -> 619.0	48077	3.12 µg/L	99
		663.0 -> 168.9	5171		
PFUnDA	8.480	563.1 -> 519.0	48172	3.01 µg/L	98
		563.1 -> 269.1	7632		
11CI-PF3OUdS	9.336	630.9 -> 450.9	60727	5.23 µg/L	97
		632.9 -> 452.9	19507		
9CI-PF3ONS	8.520	530.8 -> 351.0	104640	5.70 µg/L	97
		532.8 -> 353.0	32383		
ADONA	6.671	376.9 -> 250.9	231186	5.55 µg/L	98
		376.9 -> 84.8	65812		
HFPO-DA	5.845	284.9 -> 168.9	15356	6.06 µg/L	97
		284.9 -> 184.9	1633		
3:3FTCA	3.752	241.0 -> 177.0	6017	8.77 µg/L	99
		241.0 -> 117.0	780		
5:3FTCA	6.149	341.0 -> 237.1	229945	76.08 µg/L	98
		341.0 -> 217.0	171009		
7:3FTCA	7.535	441.0 -> 316.9	161741	77.79 µg/L	98
		441.0 -> 336.9	360985		
EtFOSA	10.974	526.0 -> 219.0	25174	6.08 µg/L	99
		526.0 -> 169.0	32813		
EtFOSE	10.920	630.0 -> 58.9	70163	16.15 µg/L	100
		511.9 -> 219.0	22808		
MeFOSA	10.753	511.9 -> 169.0	31041	6.24 µg/L	97
		616.1 -> 58.9	48400		
MeFOSE	10.673	699.1 -> 79.9	3286	16.27 µg/L	100
		699.1 -> 98.8	1752		
PFDoDS	9.755	295.0 -> 201.0	12278	2.85 µg/L	97
		295.0 -> 84.9	3180		
NFDHA	5.361	279.0 -> 85.1	44557	6.53 µg/L	98
		229.0 -> 84.9	15352		
PFMBA	4.688	314.8 -> 134.9	106333	3.01 µg/L	100
		314.8 -> 82.9	3947		
PFMPA	3.426			5.34 µg/L	100
PFEESA	5.926				

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

7.3.1
7

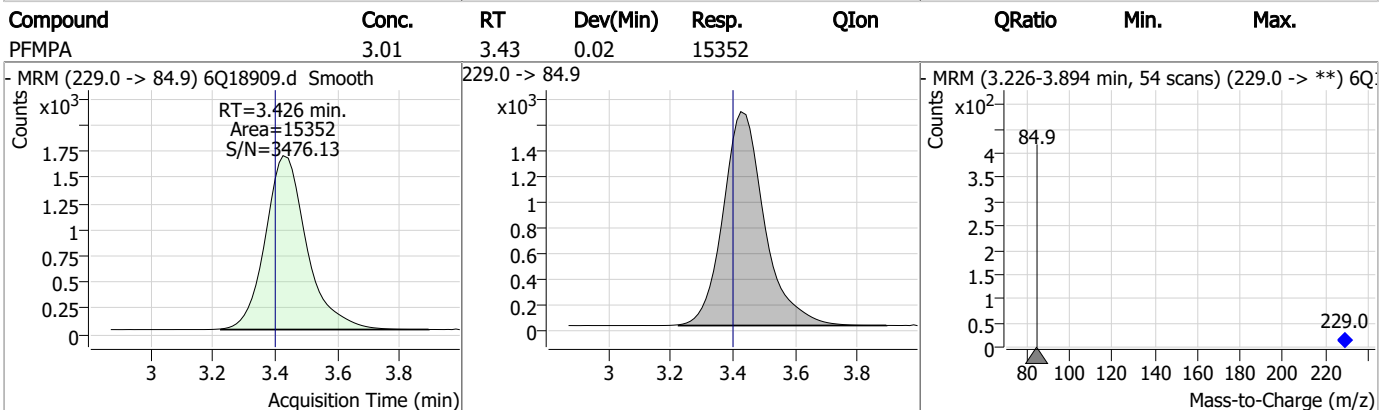
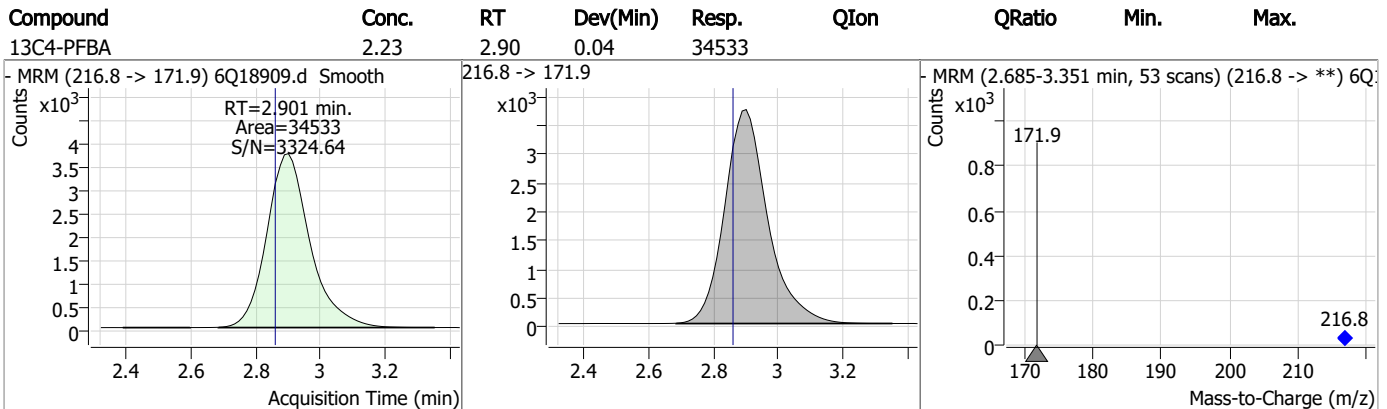
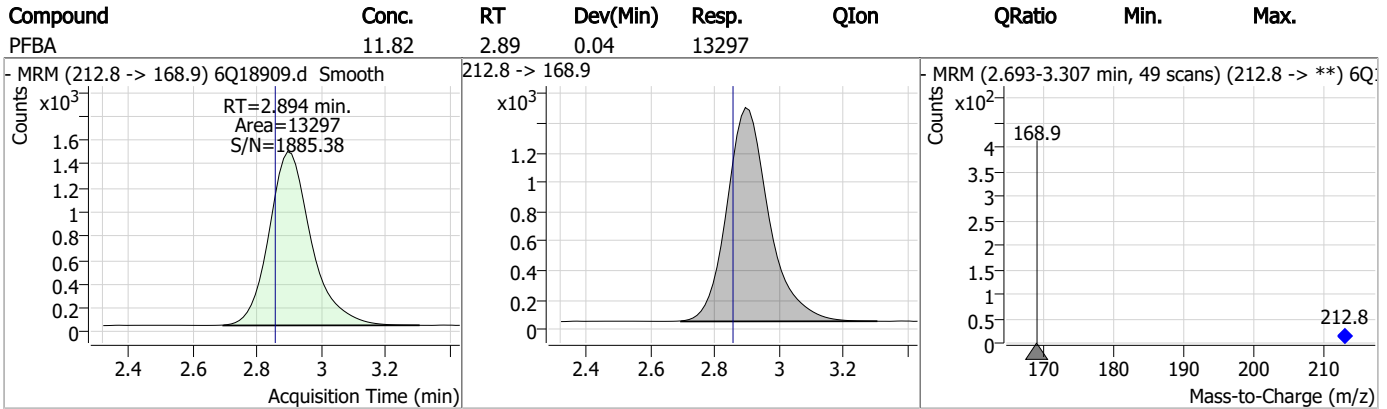
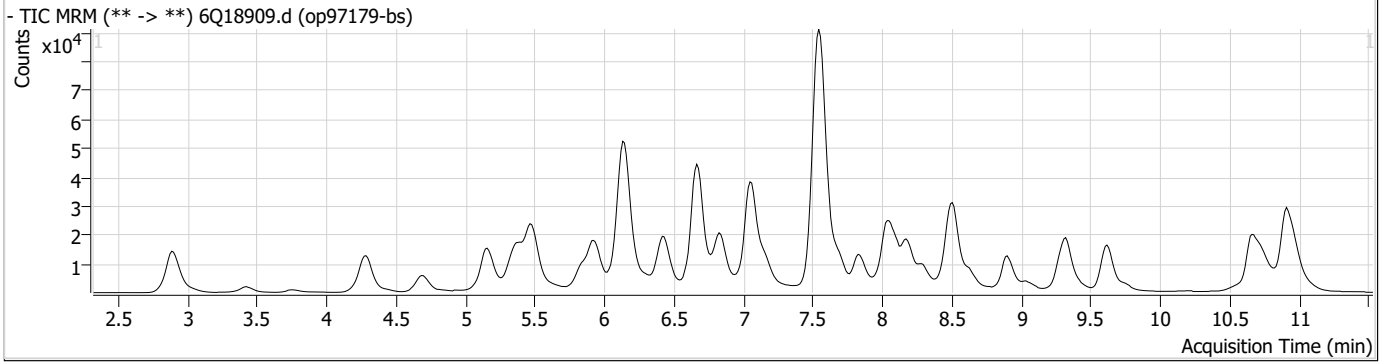
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.3.1

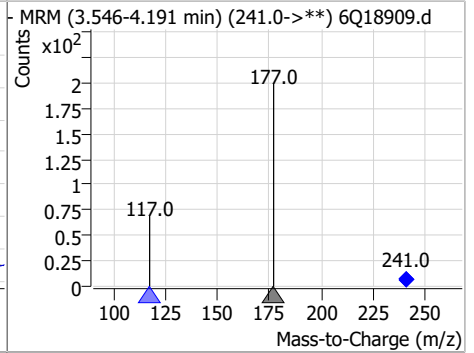
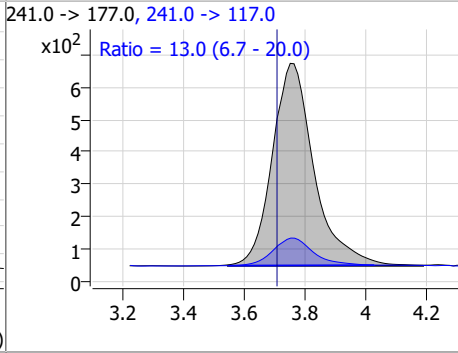
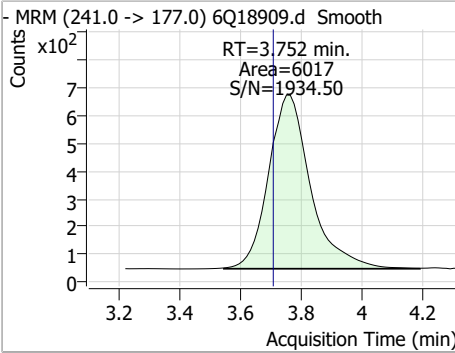
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Perfluorinated Compounds by LC/MS/MS

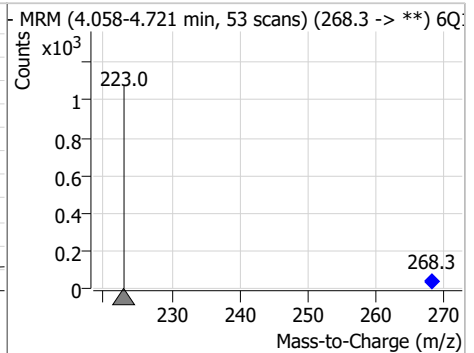
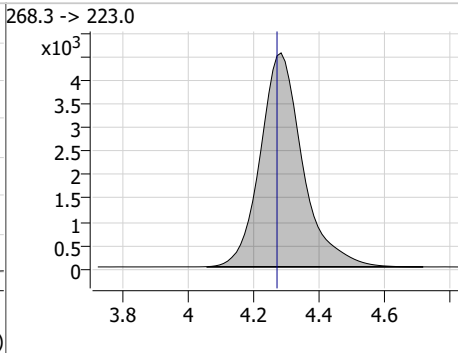
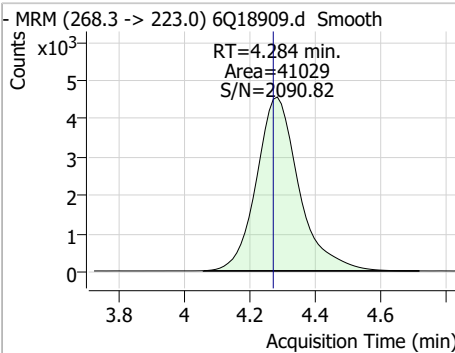


Perfluorinated Compounds by LC/MS/MS

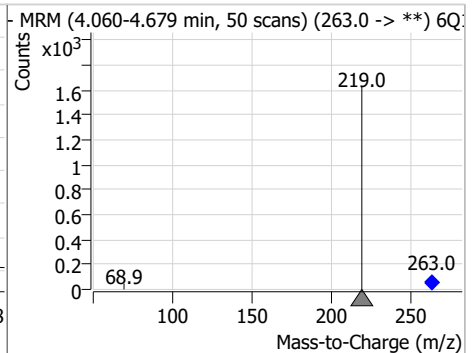
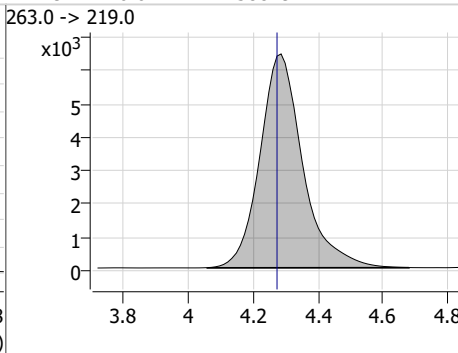
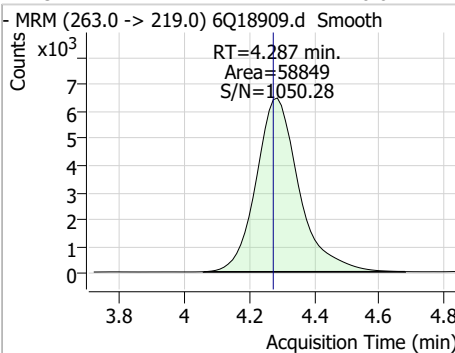
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	8.77	3.75	0.04	6017	241.0 -> 117.0	13.0	6.7	20.0



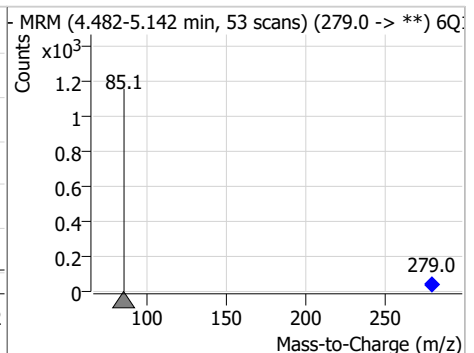
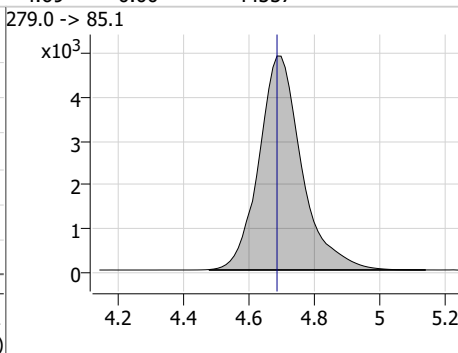
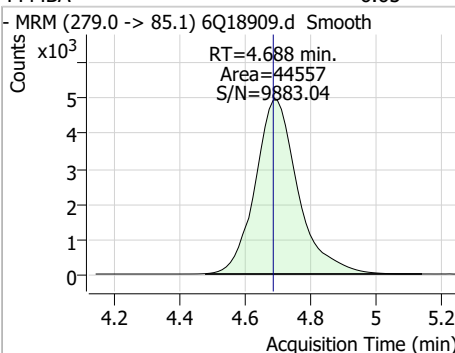
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.01	4.28	0.01	41029				



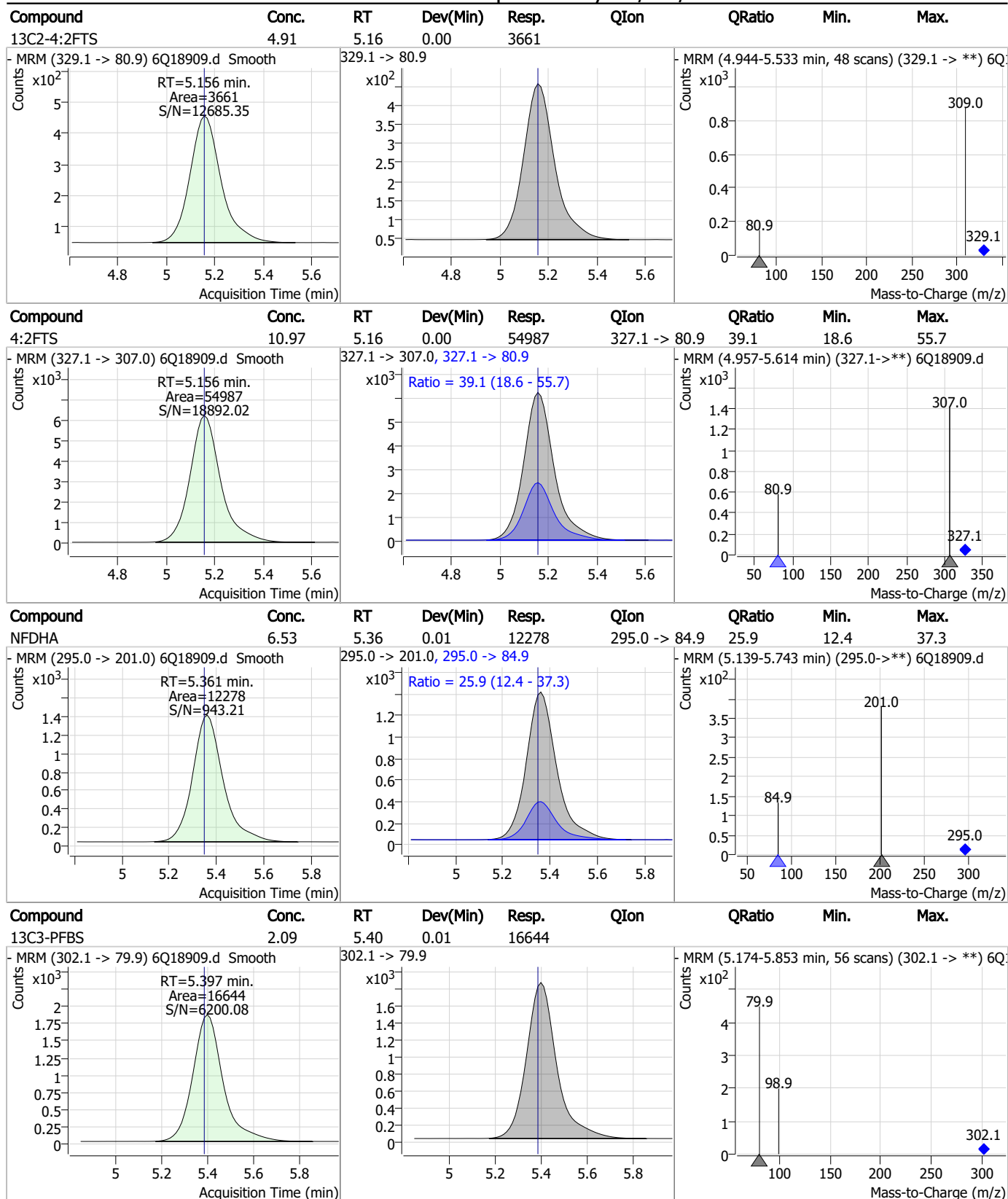
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	6.07	4.29	0.01	58849				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	6.65	4.69	0.00	44557				



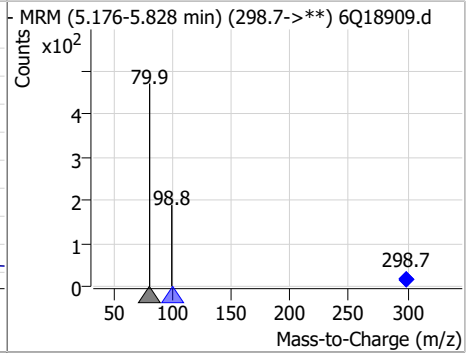
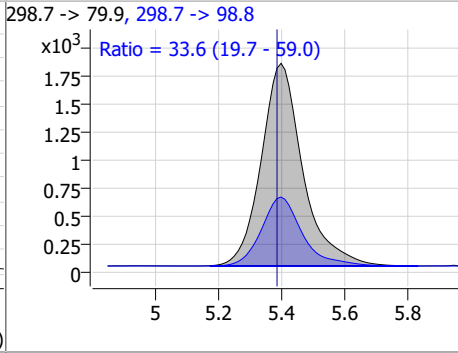
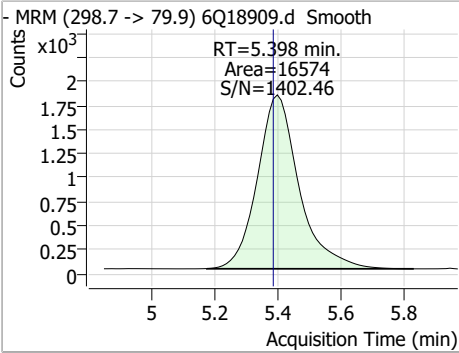
Perfluorinated Compounds by LC/MS/MS



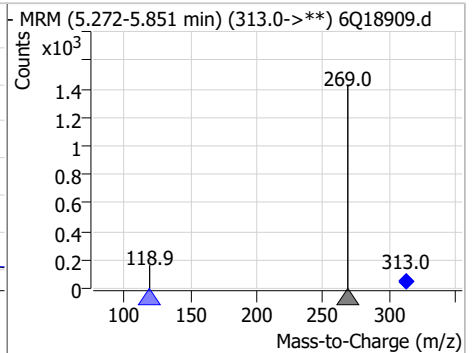
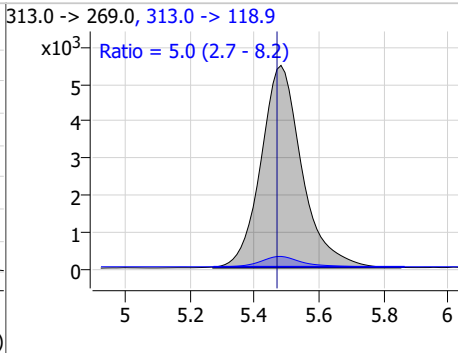
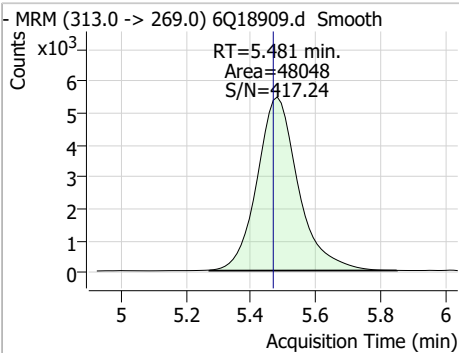
7.3.1
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Perfluorinated Compounds by LC/MS/MS

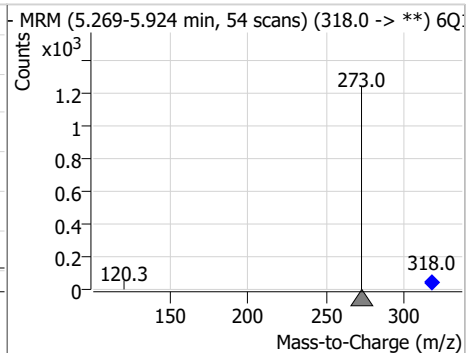
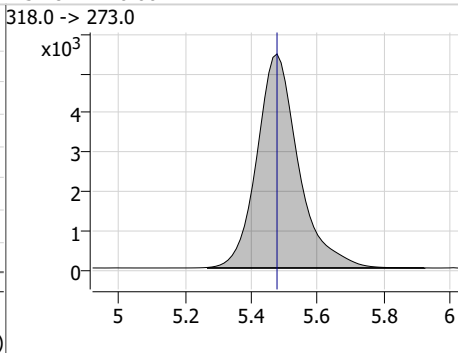
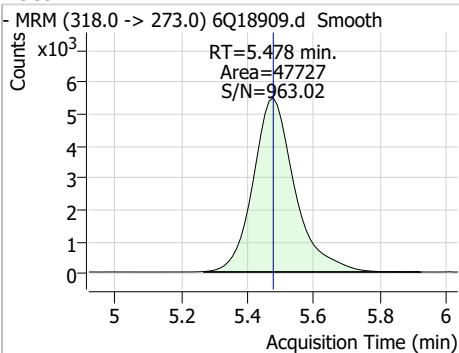
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.87	5.40	0.01	16574	298.7 -> 98.8	33.6	19.7	59.0



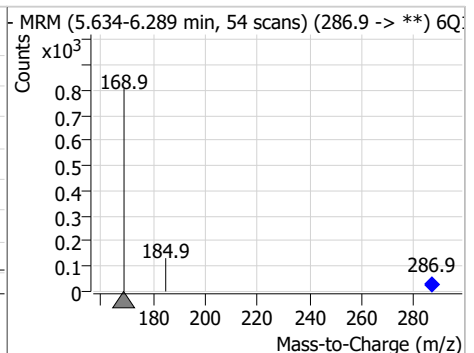
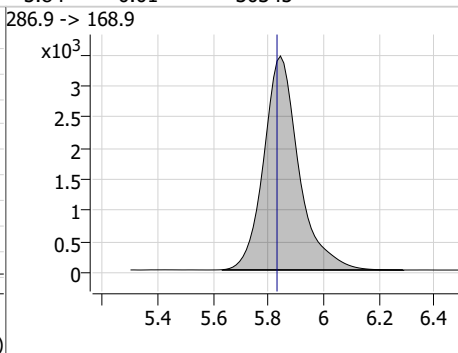
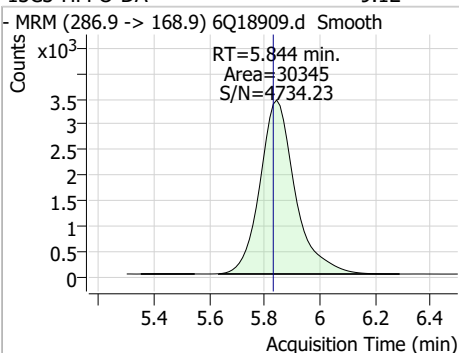
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	3.07	5.48	0.01	48048	313.0 -> 118.9	5.0	2.7	8.2



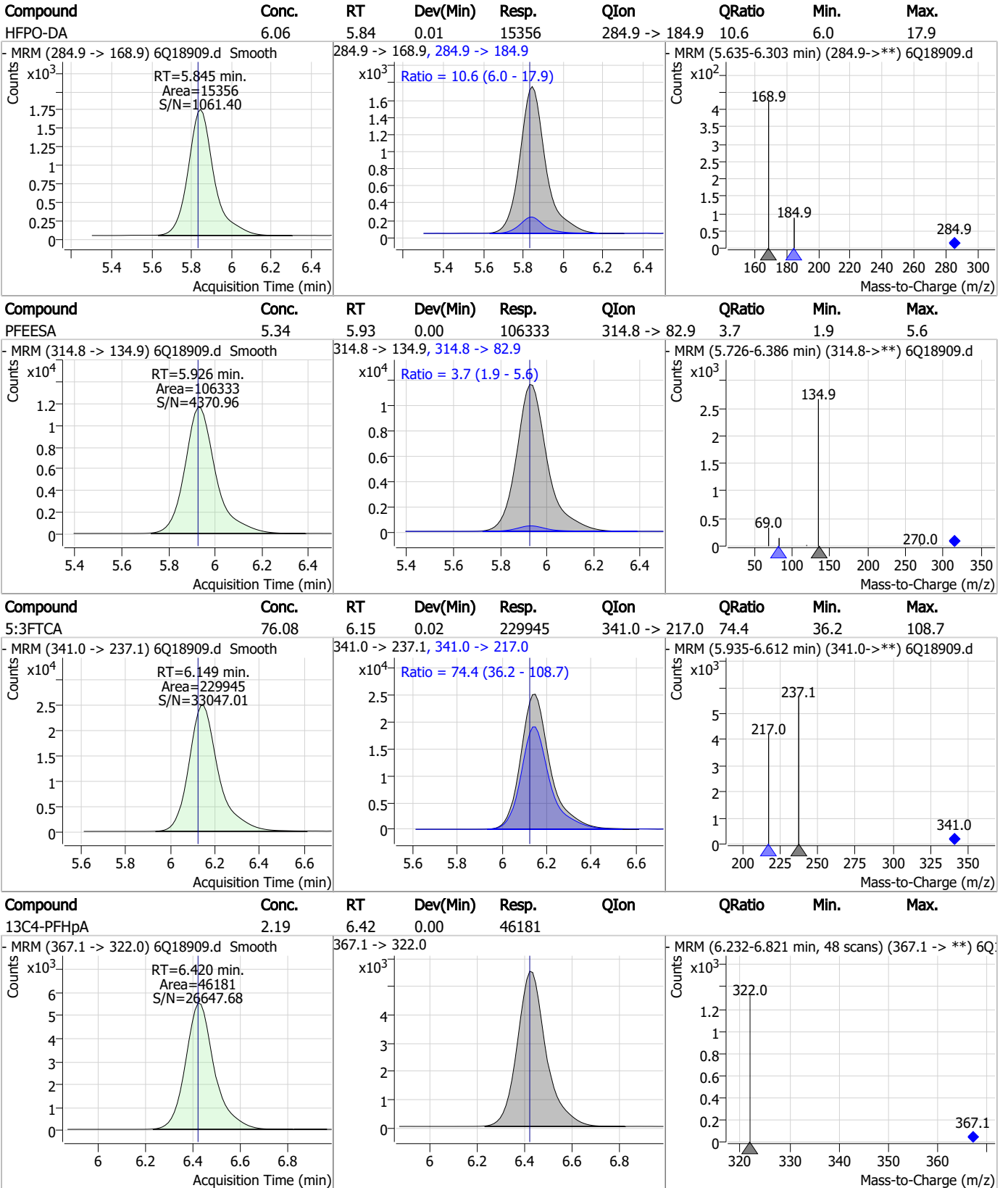
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.14	5.48	0.00	47727	318.0 -> 273.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.12	5.84	0.01	30345	286.9 -> 168.9			



Perfluorinated Compounds by LC/MS/MS

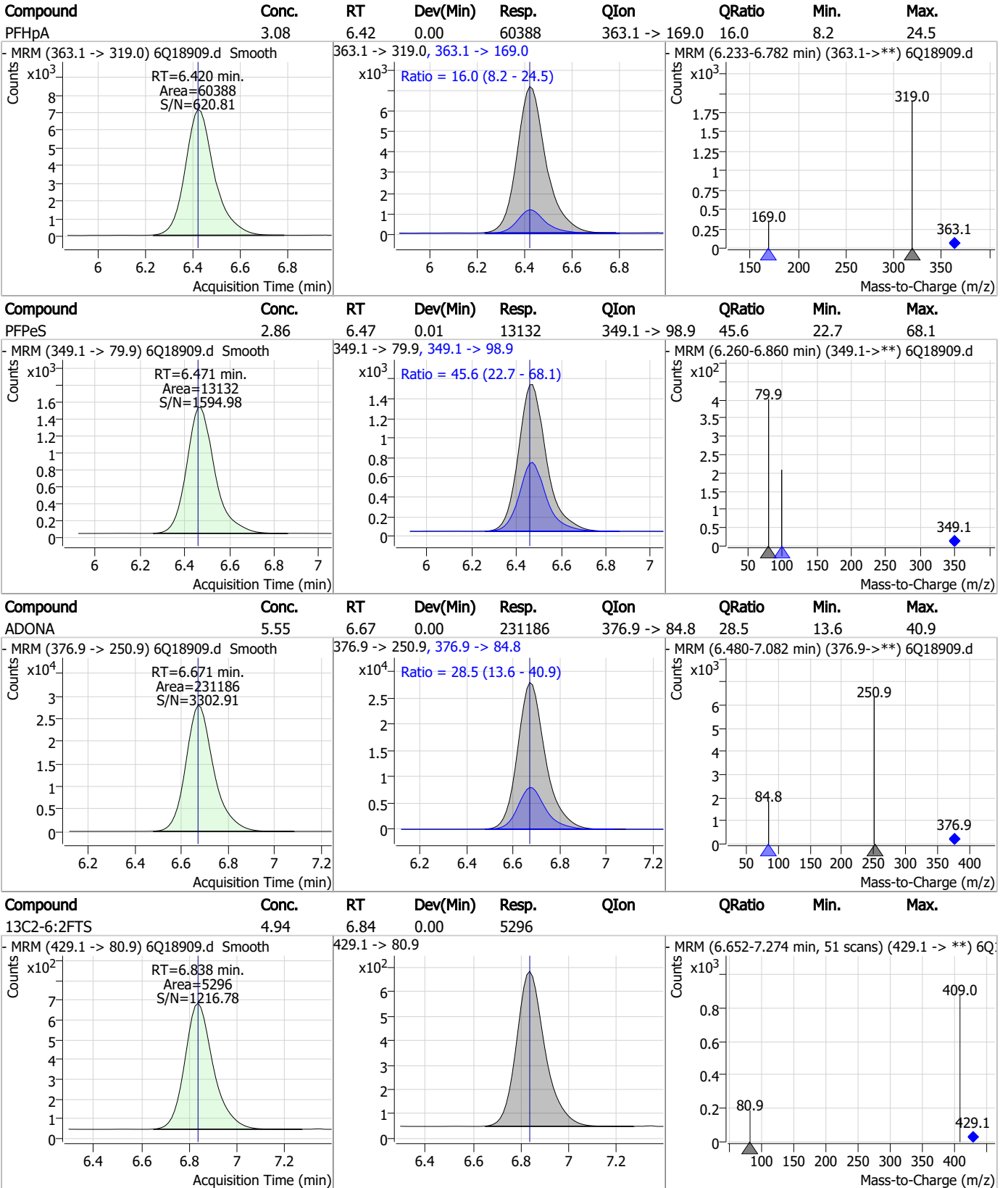


7.3.1

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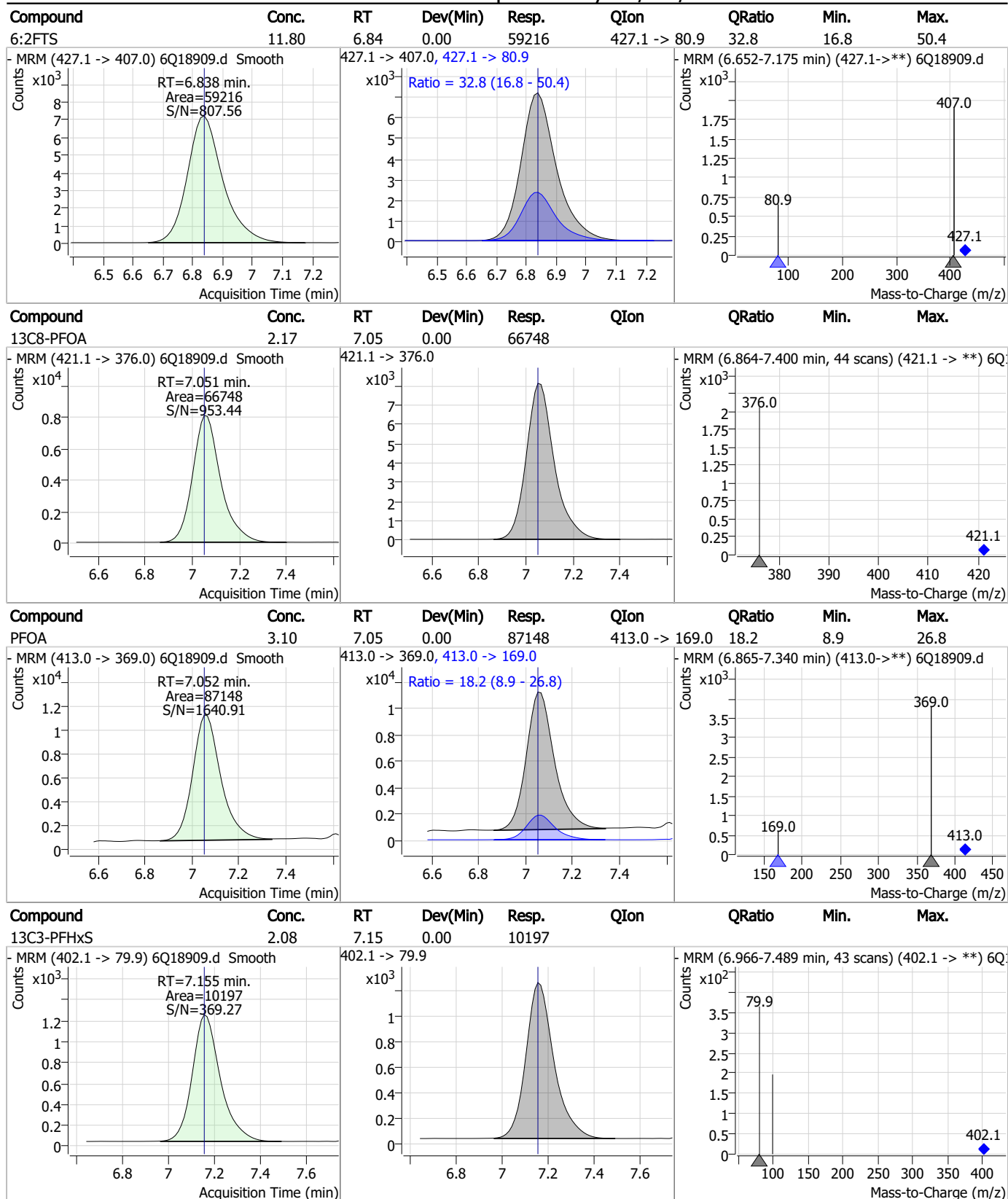
Perfluorinated Compounds by LC/MS/MS



7.3.1

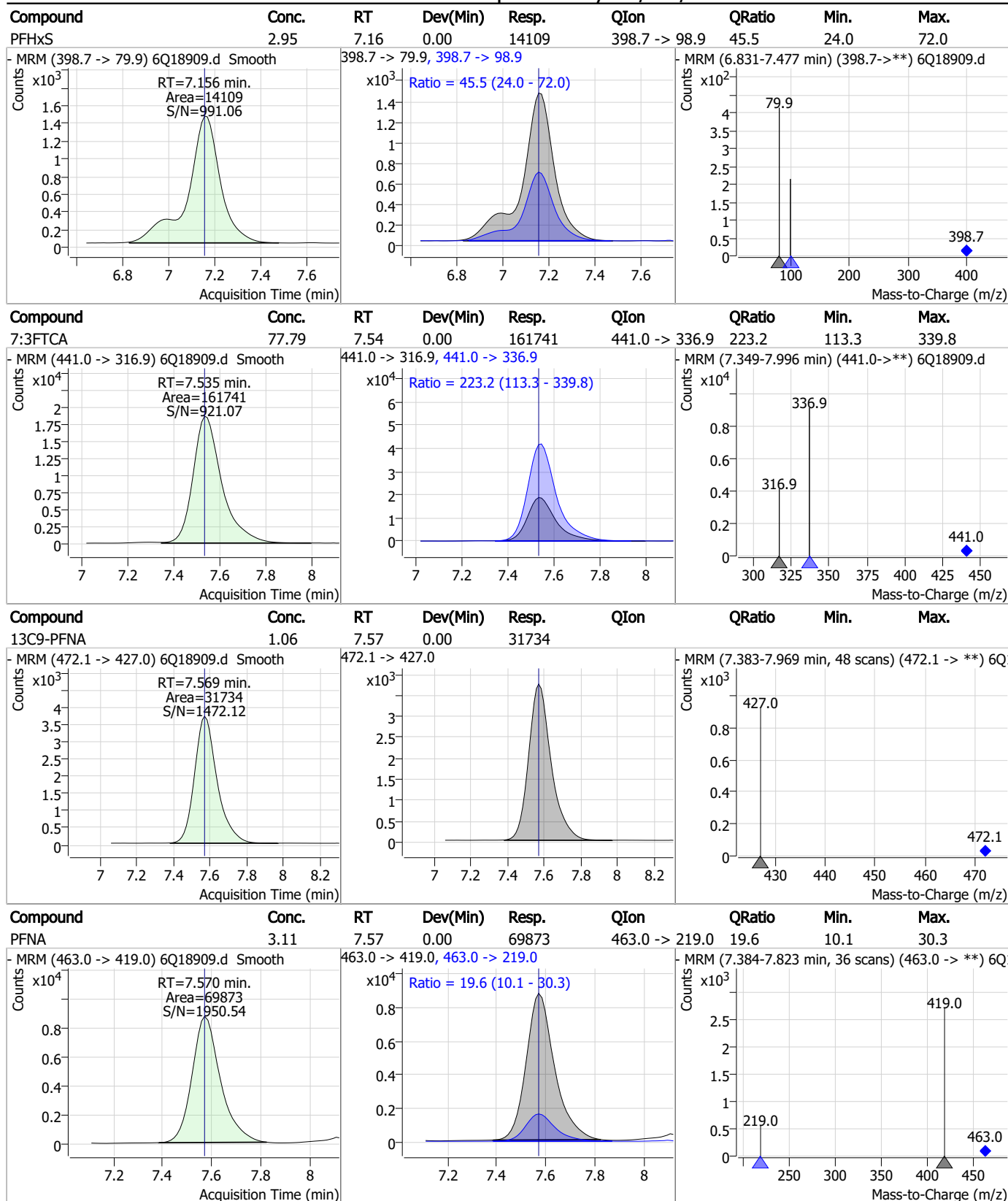
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Perfluorinated Compounds by LC/MS/MS



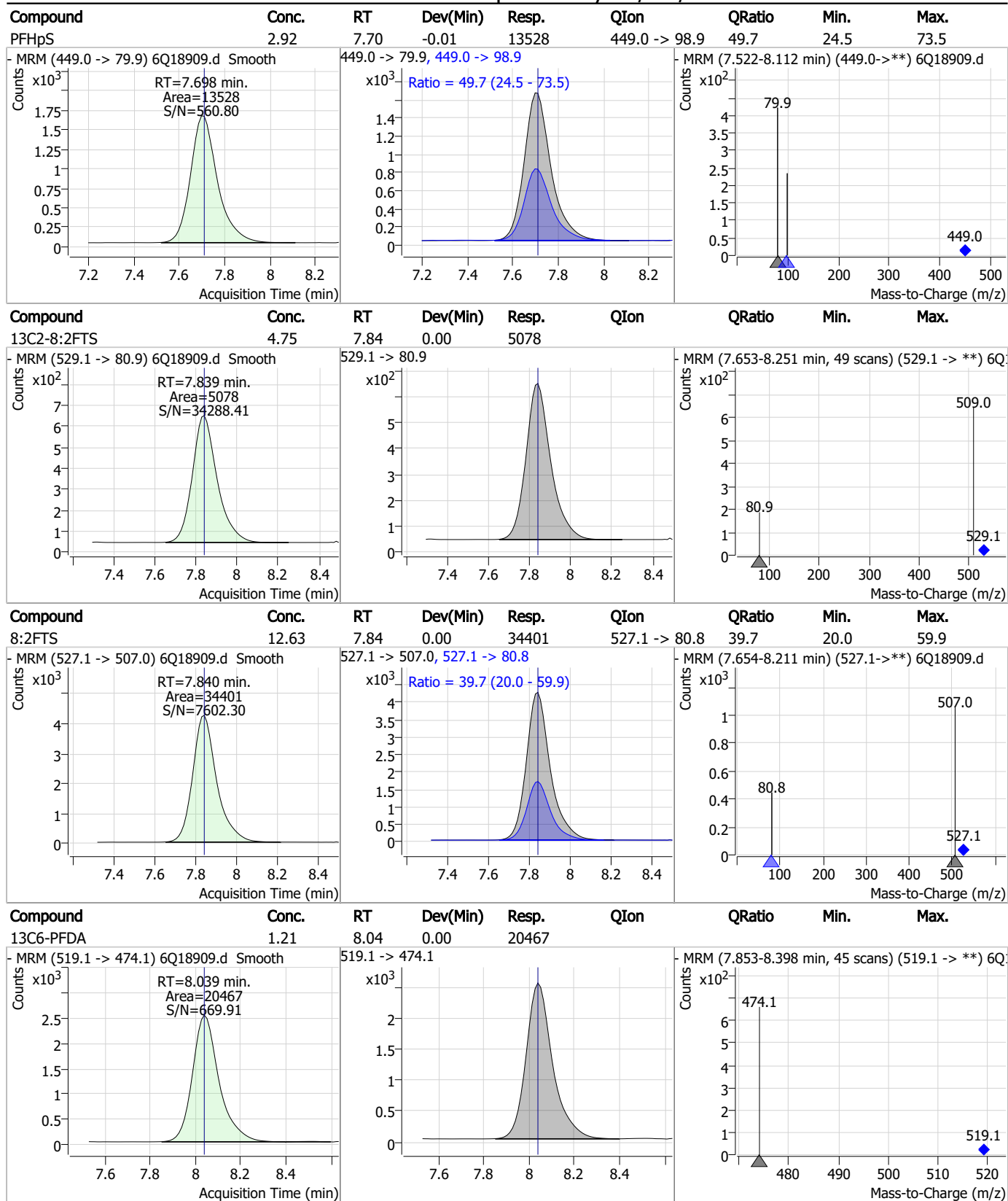
7.3.1
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Perfluorinated Compounds by LC/MS/MS



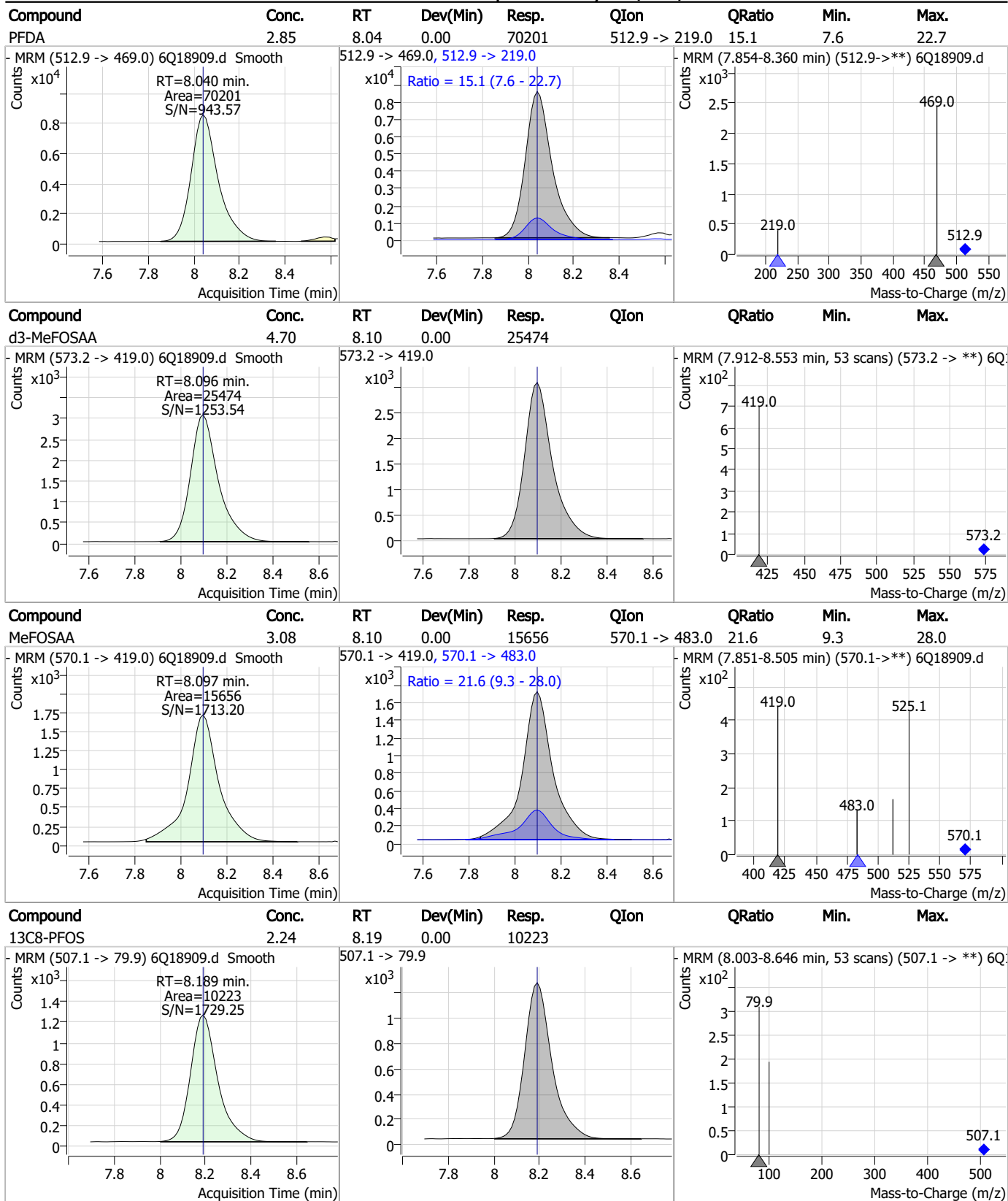
7.3.1
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Perfluorinated Compounds by LC/MS/MS



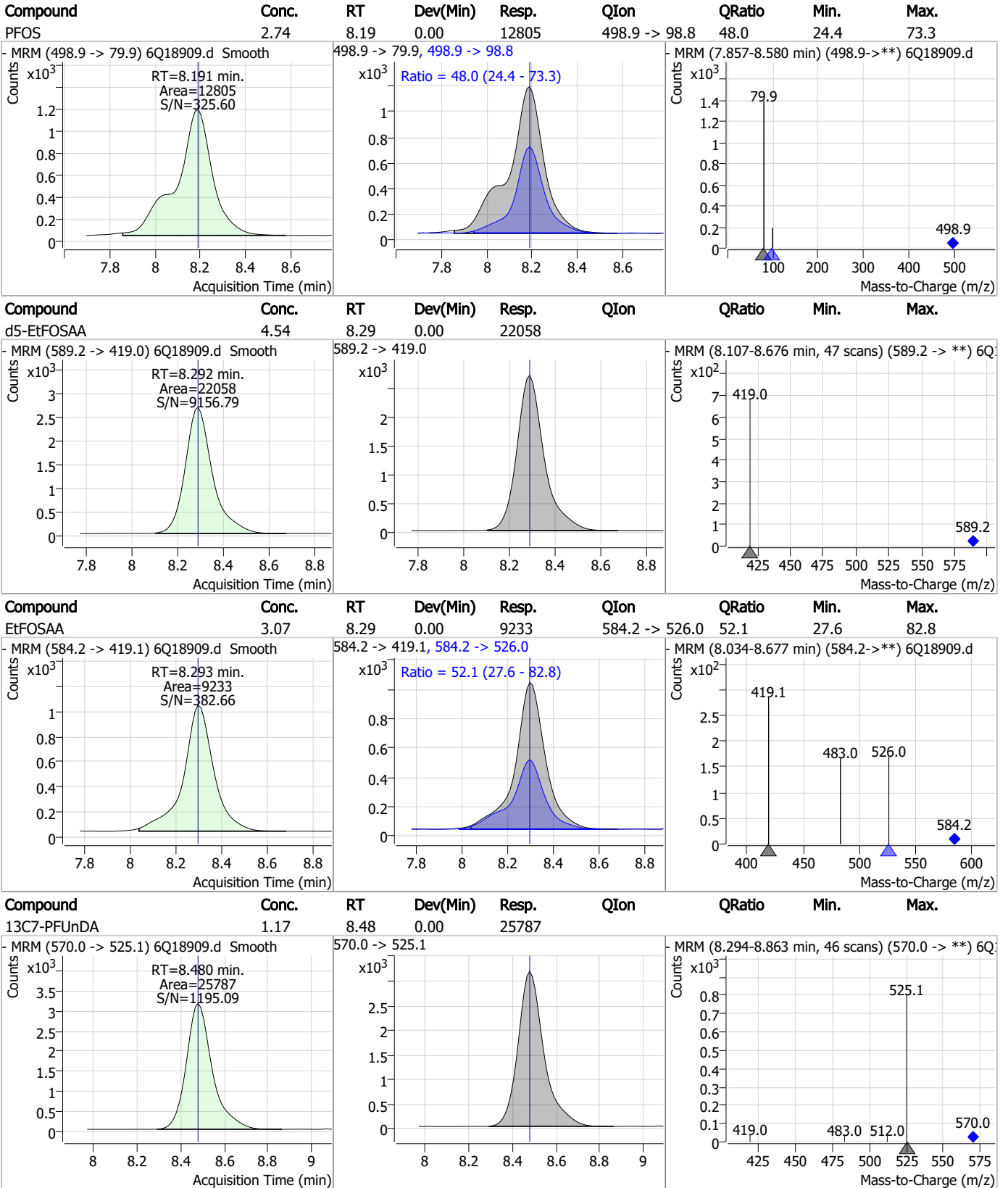
7.3.1
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Perfluorinated Compounds by LC/MS/MS



7.3.1
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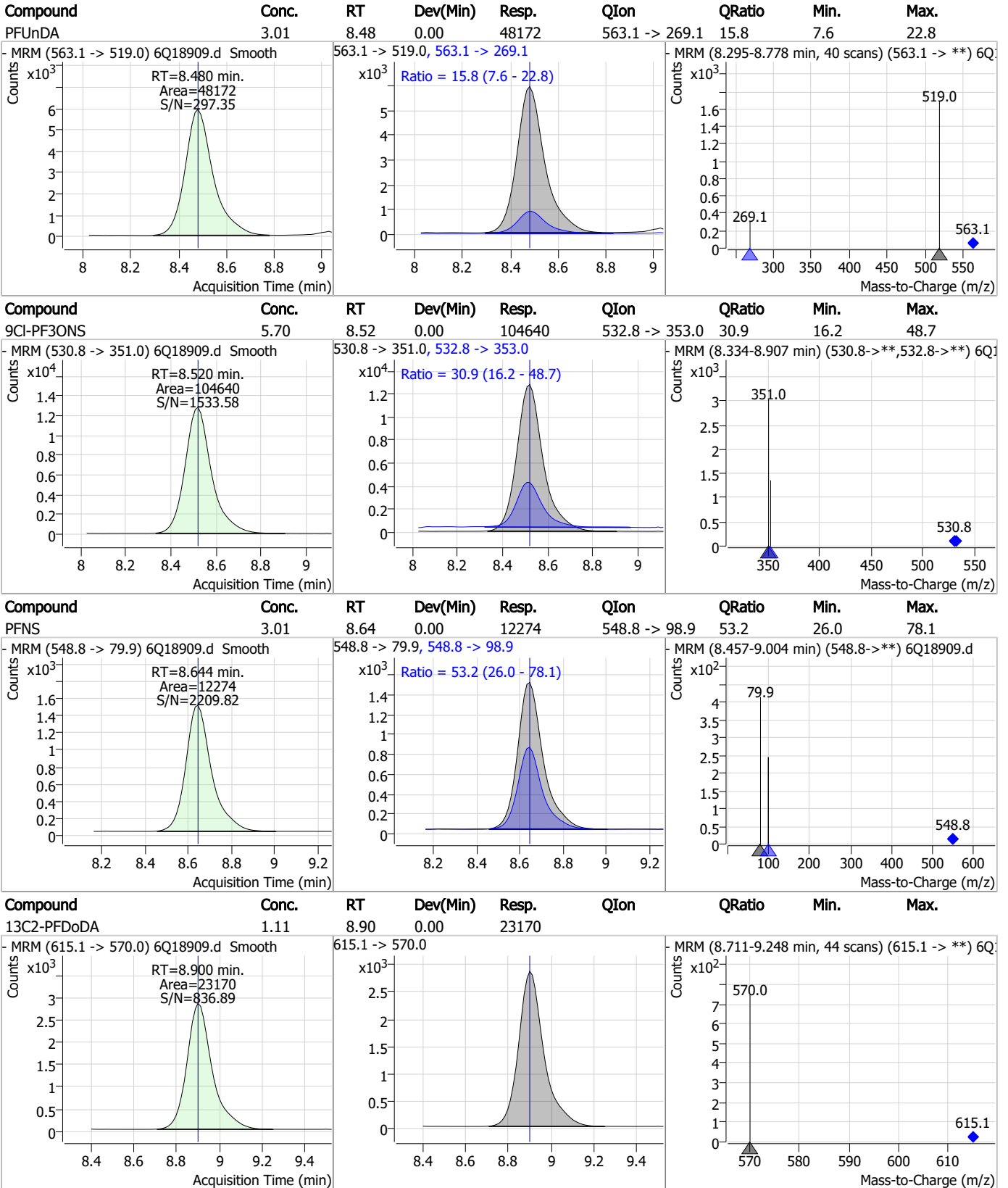
Perfluorinated Compounds by LC/MS/MS



7.3.1

7

Perfluorinated Compounds by LC/MS/MS

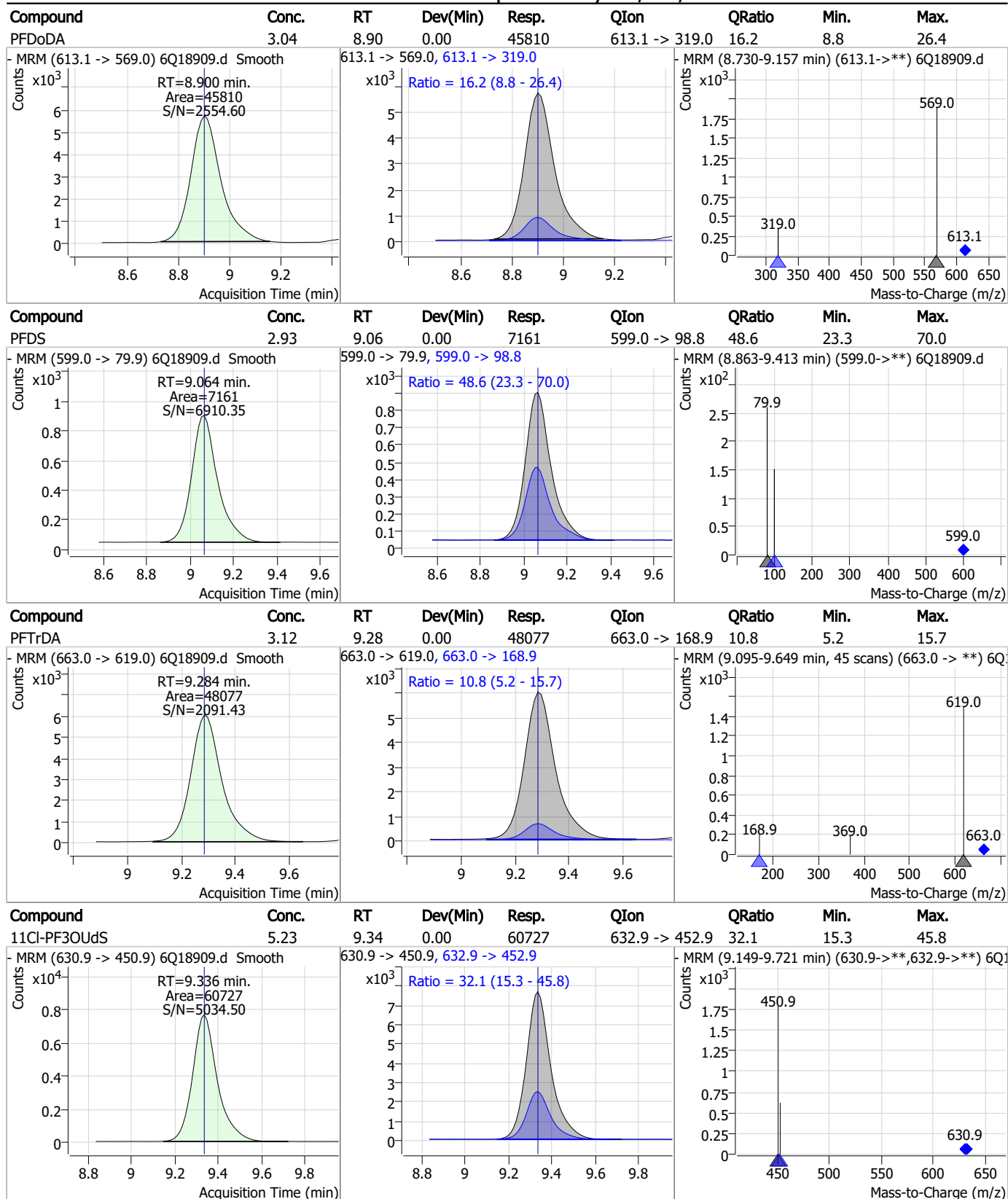


7.3.1

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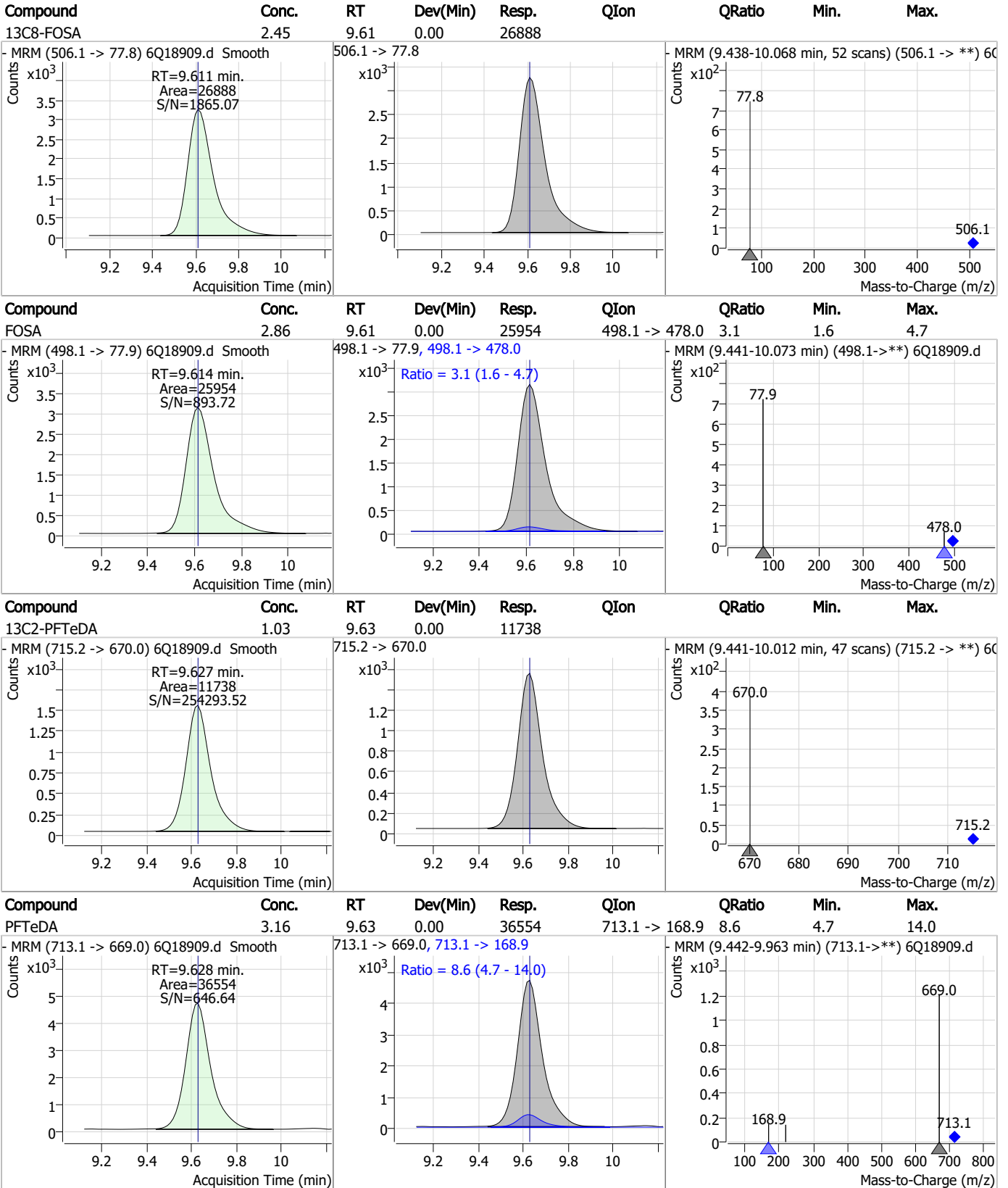
Perfluorinated Compounds by LC/MS/MS



7.3.1

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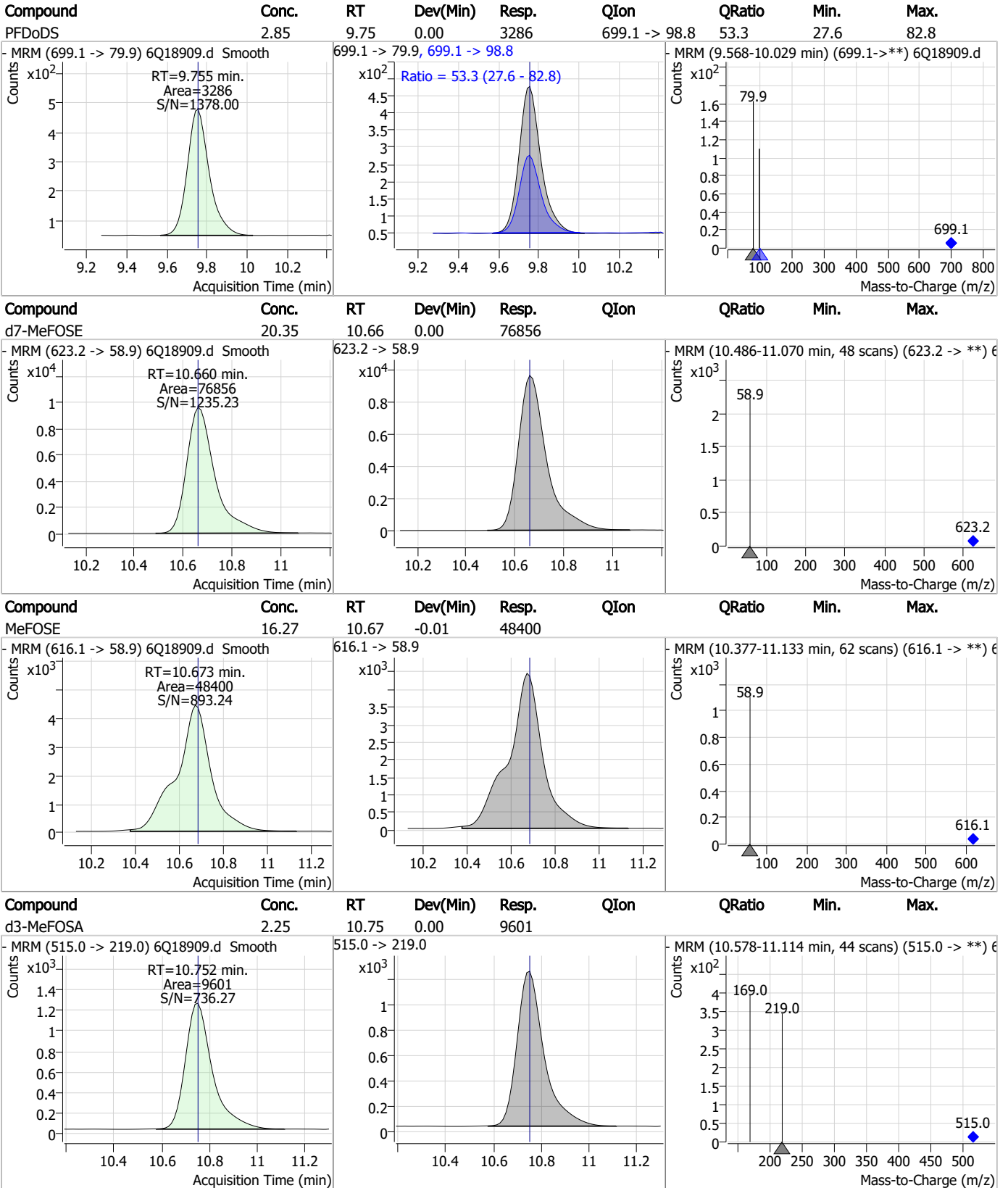
Perfluorinated Compounds by LC/MS/MS



7.3.1

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Perfluorinated Compounds by LC/MS/MS

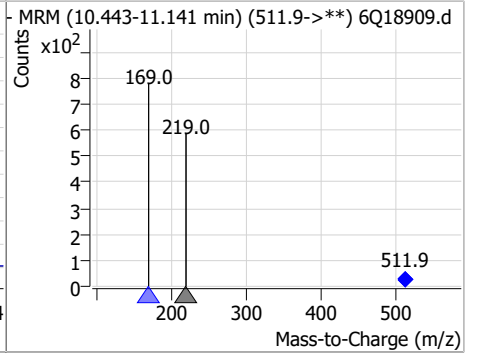
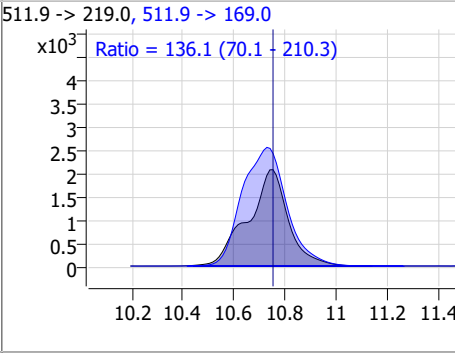
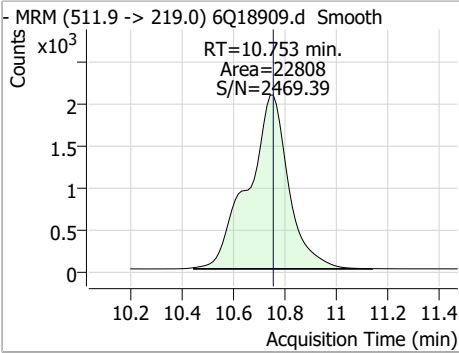


7.3.1

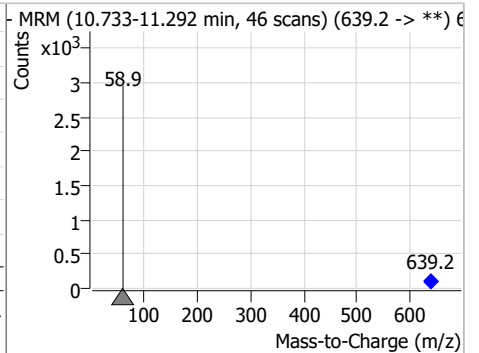
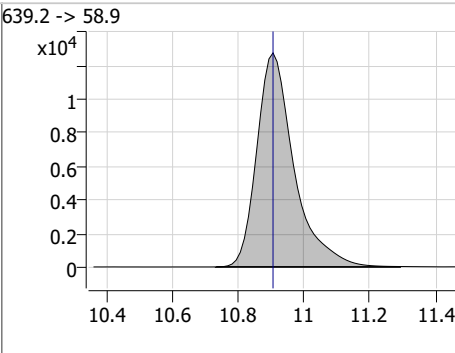
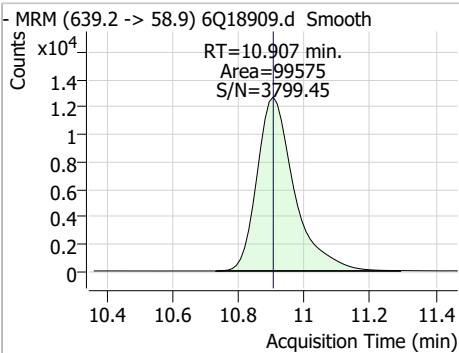
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Perfluorinated Compounds by LC/MS/MS

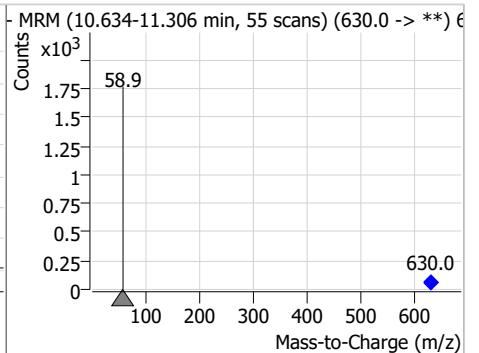
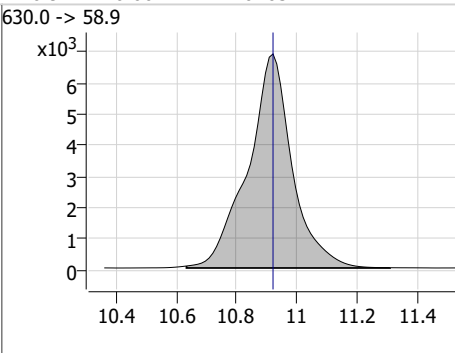
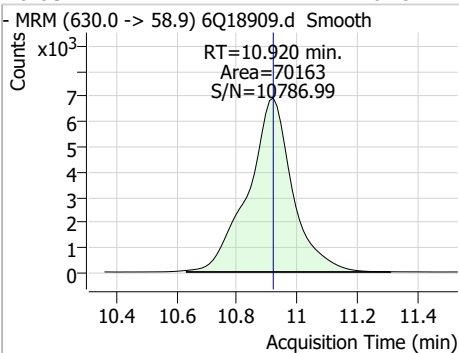
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	6.24	10.75	0.00	22808	511.9 -> 169.0	136.1	70.1	210.3



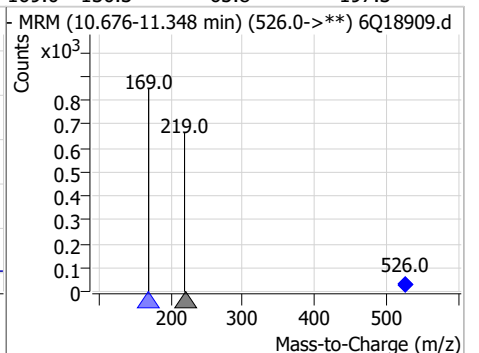
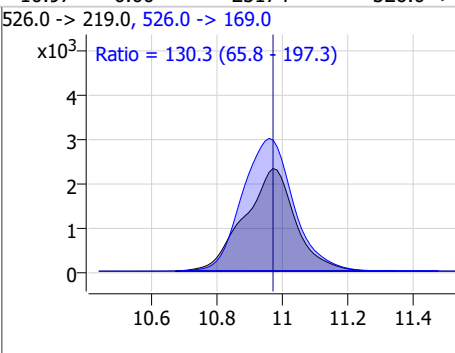
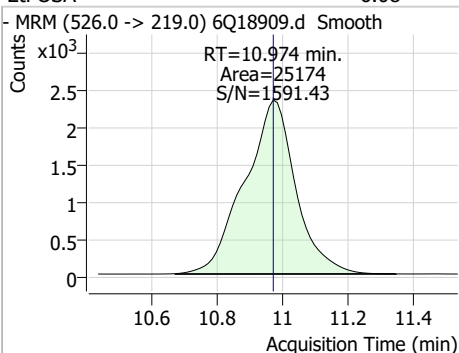
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	20.70	10.91	0.00	99575				



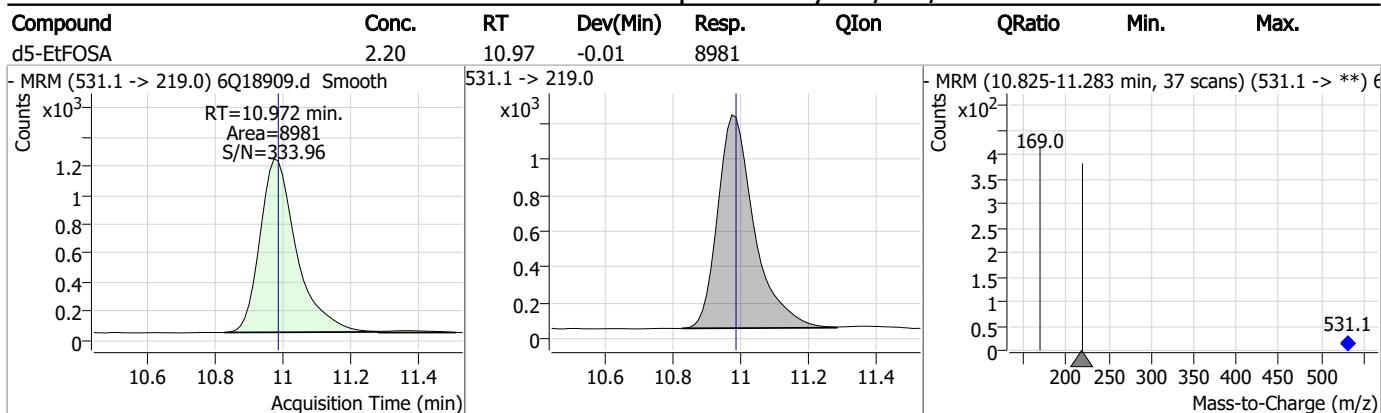
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	16.15	10.92	0.00	70163				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	6.08	10.97	0.00	25174	526.0 -> 169.0	130.3	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



7.3.1
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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18910.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 11:40:34 PM
 Sample Name : op97179-llbs:3
 Vial : P6-A2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97179,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.888	216.8 -> 171.9	154067	10.00 µg/L	0.028
M5-PFPeA	4.272	268.3 -> 223.0	49846	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	54757	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	50227	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	78189	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	36254	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	21578	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	27974	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	24471	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	11799	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	27677	2.50 µg/L	0.000
M3-PFBS	5.397	302.1 -> 79.9	19687	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	12287	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	11877	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	3939	5.00 µg/L	-0.012
M2-6:2FTS	6.838	429.1 -> 80.9	5842	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5596	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	29785	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	33020	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	25371	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	87277	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	124490	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	8859	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	9414	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	15143	2.50 µg/L	0.000
13C3-PFBA	2.891	216.0 -> 172.0	64215	5.00 µg/L	0.027
18O2-PFHxS	7.154	403.0 -> 83.9	8930	2.50 µg/L	0.000
13C4-PFOA	7.065	417.1 -> 372.0	82371	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	30066	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	45922	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	51999	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	3939	5.36 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.3%		
13C2-6:2FTS	6.838	429.1 -> 80.9	5842	5.54 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.7%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5596	5.32 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.5%		
13C2-PFDoDA	8.900	615.1 -> 570.0	24471	1.11 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 89.1%		
13C2-PFTeDA	9.627	715.2 -> 670.0	11799	0.98 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 78.4%		
13C3-PFBS	5.397	302.1 -> 79.9	19687	2.51 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.3%		
13C3-PFHxS	7.155	402.1 -> 79.9	12287	2.55 µg/L	0.000

7.3.2
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C4-PFBA	2.888	216.8 -> 171.9	154067	10.11 µg/L	0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C4-PFHpA	6.420	367.1 -> 322.0	50227	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C5-PFHxA	5.478	318.0 -> 273.0	54757	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C5-PFPeA	4.272	268.3 -> 223.0	49846	4.94 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C6-PFDA	8.039	519.1 -> 474.1	21578	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	27974	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.0%	
13C8-FOSA	9.611	506.1 -> 77.8	27677	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C8-PFOA	7.051	421.1 -> 376.0	78189	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C8-PFOS	8.189	507.1 -> 79.9	11877	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C9-PFNA	7.569	472.1 -> 427.0	36254	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	29785	5.46 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.2%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	33020	10.08 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
d3-MeFOSA	10.752	515.0 -> 219.0	9414	2.19 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.8%	
d5-EtFOSAA	8.292	589.2 -> 419.0	25371	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.8%	
d7-MeFOSE	10.660	623.2 -> 58.9	87277	22.96 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.8%	
d9-EtFOSE	10.907	639.2 -> 58.9	124490	25.72 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.9%	
d5-EtFOSA	10.984	531.1 -> 219.0	8859	2.15 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 86.1%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	18138	3.36 µg/L	100
		327.1 -> 80.9	6730		
6:2FTS	6.838	427.1 -> 407.0	19434	3.51 µg/L	99
		427.1 -> 80.9	6595		
8:2FTS	7.840	527.1 -> 507.0	11390	3.80 µg/L	94
		527.1 -> 80.8	4150		
EtFOSAA	8.293	584.2 -> 419.1	3137	0.91 µg/L	94
		584.2 -> 526.0	1599		
FOSA	9.614	498.1 -> 77.9	8353	0.90 µg/L	99
		498.1 -> 478.0	244		
MeFOSAA	8.097	570.1 -> 419.0	5208	0.88 µg/L	97
		570.1 -> 483.0	1038		
PFBA	2.882	212.8 -> 168.9	18007	3.59 µg/L	100
PFBS	5.398	298.7 -> 79.9	5471	0.80 µg/L	97
		298.7 -> 98.8	2249		
PFDA	8.040	512.9 -> 469.0	21209	0.82 µg/L	97
		512.9 -> 219.0	3523		
PFDoDA	8.900	613.1 -> 569.0	14539	0.91 µg/L	95
		613.1 -> 319.0	2223		
PFDS	9.064	599.0 -> 79.9	2249	0.79 µg/L	94

7.3.2
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	1137		
PFHpA	6.420	363.1 -> 319.0	20112	0.94 µg/L	99
		363.1 -> 169.0	3190		
PFHpS	7.710	449.0 -> 79.9	4652	0.86 µg/L	99
		449.0 -> 98.9	2296		
PFHxA	5.469	313.0 -> 269.0	17231	0.96 µg/L	98
		313.0 -> 118.9	841		
PFHxS	7.156	398.7 -> 79.9	4589	0.80 µg/L	97
		398.7 -> 98.9	2292		
PFNA	7.570	463.0 -> 419.0	23964	0.93 µg/L	94
		463.0 -> 219.0	4226		
PFNS	8.644	548.8 -> 79.9	3925	0.83 µg/L	99
		548.8 -> 98.9	2010		
PFOA	7.066	413.0 -> 369.0	27621	0.84 µg/L	96
		413.0 -> 169.0	5461		
PFOS	8.191	498.9 -> 79.9	4586	0.84 µg/L	93
		498.9 -> 98.8	2012		
PFPeA	4.274	263.0 -> 219.0	20850	1.77 µg/L	100
PFPeS	6.459	349.1 -> 79.9	4476	0.81 µg/L	96
		349.1 -> 98.9	2145		
PFTeDA	9.628	713.1 -> 669.0	10653	0.92 µg/L	100
		713.1 -> 168.9	981		
PFTrDA	9.284	663.0 -> 619.0	13595	0.84 µg/L	98
		663.0 -> 168.9	1542		
PFUnDA	8.480	563.1 -> 519.0	12728	0.73 µg/L	86
		563.1 -> 269.1	2674		
11CI-PF3OUdS	9.336	630.9 -> 450.9	19240	1.52 µg/L	98
		632.9 -> 452.9	6078		
9CI-PF3ONS	8.520	530.8 -> 351.0	32929	1.65 µg/L	91
		532.8 -> 353.0	12248		
ADONA	6.671	376.9 -> 250.9	75672	1.67 µg/L	98
		376.9 -> 84.8	21256		
HFPO-DA	5.845	284.9 -> 168.9	4873	1.77 µg/L	99
		284.9 -> 184.9	555		
3:3FTCA	3.752	241.0 -> 177.0	3779	4.53 µg/L	98
		241.0 -> 117.0	473		
5:3FTCA	6.137	341.0 -> 237.1	77252	22.28 µg/L	100
		341.0 -> 217.0	56098		
7:3FTCA	7.535	441.0 -> 316.9	53225	22.31 µg/L	93
		441.0 -> 336.9	114421		
EtFOSA	10.974	526.0 -> 219.0	7165	1.76 µg/L	98
		526.0 -> 169.0	9242		
EtFOSE	10.920	630.0 -> 58.9	22585	4.16 µg/L	100
MeFOSA	10.741	511.9 -> 219.0	6456	1.80 µg/L	93
		511.9 -> 169.0	8536		
MeFOSE	10.673	616.1 -> 58.9	14687	4.35 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	971	0.72 µg/L	99
		699.1 -> 98.8	546		
NFDHA	5.361	295.0 -> 201.0	4006	1.86 µg/L	96
		295.0 -> 84.9	1081		
PFMBA	4.688	279.0 -> 85.1	14795	1.82 µg/L	100
PFMPA	3.426	229.0 -> 84.9	11473	1.85 µg/L	100
PFEESA	5.926	314.8 -> 134.9	36016	1.58 µg/L	100
		314.8 -> 82.9	1357		

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

7.3.2
7

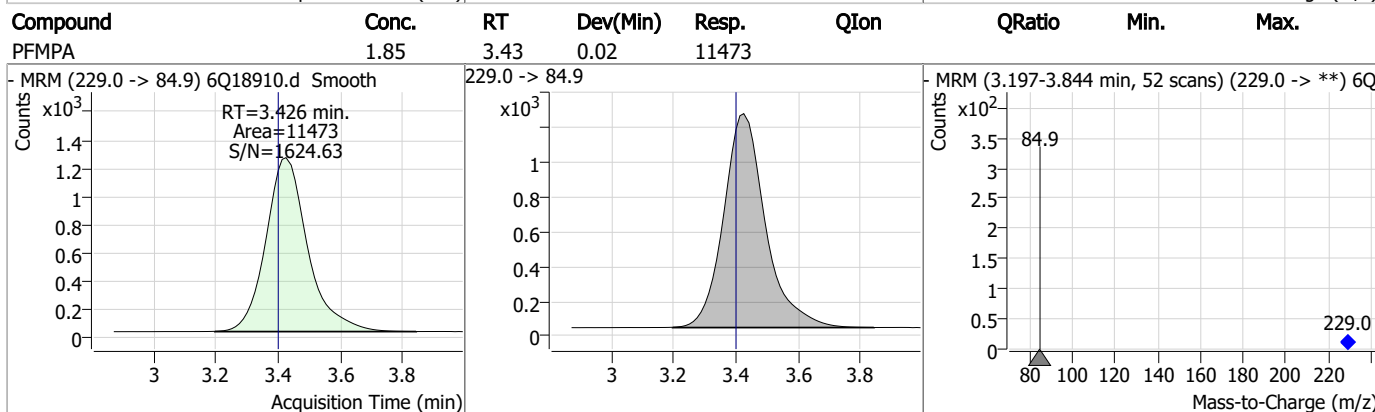
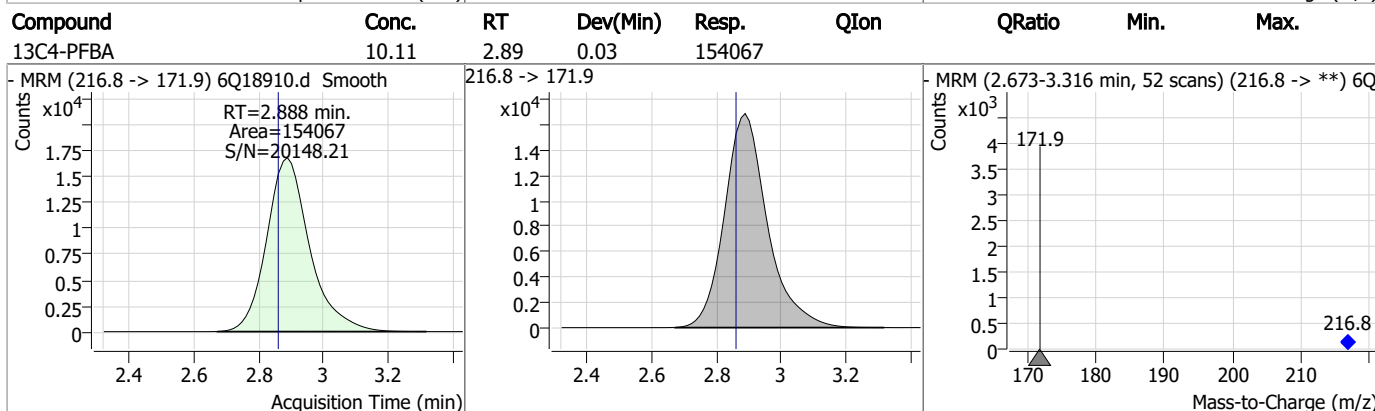
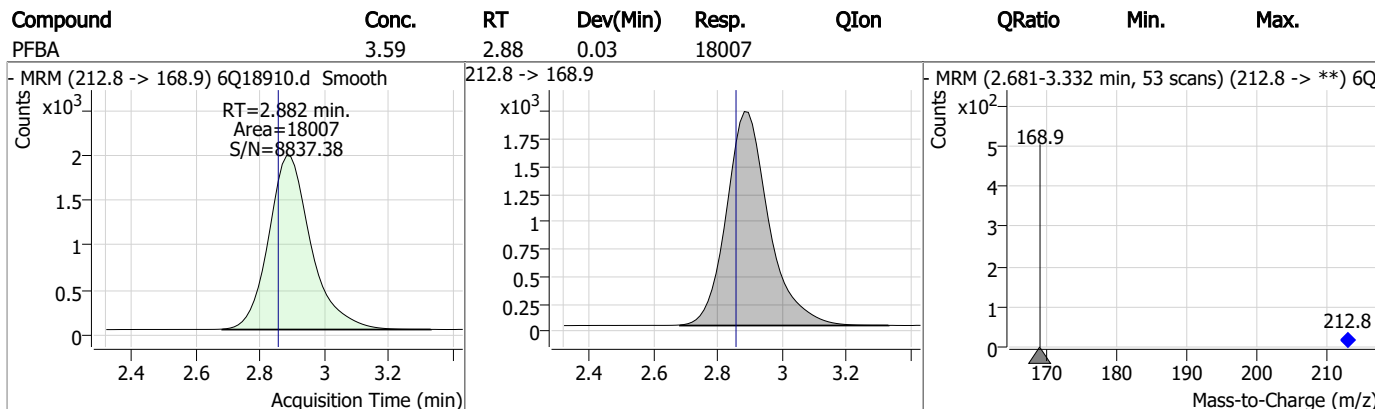
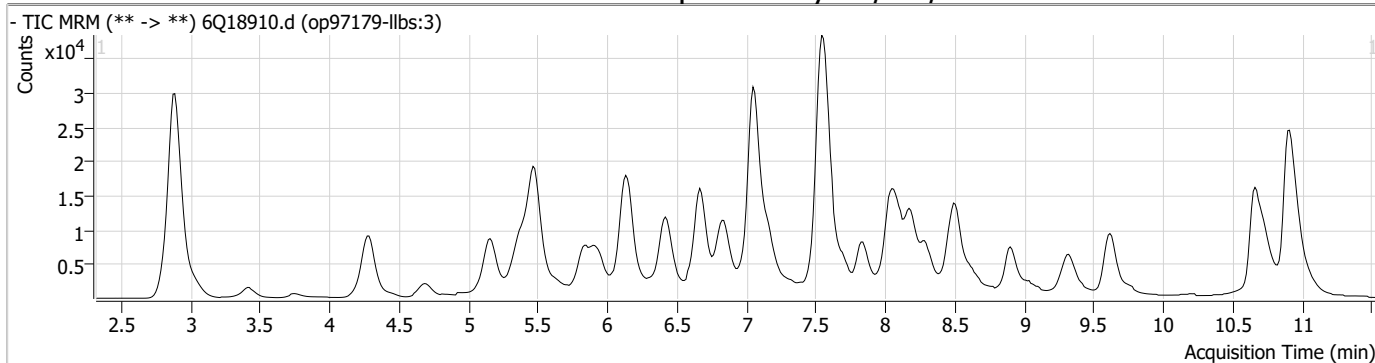
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.3.2

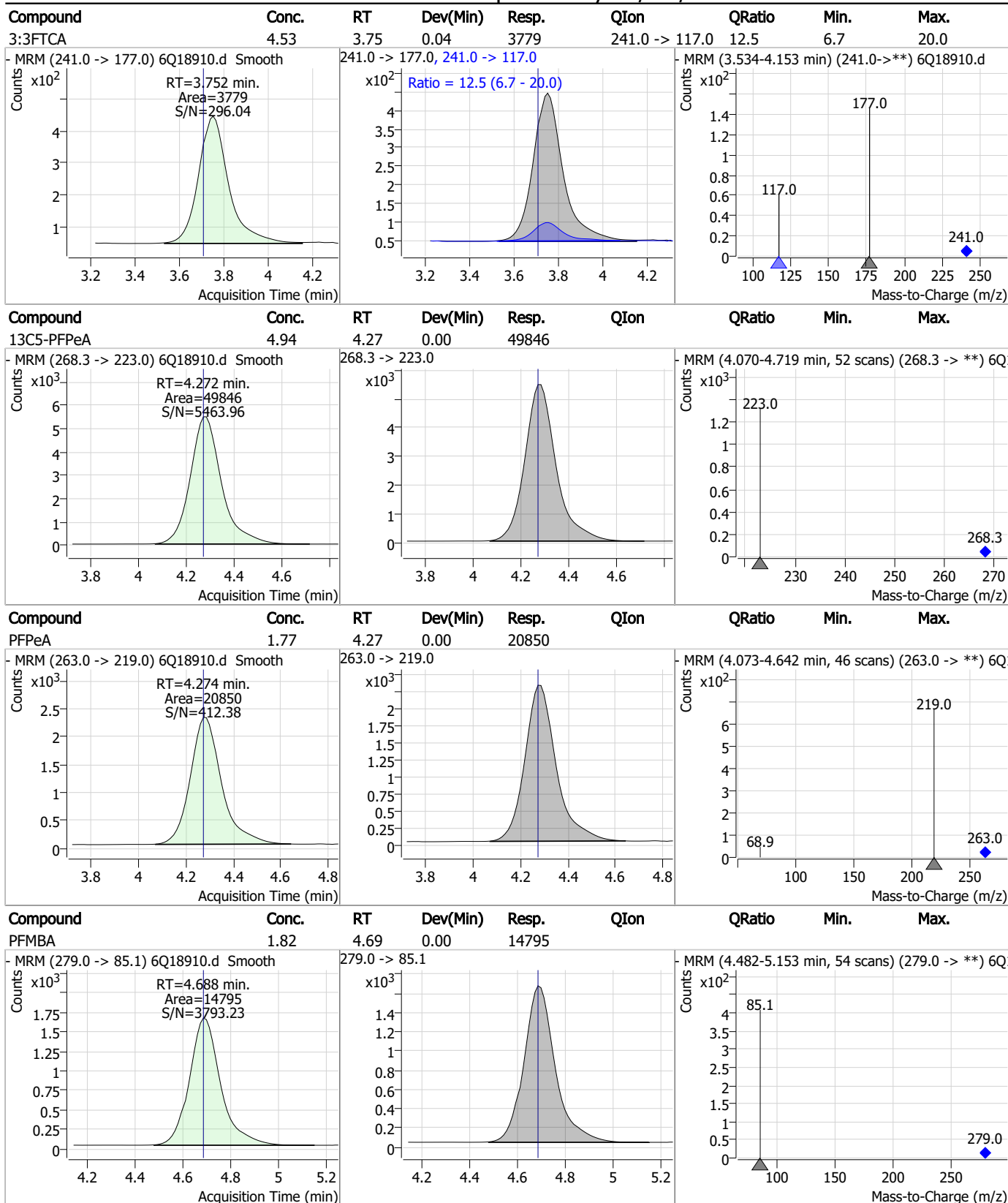
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Perfluorinated Compounds by LC/MS/MS



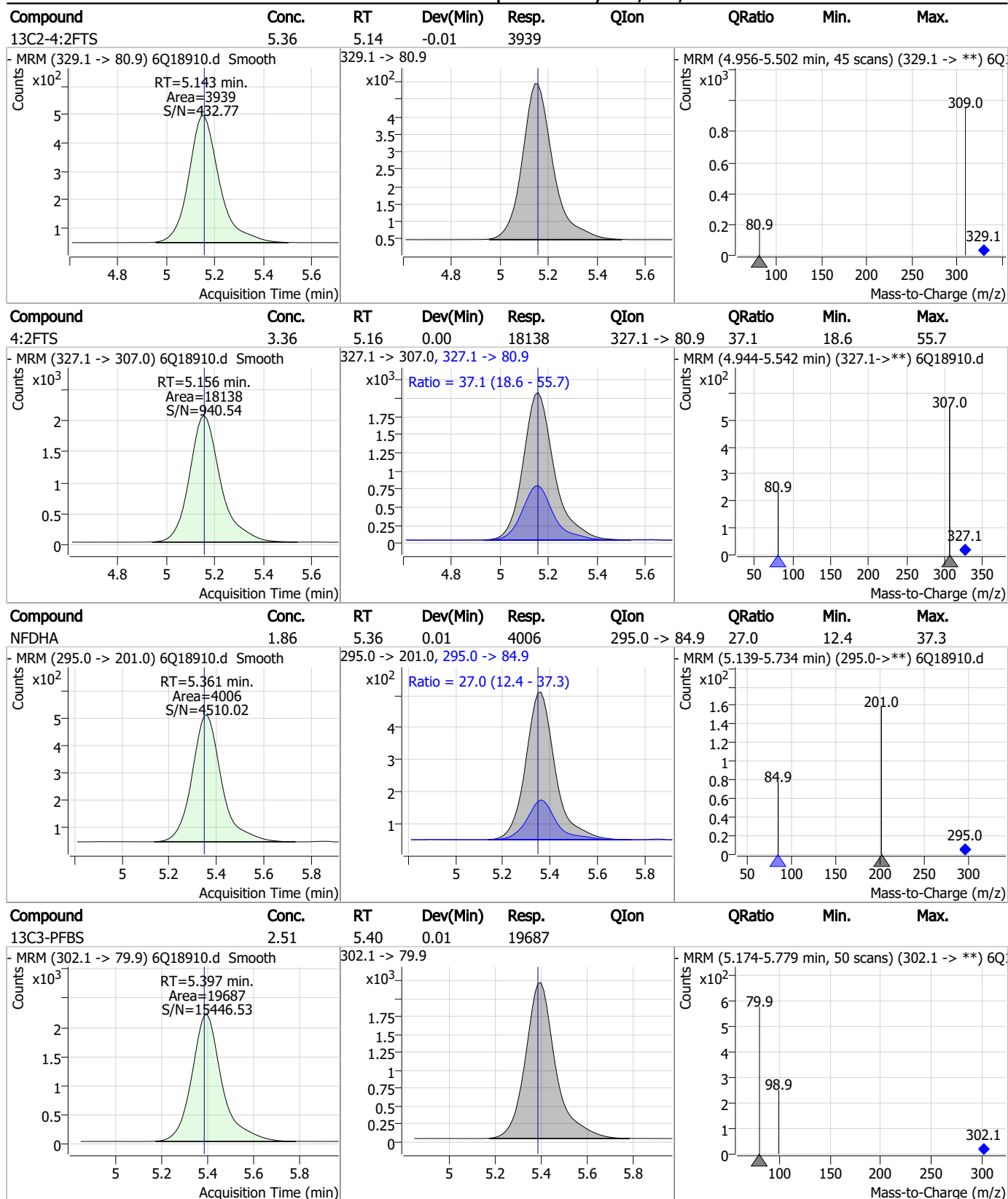
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Perfluorinated Compounds by LC/MS/MS



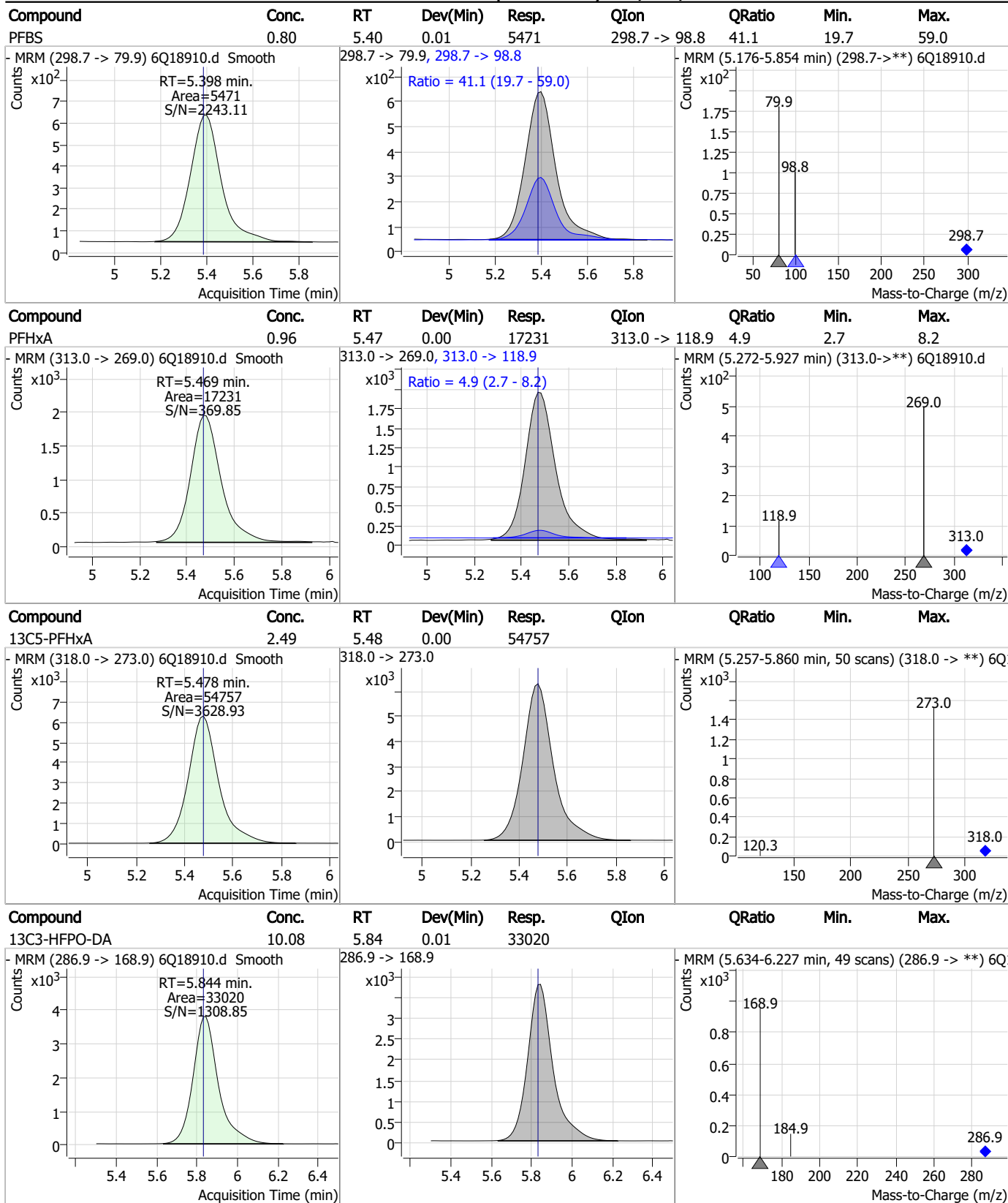
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Perfluorinated Compounds by LC/MS/MS



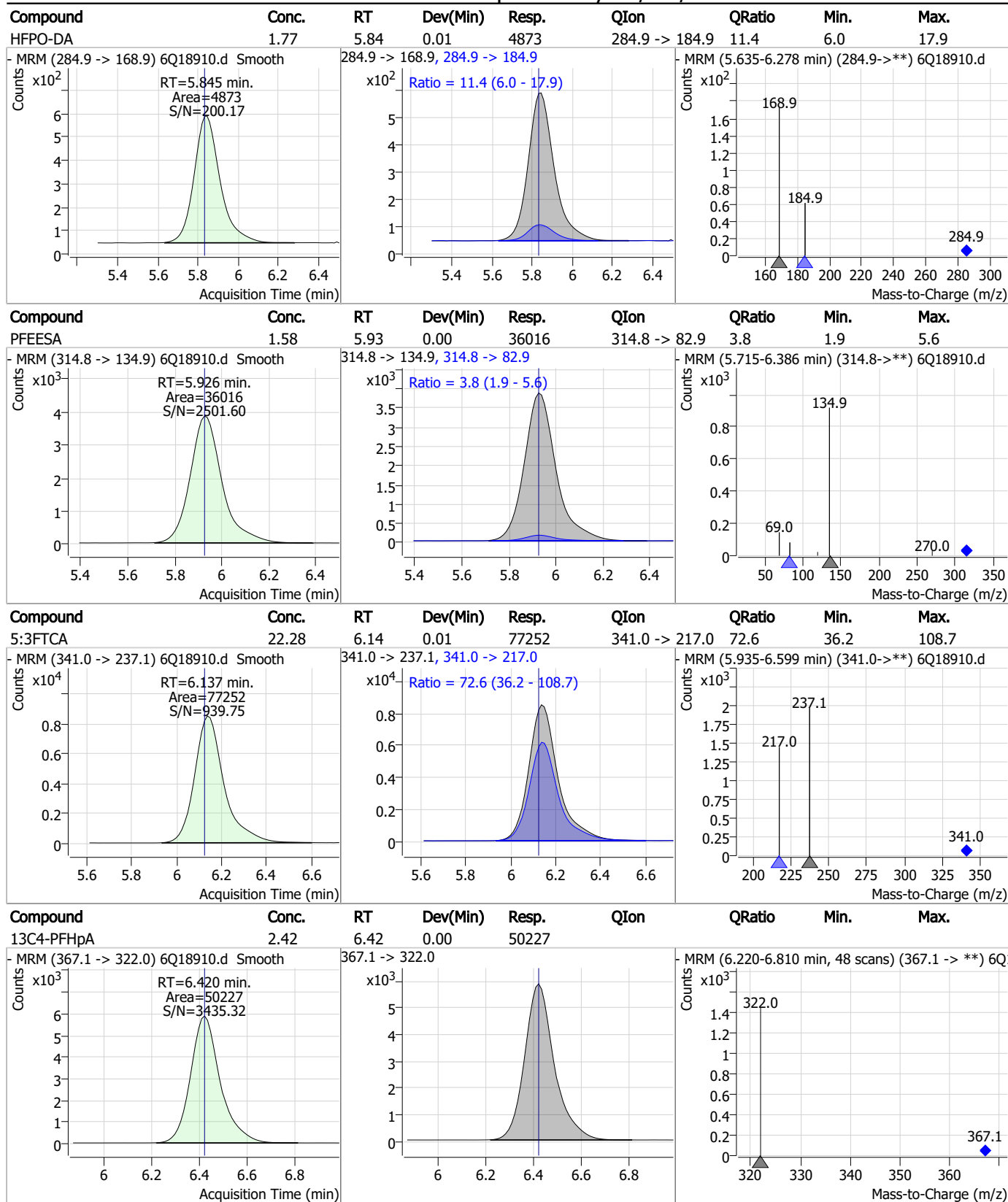
7.3.2
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Perfluorinated Compounds by LC/MS/MS



7.3.2
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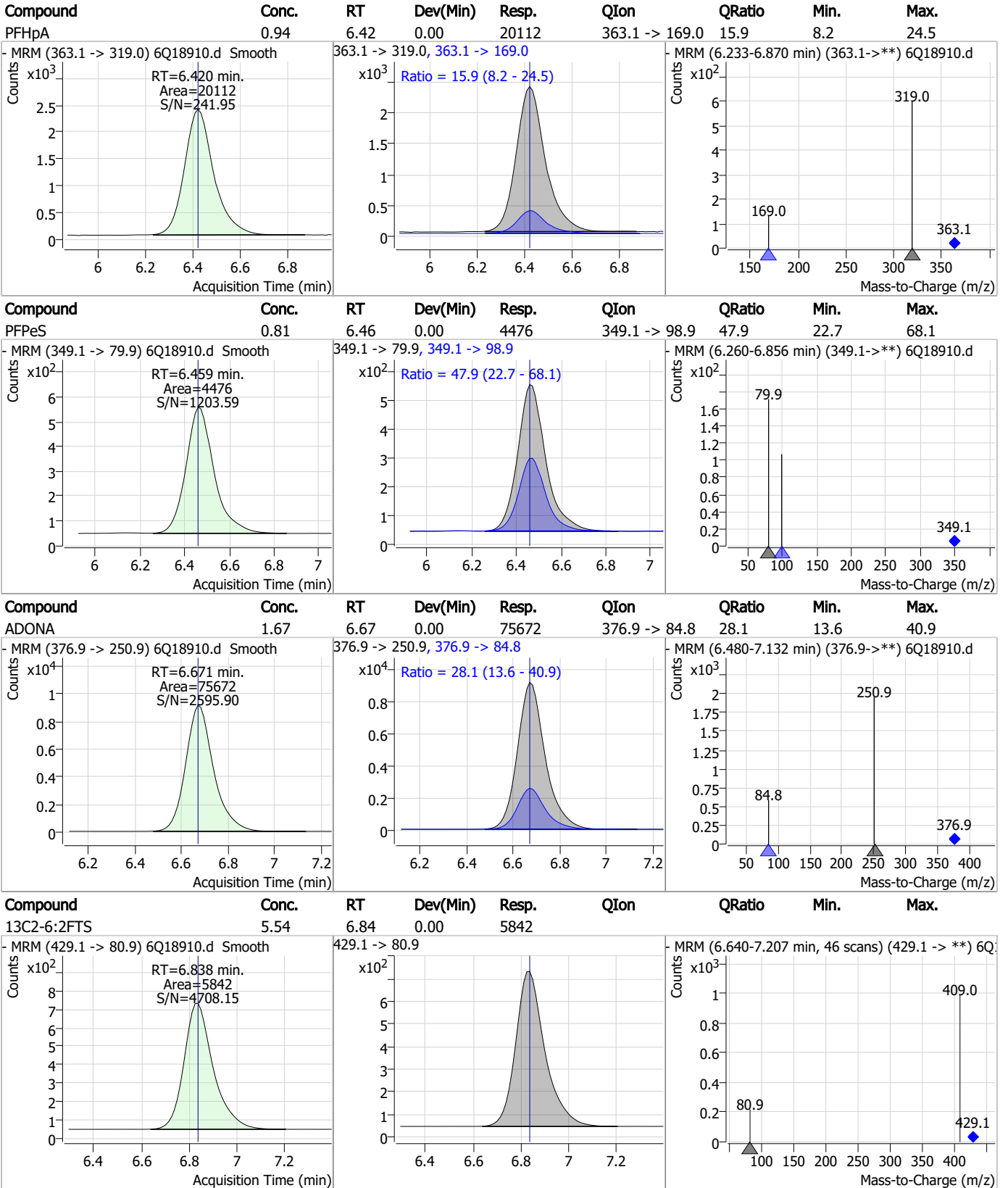
Perfluorinated Compounds by LC/MS/MS



7.3.2
7



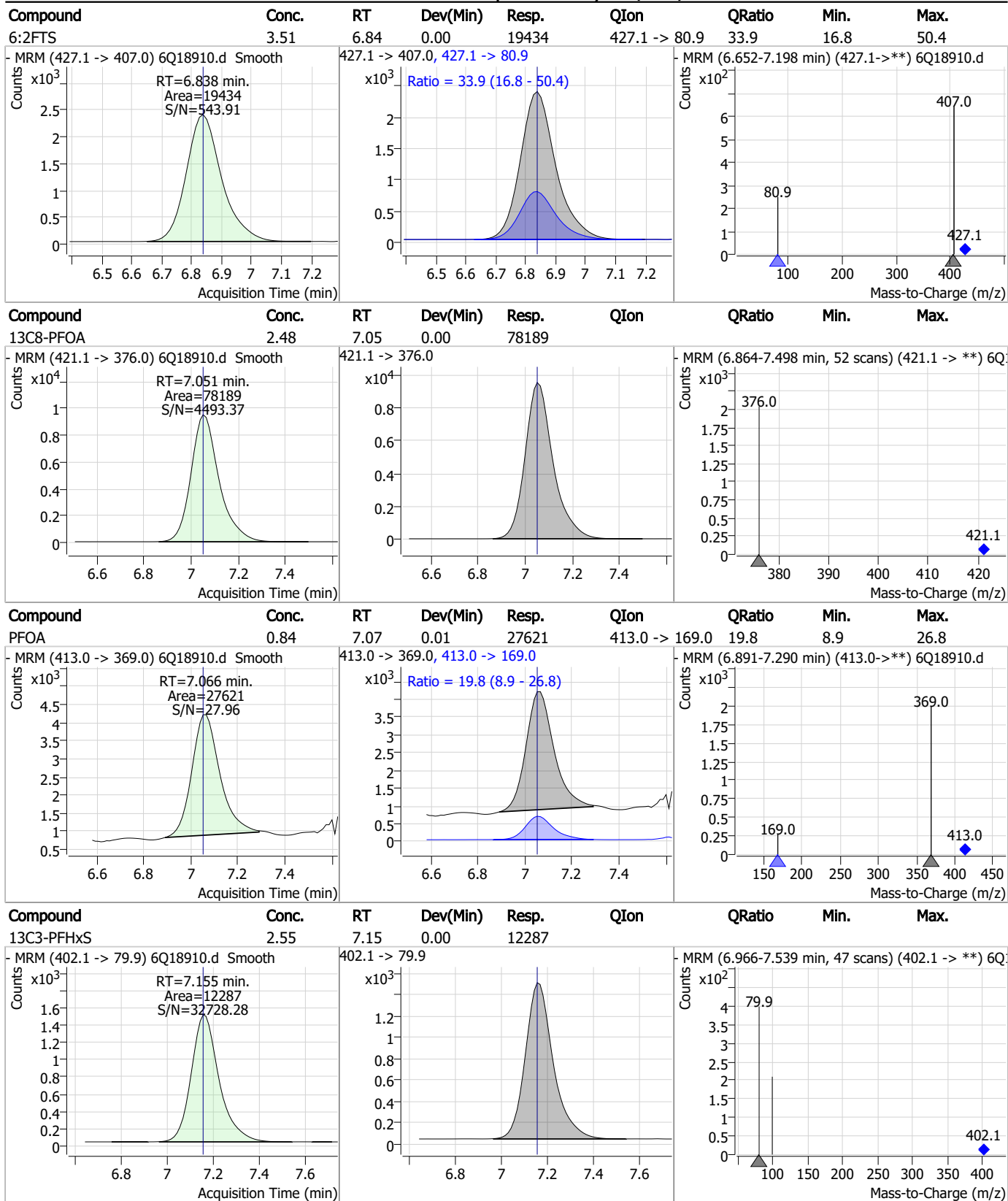
Perfluorinated Compounds by LC/MS/MS



7.3.2
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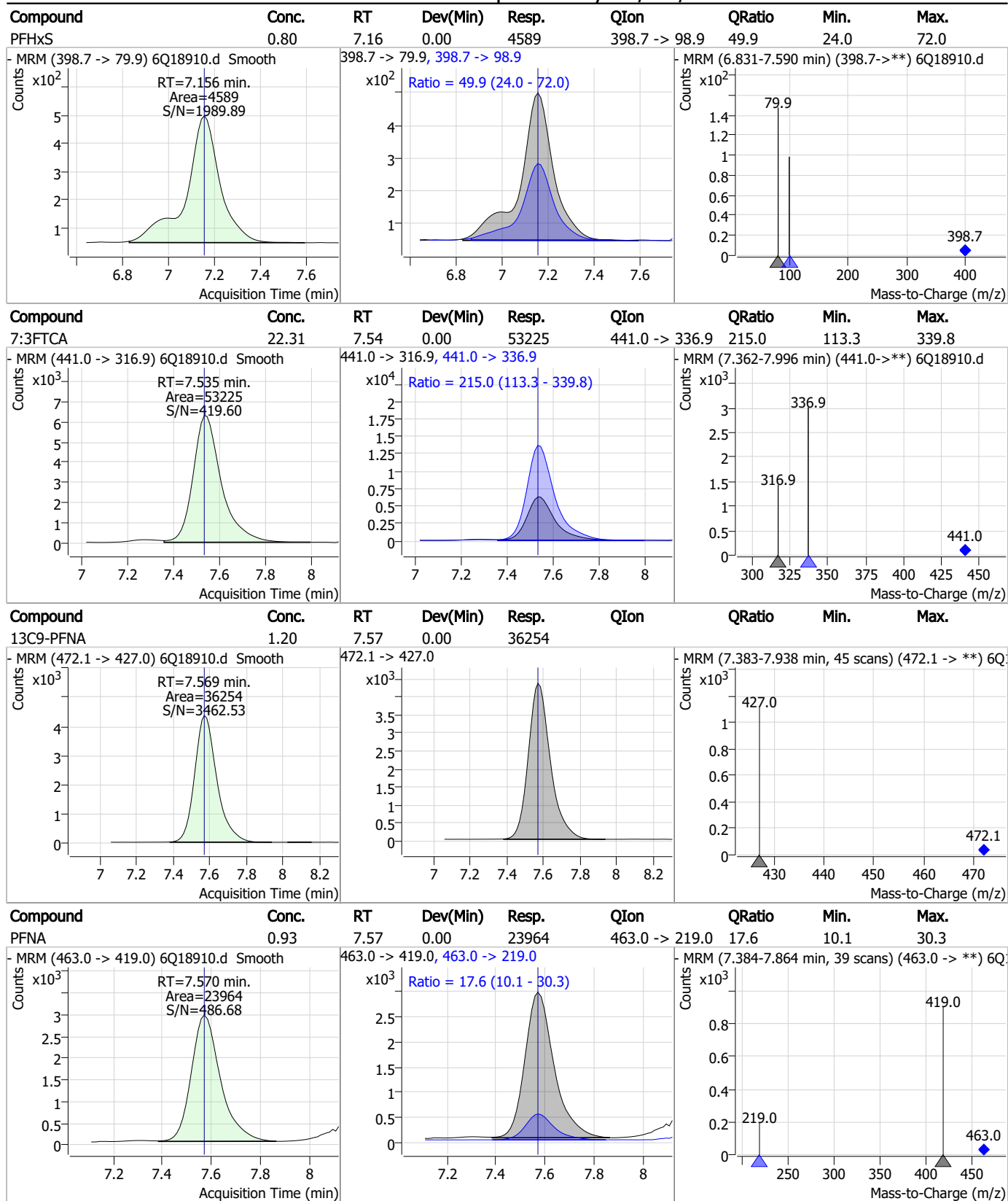


Perfluorinated Compounds by LC/MS/MS



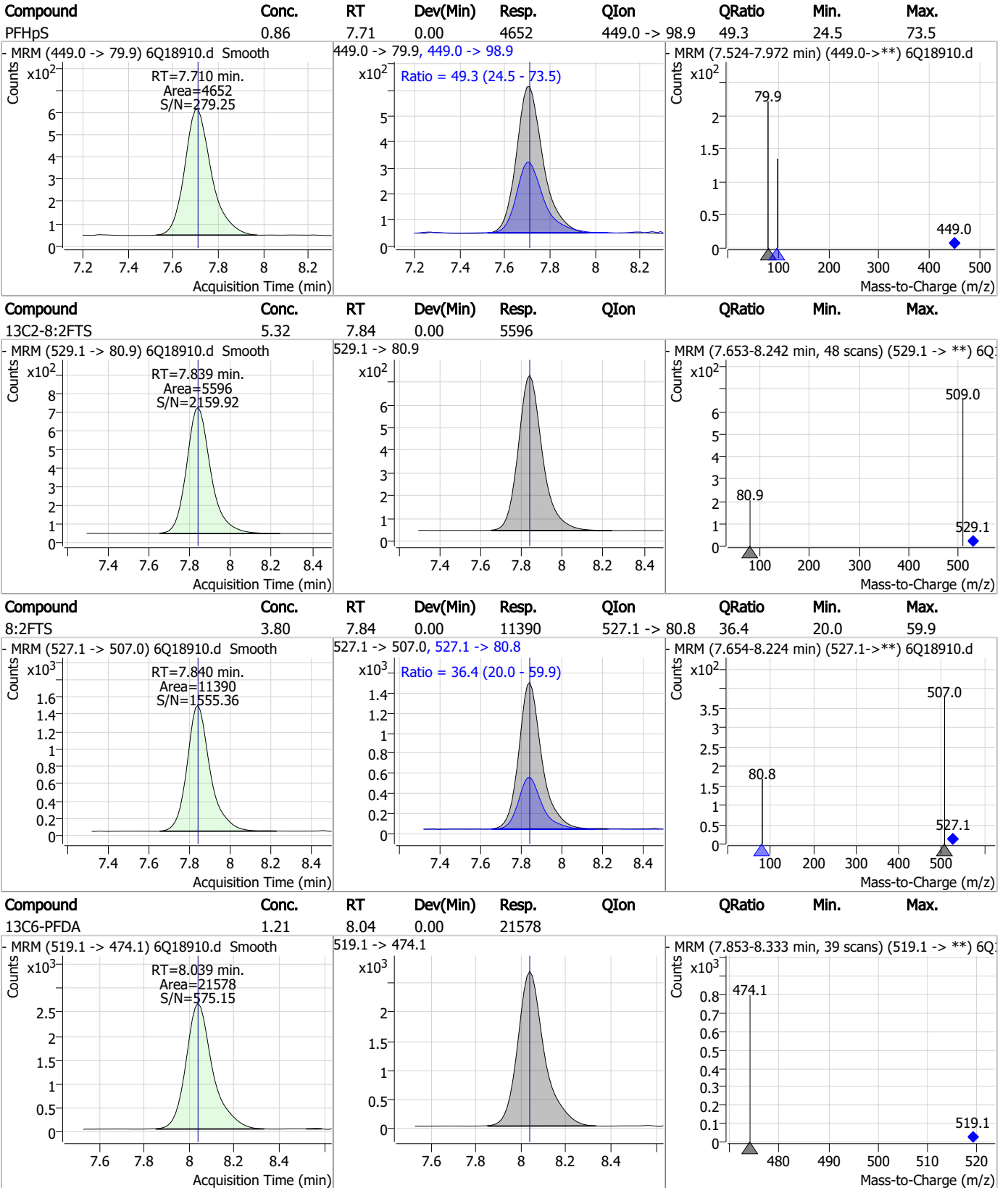
7.3.2
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Perfluorinated Compounds by LC/MS/MS



7.3.2
7

Perfluorinated Compounds by LC/MS/MS

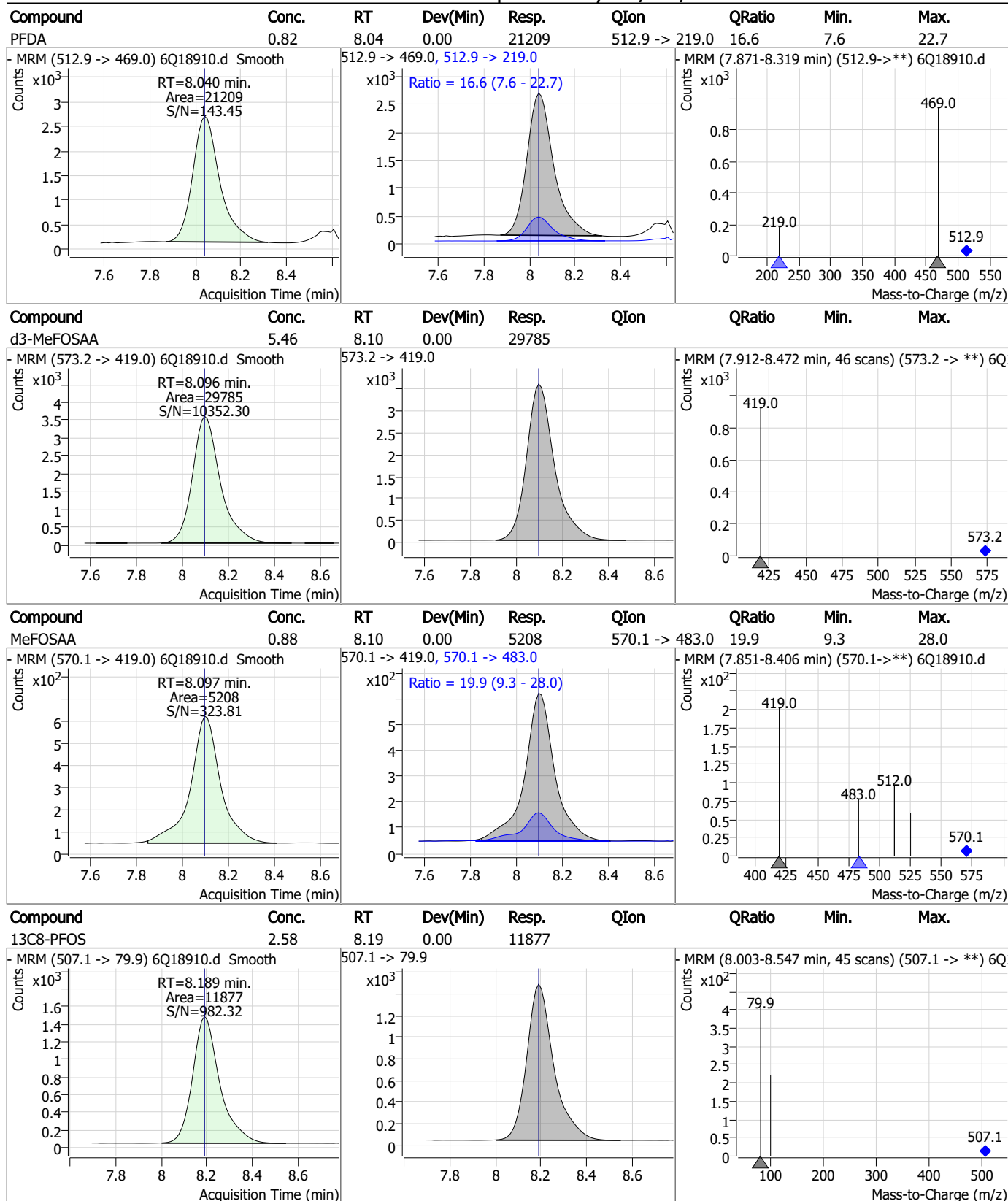


7.3.2

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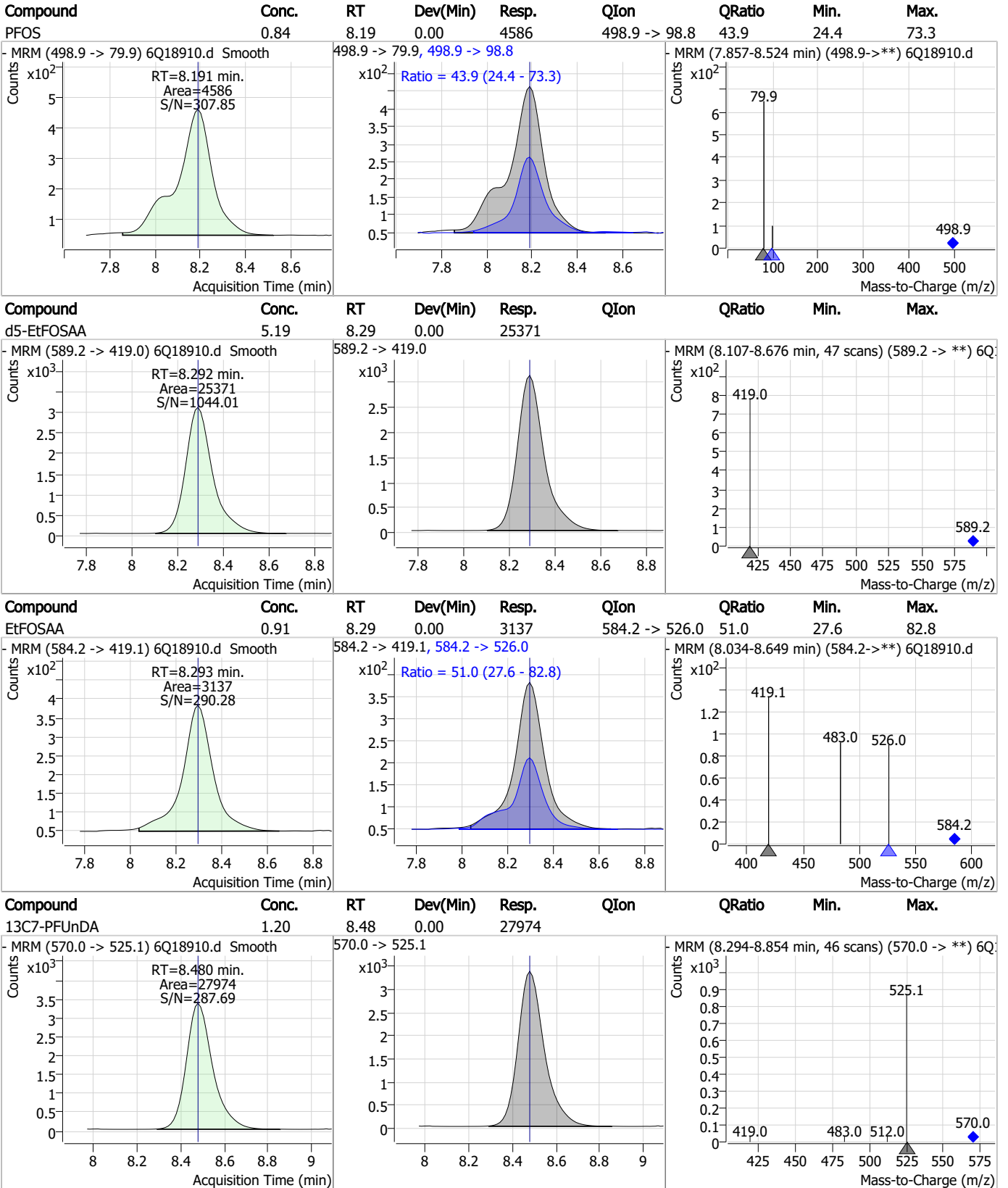


Perfluorinated Compounds by LC/MS/MS



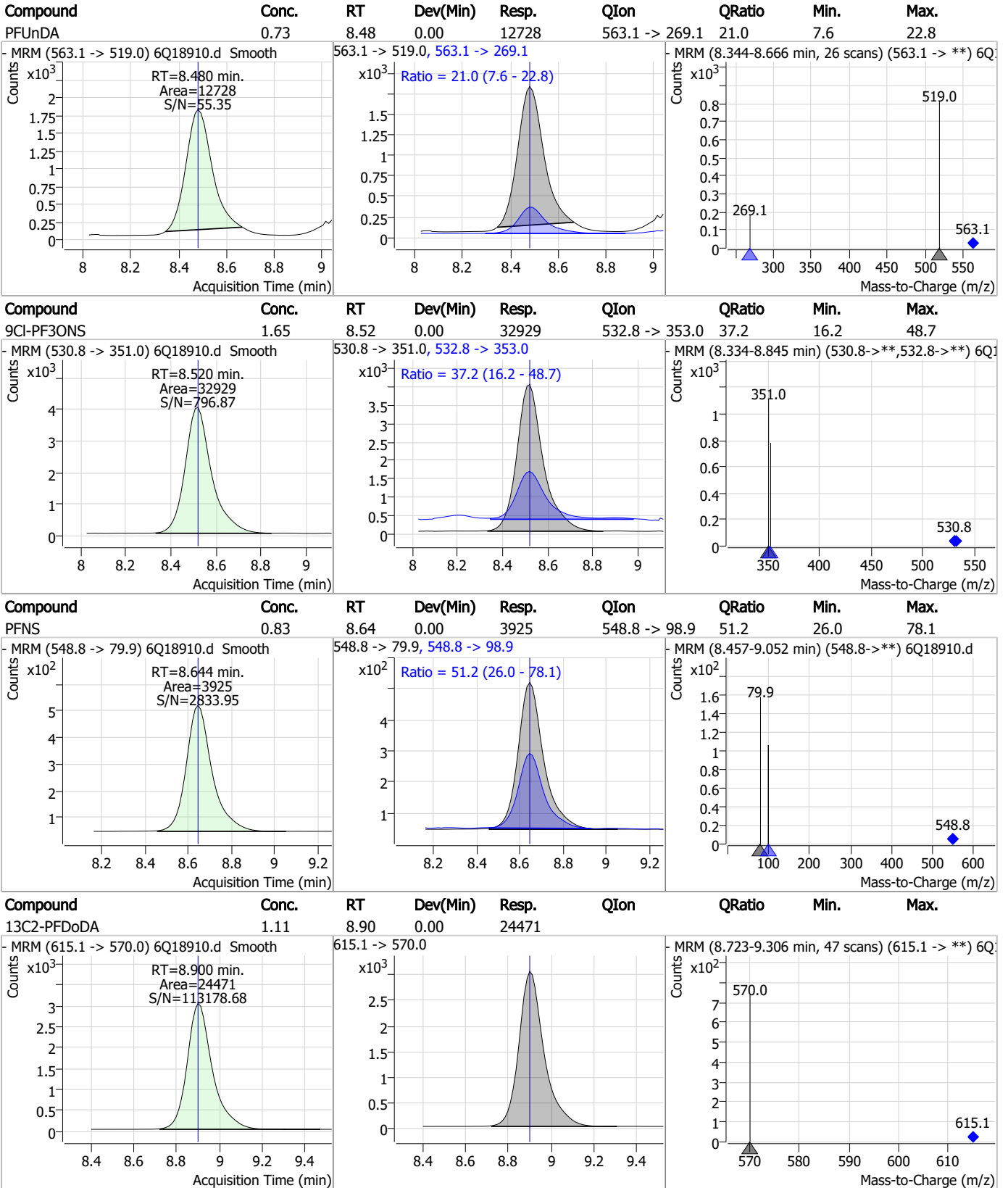
7.3.2
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Perfluorinated Compounds by LC/MS/MS



7.3.2
7

Perfluorinated Compounds by LC/MS/MS

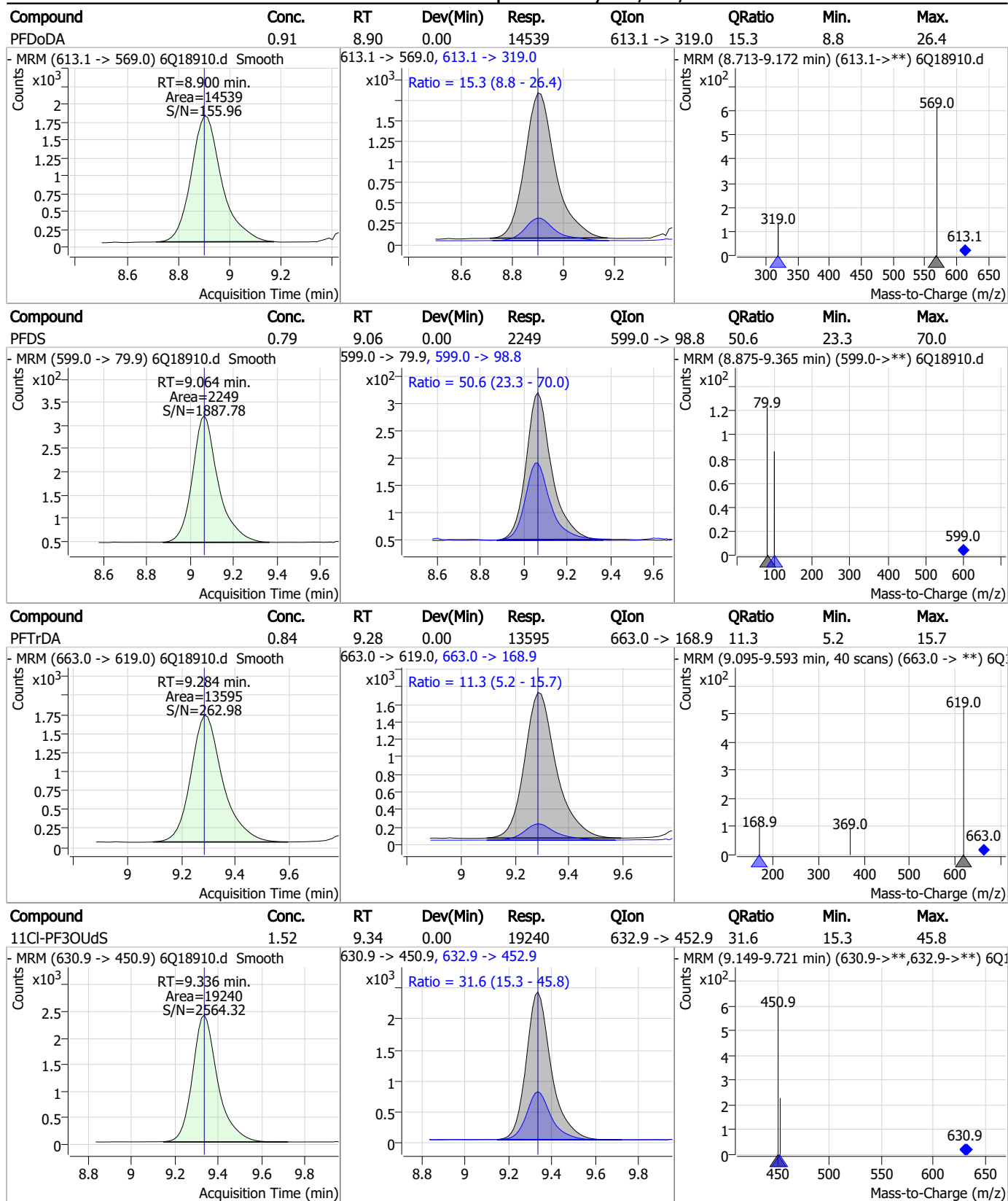


7.3.2

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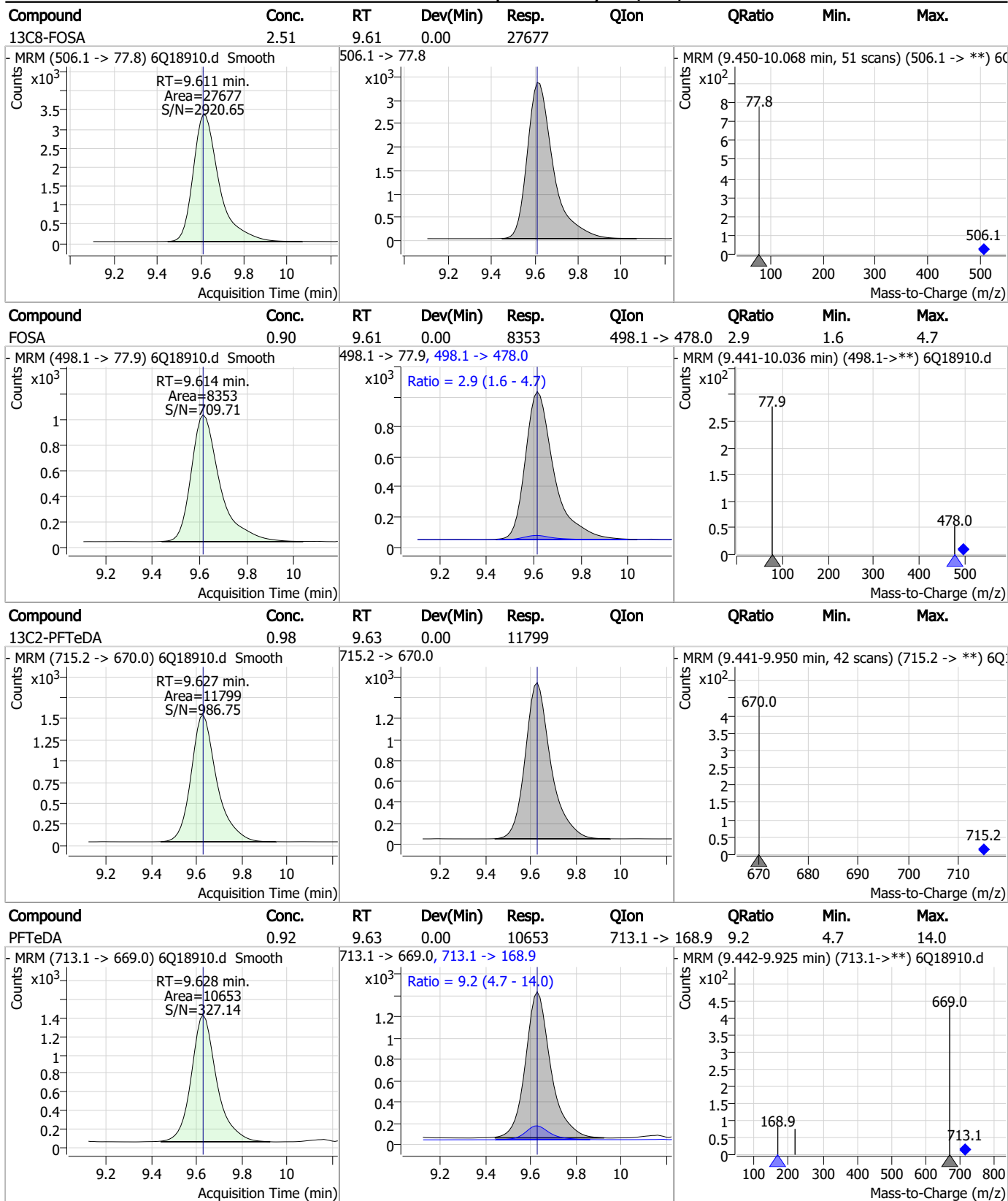


Perfluorinated Compounds by LC/MS/MS



7.3.2
7

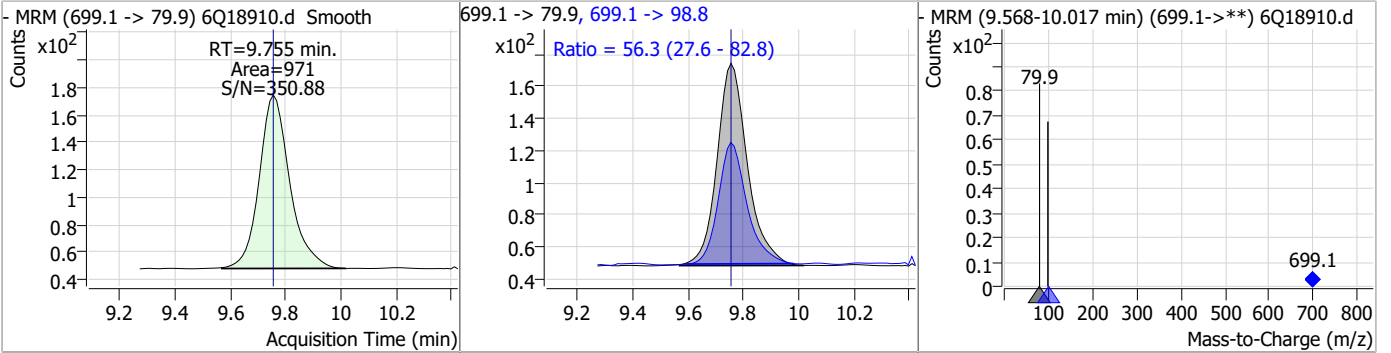
Perfluorinated Compounds by LC/MS/MS



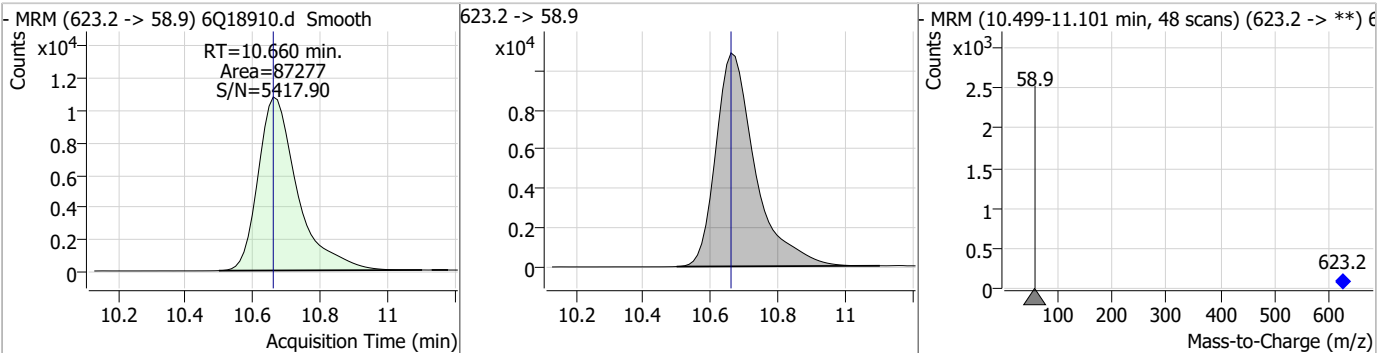
7.3.2
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Perfluorinated Compounds by LC/MS/MS

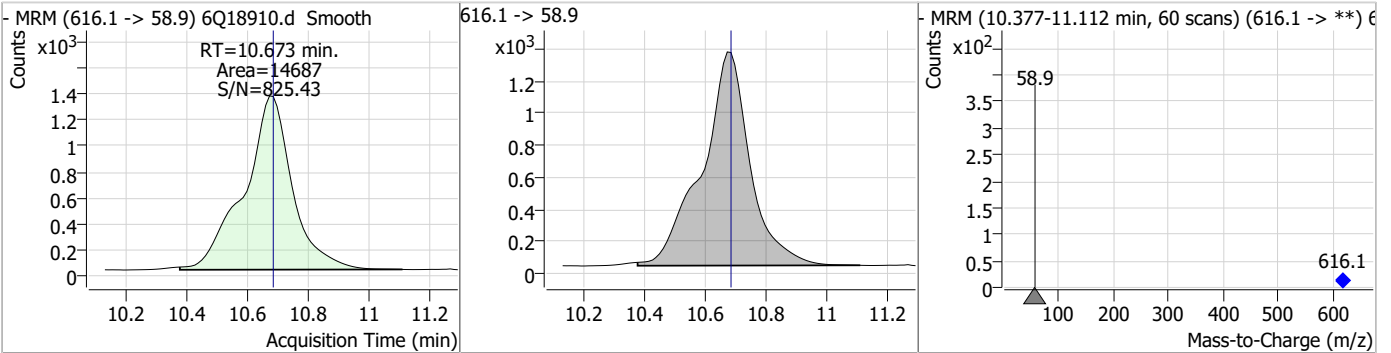
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	0.72	9.75	0.00	971	699.1 -> 98.8	56.3	27.6	82.8



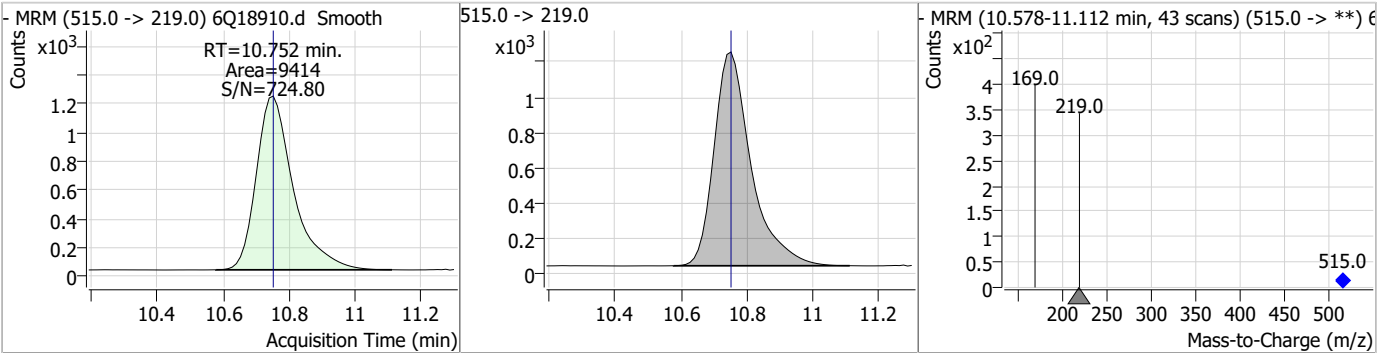
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	22.96	10.66	0.00	87277				



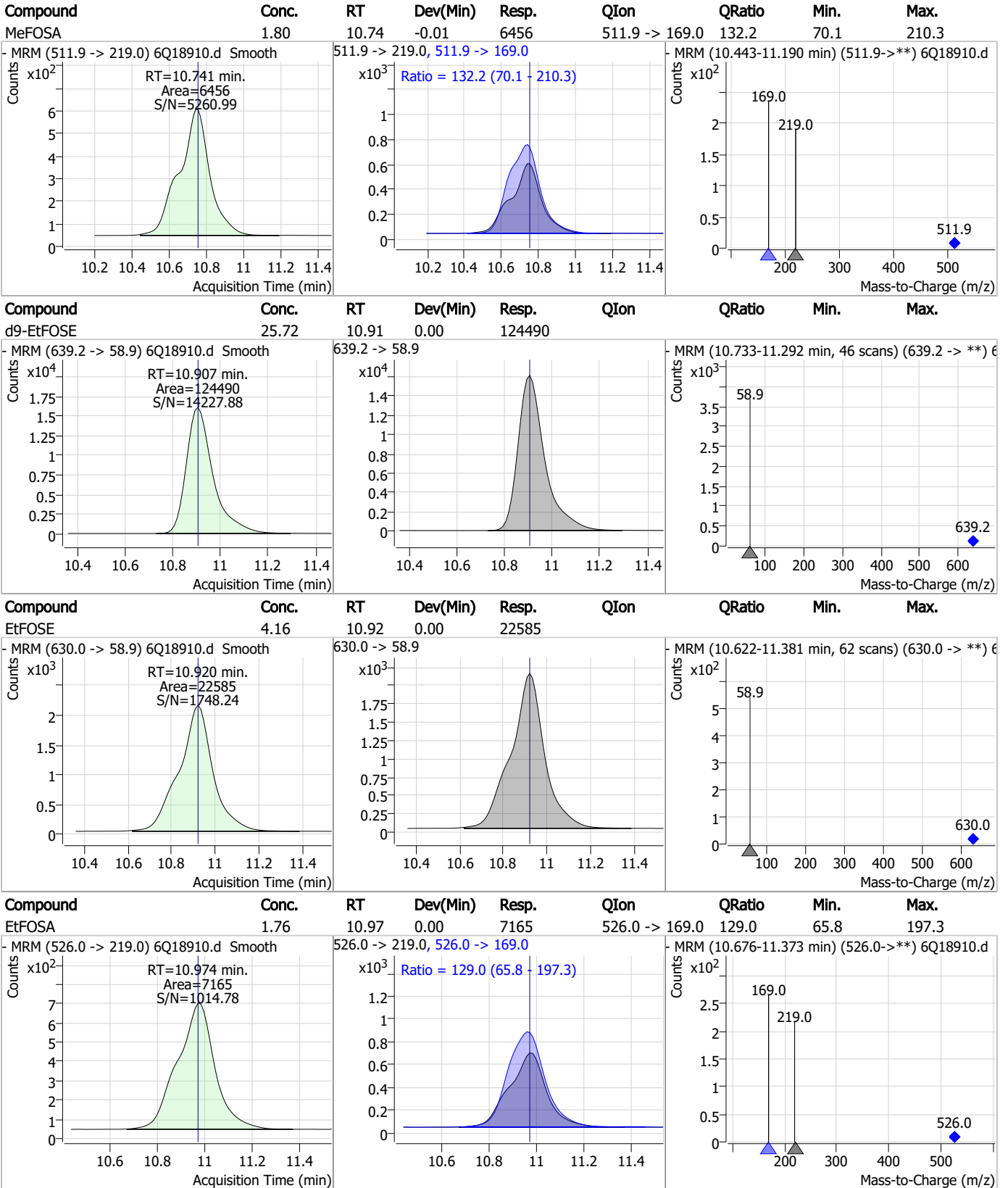
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	4.35	10.67	-0.01	14687				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.19	10.75	0.00	9414				



Perfluorinated Compounds by LC/MS/MS

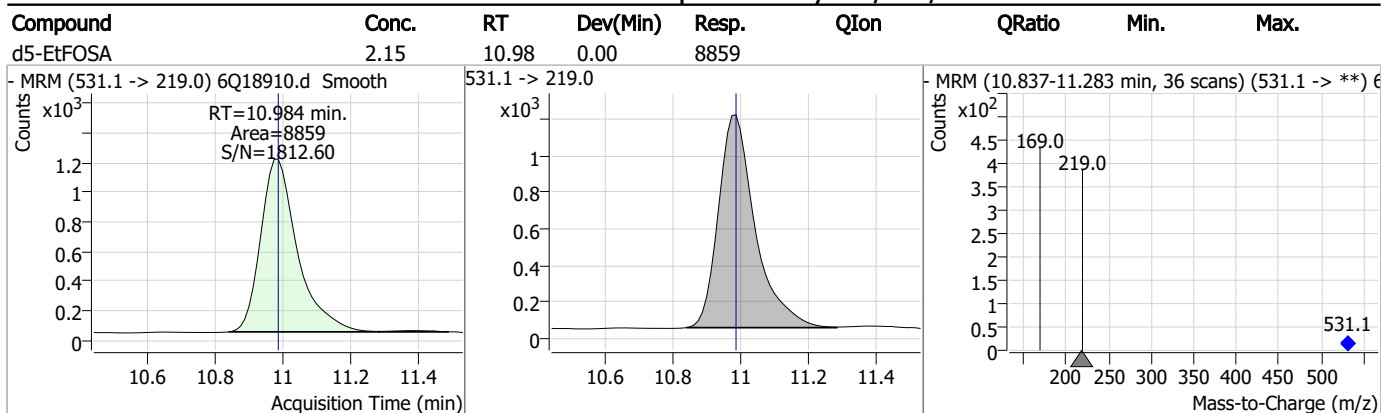


7.3.2

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Perfluorinated Compounds by LC/MS/MS



7.3.2
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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18933.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 11:23:49 AM
 Sample Name : op97179-bs
 Vial : P6-A1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97179,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.901	216.8 -> 171.9	36646	10.00 µg/L	0.041
M5-PFPeA	4.284	268.3 -> 223.0	43503	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	49910	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	46953	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	75940	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	33214	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	19023	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	26072	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	23043	1.25 µg/L	0.012
M2-PFTeDA	9.627	715.2 -> 670.0	12223	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	28260	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	17675	2.50 µg/L	0.013
M3-PFHxS	7.167	402.1 -> 79.9	11257	2.50 µg/L	0.012
M8-PFOS	8.202	507.1 -> 79.9	10358	2.50 µg/L	0.012
M2-4:2FTS	5.156	329.1 -> 80.9	3790	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	5467	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5395	5.00 µg/L	0.000
M3-MeFOSAA	8.108	573.2 -> 419.0	27318	5.00 µg/L	0.012
M3-HFPO-DA	5.844	286.9 -> 168.9	30785	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	23997	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	79277	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	100651	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	9482	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	10061	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	15397	2.50 µg/L	0.000
13C3-PFBA	2.904	216.0 -> 172.0	69363	5.00 µg/L	0.040
18O2-PFHxS	7.166	403.0 -> 83.9	9716	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	85457	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	28671	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	48164	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	54054	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	3790	4.74 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 94.9%		
13C2-6:2FTS	6.838	429.1 -> 80.9	5467	4.76 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 95.2%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5395	4.72 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 94.3%		
13C2-PFDoDA	8.912	615.1 -> 570.0	23043	1.10 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 88.0%		
13C2-PFTeDA	9.627	715.2 -> 670.0	12223	1.06 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 85.1%		
13C3-PFBS	5.397	302.1 -> 79.9	17675	2.07 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 82.8%		
13C3-PFHxS	7.167	402.1 -> 79.9	11257	2.15 µg/L	0.012

7.3.3
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 85.9%		
13C4-PFBA	2.901	216.8 -> 171.9	36646	2.23 µg/L	0.041
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 22.3%		
13C4-PFHpA	6.420	367.1 -> 322.0	46953	2.18 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 87.2%		
13C5-PFHxA	5.478	318.0 -> 273.0	49910	2.18 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 87.3%		
13C5-PFPeA	4.284	268.3 -> 223.0	43503	4.15 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 83.0%		
13C6-PFDA	8.039	519.1 -> 474.1	19023	1.12 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 89.5%		
13C7-PFUnDA	8.480	570.0 -> 525.1	26072	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.8%		
13C8-FOSA	9.623	506.1 -> 77.8	28260	2.52 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.9%		
13C8-PFOA	7.064	421.1 -> 376.0	75940	2.32 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 92.7%		
13C8-PFOS	8.202	507.1 -> 79.9	10358	2.22 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 88.7%		
13C9-PFNA	7.569	472.1 -> 427.0	33214	1.05 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 83.9%		
d3-MeFOSAA	8.108	573.2 -> 419.0	27318	4.93 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.5%		
13C3-HFPO-DA	5.844	286.9 -> 168.9	30785	9.04 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 90.4%		
d3-MeFOSA	10.752	515.0 -> 219.0	10061	2.31 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 92.3%		
d5-EtFOSAA	8.292	589.2 -> 419.0	23997	4.83 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 96.5%		
d7-MeFOSE	10.660	623.2 -> 58.9	79277	20.51 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 82.0%		
d9-EtFOSE	10.907	639.2 -> 58.9	100651	20.45 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 81.8%		
d5-EtFOSA	10.984	531.1 -> 219.0	9482	2.27 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 90.7%		
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	56440	10.87 µg/L	94
		327.1 -> 80.9	23019		
6:2FTS	6.838	427.1 -> 407.0	61946	11.96 µg/L	98
		427.1 -> 80.9	20153		
8:2FTS	7.840	527.1 -> 507.0	34393	11.89 µg/L	98
		527.1 -> 80.8	13437		
EtFOSAA	8.293	584.2 -> 419.1	9617	2.94 µg/L	99
		584.2 -> 526.0	5344		
FOSA	9.614	498.1 -> 77.9	28151	2.96 µg/L	100
		498.1 -> 478.0	841		
MeFOSAA	8.109	570.1 -> 419.0	17540	3.21 µg/L	96
		570.1 -> 483.0	3612		
PFBA	2.894	212.8 -> 168.9	14170	11.87 µg/L	100
PFBS	5.398	298.7 -> 79.9	16206	2.65 µg/L	99
		298.7 -> 98.8	6248		
PFDA	8.052	512.9 -> 469.0	71650	3.13 µg/L	98
		512.9 -> 219.0	11577		
PFDoDA	8.900	613.1 -> 569.0	49170	3.28 µg/L	93
		613.1 -> 319.0	7164		
PFDS	9.064	599.0 -> 79.9	7480	3.02 µg/L	91

7.3.3
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	3917		
PFHpA	6.420	363.1 -> 319.0	60805	3.05 µg/L	98
		363.1 -> 169.0	10545		
PFHpS	7.710	449.0 -> 79.9	14430	3.07 µg/L	100
		449.0 -> 98.9	7106		
PFHxA	5.481	313.0 -> 269.0	51366	3.13 µg/L	99
		313.0 -> 118.9	2570		
PFHxS	7.156	398.7 -> 79.9	14080	2.67 µg/L	97
		398.7 -> 98.9	6998		
PFNA	7.584	463.0 -> 419.0	75035	3.19 µg/L	94
		463.0 -> 219.0	13166		
PFNS	8.644	548.8 -> 79.9	12519	3.03 µg/L	99
		548.8 -> 98.9	6580		
PFOA	7.066	413.0 -> 369.0	96390	3.01 µg/L	99
		413.0 -> 169.0	16651		
PFOS	8.191	498.9 -> 79.9	14038	2.96 µg/L	98
		498.9 -> 98.8	6707		
PFPeA	4.287	263.0 -> 219.0	62200	6.05 µg/L	100
PFPeS	6.471	349.1 -> 79.9	14123	2.79 µg/L	100
		349.1 -> 98.9	6434		
PFTeDA	9.628	713.1 -> 669.0	37130	3.08 µg/L	99
		713.1 -> 168.9	3380		
PFTrDA	9.296	663.0 -> 619.0	48721	3.18 µg/L	100
		663.0 -> 168.9	5069		
PFUnDA	8.480	563.1 -> 519.0	51519	3.19 µg/L	98
		563.1 -> 269.1	8172		
11CI-PF3OUdS	9.336	630.9 -> 450.9	66017	5.61 µg/L	100
		632.9 -> 452.9	20007		
9CI-PF3ONS	8.520	530.8 -> 351.0	104003	5.58 µg/L	99
		532.8 -> 353.0	32852		
ADONA	6.683	376.9 -> 250.9	247103	5.84 µg/L	99
		376.9 -> 84.8	68547		
HFPO-DA	5.844	284.9 -> 168.9	15863	6.17 µg/L	99
		284.9 -> 184.9	1949		
3:3FTCA	3.765	241.0 -> 177.0	6345	8.72 µg/L	98
		241.0 -> 117.0	897		
5:3FTCA	6.149	341.0 -> 237.1	244310	77.29 µg/L	98
		341.0 -> 217.0	172976		
7:3FTCA	7.548	441.0 -> 316.9	169592	77.99 µg/L	97
		441.0 -> 336.9	376154		
EtFOSA	10.986	526.0 -> 219.0	25971	5.94 µg/L	99
		526.0 -> 169.0	34489		
EtFOSE	10.920	630.0 -> 58.9	73012	16.63 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	23505	6.13 µg/L	97
		511.9 -> 169.0	33690		
MeFOSE	10.686	616.1 -> 58.9	49864	16.25 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	3419	2.93 µg/L	96
		699.1 -> 98.8	1999		
NFDHA	5.361	295.0 -> 201.0	12464	6.34 µg/L	94
		295.0 -> 84.9	3467		
PFMBA	4.700	279.0 -> 85.1	46975	6.61 µg/L	100
PFMPA	3.426	229.0 -> 84.9	16403	3.03 µg/L	100
PFEESA	5.938	314.8 -> 134.9	110684	5.31 µg/L	100
		314.8 -> 82.9	4112		

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



7.3.3
7

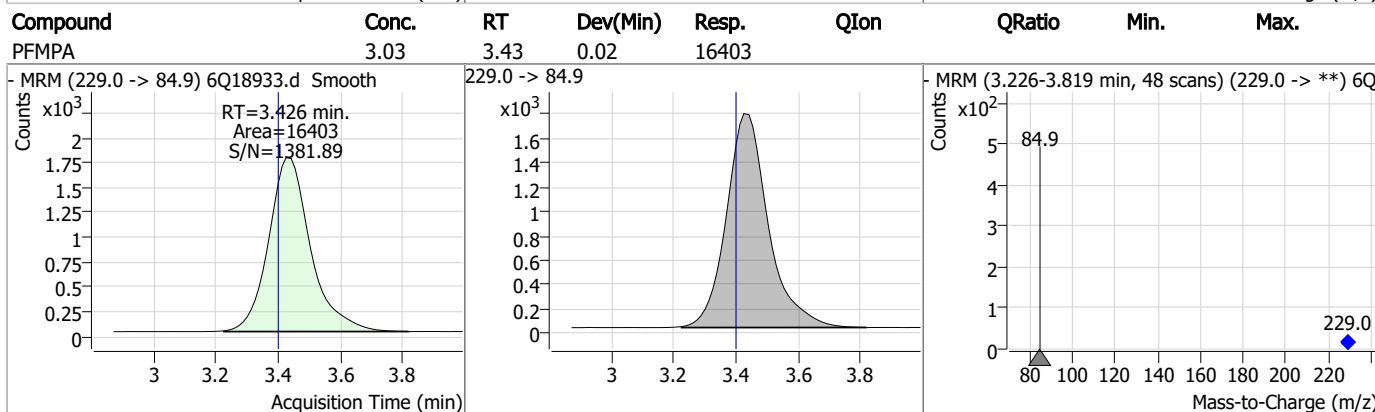
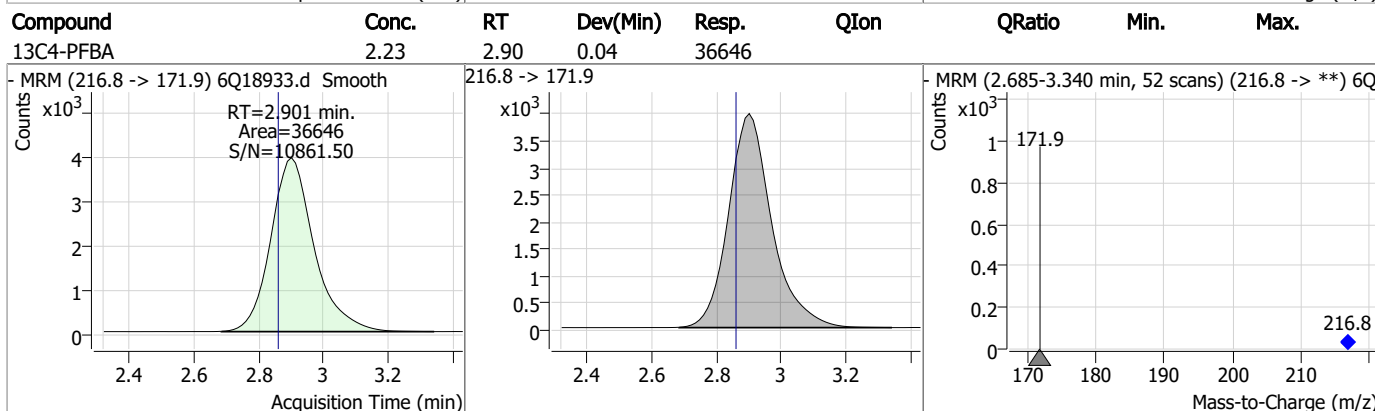
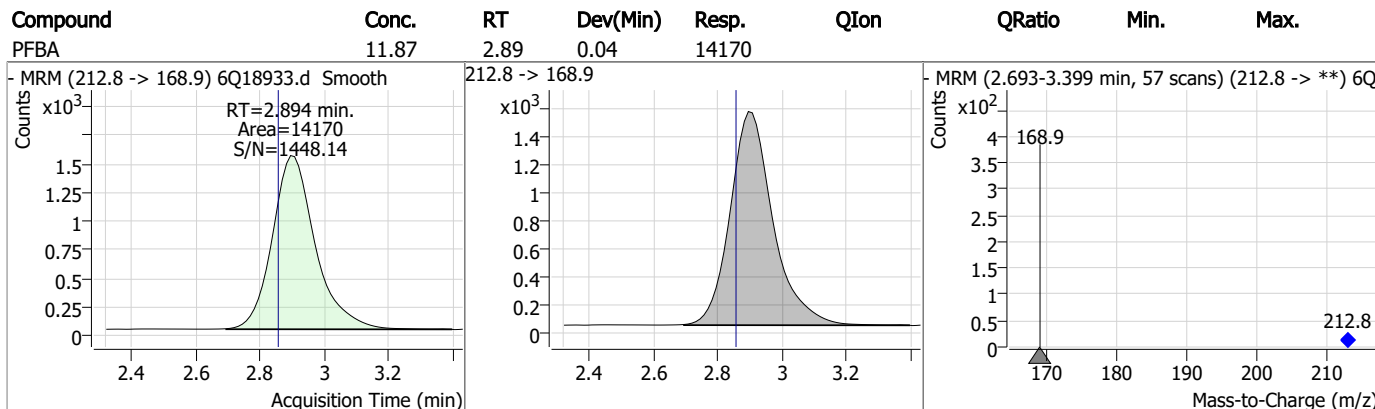
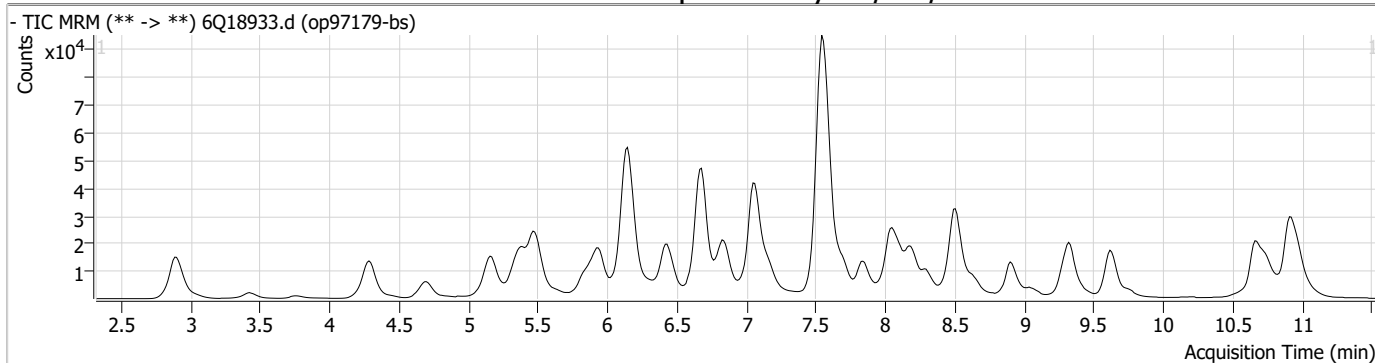
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.3.3

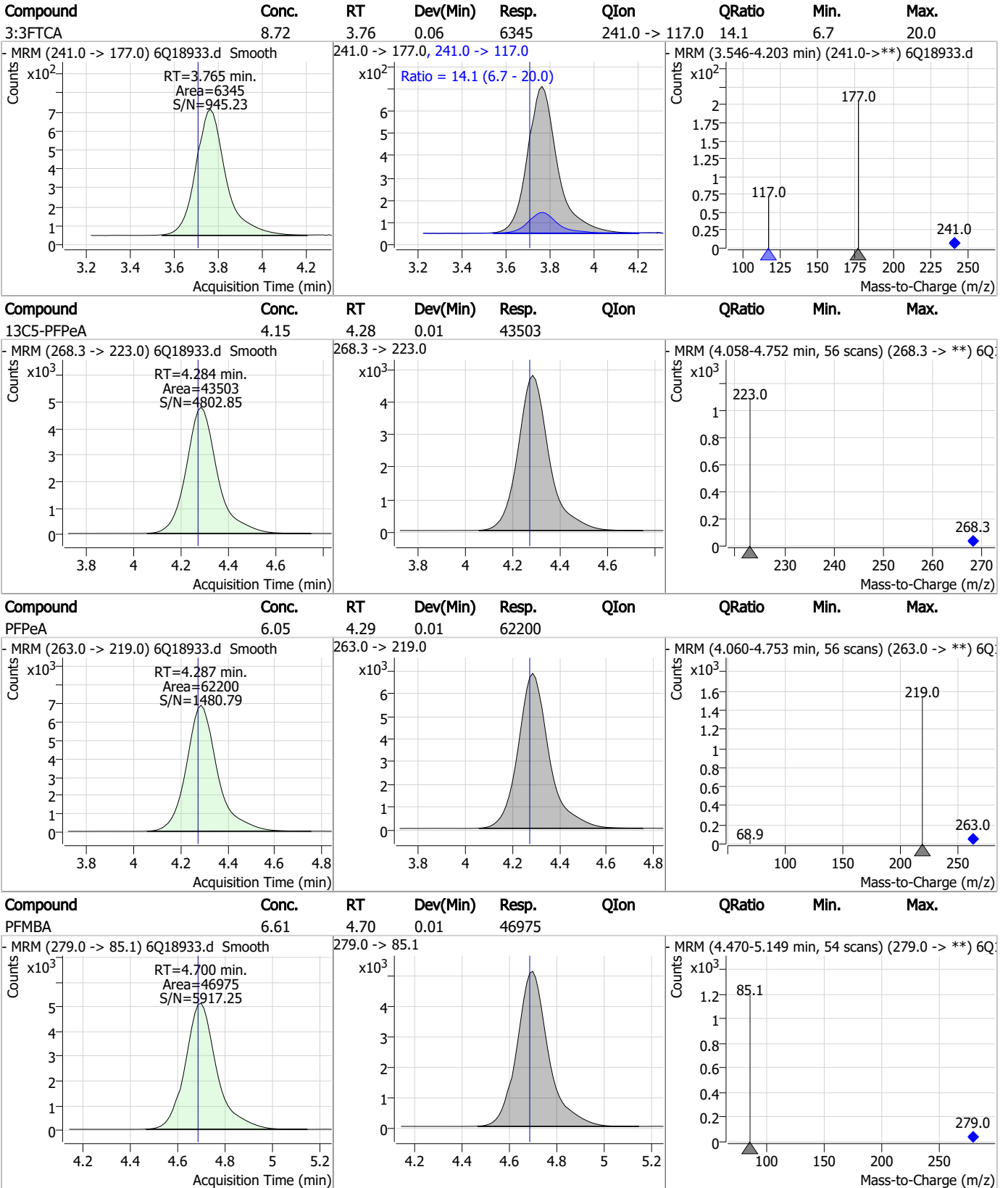
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Perfluorinated Compounds by LC/MS/MS



7.3.3
7

Perfluorinated Compounds by LC/MS/MS

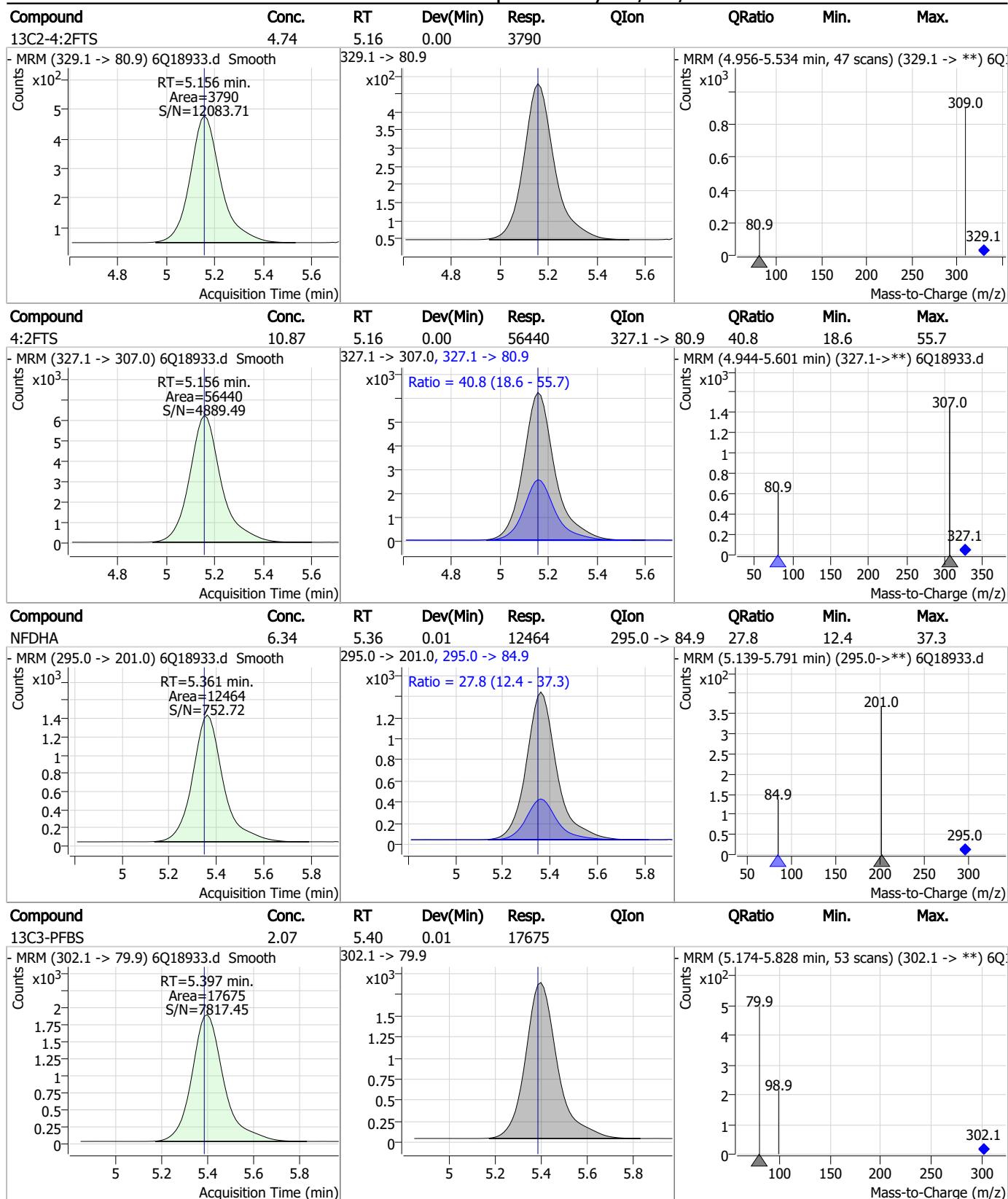


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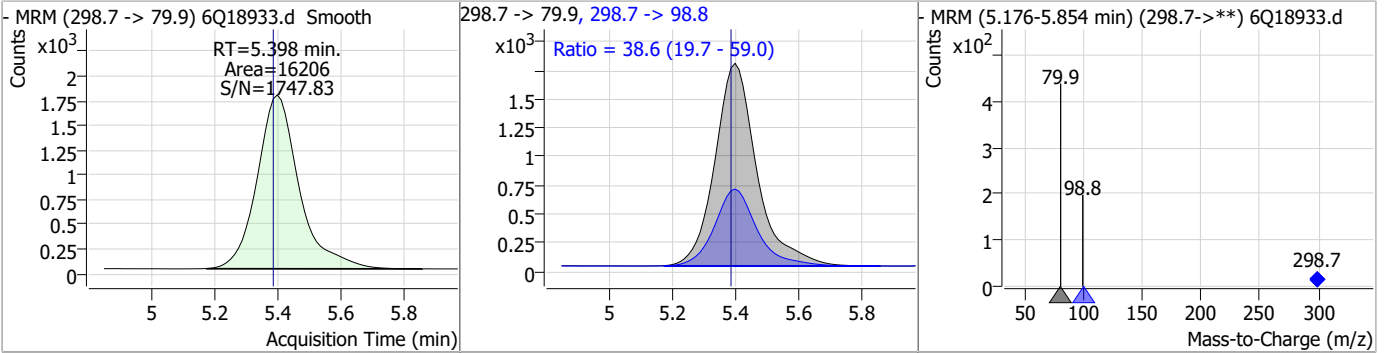
Perfluorinated Compounds by LC/MS/MS



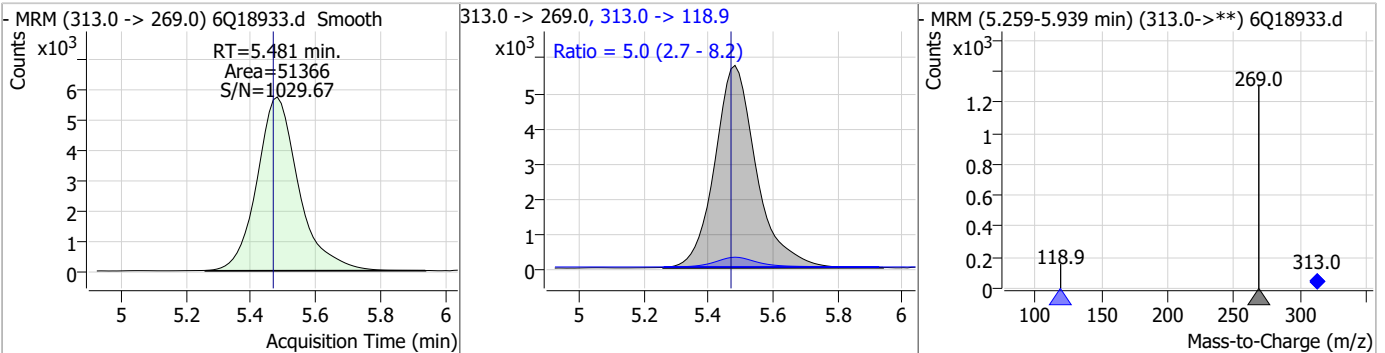
7.3.3
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Perfluorinated Compounds by LC/MS/MS

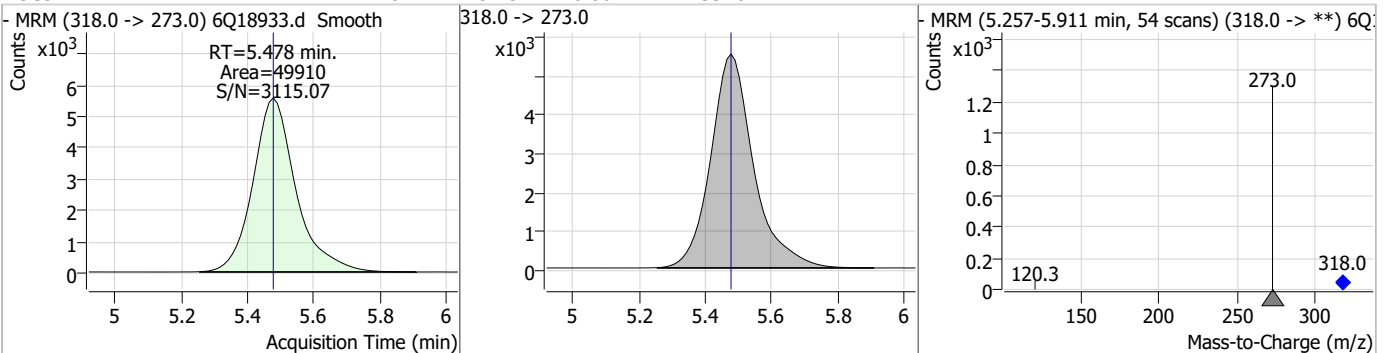
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.65	5.40	0.01	16206	298.7 -> 98.8	38.6	19.7	59.0



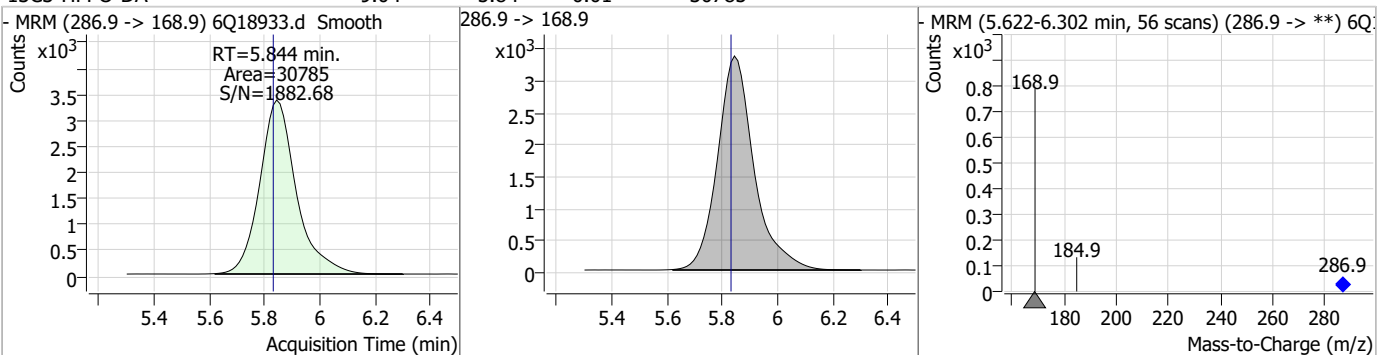
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	3.13	5.48	0.01	51366	313.0 -> 118.9	5.0	2.7	8.2



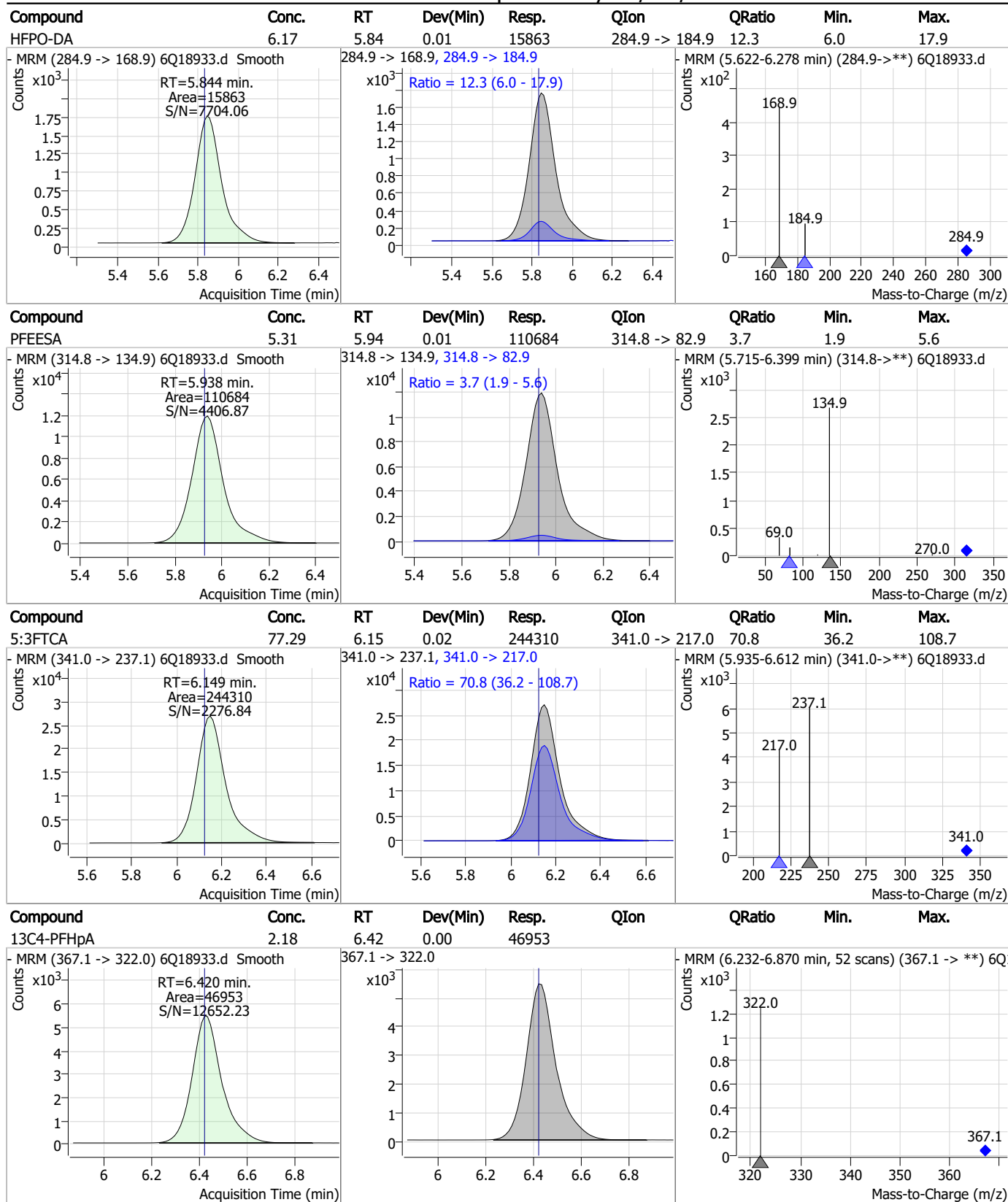
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.18	5.48	0.00	49910	318.0 -> 273.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.04	5.84	0.01	30785	286.9 -> 168.9			

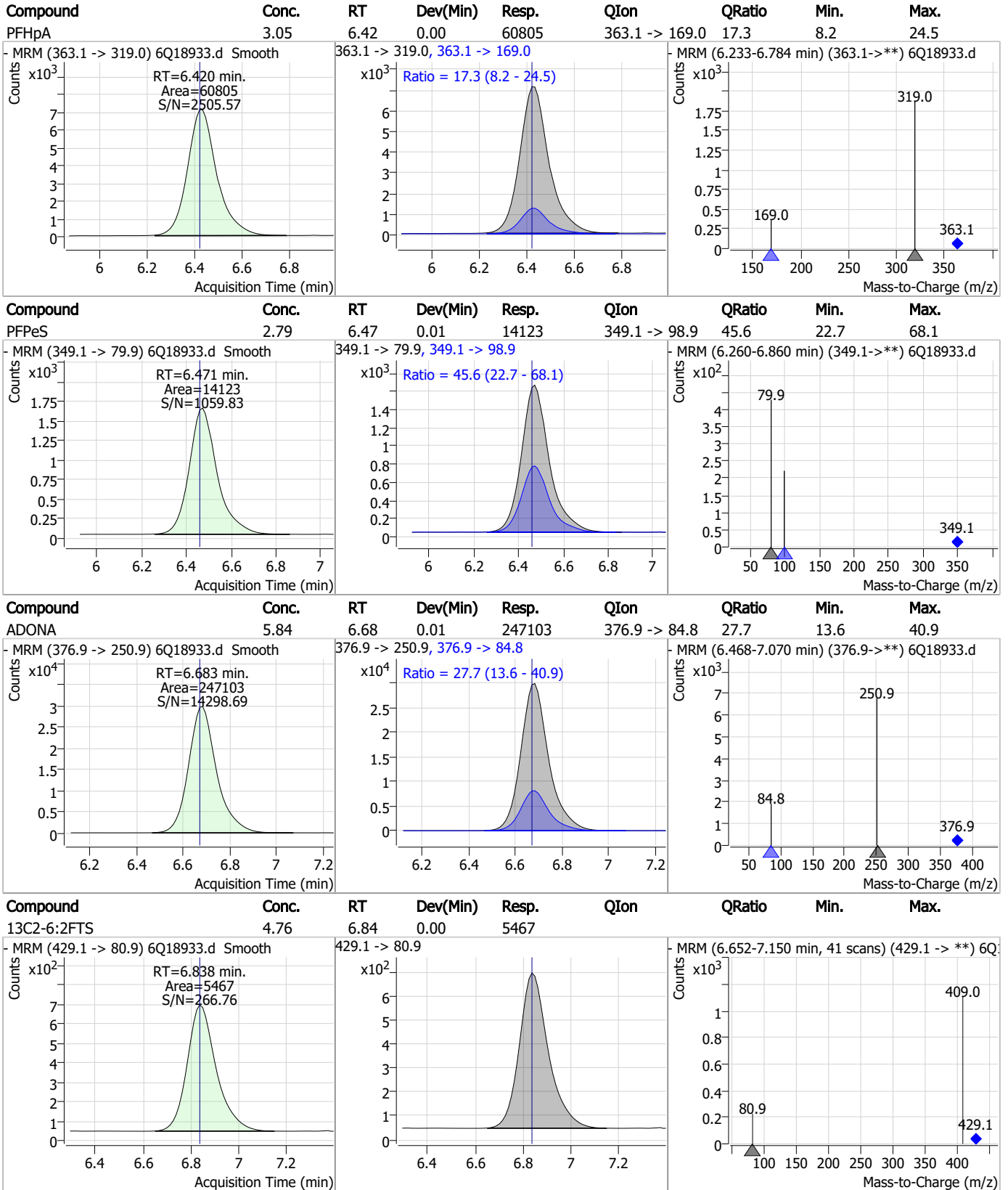


Perfluorinated Compounds by LC/MS/MS



7.3.3
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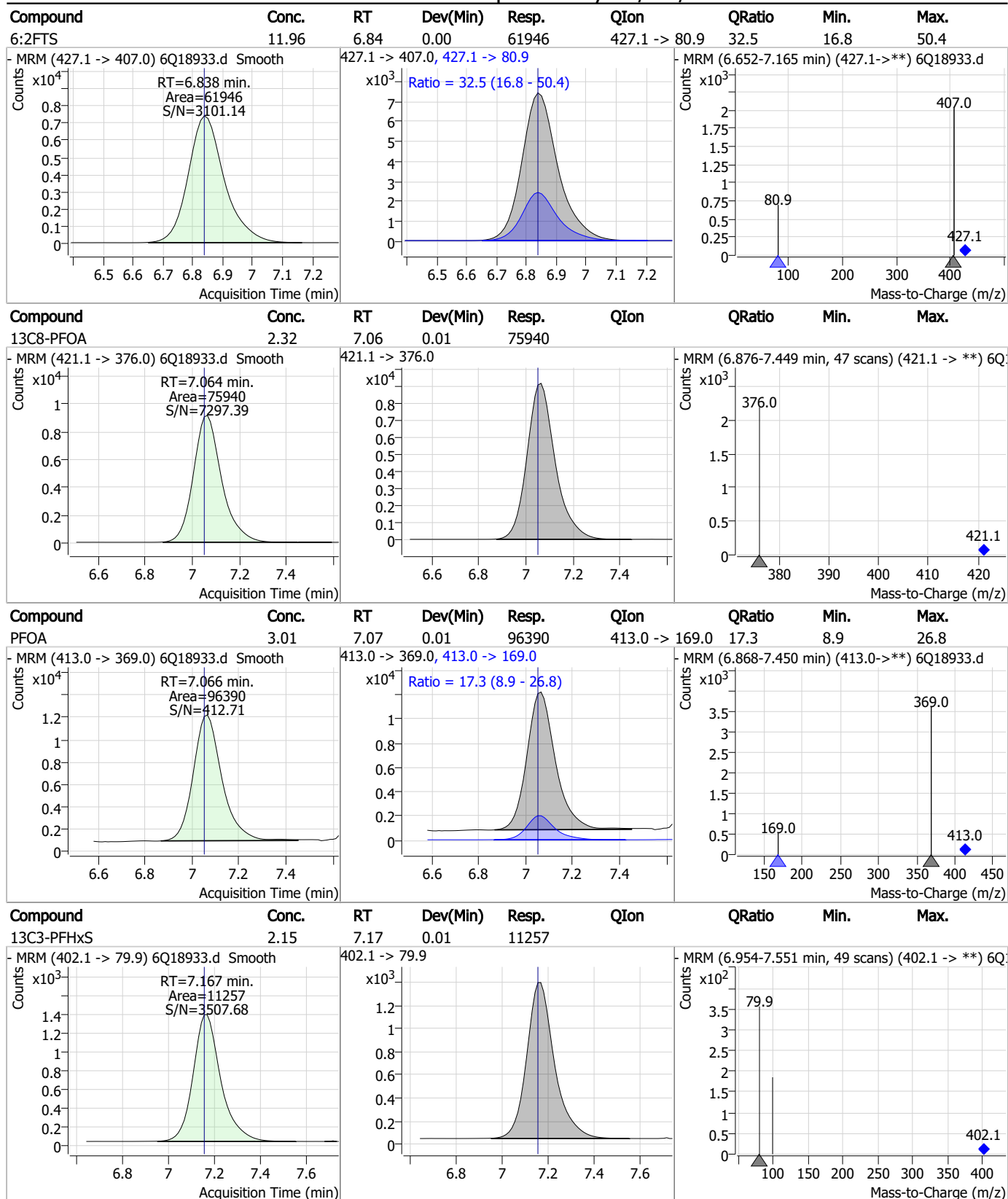
Perfluorinated Compounds by LC/MS/MS



7.3.3

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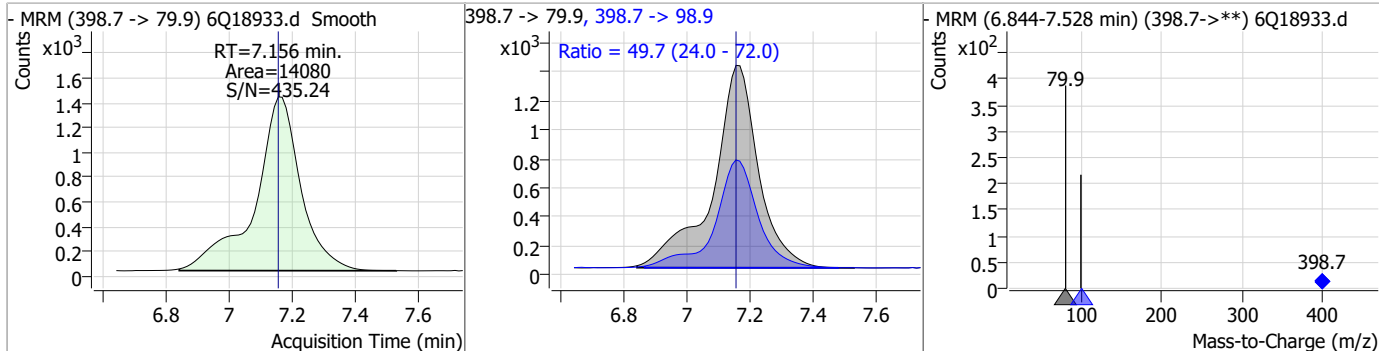
Perfluorinated Compounds by LC/MS/MS



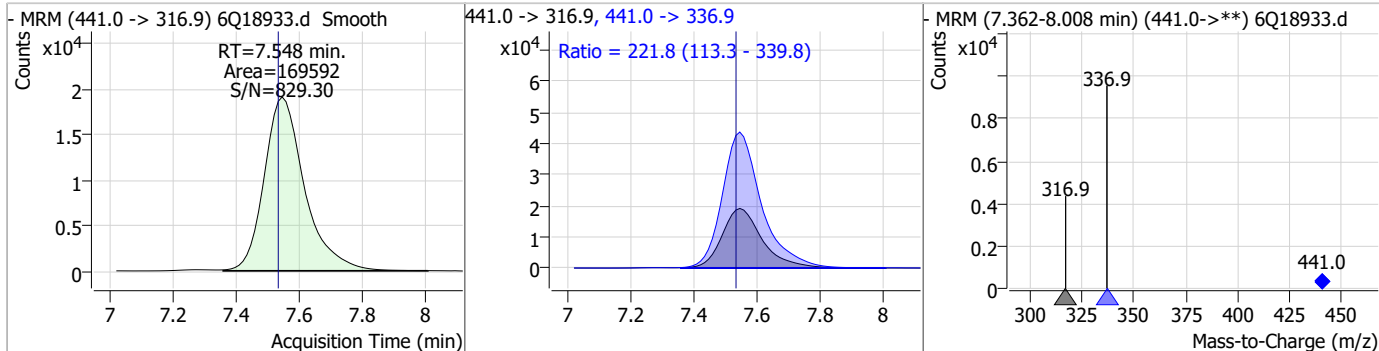
7.3.3
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Perfluorinated Compounds by LC/MS/MS

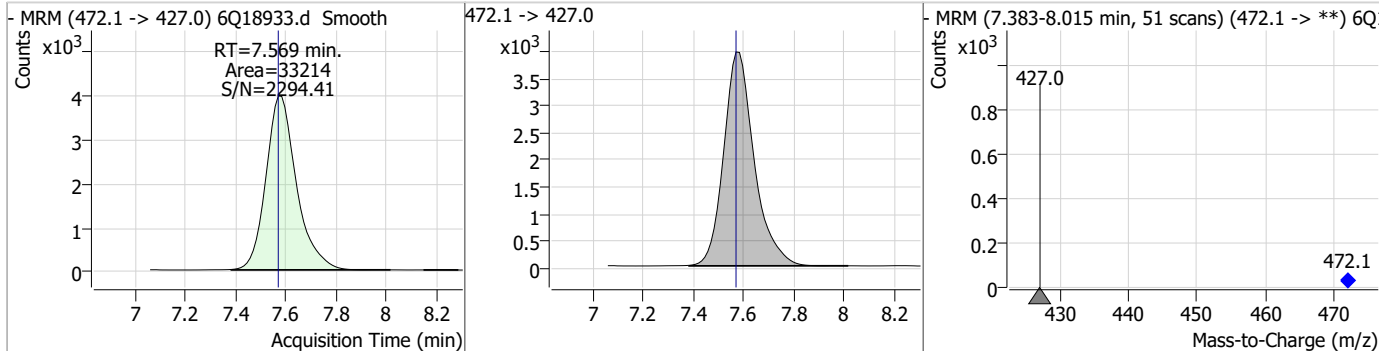
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.67	7.16	0.00	14080	398.7 -> 98.9	49.7	24.0	72.0



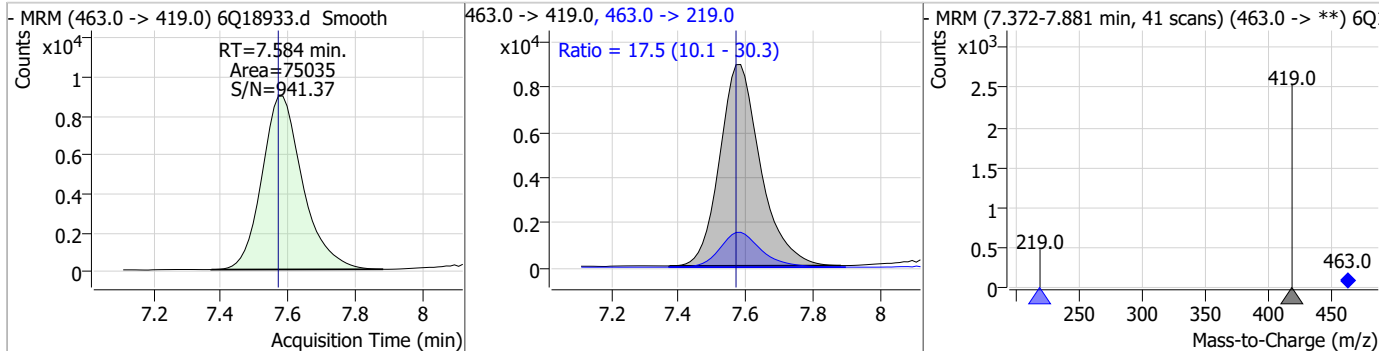
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	77.99	7.55	0.01	169592	441.0 -> 336.9	221.8	113.3	339.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.05	7.57	0.00	33214	472.1 -> 427.0			

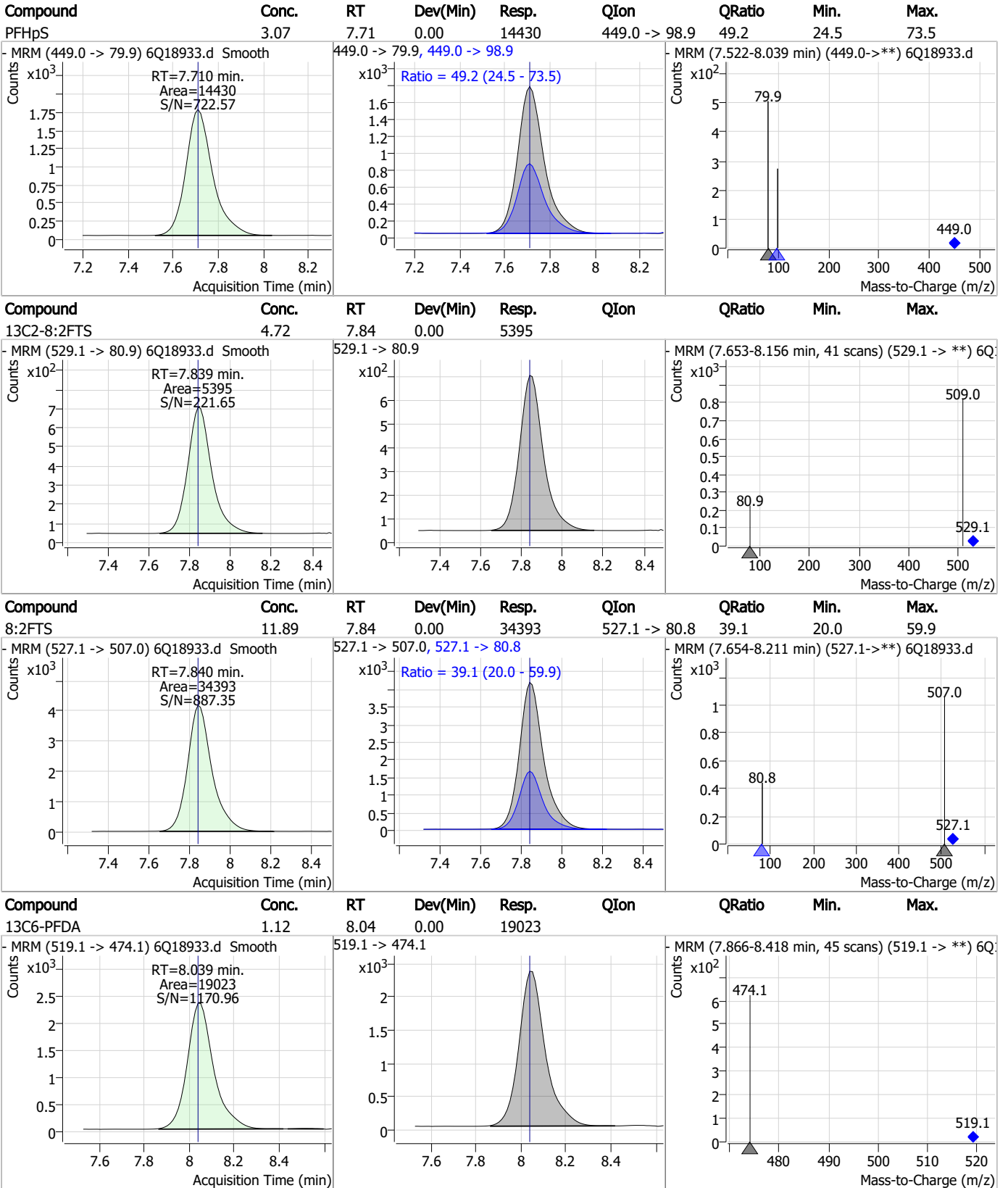


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	3.19	7.58	0.01	75035	463.0 -> 219.0	17.5	10.1	30.3



7.3.3
7

Perfluorinated Compounds by LC/MS/MS

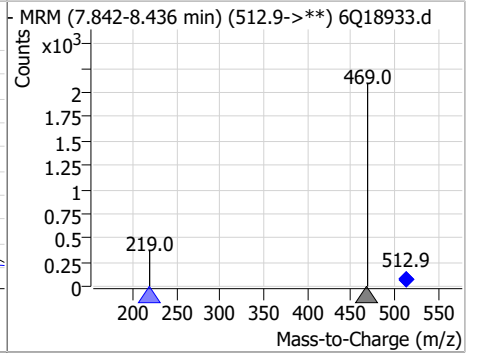
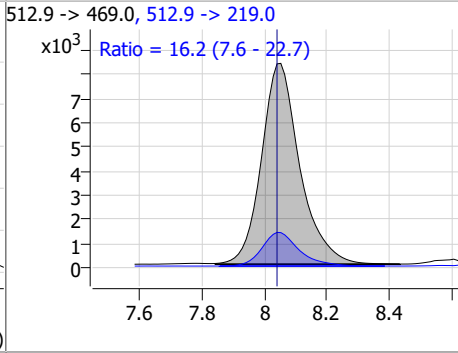
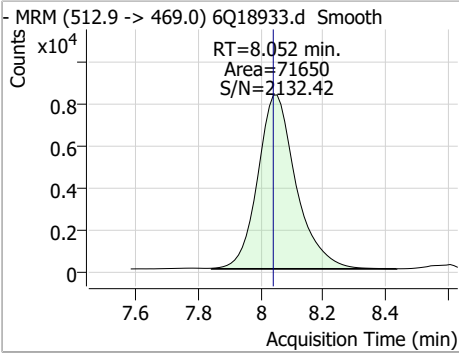


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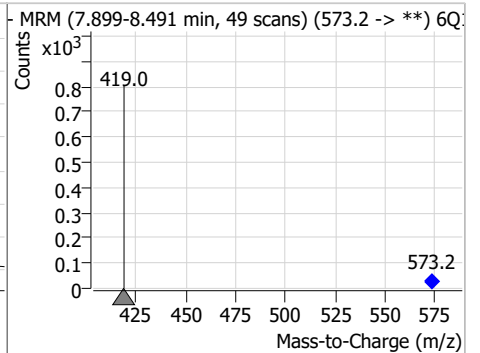
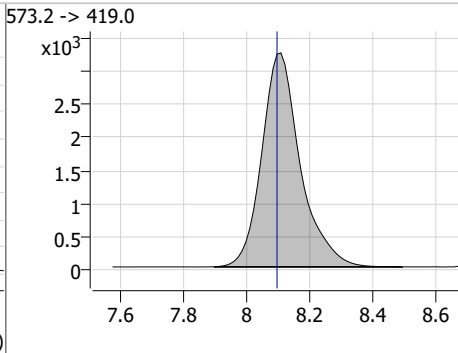
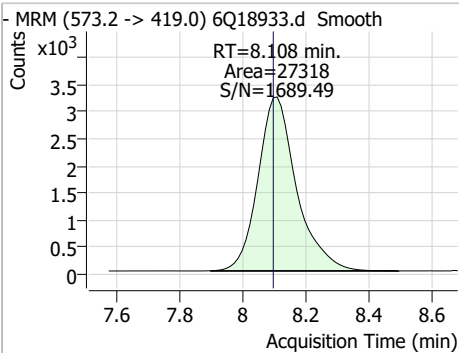
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Perfluorinated Compounds by LC/MS/MS

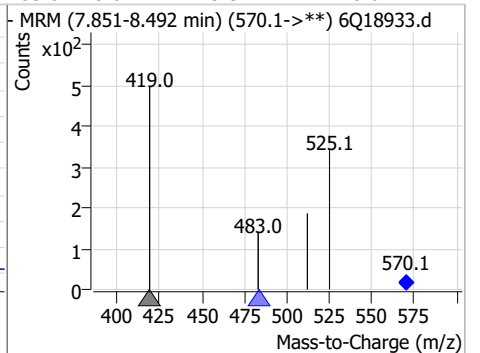
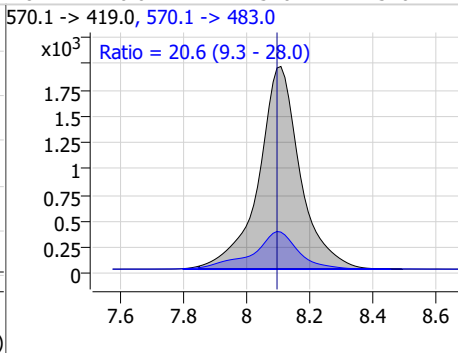
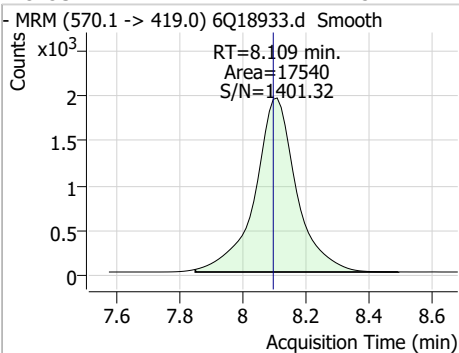
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	3.13	8.05	0.01	71650	512.9 -> 219.0	16.2	7.6	22.7



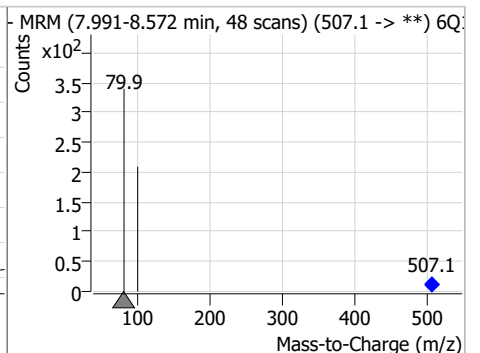
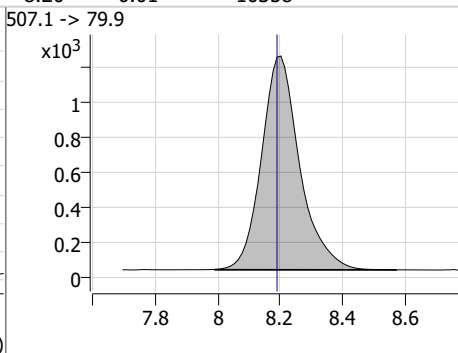
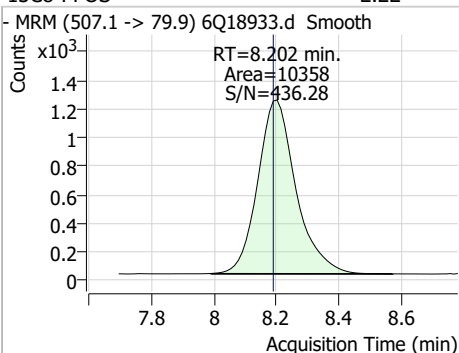
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.93	8.11	0.01	27318				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	3.21	8.11	0.01	17540	570.1 -> 483.0	20.6	9.3	28.0



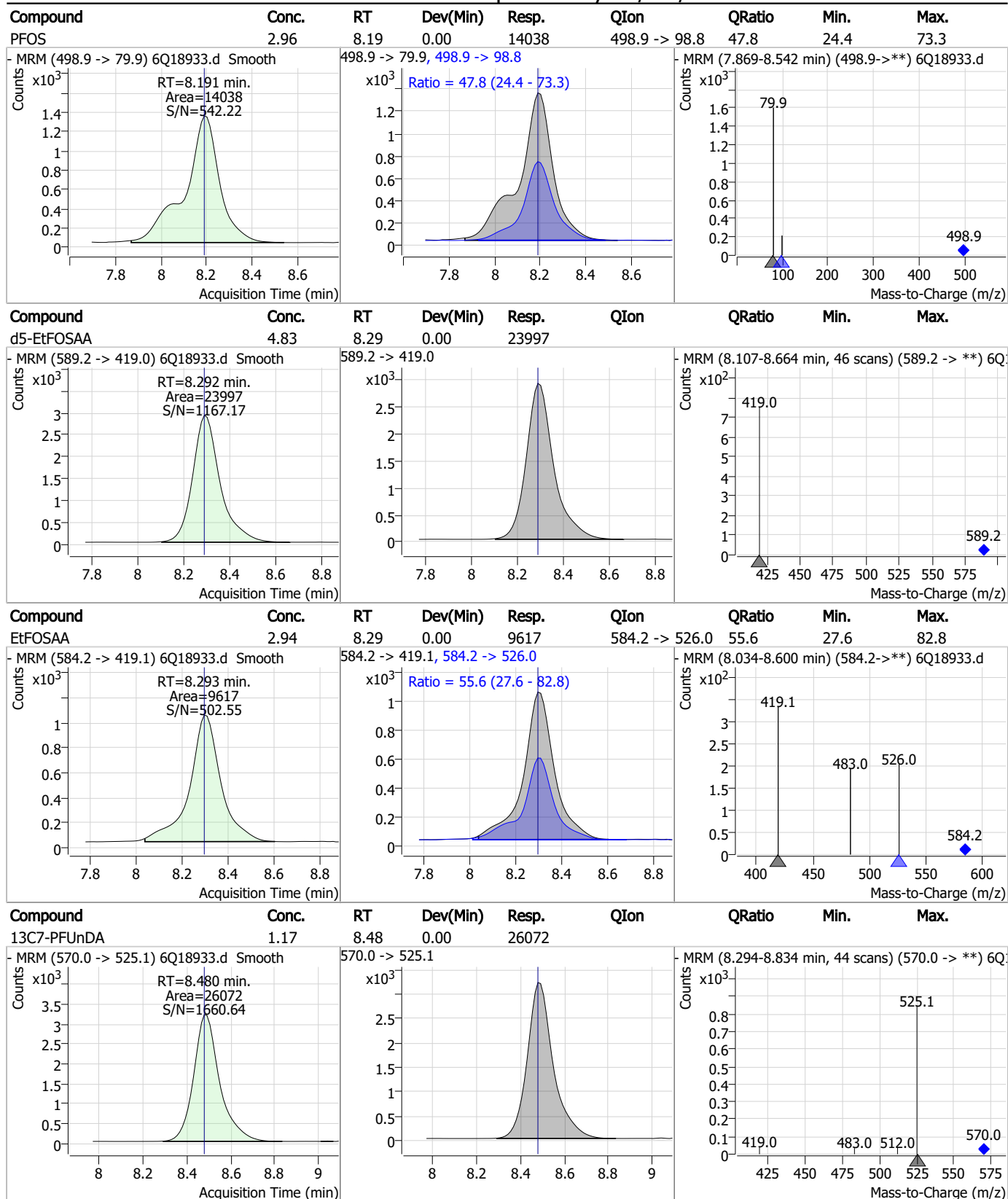
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.22	8.20	0.01	10358				



7.3.3

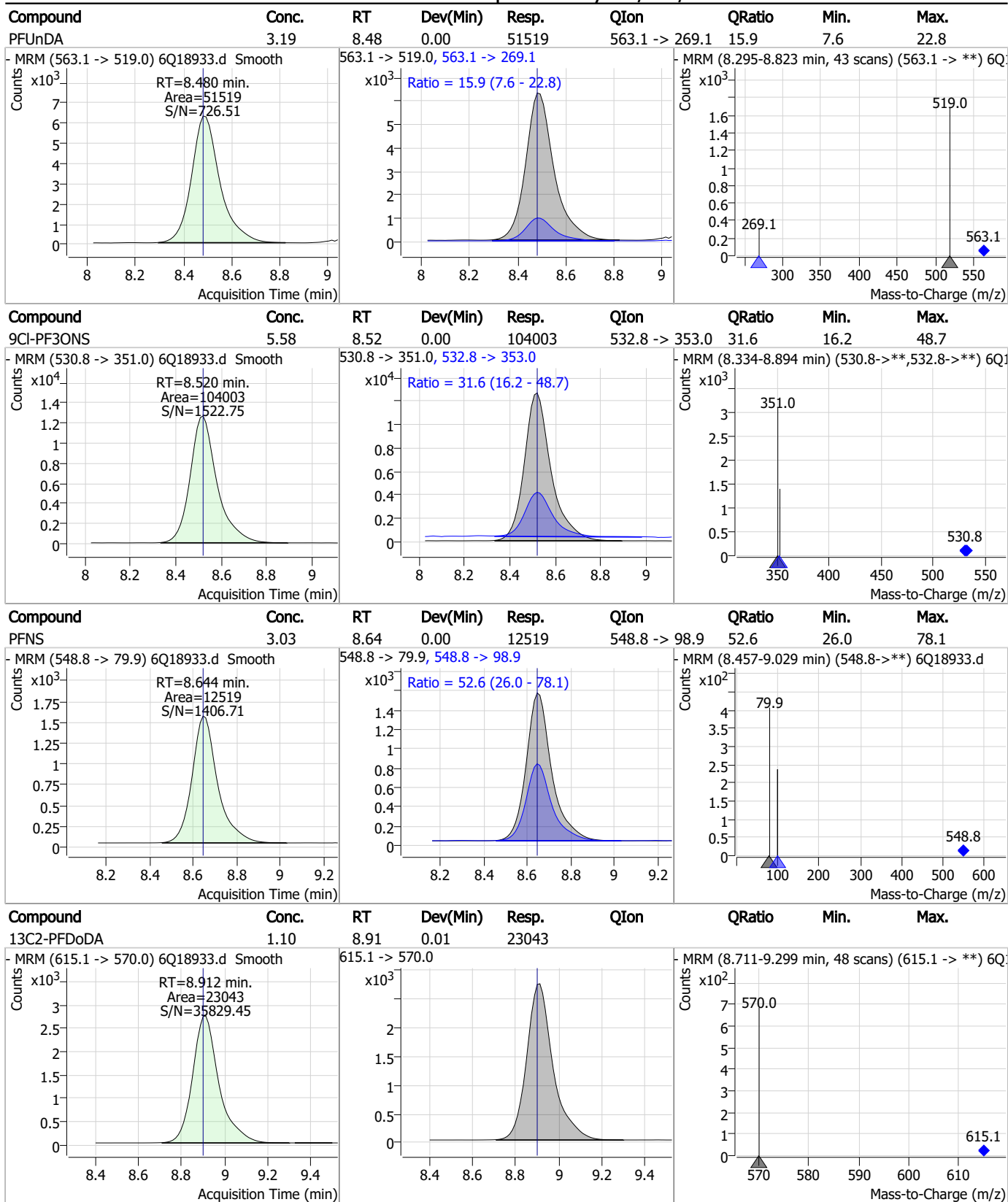
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Perfluorinated Compounds by LC/MS/MS



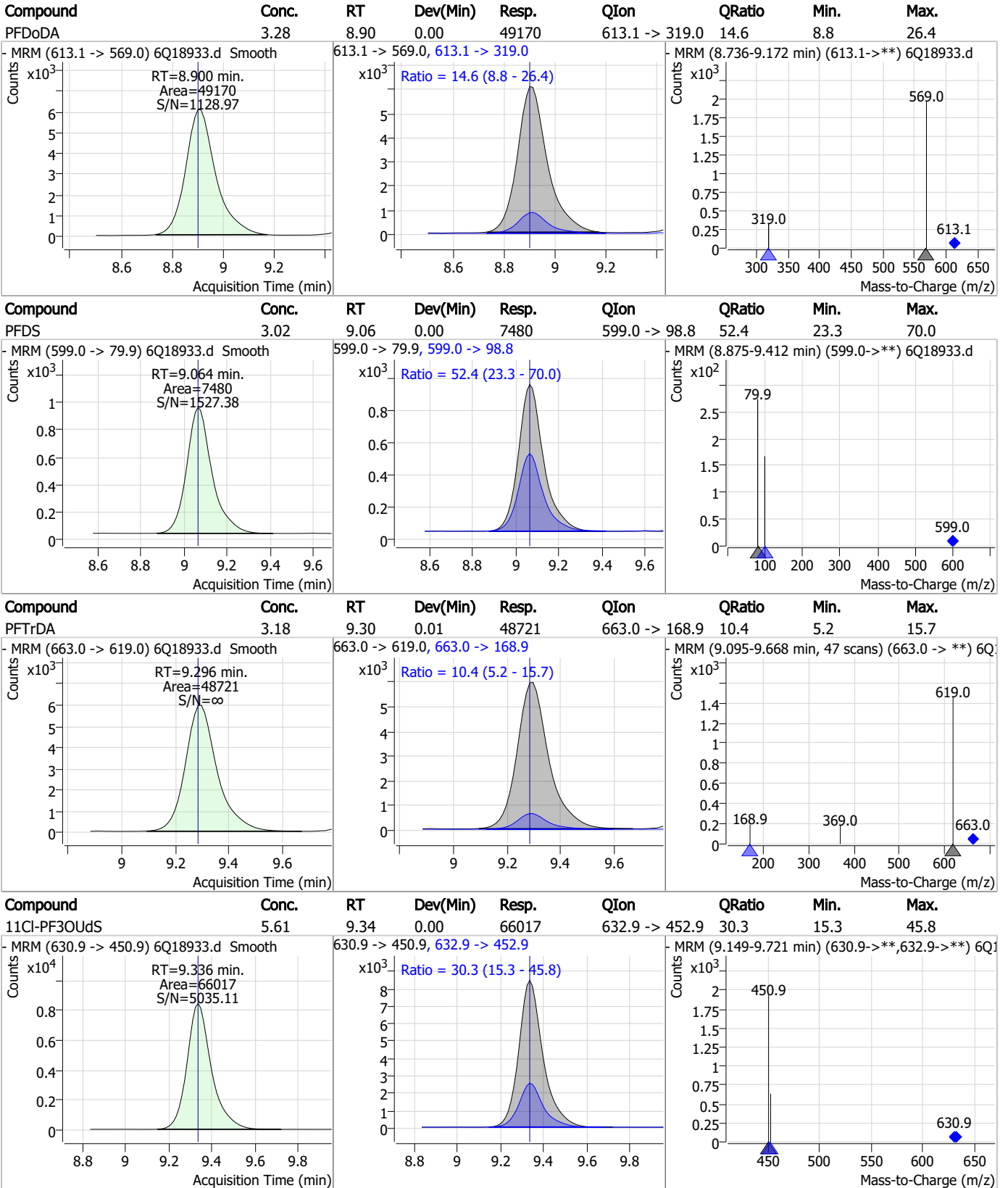
7.3.3
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Perfluorinated Compounds by LC/MS/MS



7.3.3
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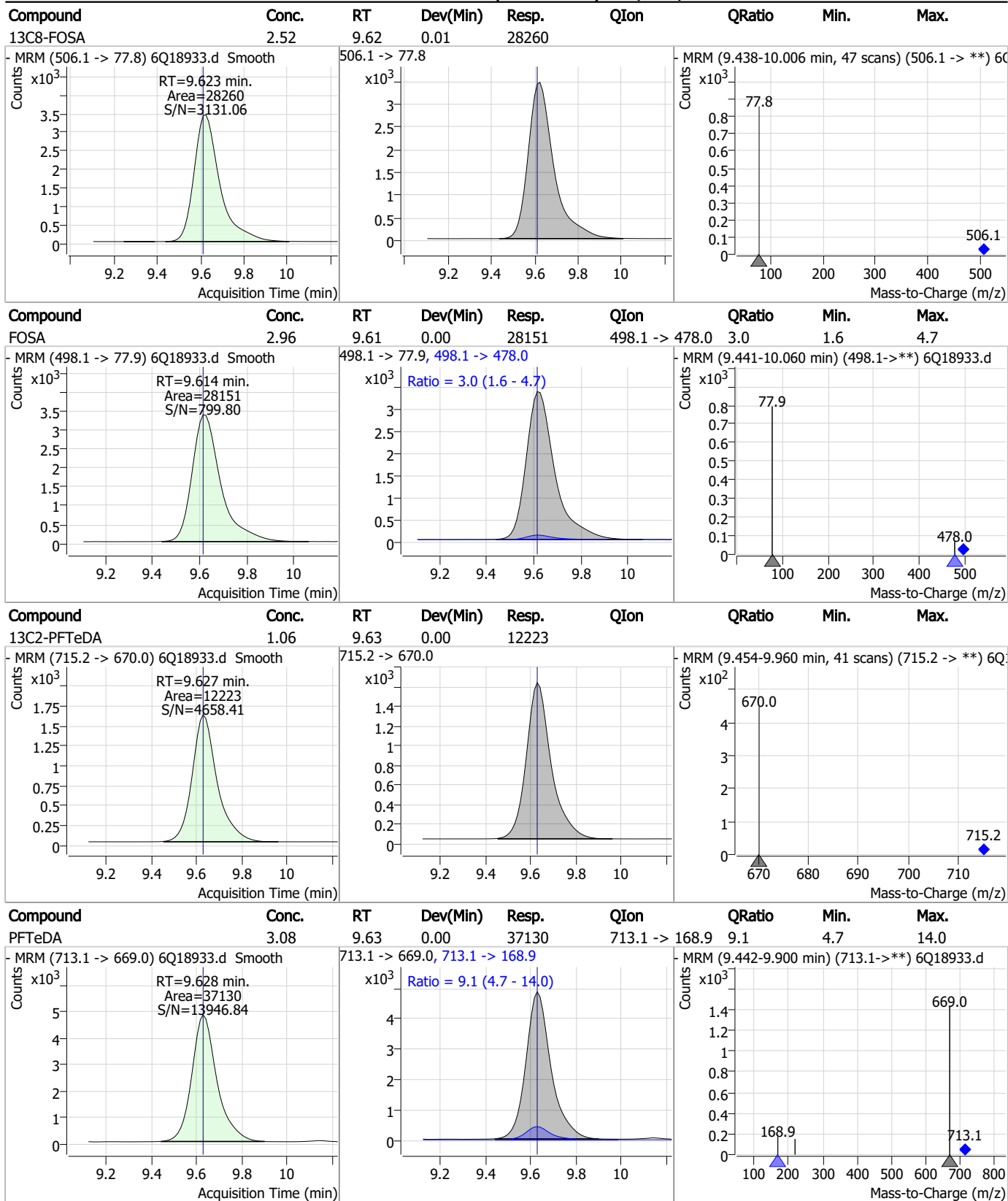
Perfluorinated Compounds by LC/MS/MS



7.3.3

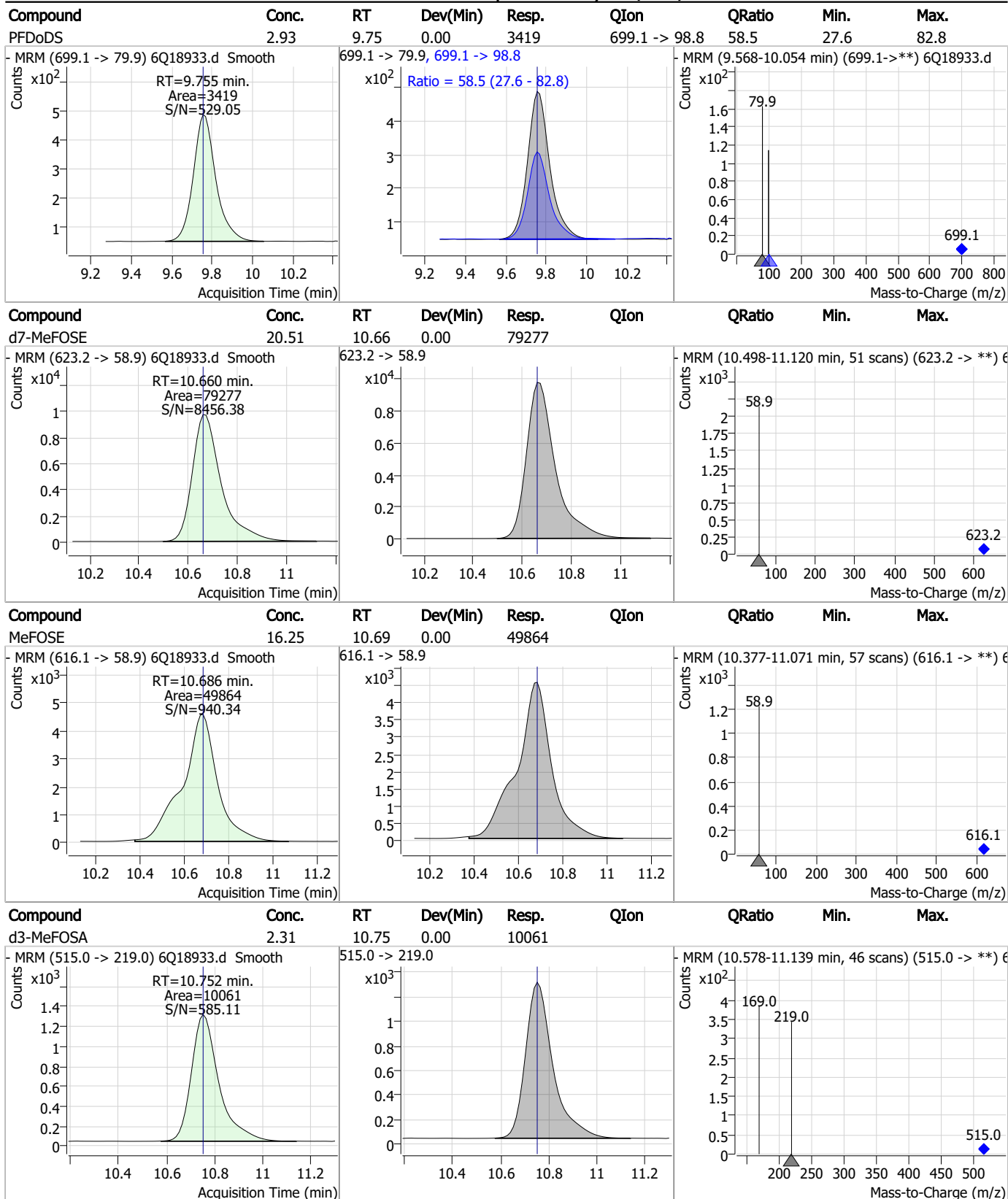
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Perfluorinated Compounds by LC/MS/MS



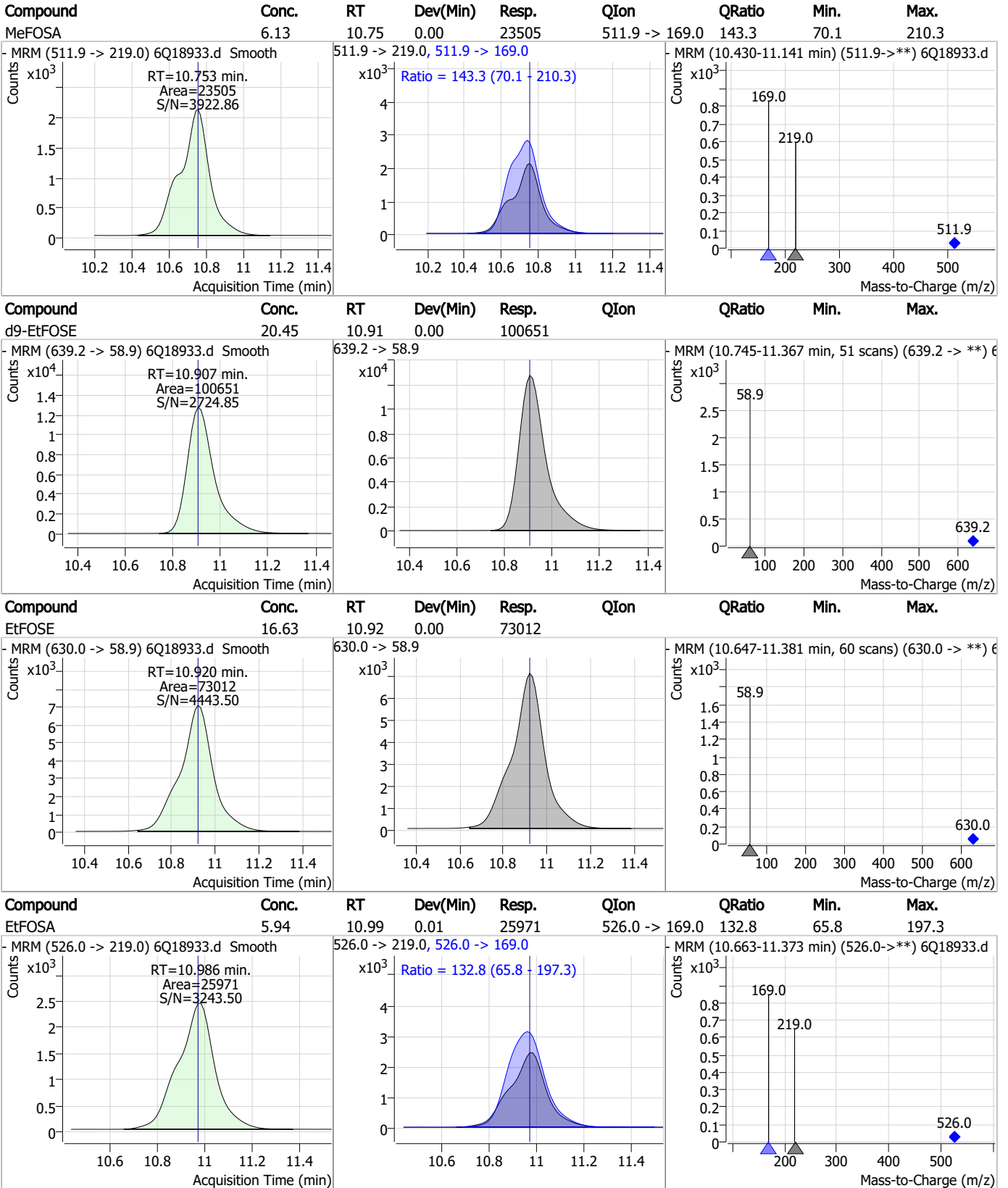
7.3.3
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Perfluorinated Compounds by LC/MS/MS



7.3.3
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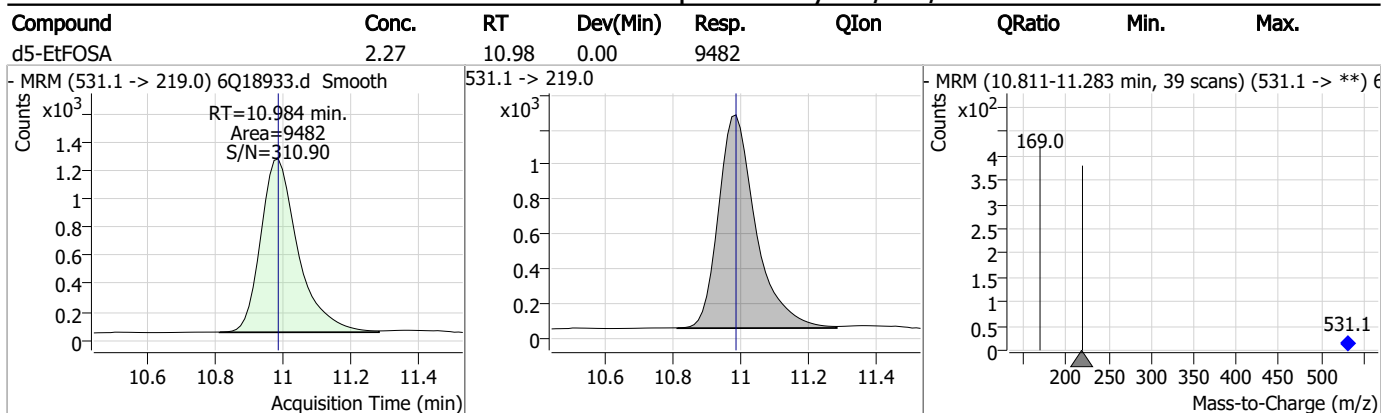
Perfluorinated Compounds by LC/MS/MS



7.3.3

7

Perfluorinated Compounds by LC/MS/MS



7.3.3

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18934.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 11:38:17 AM
 Sample Name : op97179-llbs:3
 Vial : P6-A2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97179,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.888	216.8 -> 171.9	167896	10.00 µg/L	0.028
M5-PFPeA	4.284	268.3 -> 223.0	54081	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	58300	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	55247	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	83111	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	37895	1.25 µg/L	0.000
M6-PFDA	8.051	519.1 -> 474.1	23632	1.25 µg/L	0.012
M7-PFUnDA	8.480	570.0 -> 525.1	29265	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	25403	1.25 µg/L	0.012
M2-PFTeDA	9.627	715.2 -> 670.0	13180	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	30242	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	21251	2.50 µg/L	0.013
M3-PFHxS	7.167	402.1 -> 79.9	13659	2.50 µg/L	0.012
M8-PFOS	8.189	507.1 -> 79.9	12632	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4476	5.00 µg/L	0.000
M2-6:2FTS	6.850	429.1 -> 80.9	6433	5.00 µg/L	0.012
M2-8:2FTS	7.839	529.1 -> 80.9	6022	5.00 µg/L	0.000
M3-MeFOSAA	8.108	573.2 -> 419.0	34205	5.00 µg/L	0.012
M3-HFPO-DA	5.844	286.9 -> 168.9	34369	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	29615	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	96273	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	124448	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	10401	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	9928	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	16592	2.50 µg/L	0.000
13C3-PFBA	2.891	216.0 -> 172.0	71020	5.00 µg/L	0.027
18O2-PFHxS	7.166	403.0 -> 83.9	9708	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	88581	2.50 µg/L	0.013
13C2-PFDA	8.052	515.1 -> 470.1	30406	1.25 µg/L	0.012
13C5-PFNA	7.583	468.0 -> 423.0	48193	1.25 µg/L	0.014
13C2-PFHxA	5.479	315.1 -> 270.0	54582	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4476	5.61 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.1%		
13C2-6:2FTS	6.850	429.1 -> 80.9	6433	5.61 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.1%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6022	5.27 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.4%		
13C2-PFDoDA	8.912	615.1 -> 570.0	25403	1.14 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 91.5%		
13C2-PFTeDA	9.627	715.2 -> 670.0	13180	1.08 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 86.6%		
13C3-PFBS	5.397	302.1 -> 79.9	21251	2.49 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C3-PFHxS	7.167	402.1 -> 79.9	13659	2.61 µg/L	0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C4-PFBA	2.888	216.8 -> 171.9	167896	9.96 µg/L	0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C4-PFHpA	6.420	367.1 -> 322.0	55247	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C5-PFHxA	5.478	318.0 -> 273.0	58300	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C5-PFPeA	4.284	268.3 -> 223.0	54081	5.11 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C6-PFDA	8.051	519.1 -> 474.1	23632	1.31 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	29265	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C8-FOSA	9.623	506.1 -> 77.8	30242	2.50 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C8-PFOA	7.064	421.1 -> 376.0	83111	2.45 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C8-PFOS	8.189	507.1 -> 79.9	12632	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C9-PFNA	7.569	472.1 -> 427.0	37895	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.7%	
d3-MeFOSAA	8.108	573.2 -> 419.0	34205	5.72 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.5%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	34369	9.99 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
d3-MeFOSA	10.752	515.0 -> 219.0	9928	2.11 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 84.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	29615	5.53 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.5%	
d7-MeFOSE	10.672	623.2 -> 58.9	96273	23.12 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 92.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	124448	23.46 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 93.9%	
d5-EtFOSA	10.984	531.1 -> 219.0	10401	2.31 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.3%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	20014	3.26 µg/L	99
		327.1 -> 80.9	7593		
6:2FTS	6.838	427.1 -> 407.0	21002	3.45 µg/L	99
		427.1 -> 80.9	6924		
8:2FTS	7.840	527.1 -> 507.0	11091	3.43 µg/L	97
		527.1 -> 80.8	4649		
EtFOSAA	8.293	584.2 -> 419.1	3227	0.80 µg/L	99
		584.2 -> 526.0	1815		
FOSA	9.614	498.1 -> 77.9	8911	0.87 µg/L	100
		498.1 -> 478.0	269		
MeFOSAA	8.109	570.1 -> 419.0	5477	0.80 µg/L	91
		570.1 -> 483.0	1230		
PFBA	2.894	212.8 -> 168.9	19685	3.60 µg/L	100
PFBS	5.398	298.7 -> 79.9	6059	0.82 µg/L	99
		298.7 -> 98.8	2355		
PFDA	8.040	512.9 -> 469.0	25454	0.89 µg/L	98
		512.9 -> 219.0	4069		
PFDODA	8.900	613.1 -> 569.0	15895	0.96 µg/L	96
		613.1 -> 319.0	2533		
PFDS	9.064	599.0 -> 79.9	2430	0.80 µg/L	97

7.3.4
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.433	599.0 -> 98.8	1186	0.88 µg/L	98
		363.1 -> 319.0	20549		
PFHpS	7.710	363.1 -> 169.0	3521	0.87 µg/L	100
		449.0 -> 79.9	4972		
PFHxA	5.481	449.0 -> 98.9	2433	0.94 µg/L	98
		313.0 -> 269.0	17958		
PFHxS	7.168	313.0 -> 118.9	1077	0.77 µg/L	99
		398.7 -> 79.9	4959		
PFNA	7.584	398.7 -> 98.9	2400	0.89 µg/L	97
		463.0 -> 419.0	23853		
PFNS	8.644	463.0 -> 219.0	4499	0.90 µg/L	97
		548.8 -> 79.9	4513		
PFOA	7.066	548.8 -> 98.9	2252	0.91 µg/L	99
		413.0 -> 369.0	31974		
PFOS	8.191	413.0 -> 169.0	5556	0.82 µg/L	97
		498.9 -> 79.9	4741		
PFPeA	4.287	498.9 -> 98.8	2407	1.78 µg/L	100
		263.0 -> 219.0	22694		
PFPeS	6.471	349.1 -> 79.9	4965	0.81 µg/L	97
		349.1 -> 98.9	2349		
PFTeDA	9.628	713.1 -> 669.0	12442	0.96 µg/L	98
		713.1 -> 168.9	1082		
PFTrDA	9.296	663.0 -> 619.0	15006	0.89 µg/L	98
		663.0 -> 168.9	1668		
PFUnDA	8.480	563.1 -> 519.0	16257	0.90 µg/L	96
		563.1 -> 269.1	2730		
11CI-PF3OUdS	9.336	630.9 -> 450.9	20465	1.56 µg/L	98
		632.9 -> 452.9	6477		
9CI-PF3ONS	8.520	530.8 -> 351.0	35671	1.71 µg/L	99
		532.8 -> 353.0	11770		
ADONA	6.683	376.9 -> 250.9	81683	1.73 µg/L	100
		376.9 -> 84.8	22456		
HFPO-DA	5.844	284.9 -> 168.9	5266	1.83 µg/L	100
		284.9 -> 184.9	632		
3:3FTCA	3.752	241.0 -> 177.0	3973	4.39 µg/L	98
		241.0 -> 117.0	563		
5:3FTCA	6.149	341.0 -> 237.1	81442	22.06 µg/L	99
		341.0 -> 217.0	59502		
7:3FTCA	7.548	441.0 -> 316.9	55041	21.67 µg/L	98
		441.0 -> 336.9	126490		
EtFOSA	10.974	526.0 -> 219.0	7671	1.60 µg/L	97
		526.0 -> 169.0	10361		
EtFOSE	10.920	630.0 -> 58.9	23569	4.34 µg/L	100
		511.9 -> 219.0	6836		
MeFOSA	10.753	511.9 -> 169.0	9203	1.81 µg/L	95
		616.1 -> 58.9	16188		
MeFOSE	10.686	699.1 -> 79.9	1051	4.34 µg/L	100
		699.1 -> 98.8	667		
PFDoDS	9.755	295.0 -> 201.0	4284	0.74 µg/L	89
		295.0 -> 84.9	1124		
NFDHA	5.361	279.0 -> 85.1	16348	1.86 µg/L	97
		229.0 -> 84.9	12472		
PFMBA	4.688	314.8 -> 134.9	39702	1.85 µg/L	100
		314.8 -> 82.9	1437		
PFMPA	3.426			1.63 µg/L	100
PFEESA	5.938			1.63 µg/L	100

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

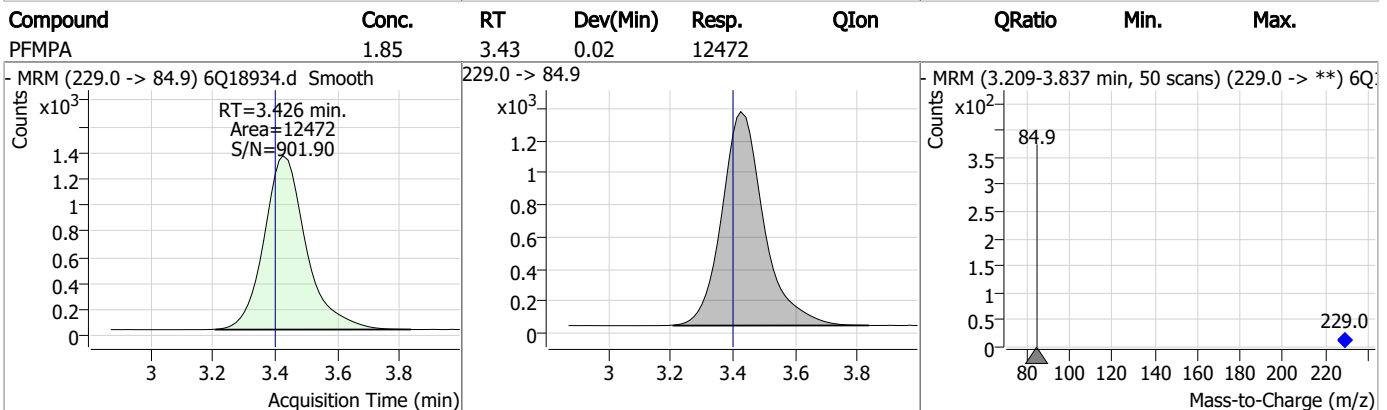
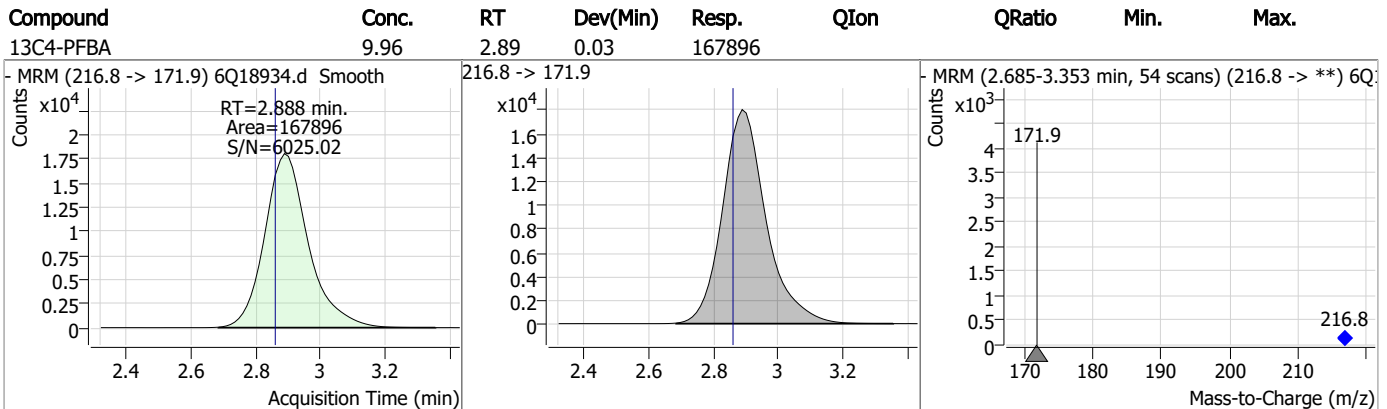
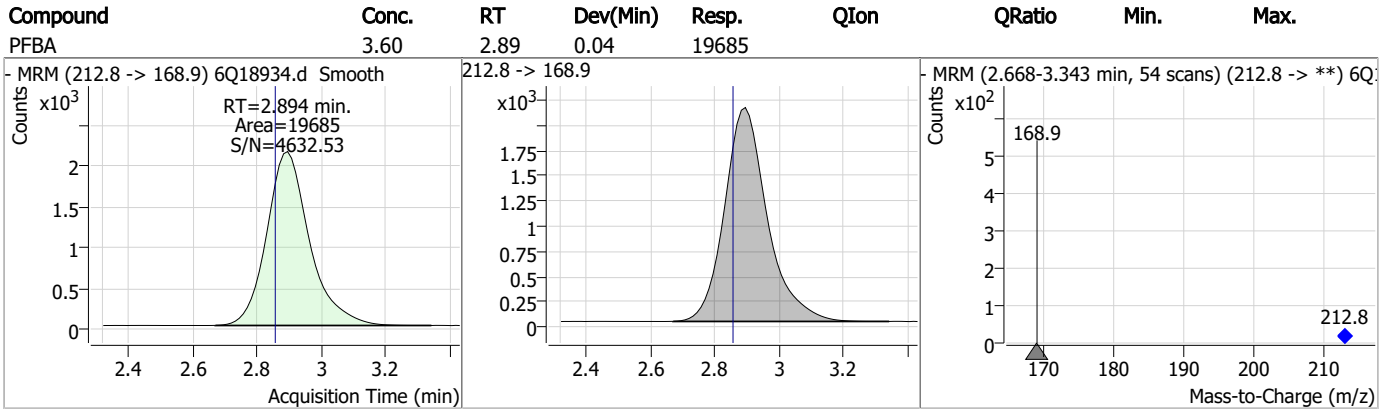
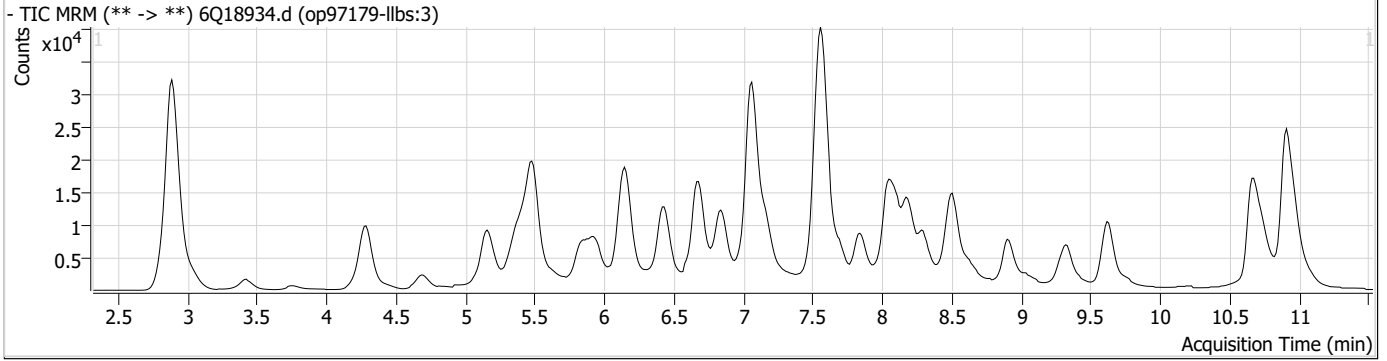
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.3.4

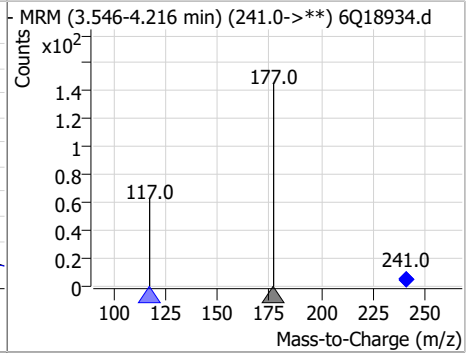
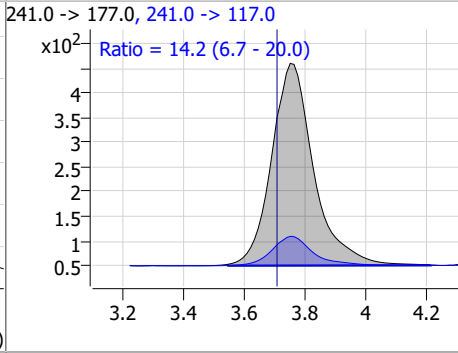
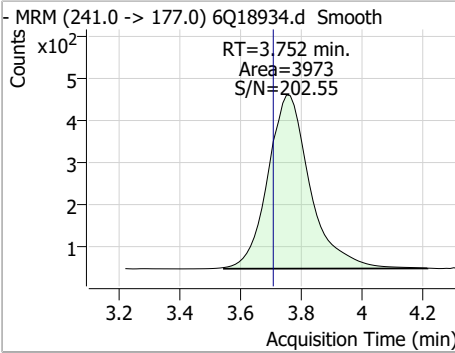
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Perfluorinated Compounds by LC/MS/MS

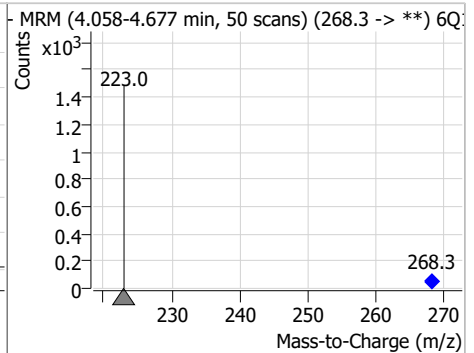
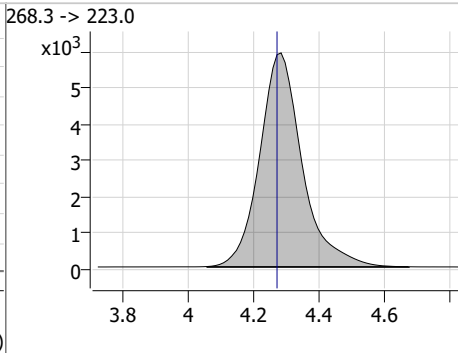
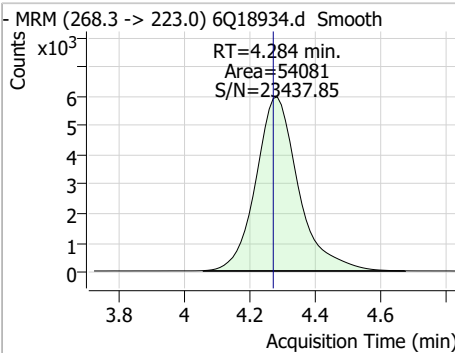


Perfluorinated Compounds by LC/MS/MS

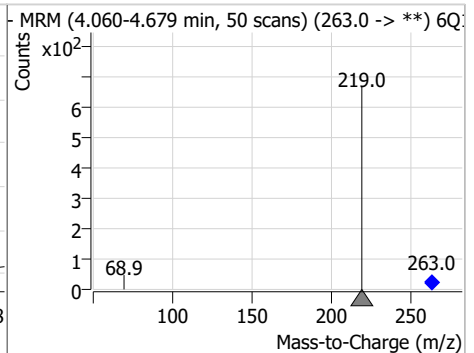
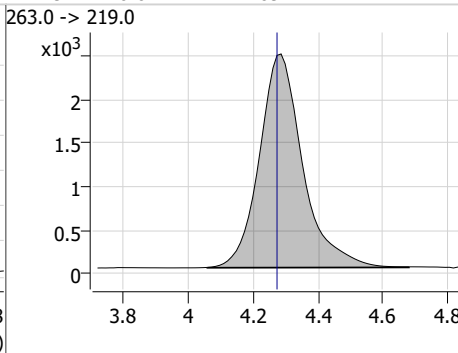
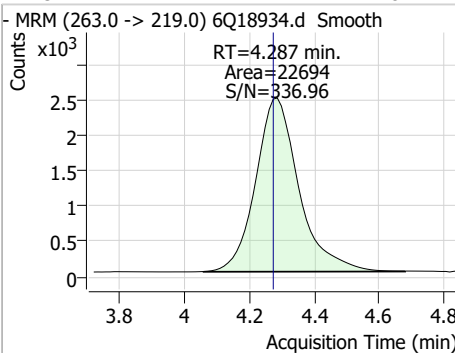
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	4.39	3.75	0.04	3973	241.0 -> 117.0	14.2	6.7	20.0



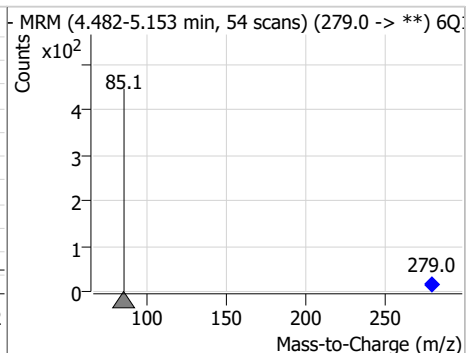
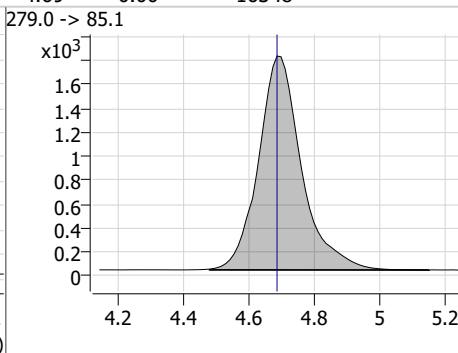
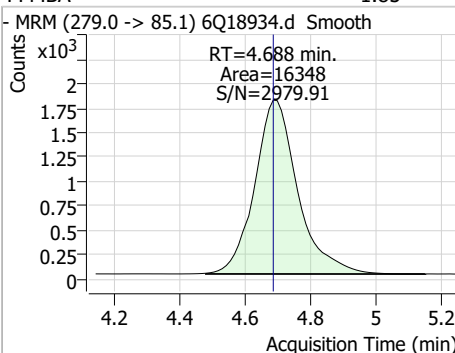
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.11	4.28	0.01	54081				



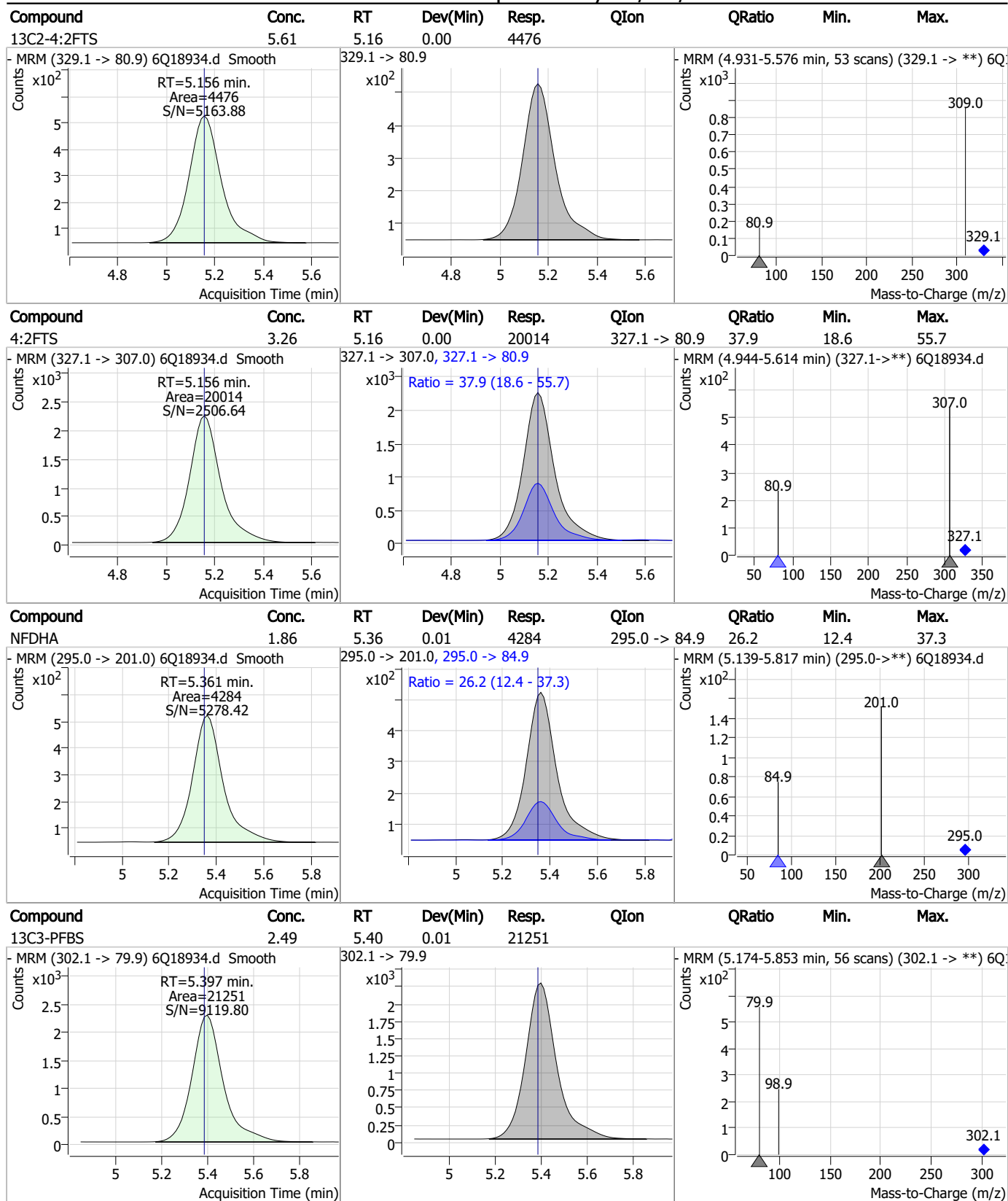
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	1.78	4.29	0.01	22694				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	1.85	4.69	0.00	16348				

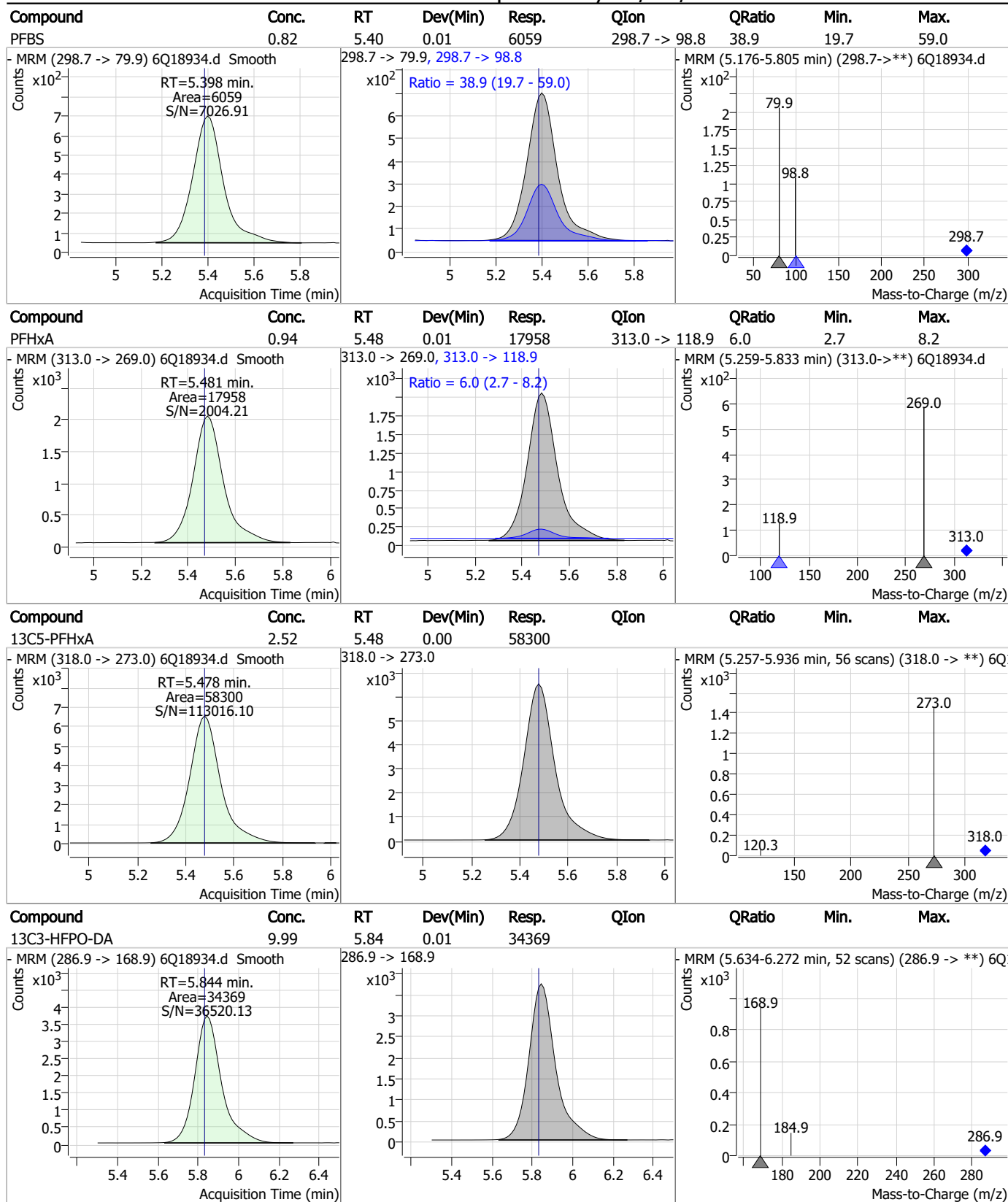


Perfluorinated Compounds by LC/MS/MS



7.3.4
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Perfluorinated Compounds by LC/MS/MS

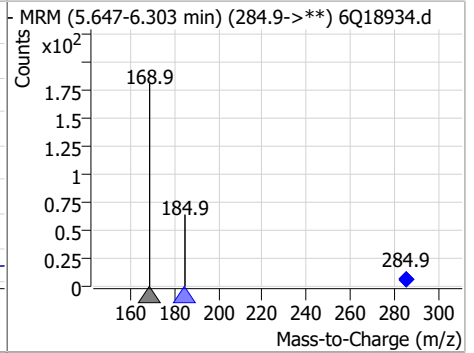
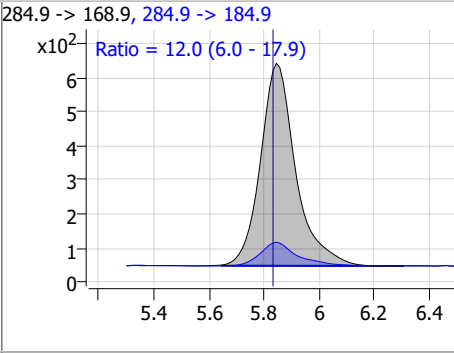
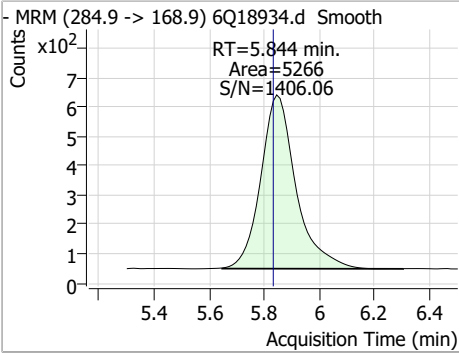


7.3.4
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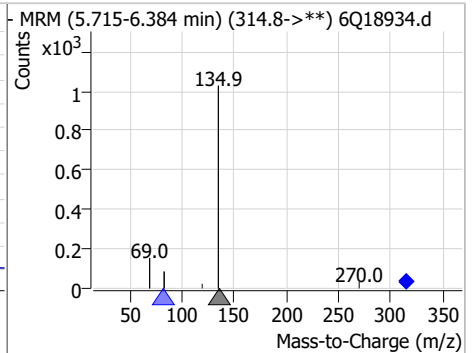
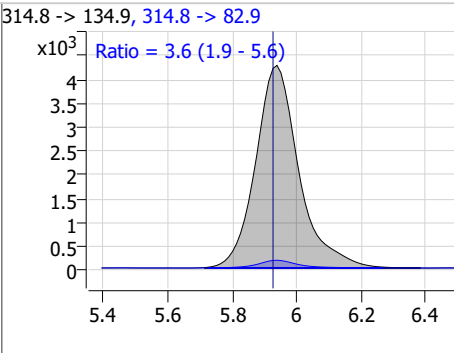
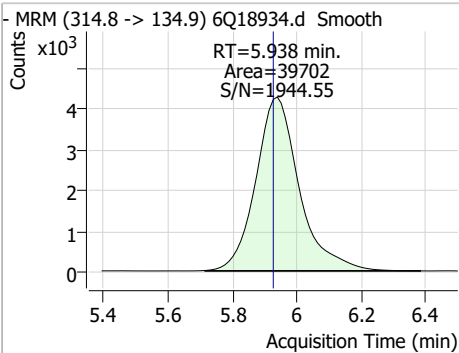


Perfluorinated Compounds by LC/MS/MS

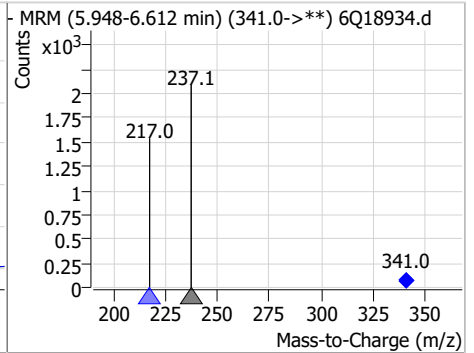
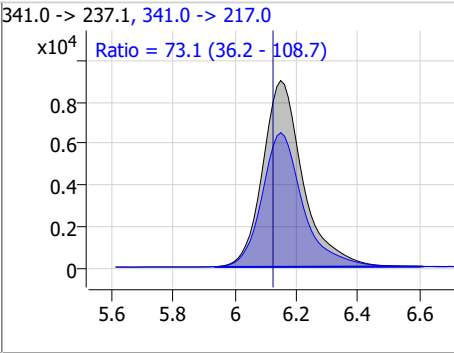
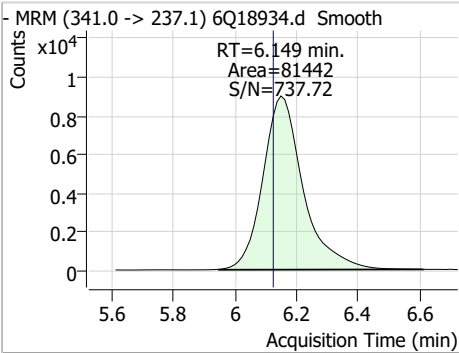
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	1.83	5.84	0.01	5266	284.9 -> 184.9	12.0	6.0	17.9



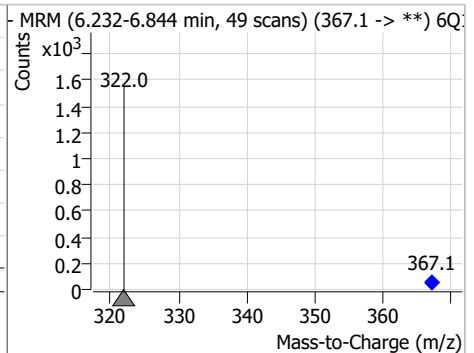
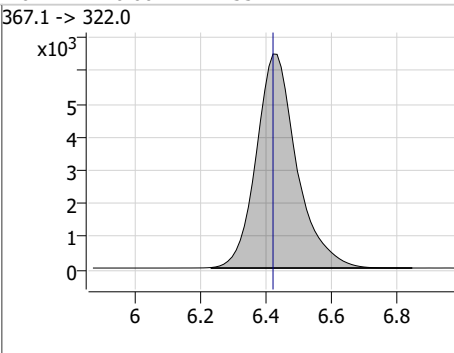
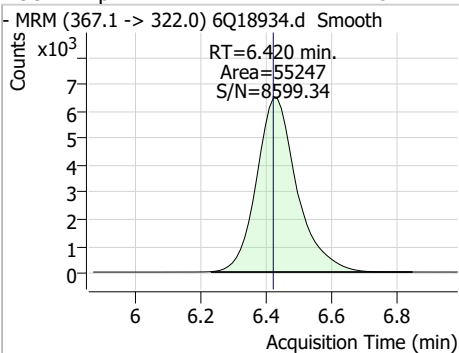
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	1.63	5.94	0.01	39702	314.8 -> 82.9	3.6	1.9	5.6



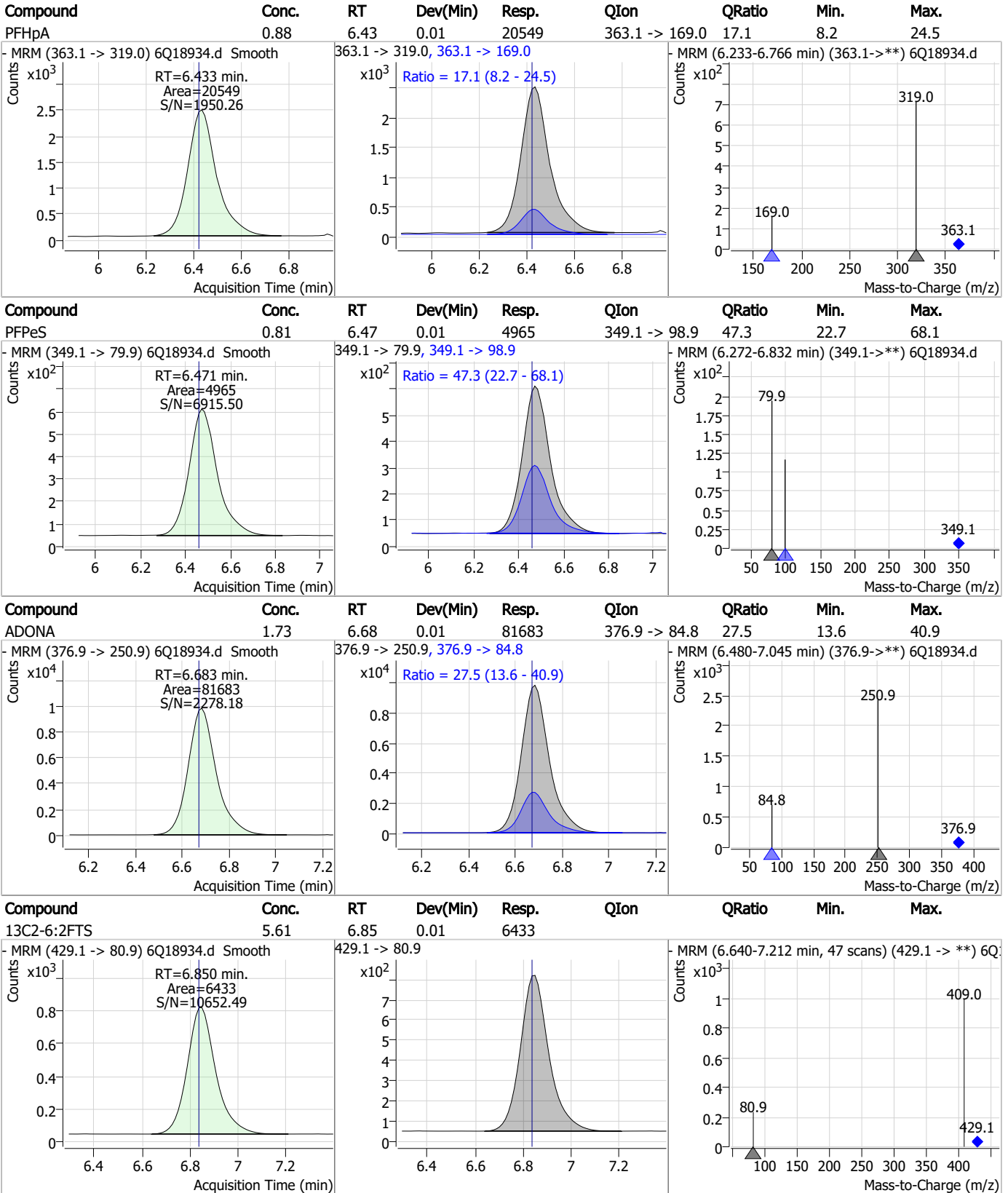
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	22.06	6.15	0.02	81442	341.0 -> 217.0	73.1	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.54	6.42	0.00	55247	367.1 -> 322.0			



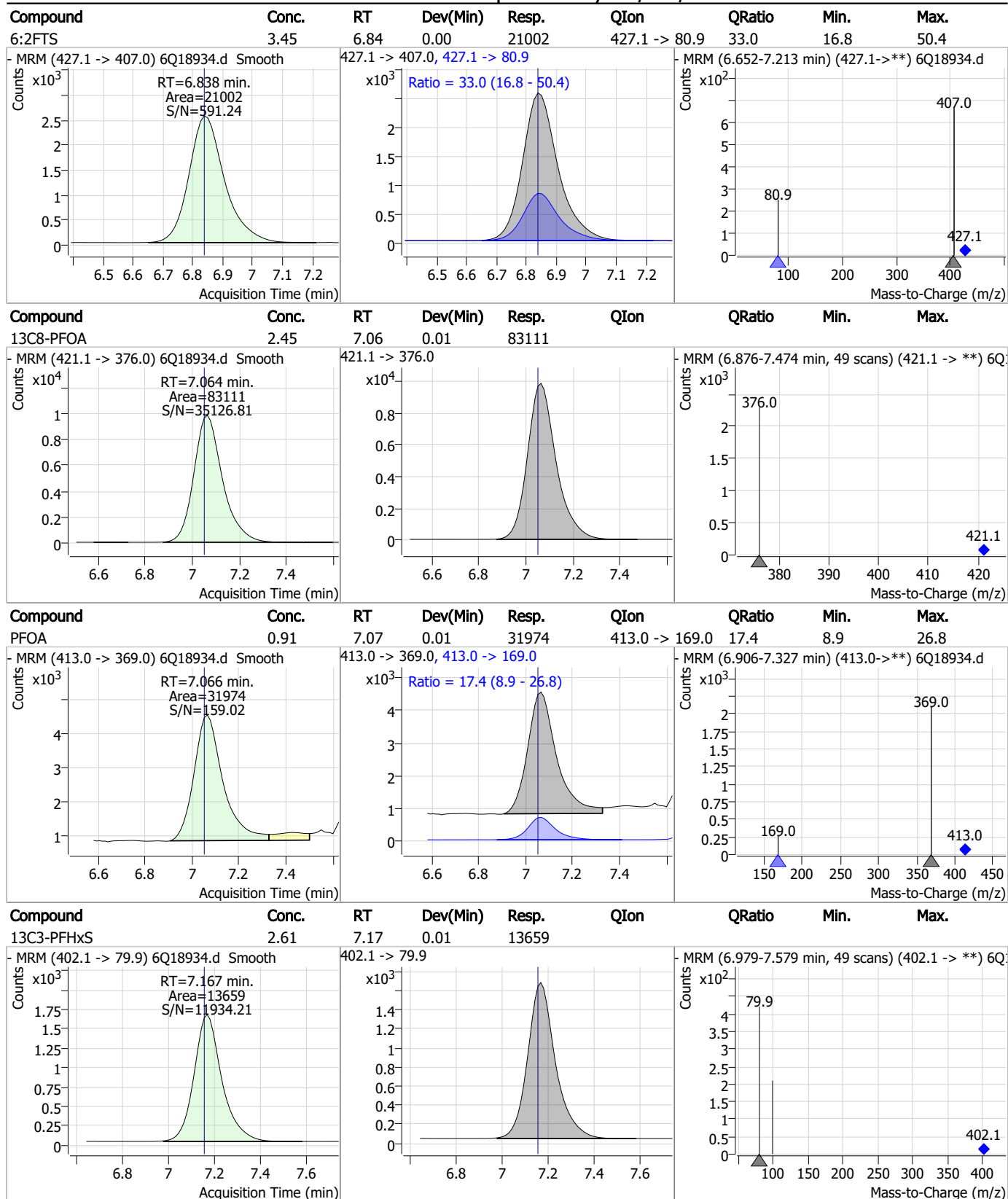
Perfluorinated Compounds by LC/MS/MS



7.3.4

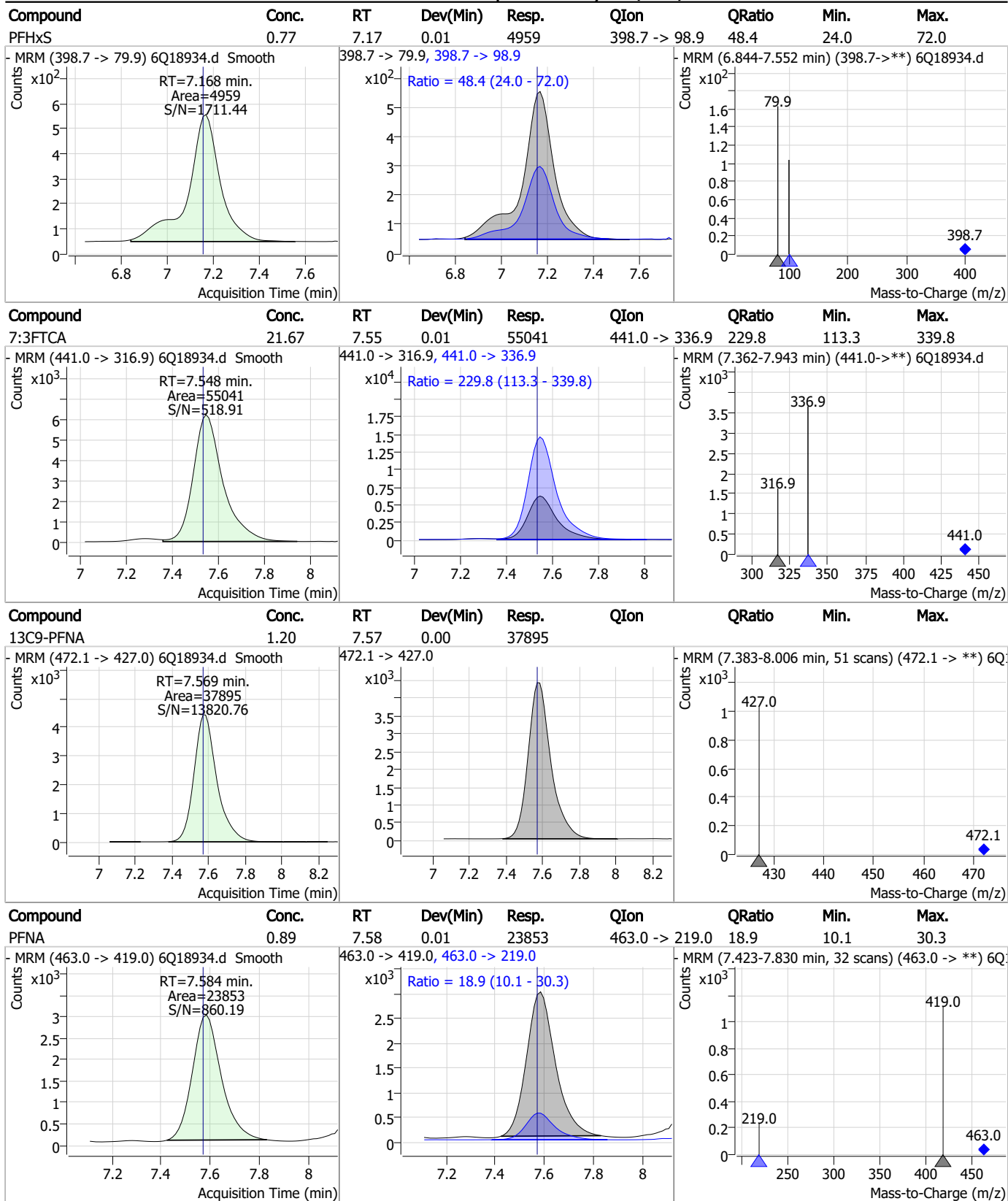
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Perfluorinated Compounds by LC/MS/MS



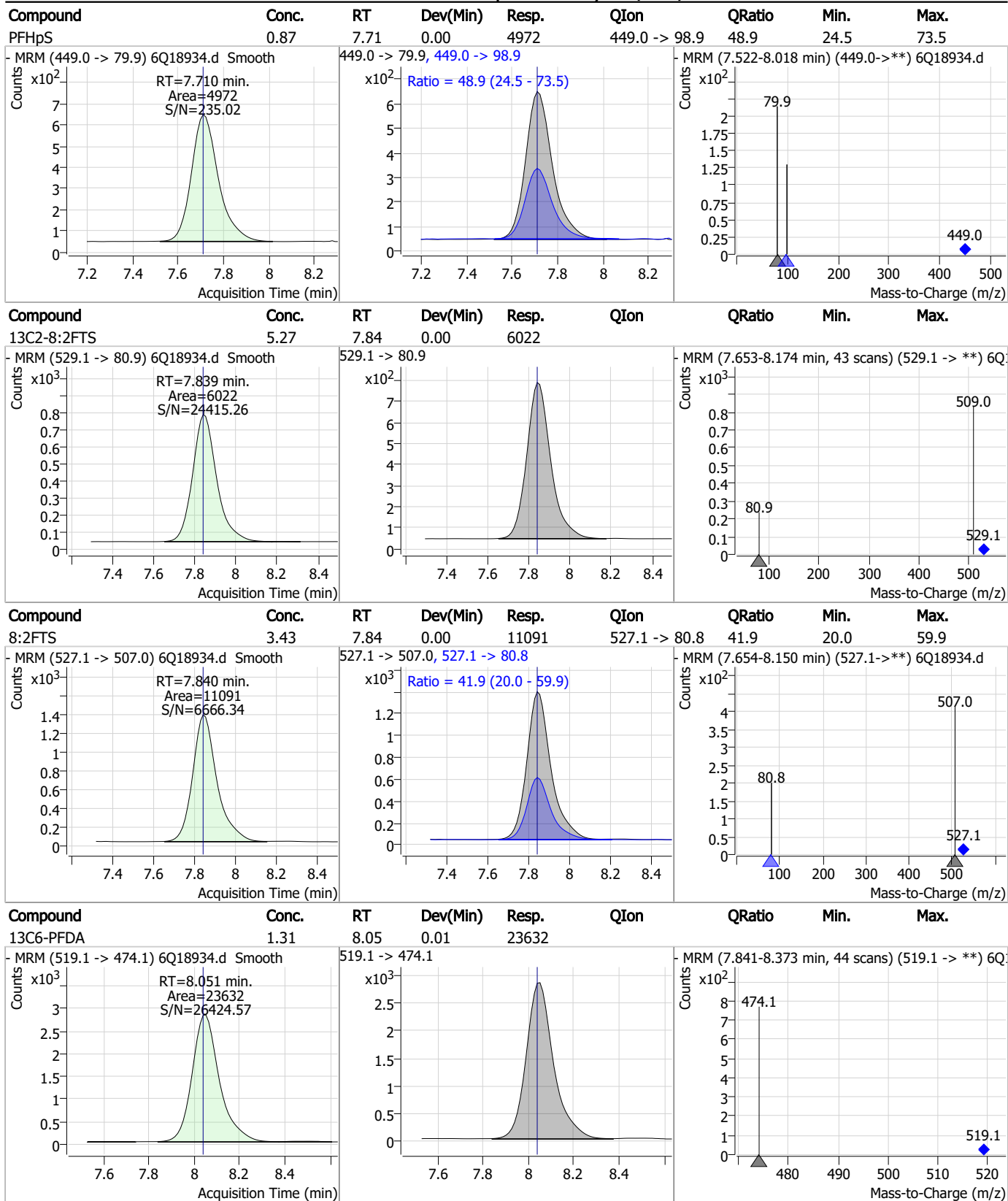
7.3.4
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Perfluorinated Compounds by LC/MS/MS



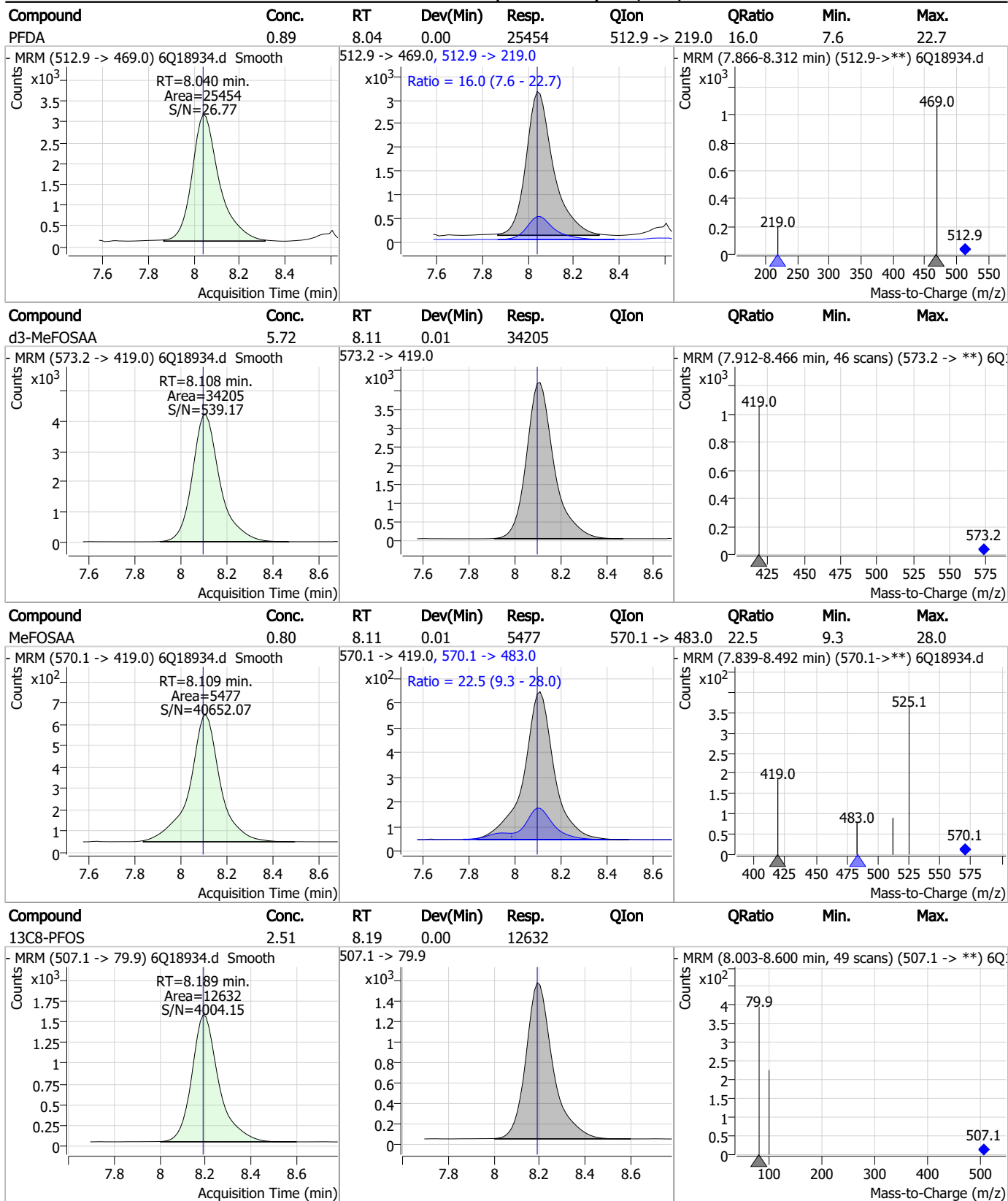
7.3.4
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Perfluorinated Compounds by LC/MS/MS



7.3.4
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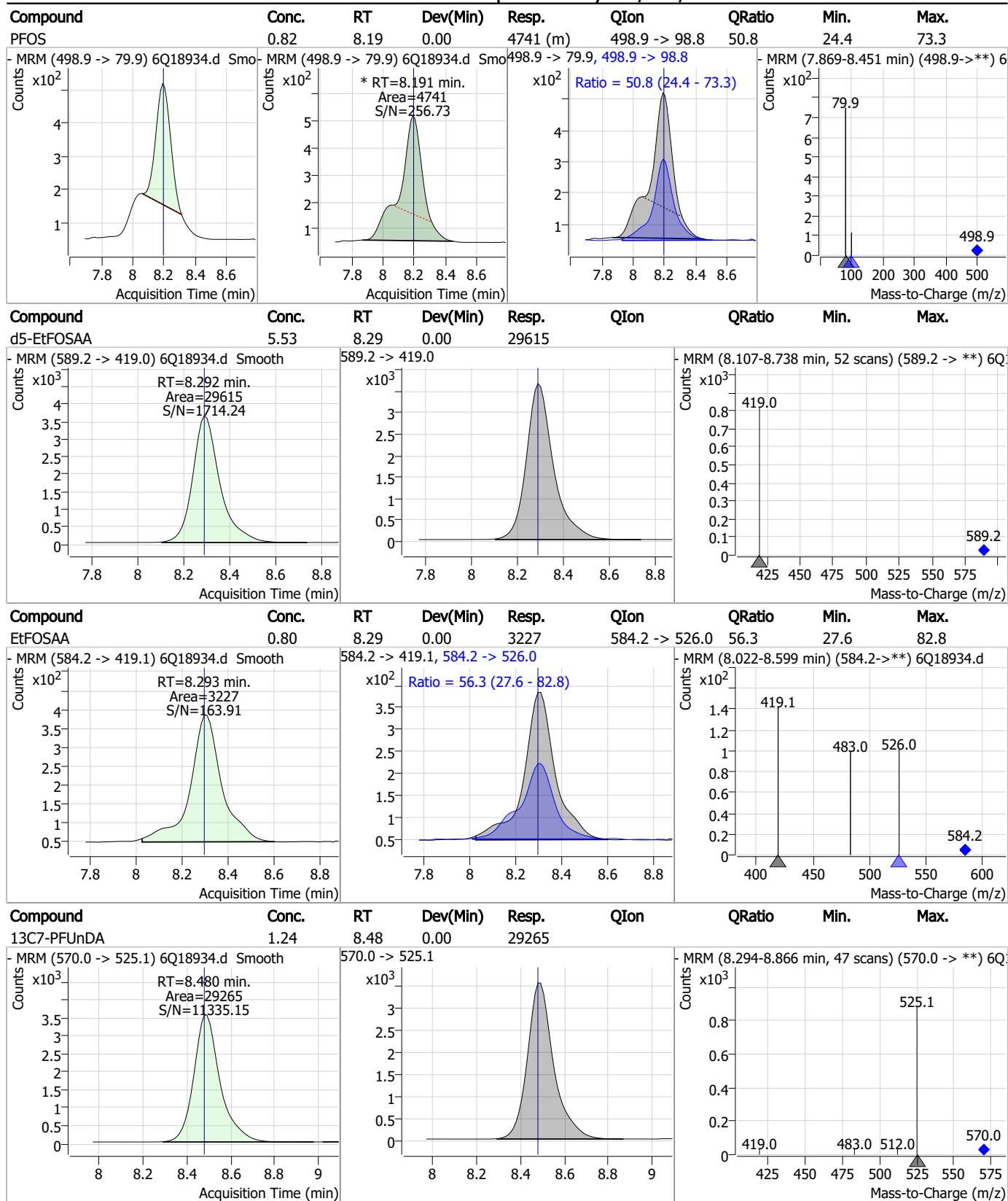
Perfluorinated Compounds by LC/MS/MS



7.3.4

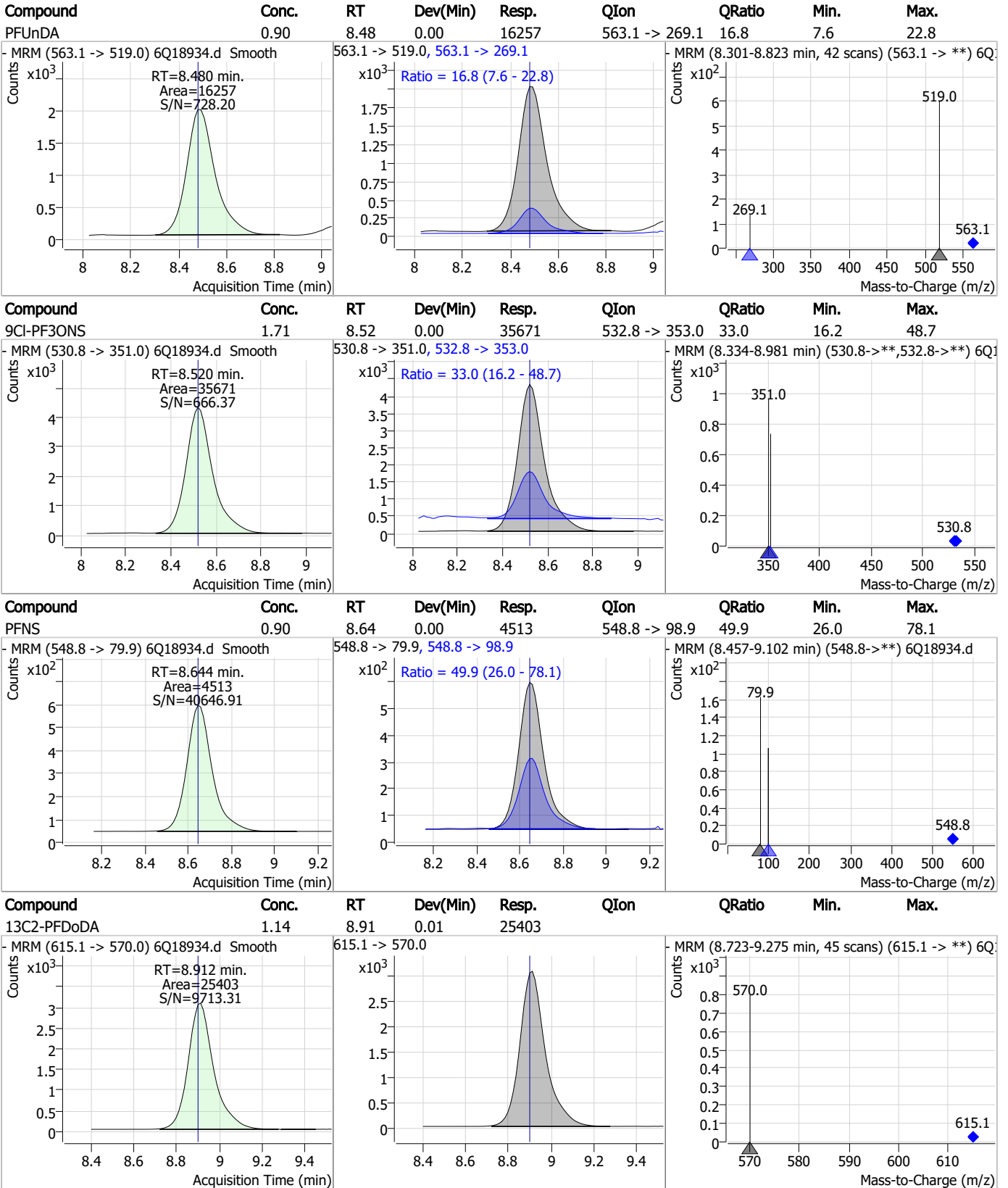
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Perfluorinated Compounds by LC/MS/MS



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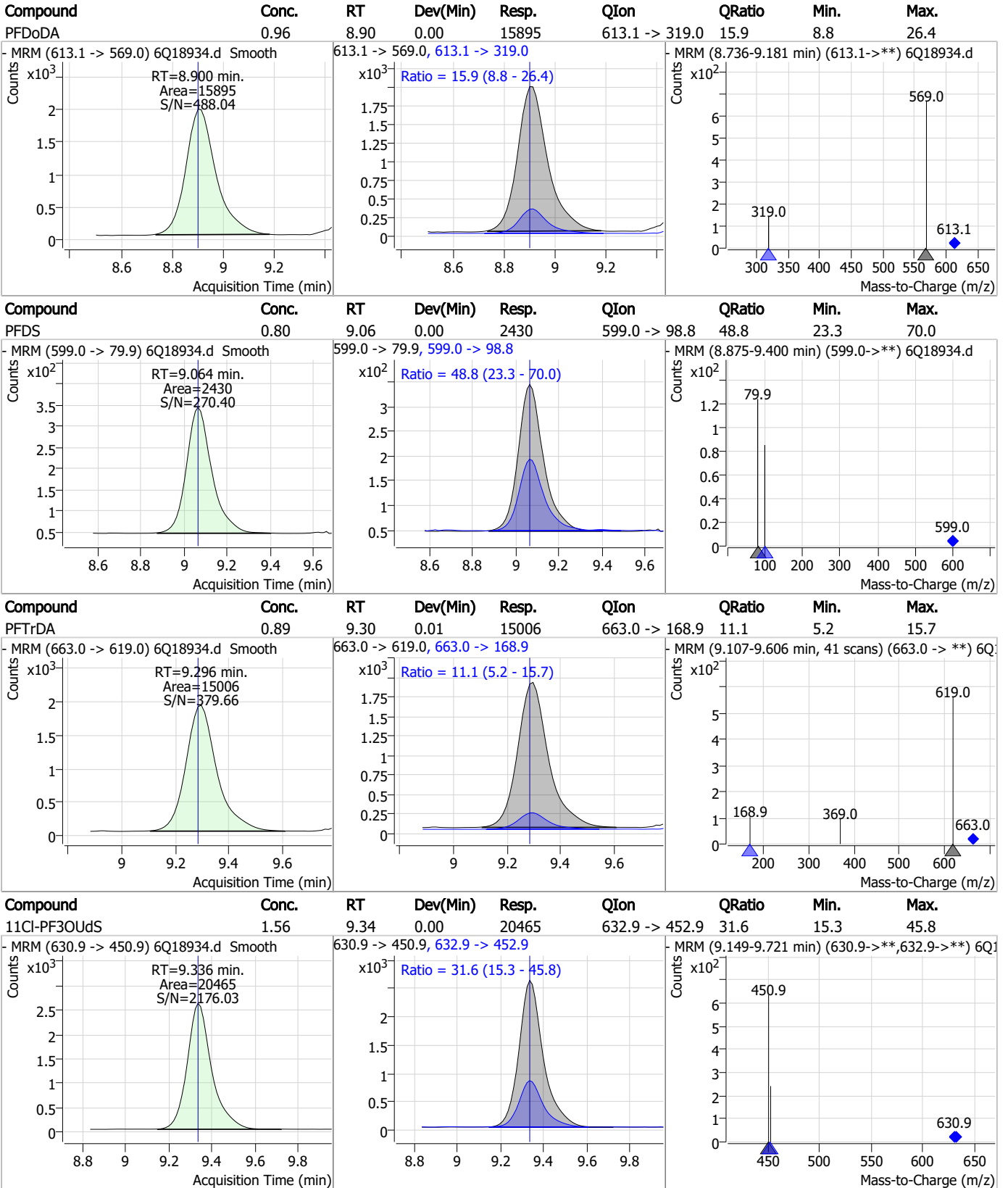
Perfluorinated Compounds by LC/MS/MS



7.3.4

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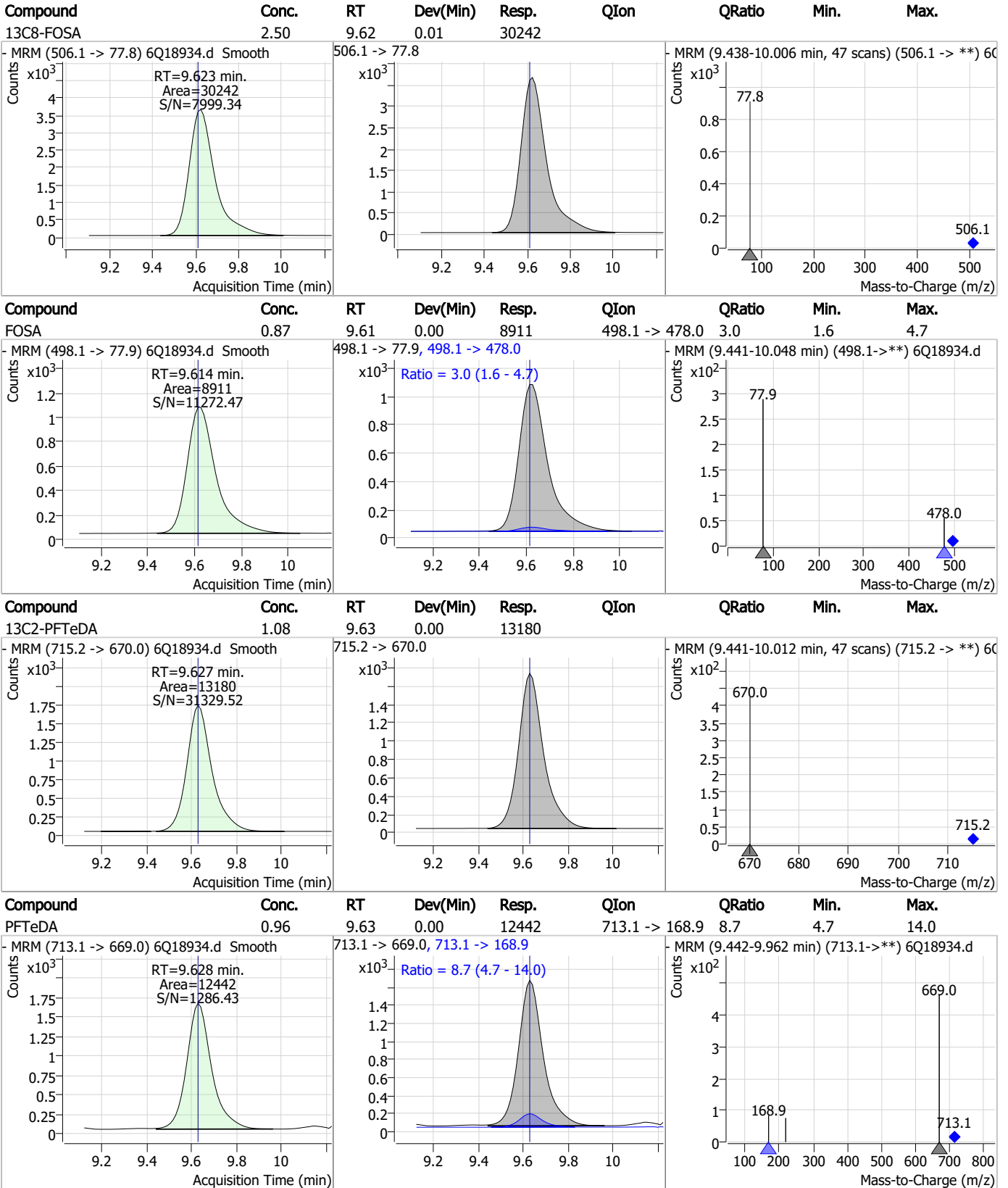
Perfluorinated Compounds by LC/MS/MS



7.3.4

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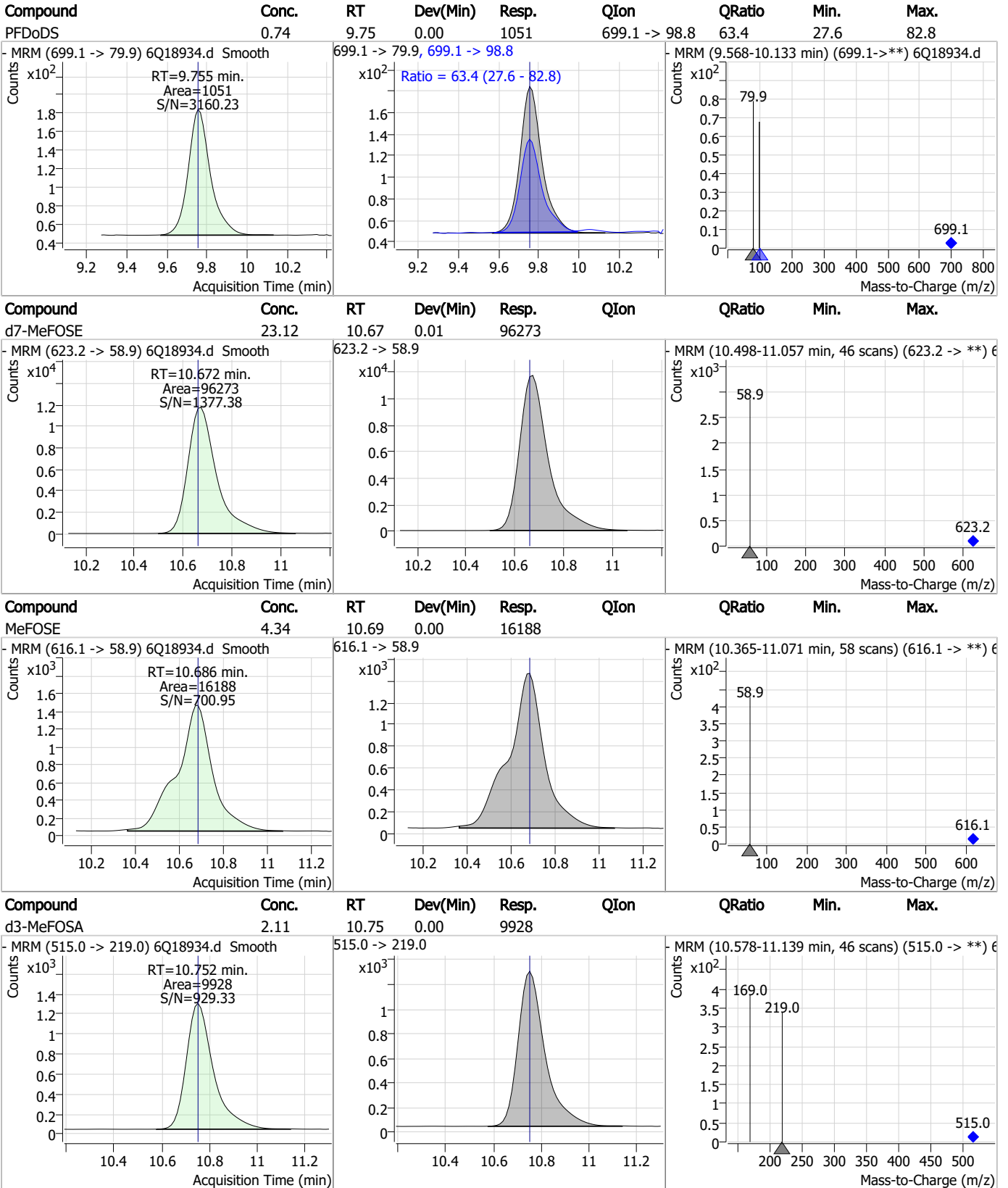
Perfluorinated Compounds by LC/MS/MS



7.3.4

7

Perfluorinated Compounds by LC/MS/MS

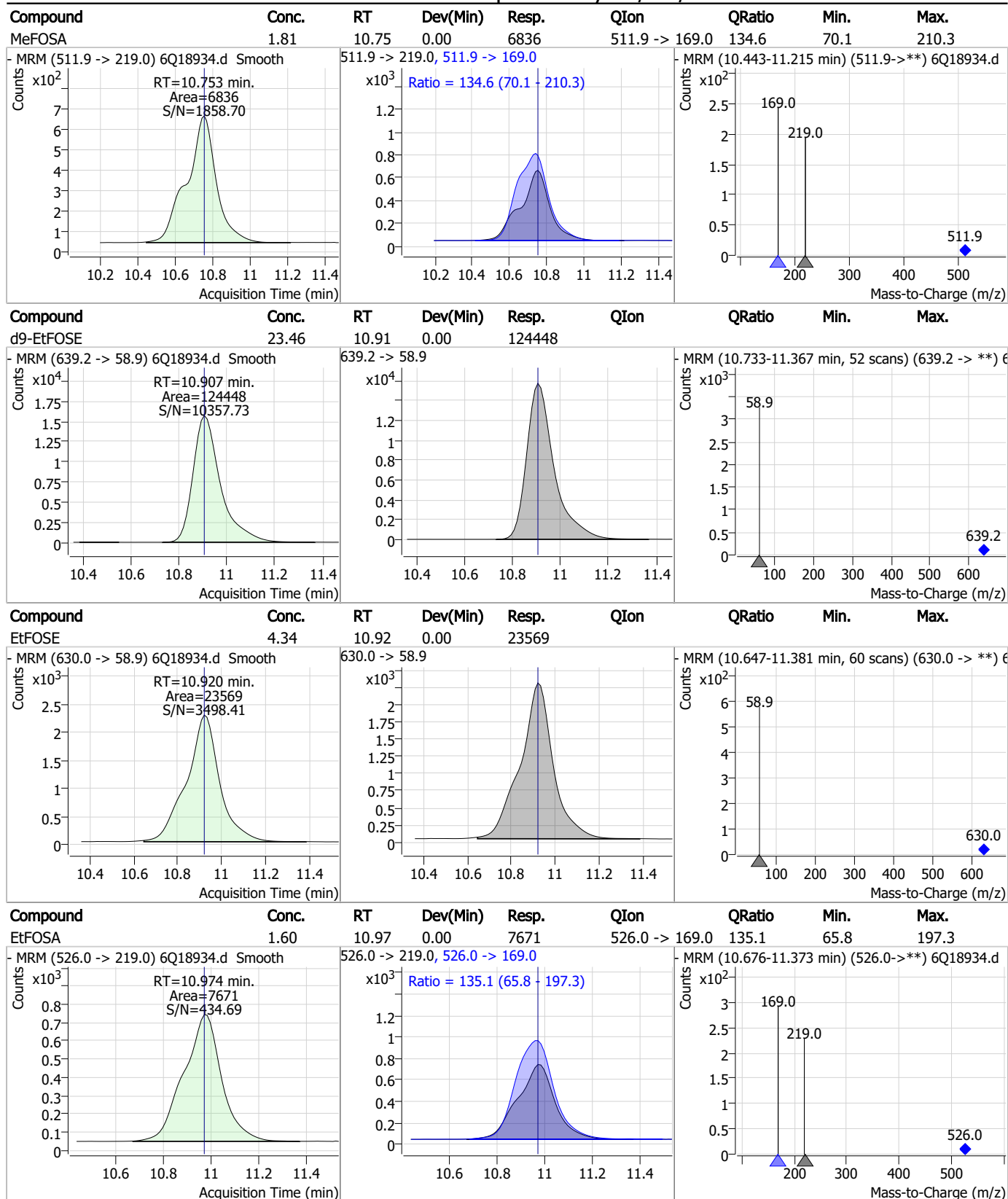


7.3.4

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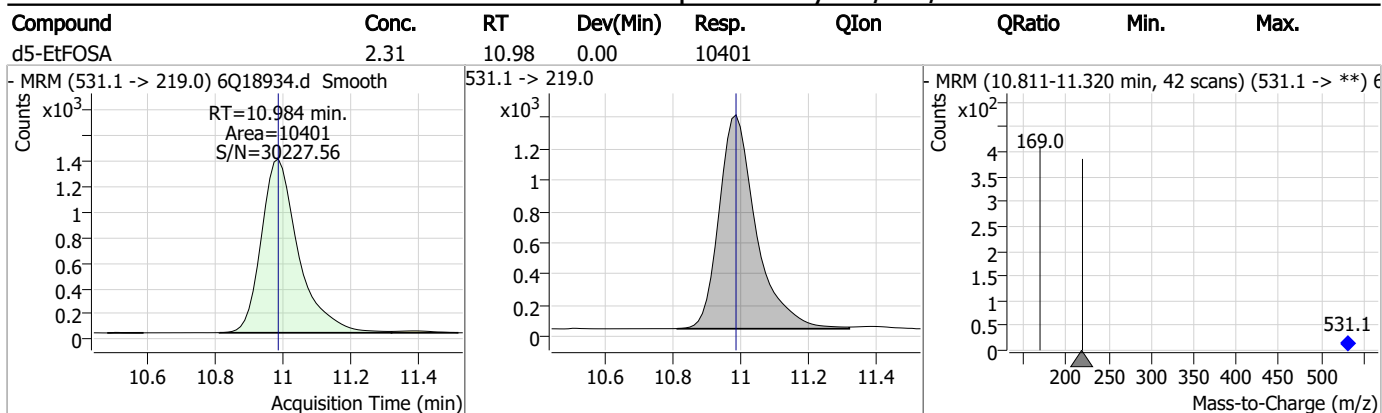


Perfluorinated Compounds by LC/MS/MS



7.3.4
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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: OP97179-LLBS Method: EPA DRAFT 1633
Lab FileID: 6Q18934.D Analyst approved: 06/08/23 12:32 Martha Valls
Injection Time: 06/07/23 11:38 Supervisor approved: 06/09/23 13:53 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

Manual Integrations
APPROVED
 (compounds with "m" flag)
 Natasha Gumtje
 06/07/23 16:01

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18913.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 12:24:01 AM
 Sample Name : op97179-ms
 Vial : P6-A5
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97179,S6Q282,375,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.901	216.8 -> 171.9	144901	10.00 µg/L	0.041
M5-PFPeA	4.284	268.3 -> 223.0	47852	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	52057	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	49121	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	72652	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	33408	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	19160	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	22035	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	18470	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	9394	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	23895	2.50 µg/L	0.000
M3-PFBS	5.397	302.1 -> 79.9	18950	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	11456	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	9744	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	3501	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	5041	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	4699	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	24046	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	29764	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	20122	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	72140	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	92524	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	7946	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	8457	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	16357	2.50 µg/L	0.000
13C3-PFBA	2.891	216.0 -> 172.0	69750	5.00 µg/L	0.027
18O2-PFHxS	7.154	403.0 -> 83.9	10109	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	90520	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	31738	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	48860	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	55920	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	3501	4.21 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 84.2%		
13C2-6:2FTS	6.838	429.1 -> 80.9	5041	4.22 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 84.4%		
13C2-8:2FTS	7.839	529.1 -> 80.9	4699	3.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 79.0%		
13C2-PFDoDA	8.900	615.1 -> 570.0	18470	0.80 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 63.7%		
13C2-PFTeDA	9.627	715.2 -> 670.0	9394	0.74 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 59.1%		
13C3-PFBS	5.397	302.1 -> 79.9	18950	2.13 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 85.3%		
13C3-PFHxS	7.155	402.1 -> 79.9	11456	2.10 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 84.0%	
13C4-PFBA	2.901	216.8 -> 171.9	144901	8.75 µg/L	0.041
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 87.5%	
13C4-PFHpA	6.420	367.1 -> 322.0	49121	2.20 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.2%	
13C5-PFHxA	5.478	318.0 -> 273.0	52057	2.20 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.0%	
13C5-PFPeA	4.284	268.3 -> 223.0	47852	4.41 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.2%	
13C6-PFDA	8.039	519.1 -> 474.1	19160	1.02 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 81.4%	
13C7-PFUnDA	8.480	570.0 -> 525.1	22035	0.90 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 71.6%	
13C8-FOSA	9.611	506.1 -> 77.8	23895	2.01 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 80.3%	
13C8-PFOA	7.051	421.1 -> 376.0	72652	2.09 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.7%	
13C8-PFOS	8.189	507.1 -> 79.9	9744	1.96 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 78.5%	
13C9-PFNA	7.569	472.1 -> 427.0	33408	1.04 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 83.2%	
d3-MeFOSAA	8.096	573.2 -> 419.0	24046	4.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 81.6%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	29764	8.45 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 84.5%	
d3-MeFOSA	10.752	515.0 -> 219.0	8457	1.83 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 73.0%	
d5-EtFOSAA	8.292	589.2 -> 419.0	20122	3.81 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 76.2%	
d7-MeFOSE	10.660	623.2 -> 58.9	72140	17.57 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 70.3%	
d9-EtFOSE	10.907	639.2 -> 58.9	92524	17.69 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 70.8%	
d5-EtFOSA	10.984	531.1 -> 219.0	7946	1.79 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 71.5%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	55939	11.67 µg/L	100
		327.1 -> 80.9	20720		
6:2FTS	6.838	427.1 -> 407.0	62443	13.07 µg/L	99
		427.1 -> 80.9	21495		
8:2FTS	7.840	527.1 -> 507.0	31310	12.42 µg/L	97
		527.1 -> 80.8	13011		
EtFOSAA	8.293	584.2 -> 419.1	7920	2.89 µg/L	98
		584.2 -> 526.0	4250		
FOSA	9.614	498.1 -> 77.9	26634	3.31 µg/L	100
		498.1 -> 478.0	825		
MeFOSAA	8.097	570.1 -> 419.0	14746	3.07 µg/L	97
		570.1 -> 483.0	2908		
PFBA	2.894	212.8 -> 168.9	60687	12.85 µg/L	100
PFBS	5.398	298.7 -> 79.9	41112	6.26 µg/L	100
		298.7 -> 98.8	16187		
PFDA	8.040	512.9 -> 469.0	69311	3.00 µg/L	100
		512.9 -> 219.0	10627		
PFDODA	8.900	613.1 -> 569.0	38705	3.22 µg/L	97
		613.1 -> 319.0	6307		
PFDS	9.064	599.0 -> 79.9	5985	2.57 µg/L	88

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	3259	4.36	µg/L	m
		363.1 -> 319.0	90827			
PFHpS	7.710	363.1 -> 169.0	15684	4.87	µg/L	96
		449.0 -> 79.9	21508			
PFHxA	5.481	449.0 -> 98.9	9923	6.90	µg/L	100
		313.0 -> 269.0	117893			
PFHxS	7.156	313.0 -> 118.9	6180	36.35	µg/L	98
		398.7 -> 79.9	195189			
PFNA	7.570	398.7 -> 98.9	90620	3.29	µg/L	96
		463.0 -> 419.0	78028			
PFNS	8.644	463.0 -> 219.0	14386	3.01	µg/L	98
		548.8 -> 79.9	11697			
PFOA	7.052	548.8 -> 98.9	5927	4.59	µg/L	m
		413.0 -> 369.0	140296			
PFOS	8.191	413.0 -> 169.0	26373	79.69	µg/L	m
		498.9 -> 79.9	355226			
PFPeA	4.287	498.9 -> 98.8	155328	7.31	µg/L	100
		263.0 -> 219.0	82658			
PFPeS	6.471	349.1 -> 79.9	43434	8.43	µg/L	m
		349.1 -> 98.9	19379			
PFTeDA	9.628	713.1 -> 669.0	29536	3.19	µg/L	99
		713.1 -> 168.9	2816			
PFTrDA	9.284	663.0 -> 619.0	39695	3.23	µg/L	99
		663.0 -> 168.9	4007			
PFUnDA	8.480	563.1 -> 519.0	43543	3.19	µg/L	98
		563.1 -> 269.1	6948			
11CI-PF3OUdS	9.336	630.9 -> 450.9	54599	4.80	µg/L	98
		632.9 -> 452.9	17113			
9CI-PF3ONS	8.520	530.8 -> 351.0	101994	5.66	µg/L	99
		532.8 -> 353.0	32414			
ADONA	6.671	376.9 -> 250.9	247013	6.04	µg/L	98
		376.9 -> 84.8	64526			
HFPO-DA	5.845	284.9 -> 168.9	14887	5.99	µg/L	99
		284.9 -> 184.9	1690			
3:3FTCA	3.765	241.0 -> 177.0	12320	15.39	µg/L	100
		241.0 -> 117.0	1646			
5:3FTCA	6.149	341.0 -> 237.1	248671	75.43	µg/L	99
		341.0 -> 217.0	181901			
7:3FTCA	7.548	441.0 -> 316.9	172658	76.13	µg/L	91
		441.0 -> 336.9	366826			
EtFOSA	10.974	526.0 -> 219.0	21880	5.98	µg/L	97
		526.0 -> 169.0	28077			
EtFOSE	10.920	630.0 -> 58.9	65197	16.15	µg/L	100
		511.9 -> 219.0	19248			
MeFOSA	10.753	511.9 -> 169.0	27090	5.97	µg/L	100
		616.1 -> 58.9	43037			
MeFOSE	10.673	699.1 -> 79.9	2594	15.41	µg/L	100
		699.1 -> 98.8	1444			
PFDoDS	9.755	295.0 -> 201.0	12409	2.36	µg/L	99
		295.0 -> 84.9	3160			
NFDHA	5.361	279.0 -> 85.1	47393	6.07	µg/L	100
		229.0 -> 84.9	36339			
PFMBA	4.688	314.8 -> 134.9	116226	6.10	µg/L	100
		314.8 -> 82.9	4191			
PFMPA	3.442			5.35	µg/L	100
PFEESA	5.938					

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

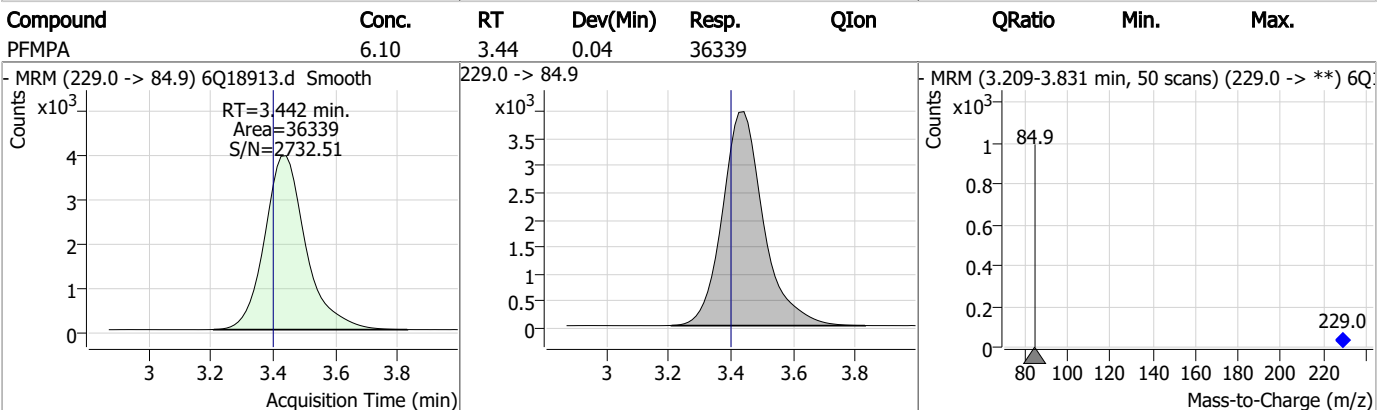
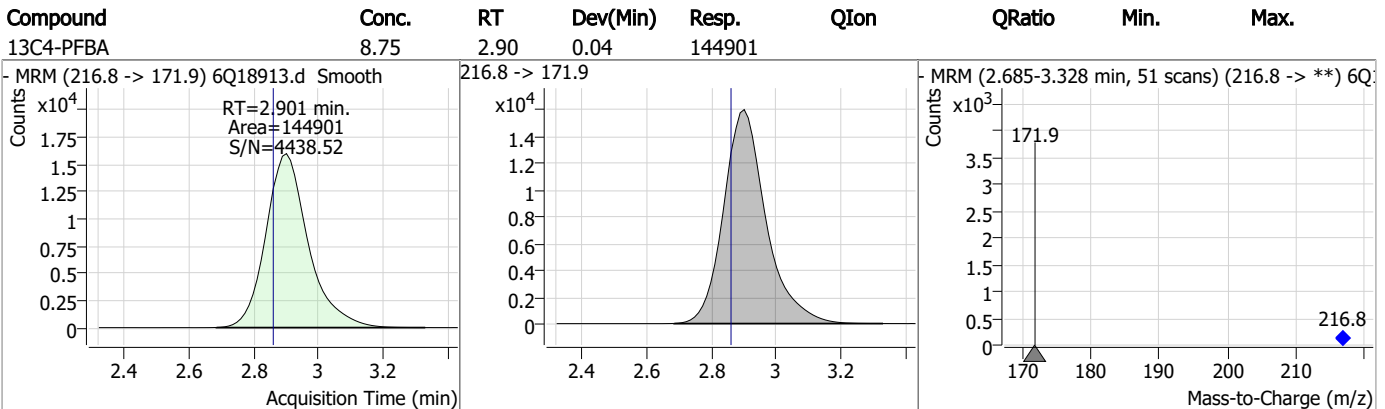
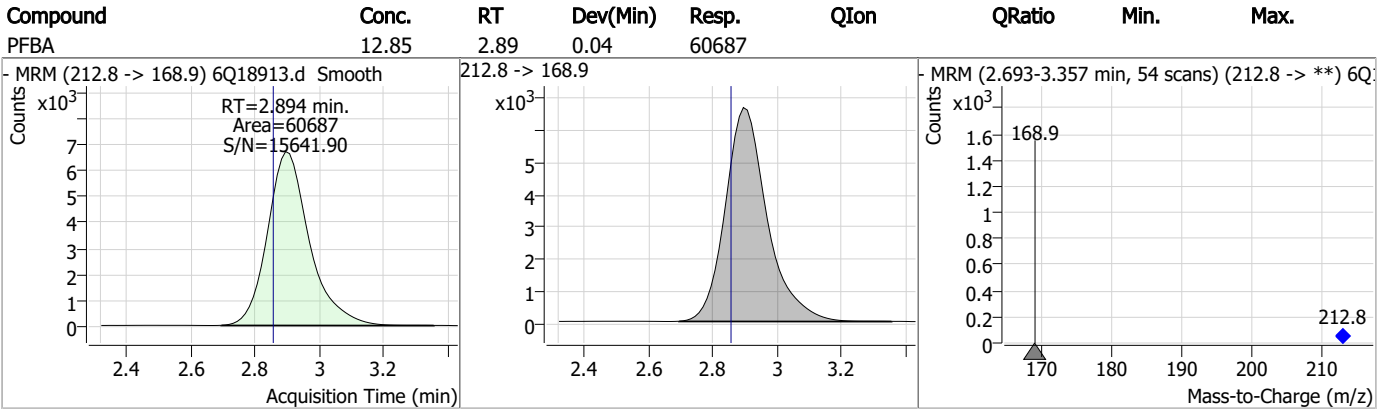
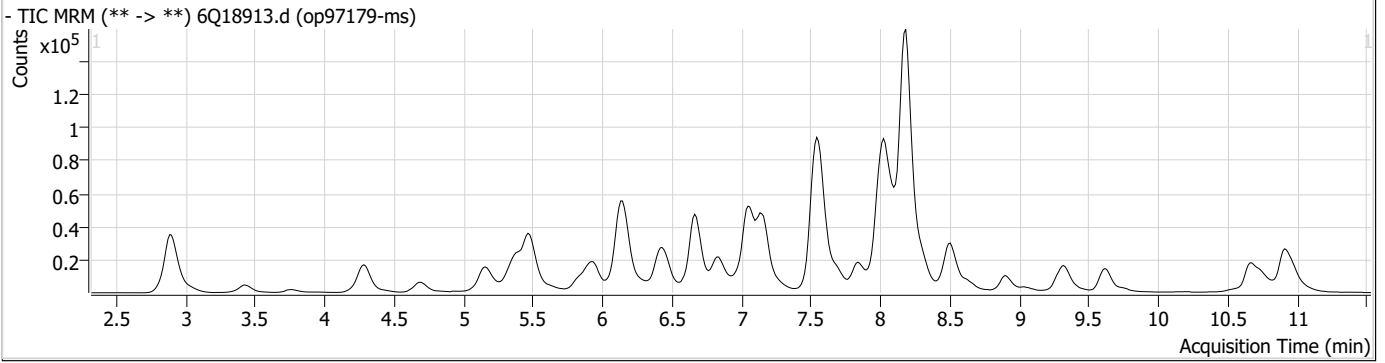
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.4.1

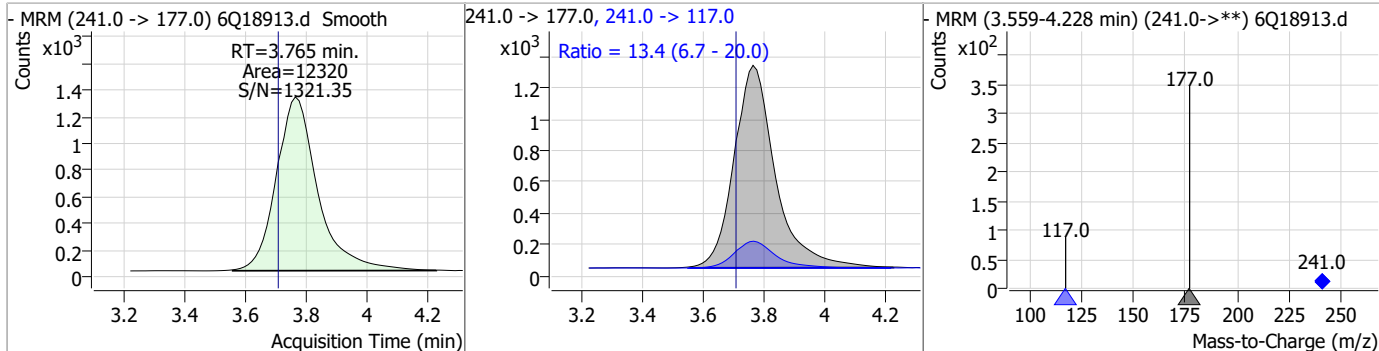
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Perfluorinated Compounds by LC/MS/MS

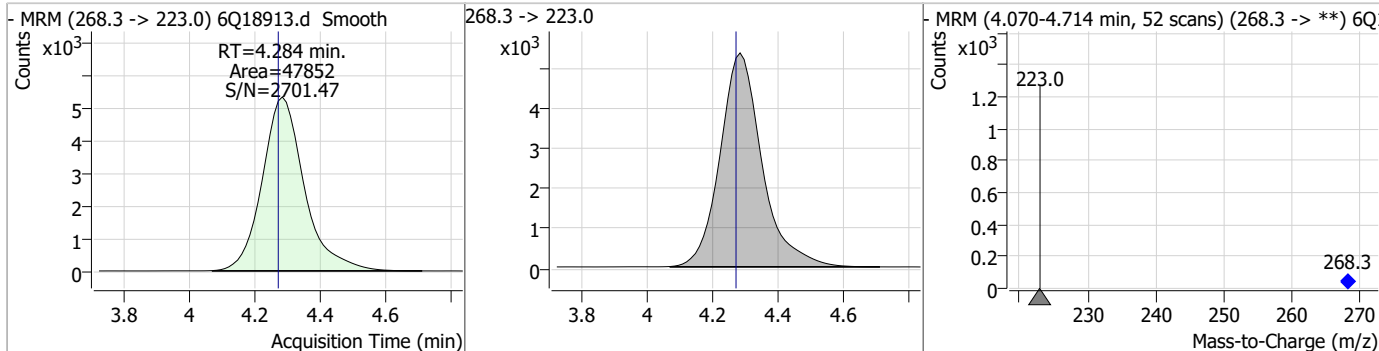


Perfluorinated Compounds by LC/MS/MS

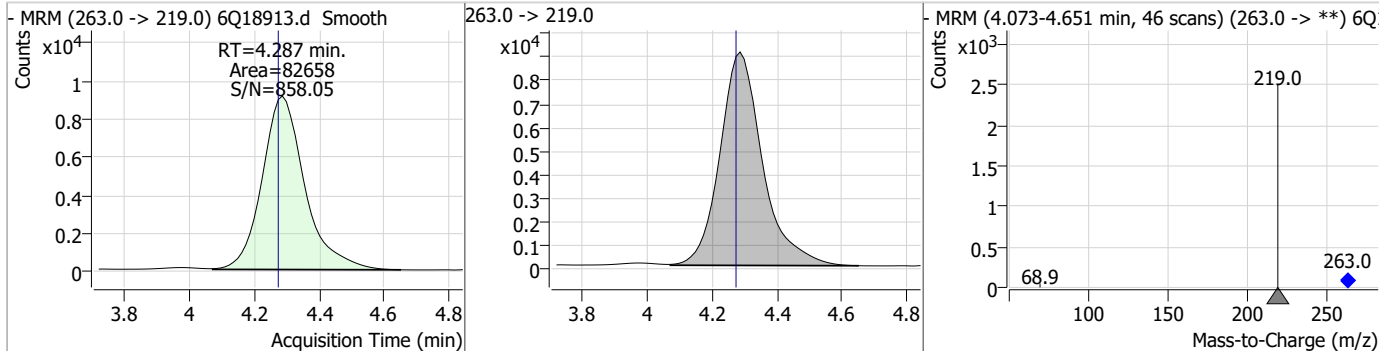
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	15.39	3.76	0.06	12320	241.0 -> 117.0	13.4	6.7	20.0



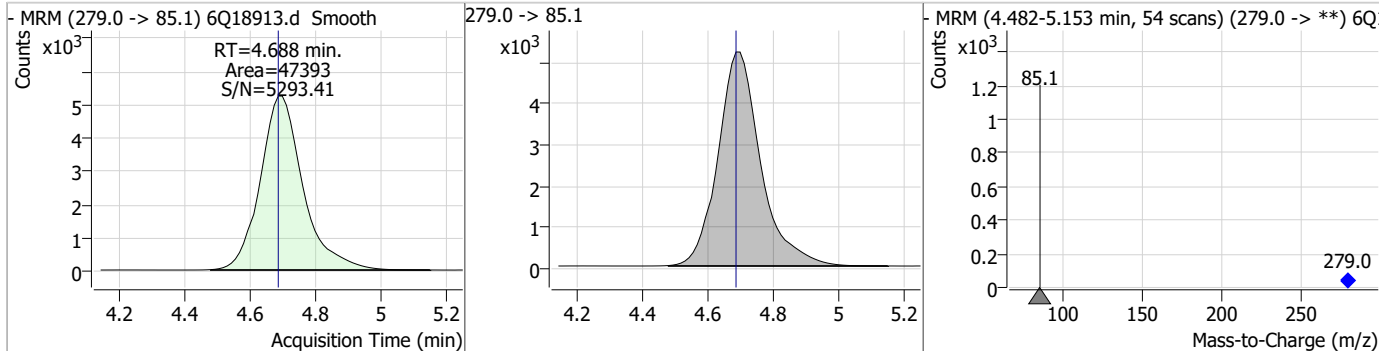
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.41	4.28	0.01	47852				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	7.31	4.29	0.01	82658				

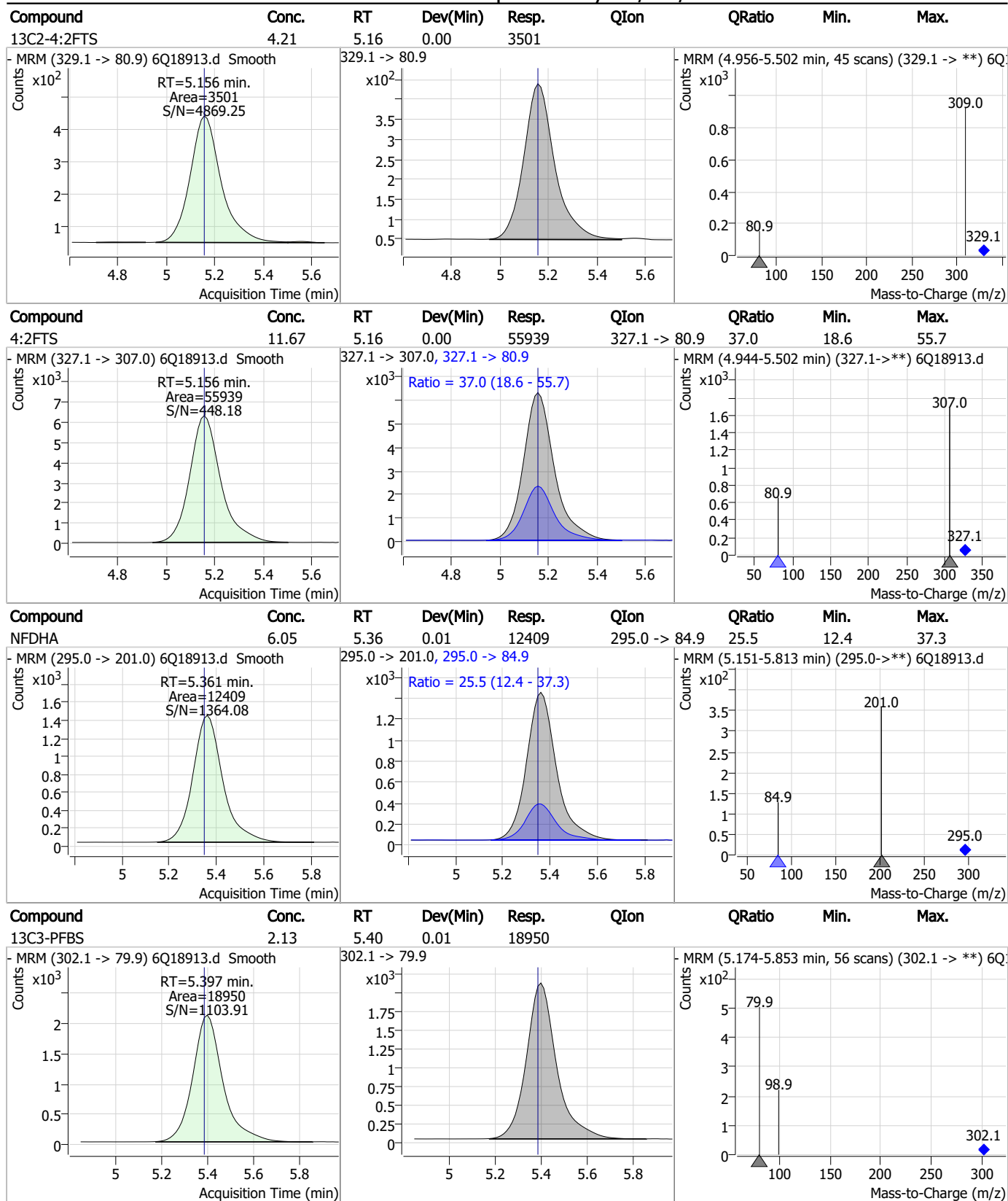


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	6.07	4.69	0.00	47393				



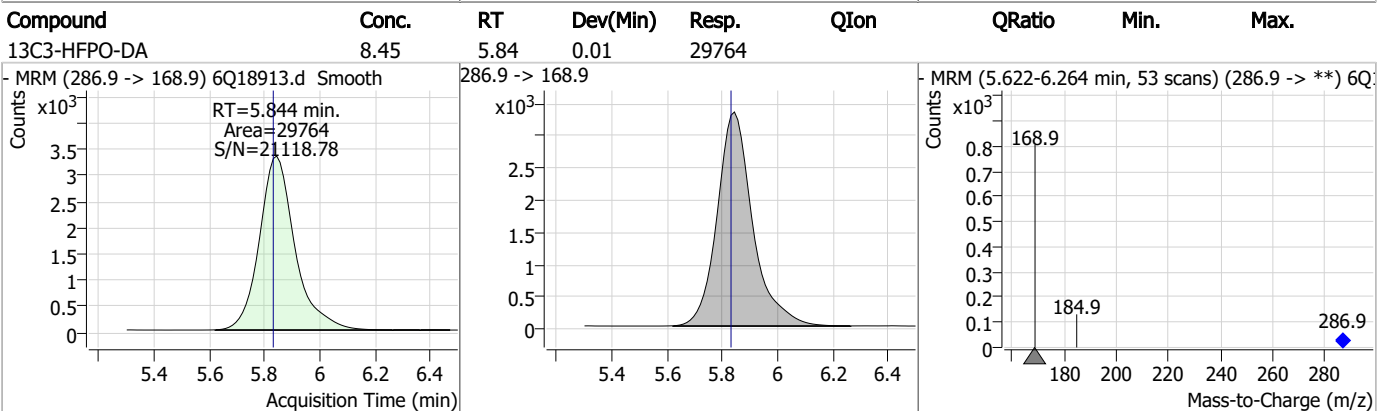
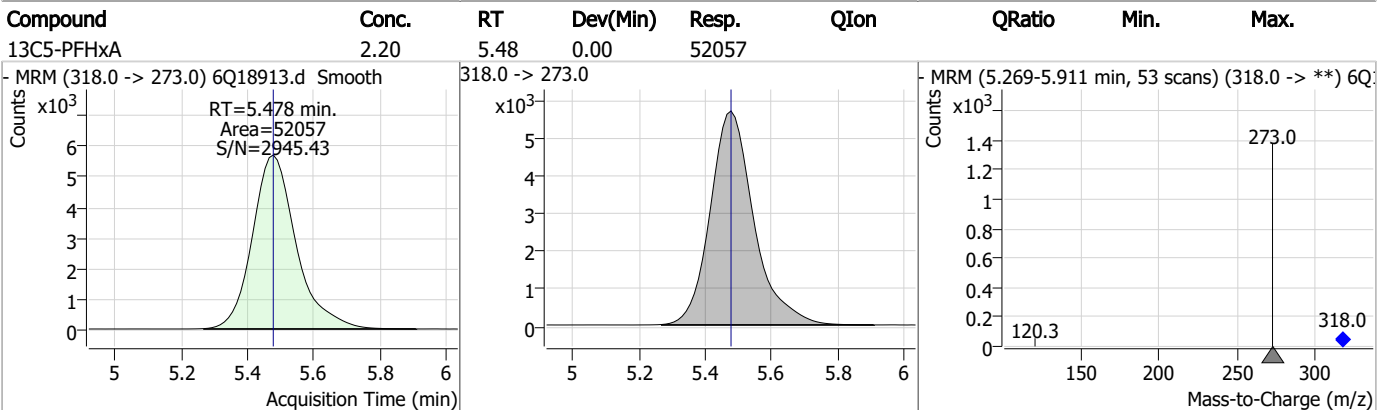
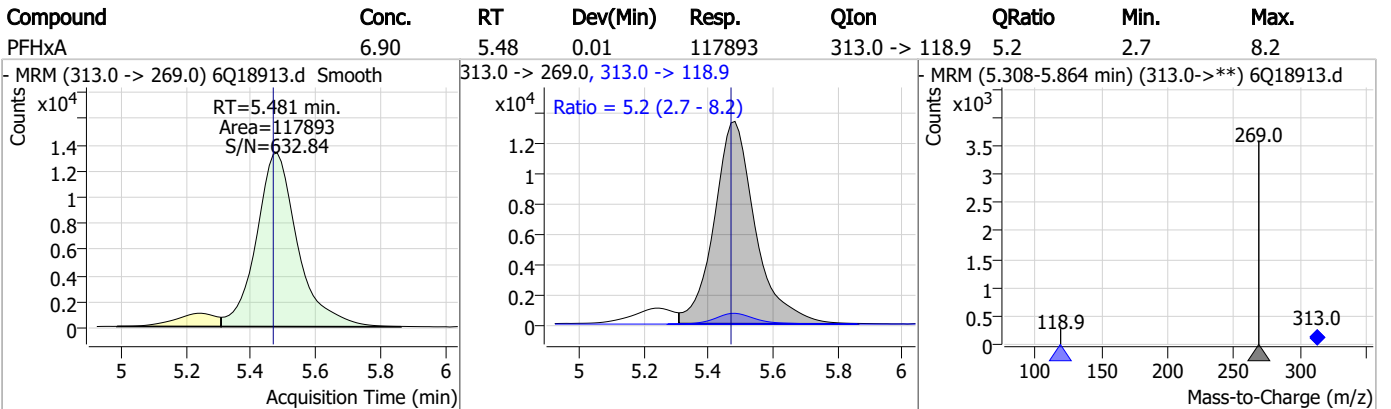
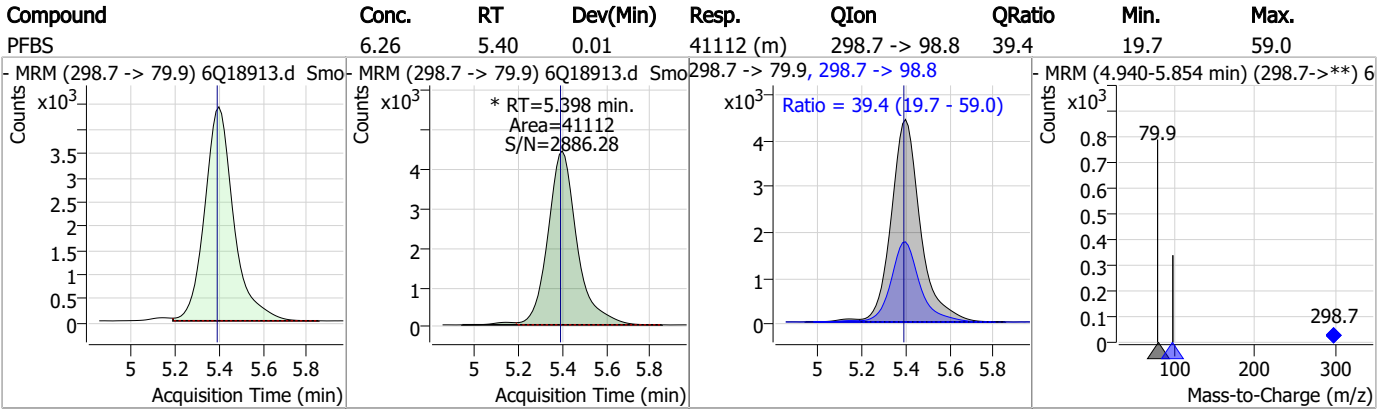
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Perfluorinated Compounds by LC/MS/MS



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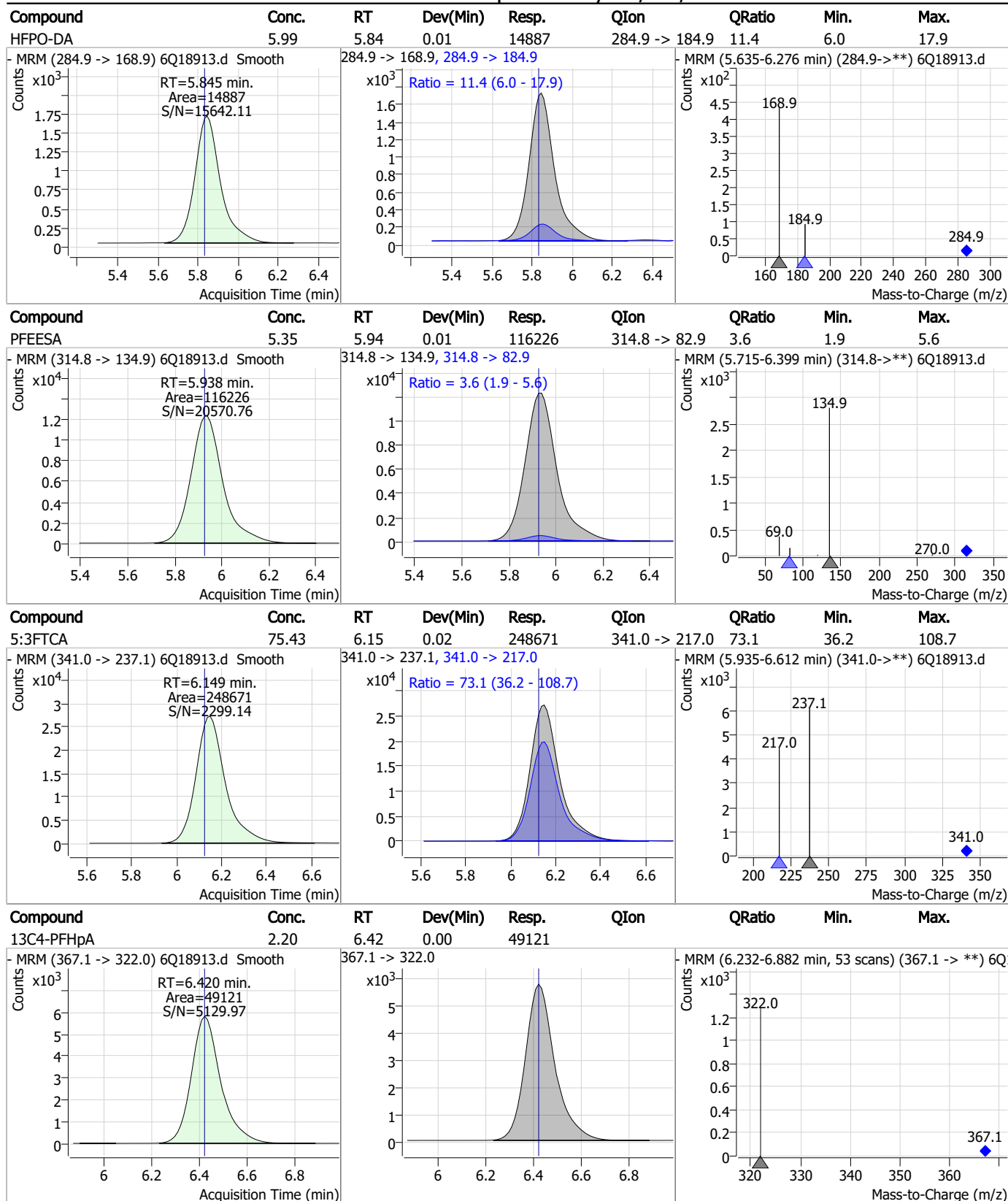
Perfluorinated Compounds by LC/MS/MS



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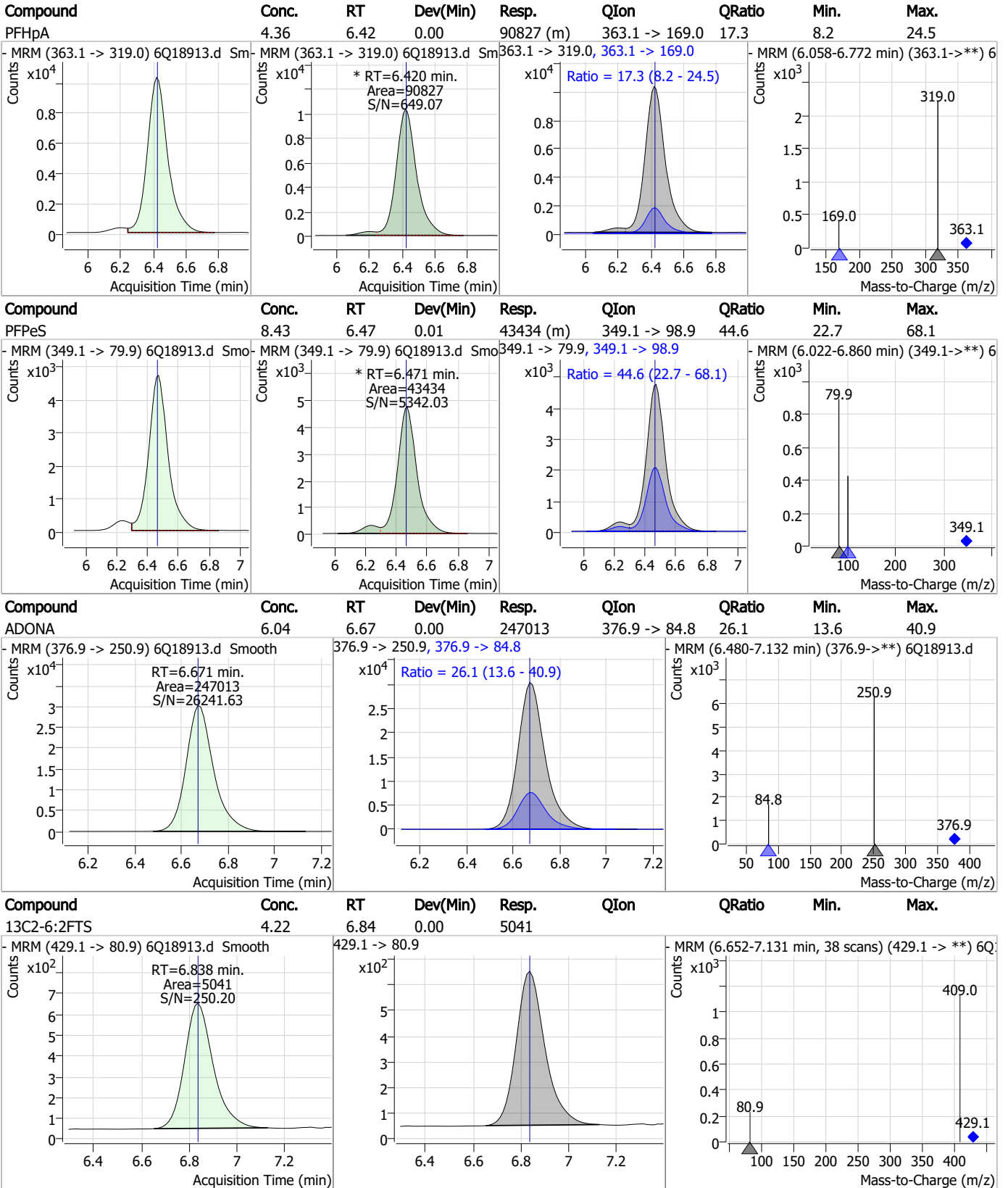
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

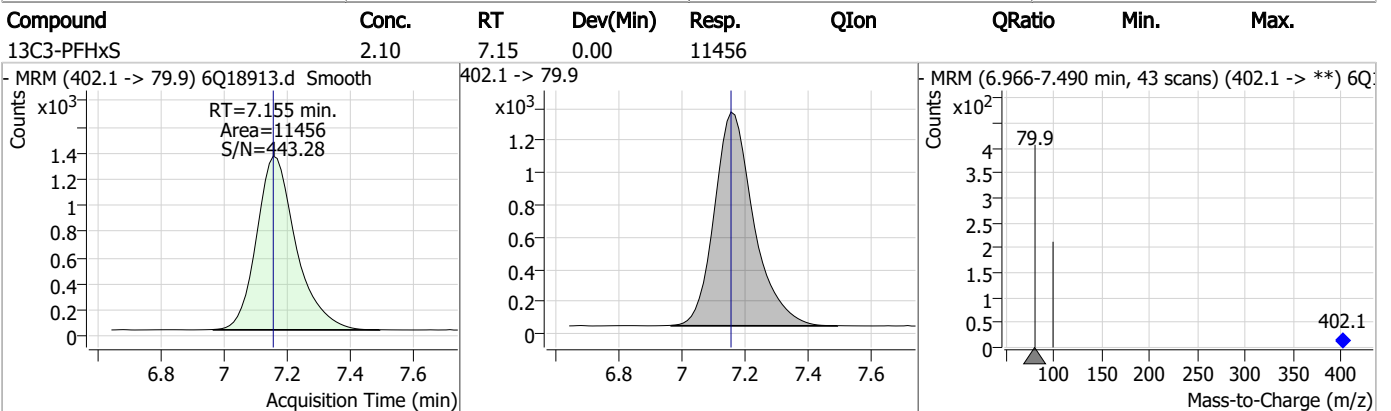
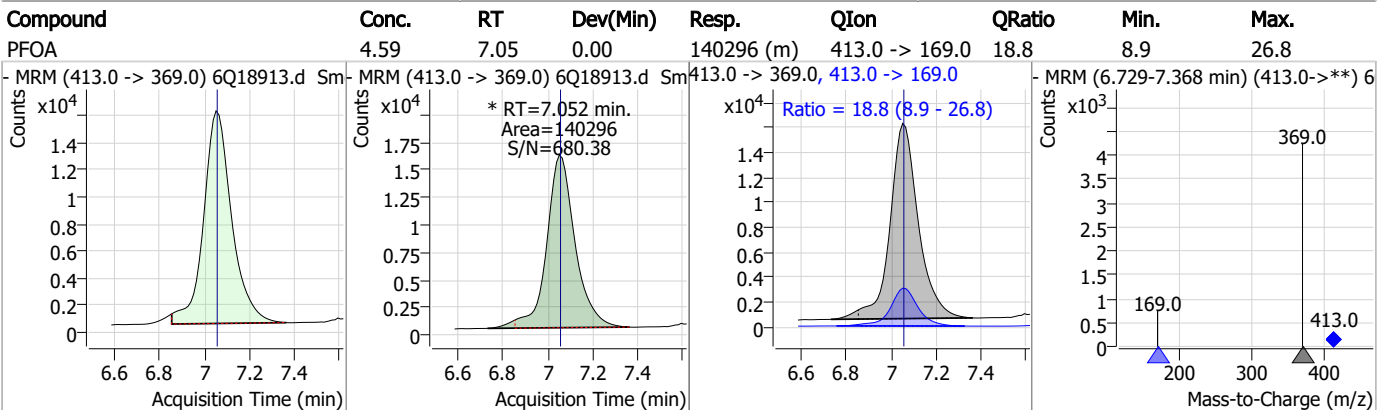
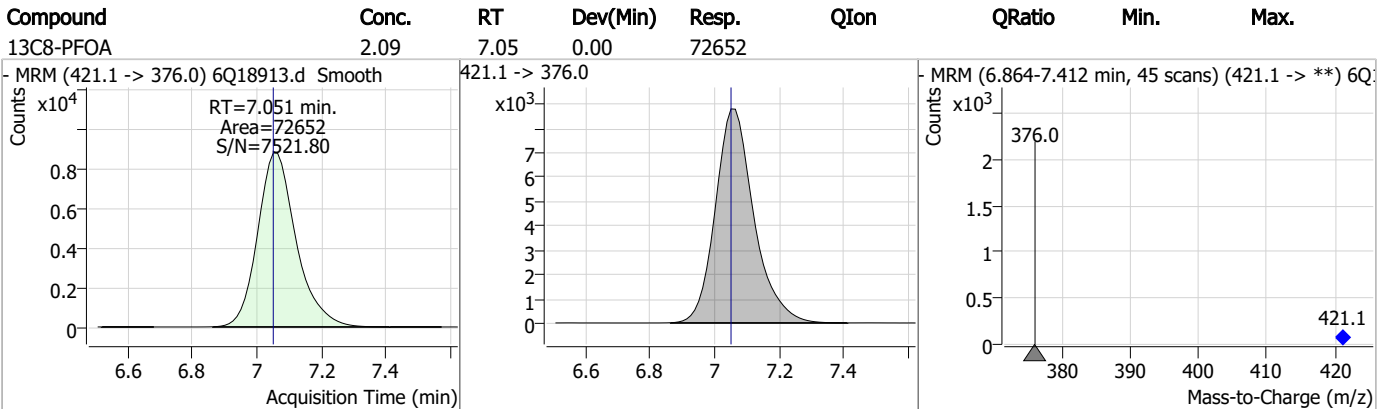
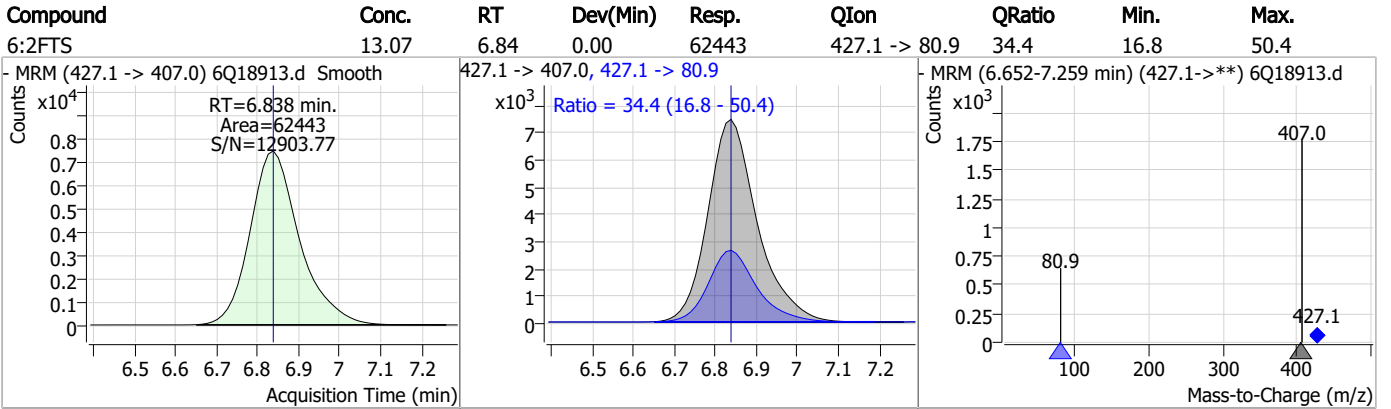


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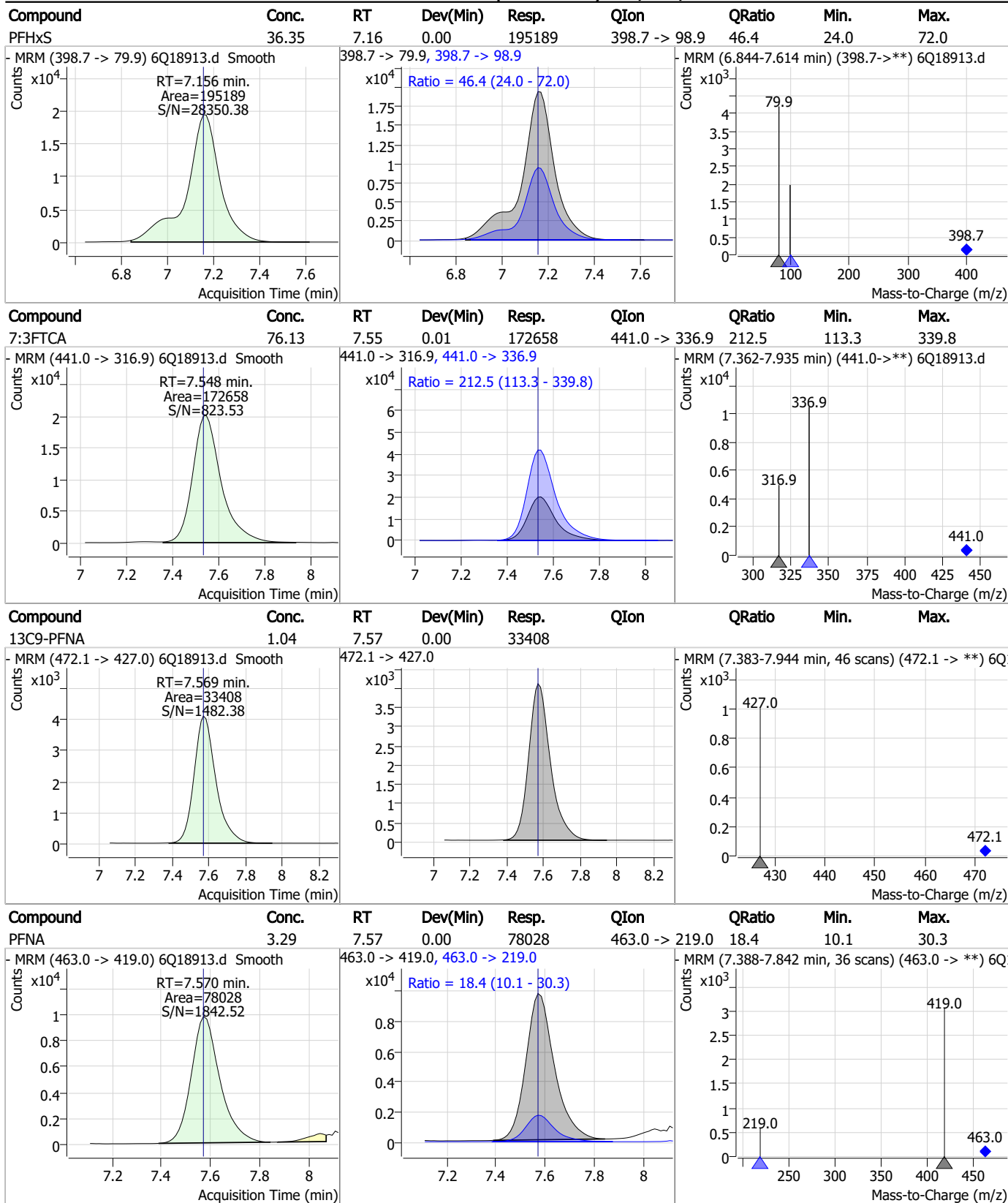
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Perfluorinated Compounds by LC/MS/MS

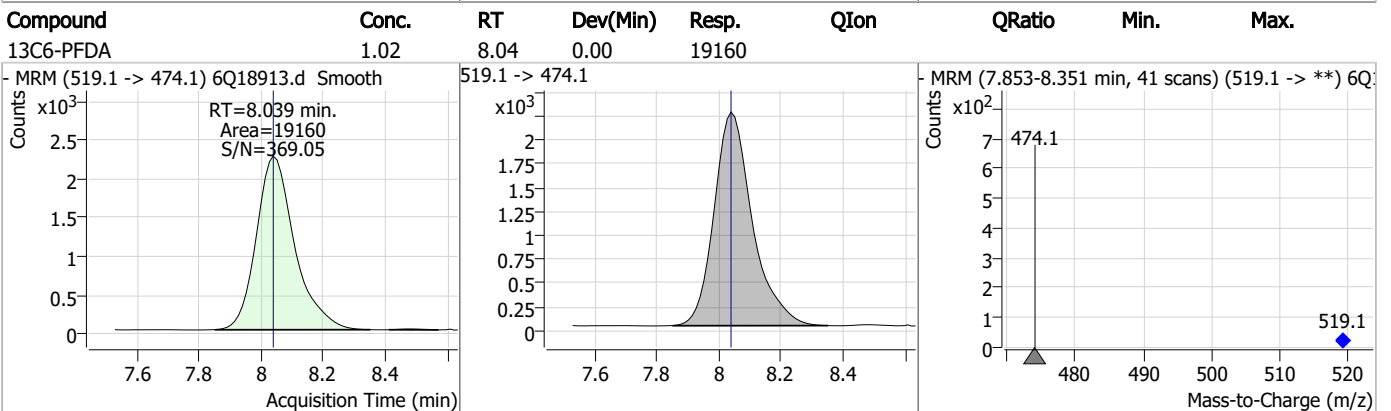
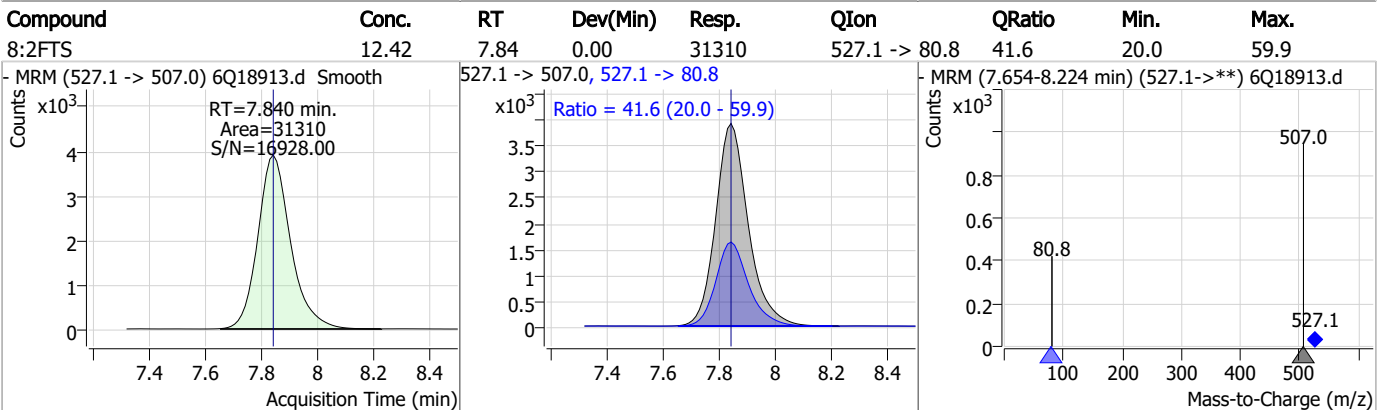
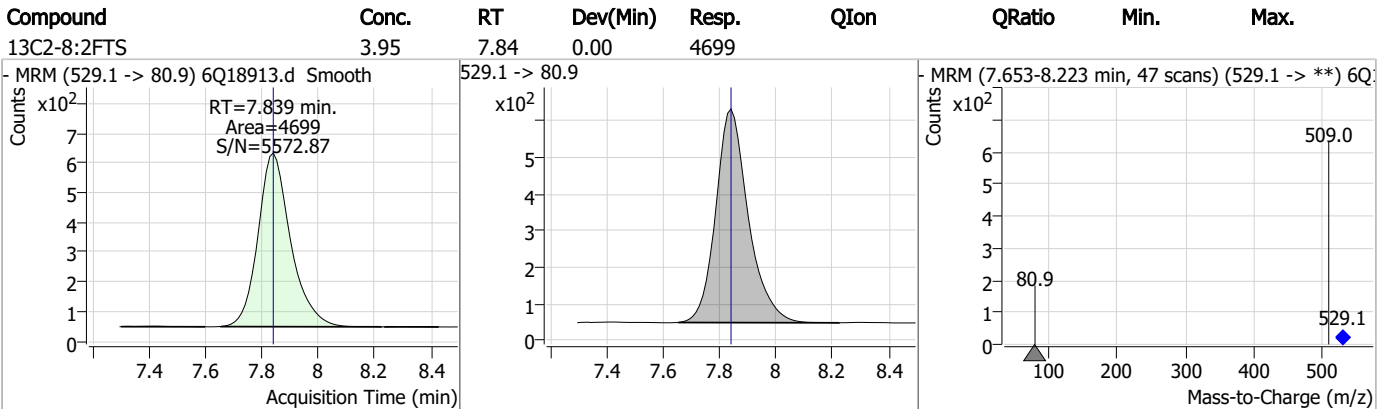
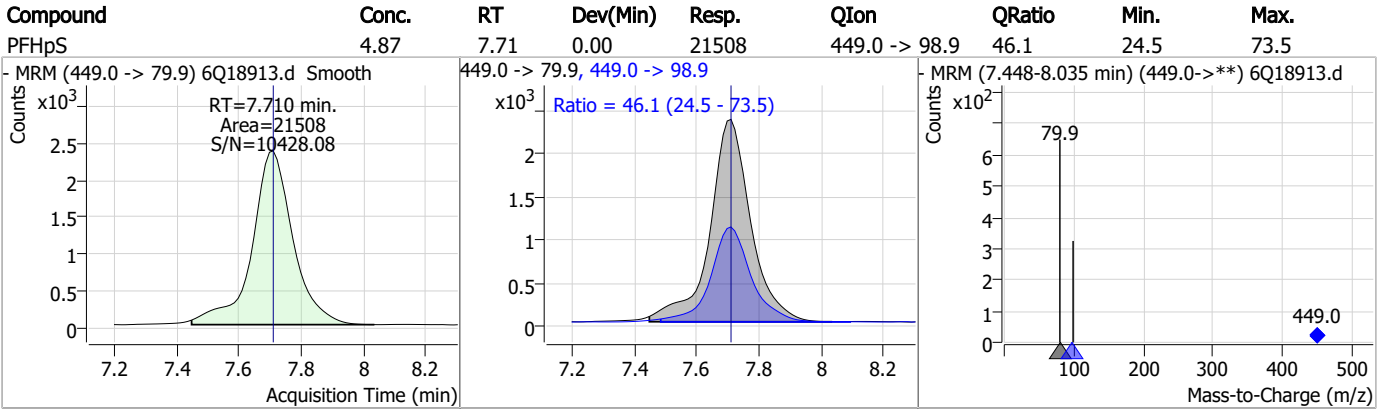


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

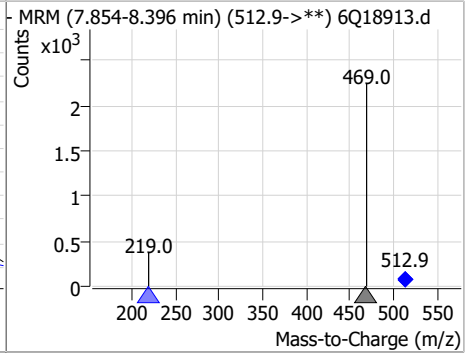
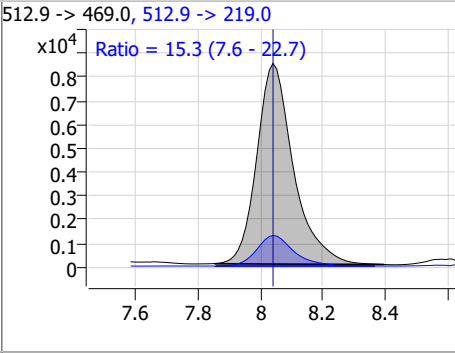
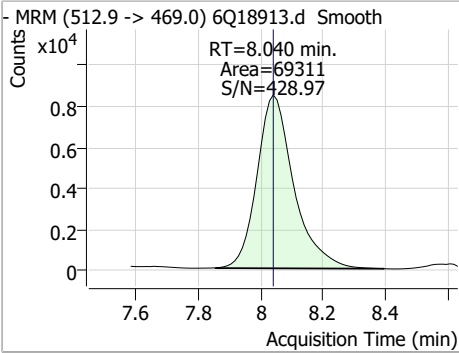


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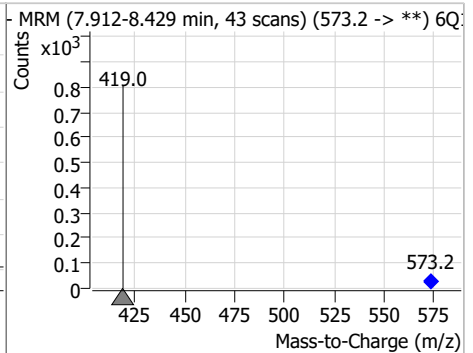
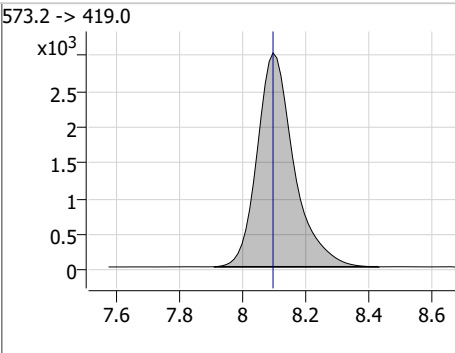
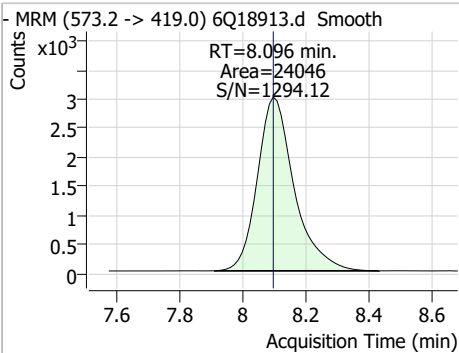
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Perfluorinated Compounds by LC/MS/MS

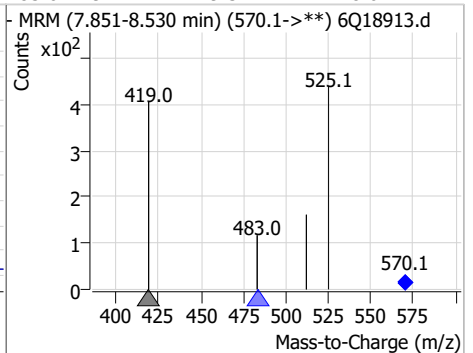
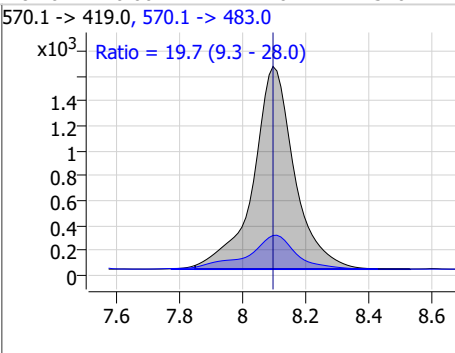
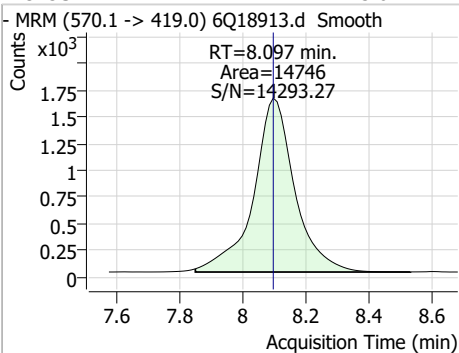
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	3.00	8.04	0.00	69311	512.9 -> 219.0	15.3	7.6	22.7



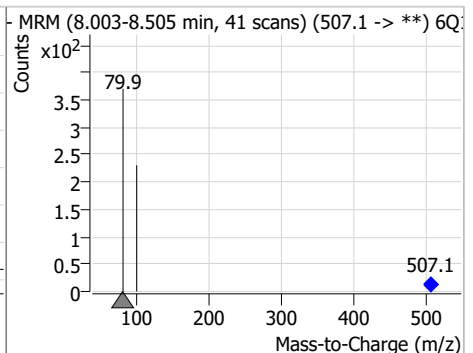
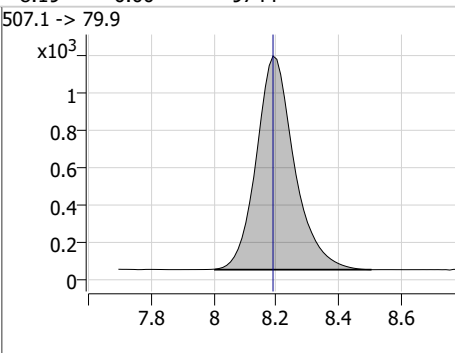
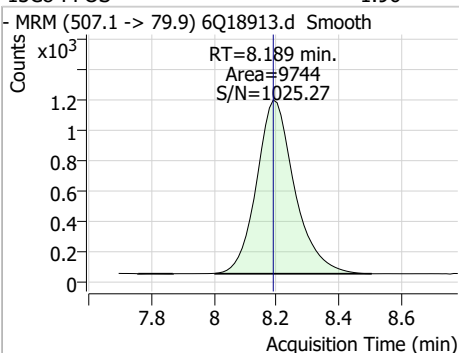
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.08	8.10	0.00	24046				



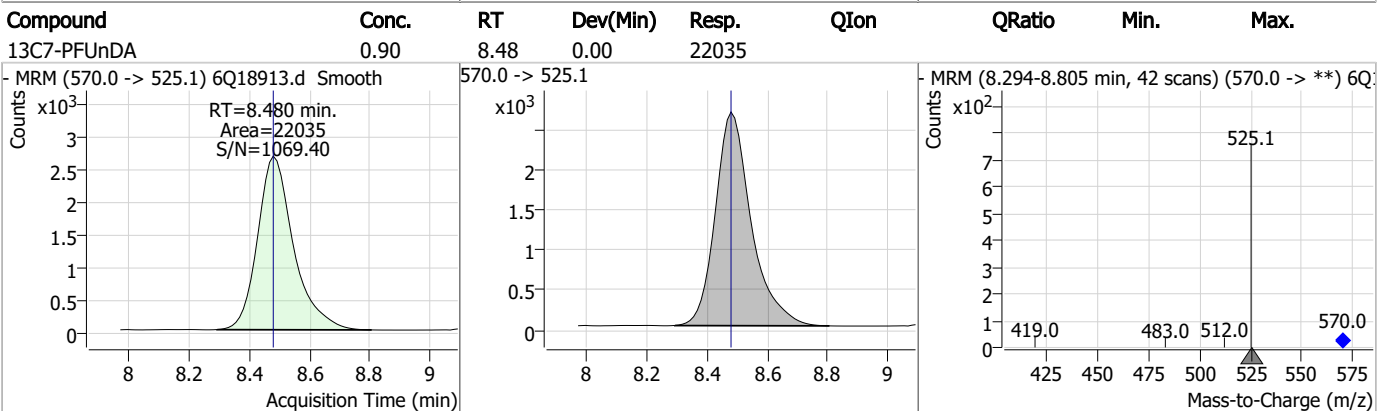
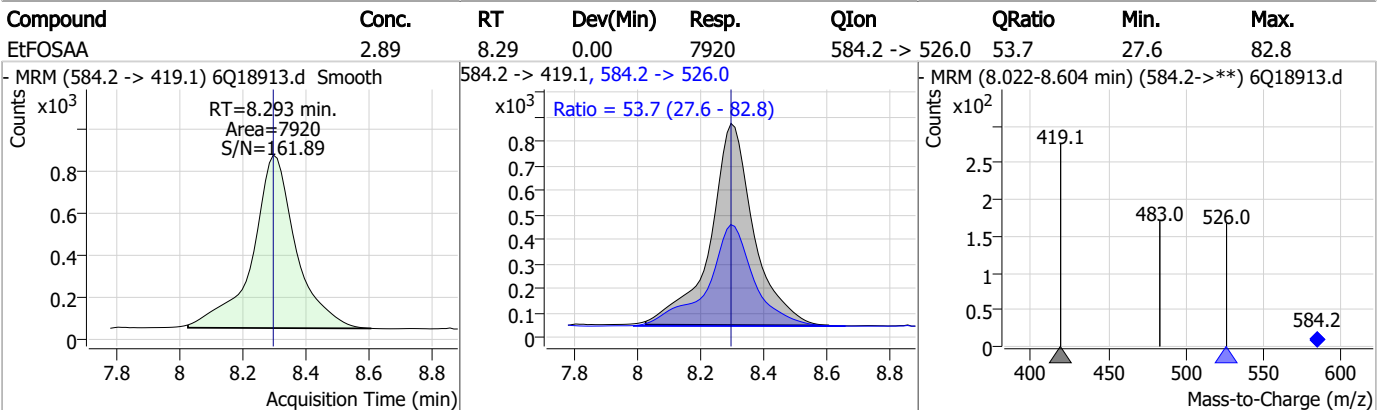
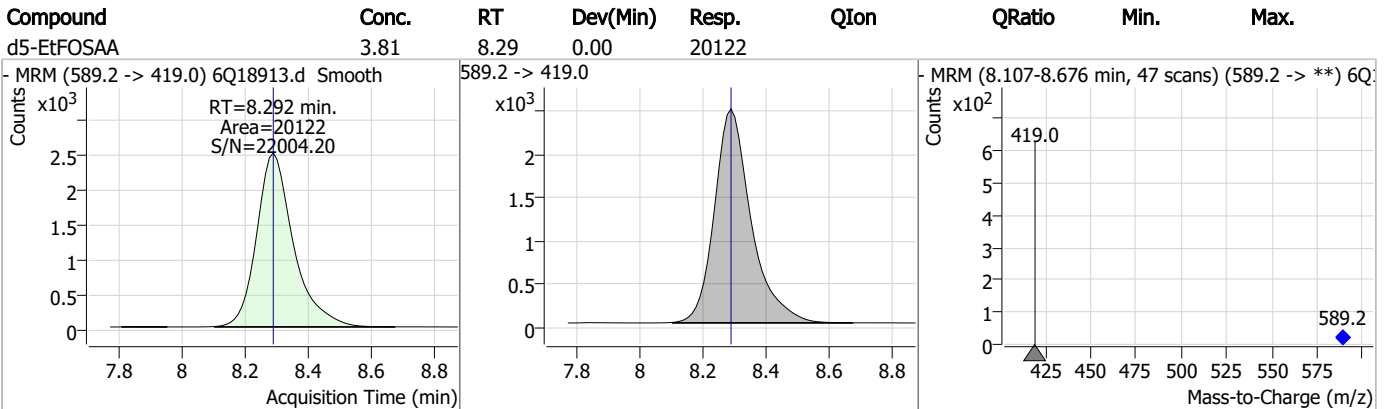
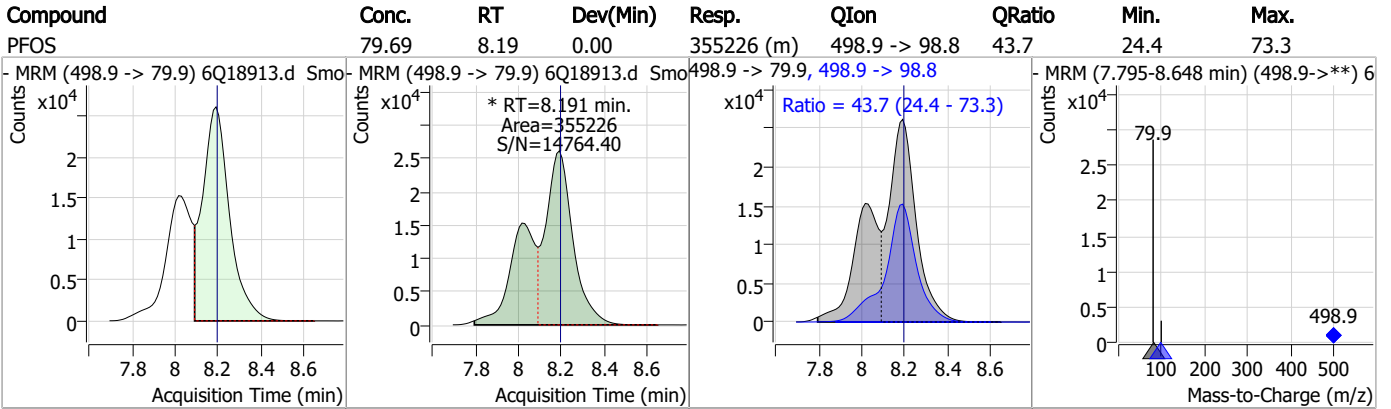
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	3.07	8.10	0.00	14746	570.1 -> 483.0	19.7	9.3	28.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.96	8.19	0.00	9744				



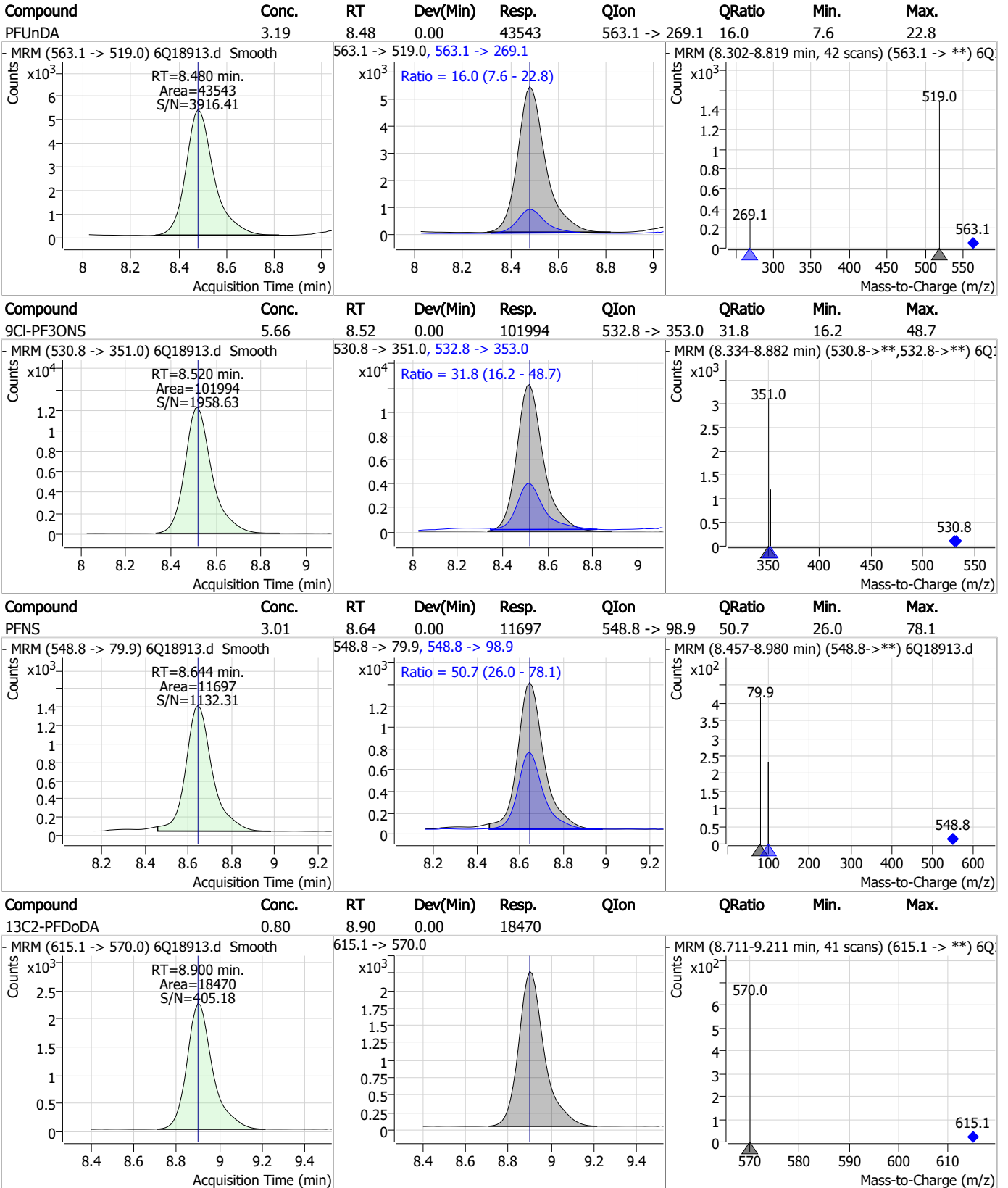
Perfluorinated Compounds by LC/MS/MS



7.4.1

7

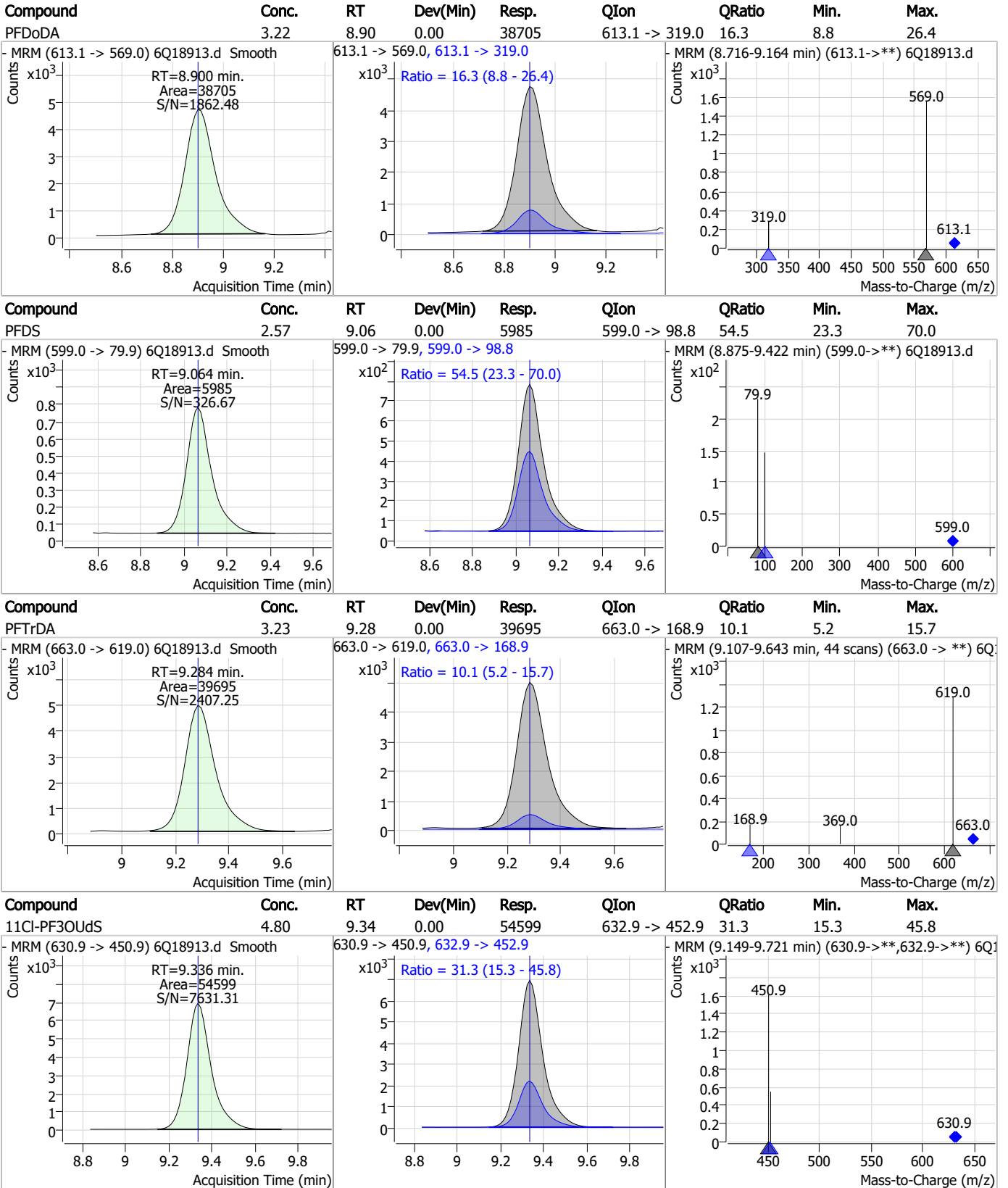
Perfluorinated Compounds by LC/MS/MS



7.4.1

7

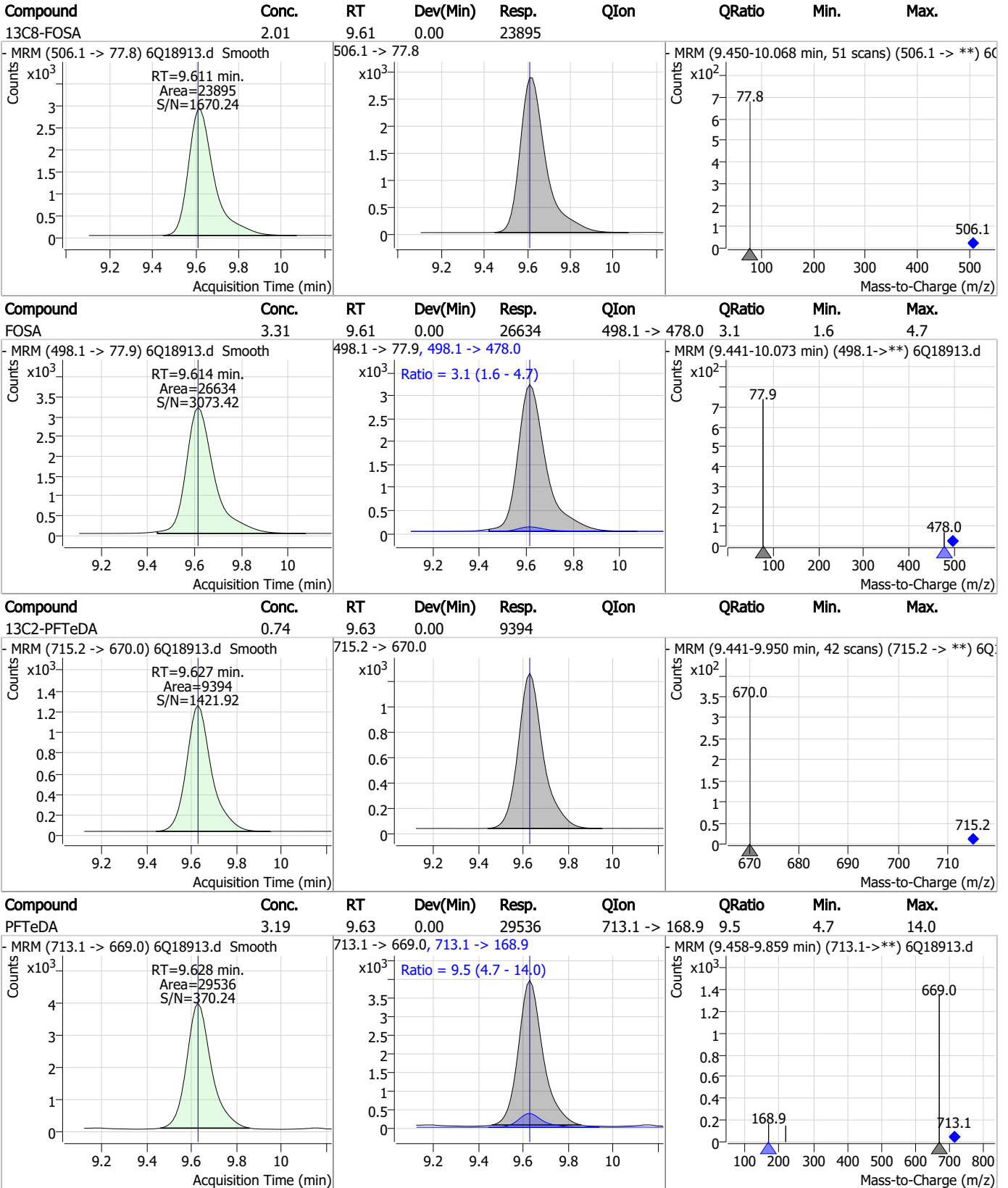
Perfluorinated Compounds by LC/MS/MS



7.4.1

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Perfluorinated Compounds by LC/MS/MS

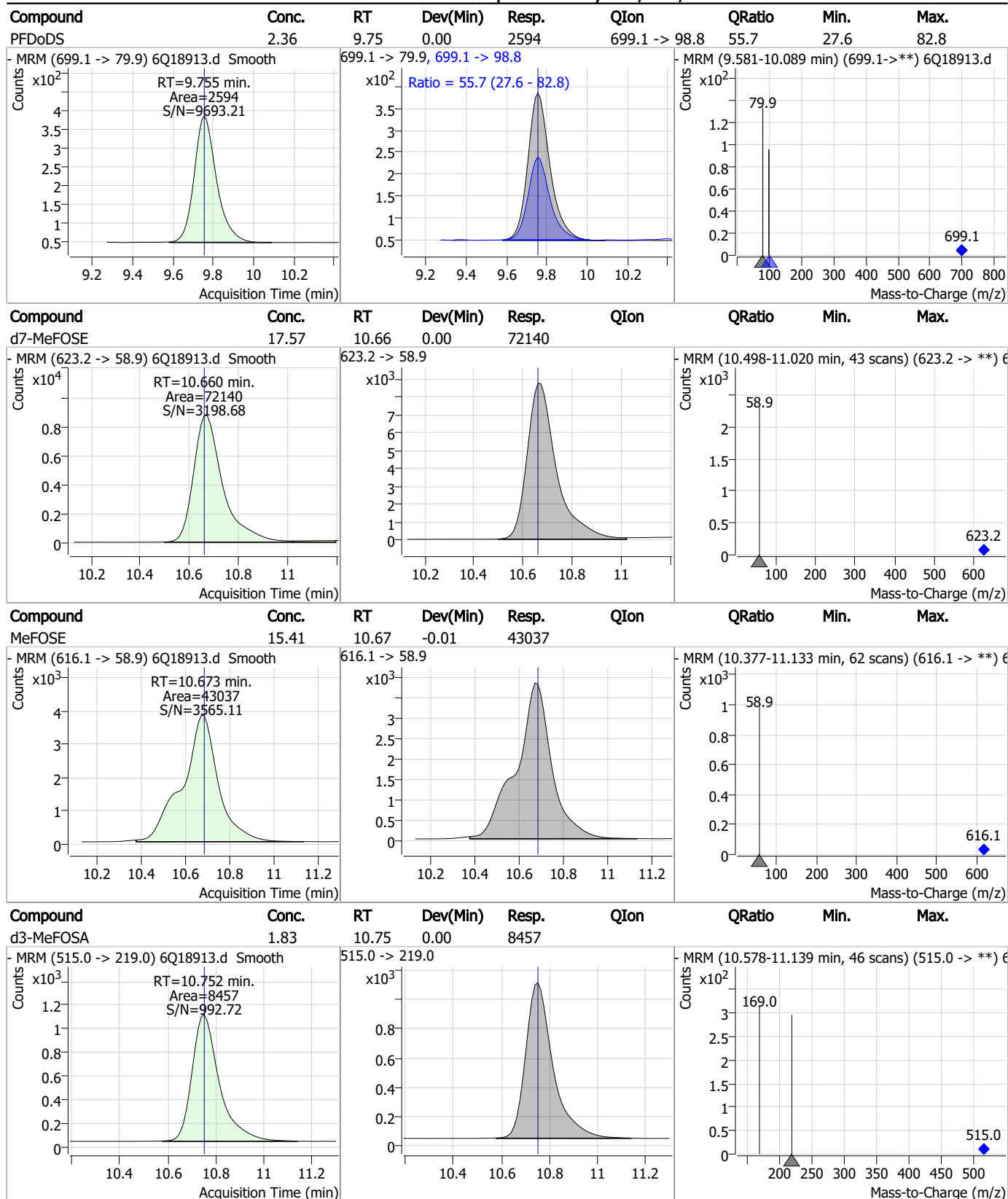


7.4.1

7

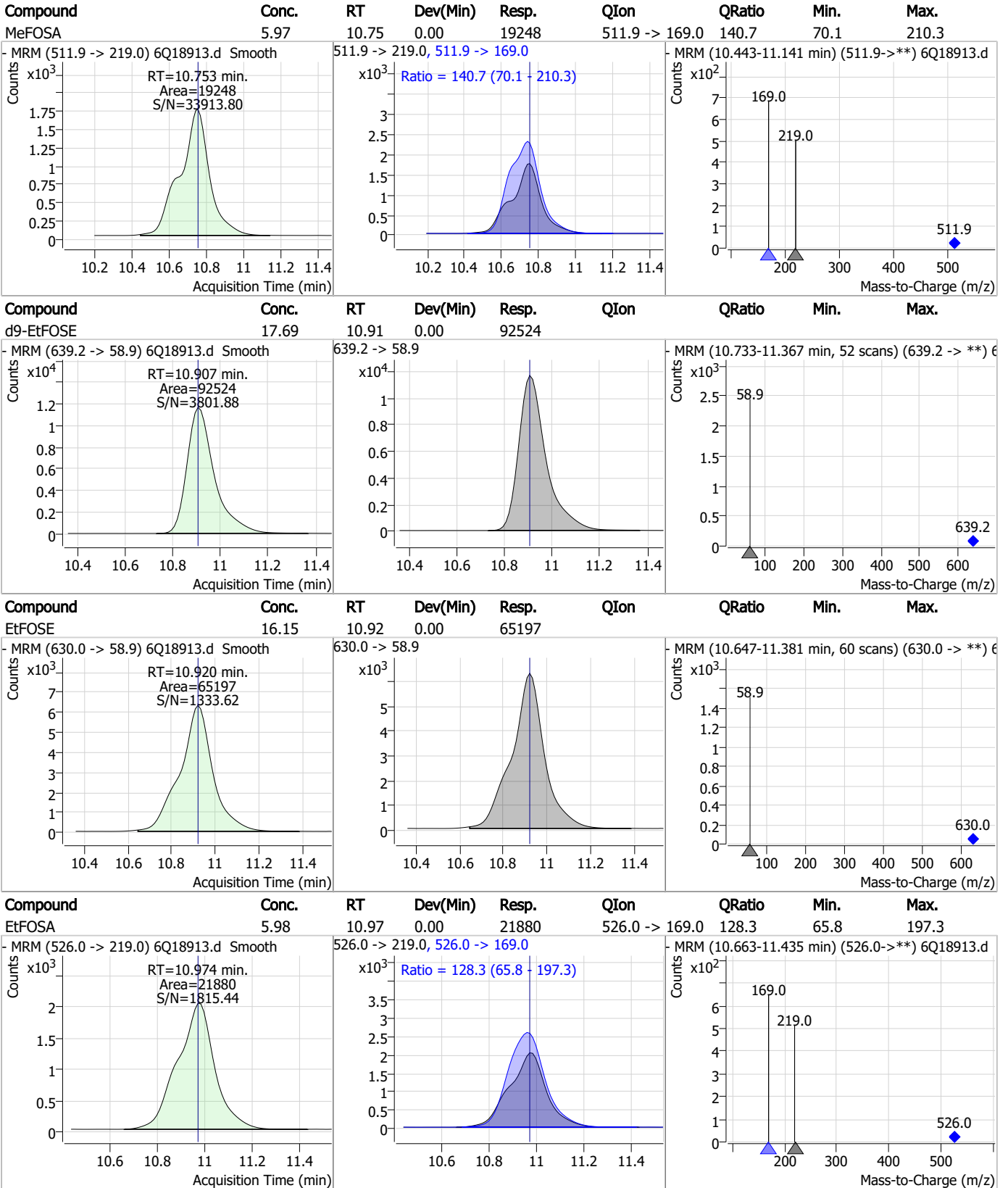


Perfluorinated Compounds by LC/MS/MS



7.4.1
7

Perfluorinated Compounds by LC/MS/MS

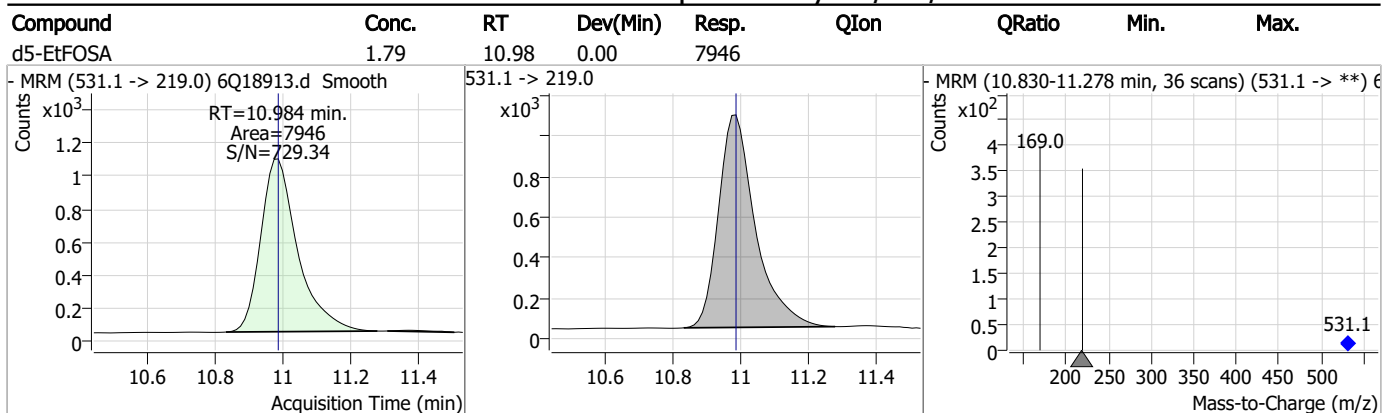


7.4.1

7



Perfluorinated Compounds by LC/MS/MS



7.4.1
7

Manual Integration Approval Summary

Sample Number: OP97179-MS Method: EPA DRAFT 1633
Lab FileID: 6Q18913.D Analyst approved: 06/07/23 11:28 Martha Valls
Injection Time: 06/07/23 00:24 Supervisor approved: 06/07/23 16:01 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorobutanesulfonic acid	375-73-5		5.40	Split peak
Perfluoroheptanoic acid	375-85-9		6.42	Split peak
Perfluoropentanesulfonic acid	2706-91-4		6.47	Split peak
Perfluorooctanoic acid	335-67-1		7.05	Split peak
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

7.4.1.1
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18938.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 12:36:13 PM
 Sample Name : op97179-dup
 Vial : P6-B3
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97179,S6Q283,425,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.876	216.8 -> 171.9	160954	10.00 µg/L	0.016
M5-PFPeA	4.272	268.3 -> 223.0	52607	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	58008	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	54318	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	82002	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	36780	1.25 µg/L	0.000
M6-PFDA	8.051	519.1 -> 474.1	18750	1.25 µg/L	0.012
M7-PFUnDA	8.480	570.0 -> 525.1	24015	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	20877	1.25 µg/L	0.012
M2-PFTeDA	9.627	715.2 -> 670.0	10527	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	23013	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	22502	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	12903	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	10648	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	3991	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	5936	5.00 µg/L	0.000
M2-8:2FTS	7.852	529.1 -> 80.9	5065	5.00 µg/L	0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	25918	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	35055	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	22885	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	78687	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	105520	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	9157	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	8642	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18510	2.50 µg/L	0.000
13C3-PFBA	2.879	216.0 -> 172.0	78267	5.00 µg/L	0.015
18O2-PFHxS	7.166	403.0 -> 83.9	10918	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	99973	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	37294	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	53060	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	61601	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	3991	4.45 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 88.9%		
13C2-6:2FTS	6.838	429.1 -> 80.9	5936	4.60 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 92.0%		
13C2-8:2FTS	7.852	529.1 -> 80.9	5065	3.94 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 78.8%		
13C2-PFDoDA	8.912	615.1 -> 570.0	20877	0.77 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 61.3%		
13C2-PFTeDA	9.627	715.2 -> 670.0	10527	0.70 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 56.4%		
13C3-PFBS	5.397	302.1 -> 79.9	22502	2.34 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 93.8%		
13C3-PFHxS	7.155	402.1 -> 79.9	12903	2.19 µg/L	0.000

7.5.1
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.6%	
13C4-PFBA	2.876	216.8 -> 171.9	160954	8.67 µg/L	0.016
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 86.7%	
13C4-PFHpA	6.420	367.1 -> 322.0	54318	2.21 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 88.5%	
13C5-PFHxA	5.478	318.0 -> 273.0	58008	2.22 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.0%	
13C5-PFPeA	4.272	268.3 -> 223.0	52607	4.40 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 88.0%	
13C6-PFDA	8.051	519.1 -> 474.1	18750	0.85 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 67.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	24015	0.83 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 66.4%	
13C8-FOSA	9.623	506.1 -> 77.8	23013	1.71 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 68.3%	
13C8-PFOA	7.064	421.1 -> 376.0	82002	2.14 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 85.6%	
13C8-PFOS	8.189	507.1 -> 79.9	10648	1.90 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 75.8%	
13C9-PFNA	7.569	472.1 -> 427.0	36780	1.05 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 84.3%	
d3-MeFOSAA	8.096	573.2 -> 419.0	25918	3.89 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 77.8%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	35055	9.03 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 90.3%	
d3-MeFOSA	10.752	515.0 -> 219.0	8642	1.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 65.9%	
d5-EtFOSAA	8.292	589.2 -> 419.0	22885	3.83 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 76.6%	
d7-MeFOSE	10.672	623.2 -> 58.9	78687	16.94 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 67.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	105520	17.83 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 71.3%	
d5-EtFOSA	10.984	531.1 -> 219.0	9157	1.82 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 72.8%	

Target Compounds

Compound	RT	Transition	Response	Conc. Units	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.	

7.5.1
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	-	599.0 -> 98.8	-	N.D.	
		363.1 -> 319.0			
PFHpS	-	363.1 -> 169.0	-	N.D.	
		449.0 -> 79.9			
PFHxA	-	449.0 -> 98.9	-	N.D.	
		313.0 -> 269.0			
PFHxS	-	313.0 -> 118.9	-	N.D.	
		398.7 -> 79.9			
PFNA	-	398.7 -> 98.9	-	N.D.	
		463.0 -> 419.0			
PFNS	-	463.0 -> 219.0	-	N.D.	
		548.8 -> 79.9			
PFOA	-	548.8 -> 98.9	-	N.D.	
		413.0 -> 369.0			
PFOS	-	413.0 -> 169.0	-	N.D.	
		498.9 -> 79.9			
PFPeA	-	498.9 -> 98.8	-	N.D.	
		263.0 -> 219.0			
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.	
		511.9 -> 219.0			
MeFOSA	-	511.9 -> 169.0	-	N.D.	
		616.1 -> 58.9			
MeFOSE	-	699.1 -> 79.9	-	N.D.	
		699.1 -> 98.8			
PFDoDS	-	295.0 -> 201.0	-	N.D.	
		295.0 -> 84.9			
NFDHA	-	279.0 -> 85.1	-	N.D.	
		229.0 -> 84.9			
PFMBA	-	314.8 -> 134.9	-	N.D.	
		314.8 -> 82.9			

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

7.5.1
7

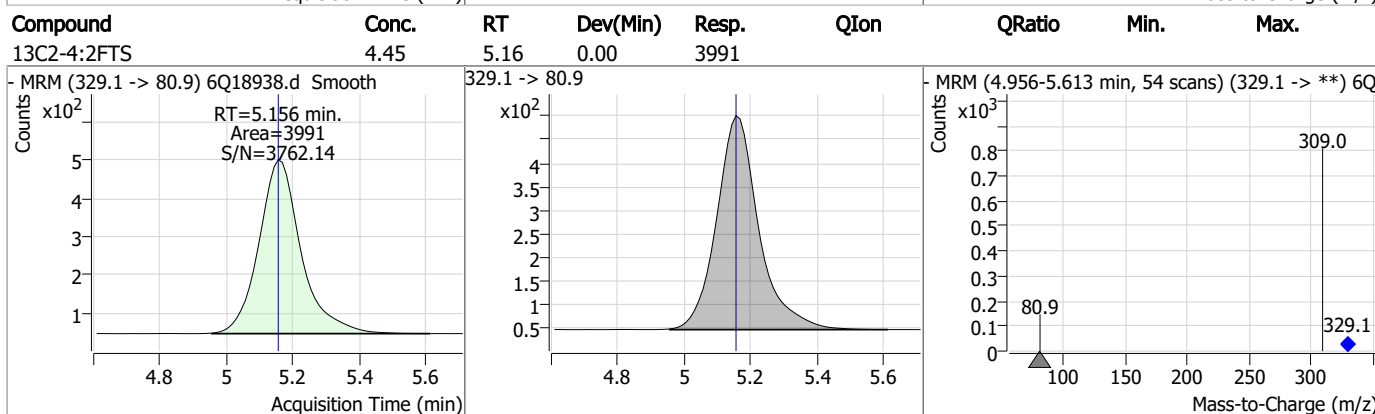
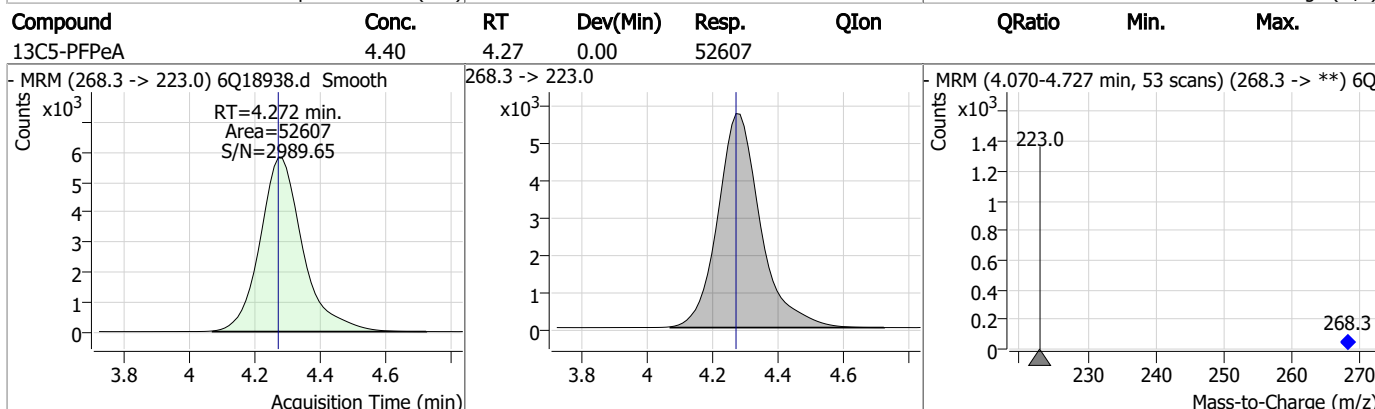
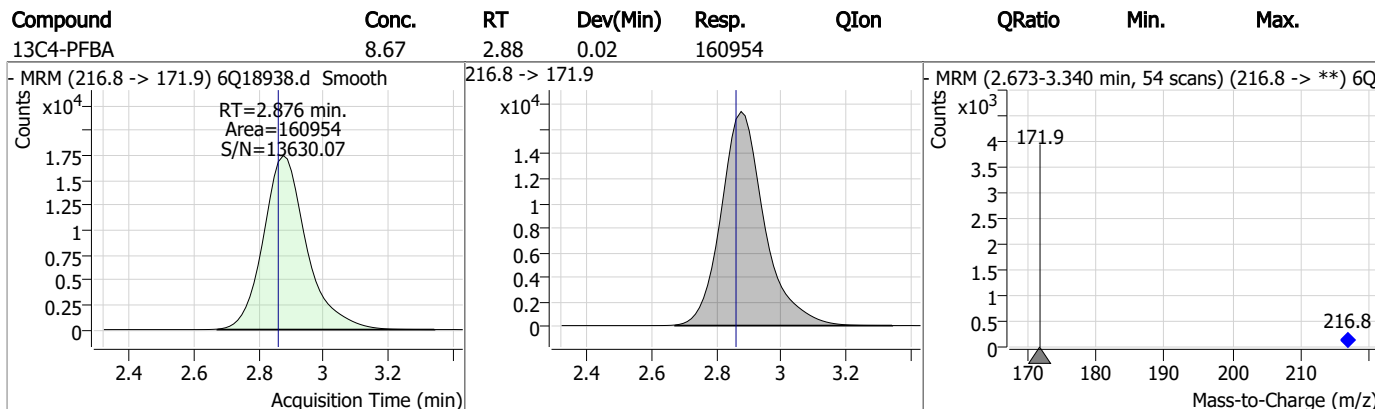
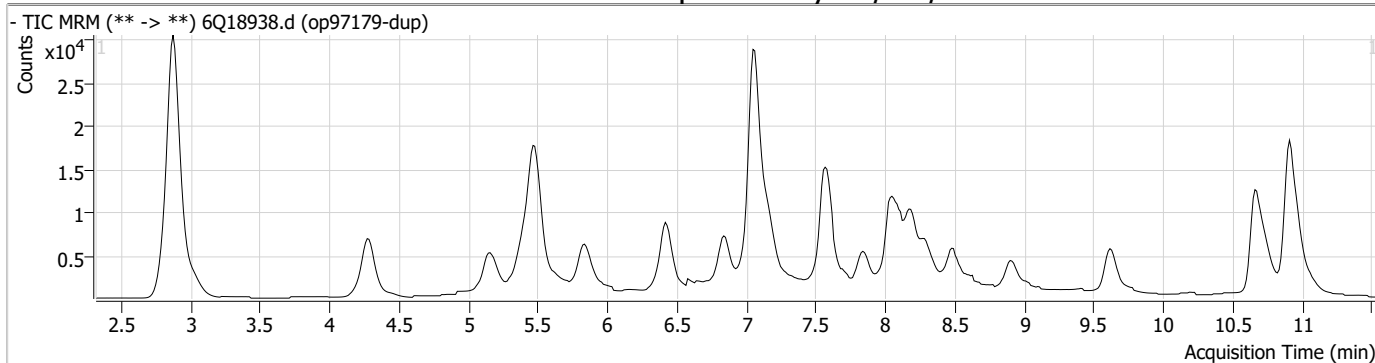
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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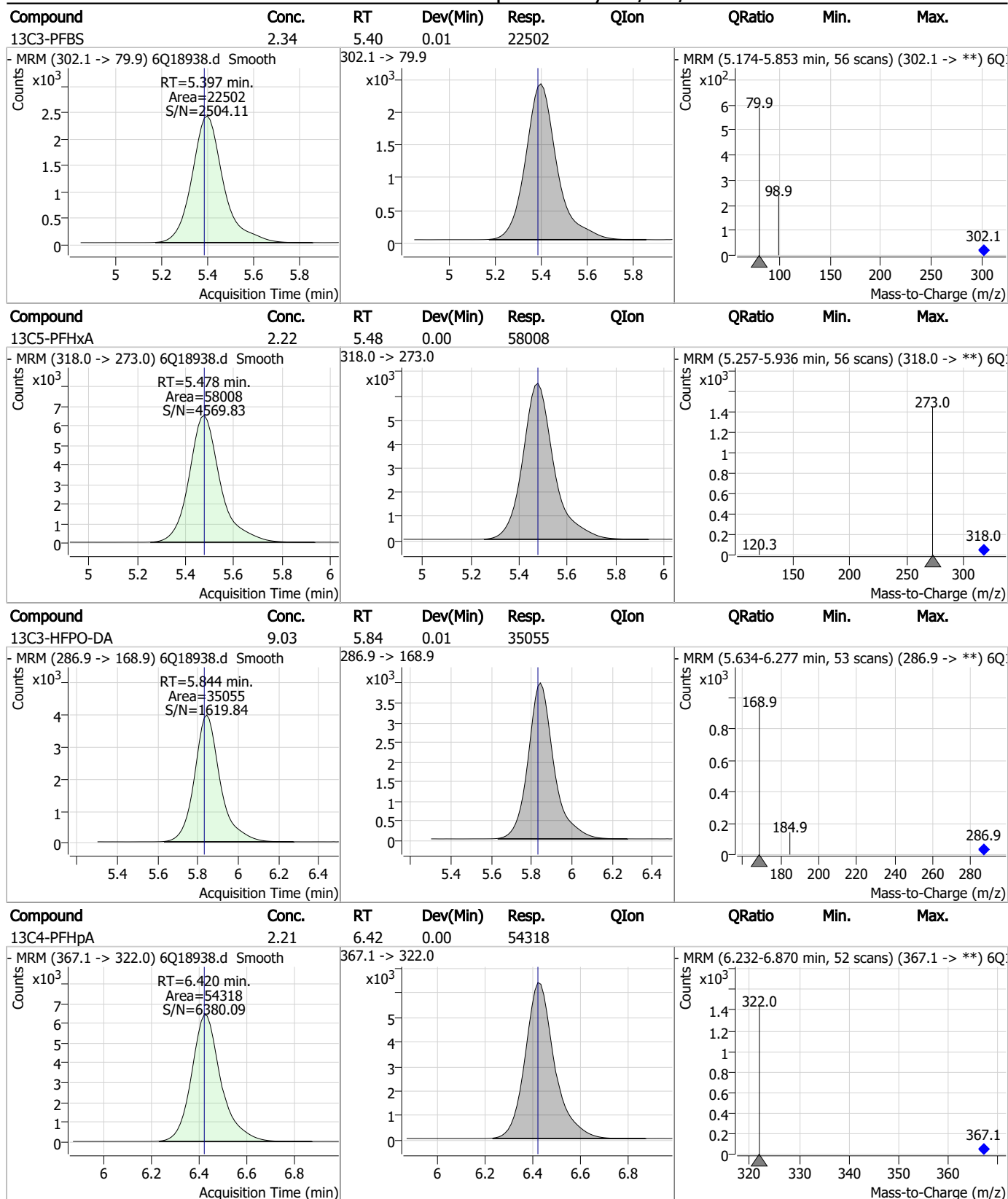
7.5.1

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



7.5.1
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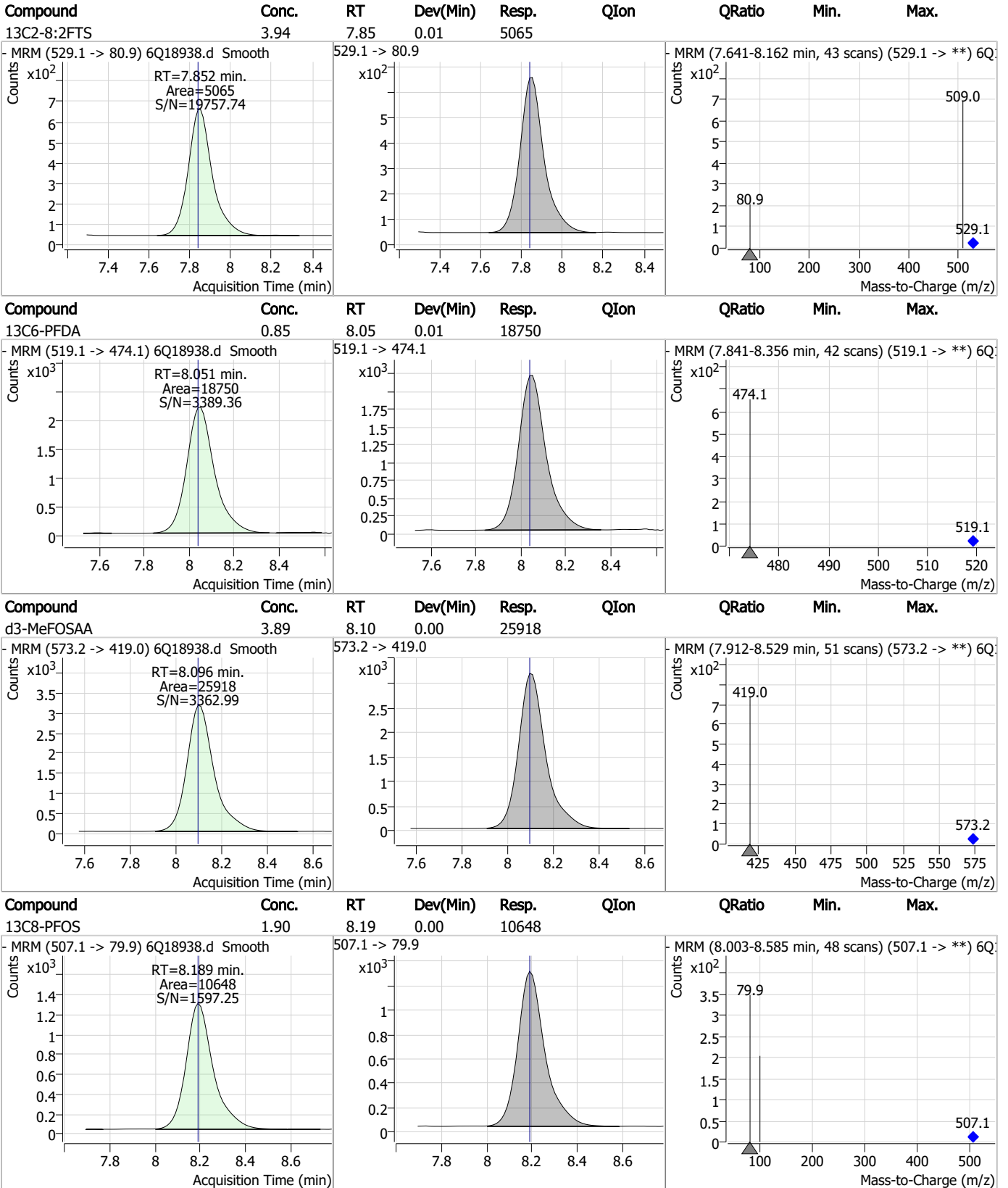


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	4.60	6.84	0.00	5936				
13C8-PFOA	2.14	7.06	0.01	82002				
13C3-PFHxS	2.19	7.15	0.00	12903				
13C9-PFNA	1.05	7.57	0.00	36780				

7.5.1
7

Perfluorinated Compounds by LC/MS/MS



7.5.1

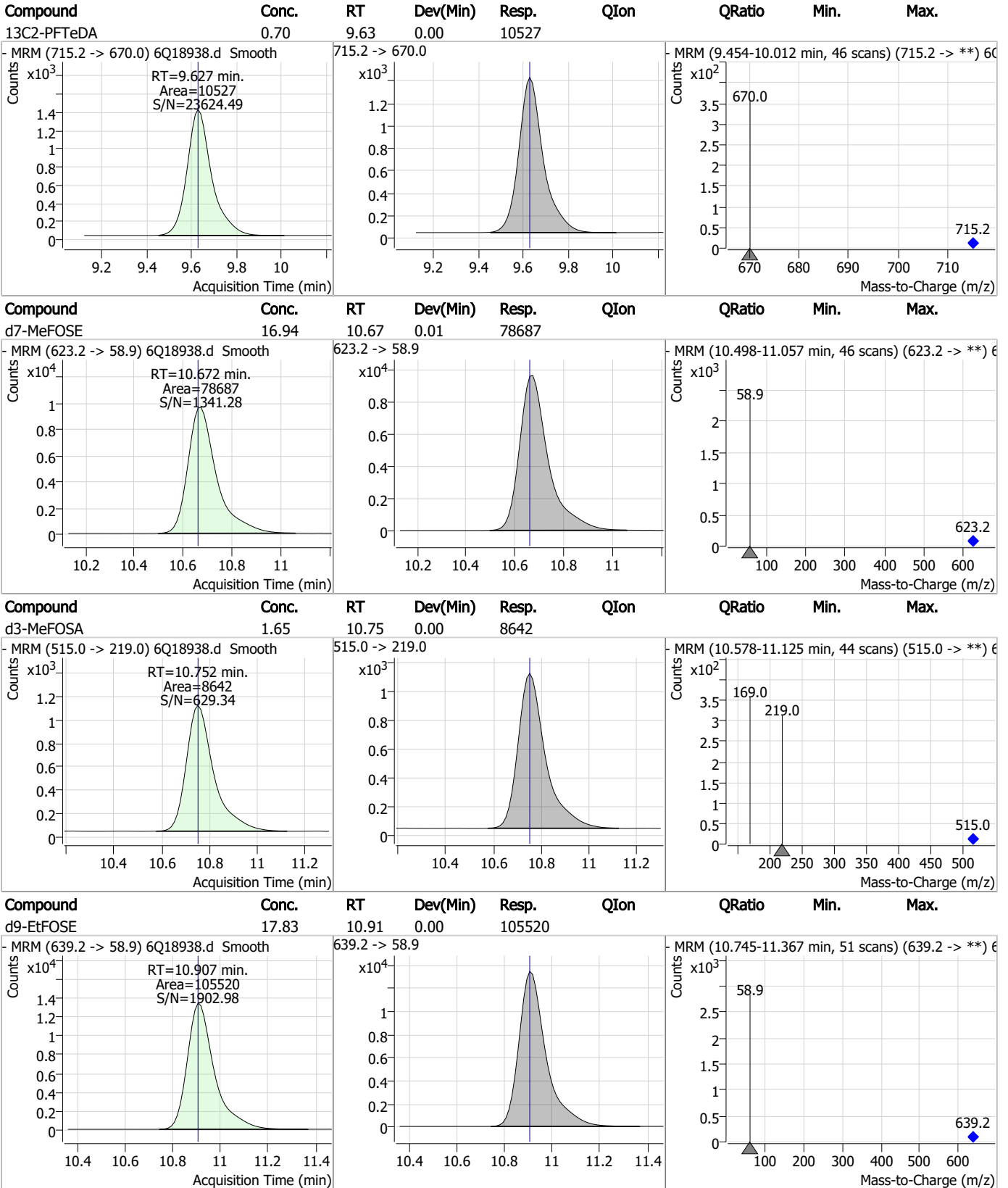
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	3.83	8.29	0.00	22885				
13C7-PFUnDA	0.83	8.48	0.00	24015				
13C2-PFDoDA	0.77	8.91	0.01	20877				
13C8-FOSA	1.71	9.62	0.01	23013				

7.5.1
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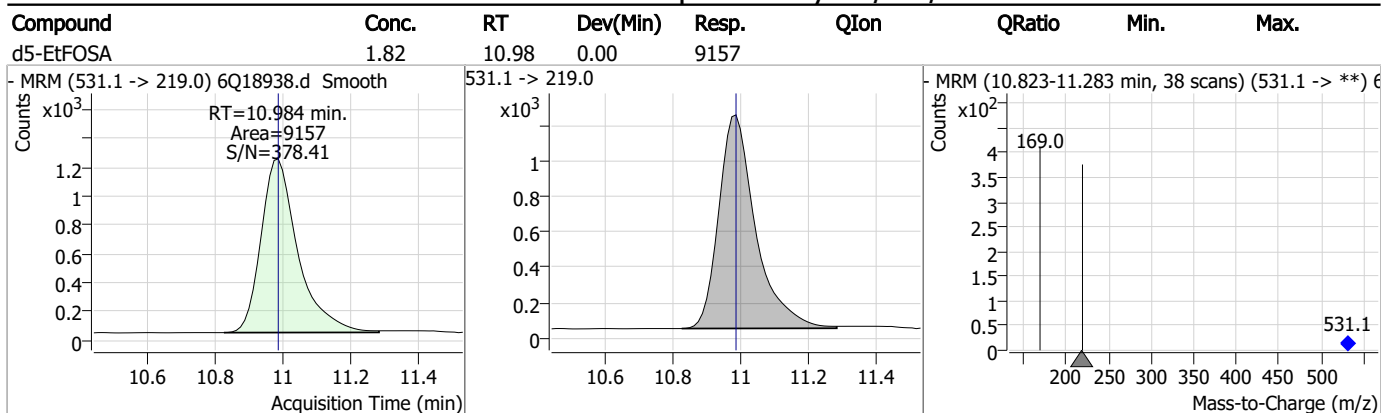
Perfluorinated Compounds by LC/MS/MS



7.5.1

7

Perfluorinated Compounds by LC/MS/MS



7.5.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18868.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 1:32:20 PM
 Sample Name : RT TDCA
 Vial : P1-B3
 DA Method File : TDCA.quantmethod.xml
 Batch Name : s6q282 TDCA.batch.bin
 Sample Information : OP96663,S6Q282,500,,,5.0,1,water

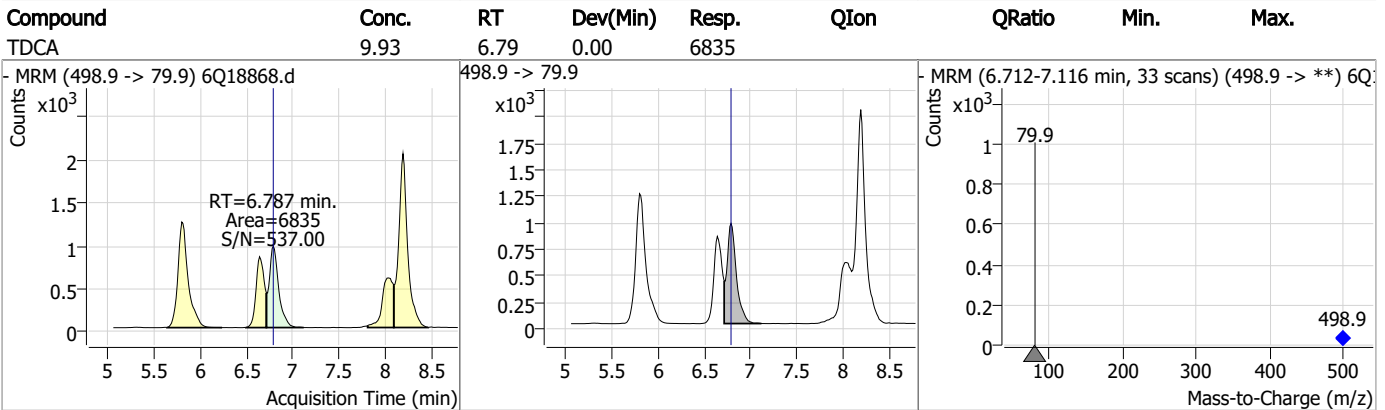
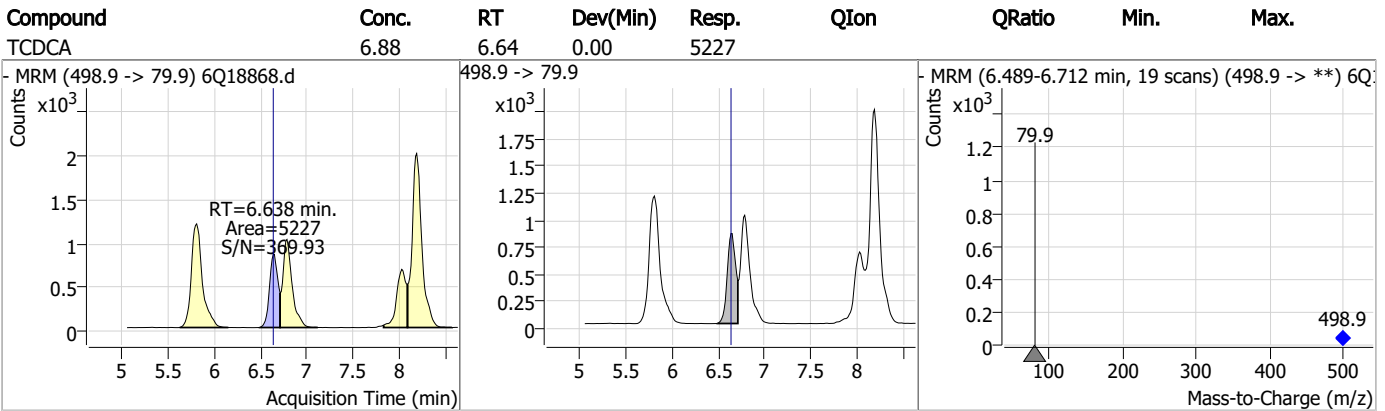
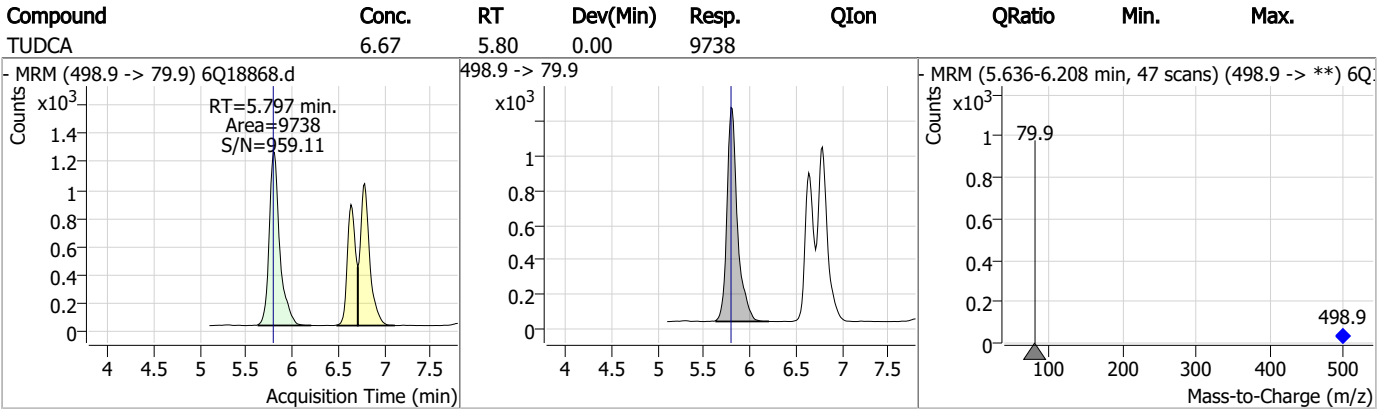
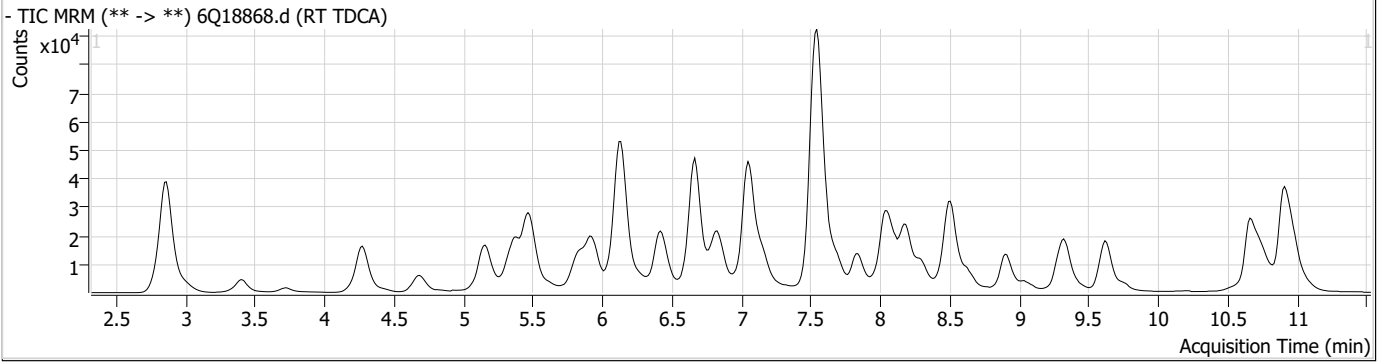
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M8-PFOS	8.189	507.1 -> 79.9	16472	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	23669	2.50 µg/L	0.000
System Monitoring Compounds					
13C8-PFOS	8.189	507.1 -> 79.9	16472	1.77 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 70.6%		
Target Compounds					
PFOS	8.191	498.9 -> 79.9	17004	3.02 µg/L	83
		498.9 -> 98.8	8903		
TCDCa	6.638	498.9 -> 79.9	5227	6.88 ng/ml	100
TDCA	6.787	498.9 -> 79.9	6835	9.93 ng/ml	100
TUDCA	5.797	498.9 -> 79.9	9738	6.67 ng/ml	100

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

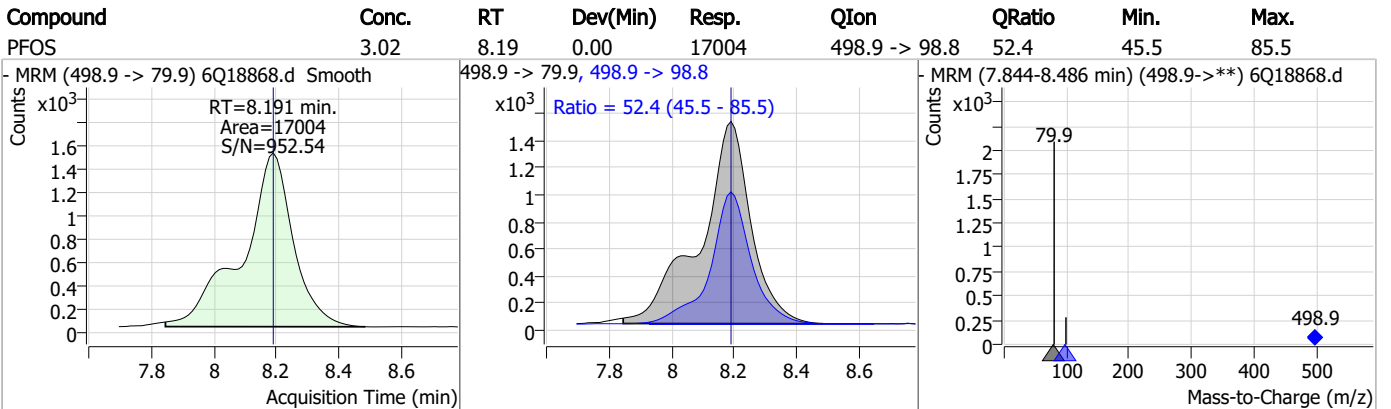
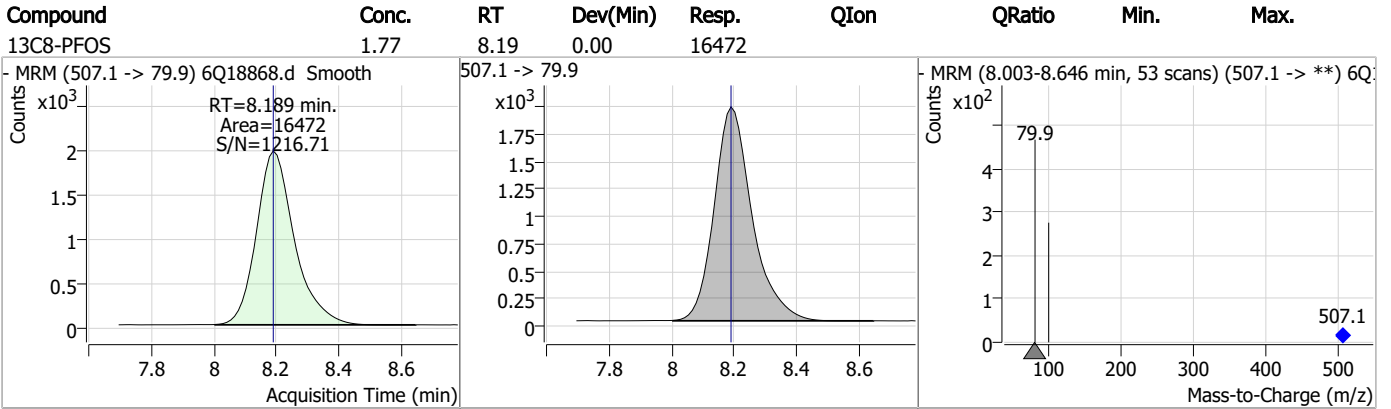
7.6.1

7

Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



7.6.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18869.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 1:46:48 PM
 Sample Name : RT BR-LN
 Vial : P1-B4
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP96663,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	177831	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	60200	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	65461	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	60109	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	96734	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	40652	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	26418	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	33976	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	30920	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17340	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	33241	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	23719	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	14629	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13633	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4271	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6304	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6240	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	35165	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	39698	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	30407	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	113217	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	140090	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	12654	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13161	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	17928	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	74640	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	10882	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	94889	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	33597	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	53672	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	61404	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4271	4.77 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 95.5%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6304	4.90 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.0%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6240	4.87 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.4%		
13C2-PFDoDA	8.900	615.1 -> 570.0	30920	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.7%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17340	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.1%		
13C3-PFBS	5.384	302.1 -> 79.9	23719	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C3-PFHxS	7.155	402.1 -> 79.9	14629	2.49 µg/L	0.000

7.6.2
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFBA	2.860	216.8 -> 171.9	177831	10.04 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C4-PFHpA	6.420	367.1 -> 322.0	60109	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C5-PFHxA	5.466	318.0 -> 273.0	65461	2.52 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C5-PFPeA	4.272	268.3 -> 223.0	60200	5.05 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C6-PFDA	8.039	519.1 -> 474.1	26418	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.0%	
13C7-PFUnDA	8.480	570.0 -> 525.1	33976	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C8-FOSA	9.611	506.1 -> 77.8	33241	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.9%	
13C8-PFOA	7.051	421.1 -> 376.0	96734	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.3%	
13C8-PFOS	8.189	507.1 -> 79.9	13633	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C9-PFNA	7.569	472.1 -> 427.0	40652	1.15 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	35165	5.45 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.9%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	39698	10.26 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.6%	
d3-MeFOSA	10.752	515.0 -> 219.0	13161	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.7%	
d5-EtFOSAA	8.292	589.2 -> 419.0	30407	5.25 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	113217	25.16 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
d9-EtFOSE	10.907	639.2 -> 58.9	140090	24.44 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.8%	
d5-EtFOSA	10.984	531.1 -> 219.0	12654	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.9%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	266301	45.52 µg/L	100
		327.1 -> 80.9	98397		
6:2FTS	6.838	427.1 -> 407.0	270680	45.31 µg/L	97
		427.1 -> 80.9	86468		
8:2FTS	7.840	527.1 -> 507.0	149378	44.63 µg/L	98
		527.1 -> 80.8	58225		
EtFOSAA	8.293	584.2 -> 419.1	47014	11.34 µg/L	99
		584.2 -> 526.0	25691		
FOSA	9.614	498.1 -> 77.9	318450	28.42 µg/L	100
		498.1 -> 478.0	9432		
MeFOSAA	8.097	570.1 -> 419.0	78934	11.23 µg/L	99
		570.1 -> 483.0	14991		
PFBA	2.856	212.8 -> 168.9	273927	47.28 µg/L	100
PFBS	5.385	298.7 -> 79.9	85698	10.43 µg/L	96
		298.7 -> 98.8	31802		
PFDA	8.040	512.9 -> 469.0	378982	11.91 µg/L	100
		512.9 -> 219.0	57692		
PFDoDA	8.900	613.1 -> 569.0	242921	12.06 µg/L	94
		613.1 -> 319.0	36433		
PFDS	9.064	599.0 -> 79.9	38616	11.85 µg/L	98

7.6.2
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	17608	12.25	µg/L	100
		363.1 -> 319.0	312172			
PFHpS	7.698	363.1 -> 169.0	50474	11.64	µg/L	98
		449.0 -> 79.9	71998			
PFHxA	5.469	449.0 -> 98.9	34467	11.95	µg/L	98
		313.0 -> 269.0	256741			
PFHxS	7.156	313.0 -> 118.9	12449	10.59	µg/L	99
		398.7 -> 79.9	72586			
PFNA	7.446	398.7 -> 98.9	34569	26.57	µg/L	98
		463.0 -> 419.0	765738			
PFNS	8.644	463.0 -> 219.0	163106	11.75	µg/L	100
		548.8 -> 79.9	63832			
PFOA	7.052	548.8 -> 98.9	33317	25.69	µg/L	99
		413.0 -> 369.0	1046539			
PFOS	8.191	413.0 -> 169.0	182649	11.43	µg/L	94
		498.9 -> 79.9	71290			
PFPeA	4.274	498.9 -> 98.8	31737	23.09	µg/L	100
		263.0 -> 219.0	328293			
PFPeS	6.459	349.1 -> 79.9	70646	10.73	µg/L	99
		349.1 -> 98.9	32338			
PFTeDA	9.628	713.1 -> 669.0	190790	11.17	µg/L	98
		713.1 -> 168.9	16128			
PFTrDA	9.284	663.0 -> 619.0	238576	11.61	µg/L	98
		663.0 -> 168.9	26646			
PFUnDA	8.480	563.1 -> 519.0	248815	11.81	µg/L	100
		563.1 -> 269.1	38020			
11Cl-PF3OUdS	9.336	630.9 -> 450.9	331736	21.86	µg/L	97
		632.9 -> 452.9	106405			
9Cl-PF3ONS	8.508	530.8 -> 351.0	527241	21.94	µg/L	97
		532.8 -> 353.0	161192			
ADONA	6.671	376.9 -> 250.9	1182088	21.68	µg/L	99
		376.9 -> 84.8	319159			
HFPO-DA	5.832	284.9 -> 168.9	79577	24.00	µg/L	98
		284.9 -> 184.9	8739			
3:3FTCA	3.727	241.0 -> 177.0	58465	58.05	µg/L	100
		241.0 -> 117.0	7763			
5:3FTCA	6.124	341.0 -> 237.1	1213878	292.81	µg/L	98
		341.0 -> 217.0	859103			
7:3FTCA	7.535	441.0 -> 316.9	846023	296.65	µg/L	96
		441.0 -> 336.9	1858426			
EtFOSA	10.986	526.0 -> 219.0	240128	41.18	µg/L	96
		526.0 -> 169.0	304541			
EtFOSE	10.920	630.0 -> 58.9	487919	79.85	µg/L	100
		511.9 -> 219.0	200058			
MeFOSA	10.753	511.9 -> 169.0	282726	39.90	µg/L	99
		616.1 -> 58.9	347837			
MeFOSE	10.673	699.1 -> 79.9	18664	79.35	µg/L	100
		699.1 -> 98.8	10021			
PFDoDS	9.755	295.0 -> 201.0	63670	12.13	µg/L	98
		295.0 -> 84.9	16029			
NFDHA	5.348	279.0 -> 85.1	236870	24.68	µg/L	99
		229.0 -> 84.9	180873			
PFMBA	4.688	314.8 -> 134.9	589605	24.10	µg/L	100
PFMPA	3.401	314.8 -> 82.9	20682	24.15	µg/L	100
PFEESA	5.926			21.59	µg/L	99

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

7.6.2
7

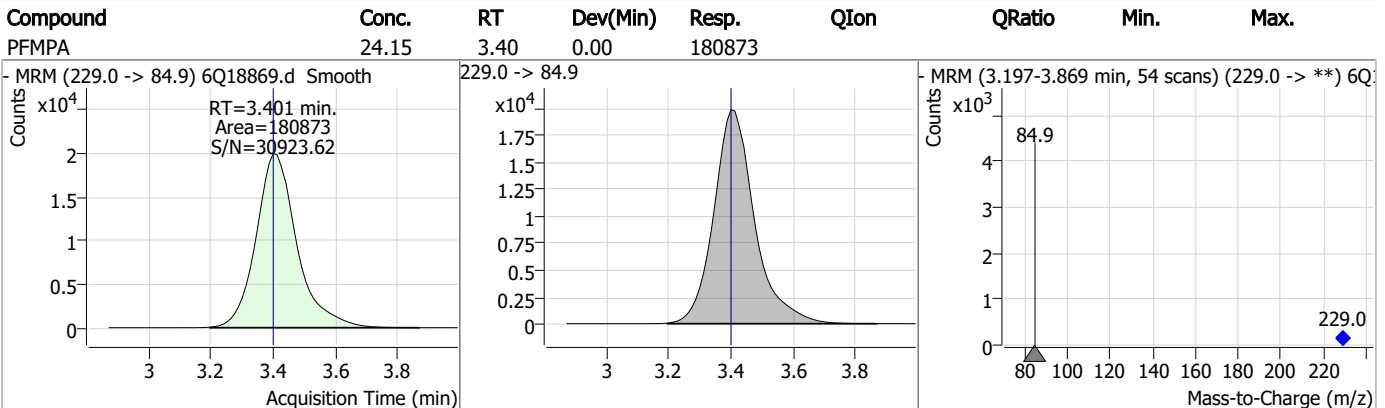
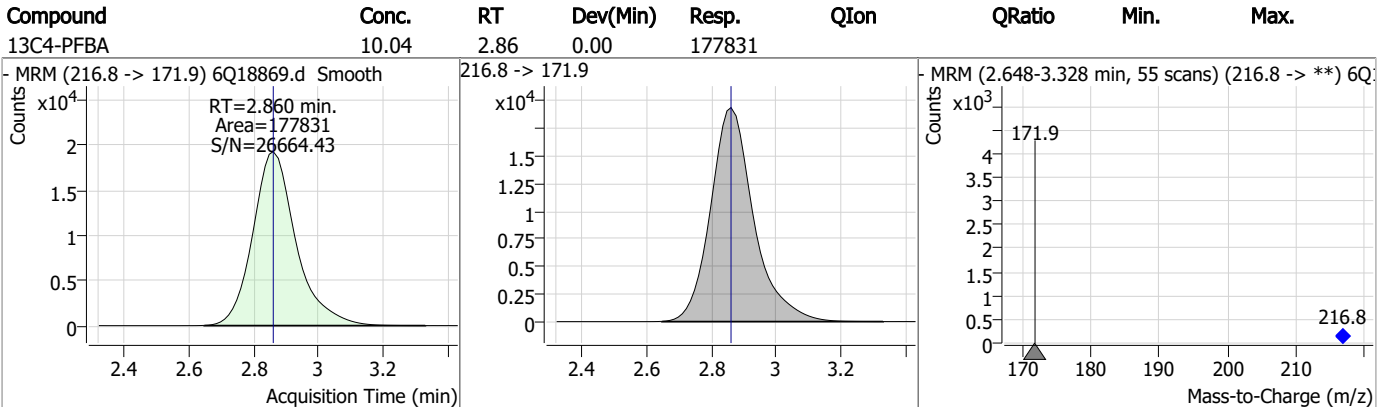
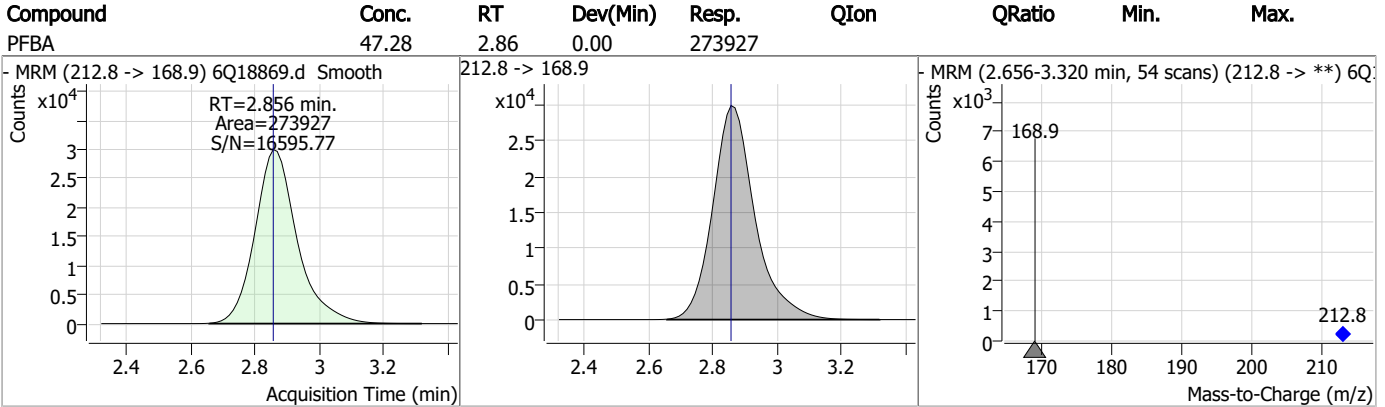
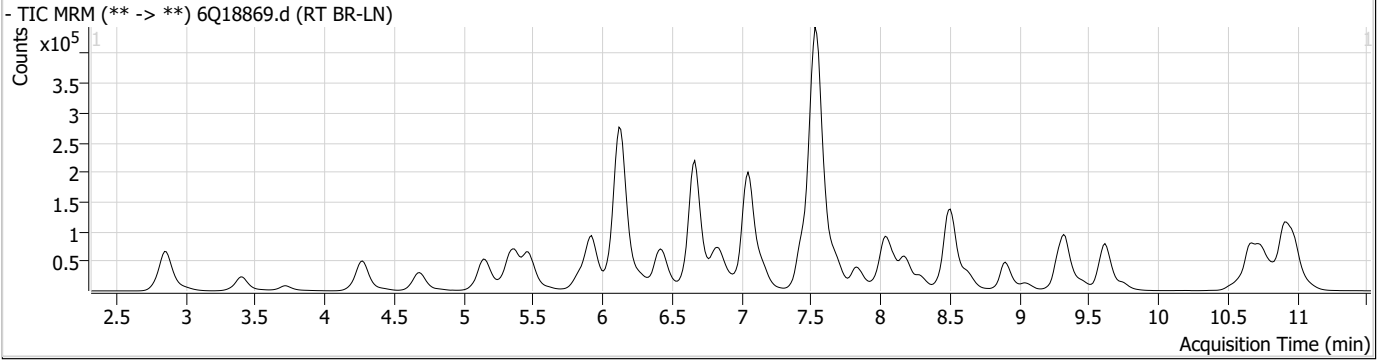
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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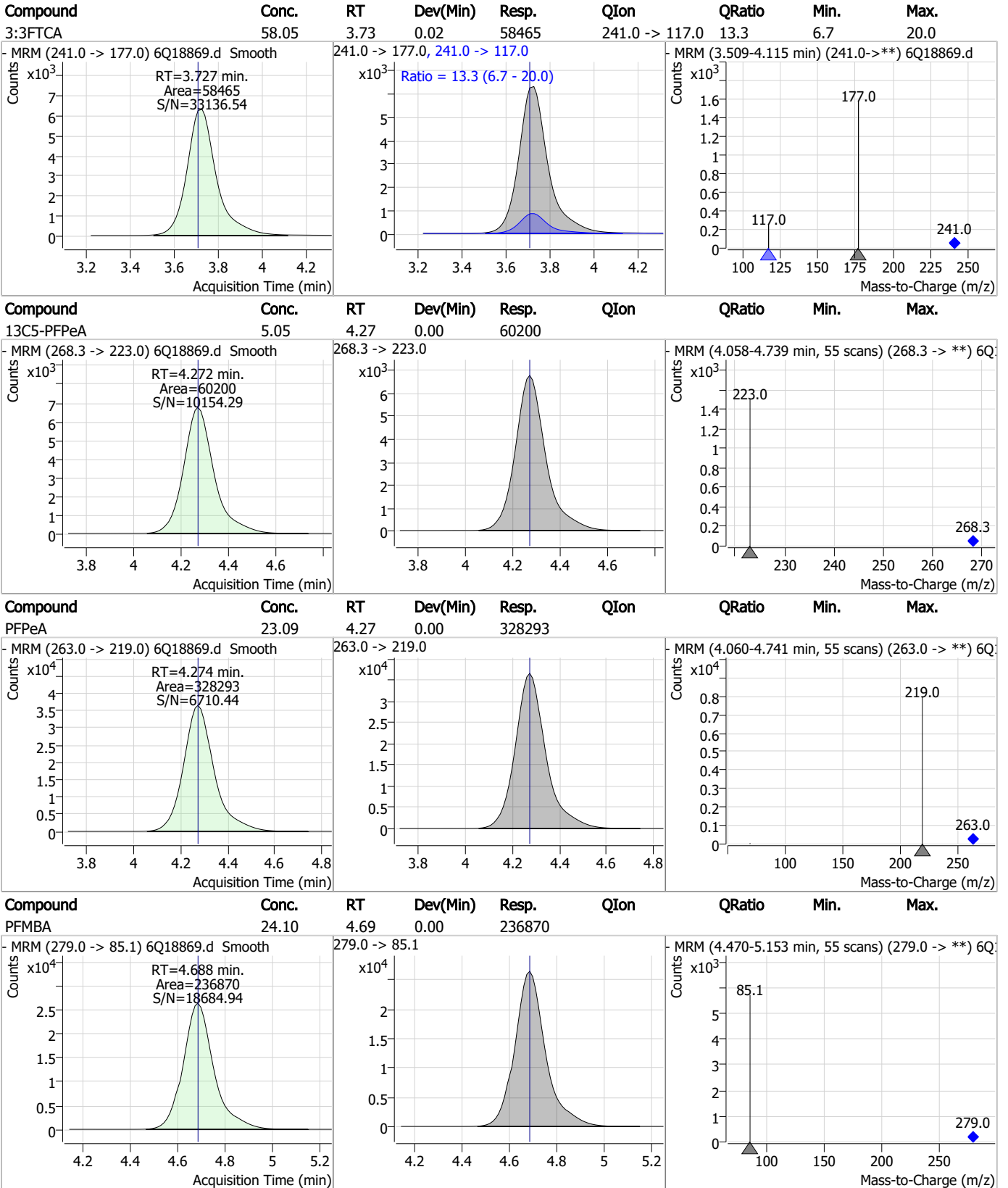
7.6.2

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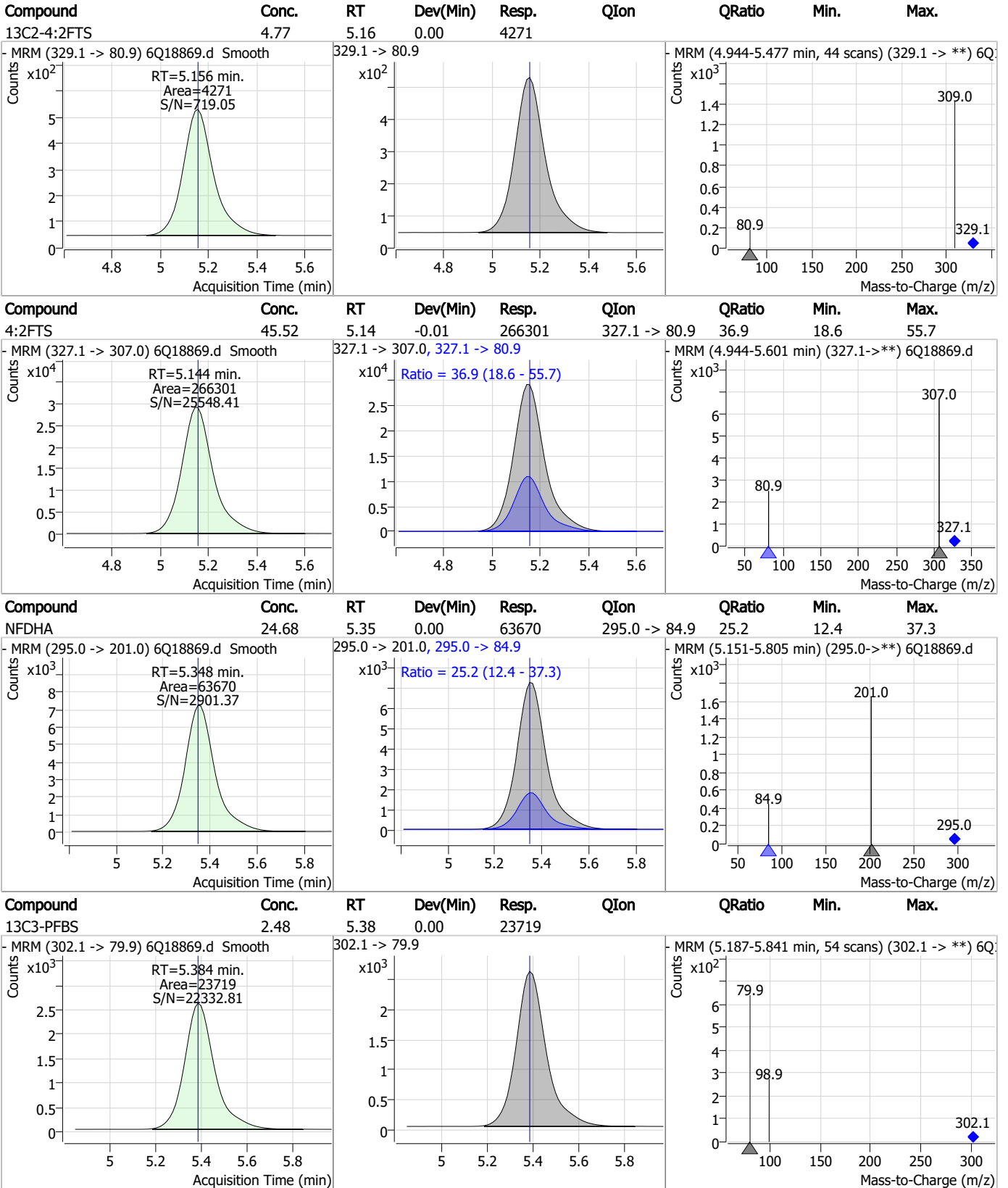
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



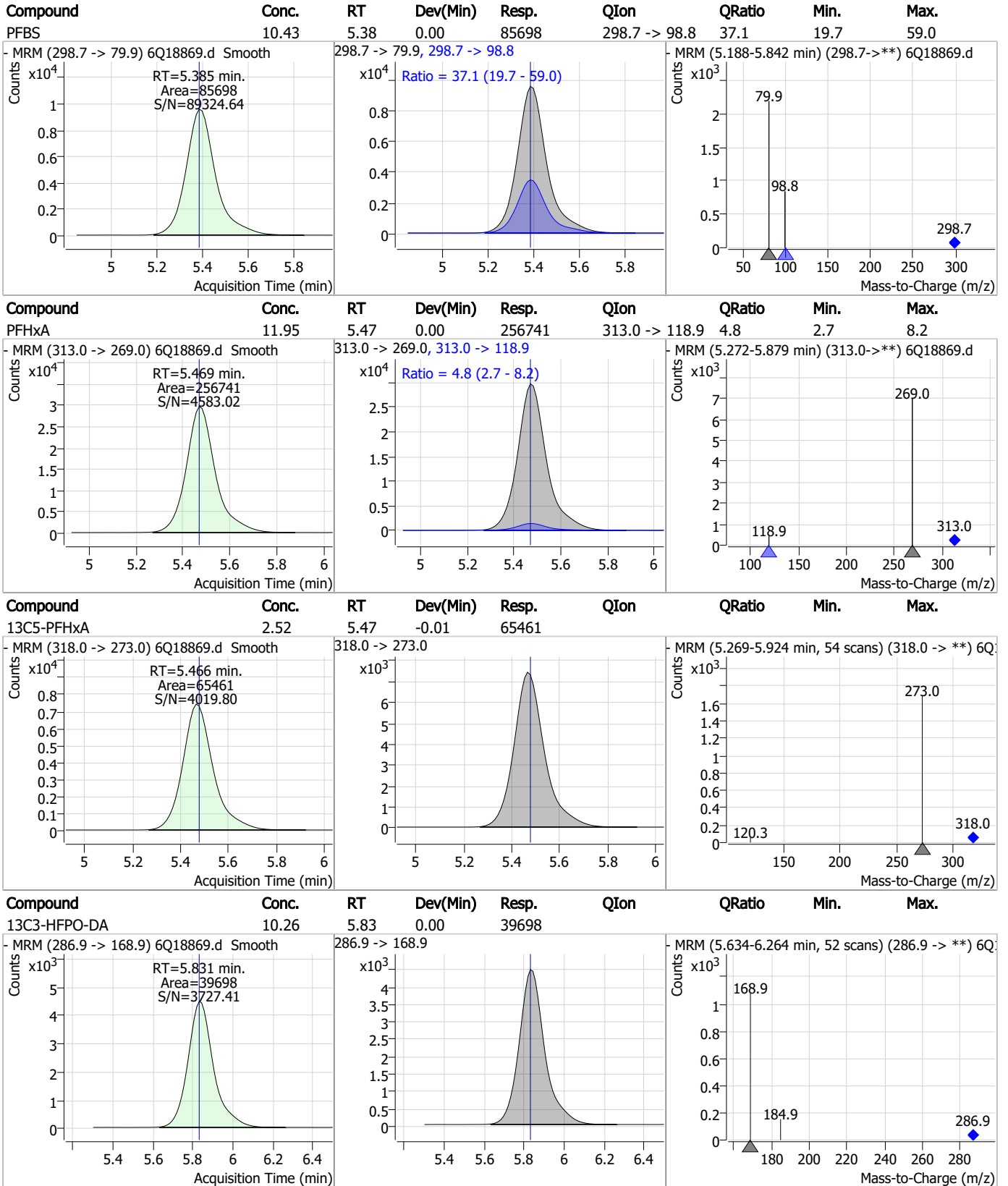
Perfluorinated Compounds by LC/MS/MS



7.6.2

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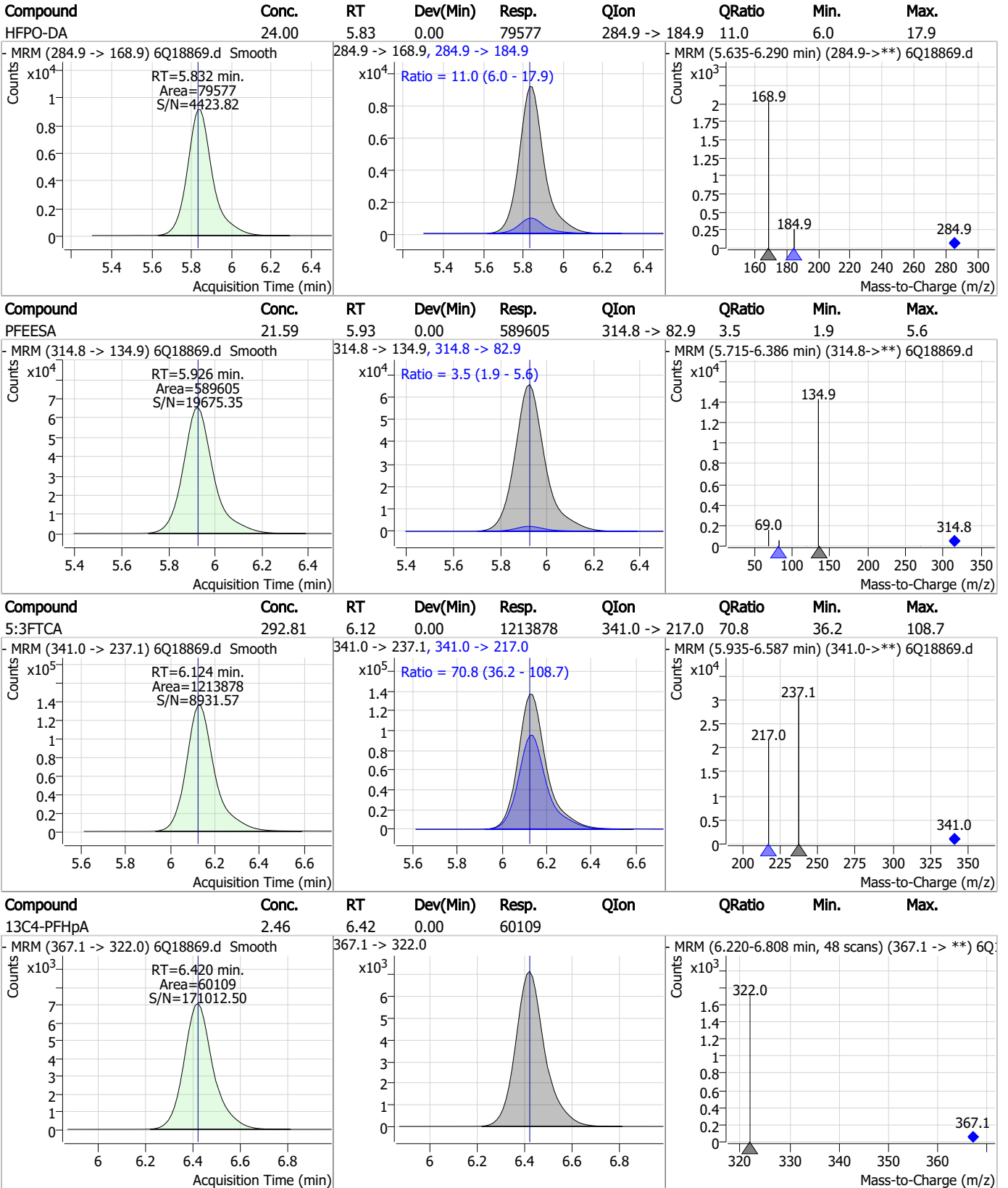
Perfluorinated Compounds by LC/MS/MS



7.6.2

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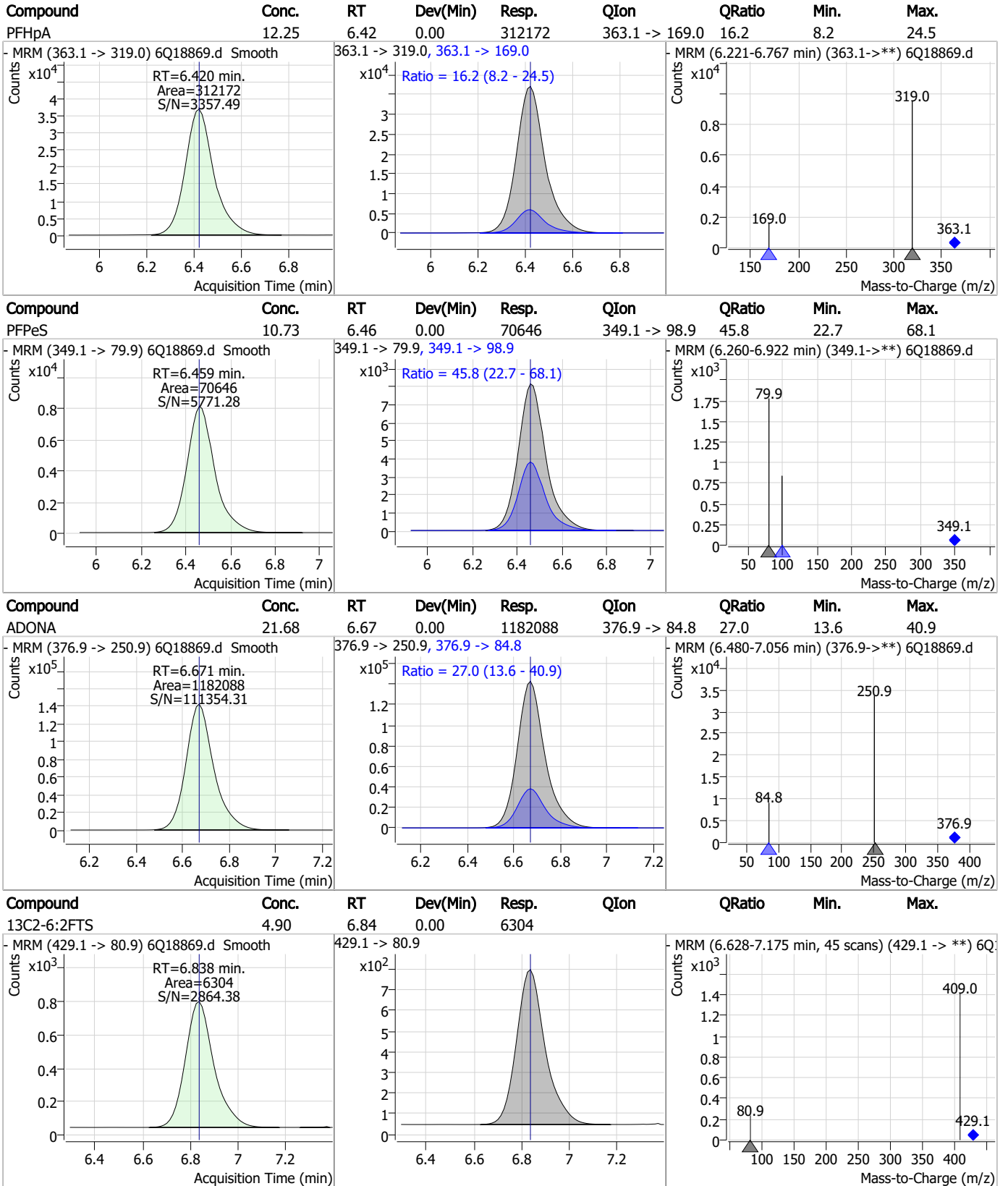
Perfluorinated Compounds by LC/MS/MS



7.6.2

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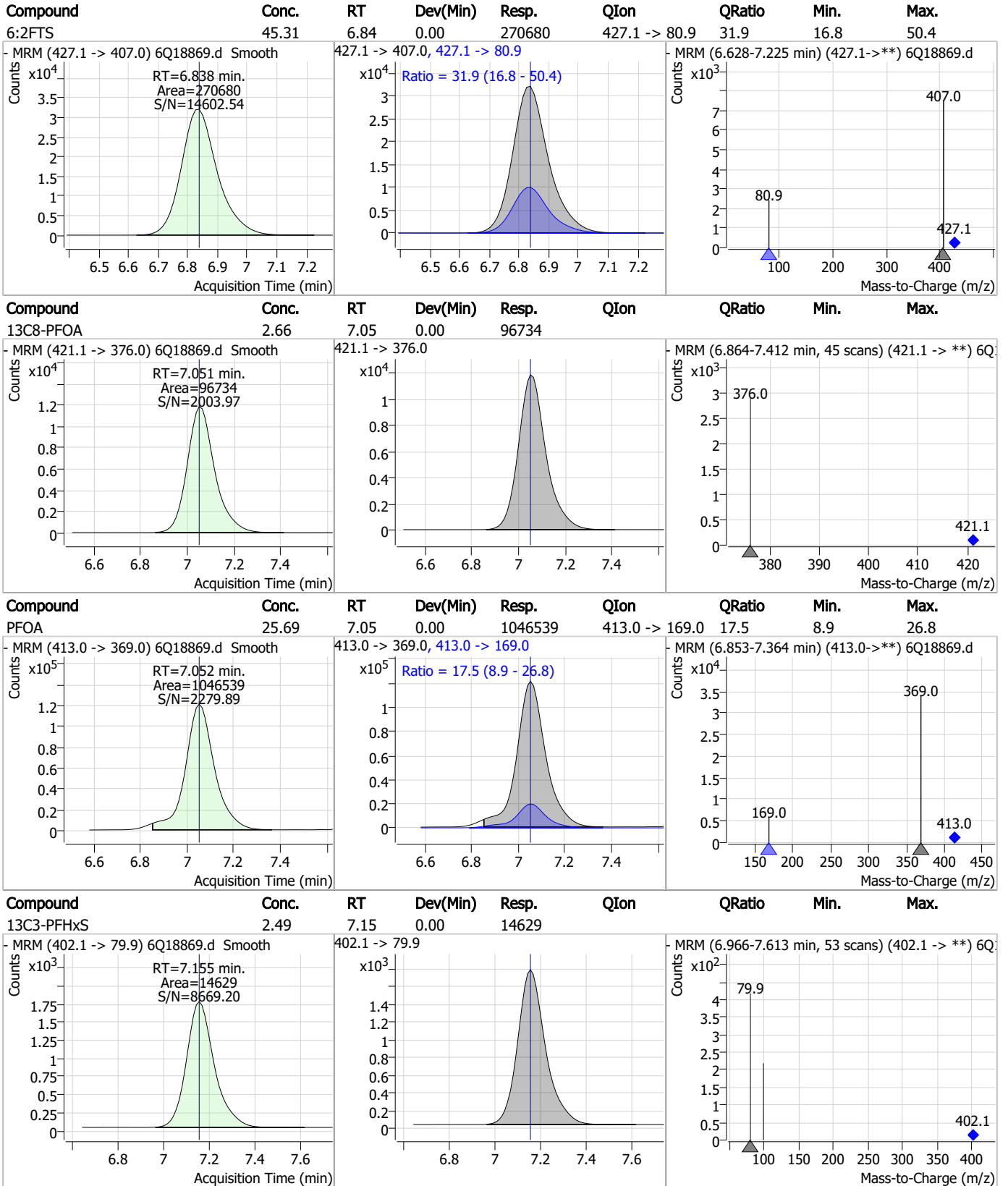
Perfluorinated Compounds by LC/MS/MS



7.6.2

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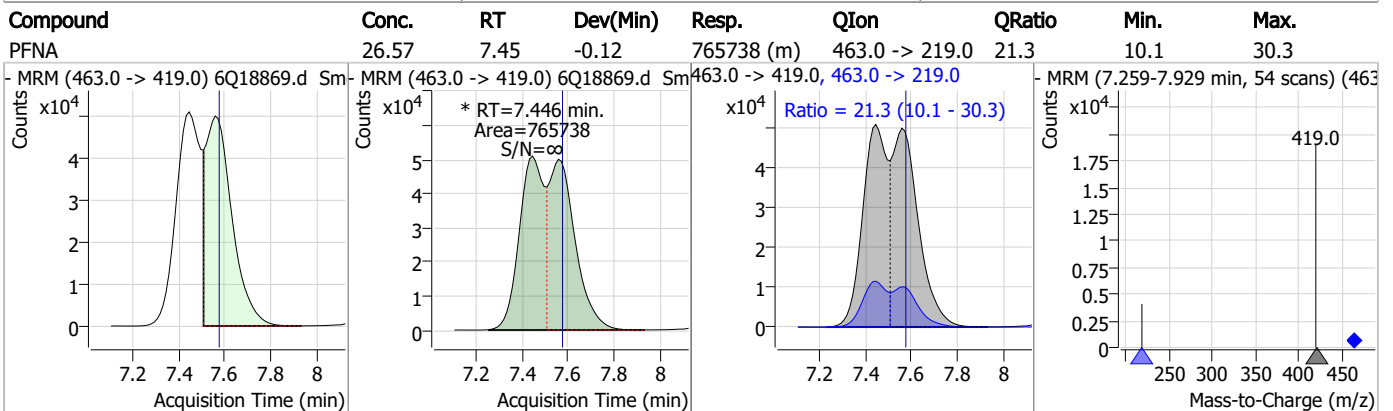
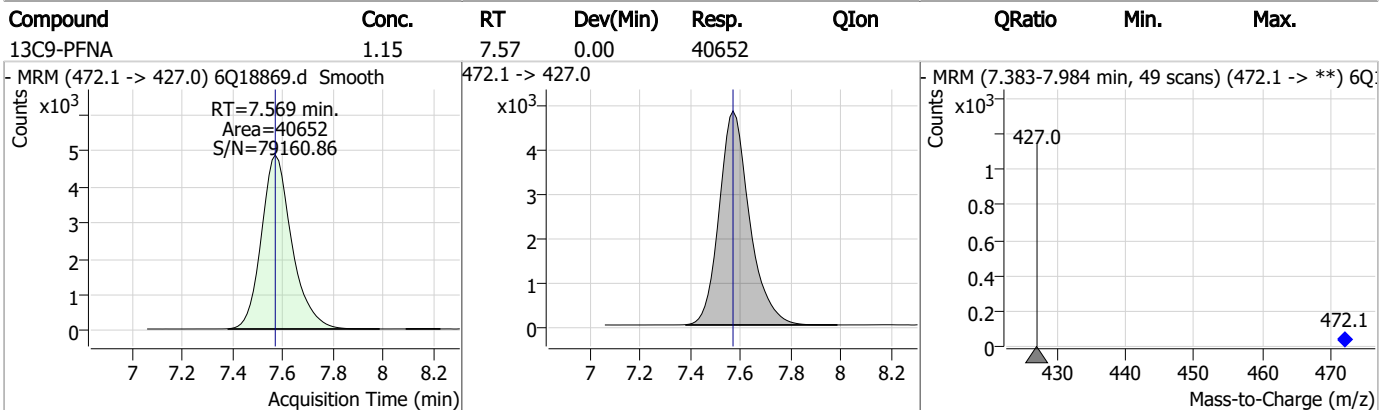
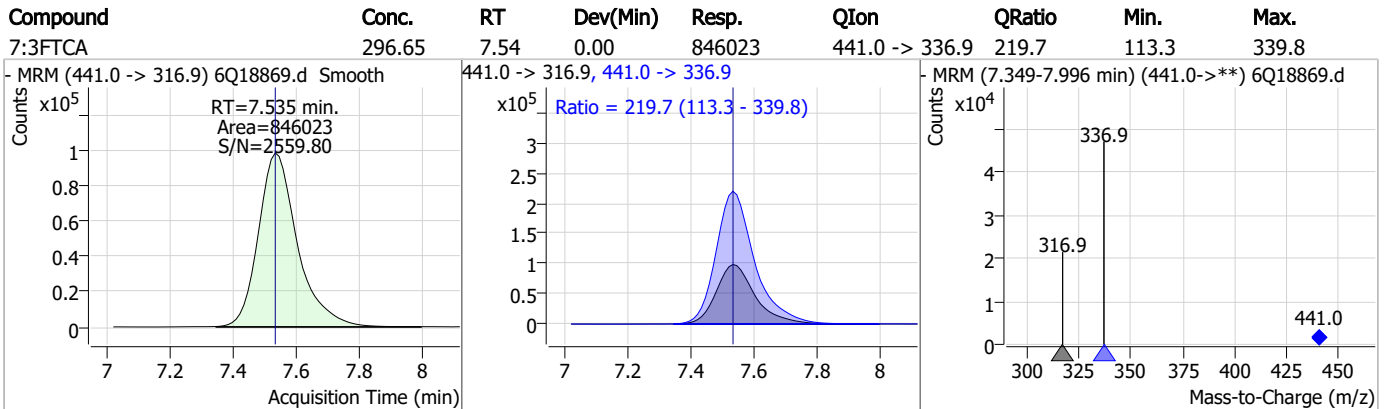
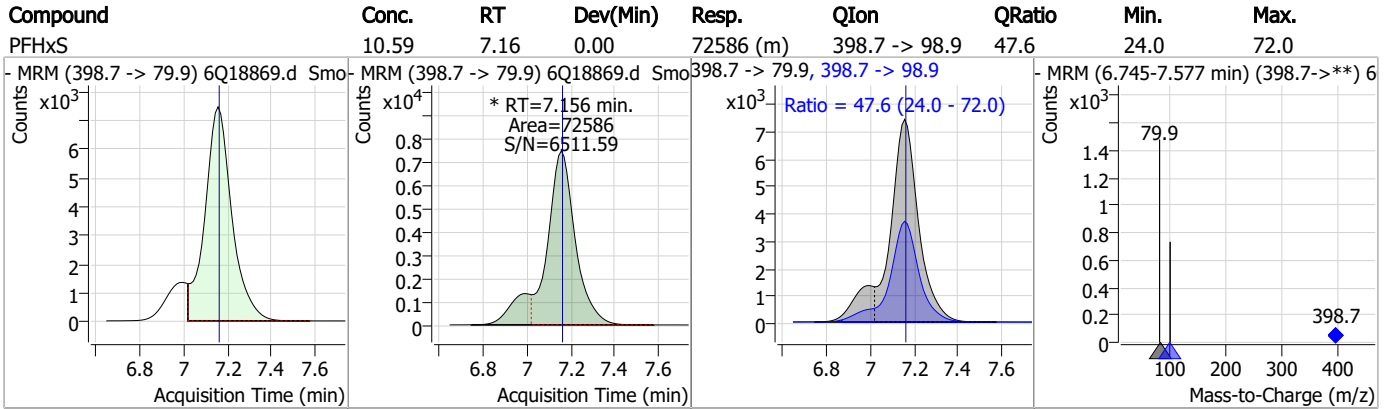
Perfluorinated Compounds by LC/MS/MS



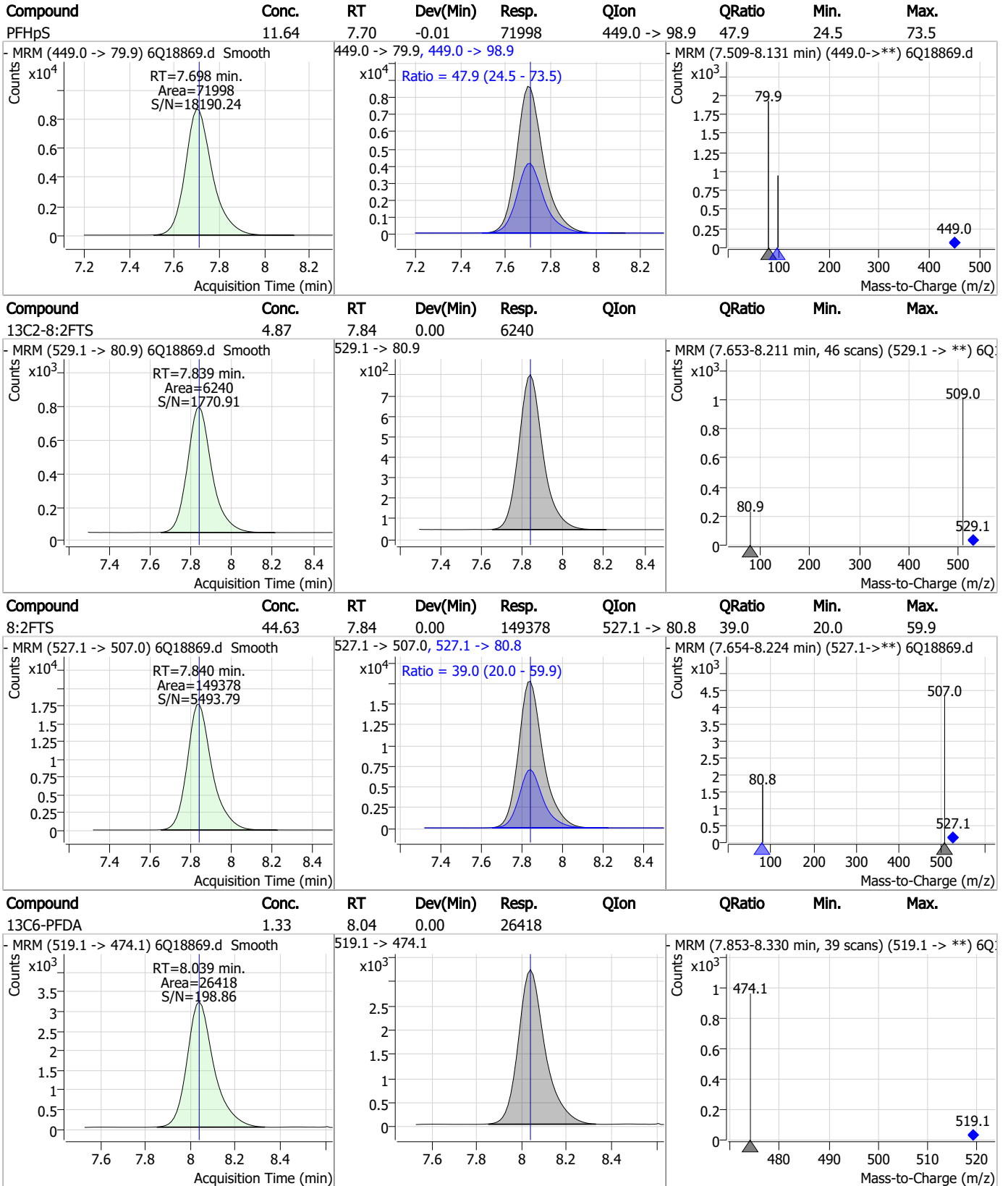
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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

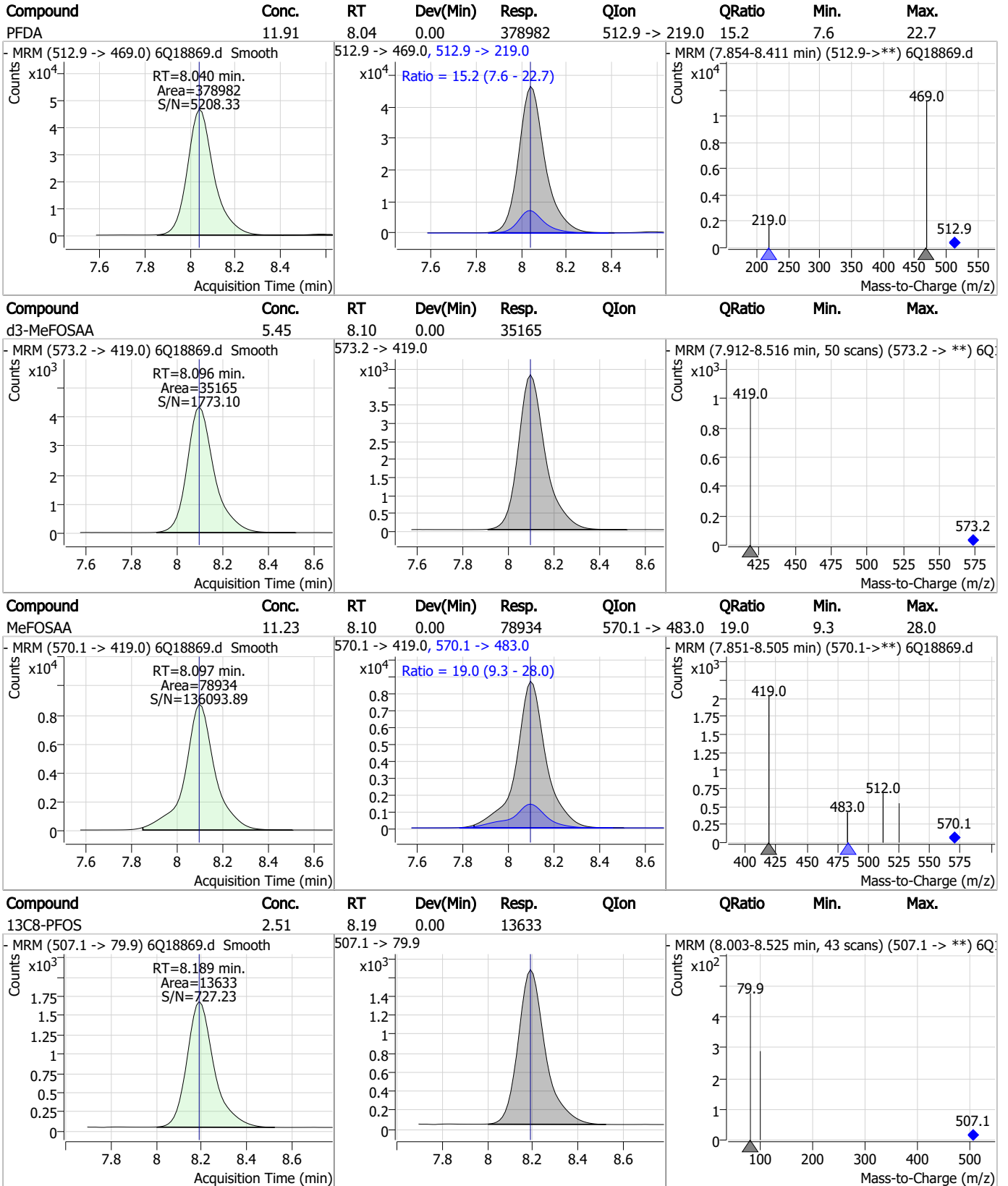


7.6.2

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Perfluorinated Compounds by LC/MS/MS

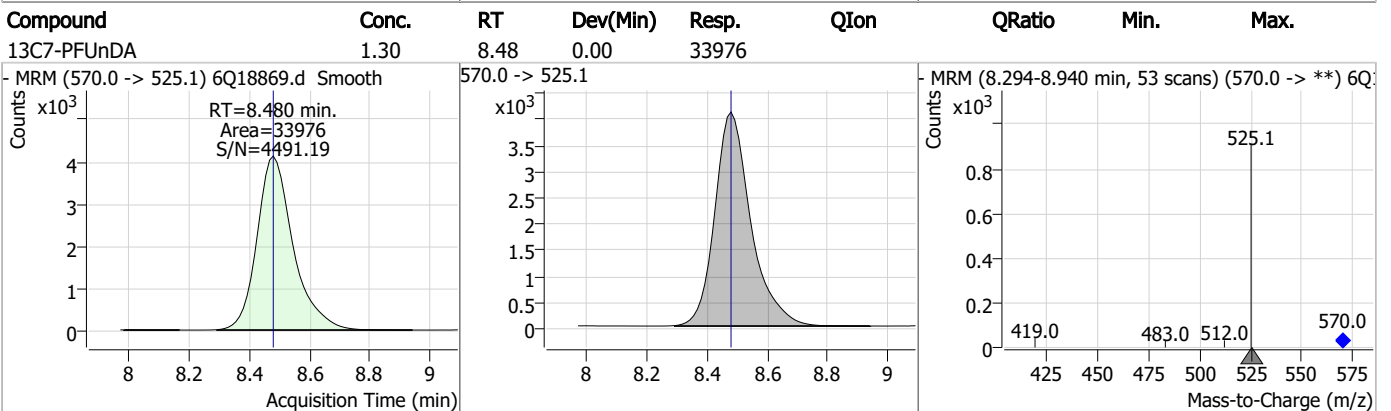
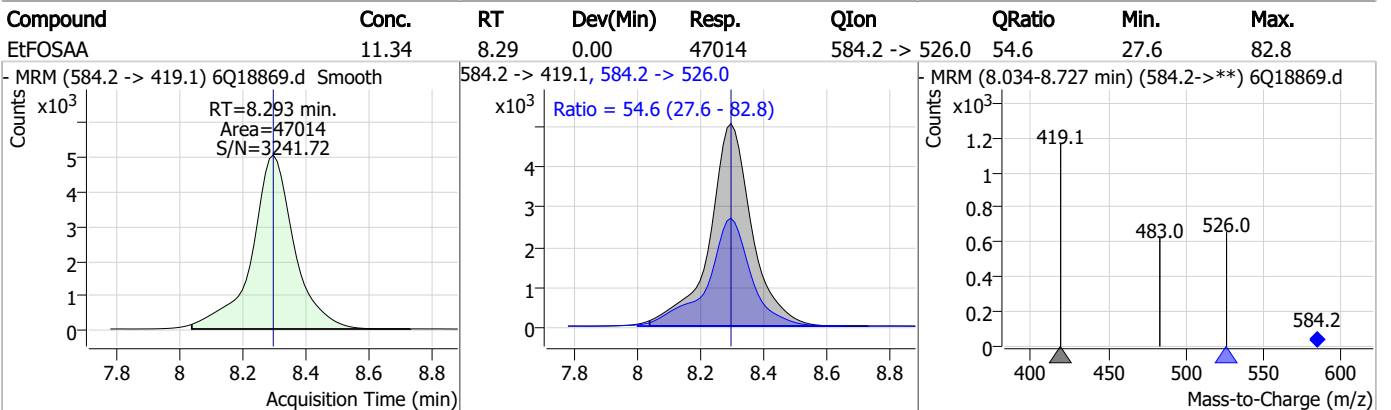
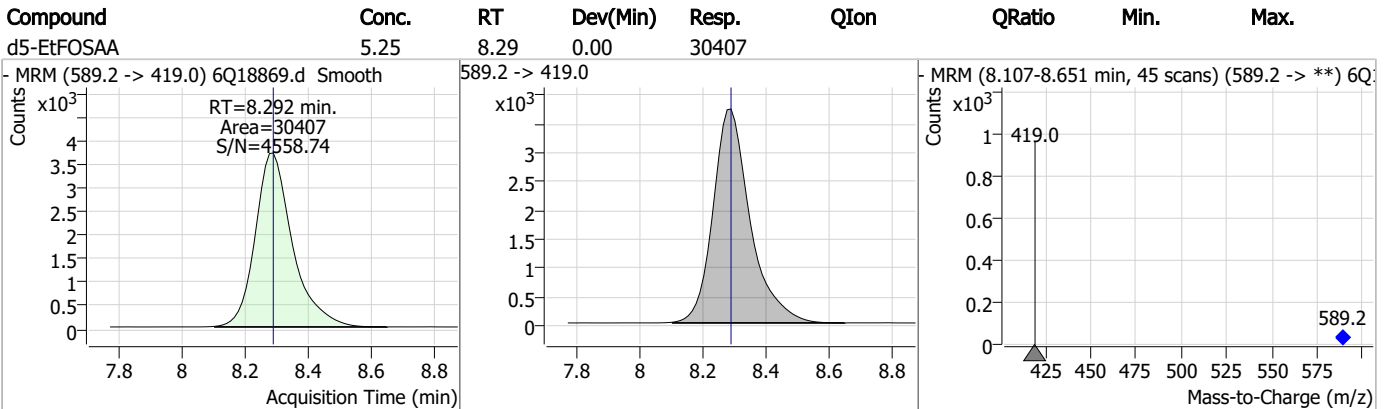
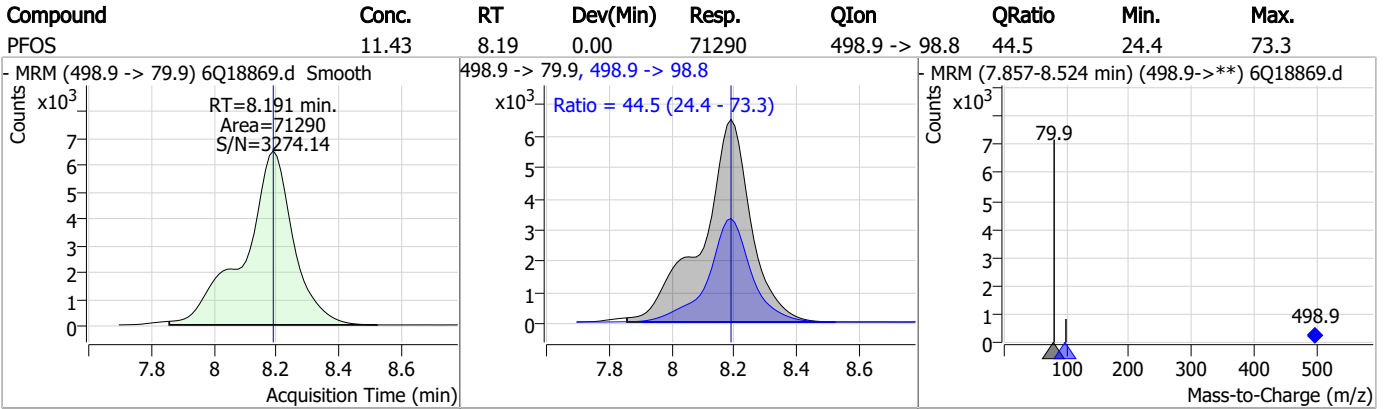


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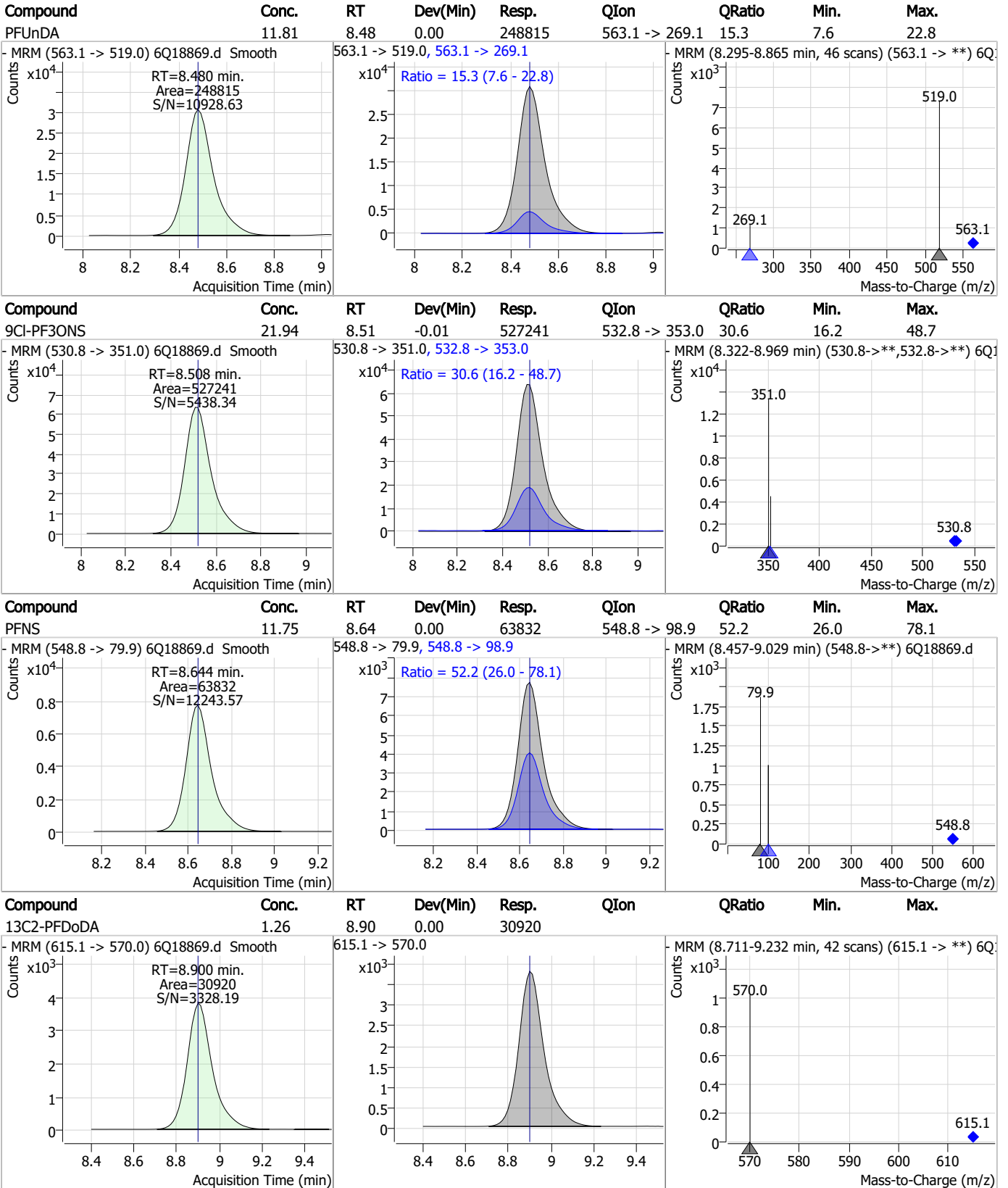
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Perfluorinated Compounds by LC/MS/MS



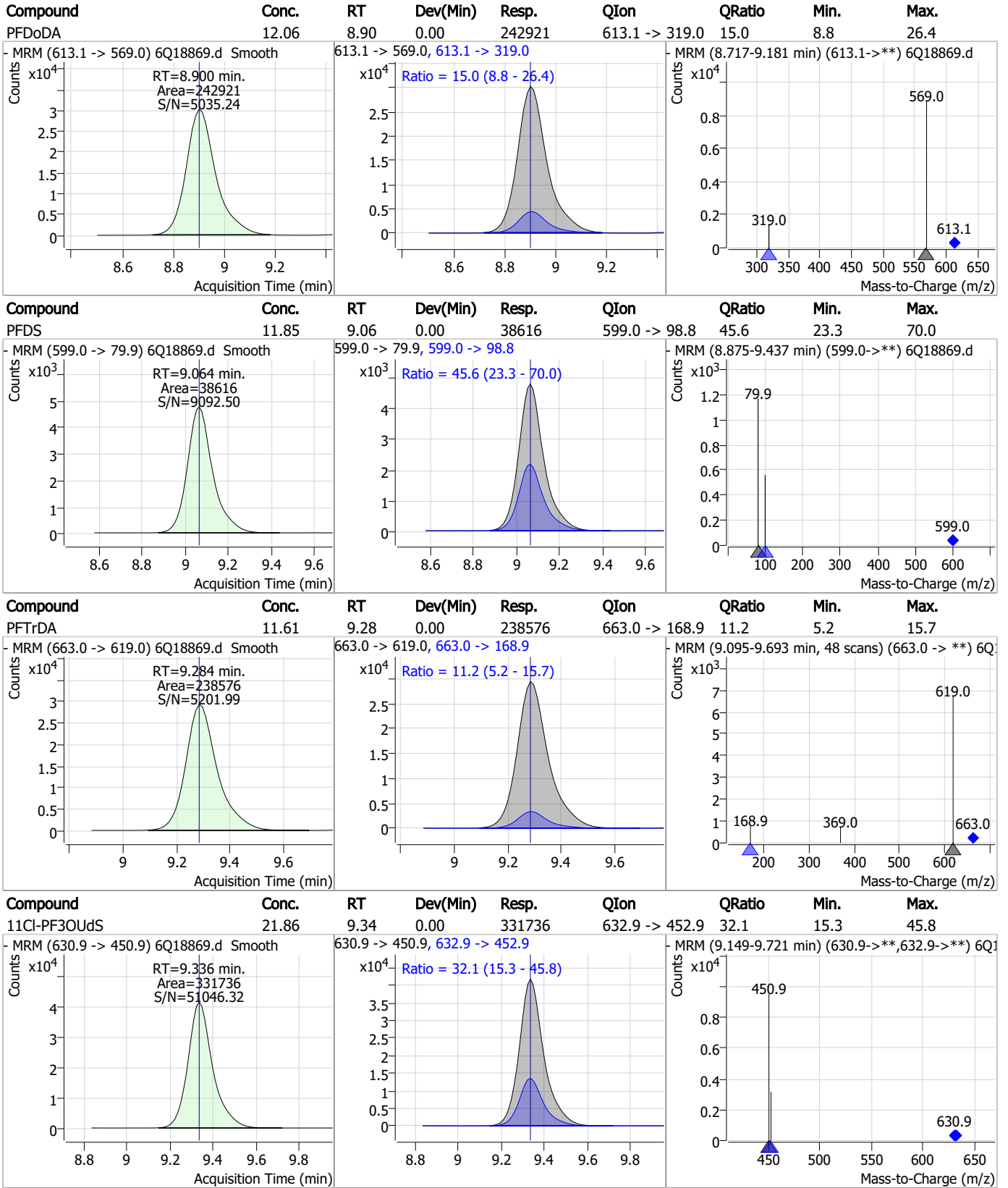
Perfluorinated Compounds by LC/MS/MS



7.6.2

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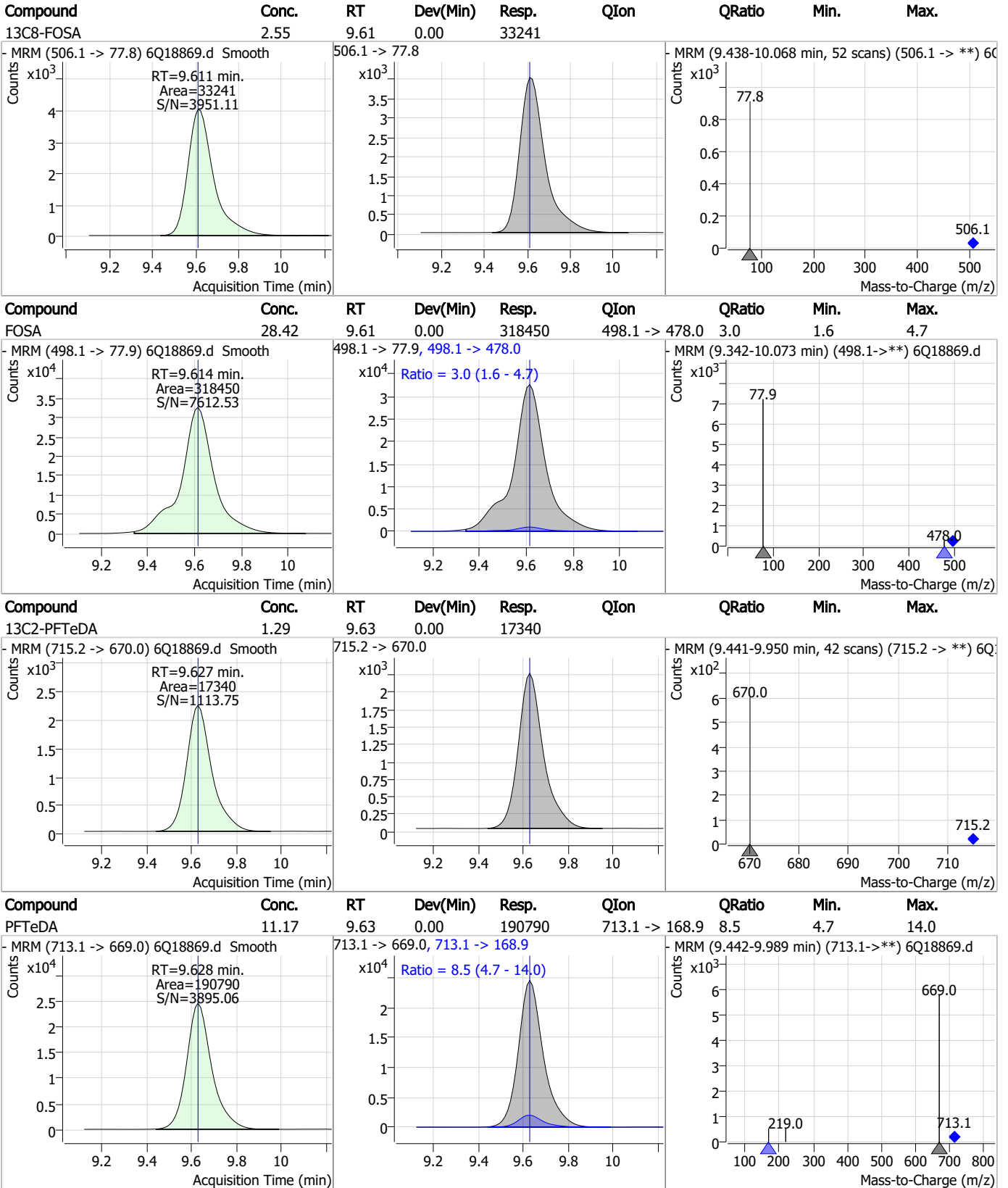
Perfluorinated Compounds by LC/MS/MS



7.6.2

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Perfluorinated Compounds by LC/MS/MS

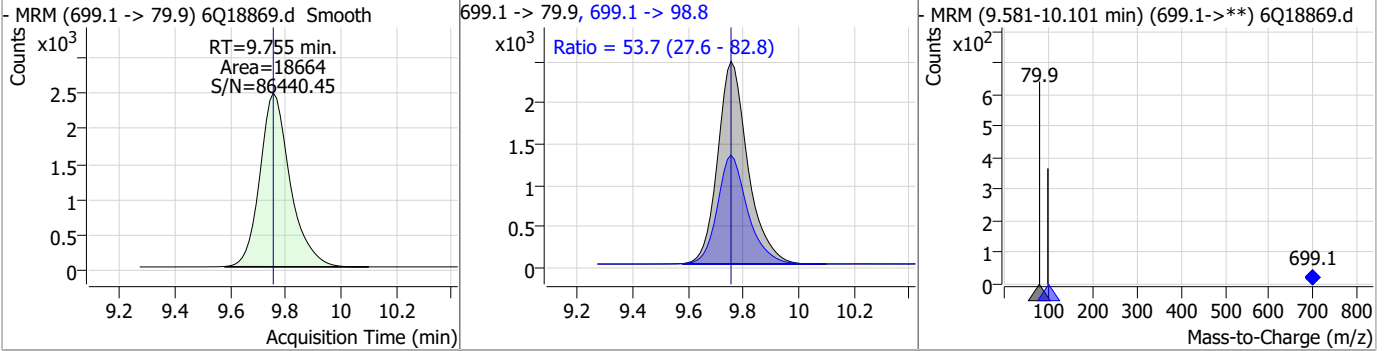


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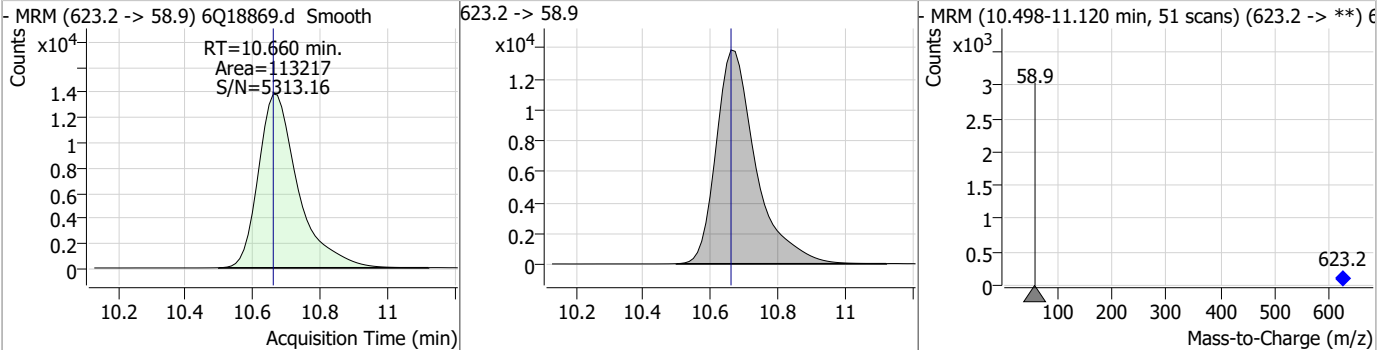
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Perfluorinated Compounds by LC/MS/MS

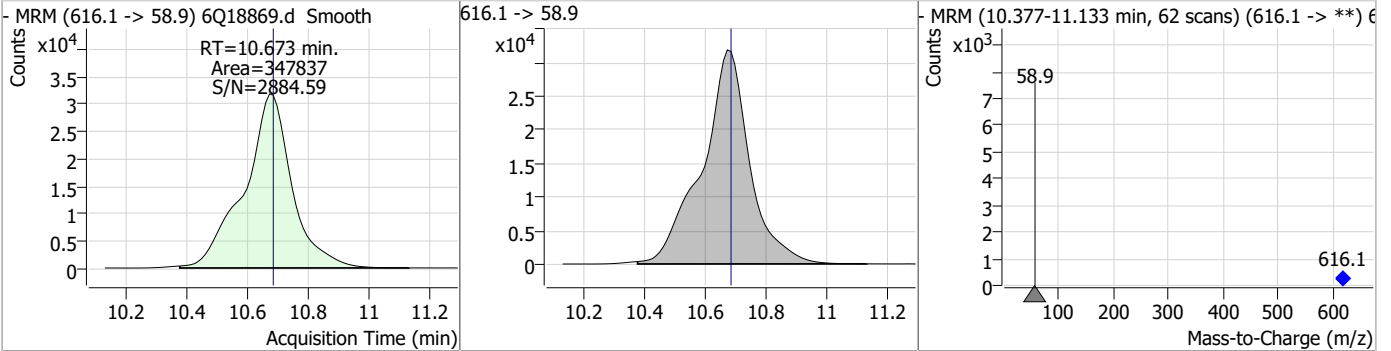
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	12.13	9.75	0.00	18664	699.1 -> 98.8	53.7	27.6	82.8



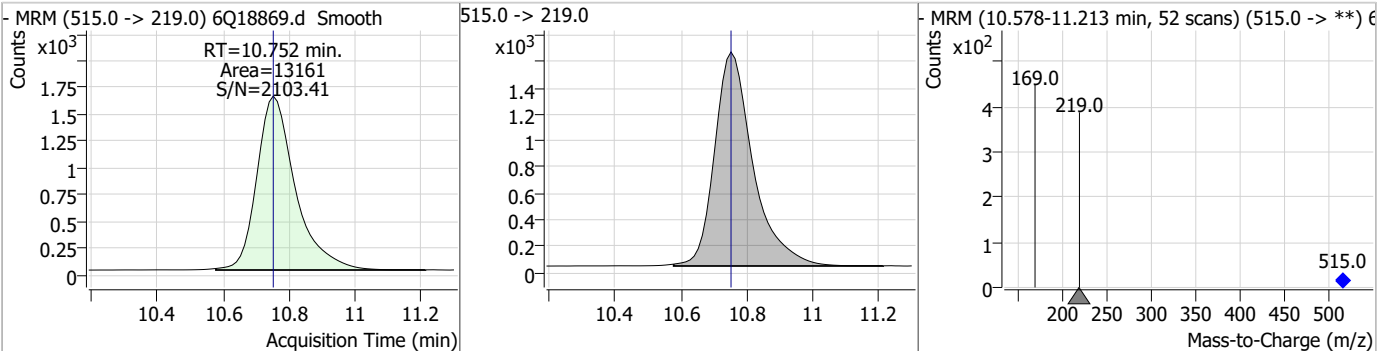
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.16	10.66	0.00	113217				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	79.35	10.67	-0.01	347837				

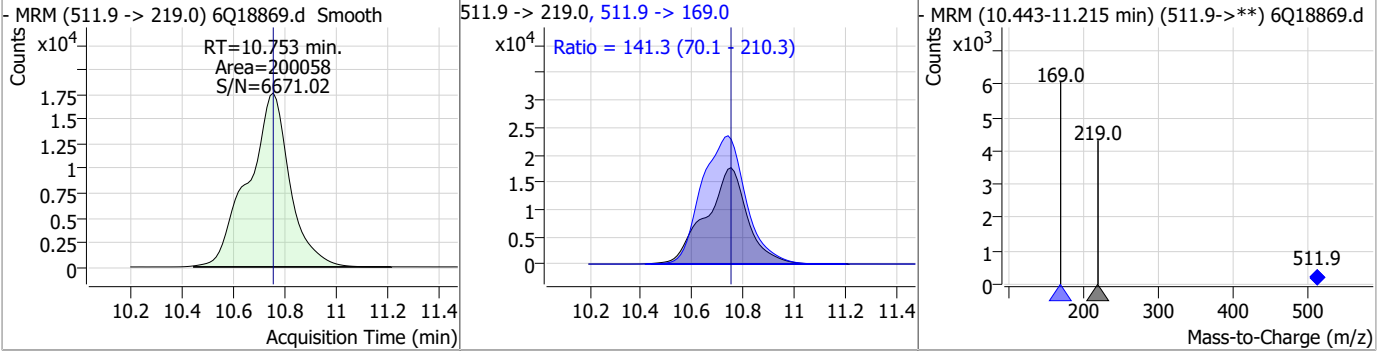


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.59	10.75	0.00	13161				

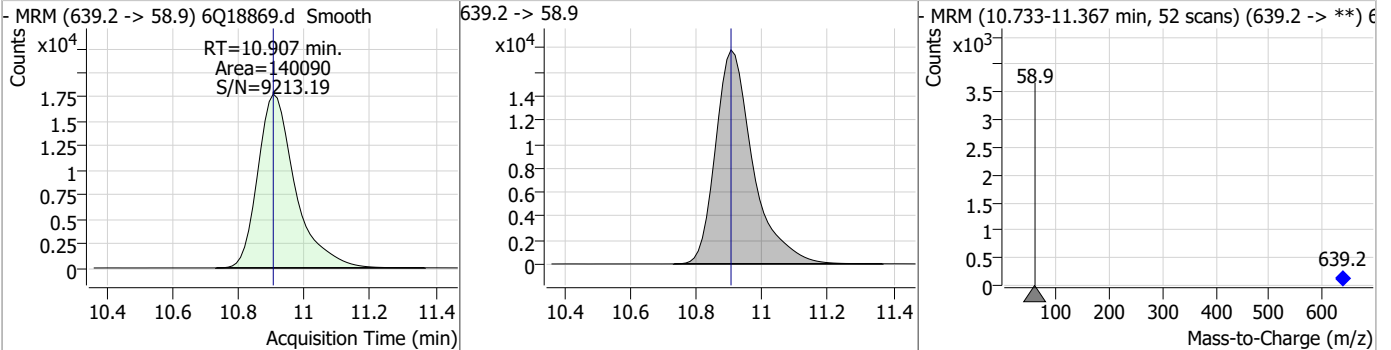


Perfluorinated Compounds by LC/MS/MS

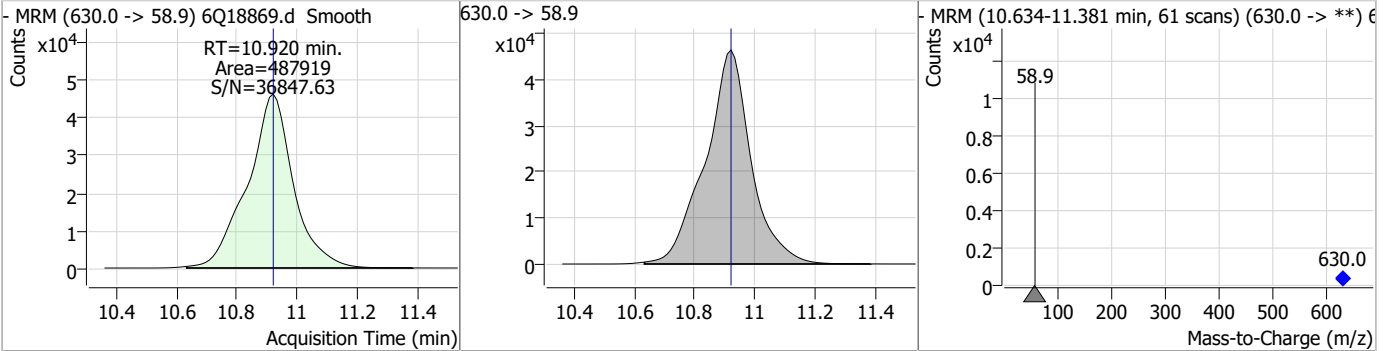
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOFA	39.90	10.75	0.00	200058	511.9 -> 169.0	141.3	70.1	210.3



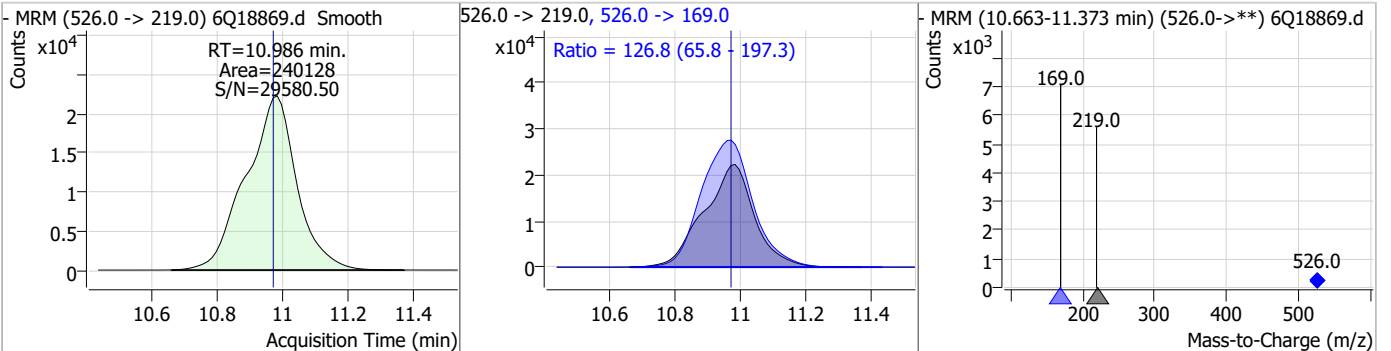
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.44	10.91	0.00	140090				



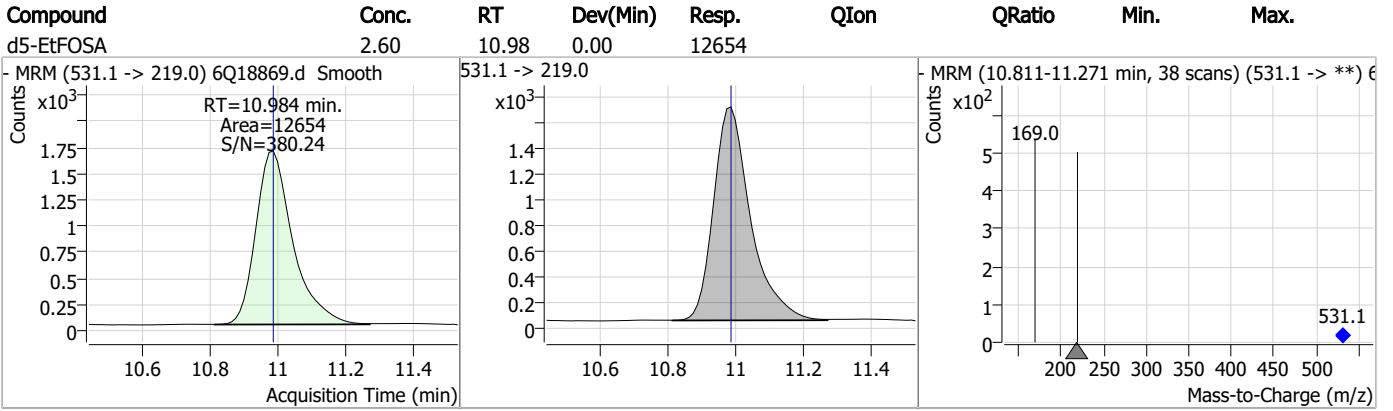
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	79.85	10.92	0.00	487919				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOFA	41.18	10.99	0.01	240128	526.0 -> 169.0	126.8	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



7.6.2

7

Manual Integration Approval Summary

Sample Number: S6Q282-RT Method: EPA DRAFT 1633
Lab FileID: 6Q18869.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/06/23 13:46 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak
Perfluorononanoic acid	375-95-1		7.45	Split peak

7.6.2.1

7

Manual Integrations
APPROVED
 (compounds with "m" flag)

Natasha Gumtie
 06/09/23 13:50

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18927.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 9:56:52 AM
 Sample Name : RT TDCA
 Vial : P1-B3
 DA Method File : TDCA.quantmethod.xml
 Batch Name : s6q283 TDCA.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)	QValue
Internal Standards							
M8-PFOS	8.189	507.1 -> 79.9	19805	2.50	µg/L	0.000	
13C4-PFOS	8.202	502.8 -> 79.9	25986	2.50	µg/L	0.012	
System Monitoring Compounds							
13C8-PFOS	8.189	507.1 -> 79.9	19805	1.93	µg/L	0.000	
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 77.3%				
Target Compounds							
PFOS	8.191	498.9 -> 79.9 498.9 -> 98.8	19382 9719	2.86	µg/L m		81
TCDCa	6.650	498.9 -> 79.9	5424	5.94	ng/ml		100
TDCA	6.799	498.9 -> 79.9	7180	8.68	ng/ml		100
TUDCA	5.809	498.9 -> 79.9	10969	6.25	ng/ml		100

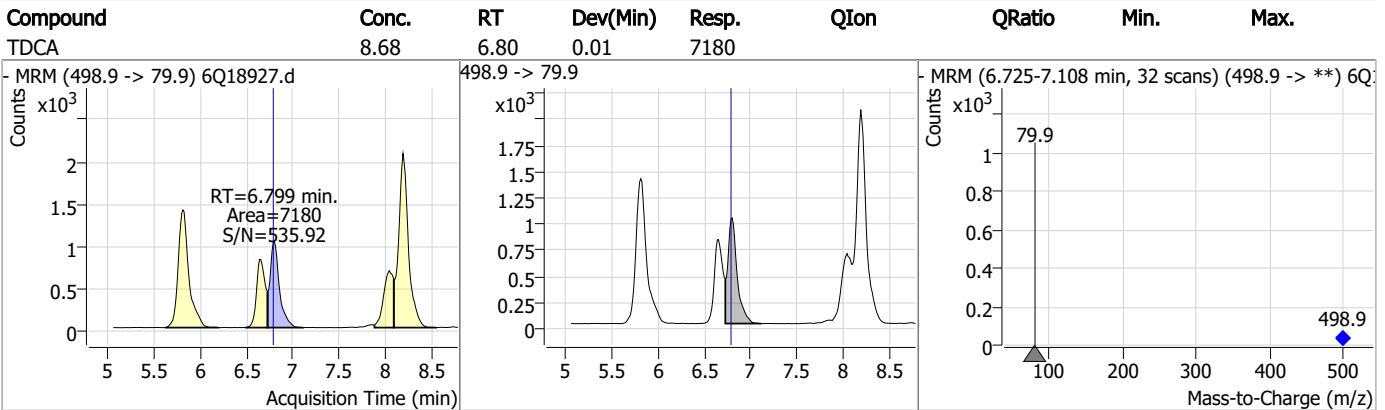
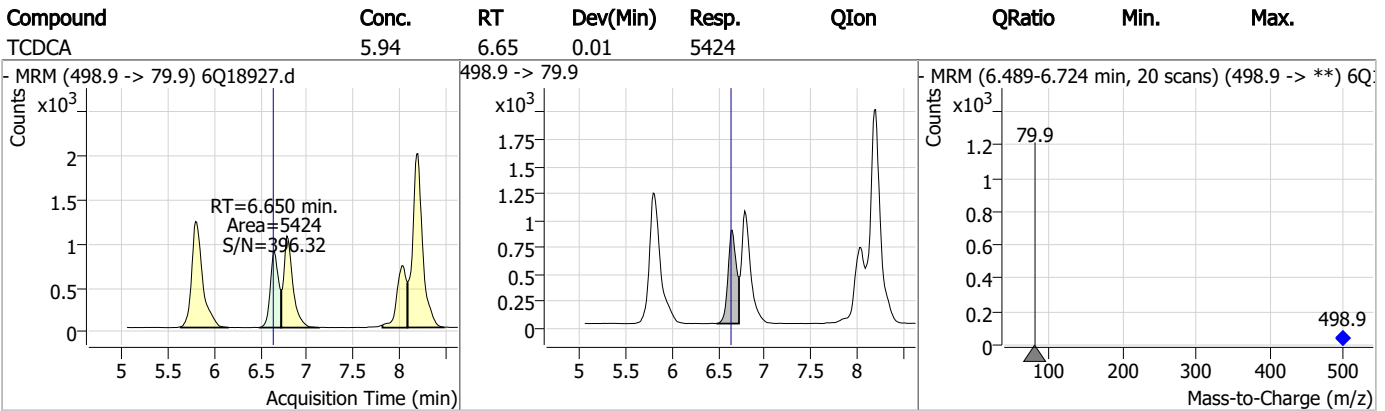
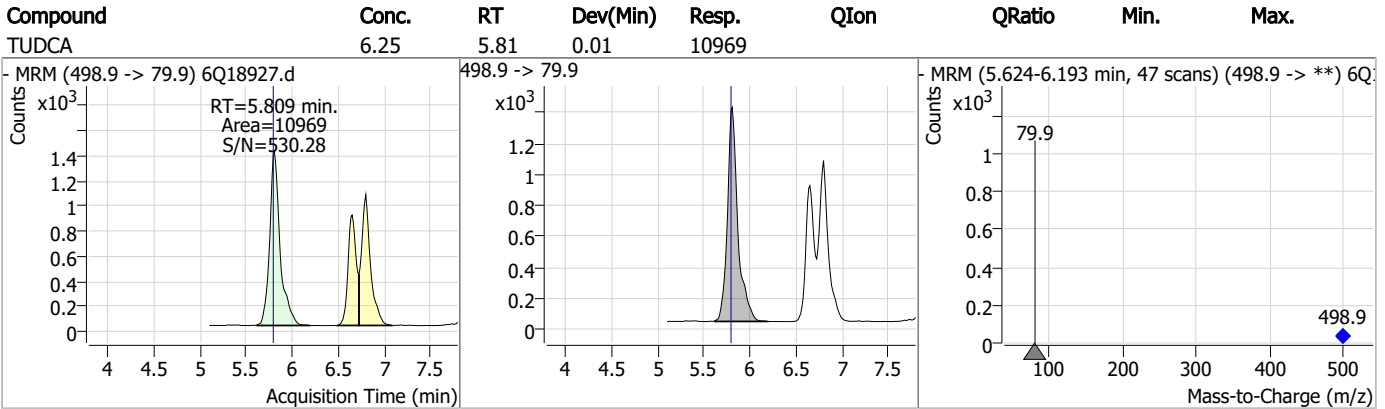
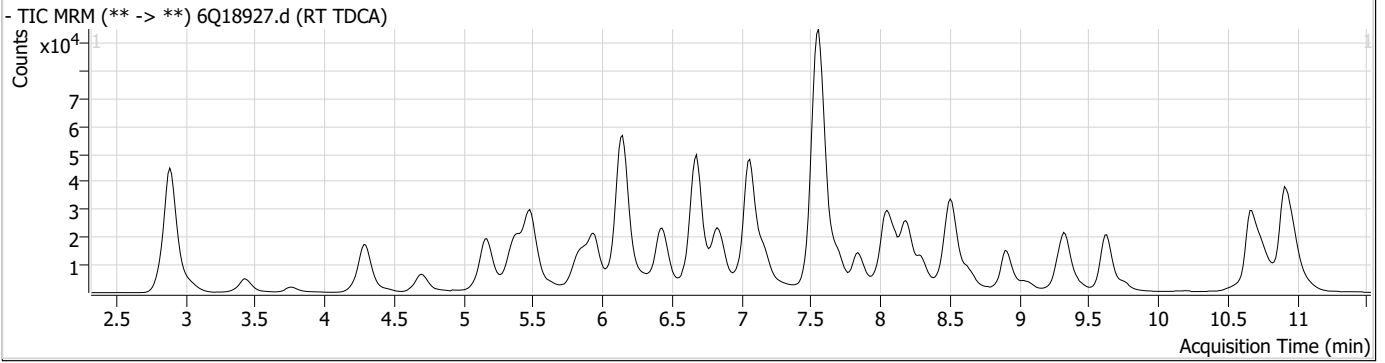
= Qualifier out of range, m = manually integrated, + = Area summed

7.6.3

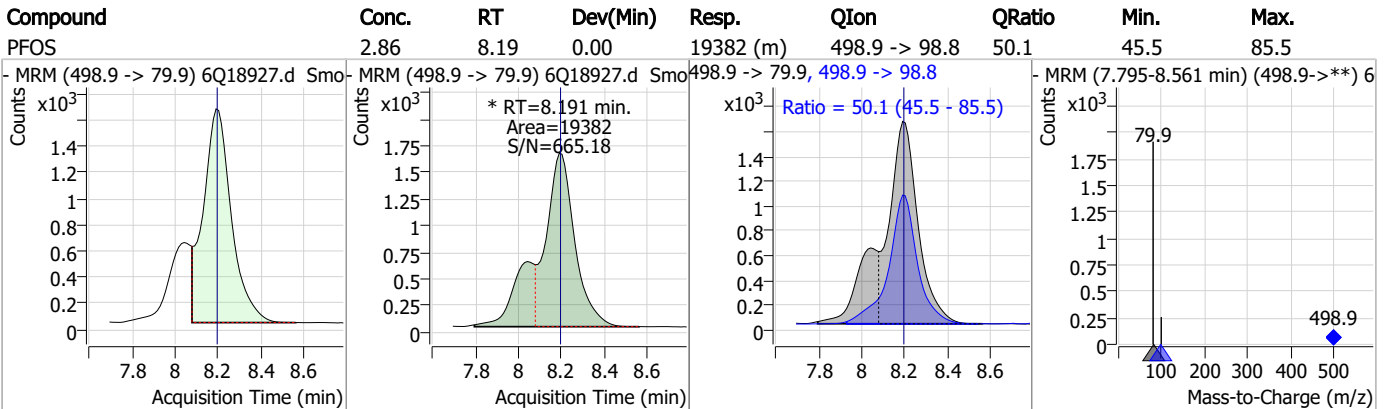
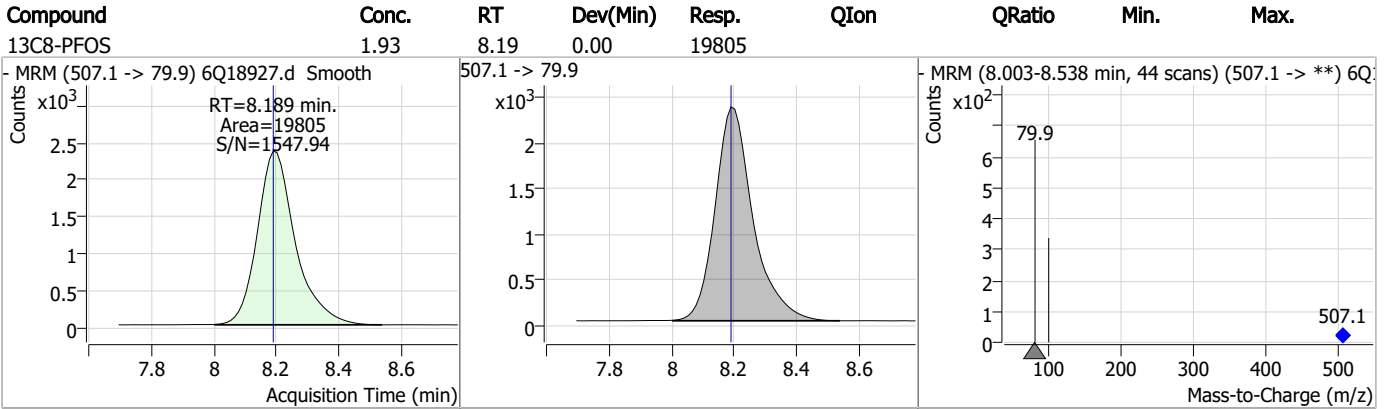
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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



7.6.3

7

Manual Integration Approval Summary

Sample Number: S6Q283-RT Method: EPA DRAFT 1633
Lab FileID: 6Q18927.D Analyst approved: 06/08/23 12:32 Martha Valls
Injection Time: 06/07/23 09:56 Supervisor approved: 06/09/23 13:50 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

7.6.3.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18928.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 10:11:21 AM
 Sample Name : RT BR-LN
 Vial : P1-B4
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	196299	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	65615	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	73222	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	67113	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	101213	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	46992	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	28742	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34028	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	34151	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18431	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	36359	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	26154	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	16136	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14922	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4838	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6634	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6579	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	36312	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	44525	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	33008	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	124683	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	157665	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13159	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13732	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19243	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	82998	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11837	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	106635	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	38319	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	58297	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	64649	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4838	4.97 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 99.4%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6634	4.74 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 94.8%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6579	4.72 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 94.4%		
13C2-PFDoDA	8.900	615.1 -> 570.0	34151	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.6%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18431	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.1%		
13C3-PFBS	5.397	302.1 -> 79.9	26154	2.51 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.5%		
13C3-PFHxS	7.155	402.1 -> 79.9	16136	2.53 µg/L	0.000

7.6.4
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C4-PFBA	2.860	216.8 -> 171.9	196299	9.97 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFHpA	6.420	367.1 -> 322.0	67113	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.2%	
13C5-PFHxA	5.478	318.0 -> 273.0	73222	2.68 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.0%	
13C5-PFPeA	4.272	268.3 -> 223.0	65615	5.23 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.6%	
13C6-PFDA	8.039	519.1 -> 474.1	28742	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C7-PFUnDA	8.480	570.0 -> 525.1	34028	1.14 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.6%	
13C8-FOSA	9.623	506.1 -> 77.8	36359	2.60 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C8-PFOA	7.064	421.1 -> 376.0	101213	2.47 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C8-PFOS	8.189	507.1 -> 79.9	14922	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C9-PFNA	7.569	472.1 -> 427.0	46992	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	36312	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	44525	10.93 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.3%	
d3-MeFOSA	10.752	515.0 -> 219.0	13732	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
d5-EtFOSAA	8.292	589.2 -> 419.0	33008	5.31 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.2%	
d7-MeFOSE	10.672	623.2 -> 58.9	124683	25.81 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.3%	
d9-EtFOSE	10.907	639.2 -> 58.9	157665	25.63 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
d5-EtFOSA	10.984	531.1 -> 219.0	13159	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	288836	43.59 µg/L	97
		327.1 -> 80.9	111801		
6:2FTS	6.838	427.1 -> 407.0	285141	45.35 µg/L	98
		427.1 -> 80.9	99371		
8:2FTS	7.840	527.1 -> 507.0	152523	43.23 µg/L	94
		527.1 -> 80.8	66346		
EtFOSAA	8.293	584.2 -> 419.1	51223	11.38 µg/L	99
		584.2 -> 526.0	28511		
FOSA	9.614	498.1 -> 77.9	344173	28.09 µg/L	100
		498.1 -> 478.0	10766		
MeFOSAA	8.097	570.1 -> 419.0	84591	11.66 µg/L	97
		570.1 -> 483.0	16964		
PFBA	2.868	212.8 -> 168.9	301602	47.16 µg/L	100
PFBS	5.398	298.7 -> 79.9	94963	10.48 µg/L	98
		298.7 -> 98.8	36052		
PFDA	8.040	512.9 -> 469.0	399051	11.53 µg/L	99
		512.9 -> 219.0	58906		
PFDoDA	8.900	613.1 -> 569.0	260921	11.73 µg/L	93
		613.1 -> 319.0	38237		
PFDS	9.064	599.0 -> 79.9	41696	11.69 µg/L	95

7.6.4
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	20769		
PFHpA	6.420	363.1 -> 319.0	342853	12.05 µg/L	99
		363.1 -> 169.0	54852		
PFHpS	7.710	449.0 -> 79.9	78836	11.65 µg/L	98
		449.0 -> 98.9	39502		
PFHxA	5.481	313.0 -> 269.0	275455	11.46 µg/L	99
		313.0 -> 118.9	14048		
PFHxS	7.156	398.7 -> 79.9	79493	10.51 µg/L	99
		398.7 -> 98.9	37602		
PFNA	7.446	463.0 -> 419.0	859573	25.80 µg/L	m 99
		463.0 -> 219.0	167769		
PFNS	8.644	548.8 -> 79.9	69672	11.72 µg/L	97
		548.8 -> 98.9	37577		
PFOA	7.052	413.0 -> 369.0	1092651	25.64 µg/L	100
		413.0 -> 169.0	197874		
PFOS	8.191	498.9 -> 79.9	78901	11.56 µg/L	98
		498.9 -> 98.8	37417		
PFPeA	4.274	263.0 -> 219.0	364749	23.53 µg/L	100
PFPeS	6.471	349.1 -> 79.9	78804	10.85 µg/L	99
		349.1 -> 98.9	36079		
PFTeDA	9.628	713.1 -> 669.0	223886	12.33 µg/L	98
		713.1 -> 168.9	18832		
PFTrDA	9.284	663.0 -> 619.0	281339	12.40 µg/L	100
		663.0 -> 168.9	29687		
PFUnDA	8.480	563.1 -> 519.0	270334	12.81 µg/L	98
		563.1 -> 269.1	43403		
11CI-PF3OUdS	9.336	630.9 -> 450.9	374345	21.99 µg/L	99
		632.9 -> 452.9	112715		
9CI-PF3ONS	8.520	530.8 -> 351.0	608647	22.58 µg/L	96
		532.8 -> 353.0	183186		
ADONA	6.671	376.9 -> 250.9	1322100	21.62 µg/L	99
		376.9 -> 84.8	366873		
HFPO-DA	5.844	284.9 -> 168.9	85717	23.05 µg/L	100
		284.9 -> 184.9	10348		
3:3FTCA	3.727	241.0 -> 177.0	64990	59.20 µg/L	99
		241.0 -> 117.0	8448		
5:3FTCA	6.137	341.0 -> 237.1	1264067	272.60 µg/L	98
		341.0 -> 217.0	935260		
7:3FTCA	7.535	441.0 -> 316.9	902451	282.90 µg/L	100
		441.0 -> 336.9	2047047		
EtFOSA	10.986	526.0 -> 219.0	260643	42.98 µg/L	97
		526.0 -> 169.0	334064		
EtFOSE	10.920	630.0 -> 58.9	536806	78.06 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	227893	43.56 µg/L	98
		511.9 -> 169.0	312666		
MeFOSE	10.686	616.1 -> 58.9	389753	80.74 µg/L	100
PFDoS	9.755	699.1 -> 79.9	20499	12.17 µg/L	97
		699.1 -> 98.8	10811		
NFDHA	5.361	295.0 -> 201.0	67779	23.49 µg/L	96
		295.0 -> 84.9	18303		
PFMBA	4.688	279.0 -> 85.1	262493	24.50 µg/L	100
PFMPA	3.413	229.0 -> 84.9	202841	24.85 µg/L	100
PFEESA	5.926	314.8 -> 134.9	636293	20.83 µg/L	100
		314.8 -> 82.9	22887		

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

7.6.4
7

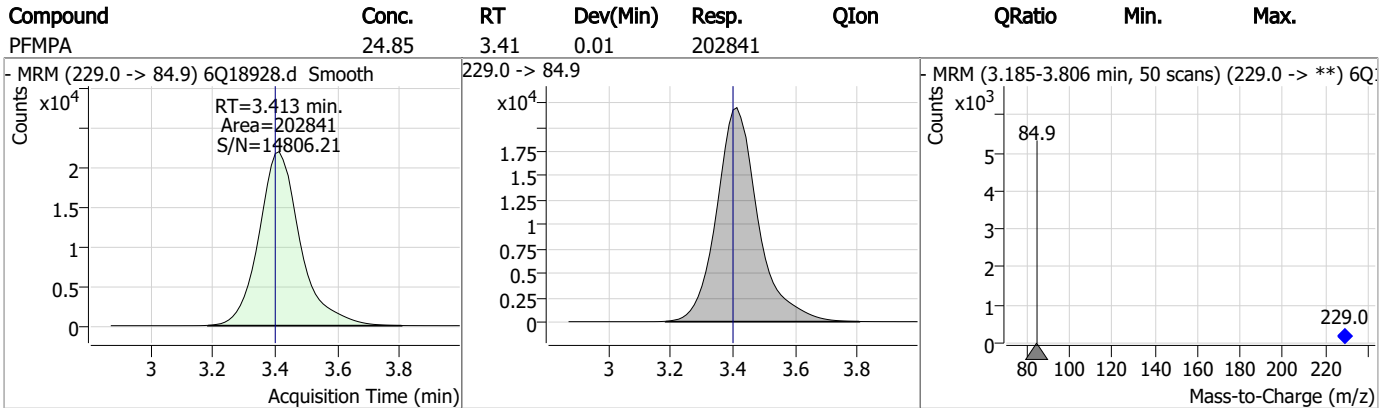
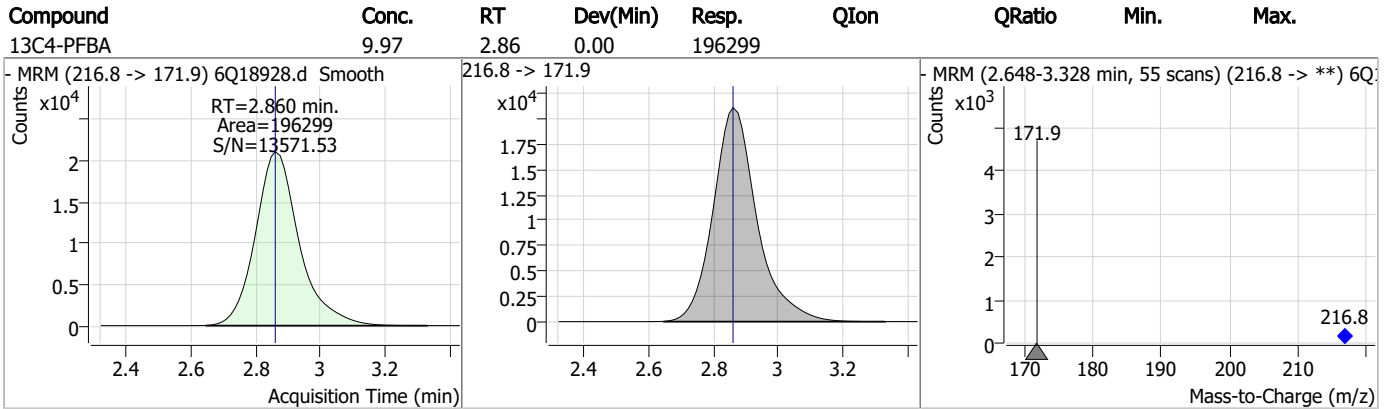
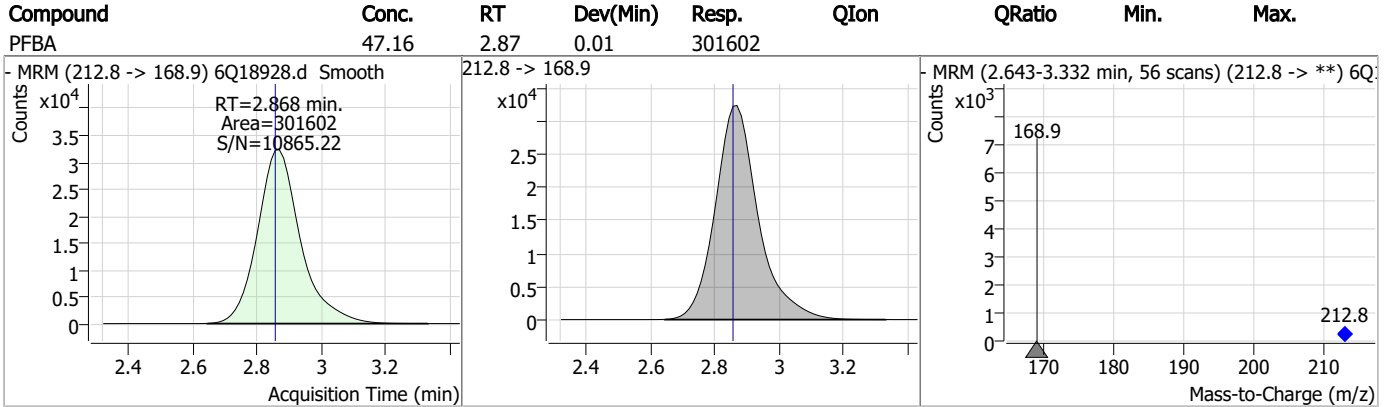
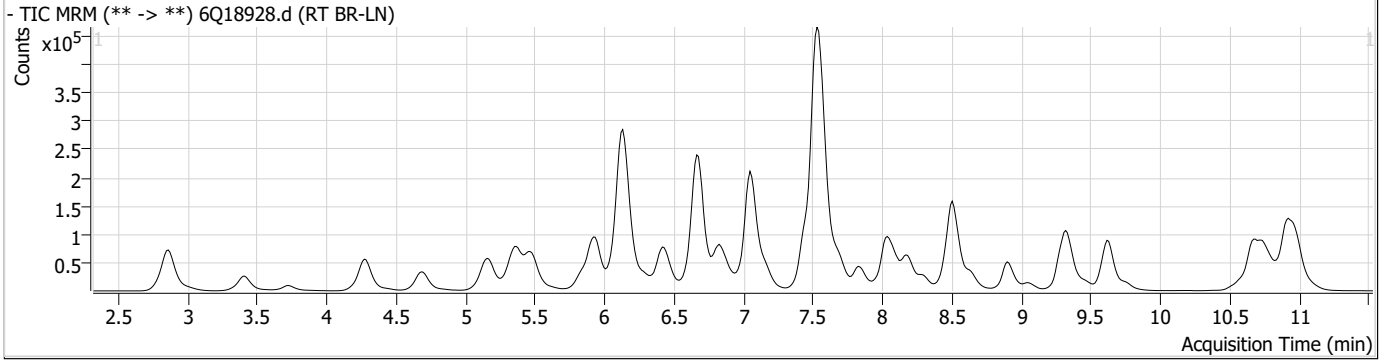
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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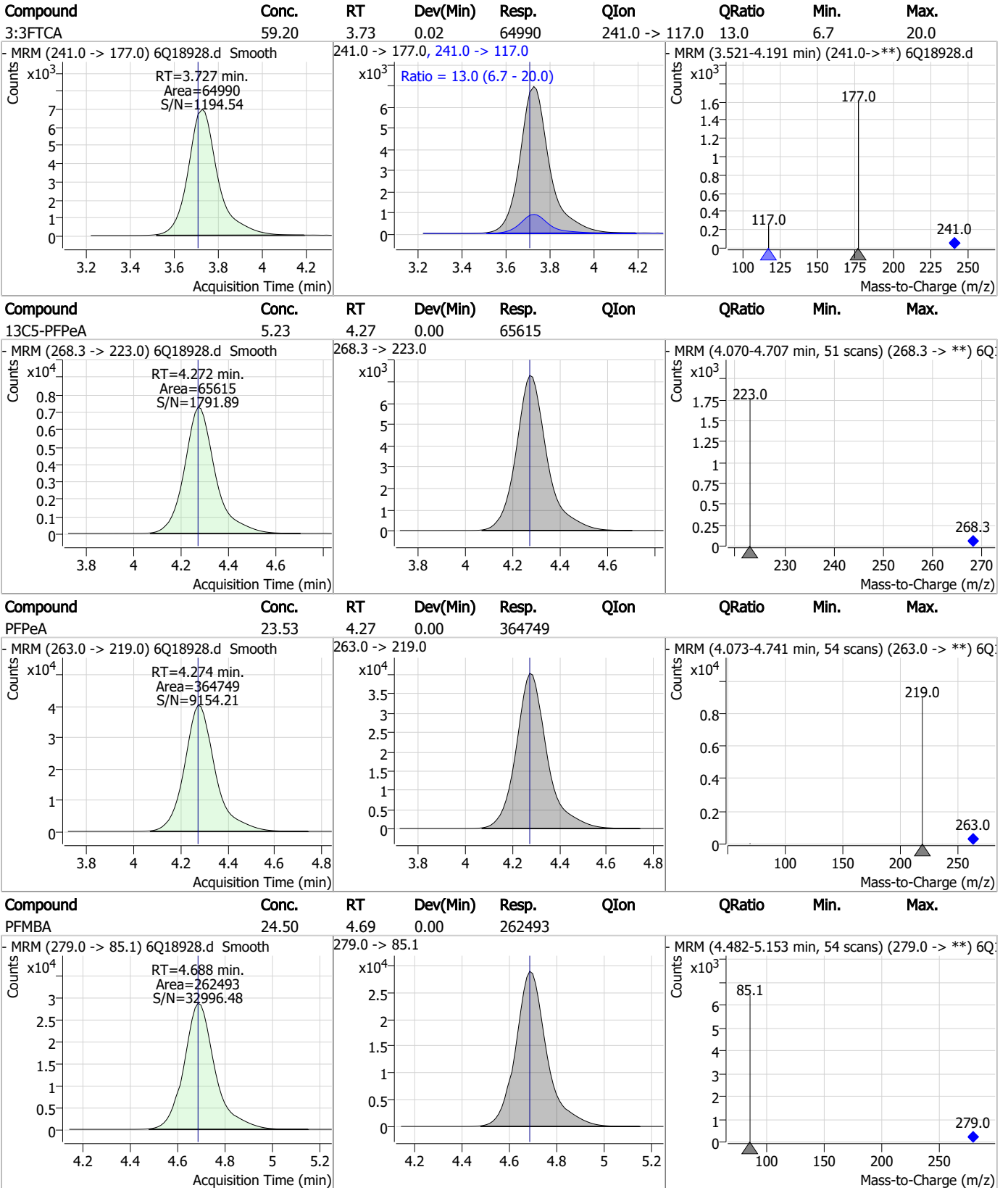
7.6.4

7

Perfluorinated Compounds by LC/MS/MS



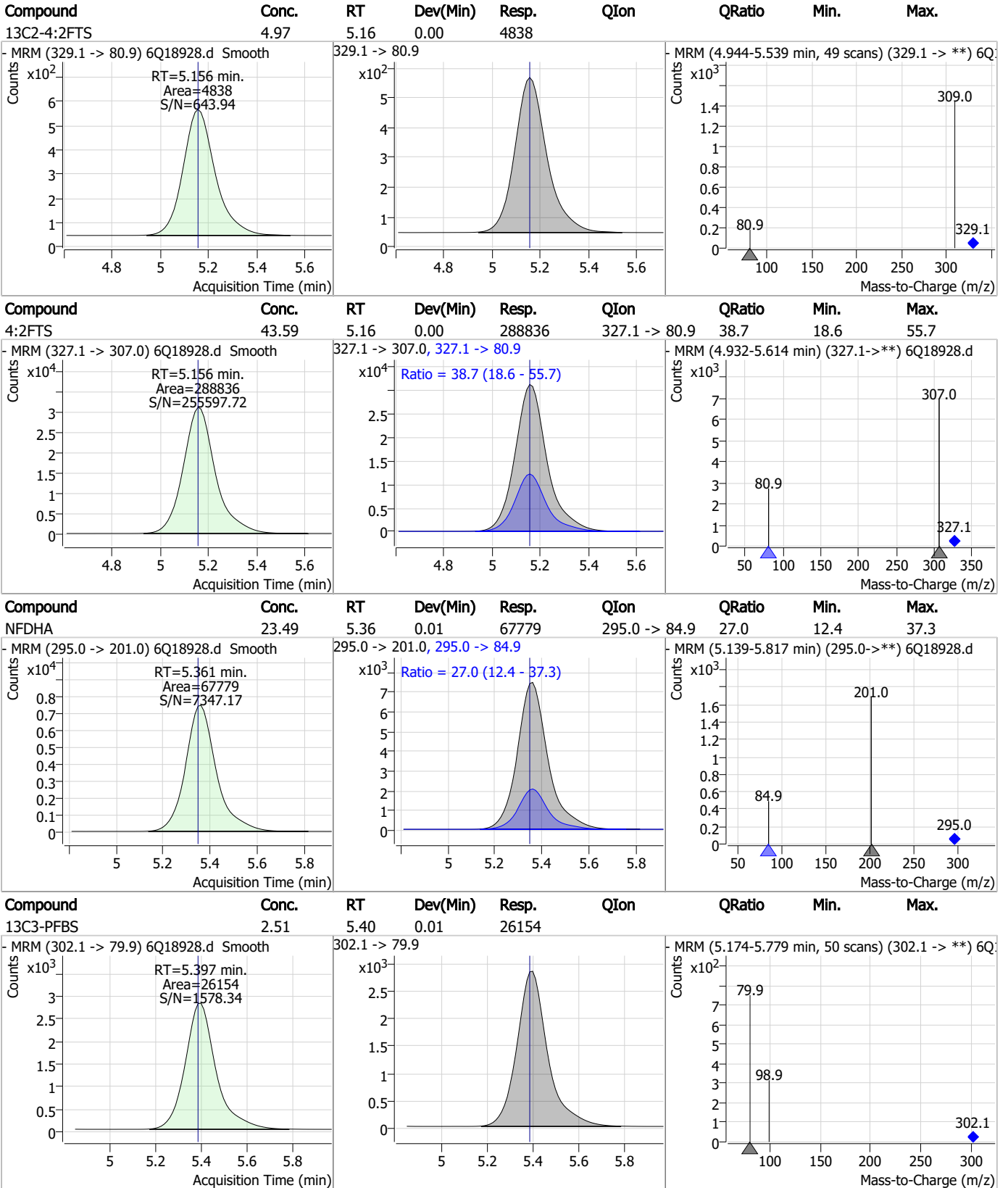
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

Perfluorinated Compounds by LC/MS/MS

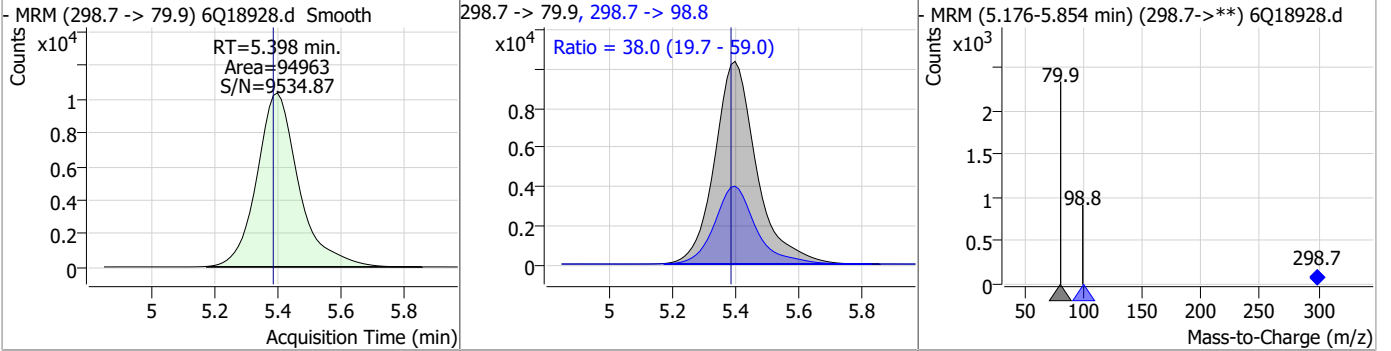


7.6.4

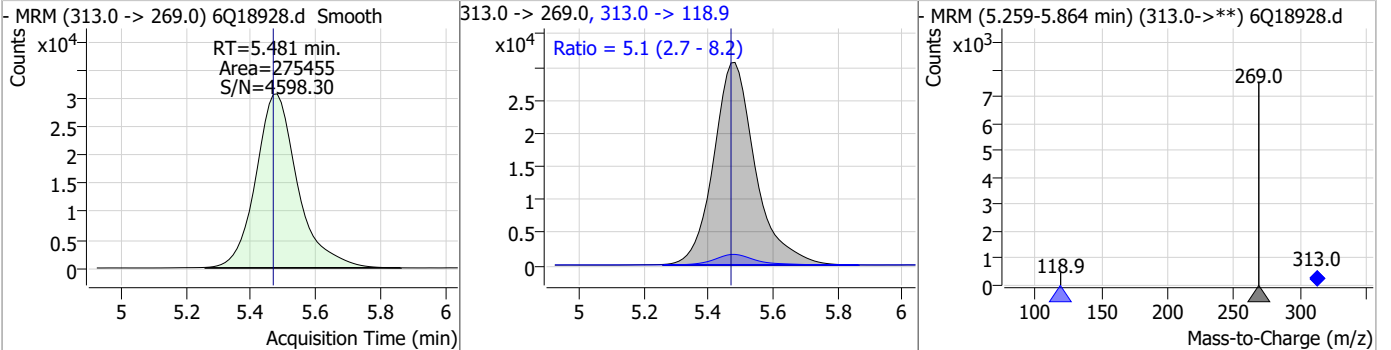
7

Perfluorinated Compounds by LC/MS/MS

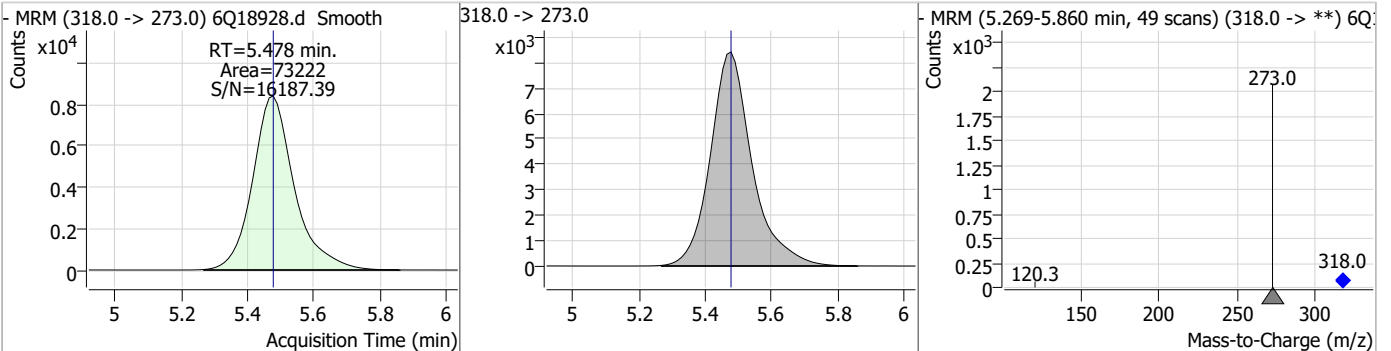
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	10.48	5.40	0.01	94963	298.7 -> 98.8	38.0	19.7	59.0



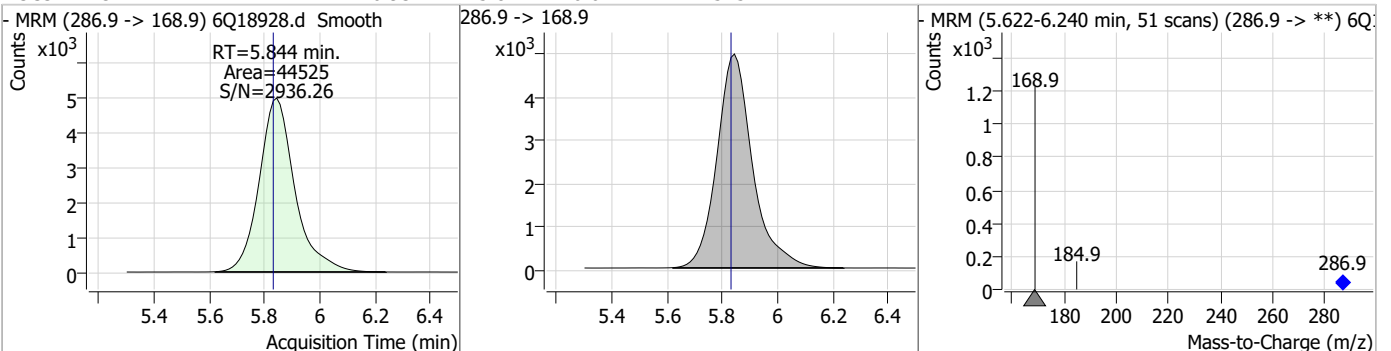
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	11.46	5.48	0.01	275455	313.0 -> 118.9	5.1	2.7	8.2



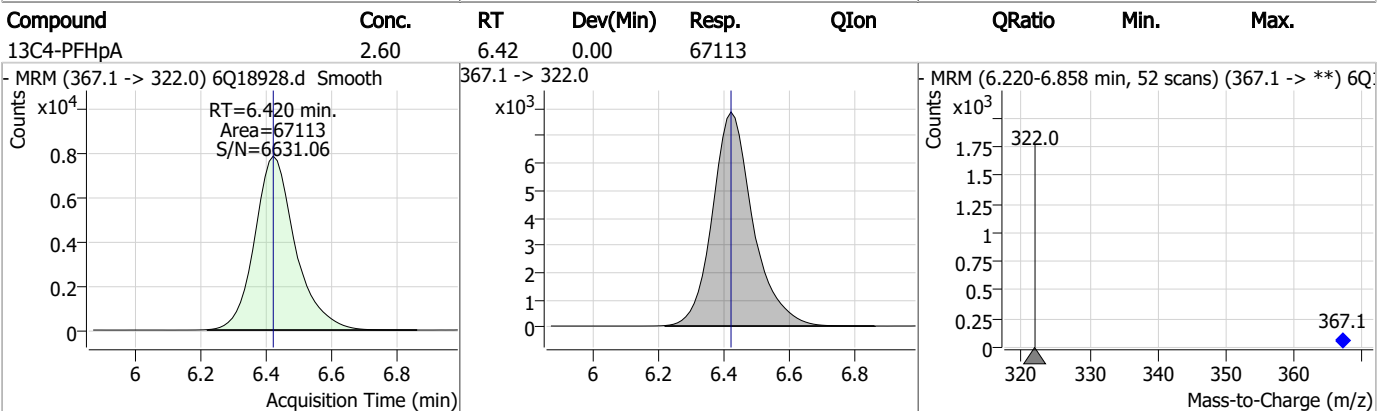
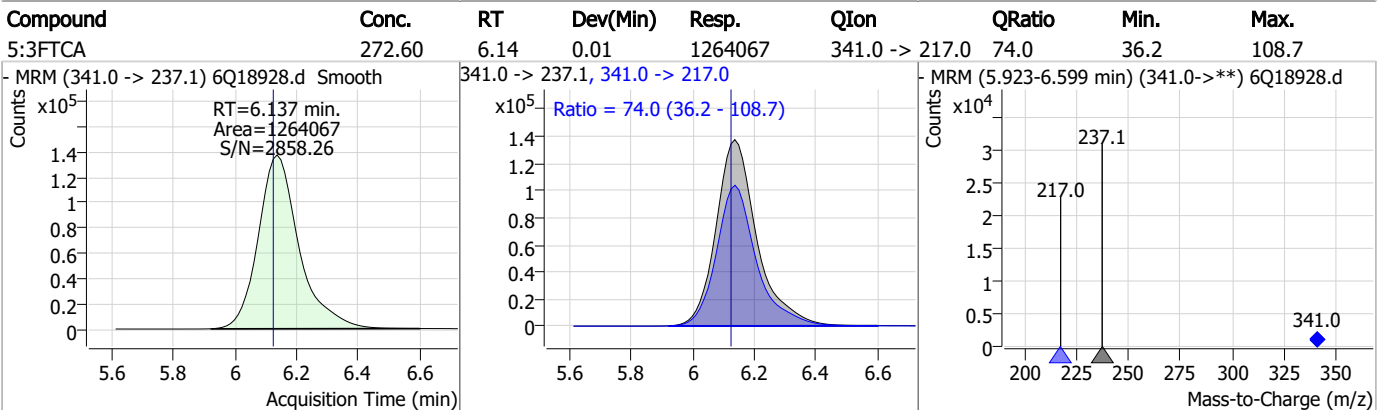
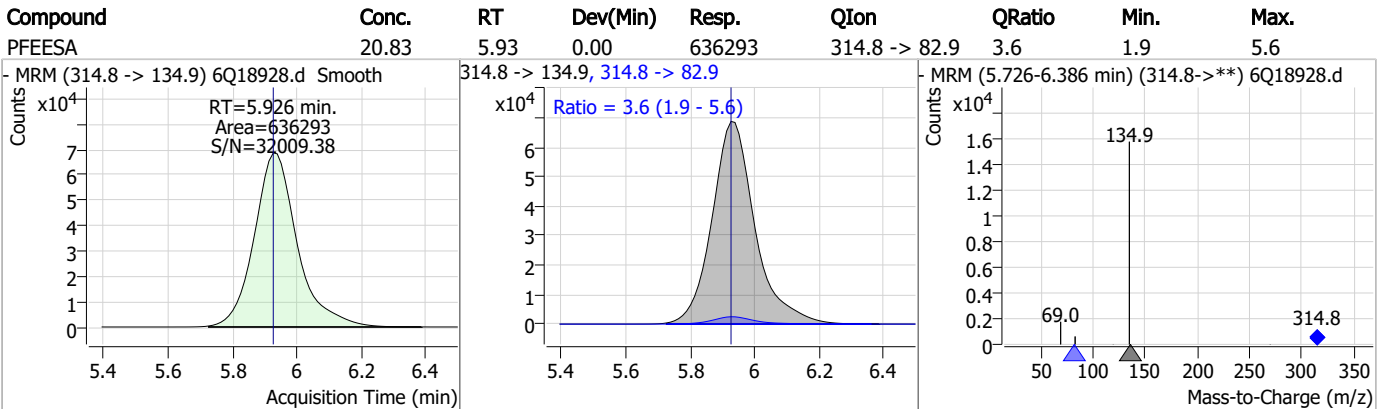
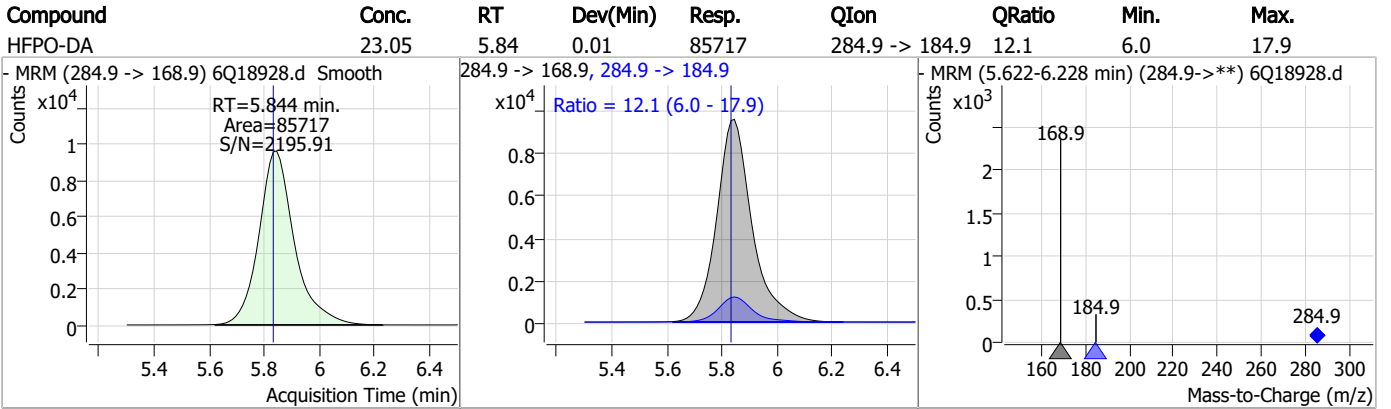
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.68	5.48	0.00	73222	318.0 -> 273.0	-	-	-



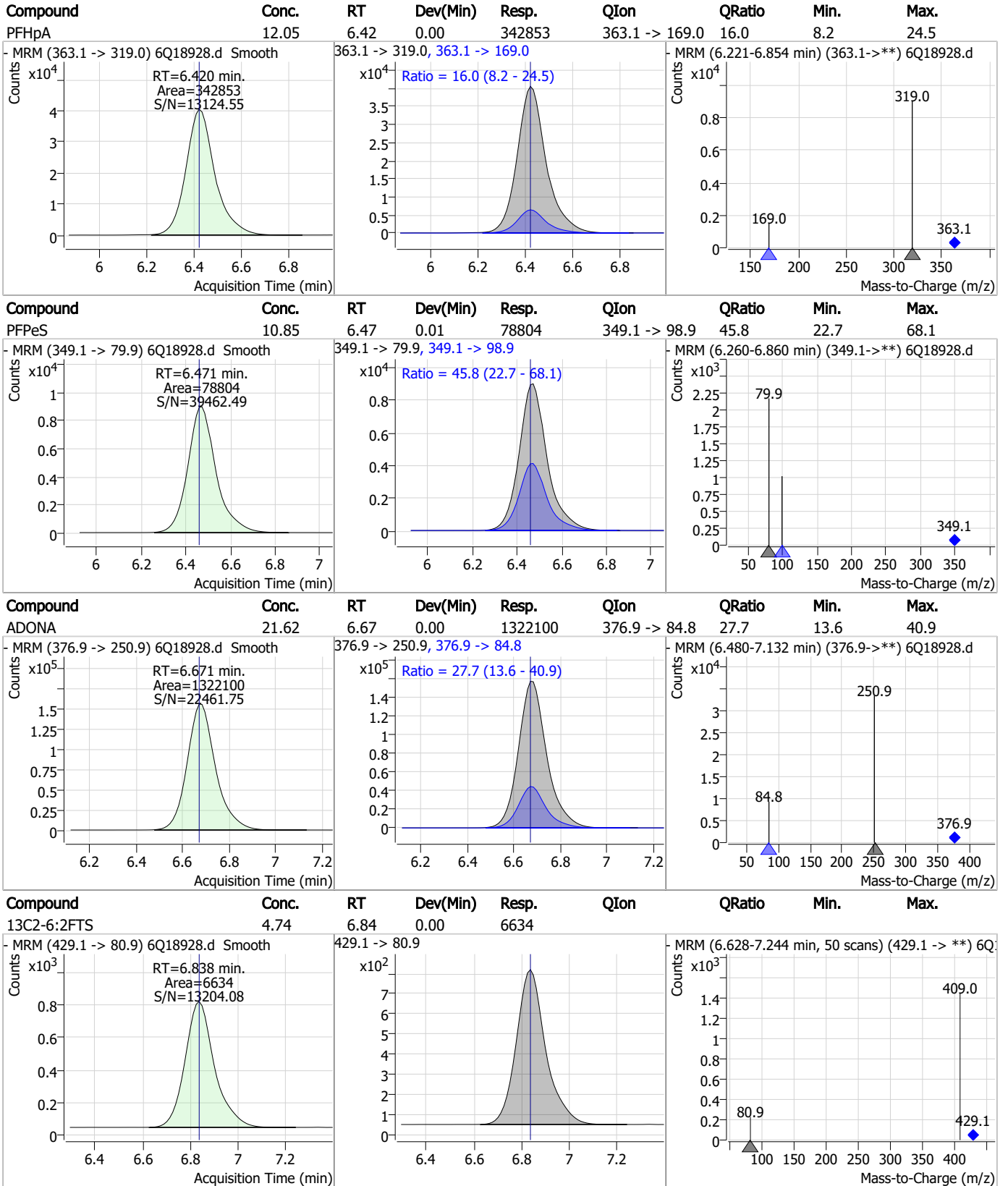
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.93	5.84	0.01	44525	286.9 -> 168.9	-	-	-



Perfluorinated Compounds by LC/MS/MS



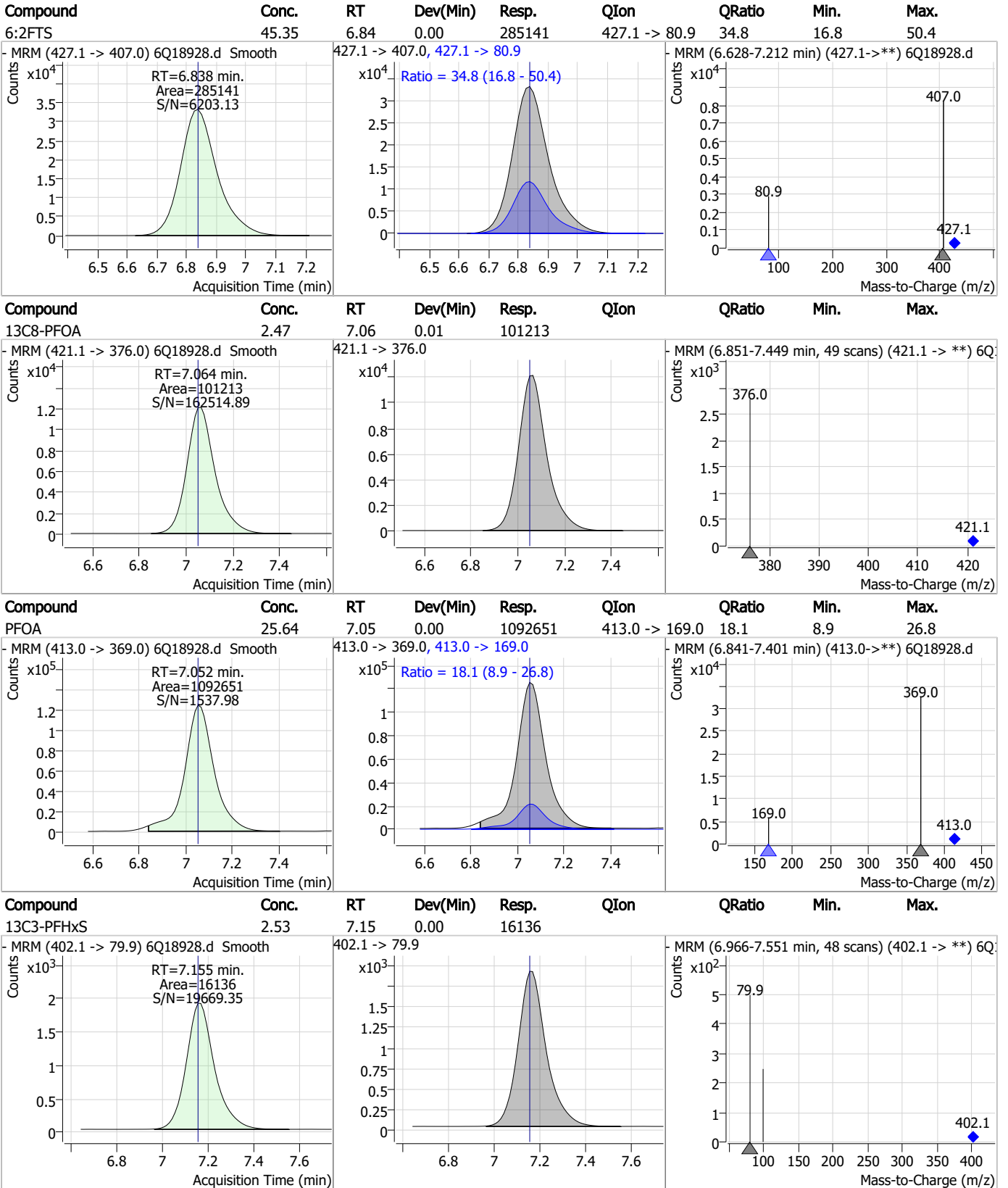
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

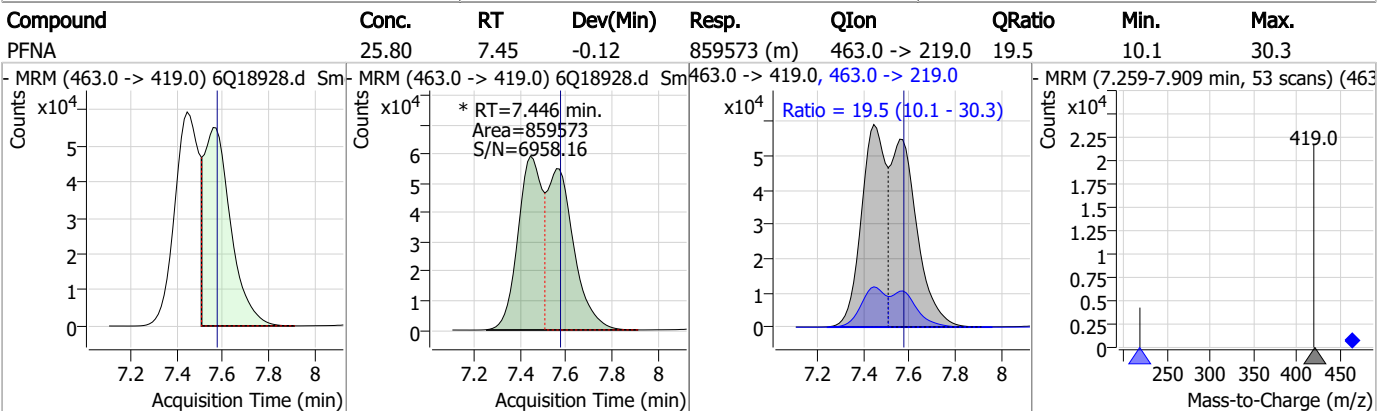
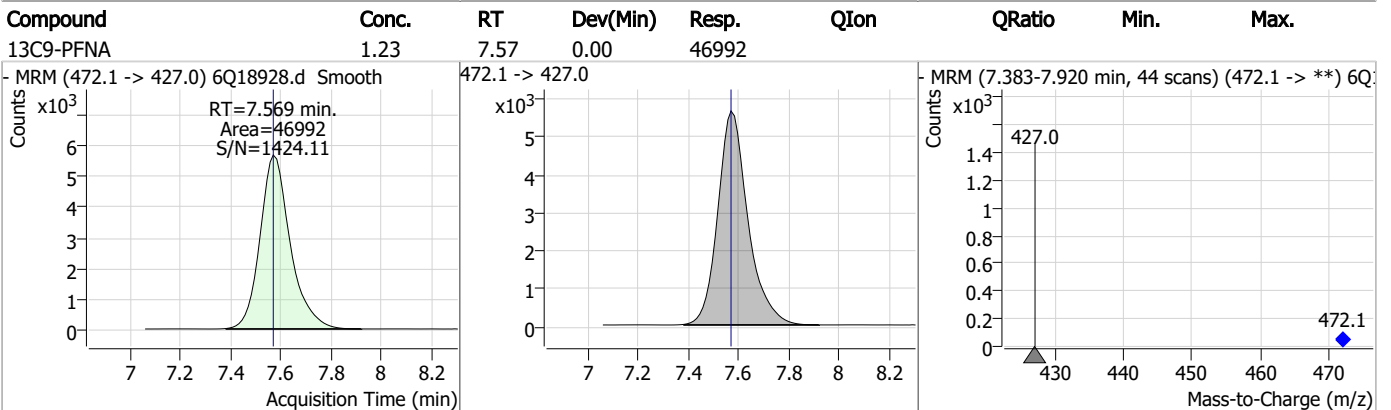
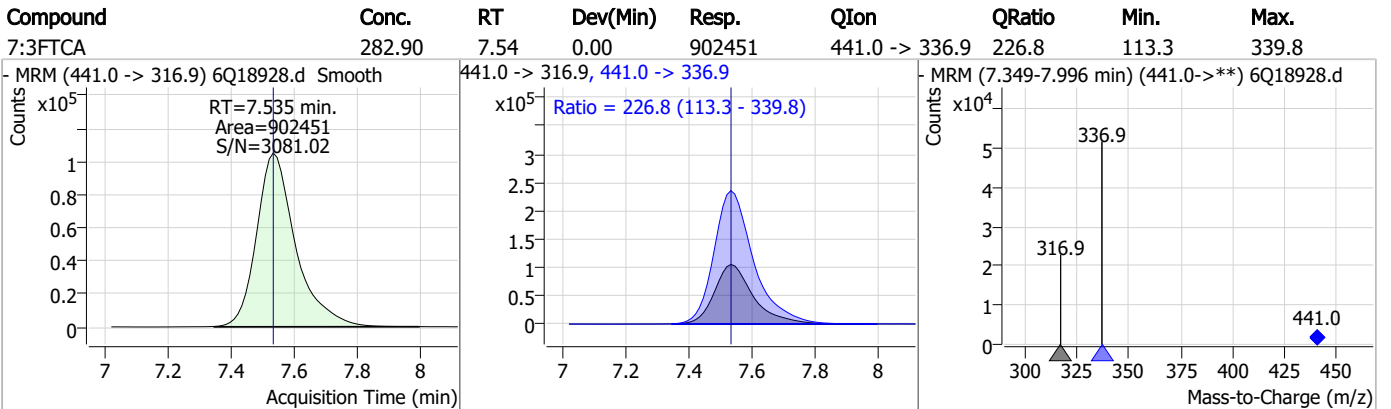
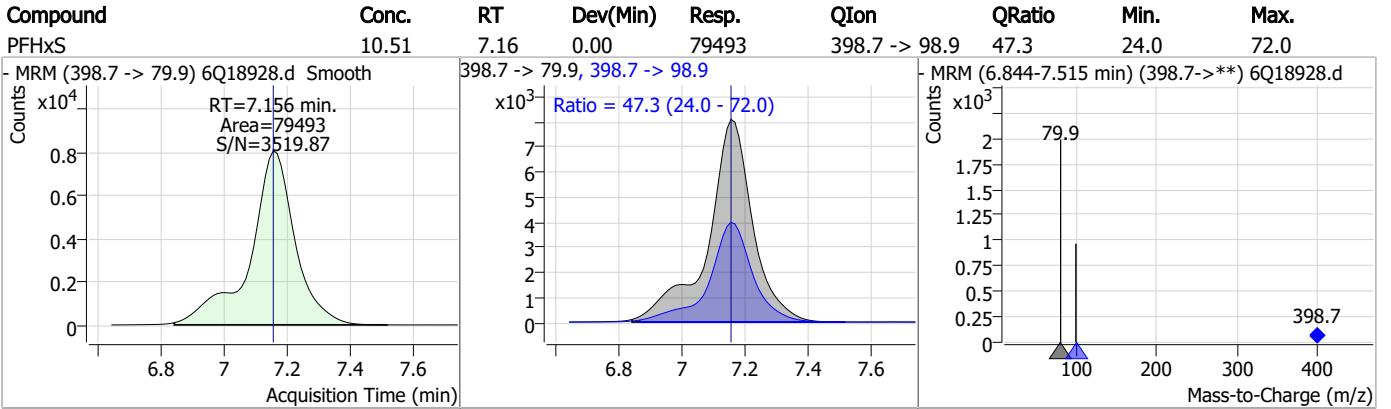
Perfluorinated Compounds by LC/MS/MS



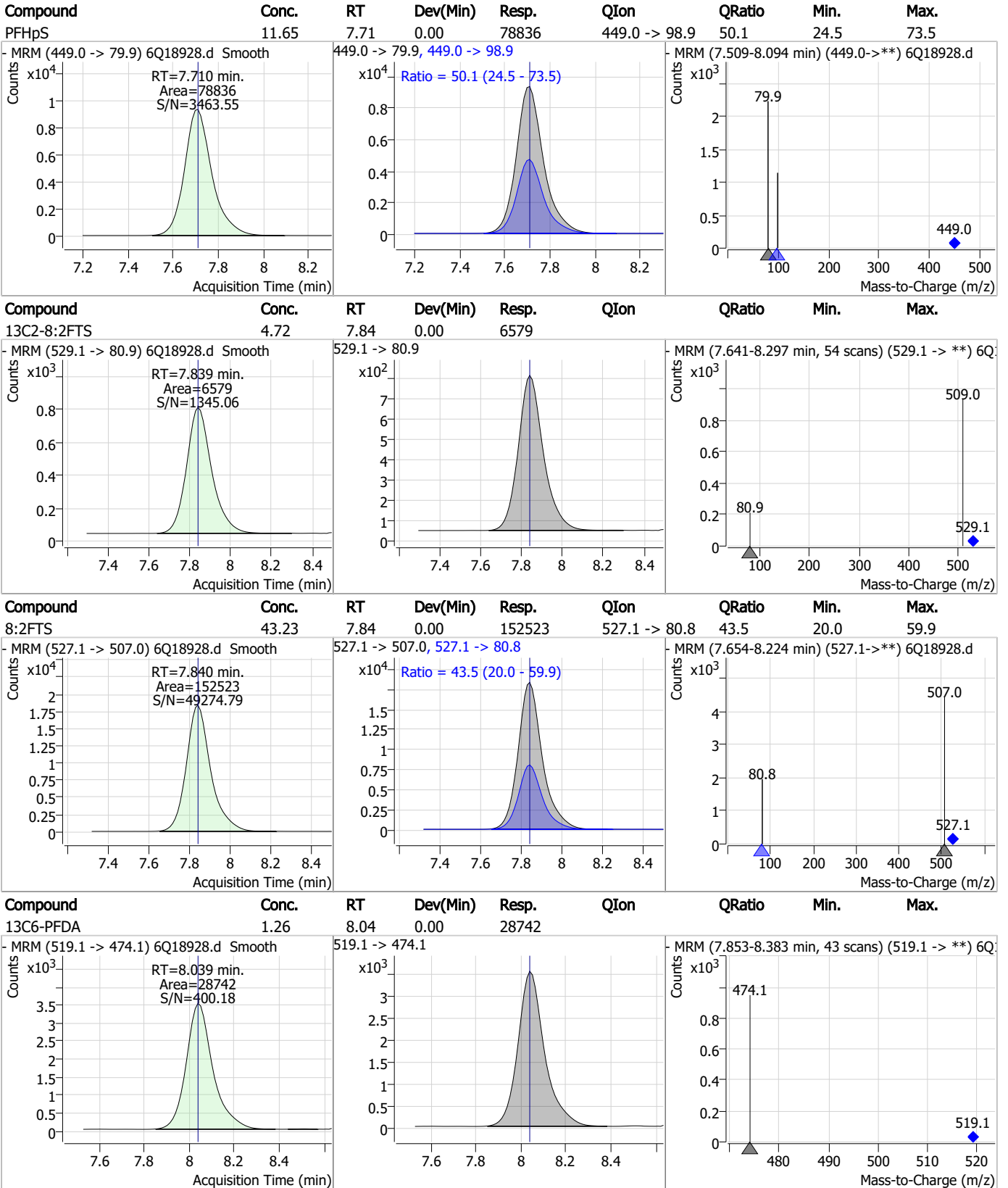
7.6.4

7

Perfluorinated Compounds by LC/MS/MS



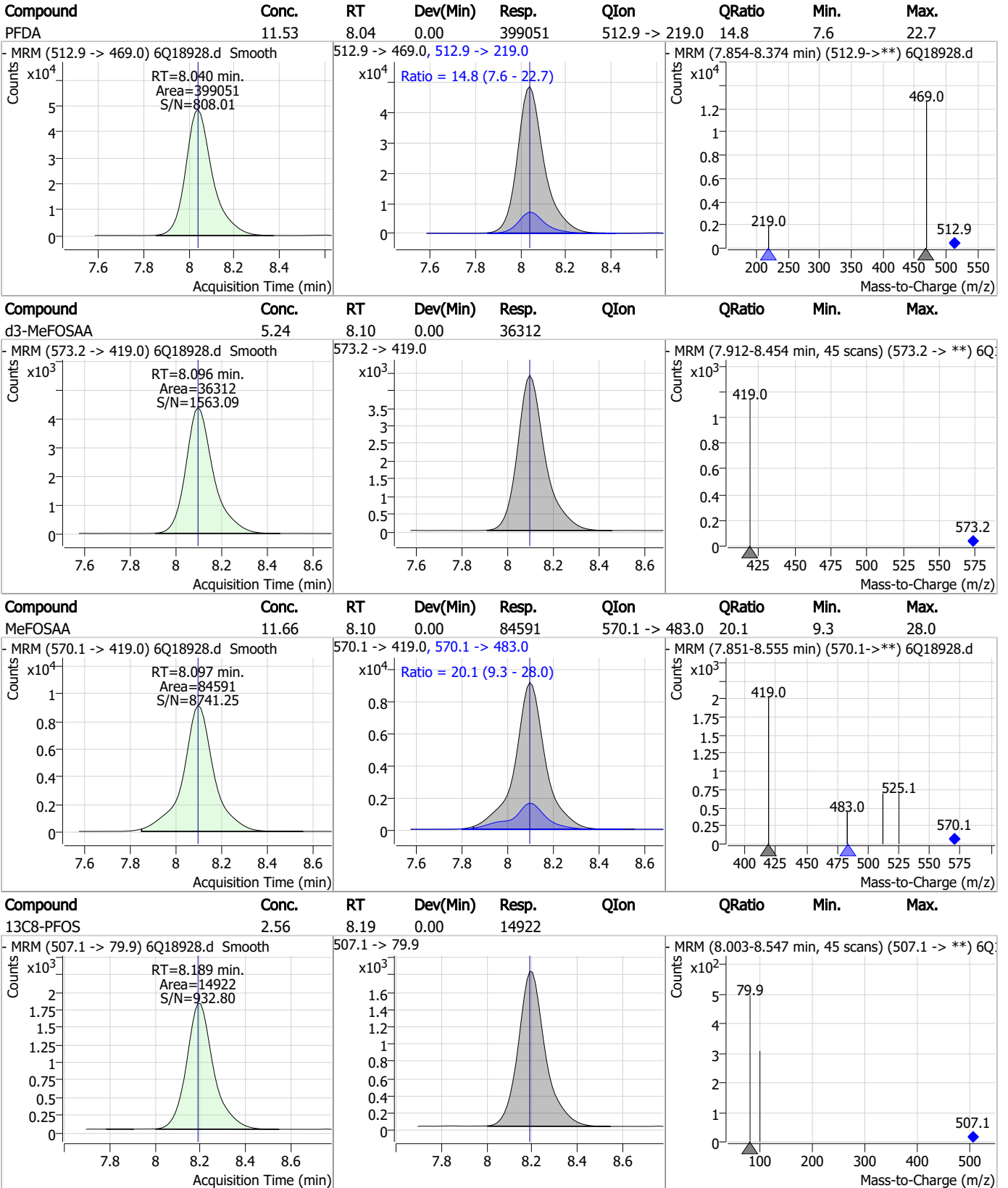
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

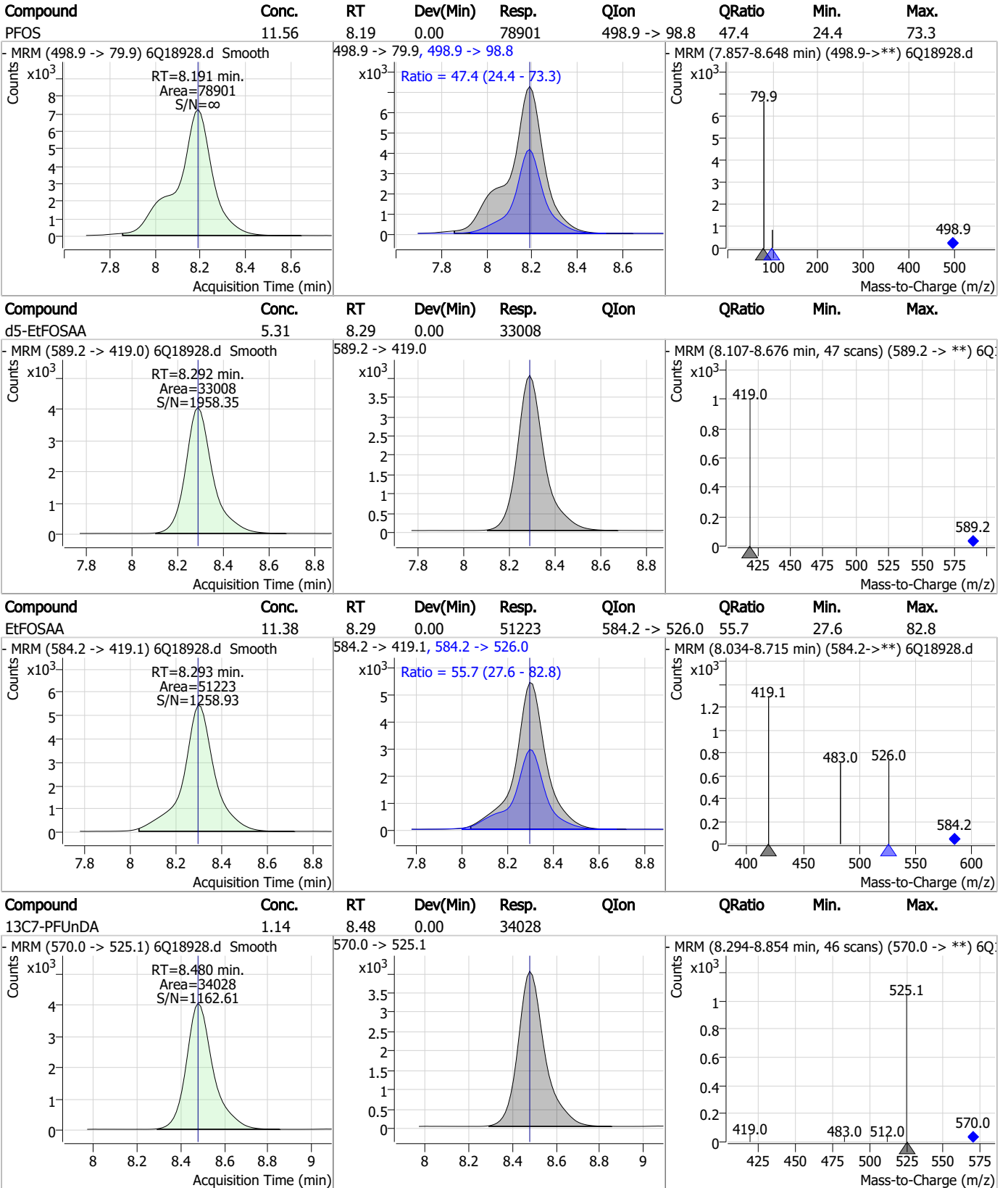
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

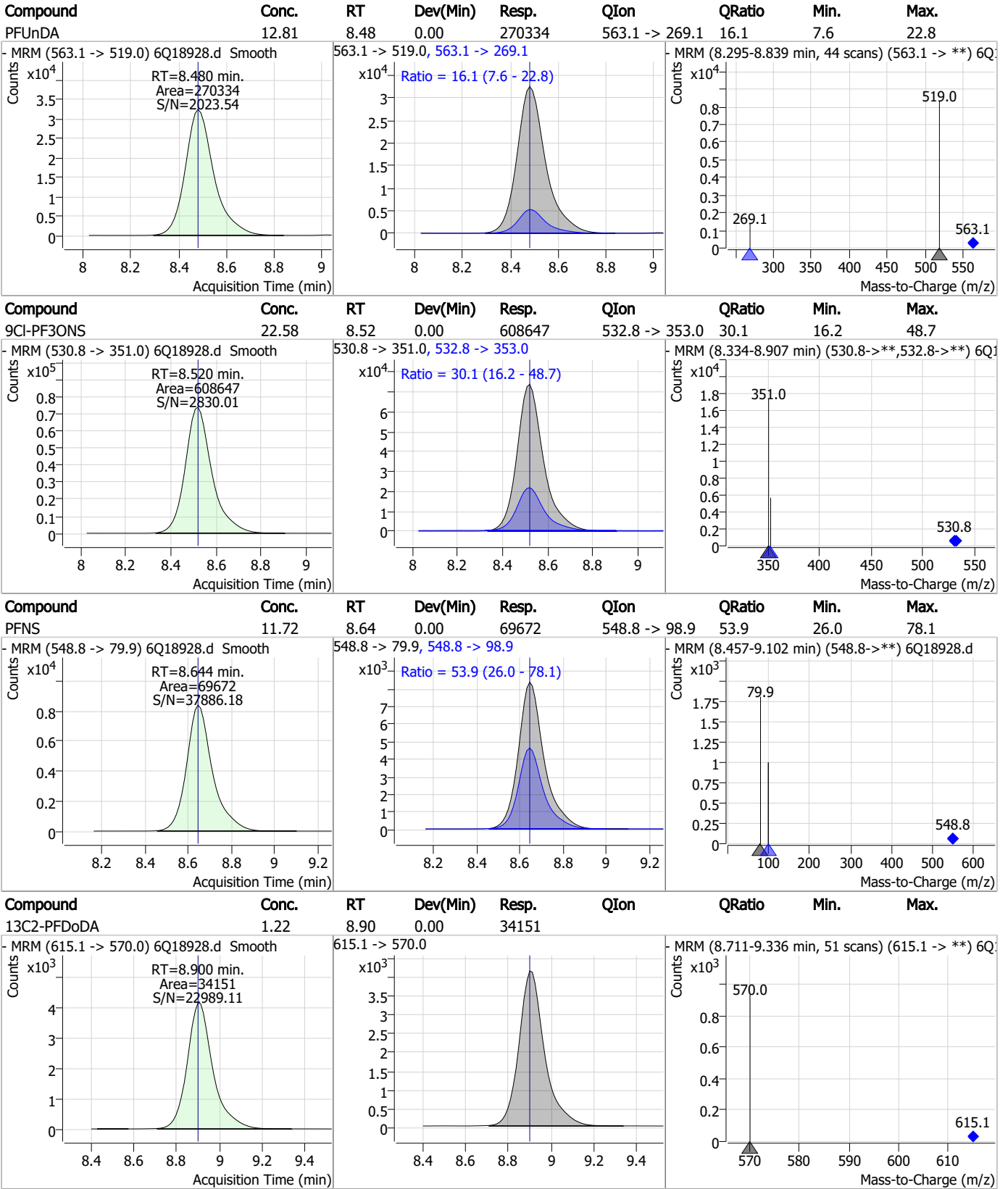
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

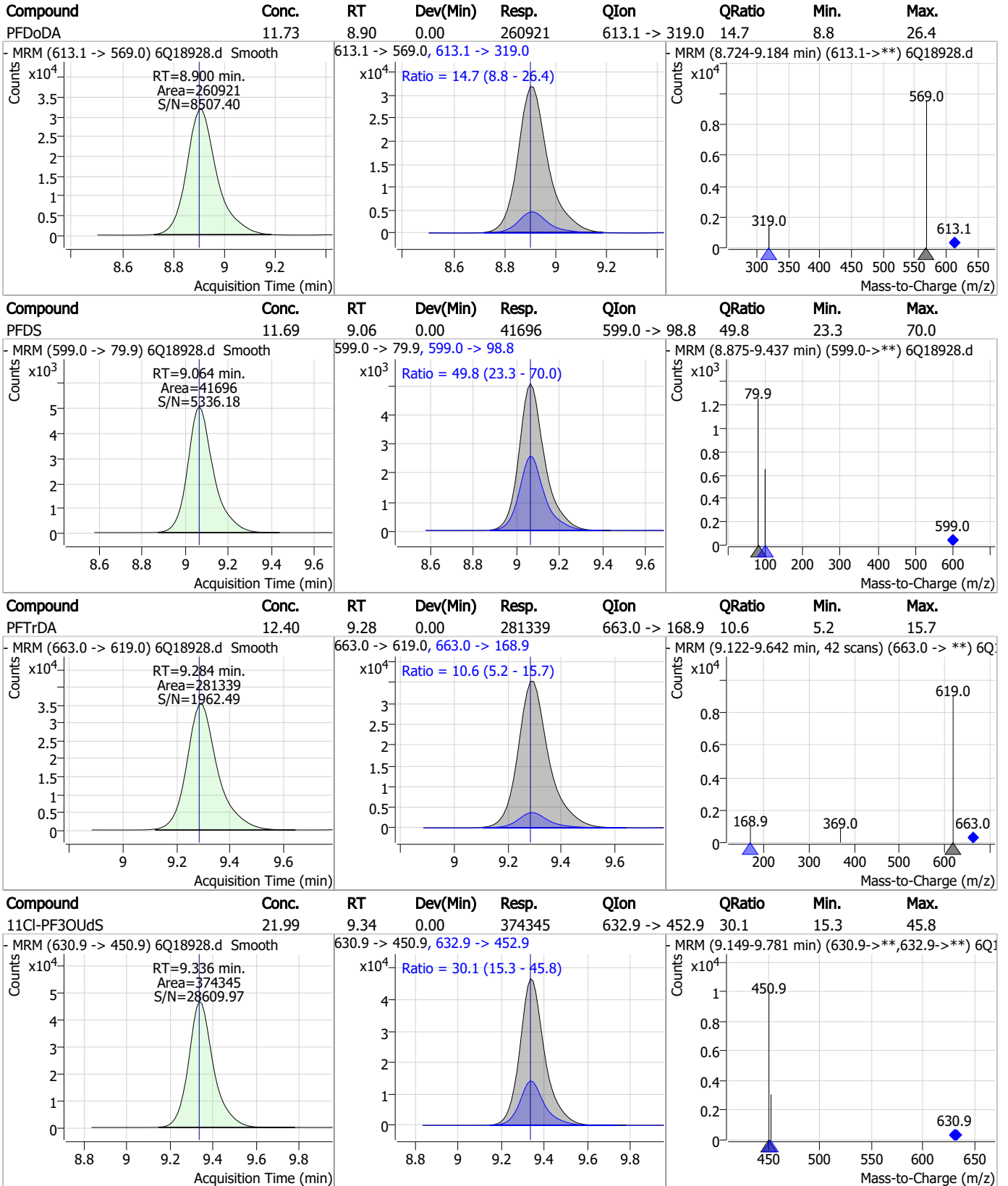
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

Perfluorinated Compounds by LC/MS/MS

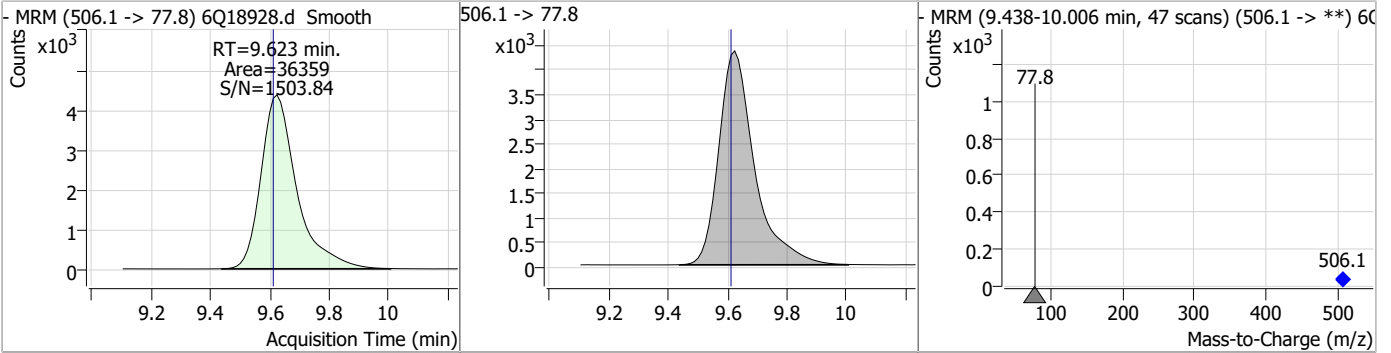


7.6.4

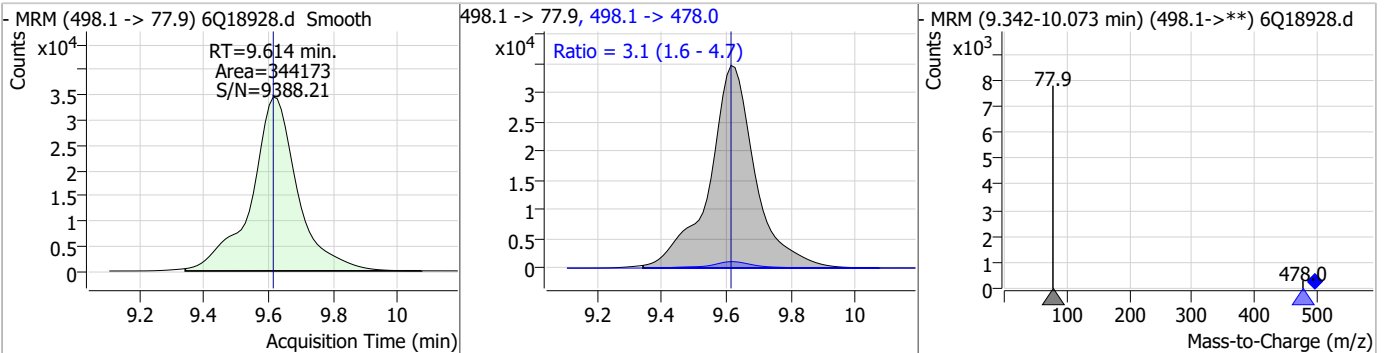
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Perfluorinated Compounds by LC/MS/MS

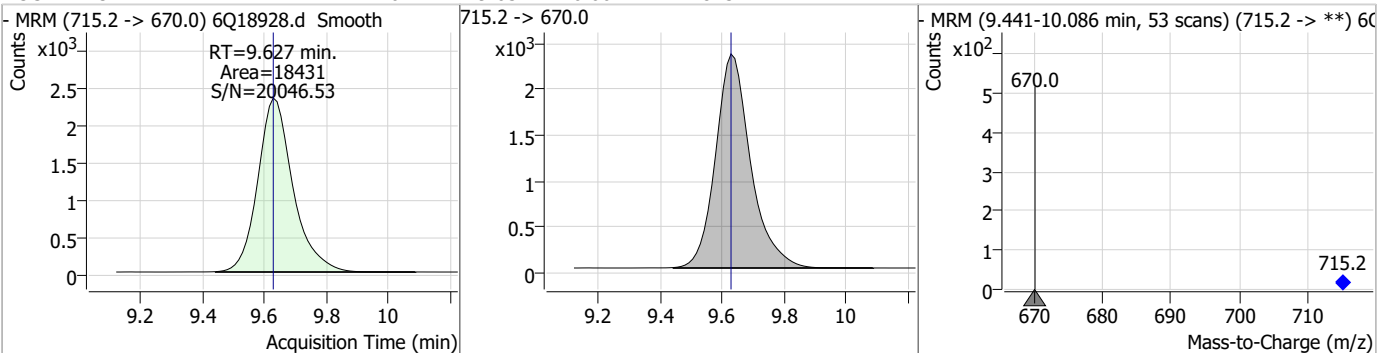
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-FOSA	2.60	9.62	0.01	36359				



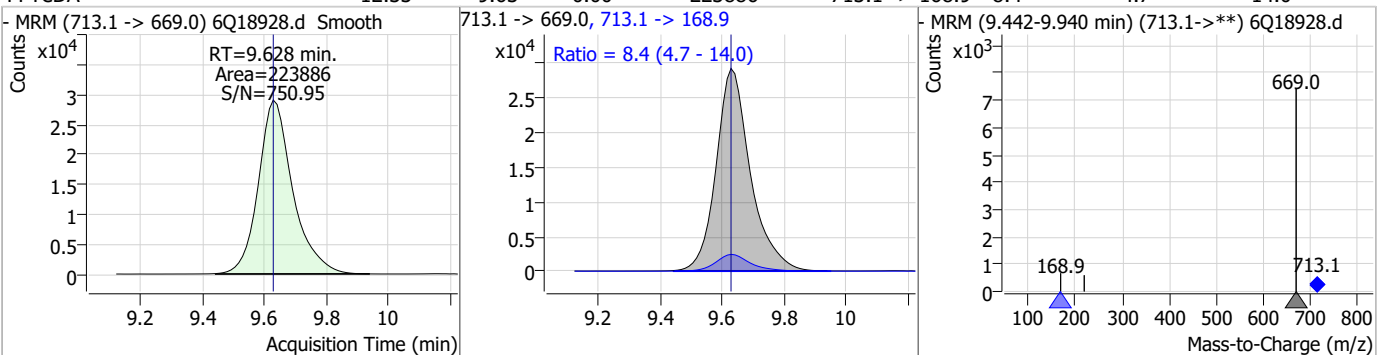
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
FOSA	28.09	9.61	0.00	344173	498.1 -> 478.0	3.1	1.6	4.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.20	9.63	0.00	18431				

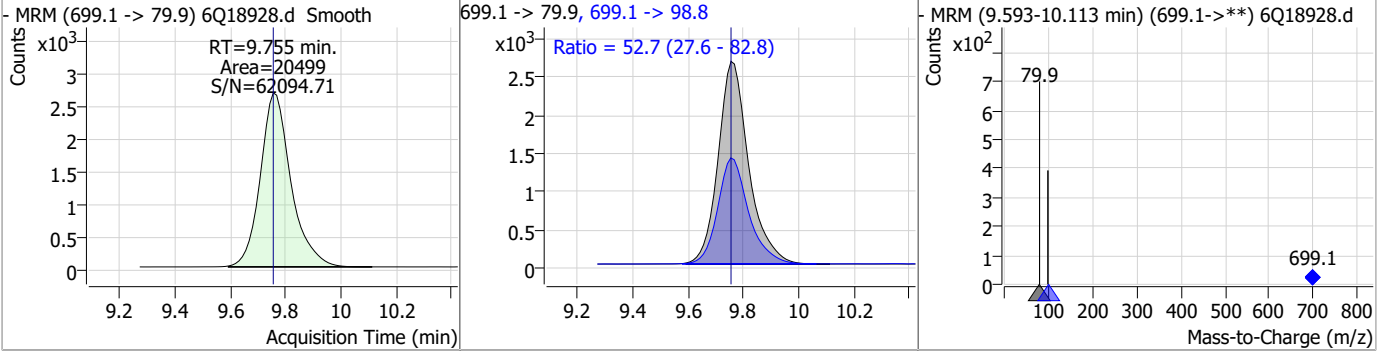


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTeDA	12.33	9.63	0.00	223886	713.1 -> 168.9	8.4	4.7	14.0

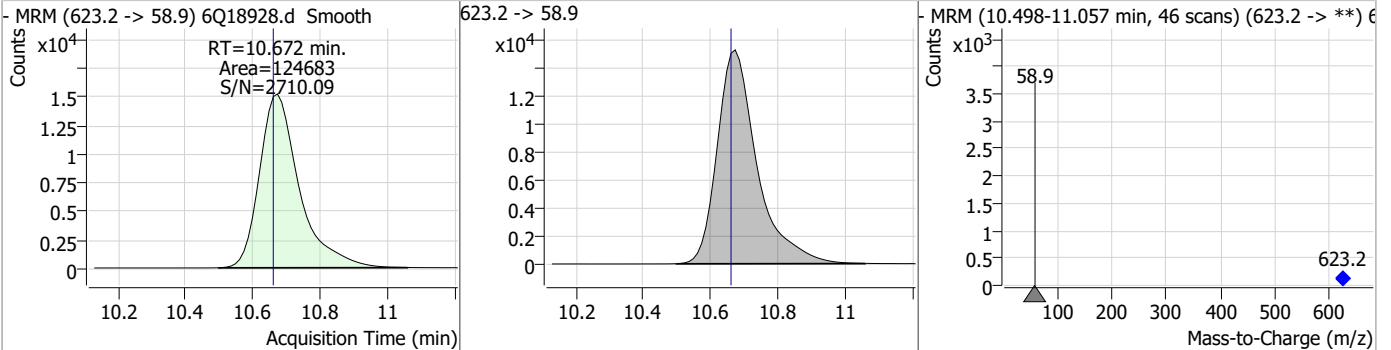


Perfluorinated Compounds by LC/MS/MS

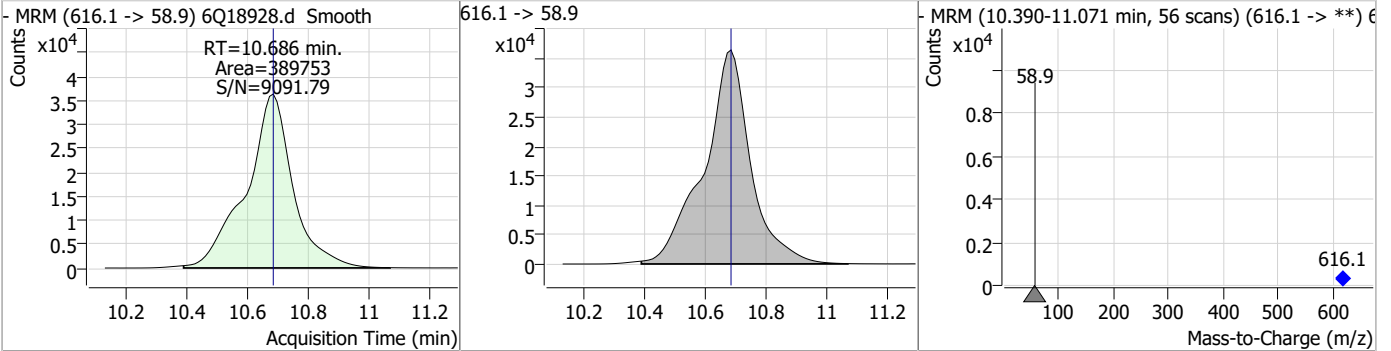
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	12.17	9.75	0.00	20499	699.1 -> 98.8	52.7	27.6	82.8



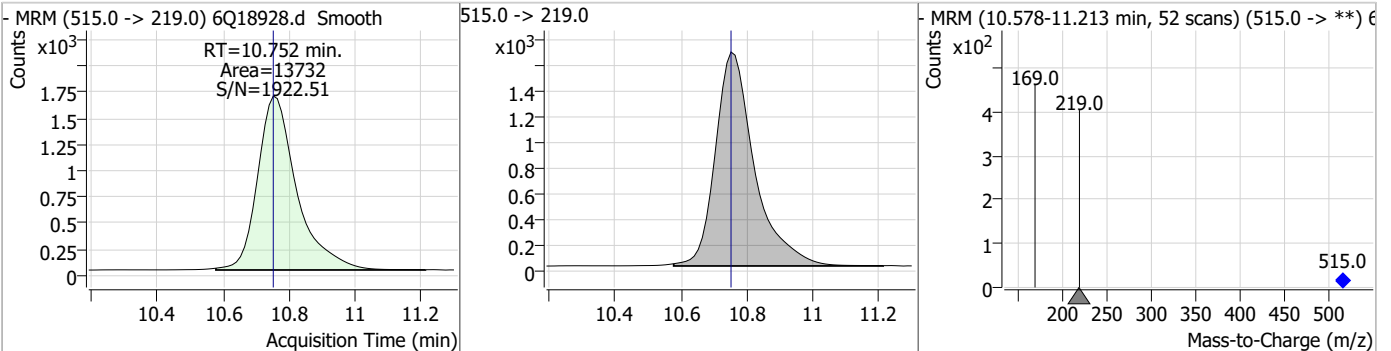
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.81	10.67	0.01	124683				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	80.74	10.69	0.00	389753				

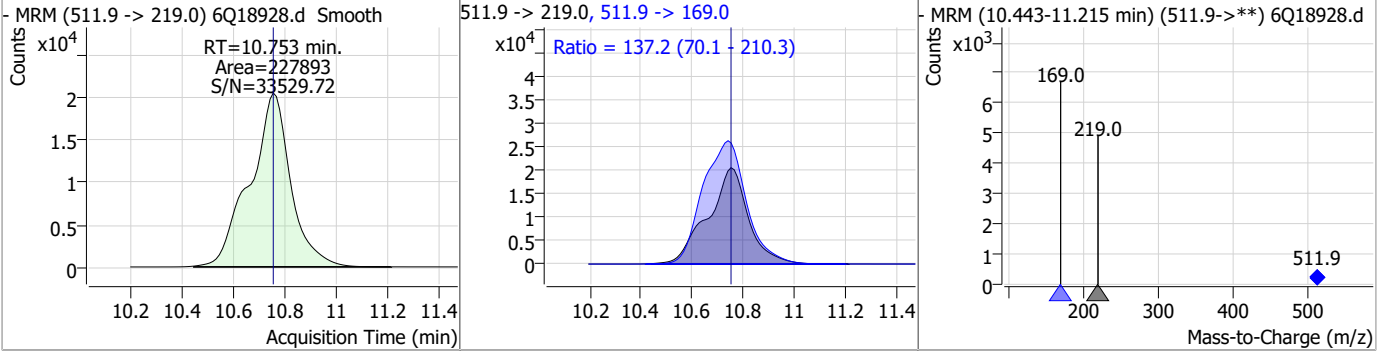


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.52	10.75	0.00	13732				

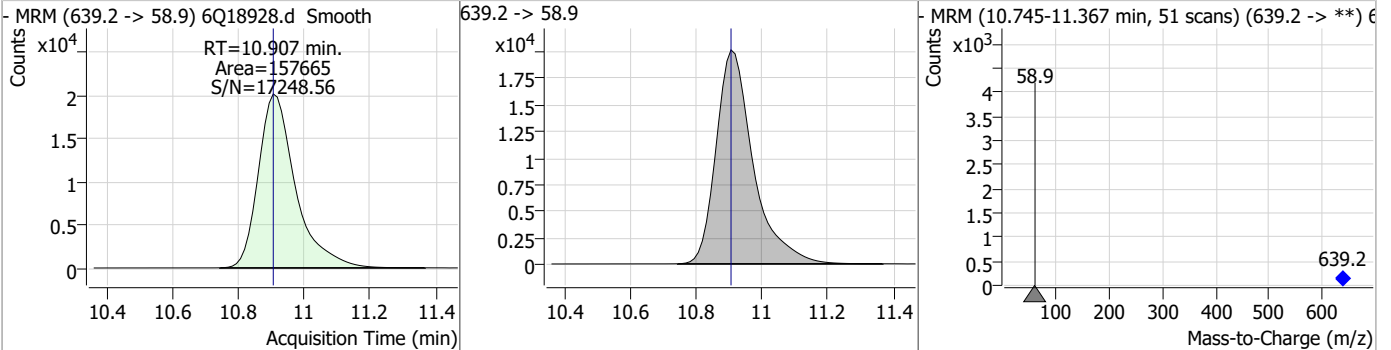


Perfluorinated Compounds by LC/MS/MS

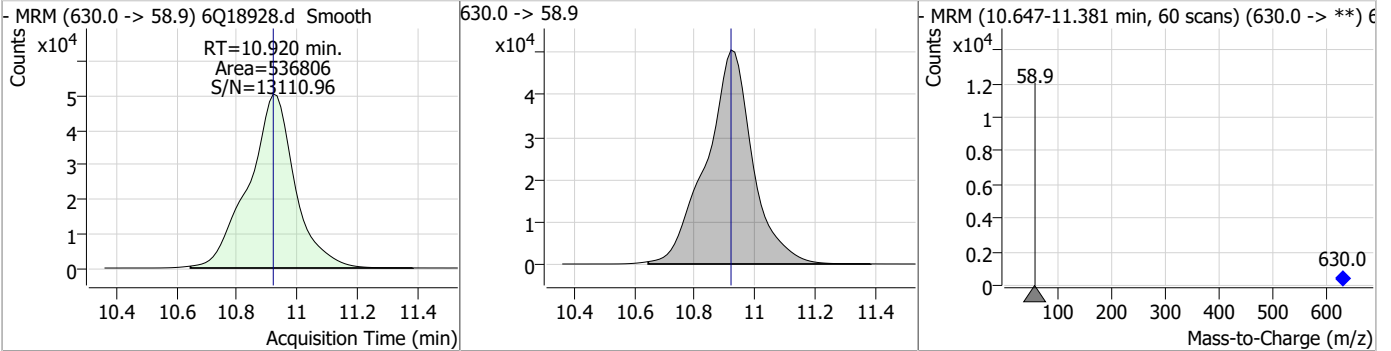
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOsa	43.56	10.75	0.00	227893	511.9 -> 169.0	137.2	70.1	210.3



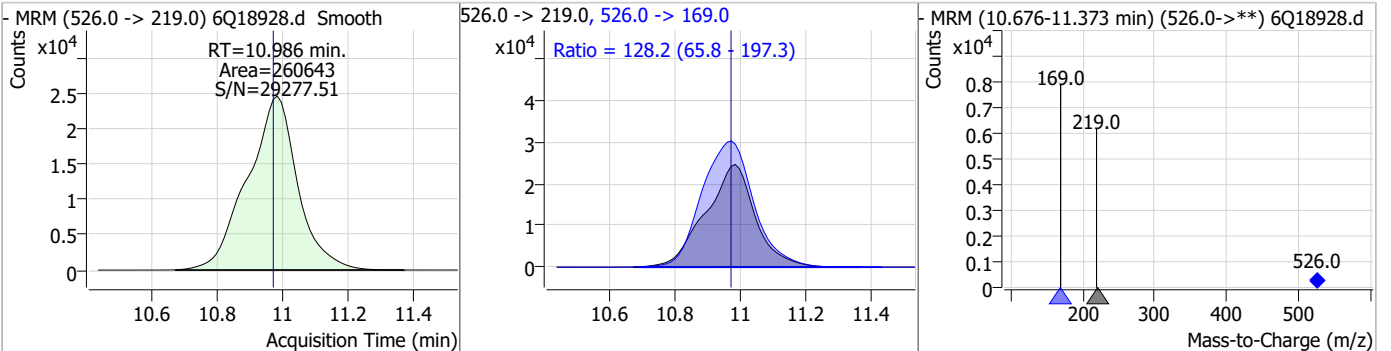
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.63	10.91	0.00	157665				



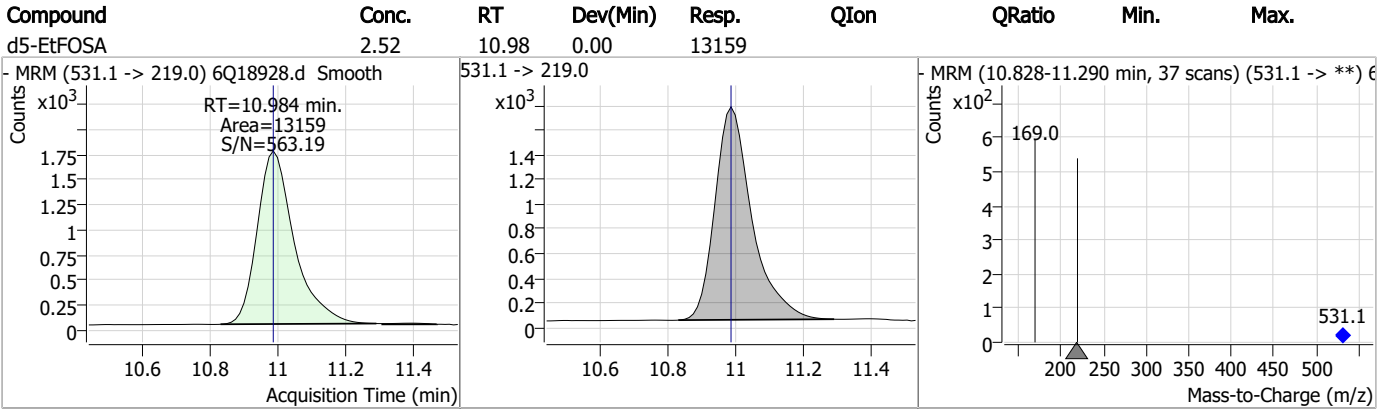
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	78.06	10.92	0.00	536806				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOsa	42.98	10.99	0.01	260643	526.0 -> 169.0	128.2	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



7.6.4

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Manual Integration Approval Summary

Sample Number: S6Q283-RT Method: EPA DRAFT 1633
Lab FileID: 6Q18928.D Analyst approved: 06/08/23 12:32 Martha Valls
Injection Time: 06/07/23 10:11 Supervisor approved: 06/09/23 13:50 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorononanoic acid	375-95-1		7.45	Split peak

7.6.4.1

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Manual Integrations
APPROVED
 (compounds with "m" flag)

Natasha Gumtie
 06/09/23 13:50

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19027.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 10:05:22 AM
 Sample Name : RT TDCA
 Vial : P1-B3
 DA Method File : TDCA.quantmethod.xml
 Batch Name : s6q283 TDCA.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)	QValue
Internal Standards						
M8-PFOS	8.189	507.1 -> 79.9	19967	2.50 µg/L	0.000	
13C4-PFOS	8.190	502.8 -> 79.9	24741	2.50 µg/L	0.000	
System Monitoring Compounds						
13C8-PFOS	8.189	507.1 -> 79.9	19967	2.05 µg/L	0.000	
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 81.9%			
Target Compounds						
PFOS	8.191	498.9 -> 79.9 498.9 -> 98.8	18745 9476	2.75 µg/L m		81
TCDCa	6.650	498.9 -> 79.9	5611	6.09 ng/ml		100
TDCA	6.799	498.9 -> 79.9	7766	9.31 ng/ml		100
TUDCA	5.797	498.9 -> 79.9	10967	6.19 ng/ml		100

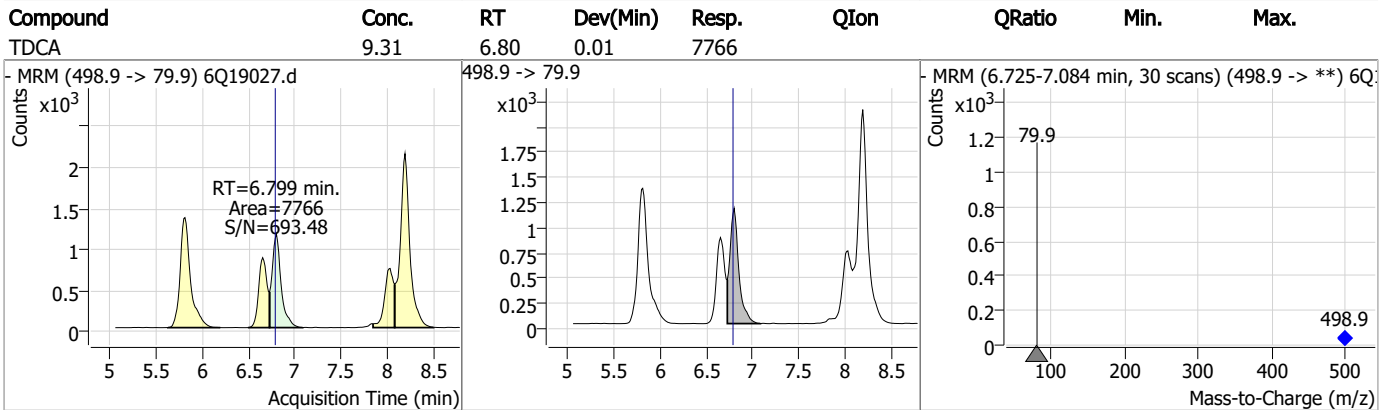
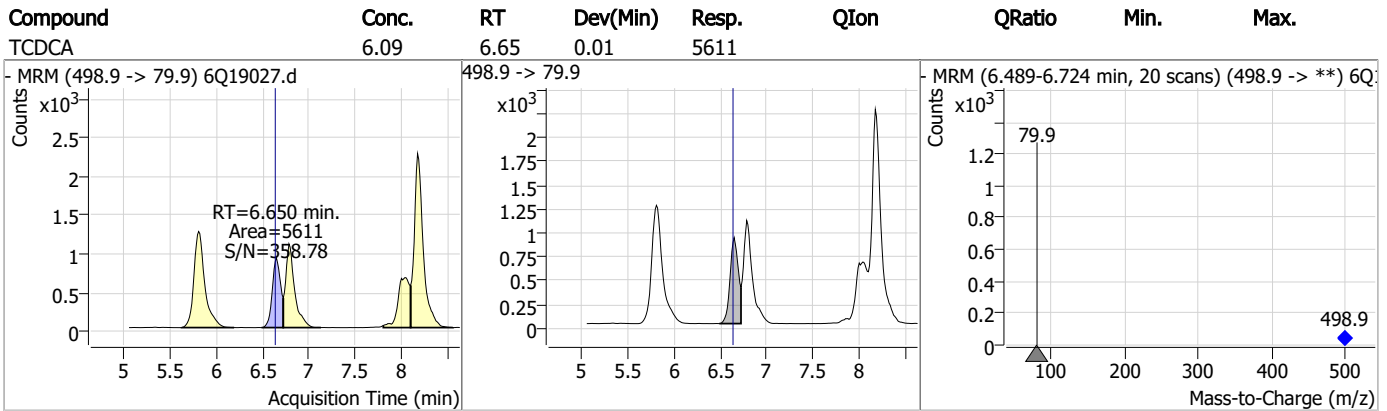
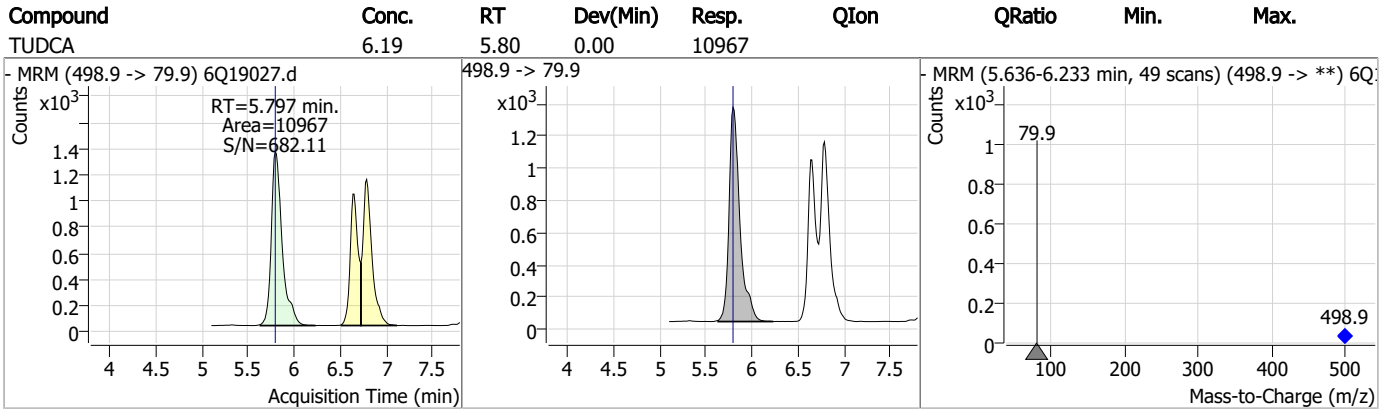
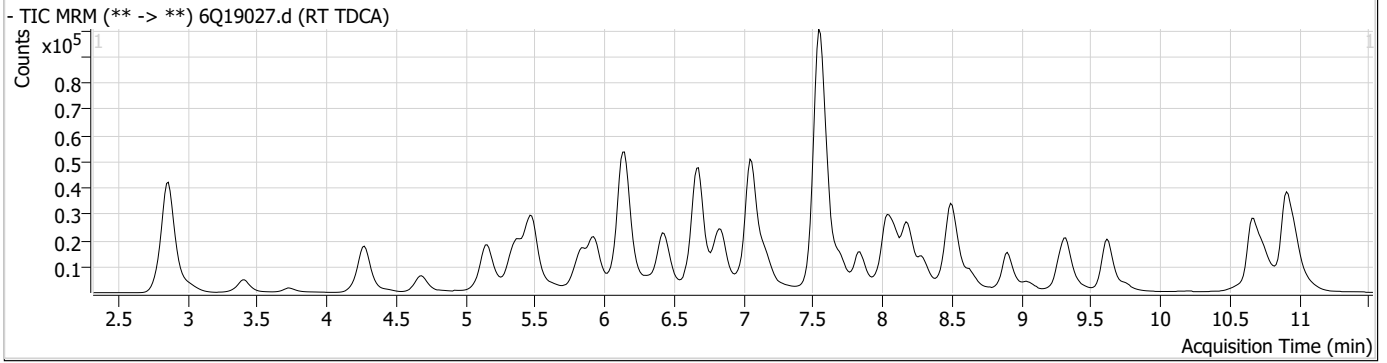
= Qualifier out of range, m = manually integrated, + = Area summed

7.6.5

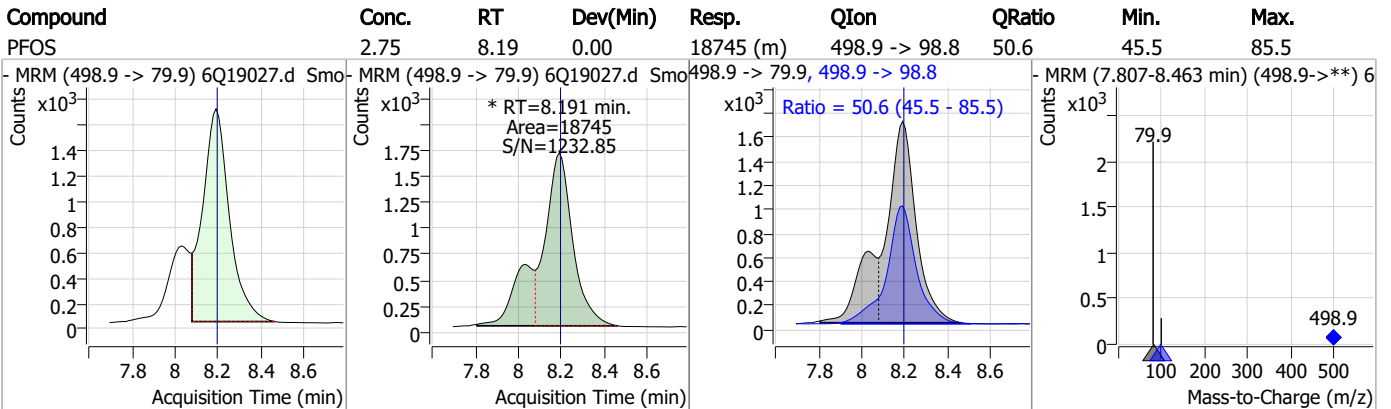
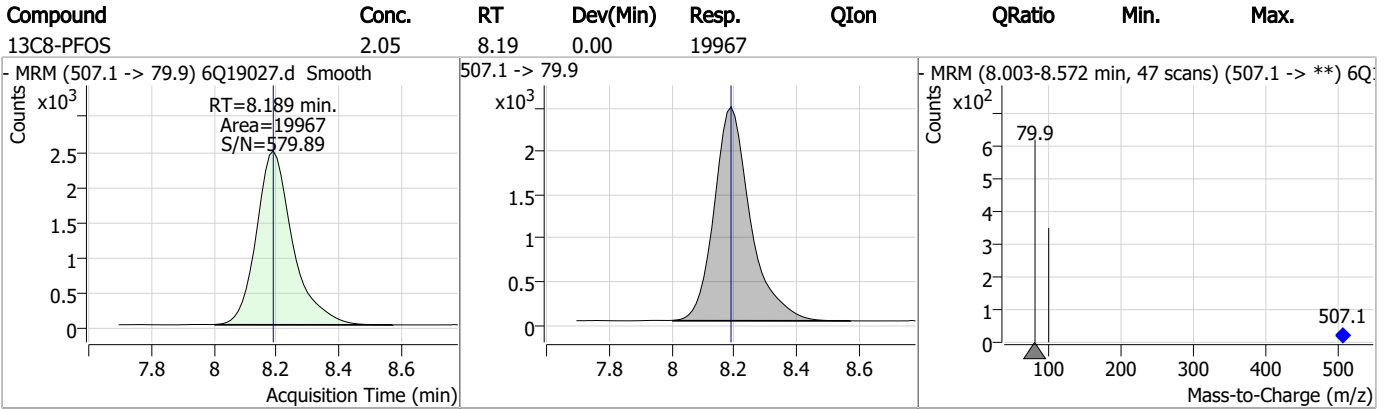
7



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



7.6.5
7



Manual Integration Approval Summary

Sample Number: S6Q283-RT Method: EPA DRAFT 1633
Lab FileID: 6Q19027.D Analyst approved: 06/08/23 12:32 Martha Valls
Injection Time: 06/08/23 10:05 Supervisor approved: 06/09/23 13:50 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19028.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 10:19:51 AM
 Sample Name : RT BR-LN
 Vial : P1-B4
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	195185	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	65240	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	72188	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	65492	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	98250	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	47178	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	29349	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	35879	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	34517	1.25 µg/L	0.000
M2-PFTeDA	9.615	715.2 -> 670.0	19000	1.25 µg/L	-0.012
M8-FOSA	9.623	506.1 -> 77.8	35110	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	25480	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	16057	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15776	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4818	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7098	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7331	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	41317	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	45831	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	34581	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	118053	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	150441	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13911	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13649	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	21438	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	81466	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	11075	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	107720	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	37425	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	57660	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	65008	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4818	5.29 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.8%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7098	5.42 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.5%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7331	5.62 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.5%		
13C2-PFDoDA	8.900	615.1 -> 570.0	34517	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.0%		
13C2-PFTeDA	9.615	715.2 -> 670.0	19000	1.27 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C3-PFBS	5.384	302.1 -> 79.9	25480	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.7%		
13C3-PFHxS	7.155	402.1 -> 79.9	16057	2.69 µg/L	0.000

7.6.6
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.5%	
13C4-PFBA	2.860	216.8 -> 171.9	195185	10.10 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C4-PFHpA	6.420	367.1 -> 322.0	65492	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C5-PFHxA	5.466	318.0 -> 273.0	72188	2.62 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.9%	
13C5-PFPeA	4.272	268.3 -> 223.0	65240	5.17 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C6-PFDA	8.039	519.1 -> 474.1	29349	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.7%	
13C7-PFUnDA	8.480	570.0 -> 525.1	35879	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.9%	
13C8-FOSA	9.623	506.1 -> 77.8	35110	2.95 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.0%	
13C8-PFOA	7.051	421.1 -> 376.0	98250	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.1%	
13C8-PFOS	8.189	507.1 -> 79.9	15776	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%	
13C9-PFNA	7.569	472.1 -> 427.0	47178	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.5%	
d3-MeFOSAA	8.096	573.2 -> 419.0	41317	5.35 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.0%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	45831	11.19 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 111.9%	
d3-MeFOSA	10.752	515.0 -> 219.0	13649	2.25 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.9%	
d5-EtFOSAA	8.292	589.2 -> 419.0	34581	4.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
d7-MeFOSE	10.660	623.2 -> 58.9	118053	21.94 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 87.8%	
d9-EtFOSE	10.907	639.2 -> 58.9	150441	21.95 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 87.8%	
d5-EtFOSA	10.984	531.1 -> 219.0	13911	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.5%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	302161	45.79 µg/L	100
		327.1 -> 80.9	111768		
6:2FTS	6.838	427.1 -> 407.0	300934	44.74 µg/L	100
		427.1 -> 80.9	101215		
8:2FTS	7.840	527.1 -> 507.0	174931	44.49 µg/L	97
		527.1 -> 80.8	67098		
EtFOSAA	8.293	584.2 -> 419.1	52109	11.05 µg/L	97
		584.2 -> 526.0	27720		
FOSA	9.614	498.1 -> 77.9	336984	28.48 µg/L	100
		498.1 -> 478.0	10048		
MeFOSAA	8.097	570.1 -> 419.0	84930	10.29 µg/L	92
		570.1 -> 483.0	18735		
PFBA	2.856	212.8 -> 168.9	304347	47.86 µg/L	100
PFBS	5.385	298.7 -> 79.9	92607	10.49 µg/L	100
		298.7 -> 98.8	36346		
PFDA	8.040	512.9 -> 469.0	383465	10.85 µg/L	100
		512.9 -> 219.0	58907		
PFDoDA	8.900	613.1 -> 569.0	254032	11.30 µg/L	96
		613.1 -> 319.0	39995		
PFDS	9.064	599.0 -> 79.9	40900	10.85 µg/L	93

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	21012	12.03	µg/L	100
		363.1 -> 319.0	334081			
PFHpS	7.710	363.1 -> 169.0	54956	11.12	µg/L	98
		449.0 -> 79.9	79580			
PFHxA	5.469	449.0 -> 98.9	39839	11.01	µg/L	100
		313.0 -> 269.0	260853			
PFHxS	7.156	313.0 -> 118.9	14349	10.38	µg/L	98
		398.7 -> 79.9	78098			
PFNA	7.446	398.7 -> 98.9	36566	24.58	µg/L	97
		463.0 -> 419.0	822167			
PFNS	8.644	463.0 -> 219.0	176019	10.54	µg/L	96
		548.8 -> 79.9	66225			
PFOA	7.052	548.8 -> 98.9	36466	25.49	µg/L	98
		413.0 -> 369.0	1054625			
PFOS	8.191	413.0 -> 169.0	196984	10.24	µg/L	99
		498.9 -> 79.9	73898			
PFPeA	4.274	498.9 -> 98.8	35765	23.16	µg/L	100
		263.0 -> 219.0	356952			
PFPeS	6.459	349.1 -> 79.9	80766	11.18	µg/L	97
		349.1 -> 98.9	34817			
PFTeDA	9.615	713.1 -> 669.0	215724	11.52	µg/L	97
		713.1 -> 168.9	17540			
PFTrDA	9.284	663.0 -> 619.0	269833	11.76	µg/L	100
		663.0 -> 168.9	28029			
PFUnDA	8.480	563.1 -> 519.0	264603	11.89	µg/L	99
		563.1 -> 269.1	41393			
11Cl-PF3OUdS	9.323	630.9 -> 450.9	374650	21.38	µg/L	98
		632.9 -> 452.9	118000			
9Cl-PF3ONS	8.508	530.8 -> 351.0	611364	22.03	µg/L	95
		532.8 -> 353.0	181982			
ADONA	6.671	376.9 -> 250.9	1308047	20.78	µg/L	99
		376.9 -> 84.8	360550			
HFPO-DA	5.845	284.9 -> 168.9	92338	24.12	µg/L	98
		284.9 -> 184.9	10306			
3:3FTCA	3.740	241.0 -> 177.0	61642	56.47	µg/L	99
		241.0 -> 117.0	7887			
5:3FTCA	6.137	341.0 -> 237.1	1264593	276.62	µg/L	99
		341.0 -> 217.0	905261			
7:3FTCA	7.548	441.0 -> 316.9	853207	271.29	µg/L	99
		441.0 -> 336.9	1952438			
EtFOSA	10.986	526.0 -> 219.0	254755	39.74	µg/L	100
		526.0 -> 169.0	334524			
EtFOSE	10.920	630.0 -> 58.9	508085	77.43	µg/L	100
		511.9 -> 219.0	223404			
MeFOSA	10.753	511.9 -> 169.0	314079	42.97	µg/L	100
		616.1 -> 58.9	367364			
MeFOSE	10.686	699.1 -> 79.9	19654	80.38	µg/L	100
		699.1 -> 98.8	11114			
PFDoDS	9.755	295.0 -> 201.0	66510	11.04	µg/L	98
		295.0 -> 84.9	17053			
NFDHA	5.348	279.0 -> 85.1	254832	23.38	µg/L	98
		229.0 -> 84.9	199246			
PFMBA	4.688	314.8 -> 134.9	640829	21.28	µg/L	99
		314.8 -> 82.9	21590			

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

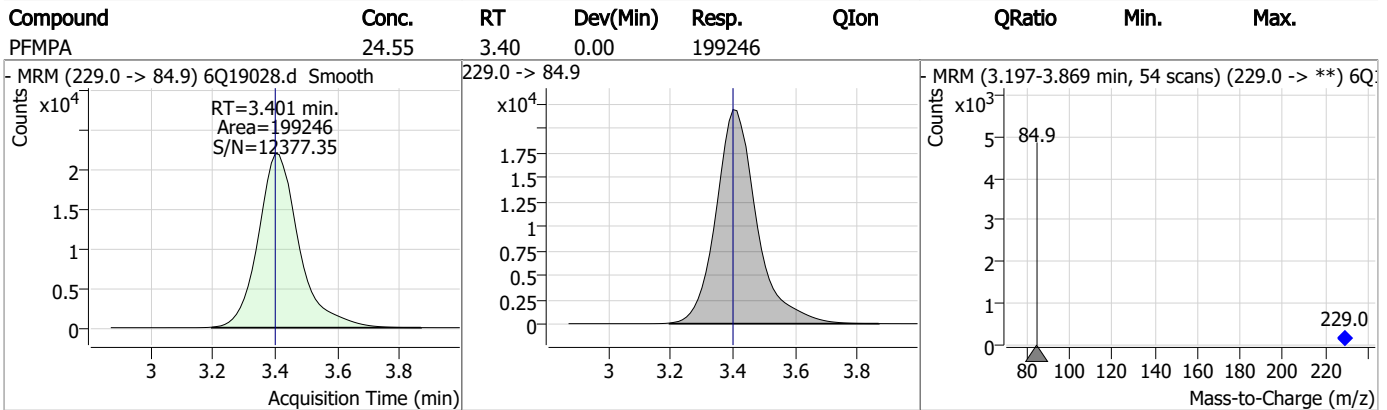
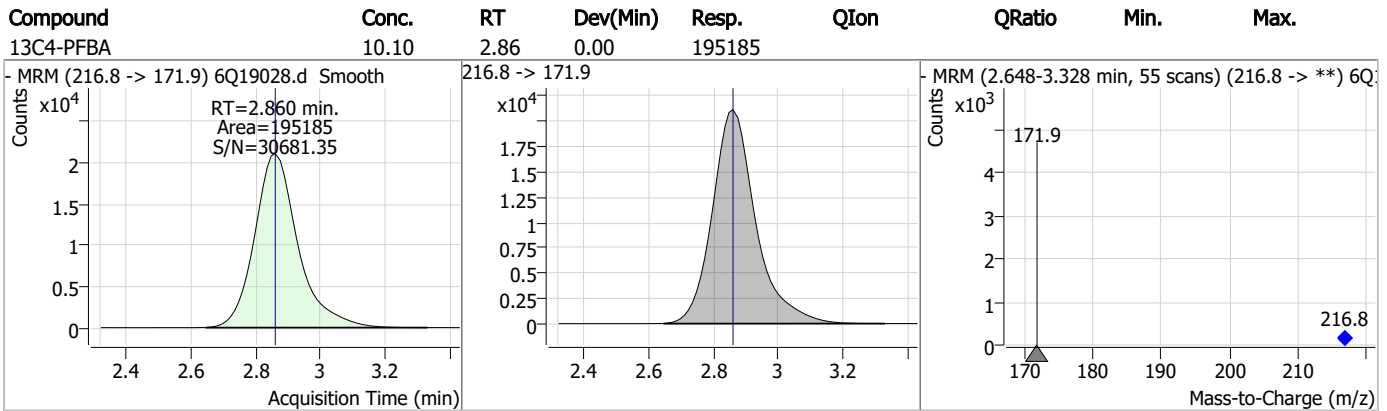
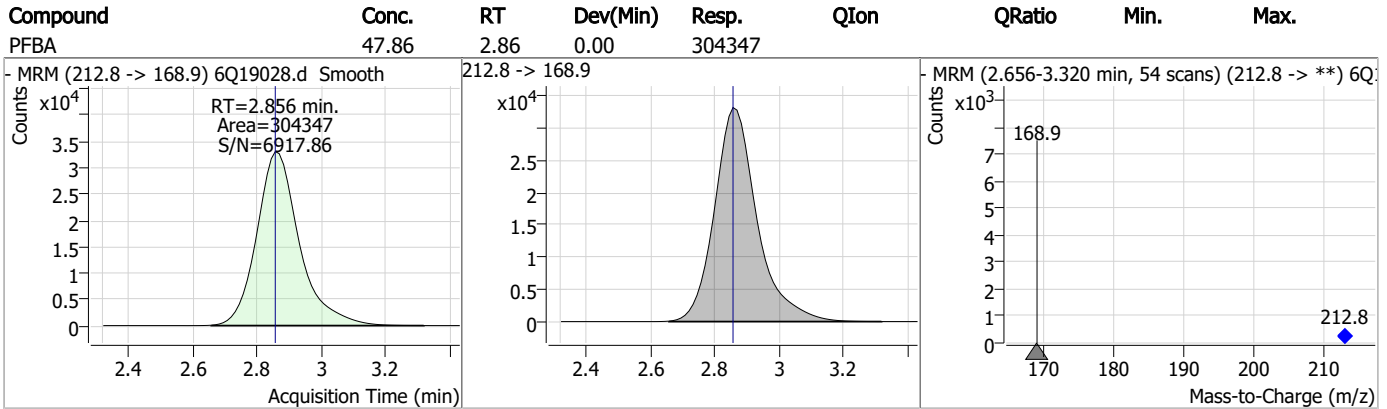
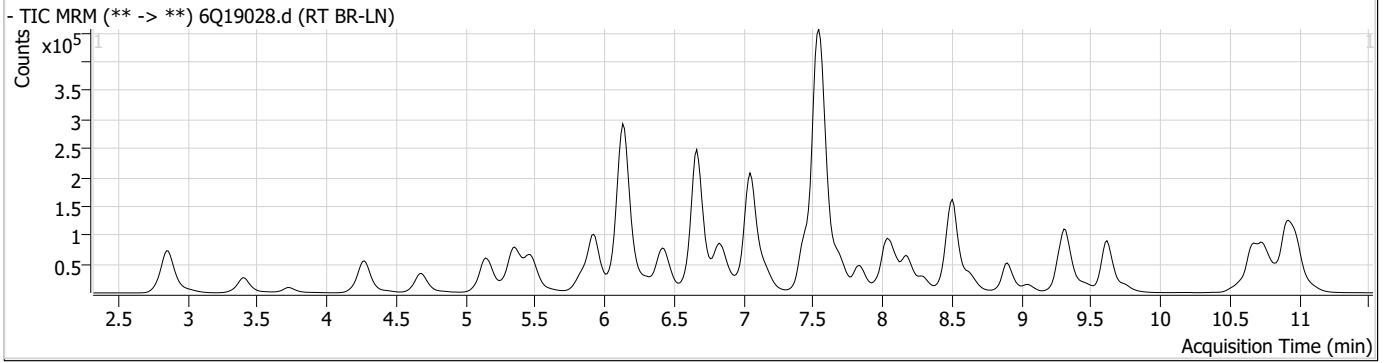
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.6.6

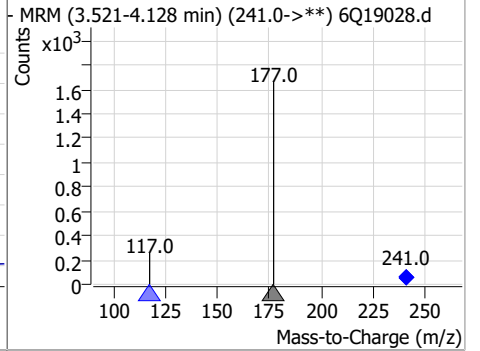
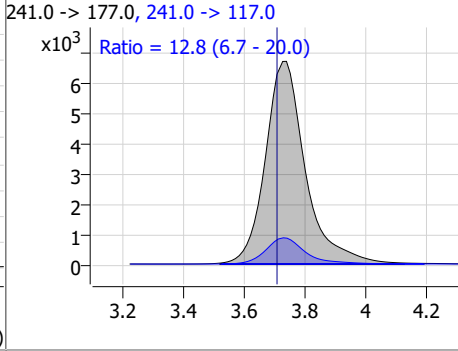
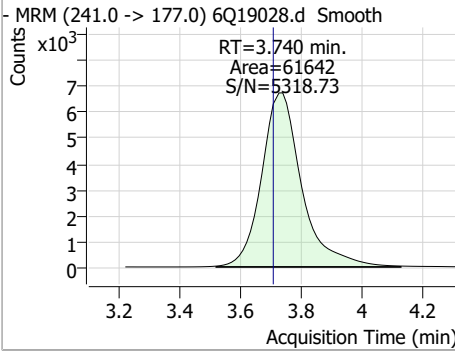
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Perfluorinated Compounds by LC/MS/MS

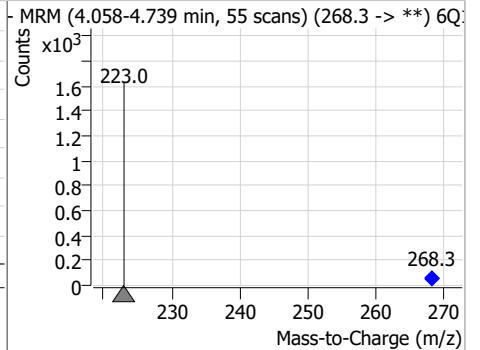
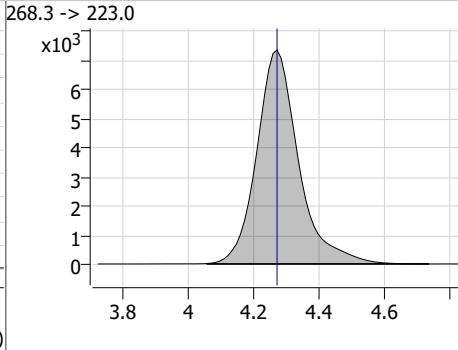
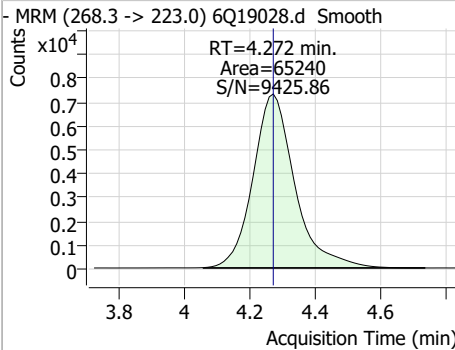


Perfluorinated Compounds by LC/MS/MS

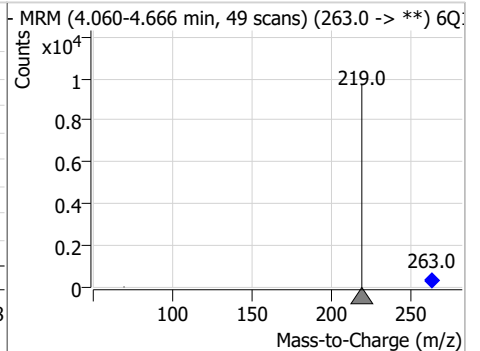
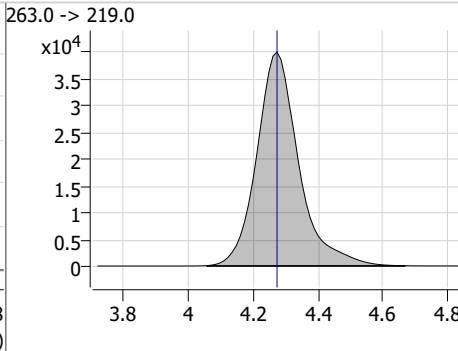
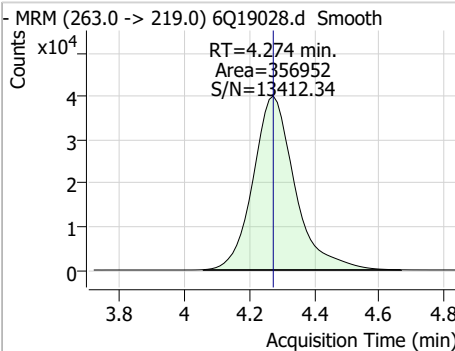
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	56.47	3.74	0.03	61642	241.0 -> 117.0	12.8	6.7	20.0



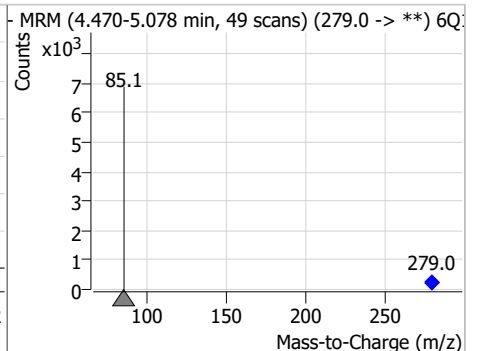
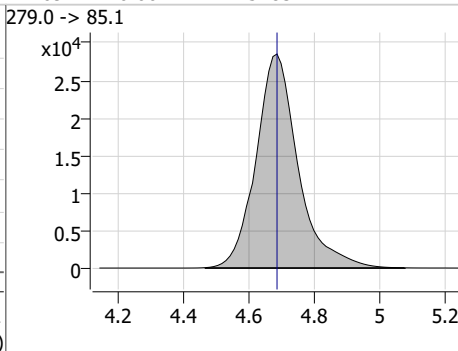
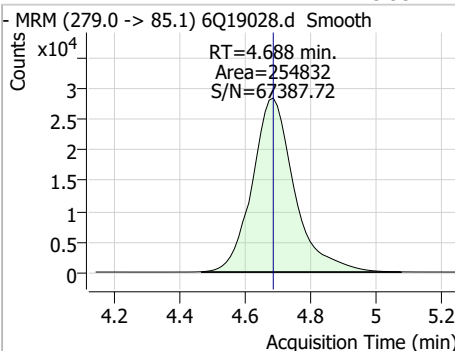
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.17	4.27	0.00	65240				



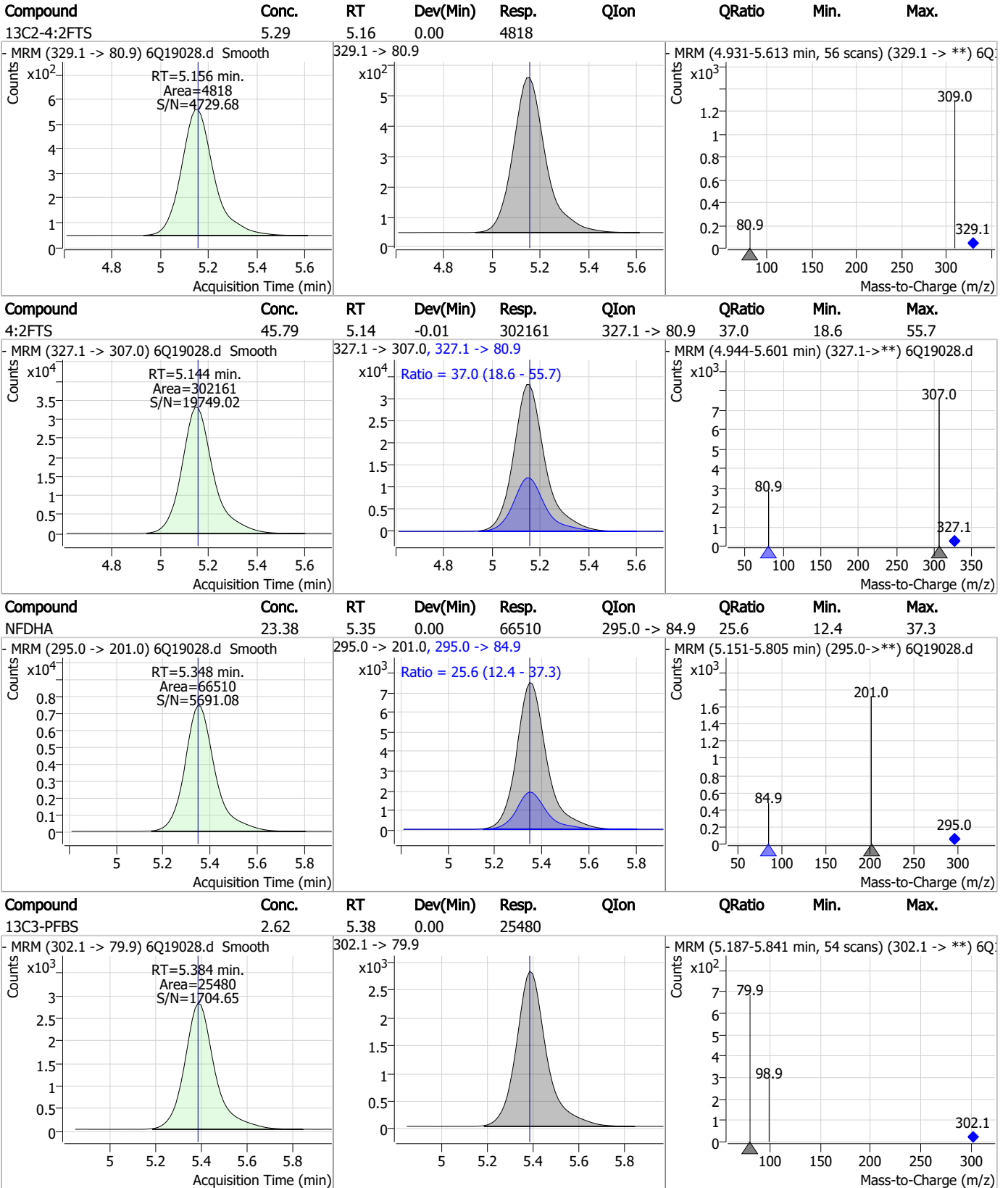
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	23.16	4.27	0.00	356952				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	23.93	4.69	0.00	254832				



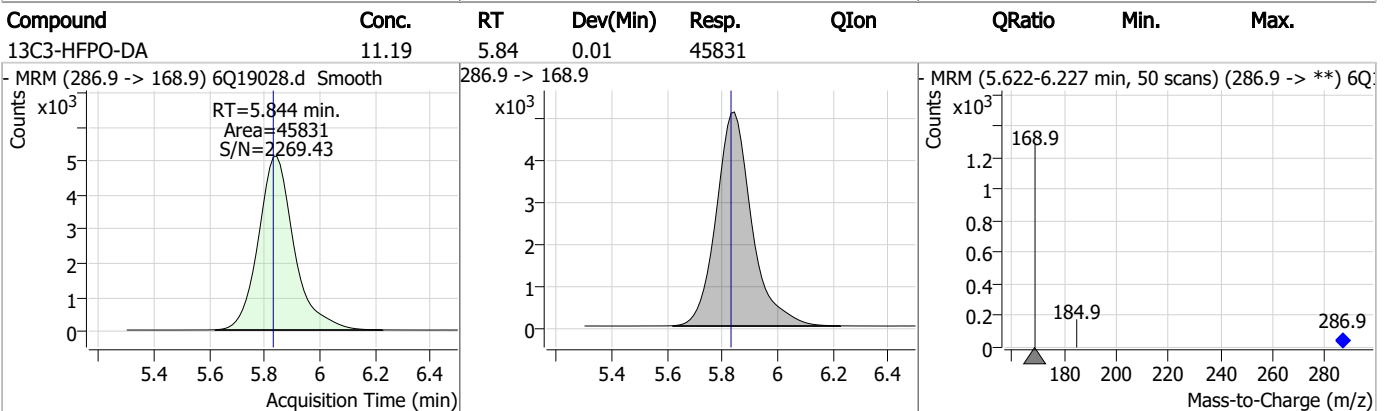
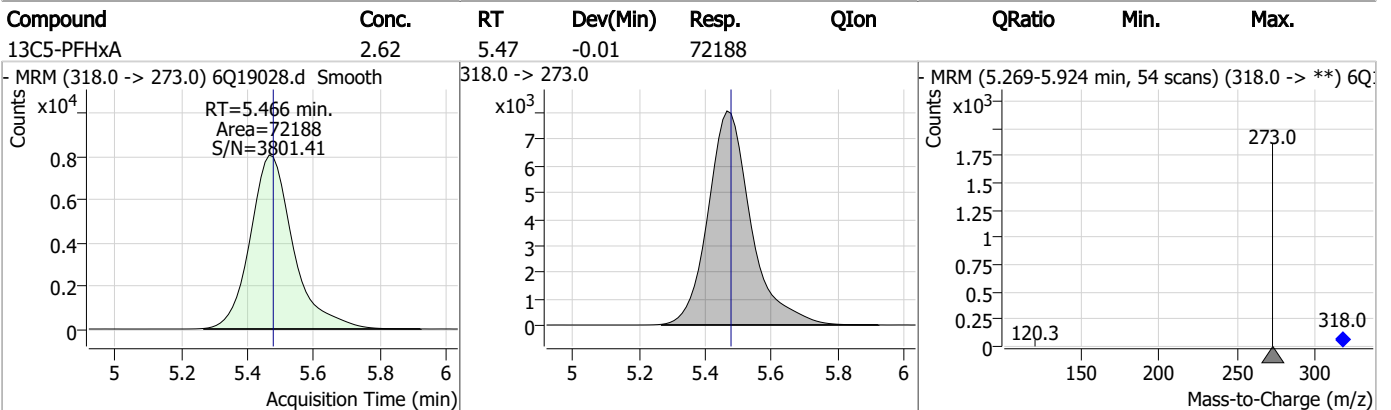
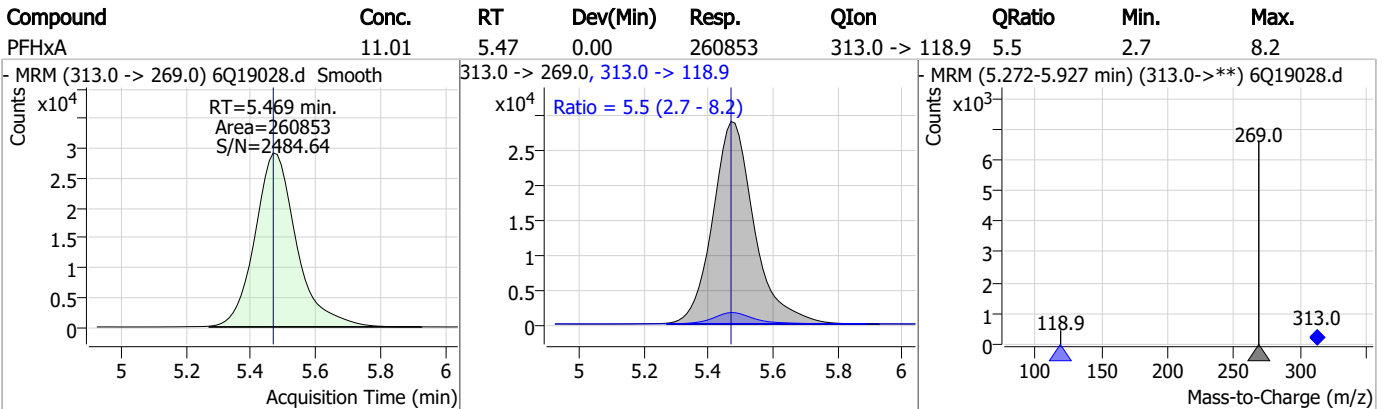
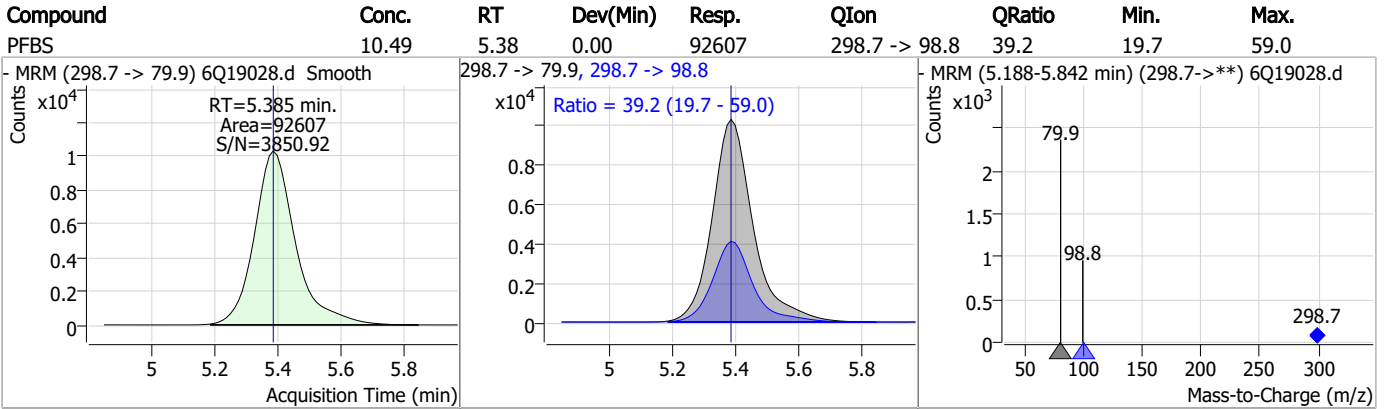
Perfluorinated Compounds by LC/MS/MS



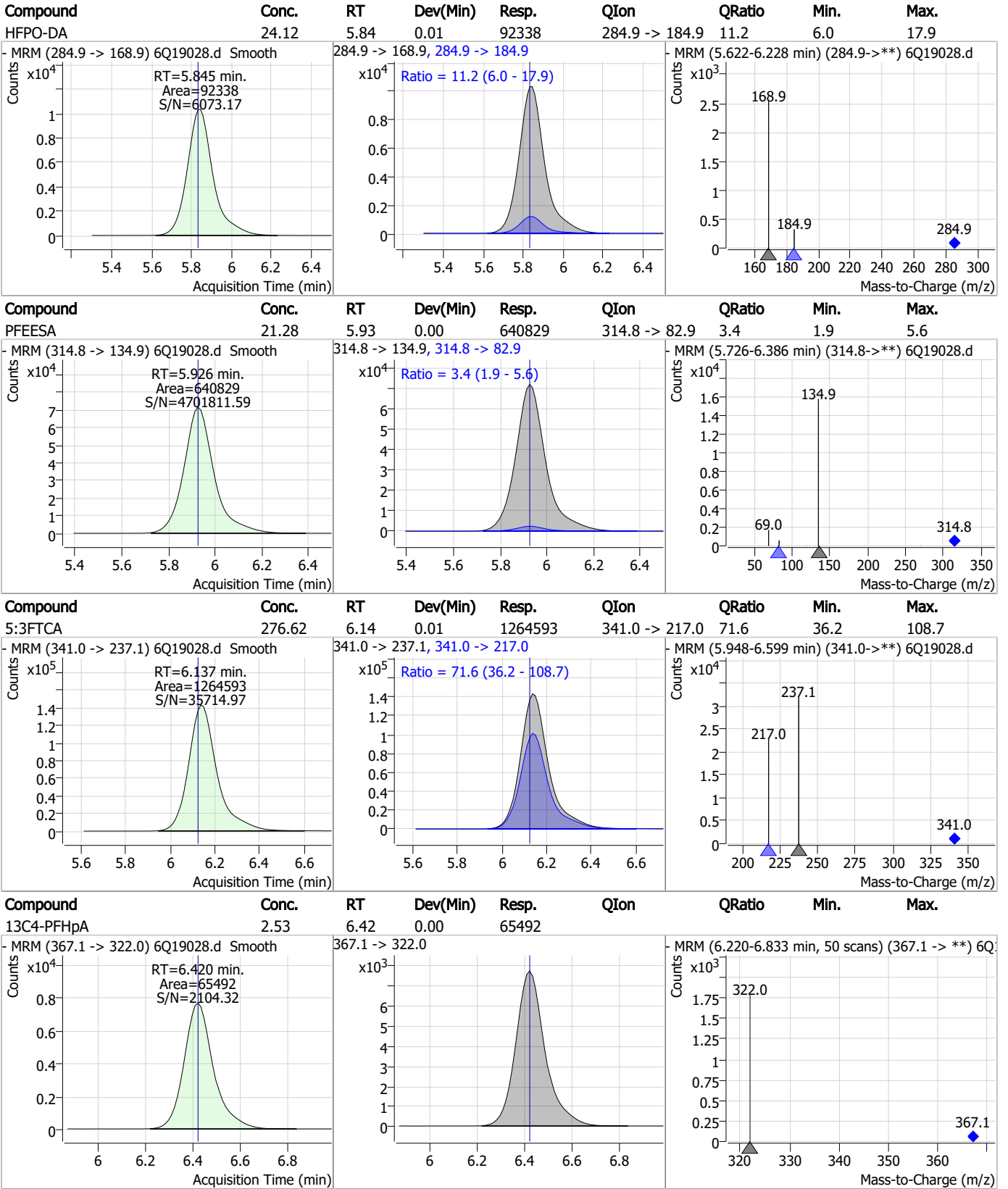
7.6.6

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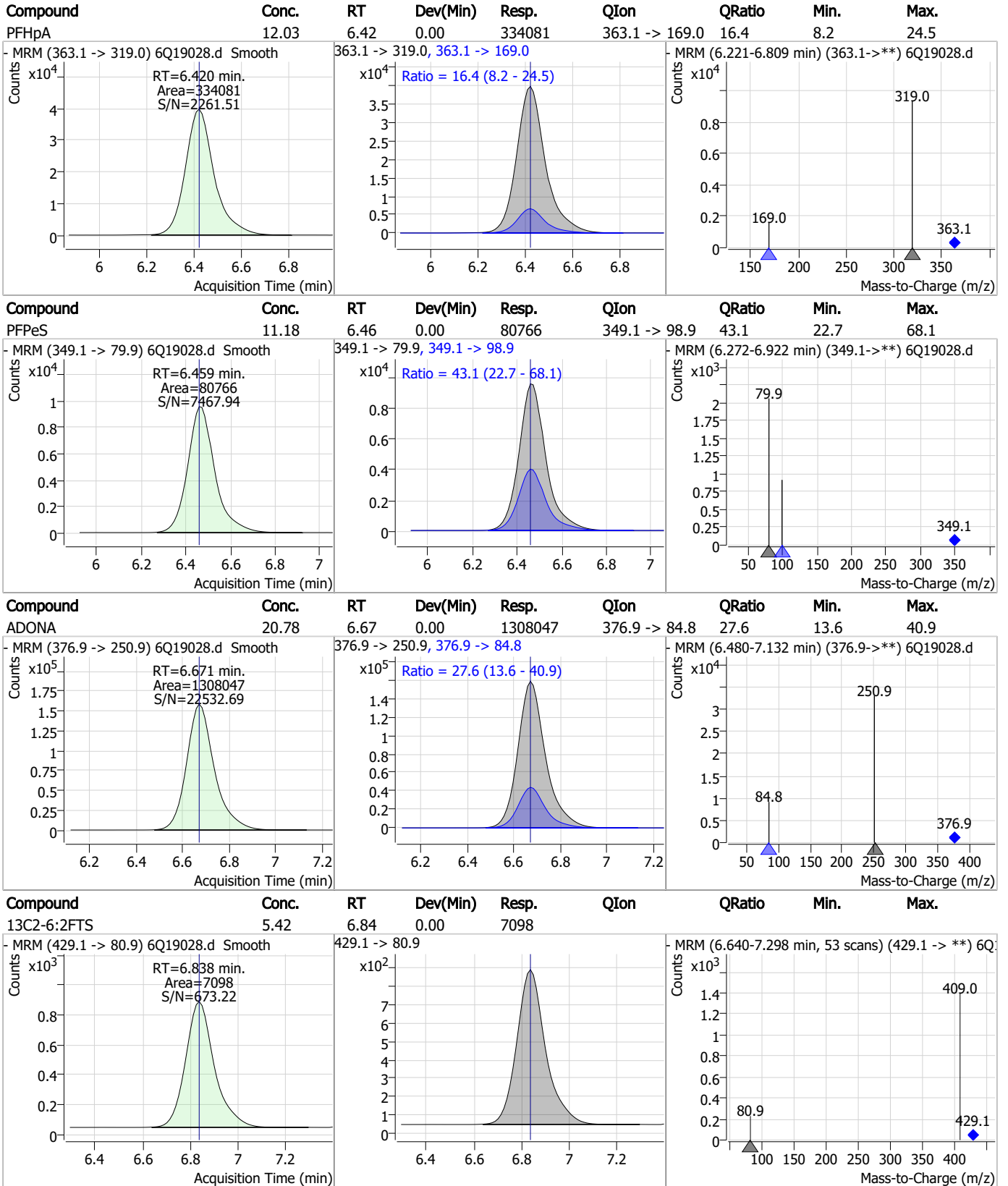
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



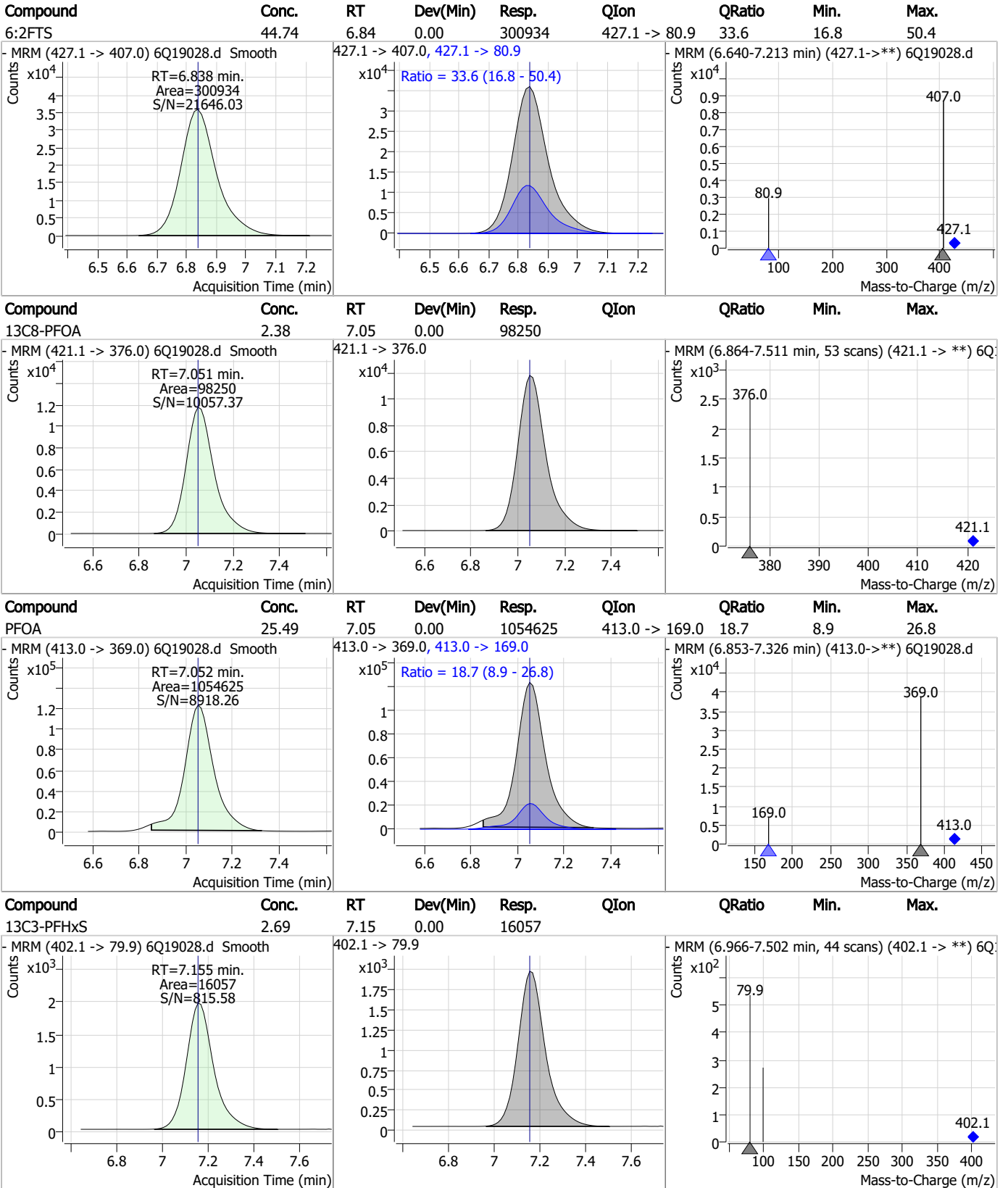
Perfluorinated Compounds by LC/MS/MS



7.6.6

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Perfluorinated Compounds by LC/MS/MS

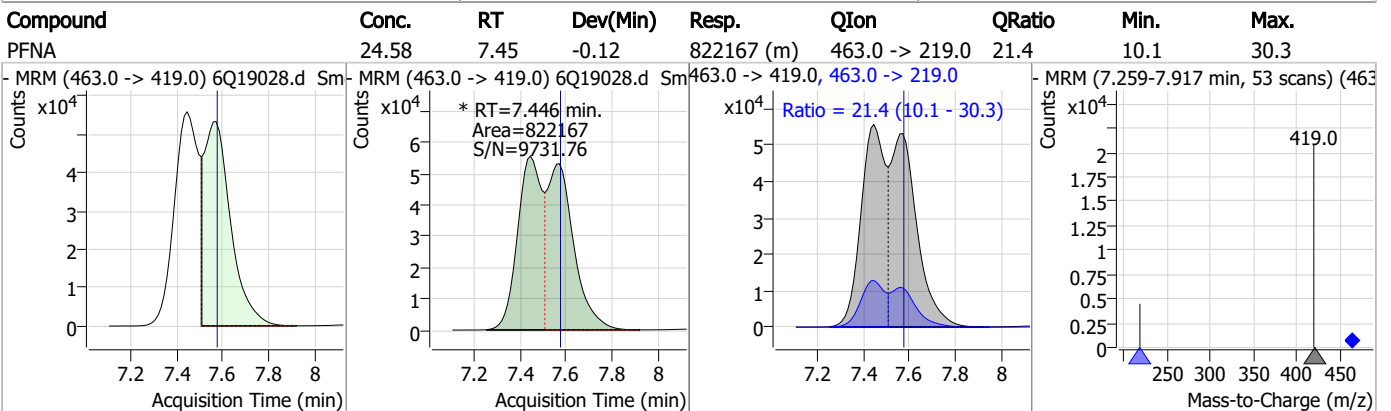
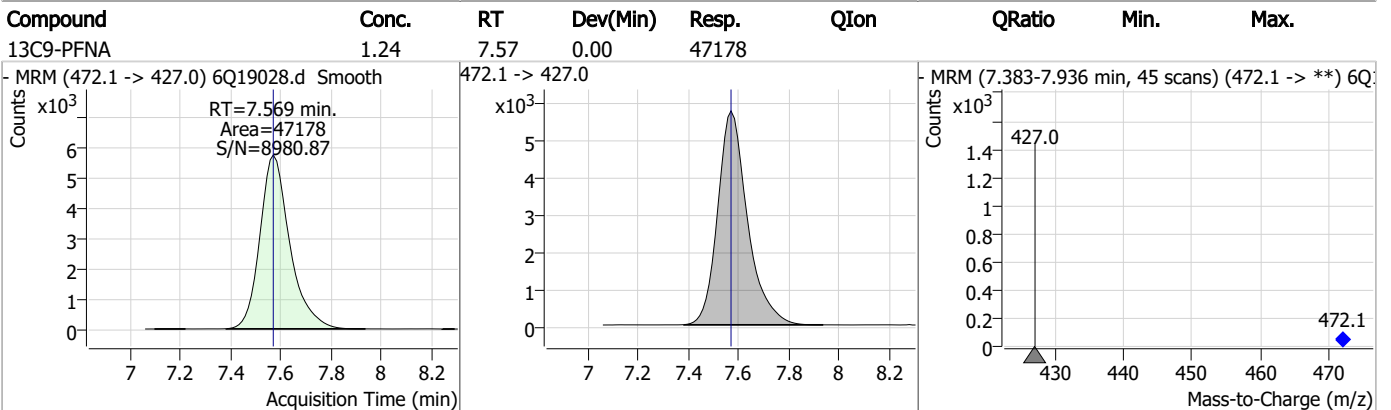
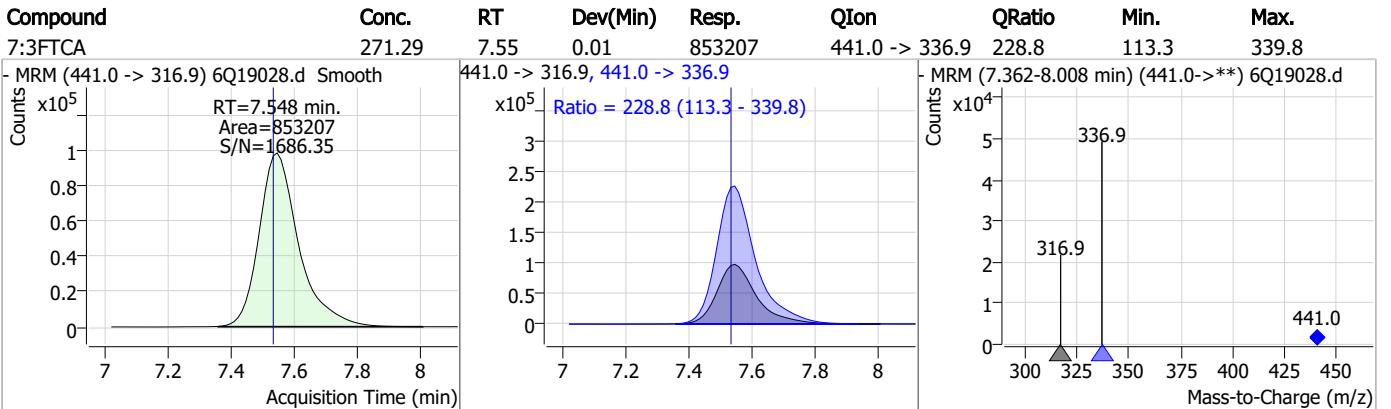
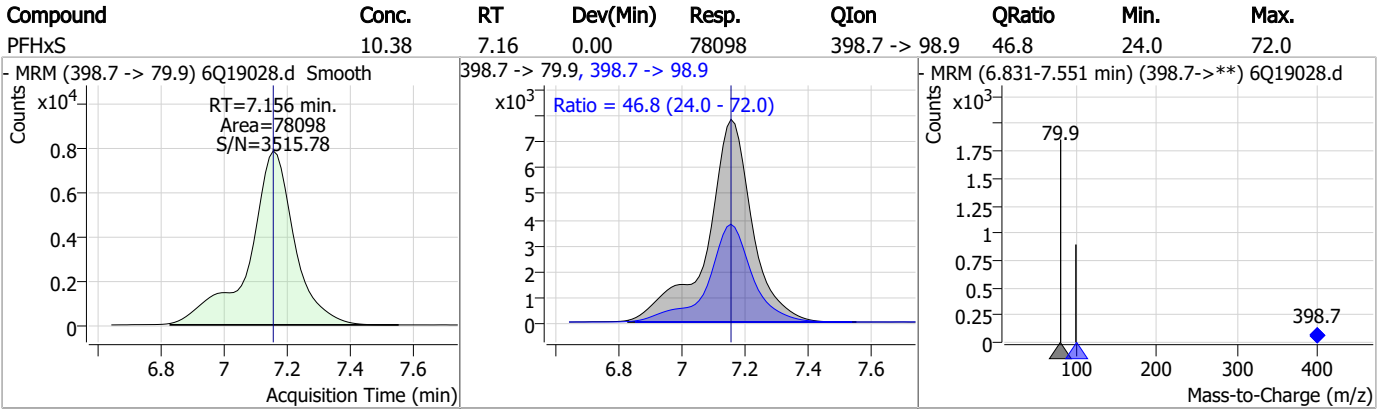


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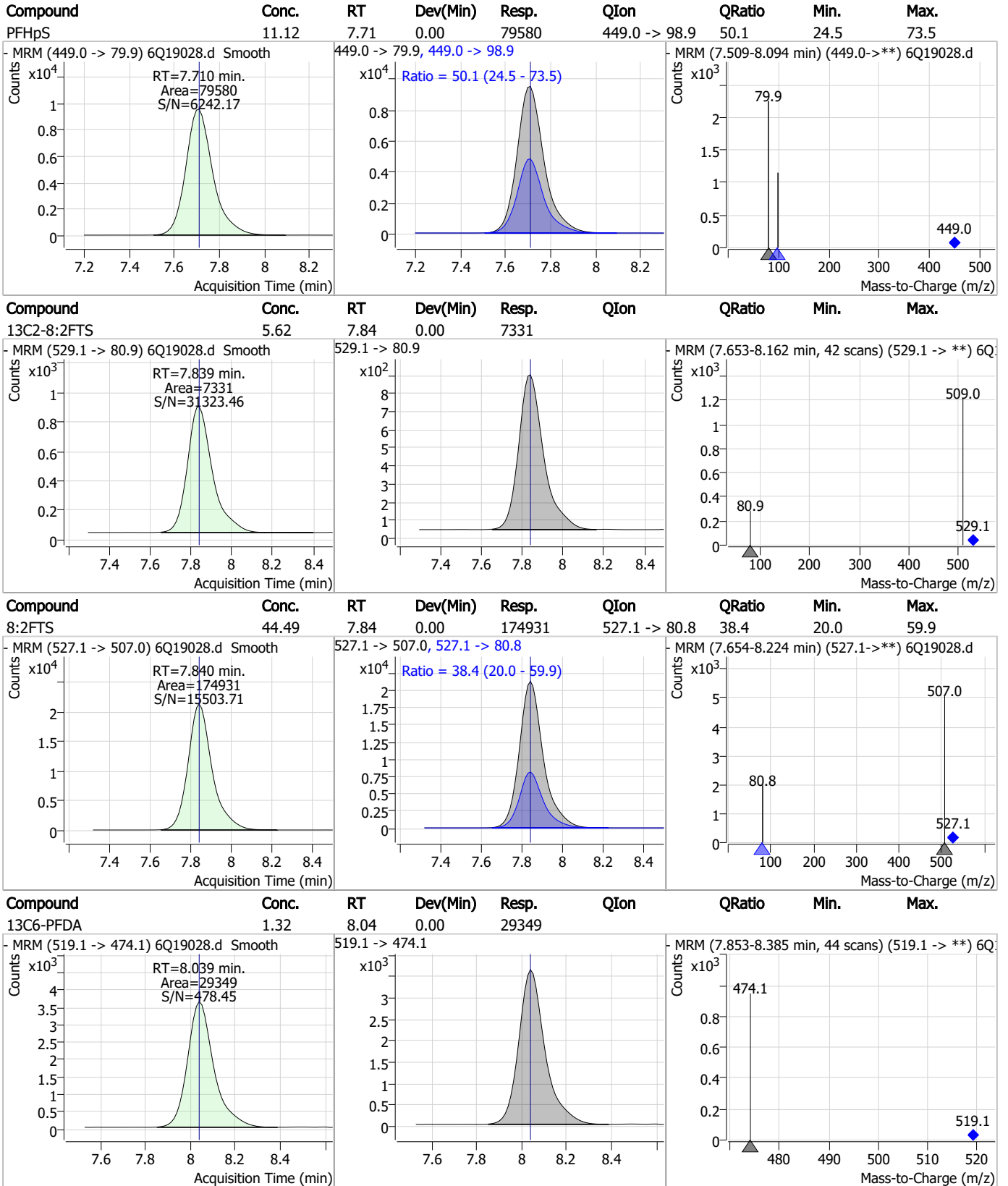
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Perfluorinated Compounds by LC/MS/MS



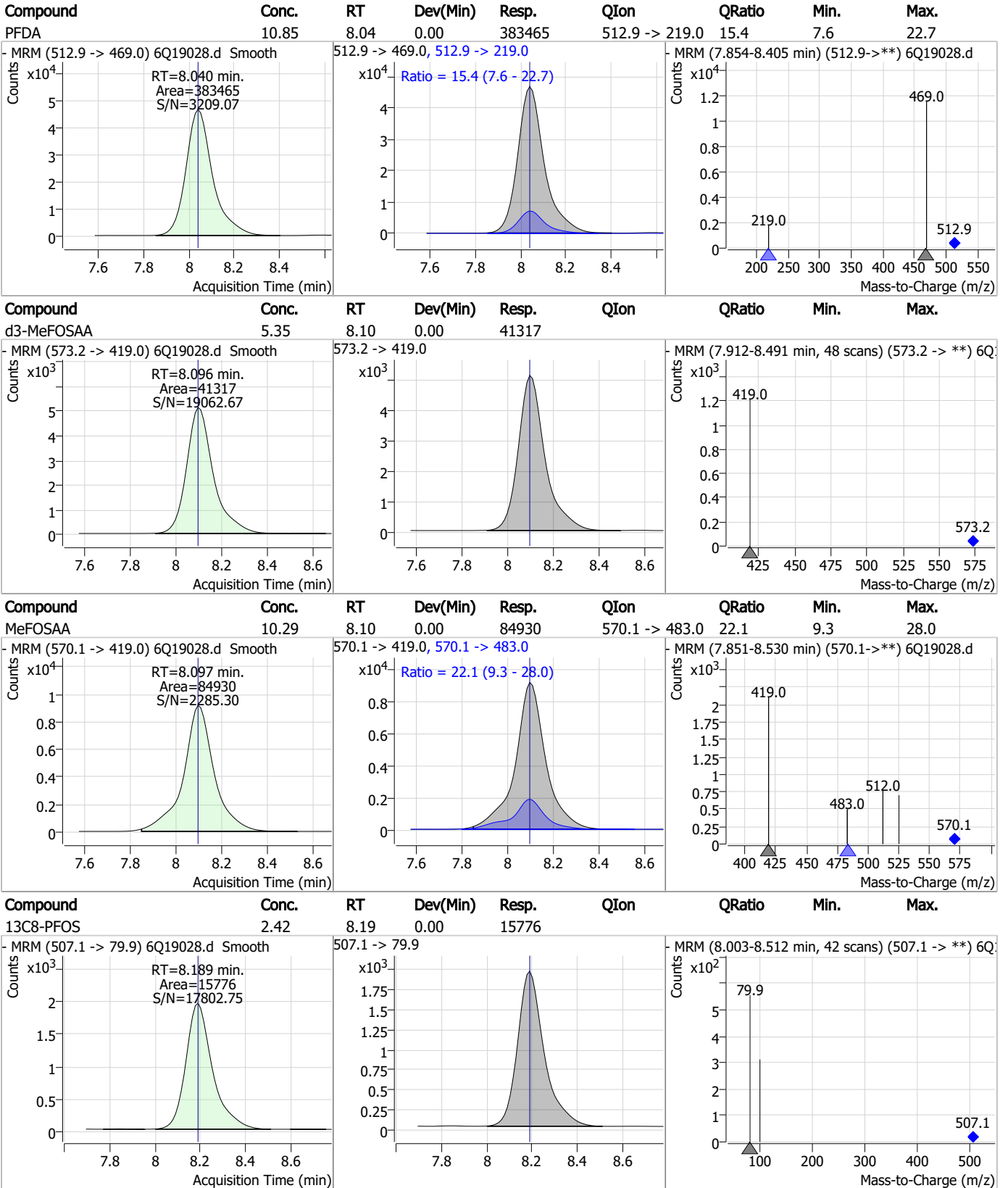
Perfluorinated Compounds by LC/MS/MS



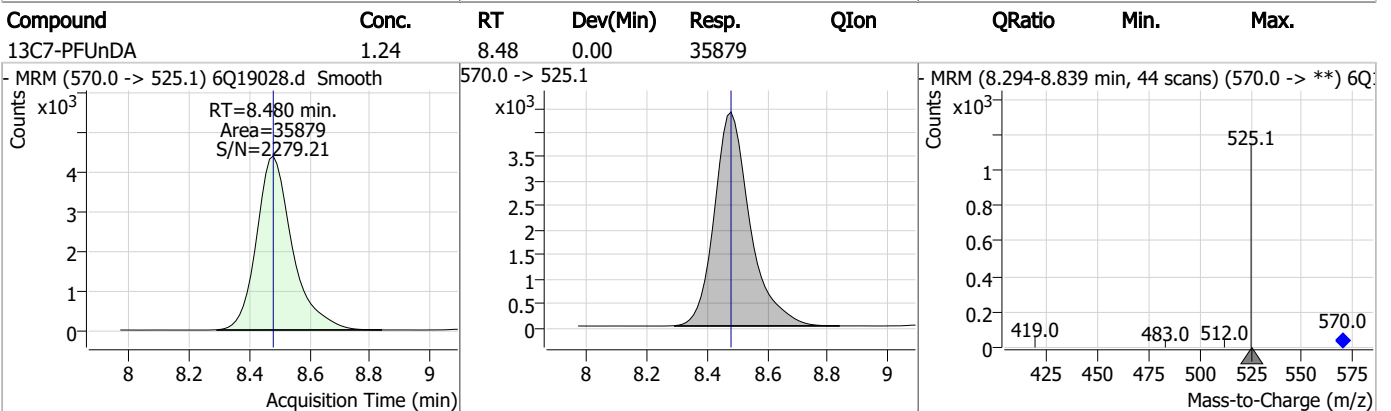
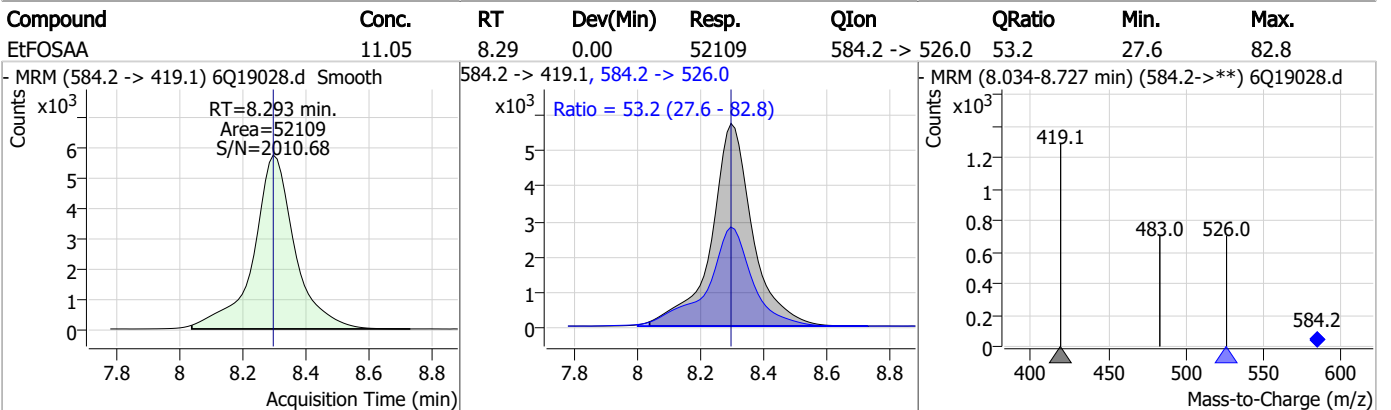
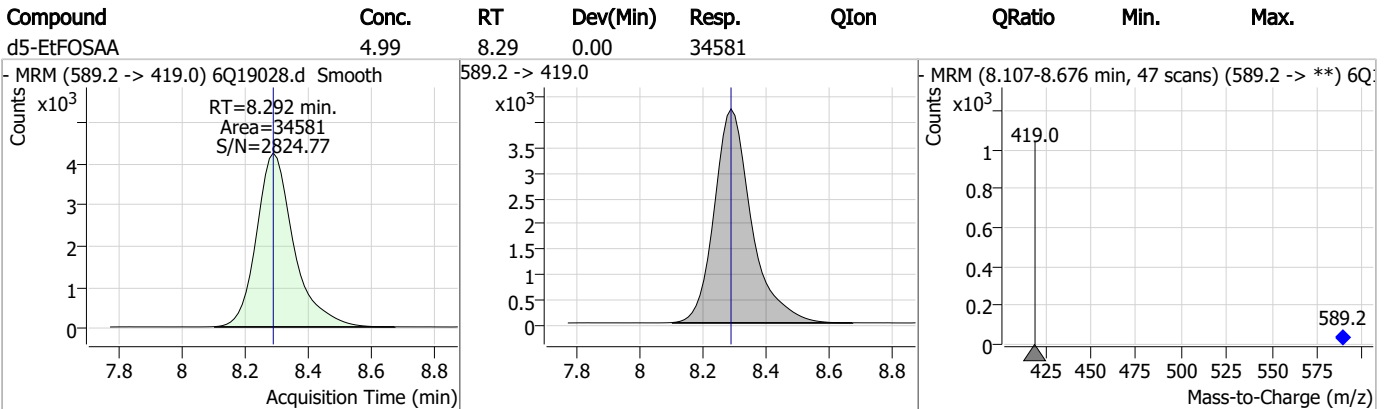
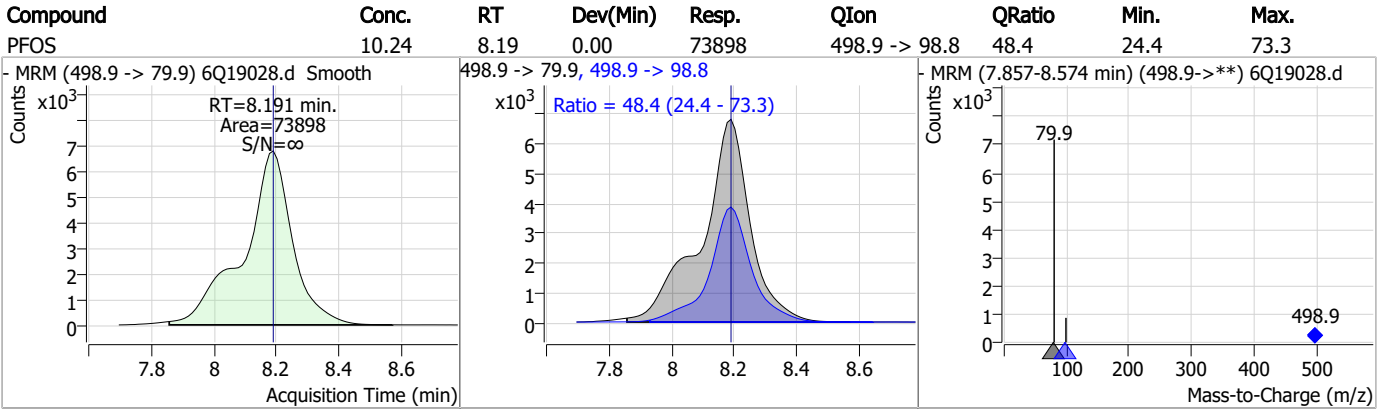
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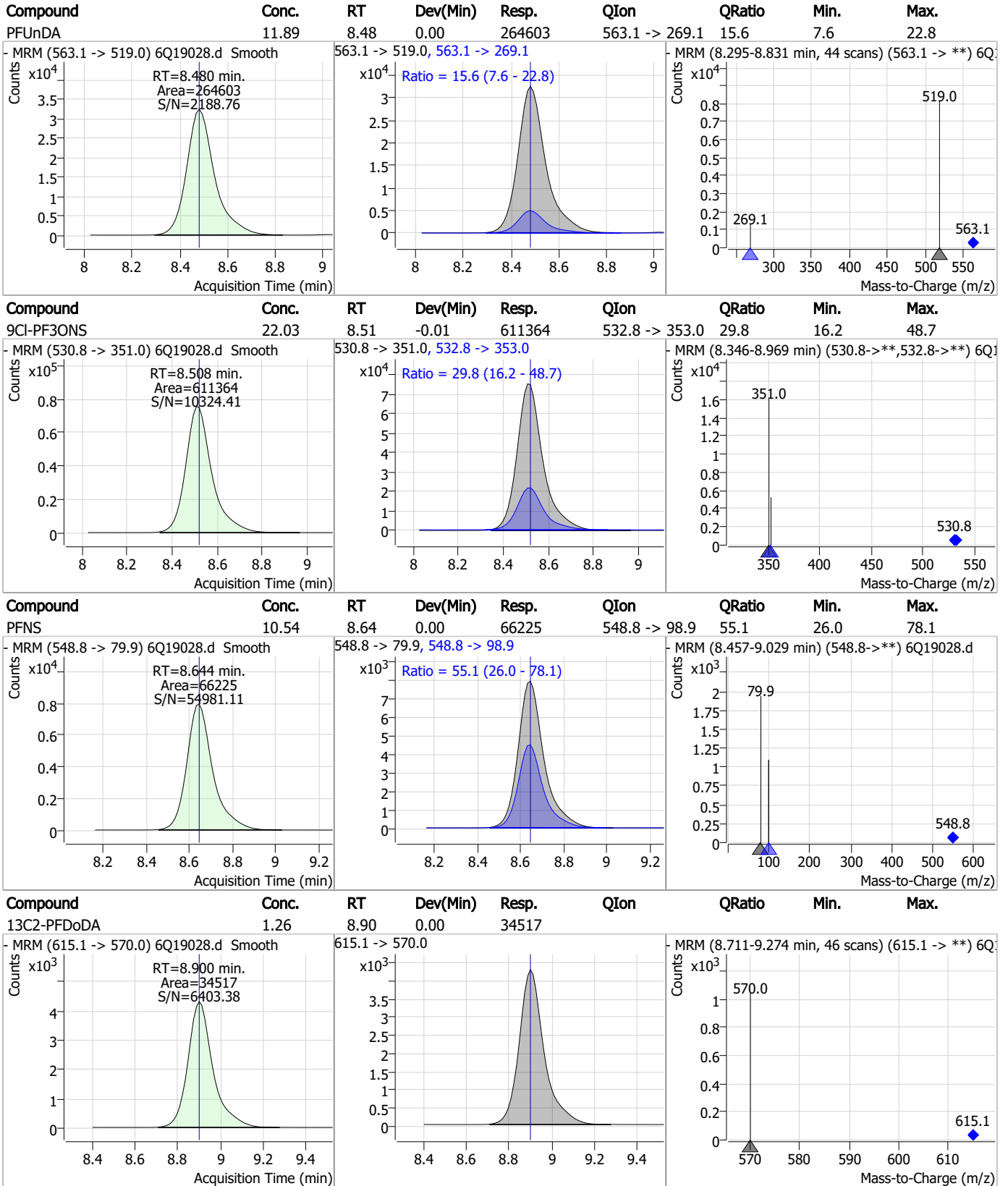
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



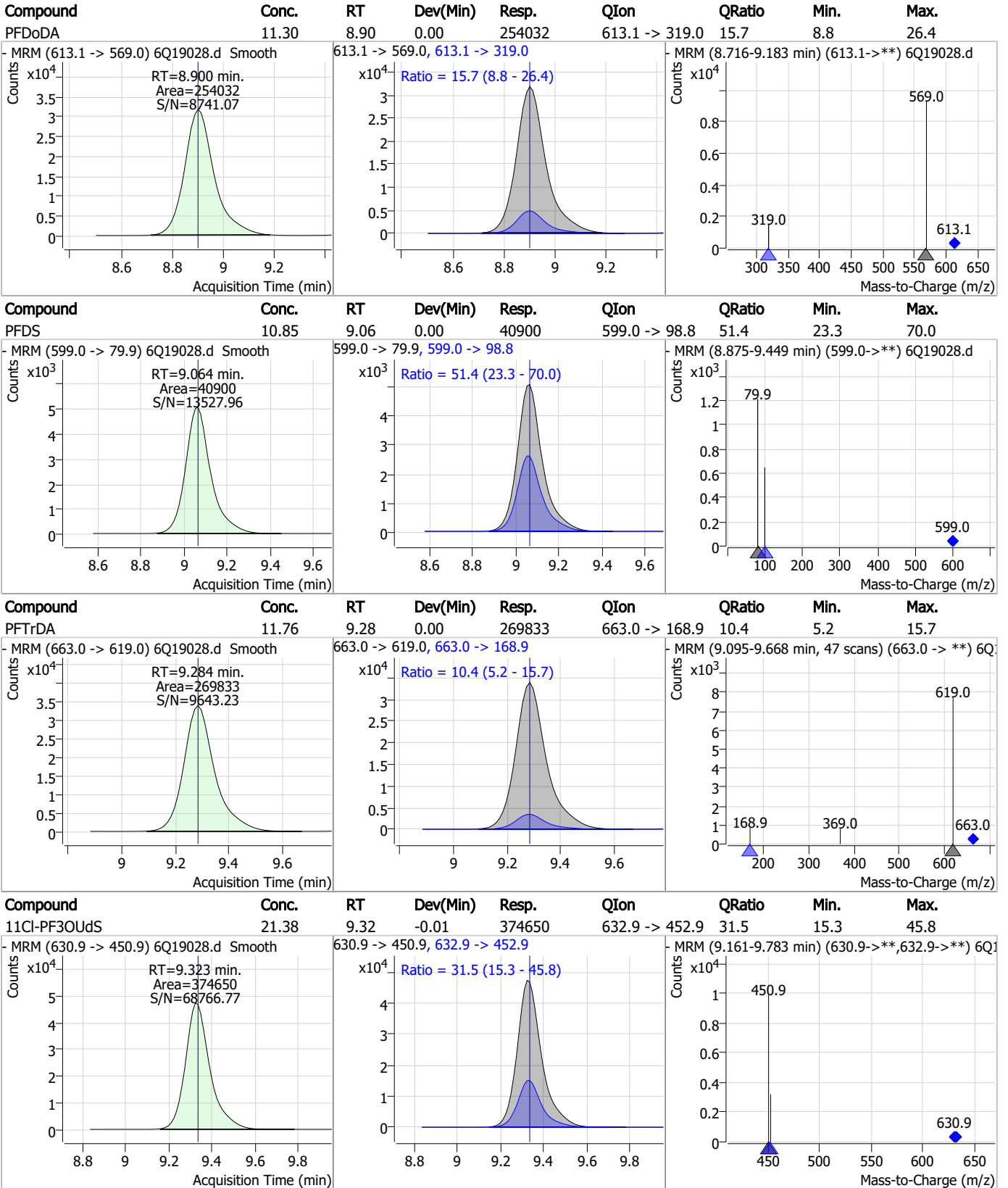
Perfluorinated Compounds by LC/MS/MS



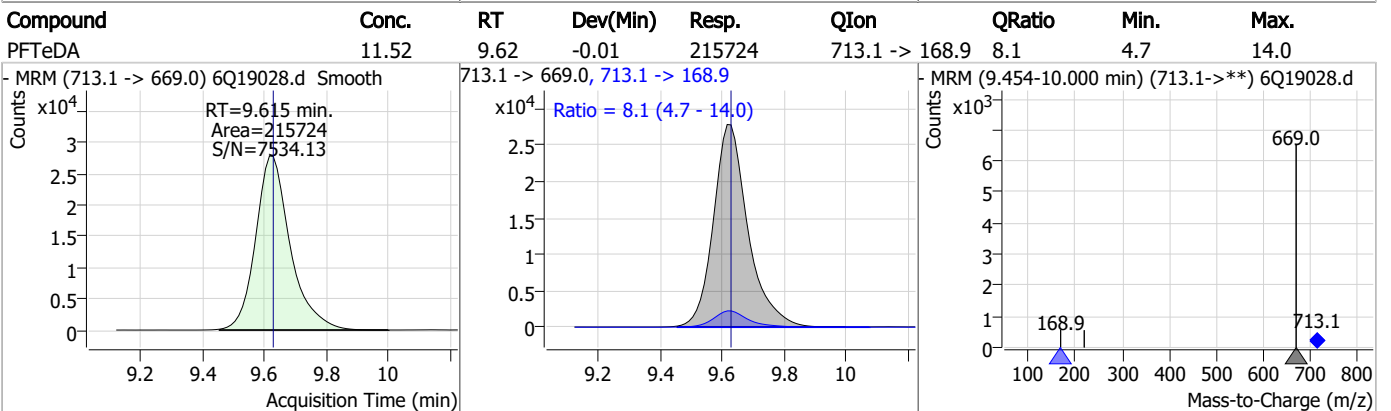
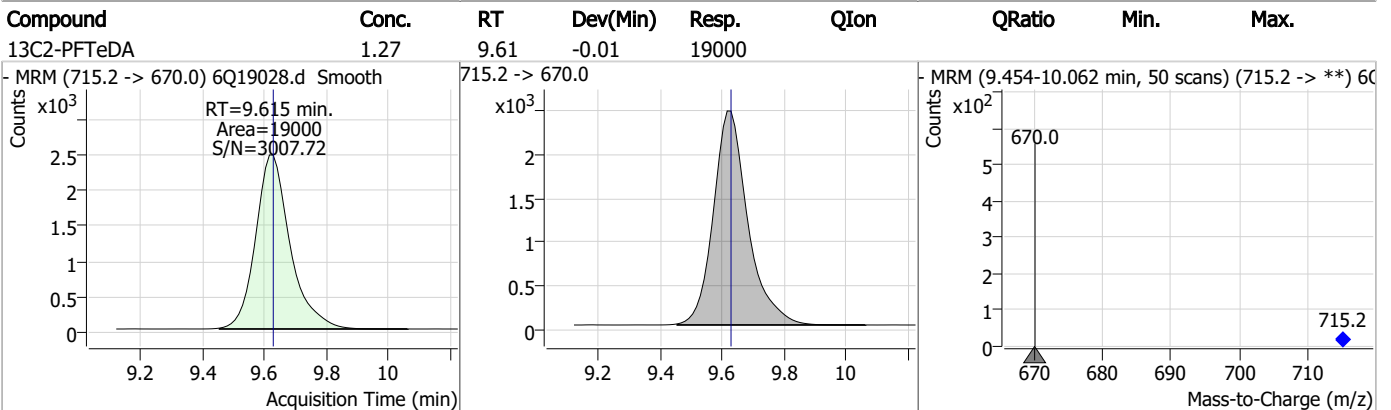
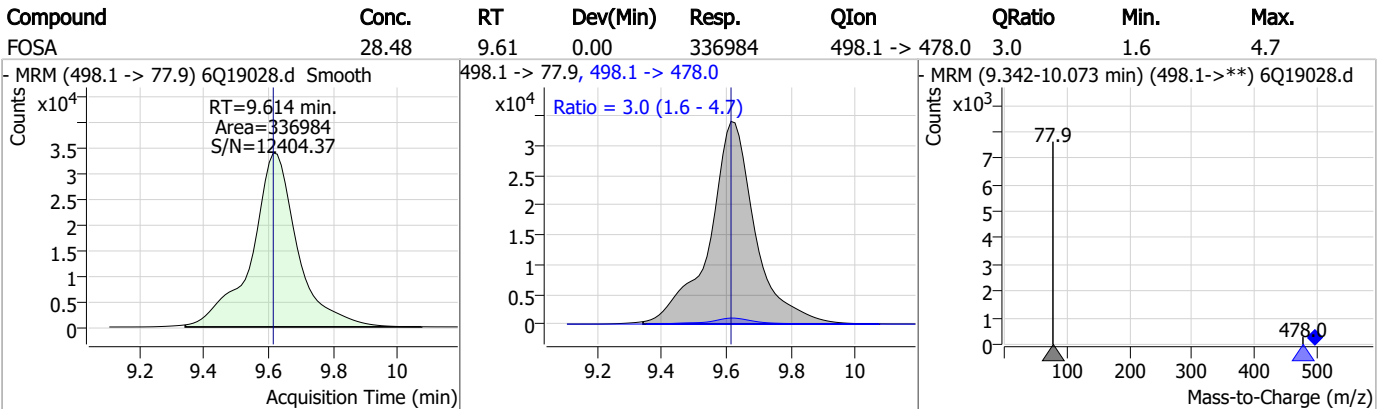
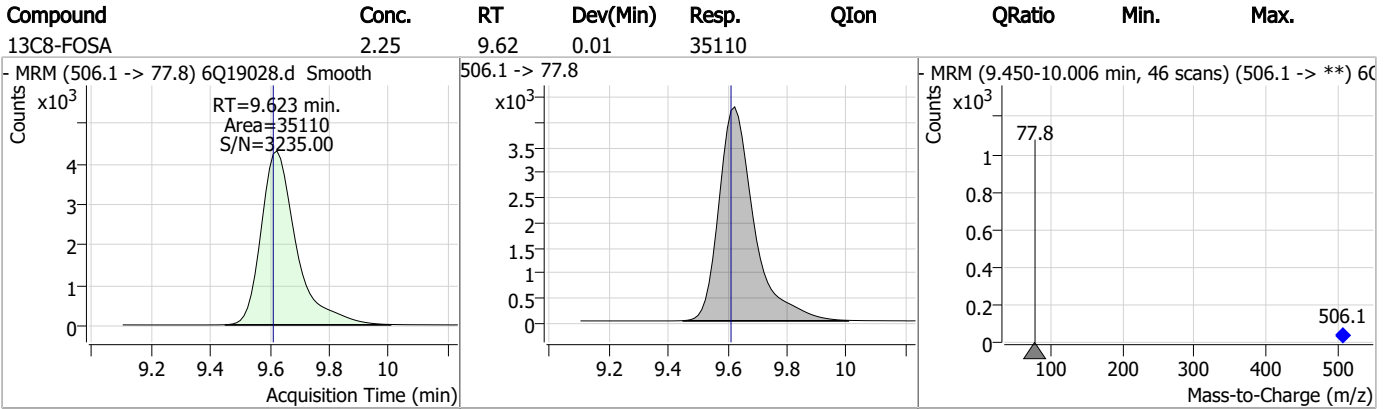
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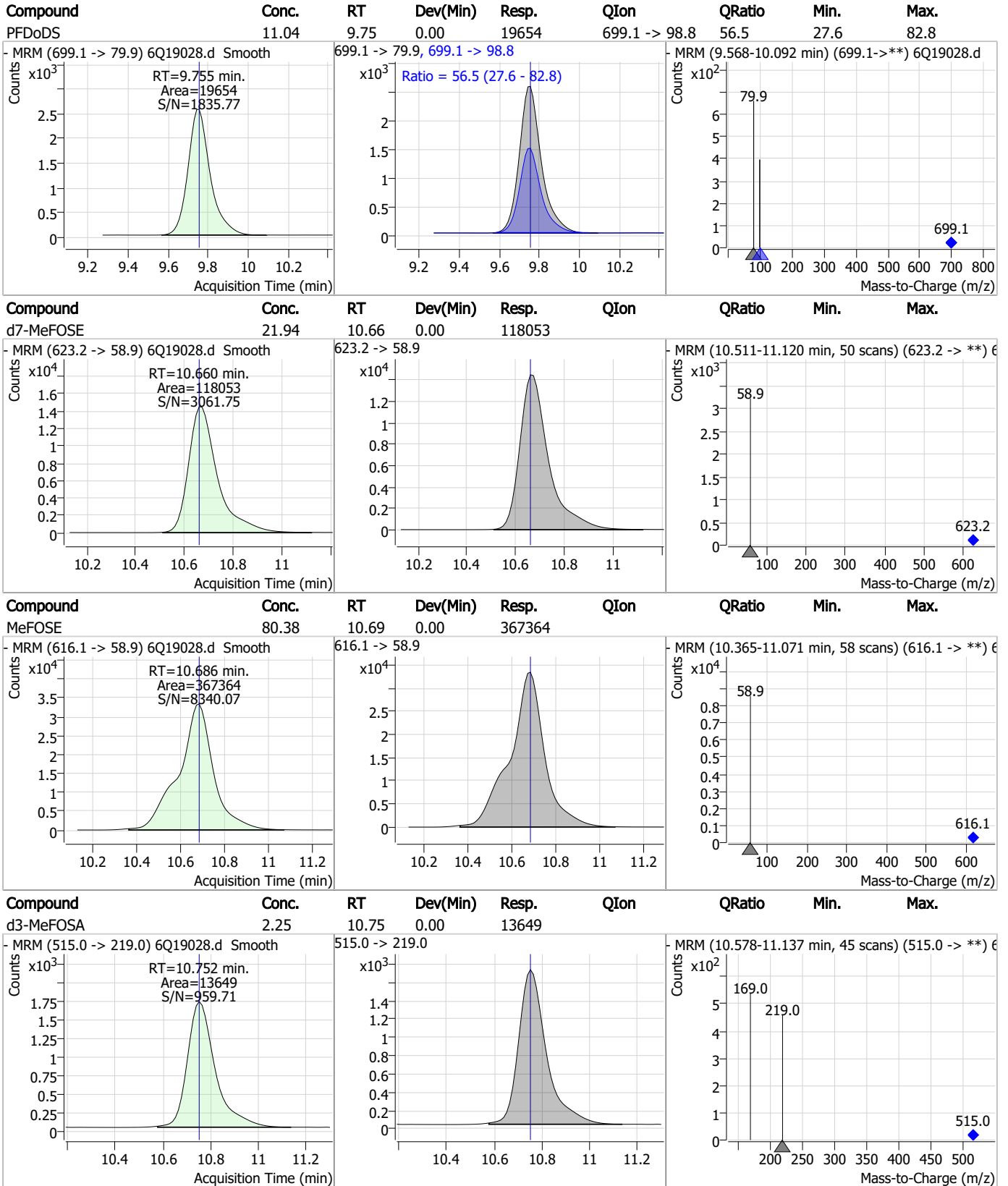
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



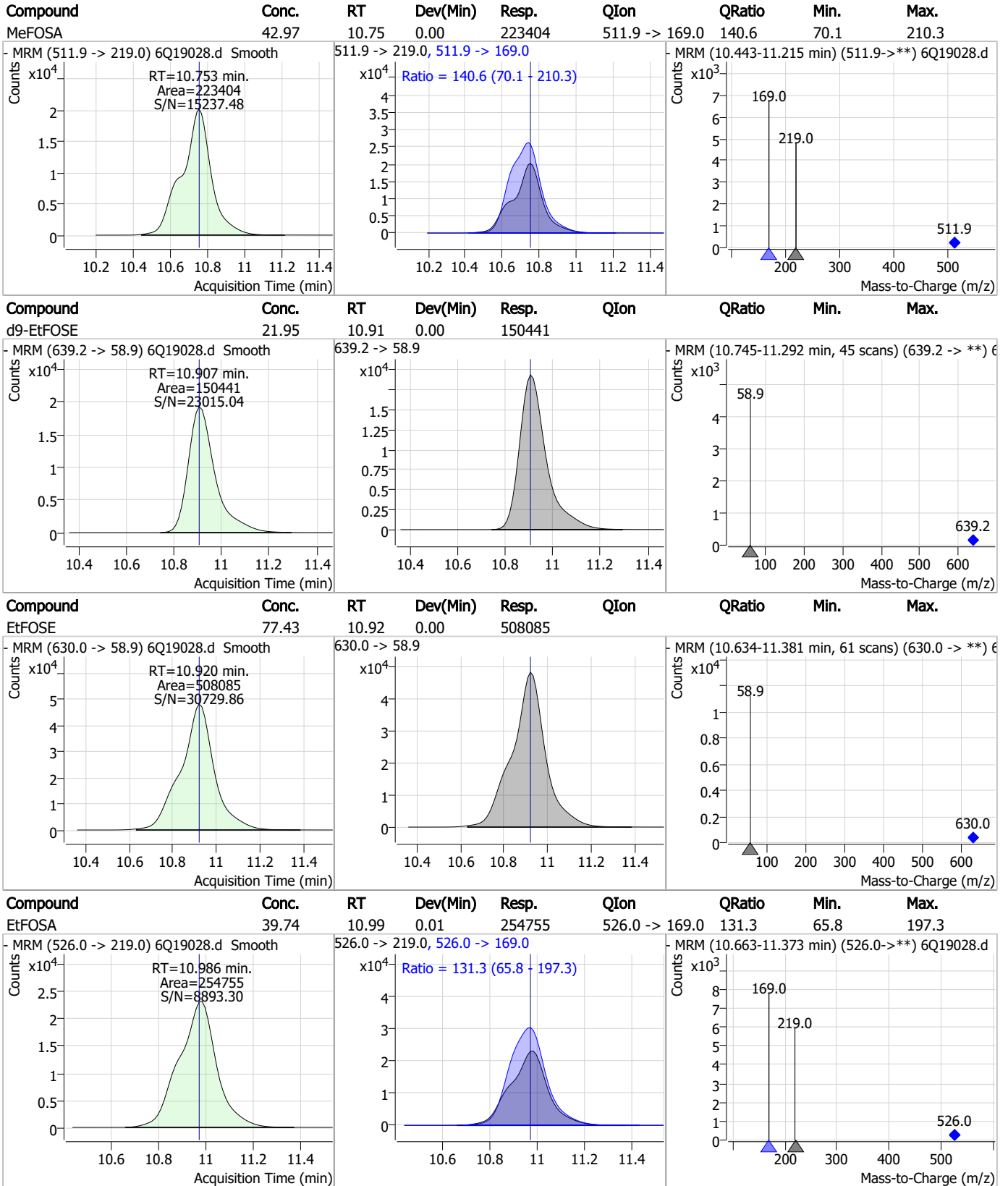
Perfluorinated Compounds by LC/MS/MS



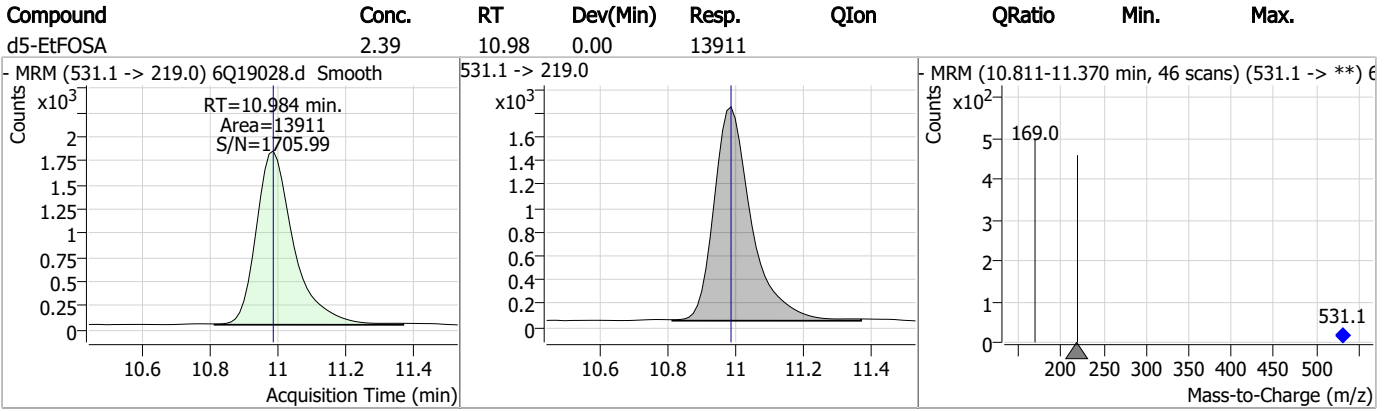
7.6.6

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



7.6.6

7

Manual Integration Approval Summary

Sample Number: S6Q283-RT Method: EPA DRAFT 1633
Lab FileID: 6Q19028.D Analyst approved: 06/08/23 14:25 Martha Valls
Injection Time: 06/08/23 10:19 Supervisor approved: 06/09/23 13:50 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorononanoic acid	375-95-1		7.45	Split peak

7.6.6.1

7

QQQ Check Tune Report



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	05 June 2023 15:15:56
File Path	D:\MassHunter\Tune\QQQ\G6495B\atunes.tune.xml
Ion Source	AJS ESI
Ionization Mode	AJS ESI
Tuned Resolution	All
Vacuum Pressure	1.79E+0 [R] (Torr); 2.91E-5 [H] (Torr)

Source Parameters

Parameter	Negative
Gas Temp (°C)	220
Gas Flow (l/min)	14
Nebulizer (psi)	20
Capillary (V)	3000
Nozzle Voltage (V)	1500
Sheath Gas Temp (°C)	250
Sheath Gas Flow (l/min)	11

7.7.1

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QQQ Check Tune Report



Negative Results

Analyzer: MS1 Polarity: Negative Width: Unit

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
112.99	112.95	-0.04	Pass	0.70	0.66	-0.04	Pass	464923
302.00	302.01	0.01	Pass	0.70	0.67	-0.03	Pass	1176745
601.98	601.94	-0.04	Pass	0.70	0.61	-0.09	Pass	2153164
1033.99	1033.85	-0.14	Pass	0.70	0.63	-0.07	Pass	1355049
1633.95	1633.73	-0.22	Adjust	0.70	0.71	0.01	Pass	946710
2233.91	2233.49	-0.42	Adjust	0.70	0.69	-0.01	Pass	414049

Analyzer: MS2 Polarity: Negative Width: Unit

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
69.00	69.02	0.02	Pass	0.70	0.70	0.00	Pass	137881
112.99	112.97	-0.02	Pass	0.70	0.75	0.05	Pass	544348
302.00	301.92	-0.08	Pass	0.70	0.75	0.05	Pass	1074192
601.98	601.91	-0.07	Pass	0.70	0.66	-0.04	Pass	1534182
1033.99	1033.86	-0.13	Pass	0.70	0.67	-0.03	Pass	867677
1633.95	1633.77	-0.18	Pass	0.70	0.70	0.00	Pass	699007
2233.91	2233.65	-0.26	Pass	0.70	0.77	0.07	Pass	341657

Analyzer: MS1 Polarity: Negative Width: Wide

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
112.99	112.88	-0.11	Pass	1.20	1.10	-0.10	Pass	555806
302.00	301.94	-0.06	Pass	1.20	1.36	0.16	Pass	1566562
601.98	601.95	-0.03	Pass	1.20	1.38	0.18	Pass	2913034
1033.99	1033.78	-0.21	Pass	1.20	1.47	0.27	Pass	1963220
1633.95	1633.64	-0.31	Pass	1.20	1.32	0.12	Pass	1856309
2233.91	2233.49	-0.42	Pass	1.20	1.28	0.08	Pass	774463

Analyzer: MS2 Polarity: Negative Width: Wide

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
69.00	69.02	0.02	Pass	1.20	1.04	-0.16	Pass	174665
112.99	112.95	-0.04	Pass	1.20	1.14	-0.06	Pass	634515
302.00	301.98	-0.02	Pass	1.20	1.10	-0.10	Pass	1480204
601.98	601.87	-0.11	Pass	1.20	1.14	-0.06	Pass	2667546
1033.99	1033.82	-0.17	Pass	1.20	1.40	0.20	Pass	1583894
1633.95	1633.72	-0.23	Pass	1.20	1.23	0.03	Pass	1806706
2233.91	2233.62	-0.29	Pass	1.20	1.17	-0.03	Pass	763131

Analyzer: MS1 Polarity: Negative Width: Widest

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
112.99	112.90	-0.09	Pass	2.50	2.48	-0.02	Pass	558799
302.00	301.77	-0.23	Pass	2.50	2.57	0.07	Pass	1784232
601.98	601.84	-0.14	Pass	2.50	2.59	0.09	Pass	3391192
1033.99	1033.79	-0.20	Pass	2.50	2.62	0.12	Pass	3444353
1633.95	1633.60	-0.35	Pass	2.50	2.13	-0.37	Pass	3559662
2233.91	2233.52	-0.39	Pass	2.50	2.33	-0.17	Pass	1833177

Analyzer: MS2 Polarity: Negative Width: Widest

m/z	m/z	Delta	Result	FWHM	FWHM	Delta	Result	Abundance
Expected	Measured			Expected	Measured			
69.00	68.94	-0.06	Pass	2.50	2.51	0.01	Pass	215265
112.99	112.96	-0.03	Pass	2.50	2.60	0.10	Pass	802257
302.00	301.89	-0.11	Pass	2.50	2.60	0.10	Pass	2059328
601.98	601.89	-0.09	Pass	2.50	2.62	0.12	Pass	4012549
1033.99	1033.98	-0.01	Pass	2.50	2.42	-0.08	Pass	3282886
1633.95	1633.69	-0.26	Pass	2.50	2.20	-0.30	Pass	3396096
2233.91	2233.59	-0.32	Pass	2.50	2.36	-0.14	Pass	1919908

7.7.1
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18871.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 2:15:45 PM
 Sample Name : ic282-1
 Vial : P1-A2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	172780	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	59221	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	64283	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	59999	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	92263	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	42175	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	24325	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	31607	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	30077	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	16307	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	33413	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	23553	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	13733	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13571	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	4738	5.00 µg/L	-0.012
M2-6:2FTS	6.838	429.1 -> 80.9	6717	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6644	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	33024	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	36683	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	28457	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	114314	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	148980	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	12256	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	12347	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	17457	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	73055	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	10807	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	93100	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	33425	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	51247	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	58903	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	4738	5.33 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.6%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6717	5.26 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.2%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6644	5.22 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.5%		
13C2-PFDoDA	8.900	615.1 -> 570.0	30077	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.5%		
13C2-PFTeDA	9.627	715.2 -> 670.0	16307	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.4%		
13C3-PFBS	5.384	302.1 -> 79.9	23553	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.2%		
13C3-PFHxS	7.155	402.1 -> 79.9	13733	2.36 µg/L	0.000

7.7.2
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.2%	
13C4-PFBA	2.860	216.8 -> 171.9	172780	9.97 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFHpA	6.420	367.1 -> 322.0	59999	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C5-PFHxA	5.466	318.0 -> 273.0	64283	2.58 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C5-PFPeA	4.272	268.3 -> 223.0	59221	5.18 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.6%	
13C6-PFDA	8.039	519.1 -> 474.1	24325	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C7-PFUnDA	8.480	570.0 -> 525.1	31607	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.5%	
13C8-FOSA	9.611	506.1 -> 77.8	33413	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C8-PFOA	7.051	421.1 -> 376.0	92263	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C8-PFOS	8.189	507.1 -> 79.9	13571	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C9-PFNA	7.569	472.1 -> 427.0	42175	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	33024	5.25 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	36683	9.88 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.8%	
d3-MeFOSA	10.752	515.0 -> 219.0	12347	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%	
d5-EtFOSAA	8.292	589.2 -> 419.0	28457	5.05 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
d7-MeFOSE	10.672	623.2 -> 58.9	114314	26.09 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.3%	
d9-EtFOSE	10.907	639.2 -> 58.9	148980	26.70 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.8%	
d5-EtFOSA	10.984	531.1 -> 219.0	12256	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.4%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	4838	0.75 µg/L	100
		327.1 -> 80.9	1798		
6:2FTS	6.838	427.1 -> 407.0	4880	0.77 µg/L	99
		427.1 -> 80.9	1659		
8:2FTS	7.840	527.1 -> 507.0	2718	0.76 µg/L	95
		527.1 -> 80.8	1177		
EtFOSAA	8.305	584.2 -> 419.1	858	0.22 µg/L	88
		584.2 -> 526.0	396		
FOSA	9.614	498.1 -> 77.9	2363	0.21 µg/L	99
		498.1 -> 478.0	78		
MeFOSAA	8.097	570.1 -> 419.0	1253	0.19 µg/L	85
		570.1 -> 483.0	318		
PFBA	2.856	212.8 -> 168.9	4465	0.79 µg/L	100
PFBS	5.385	298.7 -> 79.9	1387	0.17 µg/L	100
		298.7 -> 98.8	542		
PFDA	8.040	512.9 -> 469.0	5872	0.20 µg/L	97
		512.9 -> 219.0	963		
PFDODA	8.900	613.1 -> 569.0	4053	0.21 µg/L	95
		613.1 -> 319.0	622		
PFDS	9.064	599.0 -> 79.9	658	0.20 µg/L	99

7.7.2
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	309		
PFHpA	6.420	363.1 -> 319.0	4833	0.19 µg/L	93
		363.1 -> 169.0	922		
PFHpS	7.710	449.0 -> 79.9	1234	0.20 µg/L	99
		449.0 -> 98.9	609		
PFHxA	5.469	313.0 -> 269.0	4415	0.21 µg/L	100
		313.0 -> 118.9	232		
PFHxS	7.156	398.7 -> 79.9	1331	0.21 µg/L	m 99
		398.7 -> 98.9	646		
PFNA	7.570	463.0 -> 419.0	6405	0.21 µg/L	100
		463.0 -> 219.0	1304		
PFNS	8.657	548.8 -> 79.9	1068	0.20 µg/L	96
		548.8 -> 98.9	590		
PFOA	7.052	413.0 -> 369.0	7158	0.18 µg/L	95
		413.0 -> 169.0	1453		
PFOS	8.191	498.9 -> 79.9	1267	0.20 µg/L	96
		498.9 -> 98.8	650		
PFPeA	4.274	263.0 -> 219.0	5935	0.42 µg/L	100
PFPeS	6.471	349.1 -> 79.9	1273	0.21 µg/L	98
		349.1 -> 98.9	598		
PFTeDA	9.628	713.1 -> 669.0	3499	0.22 µg/L	96
		713.1 -> 168.9	277		
PFTrDA	9.284	663.0 -> 619.0	4441	0.22 µg/L	98
		663.0 -> 168.9	427		
PFUnDA	8.480	563.1 -> 519.0	3983	0.20 µg/L	92
		563.1 -> 269.1	739		
11Cl-PF3OUdS	9.336	630.9 -> 450.9	5656	0.40 µg/L	100
		632.9 -> 452.9	1722		
9Cl-PF3ONS	8.520	530.8 -> 351.0	8524	0.38 µg/L	91
		532.8 -> 353.0	3173		
ADONA	6.671	376.9 -> 250.9	18845	0.37 µg/L	92
		376.9 -> 84.8	5888		
HFPO-DA	5.845	284.9 -> 168.9	1297	0.42 µg/L	99
		284.9 -> 184.9	147		
3:3FTCA	3.709	241.0 -> 177.0	1026	1.04 µg/L	99
		241.0 -> 117.0	140		
5:3FTCA	6.137	341.0 -> 237.1	21952	5.39 µg/L	99
		341.0 -> 217.0	15715		
7:3FTCA	7.535	441.0 -> 316.9	14846	5.30 µg/L	89
		441.0 -> 336.9	31040		
EtFOSA	10.986	526.0 -> 219.0	2241	0.40 µg/L	96
		526.0 -> 169.0	3047		
EtFOSE	10.920	630.0 -> 58.9	6538	1.01 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	2069	0.44 µg/L	100
		511.9 -> 169.0	2892		
MeFOSE	10.673	616.1 -> 58.9	4374	0.99 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	298	0.19 µg/L	92
		699.1 -> 98.8	147		
NFDHA	5.348	295.0 -> 201.0	1036	0.41 µg/L	92
		295.0 -> 84.9	298		
PFMBA	4.688	279.0 -> 85.1	3800	0.39 µg/L	100
PFMPA	3.401	229.0 -> 84.9	2831	0.38 µg/L	100
PFEESA	5.926	314.8 -> 134.9	9933	0.37 µg/L	100
		314.8 -> 82.9	358		

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

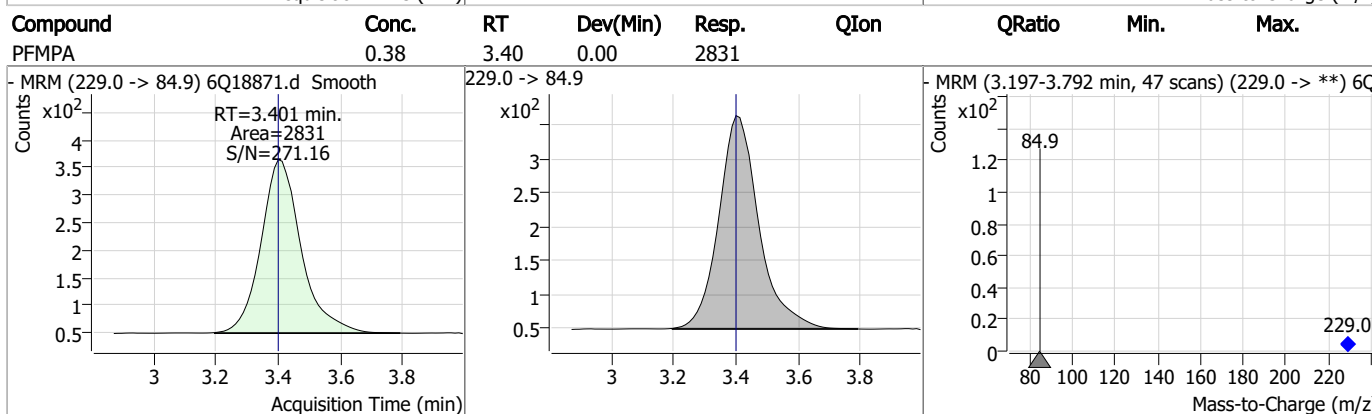
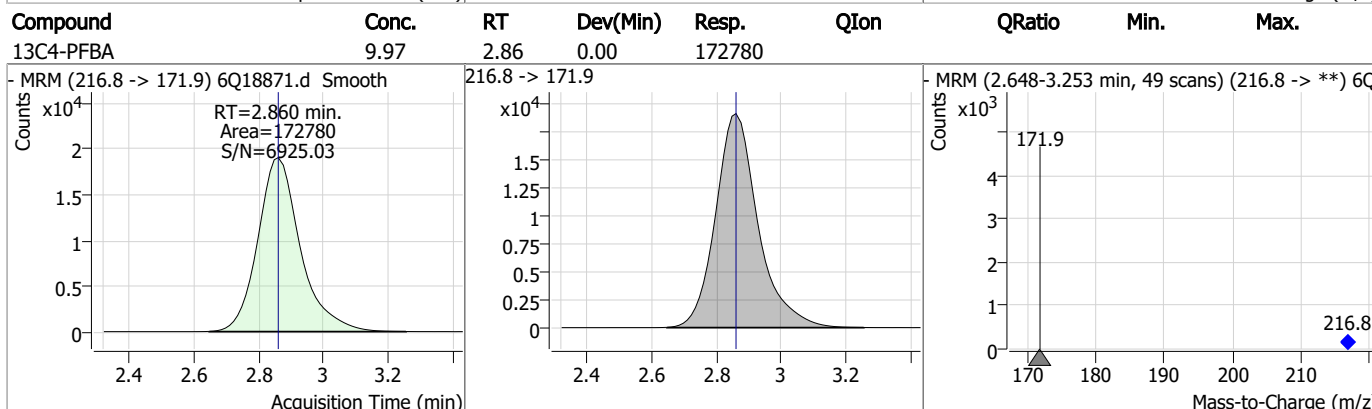
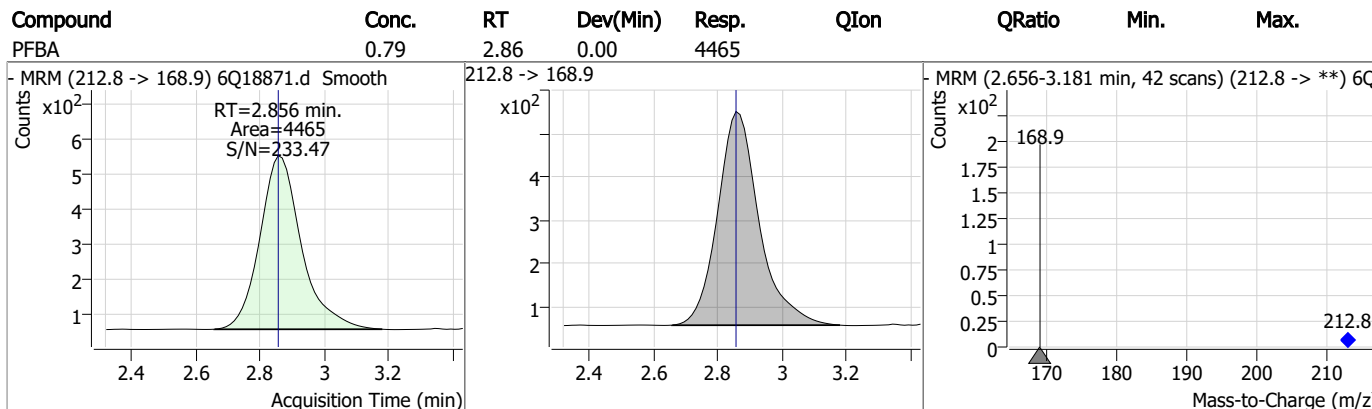
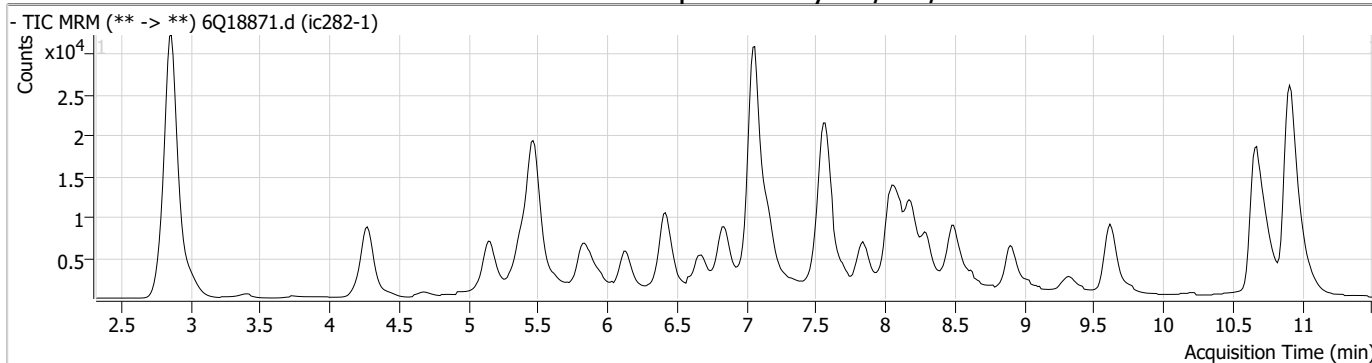
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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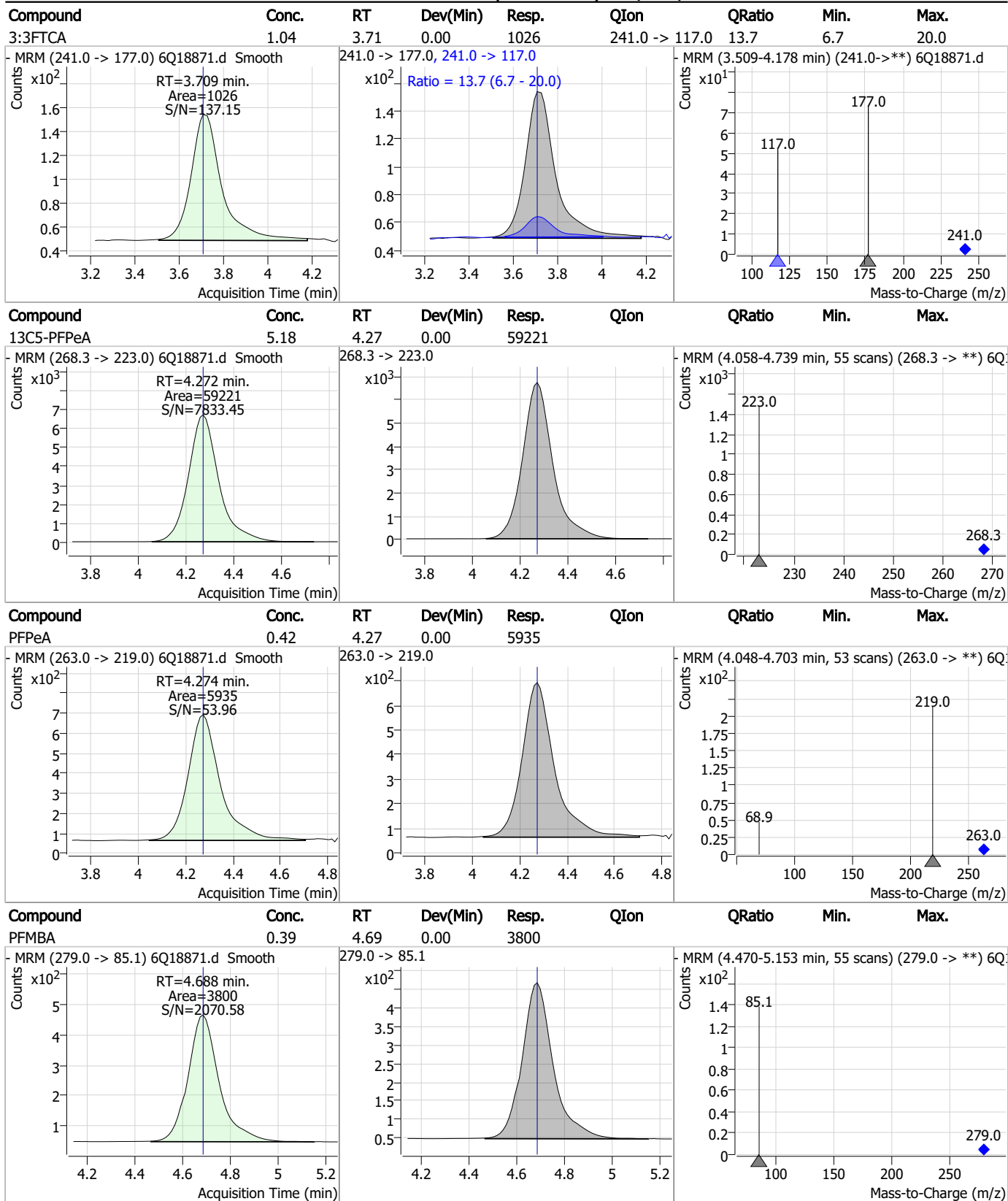
7.7.2
7



Perfluorinated Compounds by LC/MS/MS

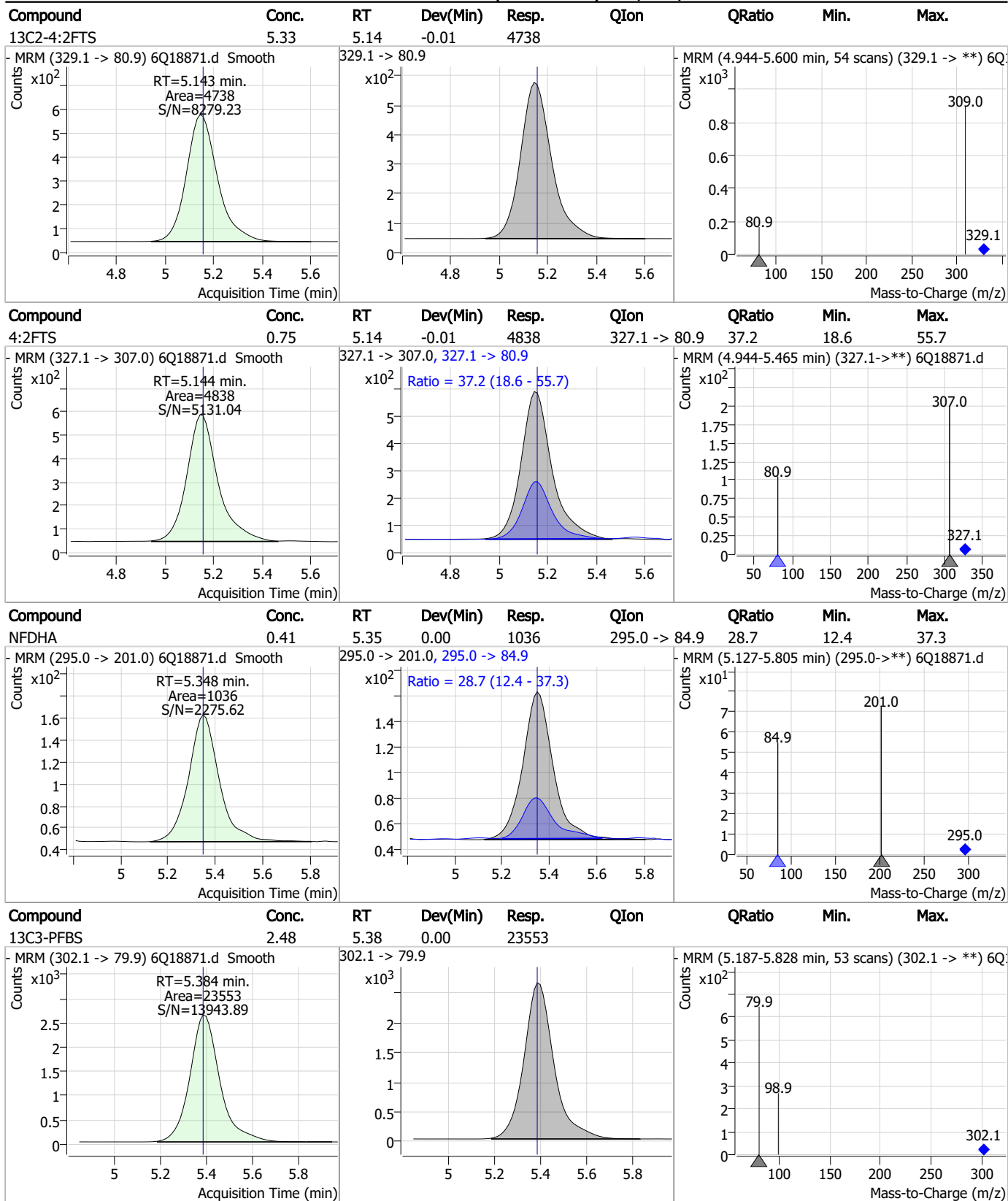


Perfluorinated Compounds by LC/MS/MS



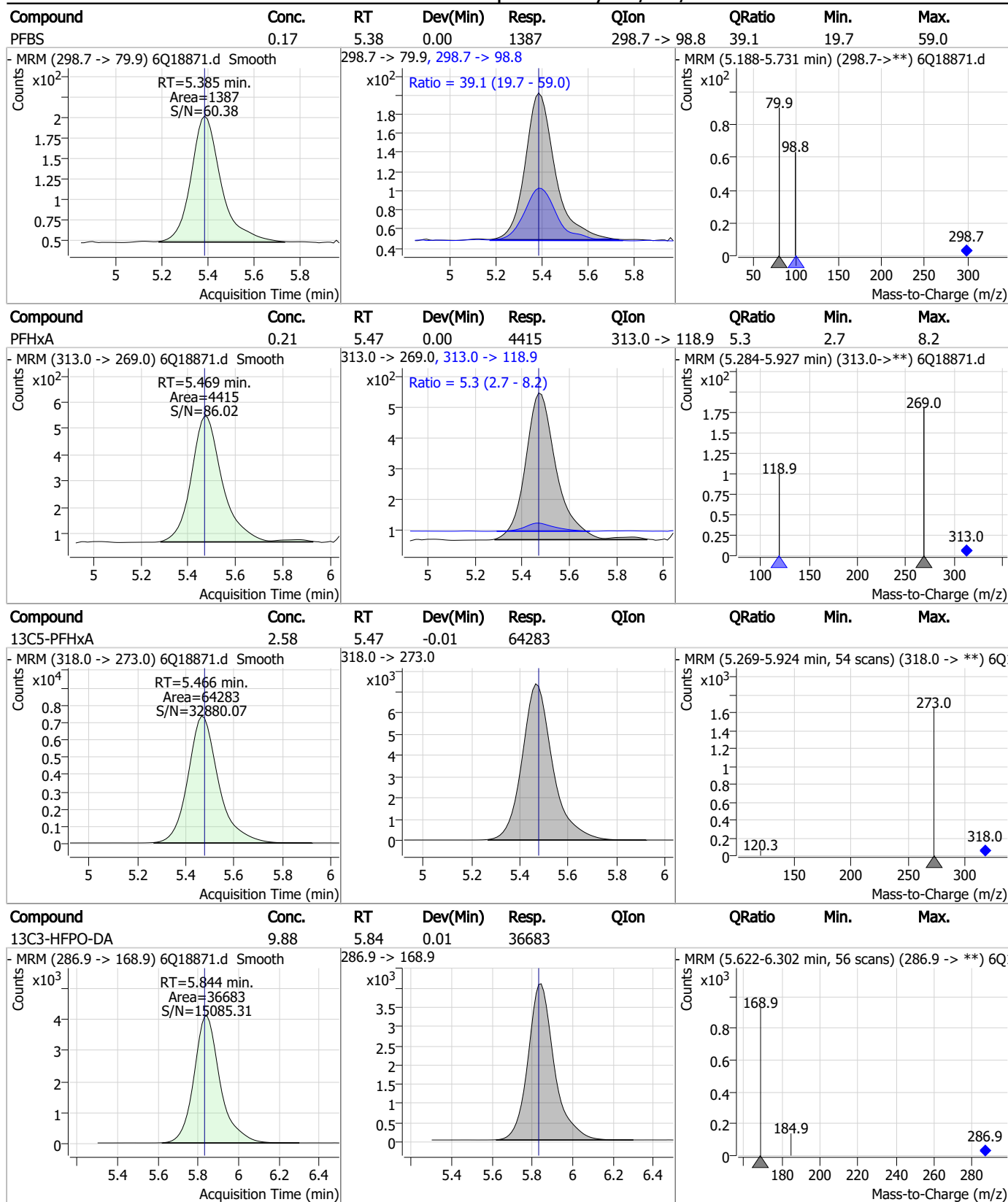
7.7.2
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Perfluorinated Compounds by LC/MS/MS



7.7.2
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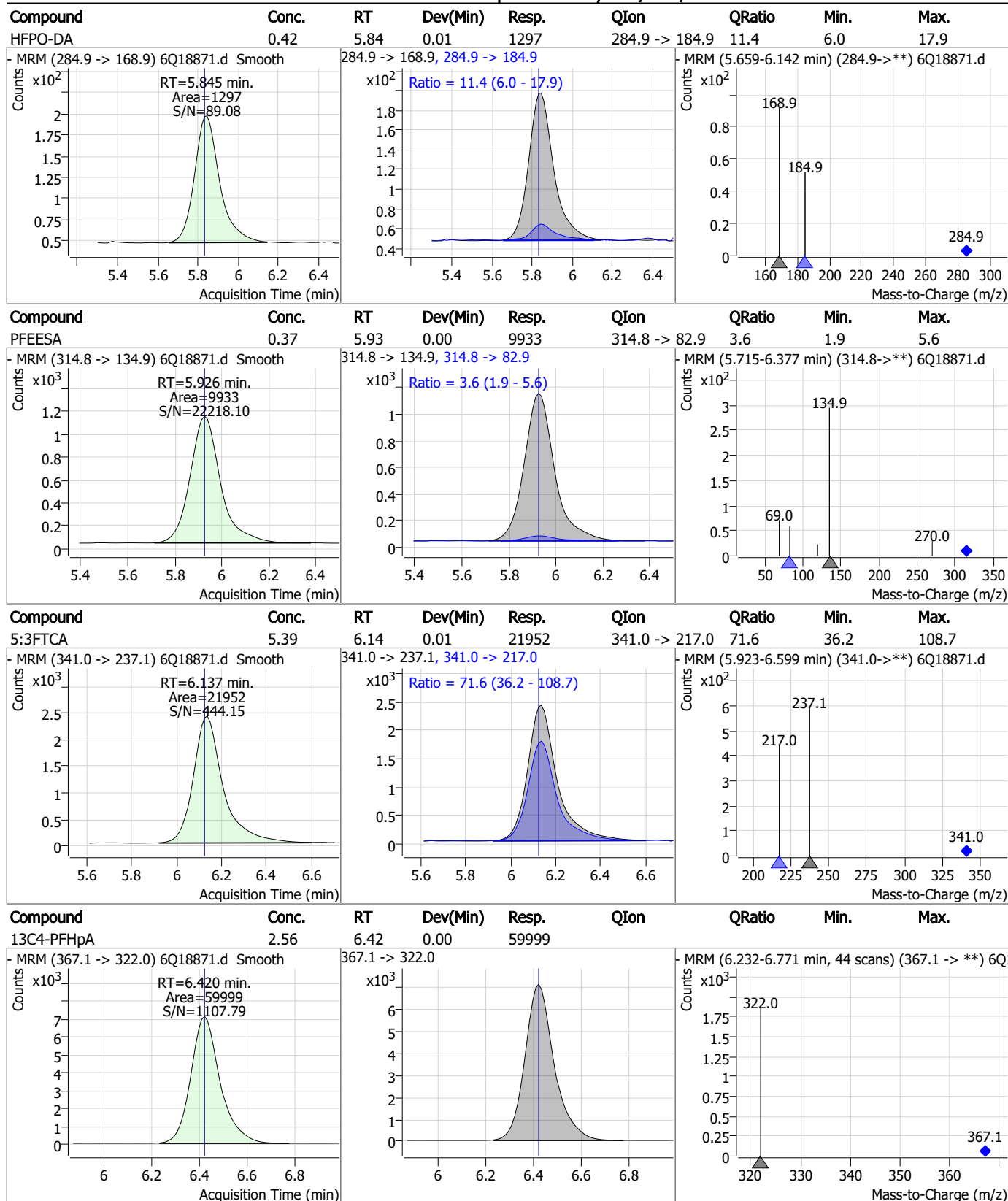
Perfluorinated Compounds by LC/MS/MS



7.7.2
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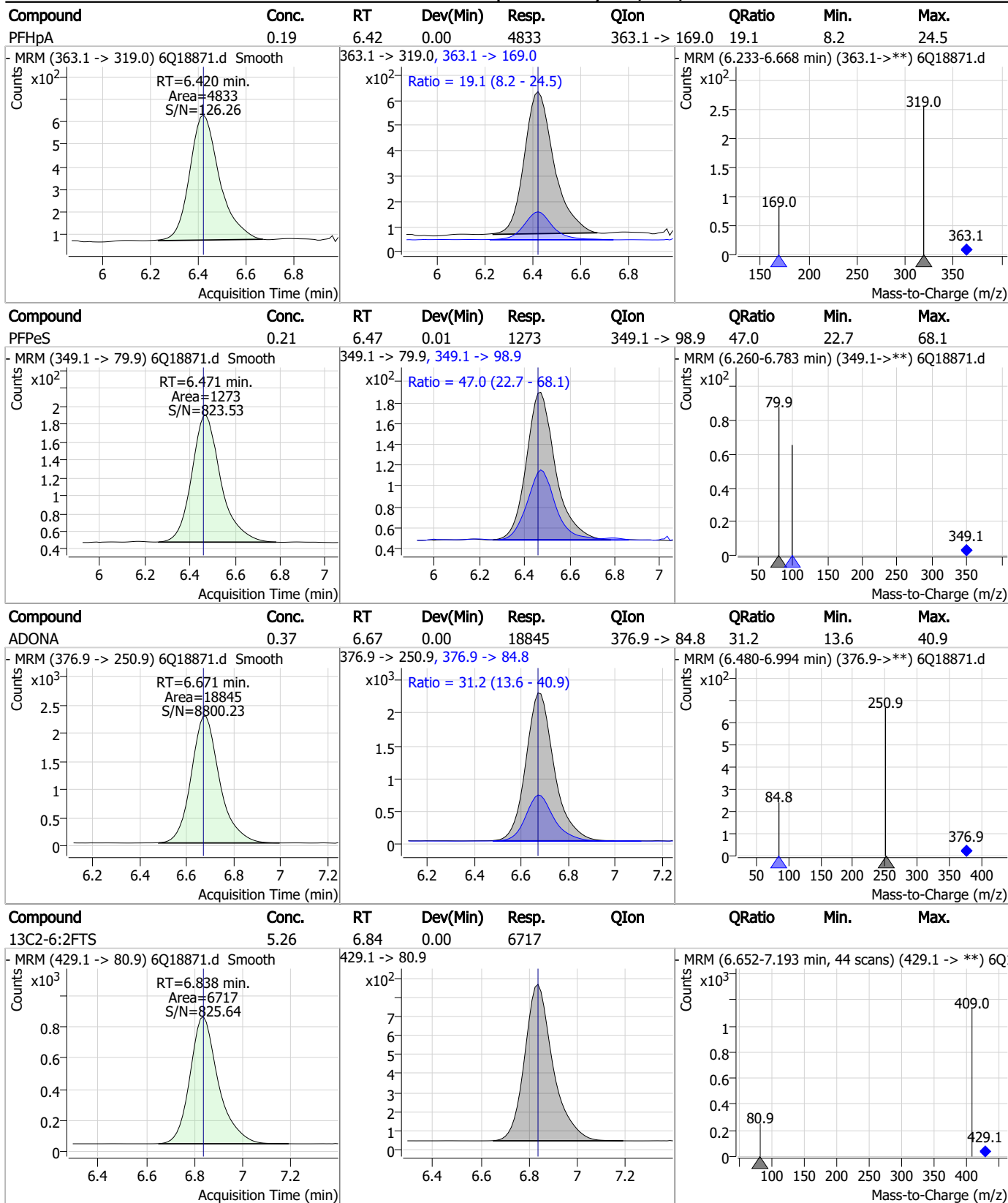
Perfluorinated Compounds by LC/MS/MS



7.7.2
7

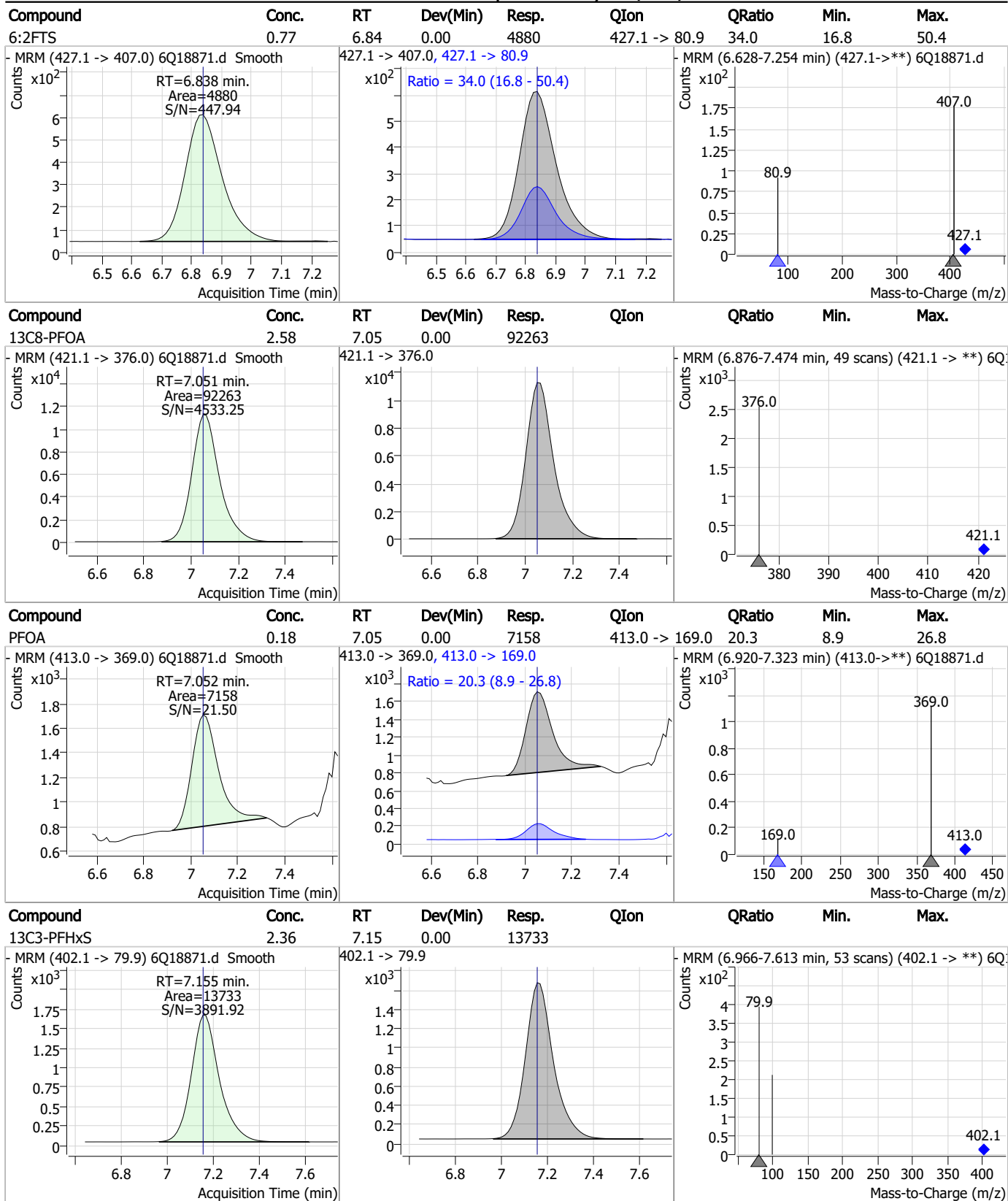


Perfluorinated Compounds by LC/MS/MS



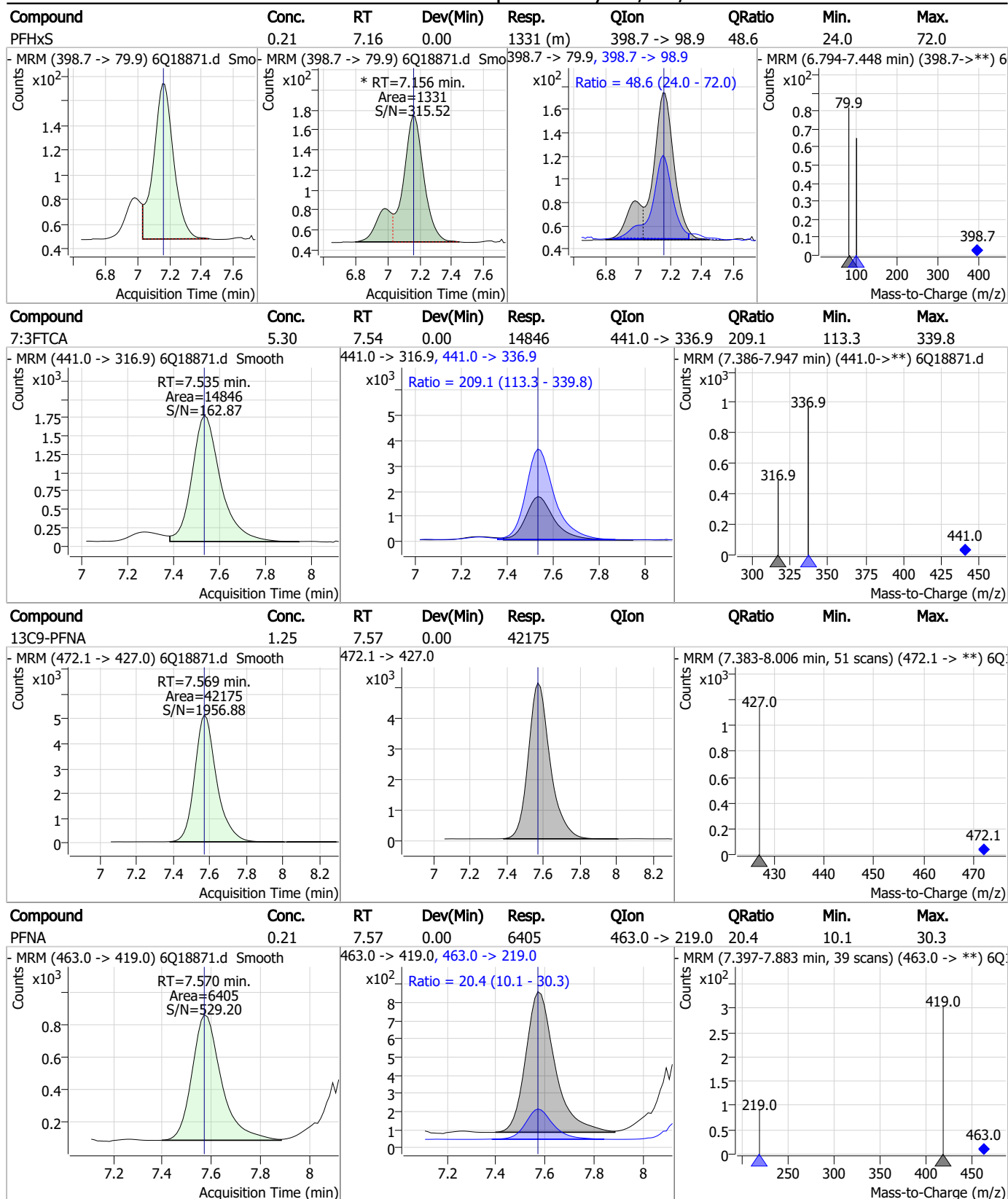
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Perfluorinated Compounds by LC/MS/MS



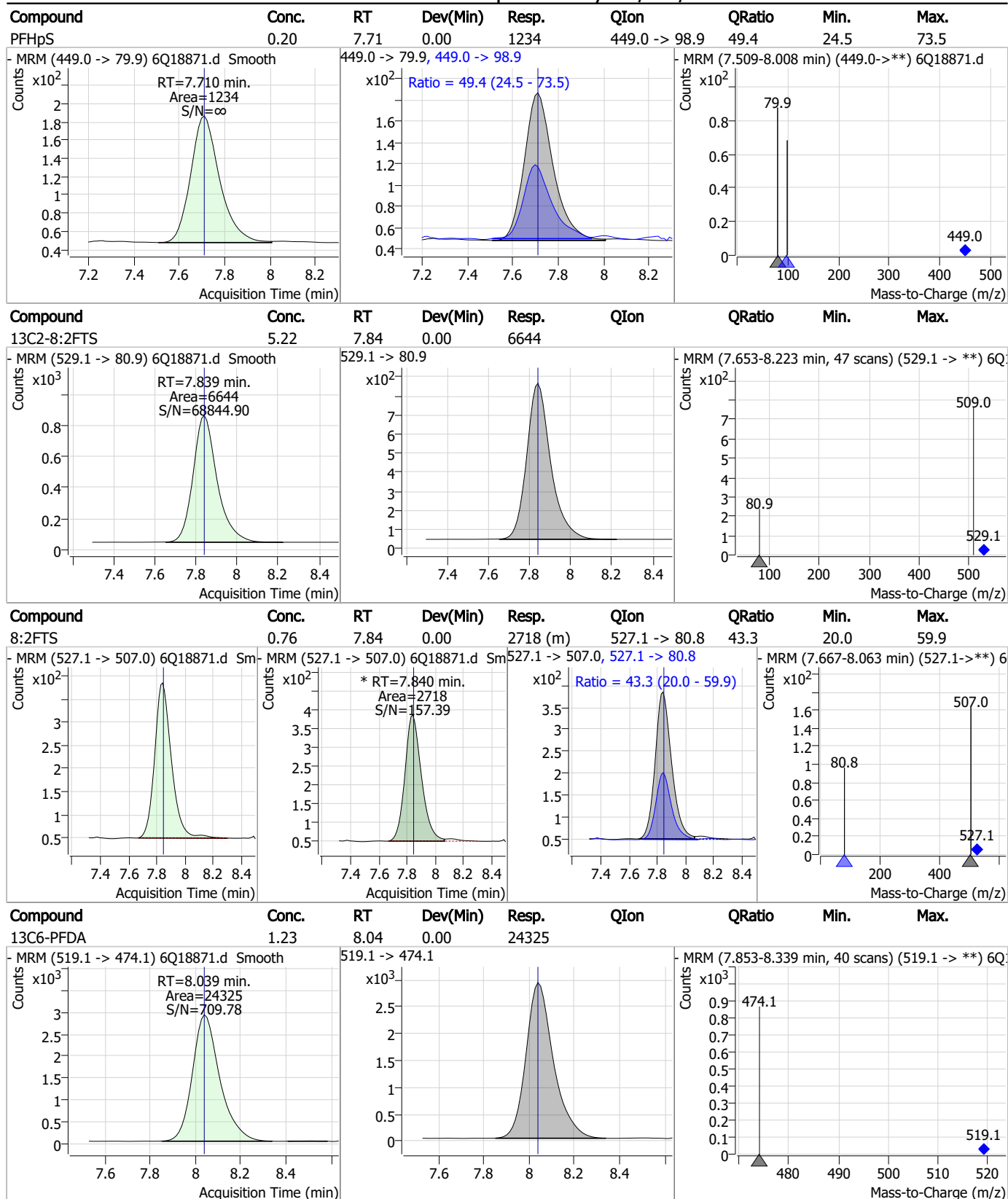
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Perfluorinated Compounds by LC/MS/MS



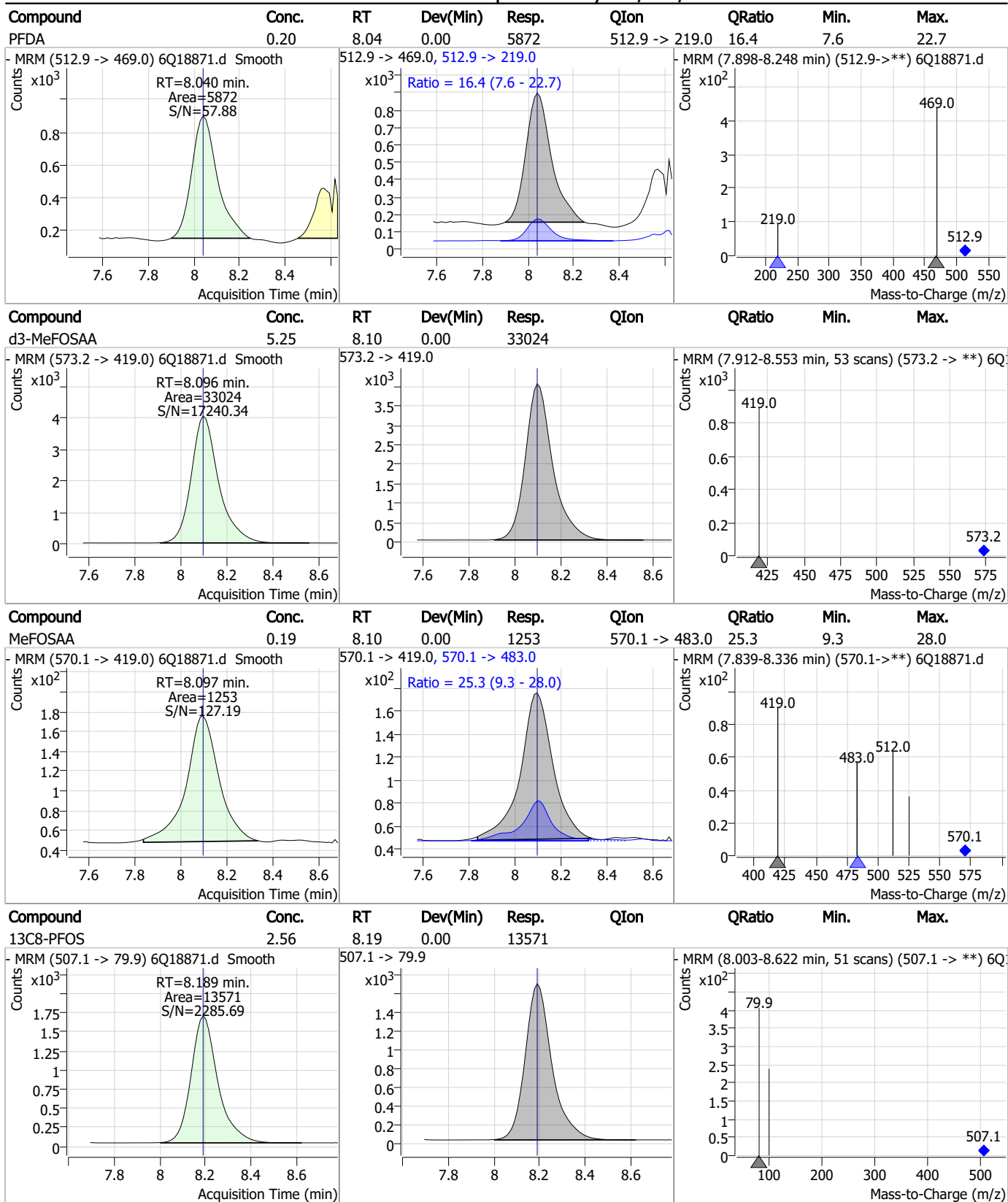
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Perfluorinated Compounds by LC/MS/MS



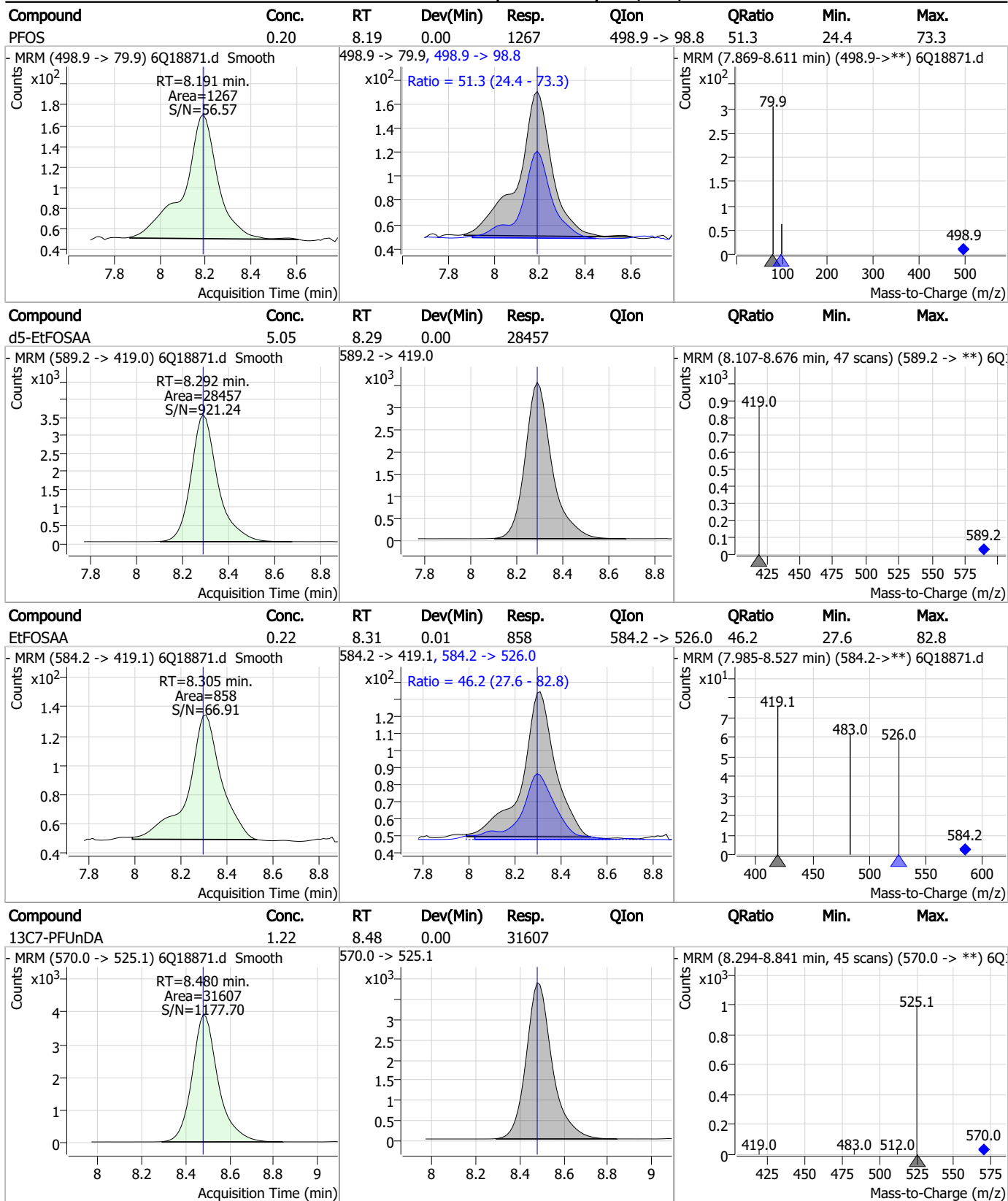
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Perfluorinated Compounds by LC/MS/MS



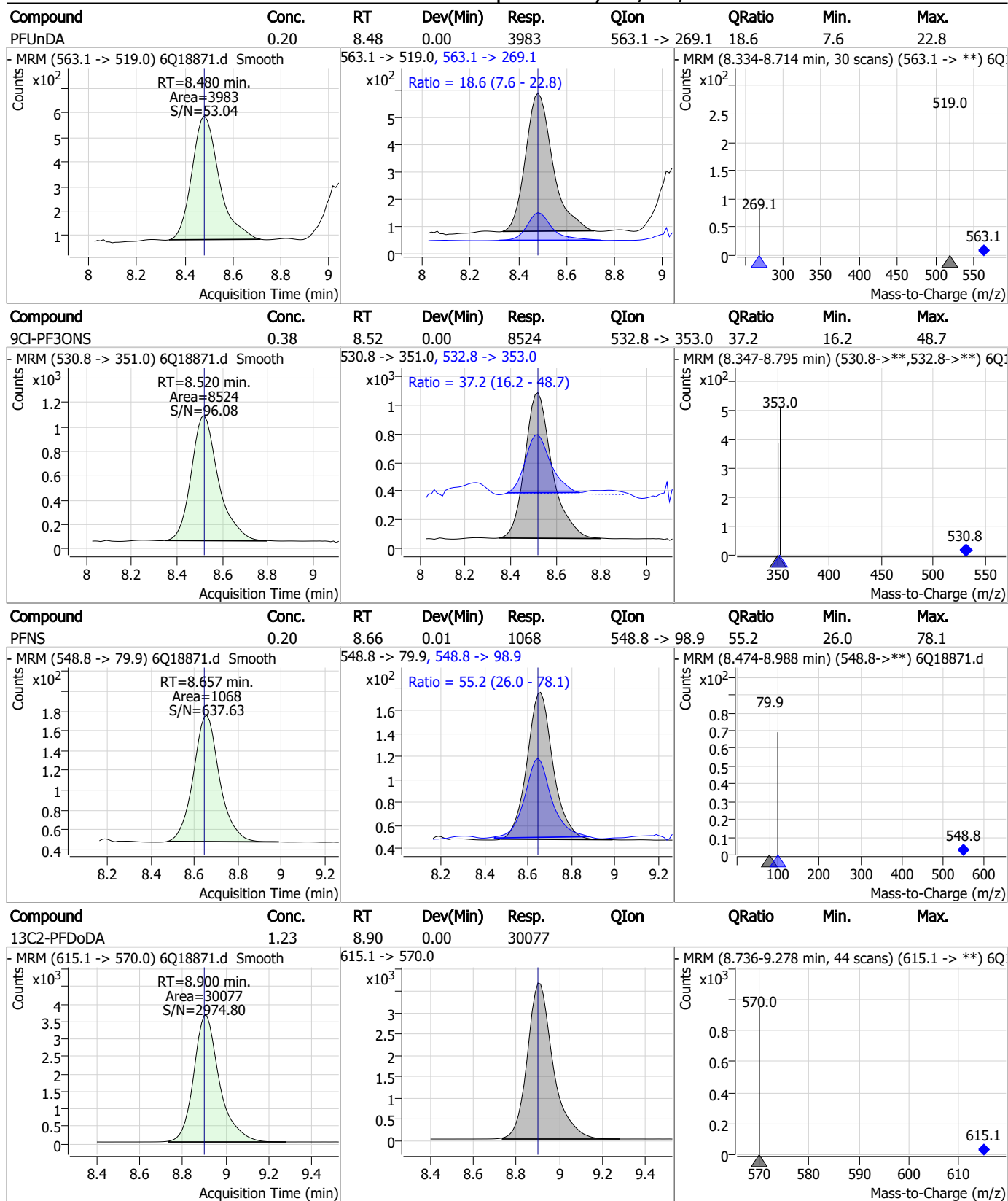
7.7.2
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Perfluorinated Compounds by LC/MS/MS



7.7.2
7

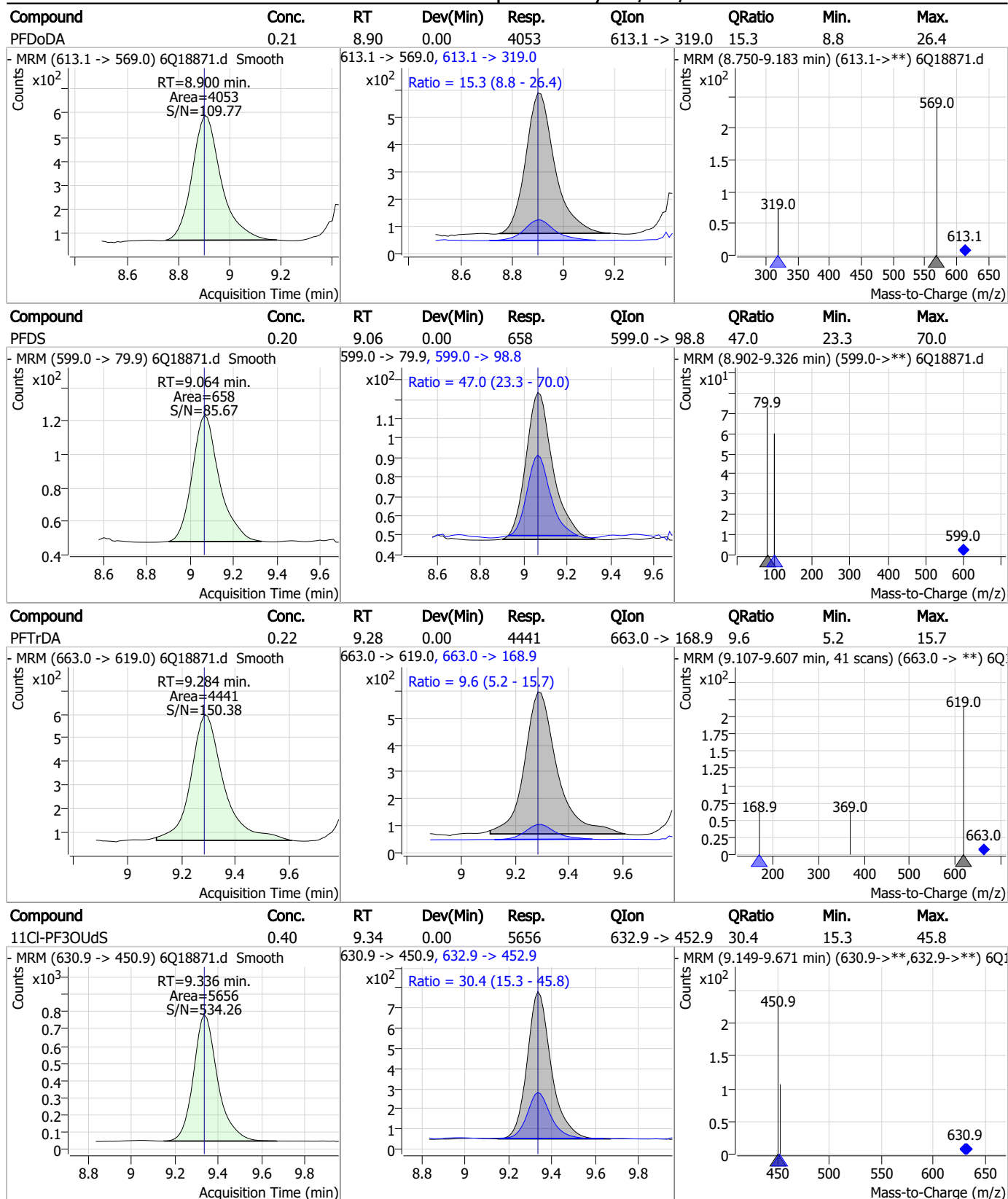
Perfluorinated Compounds by LC/MS/MS



7.7.2

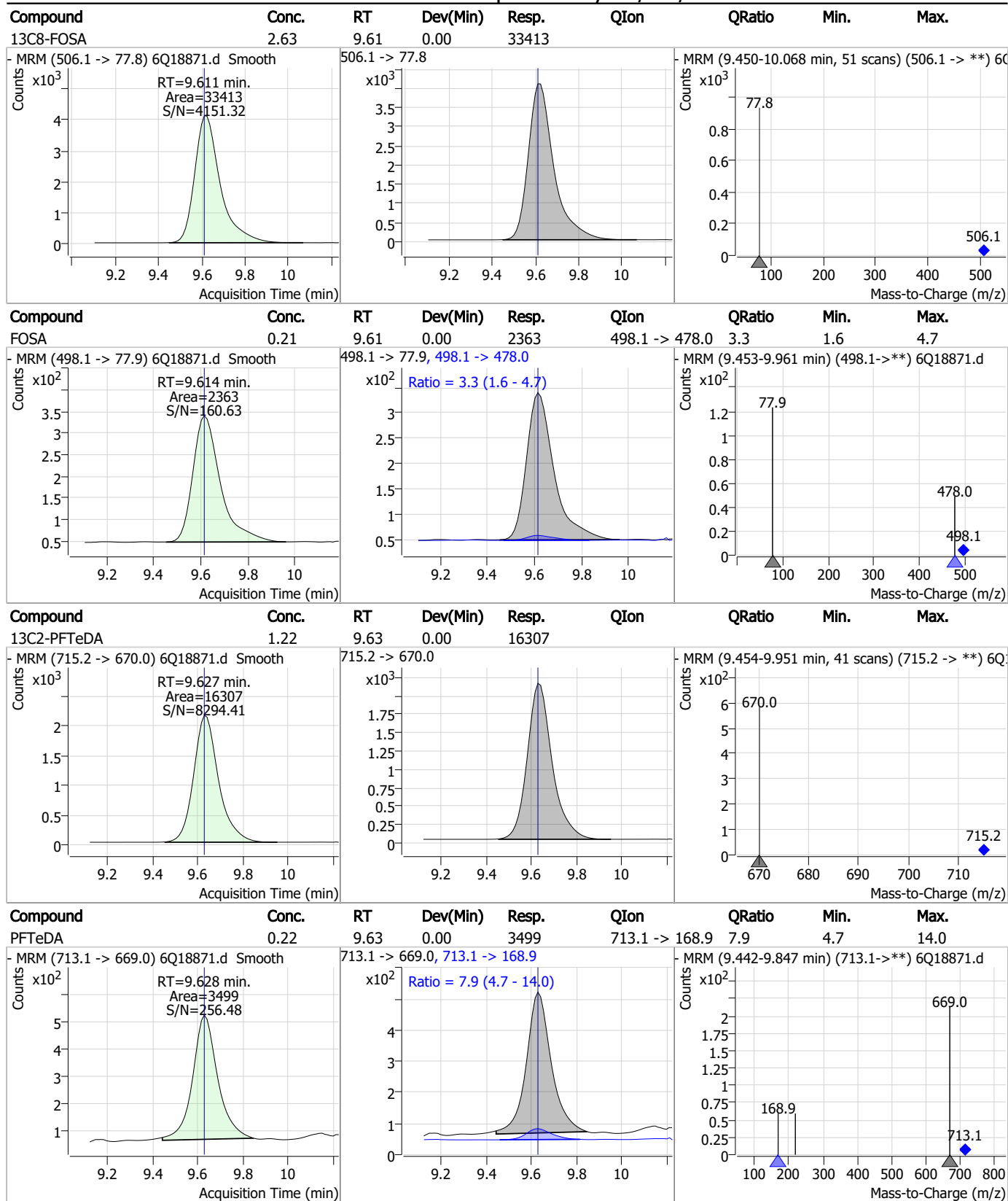
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Perfluorinated Compounds by LC/MS/MS



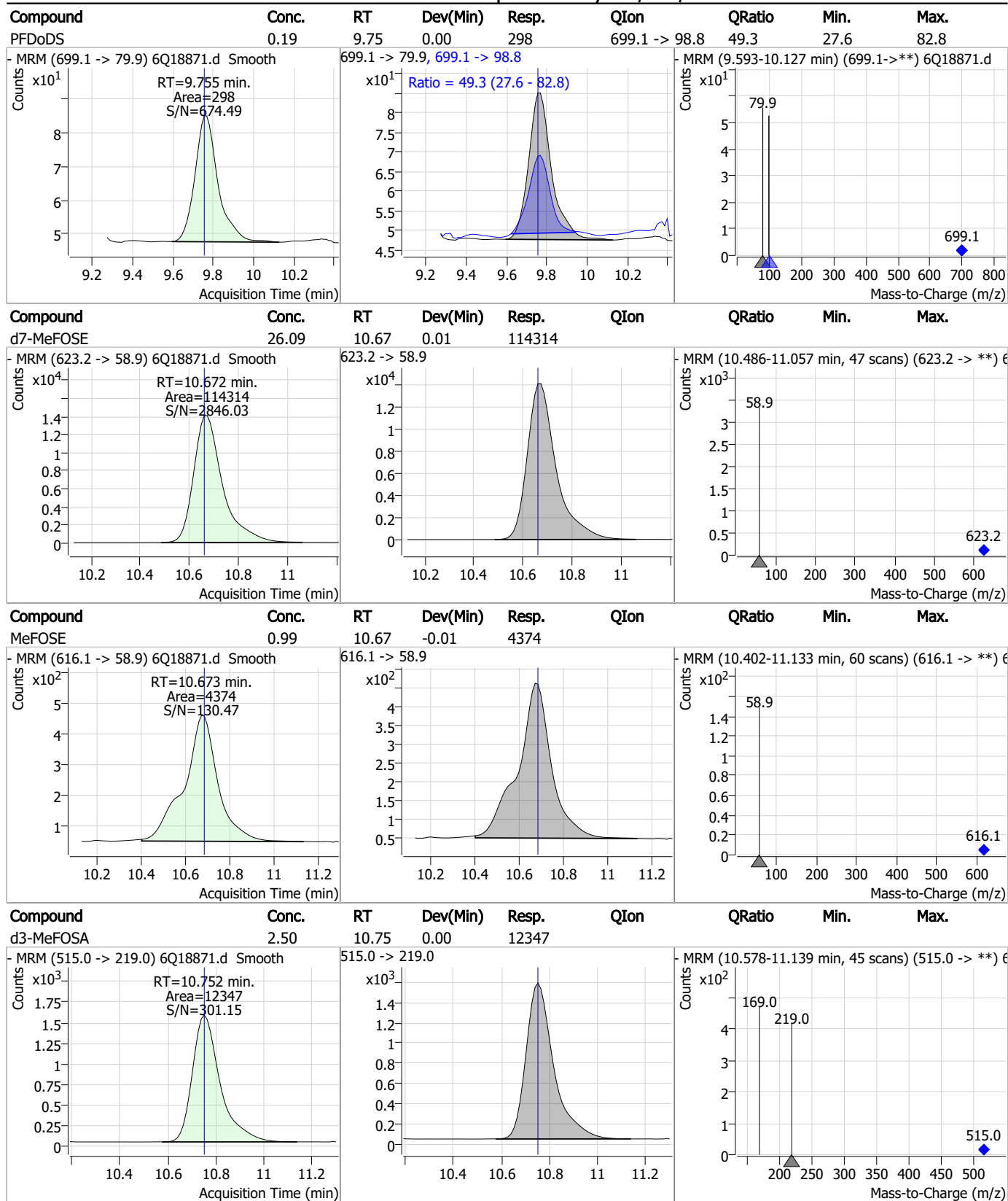
7.7.2
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Perfluorinated Compounds by LC/MS/MS



7.7.2
7

Perfluorinated Compounds by LC/MS/MS

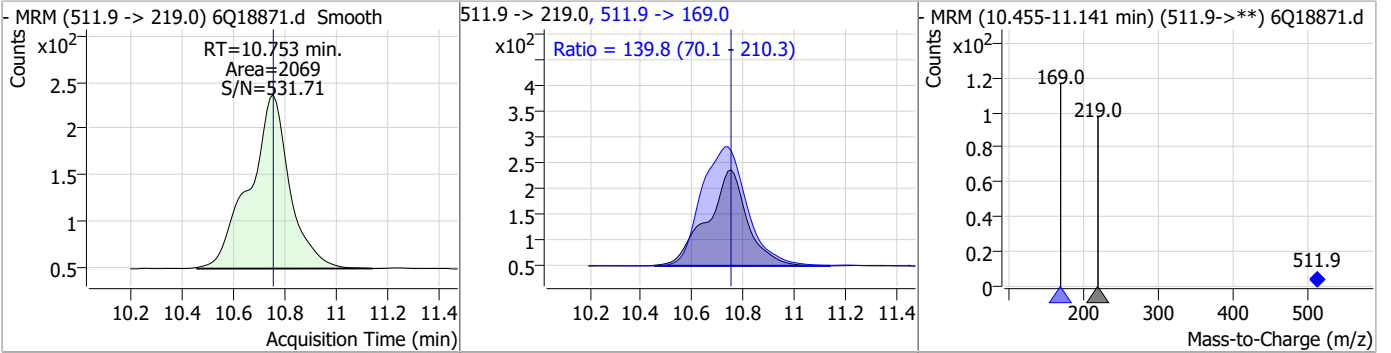


7.7.2
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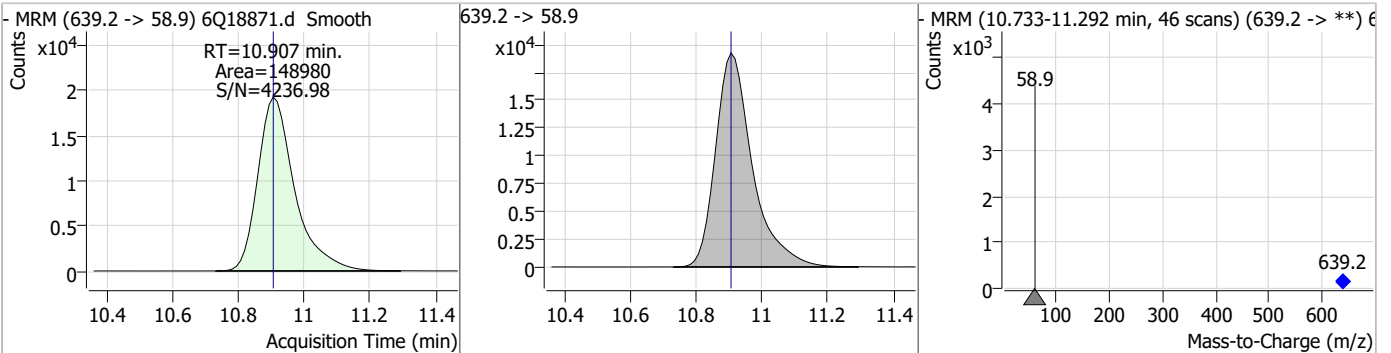


Perfluorinated Compounds by LC/MS/MS

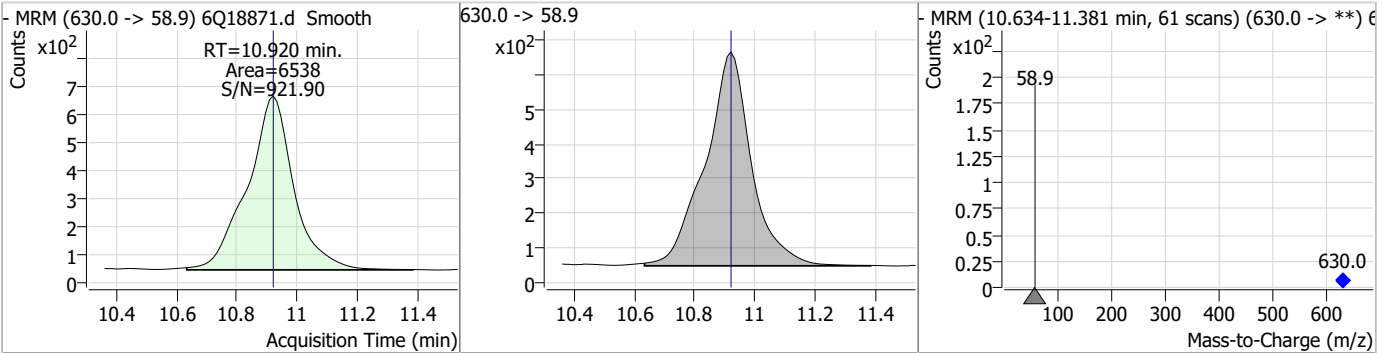
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOFA	0.44	10.75	0.00	2069	511.9 -> 169.0	139.8	70.1	210.3



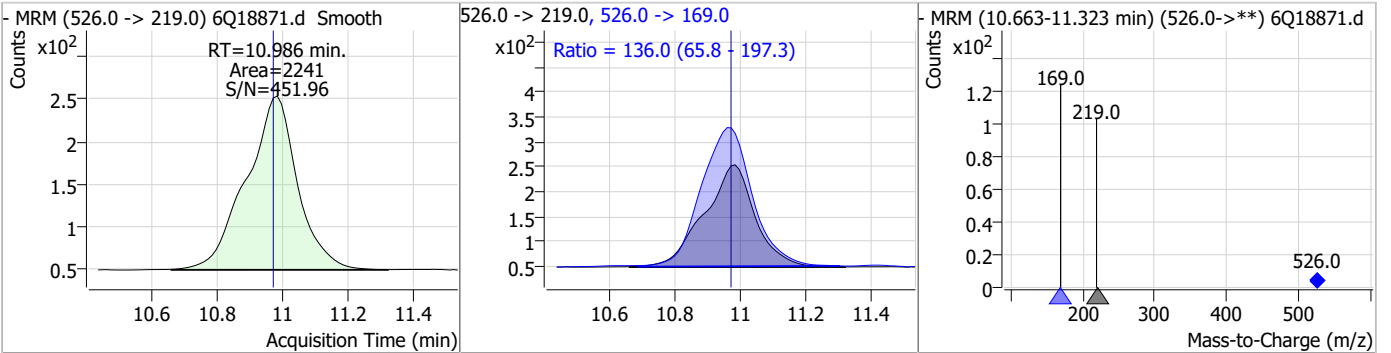
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.70	10.91	0.00	148980				



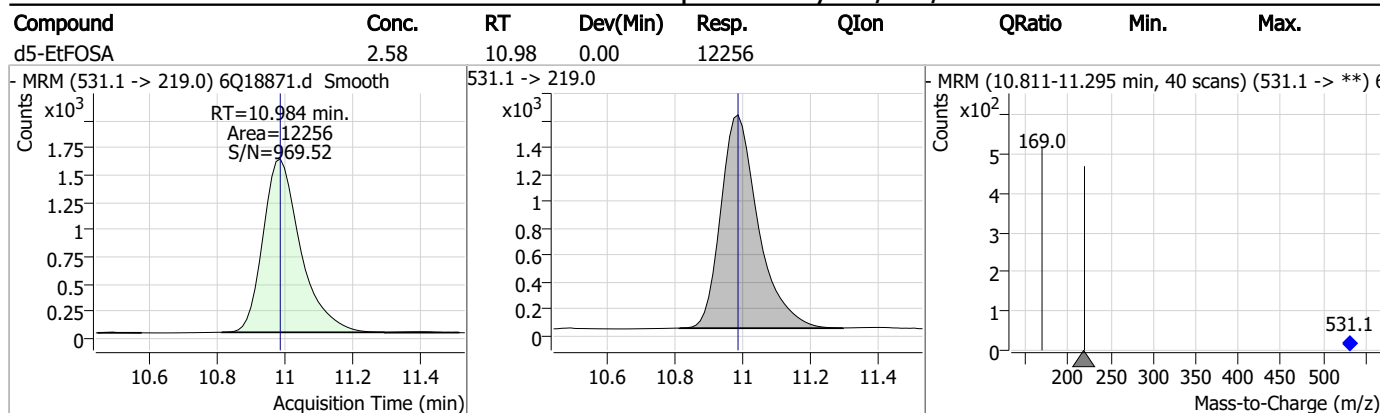
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	1.01	10.92	0.00	6538				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOFA	0.40	10.99	0.01	2241	526.0 -> 169.0	136.0	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



7.7.2
7



Manual Integration Approval Summary

Sample Number: S6Q282-IC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18871.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/06/23 14:15 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak
8:2 Fluorotelomer sulfonate	39108-34-4		7.84	Poor instrument integration

7.7.2.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18872.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 2:30:13 PM
 Sample Name : ic282-2
 Vial : P1-A3
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	181803	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	61539	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	68812	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	64028	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	98782	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	45585	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	26920	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34548	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	31810	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17659	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	35836	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	24546	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15607	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14590	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	4899	5.00 µg/L	-0.012
M2-6:2FTS	6.825	429.1 -> 80.9	6957	5.00 µg/L	-0.012
M2-8:2FTS	7.827	529.1 -> 80.9	7098	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	34634	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	38671	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	31540	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	119935	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	150295	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13015	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13029	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19241	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	76118	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	11279	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	101233	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	36418	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	53997	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	64592	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	4899	5.28 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.6%		
13C2-6:2FTS	6.825	429.1 -> 80.9	6957	5.22 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.4%		
13C2-8:2FTS	7.827	529.1 -> 80.9	7098	5.35 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.9%		
13C2-PFDoDA	8.900	615.1 -> 570.0	31810	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.6%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17659	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.8%		
13C3-PFBS	5.384	302.1 -> 79.9	24546	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.0%		
13C3-PFHxS	7.155	402.1 -> 79.9	15607	2.56 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C4-PFBA	2.860	216.8 -> 171.9	181803	10.07 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C4-PFHpA	6.420	367.1 -> 322.0	64028	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C5-PFHxA	5.466	318.0 -> 273.0	68812	2.52 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C5-PFPeA	4.272	268.3 -> 223.0	61539	4.91 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C6-PFDA	8.039	519.1 -> 474.1	26920	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C7-PFUnDA	8.480	570.0 -> 525.1	34548	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C8-FOSA	9.611	506.1 -> 77.8	35836	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C8-PFOA	7.051	421.1 -> 376.0	98782	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C8-PFOS	8.189	507.1 -> 79.9	14590	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C9-PFNA	7.569	472.1 -> 427.0	45585	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.7%	
d3-MeFOSAA	8.096	573.2 -> 419.0	34634	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	38671	9.50 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 95.0%	
d3-MeFOSA	10.752	515.0 -> 219.0	13029	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.6%	
d5-EtFOSAA	8.292	589.2 -> 419.0	31540	5.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.5%	
d7-MeFOSE	10.660	623.2 -> 58.9	119935	24.83 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
d9-EtFOSE	10.907	639.2 -> 58.9	150295	24.43 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.7%	
d5-EtFOSA	10.984	531.1 -> 219.0	13015	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	10454	1.56 µg/L	97
		327.1 -> 80.9	4092		
6:2FTS	6.826	427.1 -> 407.0	10616	1.61 µg/L	98
		427.1 -> 80.9	3416		
8:2FTS	7.840	527.1 -> 507.0	5791	1.52 µg/L	99
		527.1 -> 80.8	2344		
EtFOSAA	8.293	584.2 -> 419.1	1788	0.42 µg/L	100
		584.2 -> 526.0	990		
FOSA	9.614	498.1 -> 77.9	4761	0.39 µg/L	99
		498.1 -> 478.0	156		
MeFOSAA	8.097	570.1 -> 419.0	2749	0.40 µg/L	92
		570.1 -> 483.0	614		
PFBA	2.856	212.8 -> 168.9	9737	1.64 µg/L	100
PFBS	5.398	298.7 -> 79.9	3198	0.38 µg/L	94
		298.7 -> 98.8	1146		
PFDA	8.040	512.9 -> 469.0	12742	0.39 µg/L	97
		512.9 -> 219.0	2084		
PFDODA	8.900	613.1 -> 569.0	8589	0.41 µg/L	94
		613.1 -> 319.0	1290		
PFDS	9.064	599.0 -> 79.9	1221	0.35 µg/L	83

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	705			
PFHpA	6.420	363.1 -> 319.0	11349	0.42	µg/L	99
		363.1 -> 169.0	1806			
PFHpS	7.698	449.0 -> 79.9	2530	0.38	µg/L	97
		449.0 -> 98.9	1295			
PFHxA	5.469	313.0 -> 269.0	9435	0.42	µg/L	96
		313.0 -> 118.9	391			
PFHxS	7.156	398.7 -> 79.9	2629	0.36	µg/L	m 99
		398.7 -> 98.9	1276			
PFNA	7.570	463.0 -> 419.0	12925	0.40	µg/L	98
		463.0 -> 219.0	2496			
PFNS	8.644	548.8 -> 79.9	2218	0.38	µg/L	91
		548.8 -> 98.9	1295			
PFOA	7.052	413.0 -> 369.0	16712	0.40	µg/L	100
		413.0 -> 169.0	2985			
PFOS	8.191	498.9 -> 79.9	2571	0.39	µg/L	99
		498.9 -> 98.8	1246			
PFPeA	4.274	263.0 -> 219.0	12121	0.83	µg/L	100
PFPeS	6.459	349.1 -> 79.9	2637	0.38	µg/L	95
		349.1 -> 98.9	1292			
PFTeDA	9.628	713.1 -> 669.0	7179	0.41	µg/L	99
		713.1 -> 168.9	635			
PFTrDA	9.284	663.0 -> 619.0	8960	0.42	µg/L	99
		663.0 -> 168.9	975			
PFUnDA	8.480	563.1 -> 519.0	8999	0.42	µg/L	99
		563.1 -> 269.1	1322			
11Cl-PF3OUdS	9.336	630.9 -> 450.9	11440	0.77	µg/L	99
		632.9 -> 452.9	3526			
9Cl-PF3ONS	8.508	530.8 -> 351.0	18174	0.78	µg/L	100
		532.8 -> 353.0	5906			
ADONA	6.671	376.9 -> 250.9	42936	0.81	µg/L	100
		376.9 -> 84.8	11725			
HFPO-DA	5.832	284.9 -> 168.9	2638	0.82	µg/L	97
		284.9 -> 184.9	348			
3:3FTCA	3.709	241.0 -> 177.0	2122	2.06	µg/L	99
		241.0 -> 117.0	292			
5:3FTCA	6.124	341.0 -> 237.1	45049	10.34	µg/L	100
		341.0 -> 217.0	32619			
7:3FTCA	7.535	441.0 -> 316.9	30440	10.15	µg/L	98
		441.0 -> 336.9	67884			
EtFOSA	10.986	526.0 -> 219.0	4946	0.82	µg/L	96
		526.0 -> 169.0	6291			
EtFOSE	10.920	630.0 -> 58.9	13482	2.06	µg/L	100
MeFOSA	10.753	511.9 -> 219.0	4051	0.82	µg/L	95
		511.9 -> 169.0	5916			
MeFOSE	10.686	616.1 -> 58.9	9579	2.06	µg/L	100
PFDoDS	9.755	699.1 -> 79.9	606	0.37	µg/L	86
		699.1 -> 98.8	395			
NFDHA	5.348	295.0 -> 201.0	2119	0.78	µg/L	94
		295.0 -> 84.9	592			
PFMBA	4.688	279.0 -> 85.1	8190	0.82	µg/L	100
PFMPA	3.401	229.0 -> 84.9	6362	0.83	µg/L	100
PFEESA	5.926	314.8 -> 134.9	20110	0.70	µg/L	100
		314.8 -> 82.9	746			

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

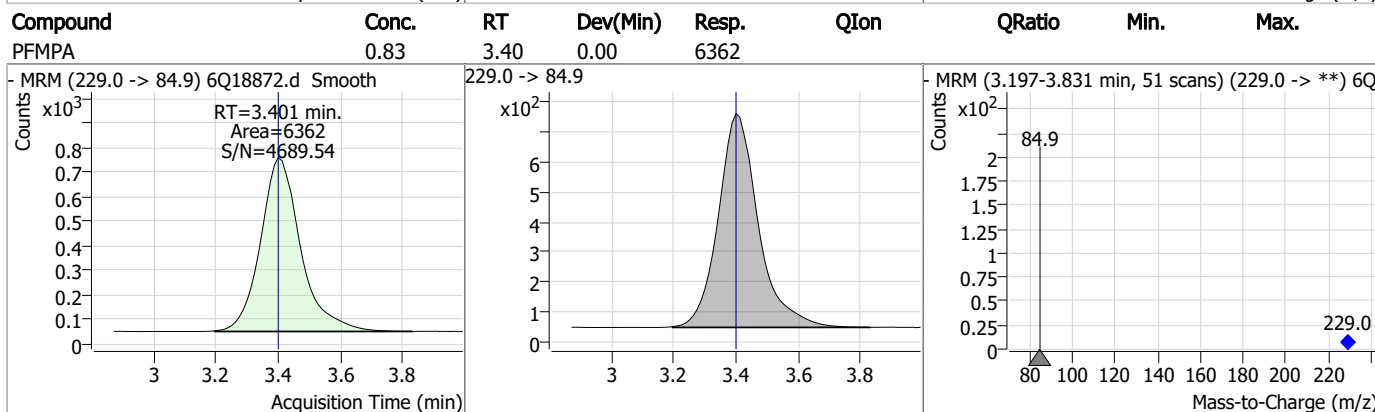
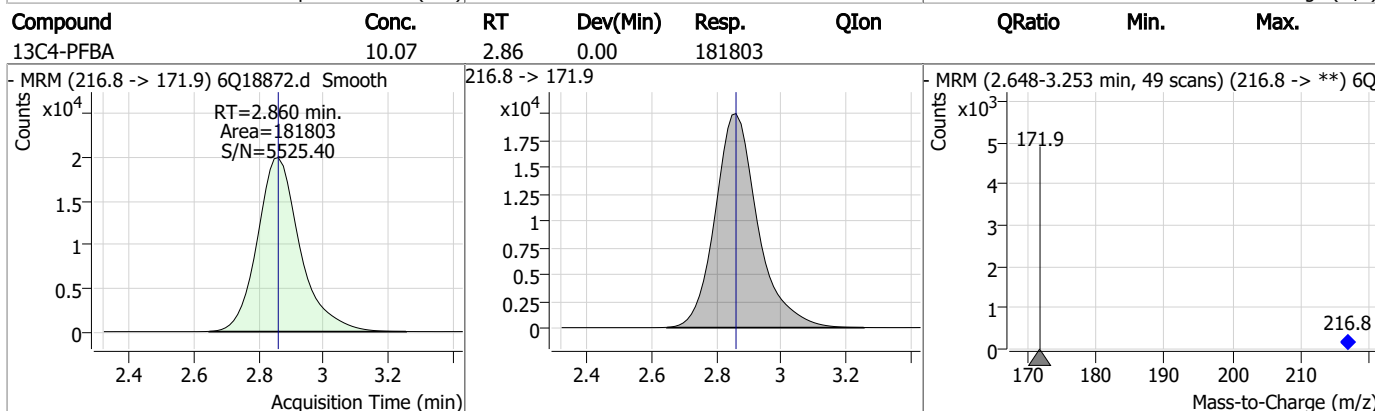
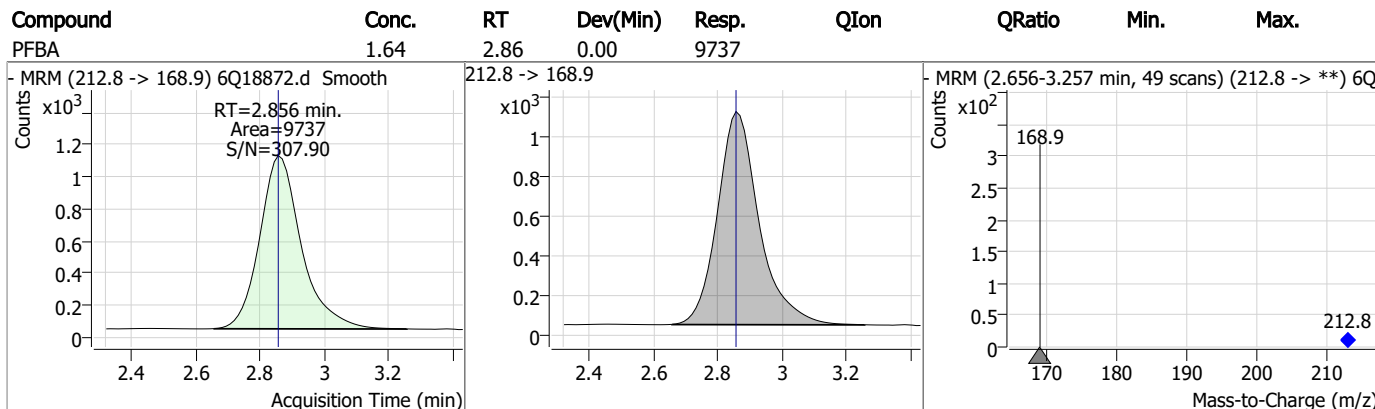
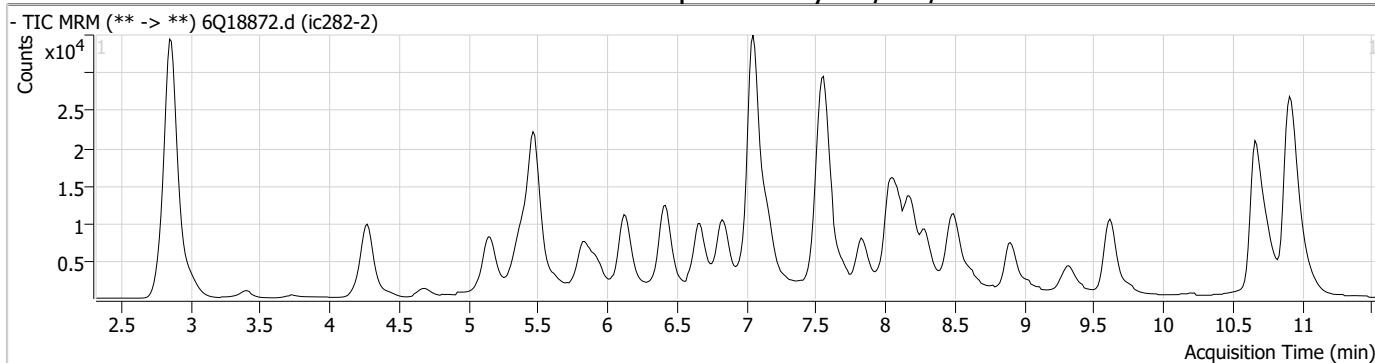
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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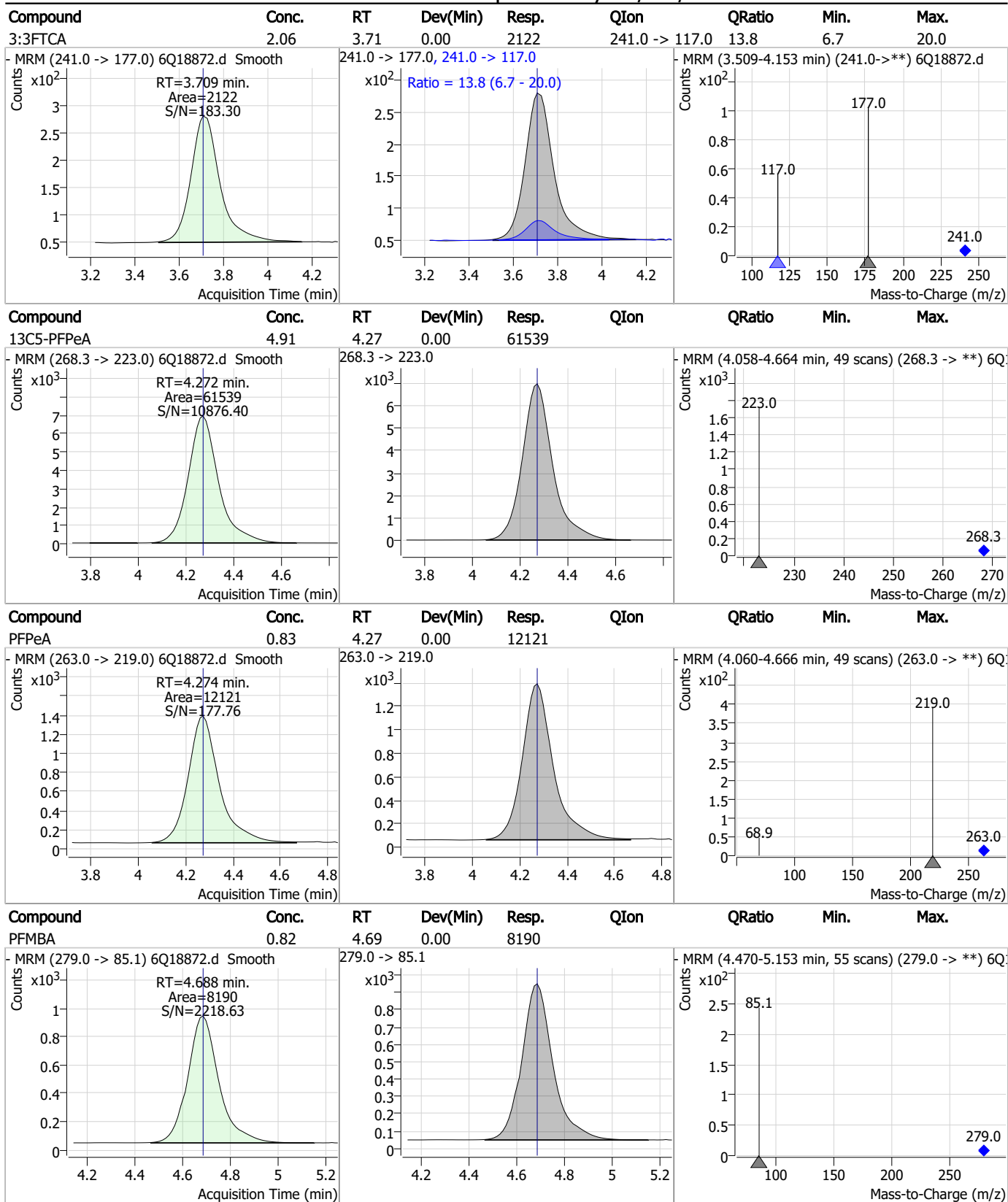
7.7.3

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Perfluorinated Compounds by LC/MS/MS



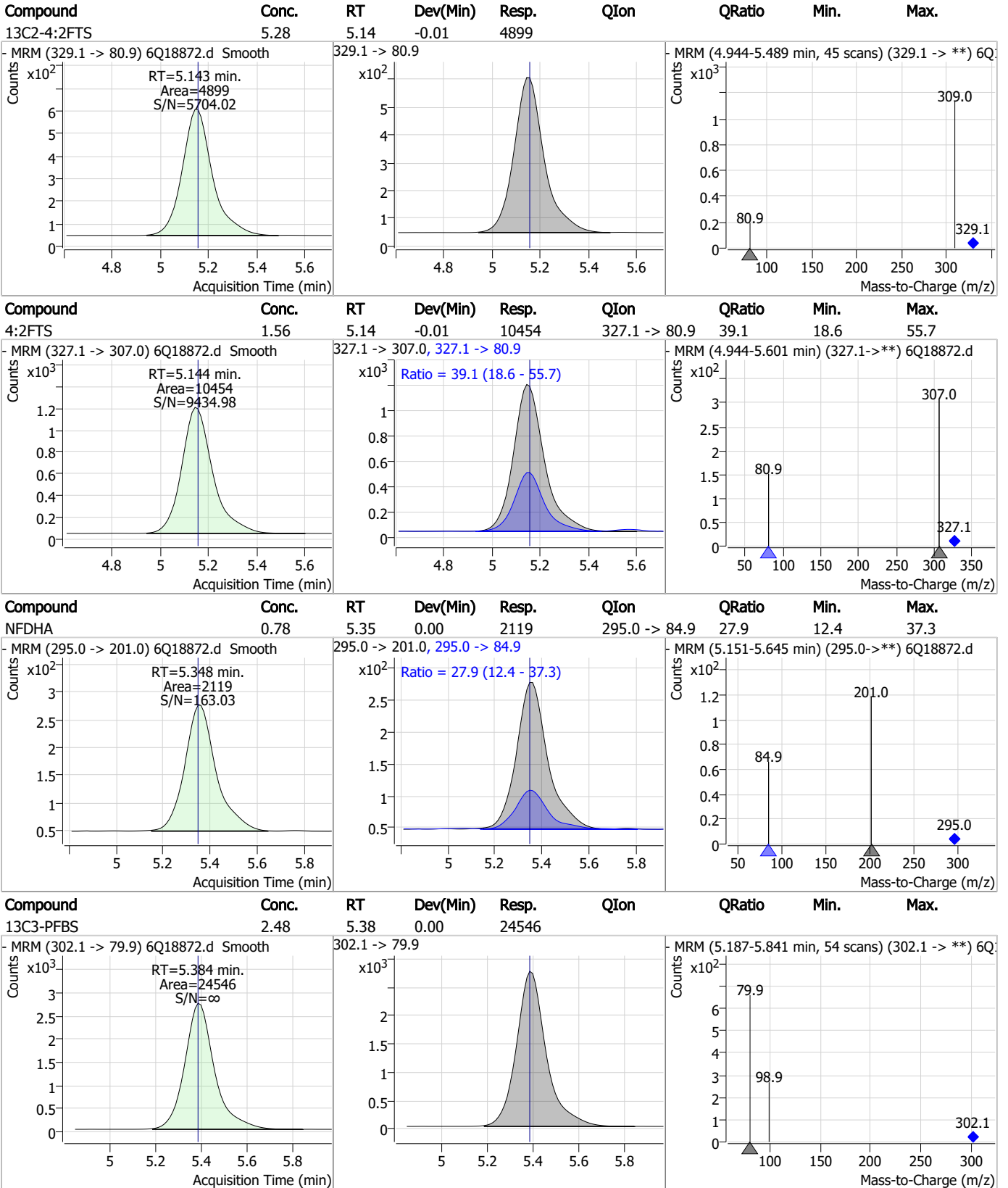
Perfluorinated Compounds by LC/MS/MS



7.7.3

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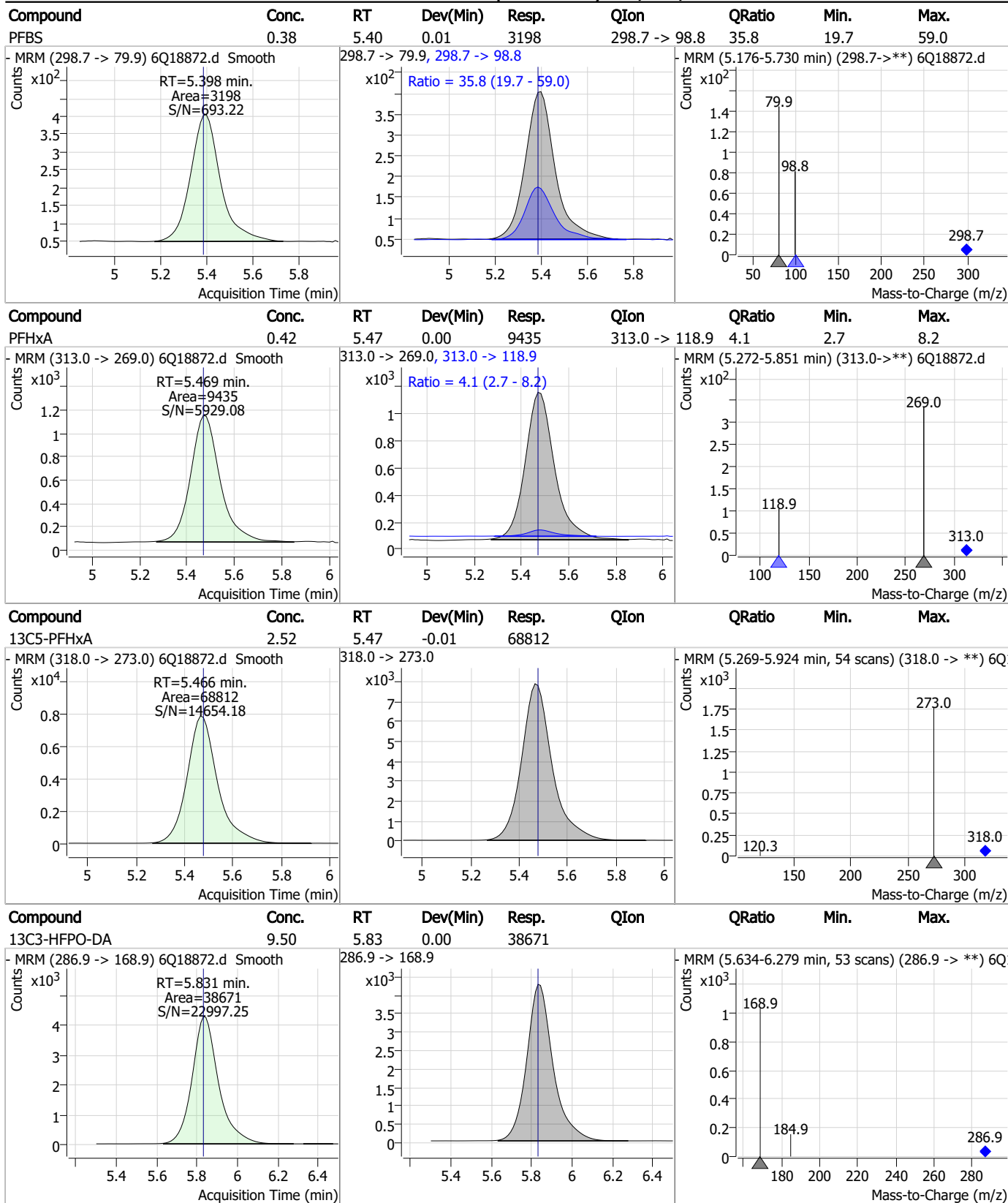
Perfluorinated Compounds by LC/MS/MS



7.7.3

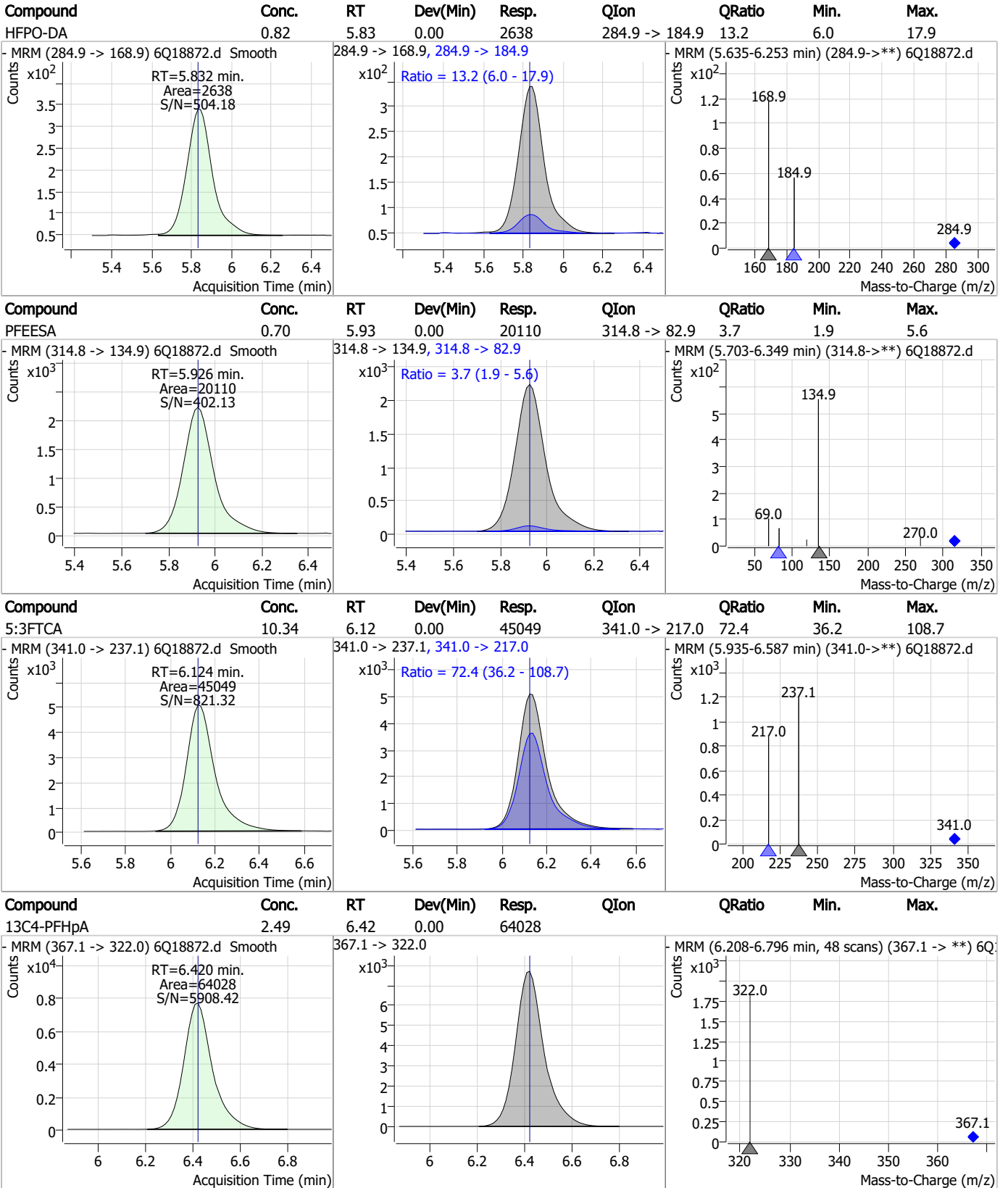
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Perfluorinated Compounds by LC/MS/MS



7.7.3
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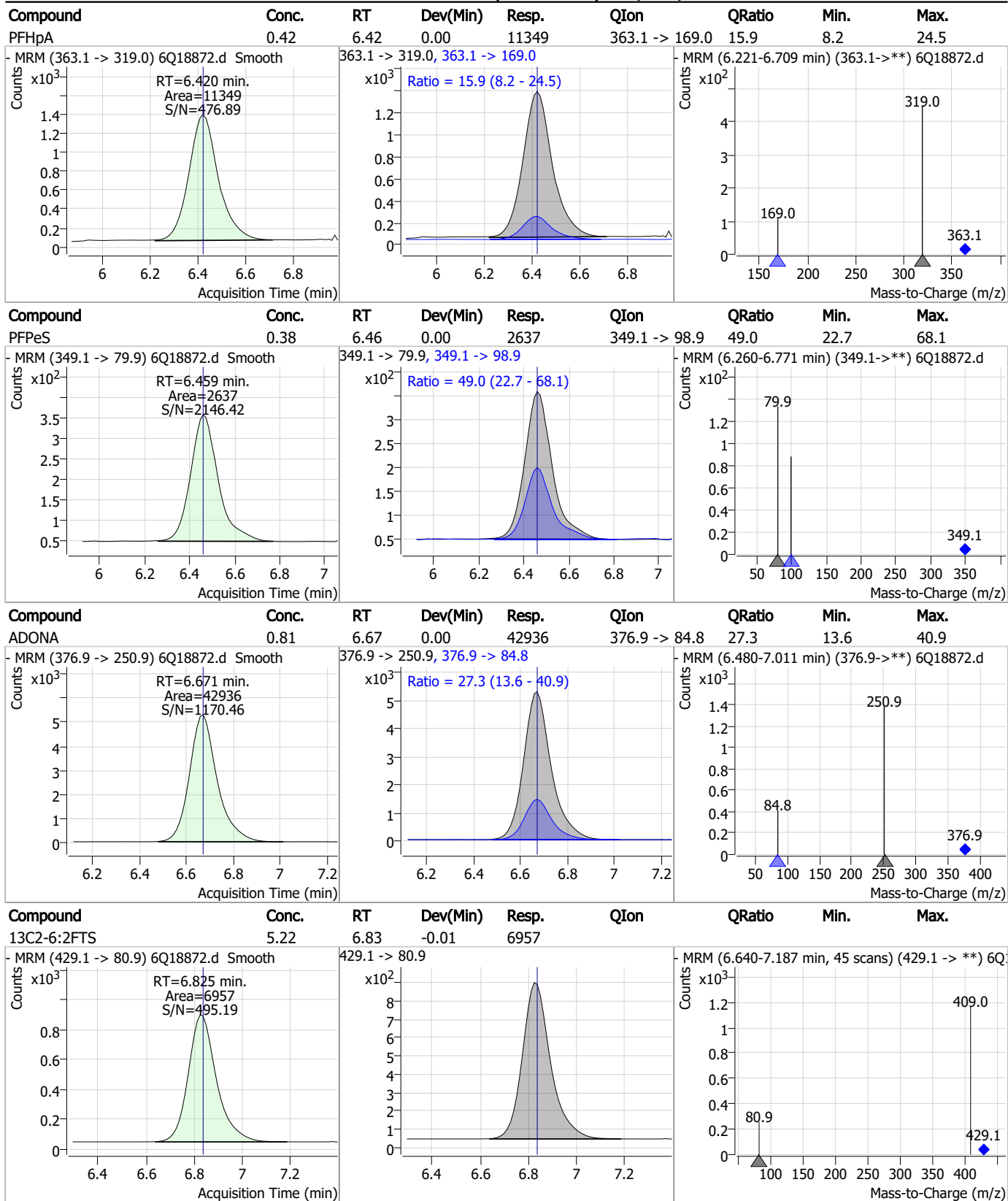
Perfluorinated Compounds by LC/MS/MS



7.7.3

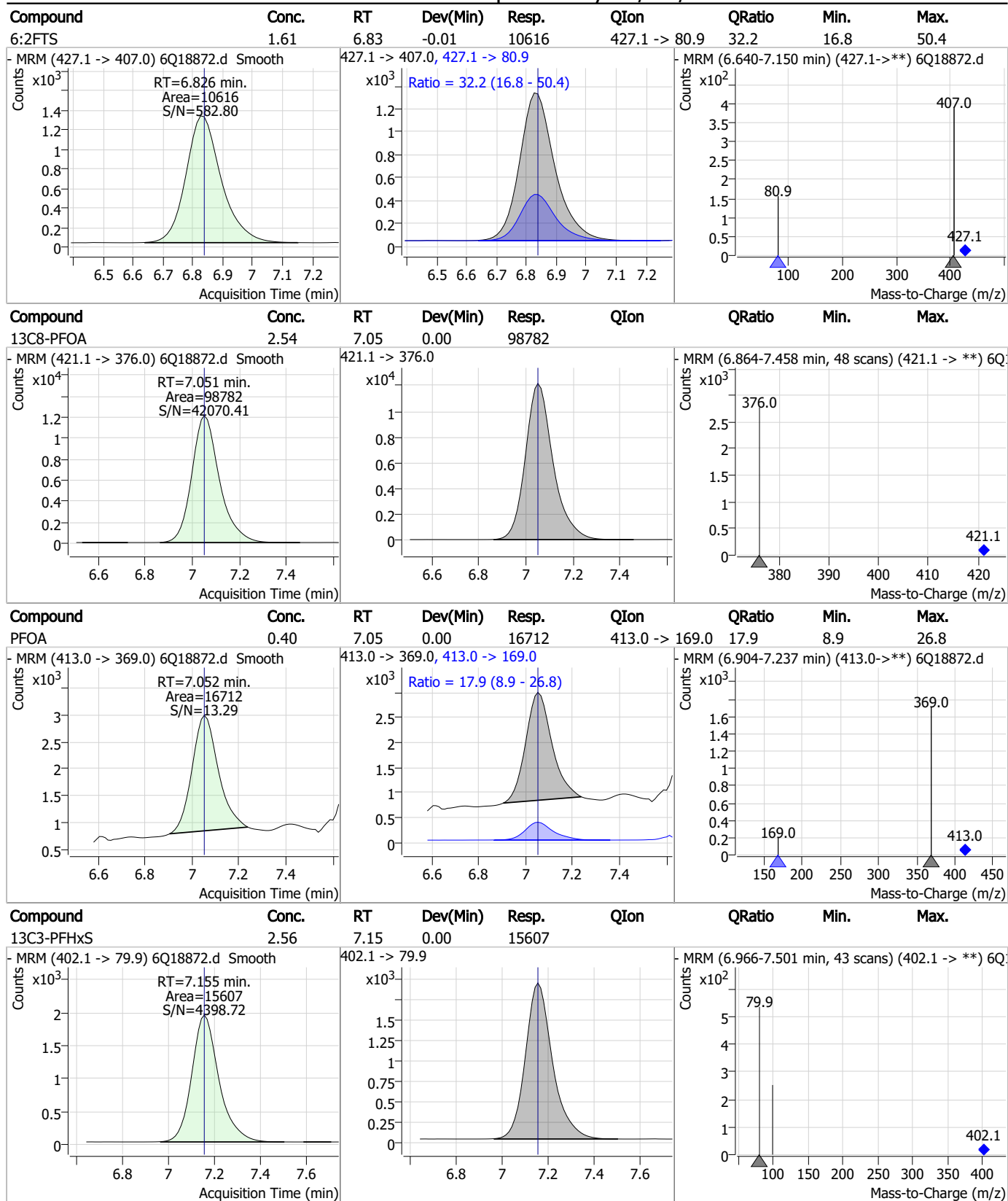
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Perfluorinated Compounds by LC/MS/MS



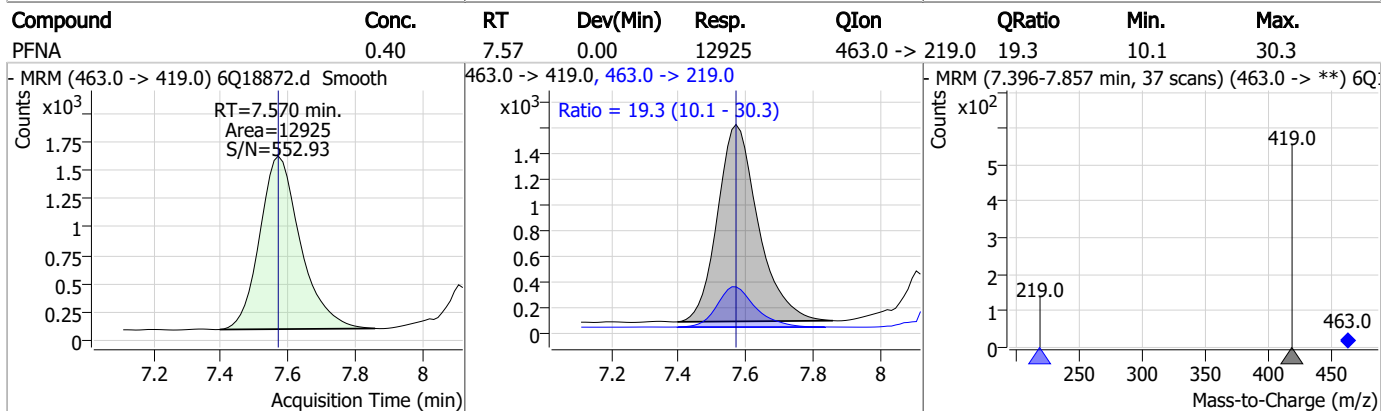
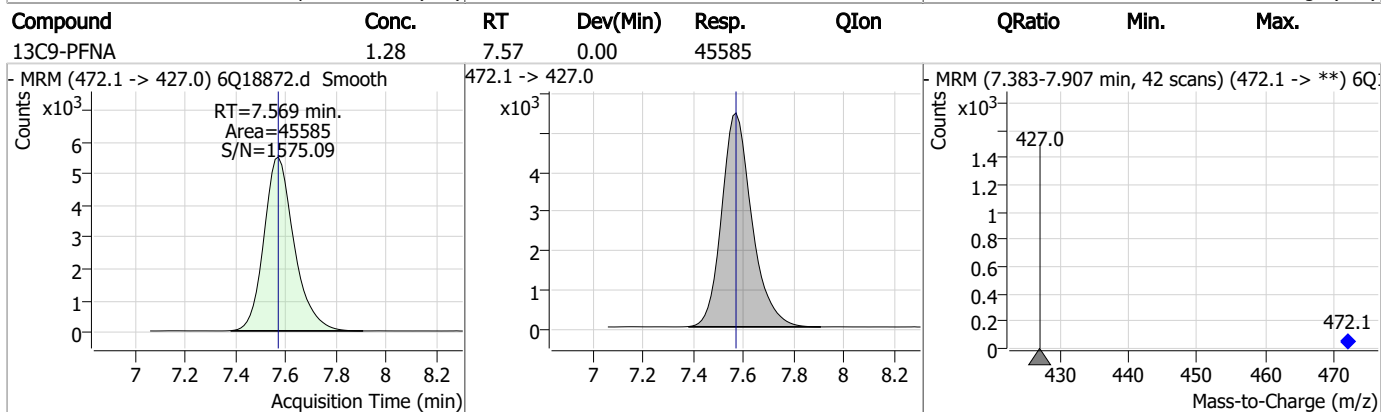
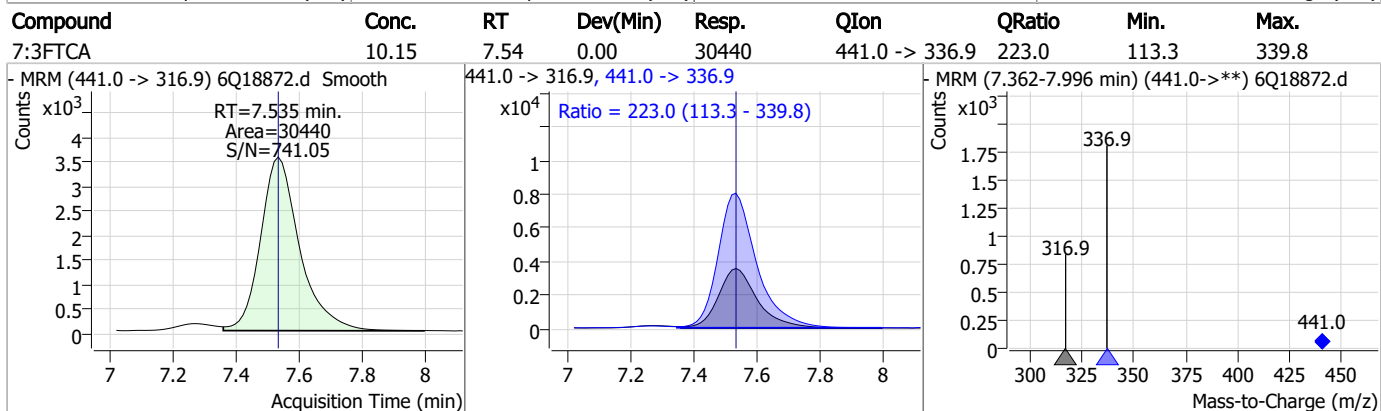
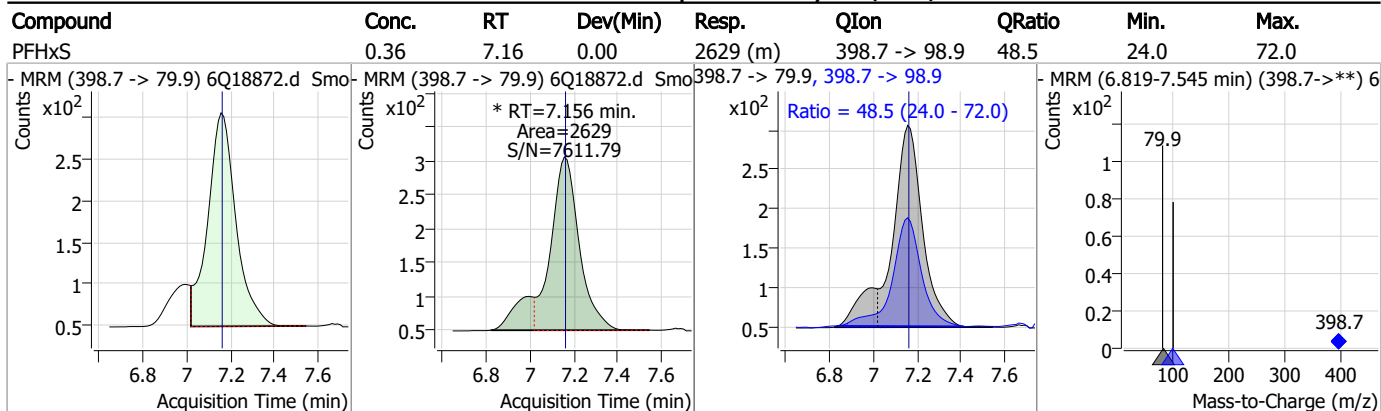
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Perfluorinated Compounds by LC/MS/MS



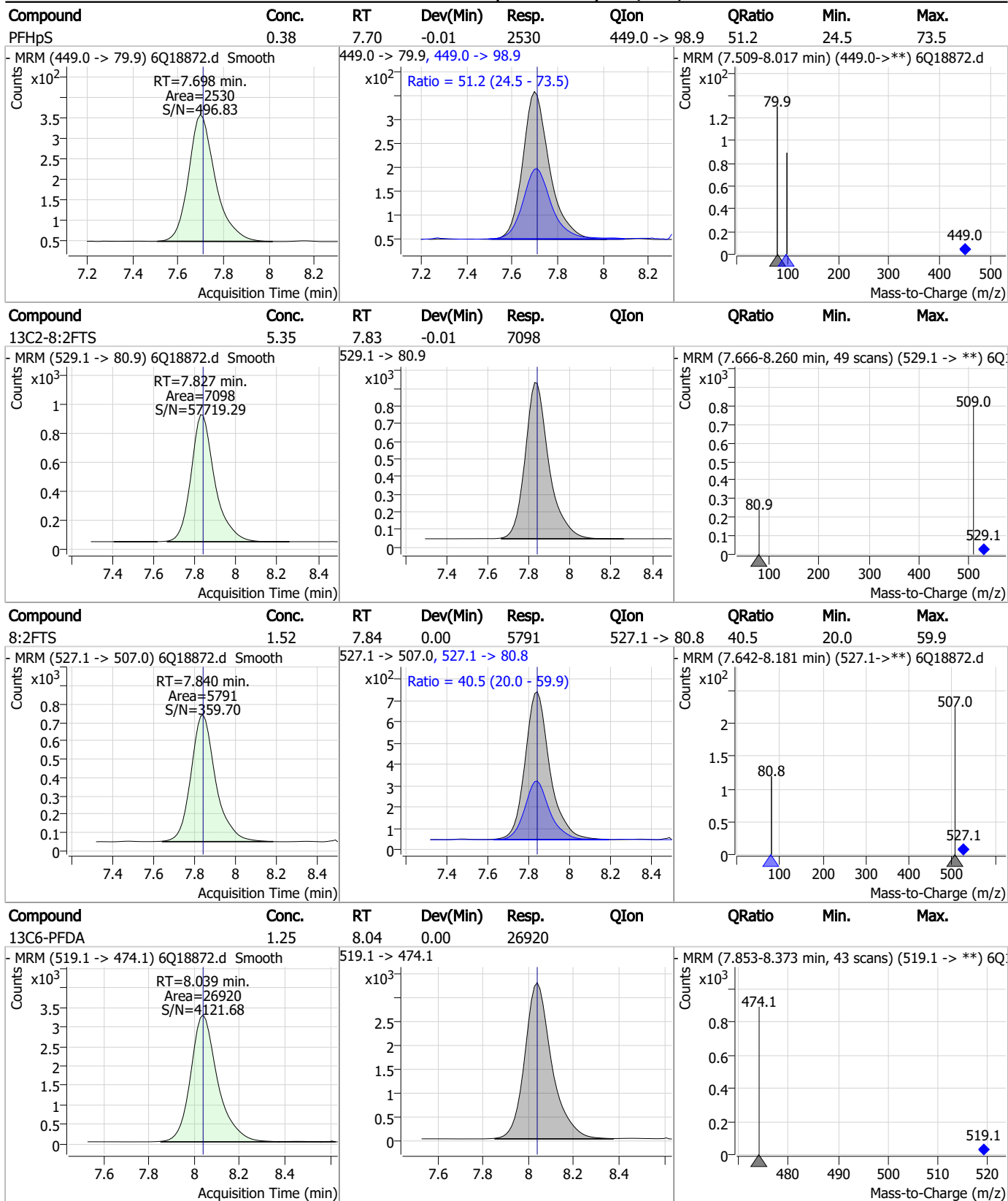
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Perfluorinated Compounds by LC/MS/MS



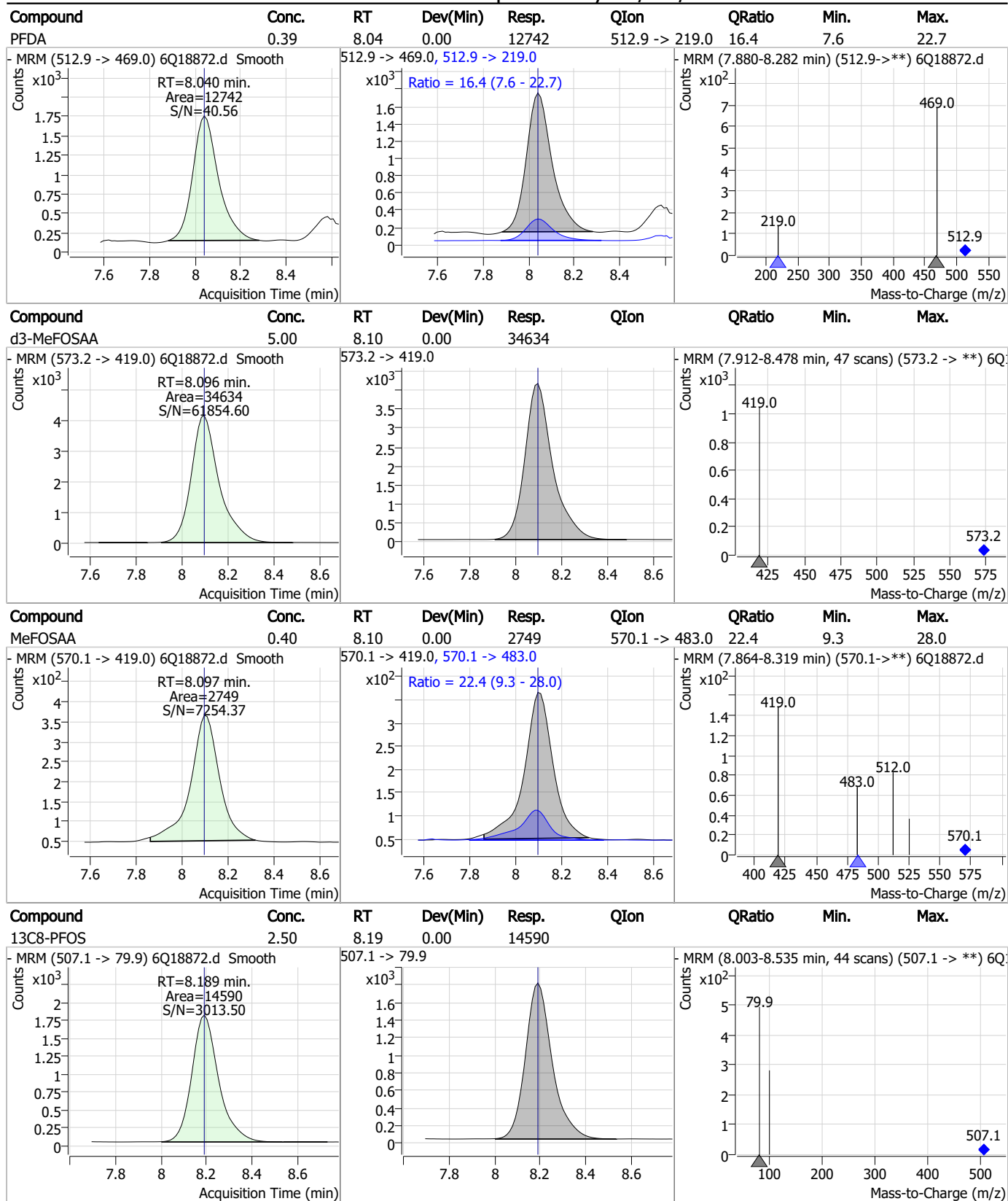
7.7.3
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Perfluorinated Compounds by LC/MS/MS



7.7.3
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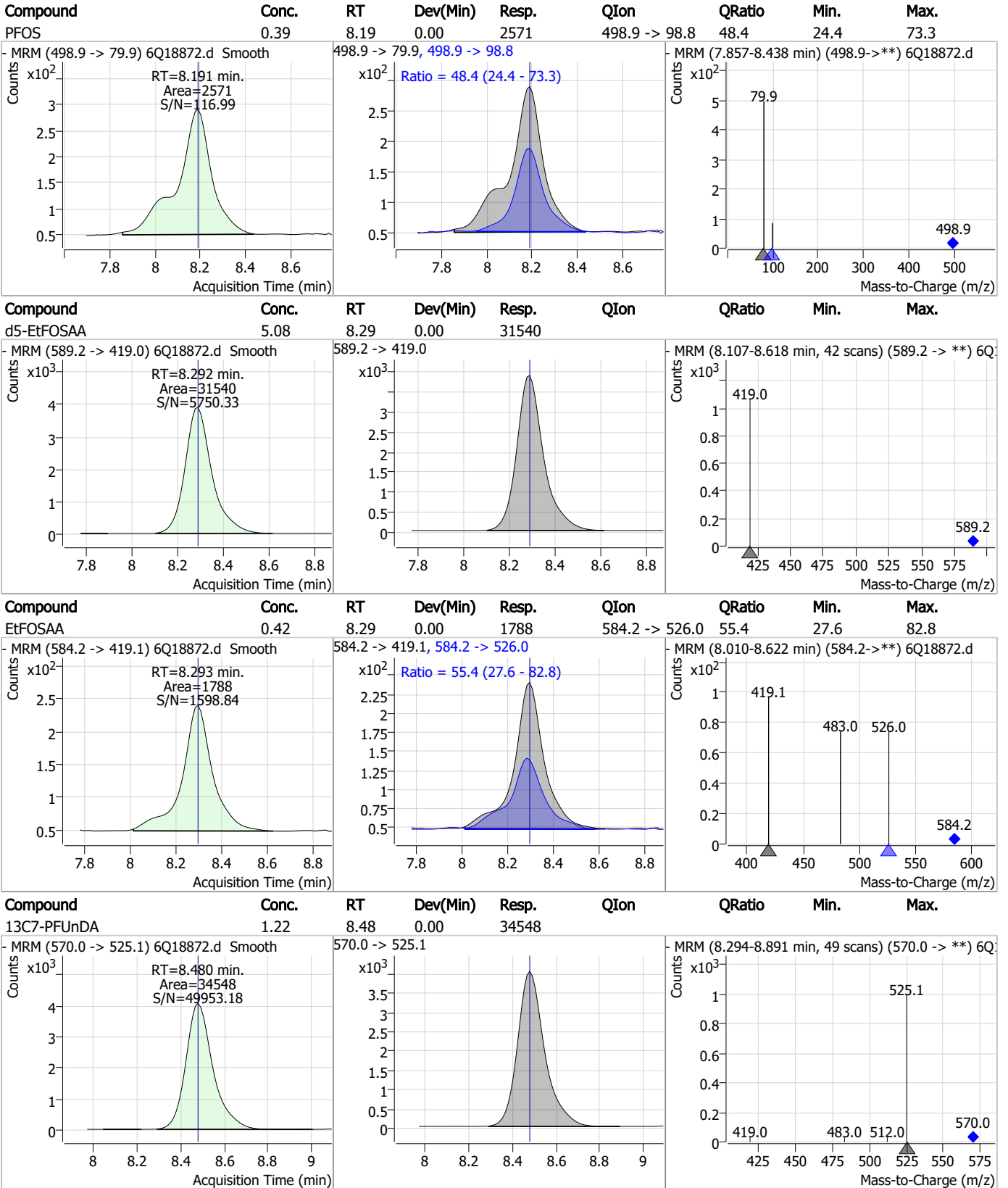
Perfluorinated Compounds by LC/MS/MS



7.7.3
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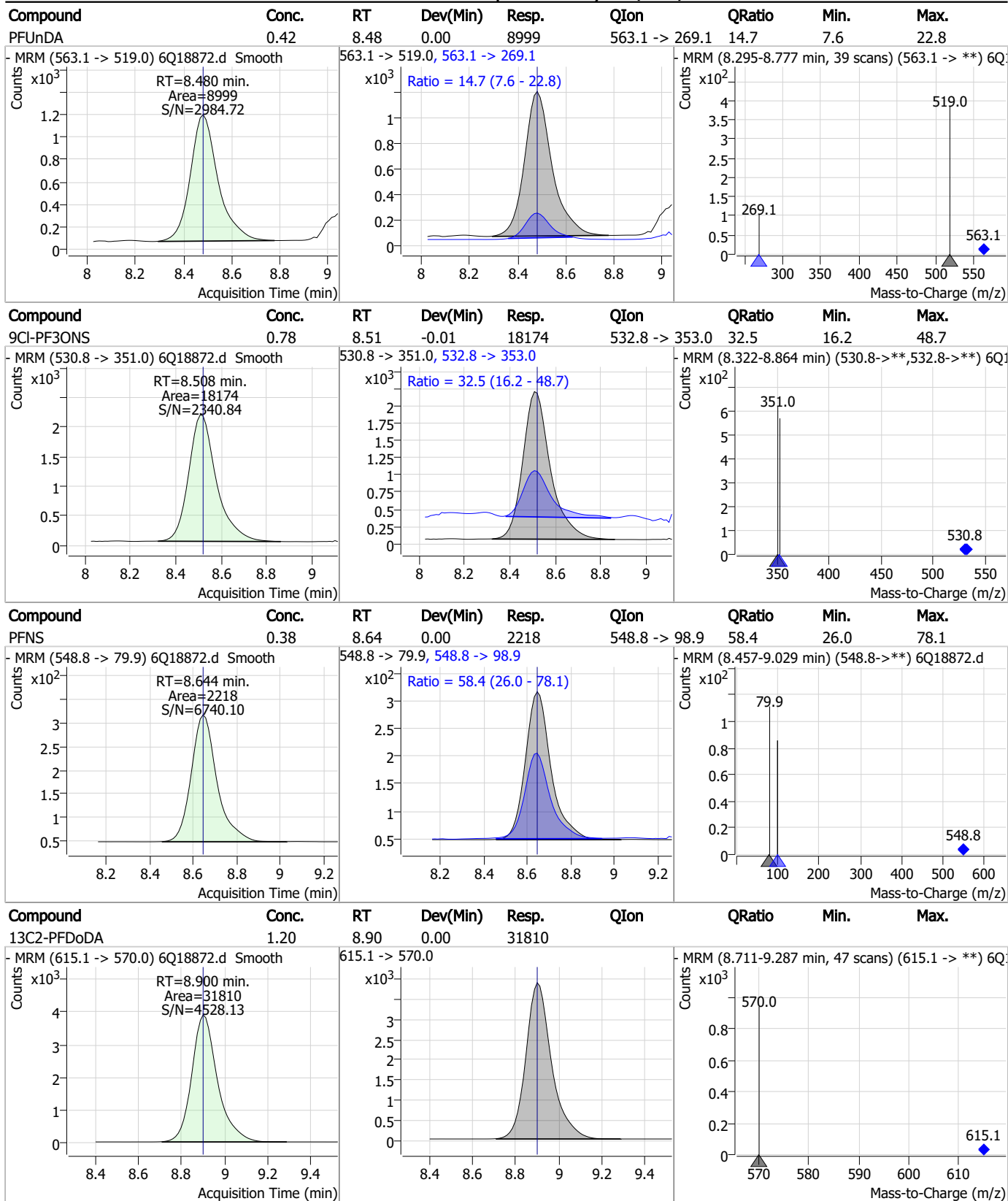
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7.7.3

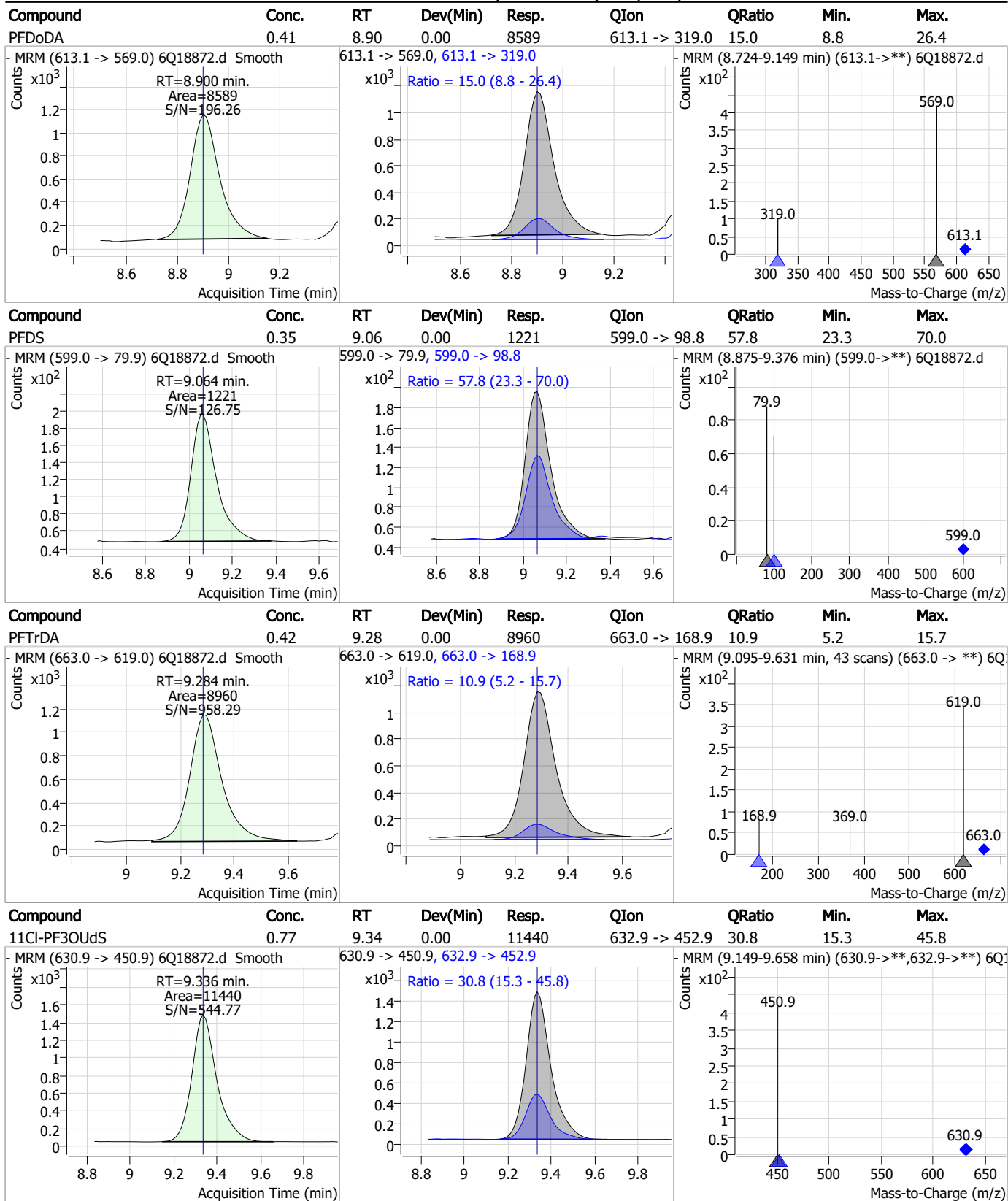
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Perfluorinated Compounds by LC/MS/MS



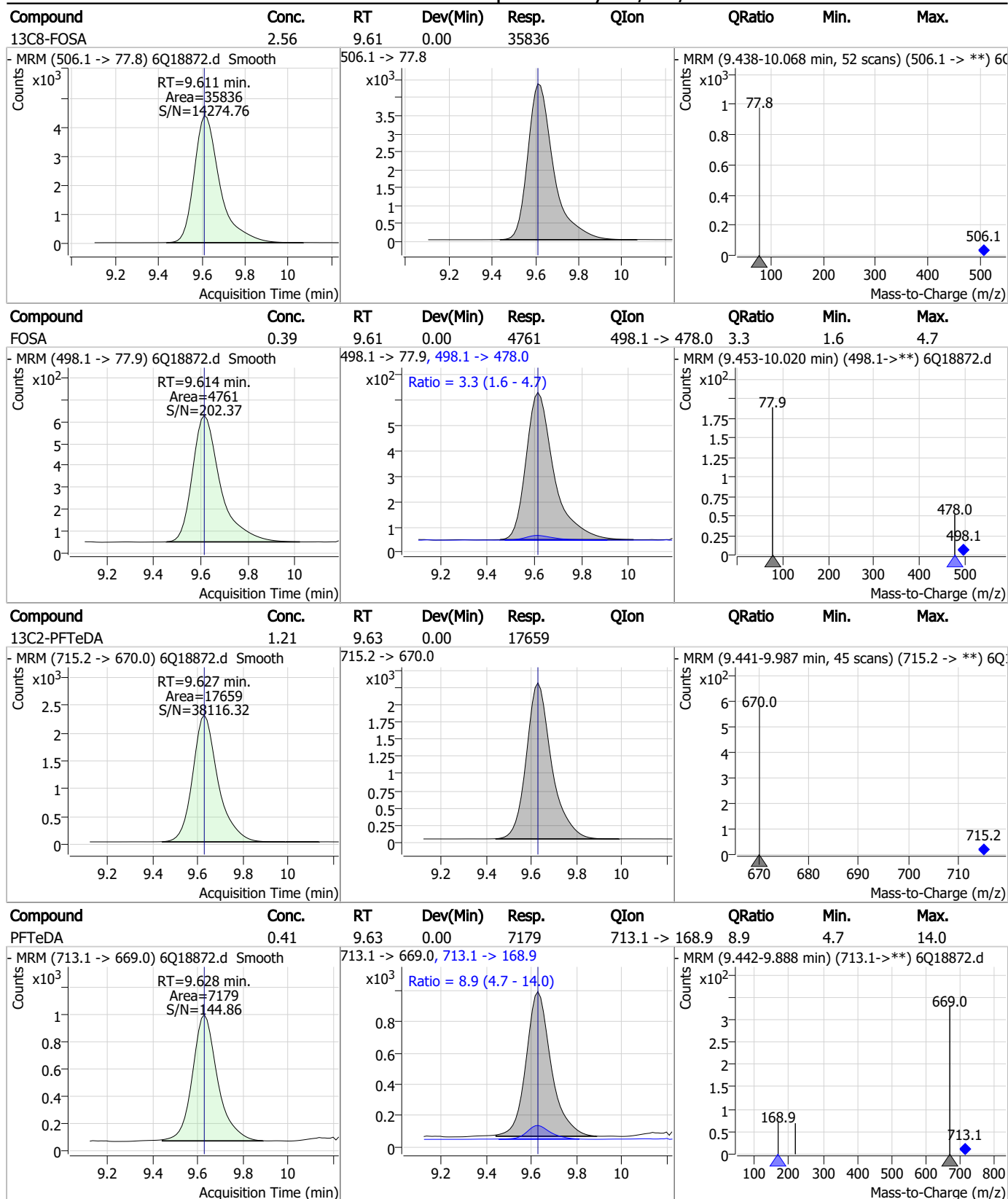
7.7.3
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Perfluorinated Compounds by LC/MS/MS



7.7.3
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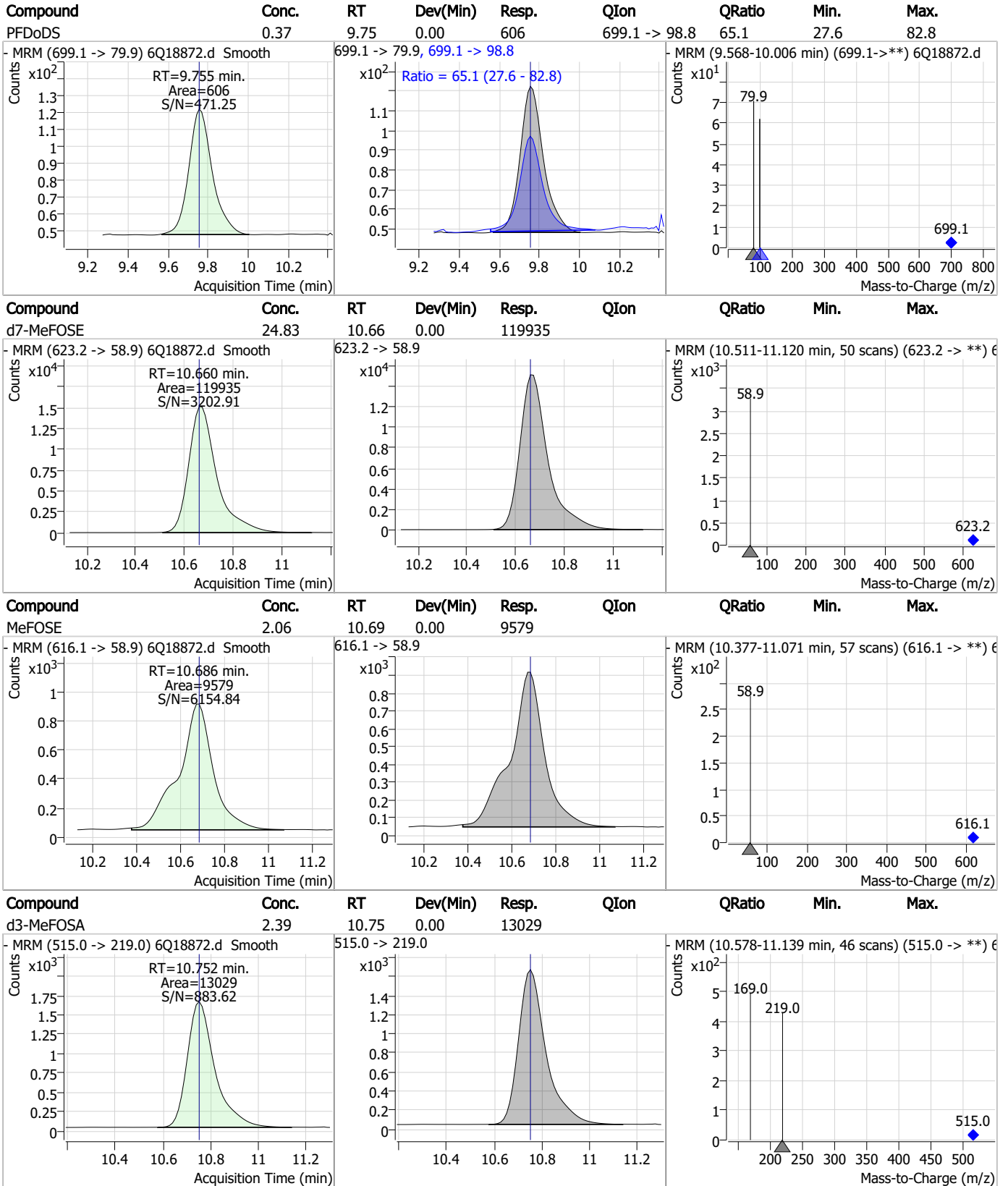
Perfluorinated Compounds by LC/MS/MS



7.7.3

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Perfluorinated Compounds by LC/MS/MS



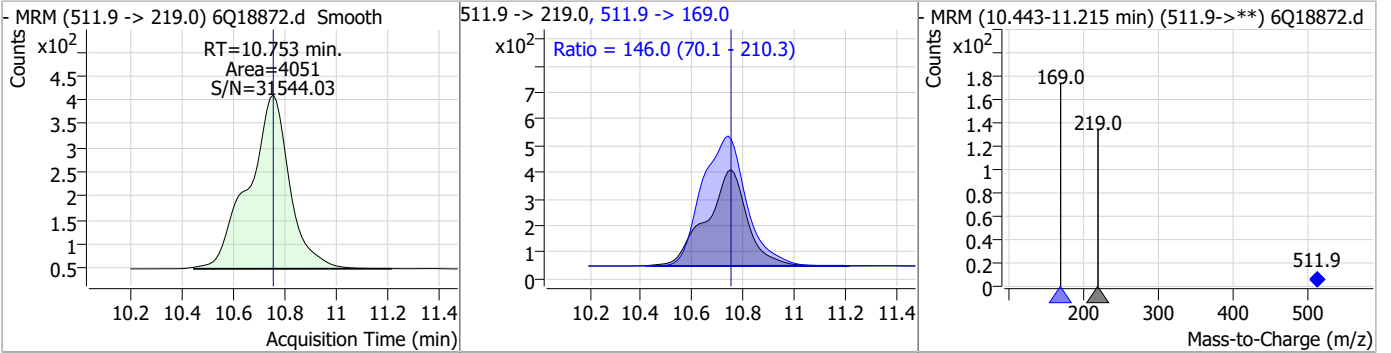
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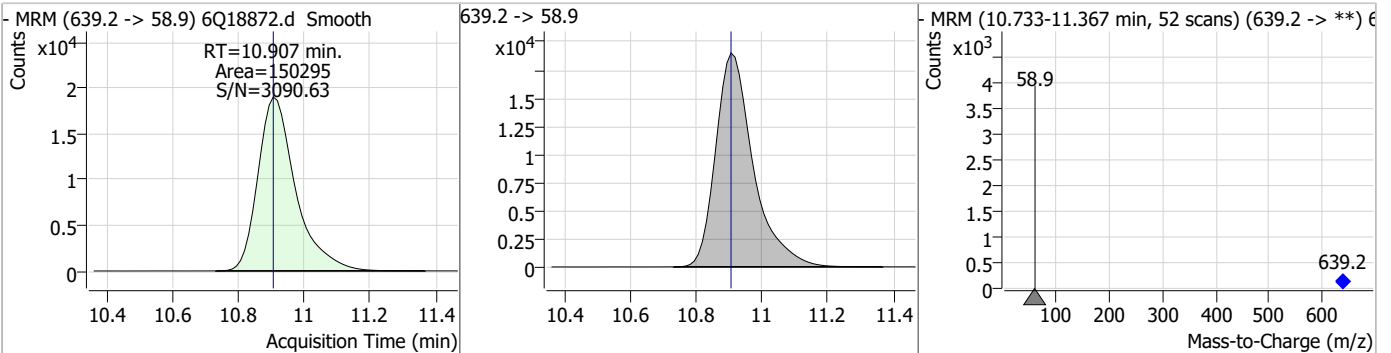


Perfluorinated Compounds by LC/MS/MS

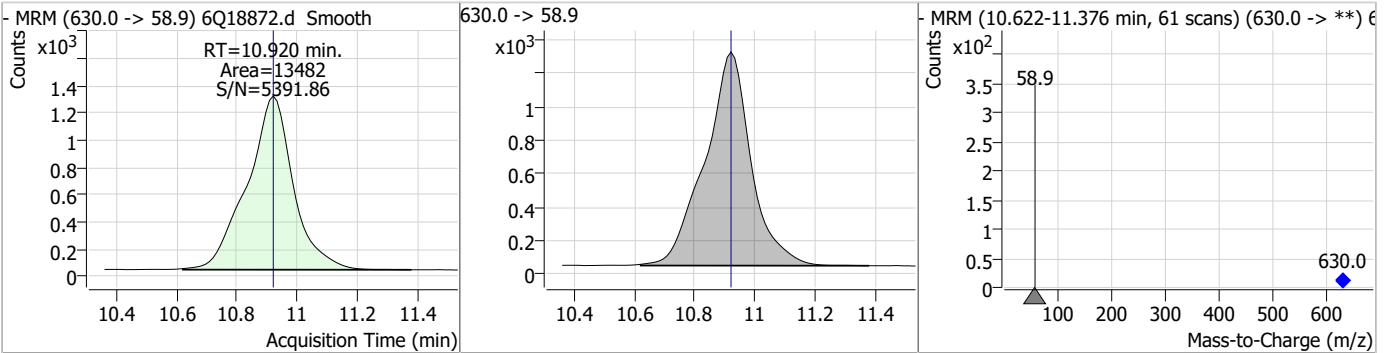
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOFA	0.82	10.75	0.00	4051	511.9 -> 169.0	146.0	70.1	210.3



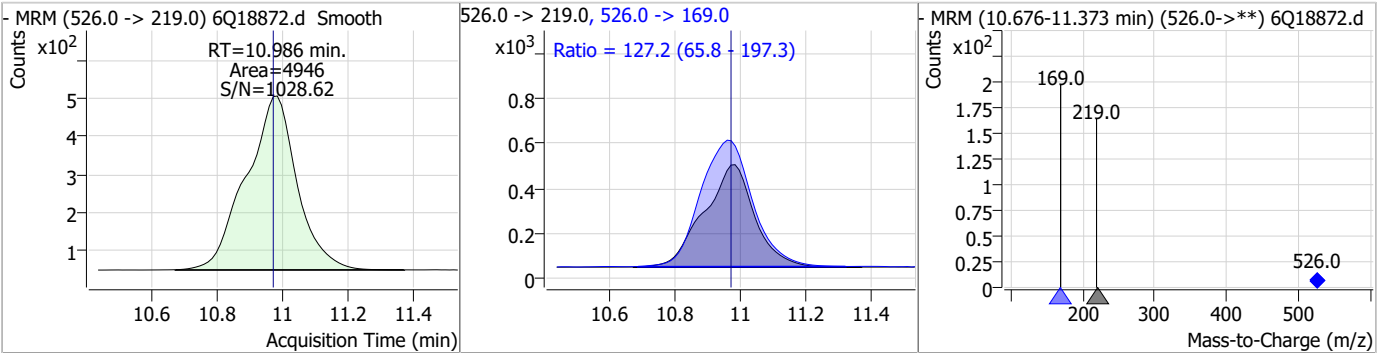
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.43	10.91	0.00	150295				



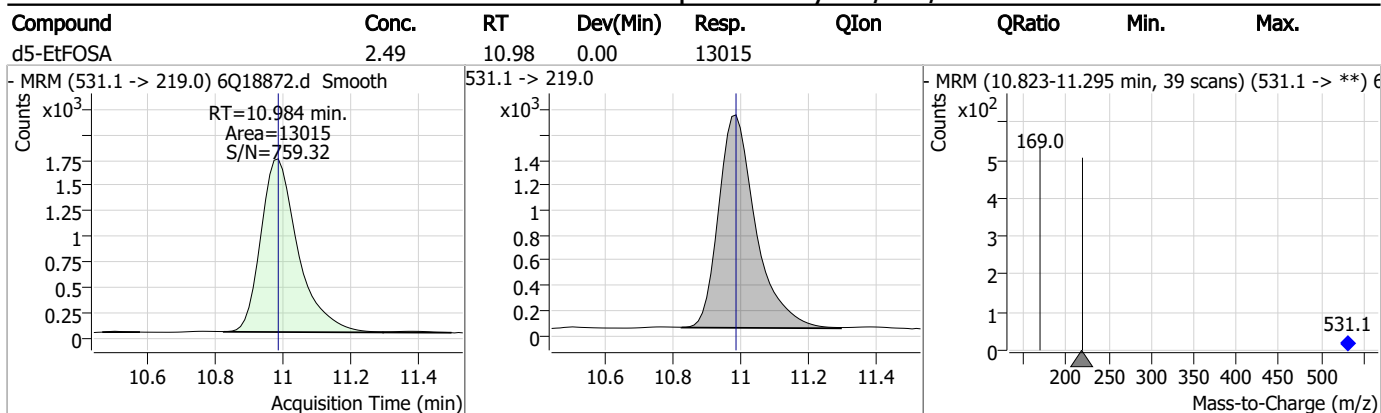
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	2.06	10.92	0.00	13482				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOFA	0.82	10.99	0.01	4946	526.0 -> 169.0	127.2	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



7.7.3

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Manual Integration Approval Summary

Sample Number: S6Q282-IC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18872.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/06/23 14:30 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak

7.7.3.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18873.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 2:44:41 PM
 Sample Name : ic282-3
 Vial : P1-A4
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	183004	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	62168	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	66629	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	62554	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	96341	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	45409	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	26852	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	35993	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	33229	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17615	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	34840	2.50 µg/L	0.000
M3-PFBS	5.397	302.1 -> 79.9	24324	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	14784	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14363	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4961	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6975	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6822	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	34221	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	38553	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	30543	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	119431	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	154829	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	12569	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13405	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18409	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	77369	5.00 µg/L	0.000
18O2-PFHxS	7.166	403.0 -> 83.9	11320	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	102050	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	34200	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	54835	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	63753	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4961	5.33 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.6%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6975	5.21 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.3%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6822	5.12 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.4%		
13C2-PFDoDA	8.900	615.1 -> 570.0	33229	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 106.4%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17615	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.9%		
13C3-PFBS	5.397	302.1 -> 79.9	24324	2.44 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 97.8%		
13C3-PFHxS	7.155	402.1 -> 79.9	14784	2.42 µg/L	0.000

7.7.4
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 96.8%		
13C4-PFBA	2.860	216.8 -> 171.9	183004	9.97 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 99.7%		
13C4-PFHpA	6.420	367.1 -> 322.0	62554	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.5%		
13C5-PFHxA	5.478	318.0 -> 273.0	66629	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.8%		
13C5-PFPeA	4.272	268.3 -> 223.0	62168	5.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.5%		
13C6-PFDA	8.039	519.1 -> 474.1	26852	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 105.9%		
13C7-PFUnDA	8.480	570.0 -> 525.1	35993	1.36 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 108.5%		
13C8-FOSA	9.611	506.1 -> 77.8	34840	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.0%		
13C8-PFOA	7.064	421.1 -> 376.0	96341	2.46 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.5%		
13C8-PFOS	8.189	507.1 -> 79.9	14363	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.8%		
13C9-PFNA	7.569	472.1 -> 427.0	45409	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.7%		
d3-MeFOSAA	8.096	573.2 -> 419.0	34221	5.16 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.2%		
13C3-HFPO-DA	5.844	286.9 -> 168.9	38553	9.60 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 96.0%		
d3-MeFOSA	10.752	515.0 -> 219.0	13405	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.8%		
d5-EtFOSAA	8.292	589.2 -> 419.0	30543	5.14 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.7%		
d7-MeFOSE	10.660	623.2 -> 58.9	119431	25.85 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 103.4%		
d9-EtFOSE	10.907	639.2 -> 58.9	154829	26.31 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 105.2%		
d5-EtFOSA	10.984	531.1 -> 219.0	12569	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.5%		
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	30958	4.56 µg/L	97
		327.1 -> 80.9	11977		
6:2FTS	6.838	427.1 -> 407.0	31656	4.79 µg/L	100
		427.1 -> 80.9	10686		
8:2FTS	7.840	527.1 -> 507.0	18651	5.10 µg/L	99
		527.1 -> 80.8	7530		
EtFOSAA	8.293	584.2 -> 419.1	5493	1.32 µg/L	93
		584.2 -> 526.0	2756		
FOSA	9.614	498.1 -> 77.9	14708	1.25 µg/L	100
		498.1 -> 478.0	460		
MeFOSAA	8.097	570.1 -> 419.0	8541	1.25 µg/L	94
		570.1 -> 483.0	1818		
PFBA	2.856	212.8 -> 168.9	29814	5.00 µg/L	100
PFBS	5.385	298.7 -> 79.9	9479	1.12 µg/L	98
		298.7 -> 98.8	3625		
PFDA	8.040	512.9 -> 469.0	39140	1.21 µg/L	99
		512.9 -> 219.0	5761		
PFDODA	8.900	613.1 -> 569.0	25282	1.17 µg/L	97
		613.1 -> 319.0	4075		
PFDS	9.064	599.0 -> 79.9	4210	1.23 µg/L	98

7.7.4
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	2013			
PFHpA	6.420	363.1 -> 319.0	33613	1.27	µg/L	100
		363.1 -> 169.0	5476			
PFHpS	7.710	449.0 -> 79.9	7465	1.15	µg/L	92
		449.0 -> 98.9	4075			
PFHxA	5.469	313.0 -> 269.0	26663	1.22	µg/L	99
		313.0 -> 118.9	1314			
PFHxS	7.156	398.7 -> 79.9	7807	1.13	µg/L	m 97
		398.7 -> 98.9	3927			
PFNA	7.570	463.0 -> 419.0	38137	1.18	µg/L	99
		463.0 -> 219.0	7793			
PFNS	8.644	548.8 -> 79.9	7233	1.26	µg/L	99
		548.8 -> 98.9	3713			
PFOA	7.066	413.0 -> 369.0	50668	1.25	µg/L	100
		413.0 -> 169.0	9097			
PFOS	8.191	498.9 -> 79.9	7378	1.12	µg/L	94
		498.9 -> 98.8	3926			
PFPeA	4.274	263.0 -> 219.0	36291	2.47	µg/L	100
PFPeS	6.471	349.1 -> 79.9	8276	1.24	µg/L	96
		349.1 -> 98.9	3528			
PFTeDA	9.628	713.1 -> 669.0	21711	1.25	µg/L	97
		713.1 -> 168.9	1772			
PFTrDA	9.284	663.0 -> 619.0	26038	1.18	µg/L	99
		663.0 -> 168.9	2839			
PFUnDA	8.480	563.1 -> 519.0	27630	1.24	µg/L	98
		563.1 -> 269.1	4485			
11CI-PF3OUdS	9.336	630.9 -> 450.9	35777	2.43	µg/L	99
		632.9 -> 452.9	10713			
9CI-PF3ONS	8.520	530.8 -> 351.0	55399	2.37	µg/L	97
		532.8 -> 353.0	16973			
ADONA	6.671	376.9 -> 250.9	132190	2.50	µg/L	98
		376.9 -> 84.8	34573			
HFPO-DA	5.845	284.9 -> 168.9	8208	2.55	µg/L	100
		284.9 -> 184.9	978			
3:3FTCA	3.709	241.0 -> 177.0	6266	6.02	µg/L	98
		241.0 -> 117.0	880			
5:3FTCA	6.137	341.0 -> 237.1	131197	31.09	µg/L	99
		341.0 -> 217.0	96481			
7:3FTCA	7.535	441.0 -> 316.9	93141	32.09	µg/L	88
		441.0 -> 336.9	192783			
EtFOSA	10.974	526.0 -> 219.0	14847	2.56	µg/L	98
		526.0 -> 169.0	19918			
EtFOSE	10.920	630.0 -> 58.9	41199	6.10	µg/L	100
MeFOSA	10.753	511.9 -> 219.0	12933	2.53	µg/L	99
		511.9 -> 169.0	18305			
MeFOSE	10.673	616.1 -> 58.9	29232	6.32	µg/L	100
PFDoDS	9.755	699.1 -> 79.9	1965	1.21	µg/L	98
		699.1 -> 98.8	1058			
NFDHA	5.361	295.0 -> 201.0	6804	2.59	µg/L	97
		295.0 -> 84.9	1797			
PFMBA	4.688	279.0 -> 85.1	25010	2.46	µg/L	100
PFMPA	3.401	229.0 -> 84.9	19274	2.49	µg/L	100
PFEESA	5.926	314.8 -> 134.9	62307	2.24	µg/L	100
		314.8 -> 82.9	2247			

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

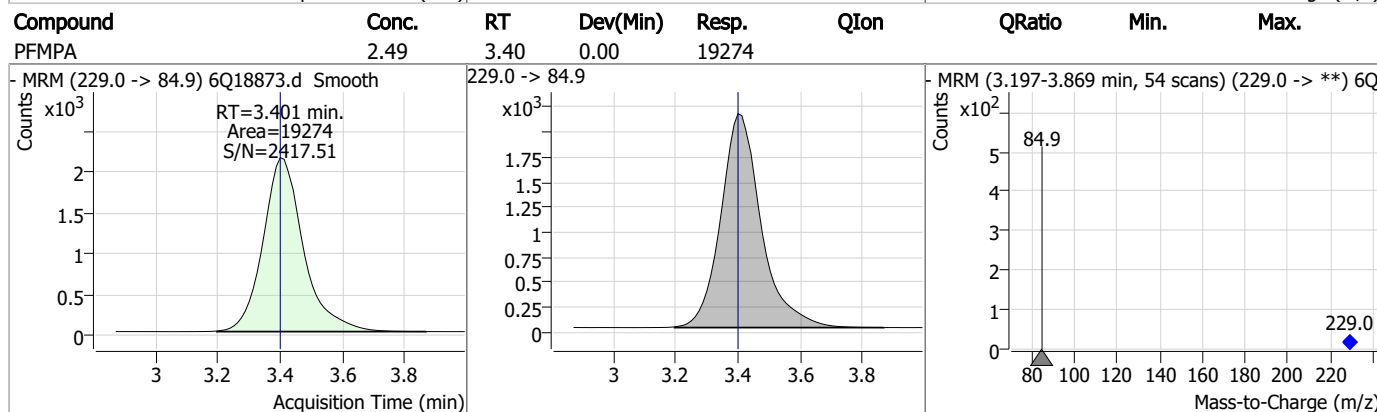
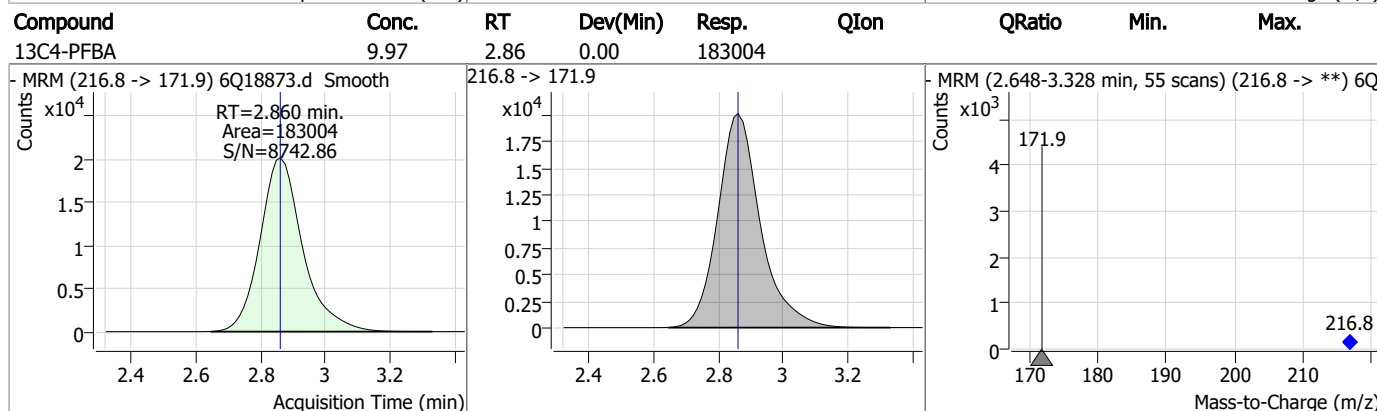
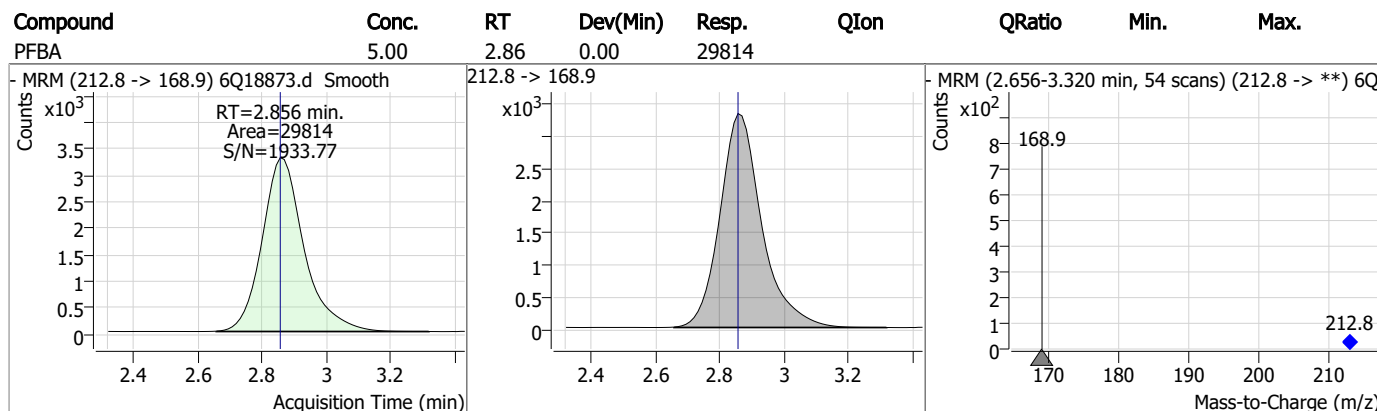
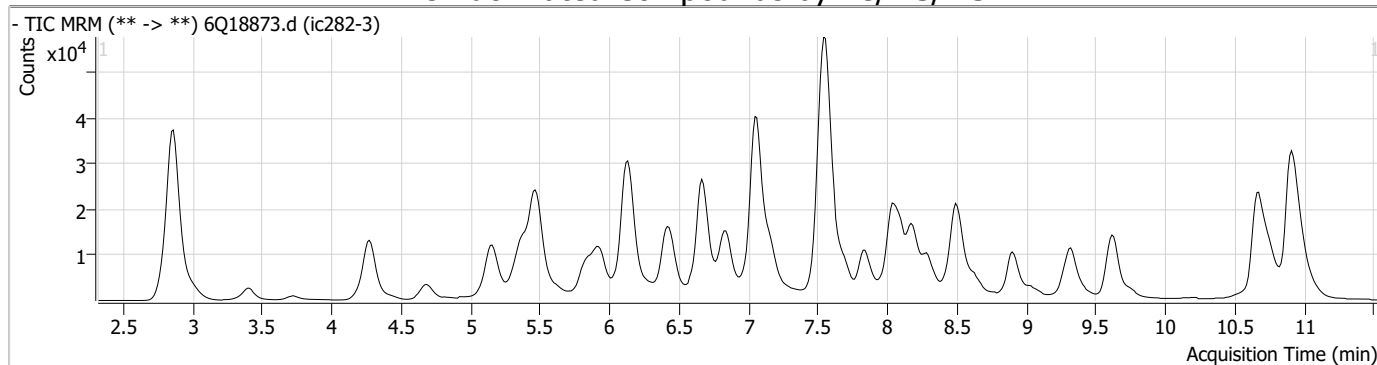
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.4

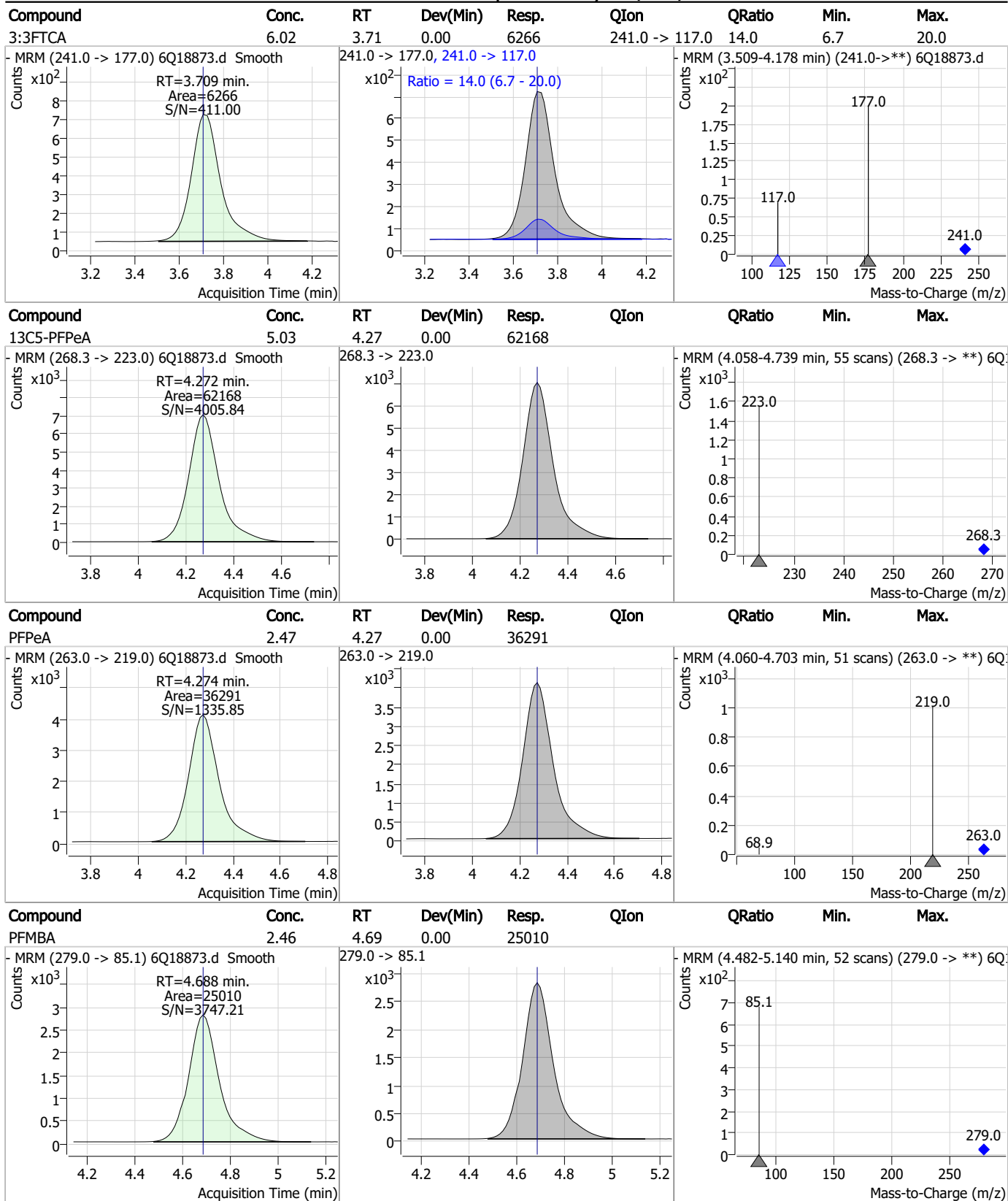
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Perfluorinated Compounds by LC/MS/MS



7.7.4
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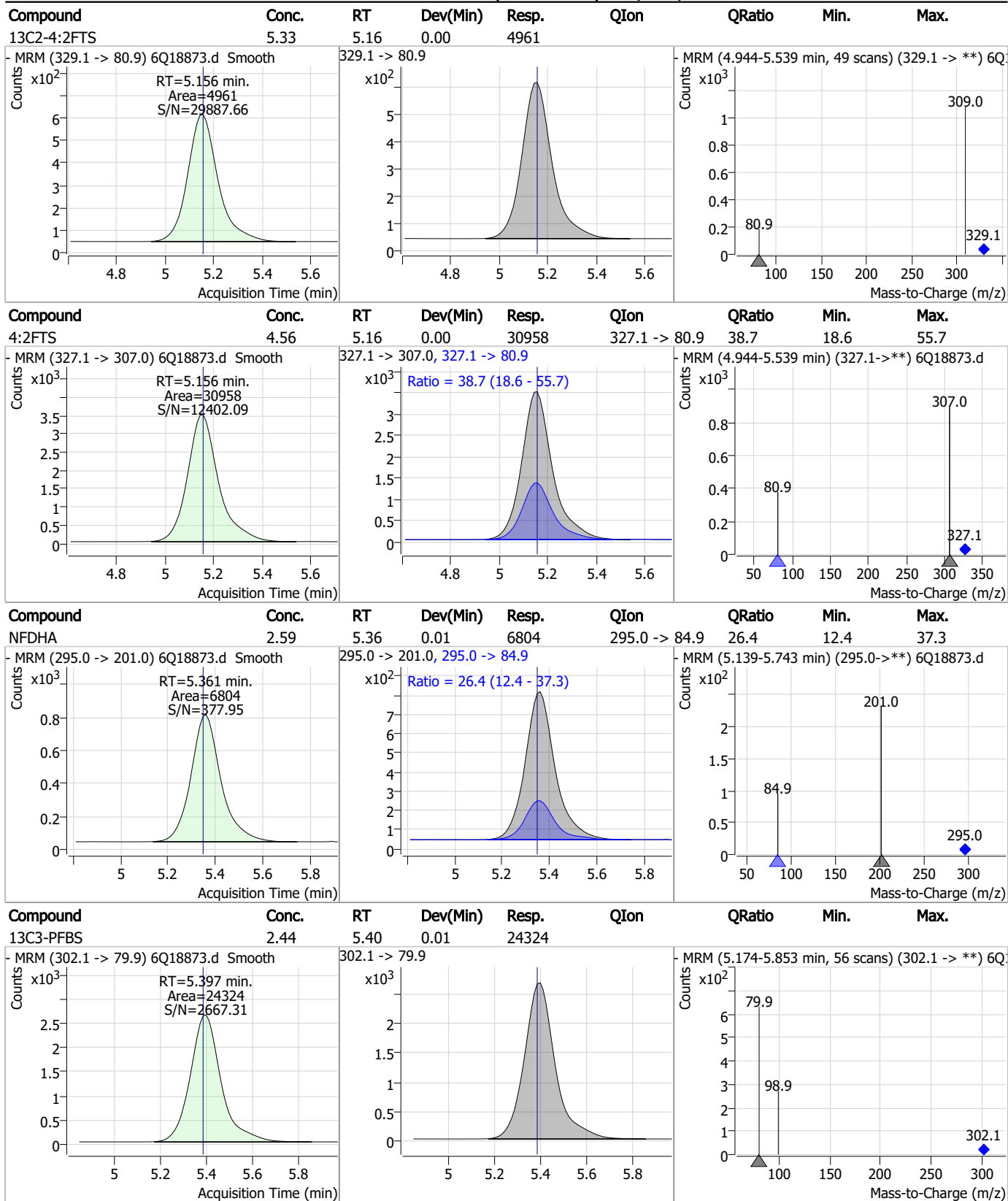
Perfluorinated Compounds by LC/MS/MS



7.7.4

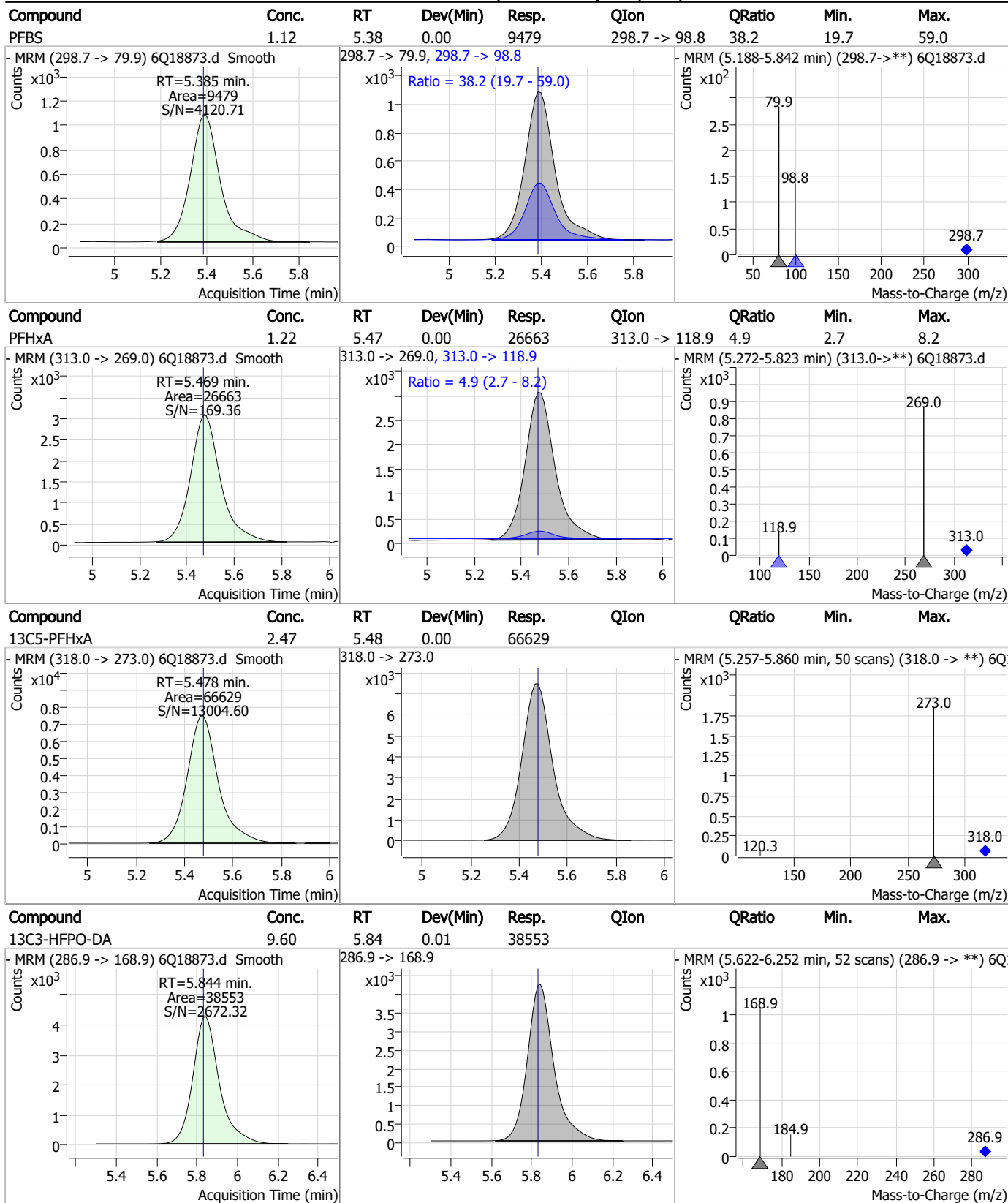
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Perfluorinated Compounds by LC/MS/MS



7.7.4
7

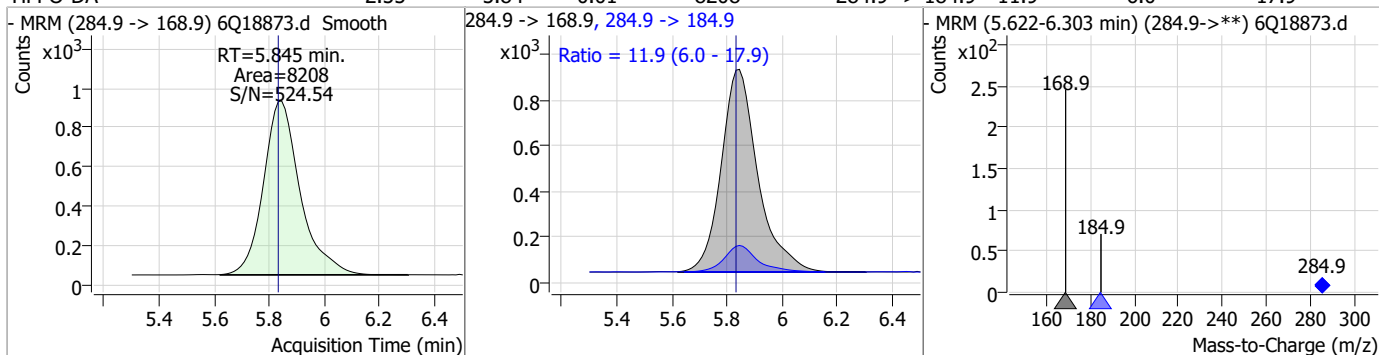
Perfluorinated Compounds by LC/MS/MS



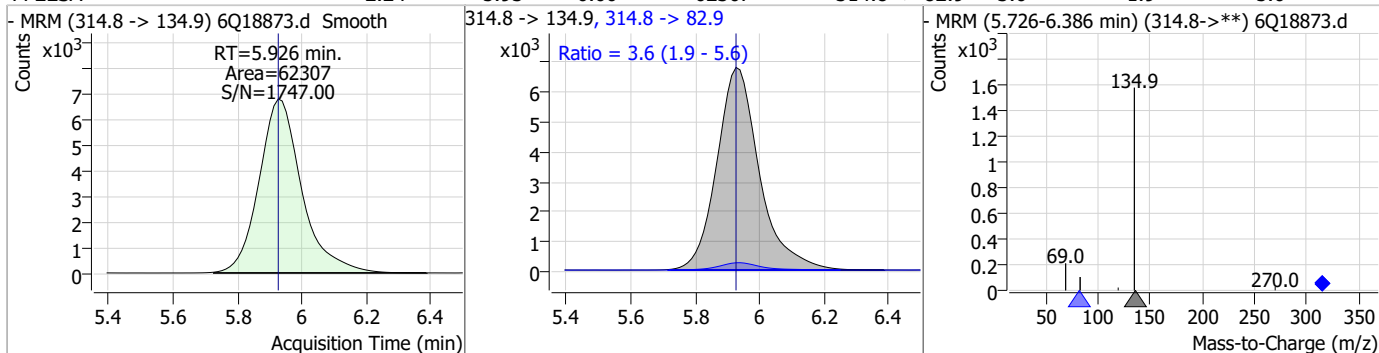
7.7.4
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Perfluorinated Compounds by LC/MS/MS

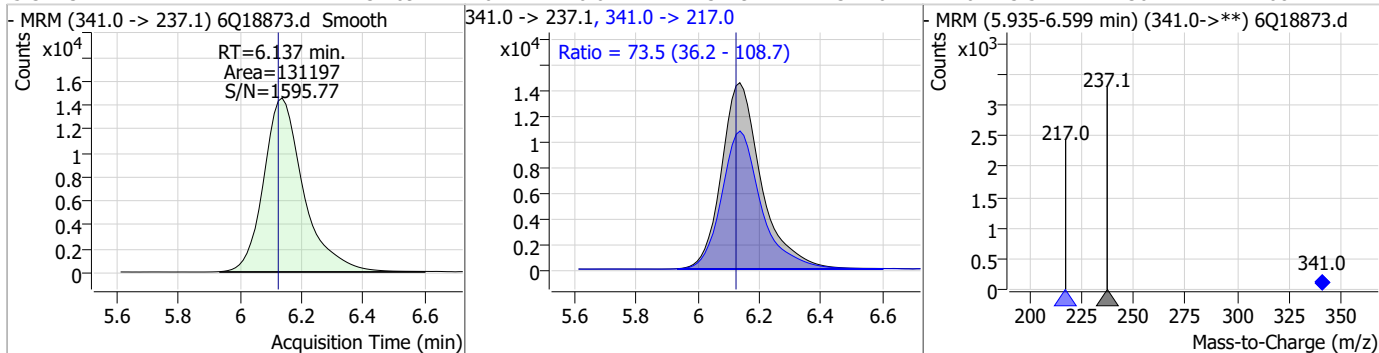
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	2.55	5.84	0.01	8208	284.9 -> 184.9	11.9	6.0	17.9



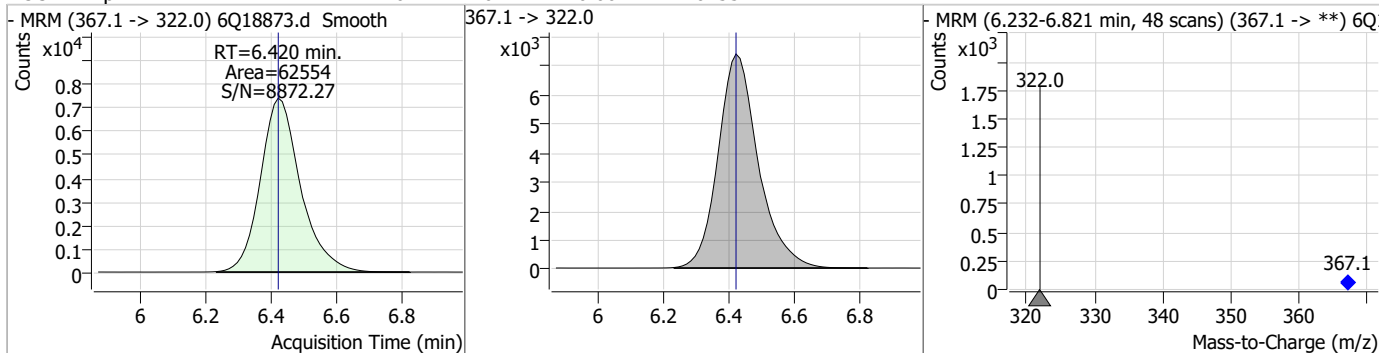
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	2.24	5.93	0.00	62307	314.8 -> 82.9	3.6	1.9	5.6



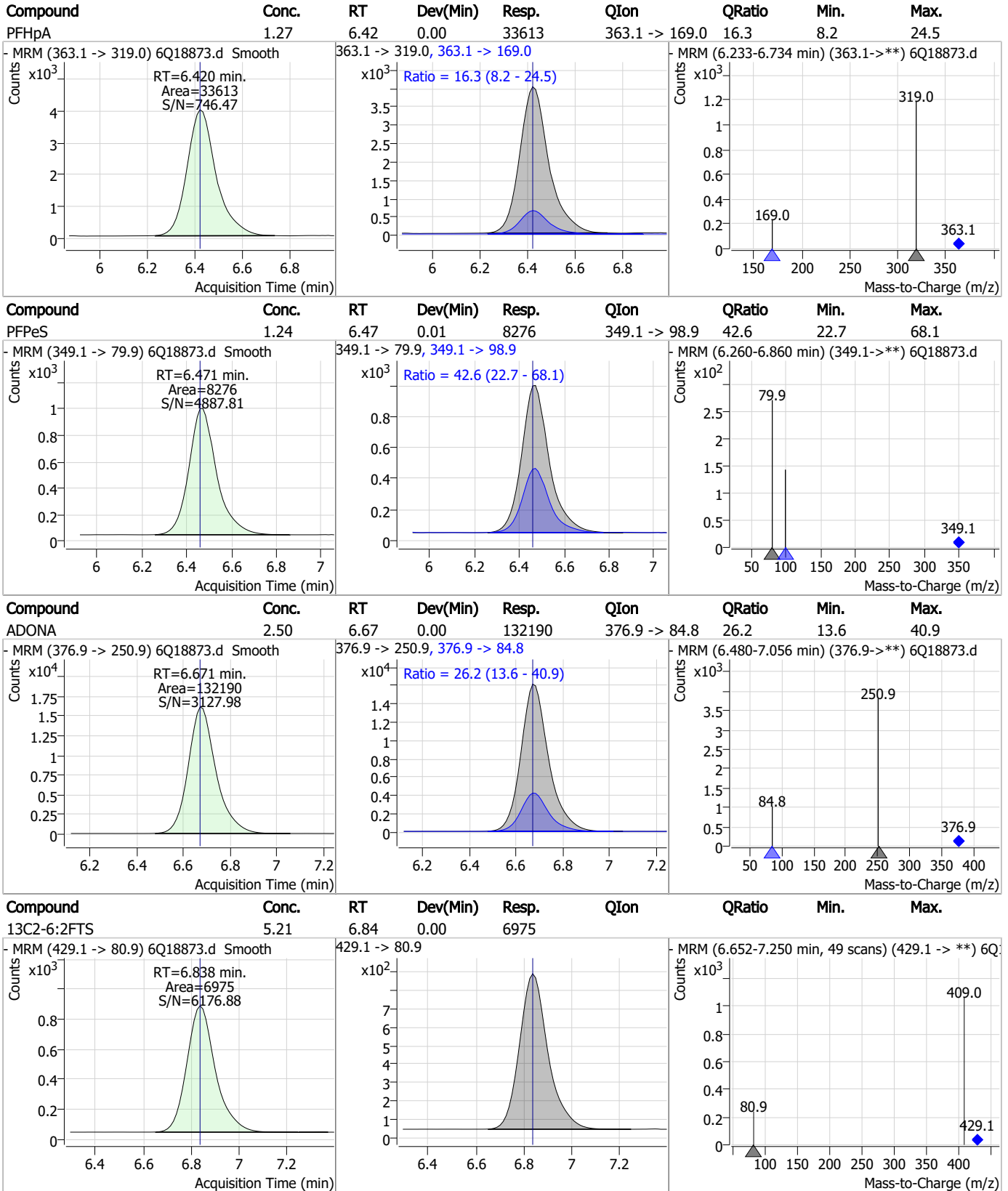
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	31.09	6.14	0.01	131197	341.0 -> 217.0	73.5	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.46	6.42	0.00	62554	367.1 -> 322.0			



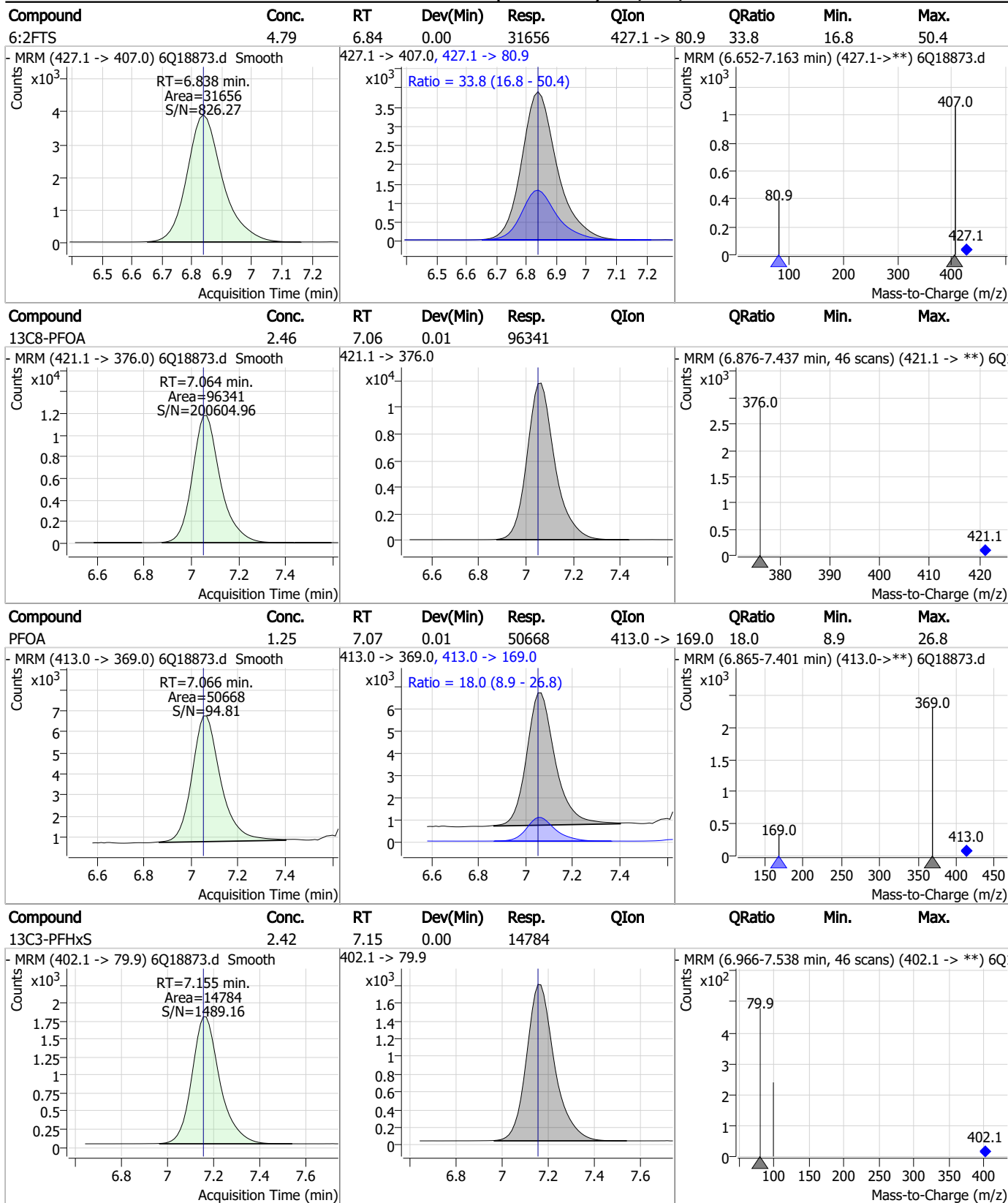
Perfluorinated Compounds by LC/MS/MS



7.7.4

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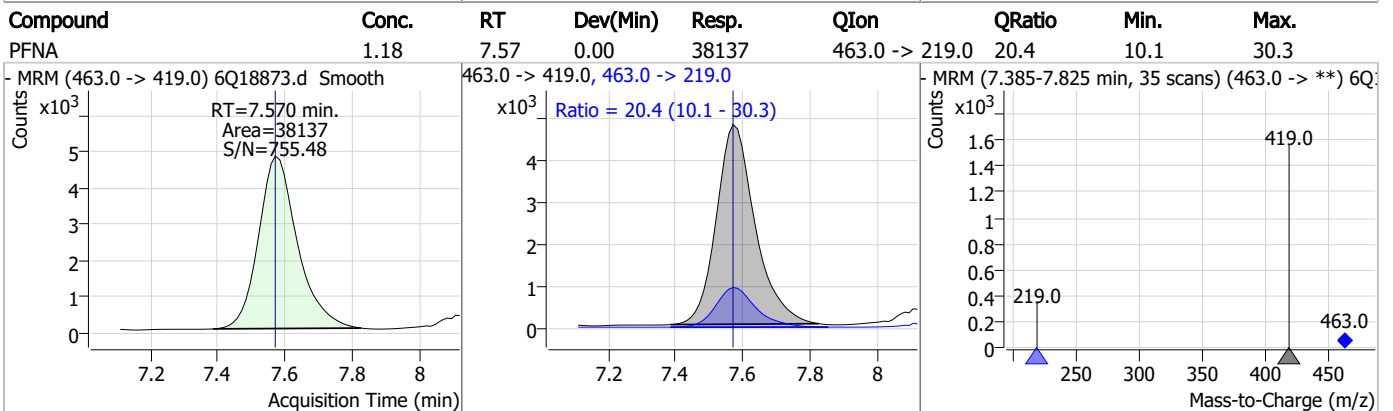
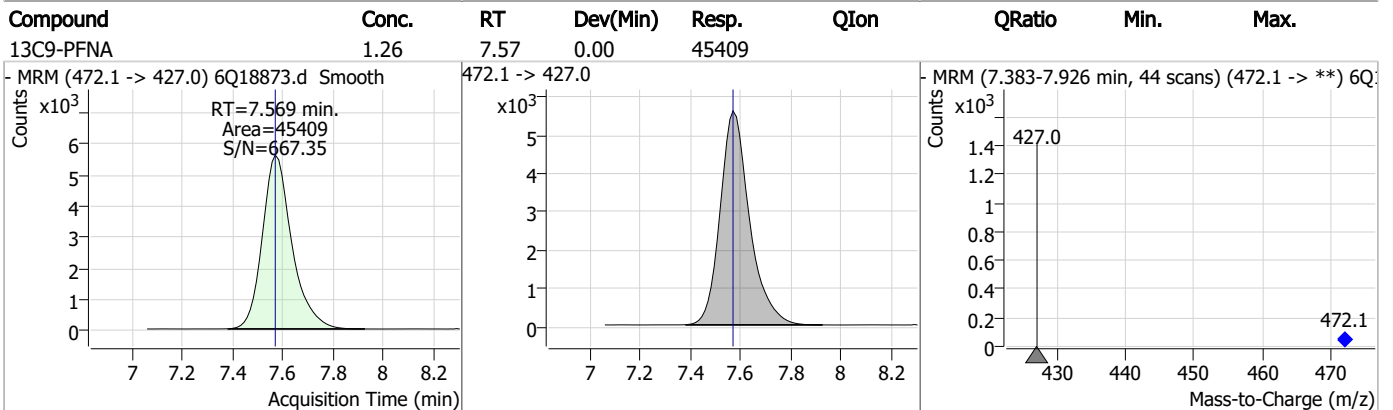
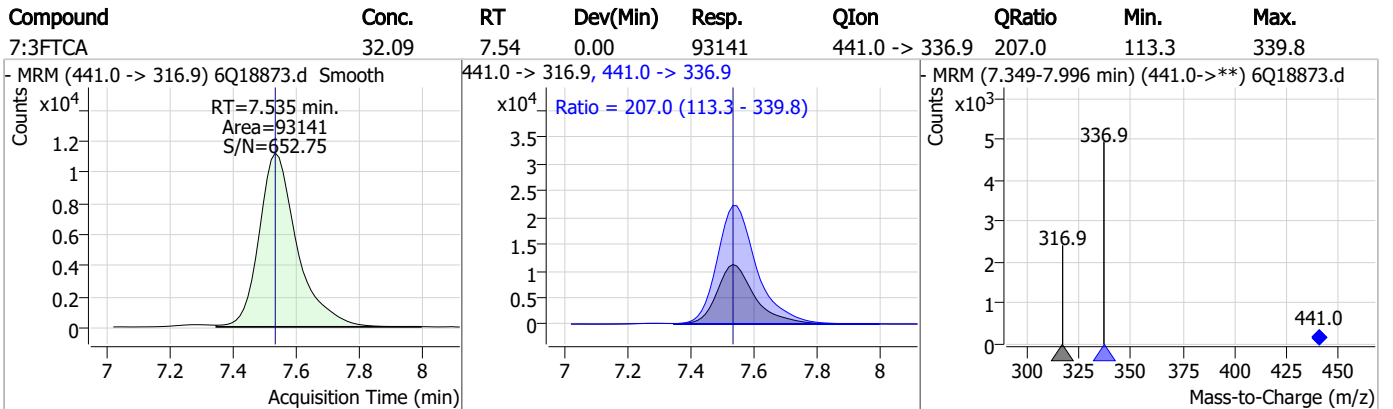
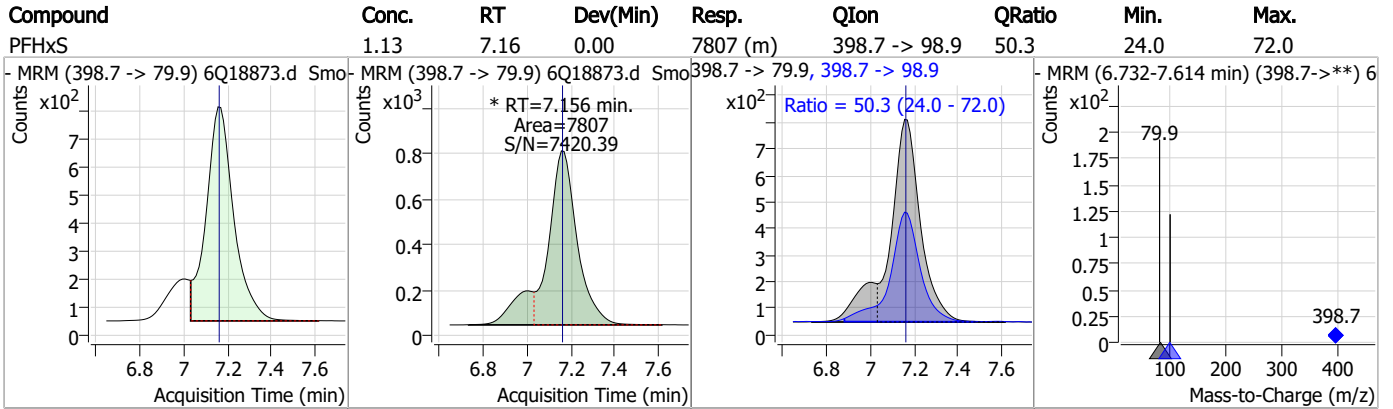
Perfluorinated Compounds by LC/MS/MS



7.7.4

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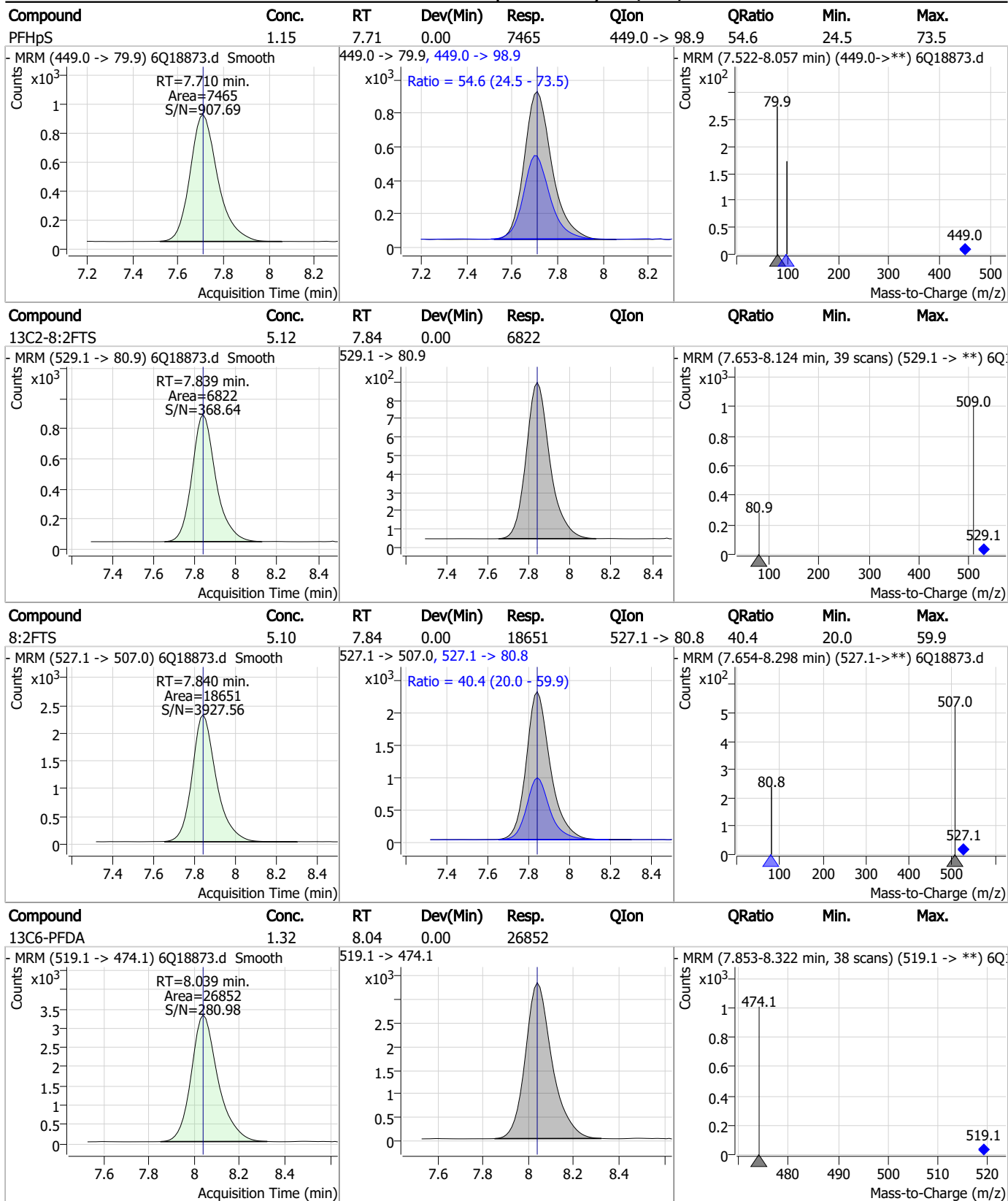
Perfluorinated Compounds by LC/MS/MS



7.7.4

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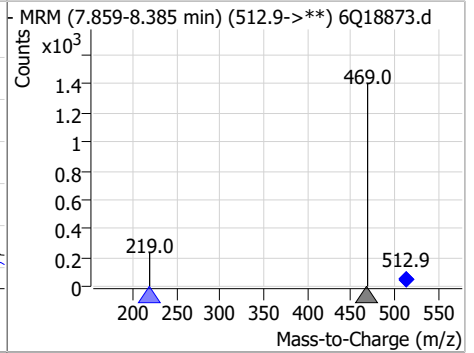
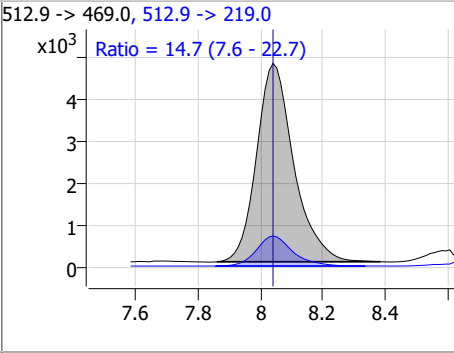
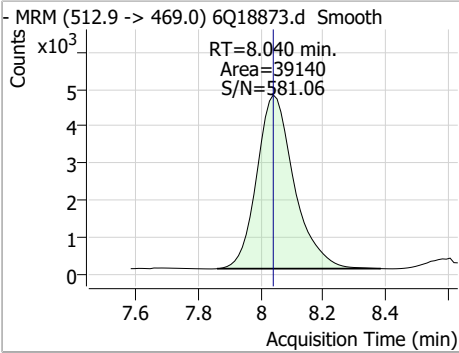
Perfluorinated Compounds by LC/MS/MS



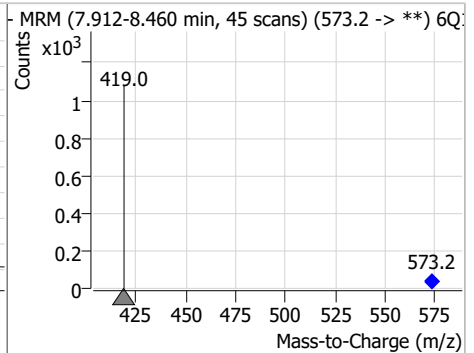
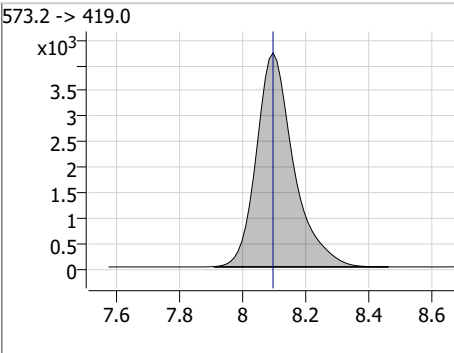
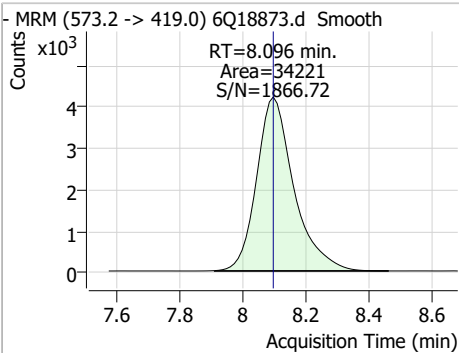
7.7.4
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Perfluorinated Compounds by LC/MS/MS

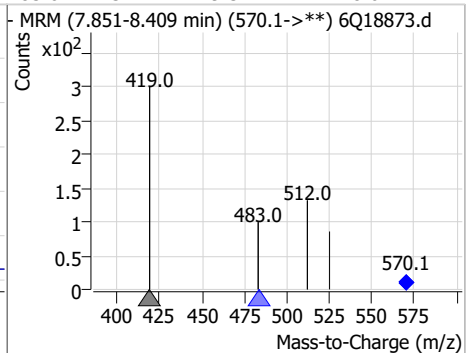
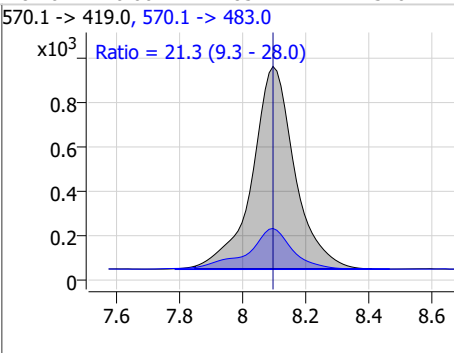
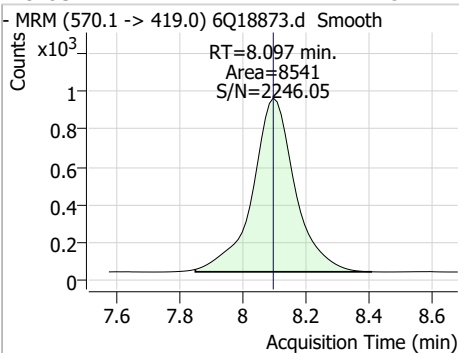
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	1.21	8.04	0.00	39140	512.9 -> 219.0	14.7	7.6	22.7



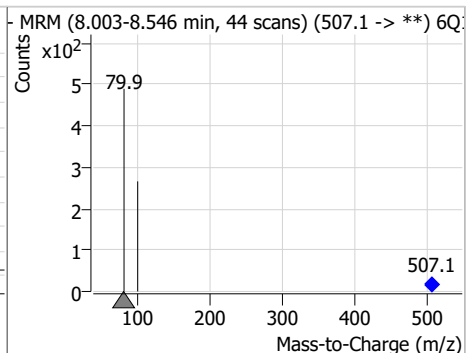
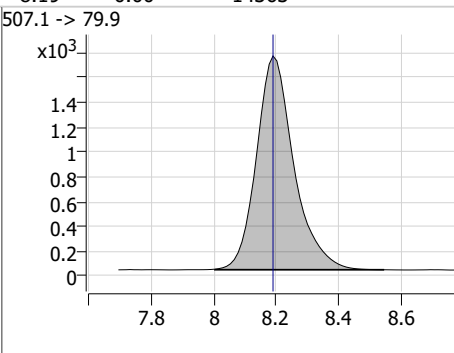
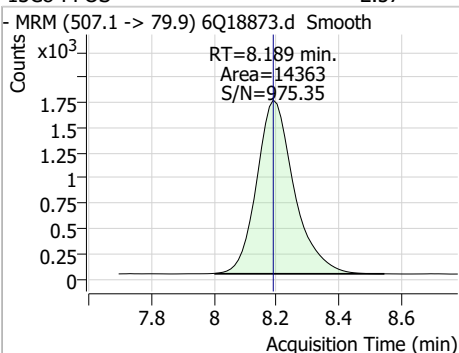
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.16	8.10	0.00	34221	573.2 -> 419.0	21.3	9.3	28.0



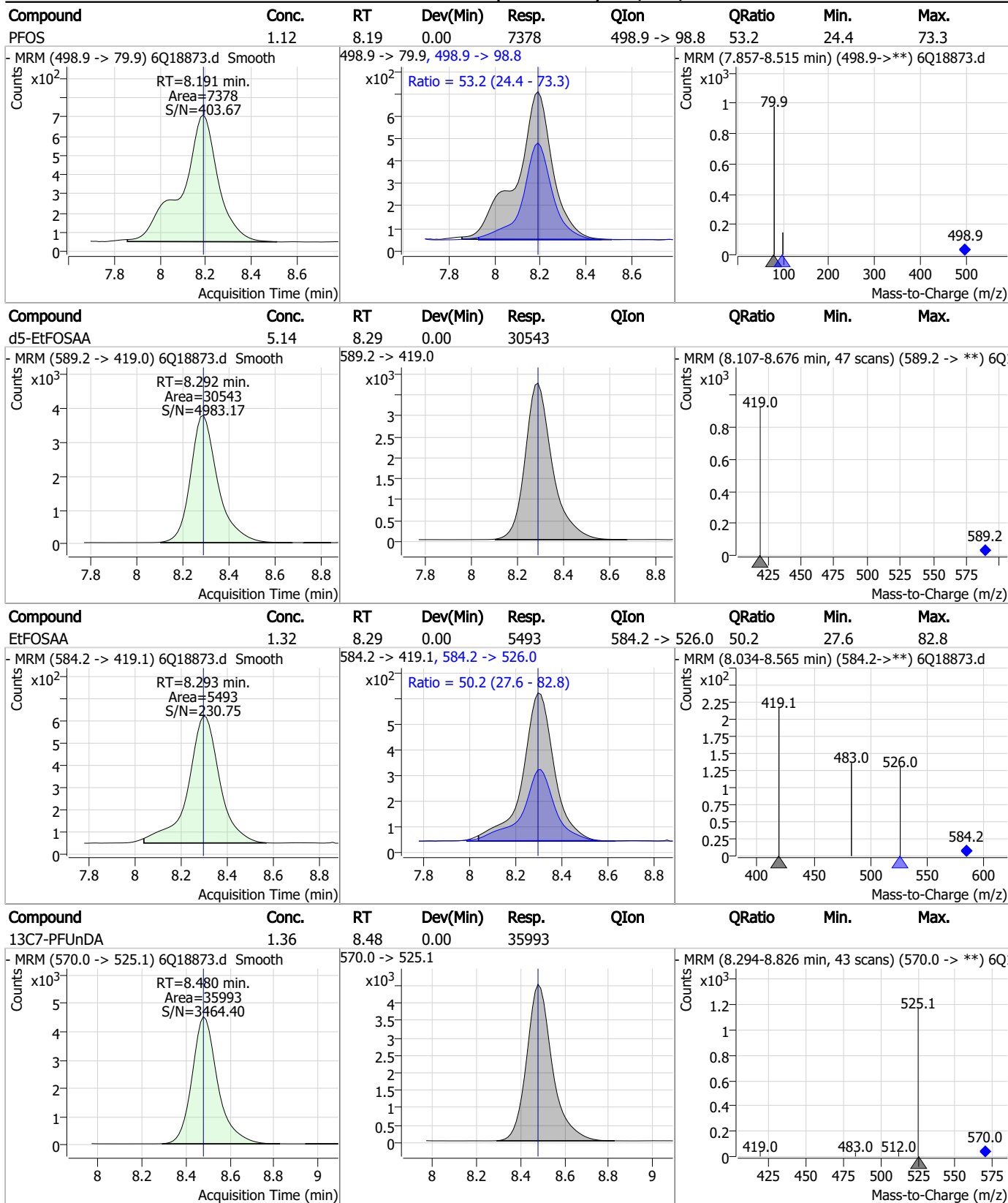
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	1.25	8.10	0.00	8541	570.1 -> 483.0	21.3	9.3	28.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.57	8.19	0.00	14363	507.1 -> 79.9	21.3	9.3	28.0



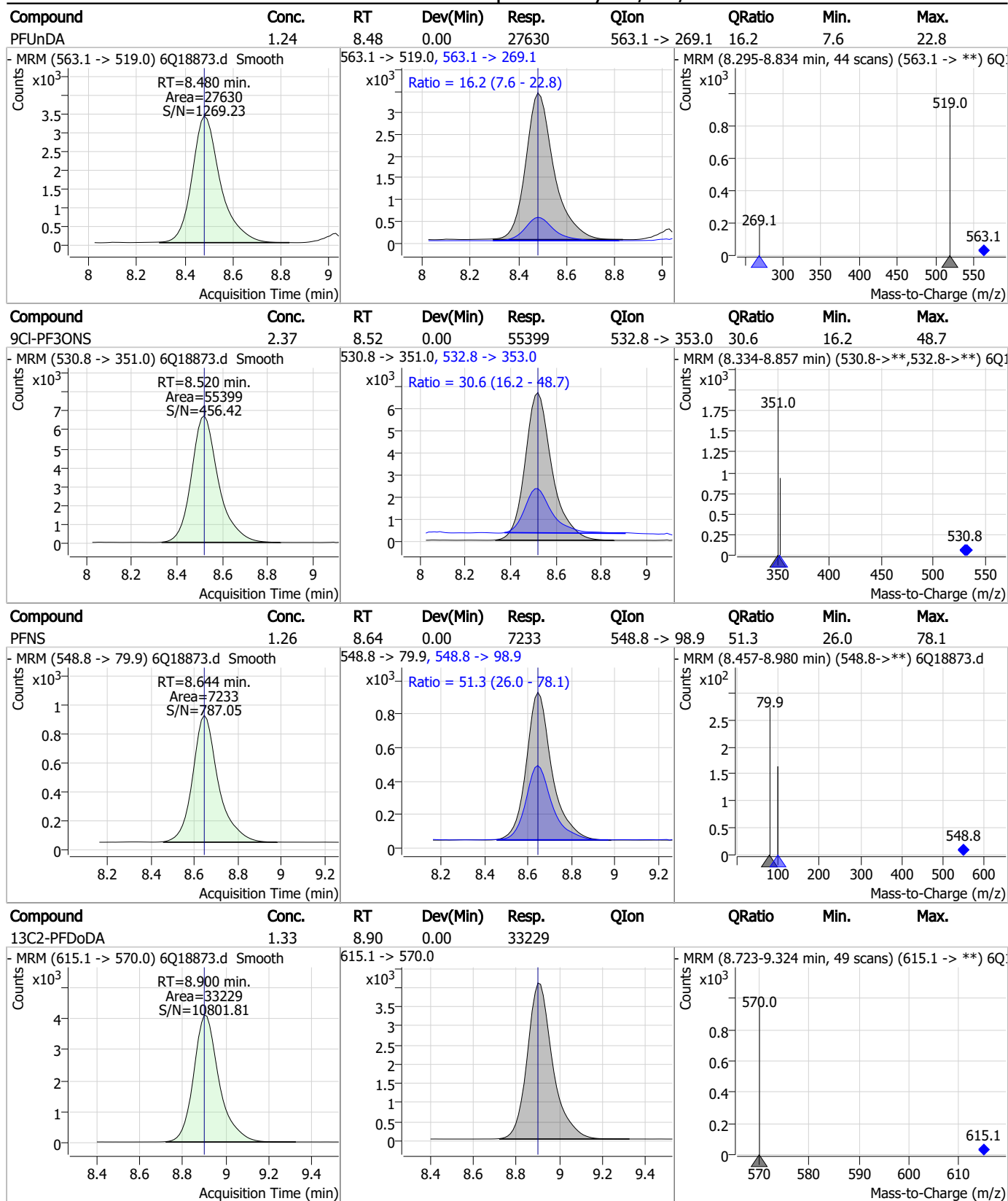
Perfluorinated Compounds by LC/MS/MS



7.7.4

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Perfluorinated Compounds by LC/MS/MS

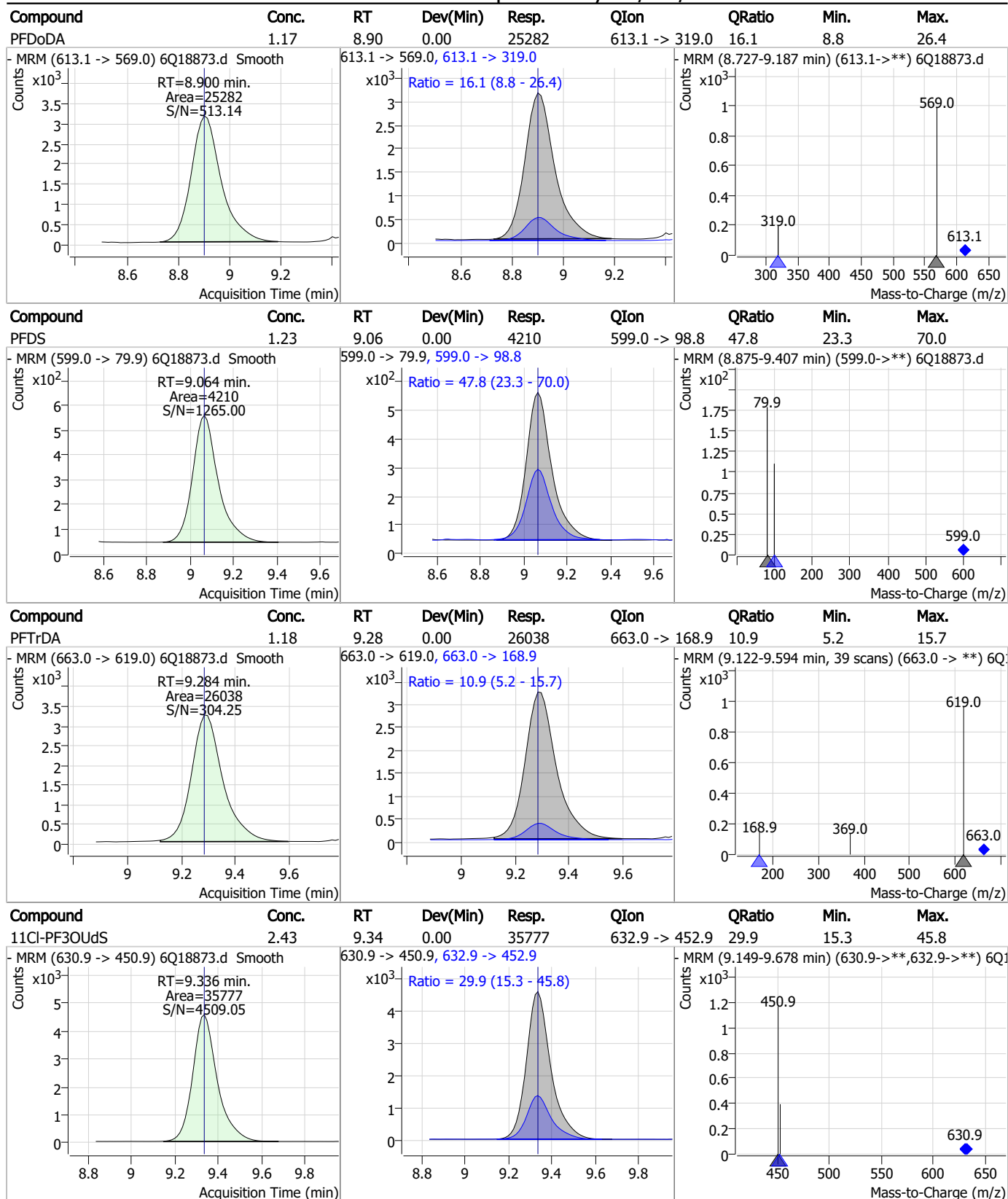


7.7.4

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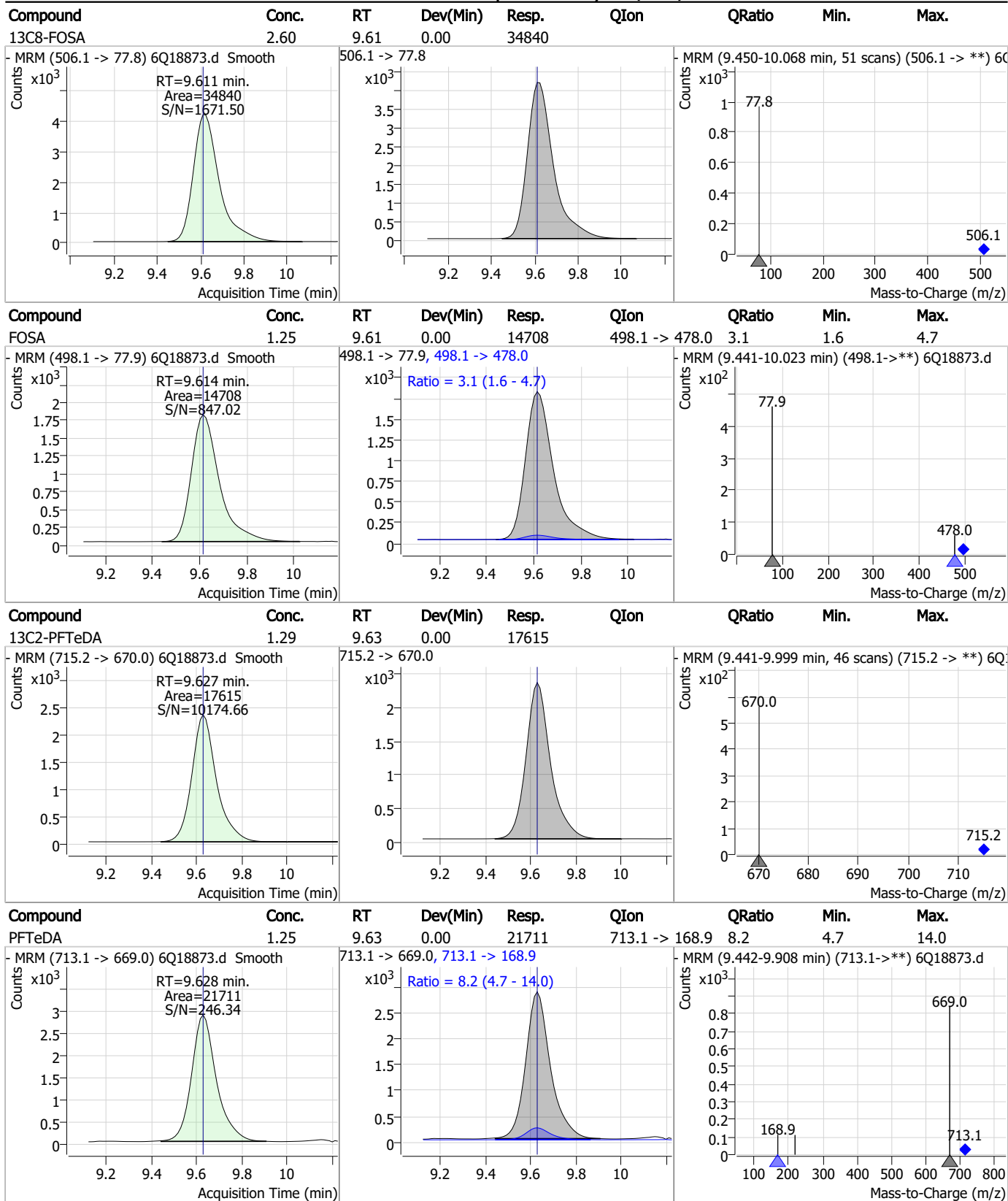


Perfluorinated Compounds by LC/MS/MS



7.7.4
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Perfluorinated Compounds by LC/MS/MS

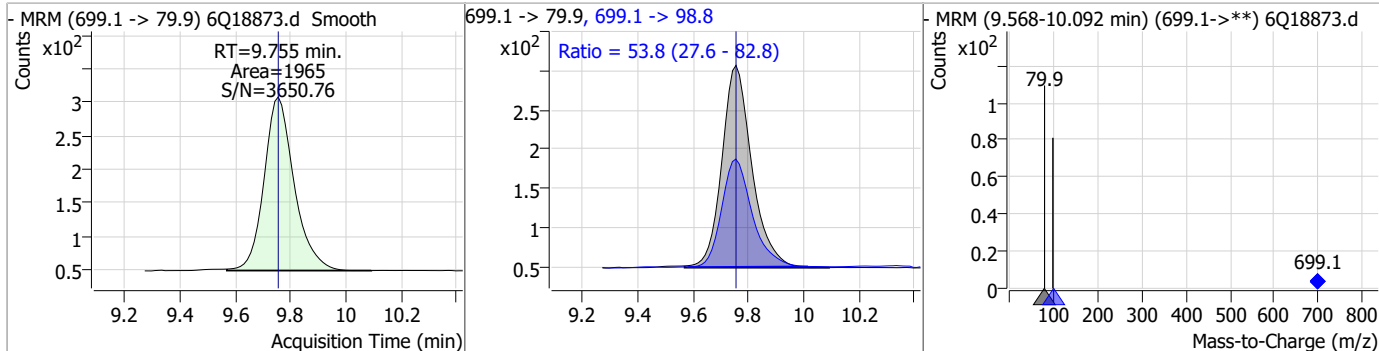


7.7.4
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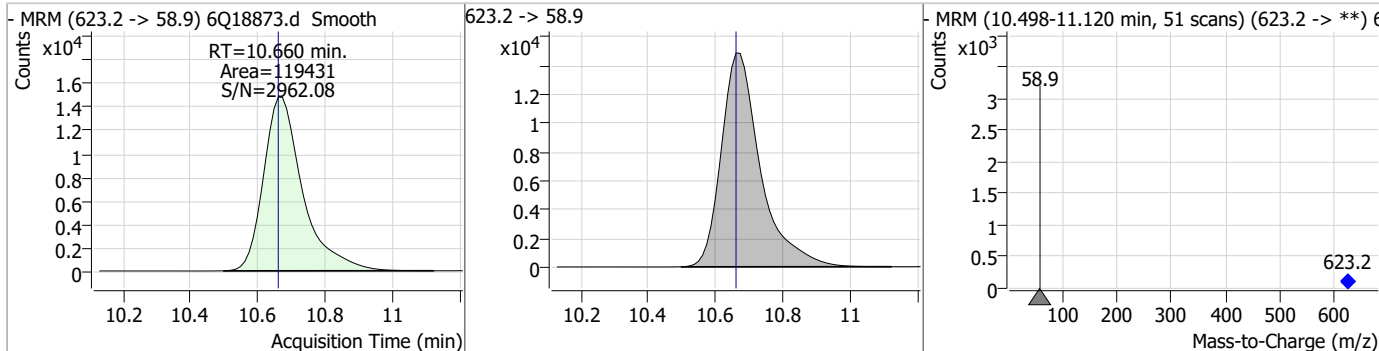


Perfluorinated Compounds by LC/MS/MS

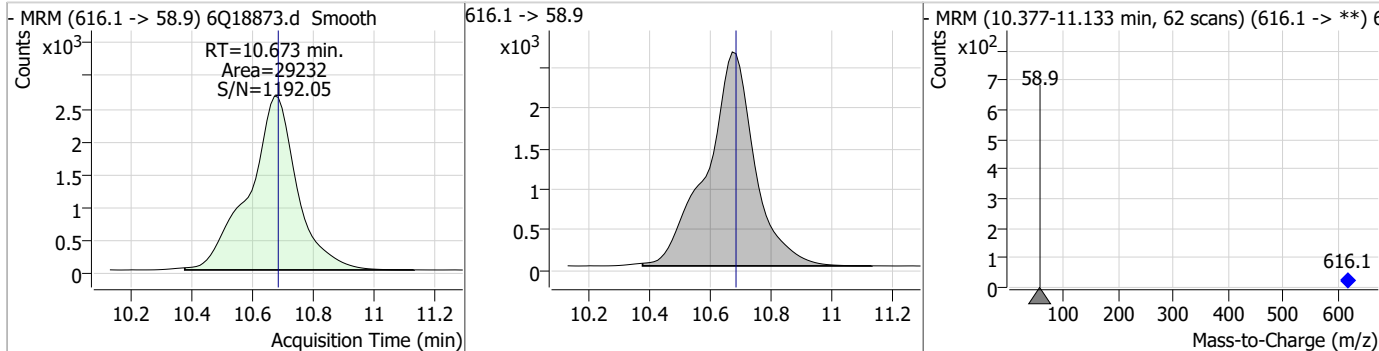
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	1.21	9.75	0.00	1965	699.1 -> 98.8	53.8	27.6	82.8



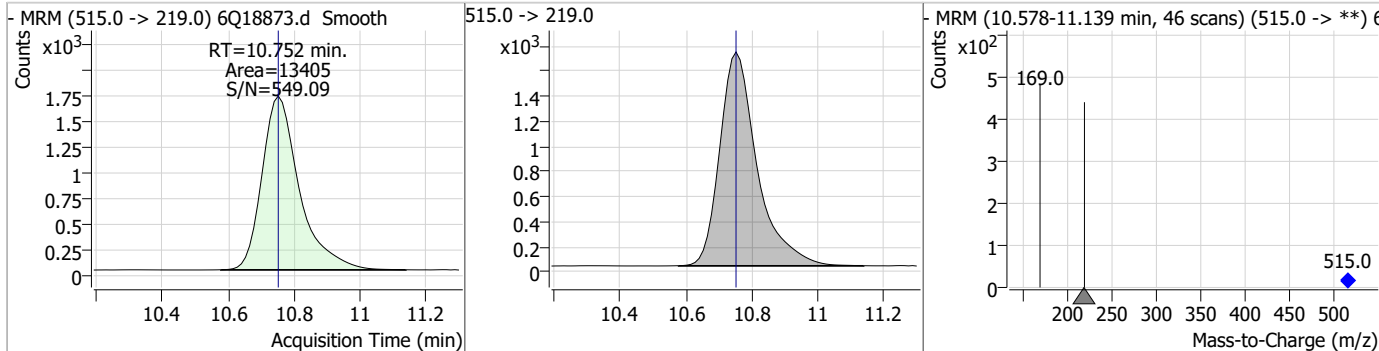
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.85	10.66	0.00	119431				



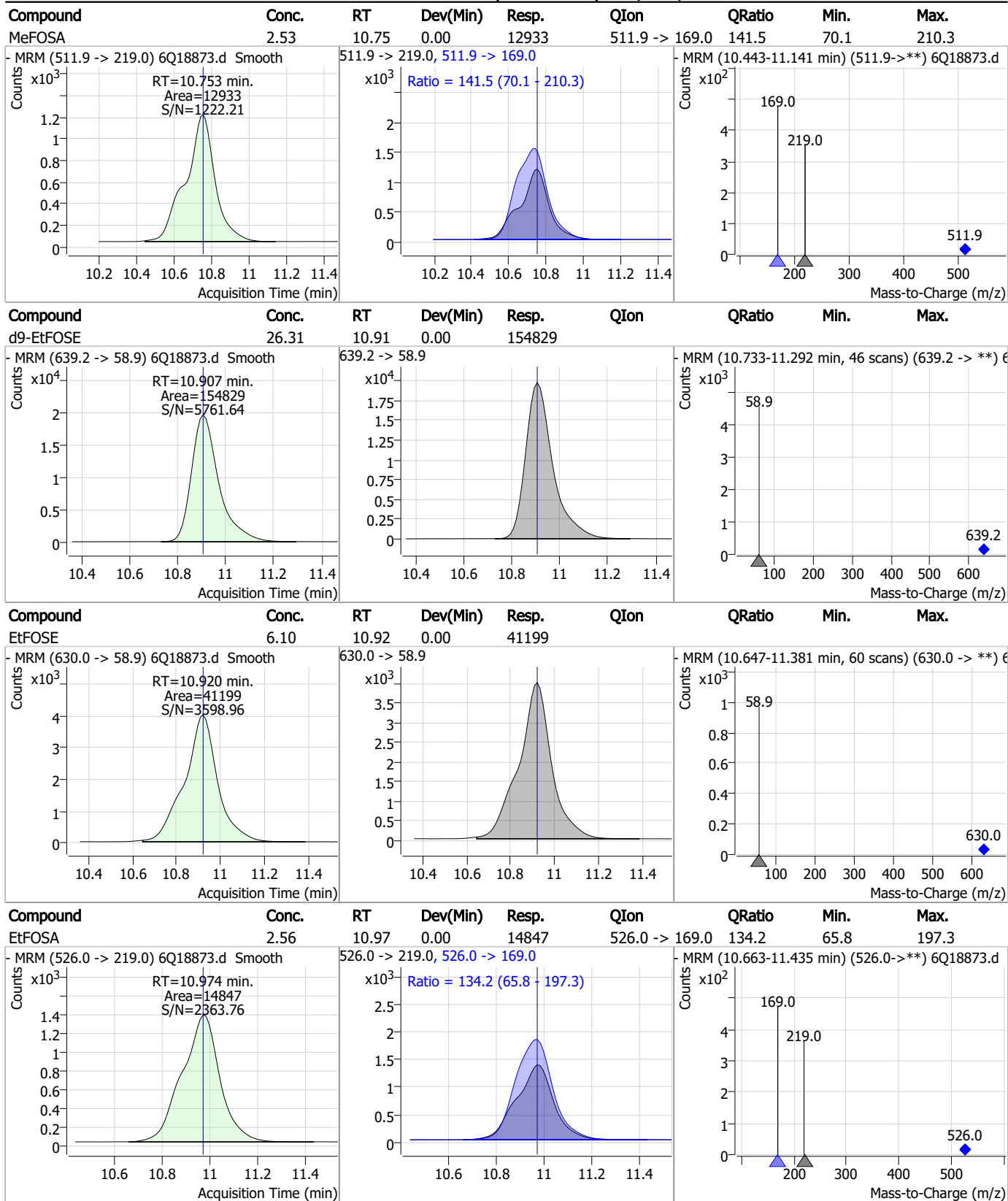
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	6.32	10.67	-0.01	29232				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.57	10.75	0.00	13405				



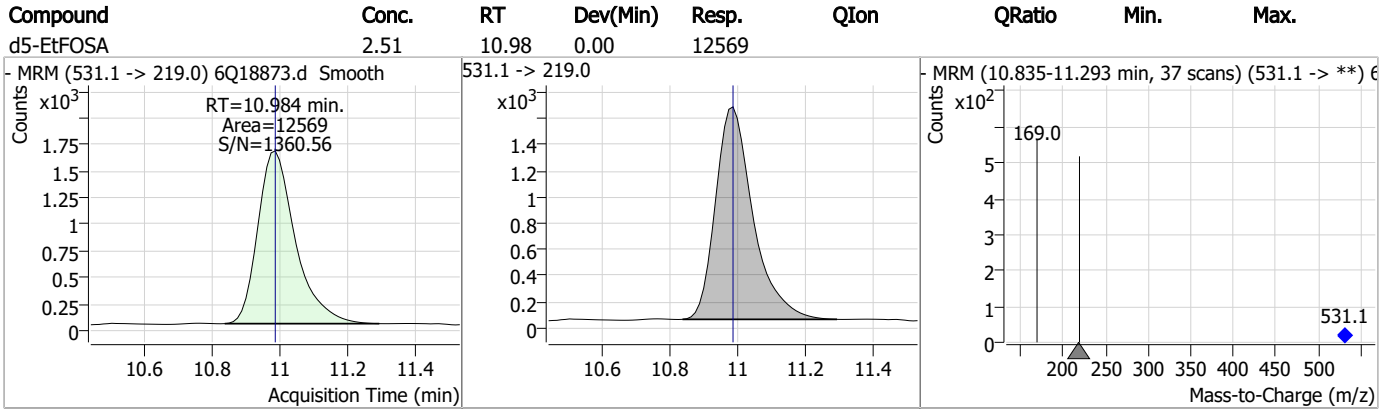
Perfluorinated Compounds by LC/MS/MS



7.7.4

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Perfluorinated Compounds by LC/MS/MS



7.7.4

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Manual Integration Approval Summary

Sample Number: S6Q282-IC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18873.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/06/23 14:44 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak

7.7.4.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18874.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 2:59:13 PM
 Sample Name : icc282-4
 Vial : P1-A5
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	181279	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	60825	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	66573	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	62141	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	91912	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	45397	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	25976	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	35168	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	30314	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	16884	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	34465	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	24495	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	14547	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13833	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4495	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6742	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6412	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	33887	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	38566	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	29829	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	123023	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	152601	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13132	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13334	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19441	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	76287	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	10803	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	99063	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	34747	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	52701	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	61481	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4495	5.06 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.2%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6742	5.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.6%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6412	5.04 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.8%		
13C2-PFDoDA	8.900	615.1 -> 570.0	30314	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.5%		
13C2-PFTeDA	9.627	715.2 -> 670.0	16884	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.0%		
13C3-PFBS	5.384	302.1 -> 79.9	24495	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.2%		
13C3-PFHxS	7.155	402.1 -> 79.9	14547	2.50 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C4-PFBA	2.860	216.8 -> 171.9	181279	10.01 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C4-PFHpA	6.420	367.1 -> 322.0	62141	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C5-PFHxA	5.478	318.0 -> 273.0	66573	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C5-PFPeA	4.272	268.3 -> 223.0	60825	5.10 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C6-PFDA	8.039	519.1 -> 474.1	25976	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	35168	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C8-FOSA	9.611	506.1 -> 77.8	34465	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C8-PFOA	7.051	421.1 -> 376.0	91912	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C8-PFOS	8.189	507.1 -> 79.9	13833	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.8%	
13C9-PFNA	7.569	472.1 -> 427.0	45397	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.8%	
d3-MeFOSAA	8.096	573.2 -> 419.0	33887	4.84 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	38566	9.96 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
d3-MeFOSA	10.752	515.0 -> 219.0	13334	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
d5-EtFOSAA	8.292	589.2 -> 419.0	29829	4.75 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	123023	25.21 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
d9-EtFOSE	10.907	639.2 -> 58.9	152601	24.55 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.2%	
d5-EtFOSA	10.984	531.1 -> 219.0	13132	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	61511	9.99 µg/L	100
		327.1 -> 80.9	22851		
6:2FTS	6.838	427.1 -> 407.0	61400	9.61 µg/L	100
		427.1 -> 80.9	20647		
8:2FTS	7.840	527.1 -> 507.0	34311	9.98 µg/L	100
		527.1 -> 80.8	13711		
EtFOSAA	8.293	584.2 -> 419.1	9682	2.38 µg/L	100
		584.2 -> 526.0	5342		
FOSA	9.614	498.1 -> 77.9	28669	2.47 µg/L	100
		498.1 -> 478.0	901		
MeFOSAA	8.097	570.1 -> 419.0	17261	2.55 µg/L	100
		570.1 -> 483.0	3219		
PFBA	2.856	212.8 -> 168.9	58178	9.85 µg/L	100
PFBS	5.385	298.7 -> 79.9	18332	2.16 µg/L	100
		298.7 -> 98.8	7212		
PFDA	8.040	512.9 -> 469.0	76496	2.45 µg/L	100
		512.9 -> 219.0	11598		
PFDODA	8.900	613.1 -> 569.0	48153	2.44 µg/L	100
		613.1 -> 319.0	8474		
PFDS	9.064	599.0 -> 79.9	8211	2.48 µg/L	100

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	3830		
PFHpA	6.420	363.1 -> 319.0	66360	2.52 µg/L	100
		363.1 -> 169.0	10849		
PFHpS	7.710	449.0 -> 79.9	15179	2.42 µg/L	100
		449.0 -> 98.9	7439		
PFHxA	5.469	313.0 -> 269.0	53199	2.43 µg/L	100
		313.0 -> 118.9	2896		
PFHxS	7.156	398.7 -> 79.9	15648	2.29 µg/L	100
		398.7 -> 98.9	7506		
PFNA	7.570	463.0 -> 419.0	72879	2.26 µg/L	100
		463.0 -> 219.0	14732		
PFNS	8.644	548.8 -> 79.9	13545	2.46 µg/L	100
		548.8 -> 98.9	7055		
PFOA	7.052	413.0 -> 369.0	97005	2.51 µg/L	100
		413.0 -> 169.0	17328		
PFOS	8.191	498.9 -> 79.9	14843	2.35 µg/L	100
		498.9 -> 98.8	7251		
PFPeA	4.274	263.0 -> 219.0	69830	4.86 µg/L	100
PFPeS	6.459	349.1 -> 79.9	15138	2.31 µg/L	100
		349.1 -> 98.9	6874		
PFTeDA	9.628	713.1 -> 669.0	40689	2.45 µg/L	100
		713.1 -> 168.9	3795		
PFTrDA	9.284	663.0 -> 619.0	51229	2.54 µg/L	100
		663.0 -> 168.9	5362		
PFUnDA	8.480	563.1 -> 519.0	50843	2.33 µg/L	100
		563.1 -> 269.1	7736		
11CI-PF3OUdS	9.336	630.9 -> 450.9	70813	4.80 µg/L	100
		632.9 -> 452.9	21629		
9CI-PF3ONS	8.520	530.8 -> 351.0	111336	4.77 µg/L	100
		532.8 -> 353.0	36126		
ADONA	6.671	376.9 -> 250.9	256054	4.83 µg/L	100
		376.9 -> 84.8	69808		
HFPO-DA	5.832	284.9 -> 168.9	16563	5.14 µg/L	100
		284.9 -> 184.9	1974		
3:3FTCA	3.709	241.0 -> 177.0	12390	12.18 µg/L	100
		241.0 -> 117.0	1649		
5:3FTCA	6.124	341.0 -> 237.1	260272	61.73 µg/L	100
		341.0 -> 217.0	188643		
7:3FTCA	7.535	441.0 -> 316.9	176214	60.76 µg/L	100
		441.0 -> 336.9	399194		
EtFOSA	10.974	526.0 -> 219.0	29586	4.89 µg/L	100
		526.0 -> 169.0	38922		
EtFOSE	10.920	630.0 -> 58.9	82954	12.46 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	24938	4.91 µg/L	100
		511.9 -> 169.0	34966		
MeFOSE	10.686	616.1 -> 58.9	56948	11.96 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	3948	2.53 µg/L	100
		699.1 -> 98.8	2178		
NFDHA	5.348	295.0 -> 201.0	13268	5.06 µg/L	100
		295.0 -> 84.9	3296		
PFMBA	4.688	279.0 -> 85.1	49949	5.03 µg/L	100
PFMPA	3.401	229.0 -> 84.9	37781	4.99 µg/L	100
PFEESA	5.926	314.8 -> 134.9	120862	4.35 µg/L	100
		314.8 -> 82.9	4487		

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

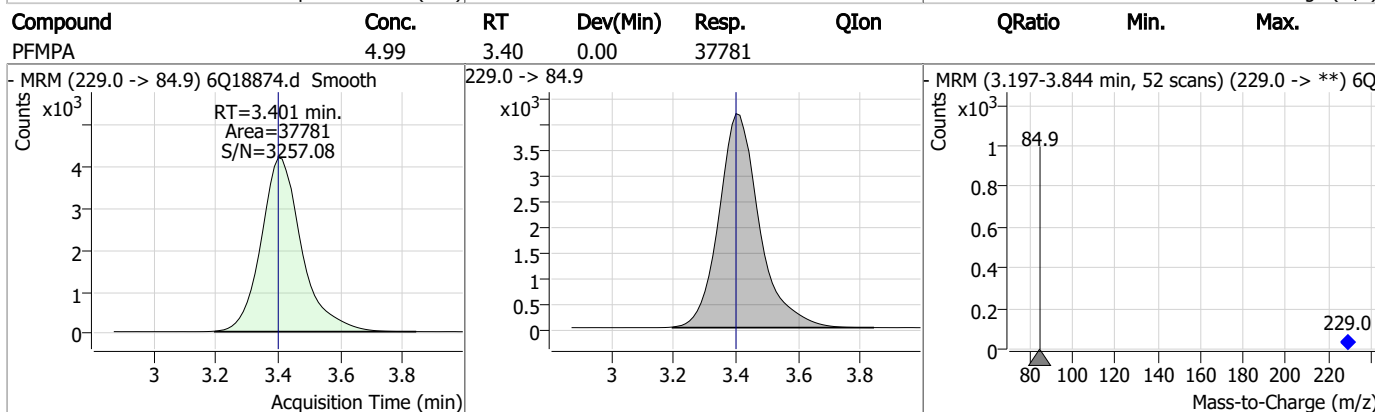
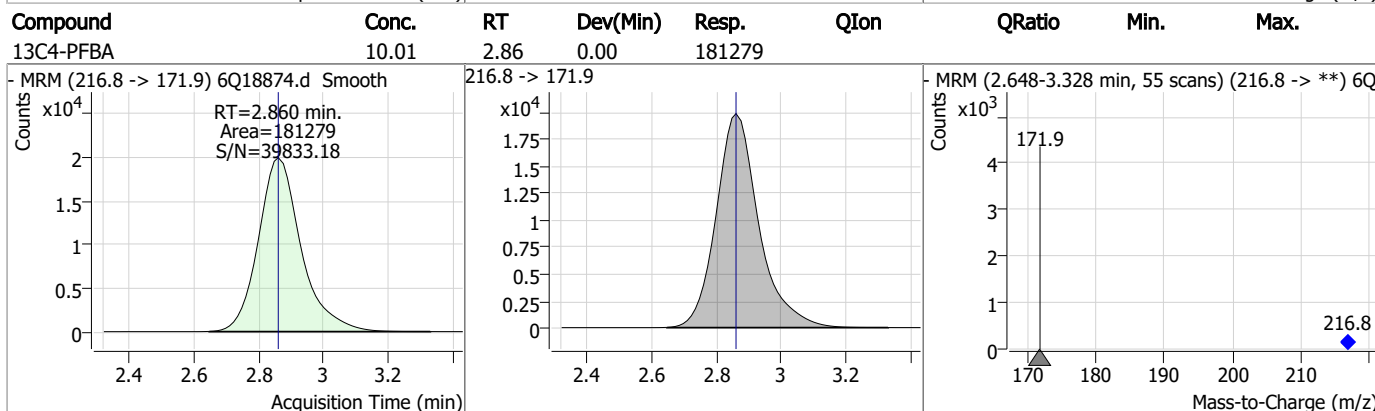
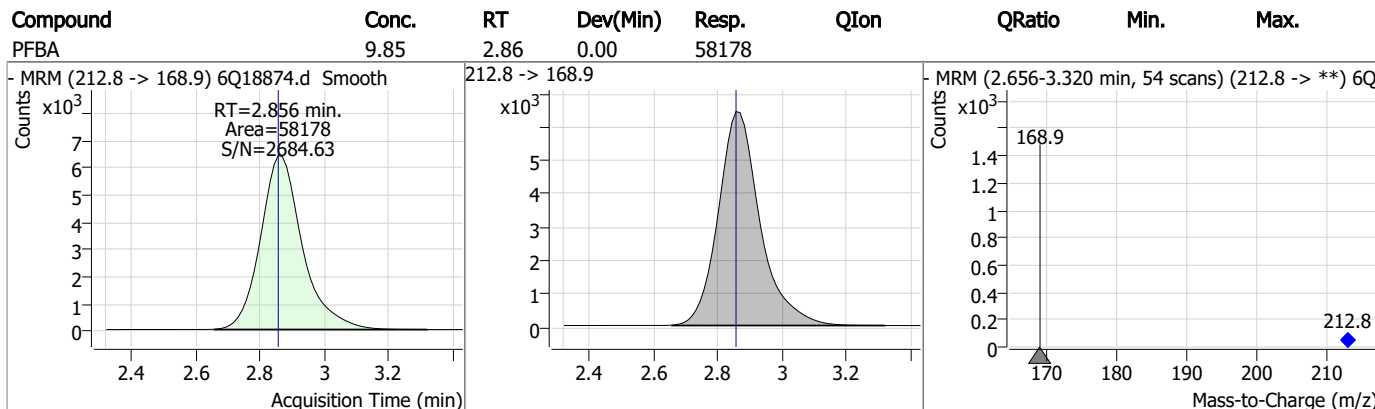
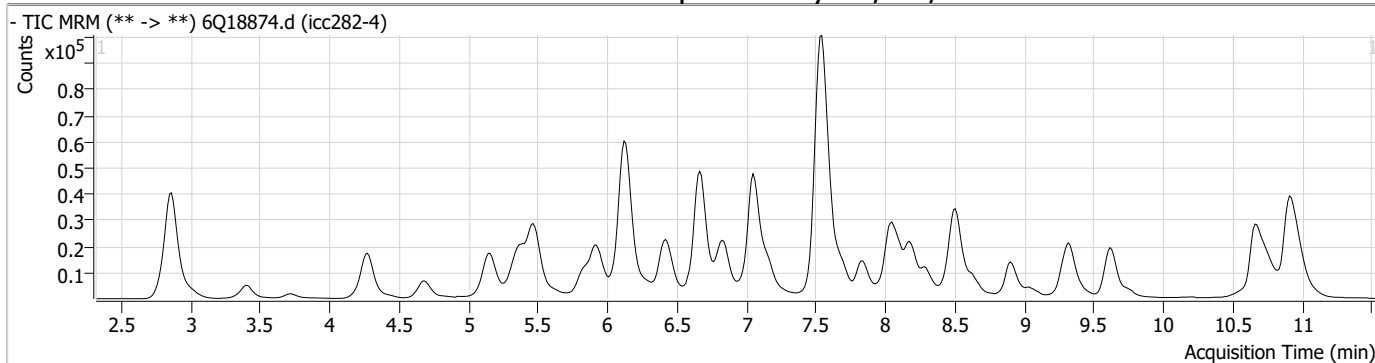
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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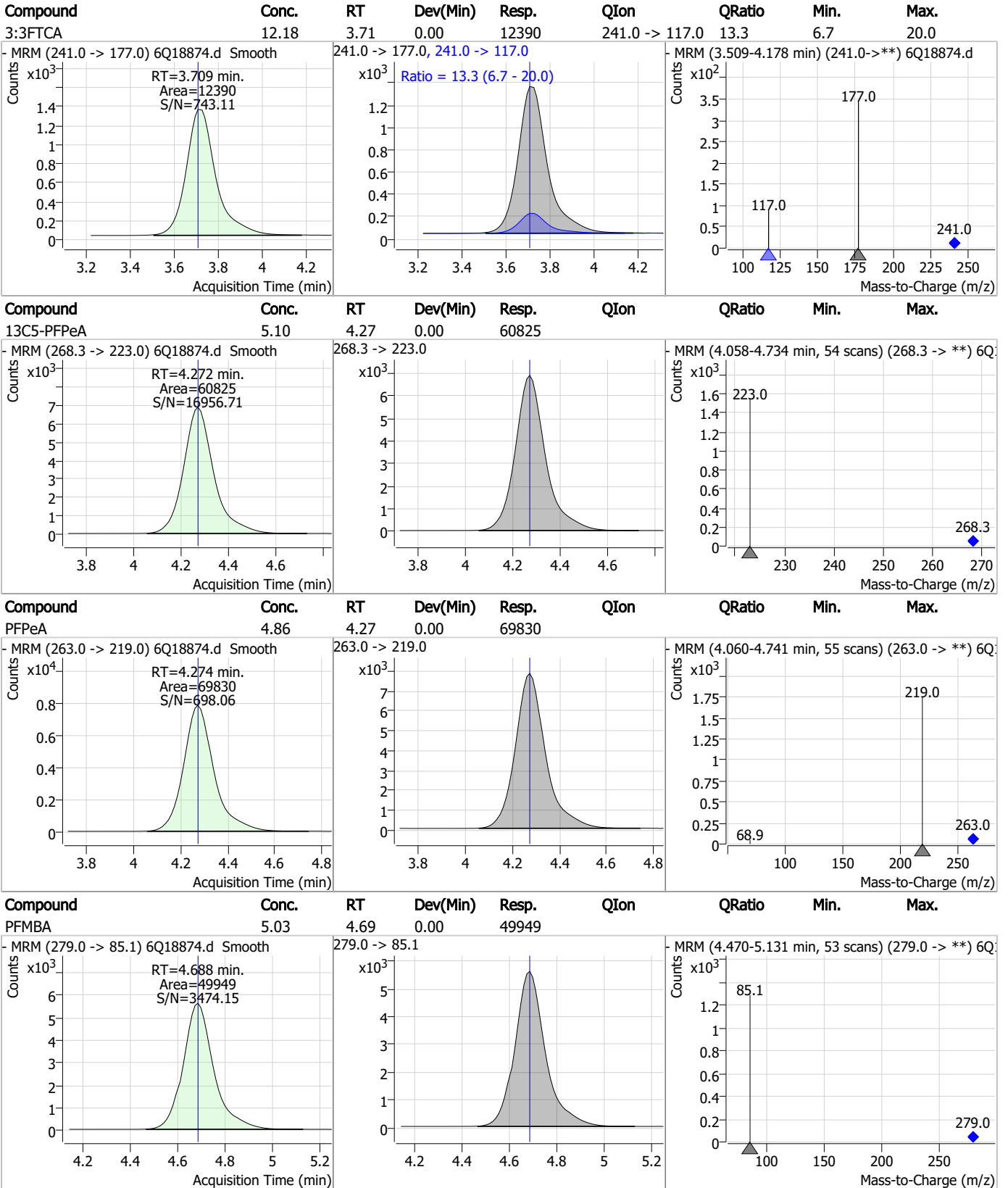
7.7.5
7



Perfluorinated Compounds by LC/MS/MS



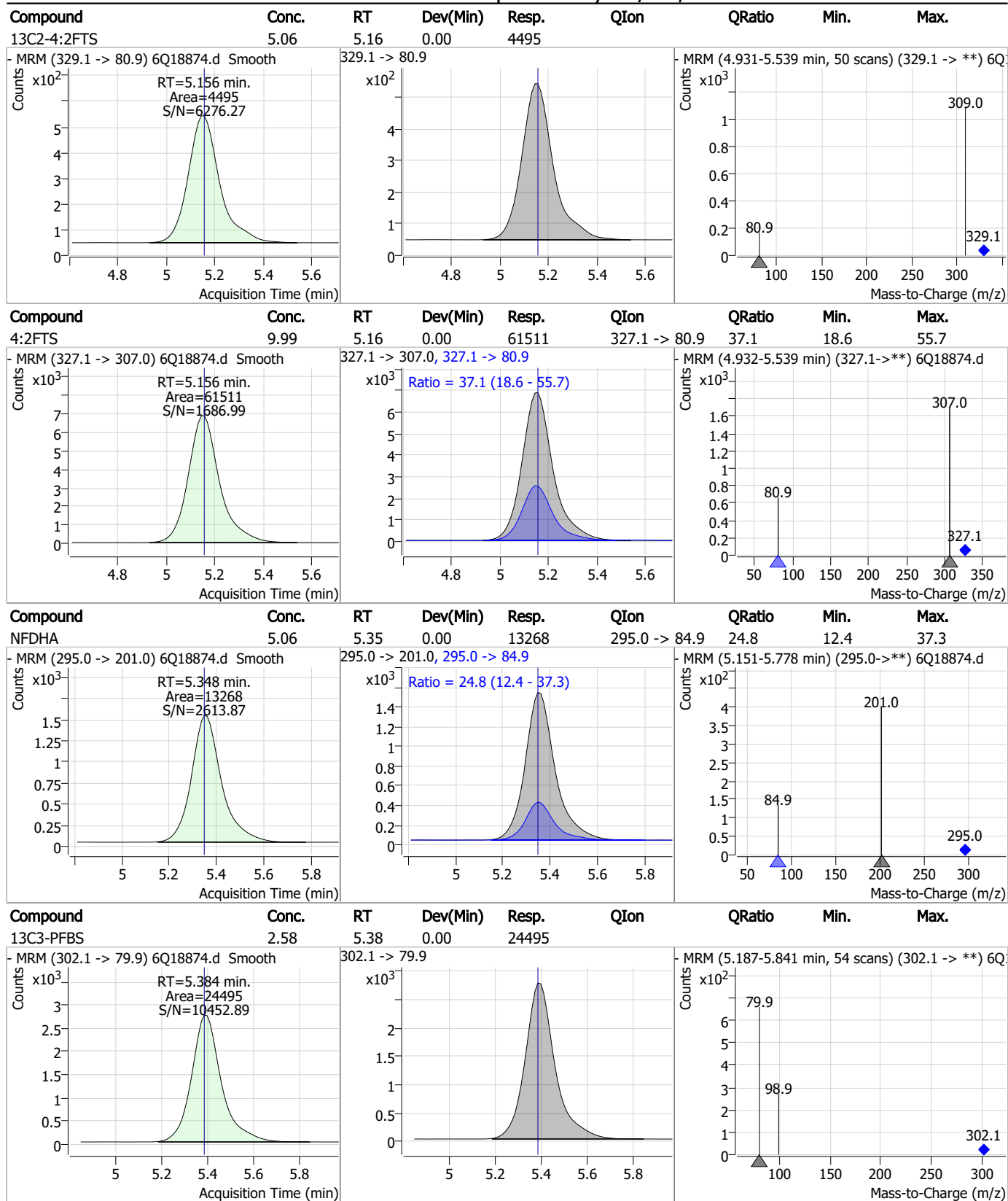
Perfluorinated Compounds by LC/MS/MS



7.7.5

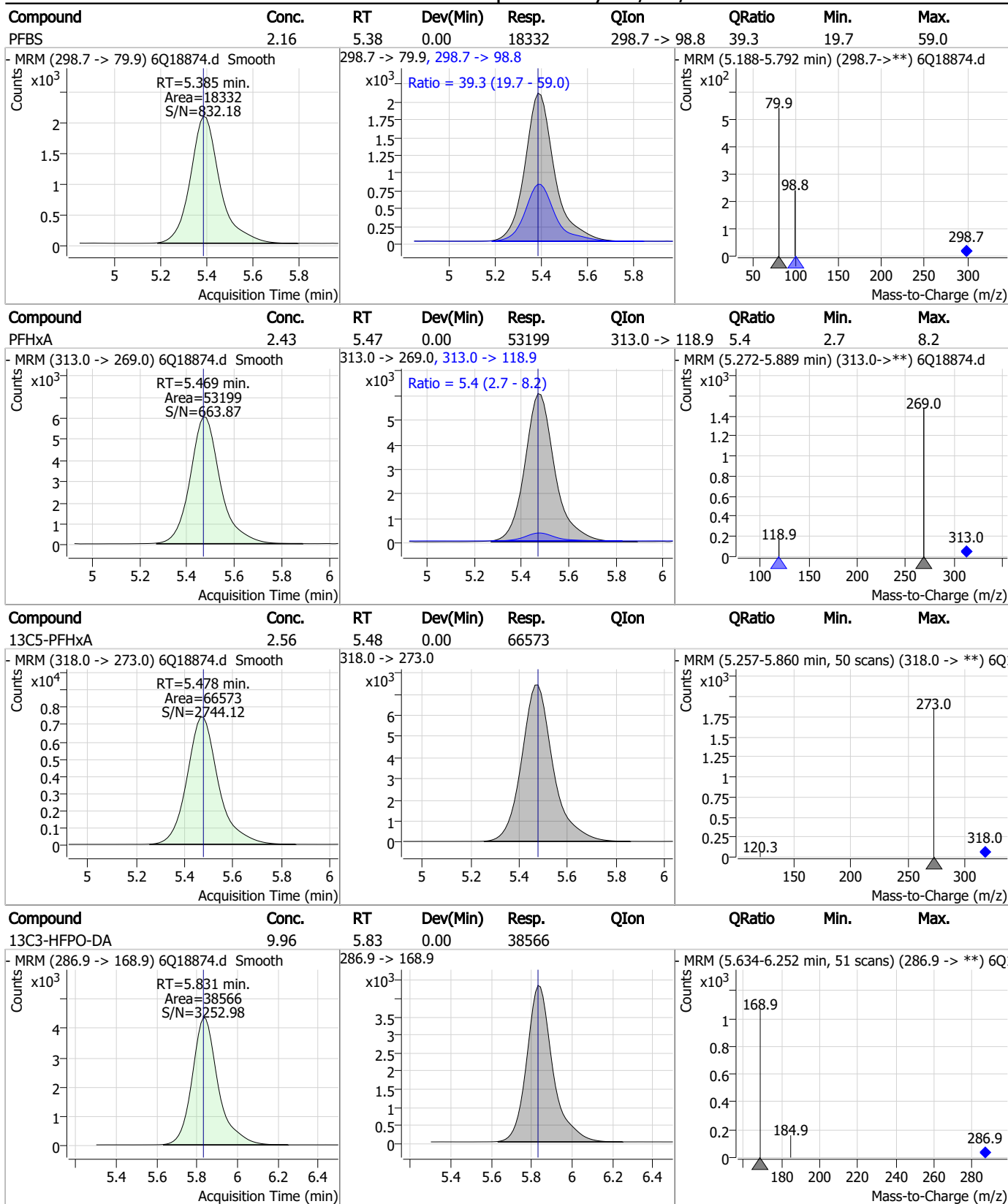
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Perfluorinated Compounds by LC/MS/MS



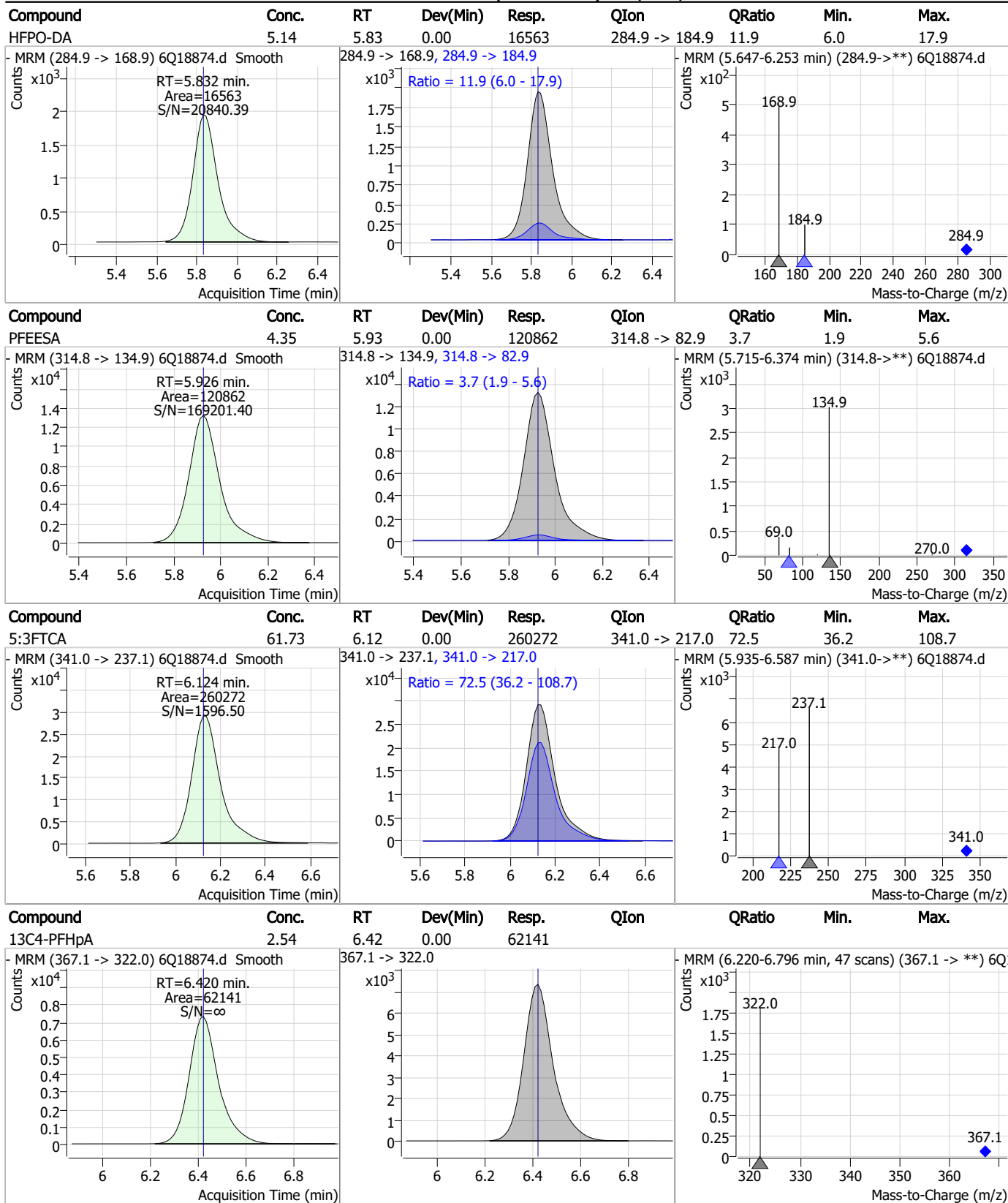
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Perfluorinated Compounds by LC/MS/MS



7.7.5
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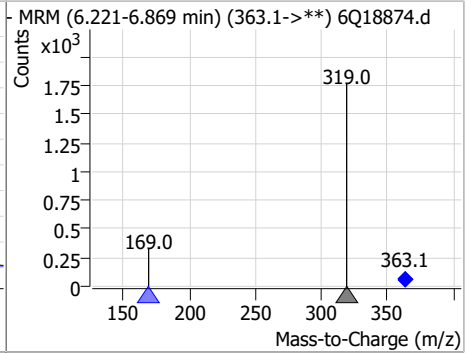
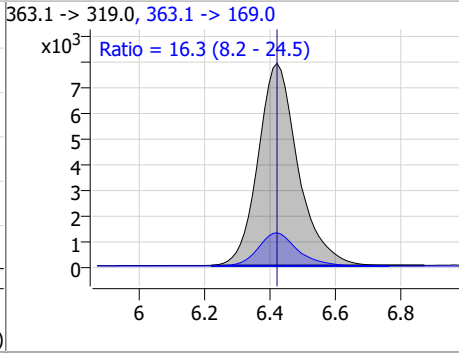
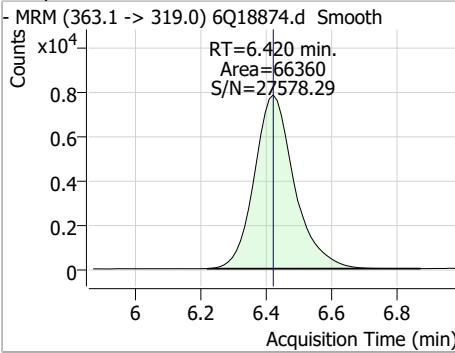
Perfluorinated Compounds by LC/MS/MS



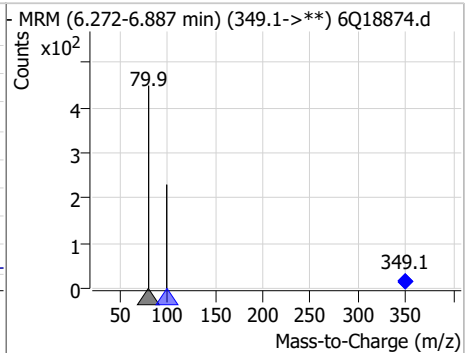
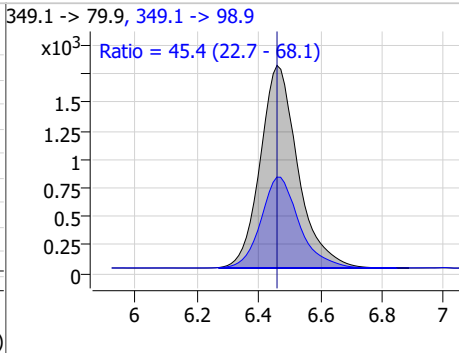
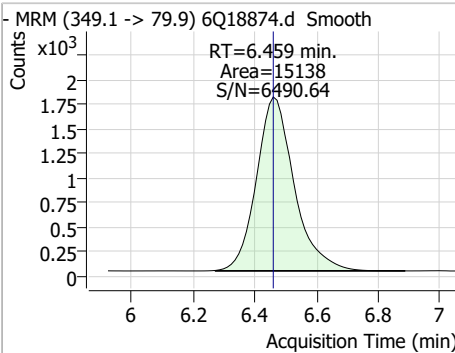
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Perfluorinated Compounds by LC/MS/MS

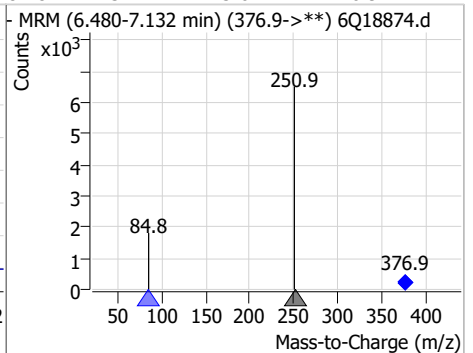
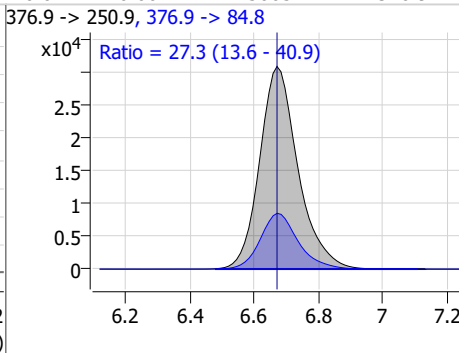
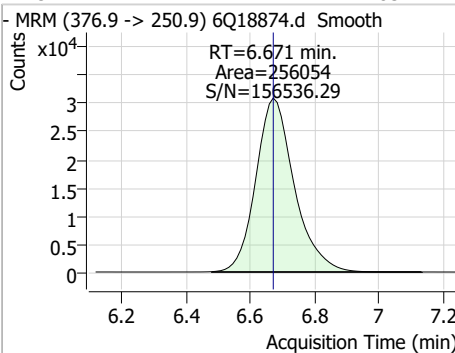
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpA	2.52	6.42	0.00	66360	363.1 -> 169.0	16.3	8.2	24.5



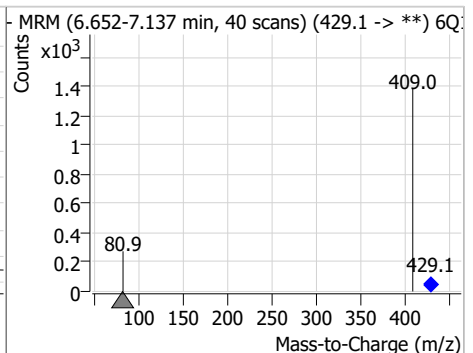
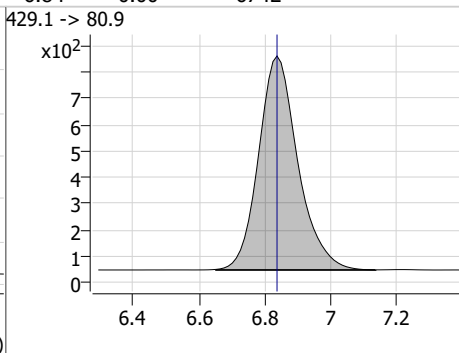
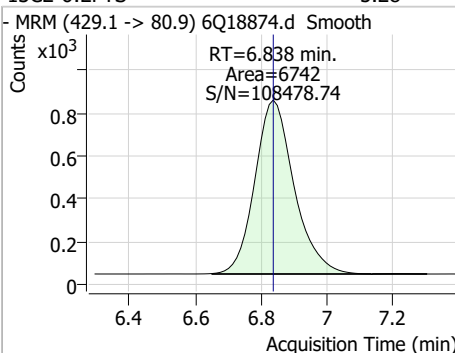
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeS	2.31	6.46	0.00	15138	349.1 -> 98.9	45.4	22.7	68.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
ADONA	4.83	6.67	0.00	256054	376.9 -> 84.8	27.3	13.6	40.9



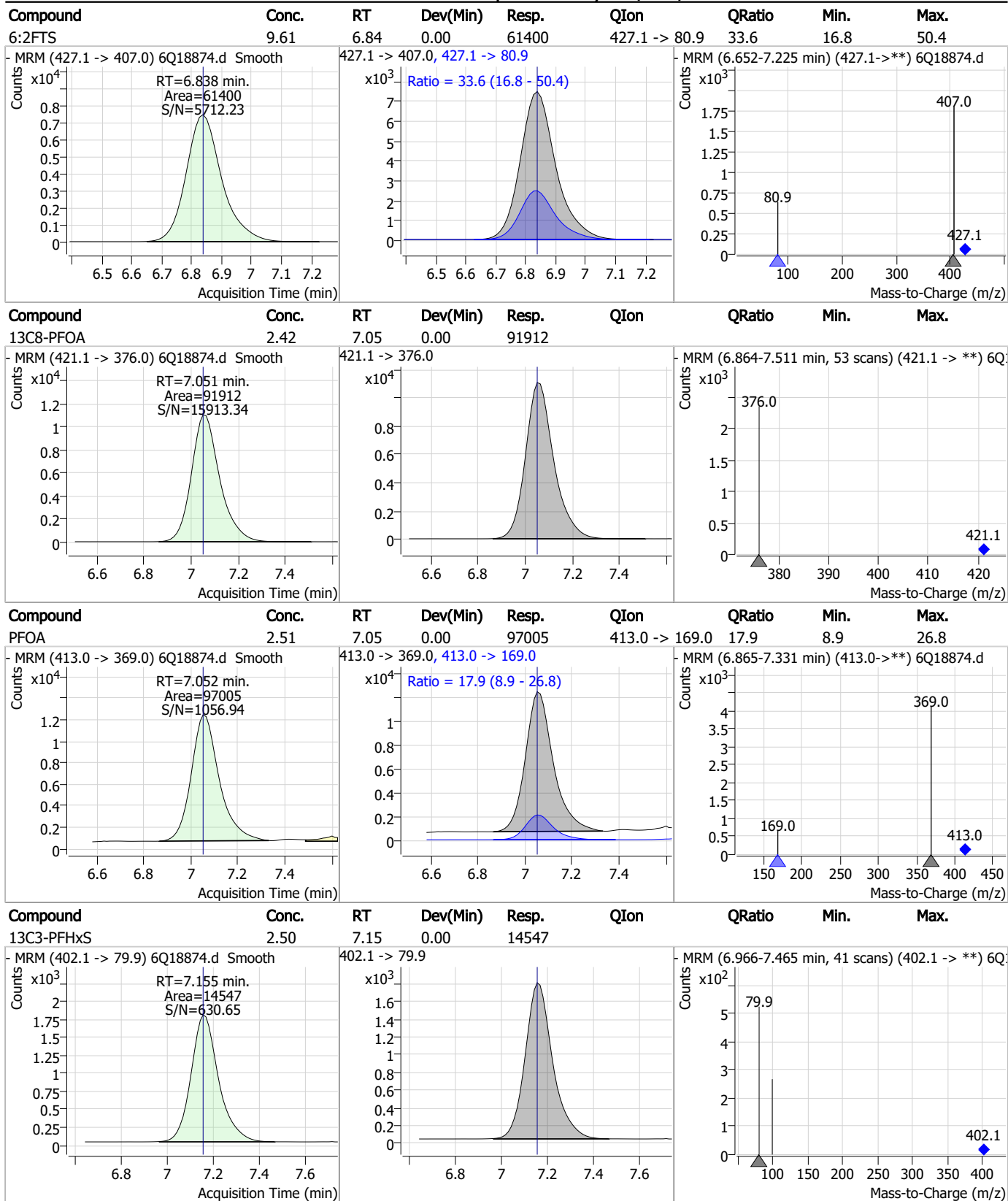
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-6:2FTS	5.28	6.84	0.00	6742	429.1 -> 80.9			



7.7.5

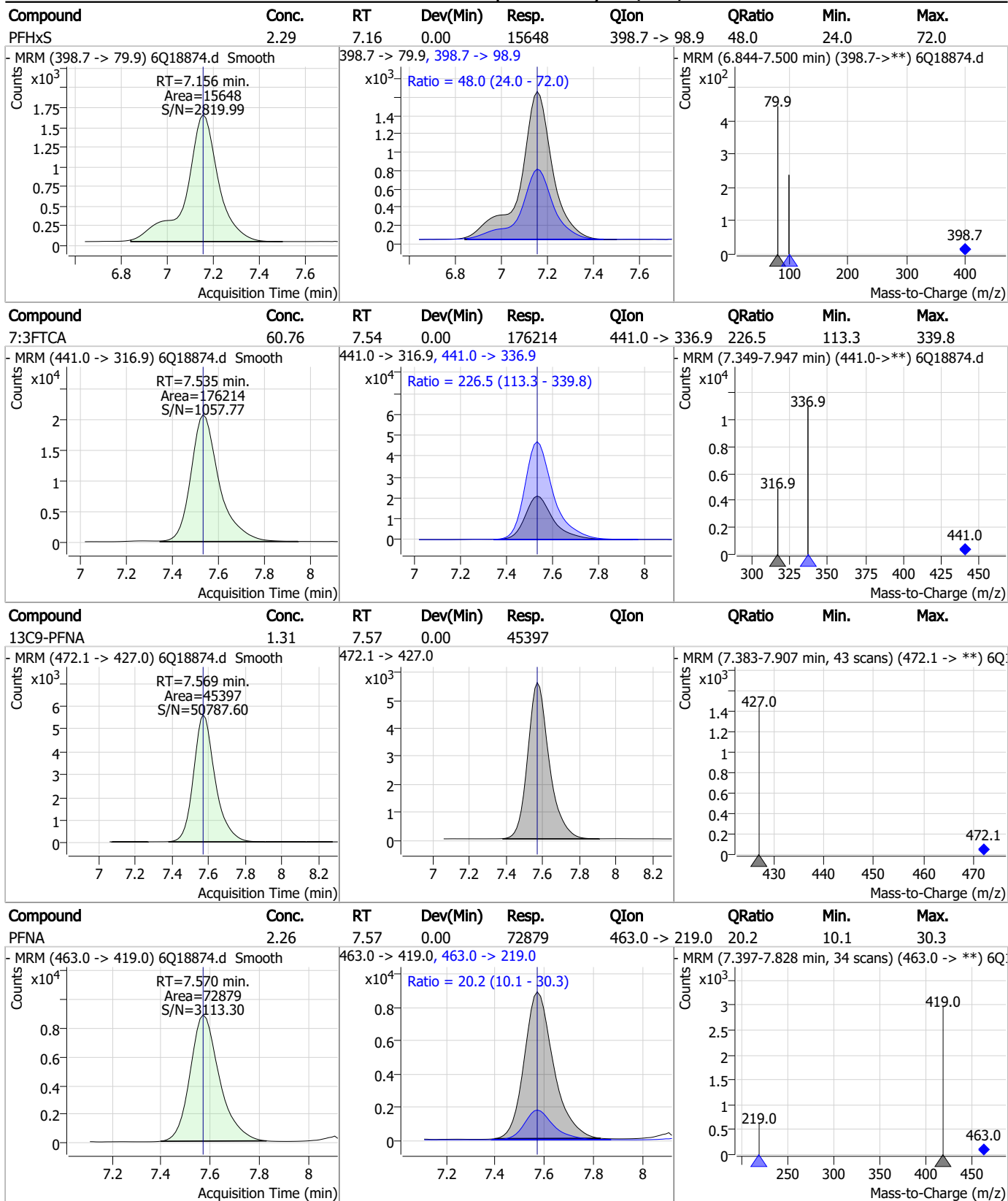
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Perfluorinated Compounds by LC/MS/MS



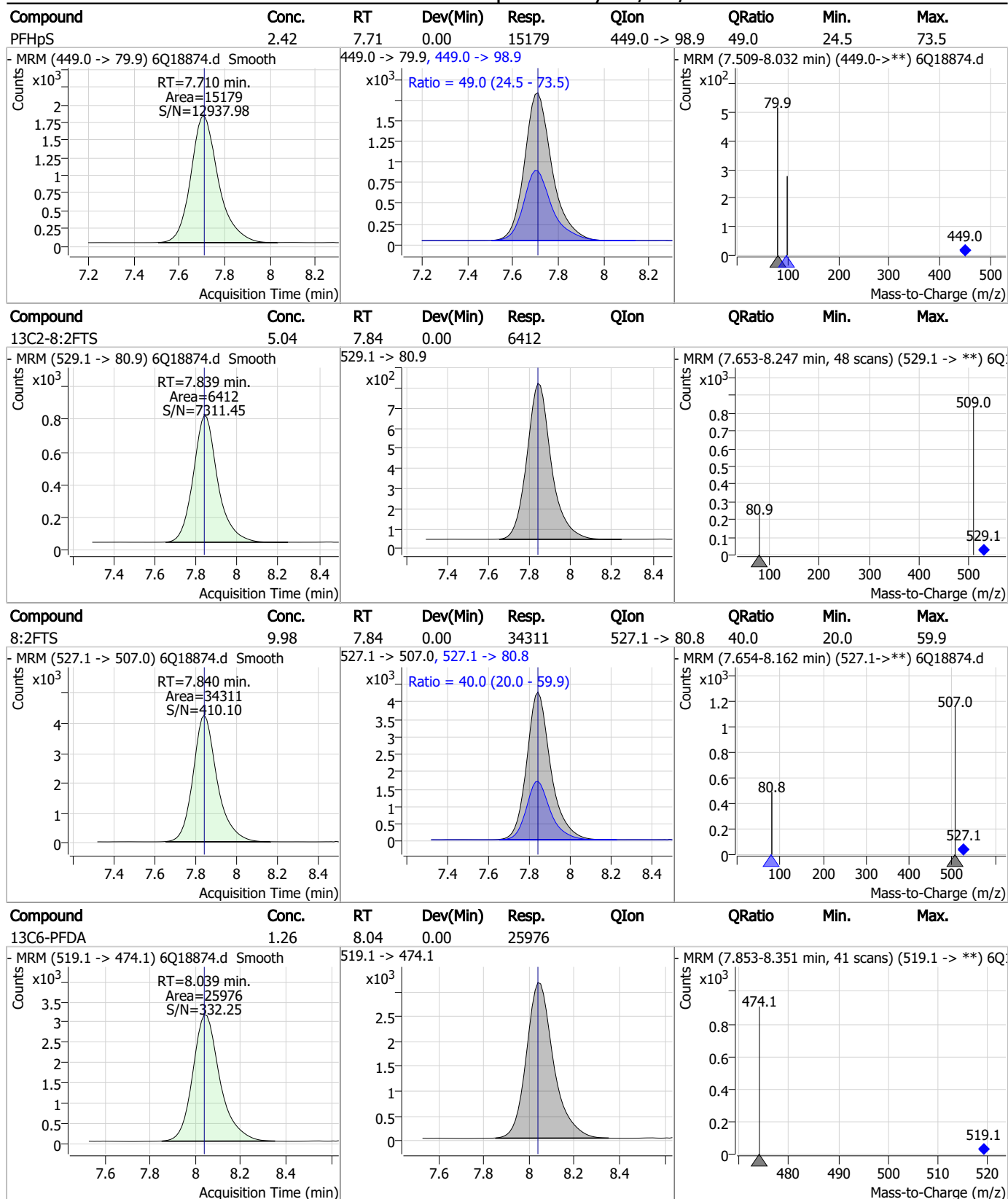
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Perfluorinated Compounds by LC/MS/MS



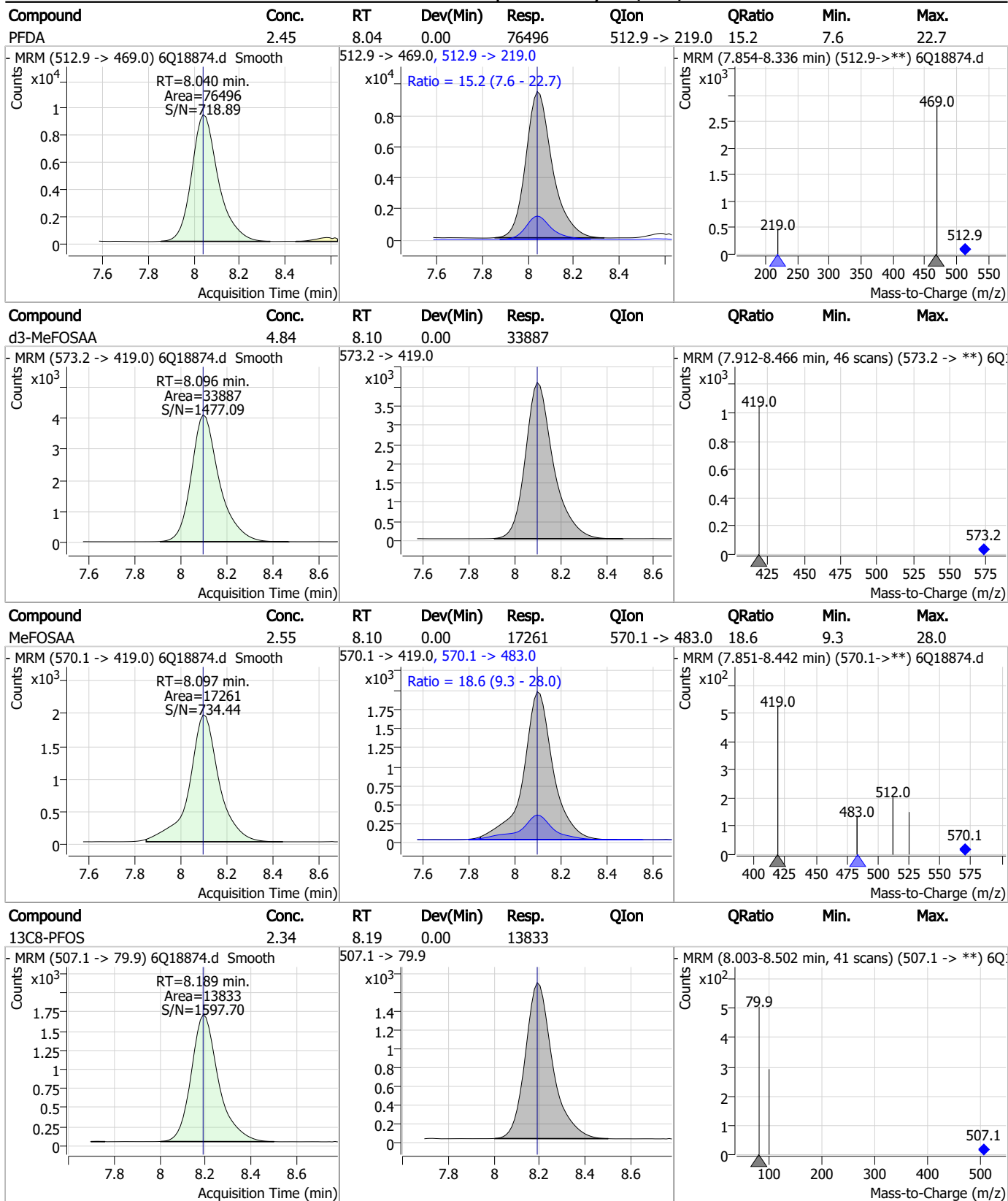
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Perfluorinated Compounds by LC/MS/MS



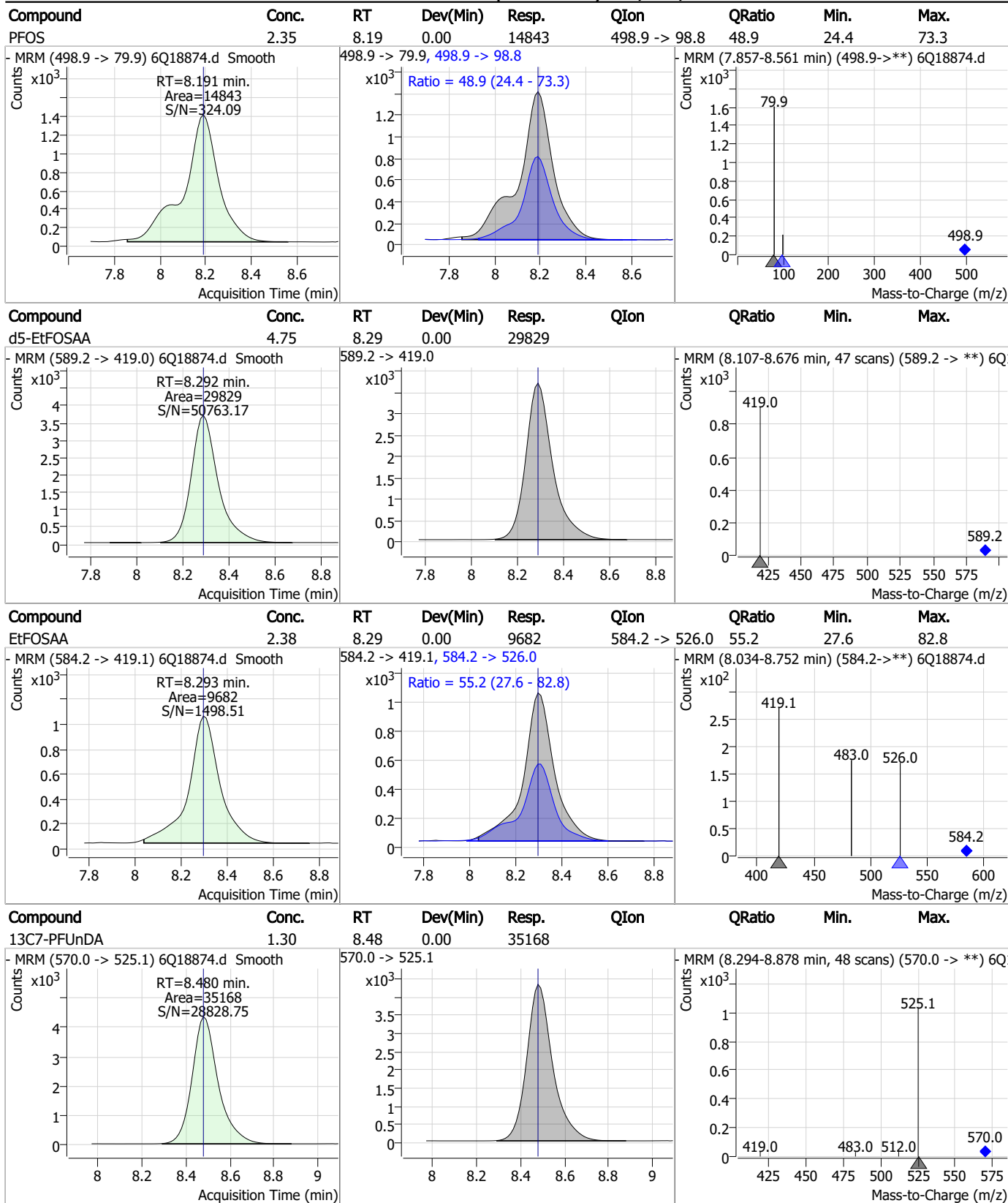
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Perfluorinated Compounds by LC/MS/MS



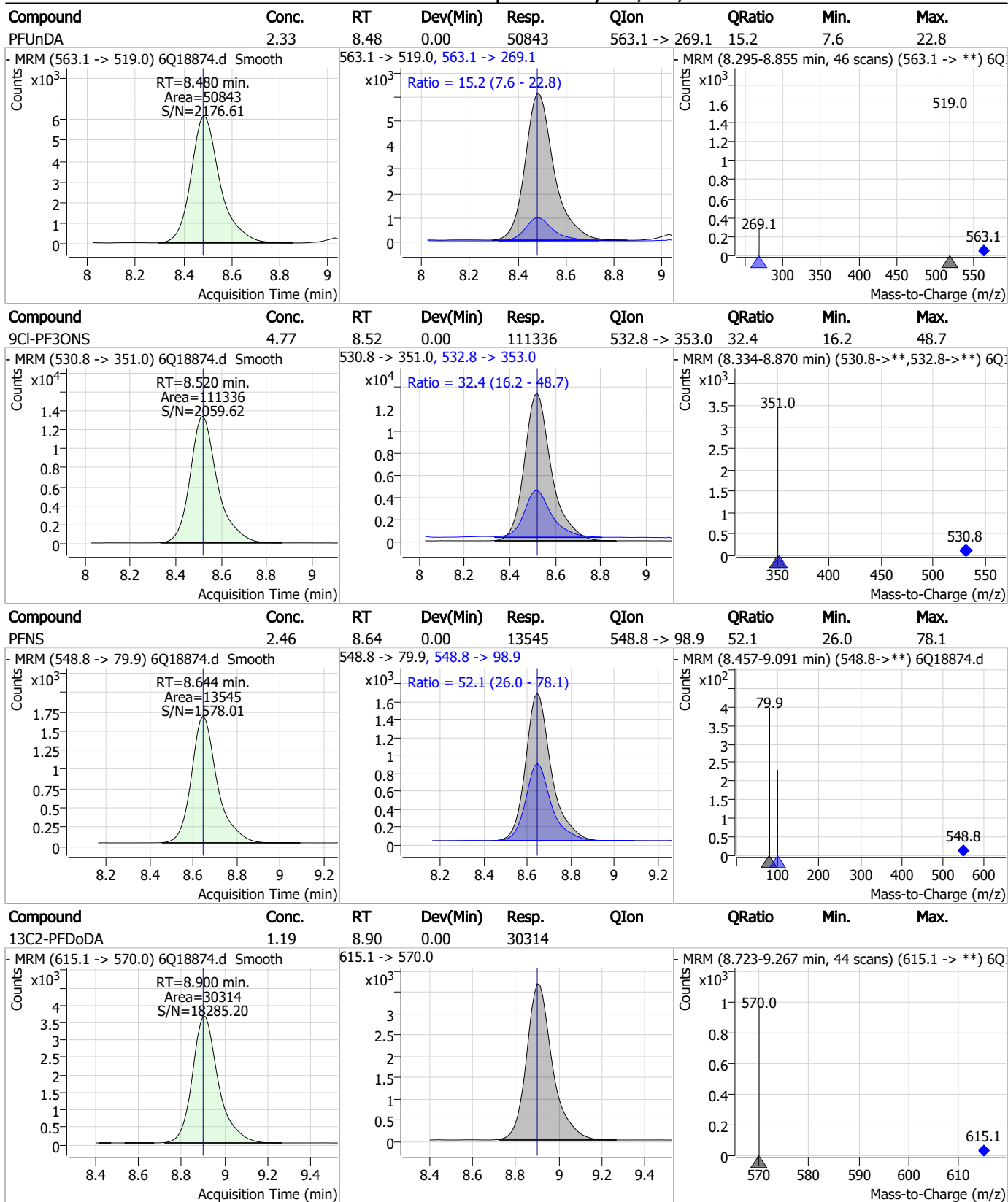
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Perfluorinated Compounds by LC/MS/MS



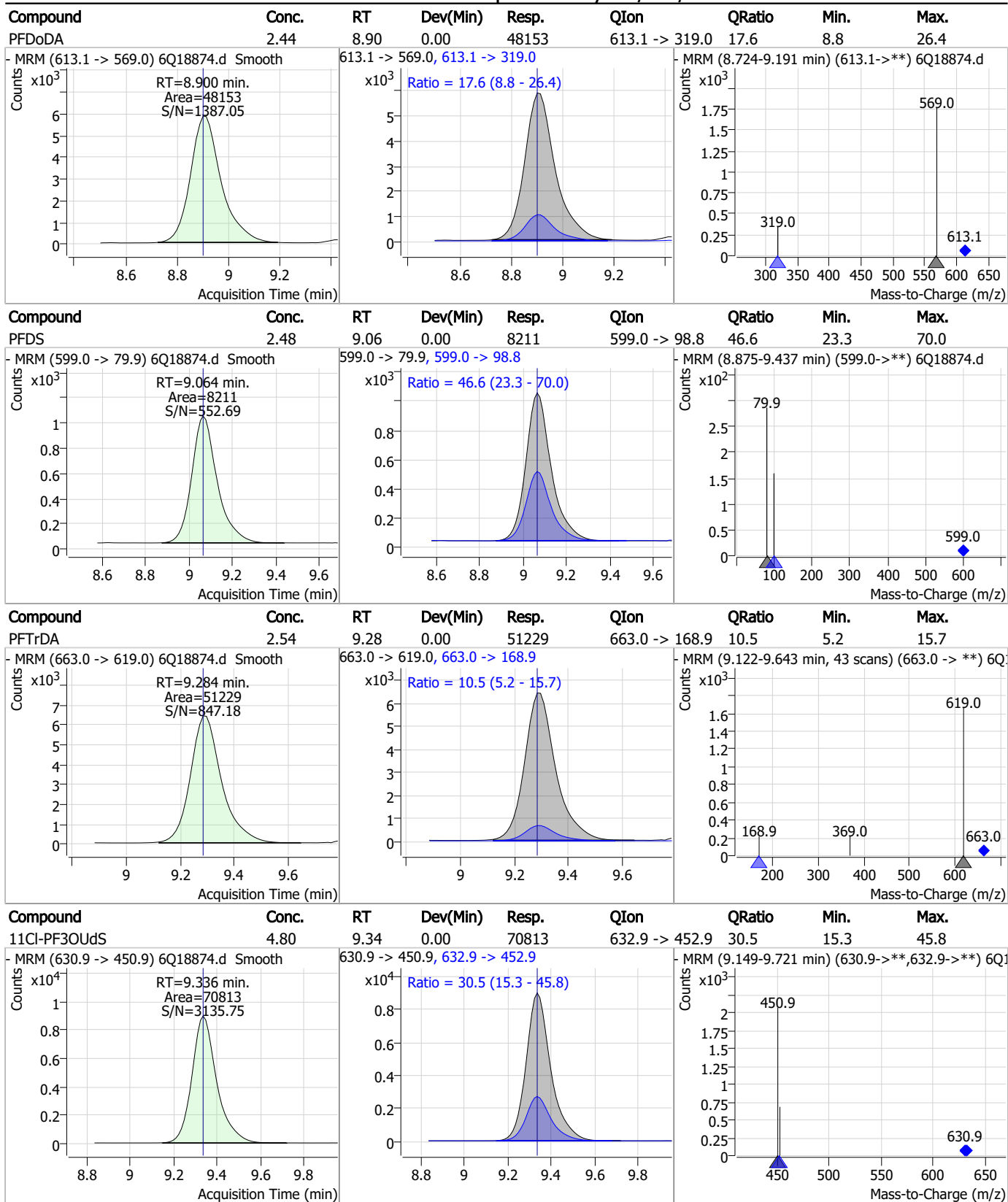
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Perfluorinated Compounds by LC/MS/MS



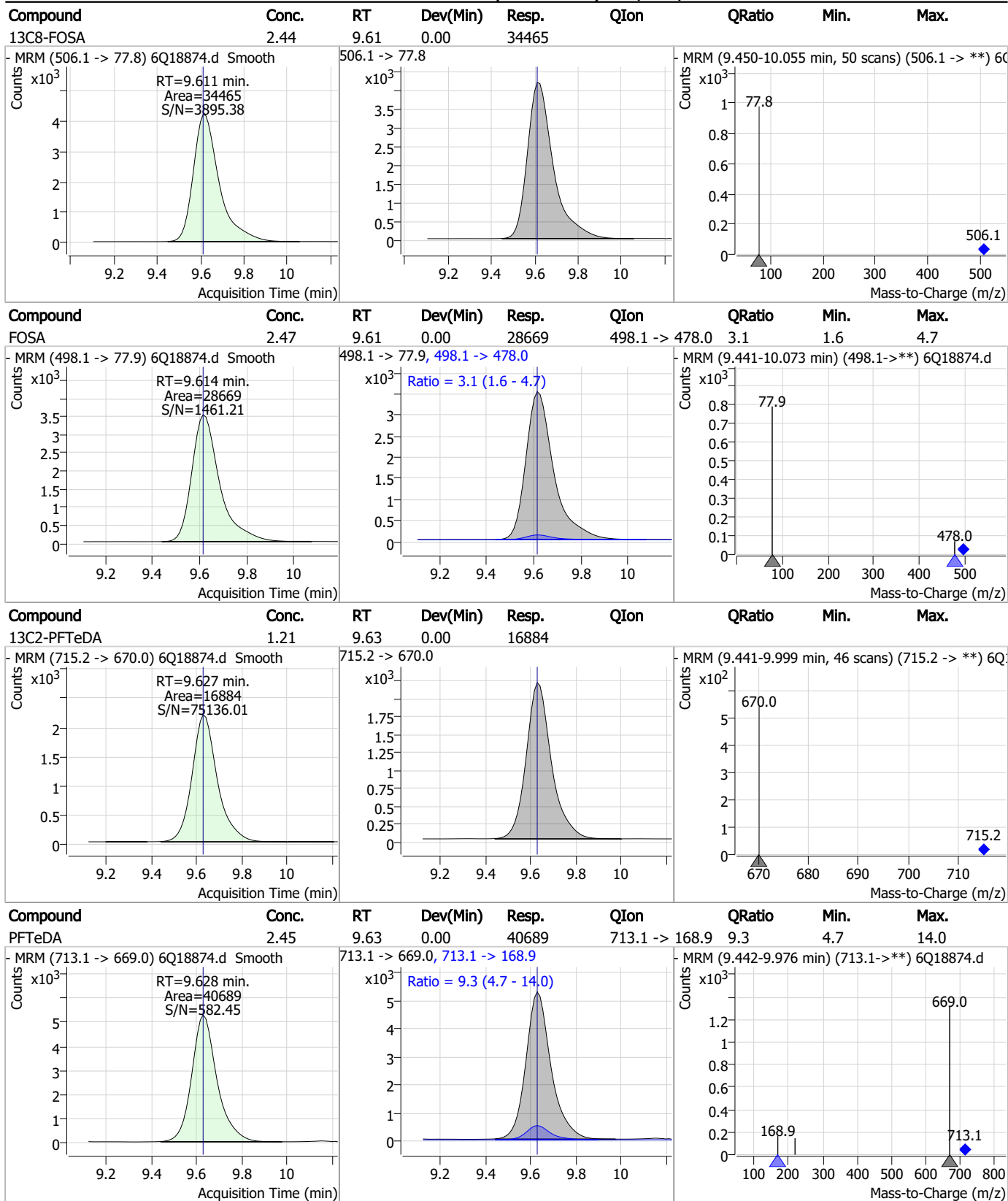
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Perfluorinated Compounds by LC/MS/MS



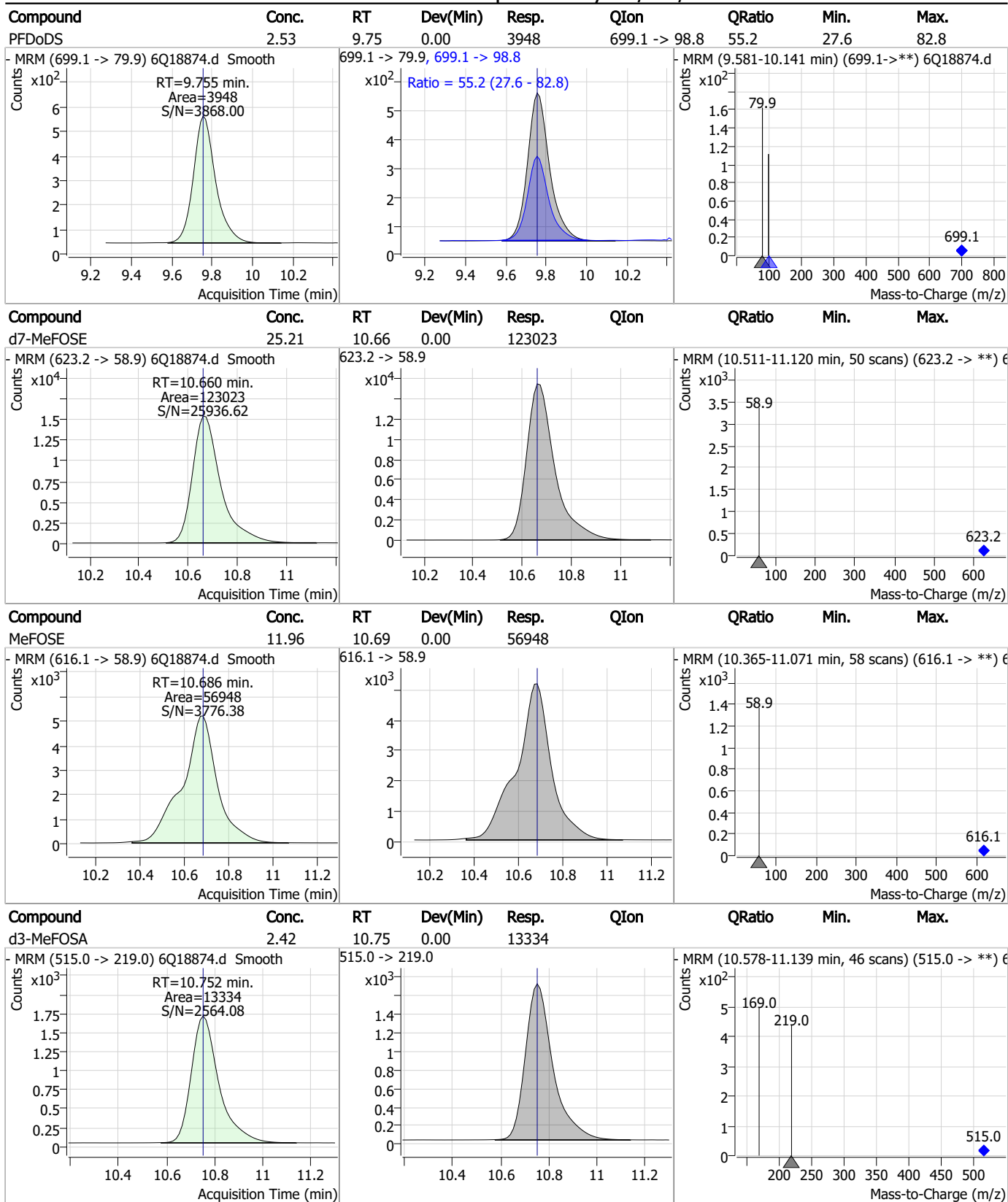
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Perfluorinated Compounds by LC/MS/MS



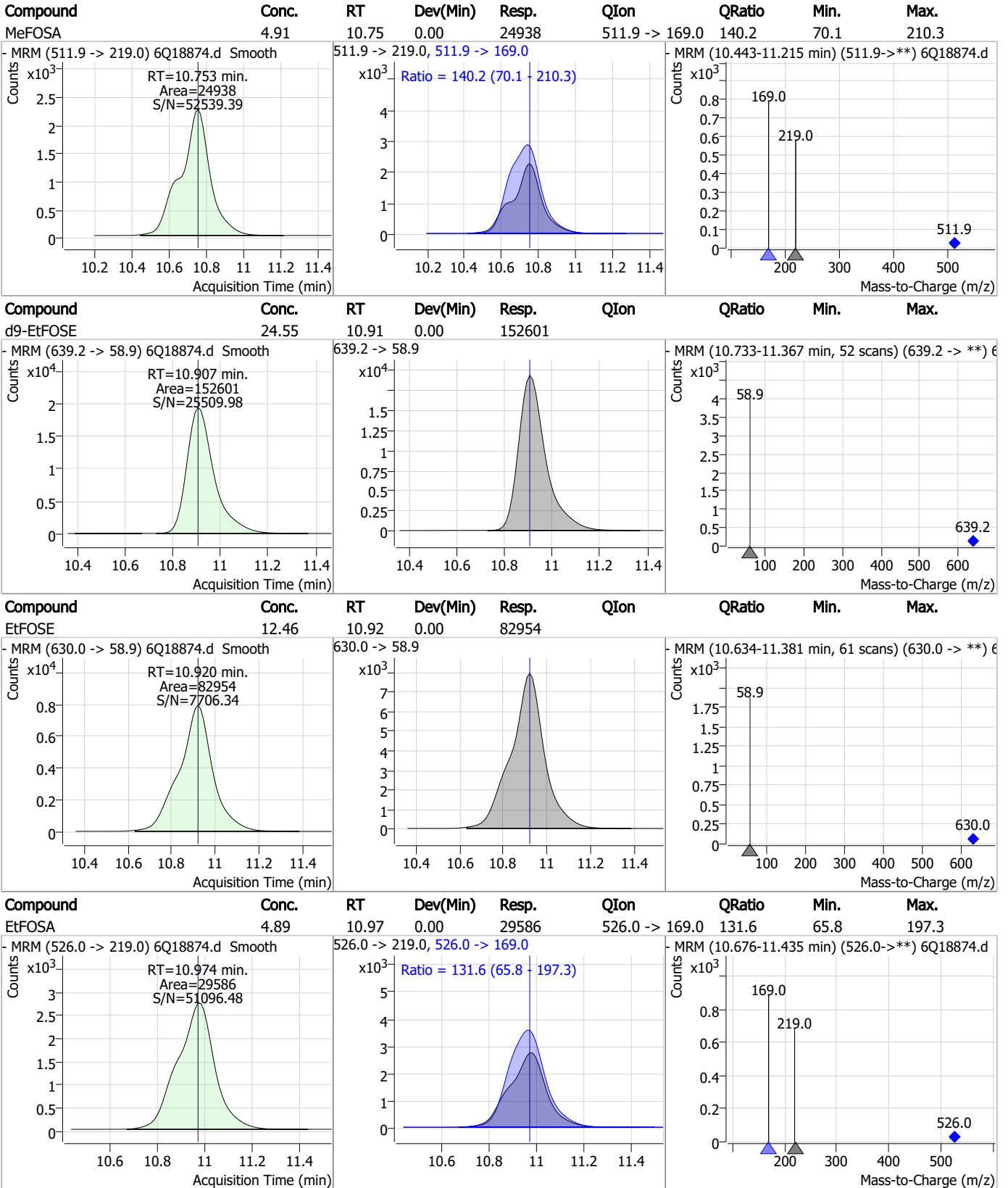
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Perfluorinated Compounds by LC/MS/MS



7.7.5
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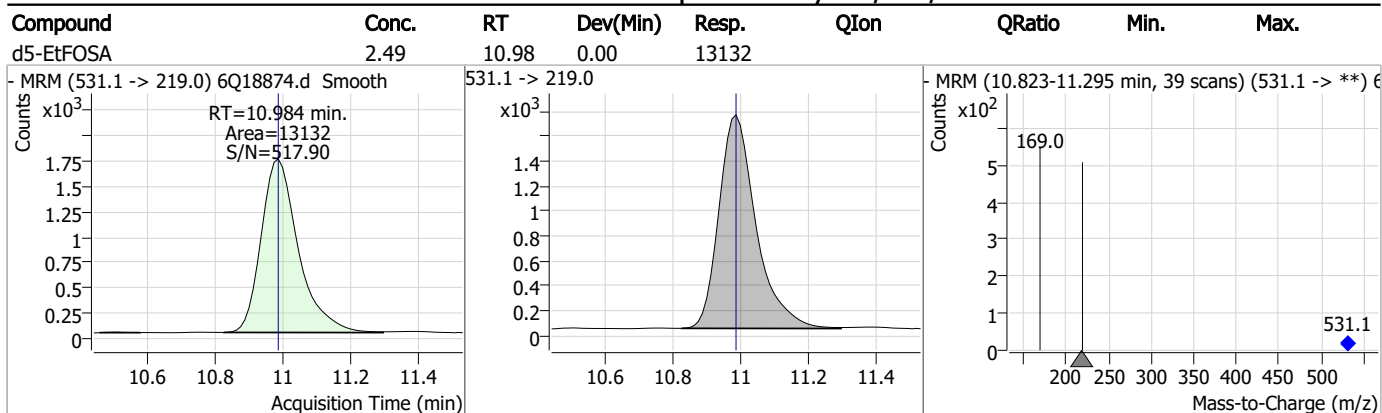
Perfluorinated Compounds by LC/MS/MS



7.7.5

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Perfluorinated Compounds by LC/MS/MS



7.7.5

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18875.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 3:13:42 PM
 Sample Name : ic282-5
 Vial : P1-A6
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	181067	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	61416	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	66781	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	64205	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	97551	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	43868	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	27371	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	32631	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	31599	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17308	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	34920	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	24002	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	14958	2.50 µg/L	0.000
M8-PFOS	8.177	507.1 -> 79.9	14582	2.50 µg/L	-0.012
M2-4:2FTS	5.143	329.1 -> 80.9	4758	5.00 µg/L	-0.012
M2-6:2FTS	6.825	429.1 -> 80.9	6611	5.00 µg/L	-0.012
M2-8:2FTS	7.839	529.1 -> 80.9	6406	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	34711	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	39958	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	30988	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	120628	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	151675	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13006	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13401	2.50 µg/L	0.000
13C4-PFOS	8.178	502.8 -> 79.9	18267	2.50 µg/L	-0.012
13C3-PFBA	2.852	216.0 -> 172.0	76109	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	11029	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	97407	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	35141	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	54297	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	63697	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	4758	5.25 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.9%		
13C2-6:2FTS	6.825	429.1 -> 80.9	6611	5.07 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6406	4.93 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.7%		
13C2-PFDoDA	8.900	615.1 -> 570.0	31599	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.4%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17308	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.4%		
13C3-PFBS	5.384	302.1 -> 79.9	24002	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.0%		
13C3-PFHxS	7.155	402.1 -> 79.9	14958	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	2.860	216.8 -> 171.9	181067	10.03 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C4-PFHpA	6.420	367.1 -> 322.0	64205	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C5-PFHxA	5.466	318.0 -> 273.0	66781	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C5-PFPeA	4.272	268.3 -> 223.0	61416	4.97 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C6-PFDA	8.039	519.1 -> 474.1	27371	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C7-PFUnDA	8.480	570.0 -> 525.1	32631	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.8%	
13C8-FOSA	9.611	506.1 -> 77.8	34920	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C8-PFOA	7.051	421.1 -> 376.0	97551	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.5%	
13C8-PFOS	8.177	507.1 -> 79.9	14582	2.63 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C9-PFNA	7.569	472.1 -> 427.0	43868	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.3%	
d3-MeFOSAA	8.096	573.2 -> 419.0	34711	5.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.5%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	39958	9.96 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.6%	
d3-MeFOSA	10.752	515.0 -> 219.0	13401	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.6%	
d5-EtFOSAA	8.292	589.2 -> 419.0	30988	5.25 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.1%	
d7-MeFOSE	10.660	623.2 -> 58.9	120628	26.31 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.2%	
d9-EtFOSE	10.907	639.2 -> 58.9	151675	25.97 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.9%	
d5-EtFOSA	10.984	531.1 -> 219.0	13006	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.8%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	121468	18.64 µg/L	97
		327.1 -> 80.9	42875		
6:2FTS	6.838	427.1 -> 407.0	123733	19.75 µg/L	95
		427.1 -> 80.9	38254		
8:2FTS	7.828	527.1 -> 507.0	69227	20.15 µg/L	96
		527.1 -> 80.8	25932		
EtFOSAA	8.293	584.2 -> 419.1	19128	4.53 µg/L	98
		584.2 -> 526.0	10329		
FOSA	9.614	498.1 -> 77.9	56245	4.78 µg/L	100
		498.1 -> 478.0	1721		
MeFOSAA	8.097	570.1 -> 419.0	34423	4.96 µg/L	99
		570.1 -> 483.0	6604		
PFBA	2.856	212.8 -> 168.9	115966	19.66 µg/L	100
PFBS	5.385	298.7 -> 79.9	35390	4.25 µg/L	98
		298.7 -> 98.8	14284		
PFDA	8.040	512.9 -> 469.0	155294	4.71 µg/L	98
		512.9 -> 219.0	22168		
PFDODA	8.900	613.1 -> 569.0	102181	4.97 µg/L	96
		613.1 -> 319.0	16056		
PFDS	9.064	599.0 -> 79.9	15744	4.52 µg/L	97

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	7690		
PFHpA	6.420	363.1 -> 319.0	130927	4.81 µg/L	99
		363.1 -> 169.0	21035		
PFHpS	7.698	449.0 -> 79.9	29078	4.40 µg/L	93
		449.0 -> 98.9	15567		
PFHxA	5.469	313.0 -> 269.0	106574	4.86 µg/L	100
		313.0 -> 118.9	5653		
PFHxS	7.156	398.7 -> 79.9	30608	4.37 µg/L	100
		398.7 -> 98.9	14717		
PFNA	7.570	463.0 -> 419.0	146749	4.72 µg/L	99
		463.0 -> 219.0	30387		
PFNS	8.644	548.8 -> 79.9	26447	4.55 µg/L	98
		548.8 -> 98.9	14192		
PFOA	7.052	413.0 -> 369.0	200159	4.87 µg/L	98
		413.0 -> 169.0	33668		
PFOS	8.191	498.9 -> 79.9	29701	4.45 µg/L	96
		498.9 -> 98.8	13753		
PFPeA	4.274	263.0 -> 219.0	139470	9.61 µg/L	100
PFPeS	6.459	349.1 -> 79.9	29807	4.43 µg/L	100
		349.1 -> 98.9	13611		
PFTeDA	9.628	713.1 -> 669.0	87899	5.15 µg/L	97
		713.1 -> 168.9	7341		
PFTrDA	9.296	663.0 -> 619.0	106440	5.07 µg/L	98
		663.0 -> 168.9	11832		
PFUnDA	8.480	563.1 -> 519.0	104689	5.17 µg/L	98
		563.1 -> 269.1	16650		
11Cl-PF3OUdS	9.336	630.9 -> 450.9	138251	9.05 µg/L	100
		632.9 -> 452.9	41880		
9Cl-PF3ONS	8.508	530.8 -> 351.0	220720	9.12 µg/L	97
		532.8 -> 353.0	67842		
ADONA	6.671	376.9 -> 250.9	497665	9.07 µg/L	98
		376.9 -> 84.8	141459		
HFPO-DA	5.832	284.9 -> 168.9	32153	9.63 µg/L	100
		284.9 -> 184.9	3810		
3:3FTCA	3.709	241.0 -> 177.0	24445	23.79 µg/L	99
		241.0 -> 117.0	3198		
5:3FTCA	6.124	341.0 -> 237.1	496966	117.51 µg/L	97
		341.0 -> 217.0	373174		
7:3FTCA	7.535	441.0 -> 316.9	357511	122.88 µg/L	97
		441.0 -> 336.9	791965		
EtFOSA	10.986	526.0 -> 219.0	58810	9.81 µg/L	96
		526.0 -> 169.0	74679		
EtFOSE	10.920	630.0 -> 58.9	160166	24.21 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	49132	9.62 µg/L	99
		511.9 -> 169.0	69780		
MeFOSE	10.686	616.1 -> 58.9	111844	23.95 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	7691	4.67 µg/L	98
		699.1 -> 98.8	4336		
NFDHA	5.348	295.0 -> 201.0	25463	9.67 µg/L	99
		295.0 -> 84.9	6501		
PFMBA	4.688	279.0 -> 85.1	96884	9.66 µg/L	100
PFMPA	3.401	229.0 -> 84.9	73936	9.68 µg/L	100
PFEESA	5.926	314.8 -> 134.9	241017	8.65 µg/L	99
		314.8 -> 82.9	8486		

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

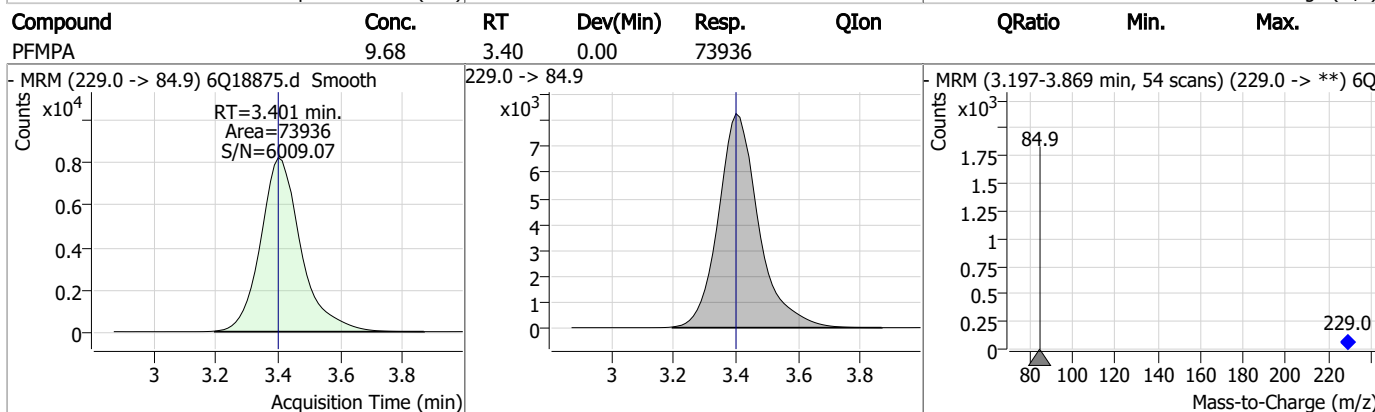
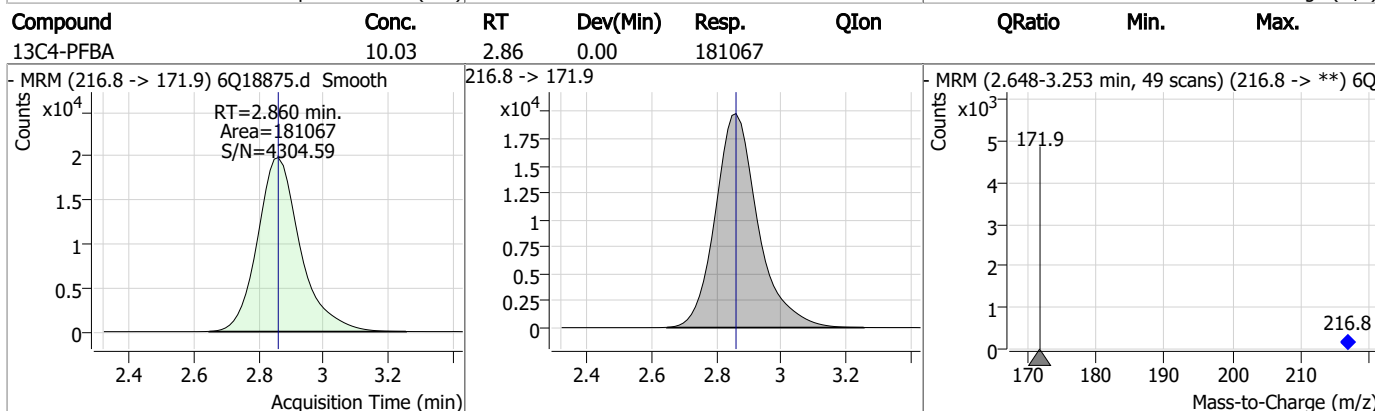
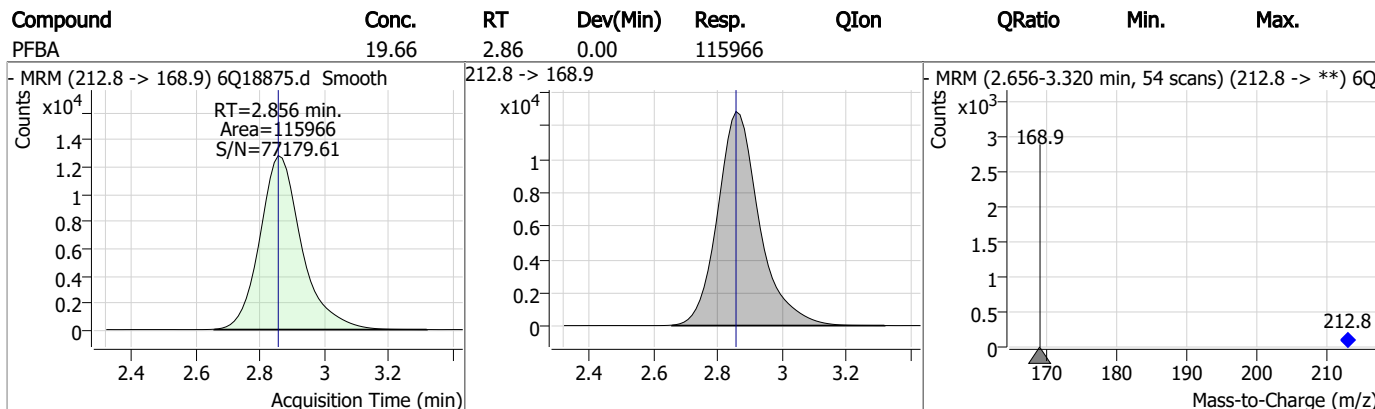
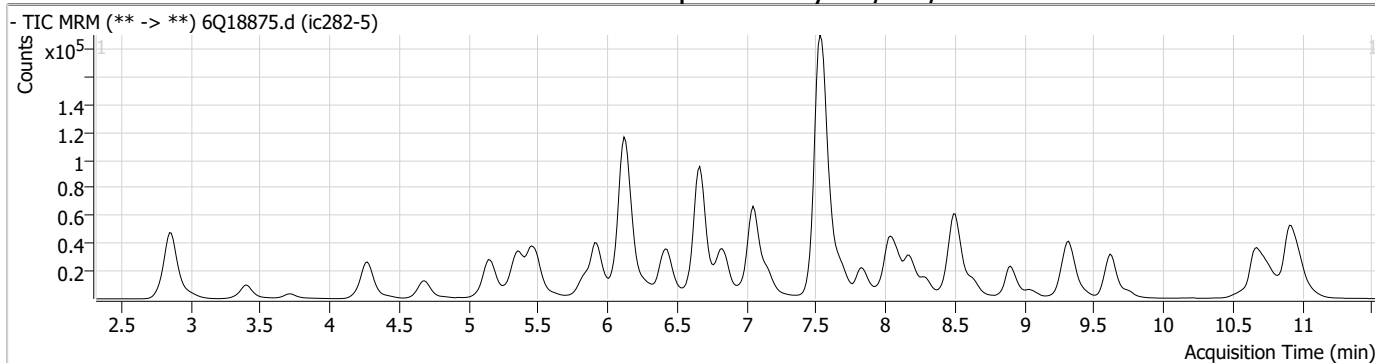
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.6
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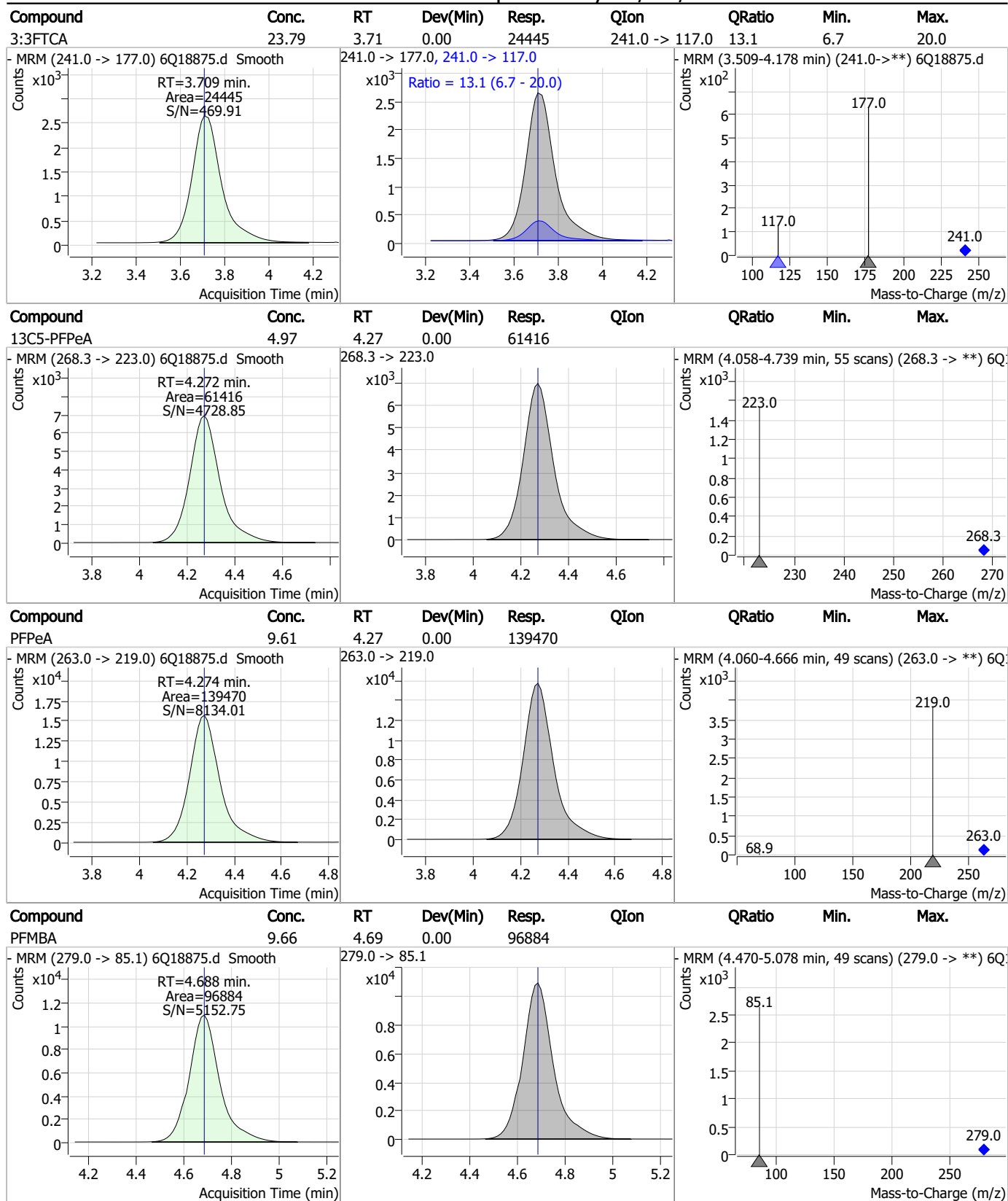


Perfluorinated Compounds by LC/MS/MS



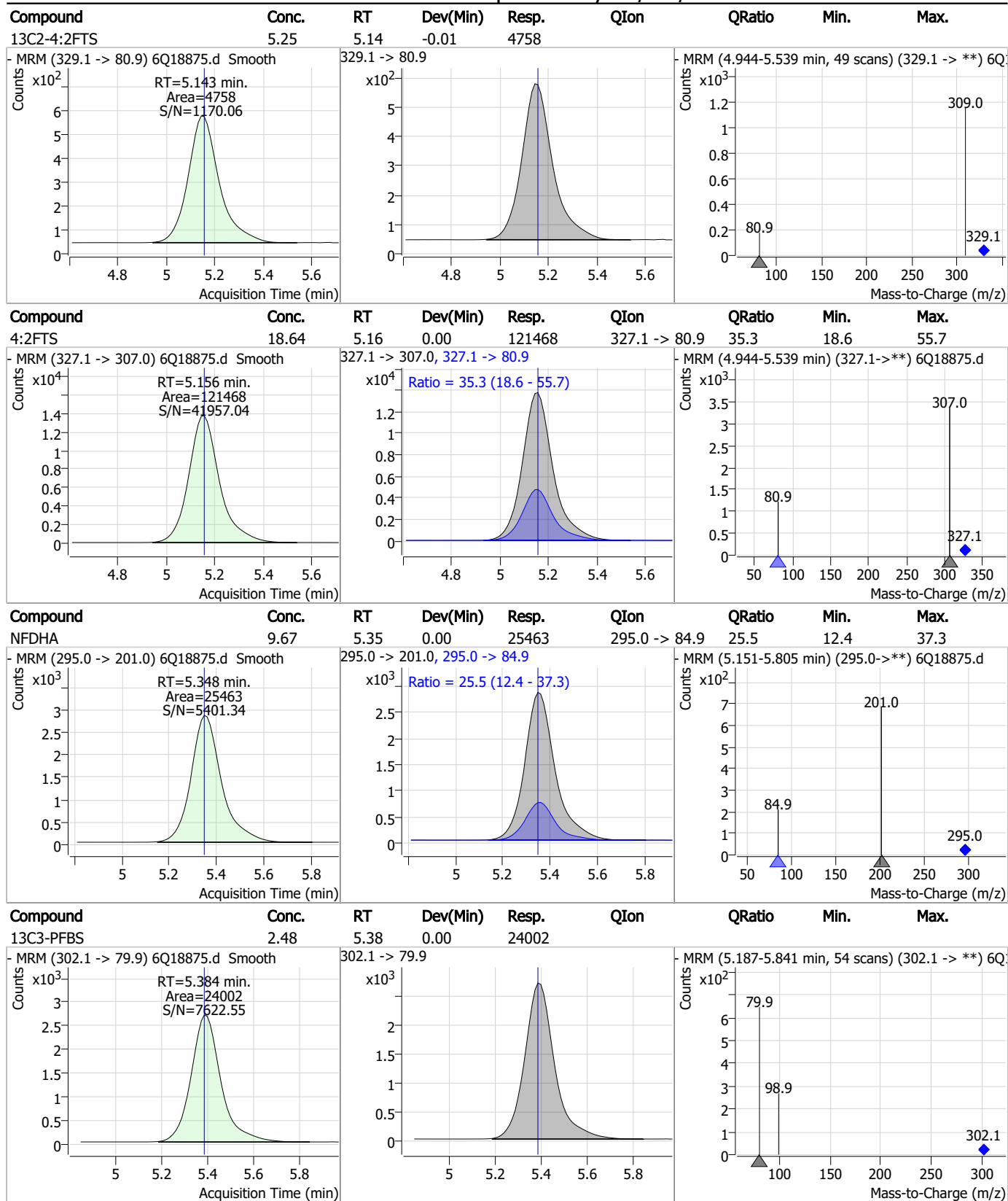
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Perfluorinated Compounds by LC/MS/MS



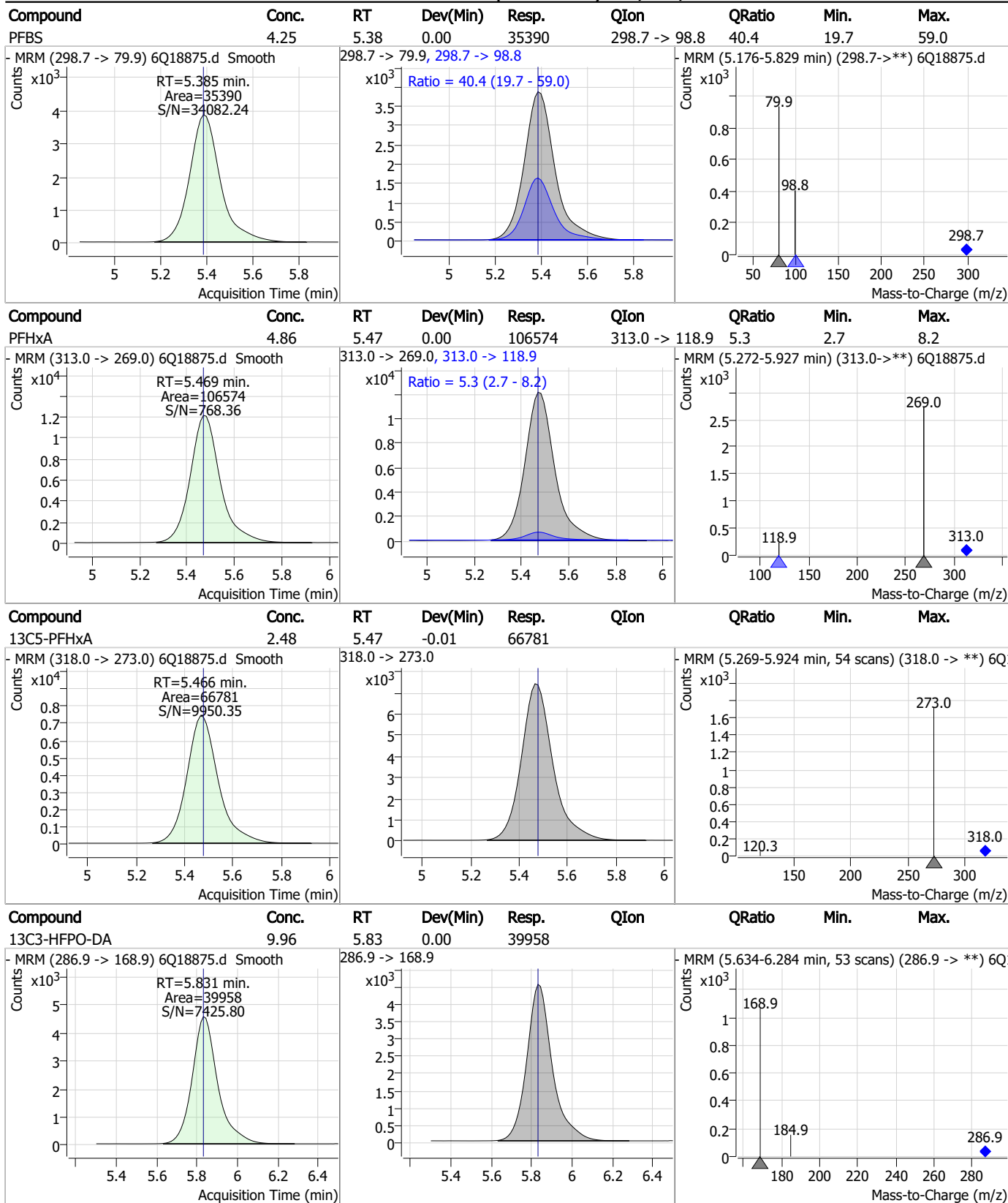
7.7.6
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Perfluorinated Compounds by LC/MS/MS



7.7.6
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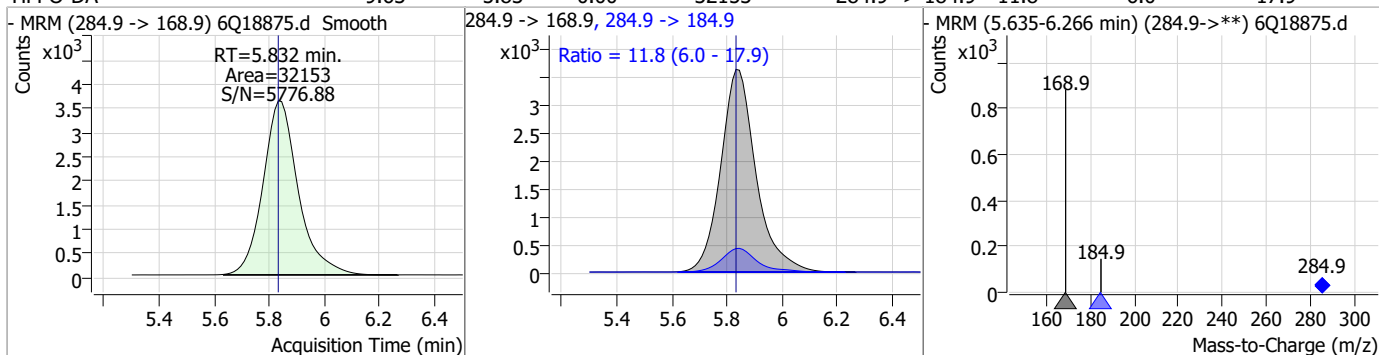
Perfluorinated Compounds by LC/MS/MS



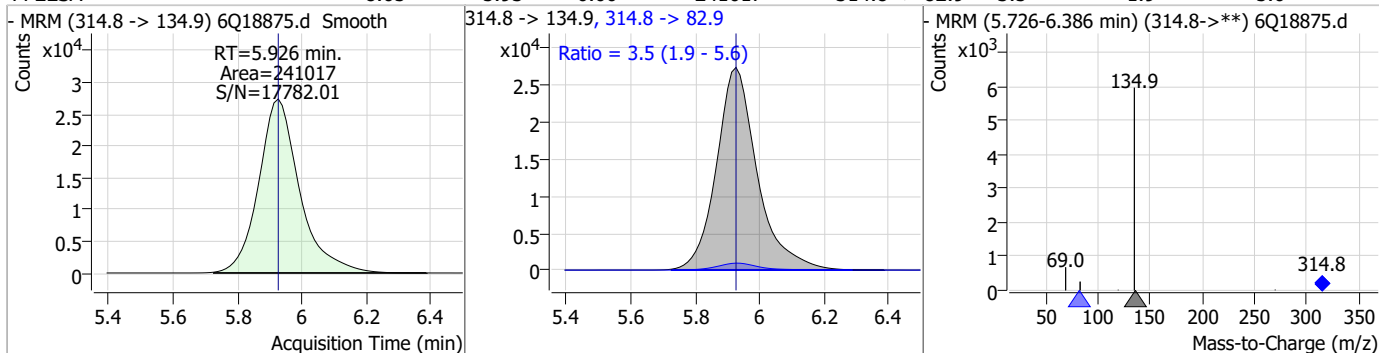
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Perfluorinated Compounds by LC/MS/MS

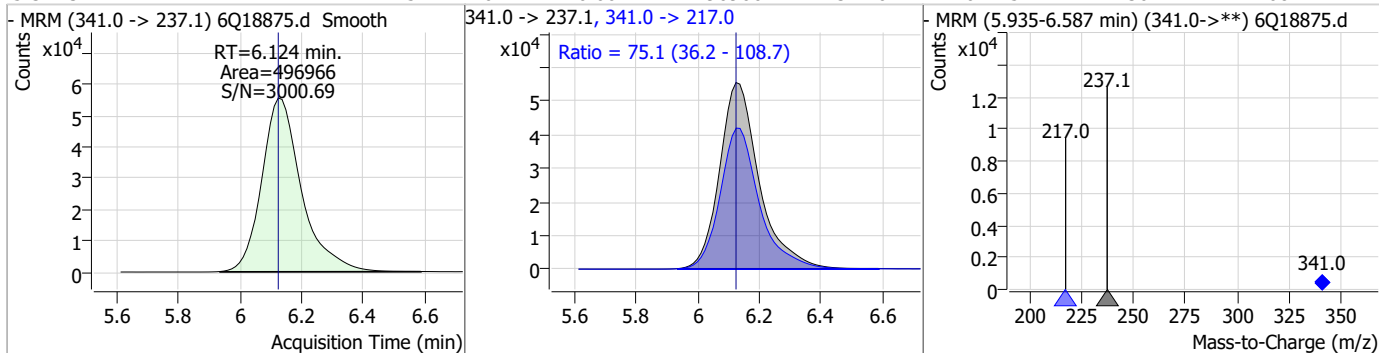
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	9.63	5.83	0.00	32153	284.9 -> 184.9	11.8	6.0	17.9



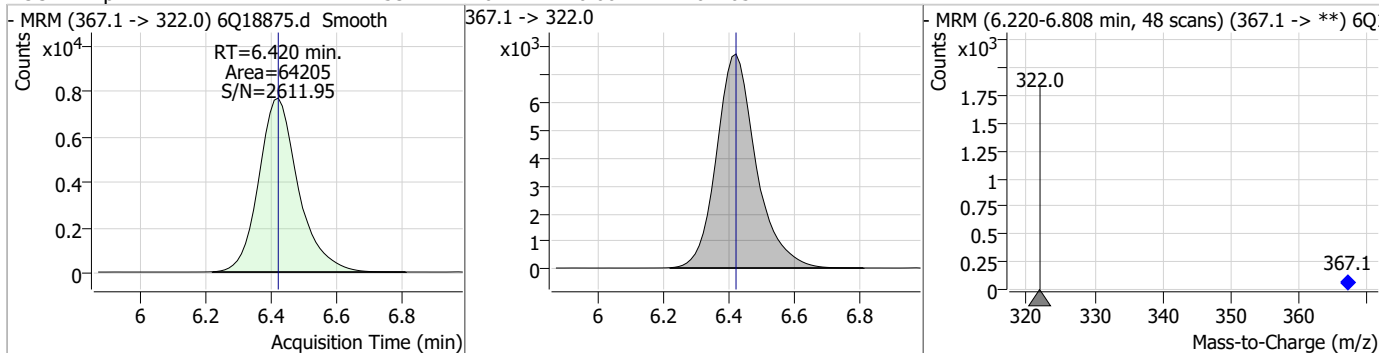
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	8.65	5.93	0.00	241017	314.8 -> 82.9	3.5	1.9	5.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	117.51	6.12	0.00	496966	341.0 -> 217.0	75.1	36.2	108.7

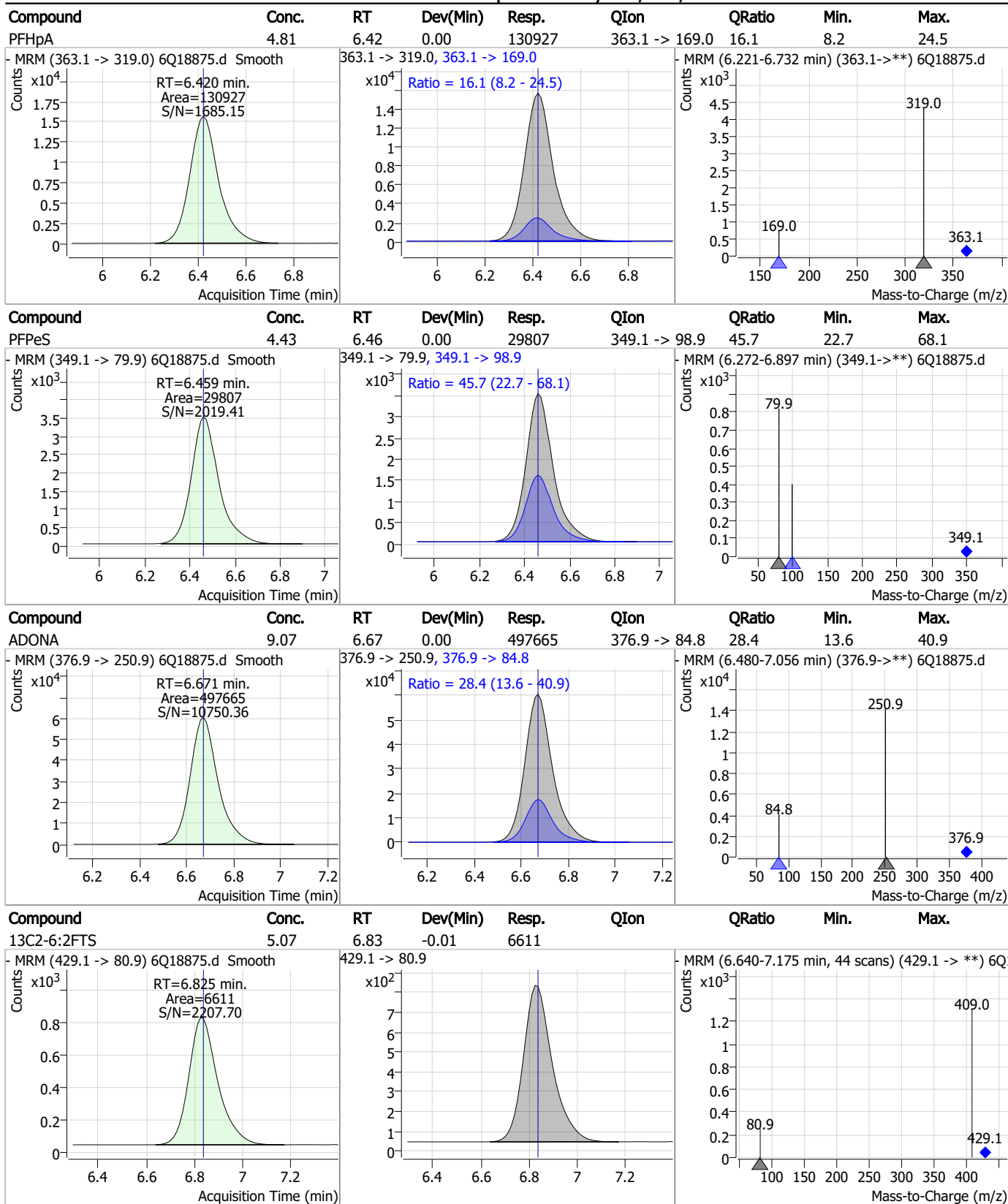


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.53	6.42	0.00	64205	367.1 -> 322.0			



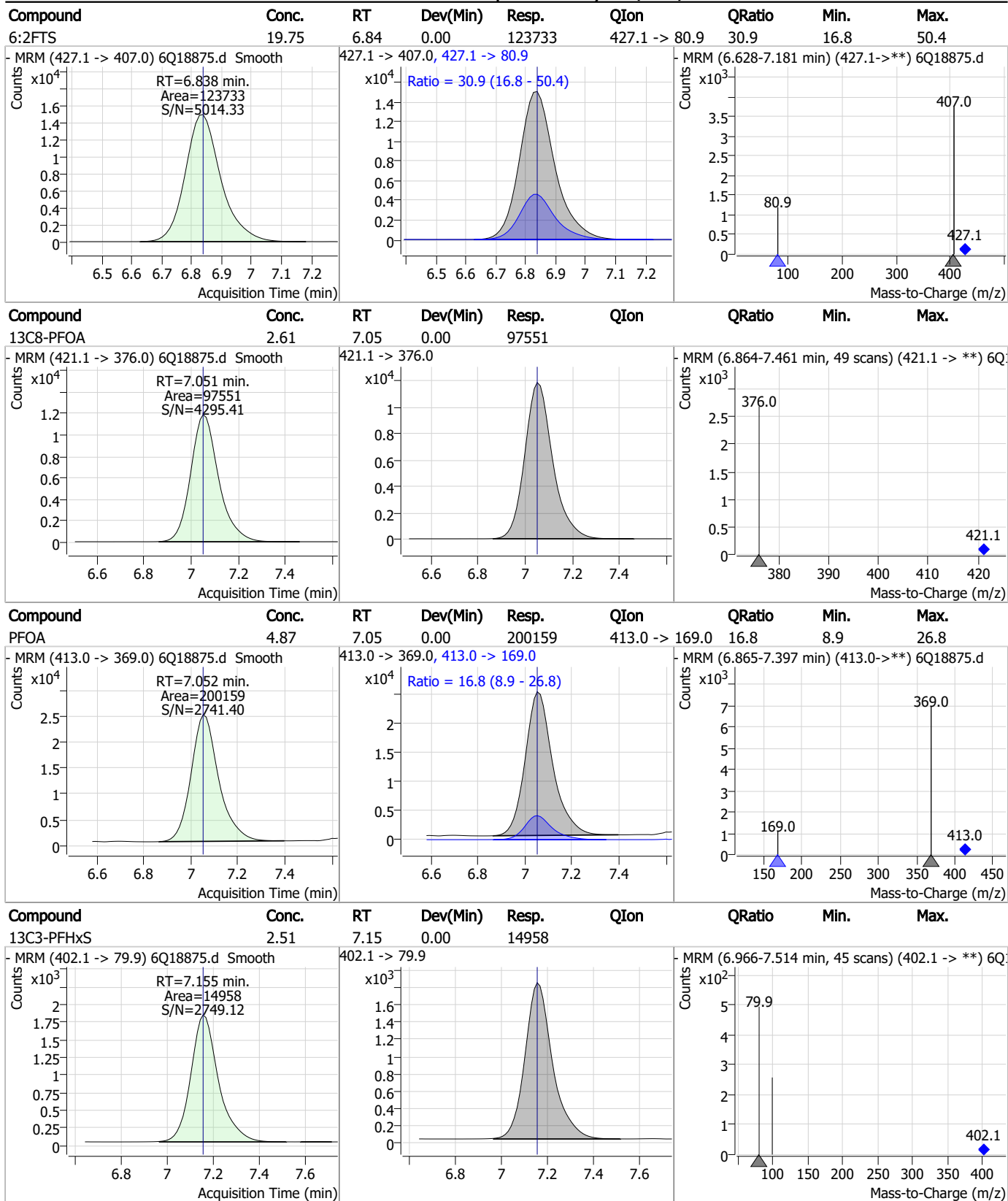
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Perfluorinated Compounds by LC/MS/MS



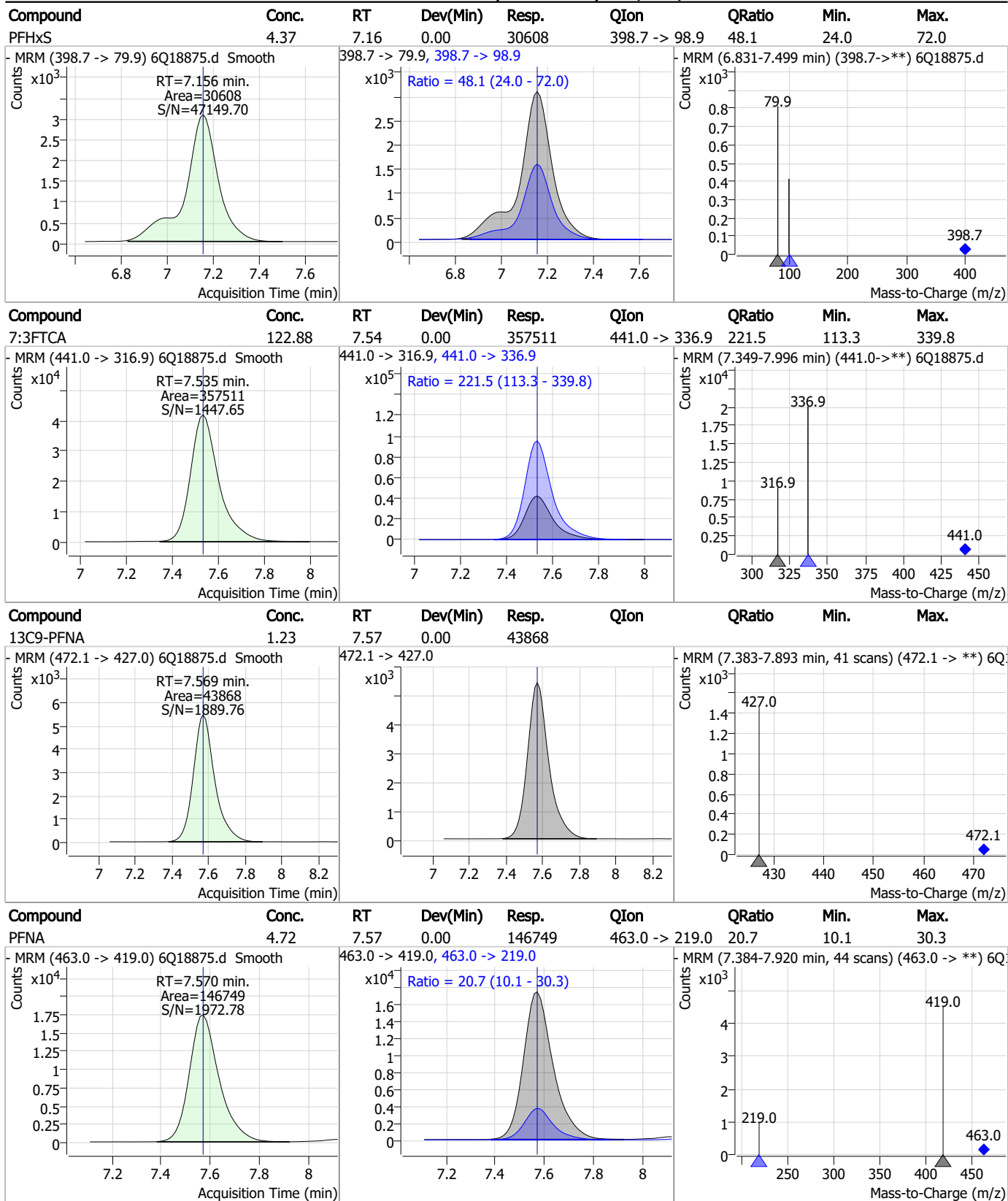
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Perfluorinated Compounds by LC/MS/MS



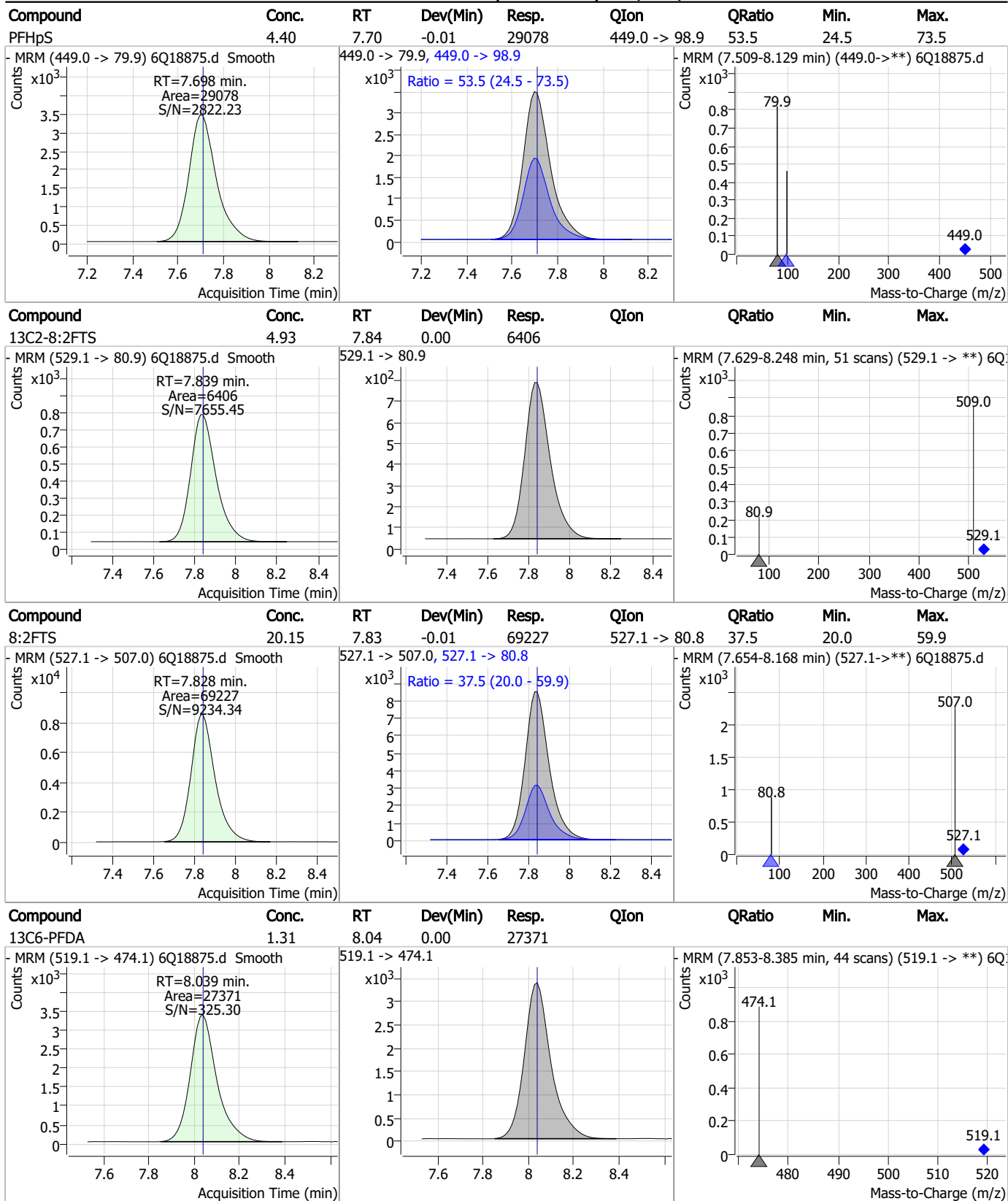
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Perfluorinated Compounds by LC/MS/MS



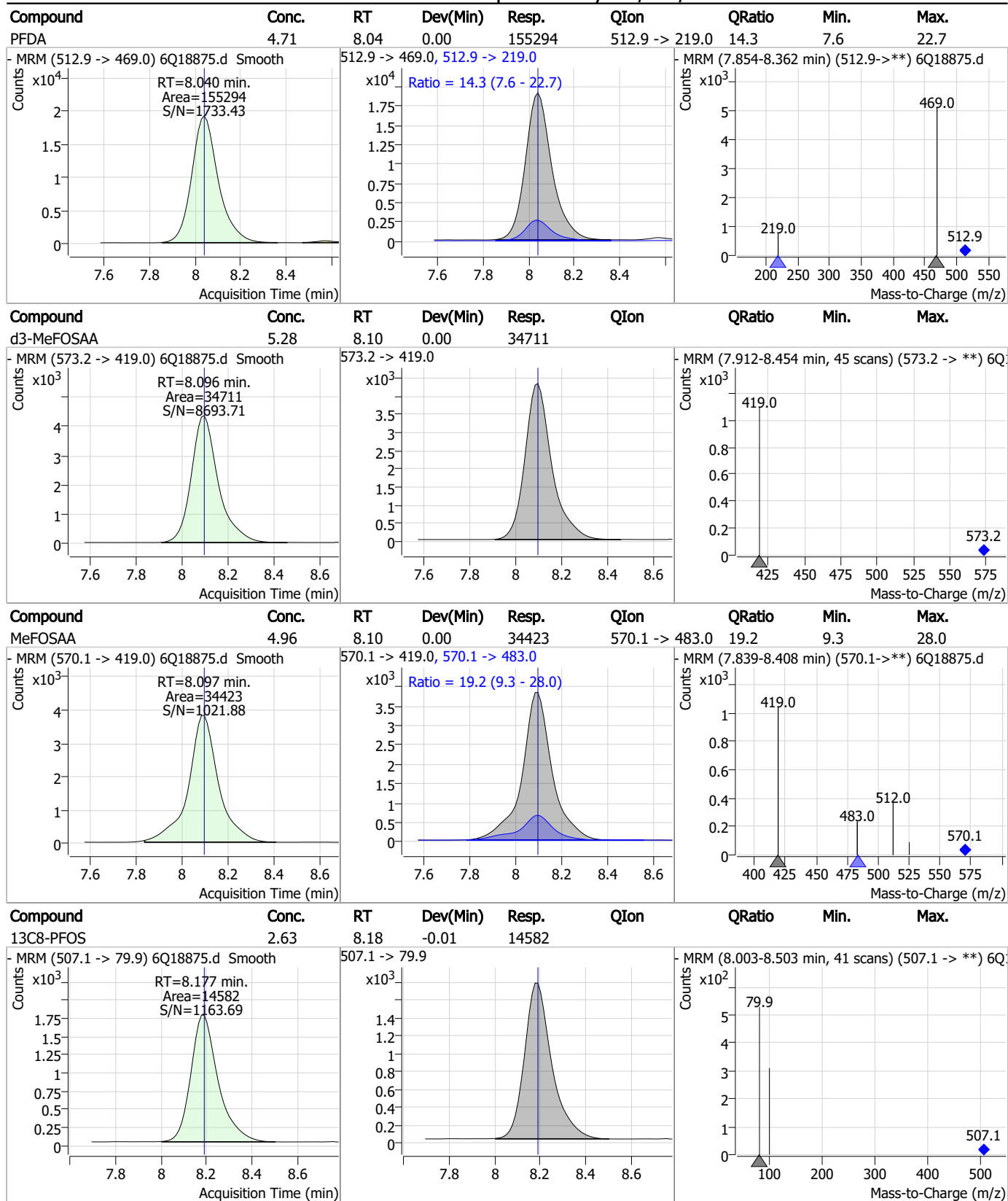
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Perfluorinated Compounds by LC/MS/MS



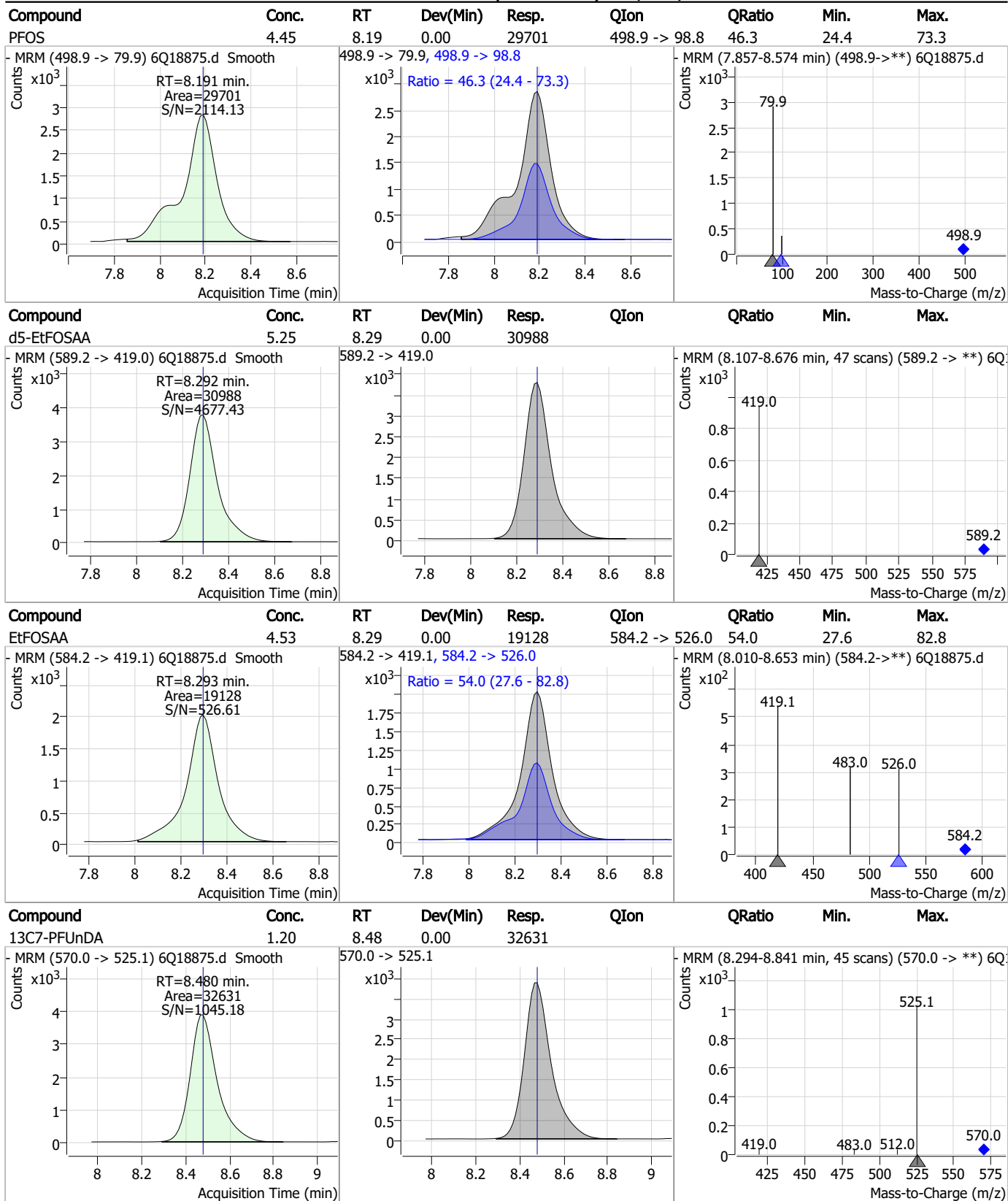
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Perfluorinated Compounds by LC/MS/MS



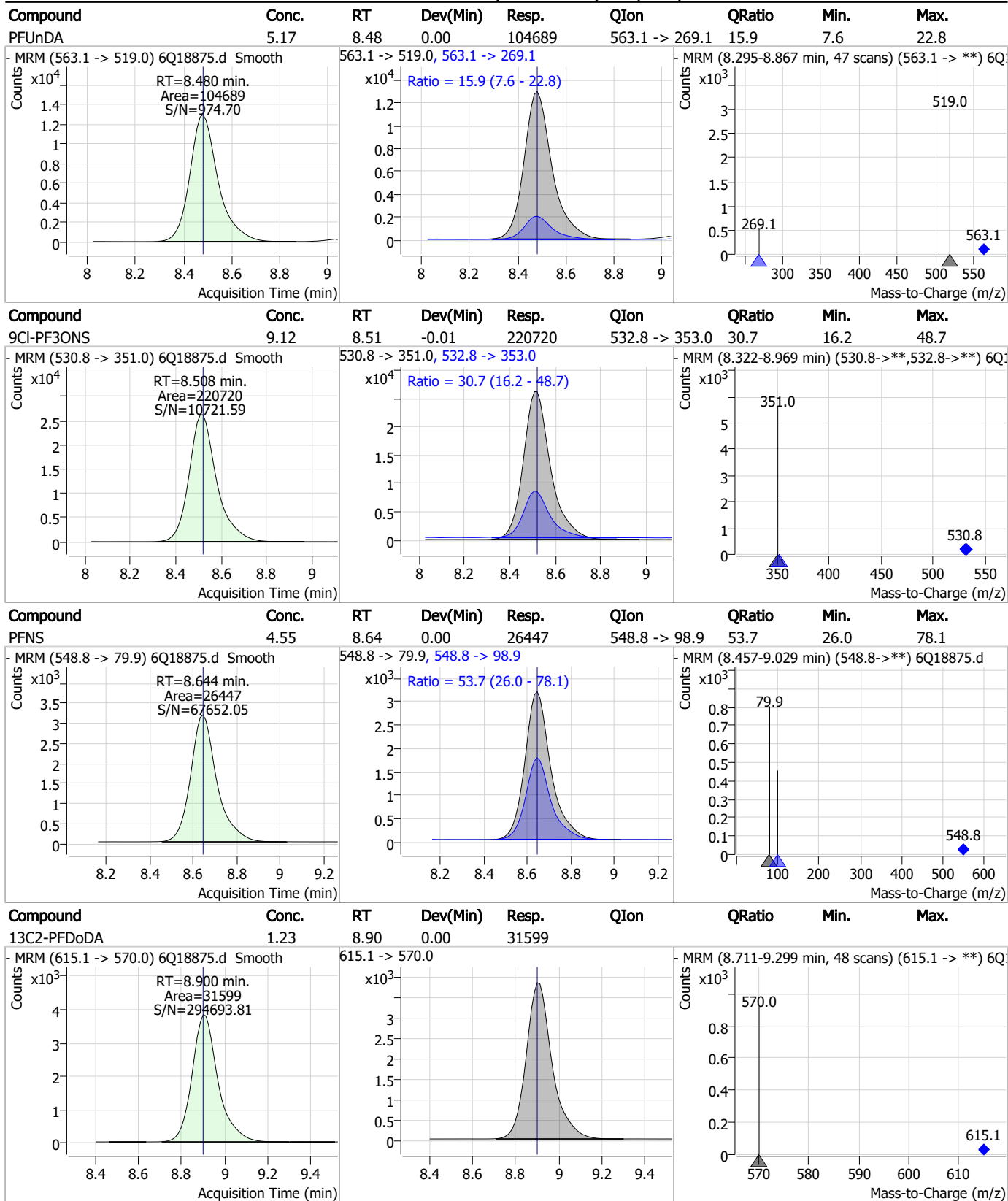
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Perfluorinated Compounds by LC/MS/MS



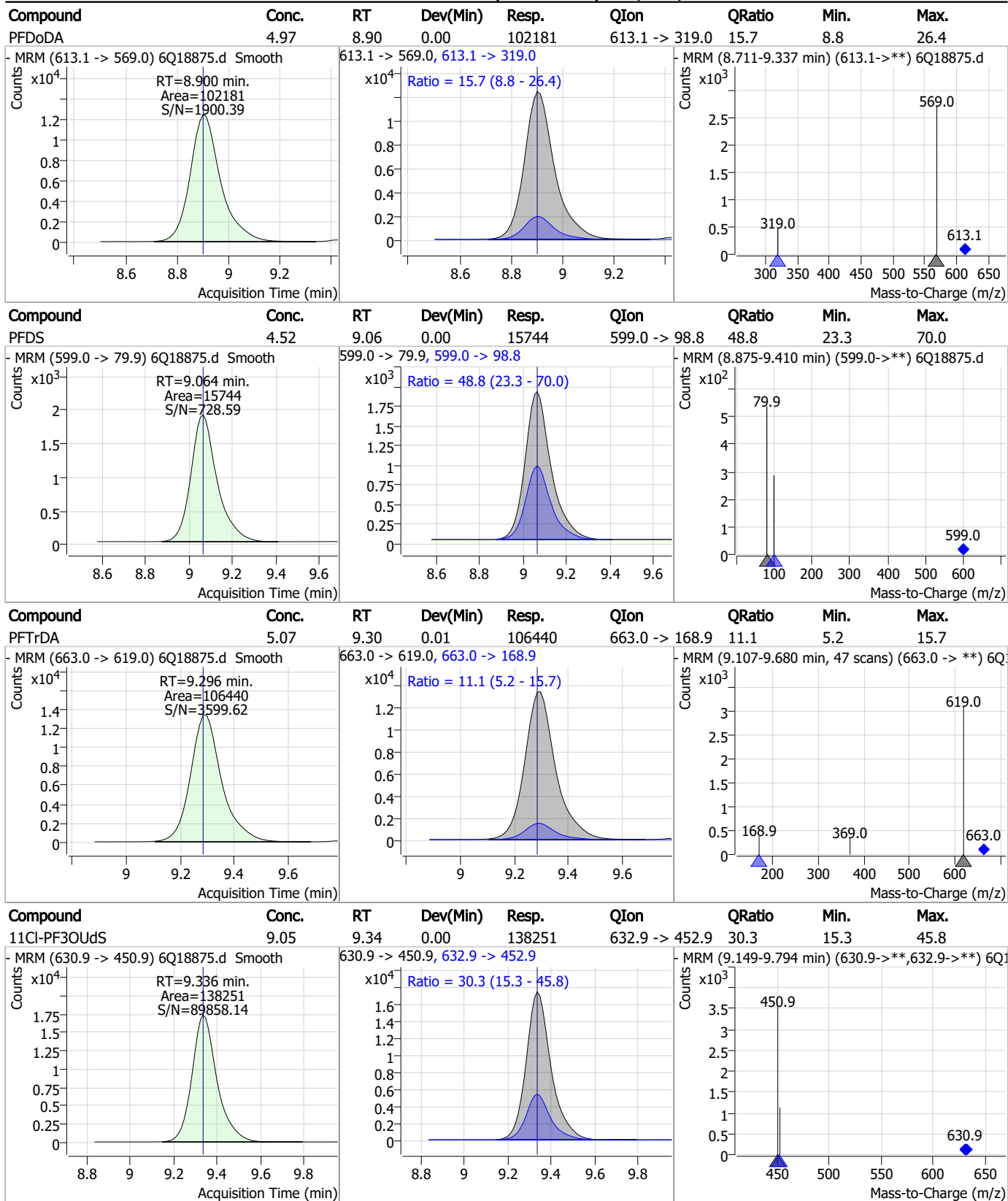
7.7.6
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Perfluorinated Compounds by LC/MS/MS



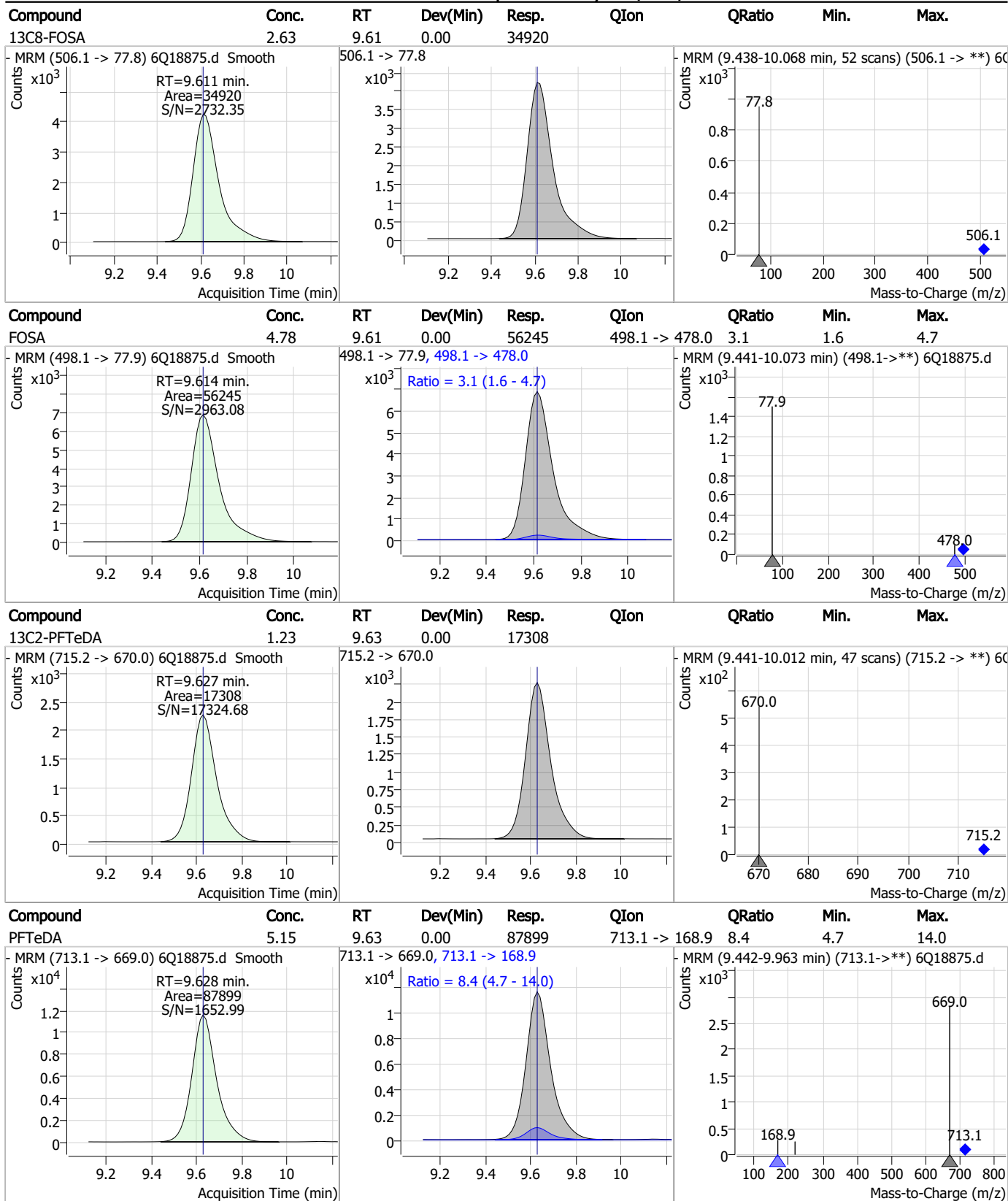
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Perfluorinated Compounds by LC/MS/MS



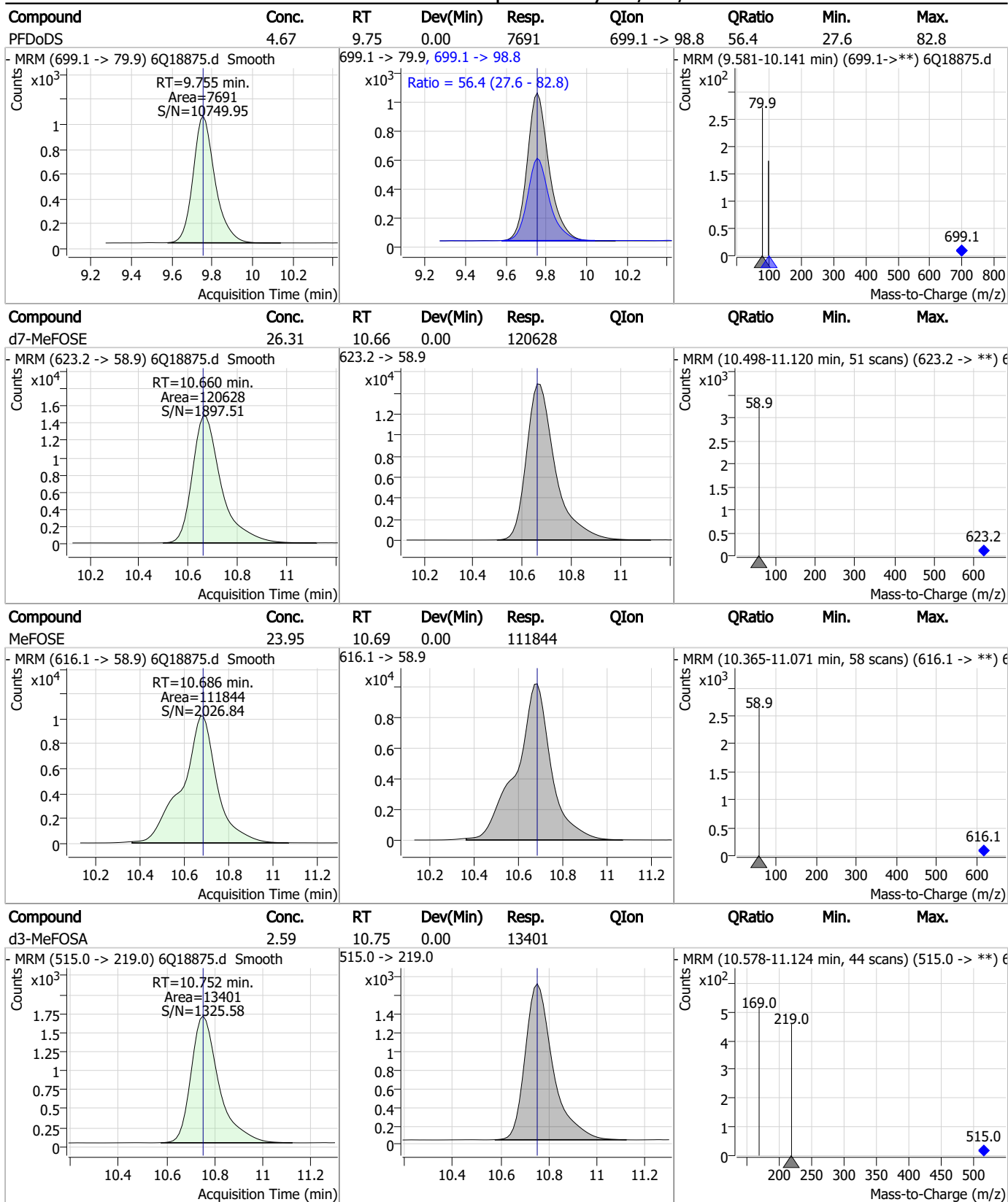
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Perfluorinated Compounds by LC/MS/MS



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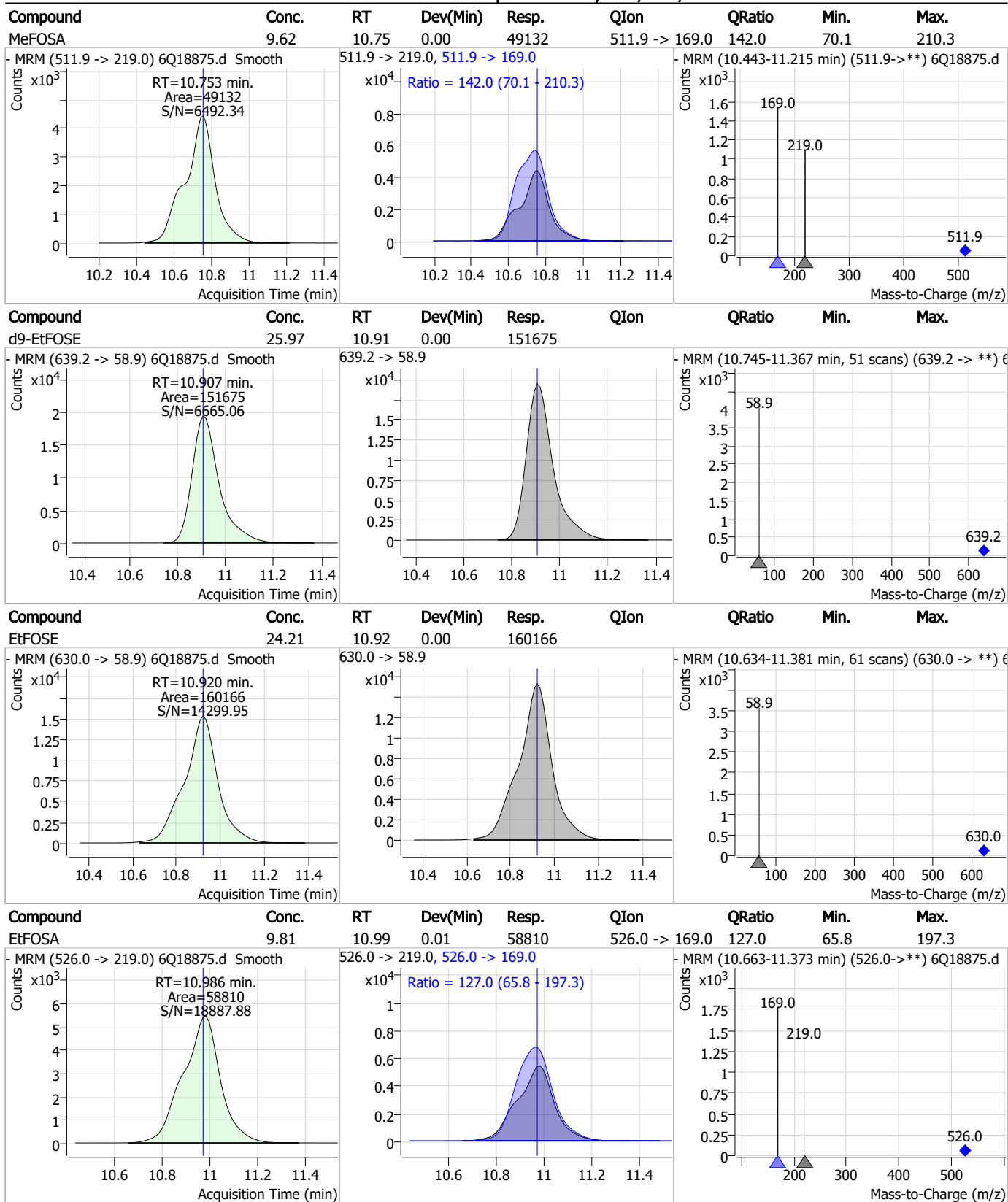
Perfluorinated Compounds by LC/MS/MS



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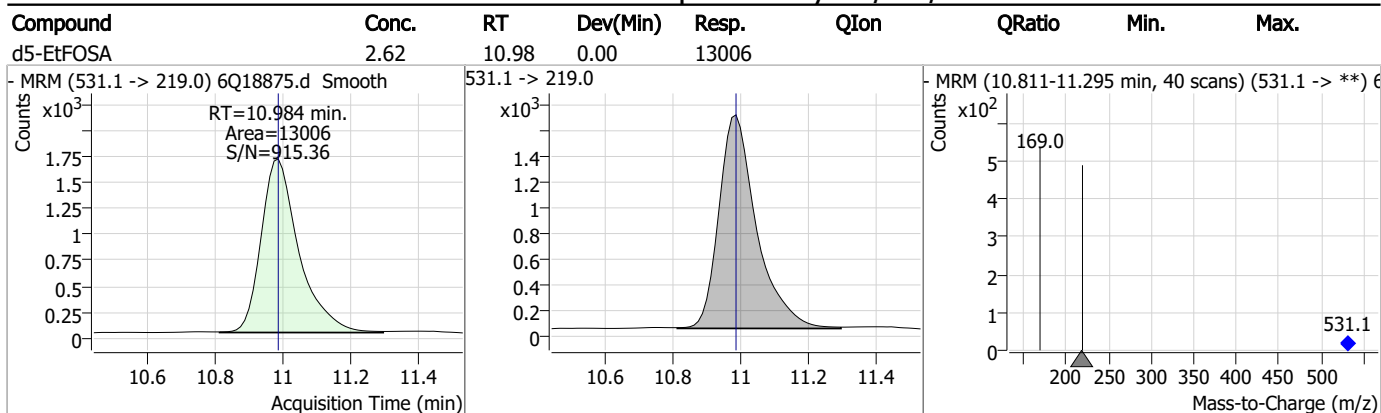
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18876.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 3:28:10 PM
 Sample Name : ic282-6
 Vial : P1-A7
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.888	216.8 -> 171.9	226268	10.00 µg/L	0.028
M5-PFPeA	4.284	268.3 -> 223.0	75292	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	81291	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	78380	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	113723	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	52002	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	31337	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	42244	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	39021	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	21716	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	40439	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	28693	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	18520	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	17634	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5248	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7763	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7856	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	42989	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	50358	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	38430	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	149874	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	190769	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	15880	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	16218	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	23280	2.50 µg/L	0.000
13C3-PFBA	2.891	216.0 -> 172.0	95540	5.00 µg/L	0.027
18O2-PFHxS	7.166	403.0 -> 83.9	12957	2.50 µg/L	0.012
13C4-PFOA	7.051	417.1 -> 372.0	127630	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	41159	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	65602	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	78077	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5248	4.92 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 98.5%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7763	5.07 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7856	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.0%		
13C2-PFDoDA	8.900	615.1 -> 570.0	39021	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 103.8%		
13C2-PFTeDA	9.627	715.2 -> 670.0	21716	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 105.4%		
13C3-PFBS	5.397	302.1 -> 79.9	28693	2.52 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.8%		
13C3-PFHxS	7.155	402.1 -> 79.9	18520	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 = 106.0%	
13C4-PFBA	2.888	216.8 -> 171.9	226268	9.98 µg/L	0.028
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C4-PFHpA	6.420	367.1 -> 322.0	78380	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C5-PFHxA	5.478	318.0 -> 273.0	81291	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C5-PFPeA	4.284	268.3 -> 223.0	75292	4.97 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C6-PFDA	8.039	519.1 -> 474.1	31337	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C7-PFUnDA	8.480	570.0 -> 525.1	42244	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.9%	
13C8-FOSA	9.623	506.1 -> 77.8	40439	2.39 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.5%	
13C8-PFOA	7.051	421.1 -> 376.0	113723	2.32 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.9%	
13C8-PFOS	8.189	507.1 -> 79.9	17634	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C9-PFNA	7.569	472.1 -> 427.0	52002	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.4%	
d3-MeFOSAA	8.096	573.2 -> 419.0	42989	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	50358	10.24 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.4%	
d3-MeFOSA	10.752	515.0 -> 219.0	16218	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%	
d5-EtFOSAA	8.292	589.2 -> 419.0	38430	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
d7-MeFOSE	10.660	623.2 -> 58.9	149874	25.65 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.6%	
d9-EtFOSE	10.907	639.2 -> 58.9	190769	25.63 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.5%	
d5-EtFOSA	10.984	531.1 -> 219.0	15880	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	338595	47.11 µg/L	98
		327.1 -> 80.9	130153		
6:2FTS	6.838	427.1 -> 407.0	365933	49.74 µg/L	95
		427.1 -> 80.9	112822		
8:2FTS	7.840	527.1 -> 507.0	202172	47.98 µg/L	98
		527.1 -> 80.8	78476		
EtFOSAA	8.293	584.2 -> 419.1	63748	12.17 µg/L	94
		584.2 -> 526.0	32228		
FOSA	9.614	498.1 -> 77.9	176420	12.94 µg/L	100
		498.1 -> 478.0	5359		
MeFOSAA	8.097	570.1 -> 419.0	110253	12.84 µg/L	100
		570.1 -> 483.0	20669		
PFBA	2.882	212.8 -> 168.9	370078	50.20 µg/L	100
PFBS	5.398	298.7 -> 79.9	116022	11.67 µg/L	97
		298.7 -> 98.8	43708		
PFDA	8.040	512.9 -> 469.0	483529	12.81 µg/L	99
		512.9 -> 219.0	76026		
PFDoDA	8.900	613.1 -> 569.0	326949	12.87 µg/L	94
		613.1 -> 319.0	48342		
PFDS	9.064	599.0 -> 79.9	51885	12.31 µg/L	99

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	24574			
PFHpA	6.420	363.1 -> 319.0	414832	12.49	µg/L	98
		363.1 -> 169.0	64425			
PFHpS	7.710	449.0 -> 79.9	94561	11.82	µg/L	97
		449.0 -> 98.9	44651			
PFHxA	5.481	313.0 -> 269.0	337772	12.66	µg/L	99
		313.0 -> 118.9	17289			
PFHxS	7.156	398.7 -> 79.9	96662	11.14	µg/L	m 99
		398.7 -> 98.9	46829			
PFNA	7.570	463.0 -> 419.0	481488	13.06	µg/L	96
		463.0 -> 219.0	87790			
PFNS	8.644	548.8 -> 79.9	82136	11.69	µg/L	97
		548.8 -> 98.9	44292			
PFOA	7.052	413.0 -> 369.0	645617	13.48	µg/L	98
		413.0 -> 169.0	108944			
PFOS	8.191	498.9 -> 79.9	91635	11.36	µg/L	98
		498.9 -> 98.8	45756			
PFPeA	4.287	263.0 -> 219.0	437993	24.63	µg/L	100
PFPeS	6.459	349.1 -> 79.9	96460	11.57	µg/L	100
		349.1 -> 98.9	43584			
PFTeDA	9.628	713.1 -> 669.0	266836	12.47	µg/L	96
		713.1 -> 168.9	21269			
PFTrDA	9.296	663.0 -> 619.0	321699	12.41	µg/L	100
		663.0 -> 168.9	33337			
PFUnDA	8.480	563.1 -> 519.0	313825	11.98	µg/L	94
		563.1 -> 269.1	55224			
11Cl-PF3OUdS	9.336	630.9 -> 450.9	443395	23.03	µg/L	99
		632.9 -> 452.9	136684			
9Cl-PF3ONS	8.520	530.8 -> 351.0	686037	22.50	µg/L	98
		532.8 -> 353.0	228310			
ADONA	6.671	376.9 -> 250.9	1578307	22.82	µg/L	99
		376.9 -> 84.8	426132			
HFPO-DA	5.845	284.9 -> 168.9	100972	24.01	µg/L	100
		284.9 -> 184.9	12186			
3:3FTCA	3.752	241.0 -> 177.0	78725	62.50	µg/L	99
		241.0 -> 117.0	10257			
5:3FTCA	6.137	341.0 -> 237.1	1568068	304.59	µg/L	99
		341.0 -> 217.0	1129675			
7:3FTCA	7.535	441.0 -> 316.9	1039695	293.57	µg/L	98
		441.0 -> 336.9	2385256			
EtFOSA	10.986	526.0 -> 219.0	184772	25.25	µg/L	97
		526.0 -> 169.0	236239			
EtFOSE	10.920	630.0 -> 58.9	519947	62.49	µg/L	100
MeFOSA	10.753	511.9 -> 219.0	156620	25.35	µg/L	98
		511.9 -> 169.0	224124			
MeFOSE	10.673	616.1 -> 58.9	364284	62.78	µg/L	100
PFDoS	9.755	699.1 -> 79.9	23934	12.03	µg/L	99
		699.1 -> 98.8	13431			
NFDHA	5.361	295.0 -> 201.0	80107	25.00	µg/L	99
		295.0 -> 84.9	19643			
PFMBA	4.700	279.0 -> 85.1	309238	25.16	µg/L	100
PFMPA	3.426	229.0 -> 84.9	235886	25.18	µg/L	100
PFEESA	5.926	314.8 -> 134.9	766859	22.61	µg/L	99
		314.8 -> 82.9	26860			

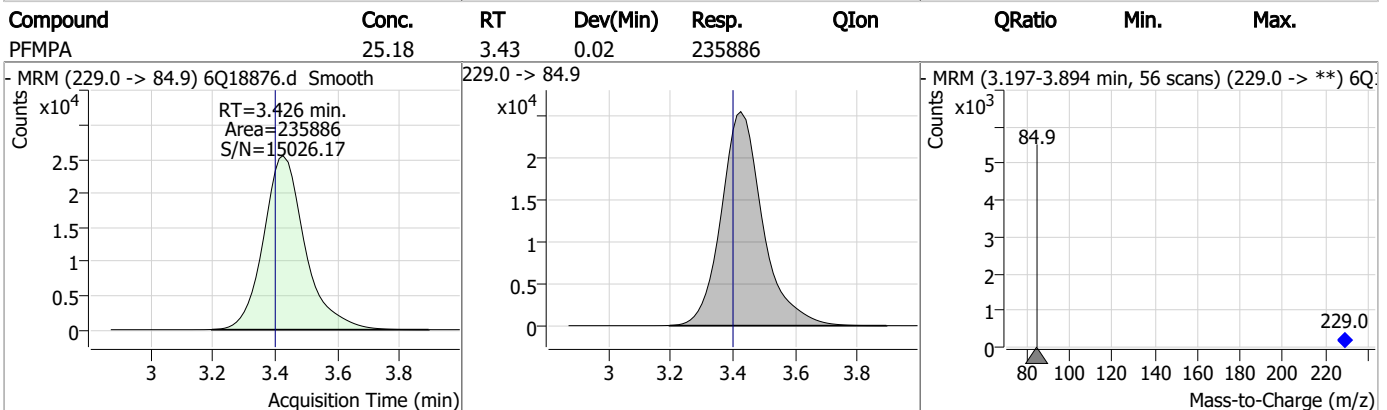
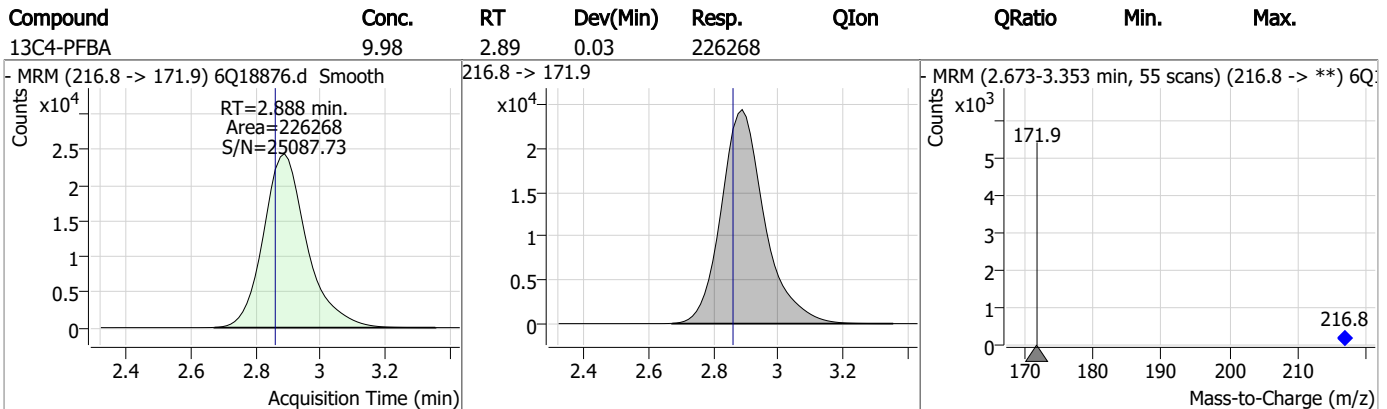
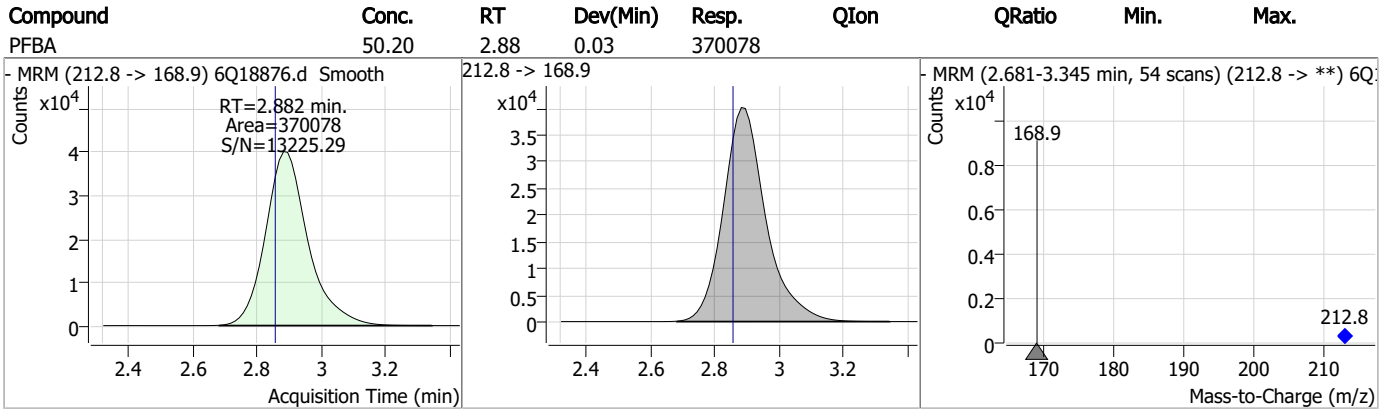
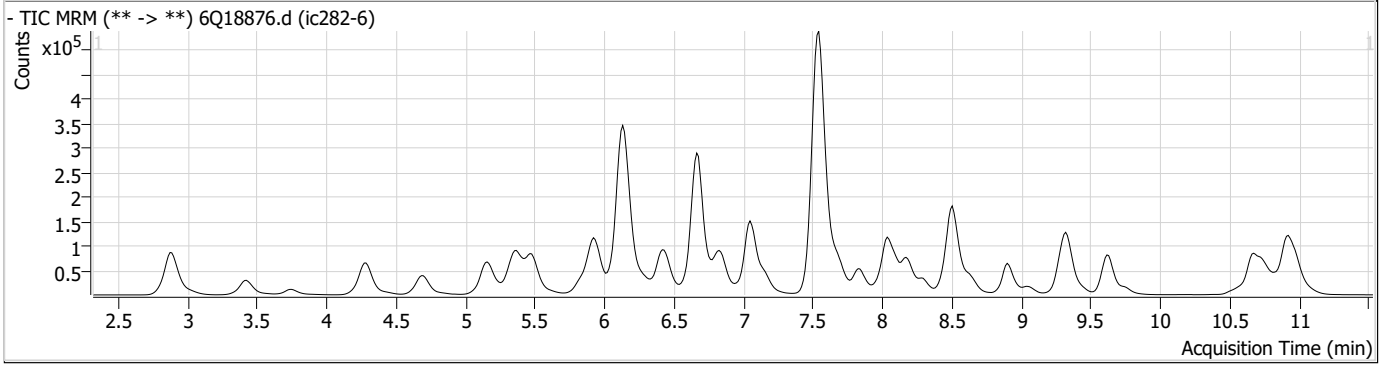
= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

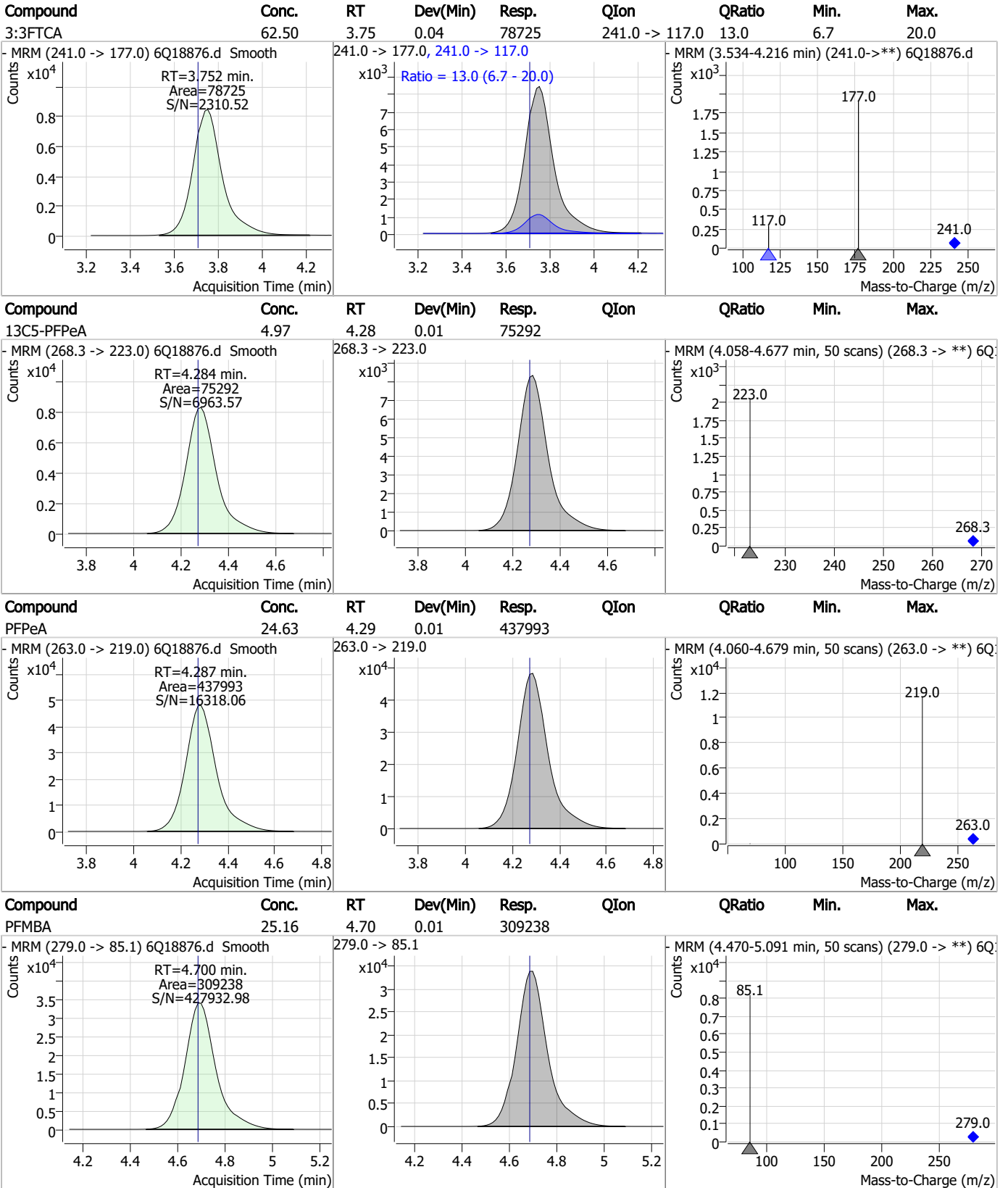
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
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7.7.7
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Perfluorinated Compounds by LC/MS/MS



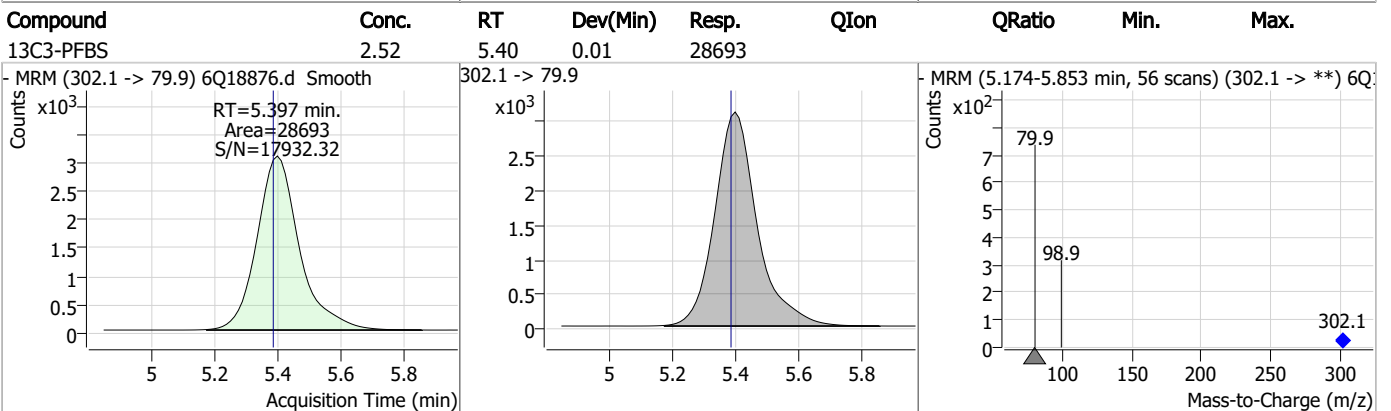
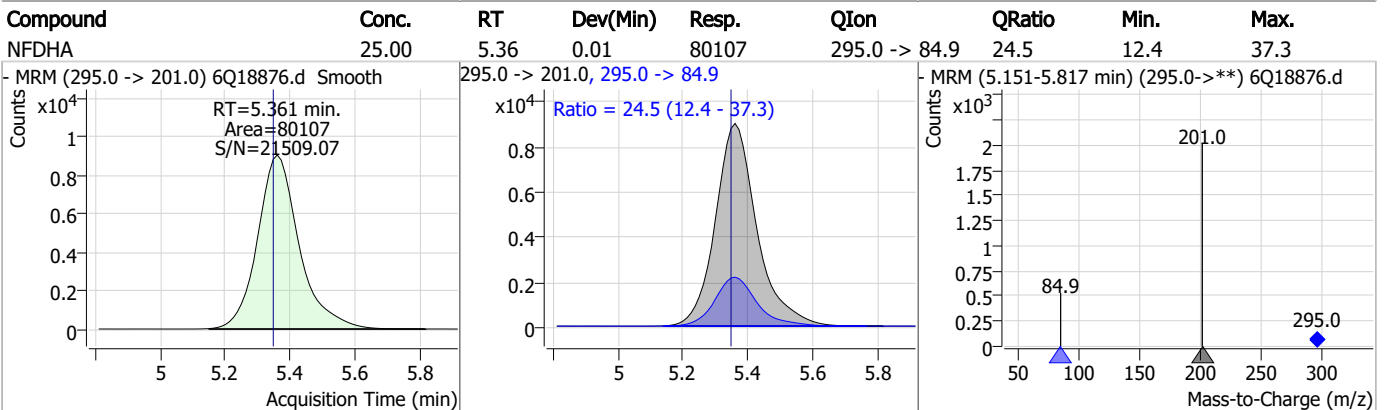
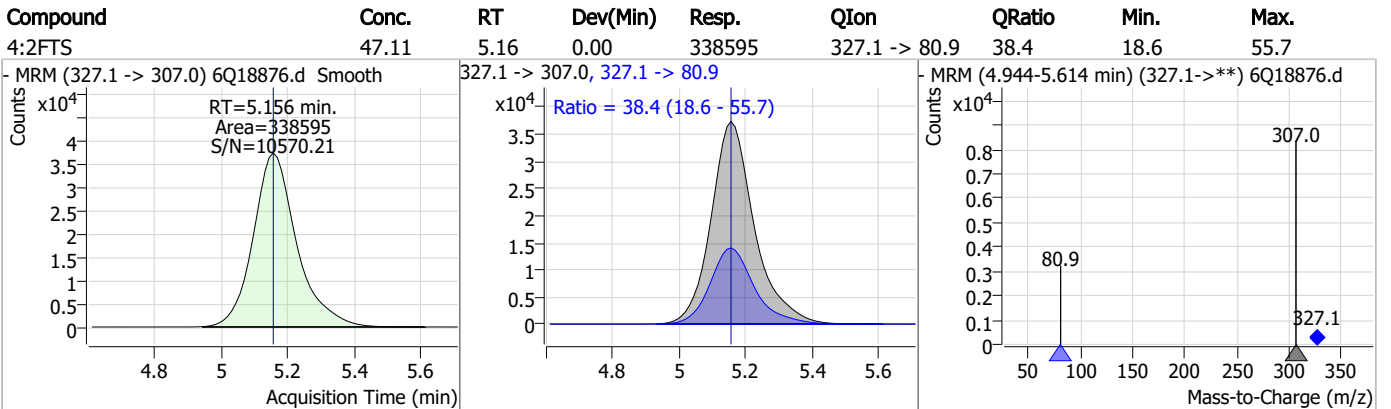
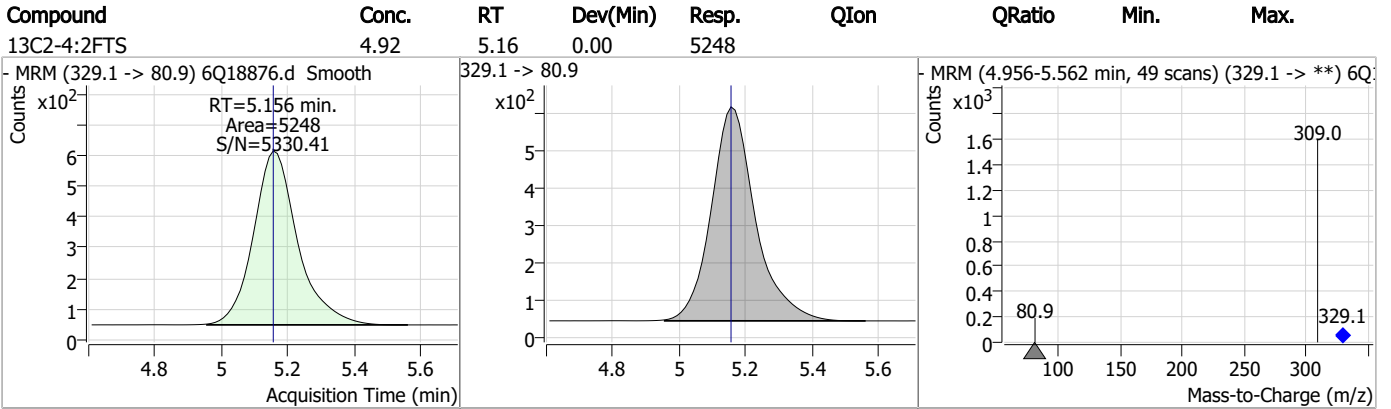
Perfluorinated Compounds by LC/MS/MS



7.7.7

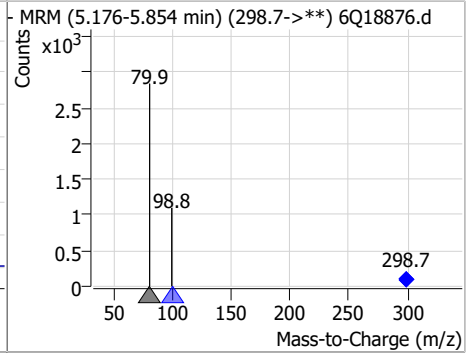
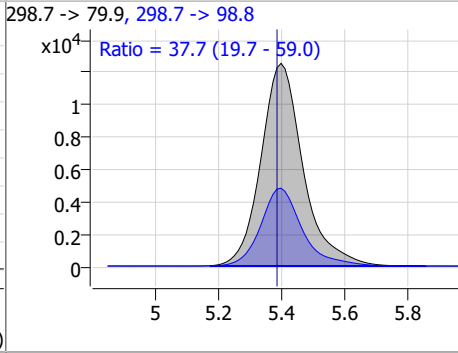
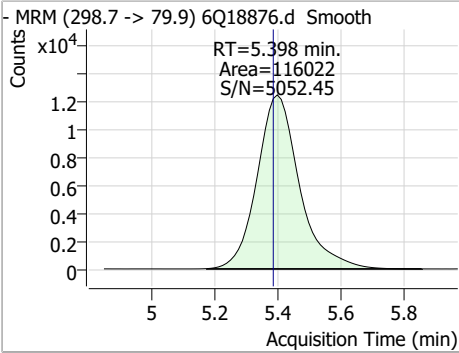
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Perfluorinated Compounds by LC/MS/MS

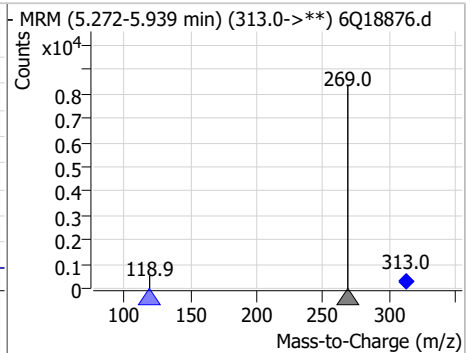
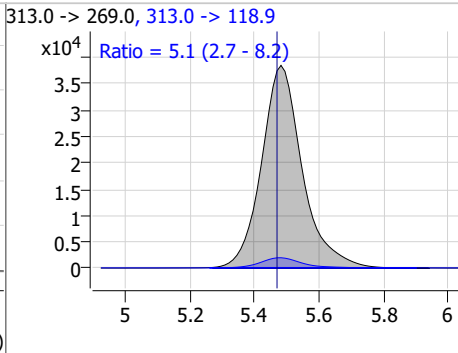
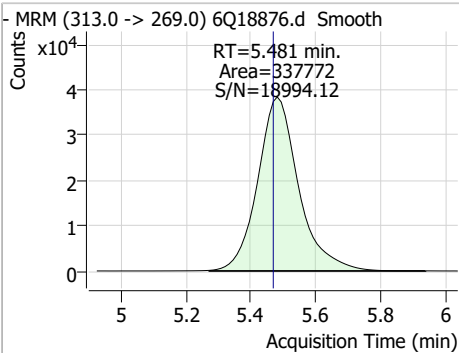


Perfluorinated Compounds by LC/MS/MS

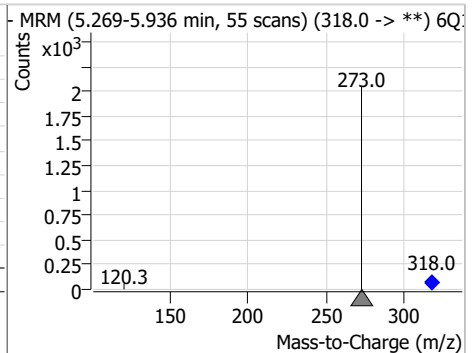
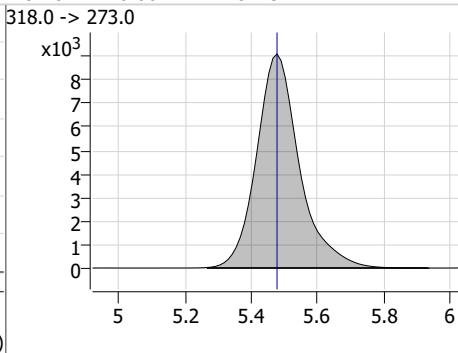
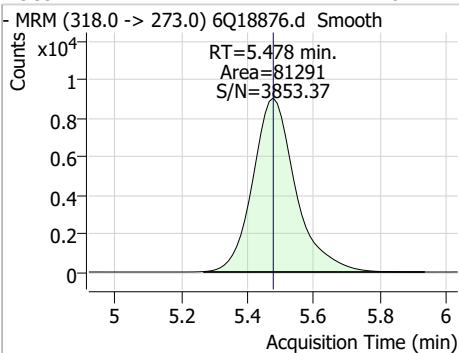
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	11.67	5.40	0.01	116022	298.7 -> 98.8	37.7	19.7	59.0



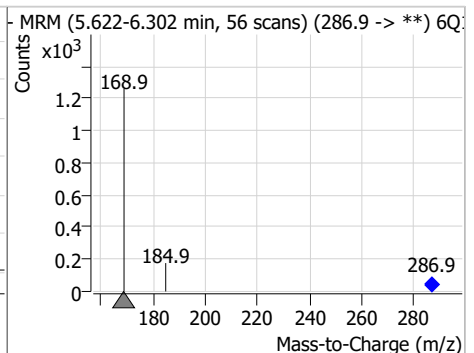
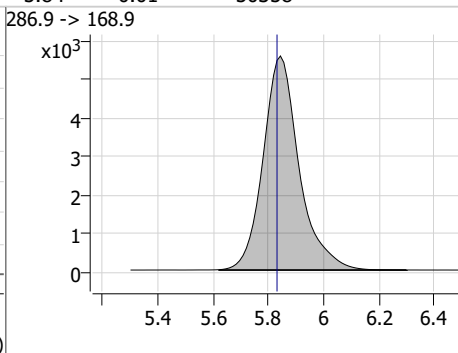
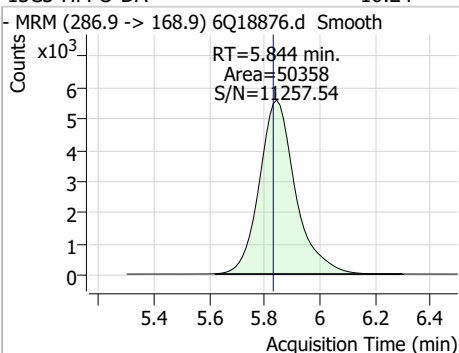
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	12.66	5.48	0.01	337772	313.0 -> 118.9	5.1	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.46	5.48	0.00	81291	318.0 -> 273.0			

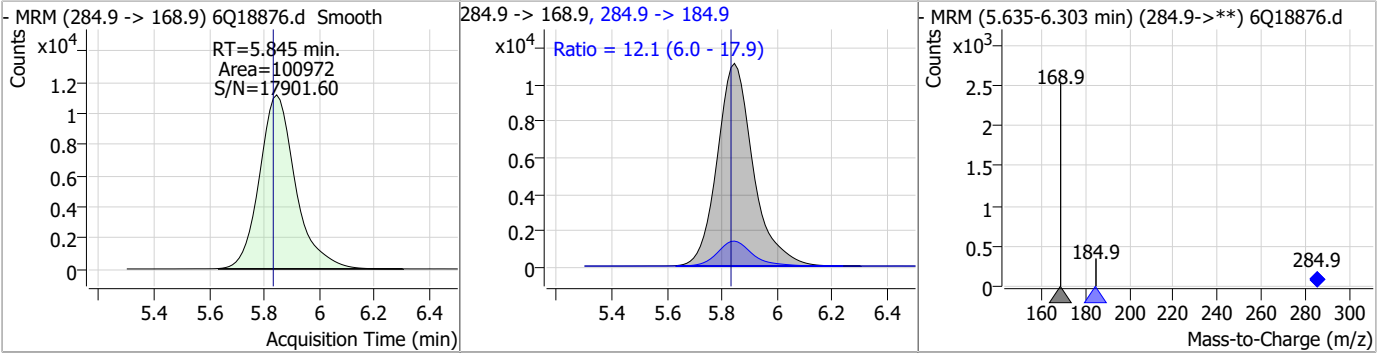


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.24	5.84	0.01	50358	286.9 -> 168.9			

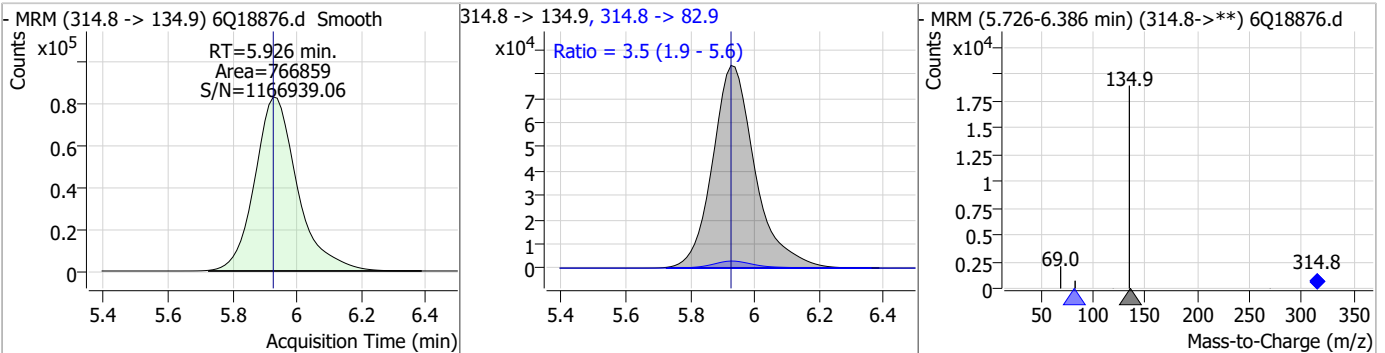


Perfluorinated Compounds by LC/MS/MS

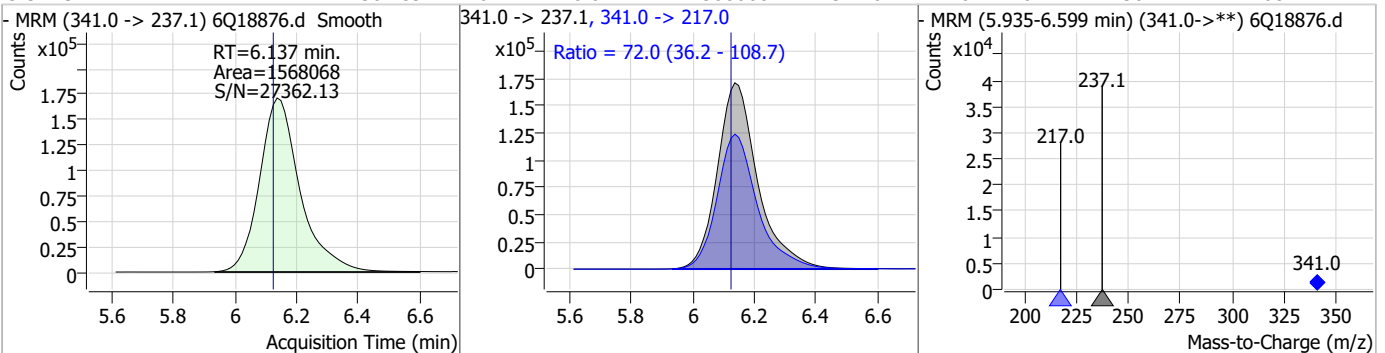
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	24.01	5.84	0.01	100972	284.9 -> 184.9	12.1	6.0	17.9



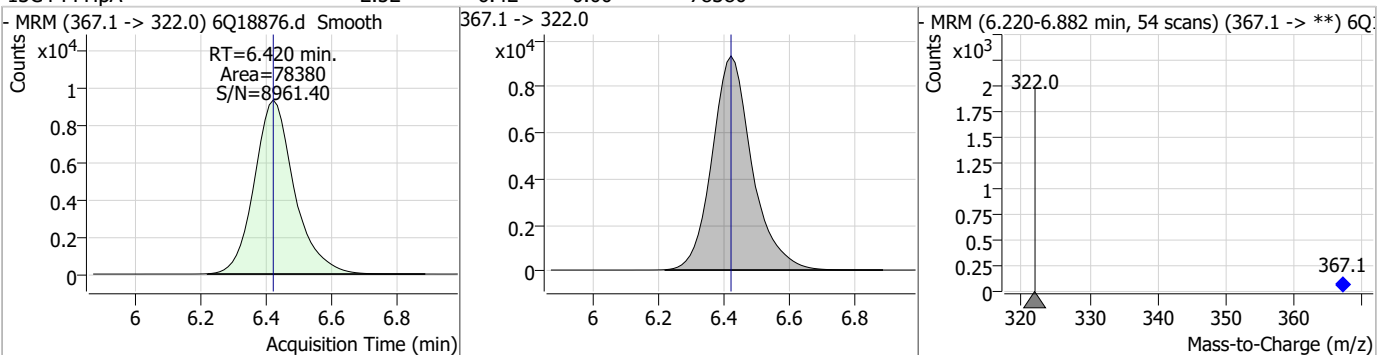
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	22.61	5.93	0.00	766859	314.8 -> 82.9	3.5	1.9	5.6



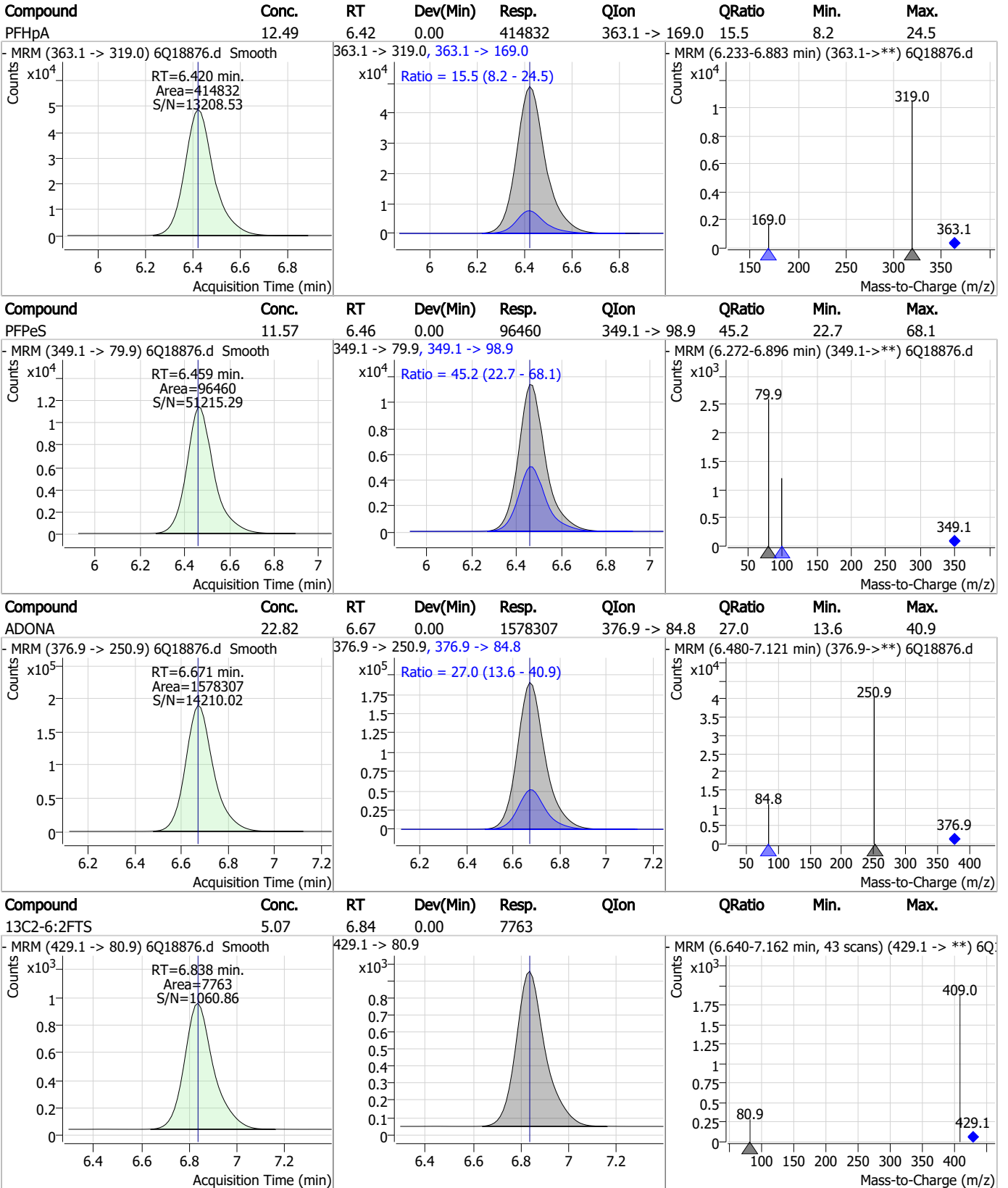
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	304.59	6.14	0.01	1568068	341.0 -> 217.0	72.0	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.52	6.42	0.00	78380	367.1 -> 322.0			



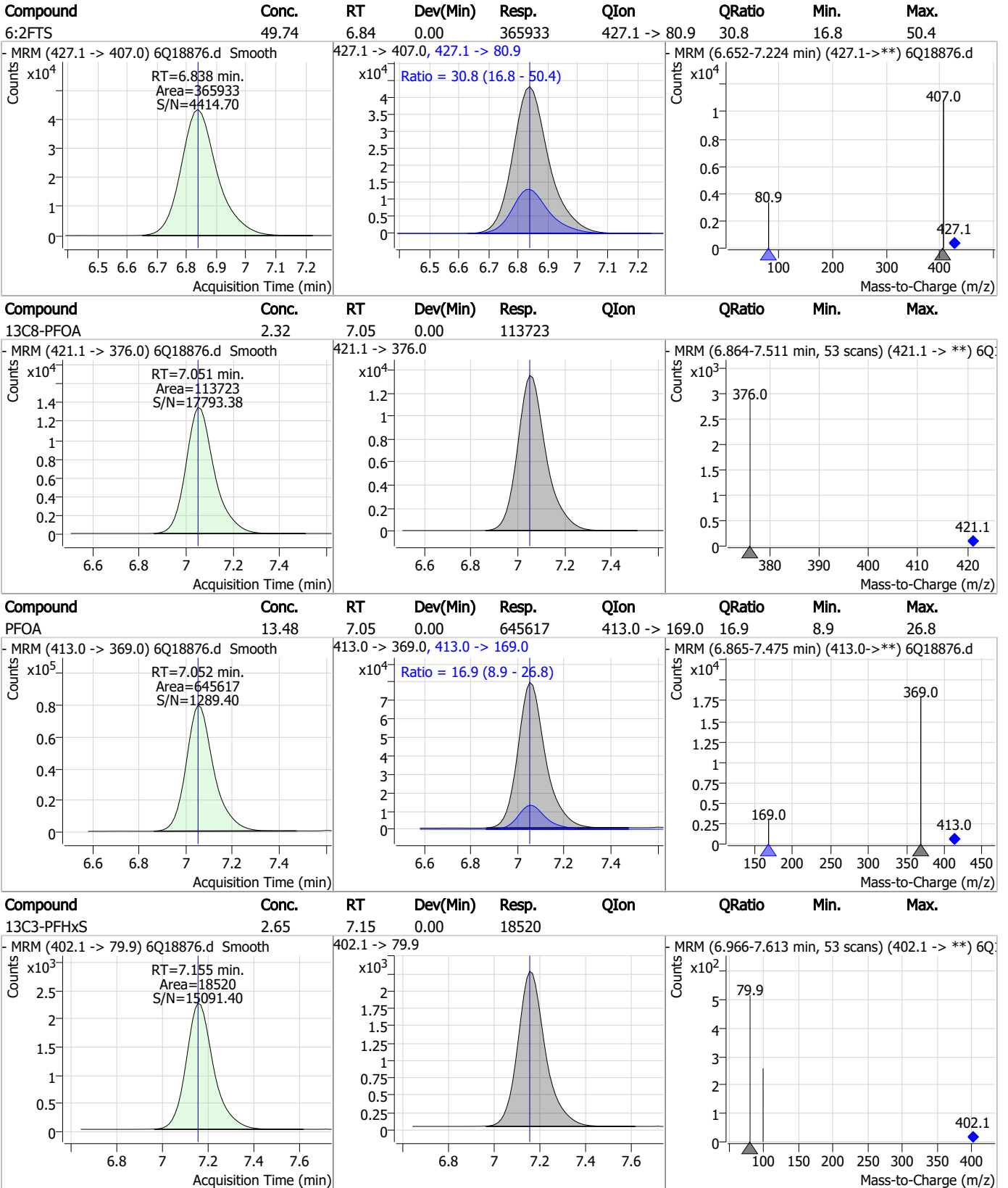
Perfluorinated Compounds by LC/MS/MS



7.7.7

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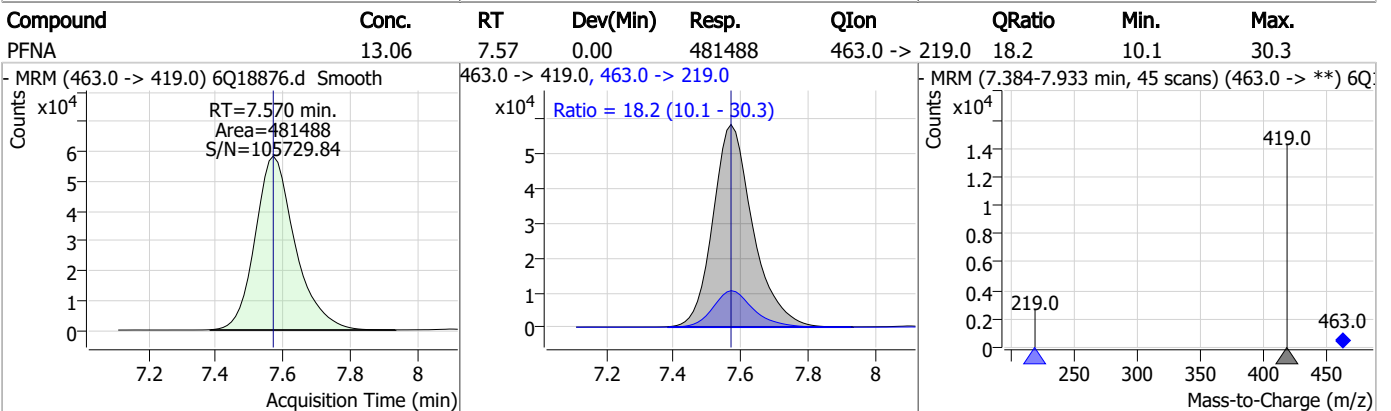
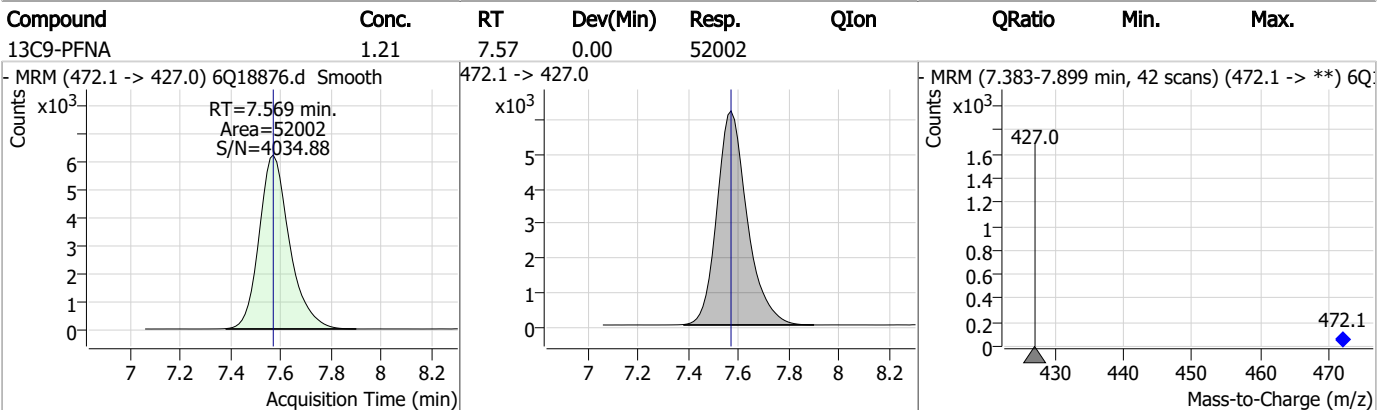
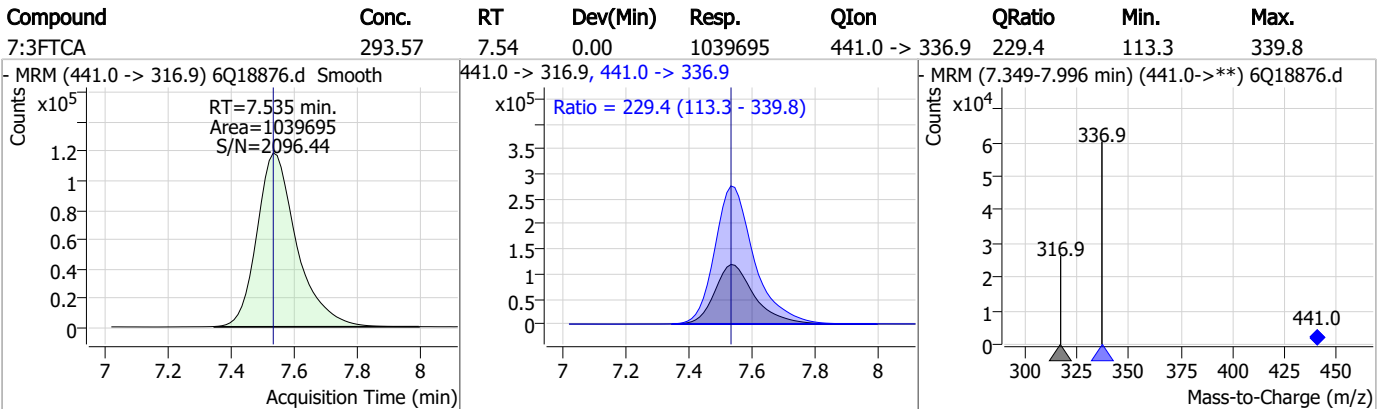
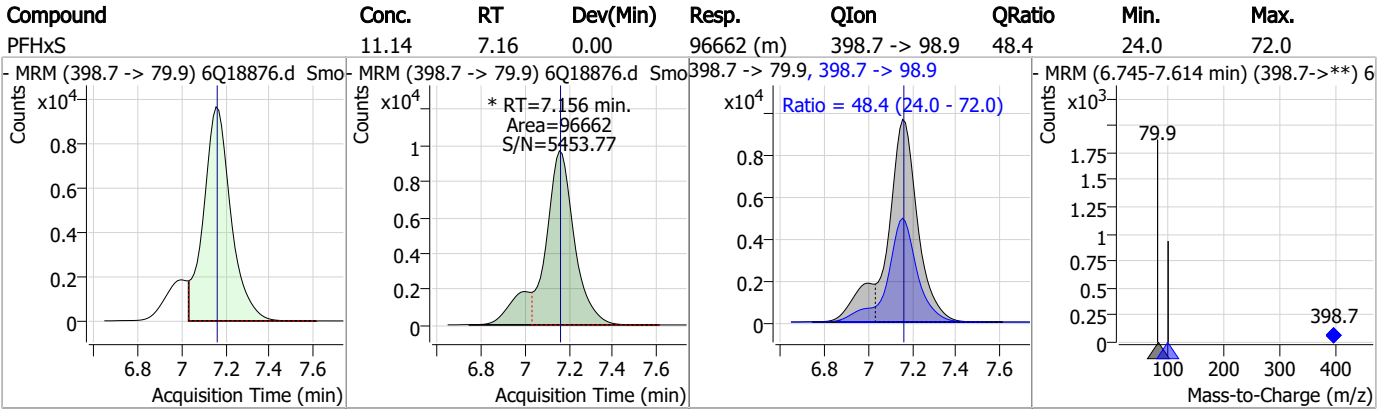
Perfluorinated Compounds by LC/MS/MS



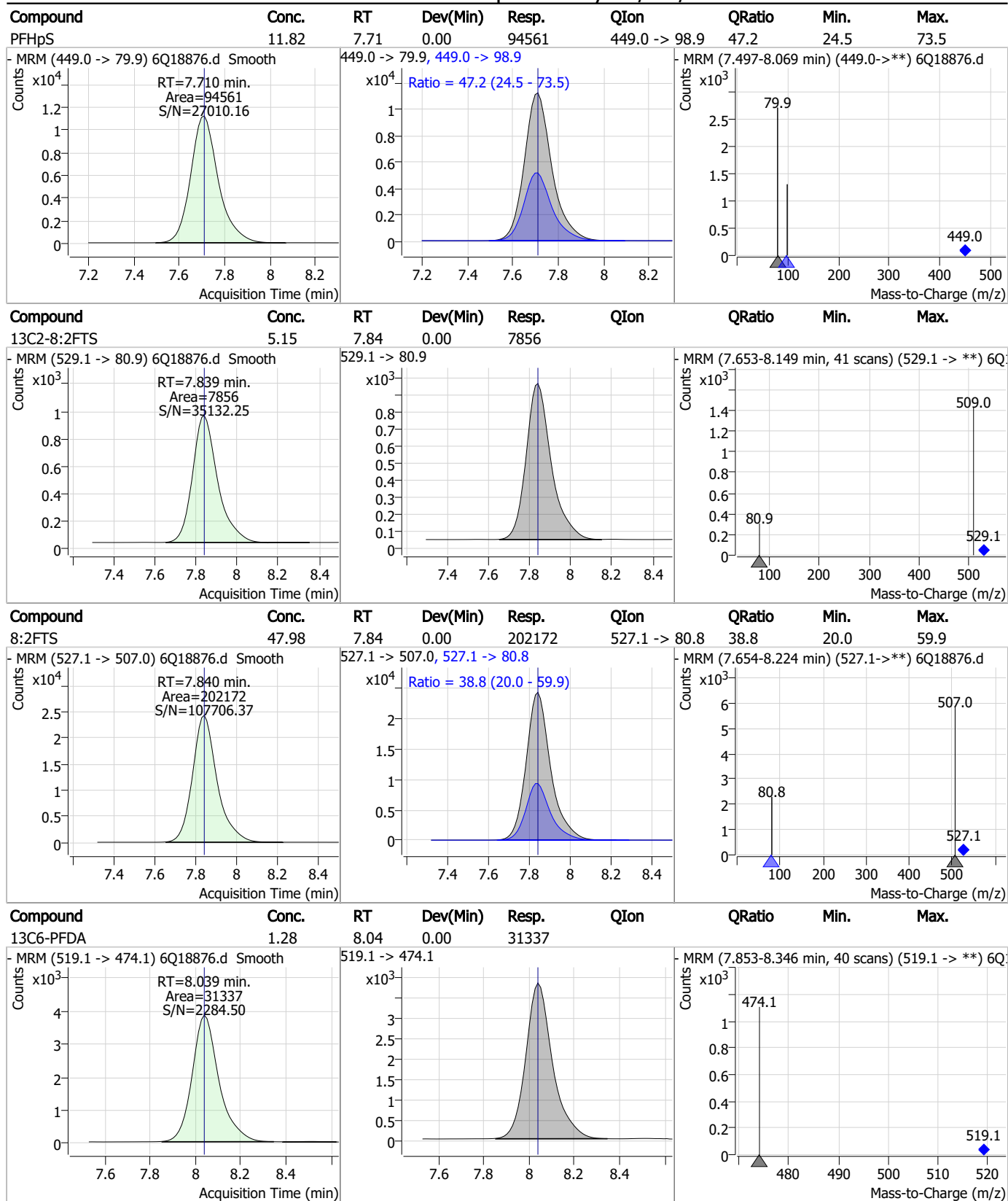
7.7.7

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Perfluorinated Compounds by LC/MS/MS

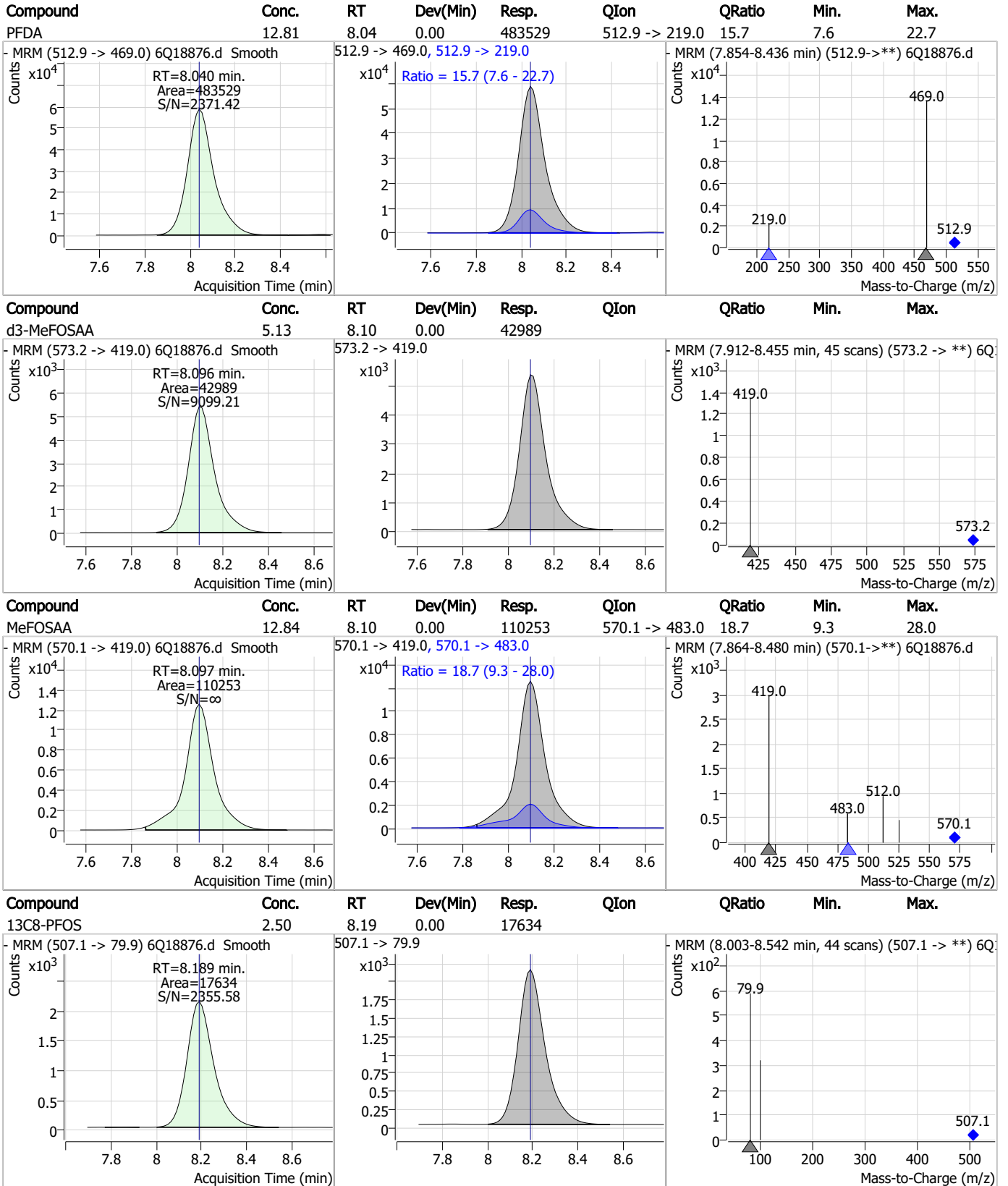


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



7.7.7

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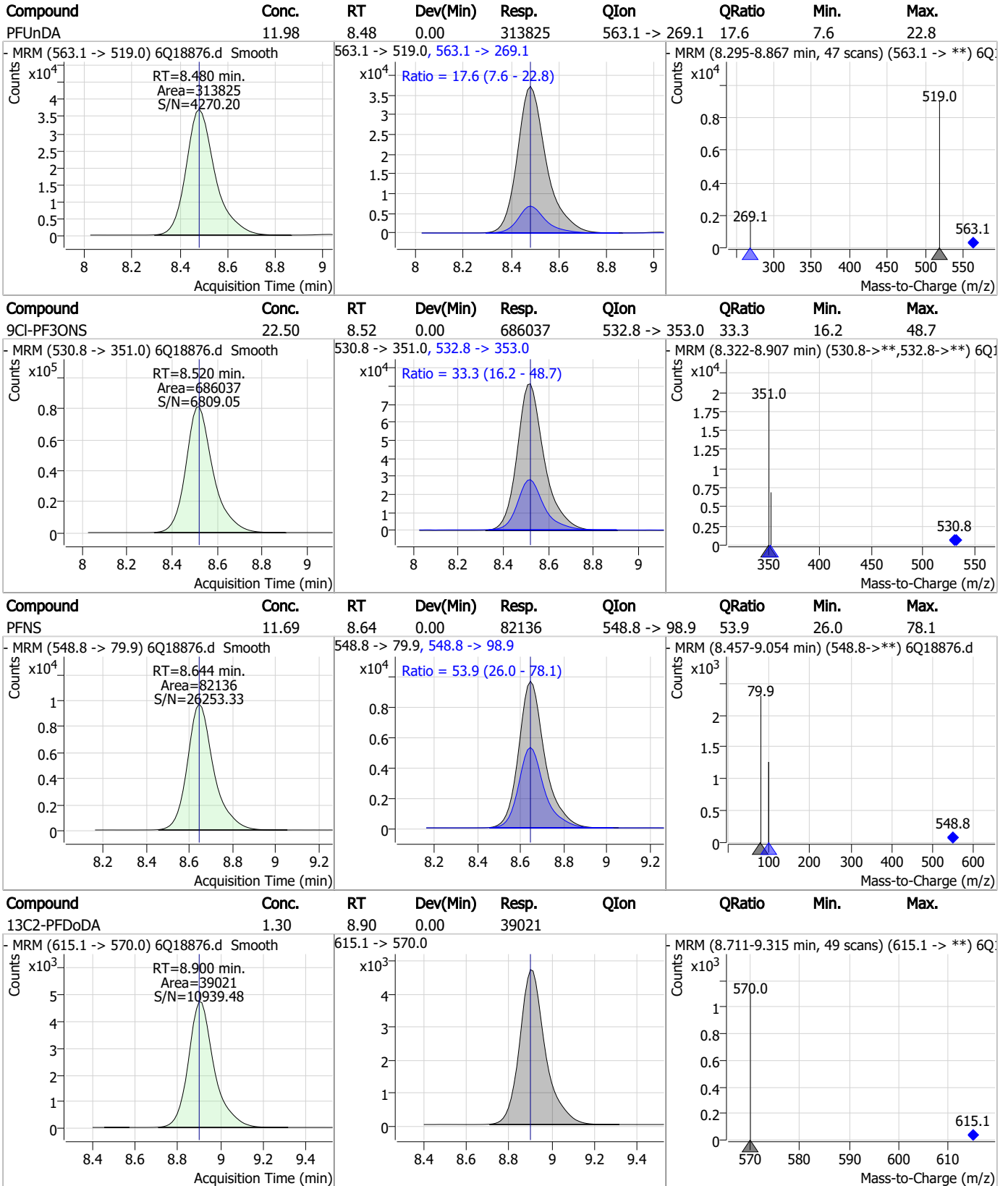


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	11.36	8.19	0.00	91635	498.9 -> 98.8	49.9	24.4	73.3
d5-EtFOSAA	5.11	8.29	0.00	38430				
EtFOSAA	12.17	8.29	0.00	63748	584.2 -> 526.0	50.6	27.6	82.8
13C-PFUnDA	1.32	8.48	0.00	42244				

7.7.7

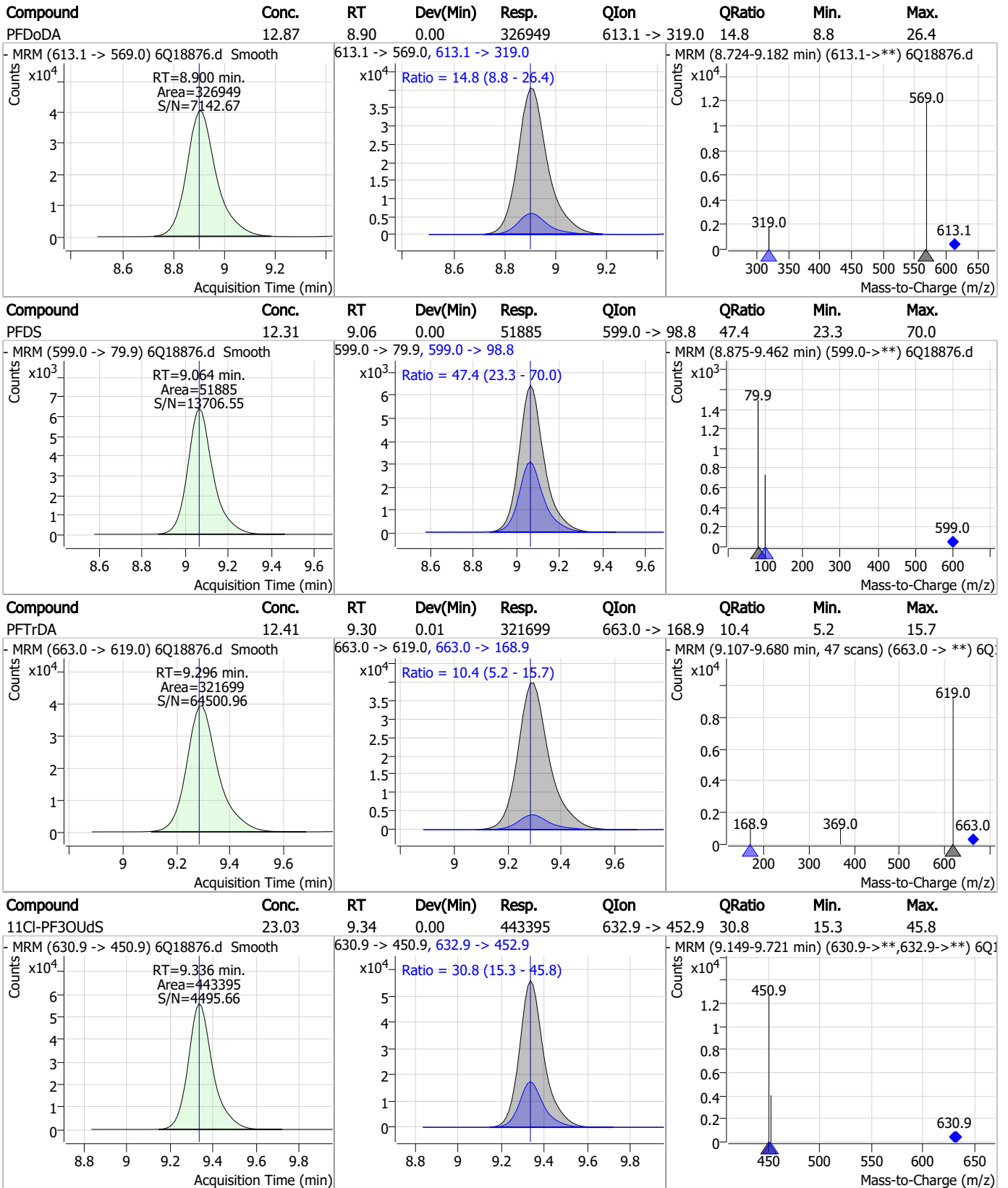
Perfluorinated Compounds by LC/MS/MS



7.7.7

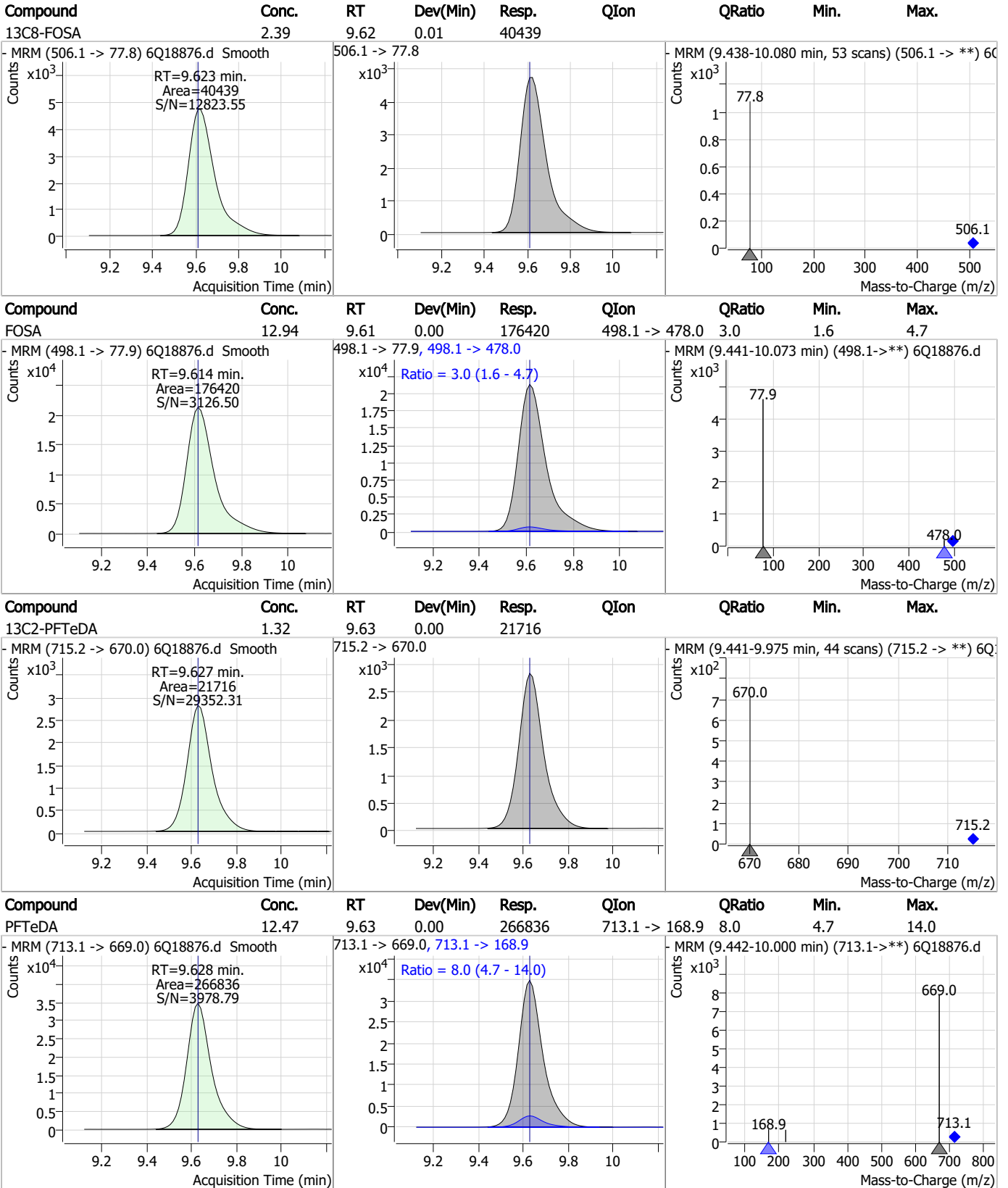
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Perfluorinated Compounds by LC/MS/MS



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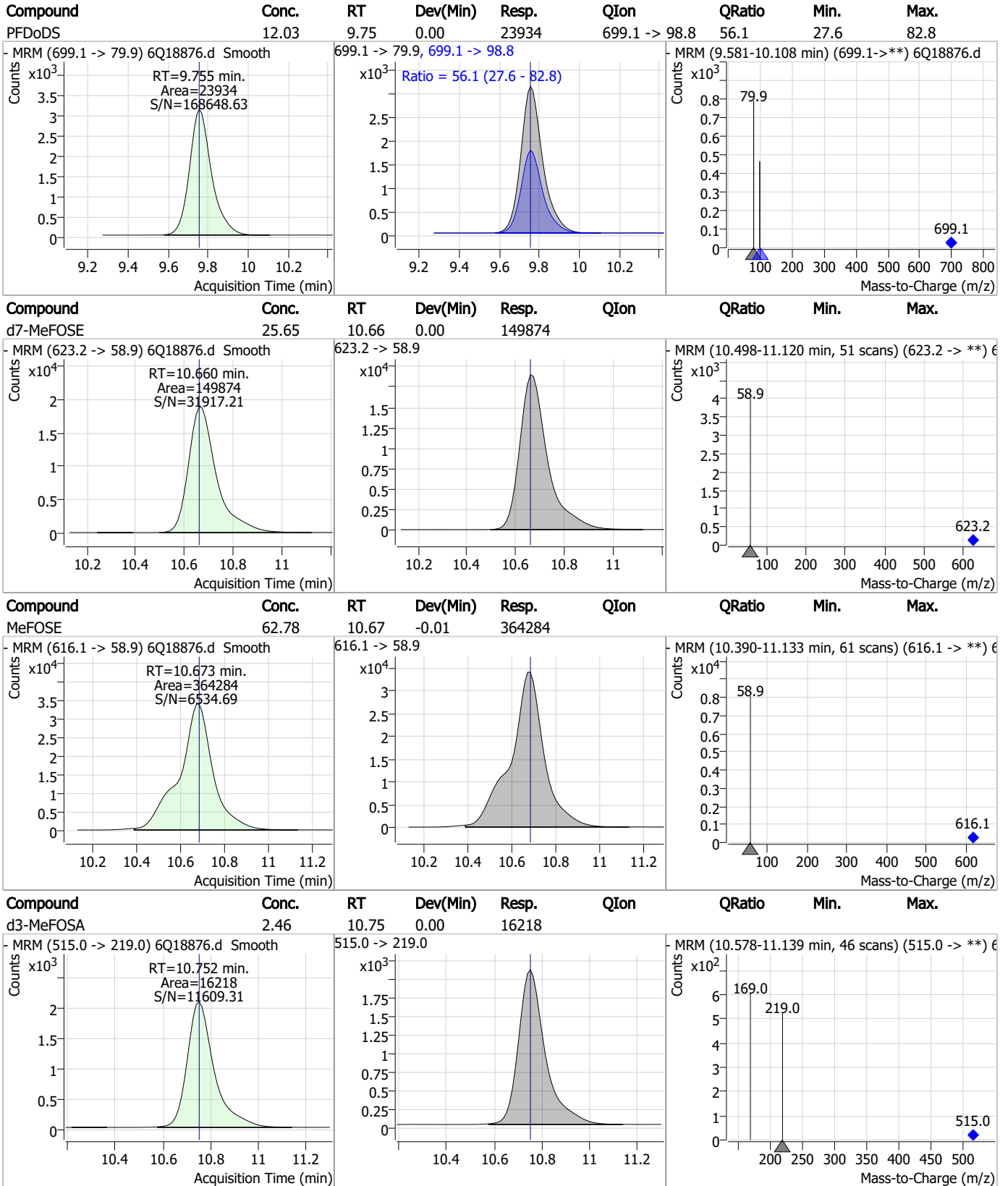
Perfluorinated Compounds by LC/MS/MS



7.7.7

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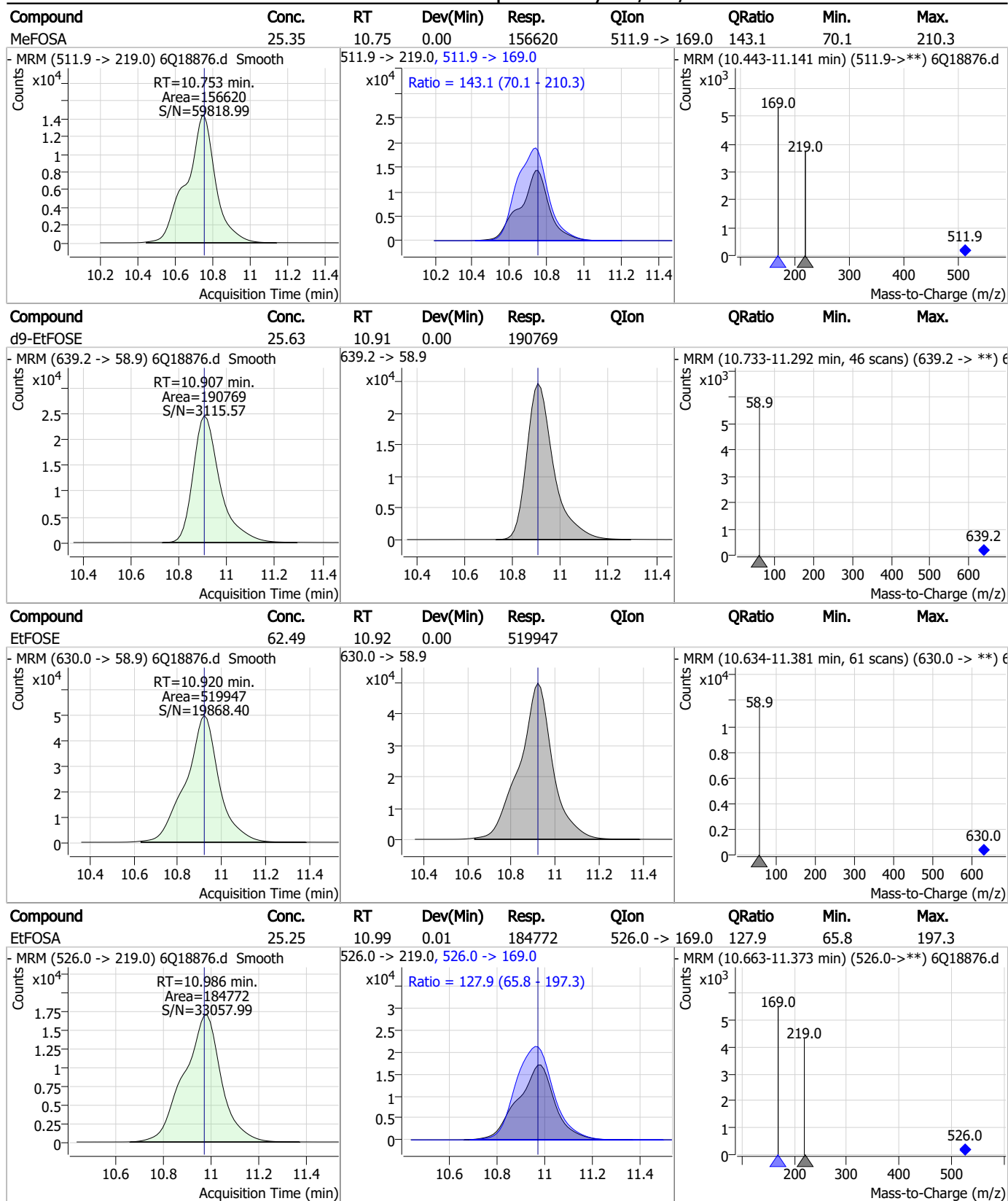
Perfluorinated Compounds by LC/MS/MS



7.7.7

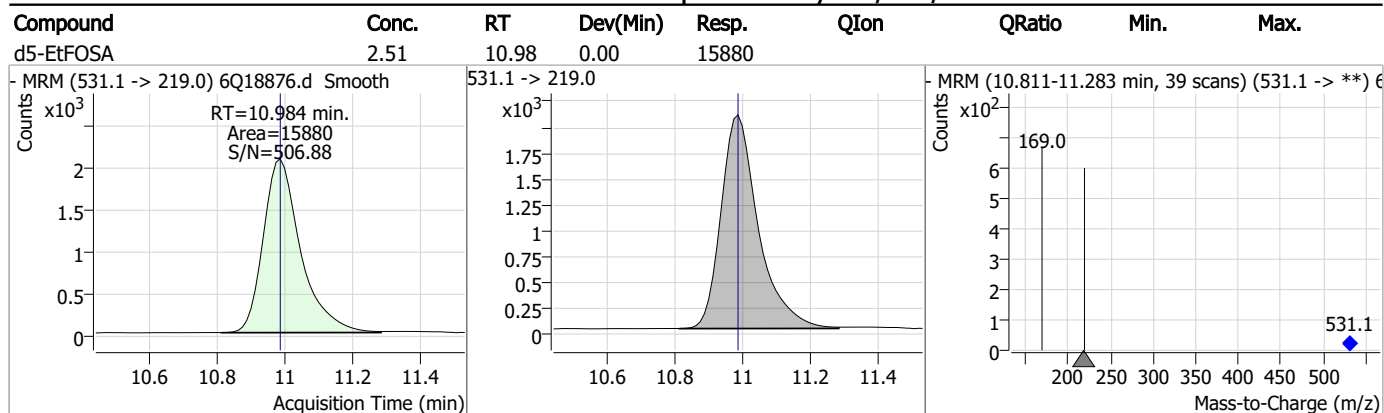
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Perfluorinated Compounds by LC/MS/MS



7.7.7
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Perfluorinated Compounds by LC/MS/MS



7.7.7
7

Manual Integration Approval Summary

Sample Number: S6Q282-IC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18876.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/06/23 15:28 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak

7.7.7.1

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Manual Integrations
APPROVED
 (compounds with "m" flag)

Natasha Gumtie
 06/07/23 15:49

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18877.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 3:42:39 PM
 Sample Name : ic282-7
 Vial : P1-A8
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	170121	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	57395	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	63590	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	58417	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	90087	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	39418	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	24111	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	31152	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	30756	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	16977	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	32325	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	23528	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	14064	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13240	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	3949	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	5790	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5975	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	32379	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	39288	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	29478	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	109332	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	143891	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	12245	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	12942	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18814	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	71314	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	10454	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	94380	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	31718	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	49563	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	60437	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	3949	4.59 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 91.9%		
13C2-6:2FTS	6.838	429.1 -> 80.9	5790	4.69 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 93.7%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5975	4.86 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.1%		
13C2-PFDoDA	8.900	615.1 -> 570.0	30756	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 106.1%		
13C2-PFTeDA	9.627	715.2 -> 670.0	16977	1.34 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 106.9%		
13C3-PFBS	5.384	302.1 -> 79.9	23528	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.4%		
13C3-PFHxS	7.155	402.1 -> 79.9	14064	2.49 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFBA	2.860	216.8 -> 171.9	170121	10.05 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C4-PFHpA	6.420	367.1 -> 322.0	58417	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.0%	
13C5-PFHxA	5.466	318.0 -> 273.0	63590	2.49 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C5-PFPeA	4.272	268.3 -> 223.0	57395	4.89 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C6-PFDA	8.039	519.1 -> 474.1	24111	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C7-PFUnDA	8.480	570.0 -> 525.1	31152	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C8-FOSA	9.611	506.1 -> 77.8	32325	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.4%	
13C8-PFOA	7.051	421.1 -> 376.0	90087	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C8-PFOS	8.189	507.1 -> 79.9	13240	2.32 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.8%	
13C9-PFNA	7.569	472.1 -> 427.0	39418	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.7%	
d3-MeFOSAA	8.096	573.2 -> 419.0	32379	4.78 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.6%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	39288	10.32 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.2%	
d3-MeFOSA	10.752	515.0 -> 219.0	12942	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.1%	
d5-EtFOSAA	8.292	589.2 -> 419.0	29478	4.85 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	109332	23.15 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 92.6%	
d9-EtFOSE	10.907	639.2 -> 58.9	143891	23.92 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.7%	
d5-EtFOSA	10.984	531.1 -> 219.0	12245	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.8%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	528083	97.64 µg/L	98
		327.1 -> 80.9	201578		
6:2FTS	6.838	427.1 -> 407.0	501159	91.33 µg/L	95
		427.1 -> 80.9	183274		
8:2FTS	7.840	527.1 -> 507.0	306463	95.63 µg/L	98
		527.1 -> 80.8	119183		
EtFOSAA	8.293	584.2 -> 419.1	100246	24.94 µg/L	92
		584.2 -> 526.0	49258		
FOSA	9.614	498.1 -> 77.9	279198	25.63 µg/L	100
		498.1 -> 478.0	8536		
MeFOSAA	8.097	570.1 -> 419.0	165752	25.62 µg/L	97
		570.1 -> 483.0	33025		
PFBA	2.856	212.8 -> 168.9	570311	102.89 µg/L	100
PFBS	5.385	298.7 -> 79.9	183094	22.45 µg/L	96
		298.7 -> 98.8	67709		
PFDA	8.040	512.9 -> 469.0	773041	26.62 µg/L	99
		512.9 -> 219.0	121563		
PFDoDA	8.900	613.1 -> 569.0	514708	25.70 µg/L	95
		613.1 -> 319.0	78338		
PFDS	9.064	599.0 -> 79.9	81780	25.84 µg/L	98

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	38981		
PFHpA	6.420	363.1 -> 319.0	650540	26.27 µg/L	99
		363.1 -> 169.0	104343		
PFHpS	7.710	449.0 -> 79.9	155213	25.84 µg/L	100
		449.0 -> 98.9	75553		
PFHxA	5.469	313.0 -> 269.0	513034	24.57 µg/L	100
		313.0 -> 118.9	27768		
PFHxS	7.156	398.7 -> 79.9	158807	24.09 µg/L	m 98
		398.7 -> 98.9	74333		
PFNA	7.570	463.0 -> 419.0	738410	26.42 µg/L	99
		463.0 -> 219.0	146554		
PFNS	8.644	548.8 -> 79.9	137290	26.03 µg/L	99
		548.8 -> 98.9	72927		
PFOA	7.052	413.0 -> 369.0	988562	26.06 µg/L	99
		413.0 -> 169.0	180501		
PFOS	8.191	498.9 -> 79.9	146678	24.21 µg/L	100
		498.9 -> 98.8	71483		
PFPeA	4.274	263.0 -> 219.0	696417	51.37 µg/L	100
PFPeS	6.459	349.1 -> 79.9	149712	23.66 µg/L	97
		349.1 -> 98.9	70511		
PFTeDA	9.628	713.1 -> 669.0	405644	24.25 µg/L	98
		713.1 -> 168.9	34611		
PFTrDA	9.284	663.0 -> 619.0	499780	24.46 µg/L	100
		663.0 -> 168.9	52954		
PFUnDA	8.480	563.1 -> 519.0	516236	26.72 µg/L	95
		563.1 -> 269.1	89415		
11Cl-PF3OUdS	9.336	630.9 -> 450.9	705381	46.96 µg/L	99
		632.9 -> 452.9	219029		
9Cl-PF3ONS	8.520	530.8 -> 351.0	1096442	46.09 µg/L	97
		532.8 -> 353.0	338515		
ADONA	6.671	376.9 -> 250.9	2578761	47.79 µg/L	96
		376.9 -> 84.8	646305		
HFPO-DA	5.832	284.9 -> 168.9	165951	50.57 µg/L	99
		284.9 -> 184.9	18849		
3:3FTCA	3.727	241.0 -> 177.0	124530	129.69 µg/L	98
		241.0 -> 117.0	15778		
5:3FTCA	6.124	341.0 -> 237.1	2546724	632.39 µg/L	99
		341.0 -> 217.0	1820400		
7:3FTCA	7.535	441.0 -> 316.9	1681972	607.12 µg/L	97
		441.0 -> 336.9	3899844		
EtFOSA	10.986	526.0 -> 219.0	284399	50.40 µg/L	98
		526.0 -> 169.0	381047		
EtFOSE	10.920	630.0 -> 58.9	807906	128.72 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	247621	50.22 µg/L	99
		511.9 -> 169.0	350816		
MeFOSE	10.673	616.1 -> 58.9	556324	131.43 µg/L	100
PFDoS	9.755	699.1 -> 79.9	39321	26.32 µg/L	97
		699.1 -> 98.8	20802		
NFDHA	5.348	295.0 -> 201.0	129666	51.74 µg/L	100
		295.0 -> 84.9	32010		
PFMBA	4.688	279.0 -> 85.1	489661	52.26 µg/L	100
PFMPA	3.401	229.0 -> 84.9	373663	52.33 µg/L	100
PFEESA	5.926	314.8 -> 134.9	1208857	45.56 µg/L	99
		314.8 -> 82.9	42665		

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

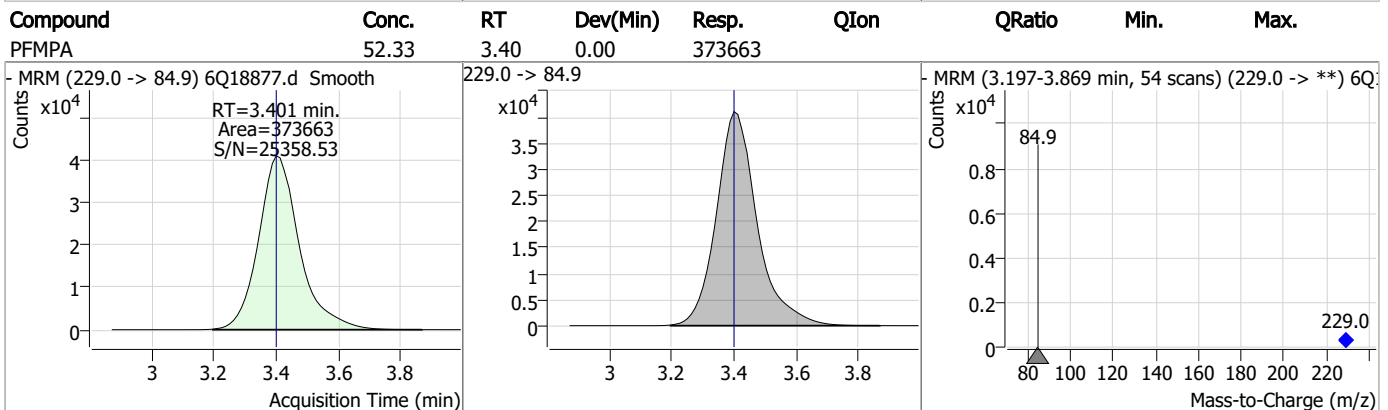
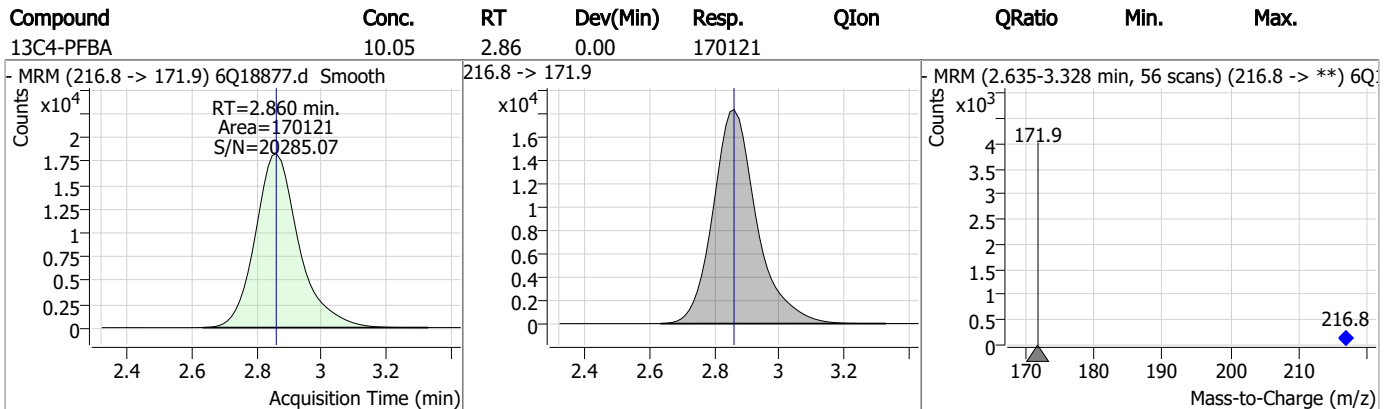
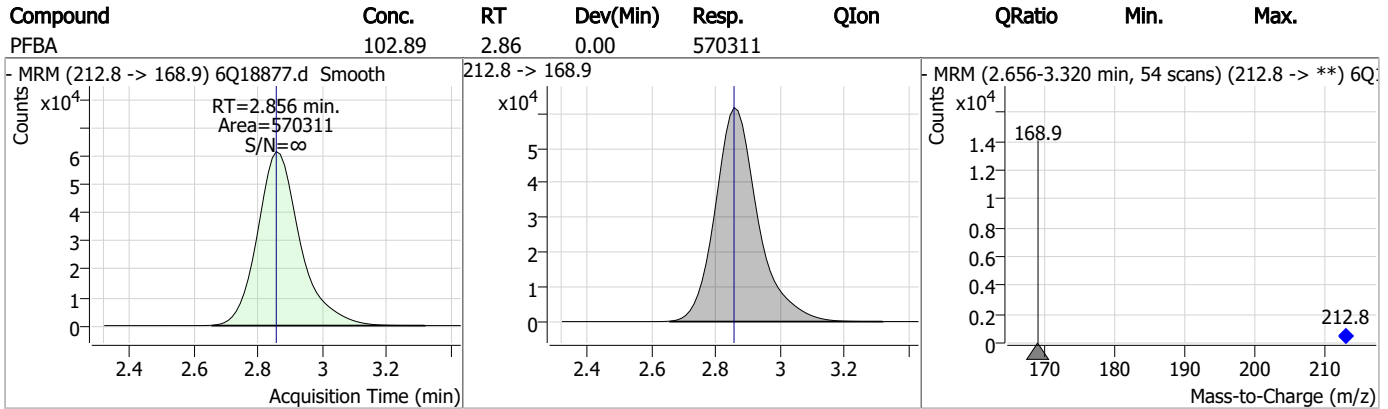
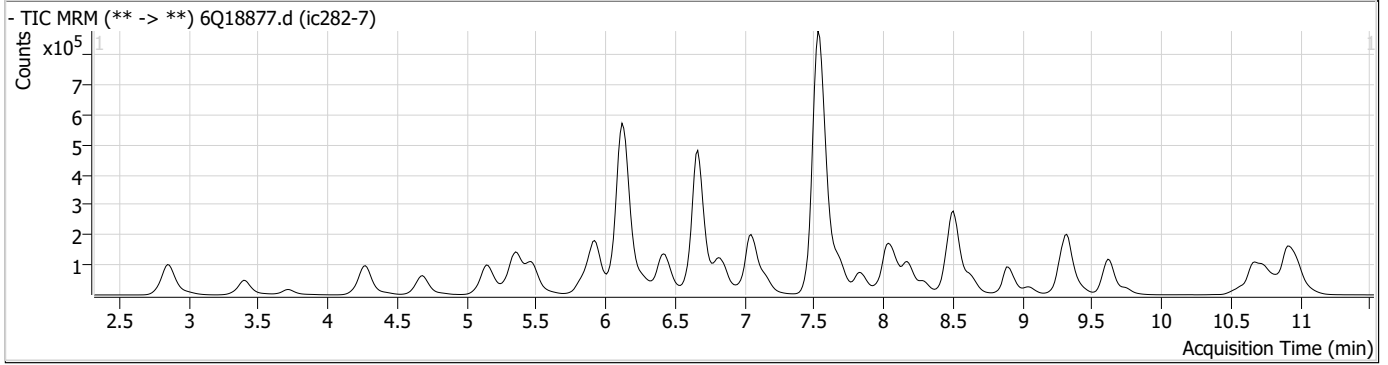
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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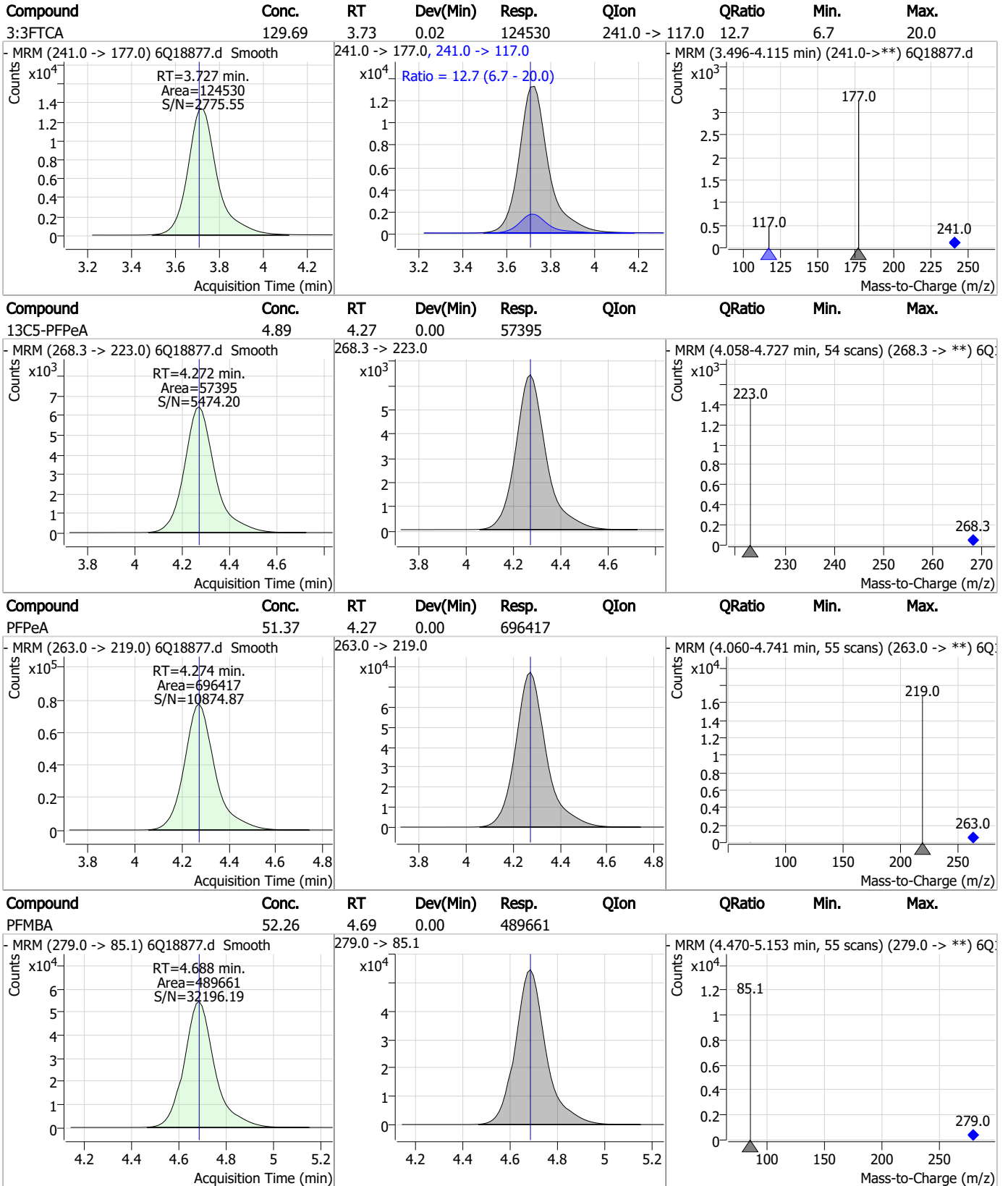
7.7.8
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Perfluorinated Compounds by LC/MS/MS



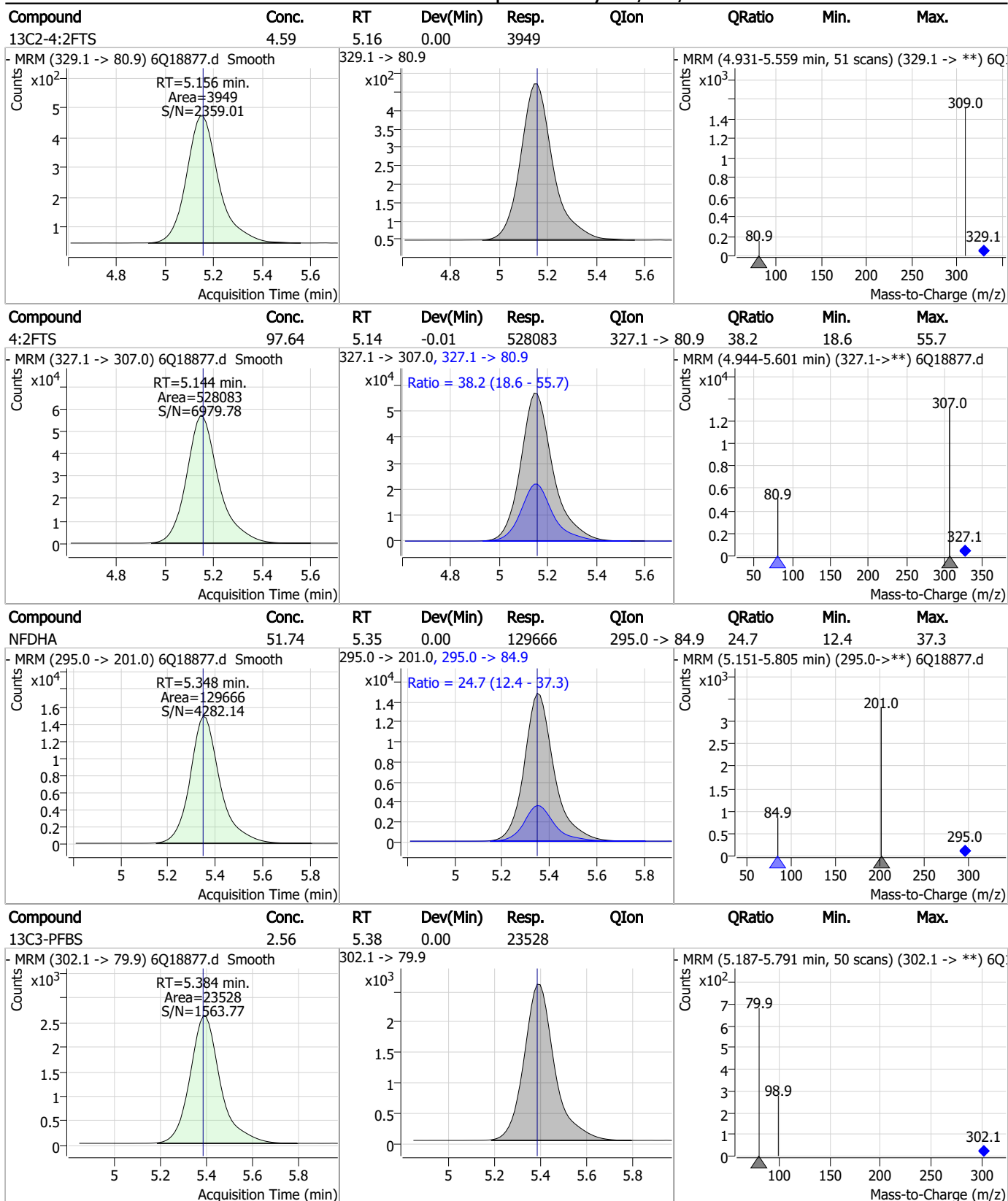
Perfluorinated Compounds by LC/MS/MS



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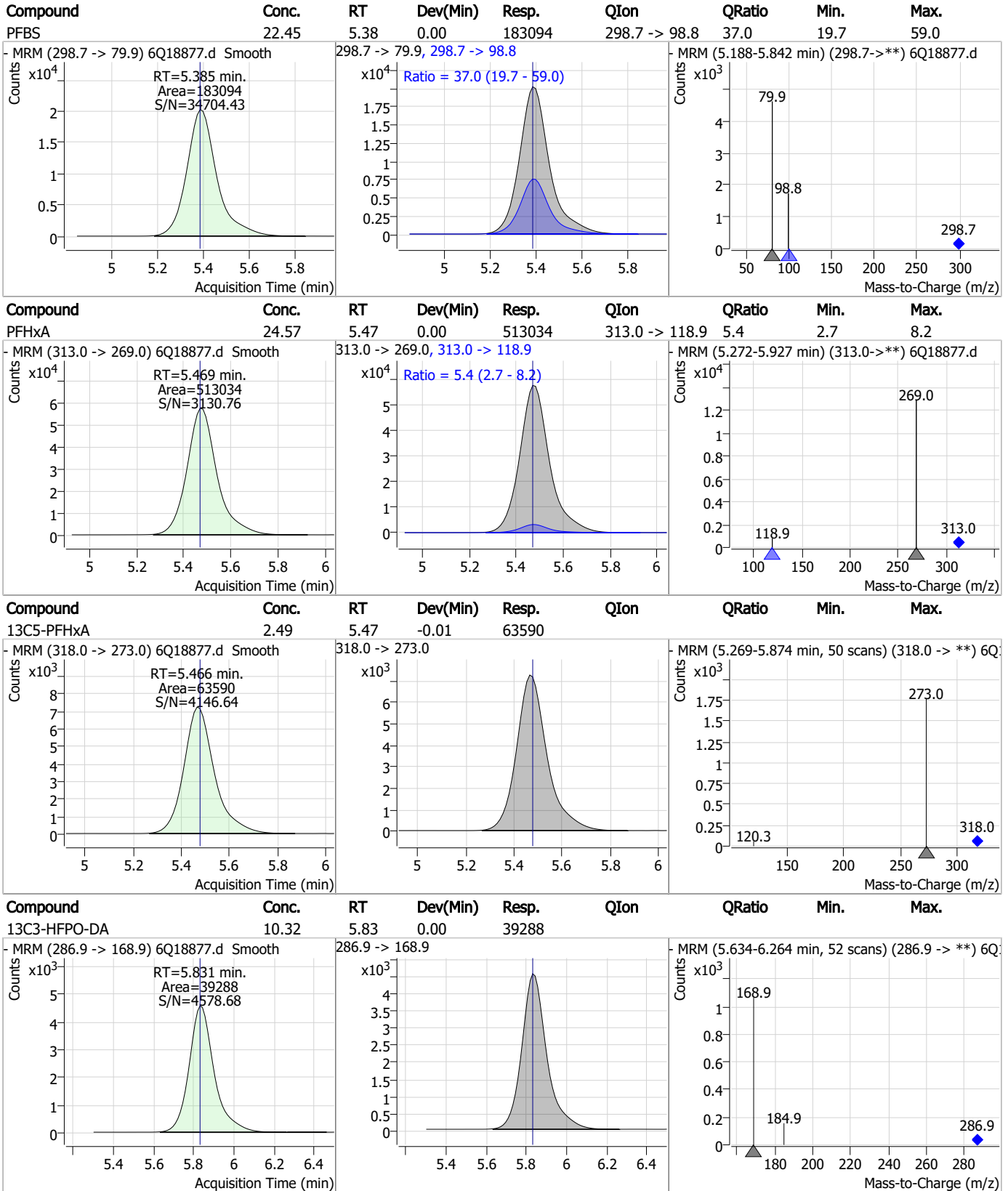
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Perfluorinated Compounds by LC/MS/MS



7.7.8
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Perfluorinated Compounds by LC/MS/MS

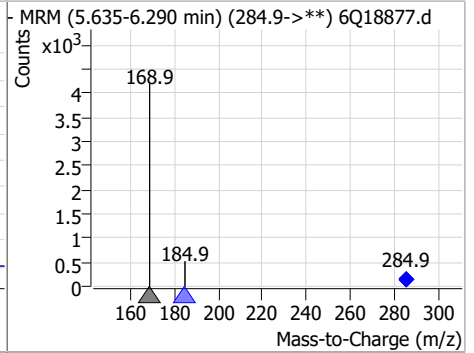
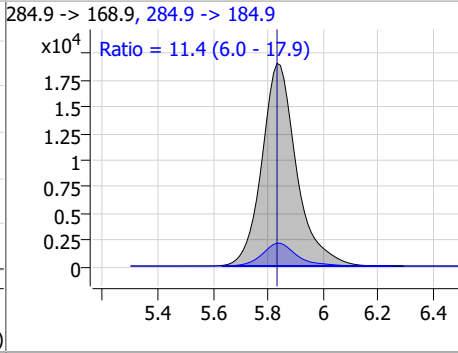
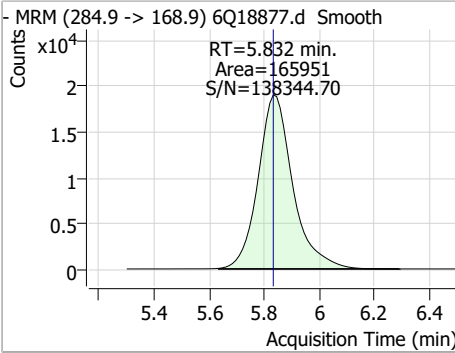


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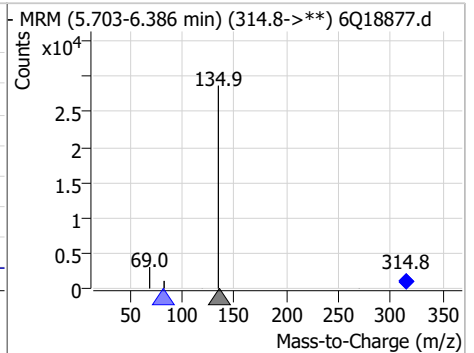
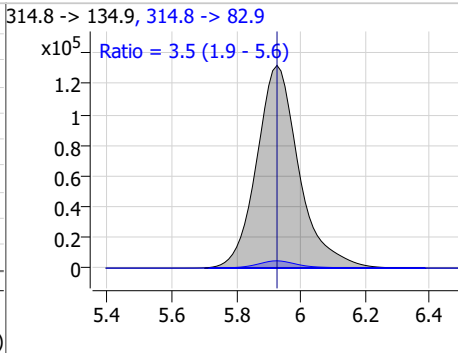
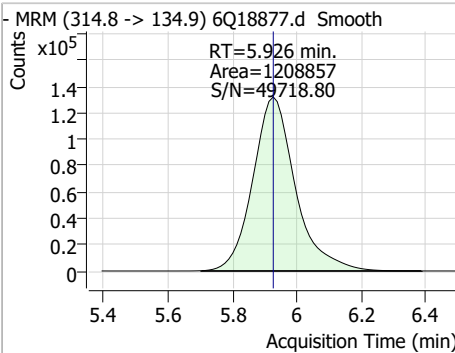
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Perfluorinated Compounds by LC/MS/MS

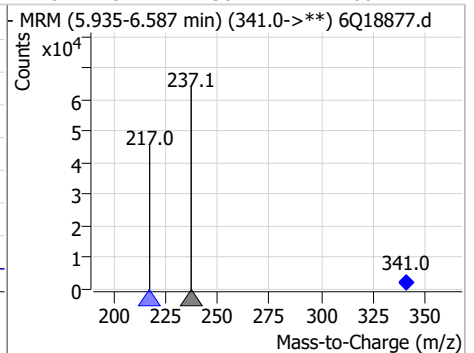
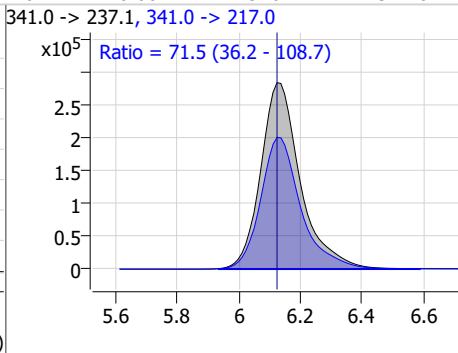
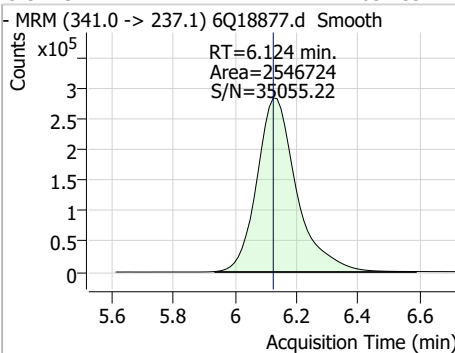
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	50.57	5.83	0.00	165951	284.9 -> 184.9	11.4	6.0	17.9



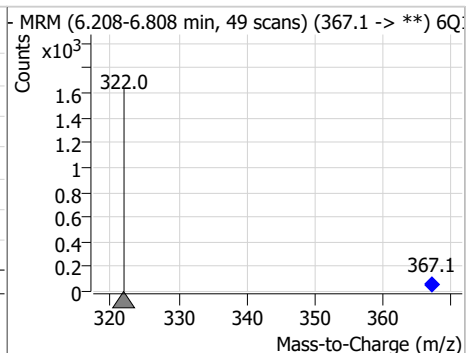
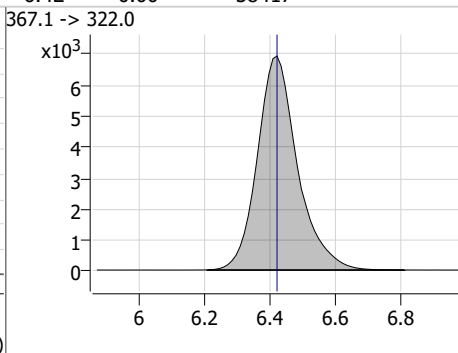
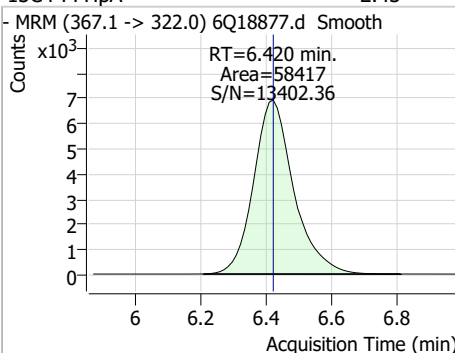
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	45.56	5.93	0.00	1208857	314.8 -> 82.9	3.5	1.9	5.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	632.39	6.12	0.00	2546724	341.0 -> 217.0	71.5	36.2	108.7



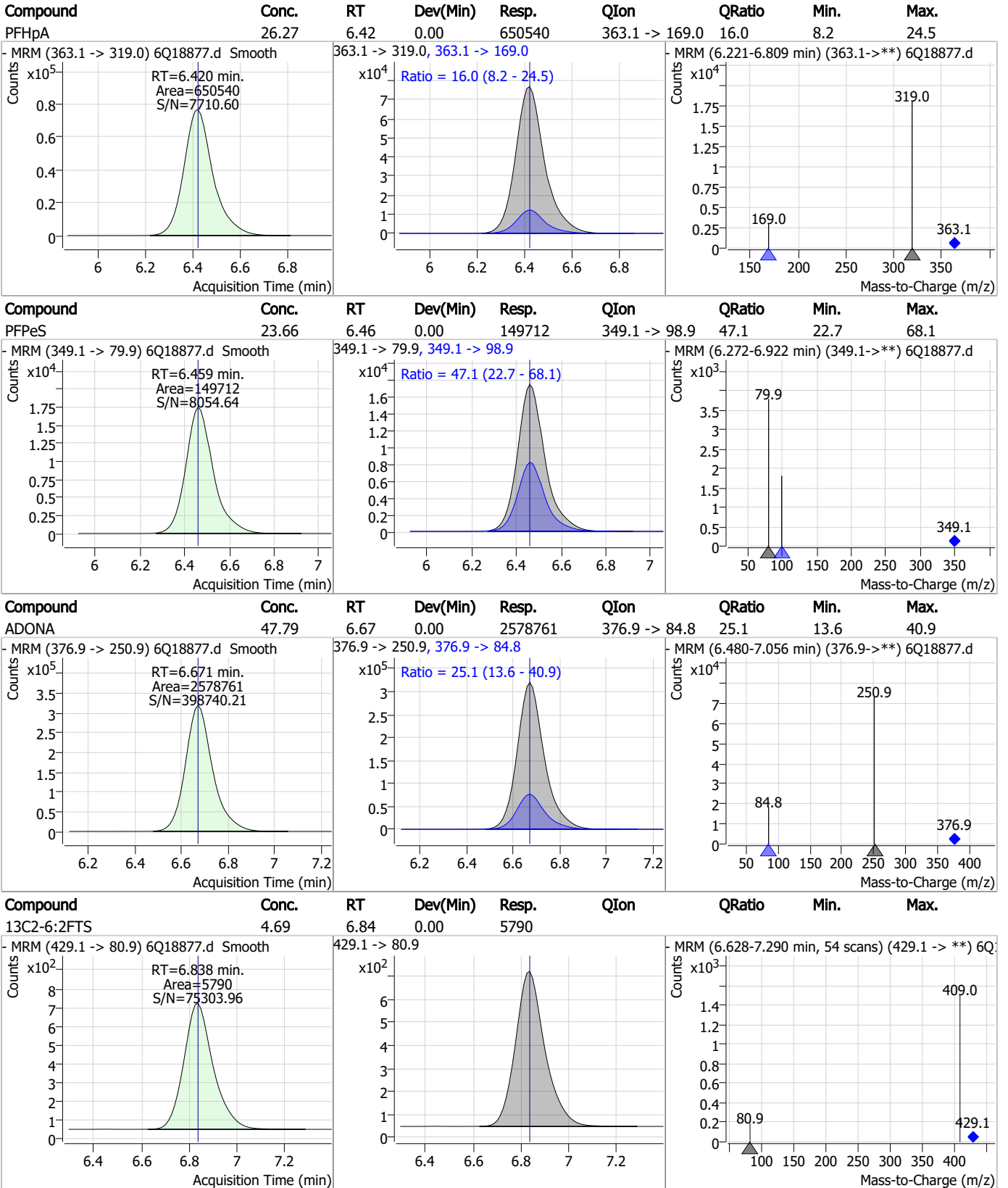
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.43	6.42	0.00	58417	367.1 -> 322.0			



7.7.8

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Perfluorinated Compounds by LC/MS/MS

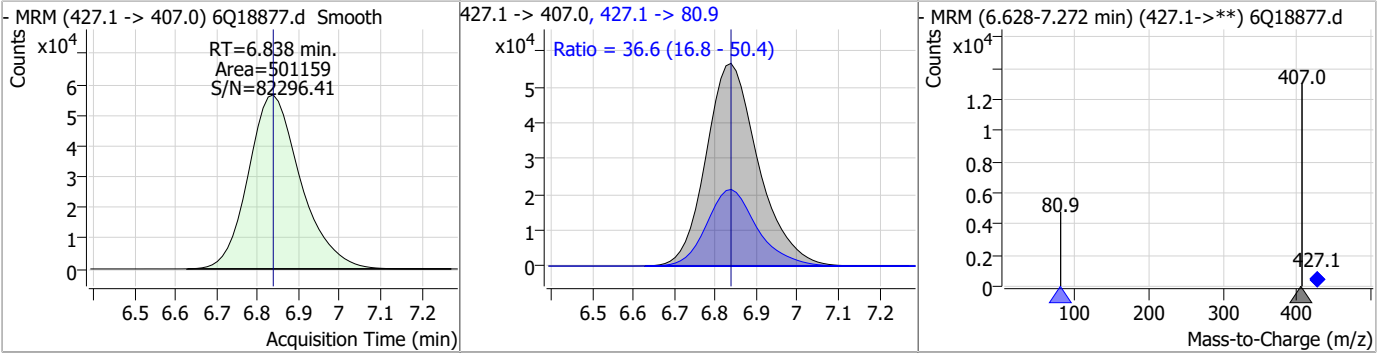


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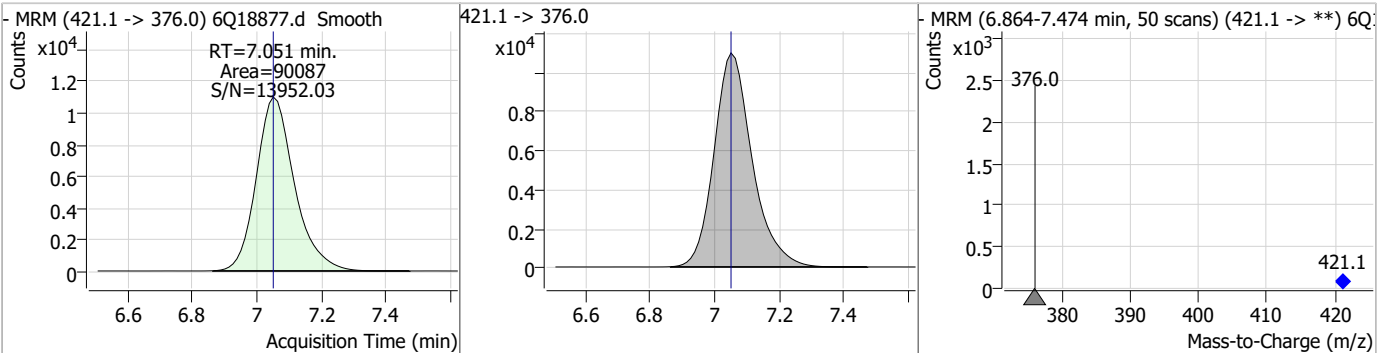
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Perfluorinated Compounds by LC/MS/MS

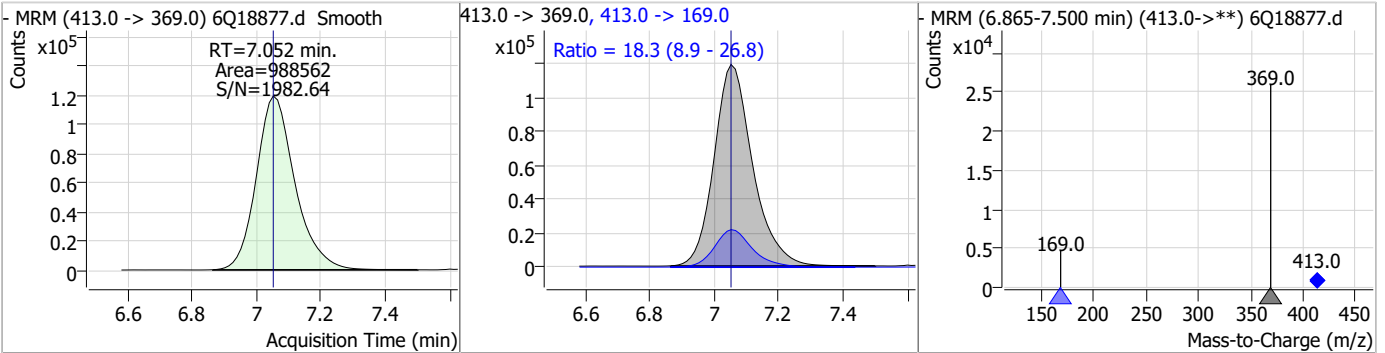
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
6:2FTS	91.33	6.84	0.00	501159	427.1 -> 80.9	36.6	16.8	50.4



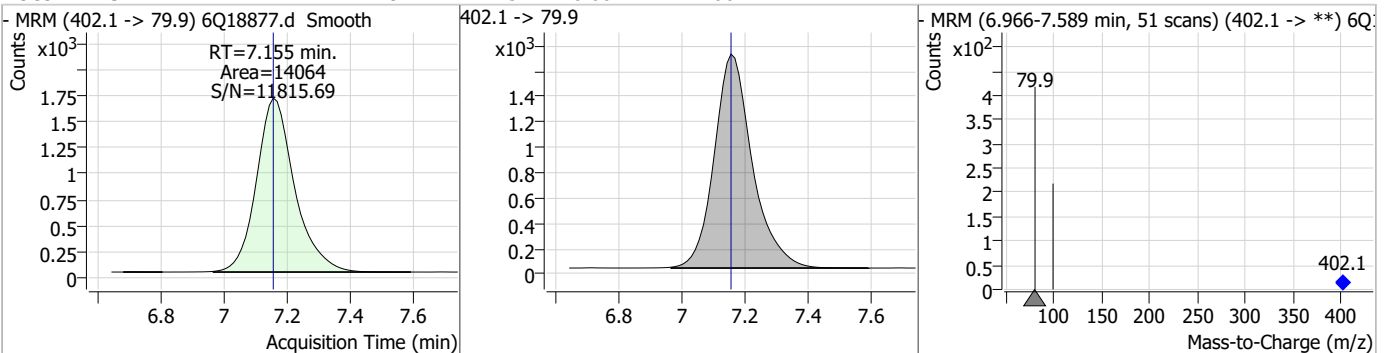
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOA	2.49	7.05	0.00	90087				



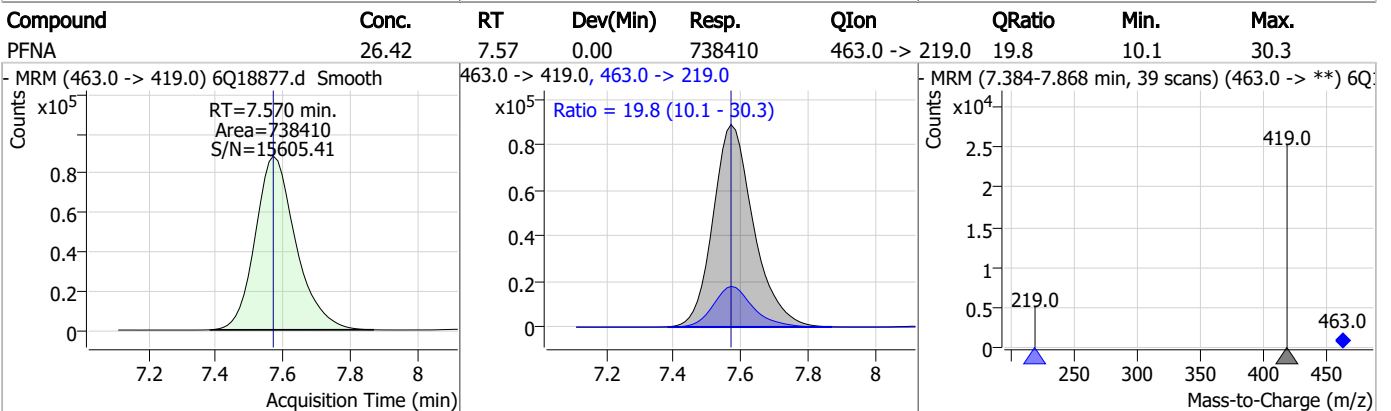
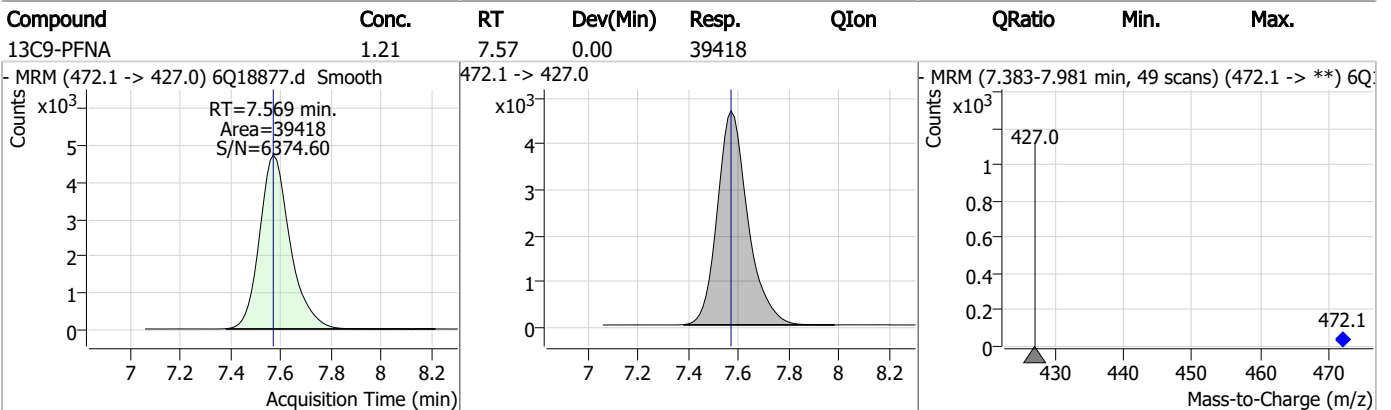
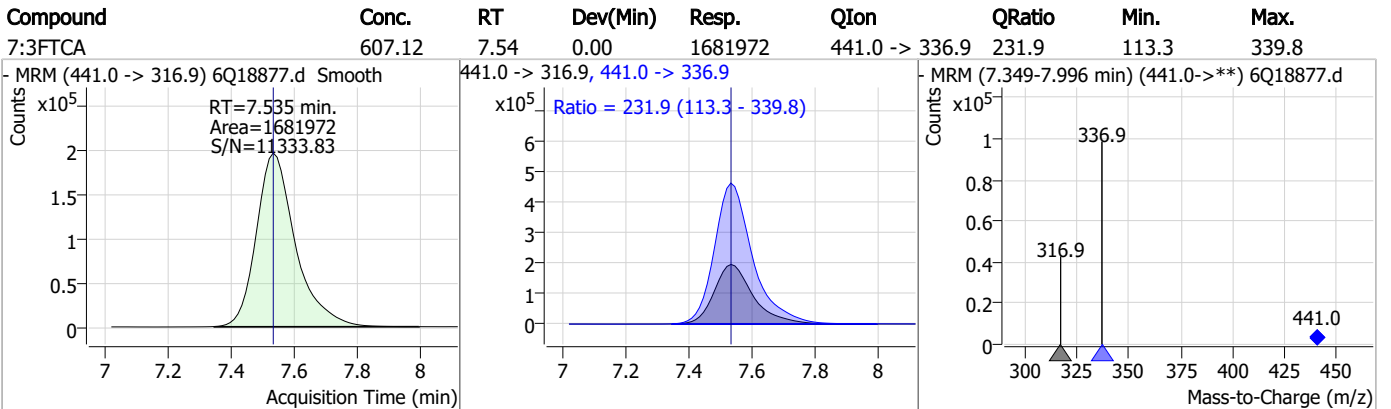
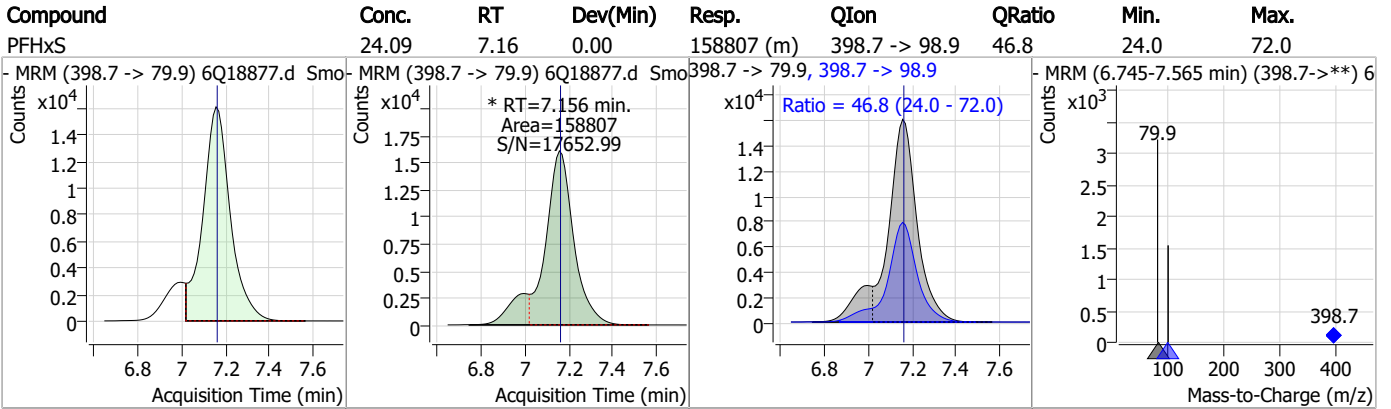
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOA	26.06	7.05	0.00	988562	413.0 -> 169.0	18.3	8.9	26.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFHxS	2.49	7.15	0.00	14064				



Perfluorinated Compounds by LC/MS/MS



7.7.8

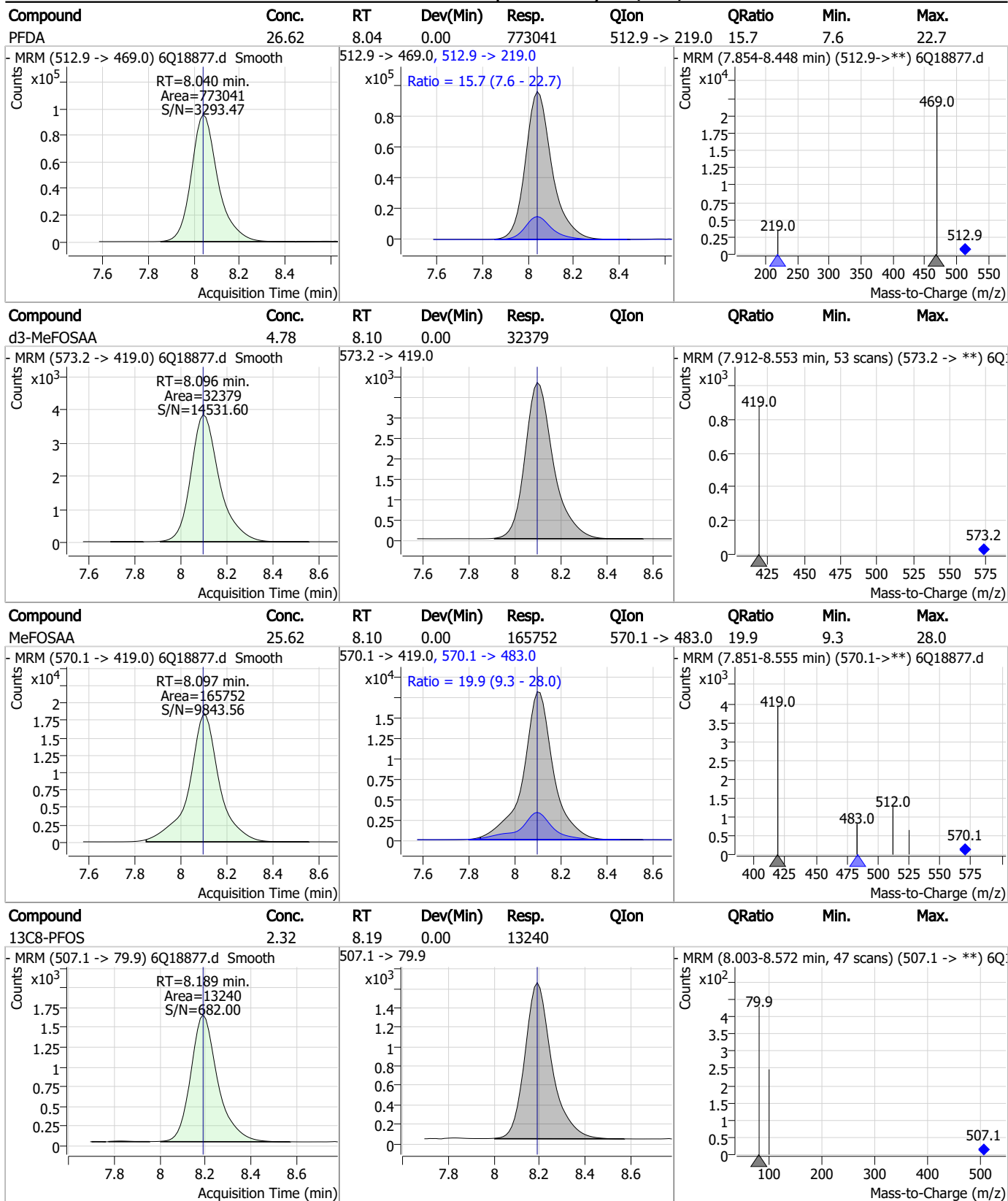
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	25.84	7.71	0.00	155213	449.0 -> 98.9	48.7	24.5	73.5
13C2-8:2FTS	4.86	7.84	0.00	5975				
8:2FTS	95.63	7.84	0.00	306463	527.1 -> 80.8	38.9	20.0	59.9
13C6-PFDA	1.28	8.04	0.00	24111				

7.7.8
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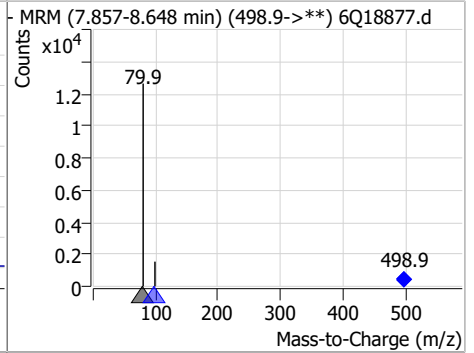
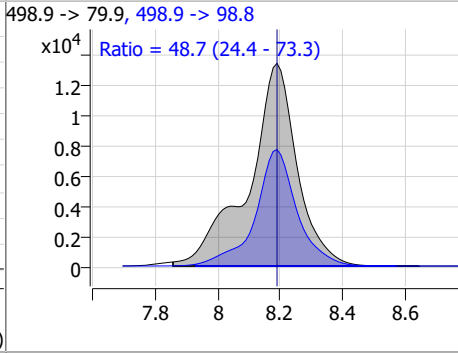
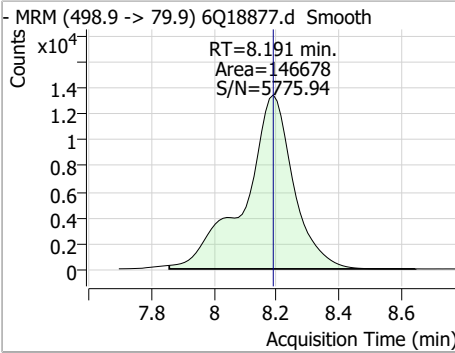
Perfluorinated Compounds by LC/MS/MS



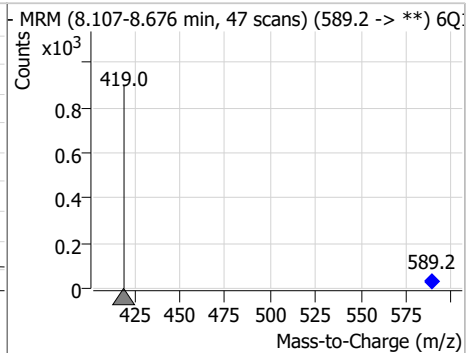
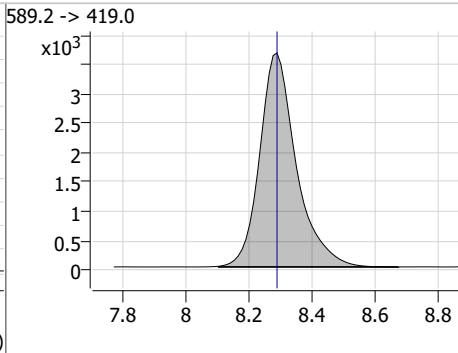
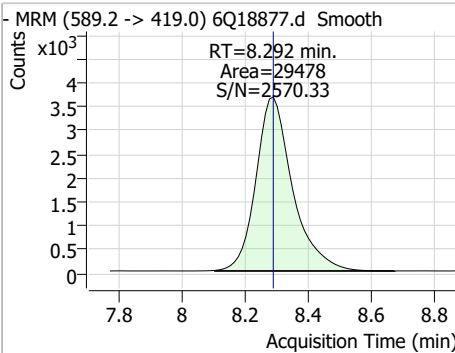
7.7.8
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Perfluorinated Compounds by LC/MS/MS

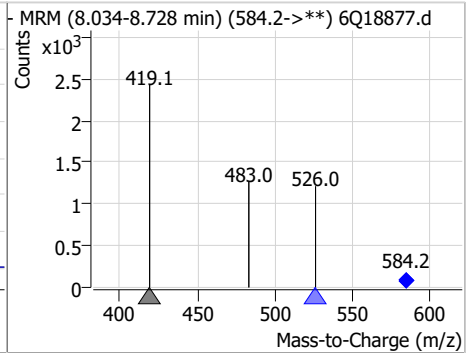
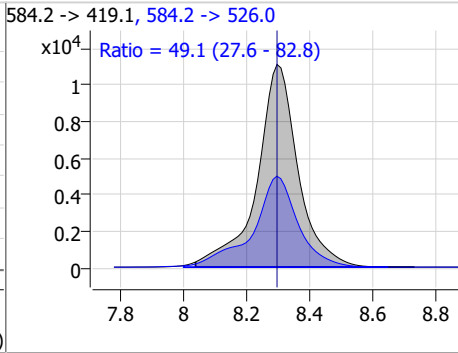
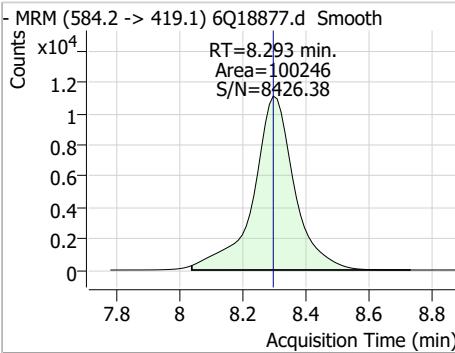
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	24.21	8.19	0.00	146678	498.9 -> 98.8	48.7	24.4	73.3



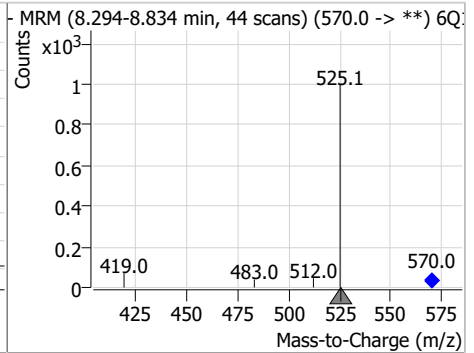
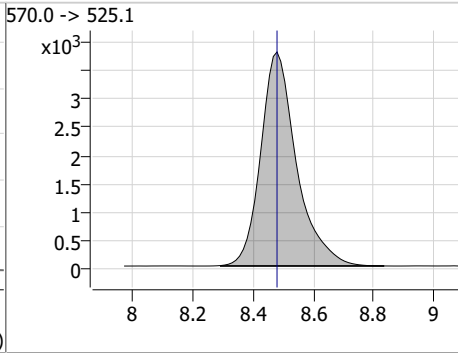
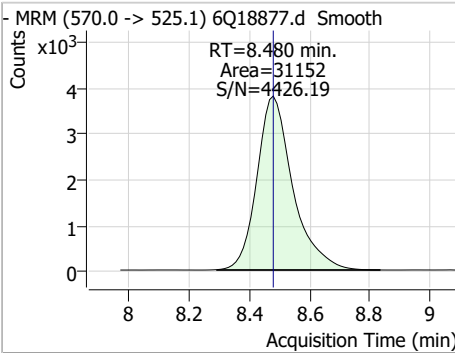
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.85	8.29	0.00	29478				



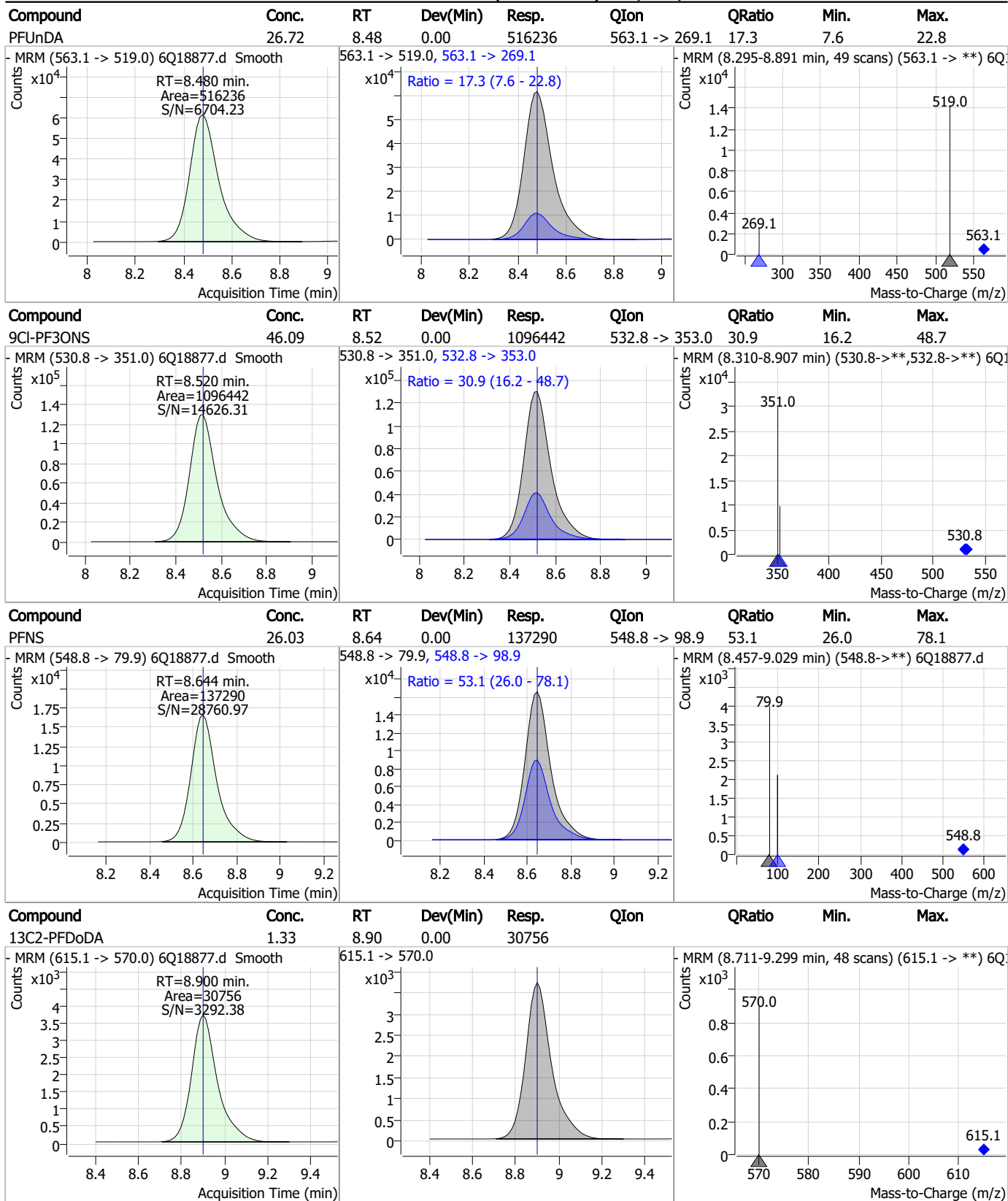
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	24.94	8.29	0.00	100246	584.2 -> 526.0	49.1	27.6	82.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.27	8.48	0.00	31152				

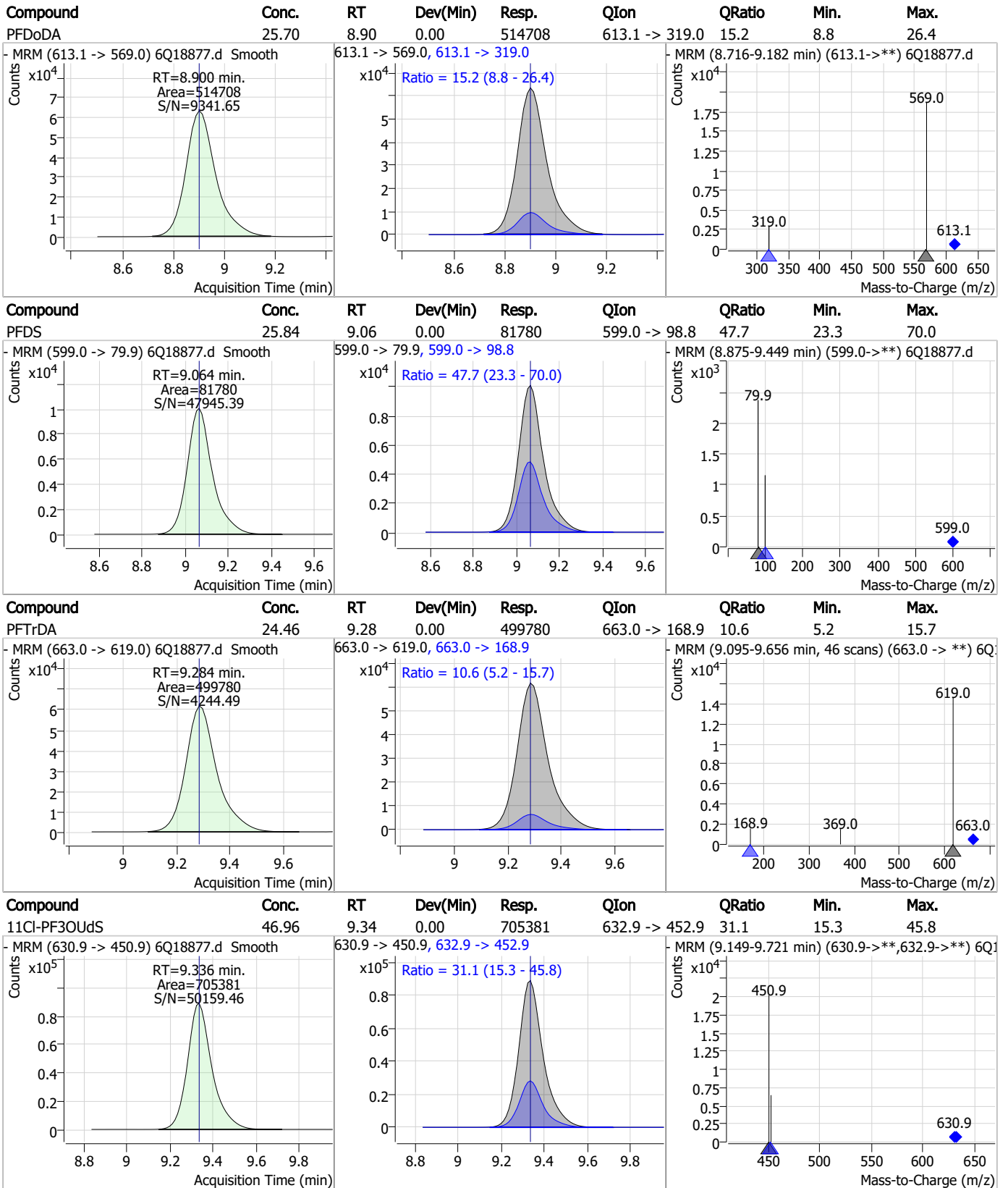


Perfluorinated Compounds by LC/MS/MS



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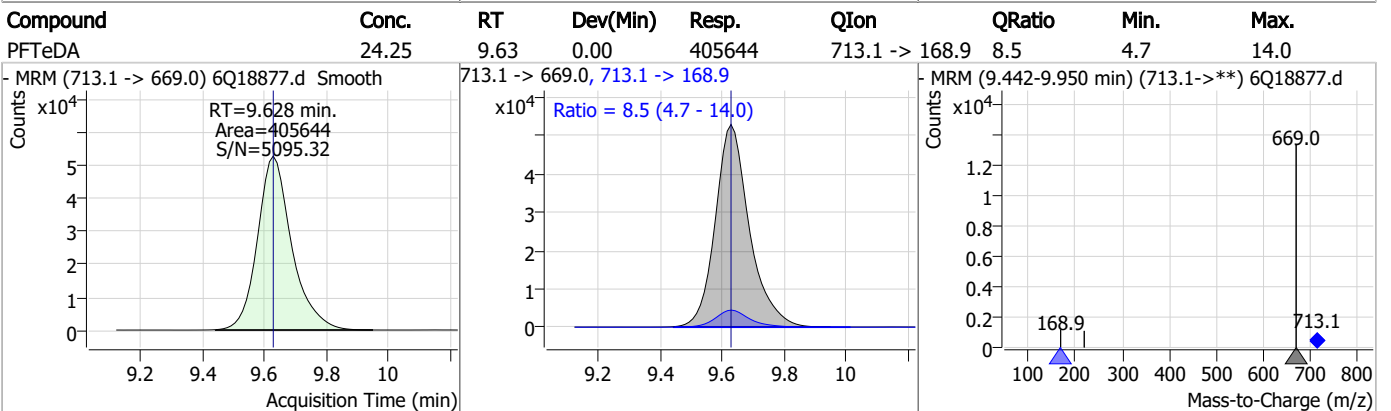
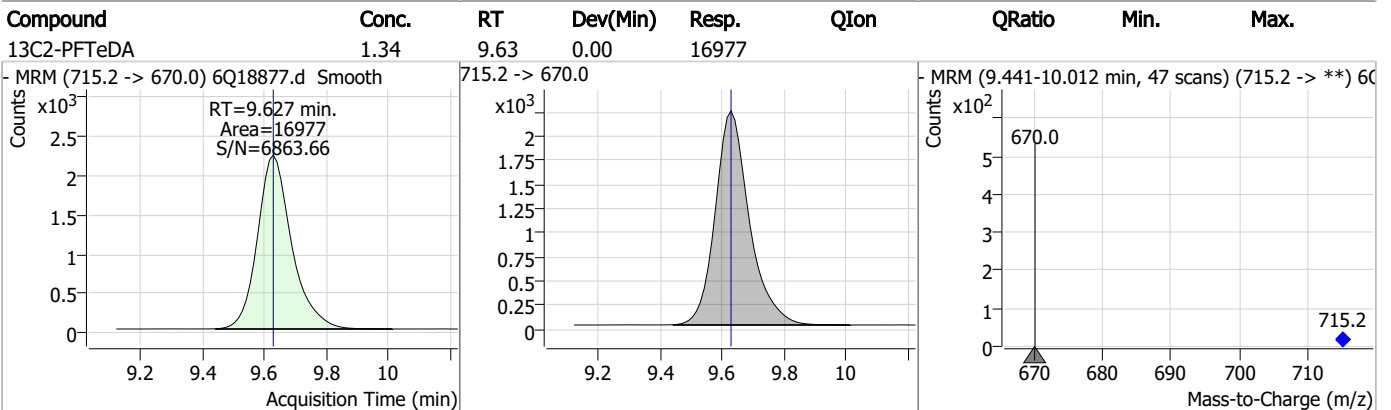
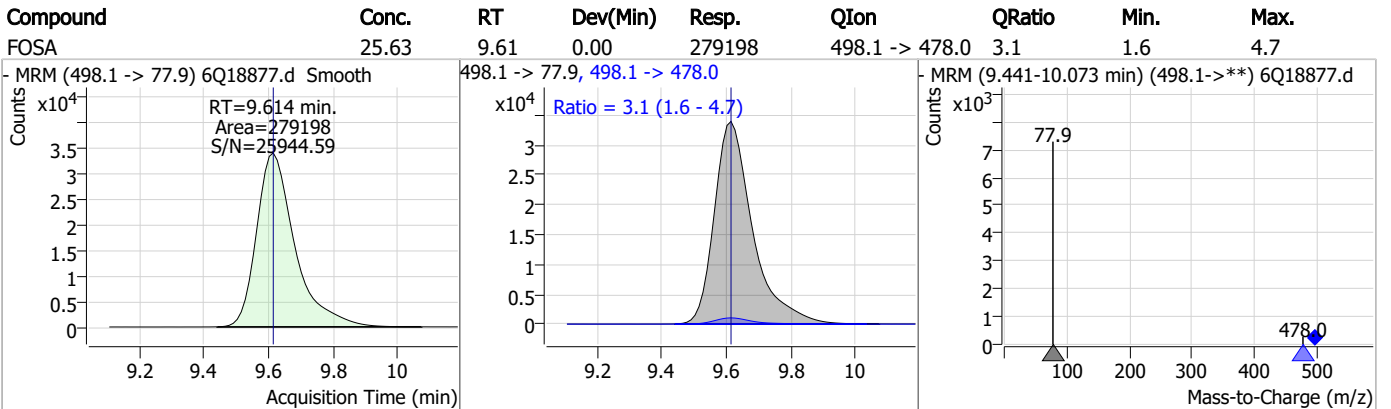
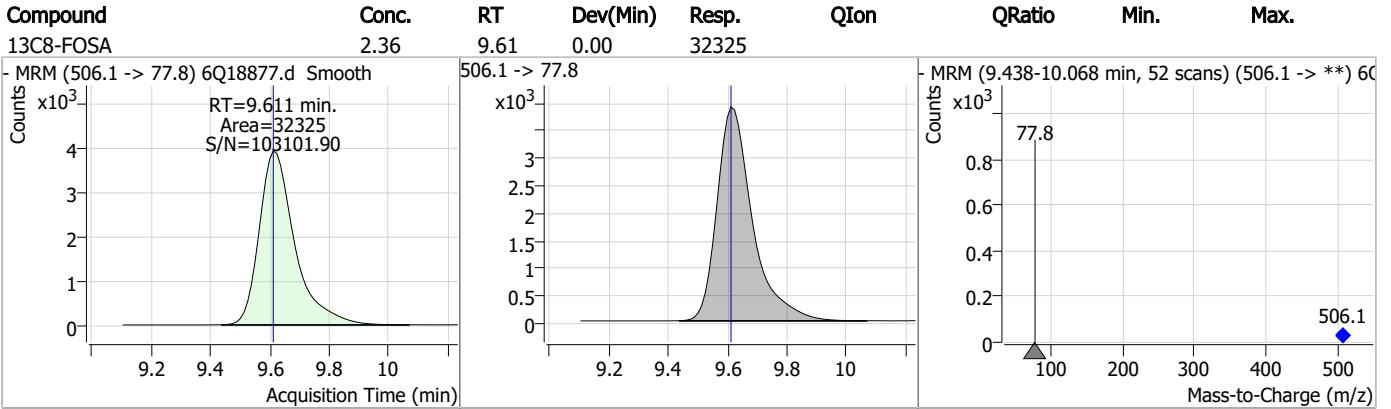
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

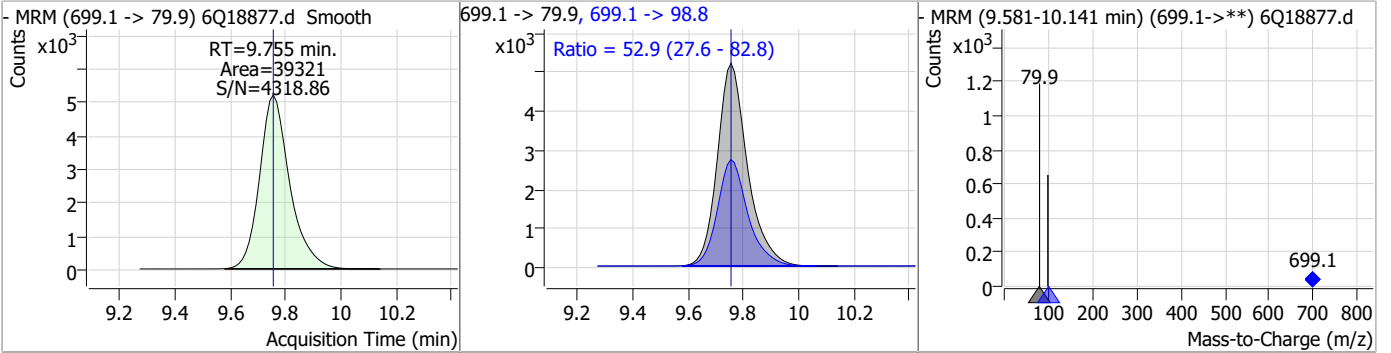


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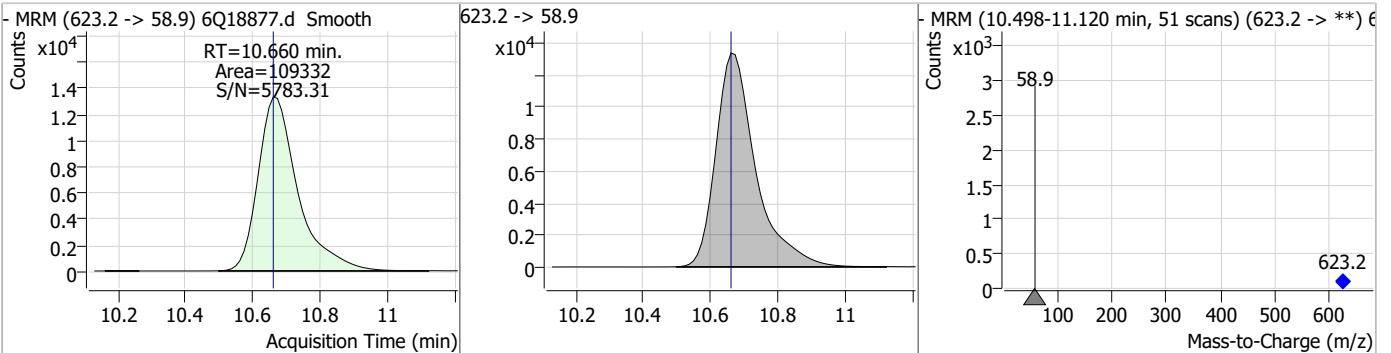
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Perfluorinated Compounds by LC/MS/MS

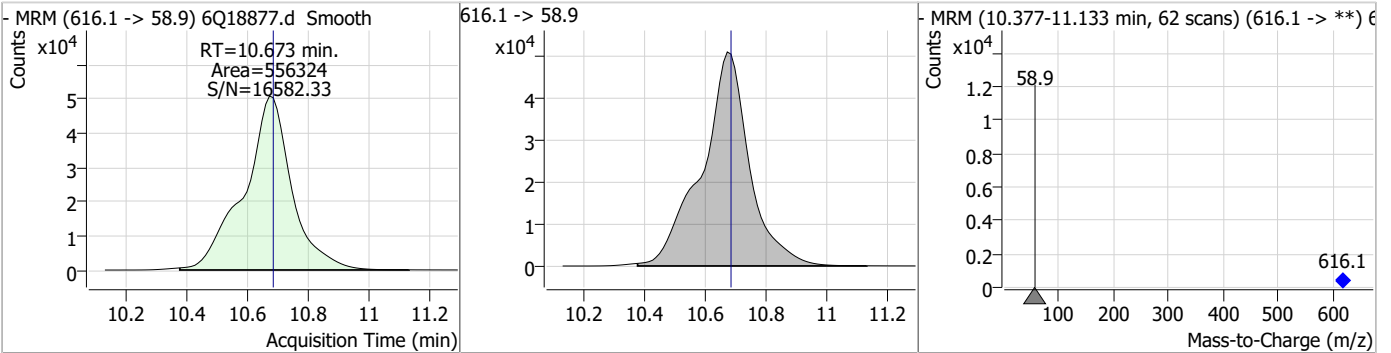
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	26.32	9.75	0.00	39321	699.1 -> 98.8	52.9	27.6	82.8



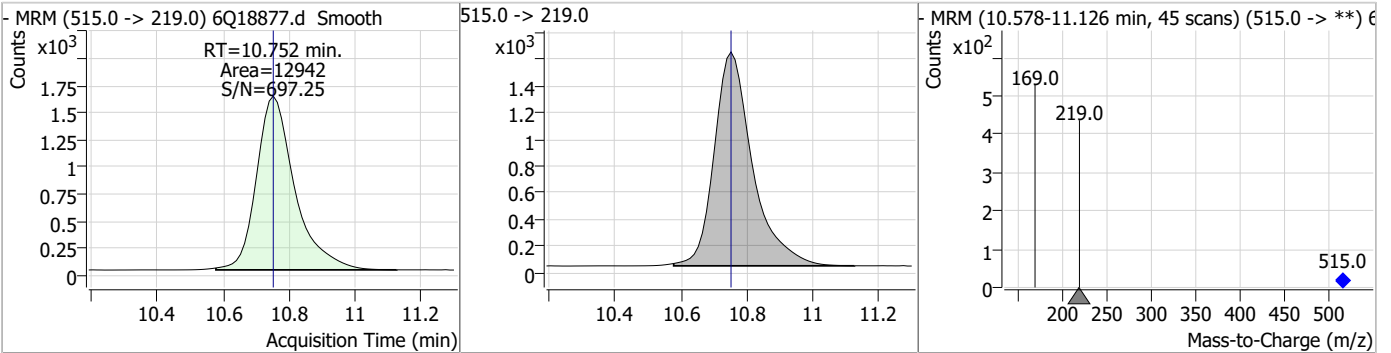
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.15	10.66	0.00	109332				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	131.43	10.67	-0.01	556324				

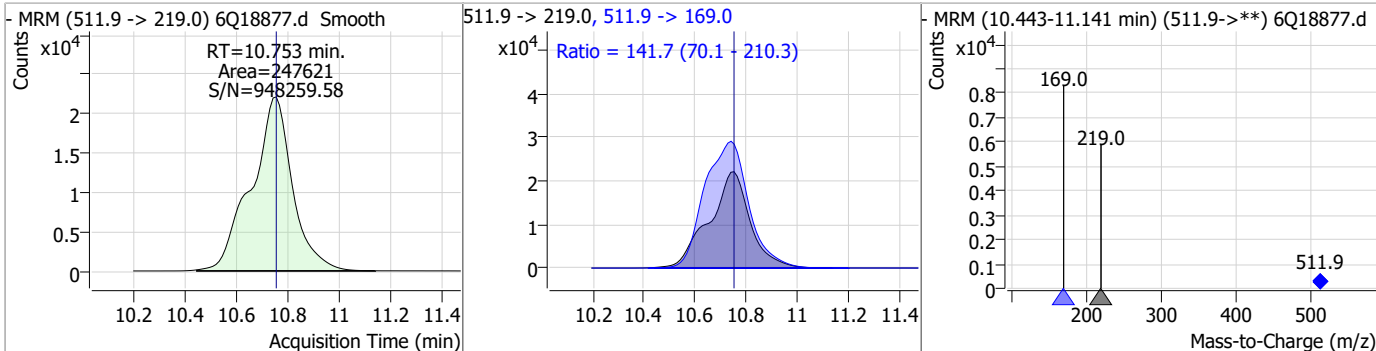


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.43	10.75	0.00	12942				

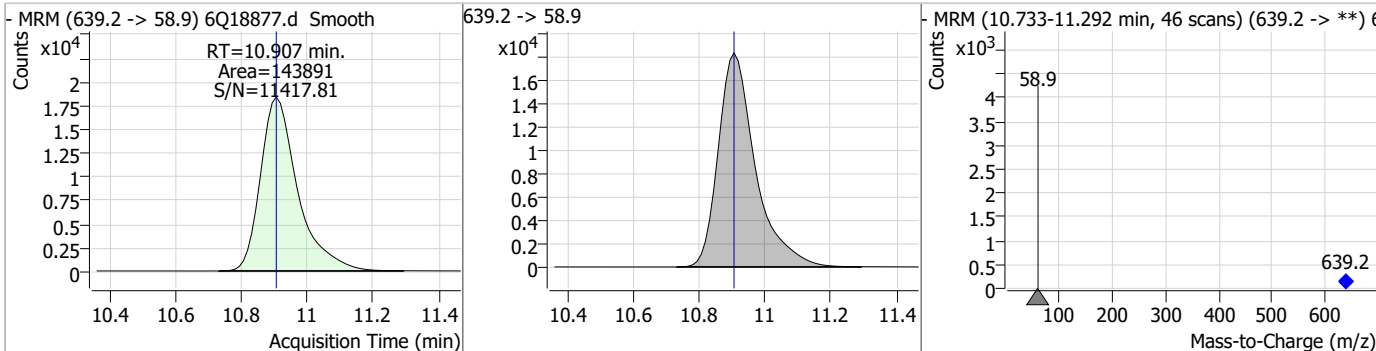


Perfluorinated Compounds by LC/MS/MS

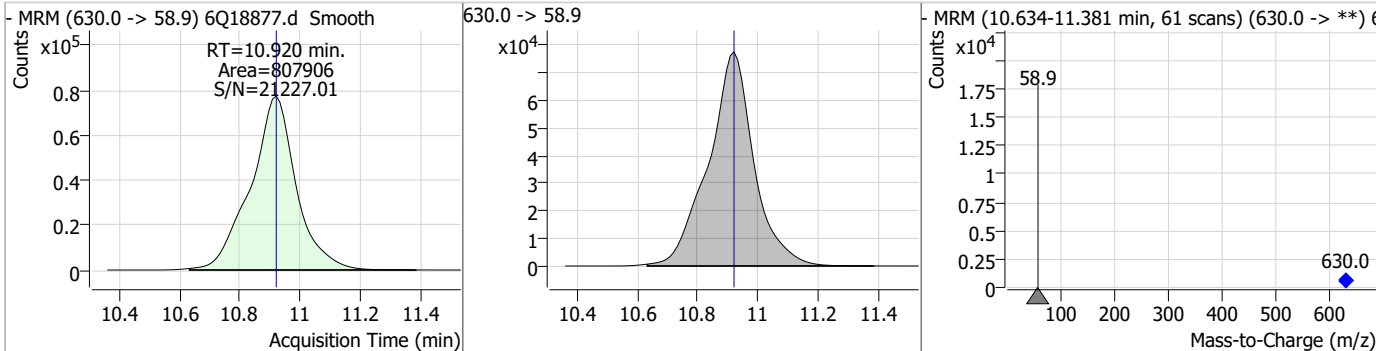
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	50.22	10.75	0.00	247621	511.9 -> 169.0	141.7	70.1	210.3



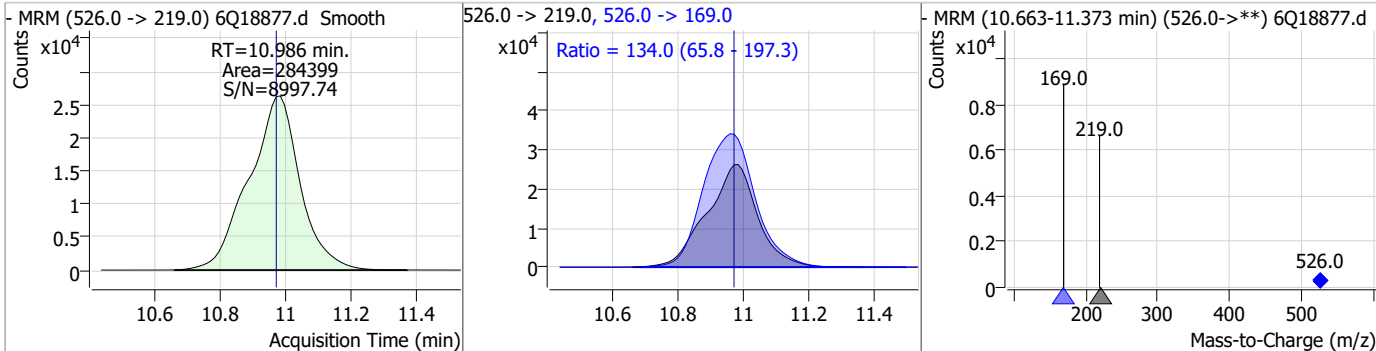
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.92	10.91	0.00	143891				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	128.72	10.92	0.00	807906				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	50.40	10.99	0.01	284399	526.0 -> 169.0	134.0	65.8	197.3

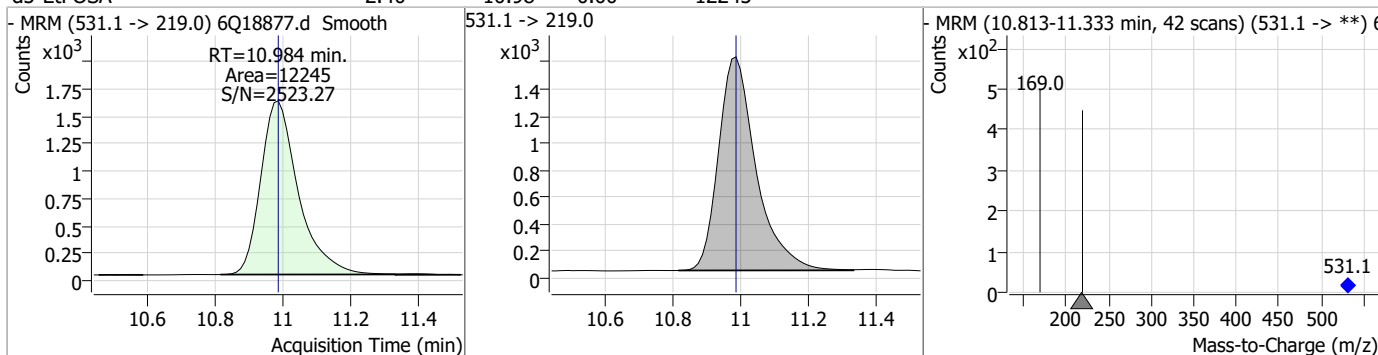


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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.40	10.98	0.00	12245				



7.7.8
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Manual Integration Approval Summary

Sample Number: S6Q282-IC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18877.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/06/23 15:42 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18878.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 3:57:08 PM
 Sample Name : ic282-8
 Vial : P1-A9
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	159551	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	56645	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	61272	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	58477	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	90378	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	40268	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	22807	1.25 µg/L	0.000
M7-PFUnDA	8.468	570.0 -> 525.1	30965	1.25 µg/L	-0.012
M2-PFDoDA	8.900	615.1 -> 570.0	31446	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17149	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	32016	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	23238	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	14514	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14340	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	3732	5.00 µg/L	-0.012
M2-6:2FTS	6.825	429.1 -> 80.9	5321	5.00 µg/L	-0.012
M2-8:2FTS	7.839	529.1 -> 80.9	5462	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	30124	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	39206	10.00 µg/L	0.000
M5-EtFOSAA	8.279	589.2 -> 419.0	28249	5.00 µg/L	-0.012
M7-MeFOSE	10.660	623.2 -> 58.9	105419	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	131672	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	11953	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13711	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18325	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	67730	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	10723	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	91821	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	35983	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	48882	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	58985	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	3732	4.23 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 84.7%		
13C2-6:2FTS	6.825	429.1 -> 80.9	5321	4.20 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 84.0%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5462	4.33 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 86.5%		
13C2-PFDoDA	8.900	615.1 -> 570.0	31446	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.7%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17149	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.2%		
13C3-PFBS	5.384	302.1 -> 79.9	23238	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.6%		
13C3-PFHxS	7.155	402.1 -> 79.9	14514	2.51 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C4-PFBA	2.860	216.8 -> 171.9	159551	9.93 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C4-PFHpA	6.420	367.1 -> 322.0	58477	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C5-PFHxA	5.466	318.0 -> 273.0	61272	2.45 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C5-PFPeA	4.272	268.3 -> 223.0	56645	4.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.0%	
13C6-PFDA	8.039	519.1 -> 474.1	22807	1.07 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 85.5%	
13C7-PFUnDA	8.468	570.0 -> 525.1	30965	1.11 µg/L	-0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 88.8%	
13C8-FOSA	9.611	506.1 -> 77.8	32016	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.0%	
13C8-PFOA	7.051	421.1 -> 376.0	90378	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C8-PFOS	8.189	507.1 -> 79.9	14340	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C9-PFNA	7.569	472.1 -> 427.0	40268	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.2%	
d3-MeFOSAA	8.096	573.2 -> 419.0	30124	4.56 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 91.3%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	39206	10.55 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.5%	
d3-MeFOSA	10.752	515.0 -> 219.0	13711	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.7%	
d5-EtFOSAA	8.279	589.2 -> 419.0	28249	4.77 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 95.5%	
d7-MeFOSE	10.660	623.2 -> 58.9	105419	22.92 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 91.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	131672	22.48 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 89.9%	
d5-EtFOSA	10.984	531.1 -> 219.0	11953	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.0%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	1065136	208.36 µg/L	100
		327.1 -> 80.9	396810		
6:2FTS	6.826	427.1 -> 407.0	1034979	205.24 µg/L	100
		427.1 -> 80.9	349767		
8:2FTS	7.828	527.1 -> 507.0	611715	208.83 µg/L	99
		527.1 -> 80.8	241332		
EtFOSAA	8.293	584.2 -> 419.1	233635	60.66 µg/L	97
		584.2 -> 526.0	124016		
FOSA	9.614	498.1 -> 77.9	647359	59.99 µg/L	100
		498.1 -> 478.0	19203		
MeFOSAA	8.097	570.1 -> 419.0	373941	62.13 µg/L	98
		570.1 -> 483.0	73100		
PFBA	2.856	212.8 -> 168.9	1273708	245.02 µg/L	100
PFBS	5.385	298.7 -> 79.9	432738	53.73 µg/L	95
		298.7 -> 98.8	157684		
PFDA	8.040	512.9 -> 469.0	1779400	64.78 µg/L	97
		512.9 -> 219.0	290804		
PFDoDA	8.900	613.1 -> 569.0	1238525	60.48 µg/L	95
		613.1 -> 319.0	188513		
PFDS	9.064	599.0 -> 79.9	200069	58.38 µg/L	99

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	94396			
PFHpA	6.420	363.1 -> 319.0	1504271	60.68	µg/L	99
		363.1 -> 169.0	249077			
PFHpS	7.698	449.0 -> 79.9	376295	57.84	µg/L	99
		449.0 -> 98.9	187008			
PFHxA	5.469	313.0 -> 269.0	1249544	62.12	µg/L	99
		313.0 -> 118.9	62831			
PFHxS	7.156	398.7 -> 79.9	355238	52.22	µg/L	m 98
		398.7 -> 98.9	175957			
PFNA	7.558	463.0 -> 419.0	1839497	64.43	µg/L	97
		463.0 -> 219.0	346798			
PFNS	8.644	548.8 -> 79.9	311155	54.47	µg/L	100
		548.8 -> 98.9	162142			
PFOA	7.052	413.0 -> 369.0	2325612	61.10	µg/L	100
		413.0 -> 169.0	416462			
PFOS	8.178	498.9 -> 79.9	344000	52.43	µg/L	98
		498.9 -> 98.8	163670			
PFPeA	4.274	263.0 -> 219.0	1609167	120.27	µg/L	100
PFPeS	6.459	349.1 -> 79.9	358966	54.96	µg/L	100
		349.1 -> 98.9	163088			
PFTeDA	9.628	713.1 -> 669.0	951860	56.34	µg/L	97
		713.1 -> 168.9	79656			
PFTrDA	9.284	663.0 -> 619.0	1154318	55.24	µg/L	99
		663.0 -> 168.9	125715			
PFUnDA	8.468	563.1 -> 519.0	1138101	59.27	µg/L	97
		563.1 -> 269.1	187077			
11Cl-PF3OUdS	9.336	630.9 -> 450.9	1664983	111.07	µg/L	99
		632.9 -> 452.9	520217			
9Cl-PF3ONS	8.508	530.8 -> 351.0	2657663	111.96	µg/L	94
		532.8 -> 353.0	766070			
ADONA	6.671	376.9 -> 250.9	5878451	109.17	µg/L	99
		376.9 -> 84.8	1575777			
HFPO-DA	5.832	284.9 -> 168.9	383956	117.25	µg/L	100
		284.9 -> 184.9	45776			
3:3FTCA	3.727	241.0 -> 177.0	295028	311.31	µg/L	99
		241.0 -> 117.0	37630			
5:3FTCA	6.124	341.0 -> 237.1	5814990	1498.58	µg/L	99
		341.0 -> 217.0	4255864			
7:3FTCA	7.535	441.0 -> 316.9	4222305	1581.74	µg/L	86
		441.0 -> 336.9	8601185			
EtFOSA	10.974	526.0 -> 219.0	670881	121.80	µg/L	100
		526.0 -> 169.0	881991			
EtFOSE	10.920	630.0 -> 58.9	1785174	310.82	µg/L	100
MeFOSA	10.753	511.9 -> 219.0	590538	113.05	µg/L	97
		511.9 -> 169.0	807231			
MeFOSE	10.673	616.1 -> 58.9	1273338	311.98	µg/L	100
PFDoS	9.755	699.1 -> 79.9	94572	58.45	µg/L	99
		699.1 -> 98.8	51628			
NFDHA	5.348	295.0 -> 201.0	286962	118.83	µg/L	98
		295.0 -> 84.9	73354			
PFMBA	4.688	279.0 -> 85.1	1143287	123.63	µg/L	100
PFMPA	3.401	229.0 -> 84.9	867059	123.03	µg/L	100
PFEESA	5.926	314.8 -> 134.9	2785704	108.96	µg/L	100
		314.8 -> 82.9	101741			

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

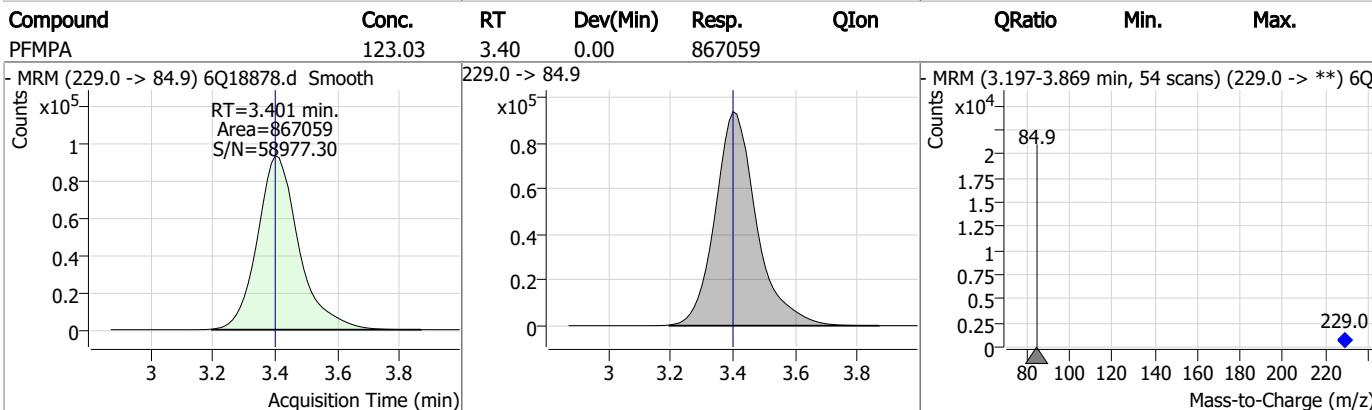
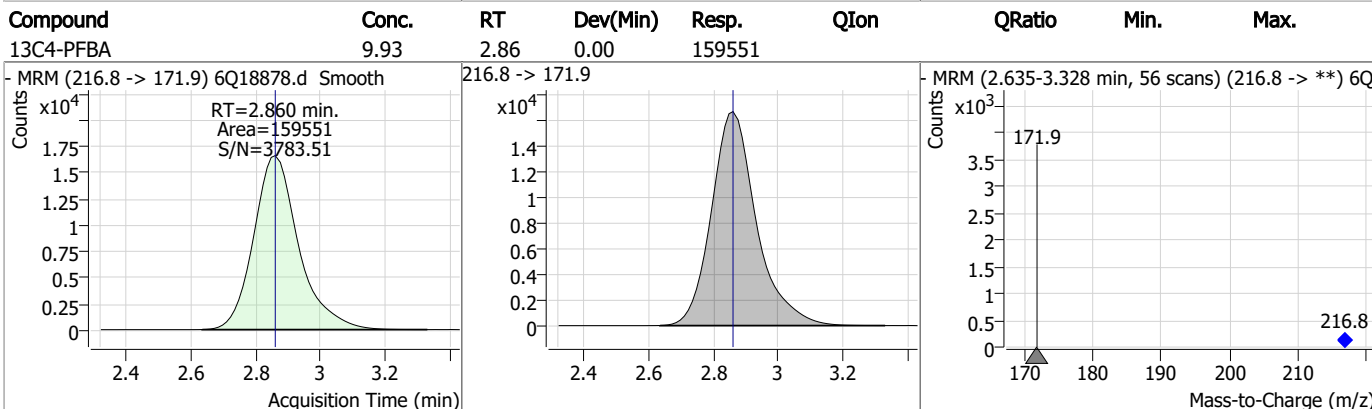
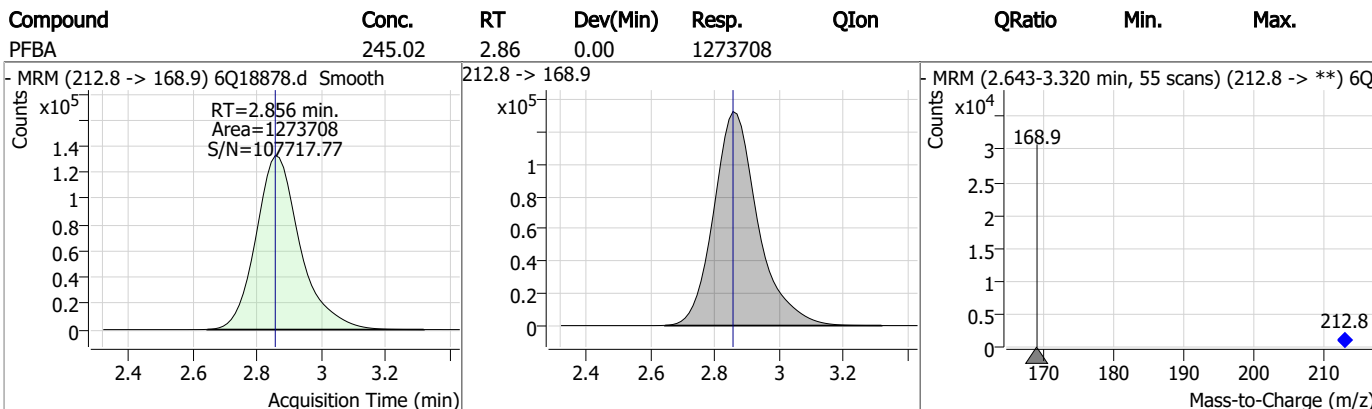
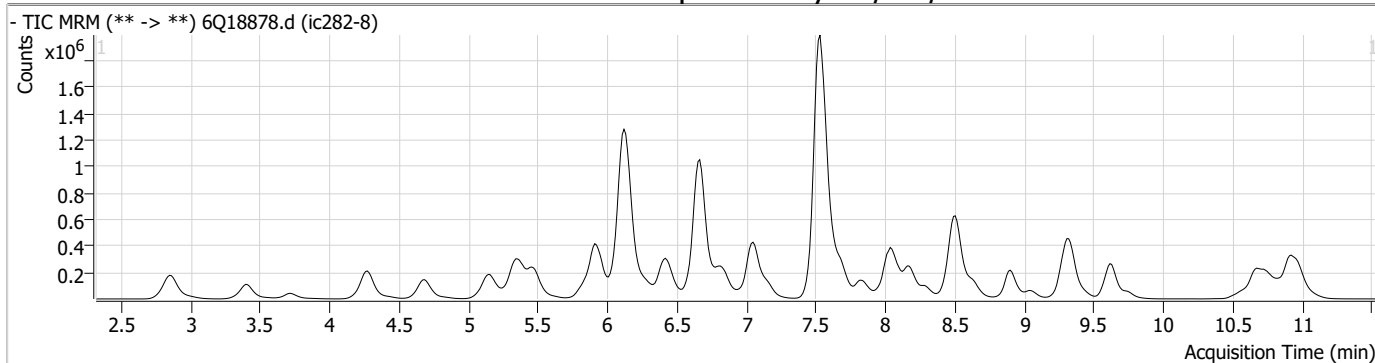
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.9

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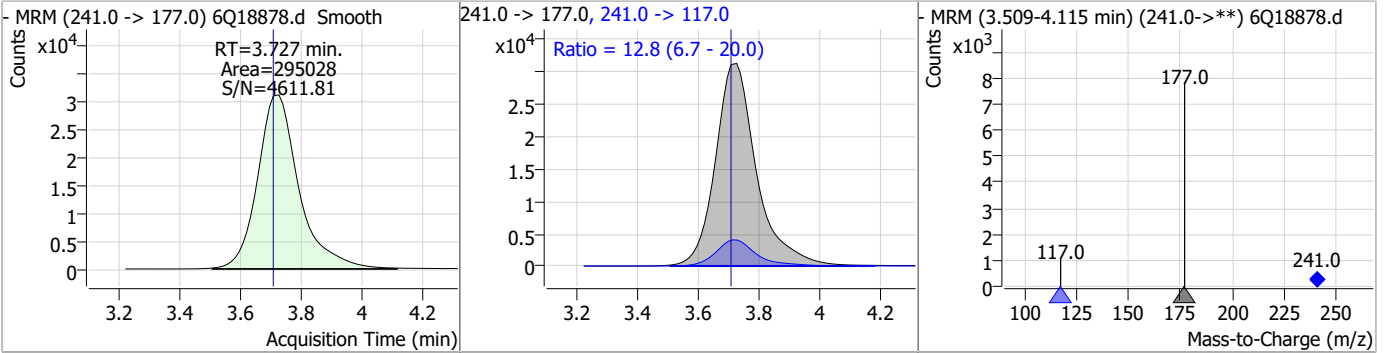
Perfluorinated Compounds by LC/MS/MS



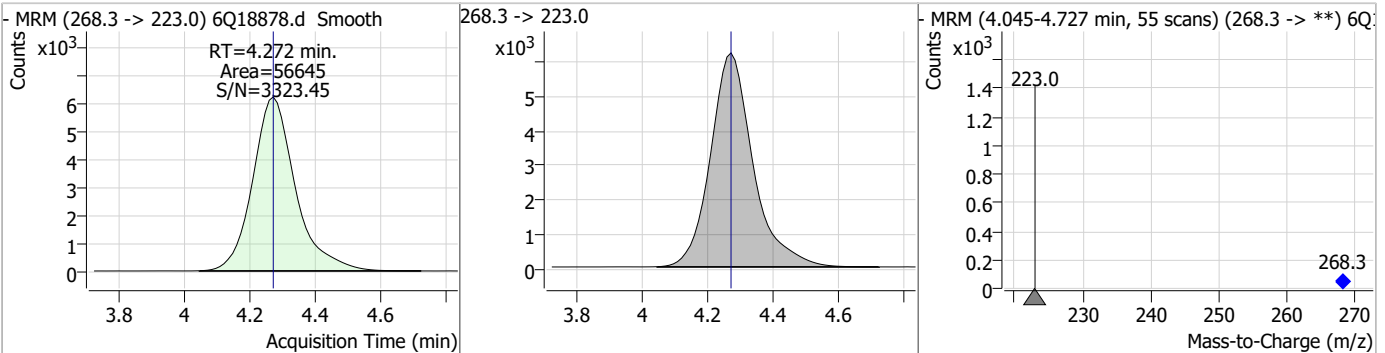
7.7.9
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Perfluorinated Compounds by LC/MS/MS

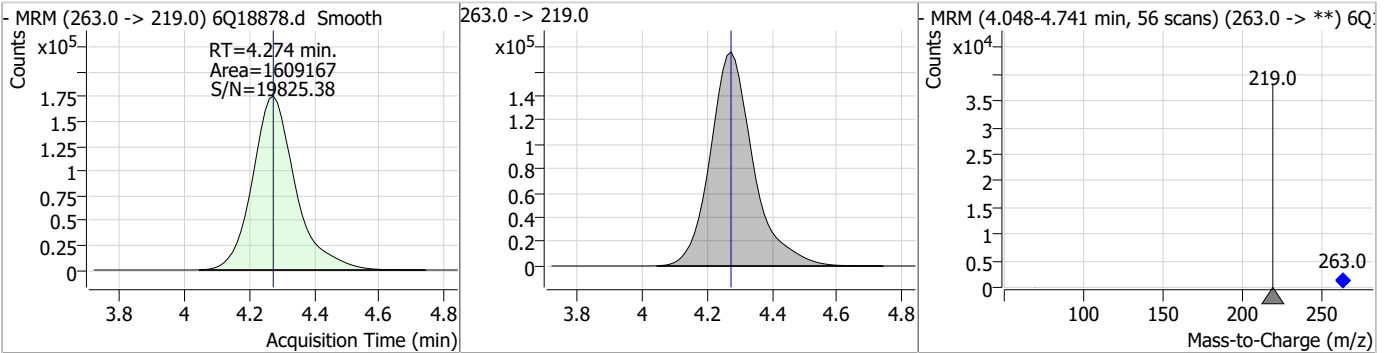
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	311.31	3.73	0.02	295028	241.0 -> 117.0	12.8	6.7	20.0



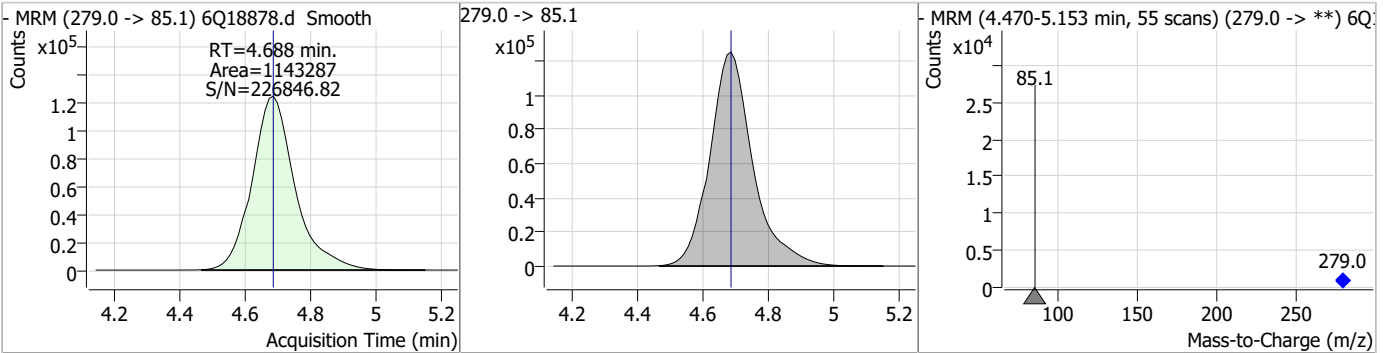
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.95	4.27	0.00	56645				



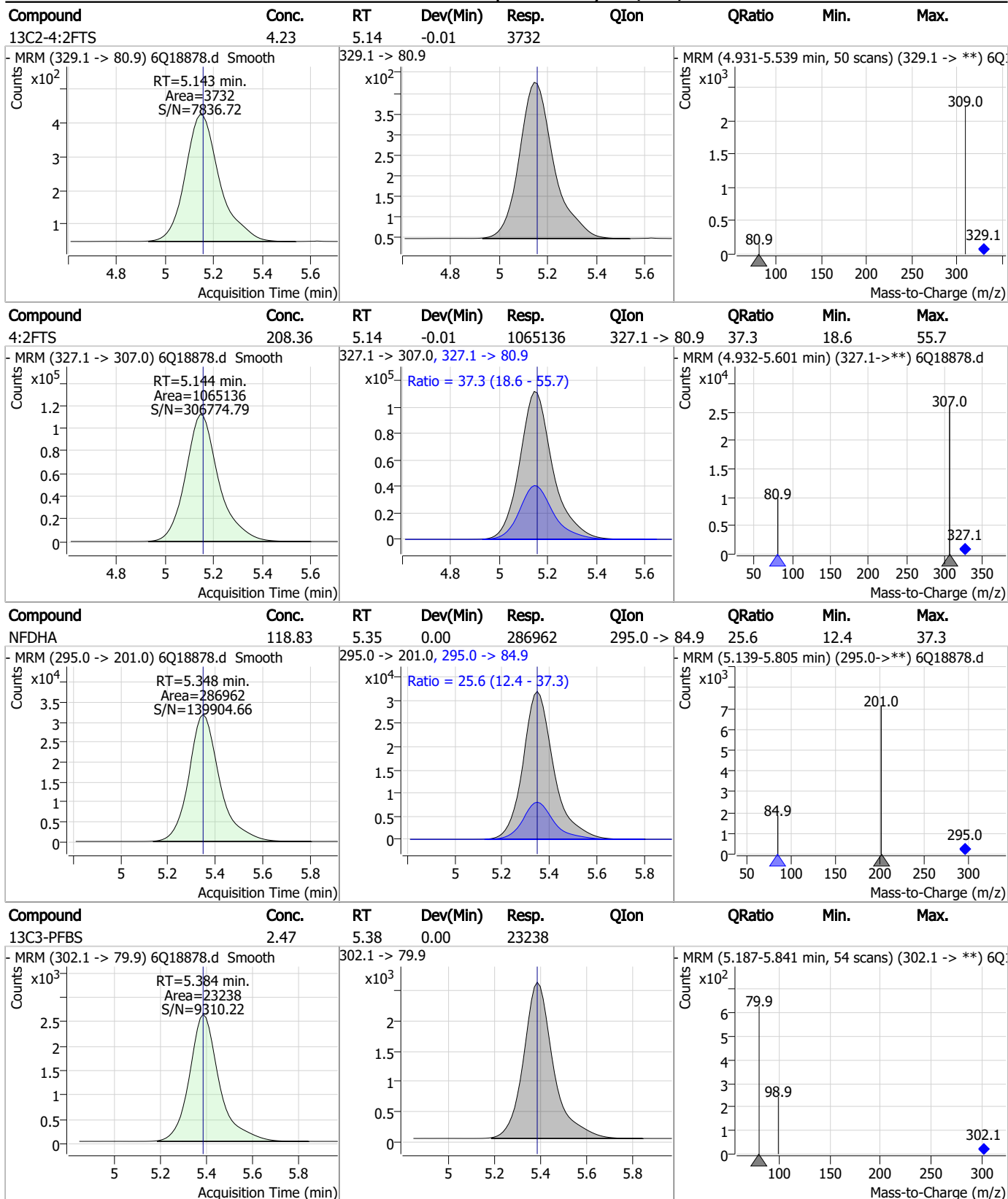
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	120.27	4.27	0.00	1609167				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	123.63	4.69	0.00	1143287				

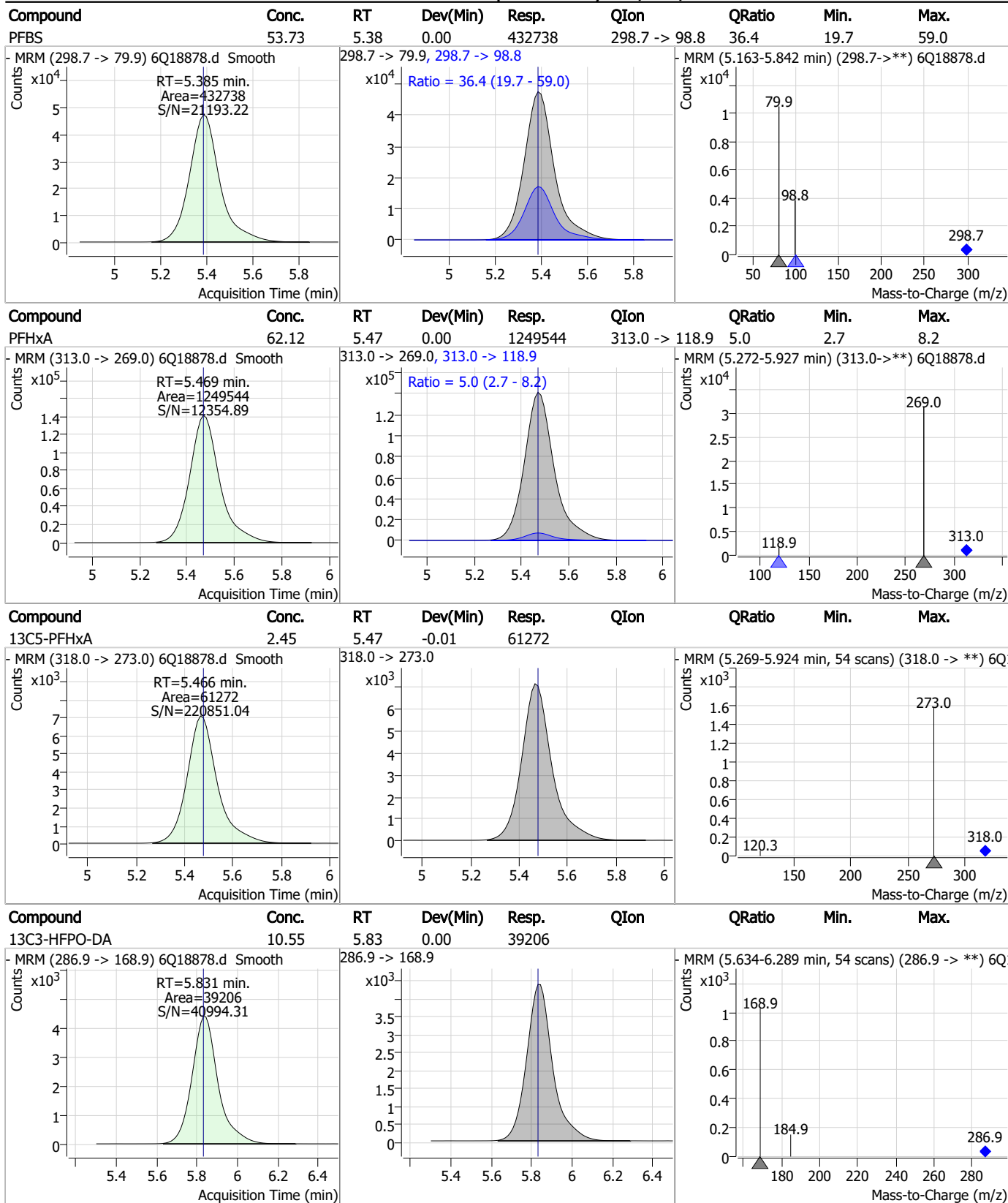


Perfluorinated Compounds by LC/MS/MS



7.7.9
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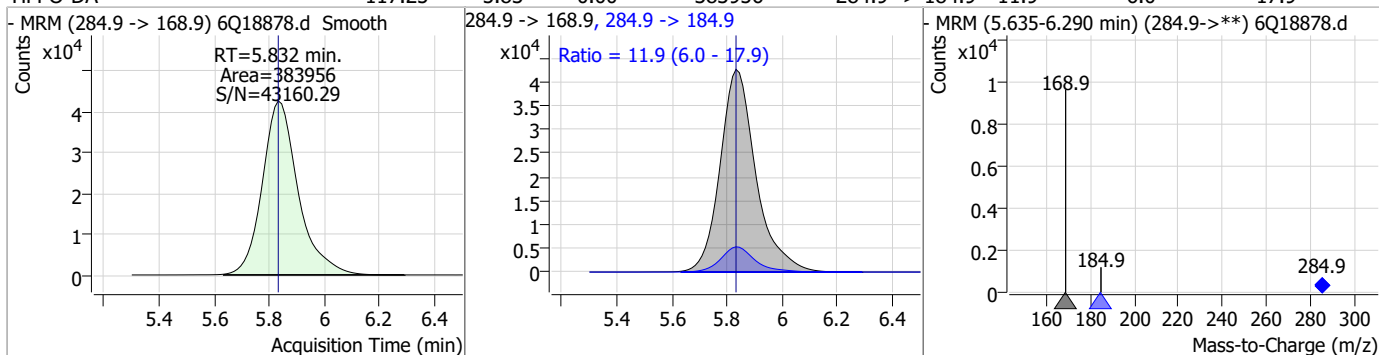
Perfluorinated Compounds by LC/MS/MS



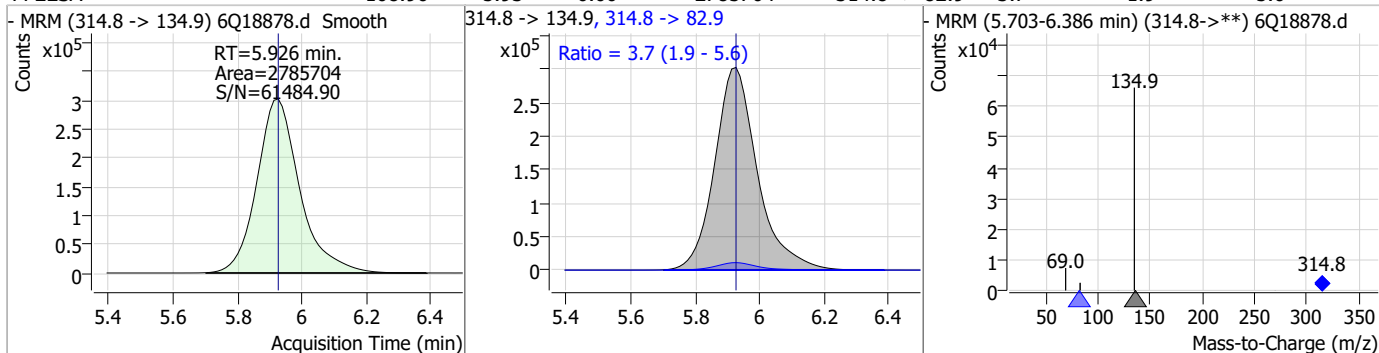
7.7.9
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Perfluorinated Compounds by LC/MS/MS

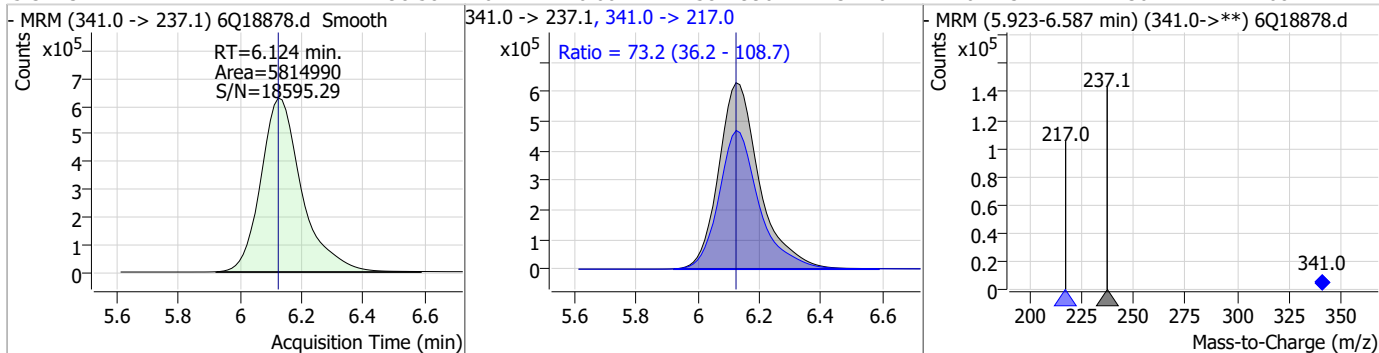
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	117.25	5.83	0.00	383956	284.9 -> 184.9	11.9	6.0	17.9



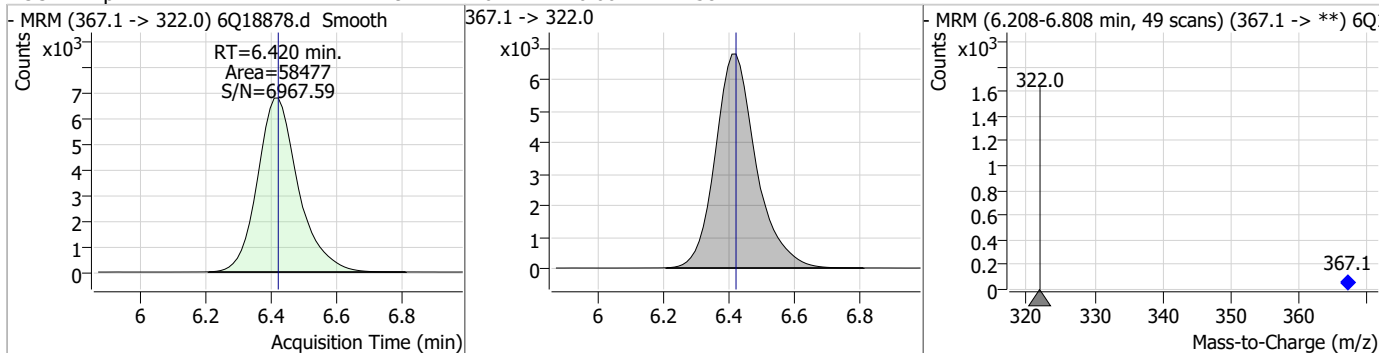
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	108.96	5.93	0.00	2785704	314.8 -> 82.9	3.7	1.9	5.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	1498.58	6.12	0.00	5814990	341.0 -> 217.0	73.2	36.2	108.7

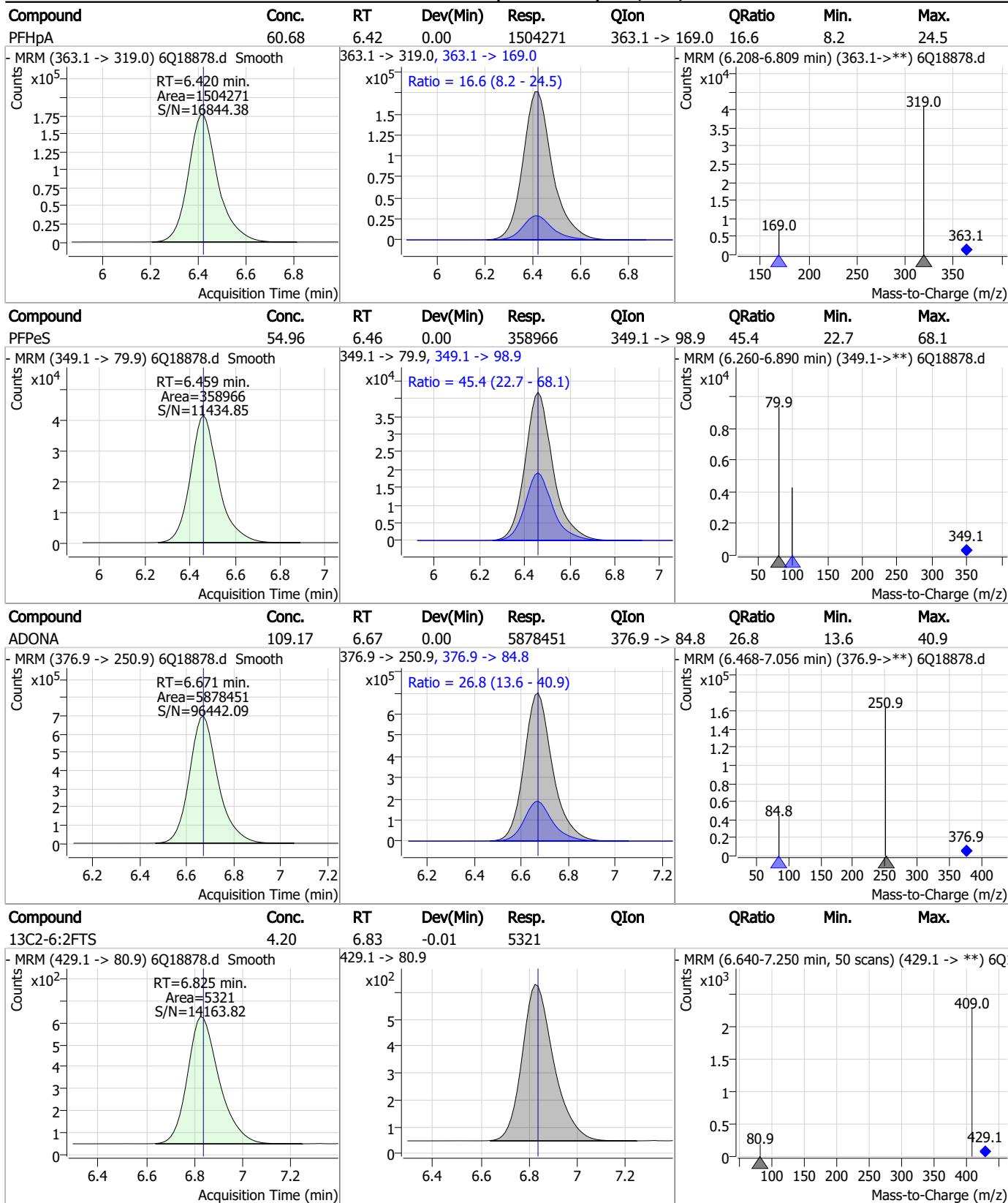


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.49	6.42	0.00	58477	367.1 -> 322.0	-	-	-



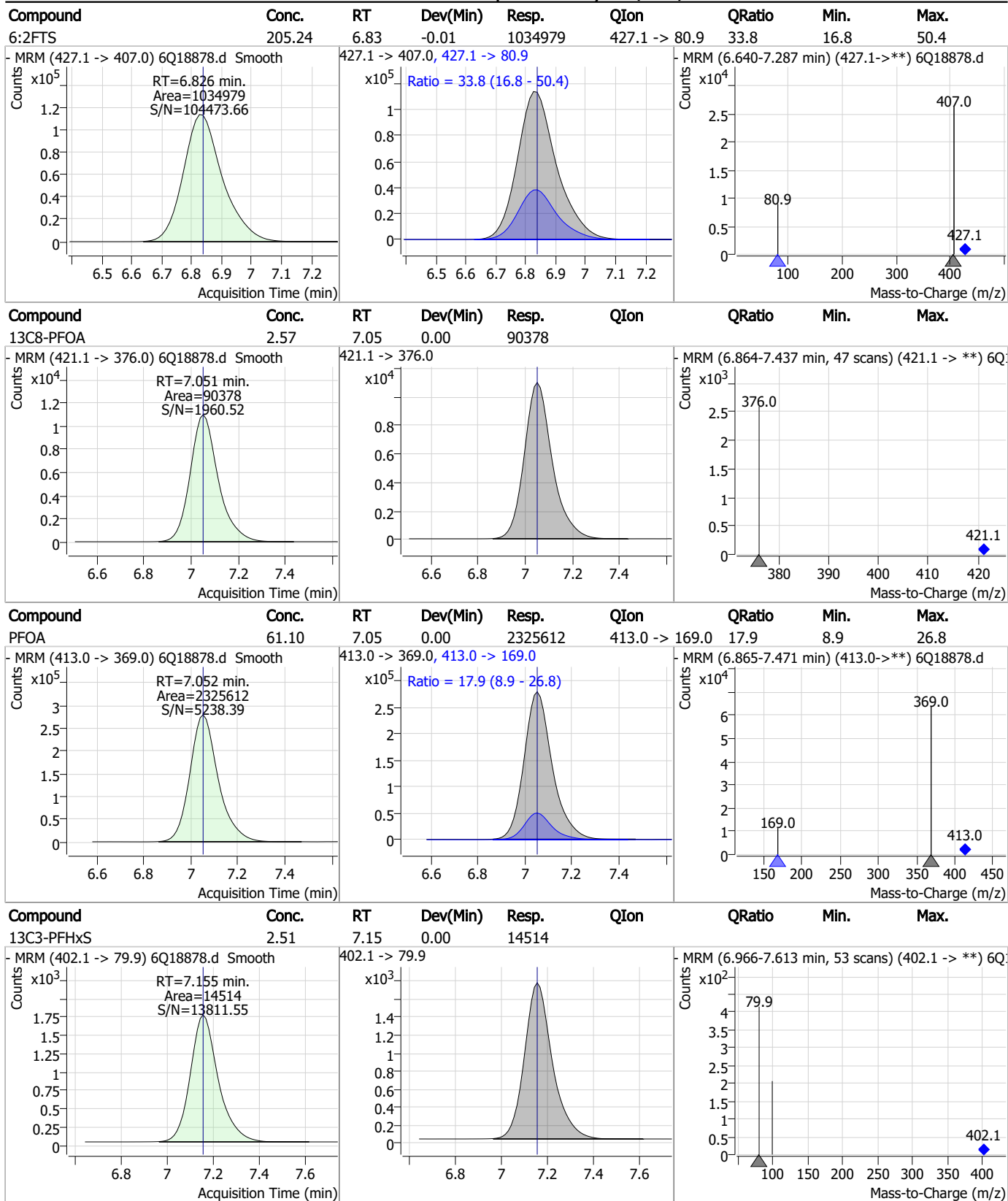
7.7.9
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Perfluorinated Compounds by LC/MS/MS



7.7.9
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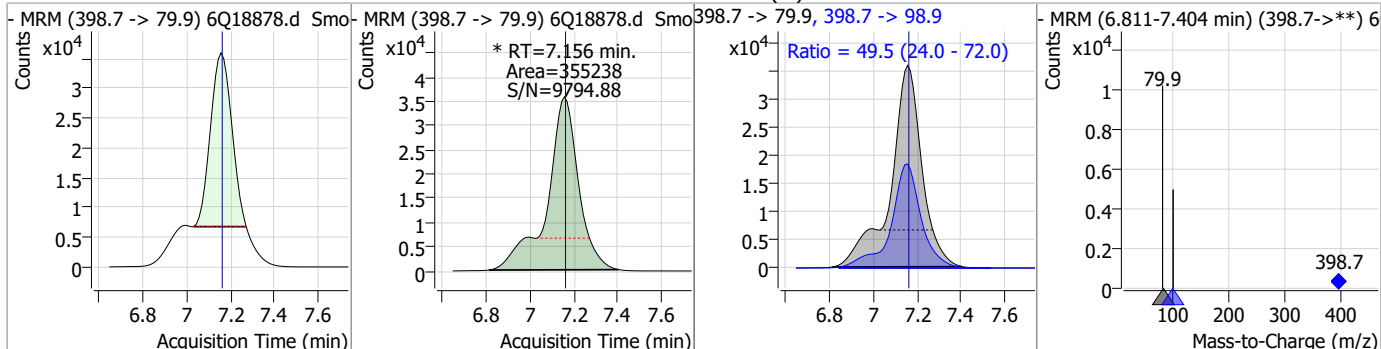
Perfluorinated Compounds by LC/MS/MS



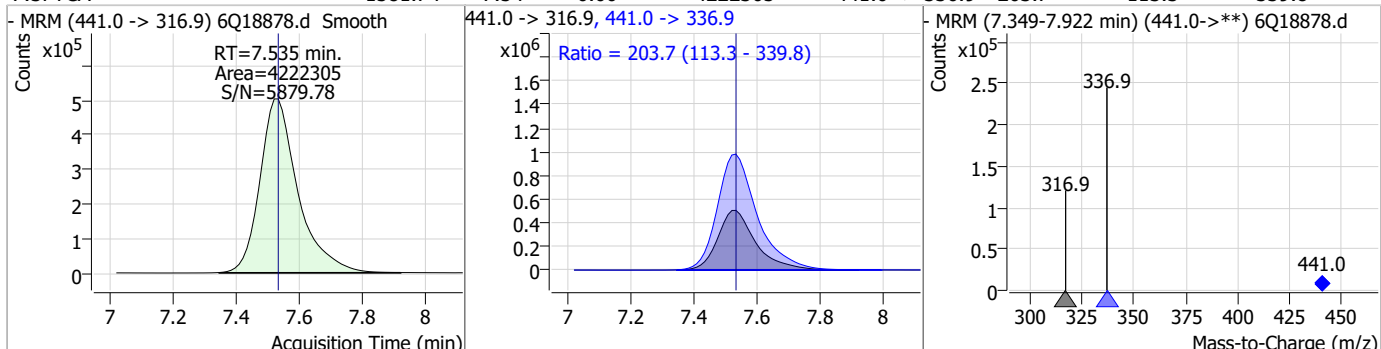
7.7.9
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Perfluorinated Compounds by LC/MS/MS

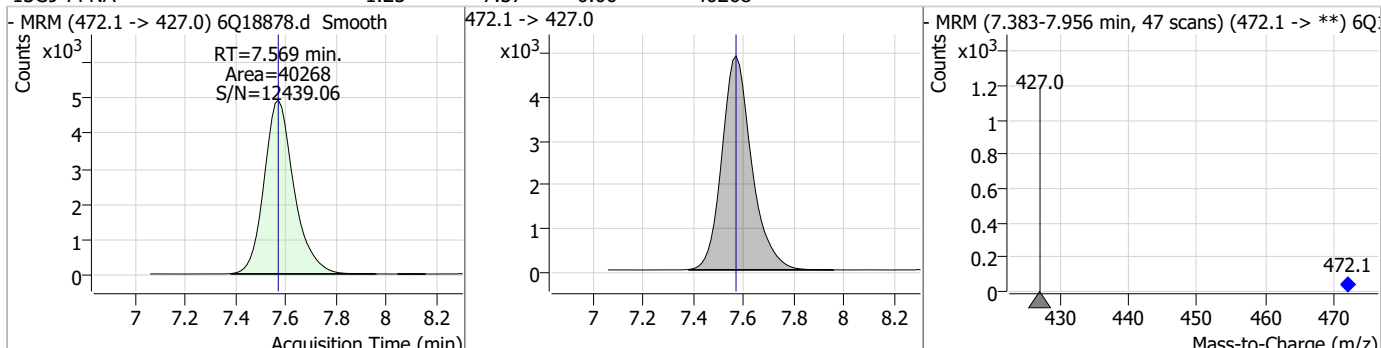
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	52.22	7.16	0.00	355238 (m)	398.7 -> 98.9	49.5	24.0	72.0



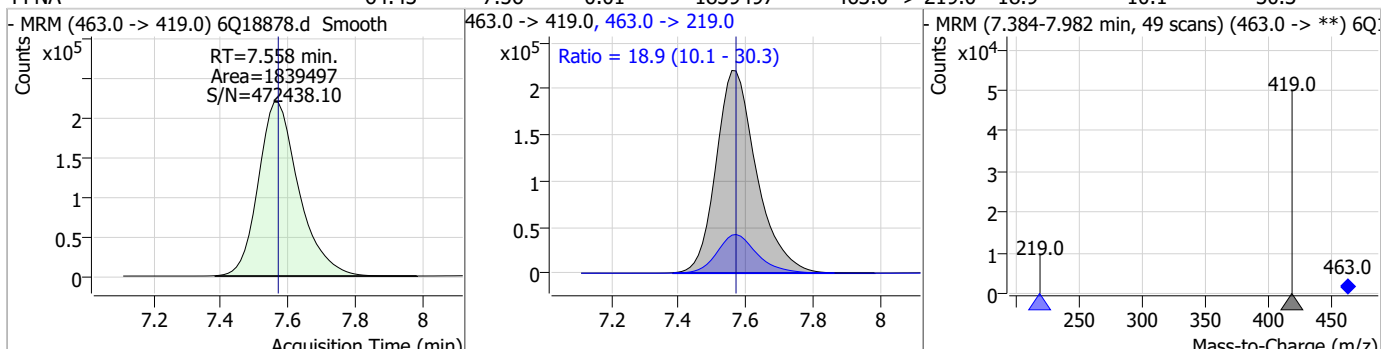
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	1581.74	7.54	0.00	4222305	441.0 -> 336.9	203.7	113.3	339.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.57	0.00	40268	472.1 -> 427.0			

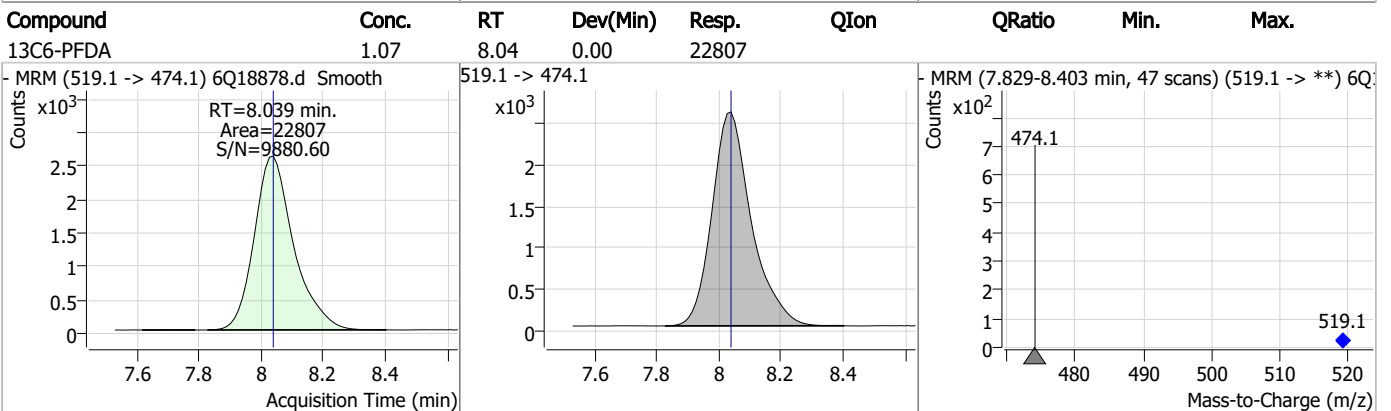
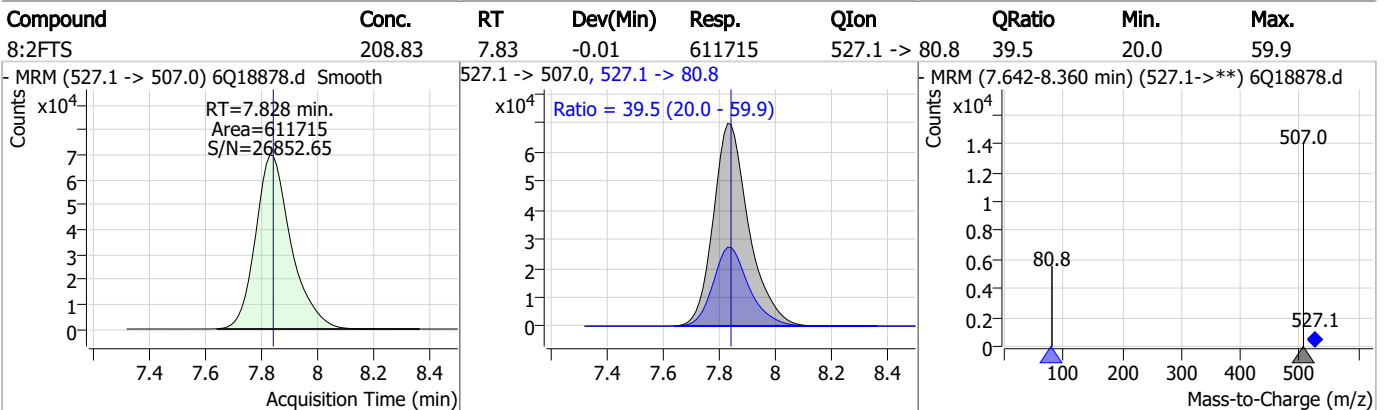
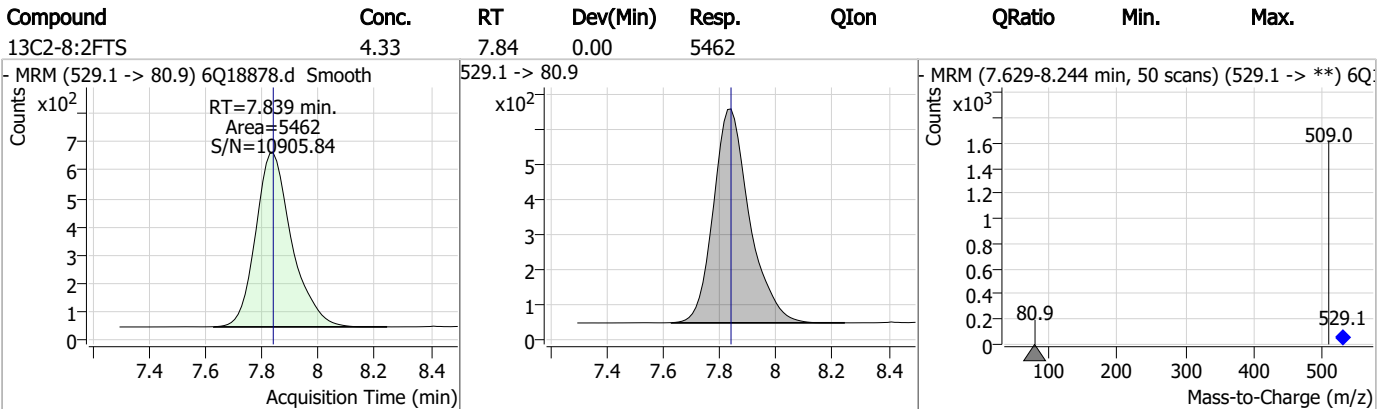
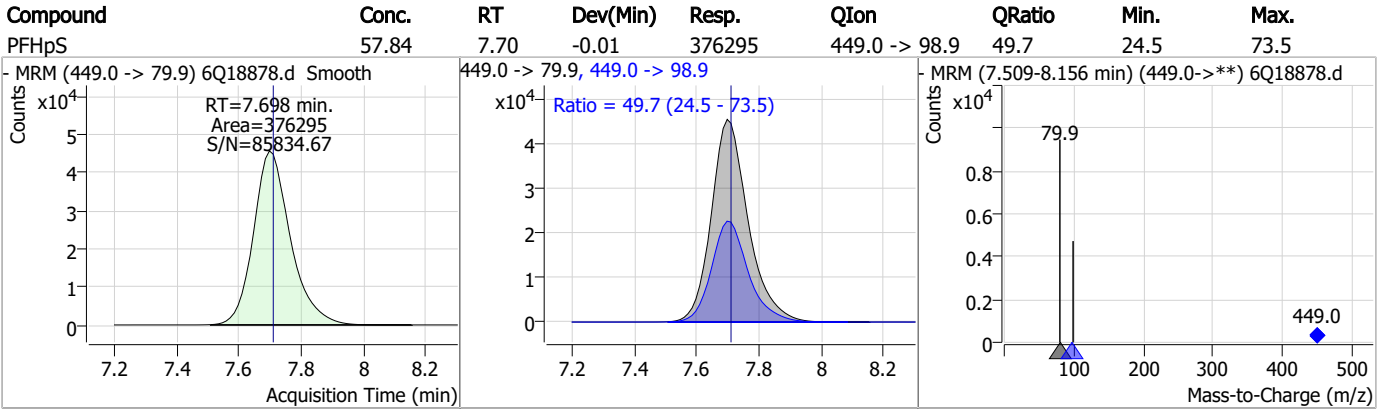


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	64.43	7.56	-0.01	1839497	463.0 -> 219.0	18.9	10.1	30.3

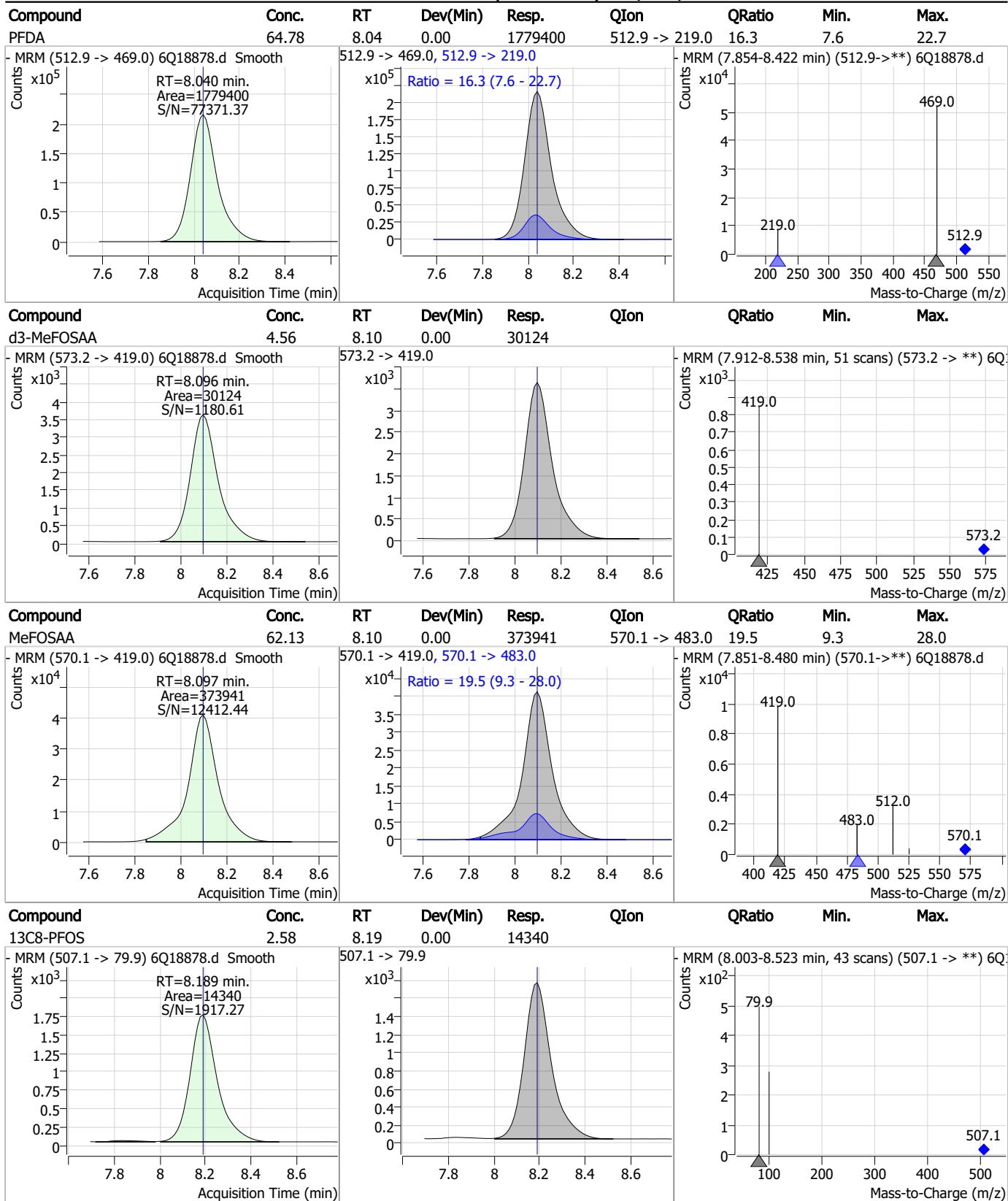


7.7.9
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Perfluorinated Compounds by LC/MS/MS



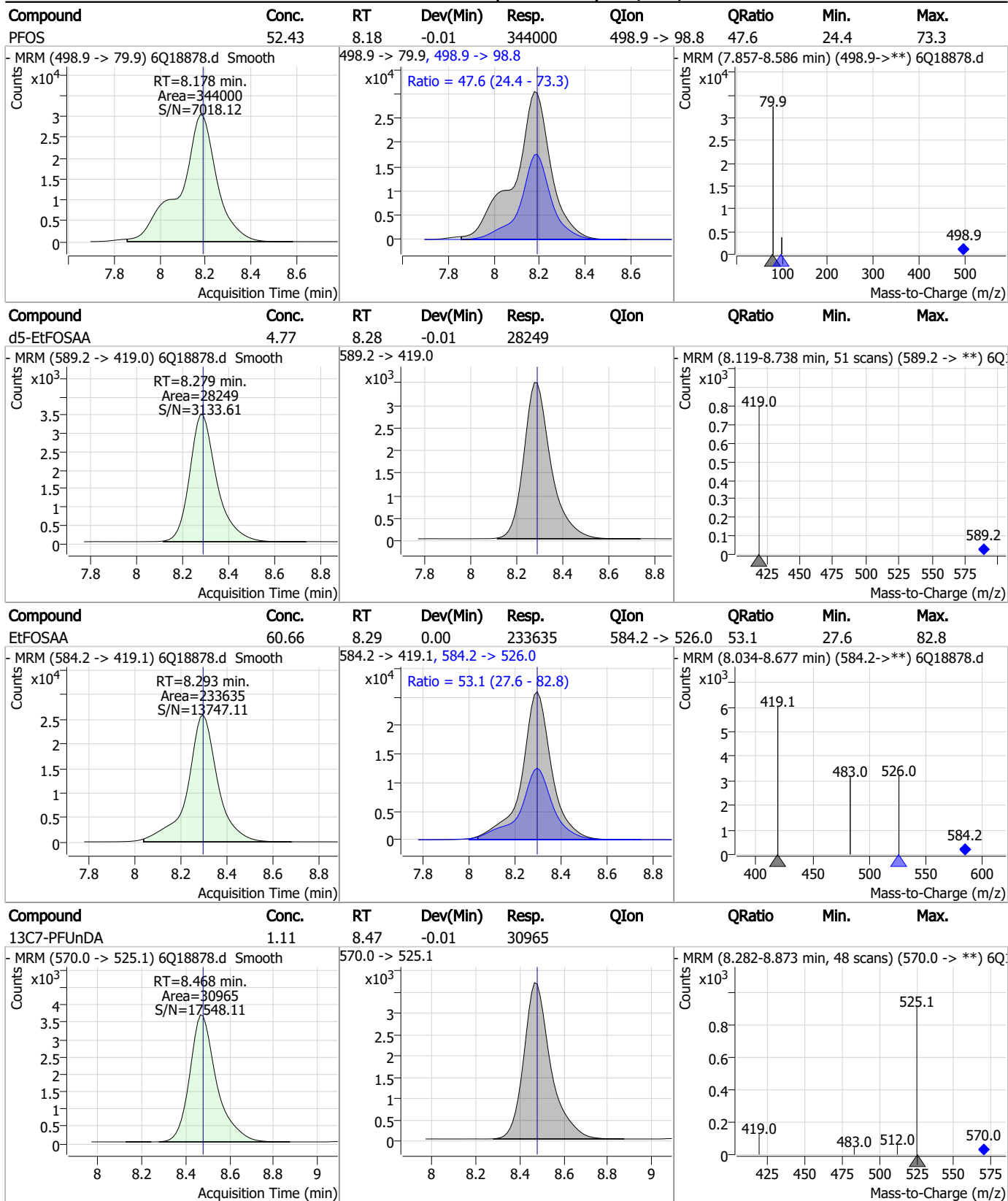
Perfluorinated Compounds by LC/MS/MS



7.7.9

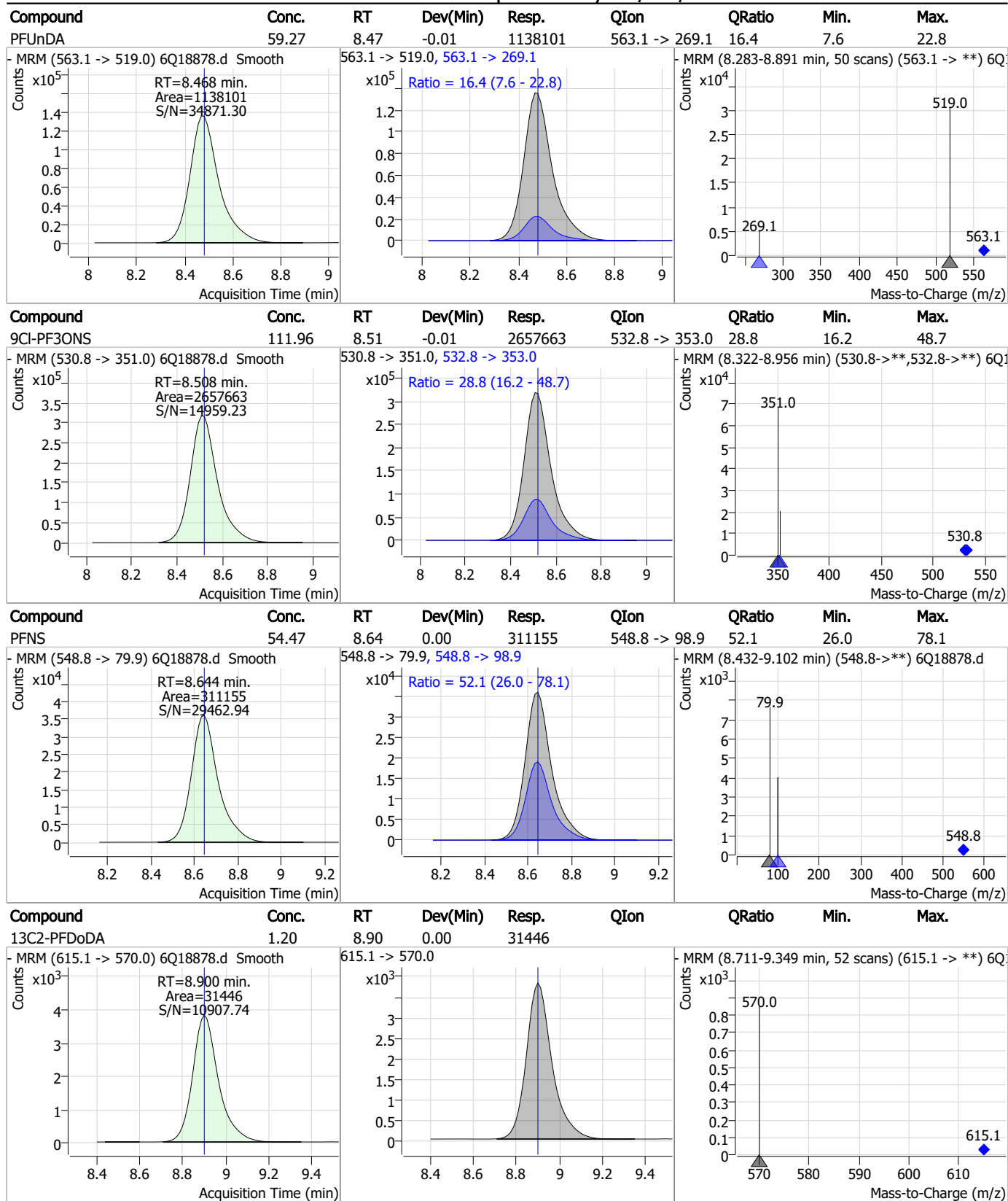
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Perfluorinated Compounds by LC/MS/MS



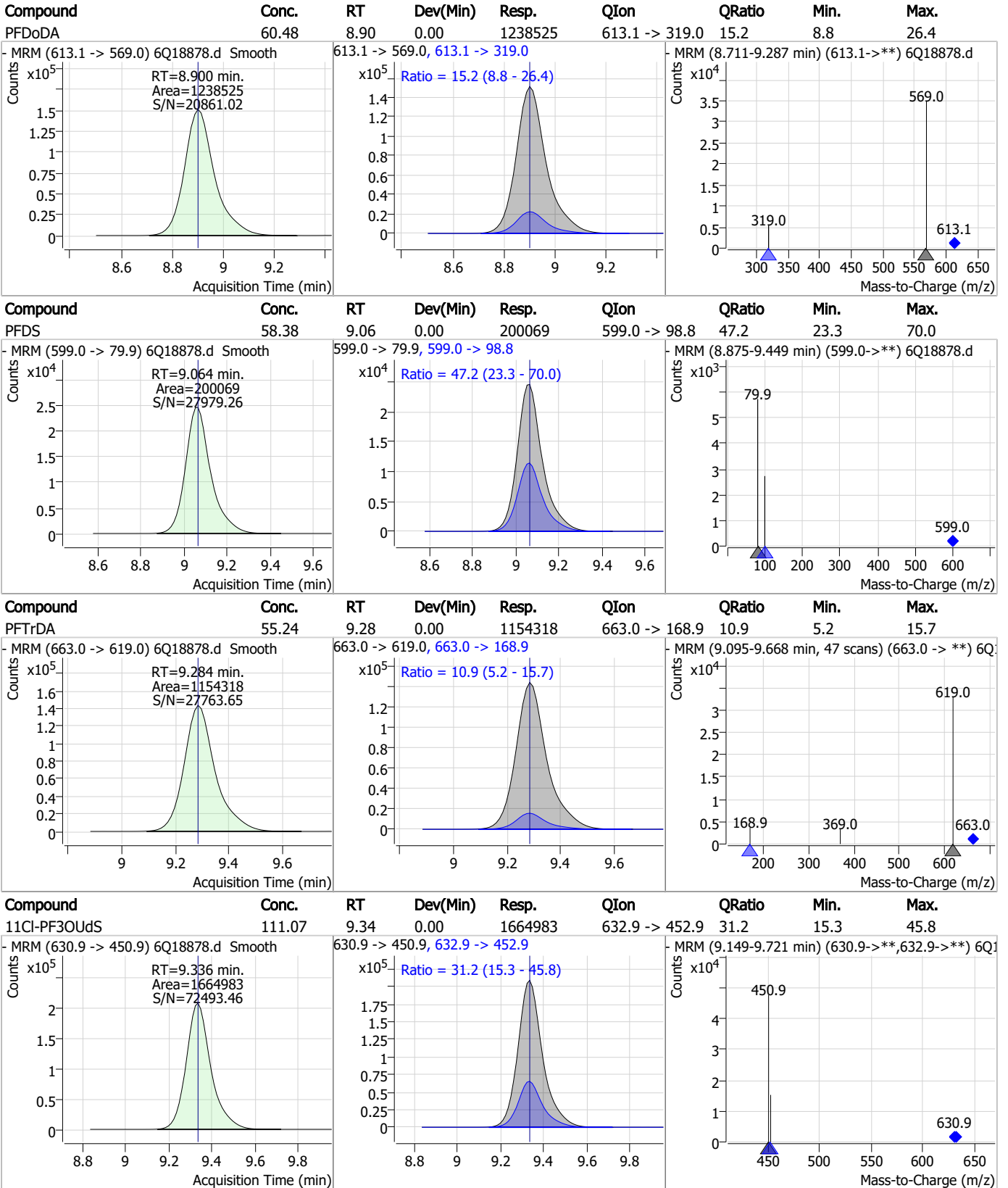
7.7.9
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

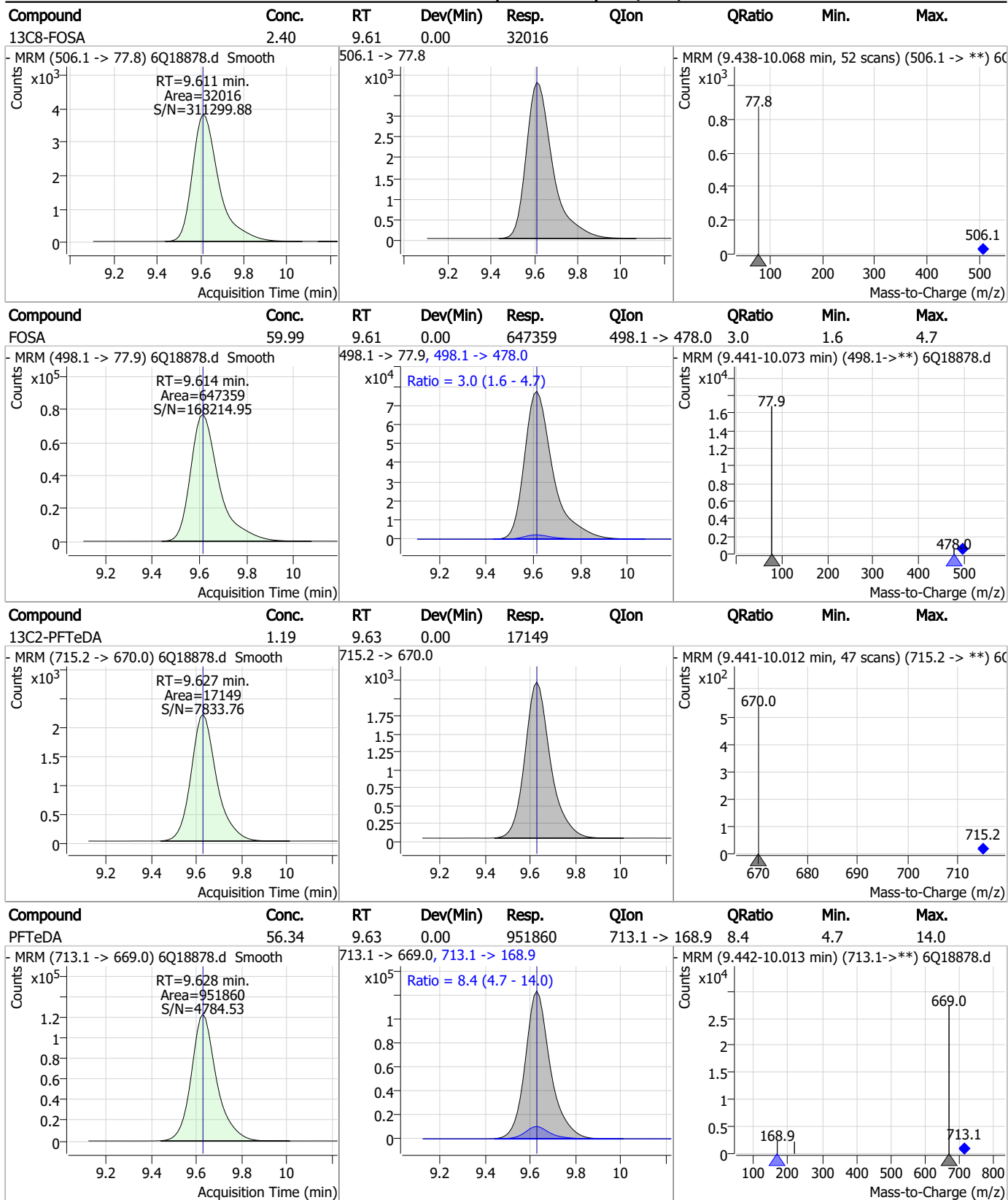


7.7.9

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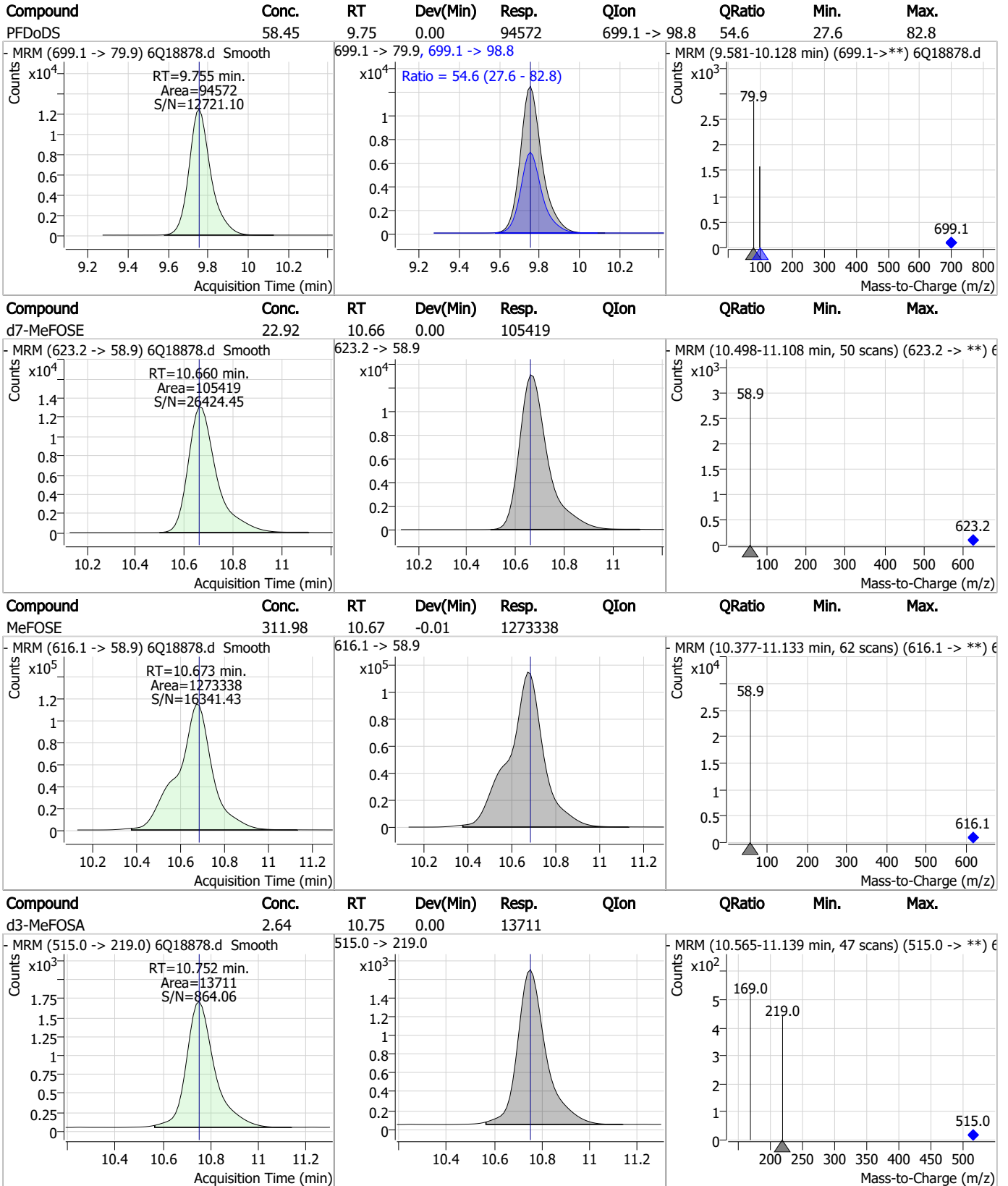


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

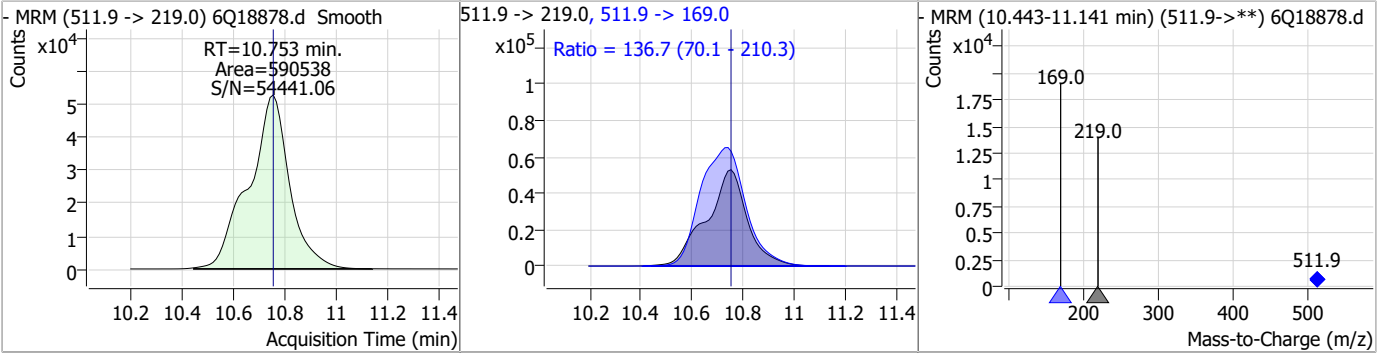


7.7.9

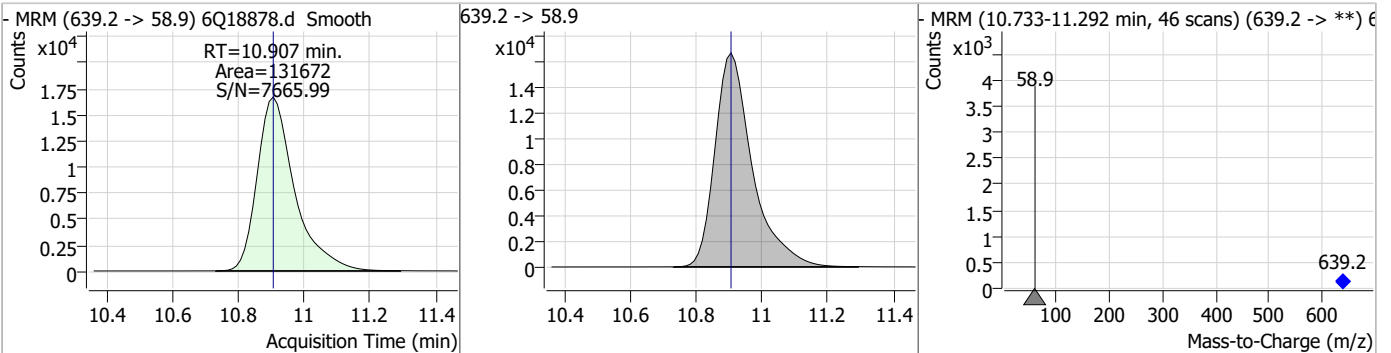
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Perfluorinated Compounds by LC/MS/MS

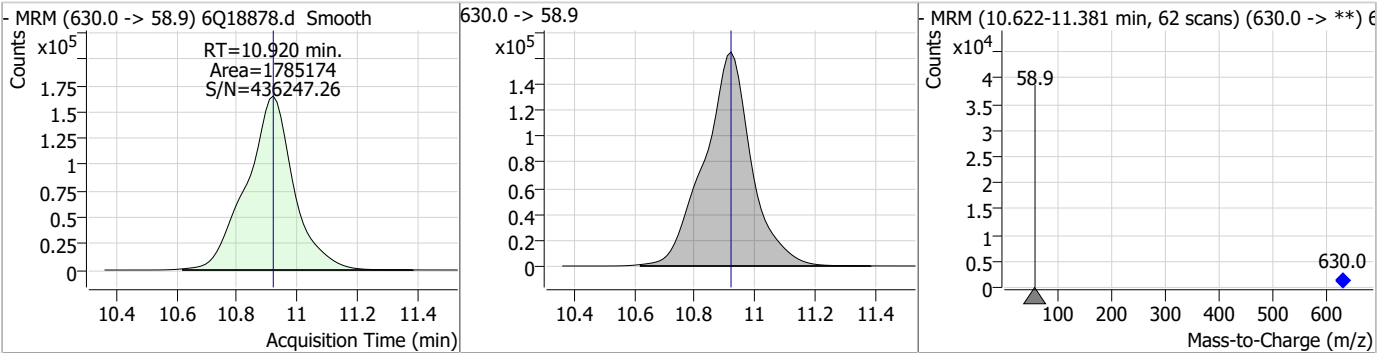
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	113.05	10.75	0.00	590538	511.9 -> 169.0	136.7	70.1	210.3



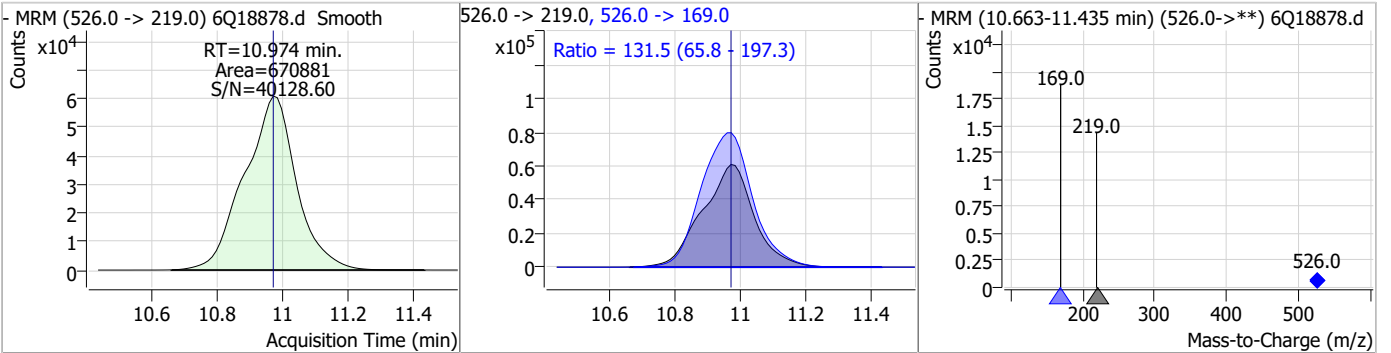
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.48	10.91	0.00	131672				



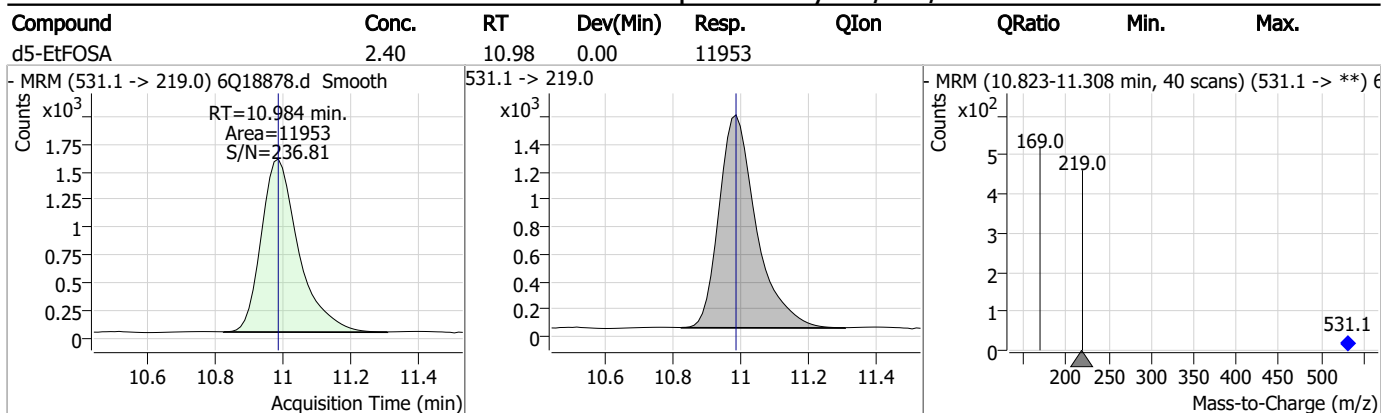
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	310.82	10.92	0.00	1785174				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	121.80	10.97	0.00	670881	526.0 -> 169.0	131.5	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q282-IC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18878.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/06/23 15:57 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18880.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 4:26:07 PM
 Sample Name : icv282-4
 Vial : P1-B1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	185058	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	62348	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	70374	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	64127	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	97030	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	45139	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	25707	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34100	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	31394	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	16910	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	35584	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	24290	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15069	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15077	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	4603	5.00 µg/L	-0.012
M2-6:2FTS	6.838	429.1 -> 80.9	6781	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7033	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	34795	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	39586	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	31498	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	121919	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	153641	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13081	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13050	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18673	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	77742	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	10766	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	102870	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	35131	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	54904	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	64083	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	4603	5.20 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.0%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6781	5.33 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.6%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7033	5.55 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.0%		
13C2-PFDoDA	8.900	615.1 -> 570.0	31394	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.8%		
13C2-PFTeDA	9.627	715.2 -> 670.0	16910	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.1%		
13C3-PFBS	5.384	302.1 -> 79.9	24290	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.7%		
13C3-PFHxS	7.155	402.1 -> 79.9	15069	2.59 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C4-PFBA	2.860	216.8 -> 171.9	185058	10.03 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C4-PFHpA	6.420	367.1 -> 322.0	64127	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C5-PFHxA	5.466	318.0 -> 273.0	70374	2.59 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C5-PFPeA	4.272	268.3 -> 223.0	62348	5.01 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C6-PFDA	8.039	519.1 -> 474.1	25707	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.7%	
13C7-PFUnDA	8.480	570.0 -> 525.1	34100	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C8-FOSA	9.611	506.1 -> 77.8	35584	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C8-PFOA	7.051	421.1 -> 376.0	97030	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.4%	
13C8-PFOS	8.189	507.1 -> 79.9	15077	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C9-PFNA	7.569	472.1 -> 427.0	45139	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	34795	5.17 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	39586	9.80 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.0%	
d3-MeFOSA	10.752	515.0 -> 219.0	13050	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%	
d5-EtFOSAA	8.292	589.2 -> 419.0	31498	5.22 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.5%	
d7-MeFOSE	10.660	623.2 -> 58.9	121919	26.01 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.0%	
d9-EtFOSE	10.907	639.2 -> 58.9	153641	25.74 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
d5-EtFOSA	10.984	531.1 -> 219.0	13081	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	60798	9.64 µg/L	99
		327.1 -> 80.9	22950		
6:2FTS	6.838	427.1 -> 407.0	63398	9.86 µg/L	98
		427.1 -> 80.9	20652		
8:2FTS	7.840	527.1 -> 507.0	31861	8.45 µg/L	95
		527.1 -> 80.8	13803		
EtFOSAA	8.293	584.2 -> 419.1	9827	2.29 µg/L	98
		584.2 -> 526.0	5294		
FOSA	9.614	498.1 -> 77.9	29041	2.42 µg/L	100
		498.1 -> 478.0	853		
MeFOSAA	8.097	570.1 -> 419.0	17941	2.58 µg/L	95
		570.1 -> 483.0	3709		
PFBA	2.856	212.8 -> 168.9	58545	9.71 µg/L	100
PFBS	5.385	298.7 -> 79.9	18553	2.20 µg/L	99
		298.7 -> 98.8	7213		
PFDA	8.040	512.9 -> 469.0	72682	2.35 µg/L	96
		512.9 -> 219.0	12384		
PFDODA	8.900	613.1 -> 569.0	51482	2.52 µg/L	94
		613.1 -> 319.0	7818		
PFDS	9.064	599.0 -> 79.9	8038	2.23 µg/L	94

7.7.10
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	4066		
PFHpA	6.420	363.1 -> 319.0	65822	2.42 µg/L	99
		363.1 -> 169.0	10951		
PFHpS	7.698	449.0 -> 79.9	15477	2.26 µg/L	99
		449.0 -> 98.9	7650		
PFHxA	5.469	313.0 -> 269.0	52593	2.28 µg/L	99
		313.0 -> 118.9	2746		
PFHxS	7.156	398.7 -> 79.9	15243	2.16 µg/L	97
		398.7 -> 98.9	7581		
PFNA	7.570	463.0 -> 419.0	73142	2.29 µg/L	100
		463.0 -> 219.0	14694		
PFNS	8.644	548.8 -> 79.9	13117	2.18 µg/L	95
		548.8 -> 98.9	7258		
PFOA	7.052	413.0 -> 369.0	102532	2.51 µg/L	99
		413.0 -> 169.0	17716		
PFOS	8.191	498.9 -> 79.9	14667	2.13 µg/L	100
		498.9 -> 98.8	7146		
PFPeA	4.274	263.0 -> 219.0	71132	4.83 µg/L	100
PFPeS	6.459	349.1 -> 79.9	15275	2.25 µg/L	98
		349.1 -> 98.9	7090		
PFTeDA	9.628	713.1 -> 669.0	40637	2.44 µg/L	99
		713.1 -> 168.9	3685		
PFTrDA	9.284	663.0 -> 619.0	53881	2.58 µg/L	99
		663.0 -> 168.9	5507		
PFUnDA	8.480	563.1 -> 519.0	51352	2.43 µg/L	97
		563.1 -> 269.1	8438		
11CI-PF3OUdS	9.336	630.9 -> 450.9	71197	4.70 µg/L	100
		632.9 -> 452.9	21749		
9CI-PF3ONS	8.520	530.8 -> 351.0	111612	4.66 µg/L	96
		532.8 -> 353.0	33903		
ADONA	6.671	376.9 -> 250.9	255429	4.70 µg/L	100
		376.9 -> 84.8	69371		
HFPO-DA	5.832	284.9 -> 168.9	17410	5.27 µg/L	96
		284.9 -> 184.9	1795		
3:3FTCA	3.709	241.0 -> 177.0	12359	11.85 µg/L	99
		241.0 -> 117.0	1599		
5:3FTCA	6.137	341.0 -> 237.1	259402	58.20 µg/L	99
		341.0 -> 217.0	186825		
7:3FTCA	7.535	441.0 -> 316.9	178785	58.31 µg/L	96
		441.0 -> 336.9	392725		
EtFOSA	10.974	526.0 -> 219.0	28241	4.68 µg/L	97
		526.0 -> 169.0	38067		
EtFOSE	10.920	630.0 -> 58.9	80573	12.02 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	24447	4.92 µg/L	98
		511.9 -> 169.0	34885		
MeFOSE	10.673	616.1 -> 58.9	56955	12.07 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	3801	2.23 µg/L	96
		699.1 -> 98.8	1999		
NFDHA	5.348	295.0 -> 201.0	13047	4.70 µg/L	95
		295.0 -> 84.9	3585		
PFMBA	4.688	279.0 -> 85.1	50354	4.95 µg/L	100
PFMPA	3.401	229.0 -> 84.9	37656	4.85 µg/L	100
PFEESA	5.926	314.8 -> 134.9	121754	4.15 µg/L	100
		314.8 -> 82.9	4318		

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



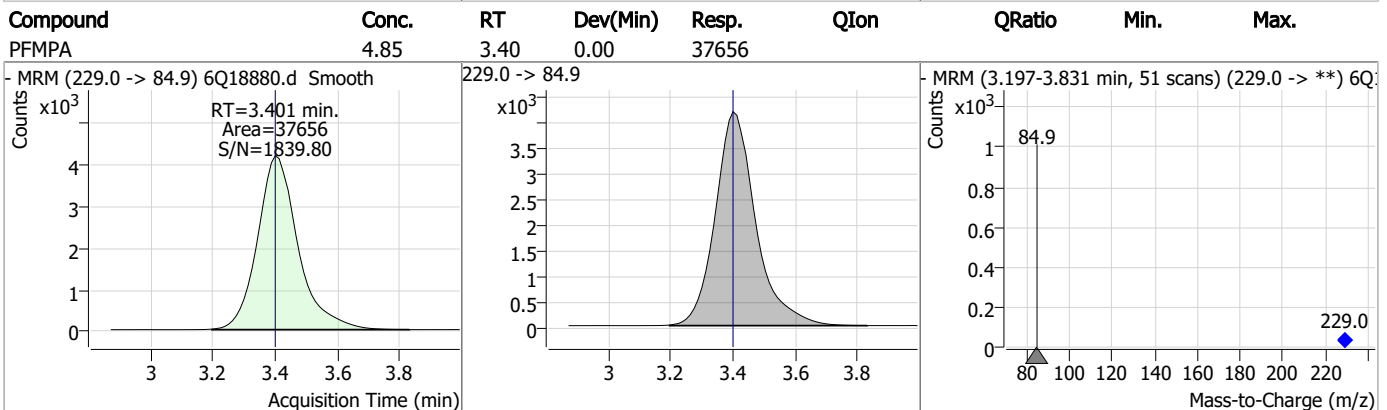
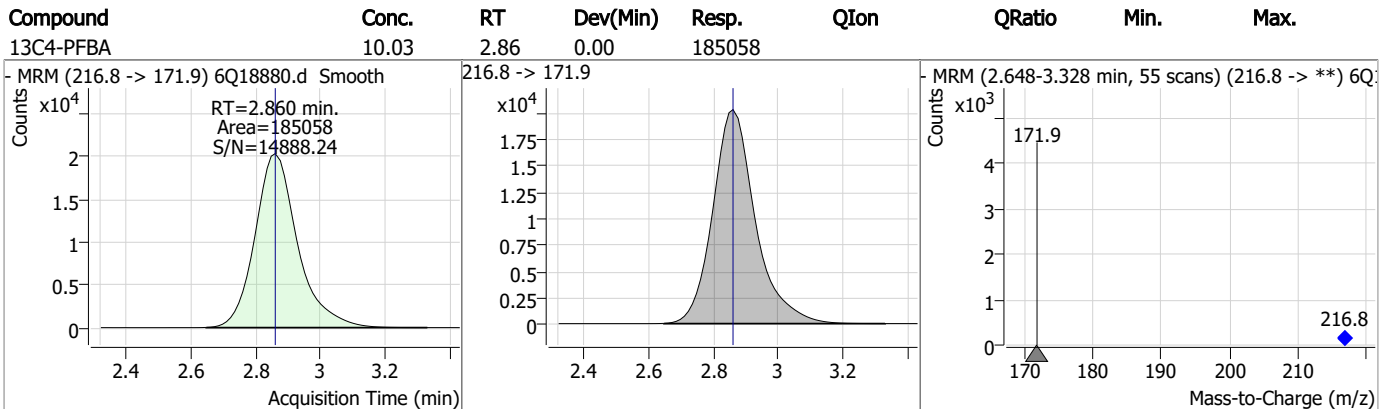
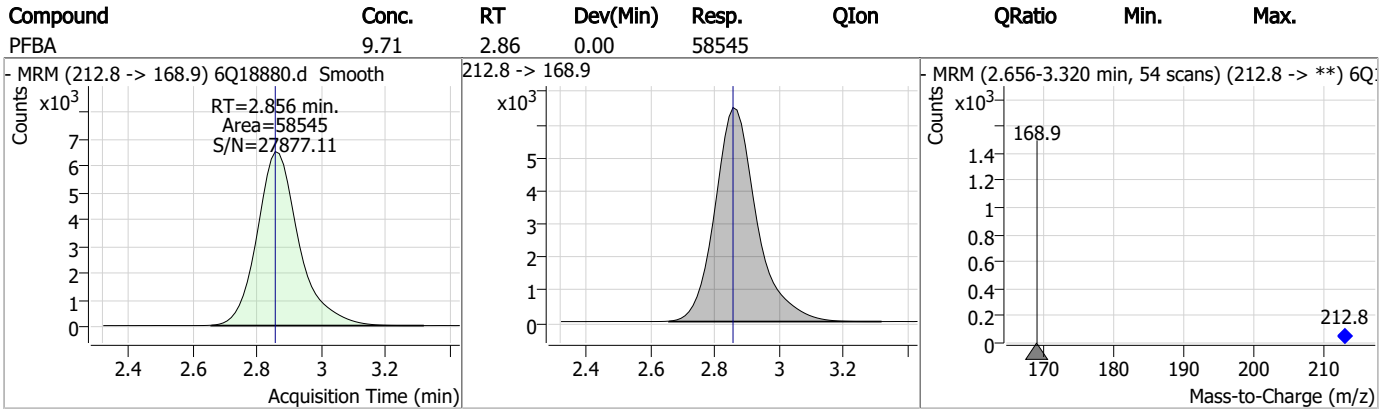
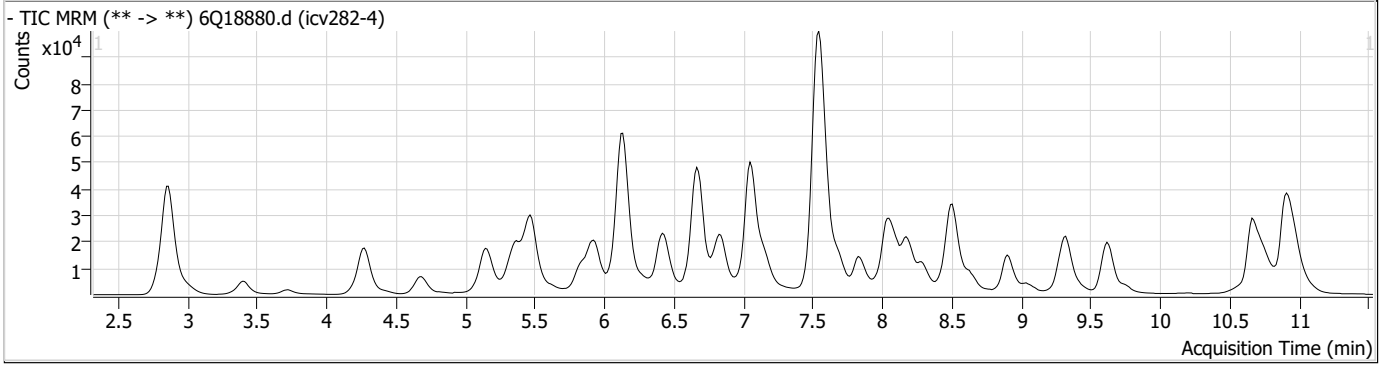
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.10

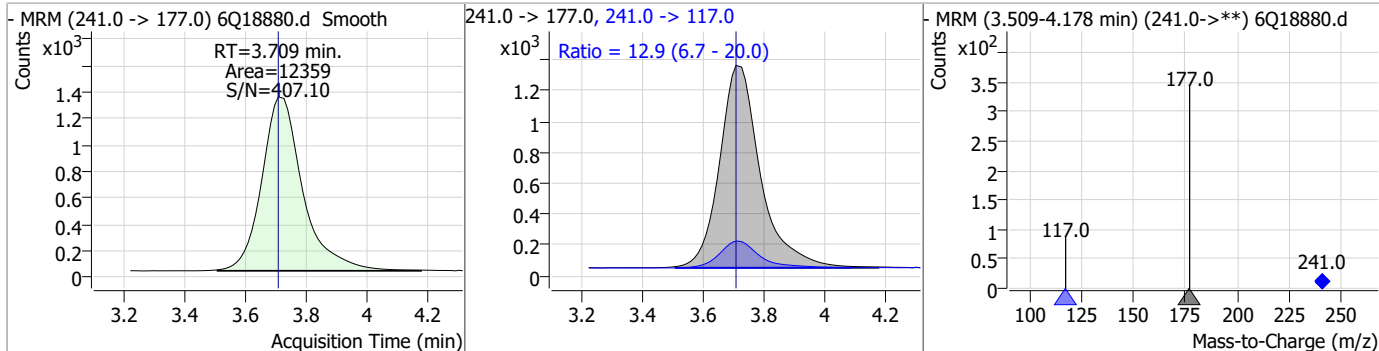
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Perfluorinated Compounds by LC/MS/MS

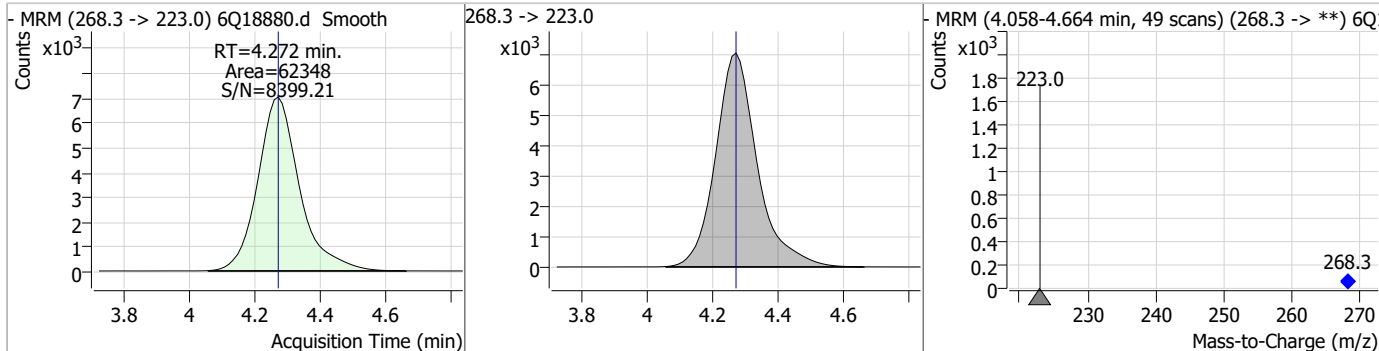


Perfluorinated Compounds by LC/MS/MS

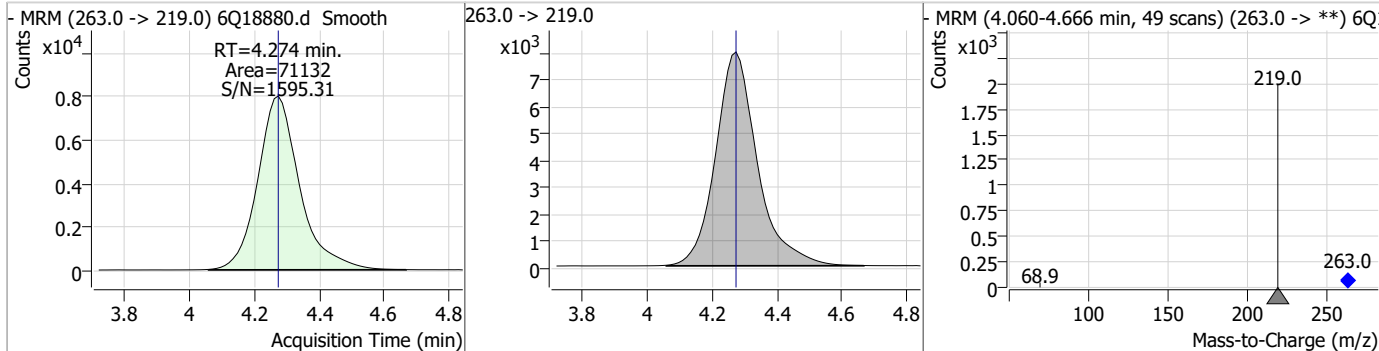
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.85	3.71	0.00	12359	241.0 -> 117.0	12.9	6.7	20.0



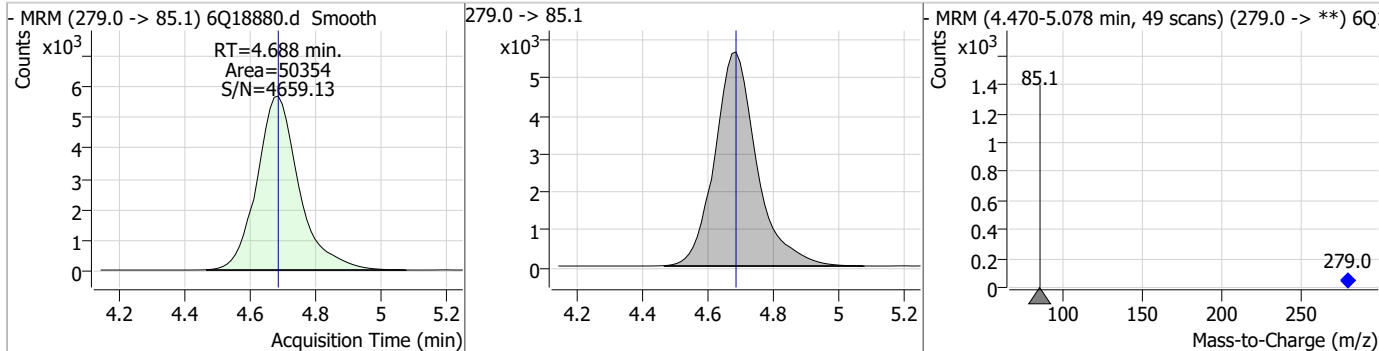
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.01	4.27	0.00	62348				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.83	4.27	0.00	71132				

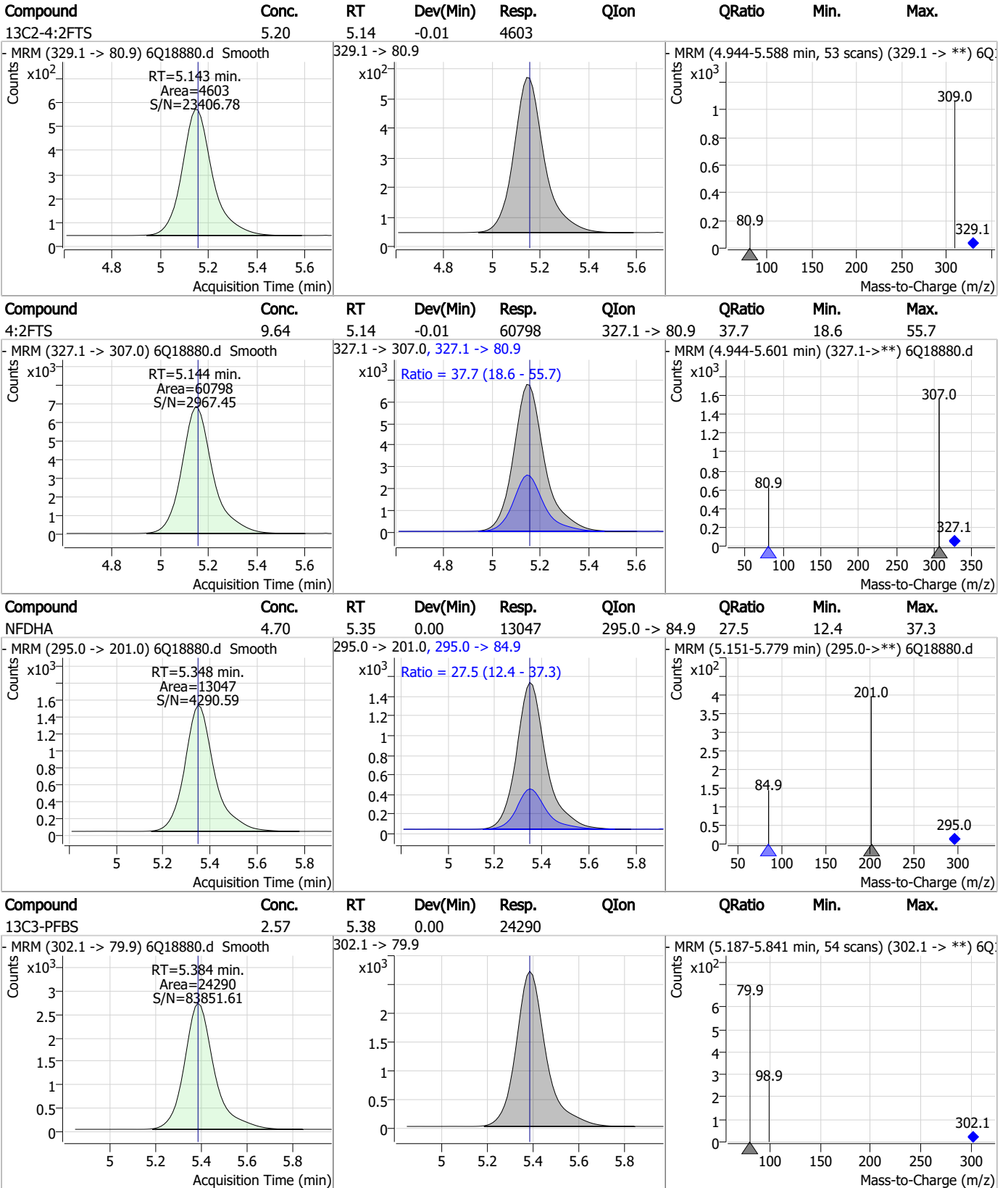


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.95	4.69	0.00	50354				



7.7.10 7

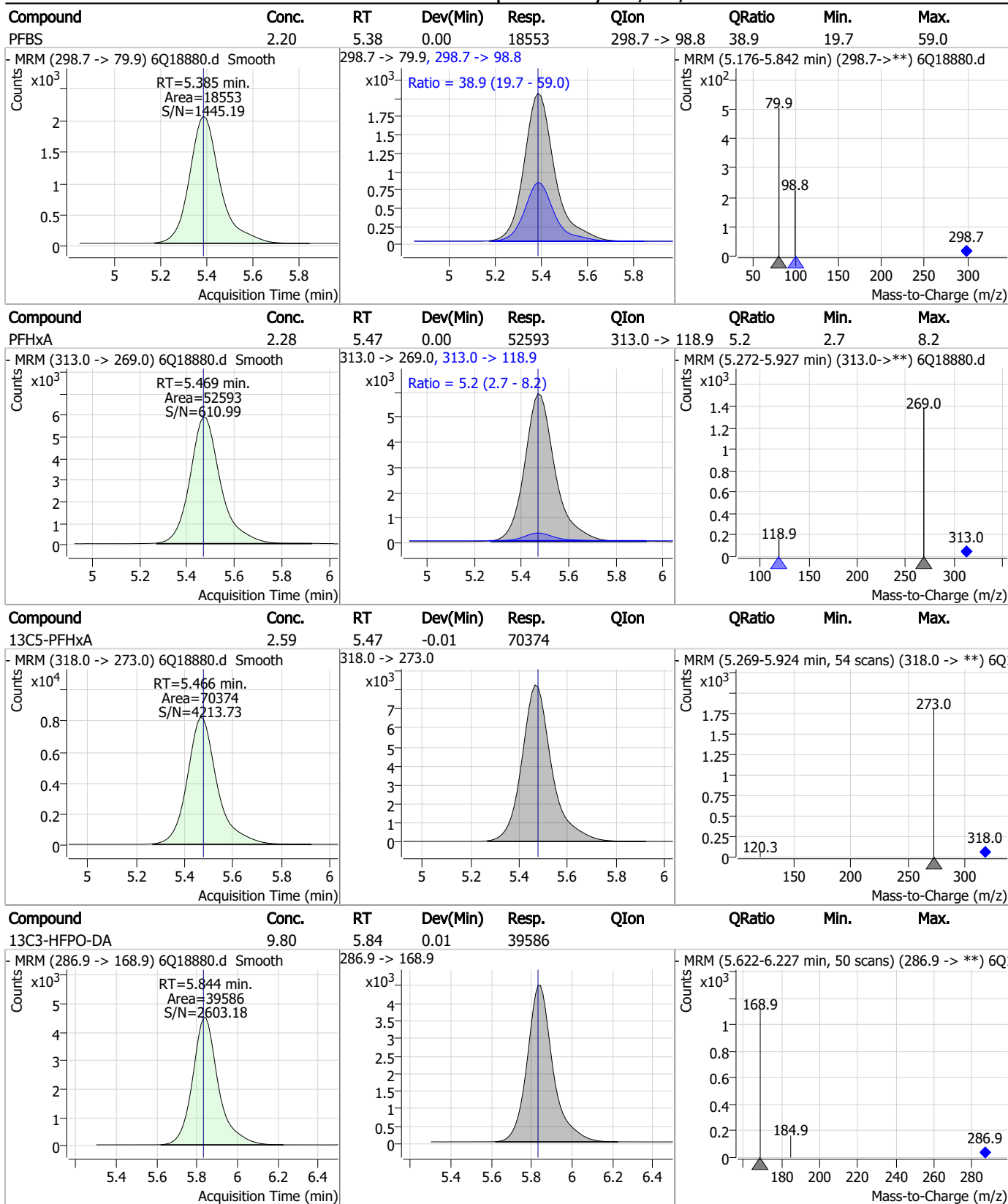
Perfluorinated Compounds by LC/MS/MS



7.7.10 7



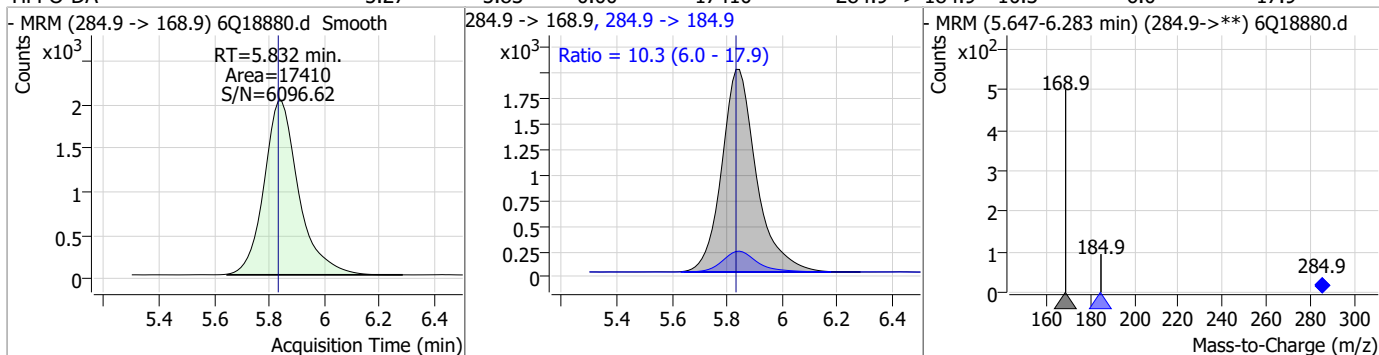
Perfluorinated Compounds by LC/MS/MS



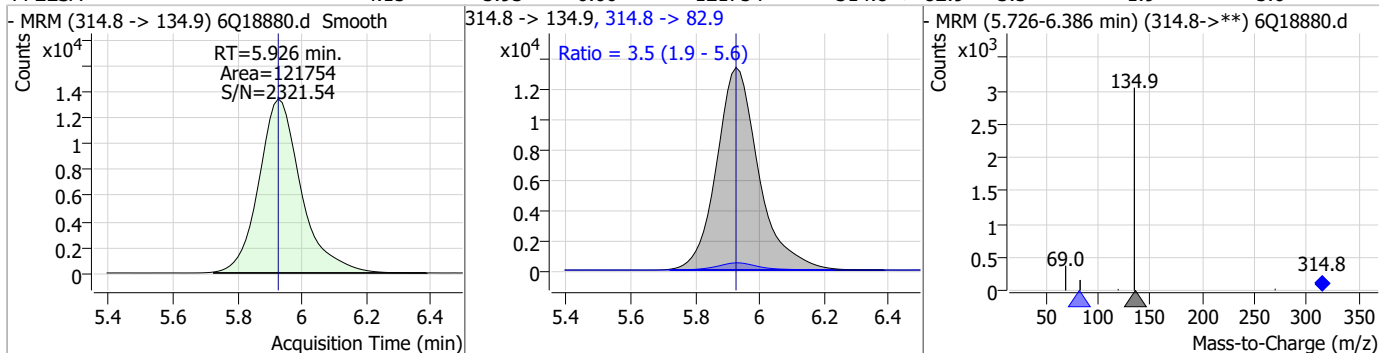
7.7.10 7

Perfluorinated Compounds by LC/MS/MS

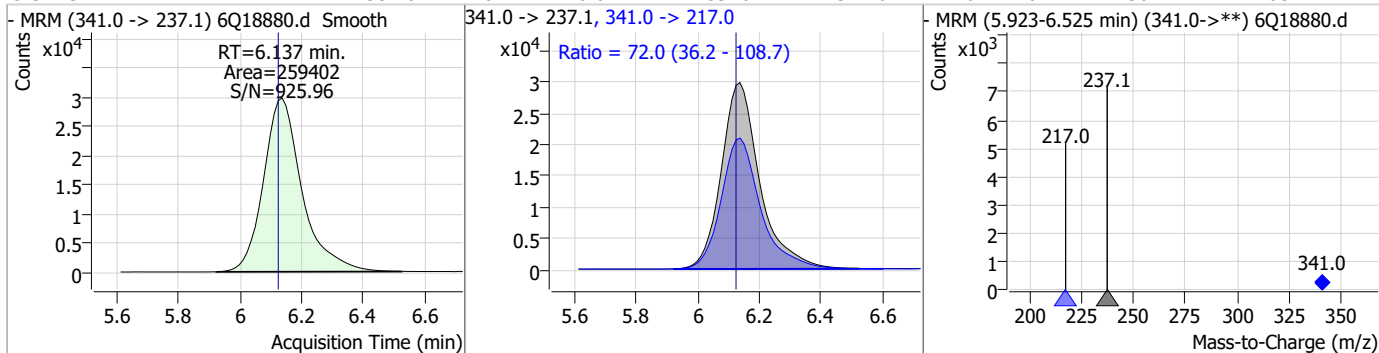
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.27	5.83	0.00	17410	284.9 -> 184.9	10.3	6.0	17.9



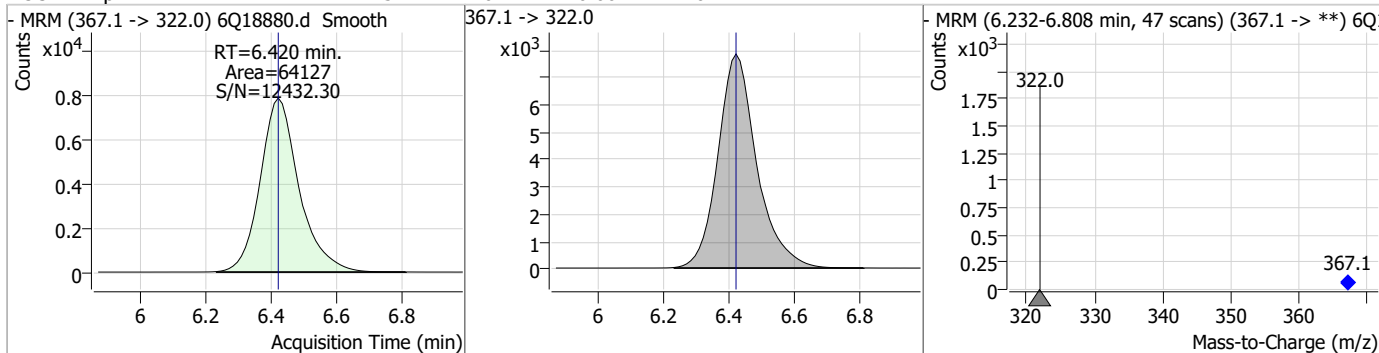
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.15	5.93	0.00	121754	314.8 -> 82.9	3.5	1.9	5.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	58.20	6.14	0.01	259402	341.0 -> 217.0	72.0	36.2	108.7

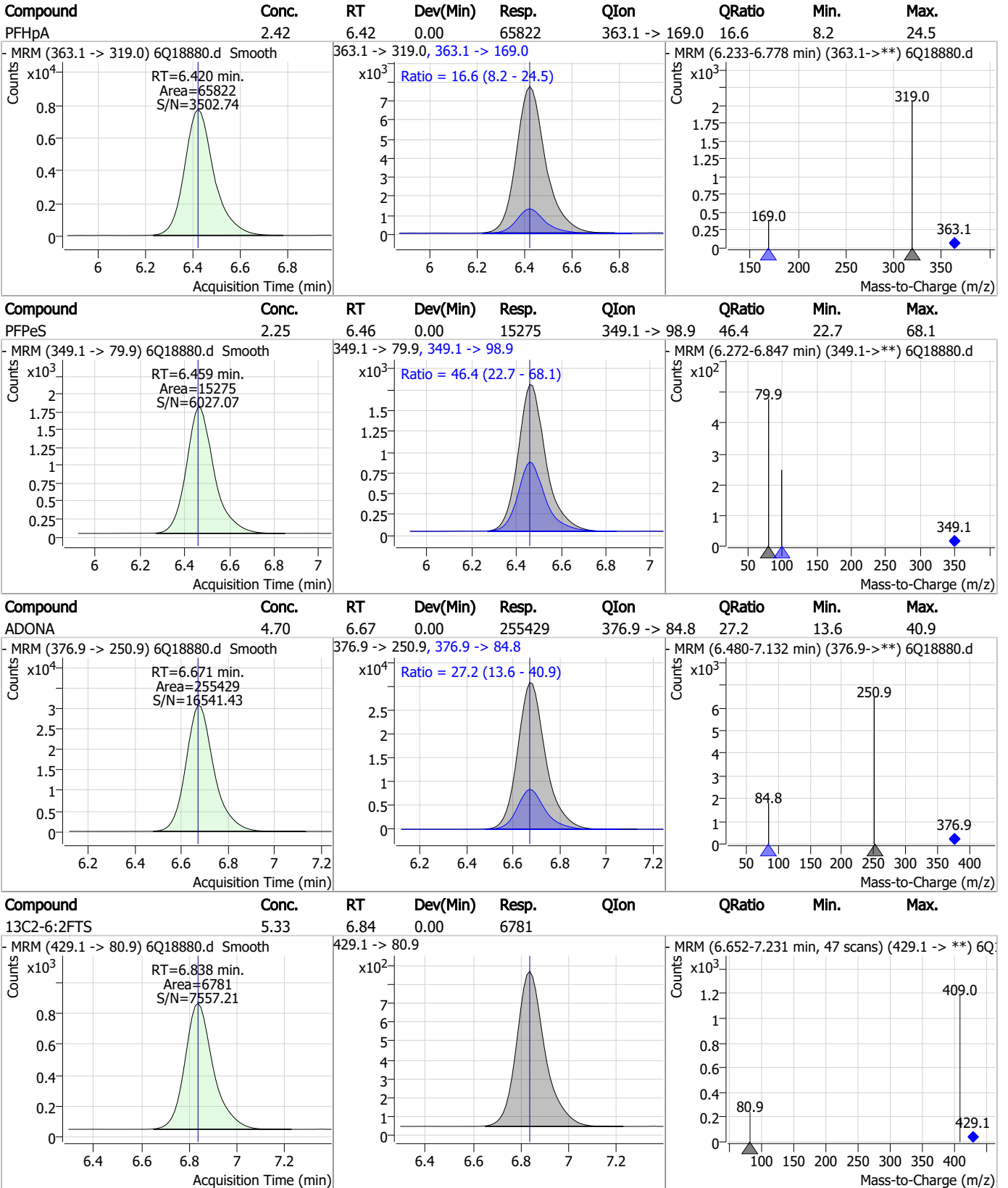


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.51	6.42	0.00	64127	367.1 -> 322.0			



7.7.10 7

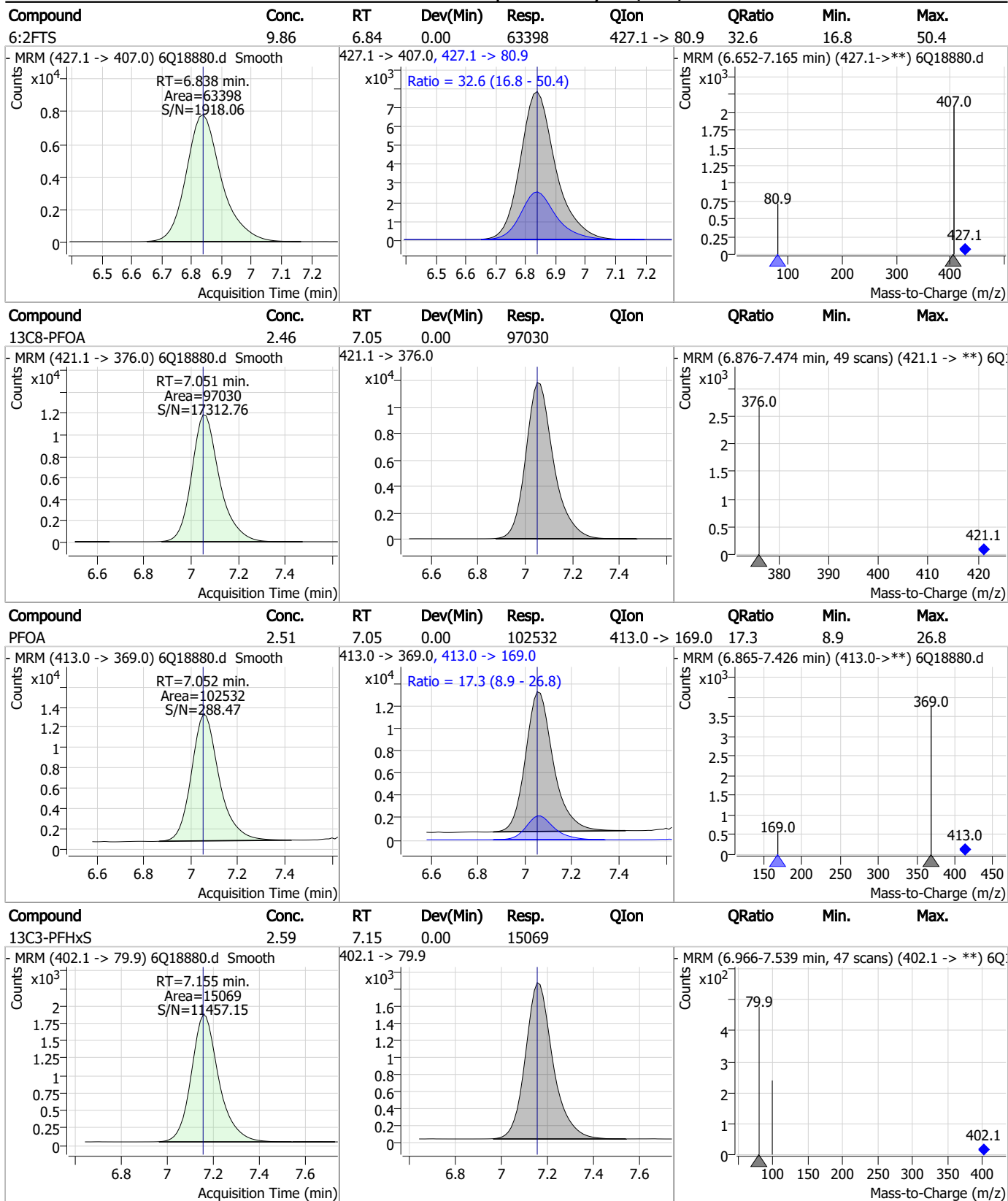
Perfluorinated Compounds by LC/MS/MS



7.7.10
7

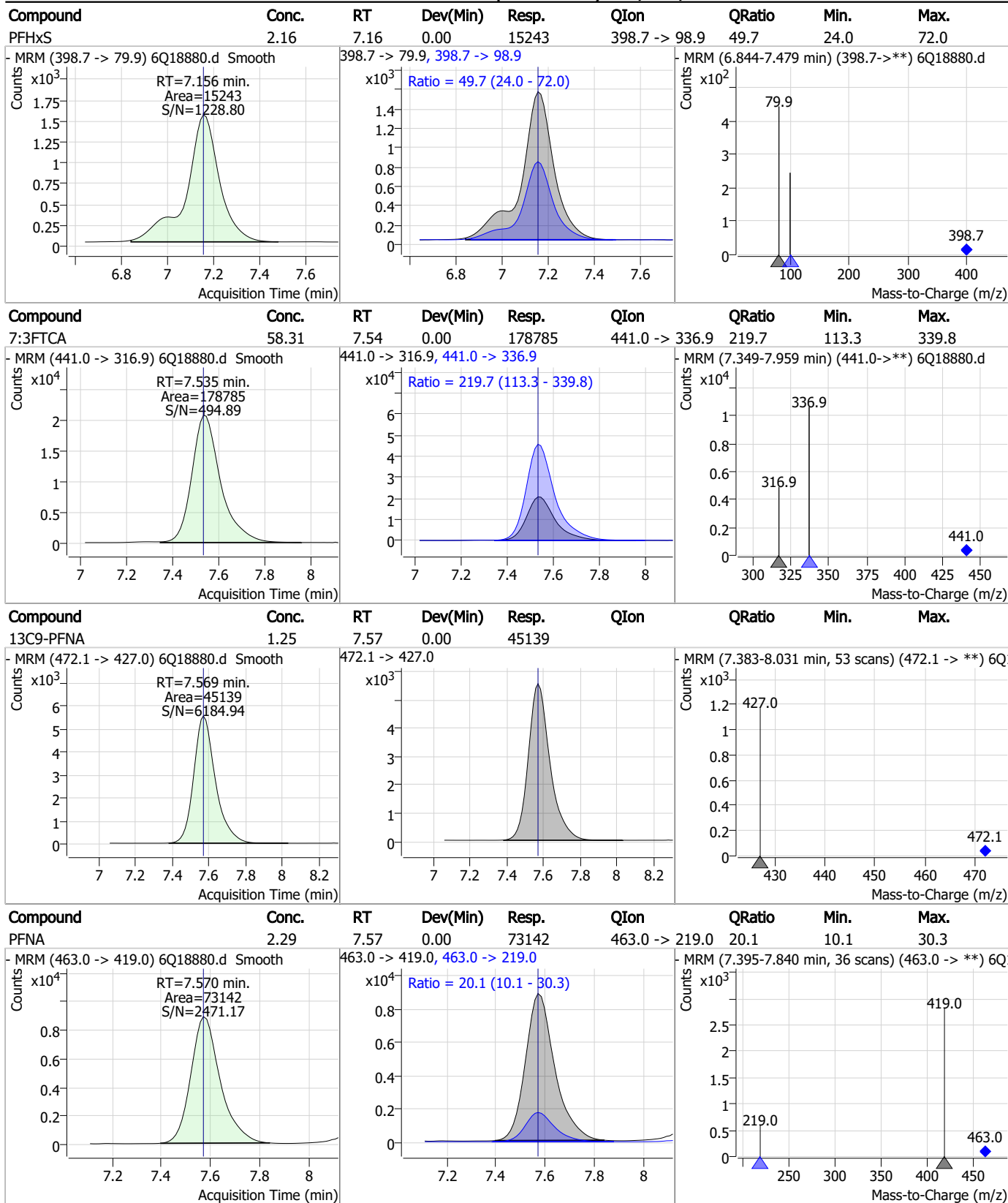


Perfluorinated Compounds by LC/MS/MS



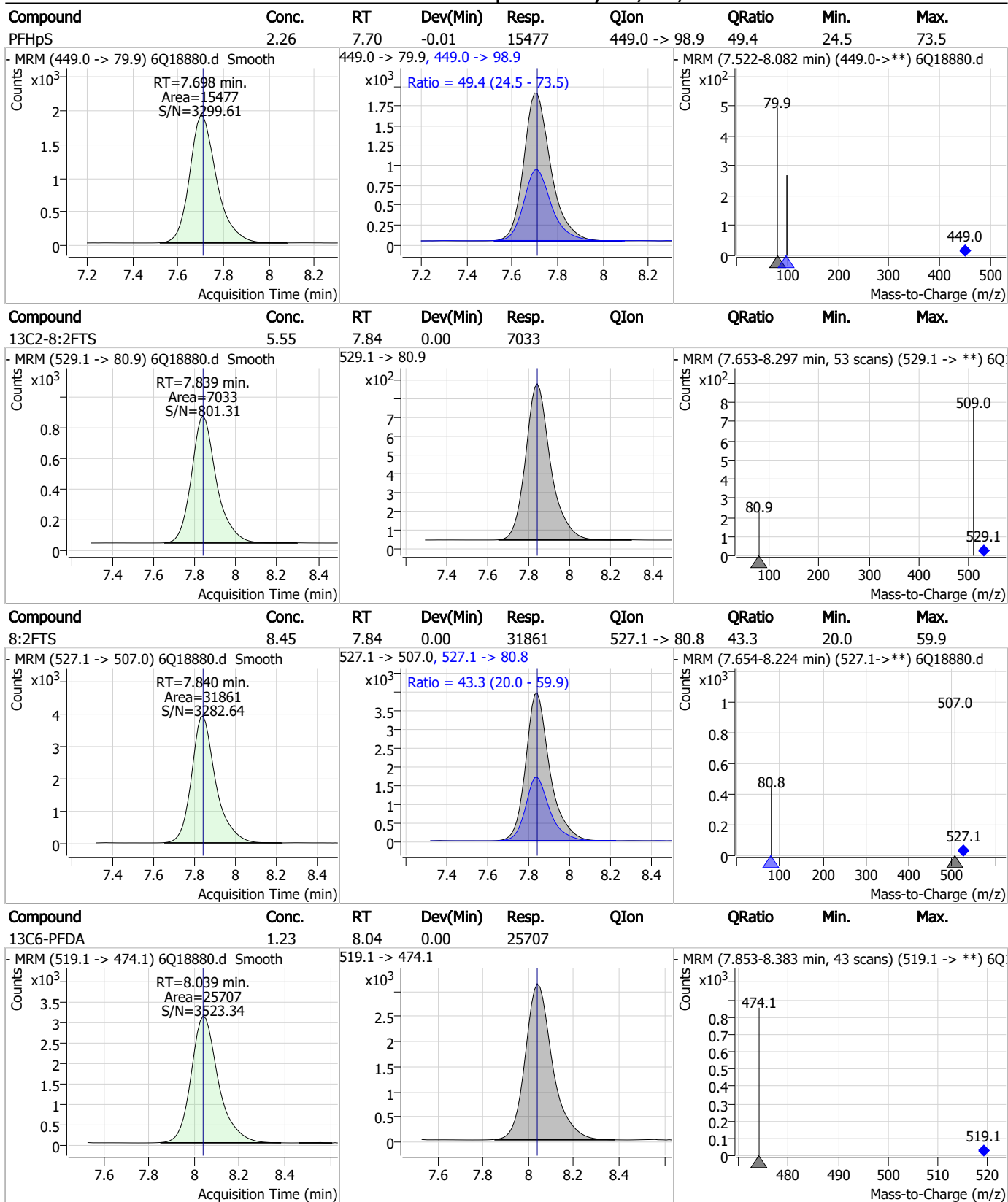
7.7.10 7

Perfluorinated Compounds by LC/MS/MS



7.7.10
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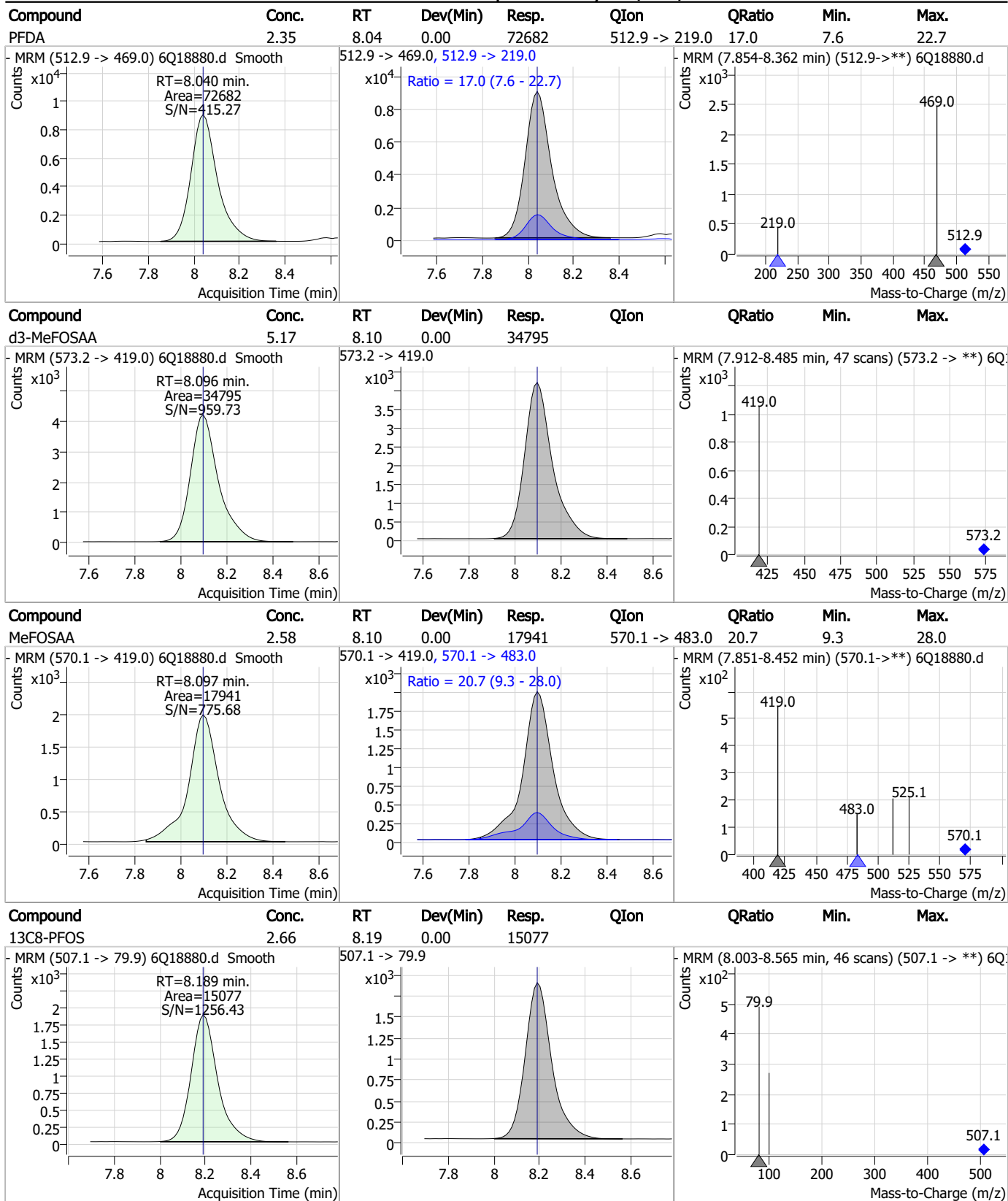
Perfluorinated Compounds by LC/MS/MS



7.7.10 7



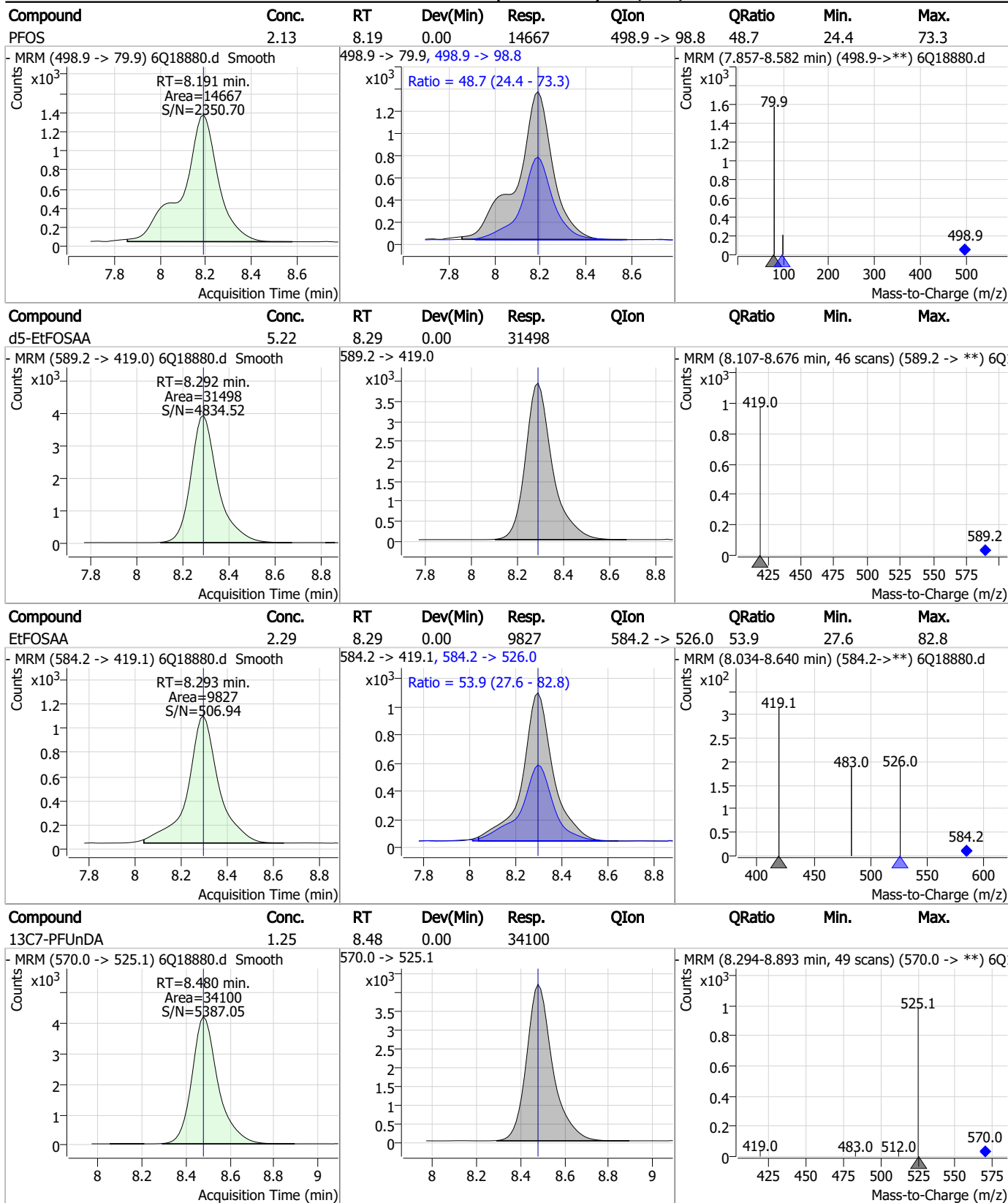
Perfluorinated Compounds by LC/MS/MS



7.7.10 7

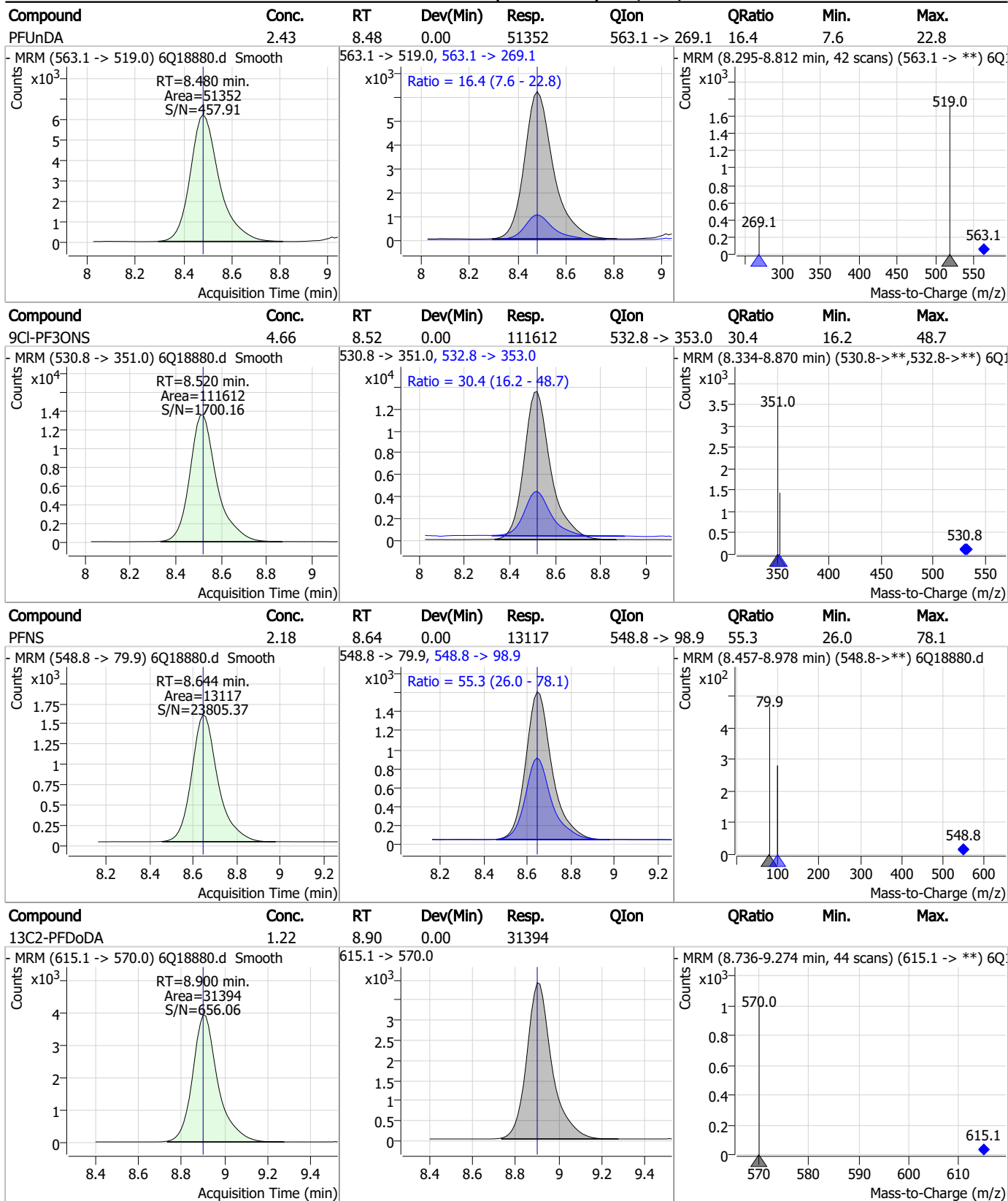


Perfluorinated Compounds by LC/MS/MS



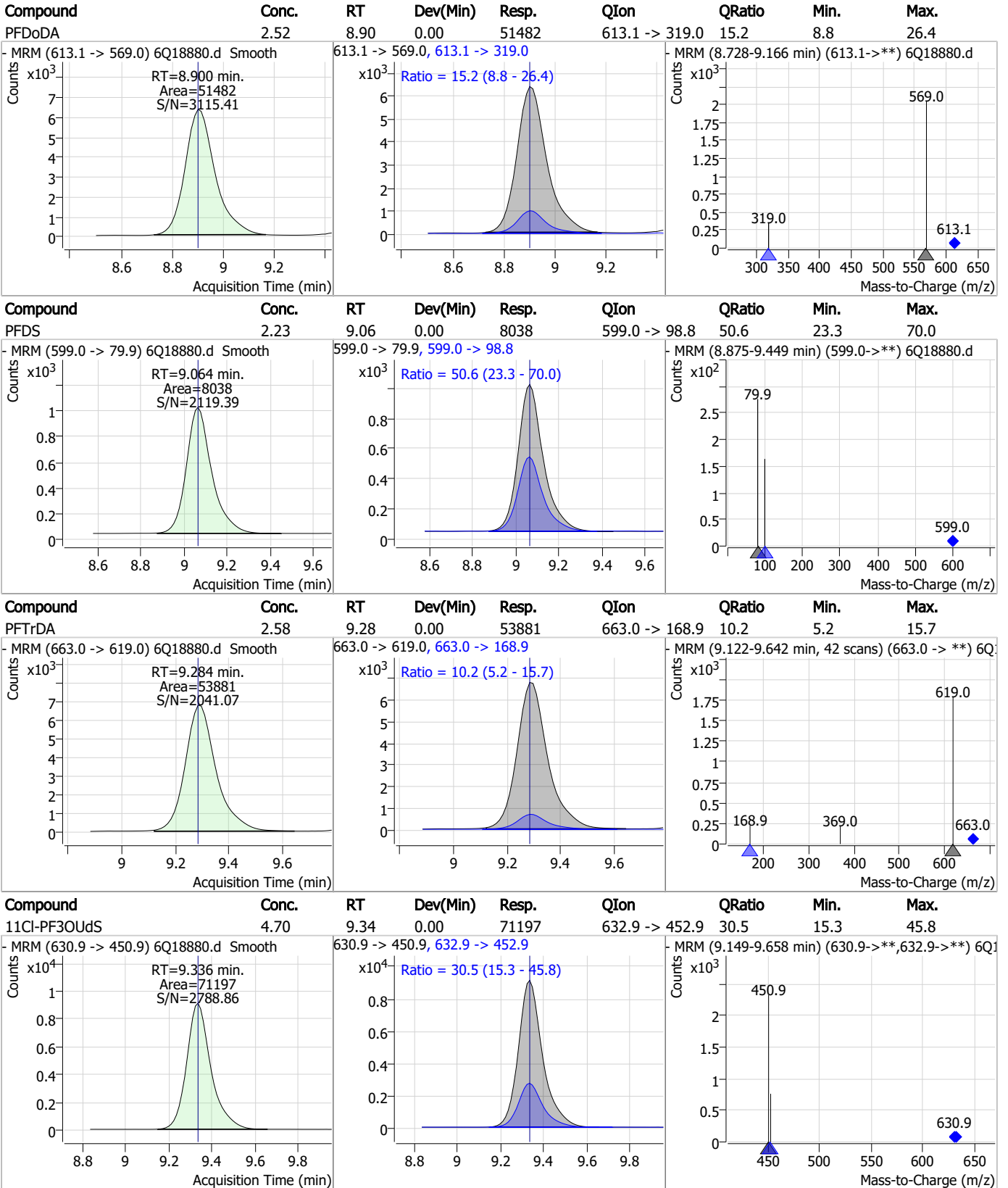
7.7.10 7

Perfluorinated Compounds by LC/MS/MS



7.7.10 7

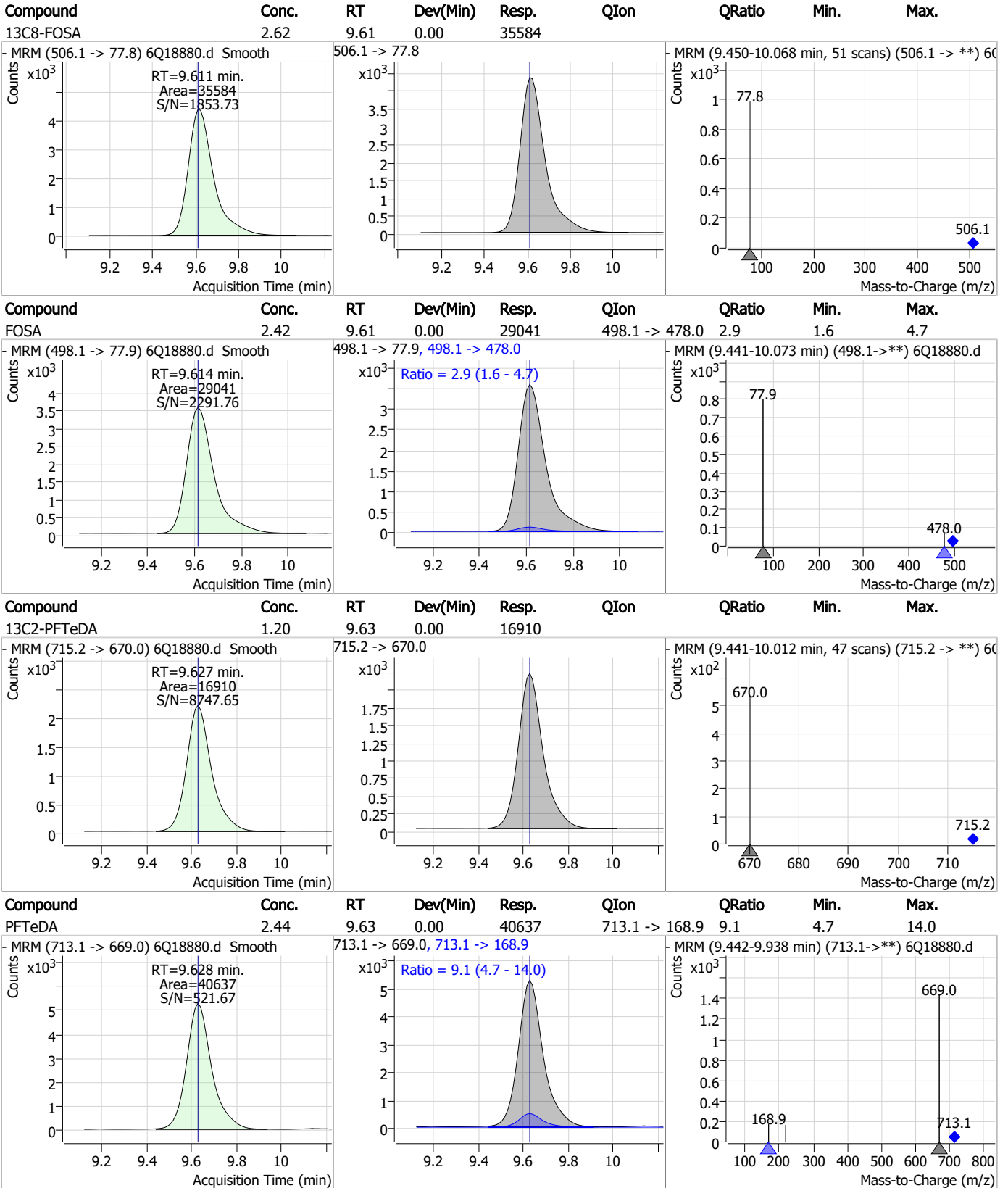
Perfluorinated Compounds by LC/MS/MS



7.7.10 7



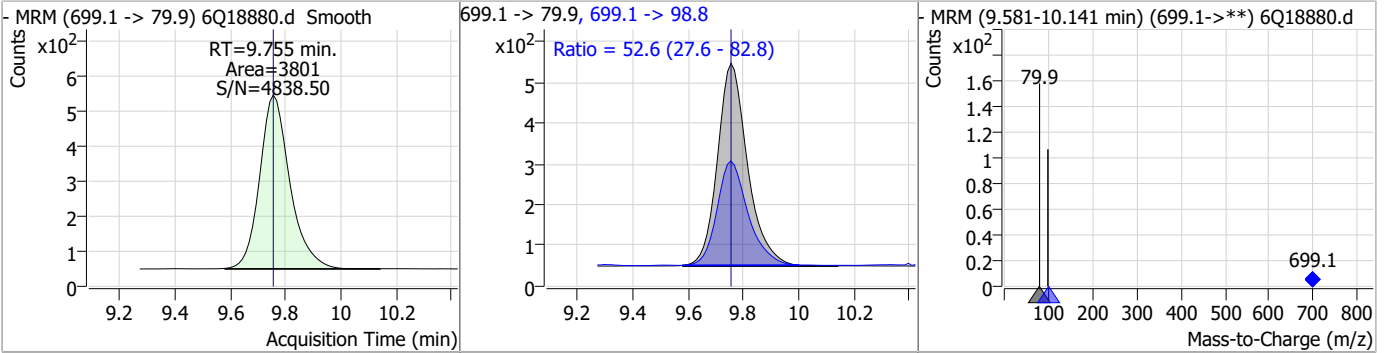
Perfluorinated Compounds by LC/MS/MS



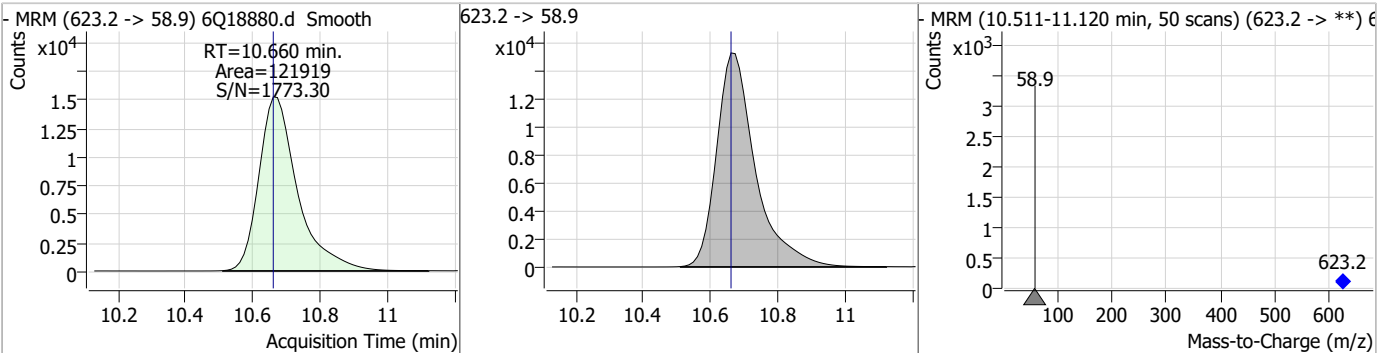
7.7.10 7

Perfluorinated Compounds by LC/MS/MS

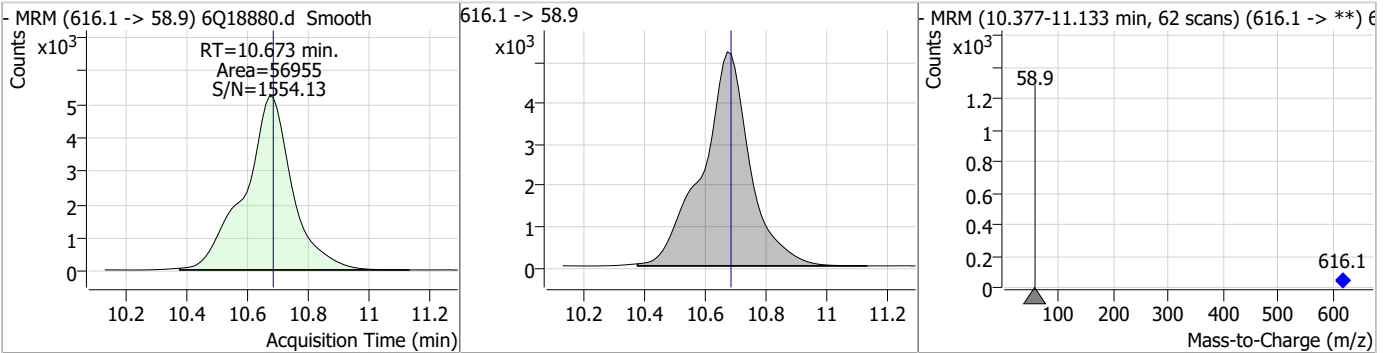
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.23	9.75	0.00	3801	699.1 -> 98.8	52.6	27.6	82.8



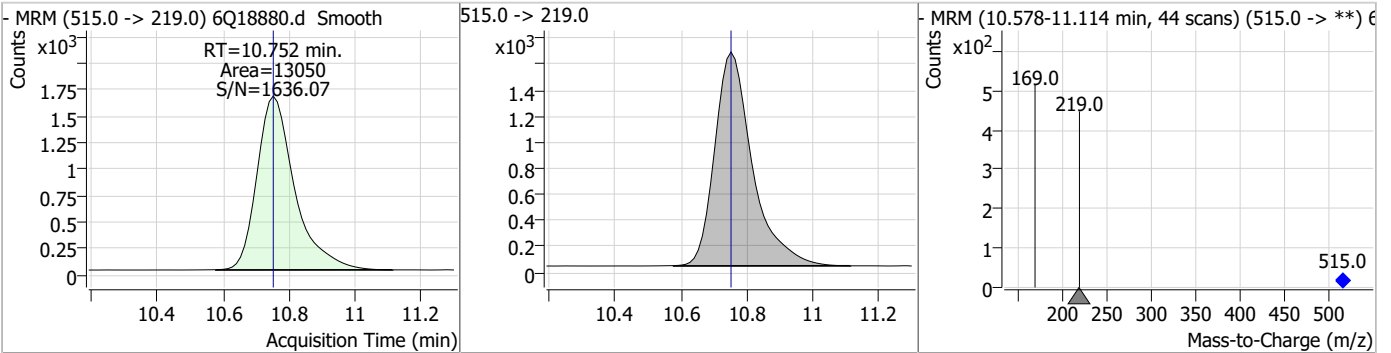
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.01	10.66	0.00	121919				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.07	10.67	-0.01	56955				

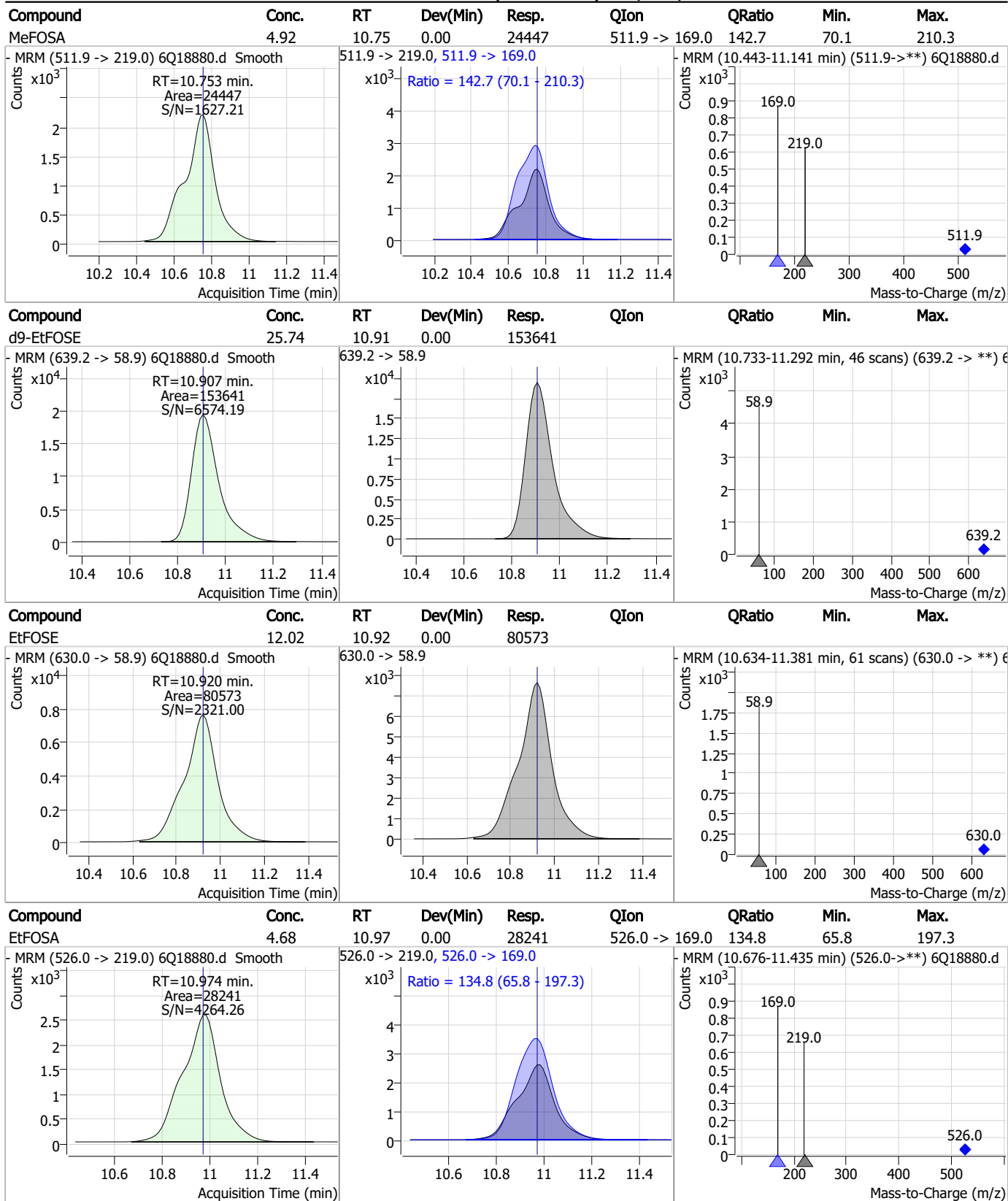


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.47	10.75	0.00	13050				



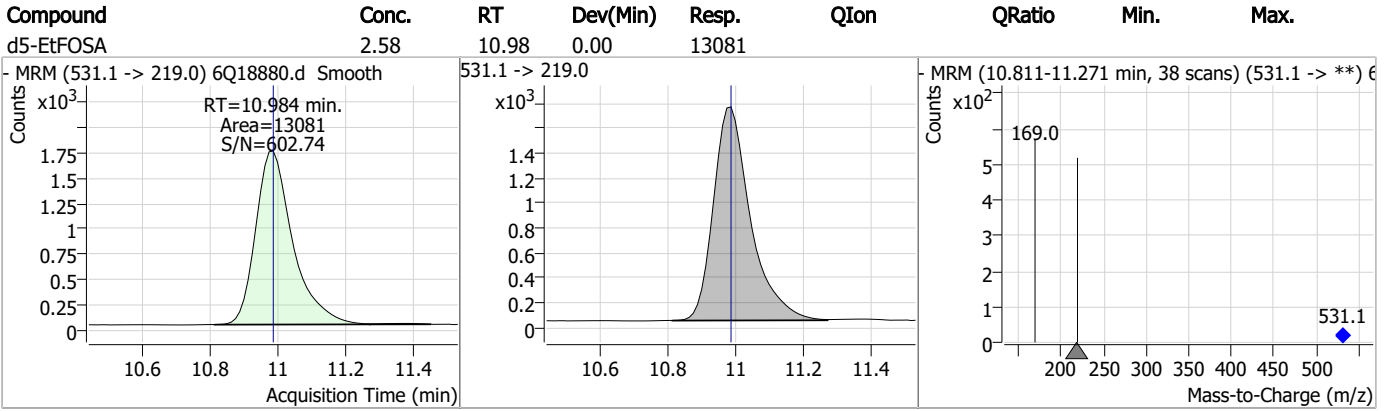
7.7.10 7

Perfluorinated Compounds by LC/MS/MS



7.7.10 7

Perfluorinated Compounds by LC/MS/MS



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7



Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18881.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 4:40:35 PM
 Sample Name : icv282-20
 Vial : P1-B2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP97178,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	184253	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	61206	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	65687	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	61216	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	91368	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	43610	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	25425	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	32829	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	32211	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	16986	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	33893	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	23913	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15058	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14116	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4788	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6580	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	6609	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	34076	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	39337	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	30359	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	115760	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	148157	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	12455	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13051	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19442	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	76541	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	10210	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	98592	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	36159	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	52337	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	62812	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4788	5.70 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 114.1%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6580	5.45 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.1%		
13C2-8:2FTS	7.827	529.1 -> 80.9	6609	5.50 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.0%		
13C2-PFDoDA	8.900	615.1 -> 570.0	32211	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.5%		
13C2-PFTeDA	9.627	715.2 -> 670.0	16986	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.8%		
13C3-PFBS	5.384	302.1 -> 79.9	23913	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 106.6%		
13C3-PFHxS	7.155	402.1 -> 79.9	15058	2.73 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.3%	
13C4-PFBA	2.860	216.8 -> 171.9	184253	10.14 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C4-PFHpA	6.420	367.1 -> 322.0	61216	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C5-PFHxA	5.466	318.0 -> 273.0	65687	2.47 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C5-PFPeA	4.272	268.3 -> 223.0	61206	5.02 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C6-PFDA	8.039	519.1 -> 474.1	25425	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	32829	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 93.6%	
13C8-FOSA	9.611	506.1 -> 77.8	33893	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.8%	
13C8-PFOA	7.051	421.1 -> 376.0	91368	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.7%	
13C8-PFOS	8.189	507.1 -> 79.9	14116	2.39 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.7%	
13C9-PFNA	7.569	472.1 -> 427.0	43610	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.4%	
d3-MeFOSAA	8.096	573.2 -> 419.0	34076	4.87 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 97.3%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	39337	9.94 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.4%	
d3-MeFOSA	10.752	515.0 -> 219.0	13051	2.37 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.8%	
d5-EtFOSAA	8.292	589.2 -> 419.0	30359	4.83 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 96.7%	
d7-MeFOSE	10.660	623.2 -> 58.9	115760	23.72 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.9%	
d9-EtFOSE	10.907	639.2 -> 58.9	148157	23.84 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 95.3%	
d5-EtFOSA	10.984	531.1 -> 219.0	12455	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.3%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	127673	19.47 µg/L	96
		327.1 -> 80.9	50468		
6:2FTS	6.838	427.1 -> 407.0	130300	20.90 µg/L	98
		427.1 -> 80.9	42268		
8:2FTS	7.828	527.1 -> 507.0	73442	20.72 µg/L	96
		527.1 -> 80.8	27349		
EtFOSAA	8.293	584.2 -> 419.1	79257	19.15 µg/L	98
		584.2 -> 526.0	42843		
FOSA	9.614	498.1 -> 77.9	217074	19.00 µg/L	100
		498.1 -> 478.0	6642		
MeFOSAA	8.097	570.1 -> 419.0	140252	20.60 µg/L	99
		570.1 -> 483.0	25724		
PFBA	2.856	212.8 -> 168.9	114882	19.14 µg/L	100
PFBS	5.385	298.7 -> 79.9	169796	20.49 µg/L	99
		298.7 -> 98.8	65406		
PFDA	8.040	512.9 -> 469.0	608274	19.87 µg/L	98
		512.9 -> 219.0	87978		
PFDoDA	8.900	613.1 -> 569.0	382571	18.24 µg/L	94
		613.1 -> 319.0	57656		
PFDS	9.064	599.0 -> 79.9	64104	19.00 µg/L	96

7.7.11
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	31663	19.85 µg/L	99
		363.1 -> 319.0	515125		
PFHpS	7.698	363.1 -> 169.0	82638	20.89 µg/L	96
		449.0 -> 79.9	133766		
PFHxA	5.469	449.0 -> 98.9	62082	20.13 µg/L	99
		313.0 -> 269.0	434039		
PFHxS	7.156	313.0 -> 118.9	21593	20.36 µg/L	96
		398.7 -> 79.9	143716		
PFNA	7.570	398.7 -> 98.9	65223	20.87 µg/L	98
		463.0 -> 419.0	645300		
PFNS	8.631	463.0 -> 219.0	125183	19.65 µg/L	98
		548.8 -> 79.9	110510		
PFOA	7.052	548.8 -> 98.9	59453	19.99 µg/L	99
		413.0 -> 369.0	769299		
PFOS	8.178	413.0 -> 169.0	133745	18.34 µg/L	96
		498.9 -> 79.9	118427		
PFPeA	4.274	498.9 -> 98.8	54539	19.93 µg/L	100
		263.0 -> 219.0	288162		
PFPeS	6.459	349.1 -> 79.9	131040	19.34 µg/L	99
		349.1 -> 98.9	60486		
PFTeDA	9.628	713.1 -> 669.0	336318	20.10 µg/L	98
		713.1 -> 168.9	29040		
PFTrDA	9.284	663.0 -> 619.0	357021	16.68 µg/L	99
		663.0 -> 168.9	39158		
PFUnDA	8.480	563.1 -> 519.0	409926	20.14 µg/L	99
		563.1 -> 269.1	64408		
11Cl-PF3OUdS	9.336	630.9 -> 450.9	299312	19.90 µg/L	99
		632.9 -> 452.9	92257		
9Cl-PF3ONS	8.508	530.8 -> 351.0	497119	20.87 µg/L	96
		532.8 -> 353.0	150010		
ADONA	6.671	376.9 -> 250.9	985568	18.24 µg/L	98
		376.9 -> 84.8	259656		
HFPO-DA	5.832	284.9 -> 168.9	62565	19.04 µg/L	99
		284.9 -> 184.9	7737		
3:3FTCA	3.709	241.0 -> 177.0	19240	18.79 µg/L	100
		241.0 -> 117.0	2556		
5:3FTCA	6.137	341.0 -> 237.1	85040	20.44 µg/L	100
		341.0 -> 217.0	61480		
7:3FTCA	7.535	441.0 -> 316.9	57326	20.03 µg/L	93
		441.0 -> 336.9	123278		
EtFOSA	10.986	526.0 -> 219.0	106642	18.58 µg/L	85
		526.0 -> 169.0	121030		
EtFOSE	10.920	630.0 -> 58.9	655035	101.36 µg/L	100
		511.9 -> 219.0	95435		
MeFOSA	10.753	511.9 -> 169.0	106218	19.19 µg/L	76
		616.1 -> 58.9	457183		
MeFOSE	10.673	699.1 -> 79.9	29537	102.01 µg/L	100
		699.1 -> 98.8	15568		
PFDoDS	9.755	295.0 -> 201.0	52596	18.54 µg/L	97
		295.0 -> 84.9	13388		
NFDHA	5.348	279.0 -> 85.1	201789	20.32 µg/L	99
		229.0 -> 84.9	152720		
PFMBA	4.688	314.8 -> 134.9	490813	20.05 µg/L	100
		314.8 -> 82.9	17058		
PFMPA	3.401			17.91 µg/L	99
PFEESA	5.926				

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



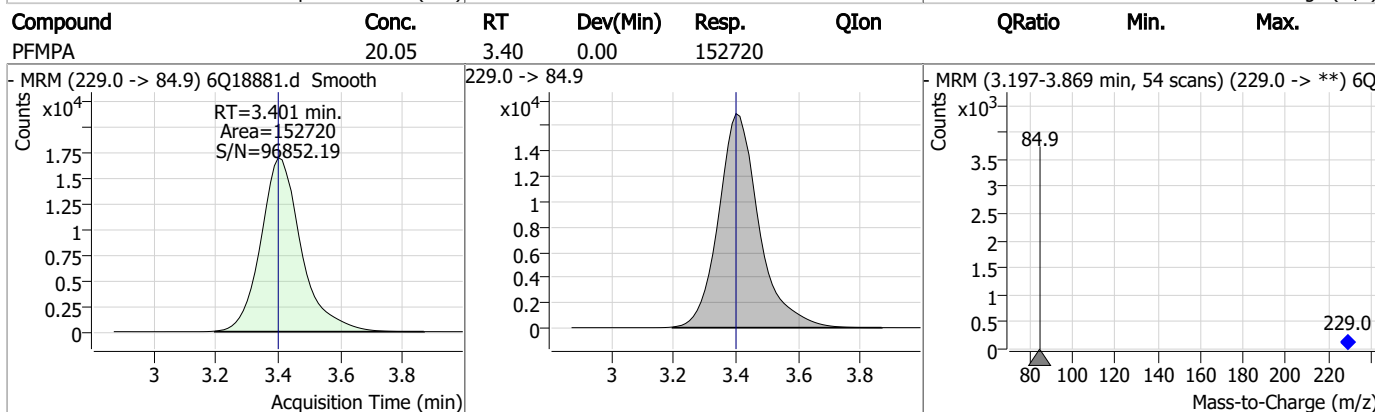
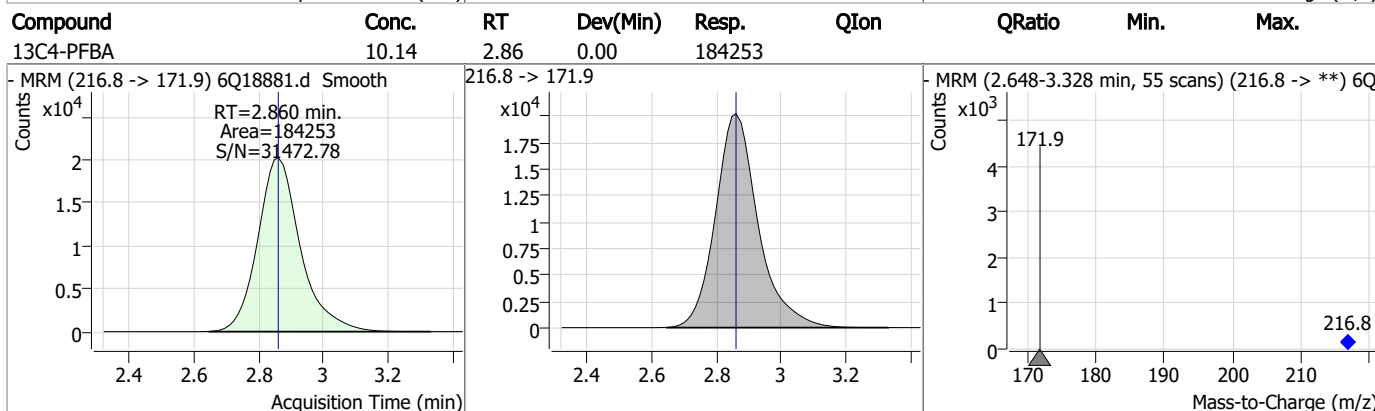
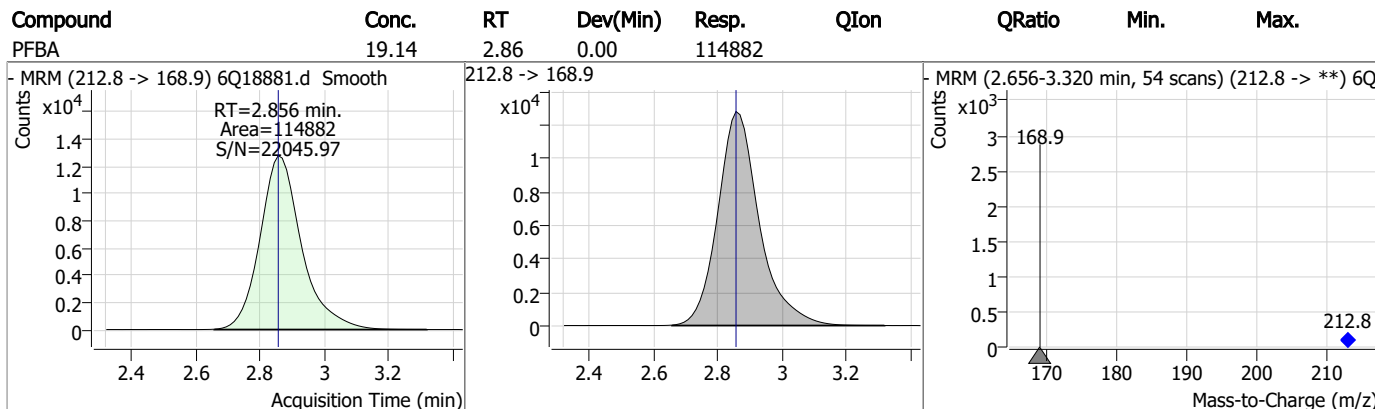
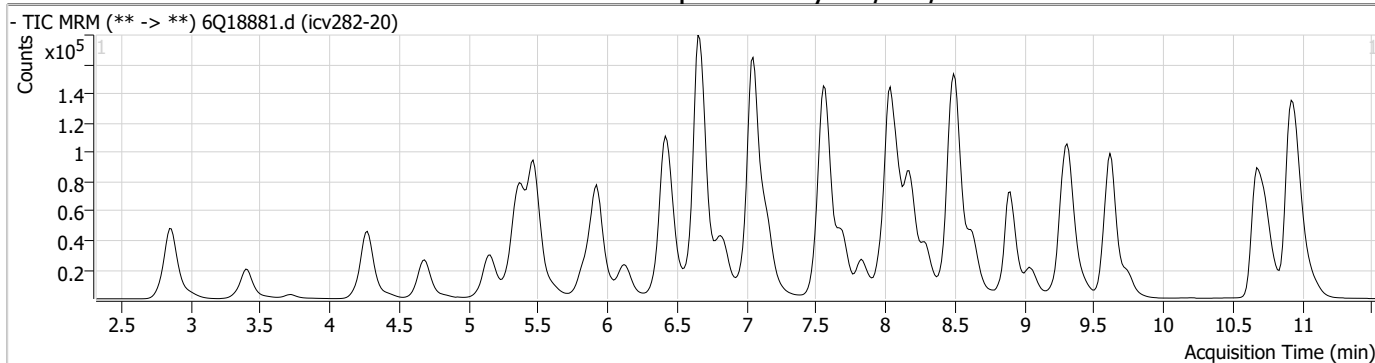
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.11

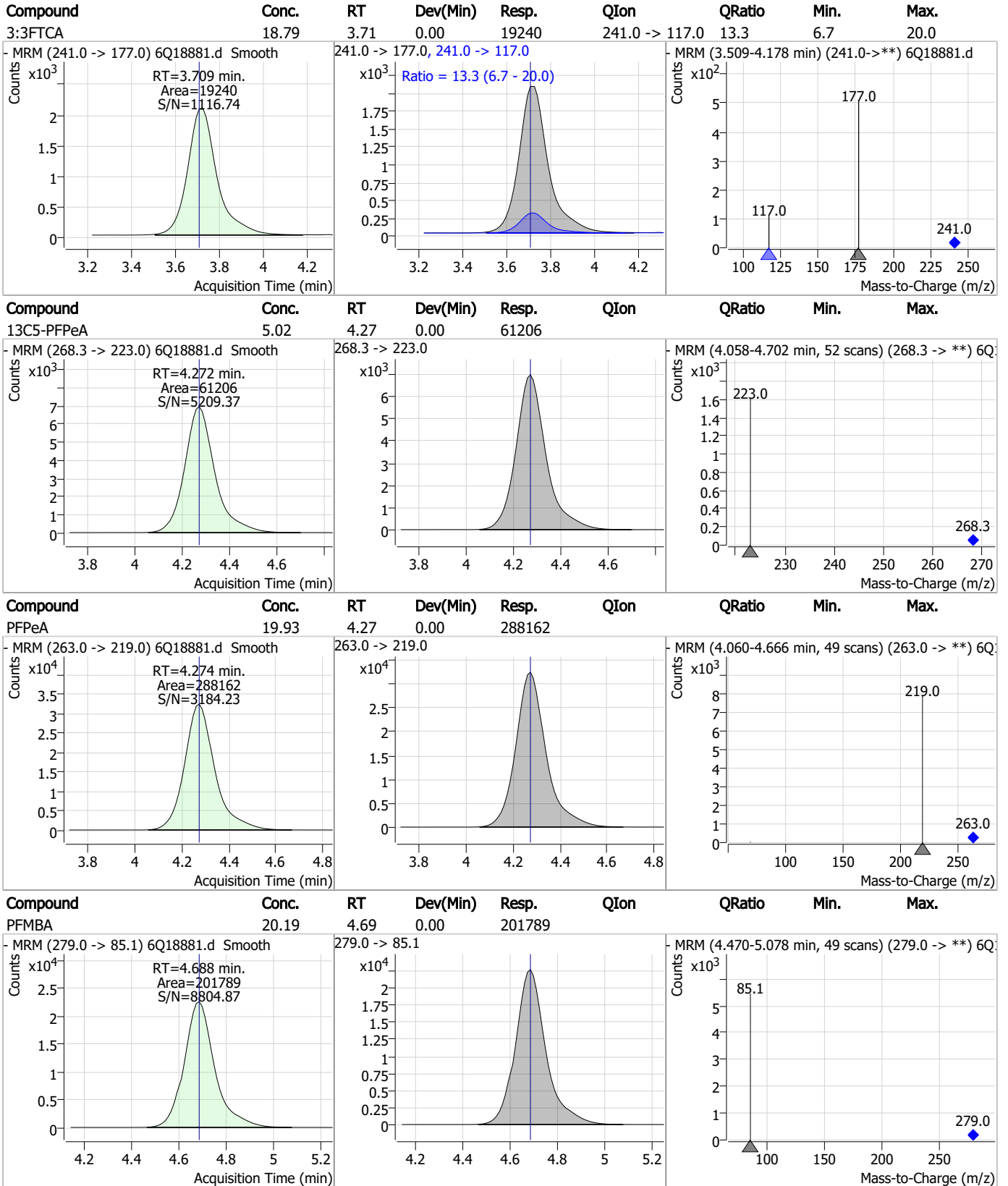
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Perfluorinated Compounds by LC/MS/MS



7.7.11
7

Perfluorinated Compounds by LC/MS/MS

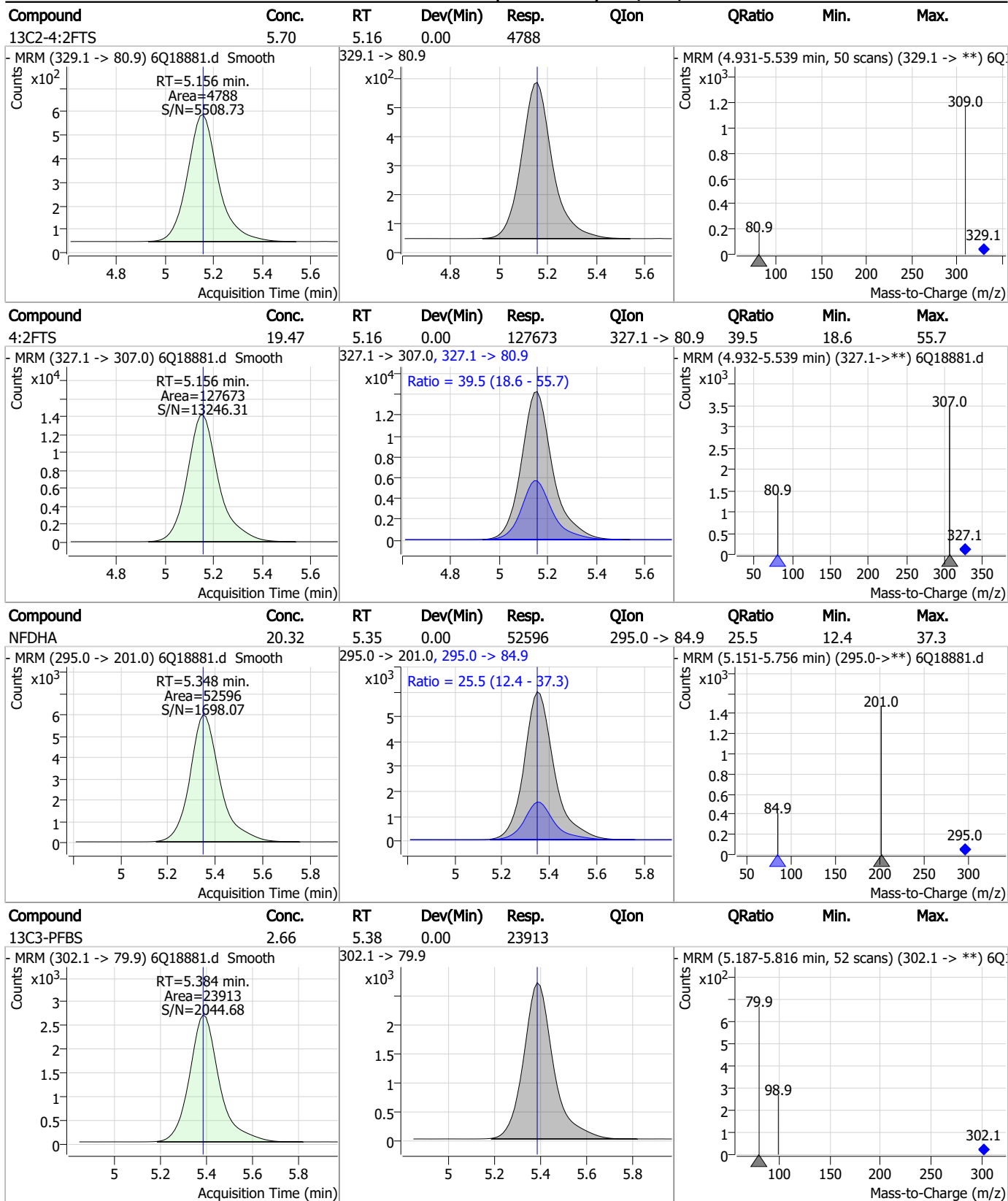


7.7.11

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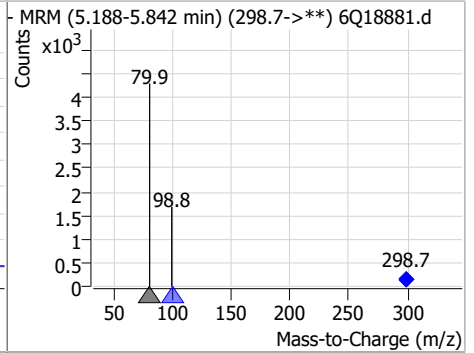
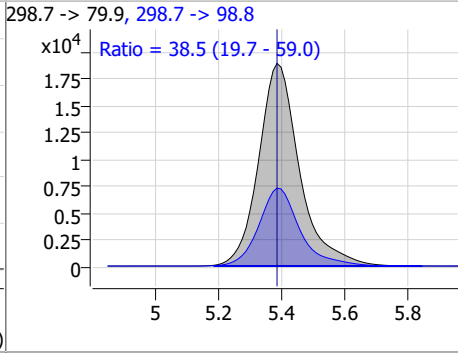
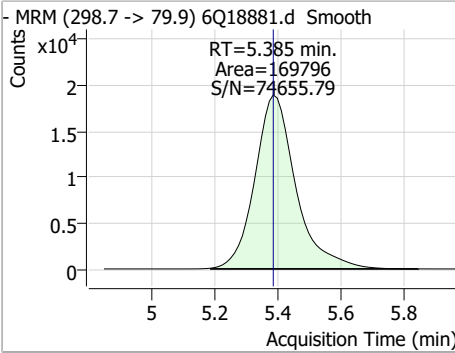
Perfluorinated Compounds by LC/MS/MS



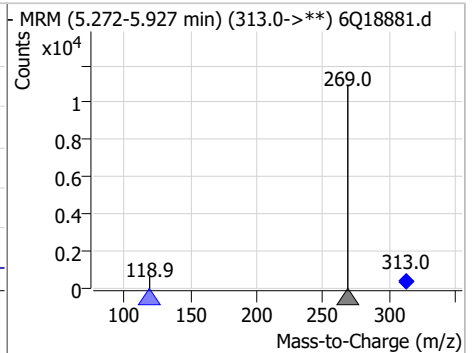
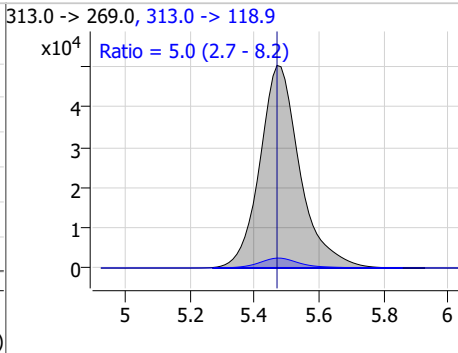
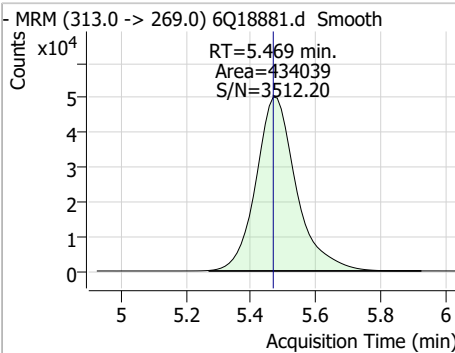
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Perfluorinated Compounds by LC/MS/MS

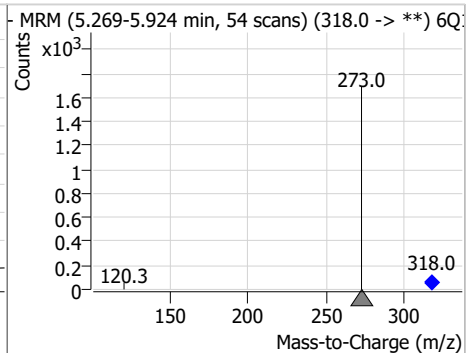
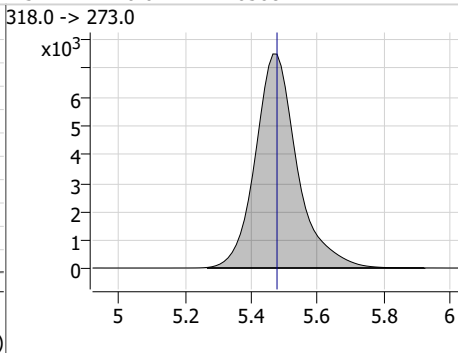
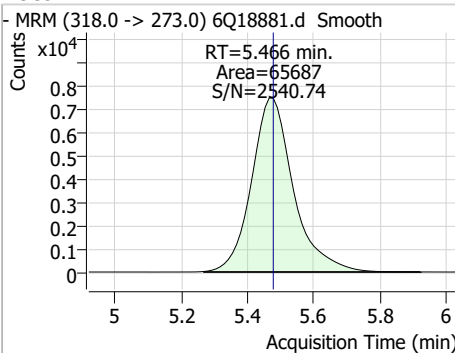
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	20.49	5.38	0.00	169796	298.7 -> 98.8	38.5	19.7	59.0



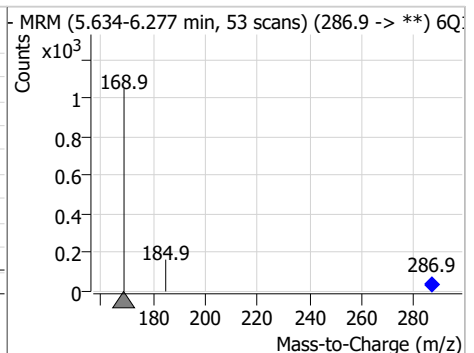
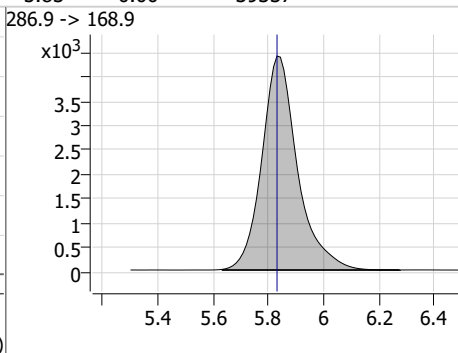
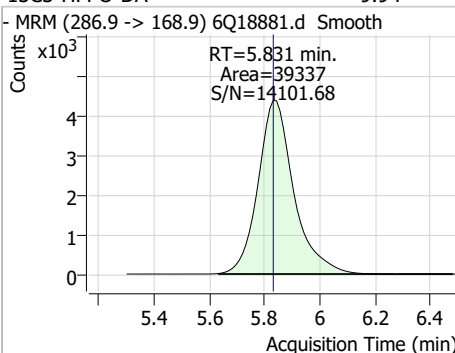
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	20.13	5.47	0.00	434039	313.0 -> 118.9	5.0	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.47	-0.01	65687	318.0 -> 273.0			

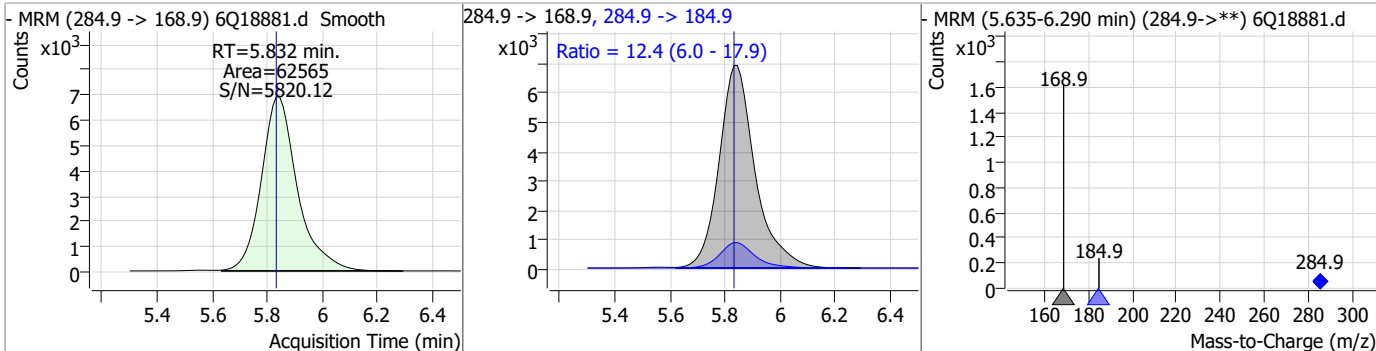


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.94	5.83	0.00	39337	286.9 -> 168.9			

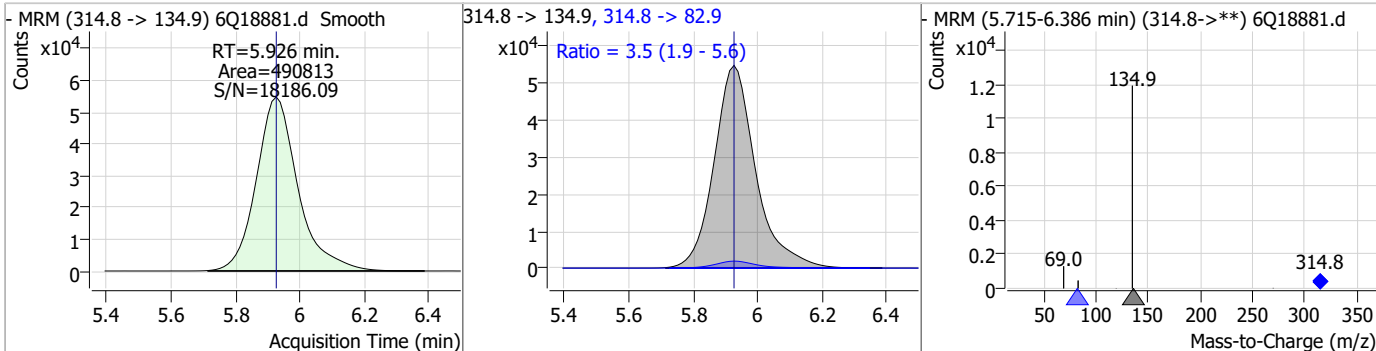


Perfluorinated Compounds by LC/MS/MS

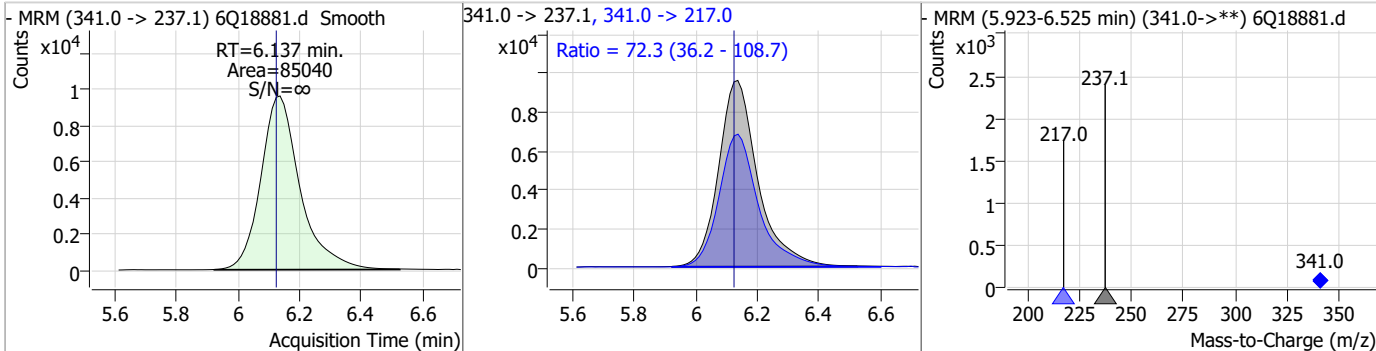
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	19.04	5.83	0.00	62565	284.9 -> 184.9	12.4	6.0	17.9



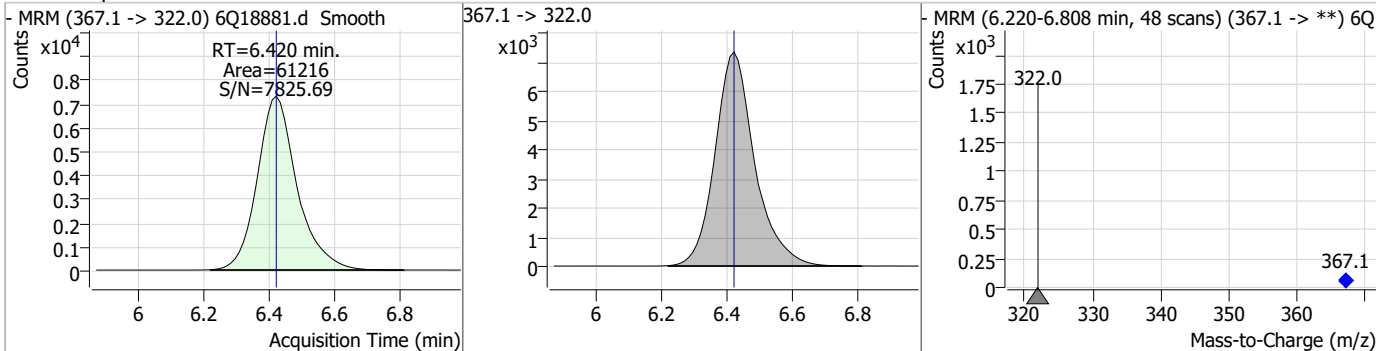
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	17.91	5.93	0.00	490813	314.8 -> 82.9	3.5	1.9	5.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	20.44	6.14	0.01	85040	341.0 -> 217.0	72.3	36.2	108.7

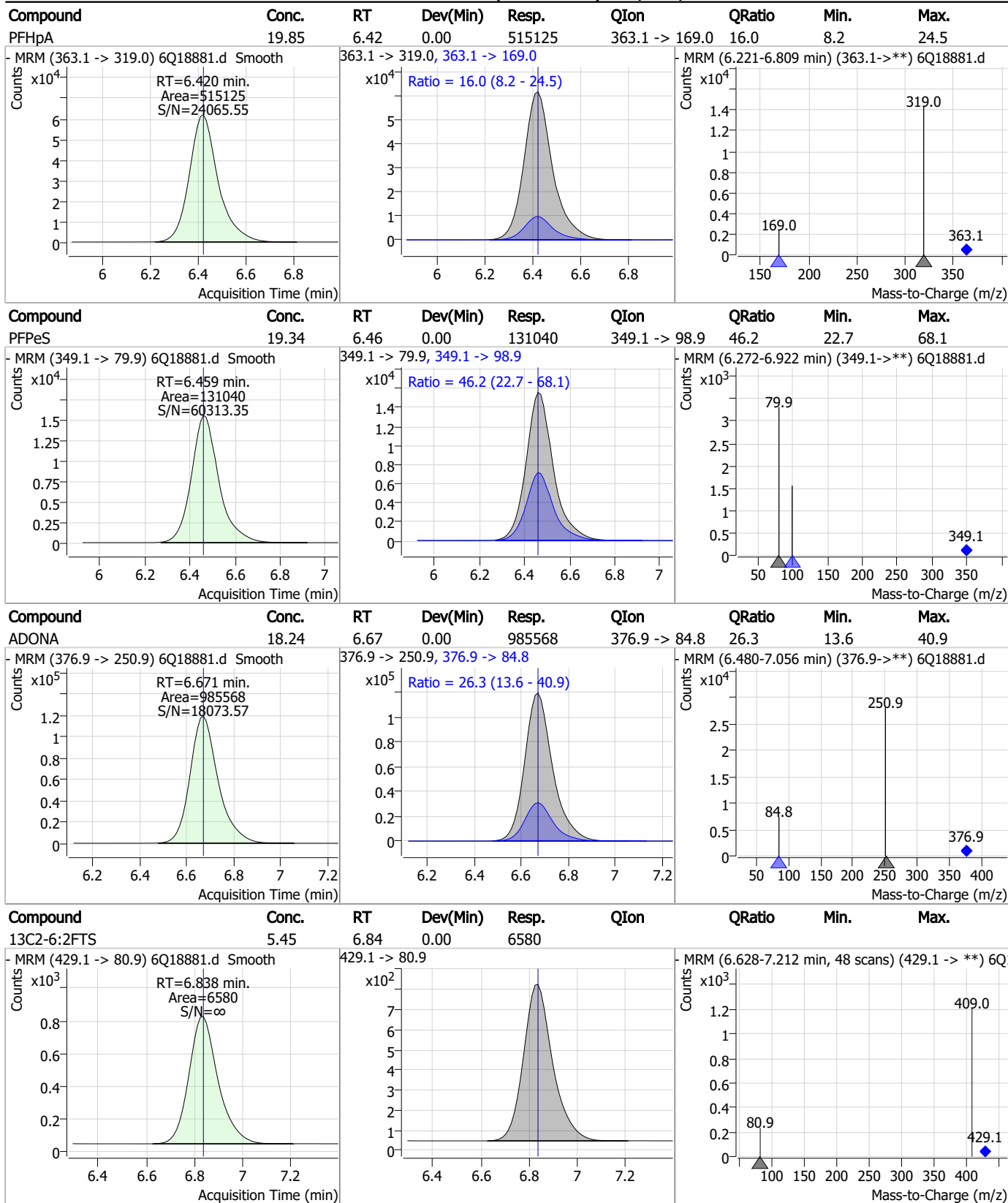


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.45	6.42	0.00	61216	367.1 -> 322.0			



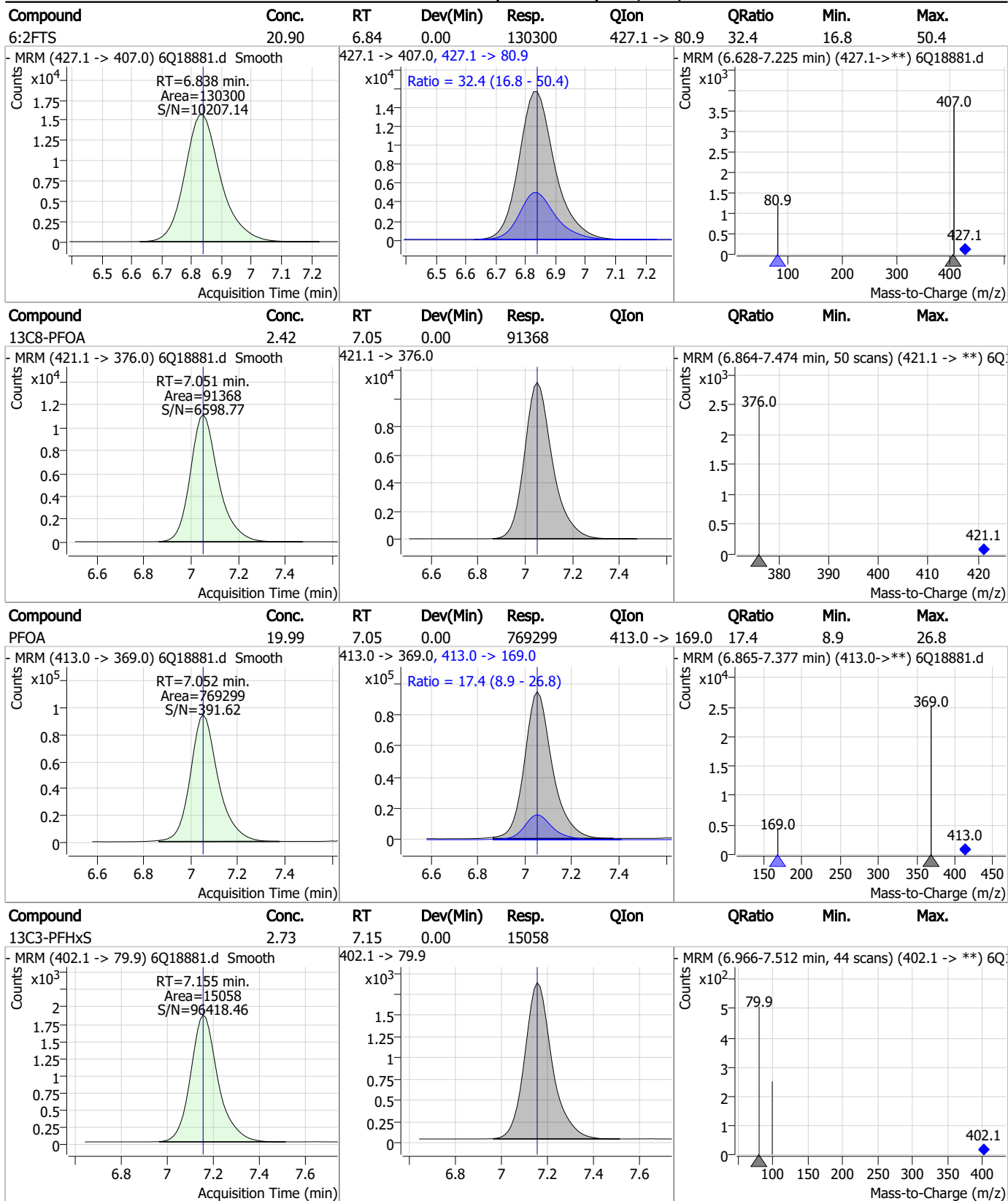
7.7.11
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Perfluorinated Compounds by LC/MS/MS



7.7.11
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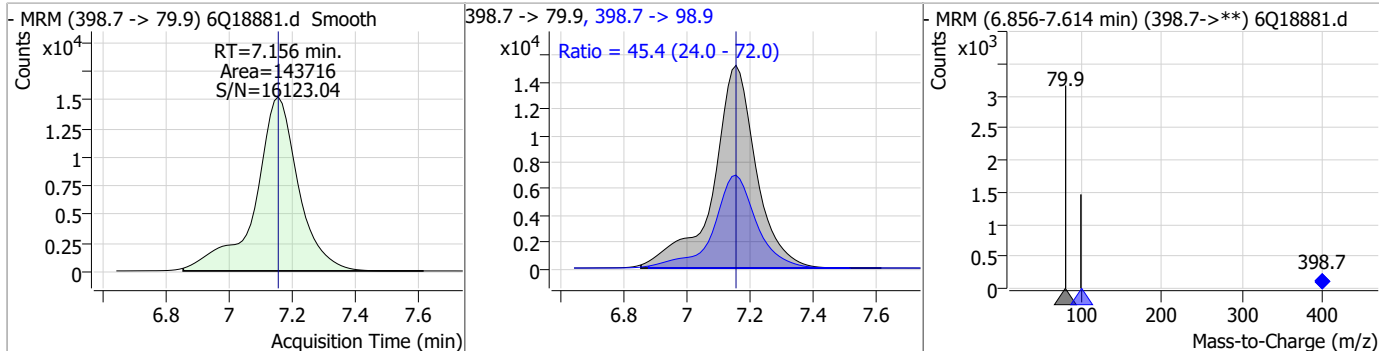
Perfluorinated Compounds by LC/MS/MS



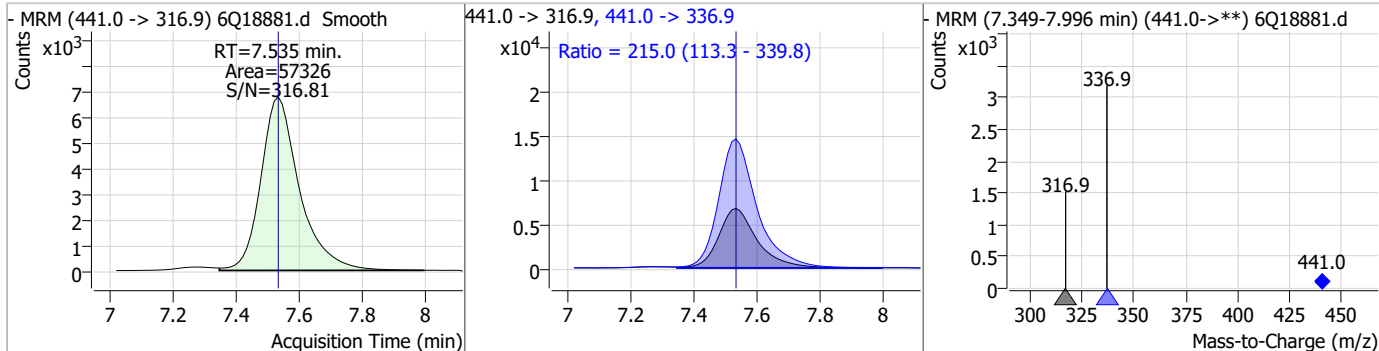
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Perfluorinated Compounds by LC/MS/MS

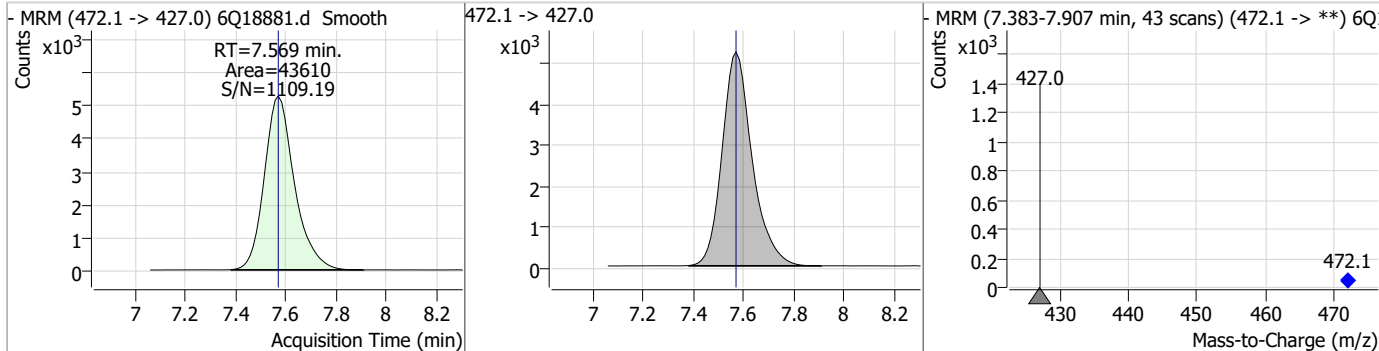
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	20.36	7.16	0.00	143716	398.7 -> 98.9	45.4	24.0	72.0



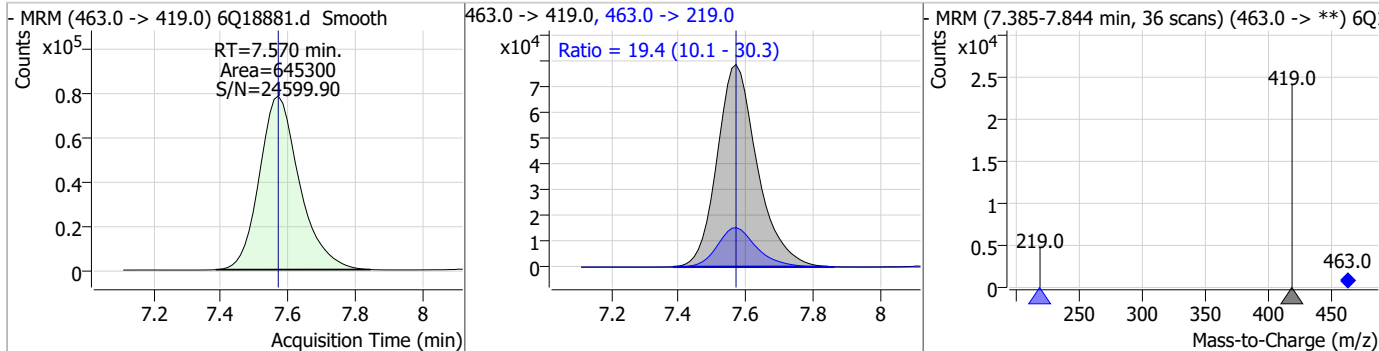
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	20.03	7.54	0.00	57326	441.0 -> 336.9	215.0	113.3	339.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.27	7.57	0.00	43610	472.1 -> 427.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	20.87	7.57	0.00	645300	463.0 -> 219.0	19.4	10.1	30.3



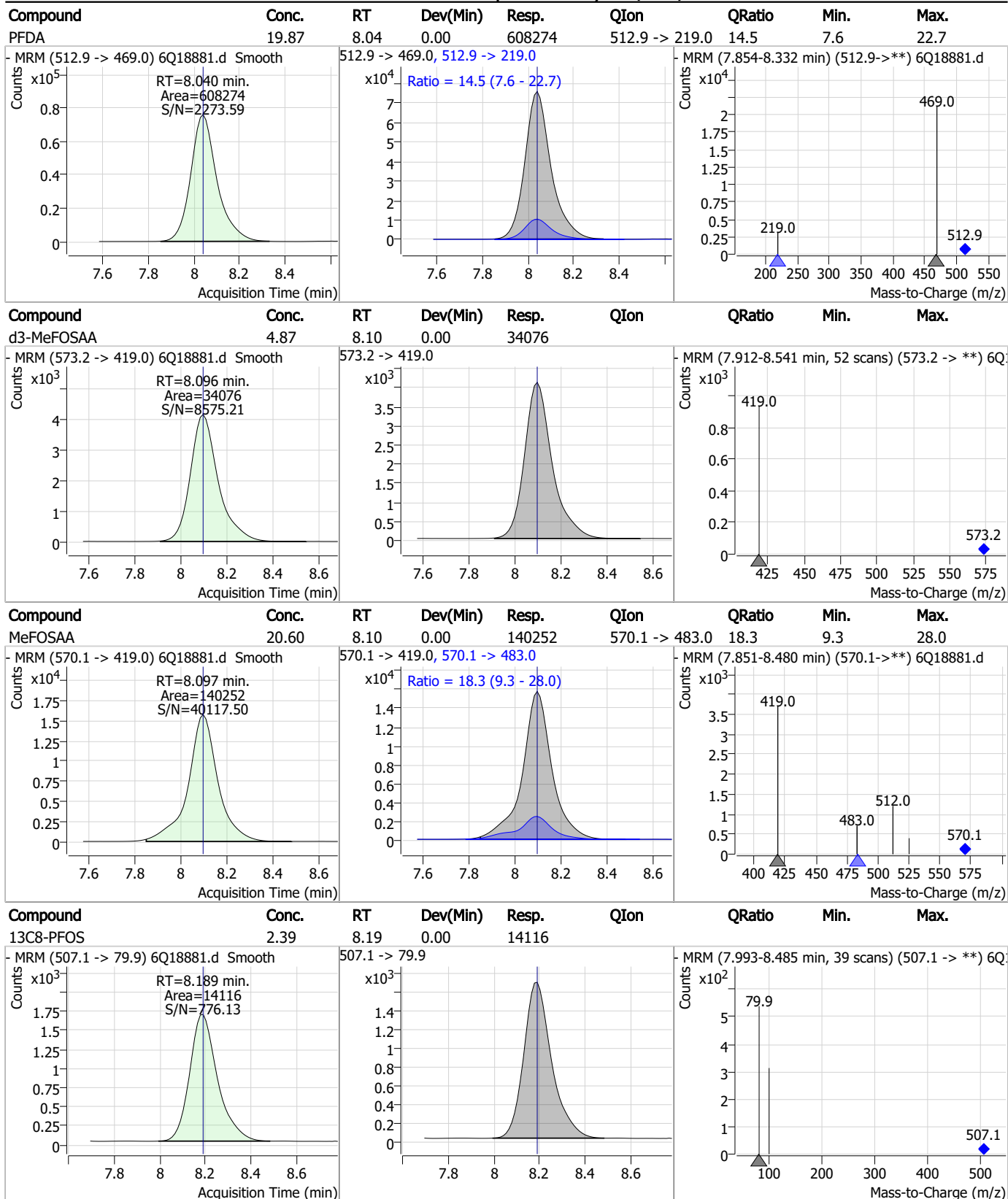
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHpS	20.89	7.70	-0.01	133766	449.0 -> 98.9	46.4	24.5	73.5
13C2-8:2FTS	5.50	7.83	-0.01	6609	529.1 -> 80.9			
8:2FTS	20.72	7.83	-0.01	73442	527.1 -> 80.8	37.2	20.0	59.9
13C6-PFDA	1.18	8.04	0.00	25425	519.1 -> 474.1			

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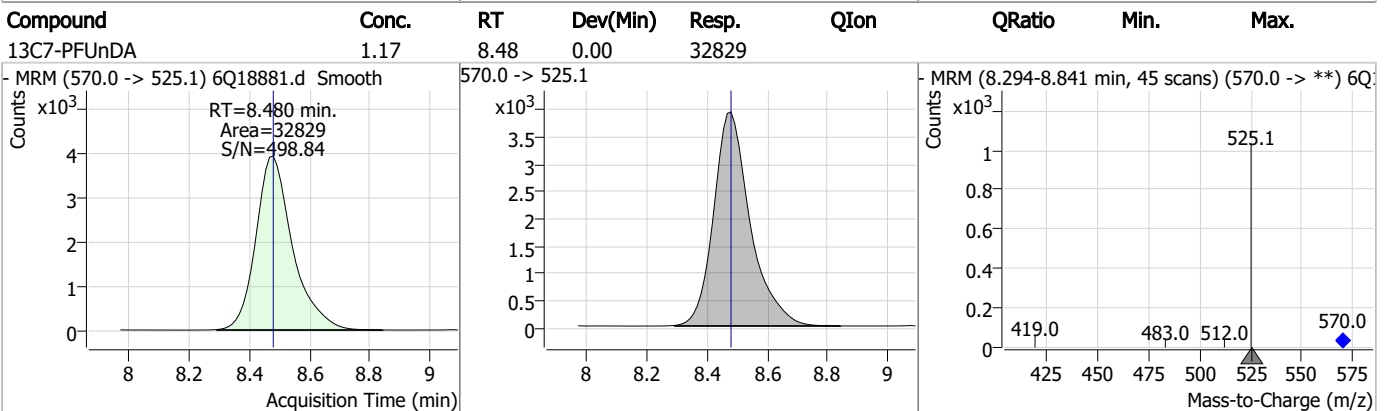
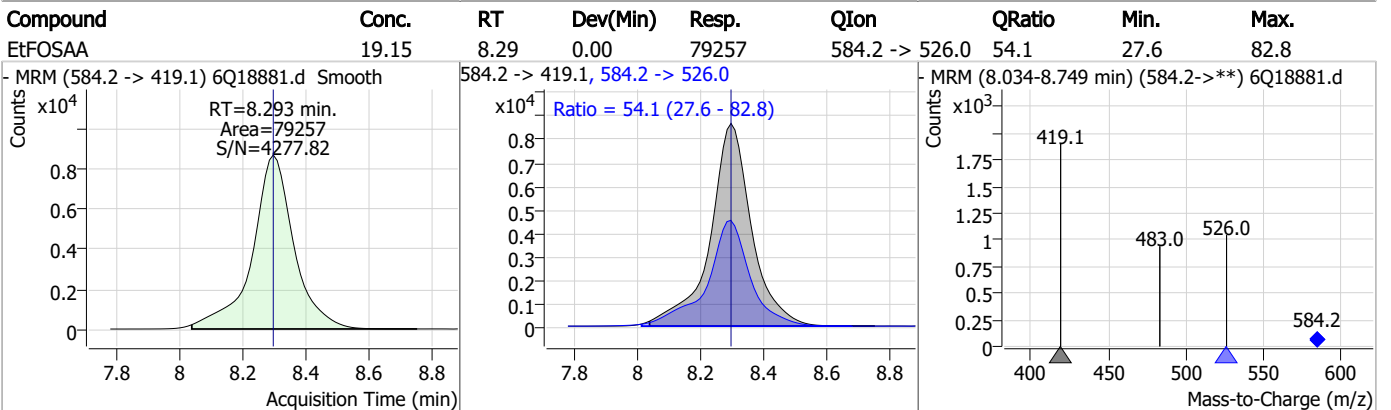
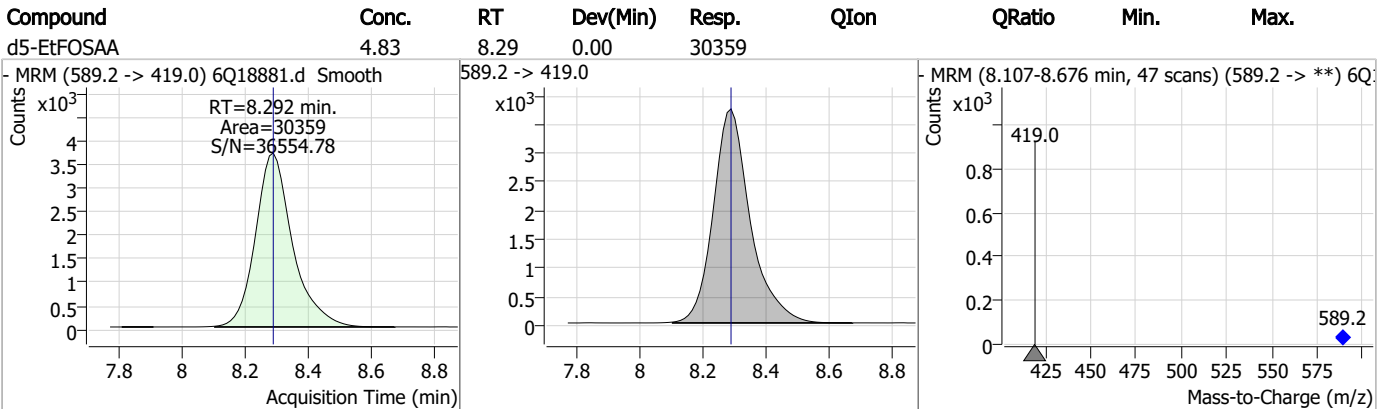
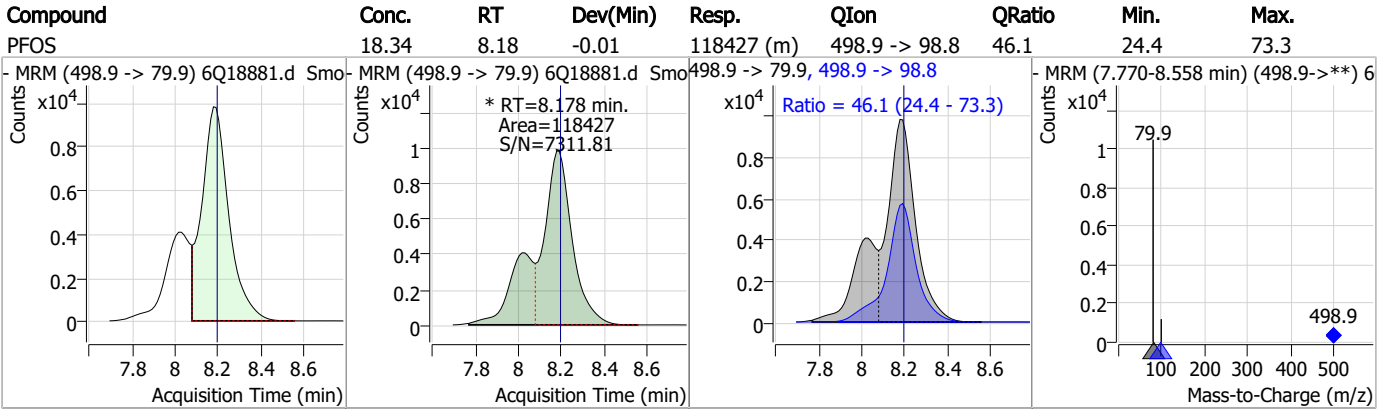
Perfluorinated Compounds by LC/MS/MS



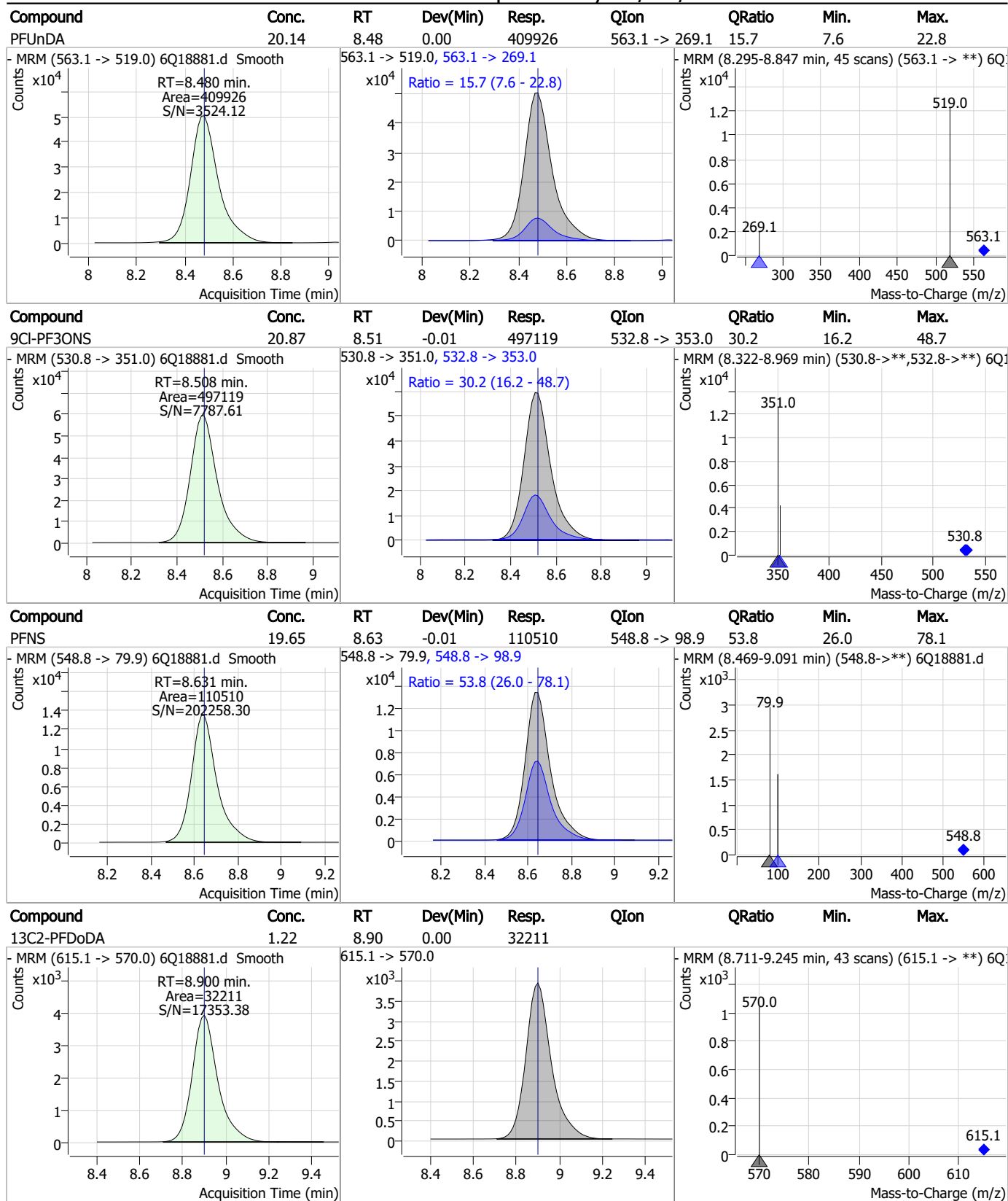
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Perfluorinated Compounds by LC/MS/MS



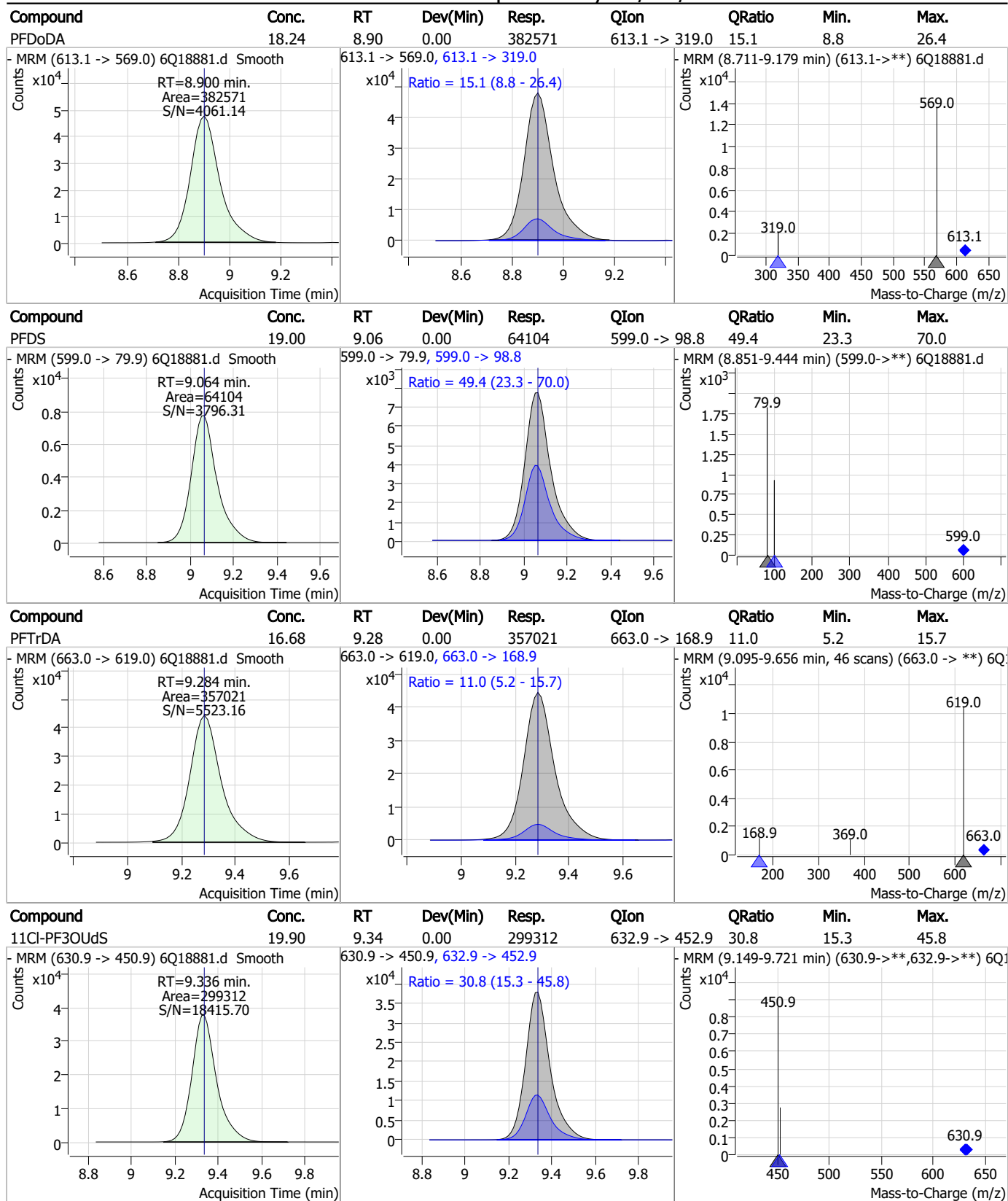
Perfluorinated Compounds by LC/MS/MS



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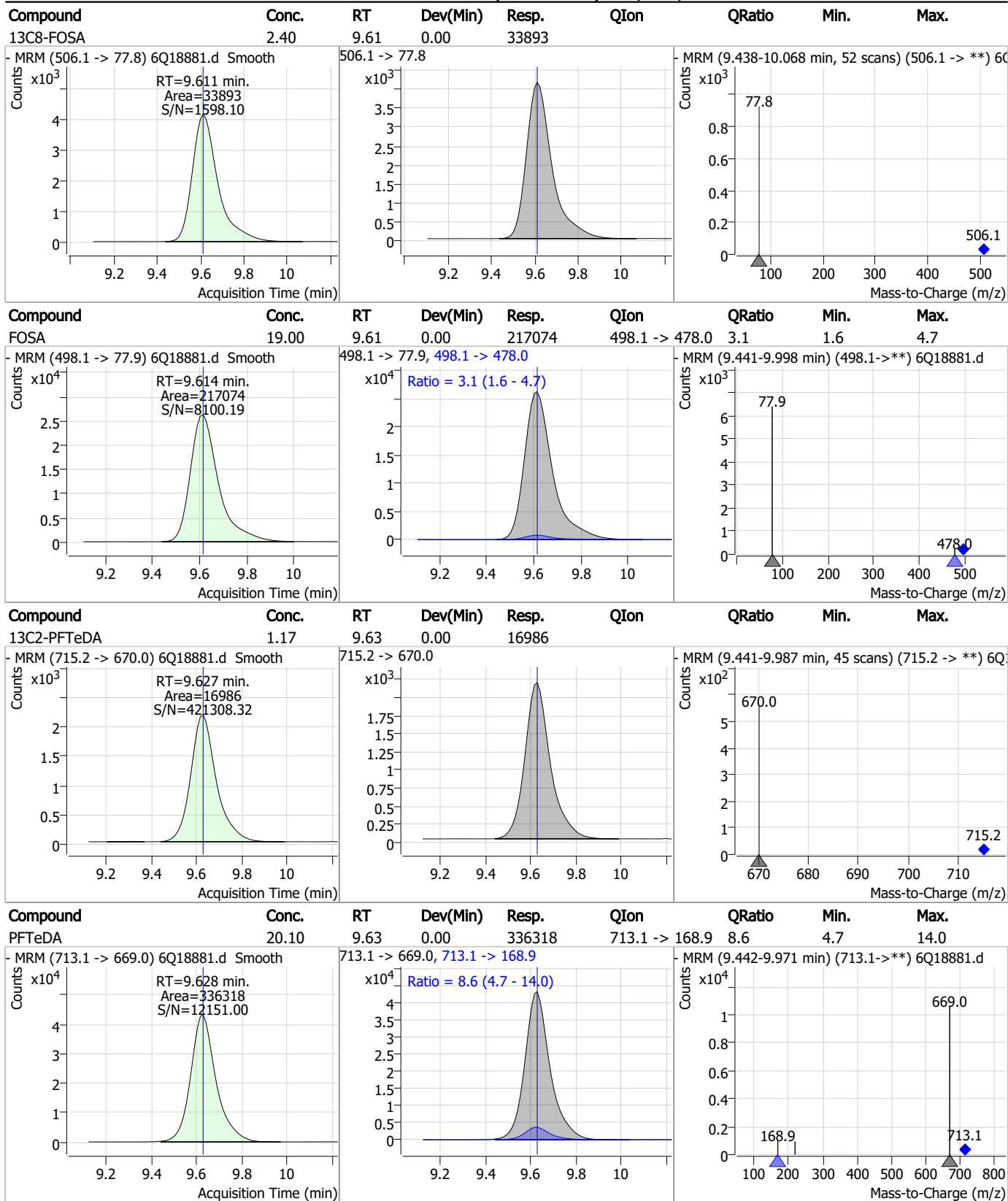
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Perfluorinated Compounds by LC/MS/MS



7.7.11
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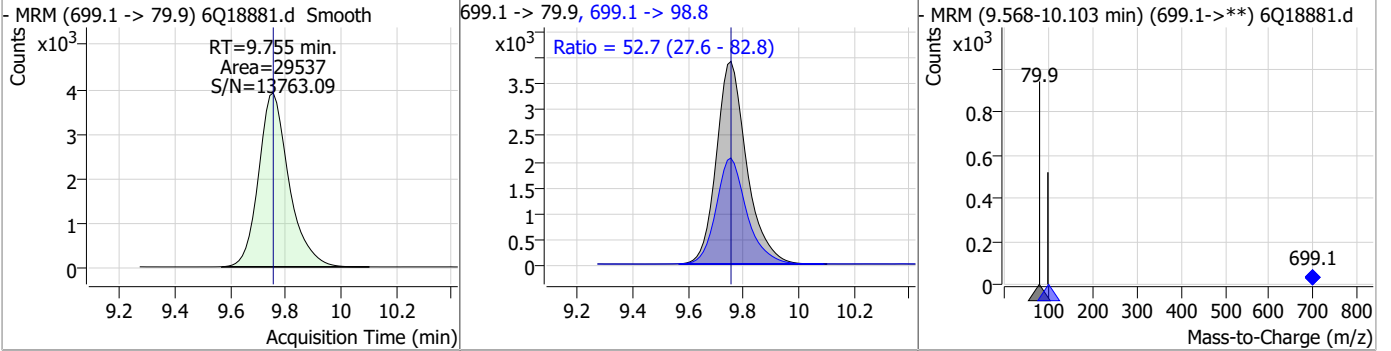
Perfluorinated Compounds by LC/MS/MS



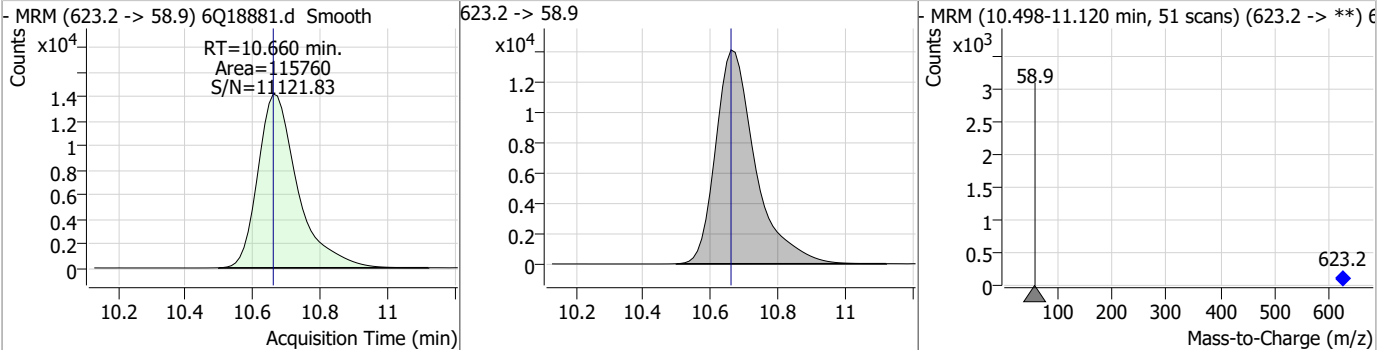
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Perfluorinated Compounds by LC/MS/MS

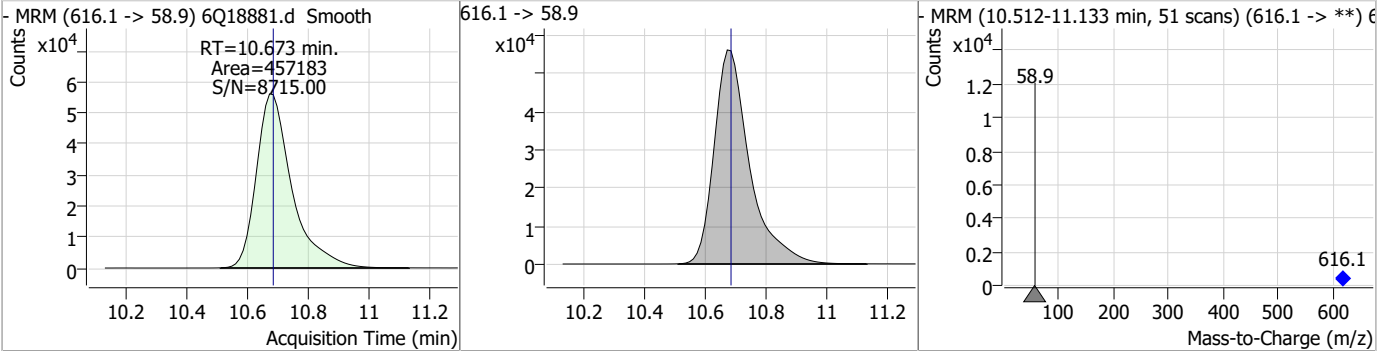
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	18.54	9.75	0.00	29537	699.1 -> 98.8	52.7	27.6	82.8



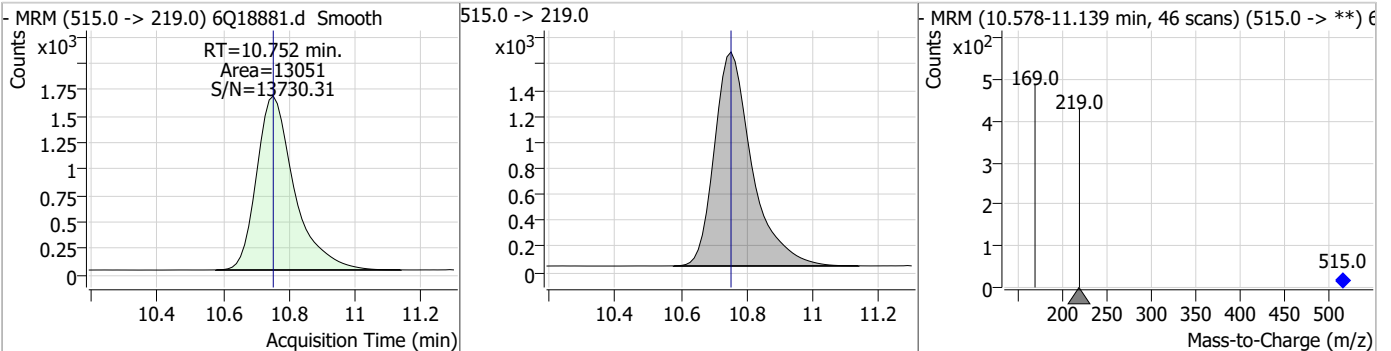
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.72	10.66	0.00	115760				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	102.01	10.67	-0.01	457183				

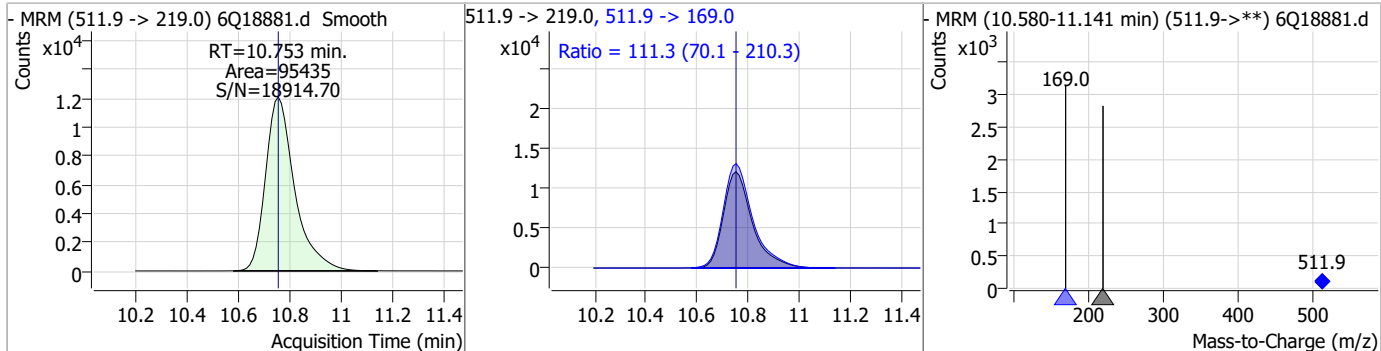


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.37	10.75	0.00	13051				

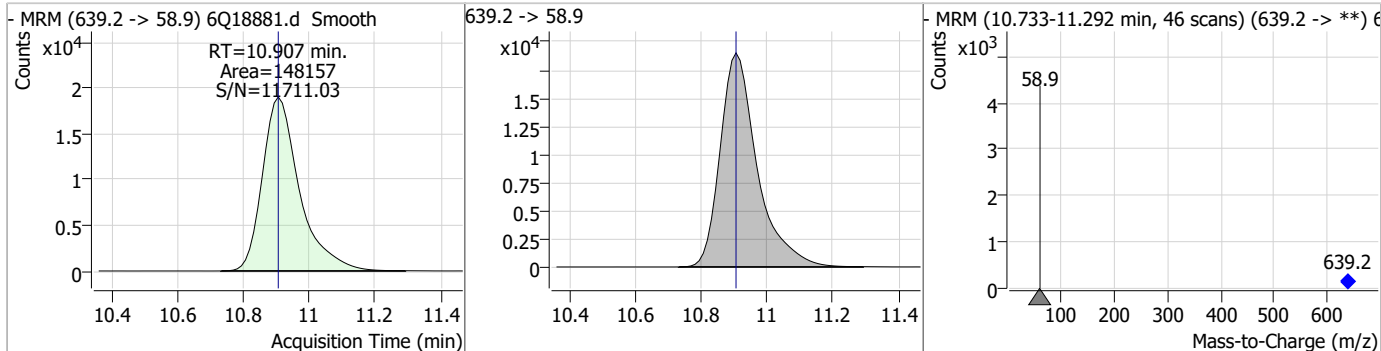


Perfluorinated Compounds by LC/MS/MS

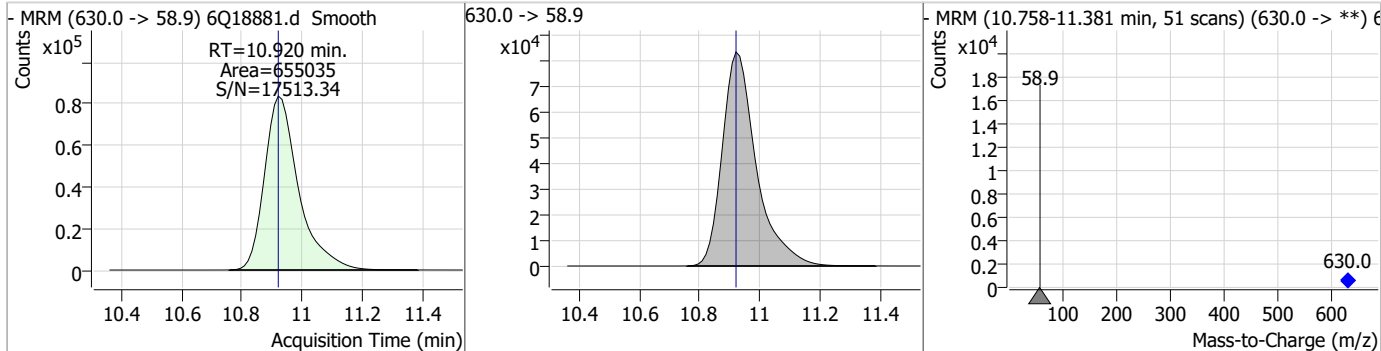
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	19.19	10.75	0.00	95435	511.9 -> 169.0	111.3	70.1	210.3



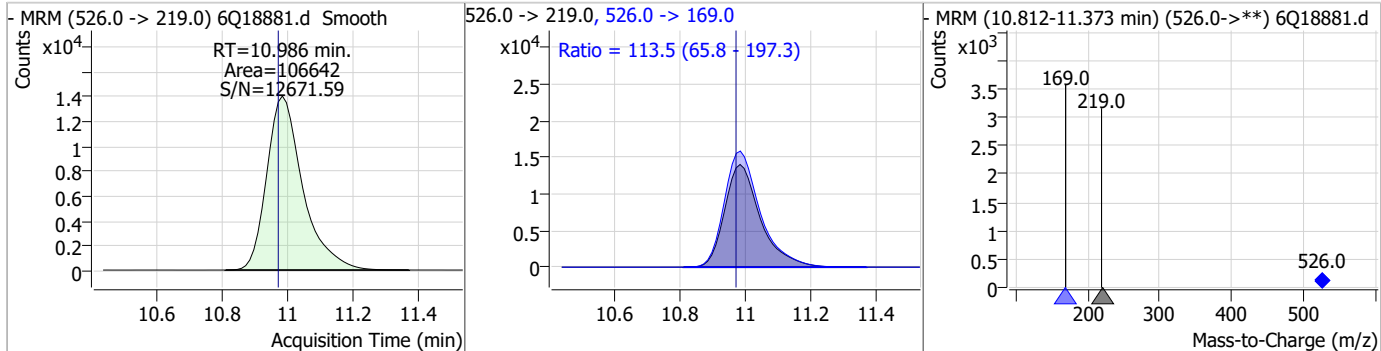
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.84	10.91	0.00	148157				



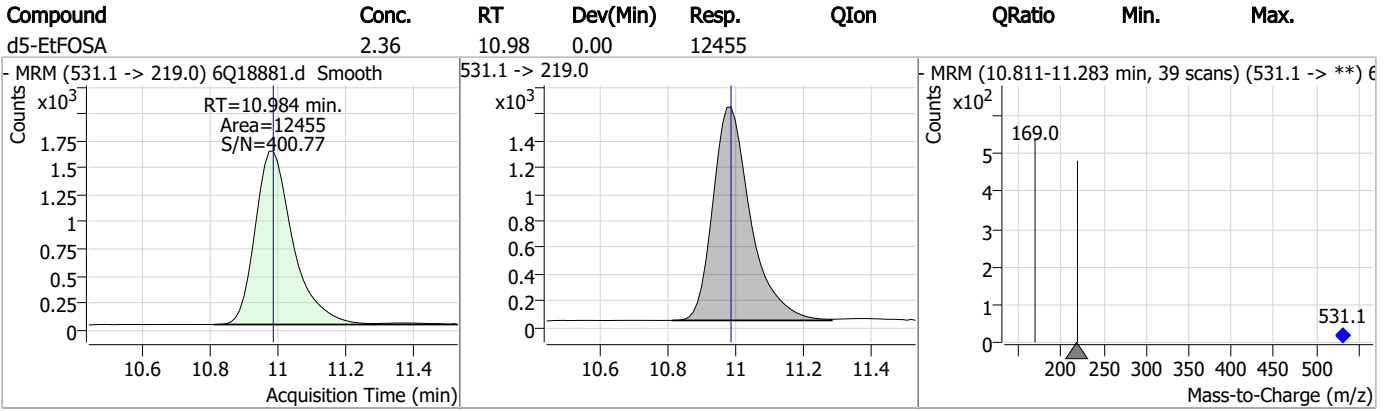
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	101.36	10.92	0.00	655035				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	18.58	10.99	0.01	106642	526.0 -> 169.0	113.5	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q282-ICV282 Method: EPA DRAFT 1633
Lab FileID: 6Q18881.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/06/23 16:40 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.18	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18882.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 4:55:04 PM
 Sample Name : cc282-4
 Vial : P1-A5
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP96663,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	181183	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	61249	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	67370	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	60803	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	96661	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	42222	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	27016	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34488	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	31057	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17021	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	34304	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	23742	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	14712	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14513	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	4811	5.00 µg/L	-0.012
M2-6:2FTS	6.825	429.1 -> 80.9	6865	5.00 µg/L	-0.012
M2-8:2FTS	7.839	529.1 -> 80.9	6441	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	34522	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	38770	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	30071	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	118733	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	152003	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	12659	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13042	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18440	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	76355	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	11197	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	97615	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	34147	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	53842	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	62333	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	4811	5.23 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.5%		
13C2-6:2FTS	6.825	429.1 -> 80.9	6865	5.19 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.7%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6441	4.89 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 97.7%		
13C2-PFDoDA	8.900	615.1 -> 570.0	31057	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17021	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C3-PFBS	5.384	302.1 -> 79.9	23742	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 96.5%		
13C3-PFHxS	7.155	402.1 -> 79.9	14712	2.44 µg/L	0.000

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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	2.860	216.8 -> 171.9	181183	10.00 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C4-PFHpA	6.420	367.1 -> 322.0	60803	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C5-PFHxA	5.466	318.0 -> 273.0	67370	2.55 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C5-PFPeA	4.272	268.3 -> 223.0	61249	5.06 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C6-PFDA	8.039	519.1 -> 474.1	27016	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.7%	
13C7-PFUnDA	8.480	570.0 -> 525.1	34488	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.2%	
13C8-FOSA	9.611	506.1 -> 77.8	34304	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C8-PFOA	7.051	421.1 -> 376.0	96661	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.3%	
13C8-PFOS	8.189	507.1 -> 79.9	14513	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.7%	
13C9-PFNA	7.569	472.1 -> 427.0	42222	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.4%	
d3-MeFOSAA	8.096	573.2 -> 419.0	34522	5.20 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.0%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	38770	9.87 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 98.7%	
d3-MeFOSA	10.752	515.0 -> 219.0	13042	2.50 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.9%	
d5-EtFOSAA	8.292	589.2 -> 419.0	30071	5.05 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
d7-MeFOSE	10.660	623.2 -> 58.9	118733	25.65 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.6%	
d9-EtFOSE	10.907	639.2 -> 58.9	152003	25.78 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.1%	
d5-EtFOSA	10.984	531.1 -> 219.0	12659	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	60898	9.24 µg/L	99
		327.1 -> 80.9	22791		
6:2FTS	6.838	427.1 -> 407.0	62527	9.61 µg/L	98
		427.1 -> 80.9	20154		
8:2FTS	7.840	527.1 -> 507.0	32883	9.52 µg/L	96
		527.1 -> 80.8	13922		
EtFOSAA	8.293	584.2 -> 419.1	10622	2.59 µg/L	94
		584.2 -> 526.0	5367		
FOSA	9.614	498.1 -> 77.9	28728	2.48 µg/L	99
		498.1 -> 478.0	808		
MeFOSAA	8.097	570.1 -> 419.0	17205	2.49 µg/L	96
		570.1 -> 483.0	3492		
PFBA	2.856	212.8 -> 168.9	57820	9.79 µg/L	100
PFBS	5.385	298.7 -> 79.9	18350	2.23 µg/L	99
		298.7 -> 98.8	7091		
PFDA	8.040	512.9 -> 469.0	79492	2.44 µg/L	99
		512.9 -> 219.0	11881		
PFDODA	8.900	613.1 -> 569.0	51353	2.54 µg/L	94
		613.1 -> 319.0	7692		
PFDS	9.064	599.0 -> 79.9	7865	2.27 µg/L	96

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	3900	2.59 µg/L	100
		363.1 -> 319.0	66699		
PFHpS	7.710	363.1 -> 169.0	10863	2.27 µg/L	95
		449.0 -> 79.9	14914		
PFHxA	5.469	449.0 -> 98.9	7799	2.42 µg/L	100
		313.0 -> 269.0	53602		
PFHxS	7.156	313.0 -> 118.9	2900	2.32 µg/L	97
		398.7 -> 79.9	15997		
PFNA	7.570	398.7 -> 98.9	7360	2.54 µg/L	100
		463.0 -> 419.0	75917		
PFNS	8.644	463.0 -> 219.0	15510	2.33 µg/L	95
		548.8 -> 79.9	13444		
PFOA	7.052	548.8 -> 98.9	7481	2.39 µg/L	99
		413.0 -> 369.0	97153		
PFOS	8.191	413.0 -> 169.0	16854	2.25 µg/L	98
		498.9 -> 79.9	14927		
PFPeA	4.274	498.9 -> 98.8	7130	4.87 µg/L	100
		263.0 -> 219.0	70470		
PFPeS	6.459	349.1 -> 79.9	15762	2.38 µg/L	96
		349.1 -> 98.9	6788		
PFTeDA	9.628	713.1 -> 669.0	43029	2.57 µg/L	97
		713.1 -> 168.9	3503		
PFTrDA	9.284	663.0 -> 619.0	53093	2.57 µg/L	100
		663.0 -> 168.9	5570		
PFUnDA	8.480	563.1 -> 519.0	51154	2.39 µg/L	97
		563.1 -> 269.1	8376		
11CI-PF3OUdS	9.336	630.9 -> 450.9	70322	4.74 µg/L	99
		632.9 -> 452.9	21977		
9CI-PF3ONS	8.520	530.8 -> 351.0	113642	4.84 µg/L	95
		532.8 -> 353.0	33502		
ADONA	6.671	376.9 -> 250.9	251866	4.73 µg/L	100
		376.9 -> 84.8	68795		
HFPO-DA	5.832	284.9 -> 168.9	16493	5.09 µg/L	99
		284.9 -> 184.9	2058		
3:3FTCA	3.709	241.0 -> 177.0	12389	12.09 µg/L	100
		241.0 -> 117.0	1636		
5:3FTCA	6.137	341.0 -> 237.1	260756	61.12 µg/L	99
		341.0 -> 217.0	190952		
7:3FTCA	7.535	441.0 -> 316.9	185271	63.12 µg/L	97
		441.0 -> 336.9	409383		
EtFOSA	10.974	526.0 -> 219.0	29664	5.09 µg/L	96
		526.0 -> 169.0	40313		
EtFOSE	10.920	630.0 -> 58.9	80518	12.14 µg/L	100
		511.9 -> 219.0	25244		
MeFOSA	10.753	511.9 -> 169.0	35189	5.08 µg/L	99
		616.1 -> 58.9	57561		
MeFOSE	10.673	699.1 -> 79.9	3797	12.52 µg/L	100
		699.1 -> 98.8	2129		
PFDoDS	9.755	295.0 -> 201.0	13232	2.32 µg/L	99
		295.0 -> 84.9	3321		
NFDHA	5.348	279.0 -> 85.1	50105	4.98 µg/L	99
		229.0 -> 84.9	38518		
PFMBA	4.688	314.8 -> 134.9	123615	5.01 µg/L	100
		314.8 -> 82.9	4548		
PFMPA	3.401			5.05 µg/L	100
PFEESA	5.926			4.40 µg/L	100

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



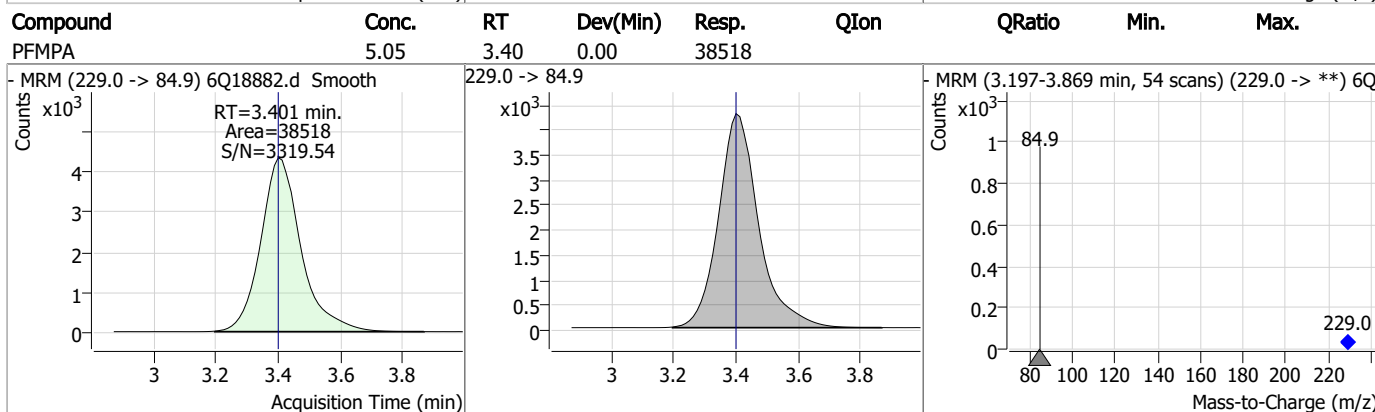
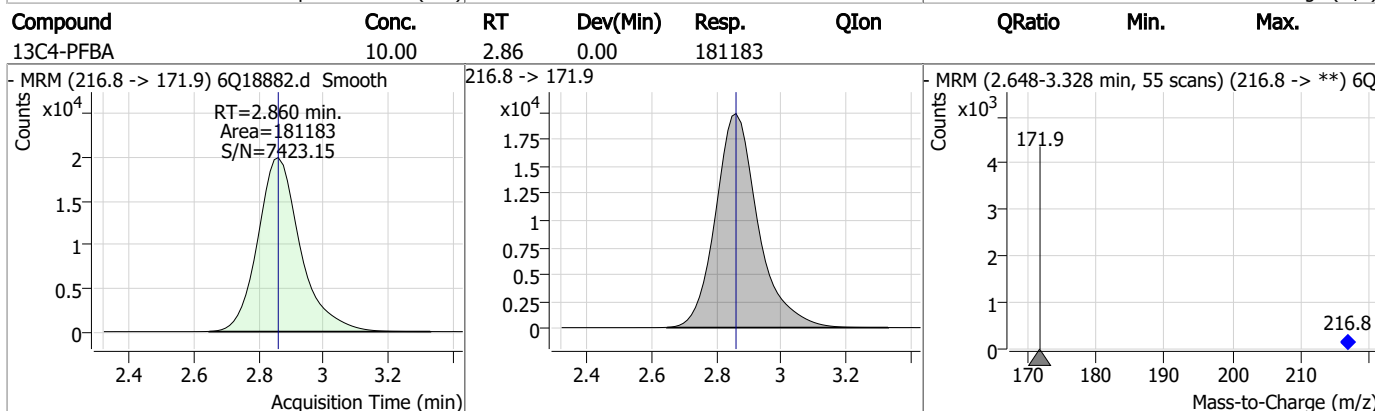
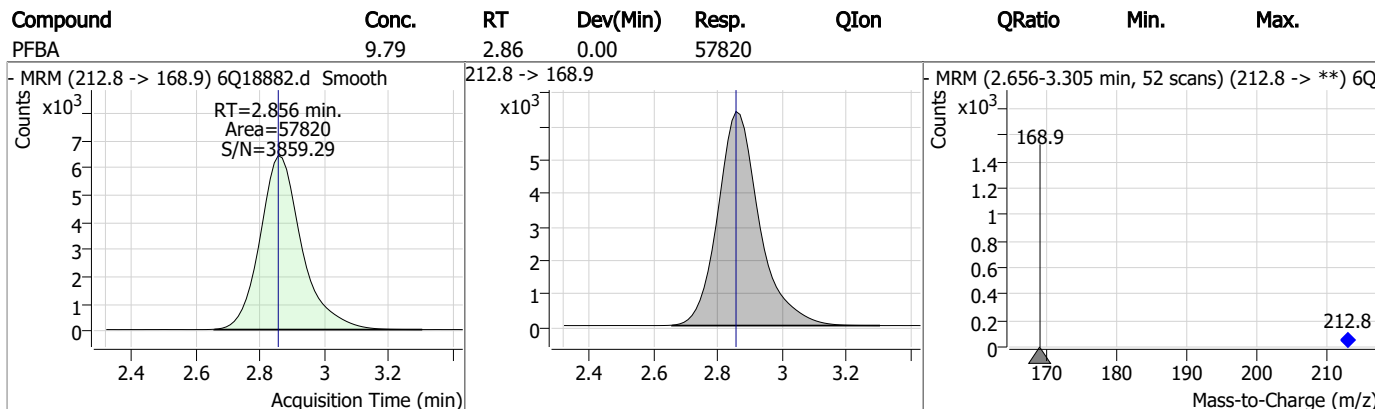
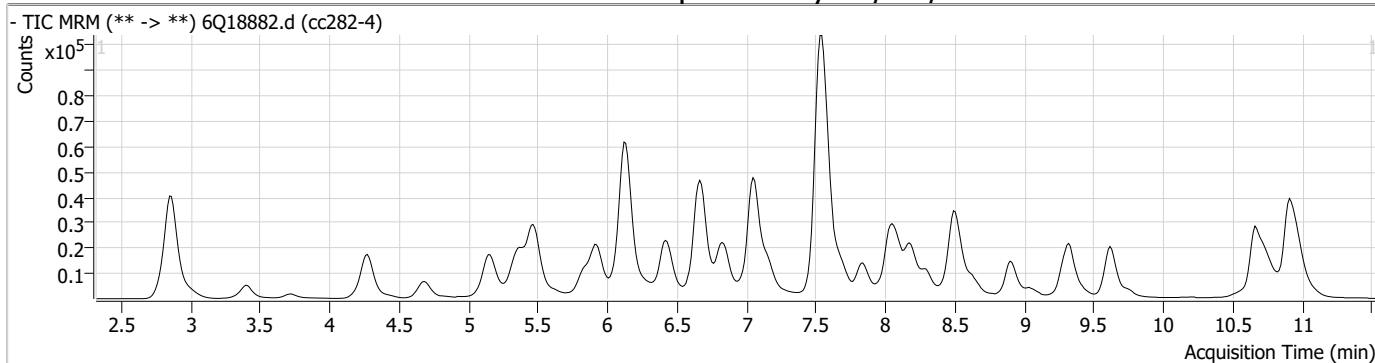
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.12

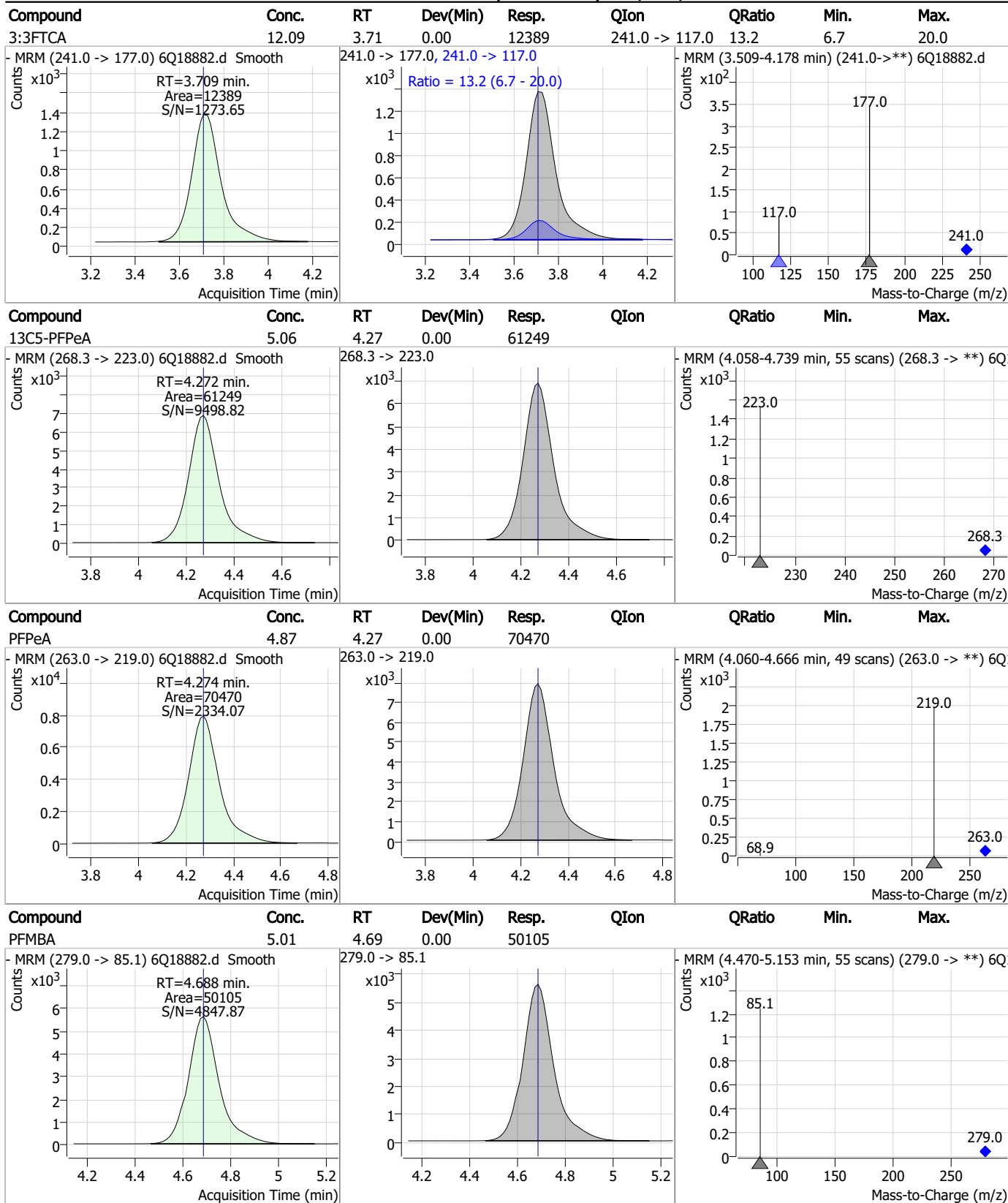
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Perfluorinated Compounds by LC/MS/MS



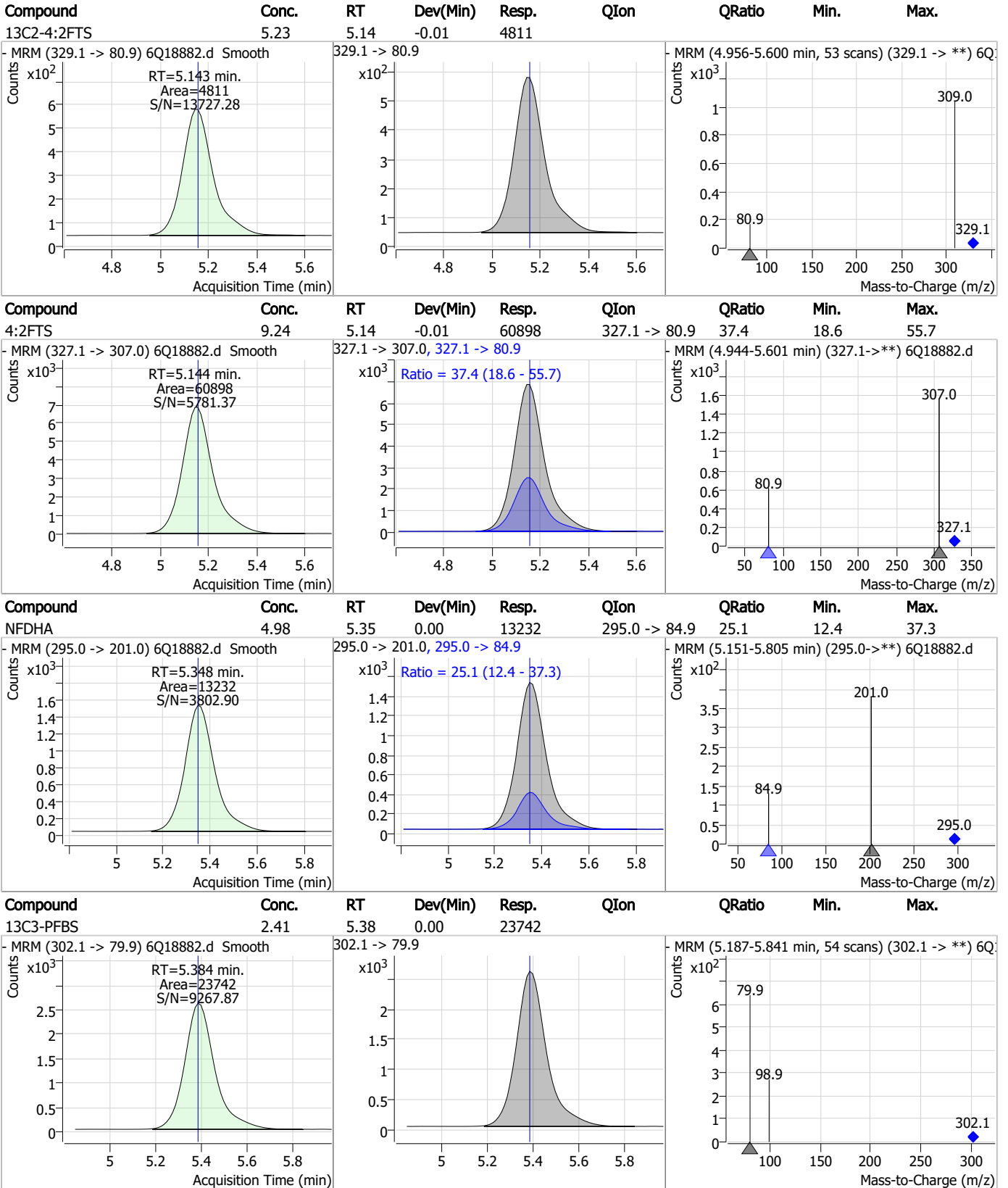
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Perfluorinated Compounds by LC/MS/MS



7.7.12

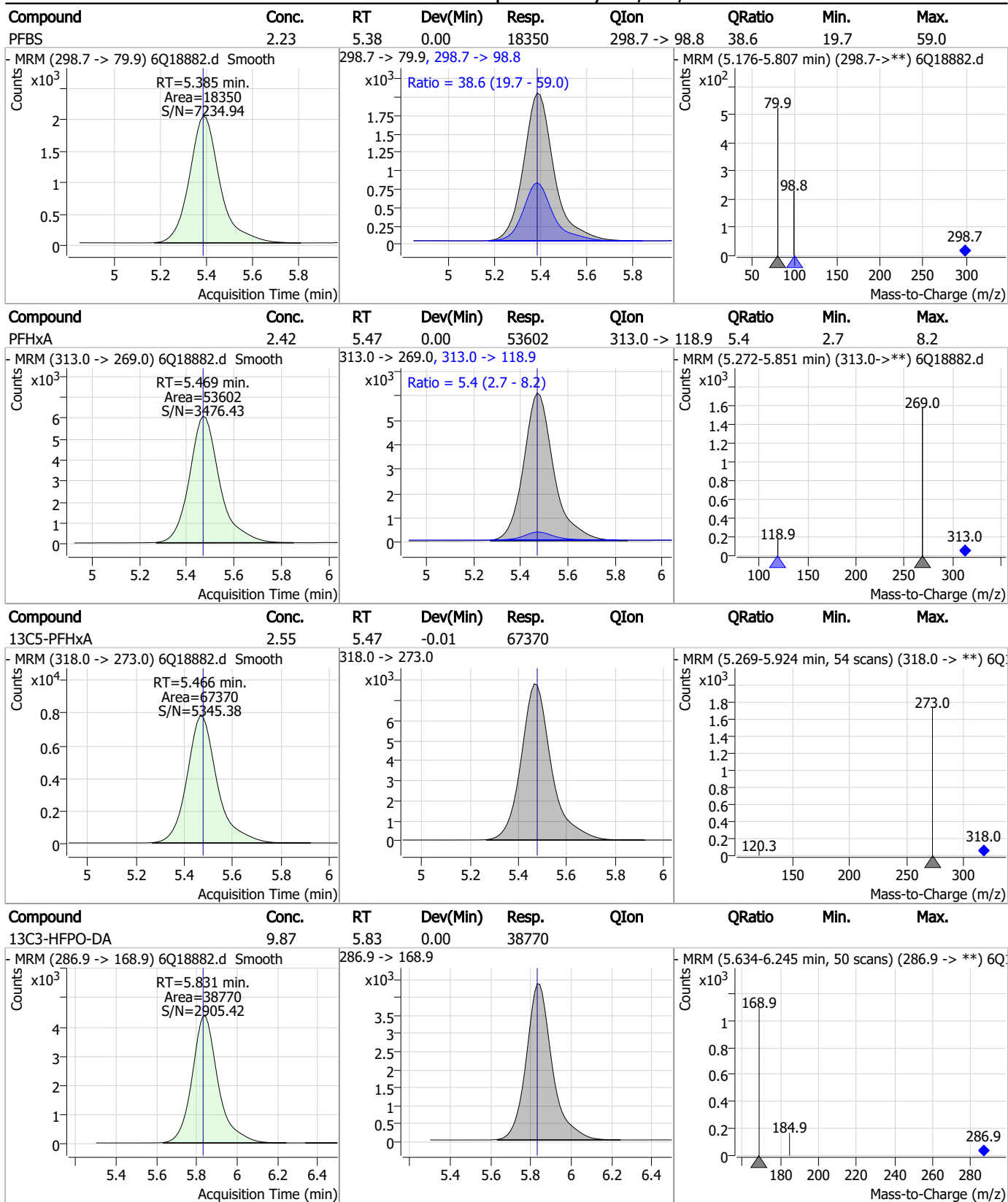
Perfluorinated Compounds by LC/MS/MS



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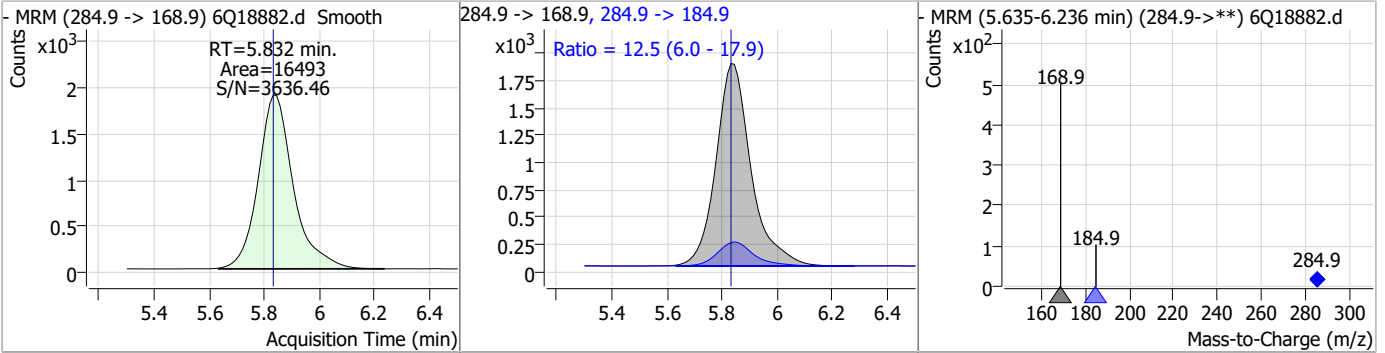
Perfluorinated Compounds by LC/MS/MS



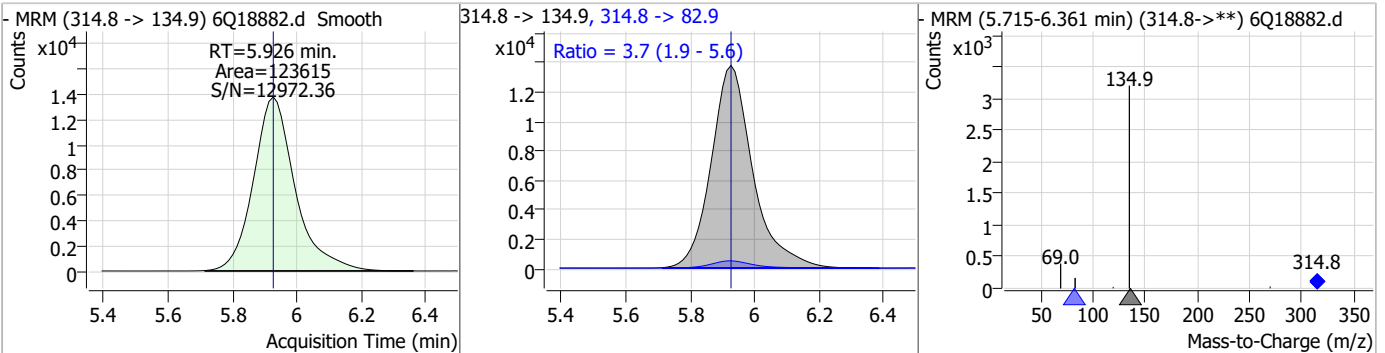
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Perfluorinated Compounds by LC/MS/MS

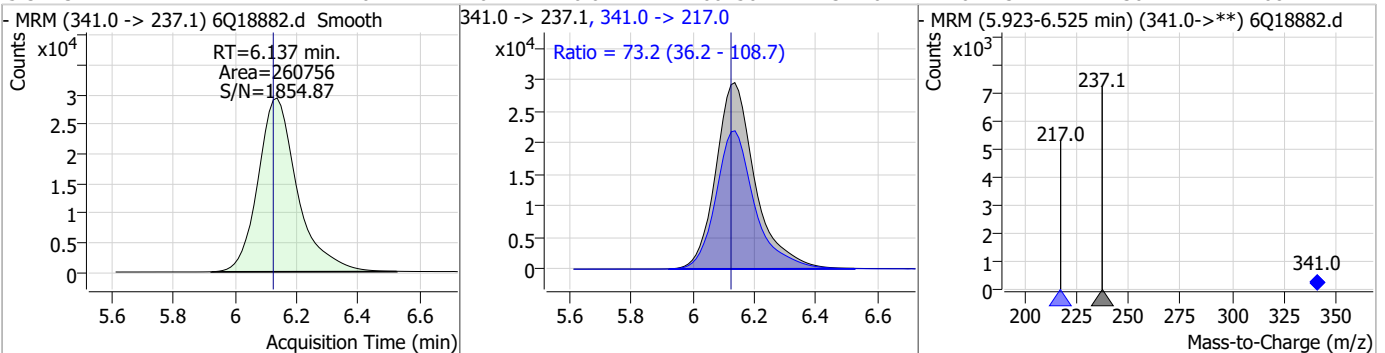
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.09	5.83	0.00	16493	284.9 -> 184.9	12.5	6.0	17.9



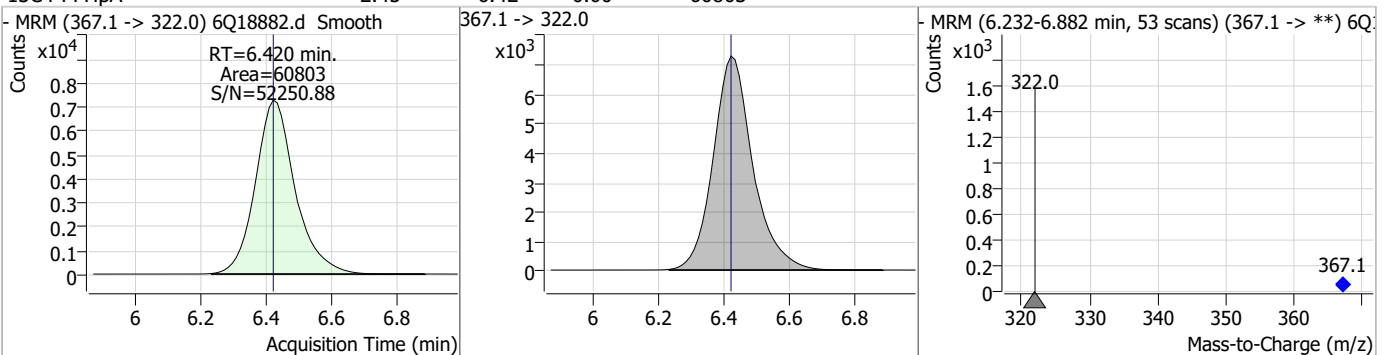
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.40	5.93	0.00	123615	314.8 -> 82.9	3.7	1.9	5.6



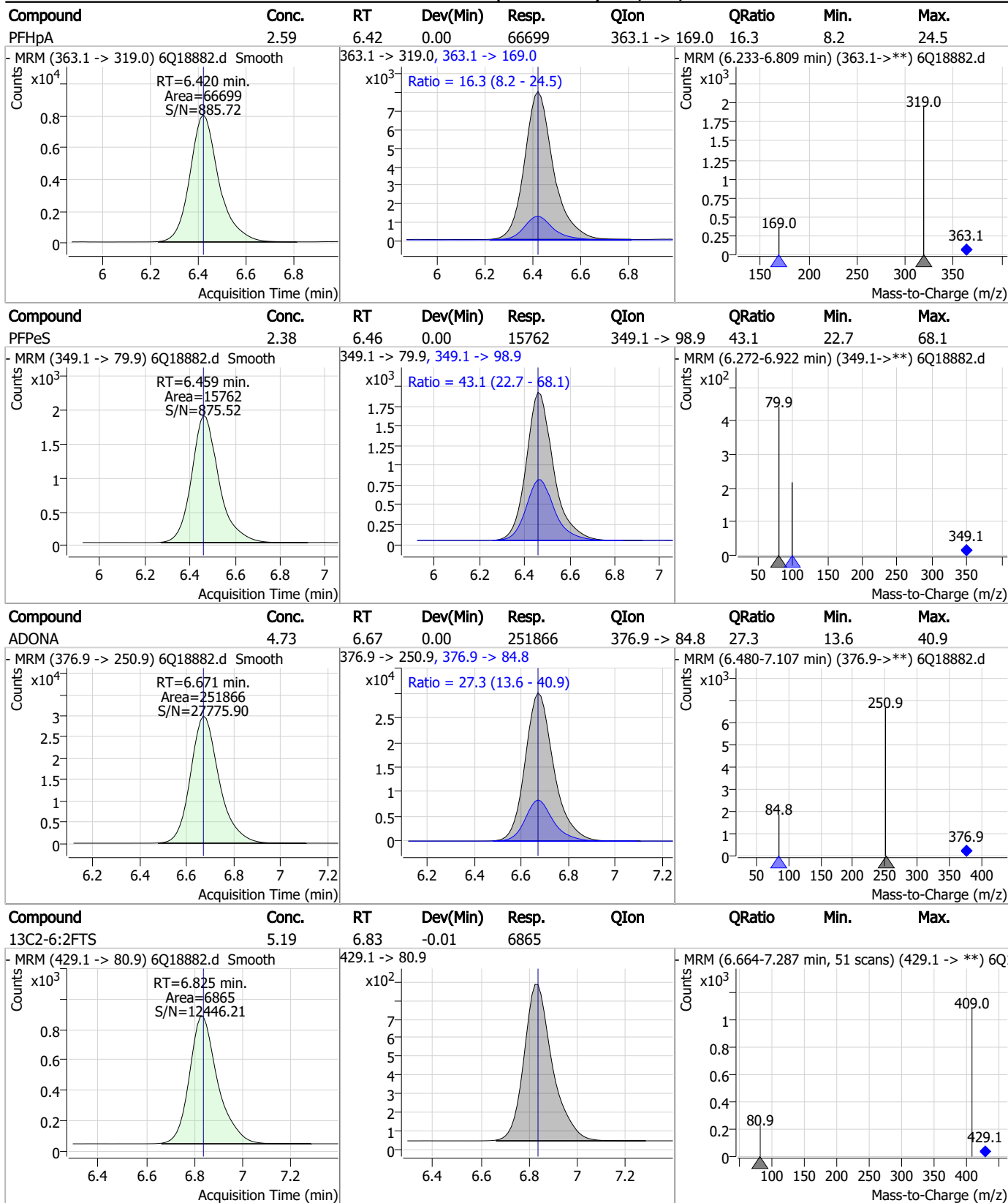
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	61.12	6.14	0.01	260756	341.0 -> 217.0	73.2	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.45	6.42	0.00	60803	367.1 -> 322.0			

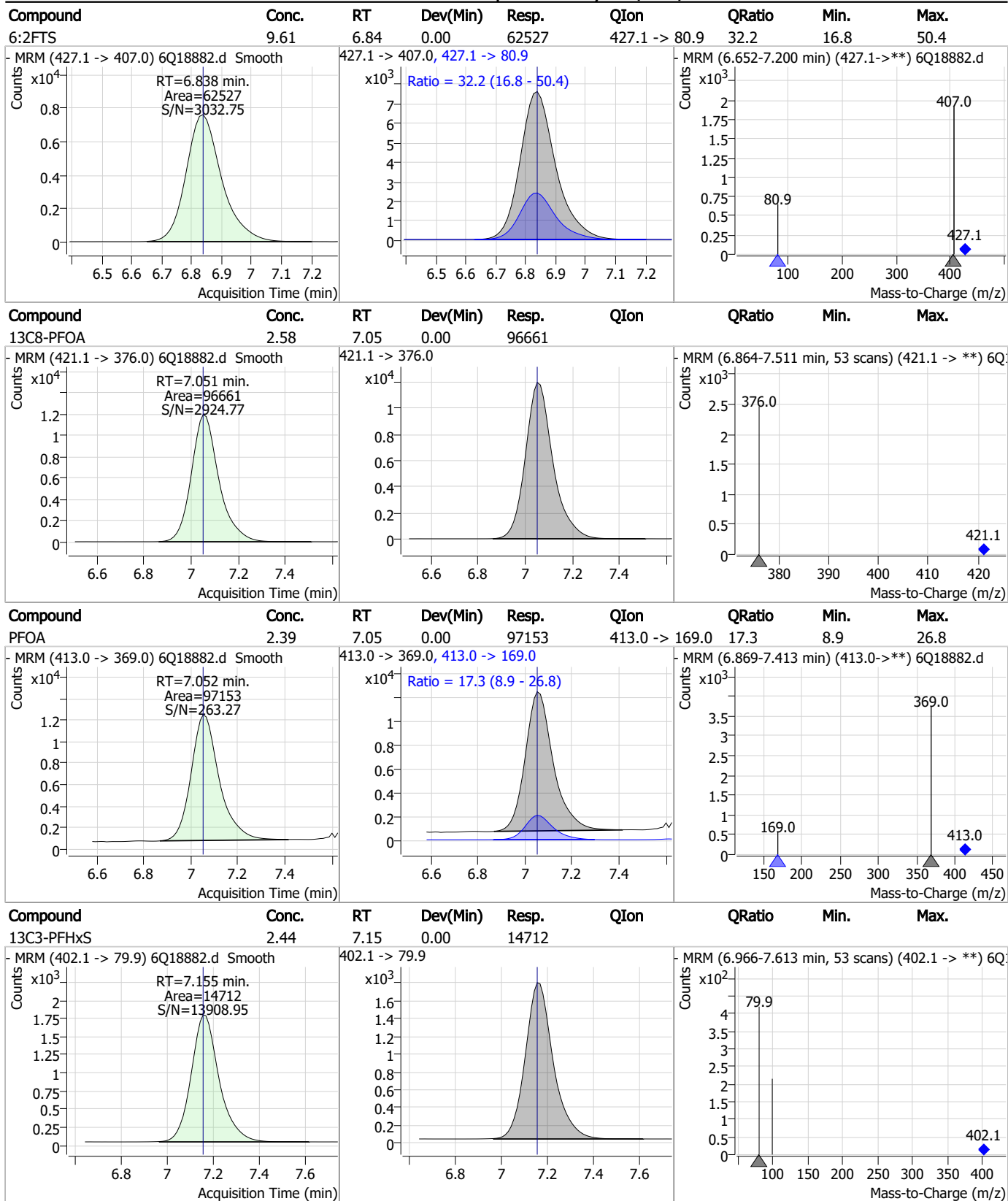


Perfluorinated Compounds by LC/MS/MS



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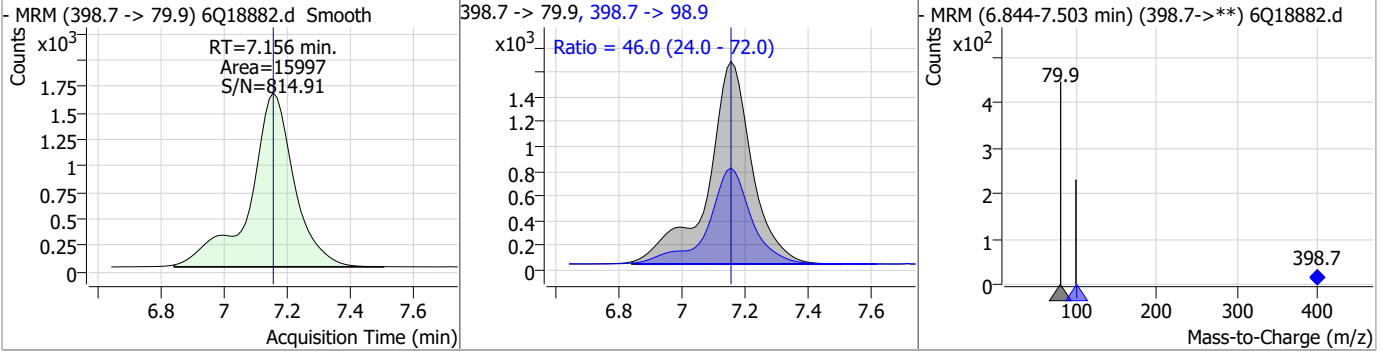
Perfluorinated Compounds by LC/MS/MS



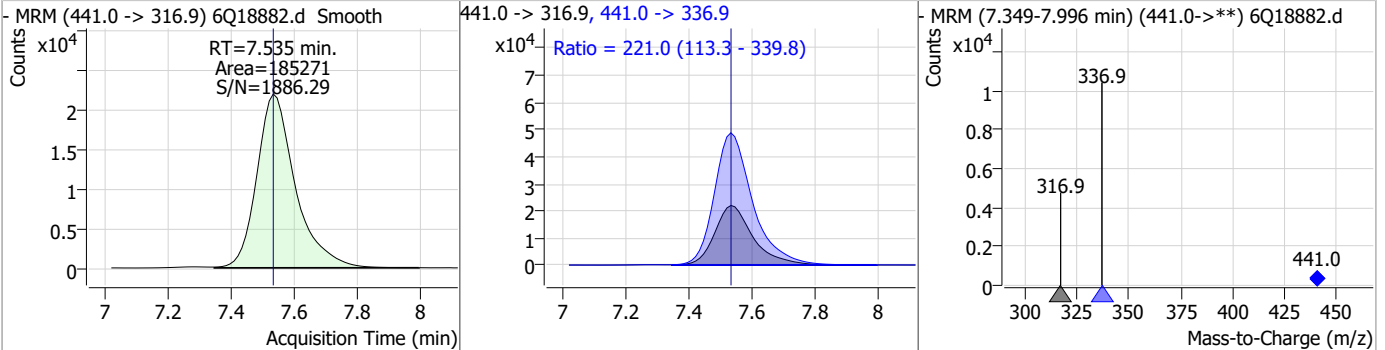
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Perfluorinated Compounds by LC/MS/MS

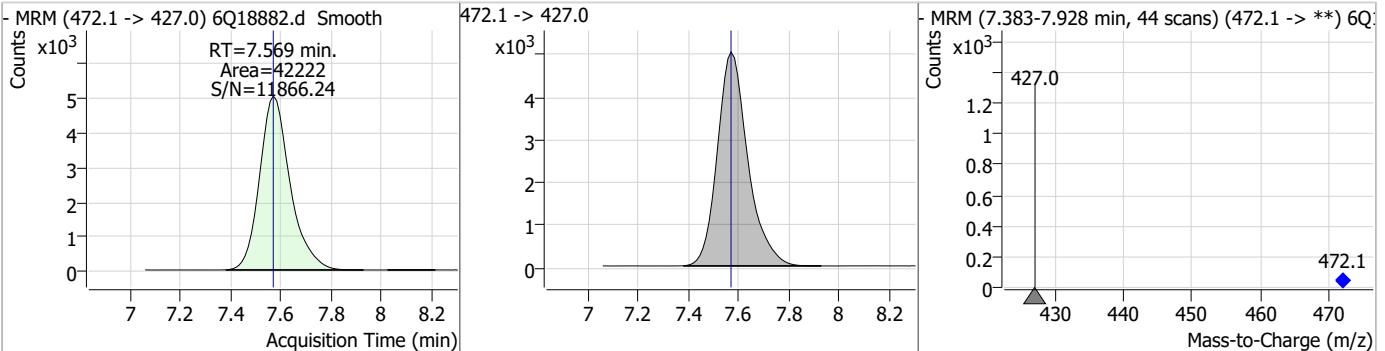
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.32	7.16	0.00	15997	398.7 -> 98.9	46.0	24.0	72.0



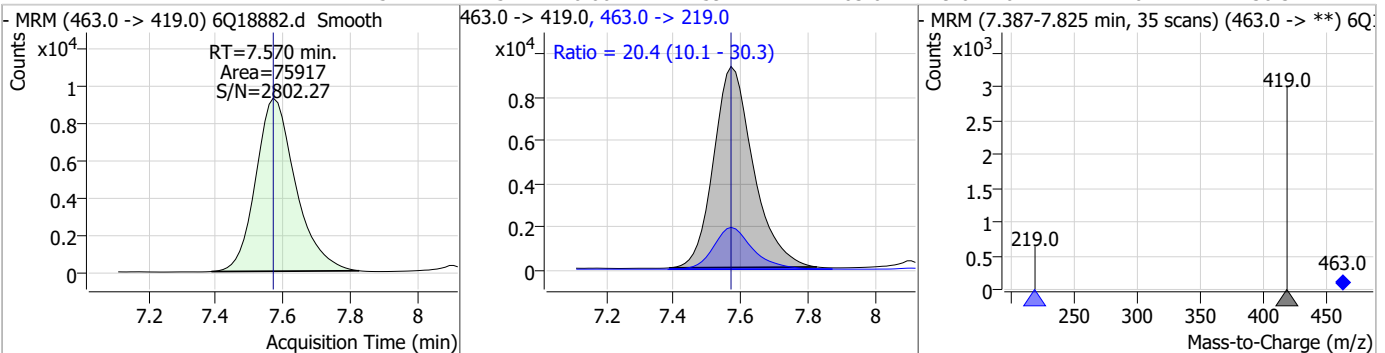
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	63.12	7.54	0.00	185271	441.0 -> 336.9	221.0	113.3	339.8



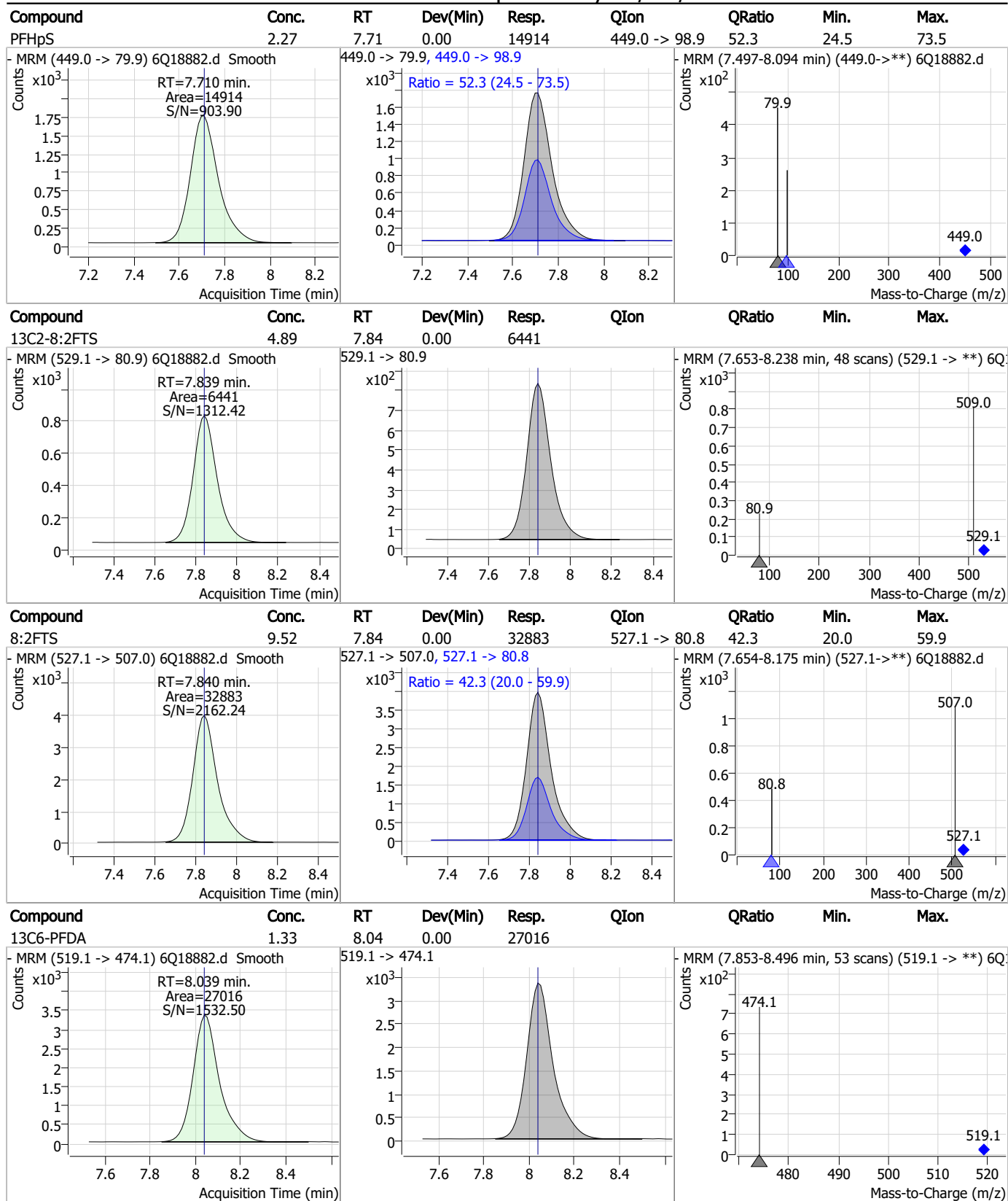
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.19	7.57	0.00	42222	472.1 -> 427.0	427.0	427.0	427.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.54	7.57	0.00	75917	463.0 -> 219.0	20.4	10.1	30.3

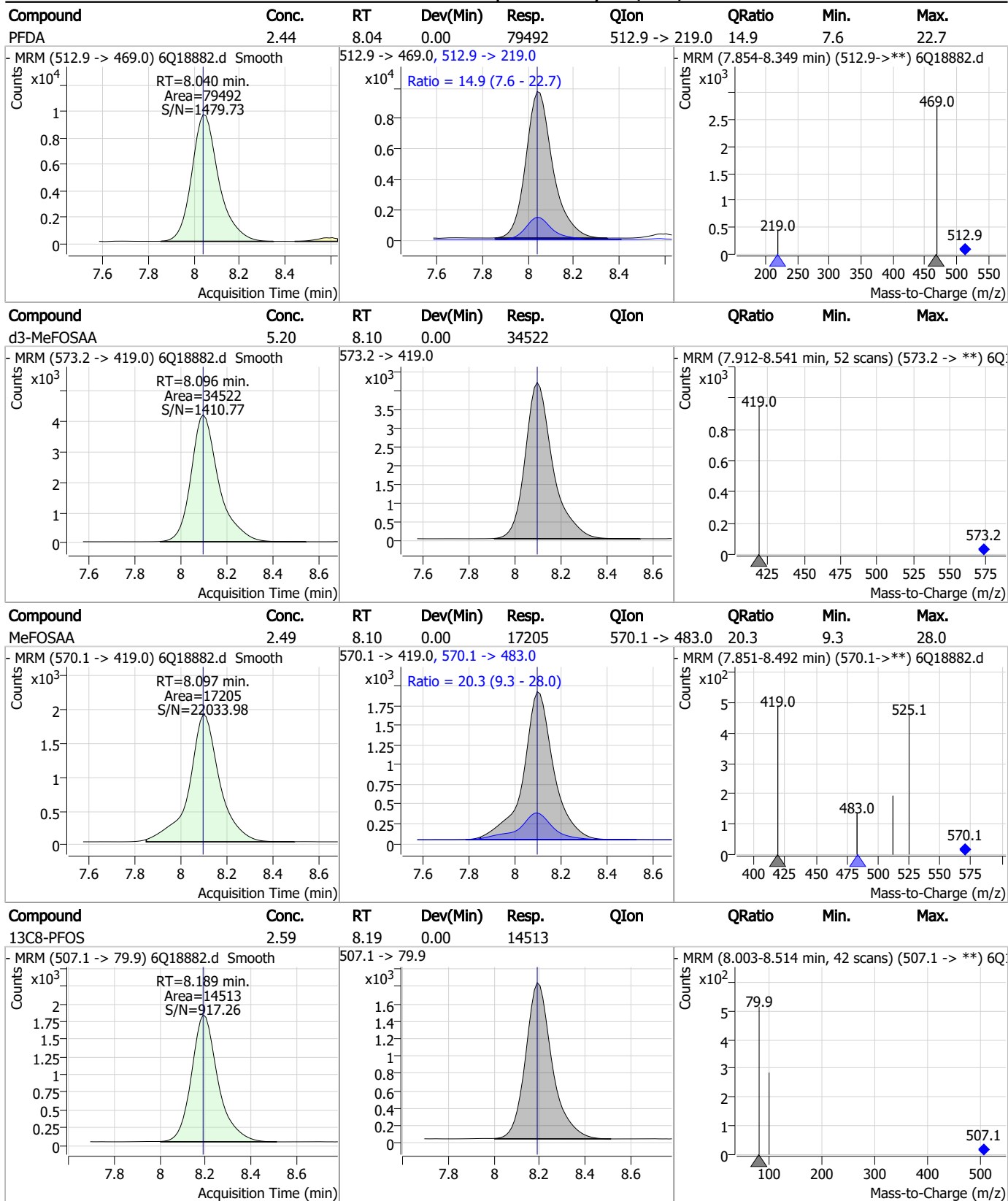


Perfluorinated Compounds by LC/MS/MS



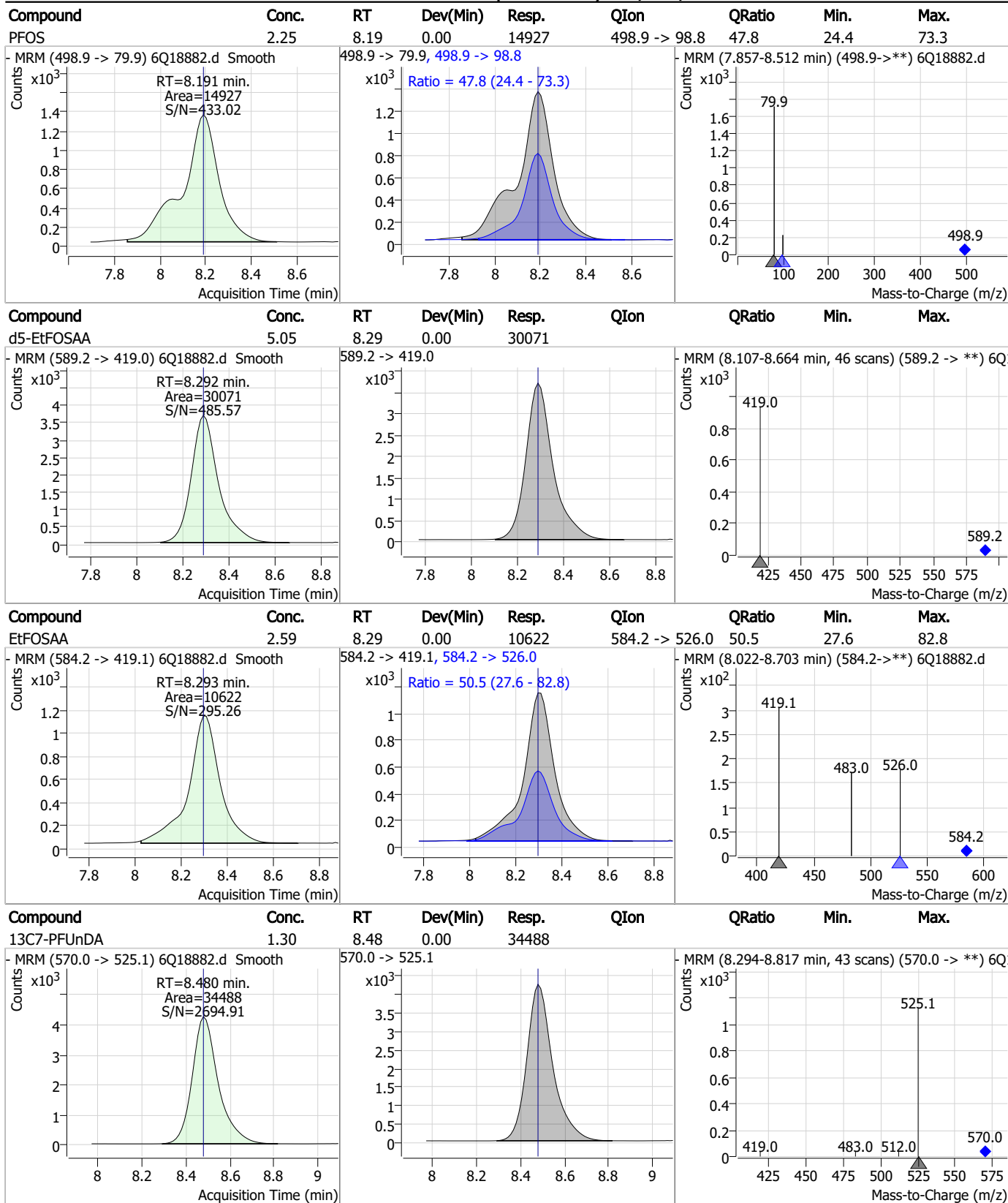
7.7.12

Perfluorinated Compounds by LC/MS/MS



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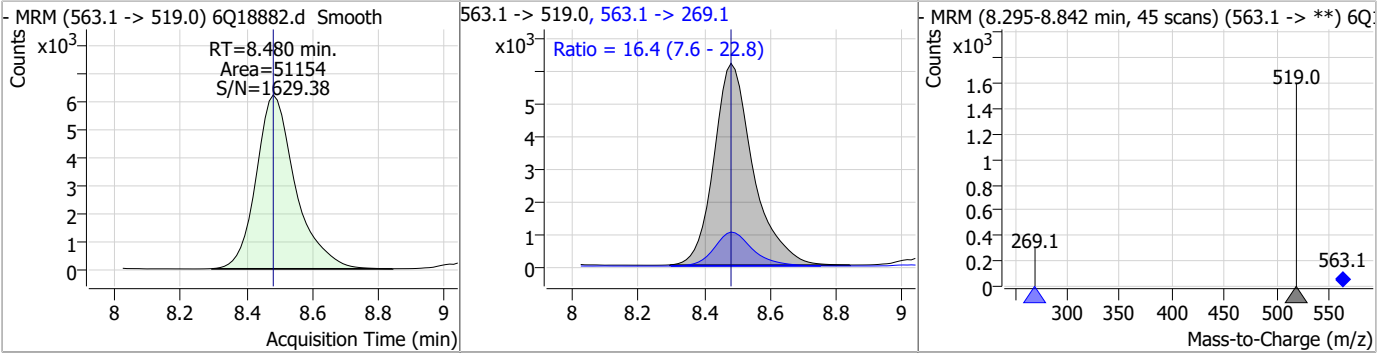
Perfluorinated Compounds by LC/MS/MS



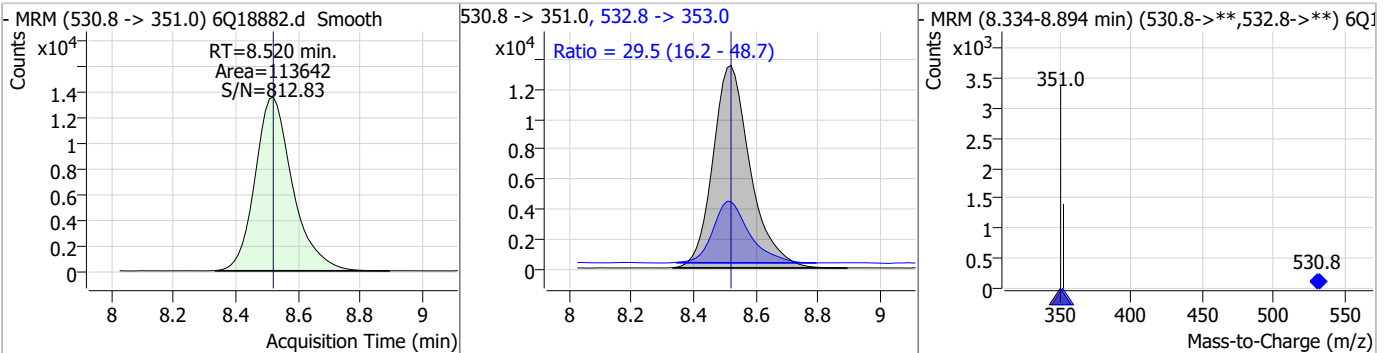
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Perfluorinated Compounds by LC/MS/MS

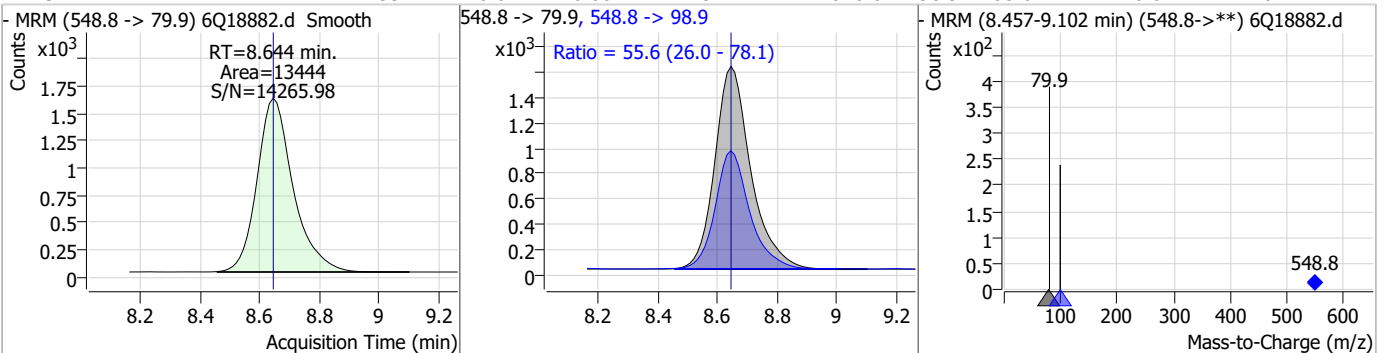
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.39	8.48	0.00	51154	563.1 -> 269.1	16.4	7.6	22.8



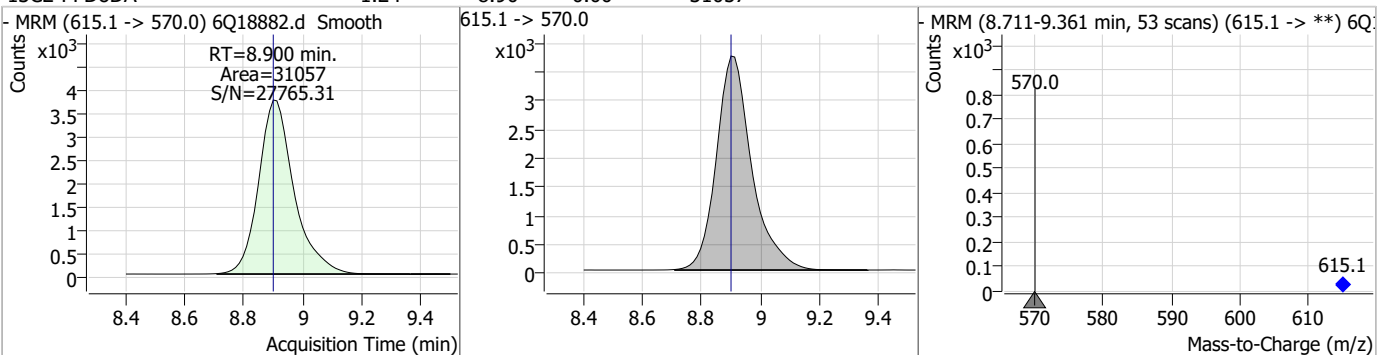
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	4.84	8.52	0.00	113642	532.8 -> 353.0	29.5	16.2	48.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.33	8.64	0.00	13444	548.8 -> 98.9	55.6	26.0	78.1

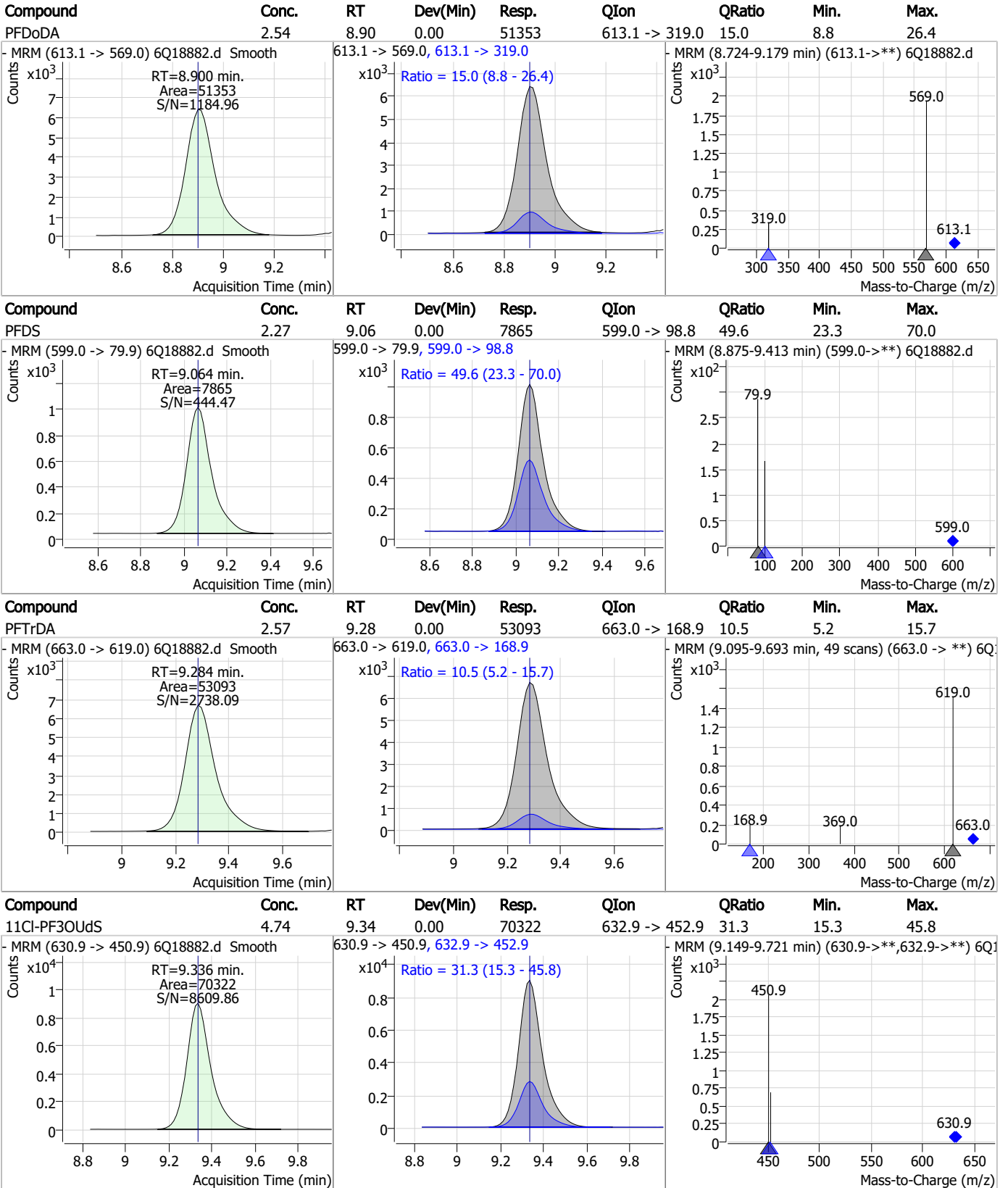


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.24	8.90	0.00	31057	615.1 -> 570.0	-	-	-



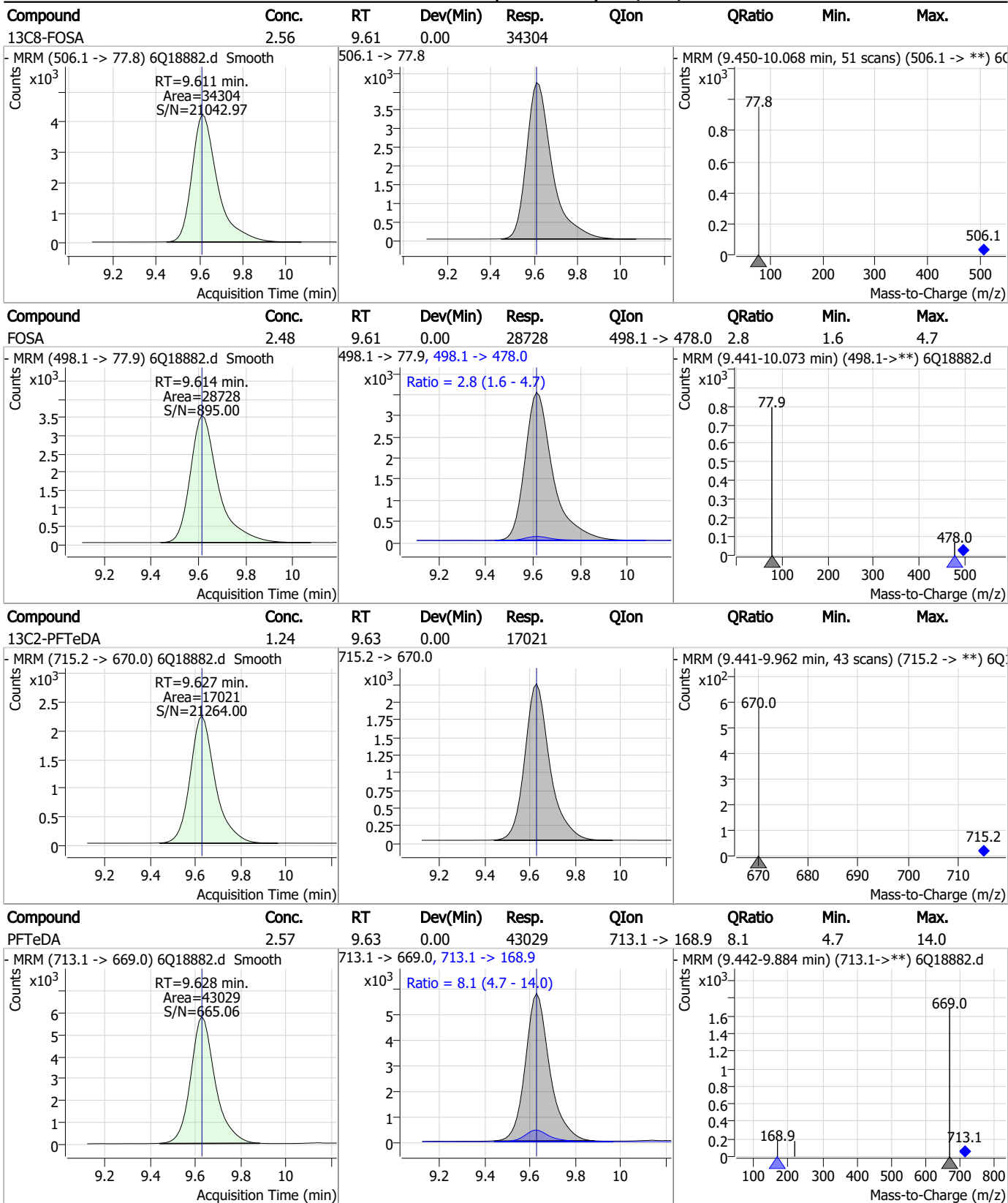
7.7.12 7

Perfluorinated Compounds by LC/MS/MS



7.7.12 7

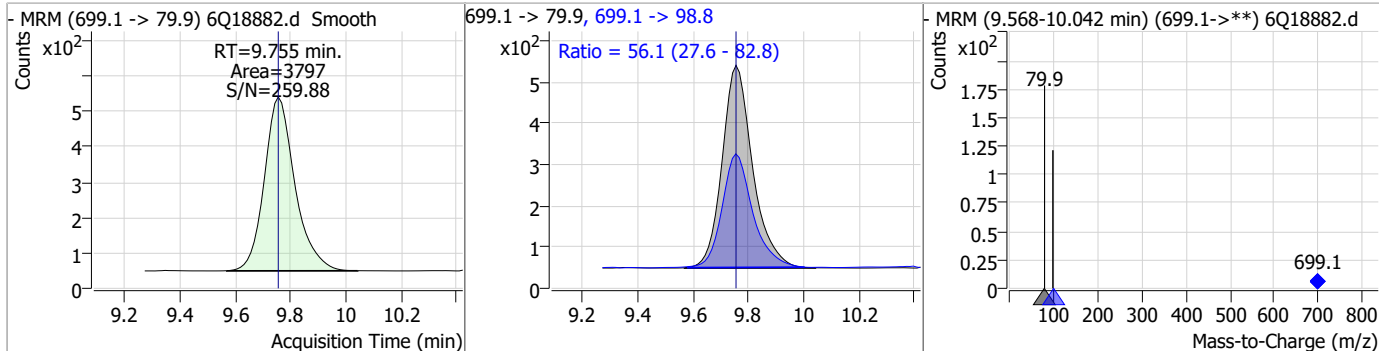
Perfluorinated Compounds by LC/MS/MS



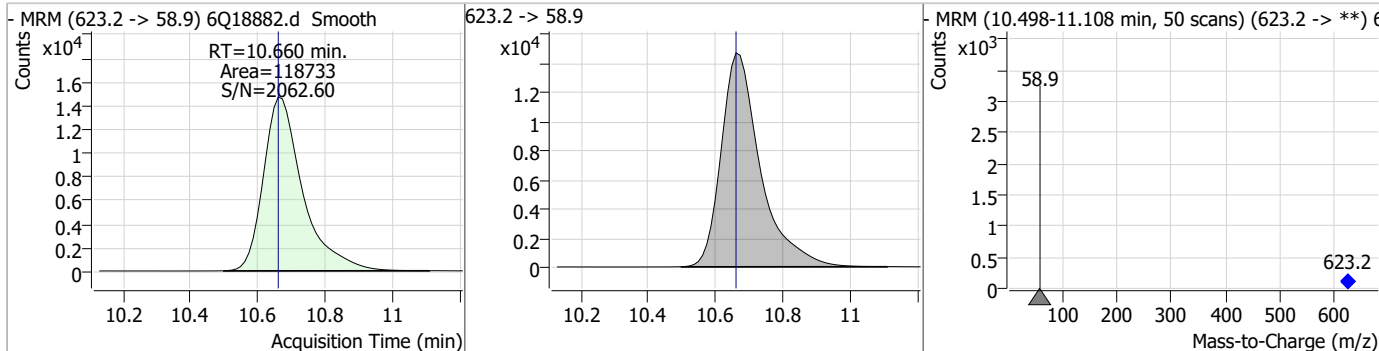
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Perfluorinated Compounds by LC/MS/MS

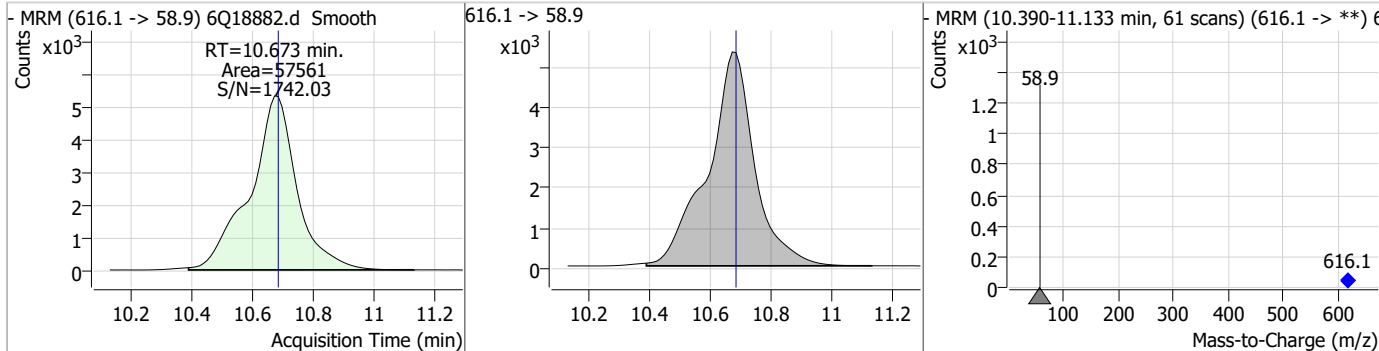
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.32	9.75	0.00	3797	699.1 -> 98.8	56.1	27.6	82.8



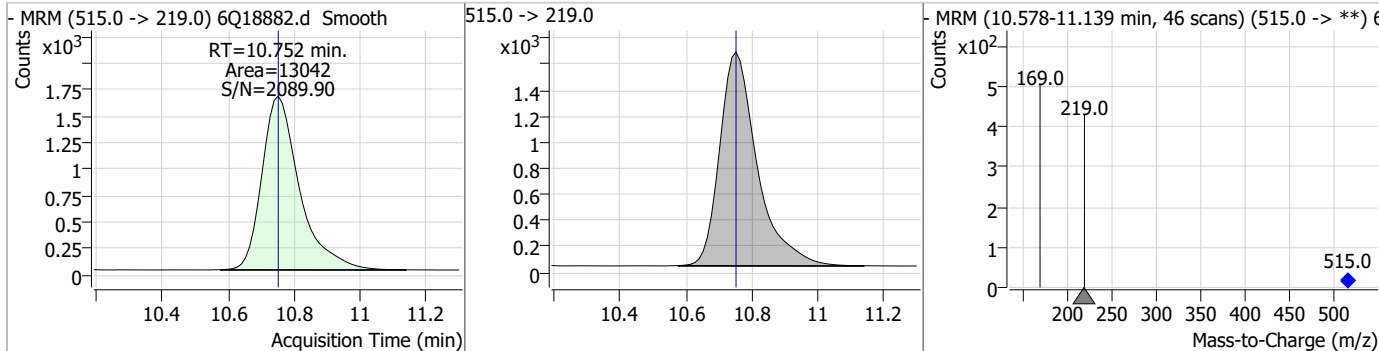
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.65	10.66	0.00	118733				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.52	10.67	-0.01	57561				

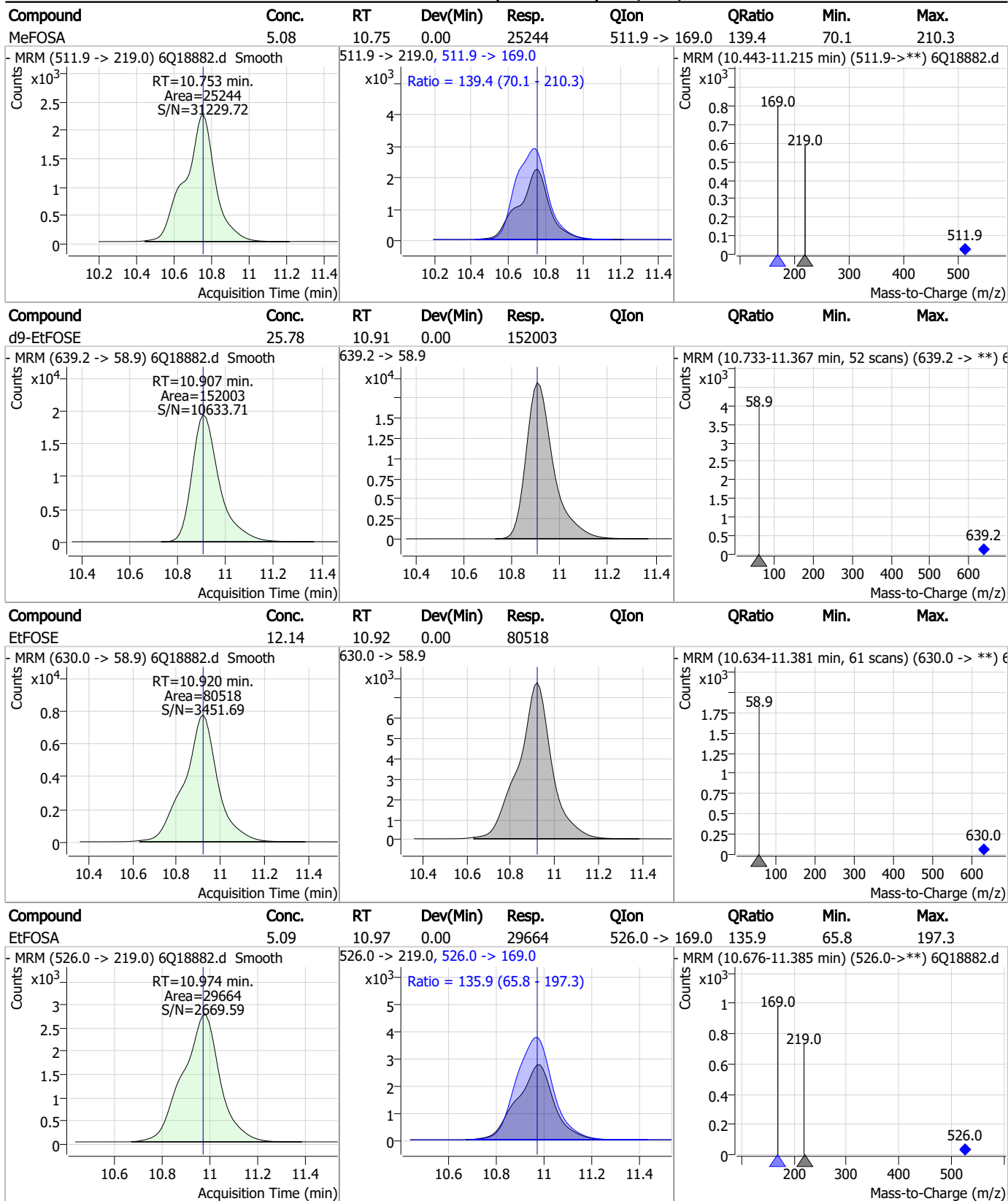


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.50	10.75	0.00	13042				



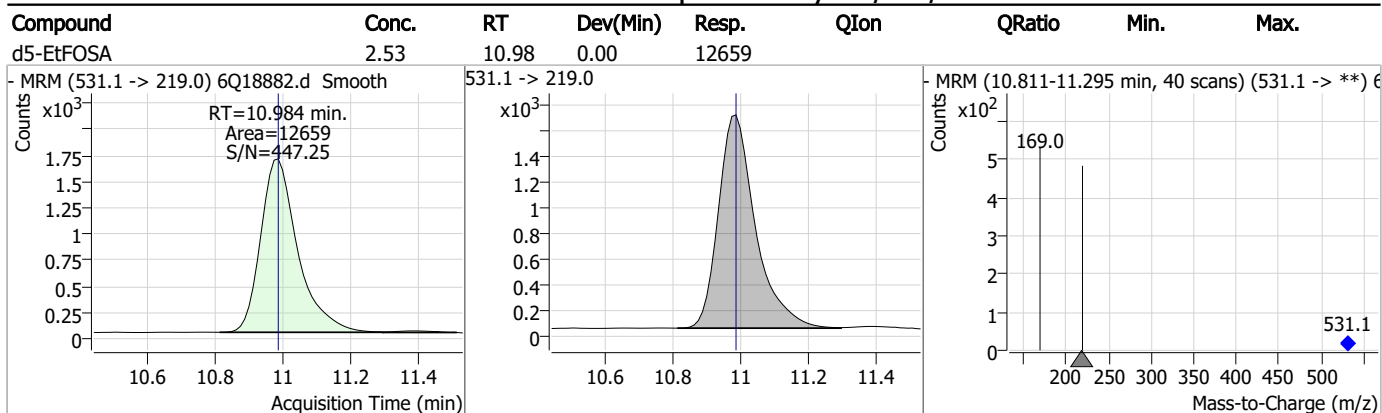
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18883.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 5:09:32 PM
 Sample Name : cc282-1.0LL
 Vial : P1-A2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP96663,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	172174	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	58152	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	62187	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	59572	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	92271	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	42179	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	24933	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	33041	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	29926	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	16270	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	33033	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	21915	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	14063	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	13505	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	4666	5.00 µg/L	-0.012
M2-6:2FTS	6.825	429.1 -> 80.9	6794	5.00 µg/L	-0.012
M2-8:2FTS	7.839	529.1 -> 80.9	6419	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	32099	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	38715	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	30274	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	115362	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	143319	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	12451	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	12566	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	17316	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	71986	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	10551	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	95240	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	31827	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	51286	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	59152	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	4666	5.38 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.5%		
13C2-6:2FTS	6.825	429.1 -> 80.9	6794	5.45 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.0%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6419	5.17 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 103.4%		
13C2-PFDoDA	8.900	615.1 -> 570.0	29926	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.9%		
13C2-PFTeDA	9.627	715.2 -> 670.0	16270	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.1%		
13C3-PFBS	5.384	302.1 -> 79.9	21915	2.36 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 94.5%		
13C3-PFHxS	7.155	402.1 -> 79.9	14063	2.47 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C4-PFBA	2.860	216.8 -> 171.9	172174	10.08 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFHpA	6.420	367.1 -> 322.0	59572	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C5-PFHxA	5.466	318.0 -> 273.0	62187	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C5-PFPeA	4.272	268.3 -> 223.0	58152	5.07 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C6-PFDA	8.039	519.1 -> 474.1	24933	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.6%	
13C7-PFUnDA	8.480	570.0 -> 525.1	33041	1.34 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.1%	
13C8-FOSA	9.623	506.1 -> 77.8	33033	2.62 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C8-PFOA	7.051	421.1 -> 376.0	92271	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C8-PFOS	8.189	507.1 -> 79.9	13505	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C9-PFNA	7.569	472.1 -> 427.0	42179	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	32099	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	38715	10.39 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.9%	
d3-MeFOSA	10.752	515.0 -> 219.0	12566	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	30274	5.41 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.3%	
d7-MeFOSE	10.660	623.2 -> 58.9	115362	26.54 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.2%	
d9-EtFOSE	10.907	639.2 -> 58.9	143319	25.89 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.6%	
d5-EtFOSA	10.984	531.1 -> 219.0	12451	2.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.9%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	4760	0.74 µg/L	96
		327.1 -> 80.9	1869		
6:2FTS	6.826	427.1 -> 407.0	4920	0.76 µg/L	98
		427.1 -> 80.9	1592		
8:2FTS	7.840	527.1 -> 507.0	2905	0.84 µg/L	95
		527.1 -> 80.8	1079		
EtFOSAA	8.293	584.2 -> 419.1	898	0.22 µg/L	99
		584.2 -> 526.0	491		
FOSA	9.614	498.1 -> 77.9	2433	0.22 µg/L	98
		498.1 -> 478.0	60		
MeFOSAA	8.097	570.1 -> 419.0	1386	0.22 µg/L	90
		570.1 -> 483.0	320		
PFBA	2.856	212.8 -> 168.9	4514	0.80 µg/L	100
PFBS	5.385	298.7 -> 79.9	1455	0.19 µg/L	95
		298.7 -> 98.8	524		
PFDA	8.040	512.9 -> 469.0	6425	0.21 µg/L	87
		512.9 -> 219.0	618		
PFDODA	8.900	613.1 -> 569.0	4088	0.21 µg/L	95
		613.1 -> 319.0	637		
PFDS	9.064	599.0 -> 79.9	602	0.19 µg/L	99

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	278		
PFHpA	6.420	363.1 -> 319.0	5103	0.20 µg/L	99
		363.1 -> 169.0	851		
PFHpS	7.698	449.0 -> 79.9	1185	0.19 µg/L	95
		449.0 -> 98.9	540		
PFHxA	5.469	313.0 -> 269.0	4444	0.22 µg/L	100
		313.0 -> 118.9	241		
PFHxS	7.156	398.7 -> 79.9	1283	0.19 µg/L	92
		398.7 -> 98.9	681		
PFNA	7.570	463.0 -> 419.0	6137	0.21 µg/L	99
		463.0 -> 219.0	1262		
PFNS	8.644	548.8 -> 79.9	1146	0.21 µg/L	98
		548.8 -> 98.9	583		
PFOA	7.052	413.0 -> 369.0	7398	0.19 µg/L	98
		413.0 -> 169.0	1380		
PFOS	8.191	498.9 -> 79.9	1239	0.20 µg/L	m 97
		498.9 -> 98.8	632		
PFPeA	4.274	263.0 -> 219.0	5708	0.42 µg/L	100
PFPeS	6.459	349.1 -> 79.9	1298	0.21 µg/L	93
		349.1 -> 98.9	528		
PFTeDA	9.628	713.1 -> 669.0	3462	0.22 µg/L	96
		713.1 -> 168.9	366		
PFTrDA	9.296	663.0 -> 619.0	3984	0.20 µg/L	97
		663.0 -> 168.9	369		
PFUnDA	8.480	563.1 -> 519.0	3757	0.18 µg/L	96
		563.1 -> 269.1	635		
11Cl-PF3OUdS	9.336	630.9 -> 450.9	5444	0.37 µg/L	93
		632.9 -> 452.9	1865		
9Cl-PF3ONS	8.520	530.8 -> 351.0	8543	0.36 µg/L	93
		532.8 -> 353.0	2410		
ADONA	6.671	376.9 -> 250.9	19613	0.37 µg/L	98
		376.9 -> 84.8	5552		
HFPO-DA	5.832	284.9 -> 168.9	1204	0.37 µg/L	94
		284.9 -> 184.9	170		
3:3FTCA	3.709	241.0 -> 177.0	1005	1.03 µg/L	97
		241.0 -> 117.0	123		
5:3FTCA	6.137	341.0 -> 237.1	21256	5.40 µg/L	100
		341.0 -> 217.0	15468		
7:3FTCA	7.535	441.0 -> 316.9	15433	5.70 µg/L	89
		441.0 -> 336.9	32103		
EtFOSA	10.986	526.0 -> 219.0	2342	0.41 µg/L	97
		526.0 -> 169.0	3169		
EtFOSE	10.920	630.0 -> 58.9	6344	1.01 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	1929	0.40 µg/L	98
		511.9 -> 169.0	2743		
MeFOSE	10.686	616.1 -> 58.9	4592	1.03 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	284	0.19 µg/L	92
		699.1 -> 98.8	140		
NFDHA	5.348	295.0 -> 201.0	1010	0.41 µg/L	97
		295.0 -> 84.9	263		
PFMBA	4.688	279.0 -> 85.1	3762	0.40 µg/L	100
PFMPA	3.401	229.0 -> 84.9	2938	0.41 µg/L	100
PFEESA	5.926	314.8 -> 134.9	9332	0.36 µg/L	99
		314.8 -> 82.9	312		

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

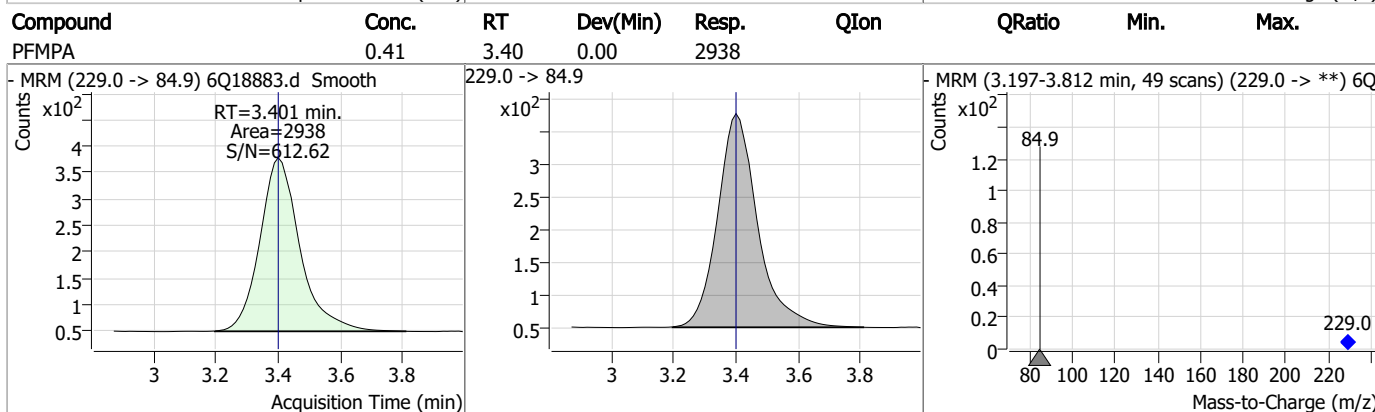
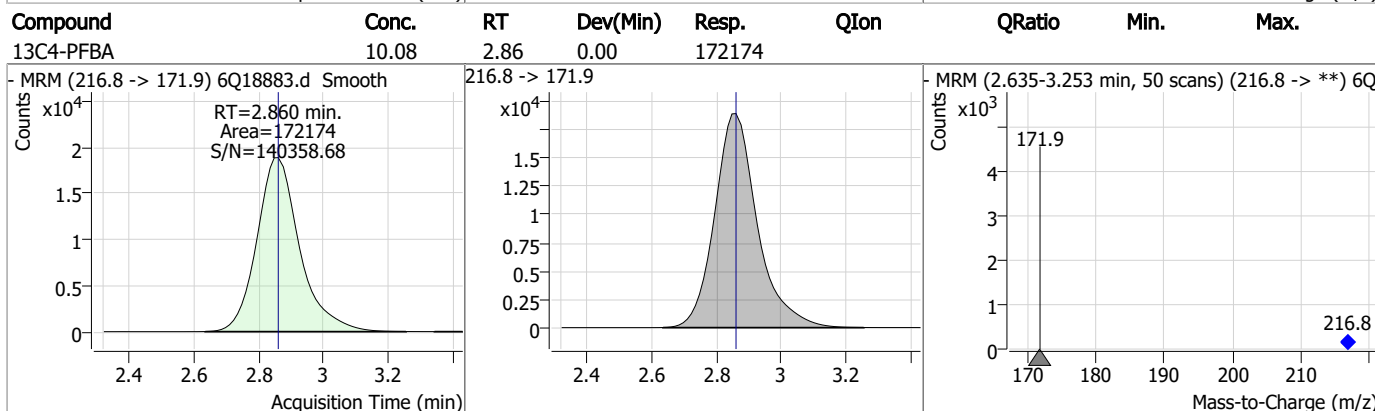
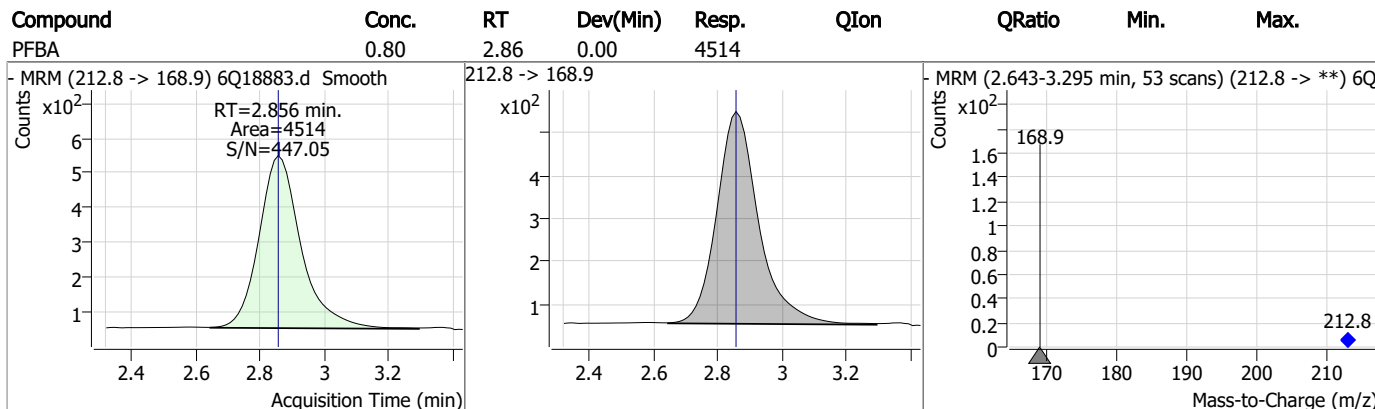
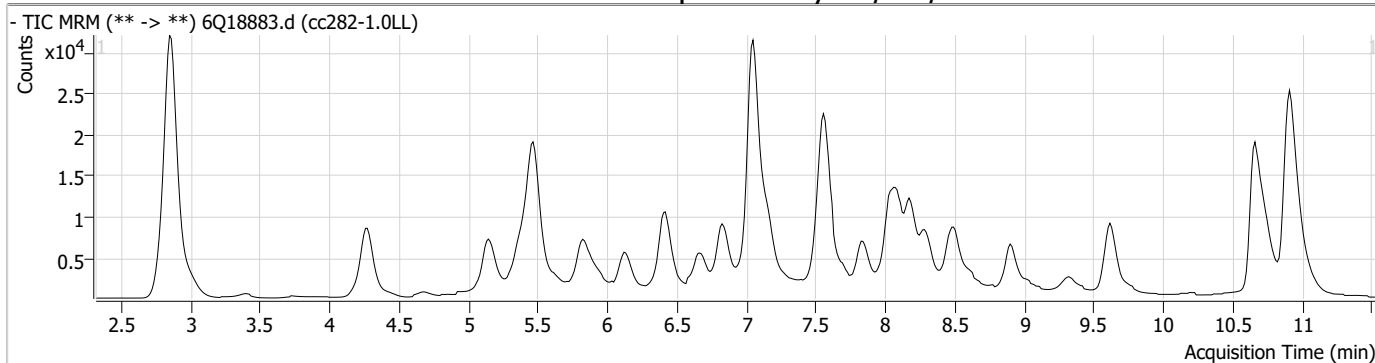
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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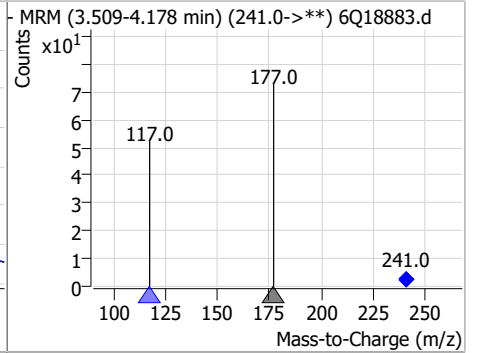
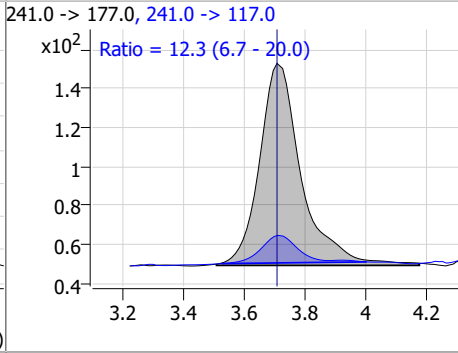
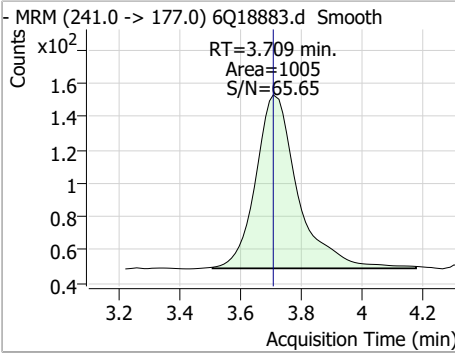
Perfluorinated Compounds by LC/MS/MS



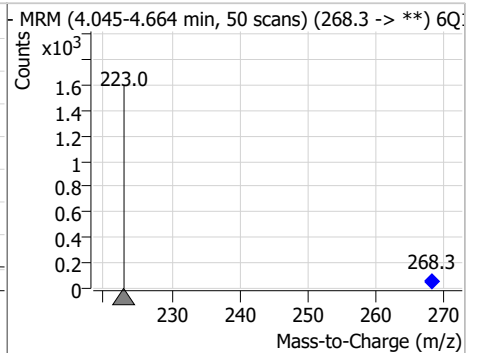
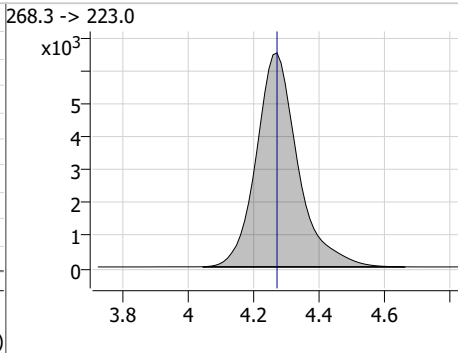
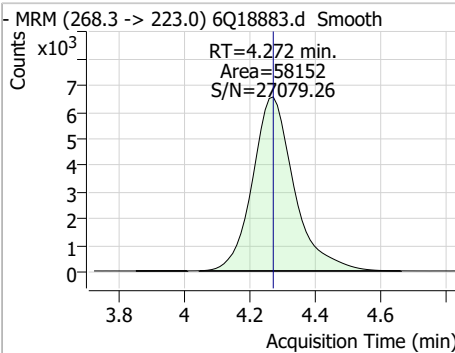
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Perfluorinated Compounds by LC/MS/MS

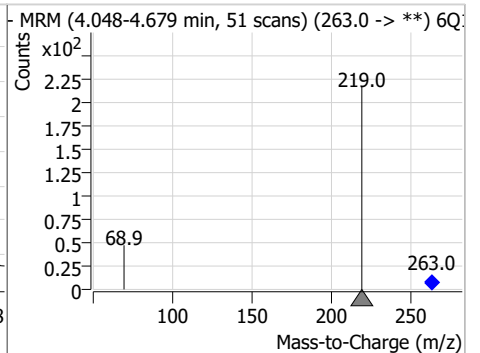
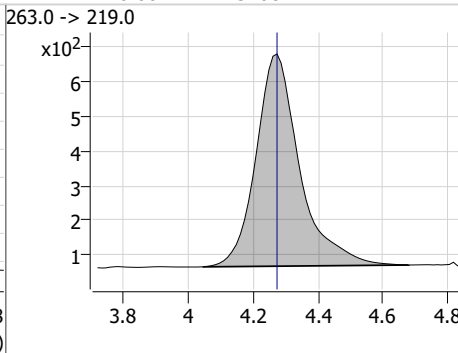
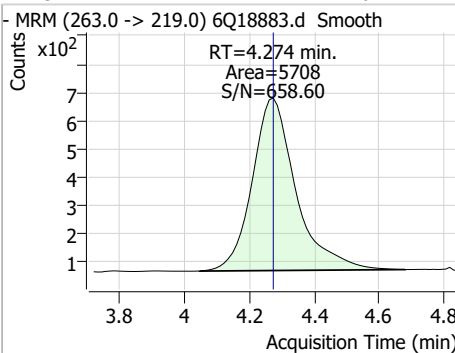
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.03	3.71	0.00	1005	241.0 -> 117.0	12.3	6.7	20.0



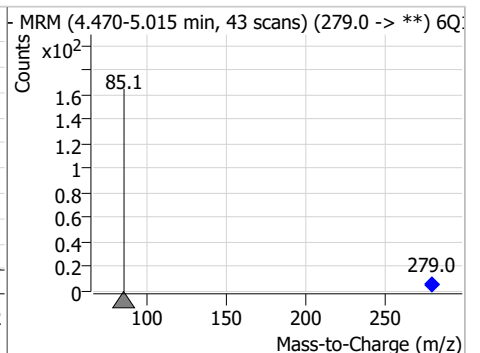
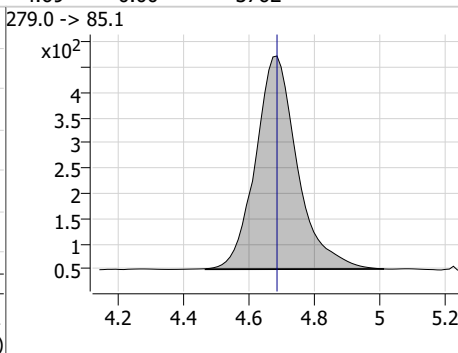
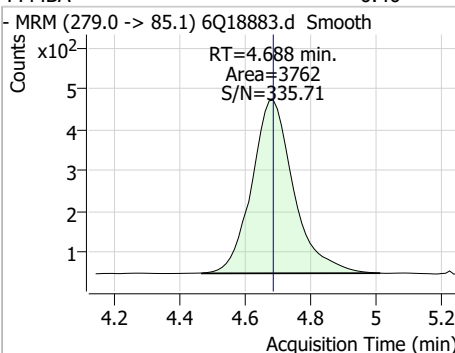
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.07	4.27	0.00	58152				



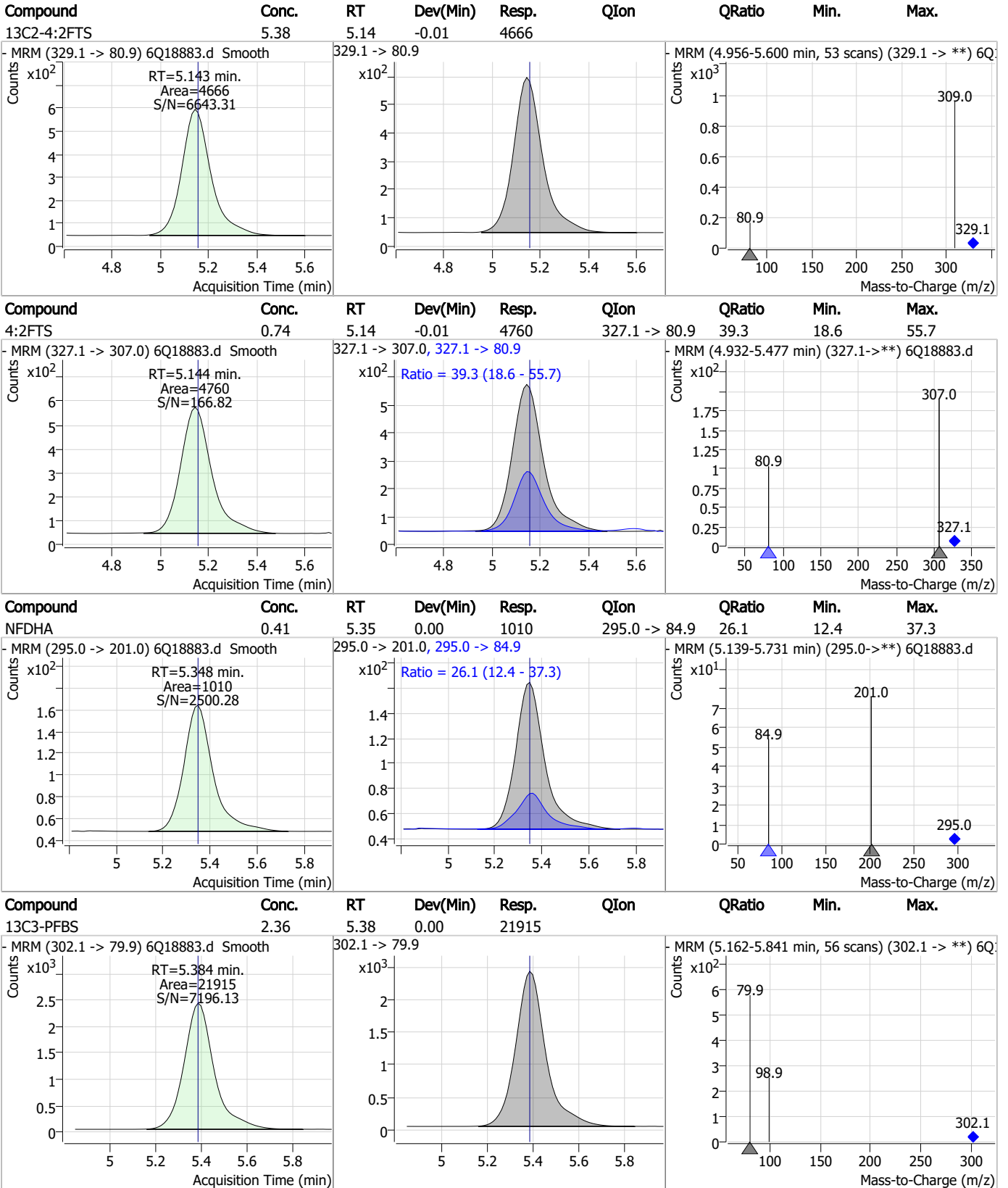
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.42	4.27	0.00	5708				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.40	4.69	0.00	3762				



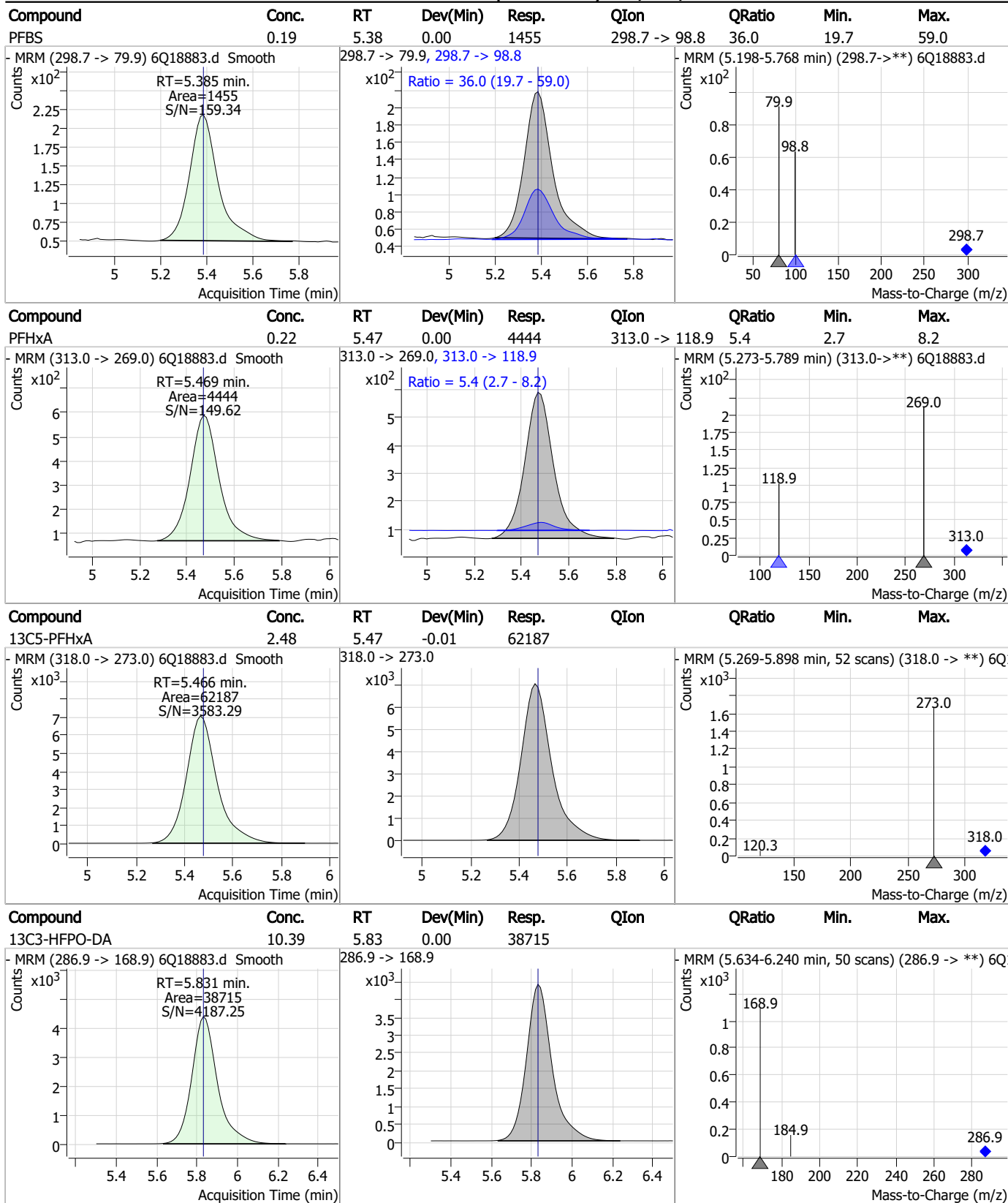
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

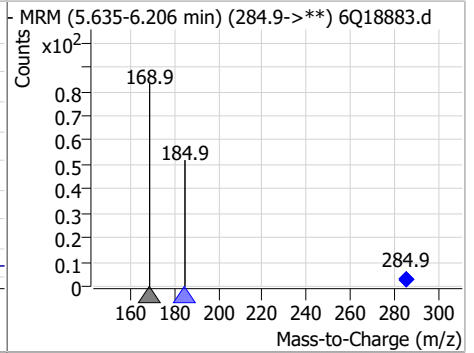
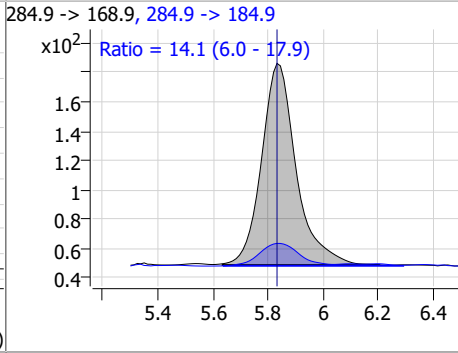
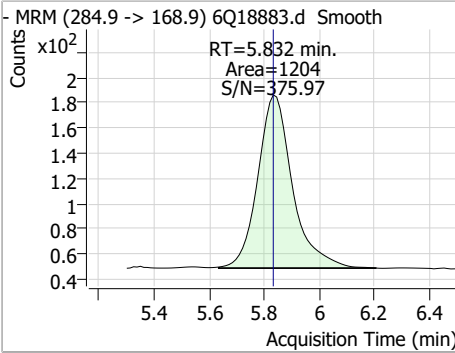


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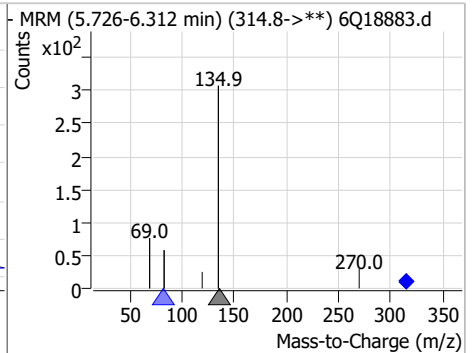
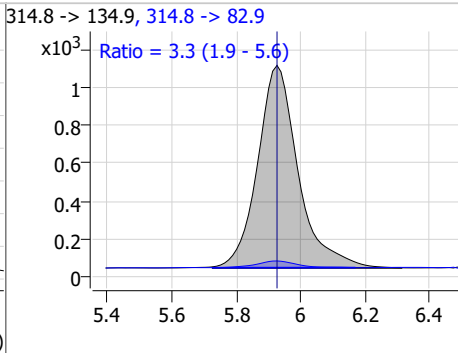
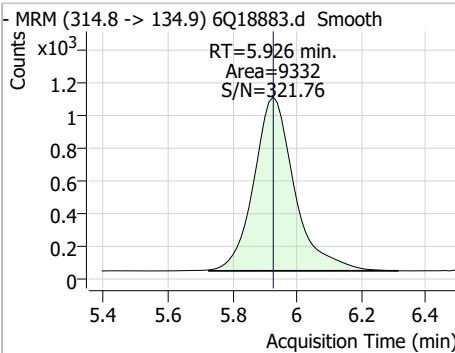
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Perfluorinated Compounds by LC/MS/MS

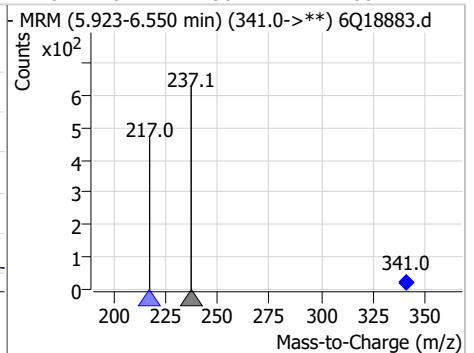
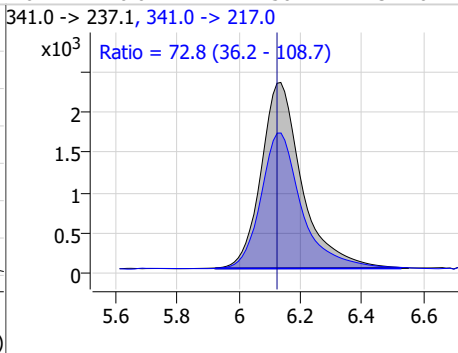
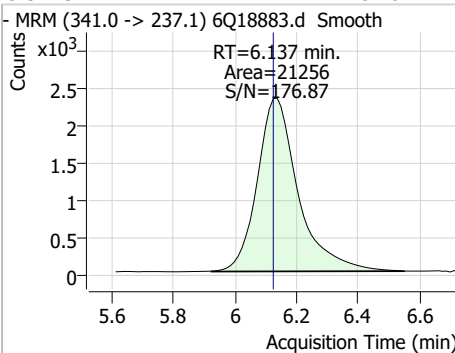
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.37	5.83	0.00	1204	284.9 -> 184.9	14.1	6.0	17.9



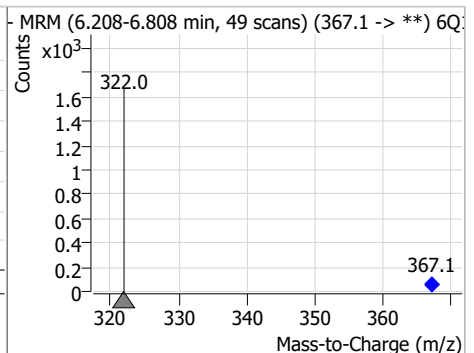
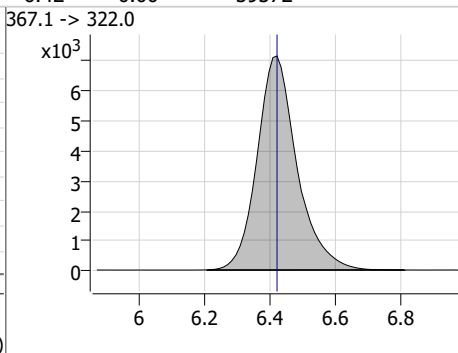
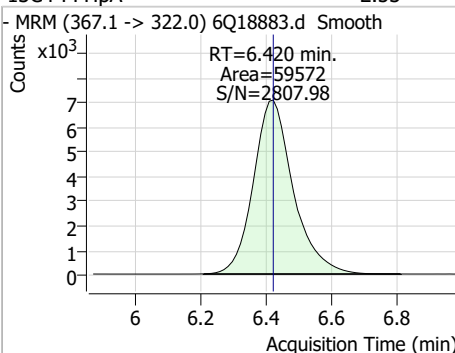
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.36	5.93	0.00	9332	314.8 -> 82.9	3.3	1.9	5.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.40	6.14	0.01	21256	341.0 -> 217.0	72.8	36.2	108.7



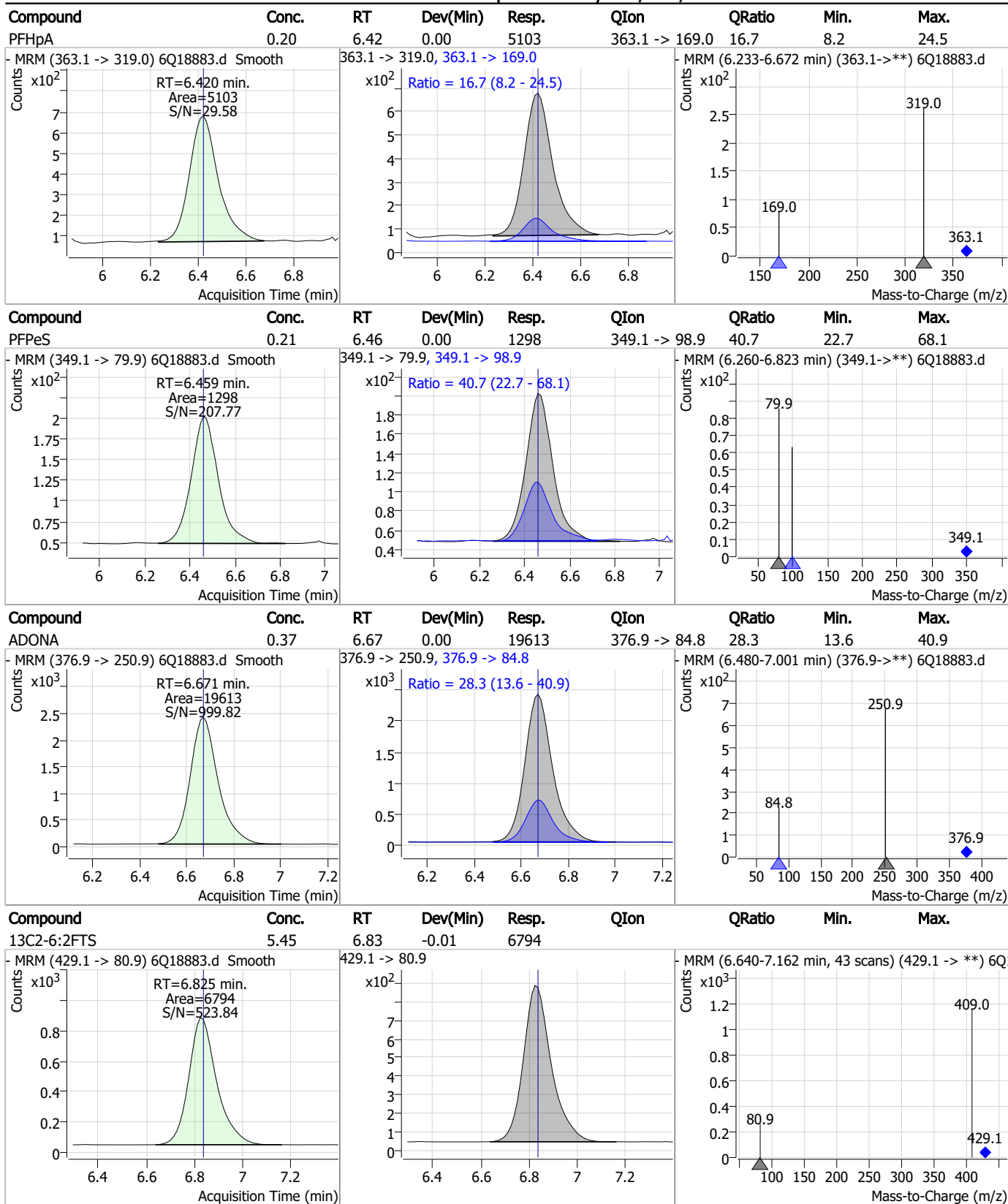
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.53	6.42	0.00	59572	367.1 -> 322.0			



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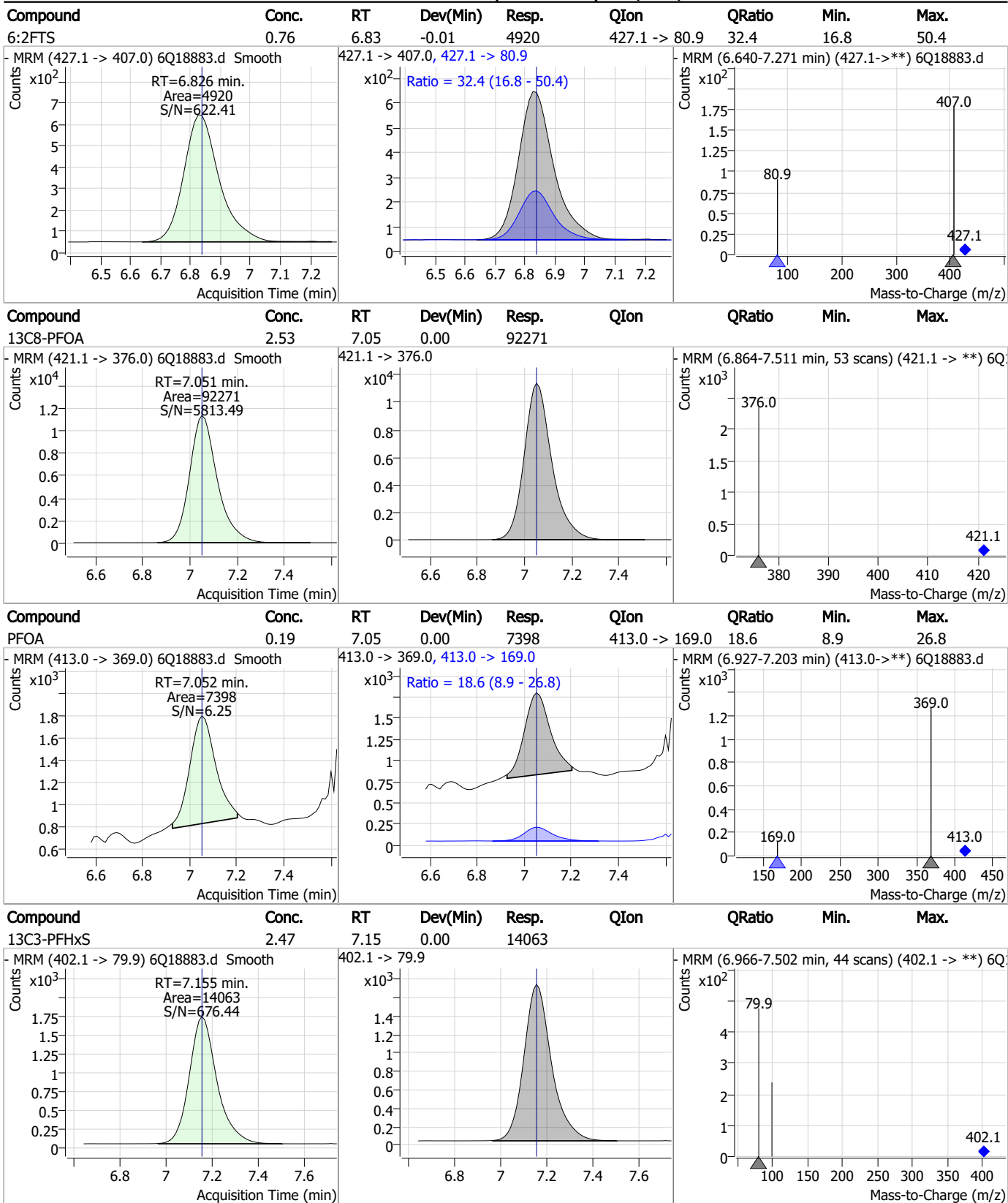
Perfluorinated Compounds by LC/MS/MS



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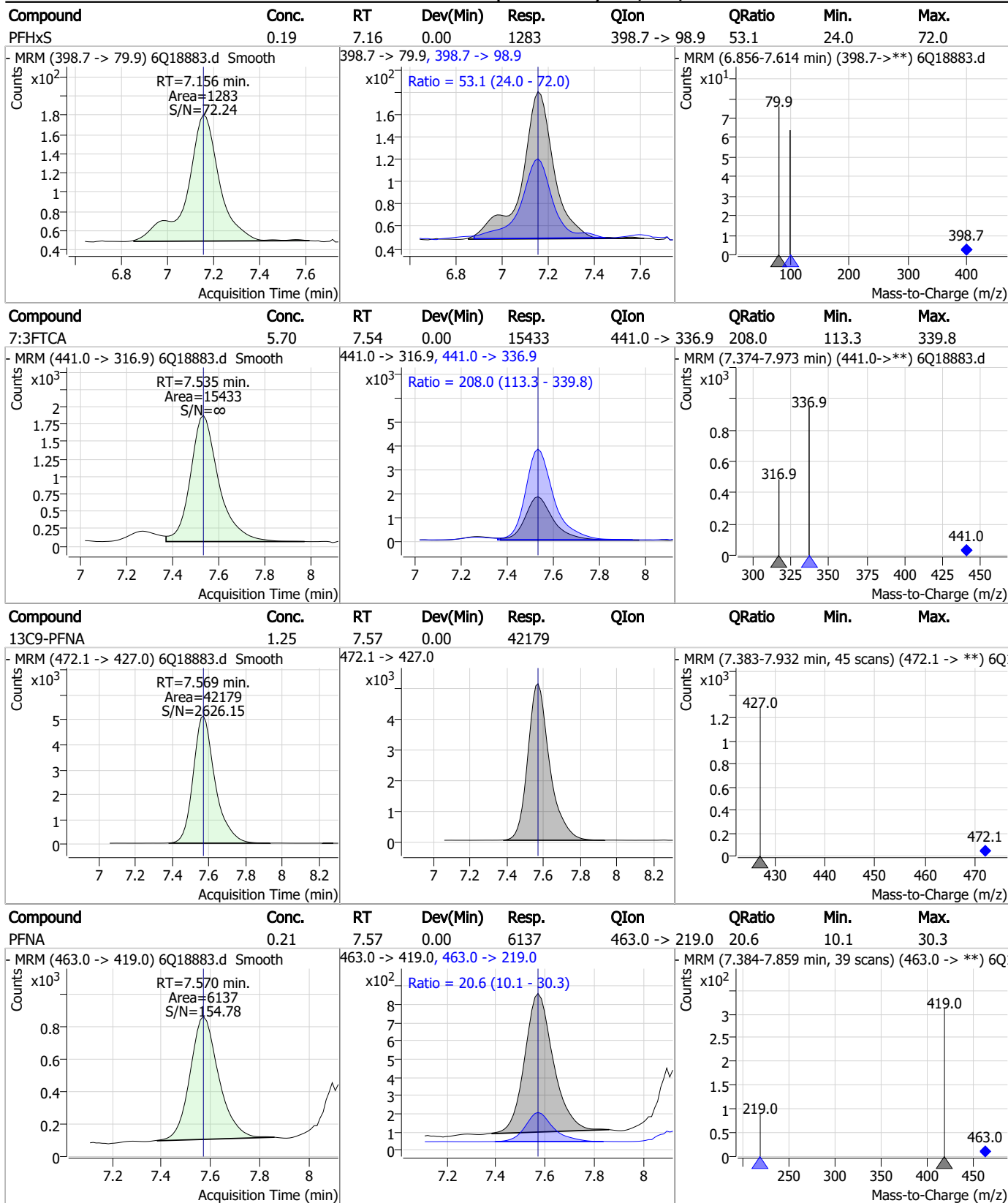


Perfluorinated Compounds by LC/MS/MS



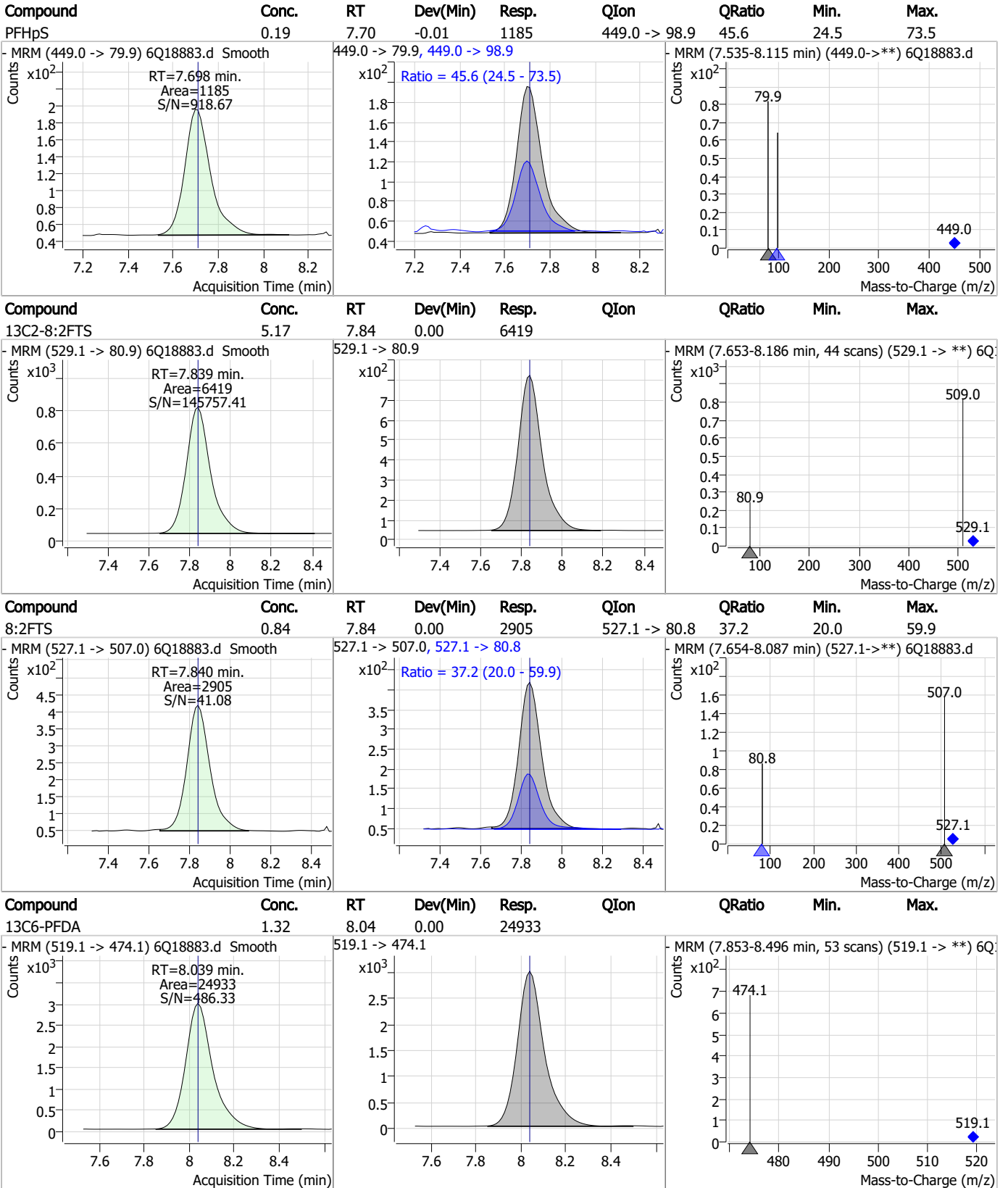
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Perfluorinated Compounds by LC/MS/MS



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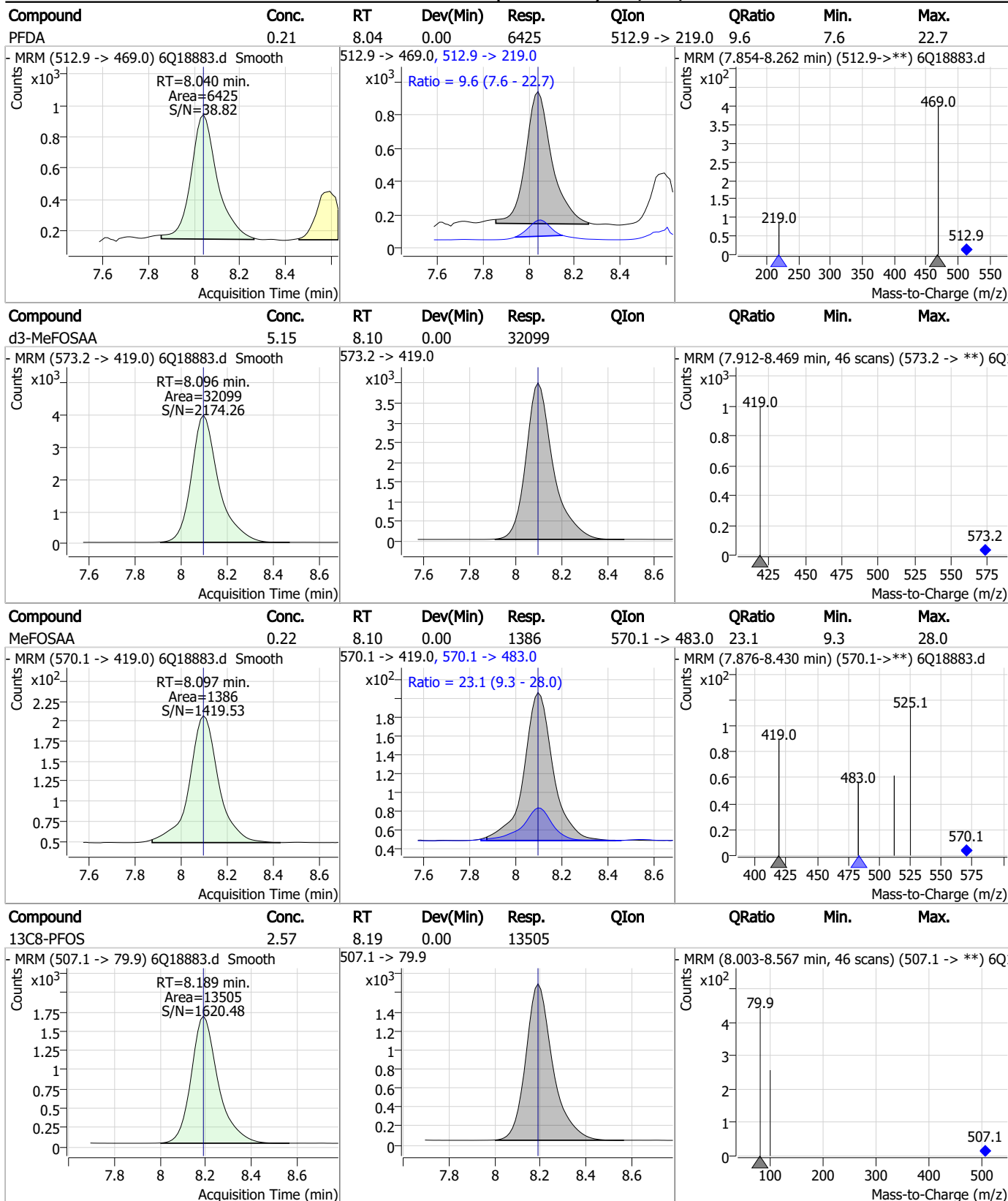
Perfluorinated Compounds by LC/MS/MS



7.7.13 7



Perfluorinated Compounds by LC/MS/MS

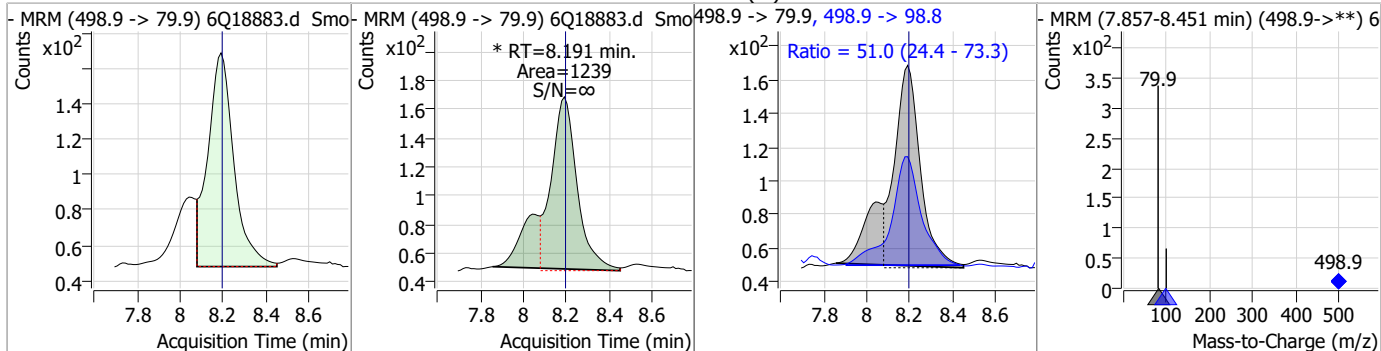


7.7.13

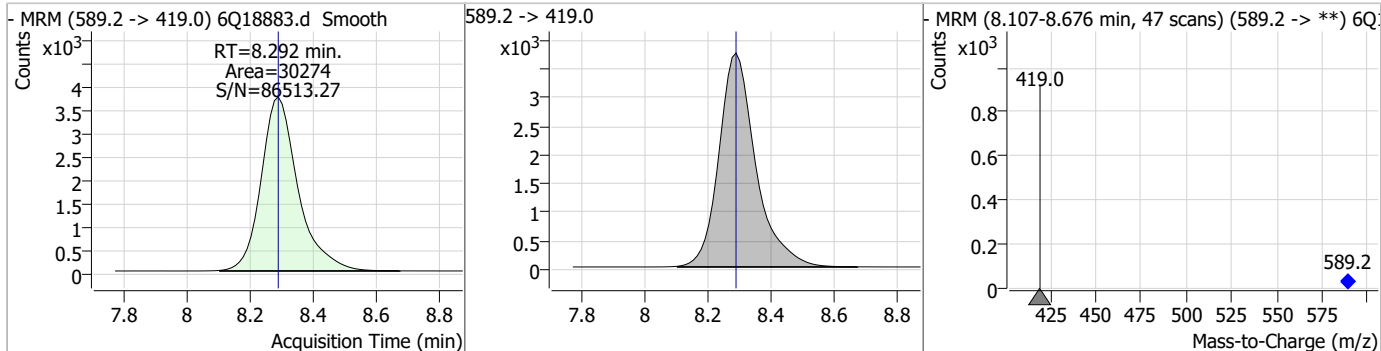
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Perfluorinated Compounds by LC/MS/MS

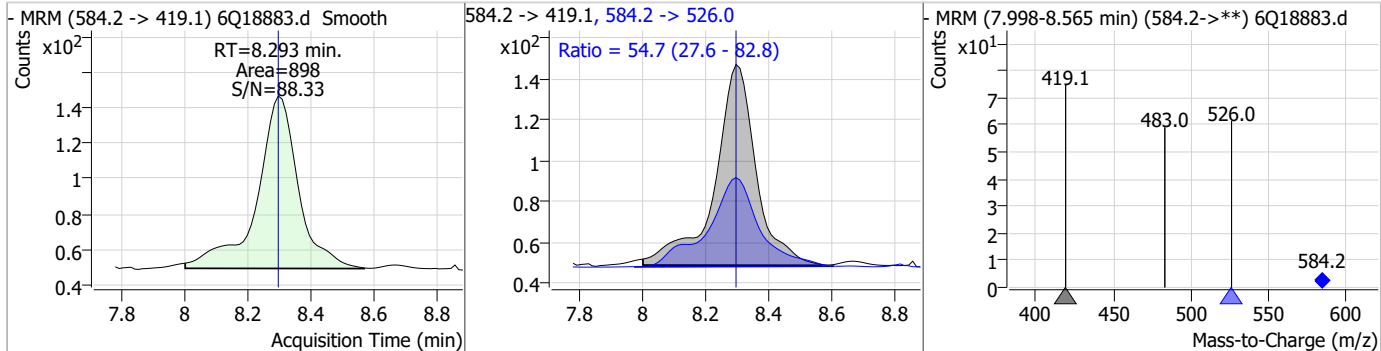
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.20	8.19	0.00	1239 (m)	498.9 -> 98.8	51.0	24.4	73.3



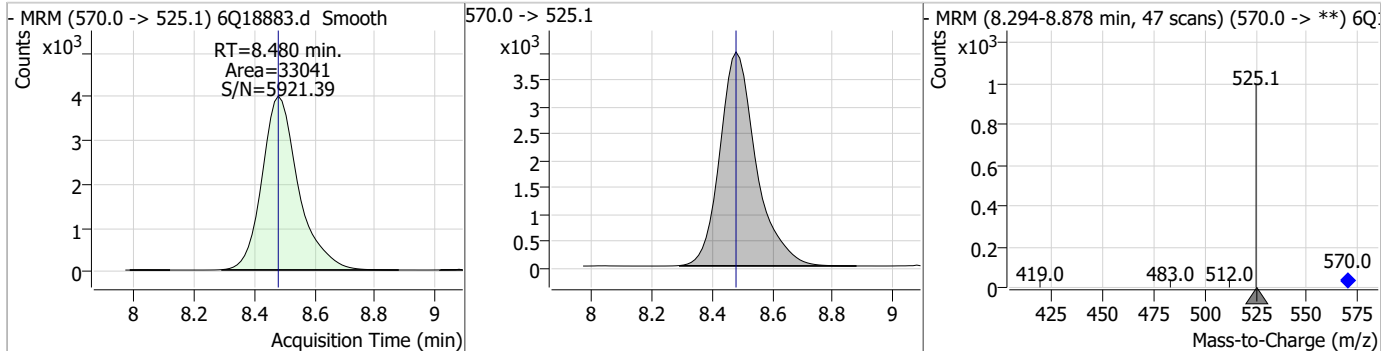
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.41	8.29	0.00	30274				



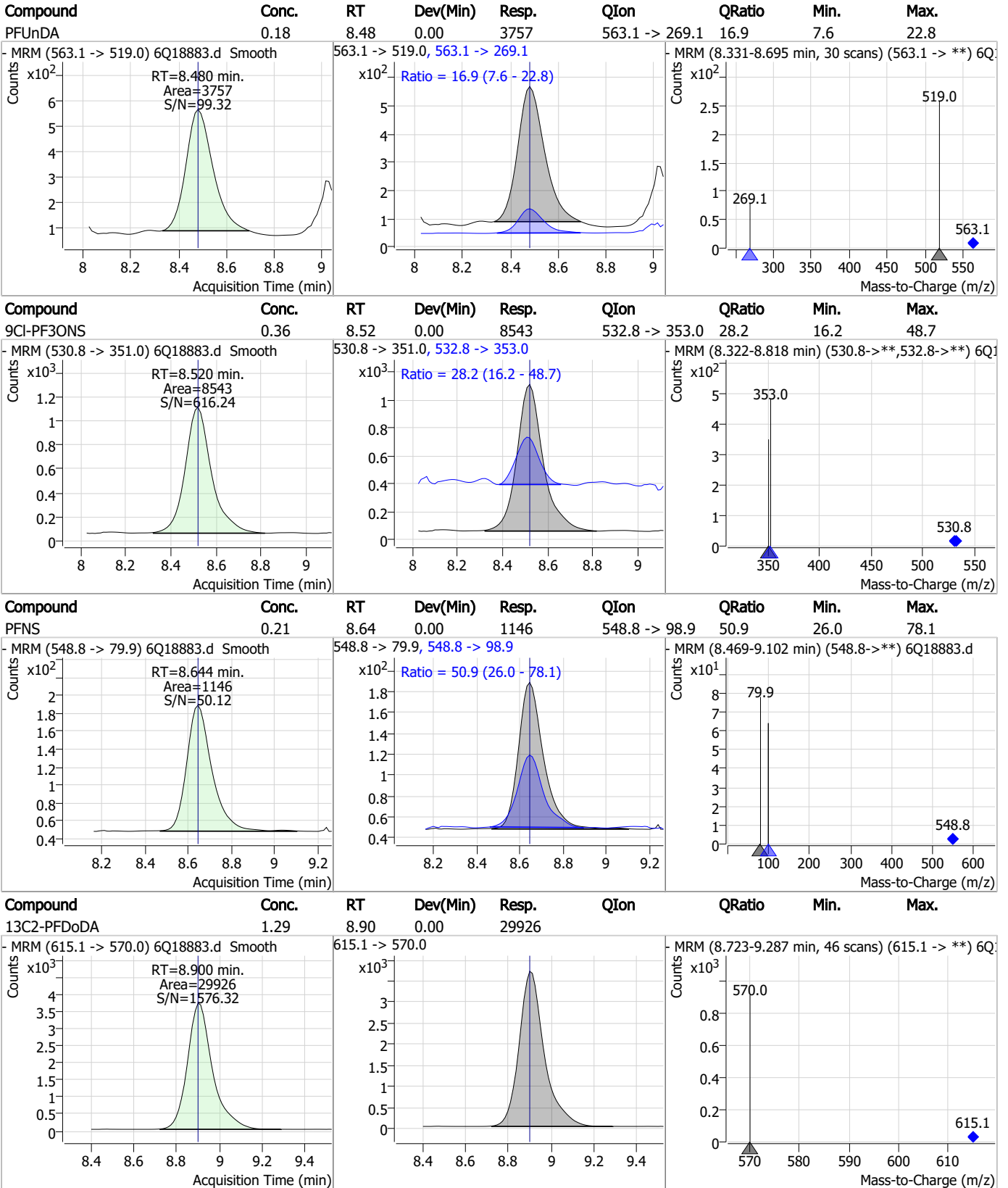
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.22	8.29	0.00	898	584.2 -> 526.0	54.7	27.6	82.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.34	8.48	0.00	33041				



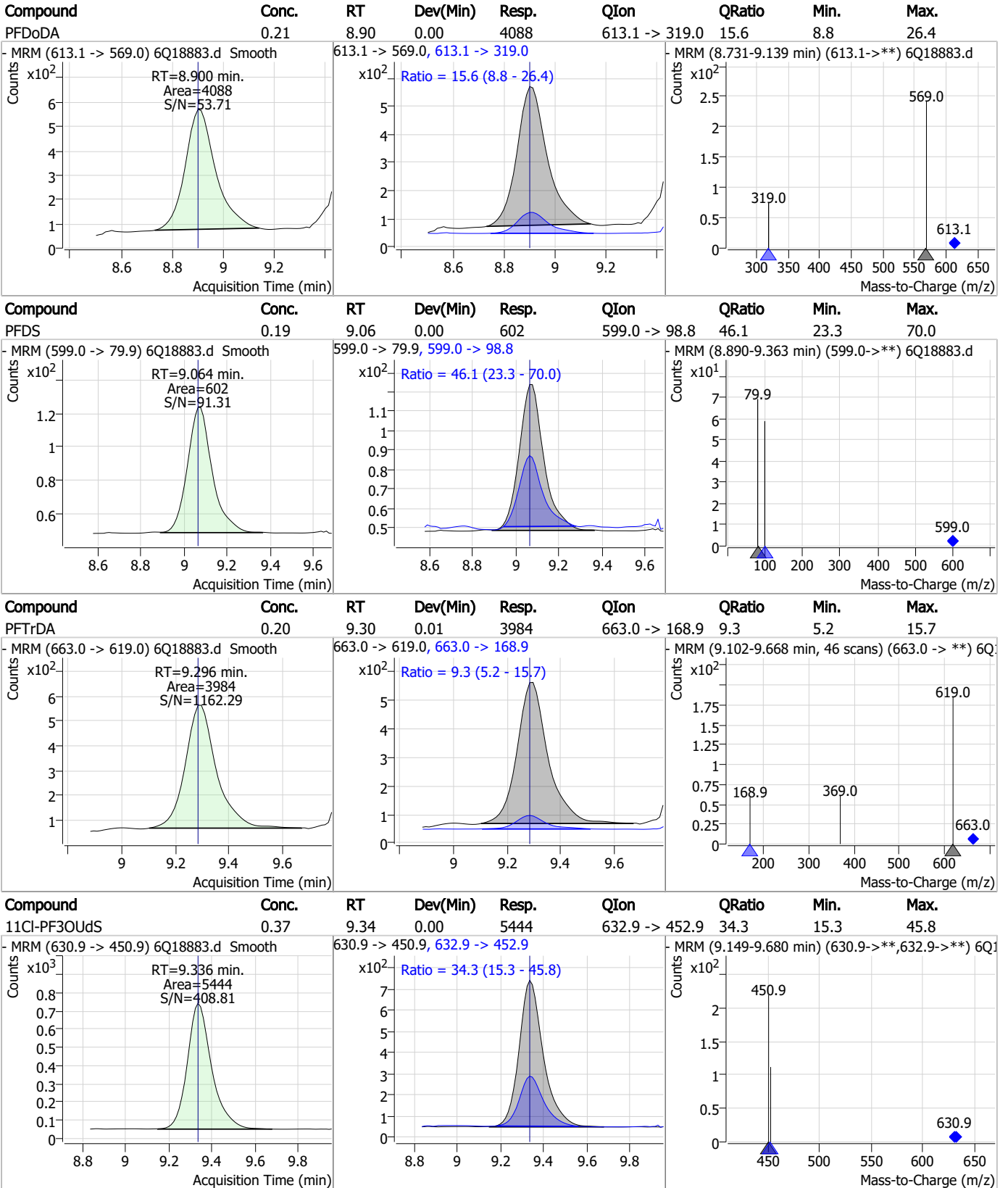
Perfluorinated Compounds by LC/MS/MS



7.7.13 7



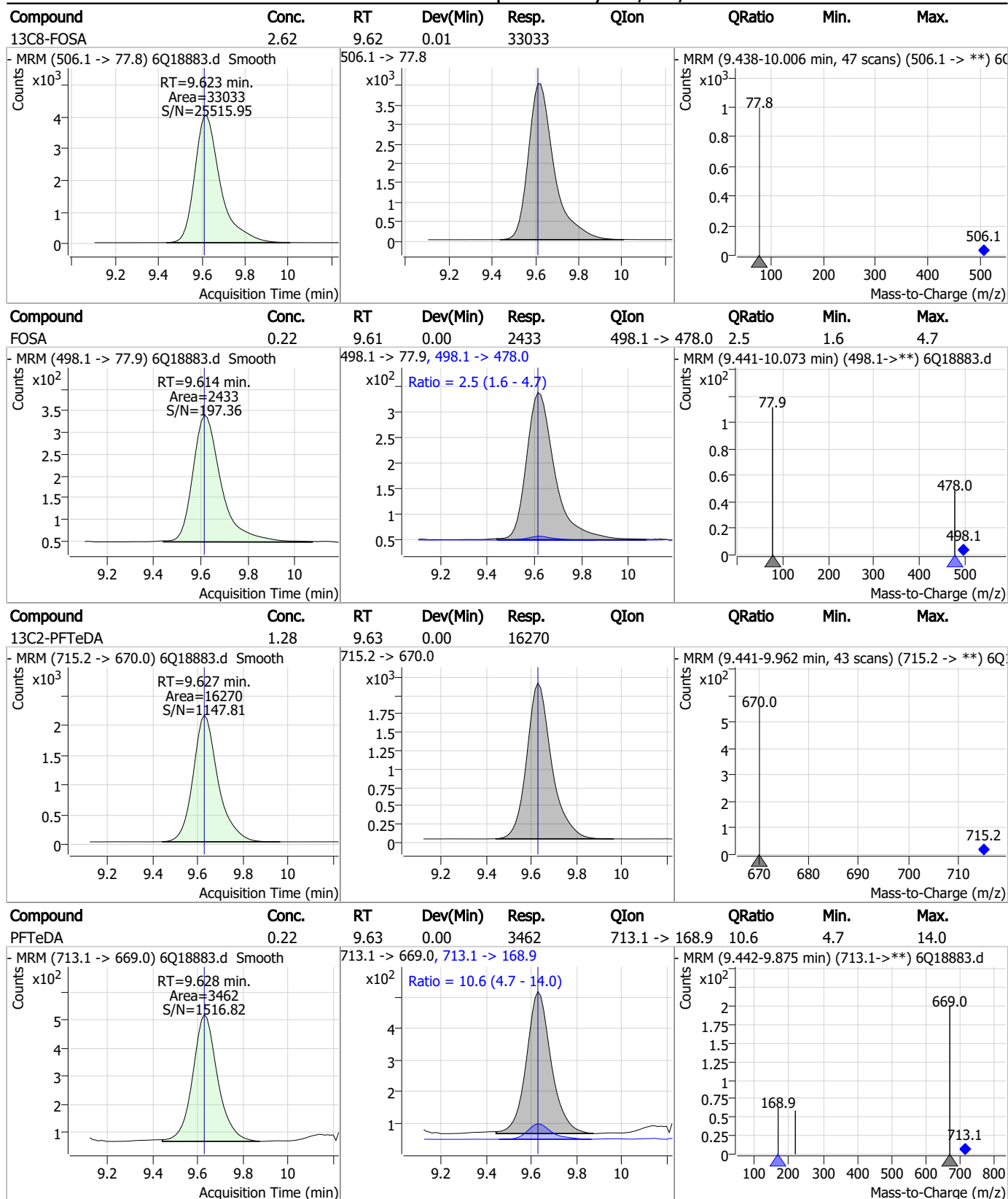
Perfluorinated Compounds by LC/MS/MS



7.7.13 7

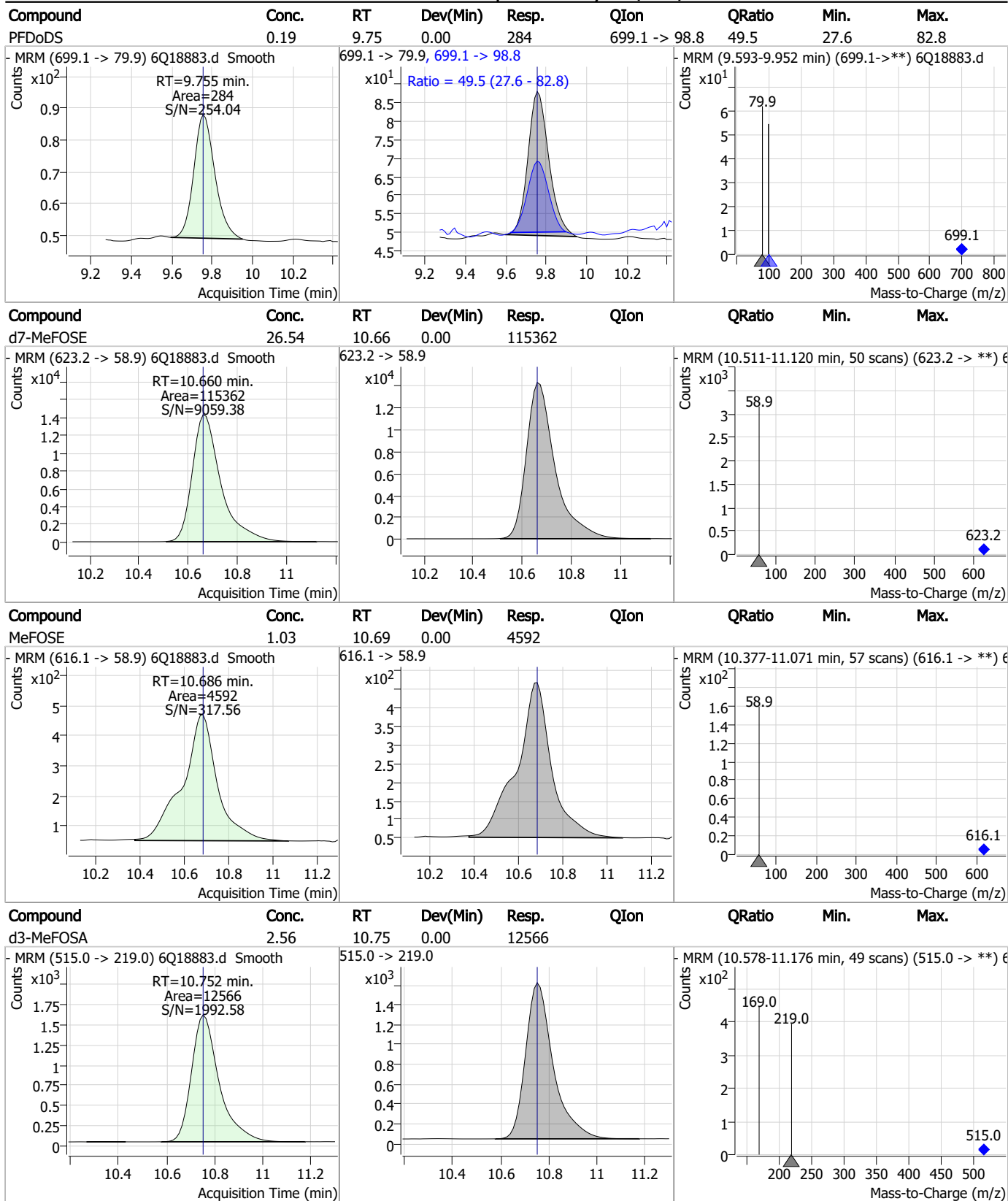


Perfluorinated Compounds by LC/MS/MS



7.7.13 7

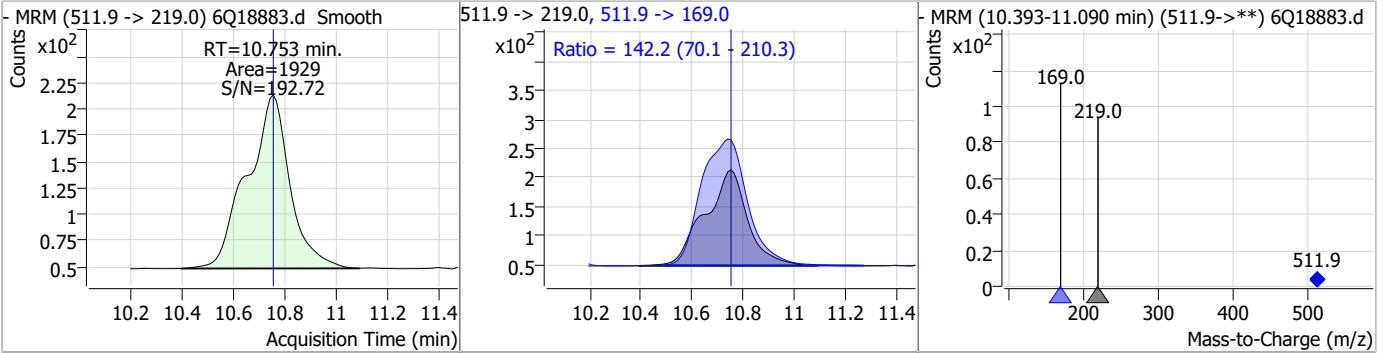
Perfluorinated Compounds by LC/MS/MS



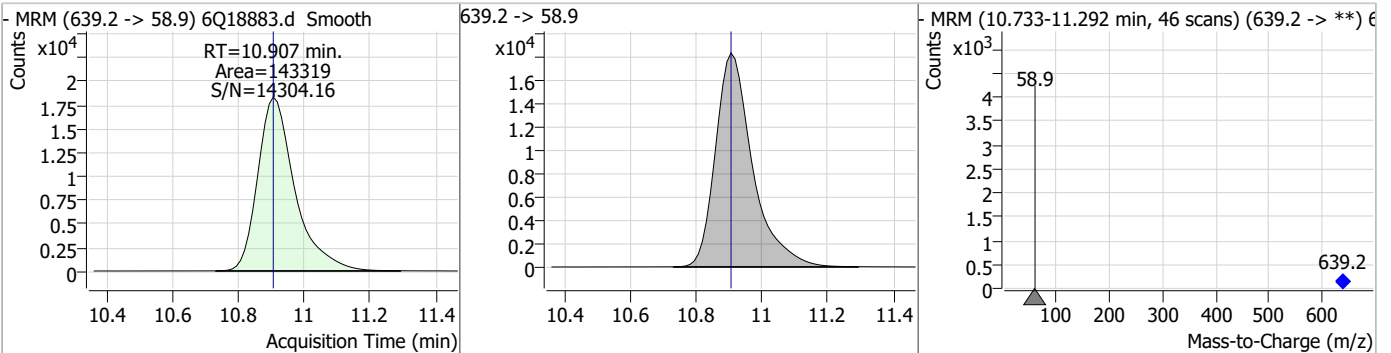
7.7.13
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Perfluorinated Compounds by LC/MS/MS

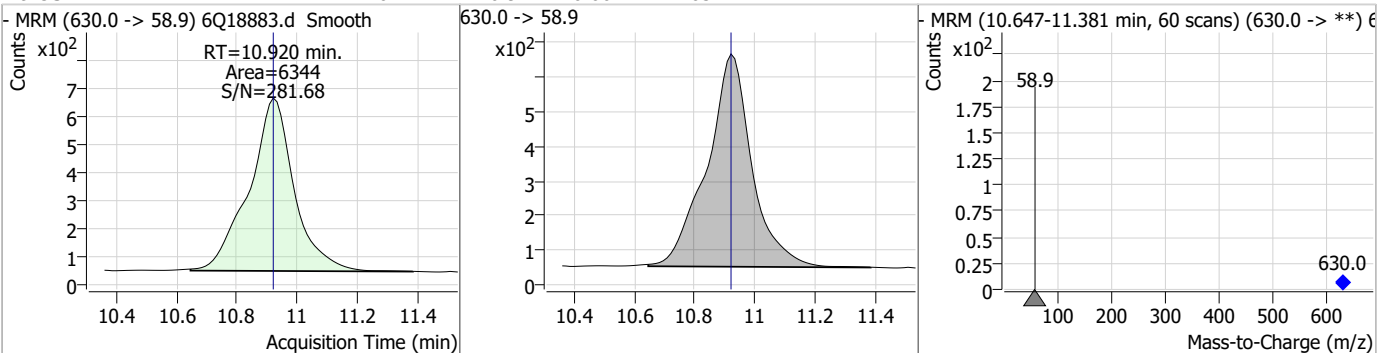
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOsa	0.40	10.75	0.00	1929	511.9 -> 169.0	142.2	70.1	210.3



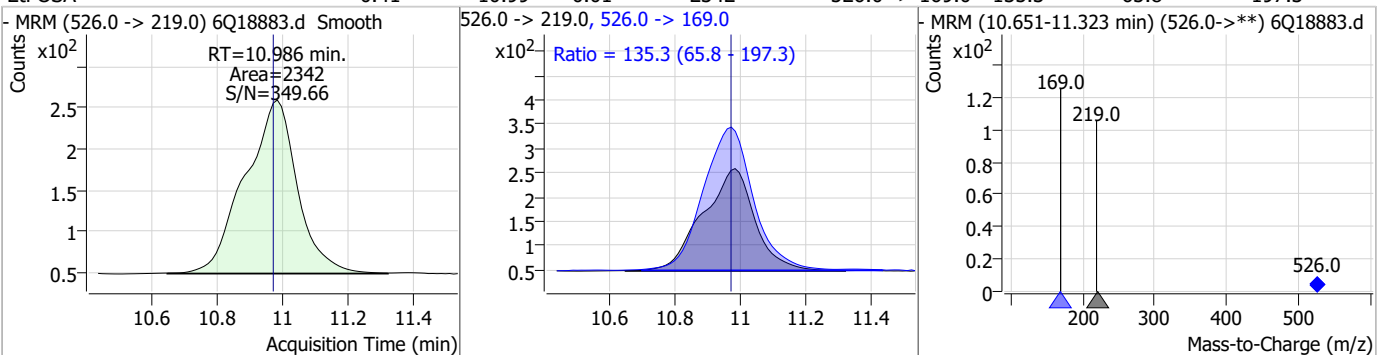
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.89	10.91	0.00	143319				



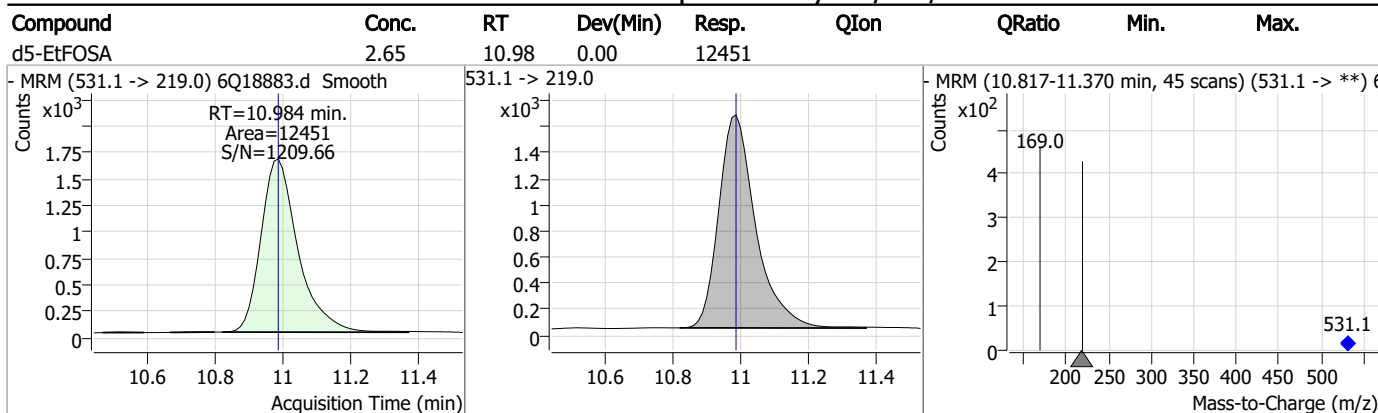
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	1.01	10.92	0.00	6344				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOsa	0.41	10.99	0.01	2342	526.0 -> 169.0	135.3	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



7.7.13

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Manual Integration Approval Summary

Sample Number: S6Q282-CC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18883.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/06/23 17:09 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

7.7.13.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18906.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 10:42:41 PM
 Sample Name : cc282-4
 Vial : P1-A5
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP96663,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	186949	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	63412	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	69357	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	61246	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	99700	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	45342	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	26179	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	36433	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	33053	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18881	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	35664	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	24766	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15218	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14556	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4884	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6977	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7289	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	39617	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	40684	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	37322	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	127973	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	169087	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13112	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13945	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18700	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	78218	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	10982	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	104526	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	36658	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	55101	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	63210	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4884	5.41 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.2%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6977	5.38 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.5%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7289	5.64 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.8%		
13C2-PFDoDA	8.900	615.1 -> 570.0	33053	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.7%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18881	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.9%		
13C3-PFBS	5.384	302.1 -> 79.9	24766	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.6%		
13C3-PFHxS	7.155	402.1 -> 79.9	15218	2.57 µg/L	0.000

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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	2.860	216.8 -> 171.9	186949	10.07 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.7%	
13C4-PFHpA	6.420	367.1 -> 322.0	61246	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.2%	
13C5-PFHxA	5.466	318.0 -> 273.0	69357	2.59 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.7%	
13C5-PFPeA	4.272	268.3 -> 223.0	63412	5.17 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C6-PFDA	8.039	519.1 -> 474.1	26179	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.3%	
13C7-PFUnDA	8.480	570.0 -> 525.1	36433	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.5%	
13C8-FOSA	9.611	506.1 -> 77.8	35664	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C8-PFOA	7.051	421.1 -> 376.0	99700	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C8-PFOS	8.189	507.1 -> 79.9	14556	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C9-PFNA	7.569	472.1 -> 427.0	45342	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	39617	5.88 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.7%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	40684	10.22 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.2%	
d3-MeFOSA	10.752	515.0 -> 219.0	13945	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.3%	
d5-EtFOSAA	8.292	589.2 -> 419.0	37322	6.18 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 123.6%	
d7-MeFOSE	10.672	623.2 -> 58.9	127973	27.26 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 109.1%	
d9-EtFOSE	10.907	639.2 -> 58.9	169087	28.28 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 113.1%	
d5-EtFOSA	10.984	531.1 -> 219.0	13112	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	62980	9.41 µg/L	98
		327.1 -> 80.9	24060		
6:2FTS	6.838	427.1 -> 407.0	68225	10.32 µg/L	98
		427.1 -> 80.9	22048		
8:2FTS	7.840	527.1 -> 507.0	39771	10.17 µg/L	98
		527.1 -> 80.8	15414		
EtFOSAA	8.293	584.2 -> 419.1	12056	2.37 µg/L	95
		584.2 -> 526.0	6202		
FOSA	9.614	498.1 -> 77.9	30198	2.51 µg/L	100
		498.1 -> 478.0	925		
MeFOSAA	8.097	570.1 -> 419.0	18365	2.32 µg/L	93
		570.1 -> 483.0	4018		
PFBA	2.856	212.8 -> 168.9	59988	9.85 µg/L	100
PFBS	5.385	298.7 -> 79.9	18740	2.18 µg/L	100
		298.7 -> 98.8	7372		
PFDA	8.040	512.9 -> 469.0	78804	2.50 µg/L	99
		512.9 -> 219.0	12318		
PFDODA	8.900	613.1 -> 569.0	54016	2.51 µg/L	96
		613.1 -> 319.0	8567		
PFDS	9.064	599.0 -> 79.9	8107	2.33 µg/L	95

7.7.14
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	4042			
PFHpA	6.420	363.1 -> 319.0	65457	2.52	µg/L	98
		363.1 -> 169.0	11198			
PFHpS	7.710	449.0 -> 79.9	15884	2.41	µg/L	95
		449.0 -> 98.9	8348			
PFHxA	5.469	313.0 -> 269.0	54375	2.39	µg/L	99
		313.0 -> 118.9	2815			
PFHxS	7.156	398.7 -> 79.9	15383	2.16	µg/L	m 95
		398.7 -> 98.9	7876			
PFNA	7.570	463.0 -> 419.0	78661	2.45	µg/L	97
		463.0 -> 219.0	14955			
PFNS	8.644	548.8 -> 79.9	13837	2.39	µg/L	98
		548.8 -> 98.9	7029			
PFOA	7.052	413.0 -> 369.0	105024	2.50	µg/L	99
		413.0 -> 169.0	18327			
PFOS	8.191	498.9 -> 79.9	15629	2.35	µg/L	96
		498.9 -> 98.8	7262			
PFPeA	4.274	263.0 -> 219.0	72297	4.83	µg/L	100
PFPeS	6.459	349.1 -> 79.9	15252	2.23	µg/L	96
		349.1 -> 98.9	7312			
PFTeDA	9.628	713.1 -> 669.0	46954	2.52	µg/L	98
		713.1 -> 168.9	3945			
PFTrDA	9.296	663.0 -> 619.0	56381	2.57	µg/L	99
		663.0 -> 168.9	6123			
PFUnDA	8.480	563.1 -> 519.0	55592	2.46	µg/L	96
		563.1 -> 269.1	9483			
11CI-PF3OUdS	9.336	630.9 -> 450.9	71044	4.57	µg/L	97
		632.9 -> 452.9	22954			
9CI-PF3ONS	8.520	530.8 -> 351.0	119388	4.85	µg/L	98
		532.8 -> 353.0	37493			
ADONA	6.671	376.9 -> 250.9	262070	4.69	µg/L	98
		376.9 -> 84.8	69305			
HFPO-DA	5.832	284.9 -> 168.9	16769	4.93	µg/L	100
		284.9 -> 184.9	1967			
3:3FTCA	3.727	241.0 -> 177.0	12636	11.91	µg/L	100
		241.0 -> 117.0	1687			
5:3FTCA	6.137	341.0 -> 237.1	262627	59.79	µg/L	98
		341.0 -> 217.0	193900			
7:3FTCA	7.535	441.0 -> 316.9	185735	61.47	µg/L	100
		441.0 -> 336.9	419863			
EtFOSA	10.974	526.0 -> 219.0	31143	5.15	µg/L	100
		526.0 -> 169.0	40976			
EtFOSE	10.920	630.0 -> 58.9	88501	12.00	µg/L	100
MeFOSA	10.753	511.9 -> 219.0	26110	4.91	µg/L	99
		511.9 -> 169.0	36791			
MeFOSE	10.673	616.1 -> 58.9	61056	12.32	µg/L	100
PFDoDS	9.755	699.1 -> 79.9	3916	2.38	µg/L	99
		699.1 -> 98.8	2145			
NFDHA	5.348	295.0 -> 201.0	13357	4.89	µg/L	95
		295.0 -> 84.9	3618			
PFMBA	4.688	279.0 -> 85.1	51037	4.93	µg/L	100
PFMPA	3.401	229.0 -> 84.9	39122	4.96	µg/L	100
PFEESA	5.926	314.8 -> 134.9	121277	4.19	µg/L	100
		314.8 -> 82.9	4591			

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

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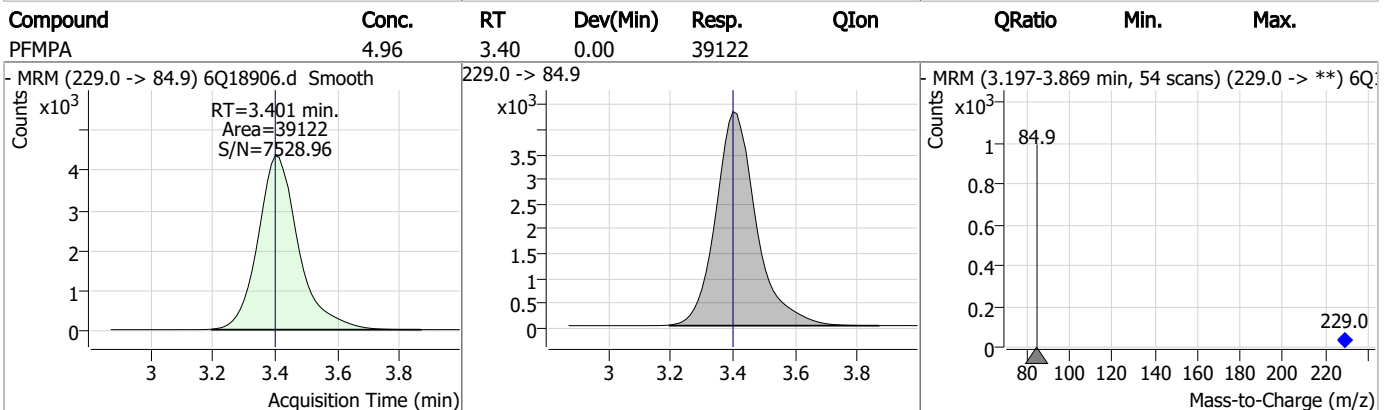
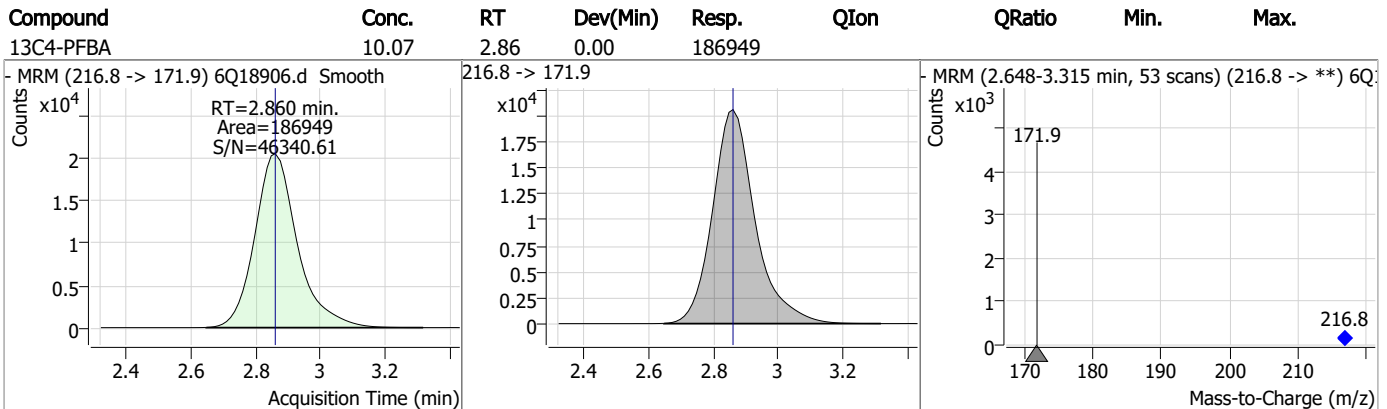
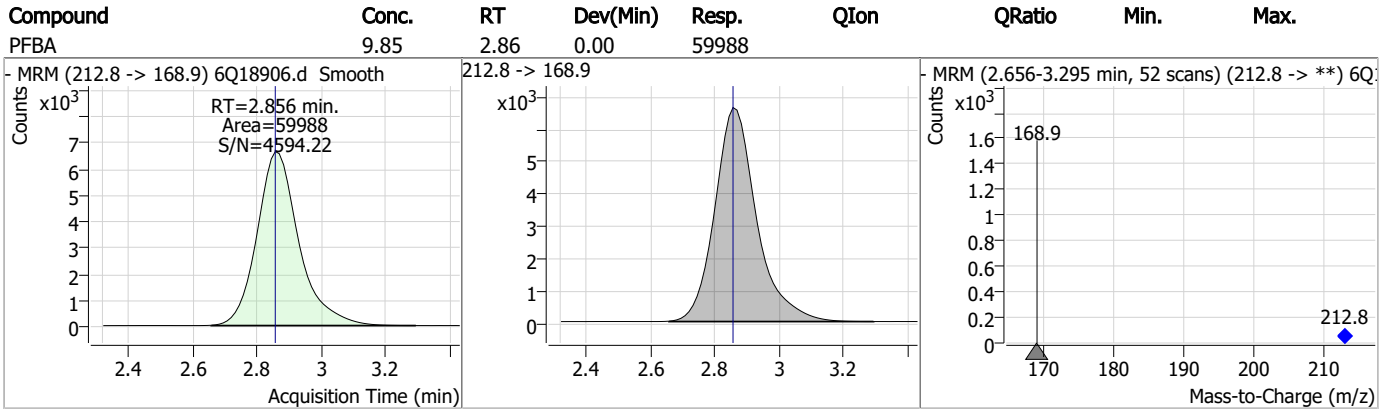
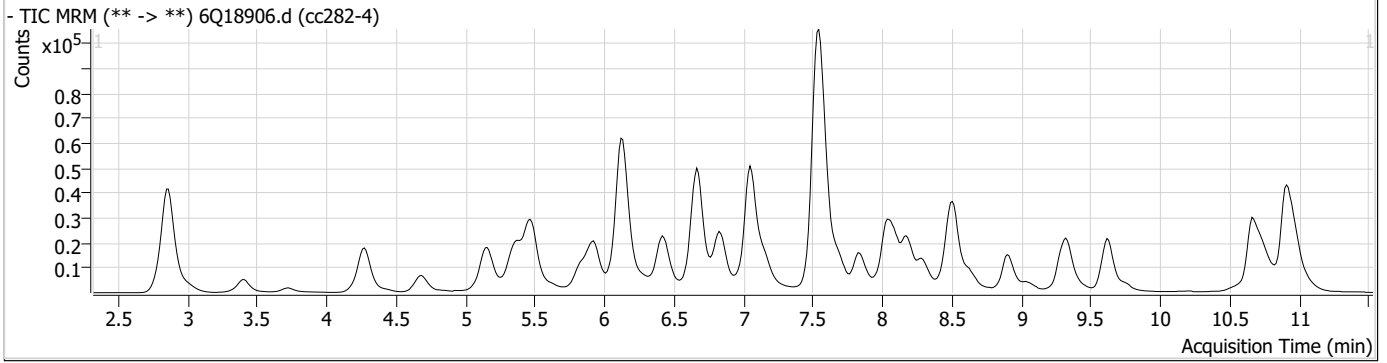
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.14

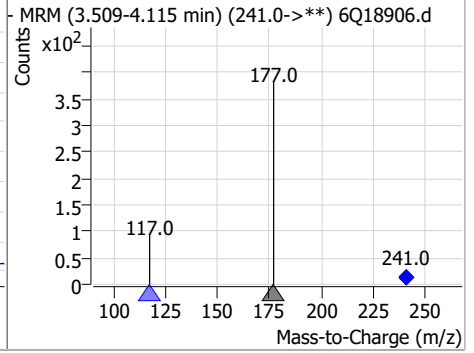
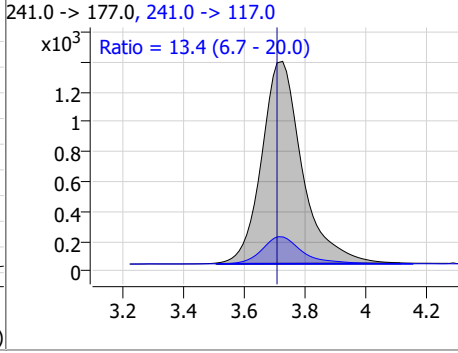
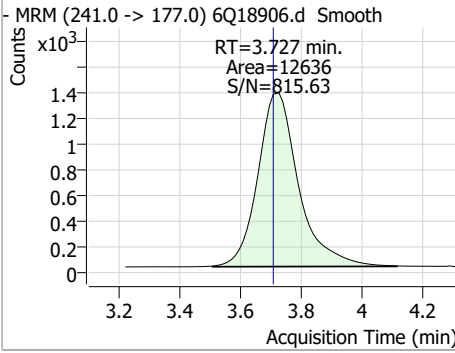
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Perfluorinated Compounds by LC/MS/MS

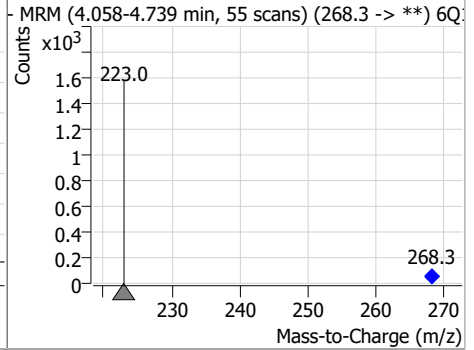
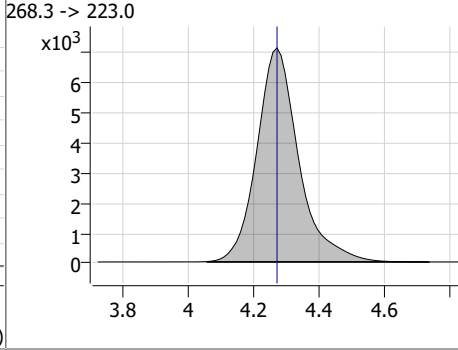
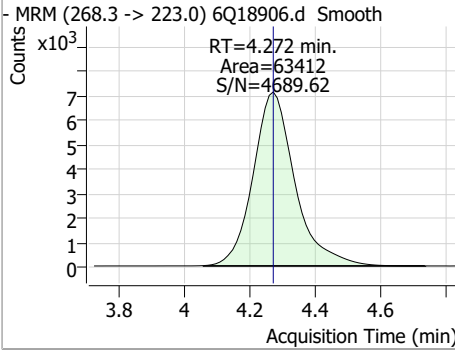


Perfluorinated Compounds by LC/MS/MS

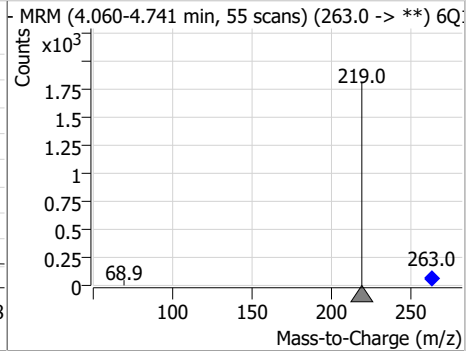
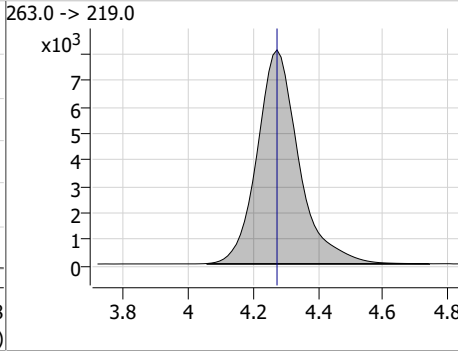
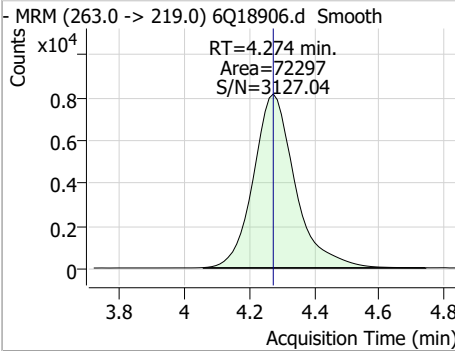
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.91	3.73	0.02	12636	241.0 -> 117.0	13.4	6.7	20.0



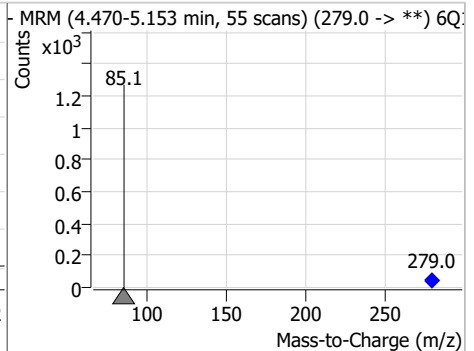
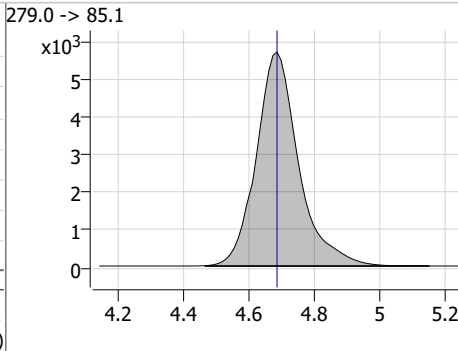
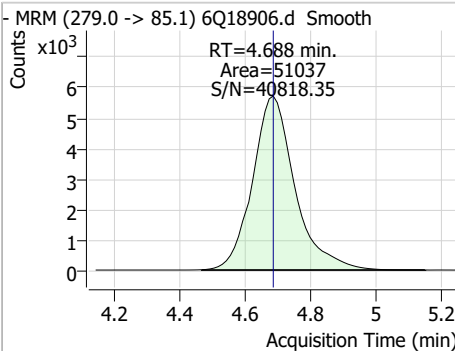
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.17	4.27	0.00	63412				



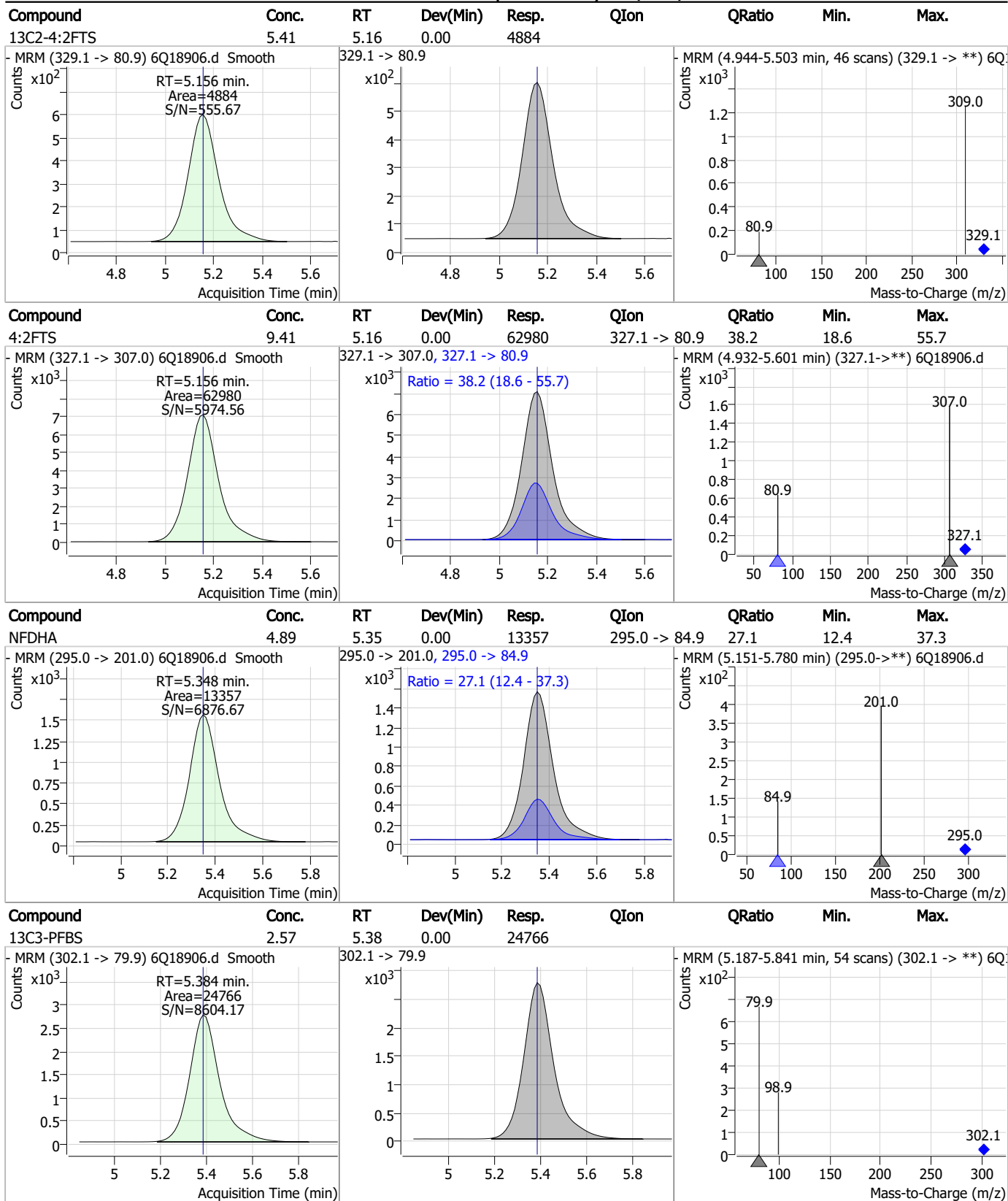
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.83	4.27	0.00	72297				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.93	4.69	0.00	51037				

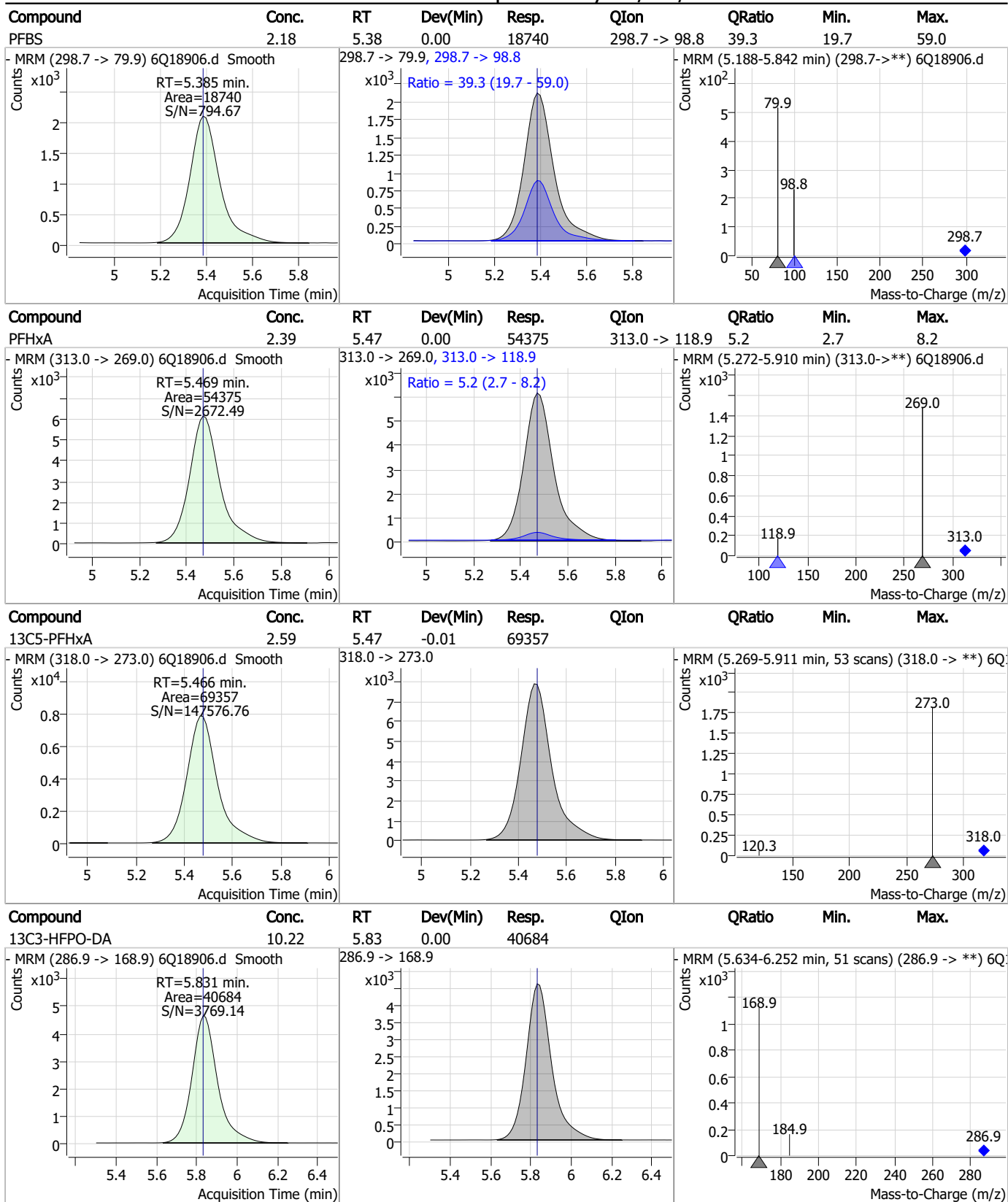


Perfluorinated Compounds by LC/MS/MS



7.7.14
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Perfluorinated Compounds by LC/MS/MS

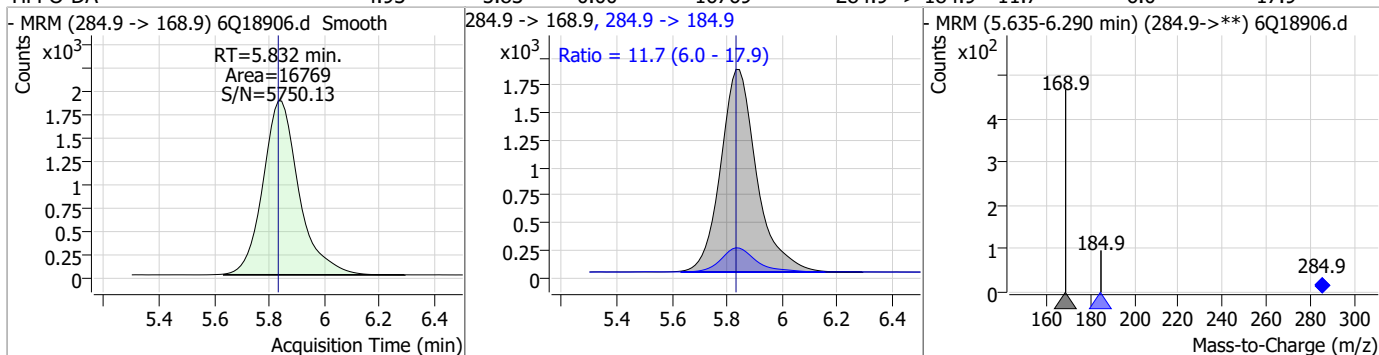


7.7.14

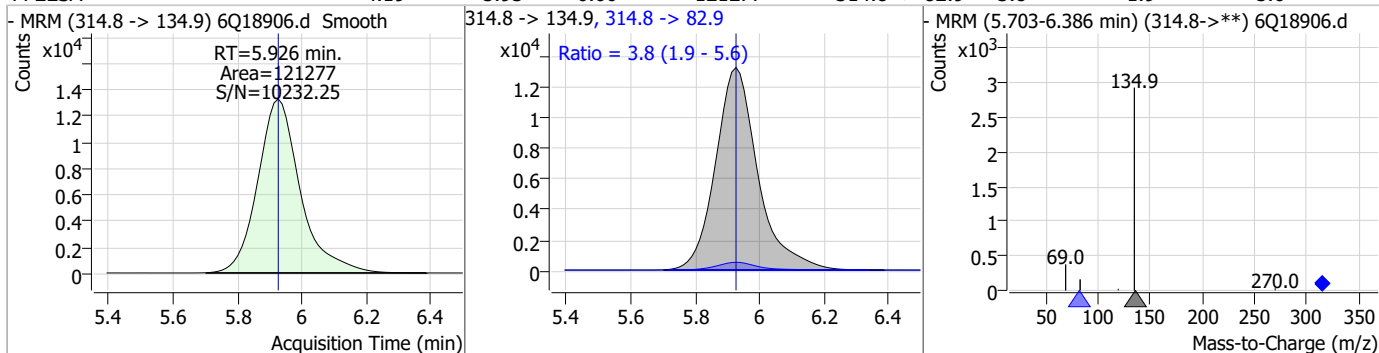
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Perfluorinated Compounds by LC/MS/MS

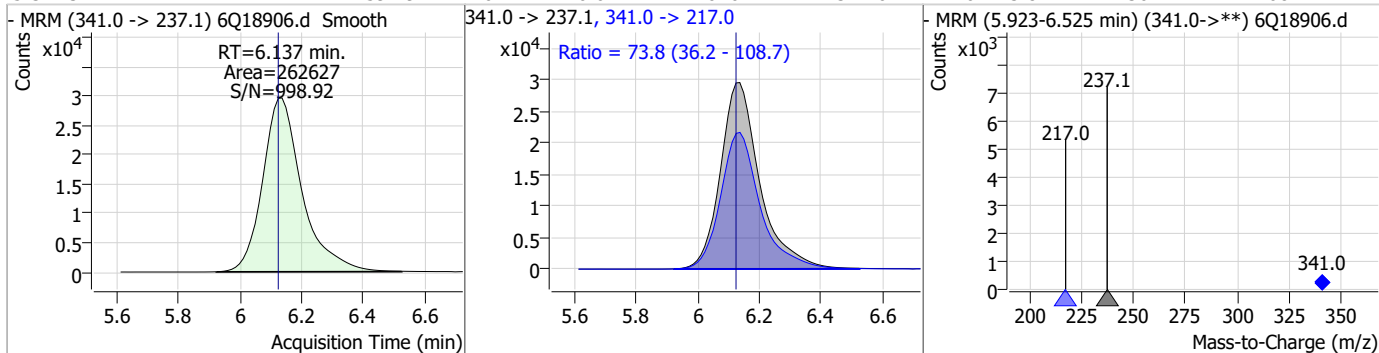
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.93	5.83	0.00	16769	284.9 -> 184.9	11.7	6.0	17.9



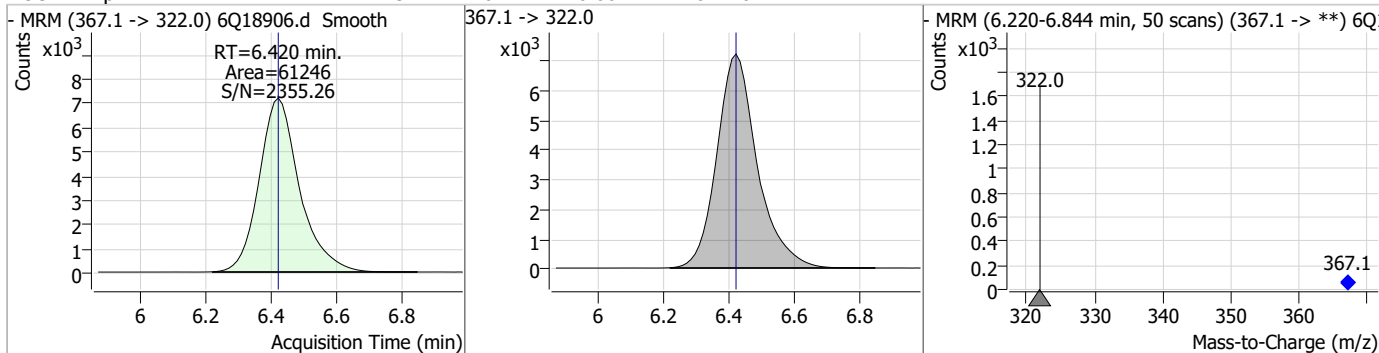
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.19	5.93	0.00	121277	314.8 -> 82.9	3.8	1.9	5.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	59.79	6.14	0.01	262627	341.0 -> 217.0	73.8	36.2	108.7

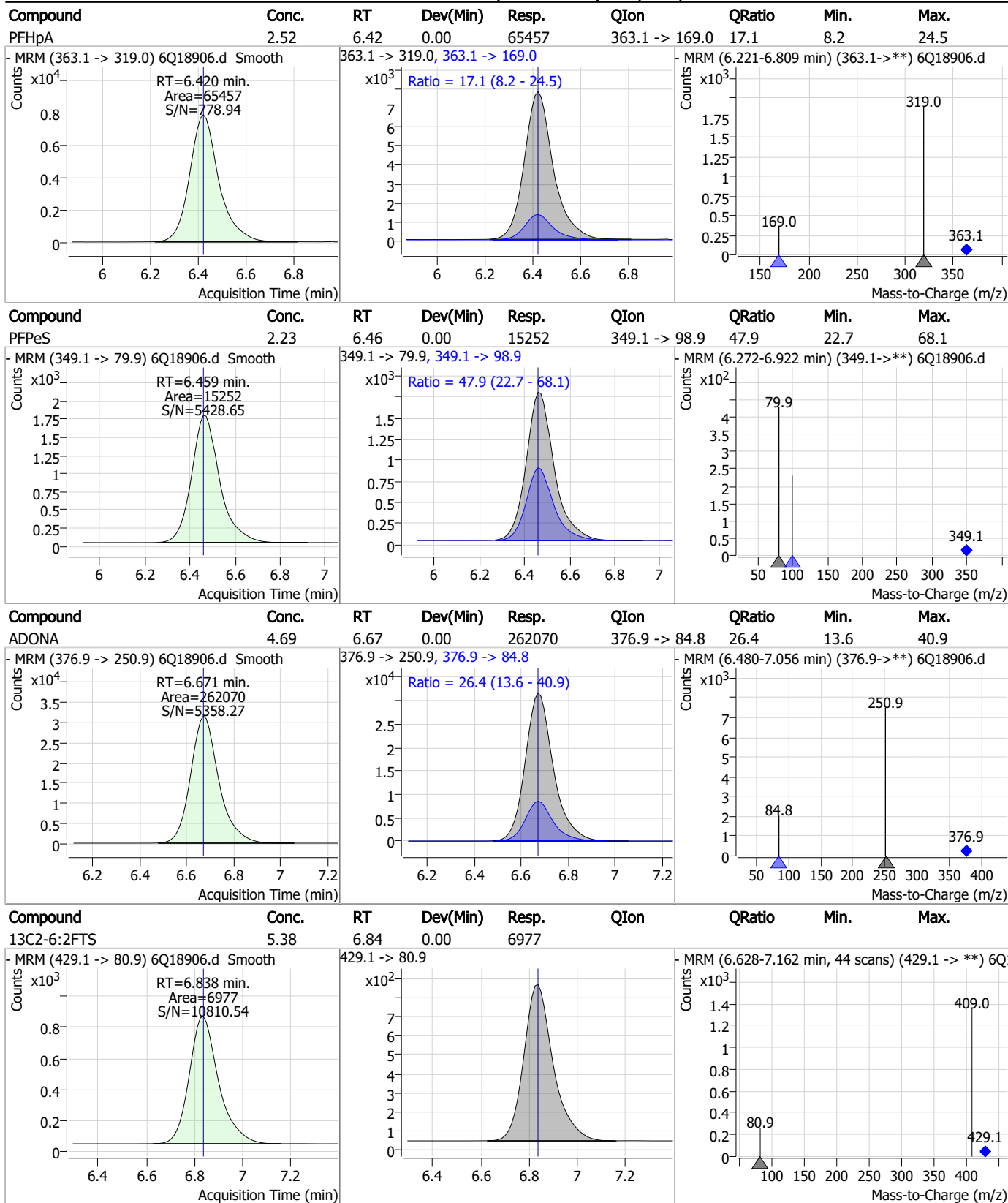


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.43	6.42	0.00	61246	367.1 -> 322.0	-	-	-



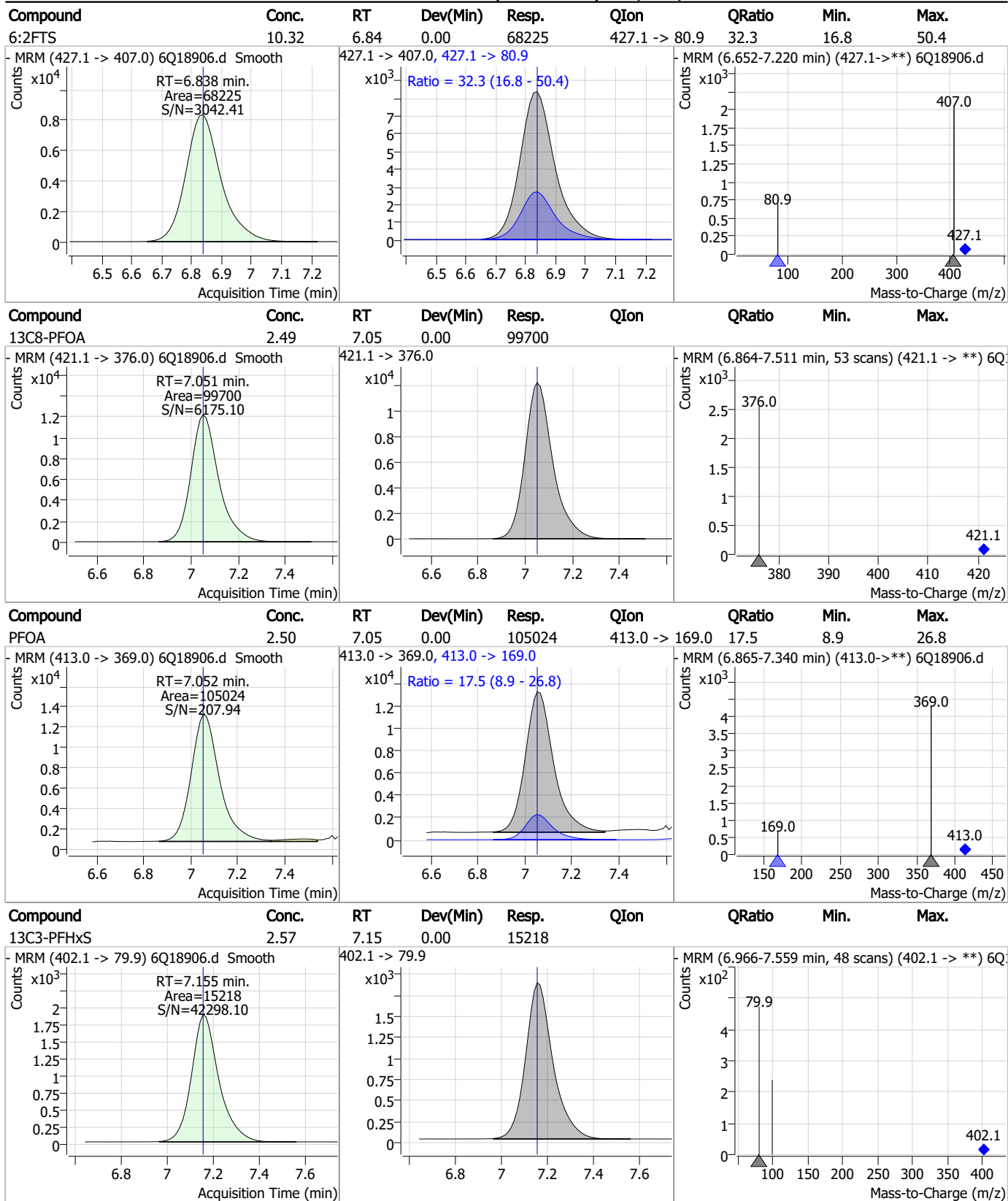
7.7.14
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Perfluorinated Compounds by LC/MS/MS



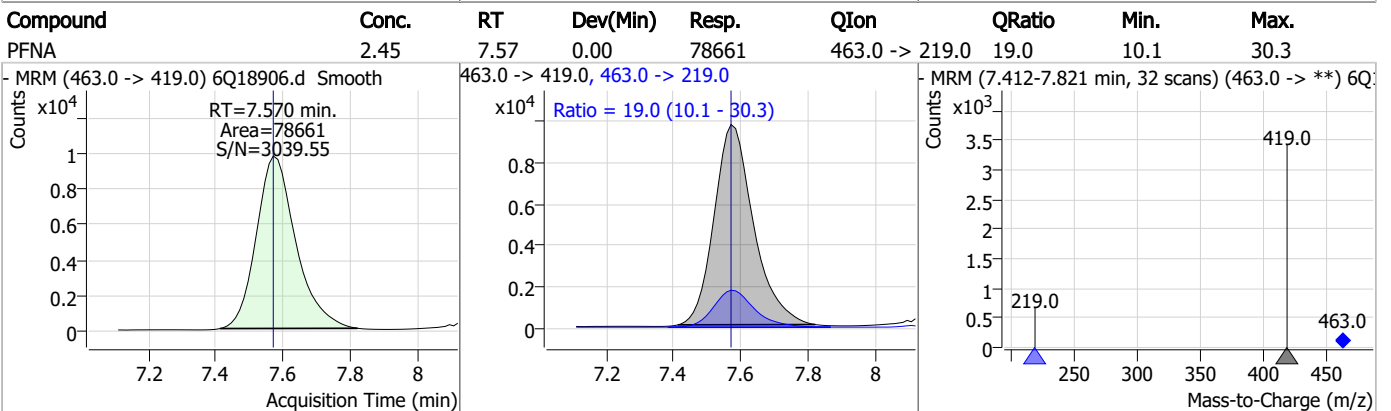
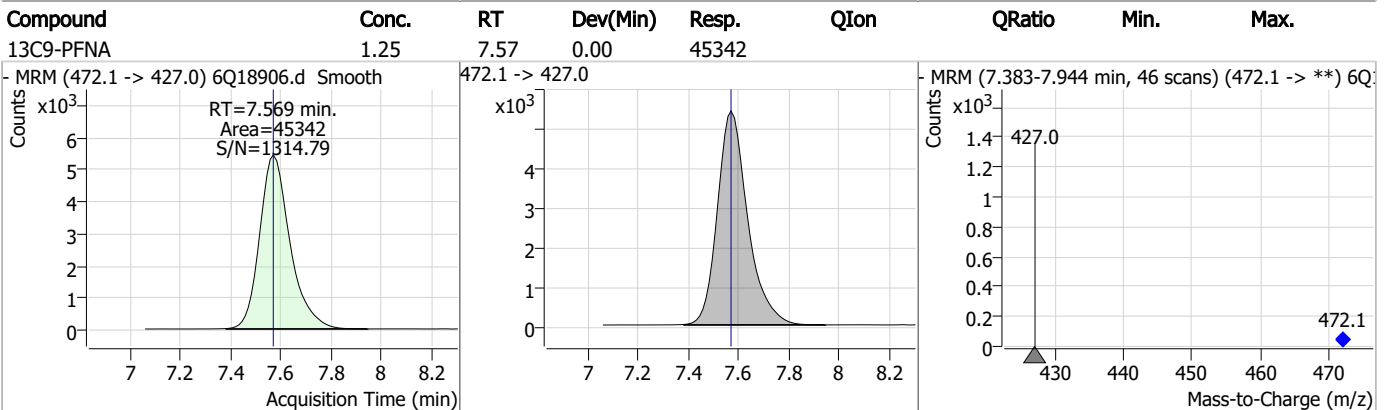
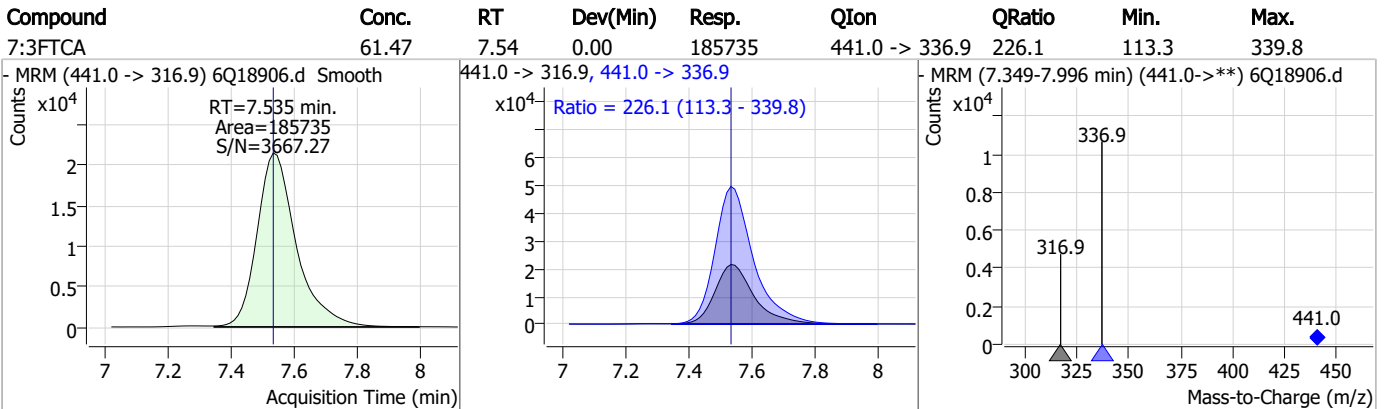
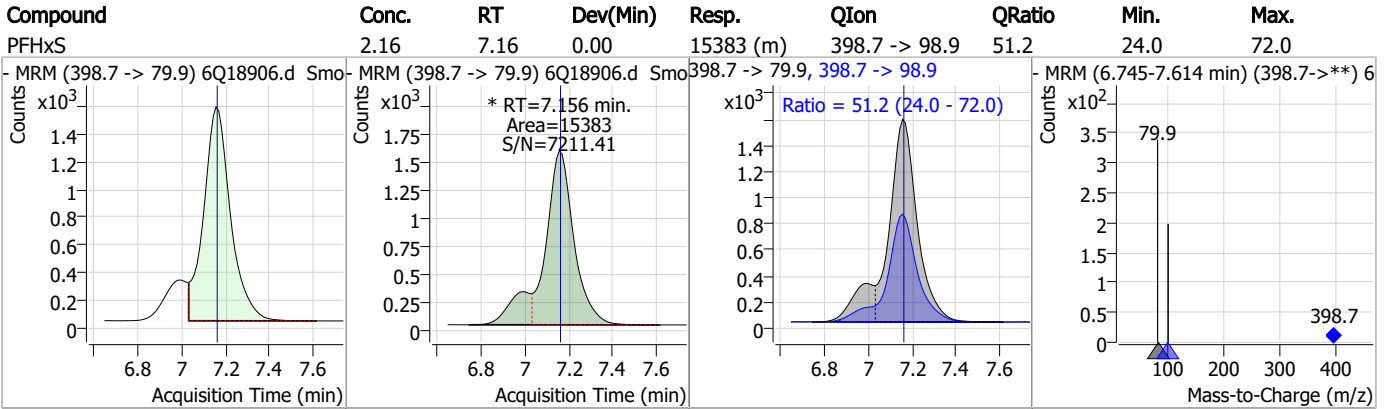
7.7.14
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Perfluorinated Compounds by LC/MS/MS

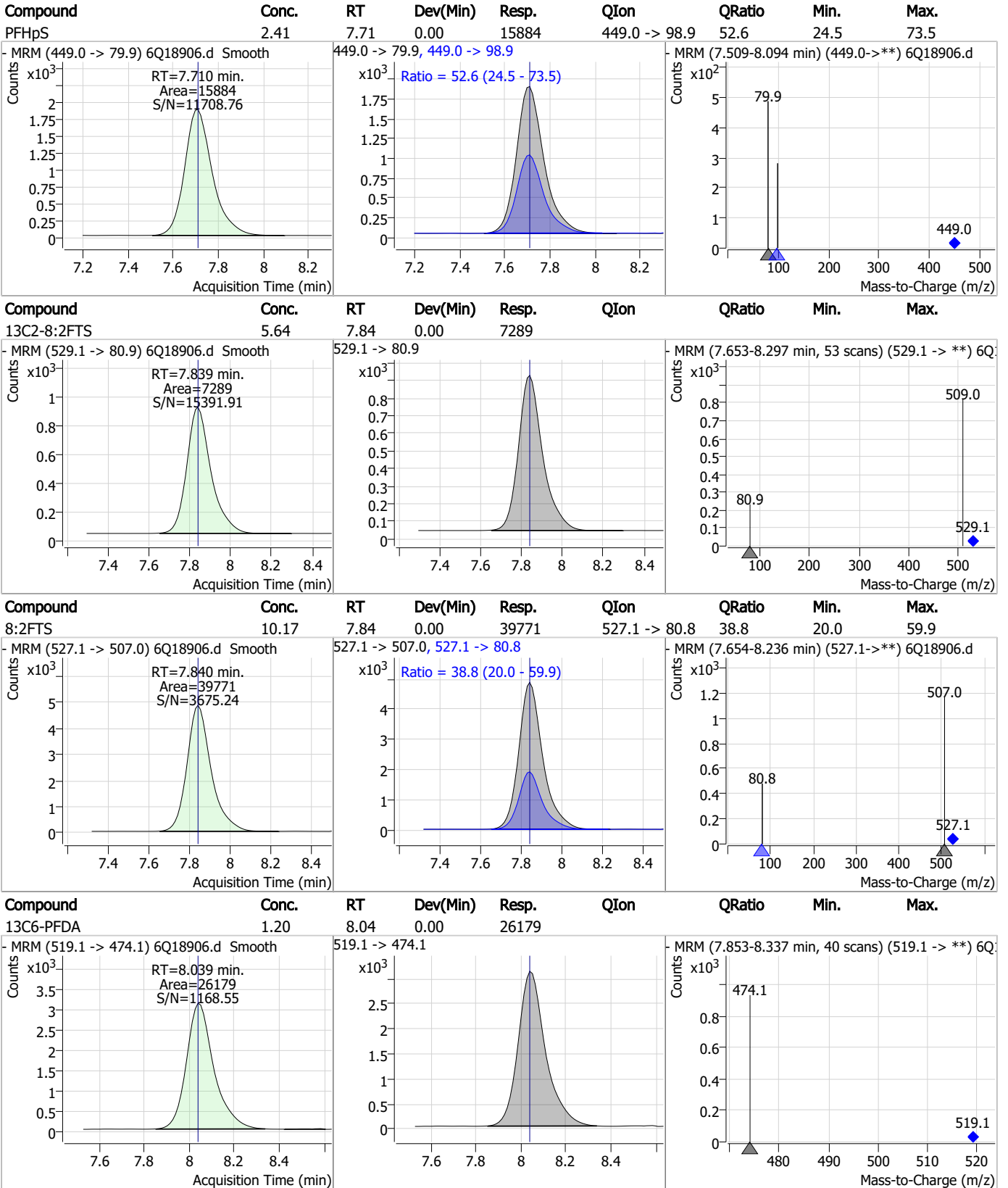


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Perfluorinated Compounds by LC/MS/MS



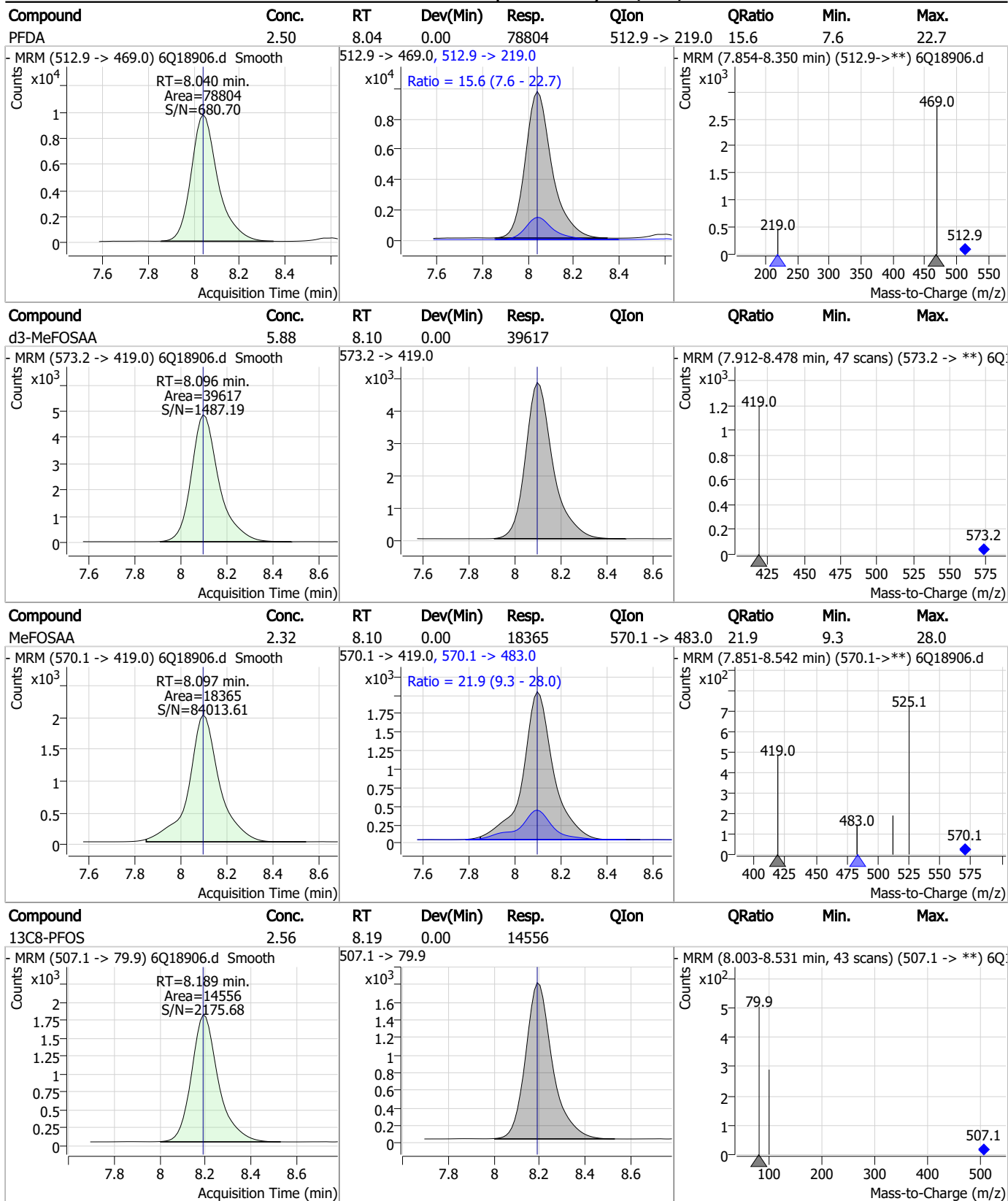
Perfluorinated Compounds by LC/MS/MS



7.7.14



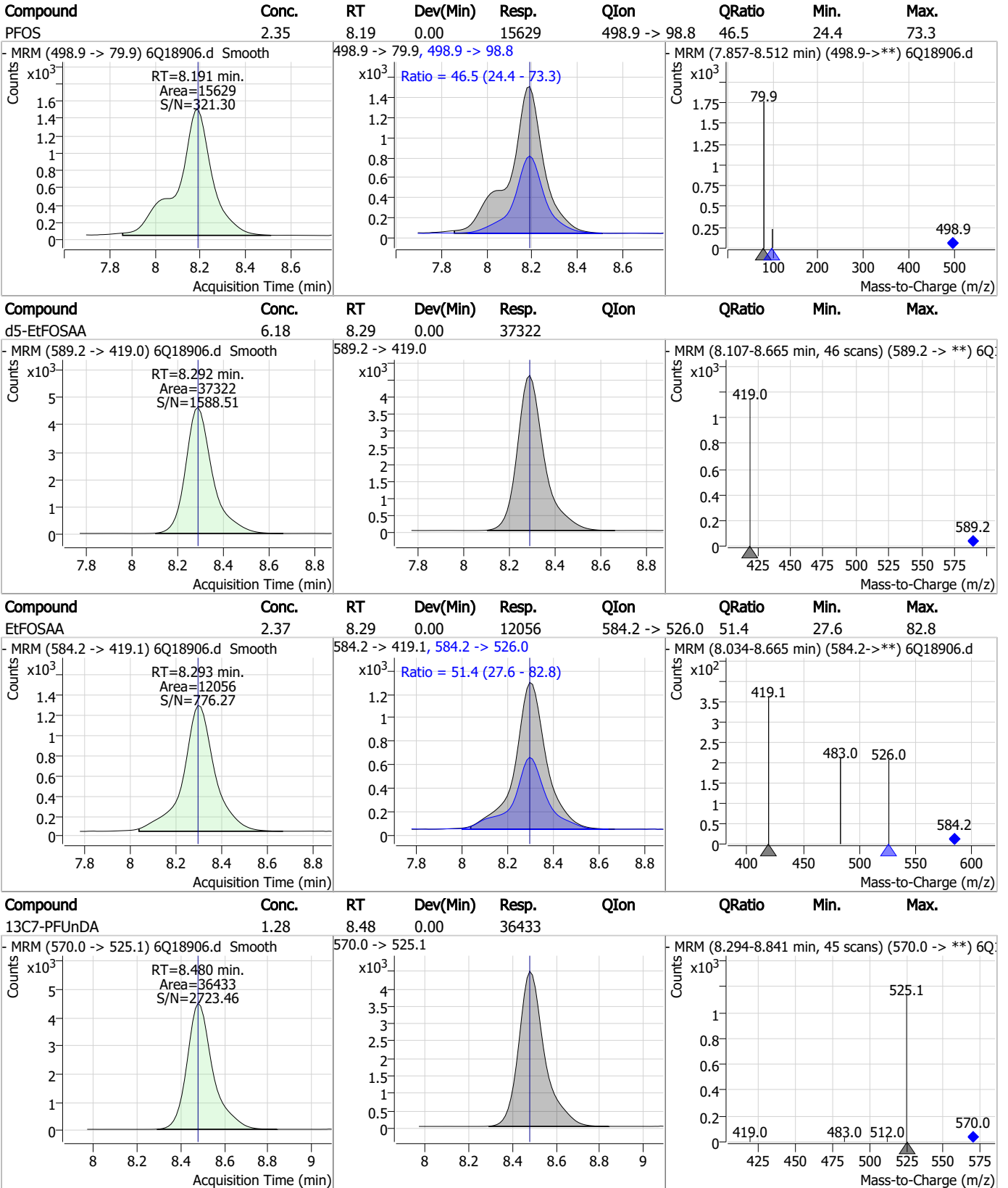
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

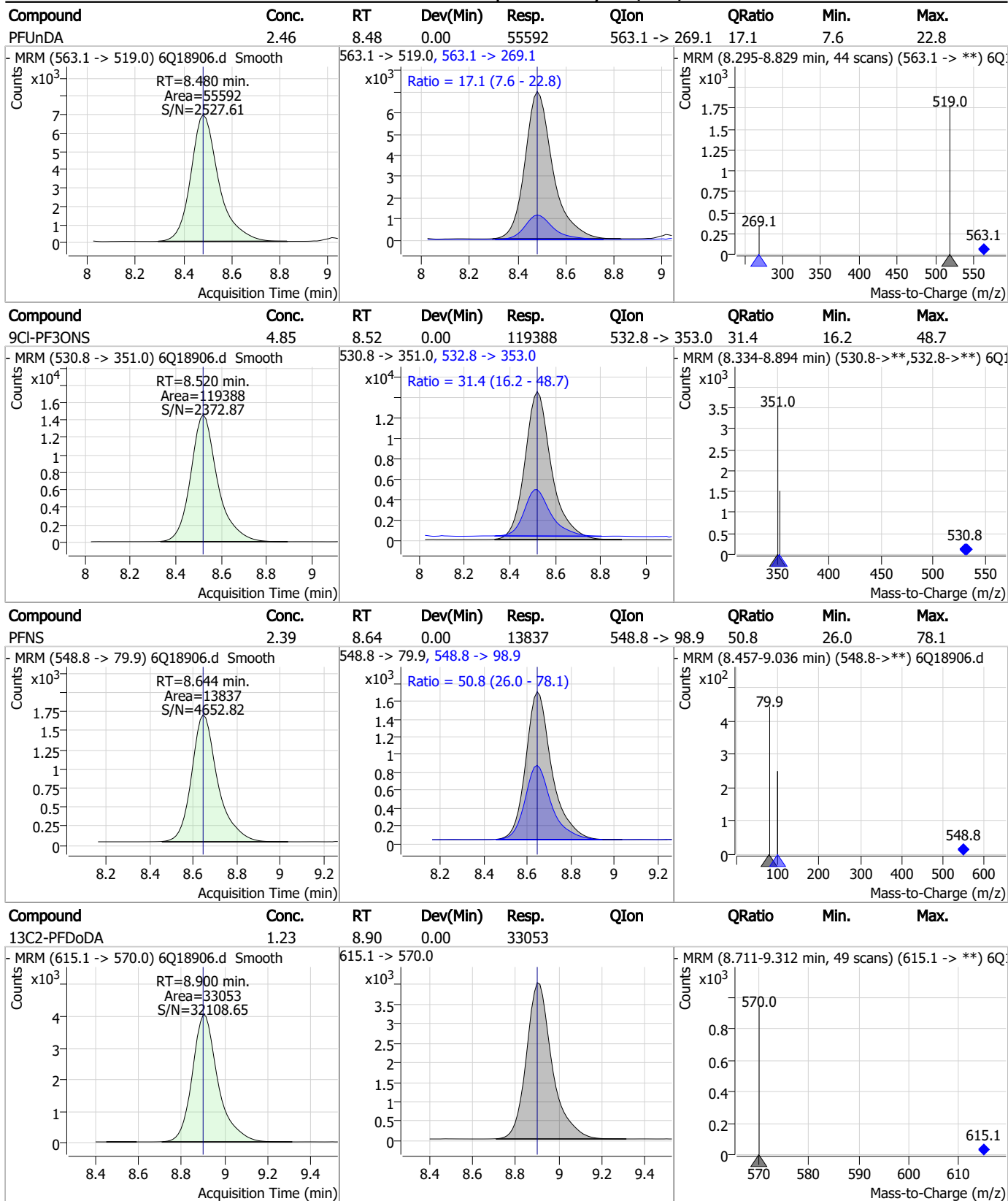


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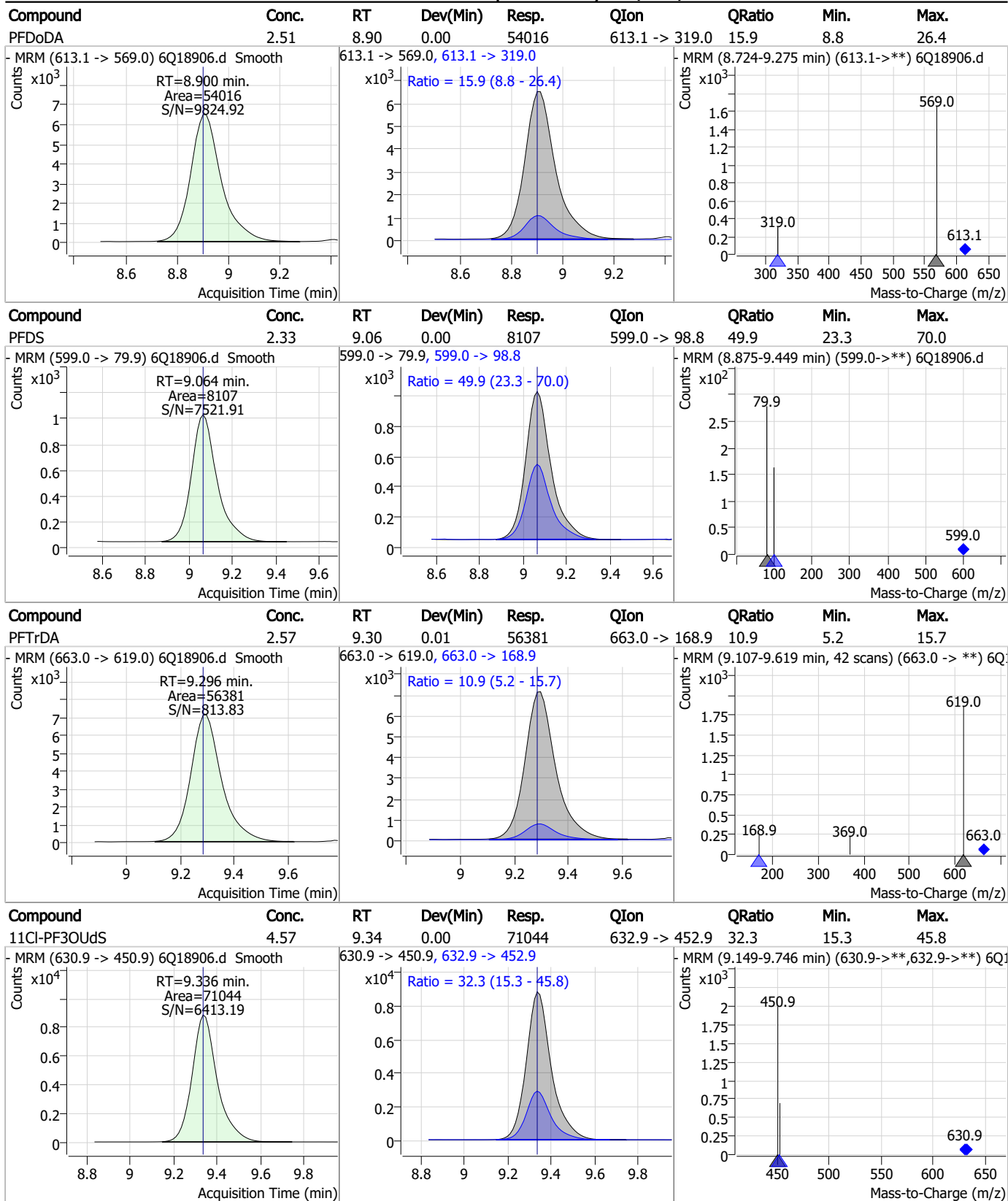
Perfluorinated Compounds by LC/MS/MS



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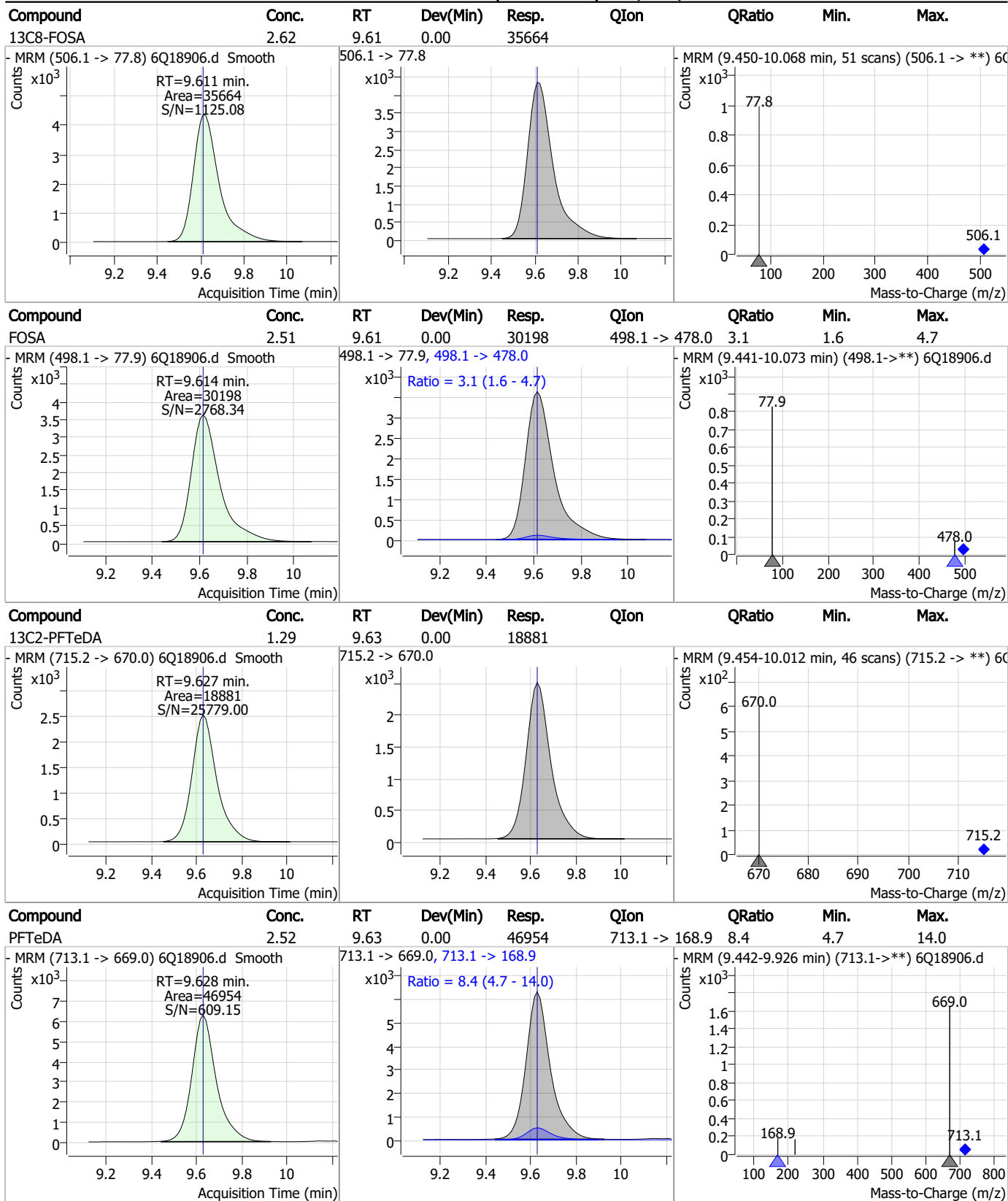
Perfluorinated Compounds by LC/MS/MS



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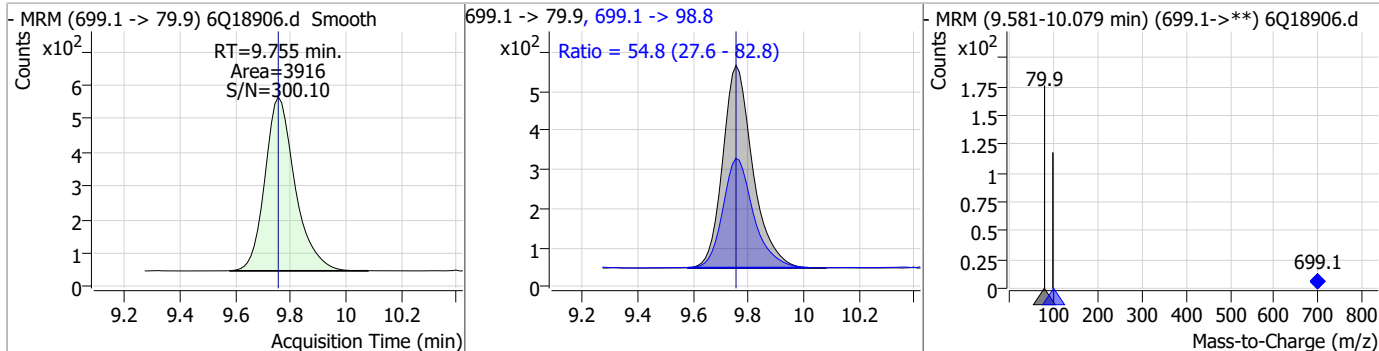
Perfluorinated Compounds by LC/MS/MS



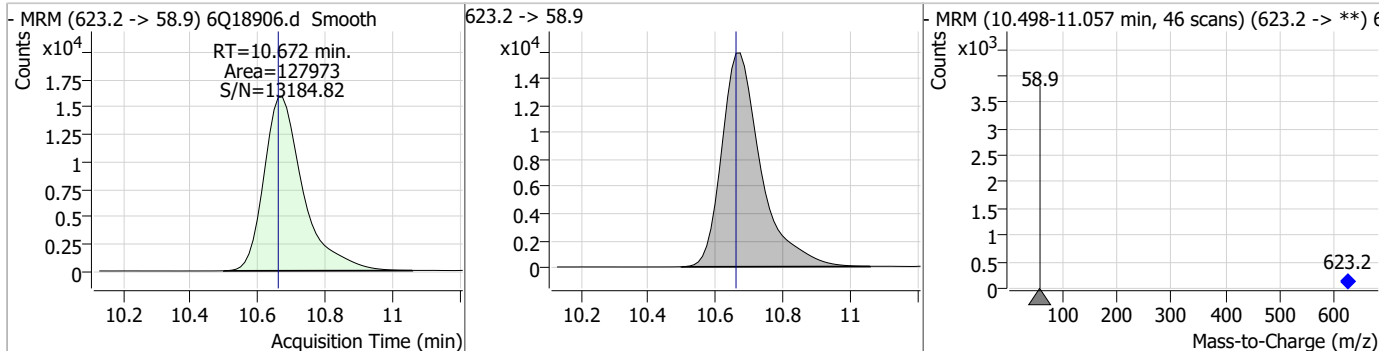
7.7.14

Perfluorinated Compounds by LC/MS/MS

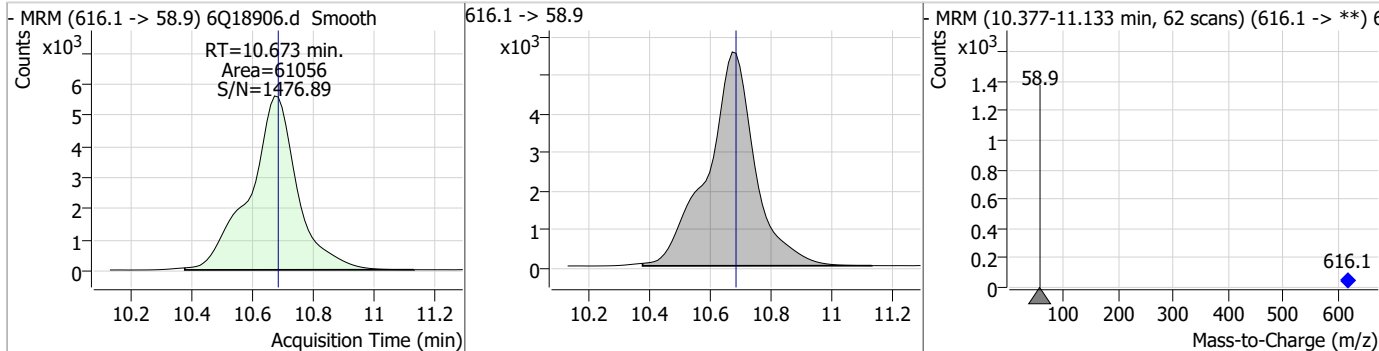
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	2.38	9.75	0.00	3916	699.1 -> 98.8	54.8	27.6	82.8



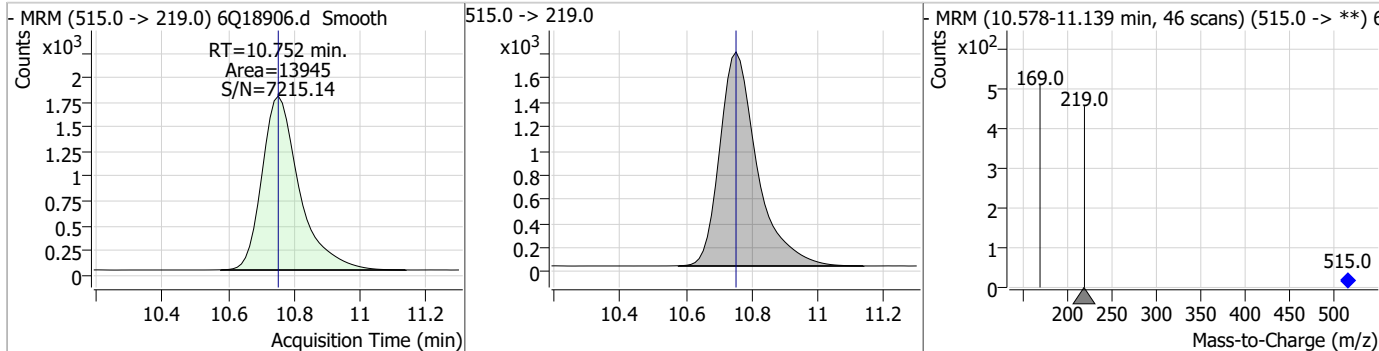
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	27.26	10.67	0.01	127973				



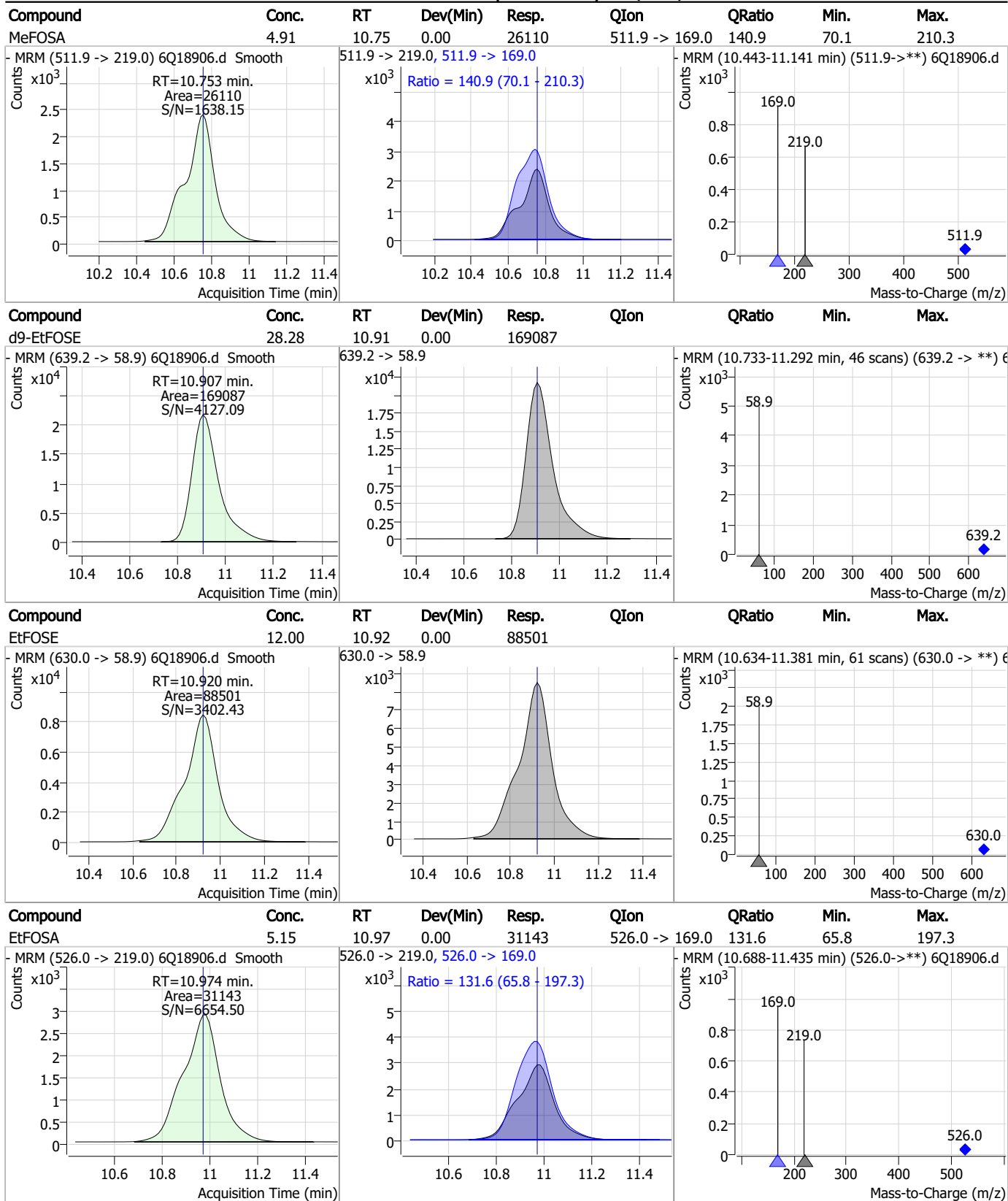
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.32	10.67	-0.01	61056				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.63	10.75	0.00	13945				

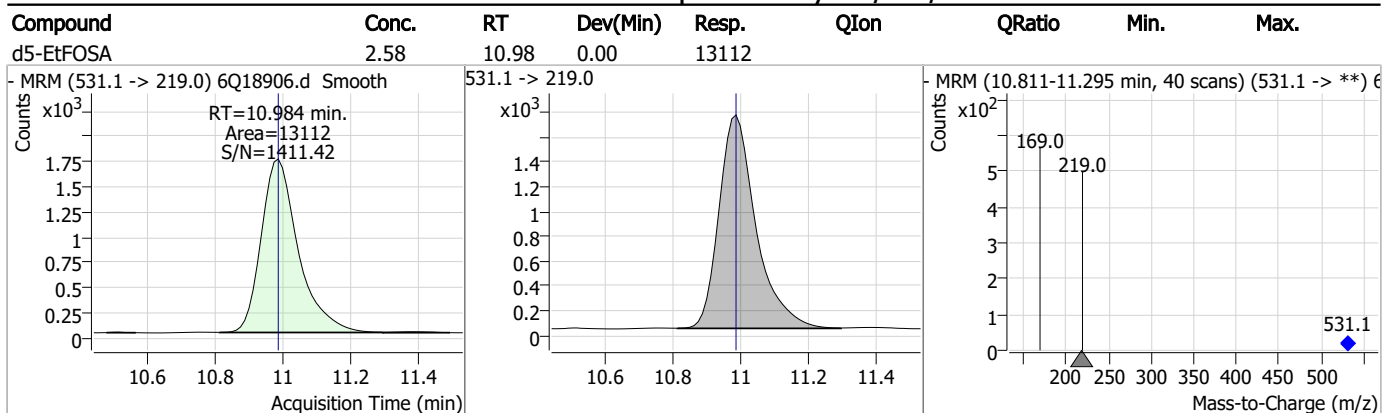


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q282-CC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18906.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/06/23 22:42 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18907.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/6/2023 10:57:09 PM
 Sample Name : cc282-1.0LL
 Vial : P1-A2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP96663,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	176201	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	59431	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	63764	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	62095	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	93514	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	41537	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	25269	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	33887	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	29693	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17192	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	33294	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	23897	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	14522	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14096	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4692	5.00 µg/L	0.000
M2-6:2FTS	6.825	429.1 -> 80.9	6893	5.00 µg/L	-0.012
M2-8:2FTS	7.839	529.1 -> 80.9	6749	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	35990	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	38099	10.00 µg/L	0.000
M5-EtFOSAA	8.279	589.2 -> 419.0	32086	5.00 µg/L	-0.012
M7-MeFOSE	10.672	623.2 -> 58.9	118189	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	147886	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	11894	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	12709	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18710	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	73193	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	10822	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	94220	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	33854	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	55831	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	59974	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4692	5.27 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.4%		
13C2-6:2FTS	6.825	429.1 -> 80.9	6893	5.39 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.8%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6749	5.30 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.0%		
13C2-PFDoDA	8.900	615.1 -> 570.0	29693	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.0%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17192	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C3-PFBS	5.384	302.1 -> 79.9	23897	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.5%		
13C3-PFHxS	7.155	402.1 -> 79.9	14522	2.49 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C4-PFBA	2.860	216.8 -> 171.9	176201	10.14 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C4-PFHpA	6.420	367.1 -> 322.0	62095	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.9%	
13C5-PFHxA	5.466	318.0 -> 273.0	63764	2.51 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C5-PFPeA	4.272	268.3 -> 223.0	59431	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C6-PFDA	8.039	519.1 -> 474.1	25269	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C7-PFUnDA	8.480	570.0 -> 525.1	33887	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C8-FOSA	9.611	506.1 -> 77.8	33294	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.8%	
13C8-PFOA	7.051	421.1 -> 376.0	93514	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C8-PFOS	8.189	507.1 -> 79.9	14096	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C9-PFNA	7.569	472.1 -> 427.0	41537	1.13 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.5%	
d3-MeFOSAA	8.096	573.2 -> 419.0	35990	5.34 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.8%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	38099	10.08 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
d3-MeFOSA	10.752	515.0 -> 219.0	12709	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.9%	
d5-EtFOSAA	8.279	589.2 -> 419.0	32086	5.31 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.2%	
d7-MeFOSE	10.672	623.2 -> 58.9	118189	25.17 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	147886	24.72 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.9%	
d5-EtFOSA	10.984	531.1 -> 219.0	11894	2.34 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.6%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	5149	0.80 µg/L	97
		327.1 -> 80.9	1805		
6:2FTS	6.826	427.1 -> 407.0	5094	0.78 µg/L	98
		427.1 -> 80.9	1767		
8:2FTS	7.840	527.1 -> 507.0	2823	0.78 µg/L	94
		527.1 -> 80.8	1240		
EtFOSAA	8.293	584.2 -> 419.1	841	0.19 µg/L	98
		584.2 -> 526.0	455		
FOSA	9.614	498.1 -> 77.9	2252	0.20 µg/L	99
		498.1 -> 478.0	75		
MeFOSAA	8.097	570.1 -> 419.0	1447	0.20 µg/L	97
		570.1 -> 483.0	253		
PFBA	2.856	212.8 -> 168.9	4618	0.80 µg/L	100
PFBS	5.385	298.7 -> 79.9	1497	0.18 µg/L	97
		298.7 -> 98.8	557		
PFDA	8.040	512.9 -> 469.0	5709	0.19 µg/L	97
		512.9 -> 219.0	946		
PFDODA	8.900	613.1 -> 569.0	4308	0.22 µg/L	93
		613.1 -> 319.0	635		
PFDS	9.064	599.0 -> 79.9	688	0.20 µg/L	98

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	310		
PFHpA	6.420	363.1 -> 319.0	5265	0.20 µg/L	99
		363.1 -> 169.0	871		
PFHpS	7.698	449.0 -> 79.9	1299	0.20 µg/L	87
		449.0 -> 98.9	748		
PFHxA	5.469	313.0 -> 269.0	4524	0.22 µg/L	97
		313.0 -> 118.9	203		
PFHxS	7.156	398.7 -> 79.9	1230	0.18 µg/L	98
		398.7 -> 98.9	608		
PFNA	7.570	463.0 -> 419.0	6207	0.21 µg/L	97
		463.0 -> 219.0	1336		
PFNS	8.644	548.8 -> 79.9	1067	0.19 µg/L	96
		548.8 -> 98.9	588		
PFOA	7.052	413.0 -> 369.0	7157	0.18 µg/L	92
		413.0 -> 169.0	1519		
PFOS	8.191	498.9 -> 79.9	1296	0.20 µg/L	94
		498.9 -> 98.8	580		
PFPeA	4.274	263.0 -> 219.0	5813	0.41 µg/L	100
PFPeS	6.459	349.1 -> 79.9	1278	0.20 µg/L	92
		349.1 -> 98.9	516		
PFTeDA	9.628	713.1 -> 669.0	3506	0.21 µg/L	96
		713.1 -> 168.9	280		
PFTrDA	9.296	663.0 -> 619.0	4473	0.23 µg/L	99
		663.0 -> 168.9	446		
PFUnDA	8.480	563.1 -> 519.0	4021	0.19 µg/L	96
		563.1 -> 269.1	548		
11Cl-PF3OUdS	9.336	630.9 -> 450.9	5640	0.39 µg/L	99
		632.9 -> 452.9	1762		
9Cl-PF3ONS	8.508	530.8 -> 351.0	8785	0.38 µg/L	77
		532.8 -> 353.0	1710		
ADONA	6.671	376.9 -> 250.9	20445	0.39 µg/L	99
		376.9 -> 84.8	5723		
HFPO-DA	5.832	284.9 -> 168.9	1342	0.42 µg/L	92
		284.9 -> 184.9	201		
3:3FTCA	3.709	241.0 -> 177.0	1033	1.04 µg/L	99
		241.0 -> 117.0	140		
5:3FTCA	6.137	341.0 -> 237.1	21787	5.40 µg/L	98
		341.0 -> 217.0	16206		
7:3FTCA	7.535	441.0 -> 316.9	15299	5.51 µg/L	92
		441.0 -> 336.9	32632		
EtFOSA	10.986	526.0 -> 219.0	2348	0.43 µg/L	100
		526.0 -> 169.0	3090		
EtFOSE	10.920	630.0 -> 58.9	6756	1.05 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	1970	0.41 µg/L	96
		511.9 -> 169.0	2855		
MeFOSE	10.673	616.1 -> 58.9	4665	1.02 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	311	0.20 µg/L	90
		699.1 -> 98.8	149		
NFDHA	5.348	295.0 -> 201.0	1016	0.40 µg/L	93
		295.0 -> 84.9	290		
PFMBA	4.688	279.0 -> 85.1	3814	0.39 µg/L	100
PFMPA	3.401	229.0 -> 84.9	2893	0.39 µg/L	100
PFEESA	5.926	314.8 -> 134.9	9831	0.37 µg/L	99
		314.8 -> 82.9	329		

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



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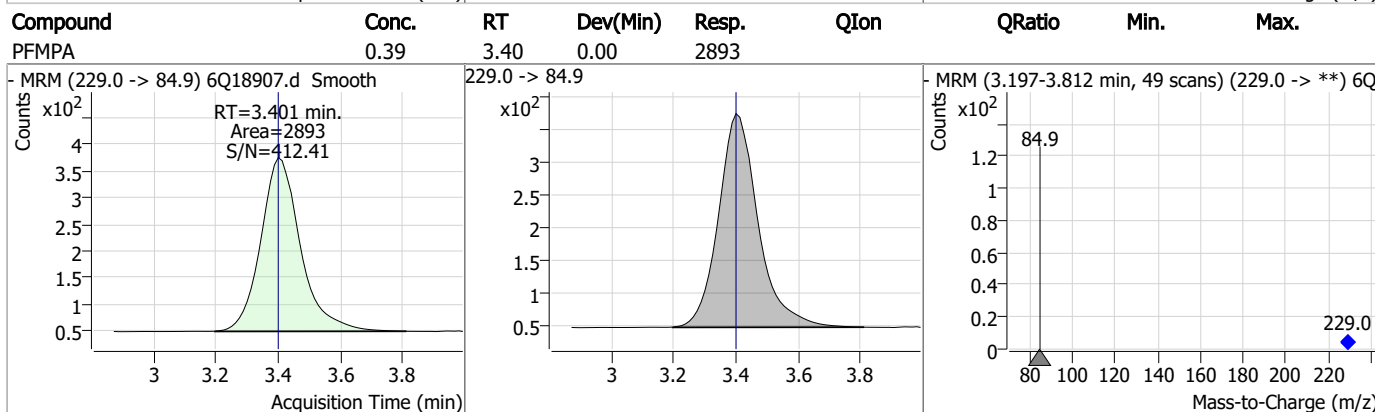
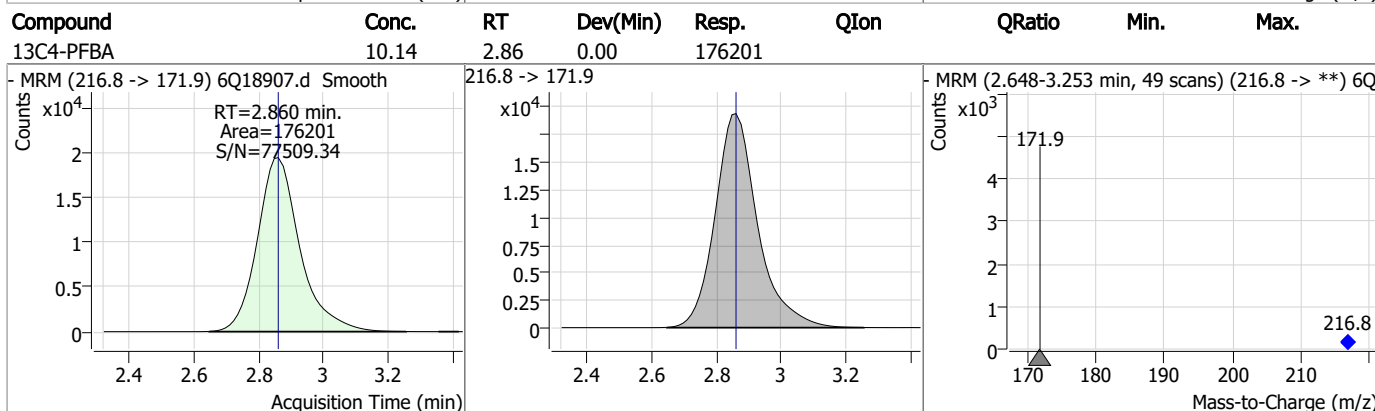
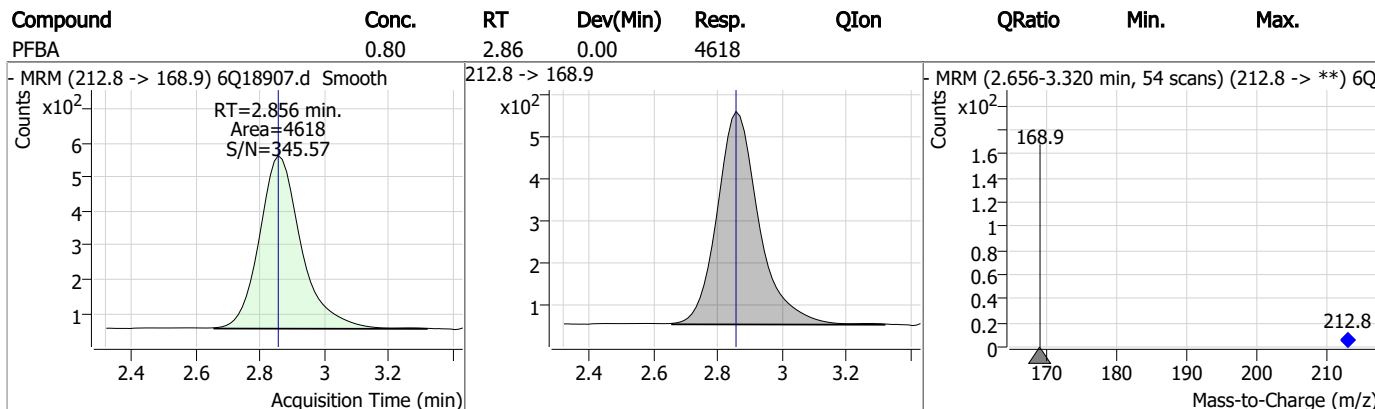
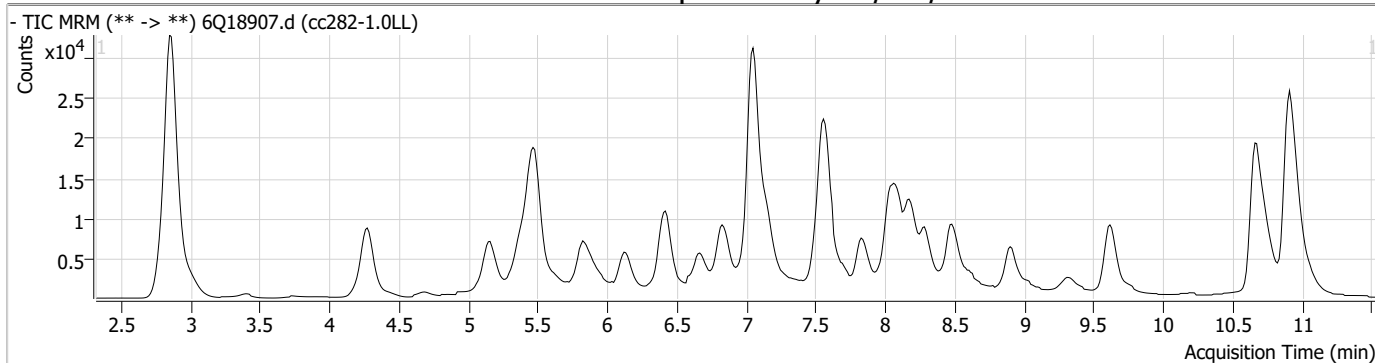
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.15

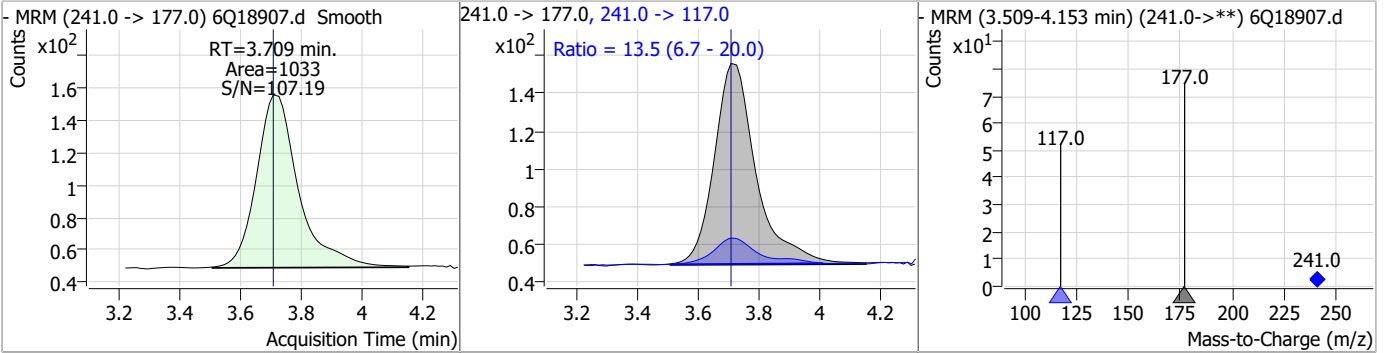
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Perfluorinated Compounds by LC/MS/MS

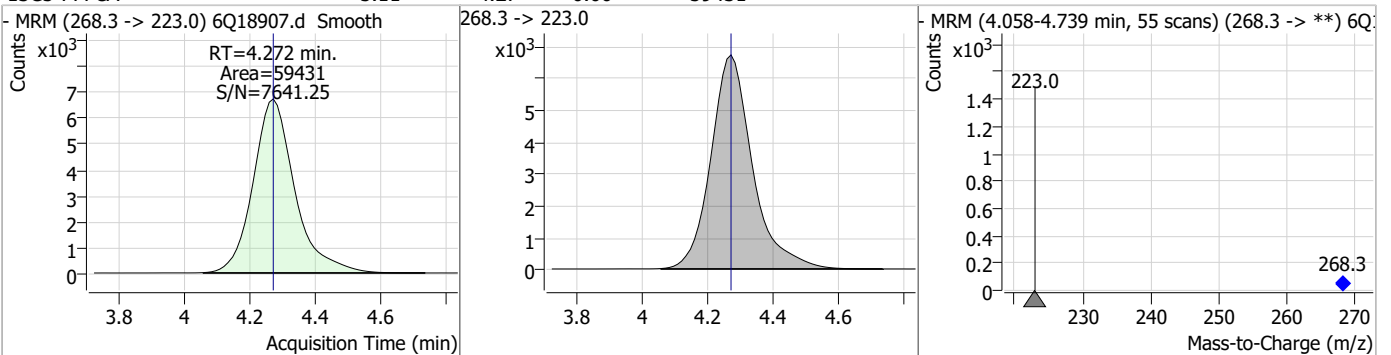


Perfluorinated Compounds by LC/MS/MS

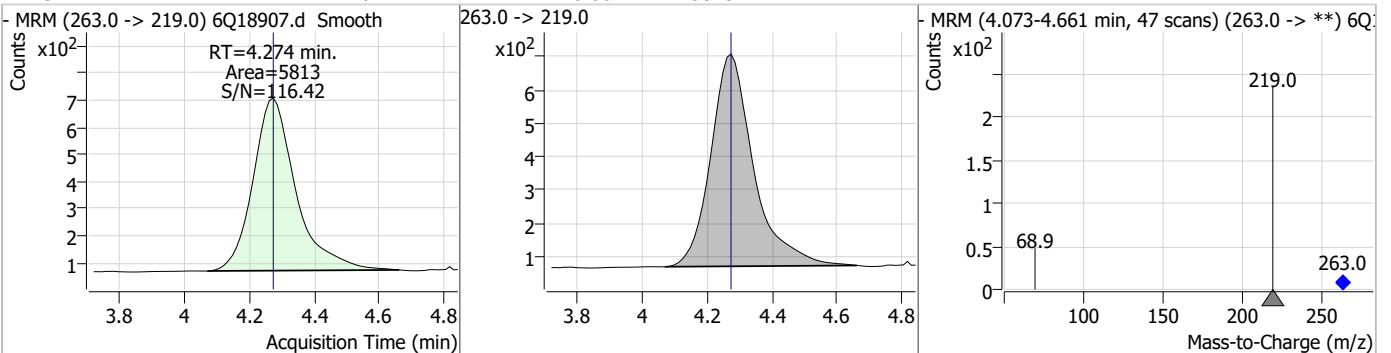
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	1.04	3.71	0.00	1033	241.0 -> 117.0	13.5	6.7	20.0



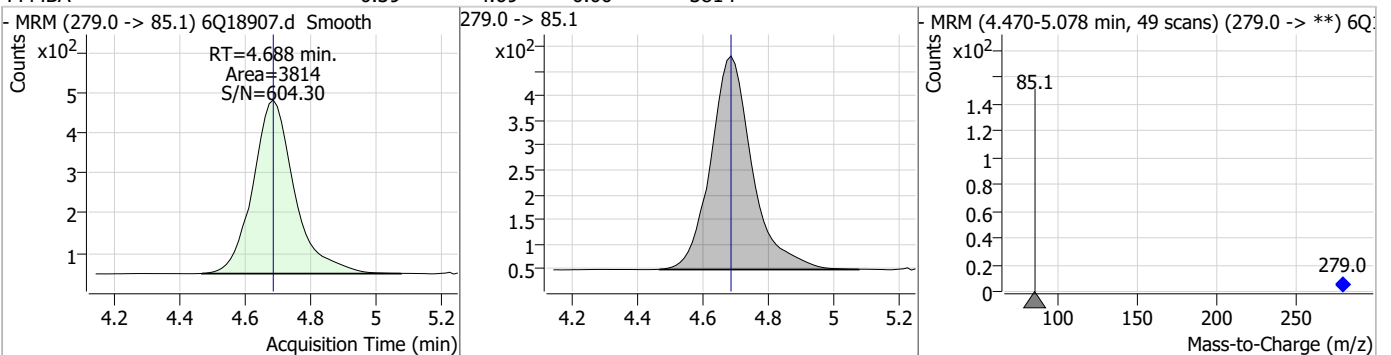
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.11	4.27	0.00	59431				



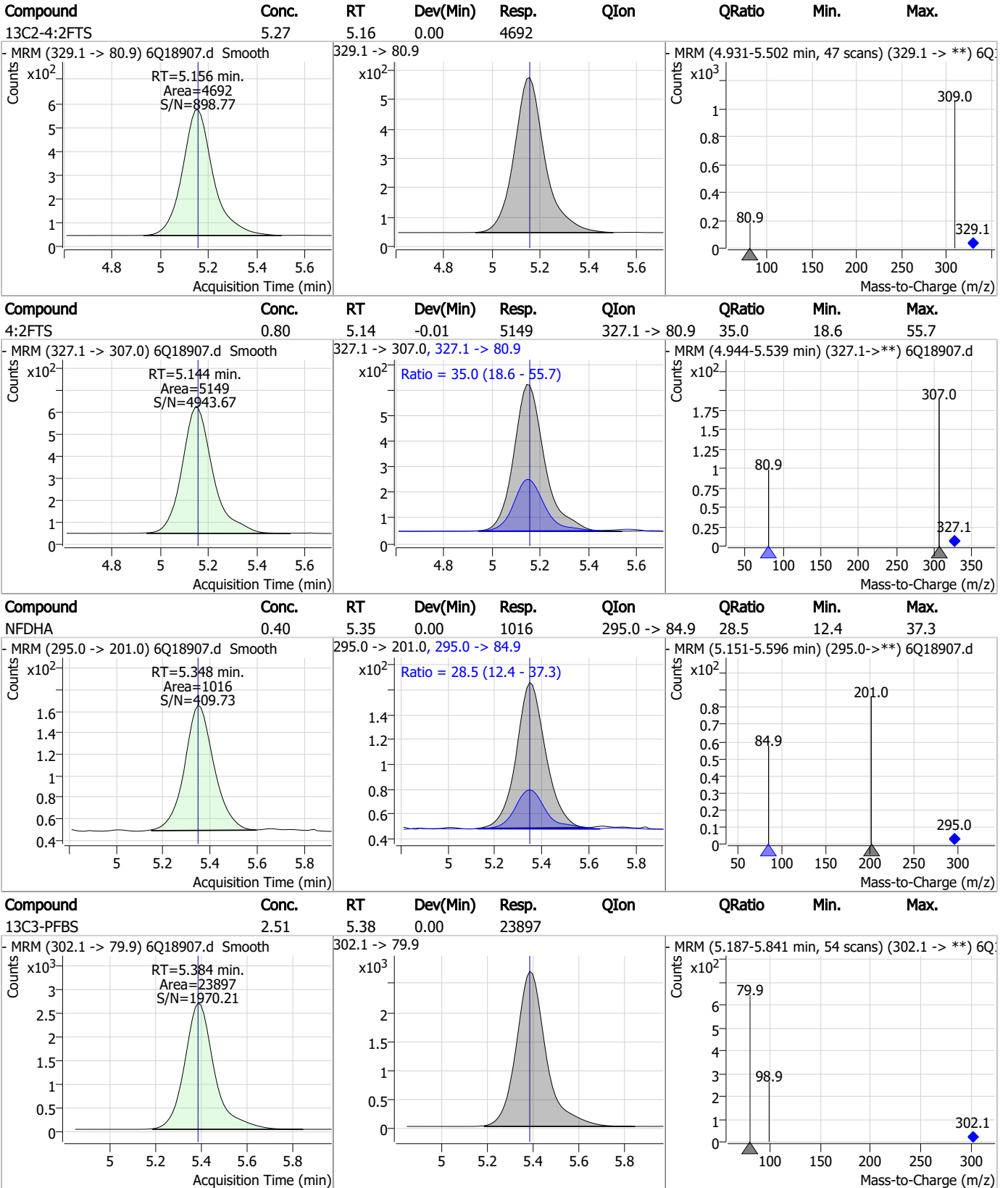
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	0.41	4.27	0.00	5813				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	0.39	4.69	0.00	3814				

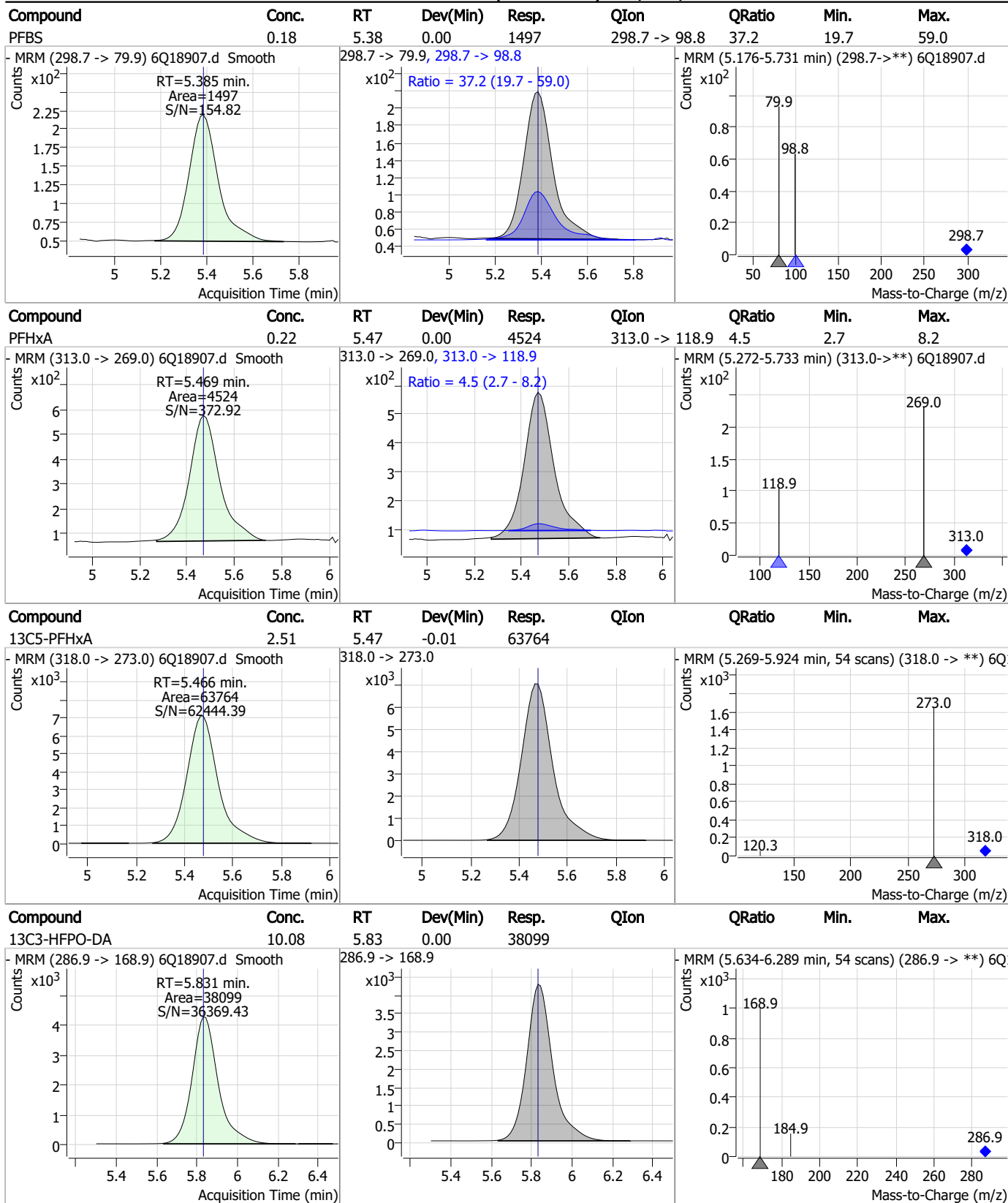


Perfluorinated Compounds by LC/MS/MS



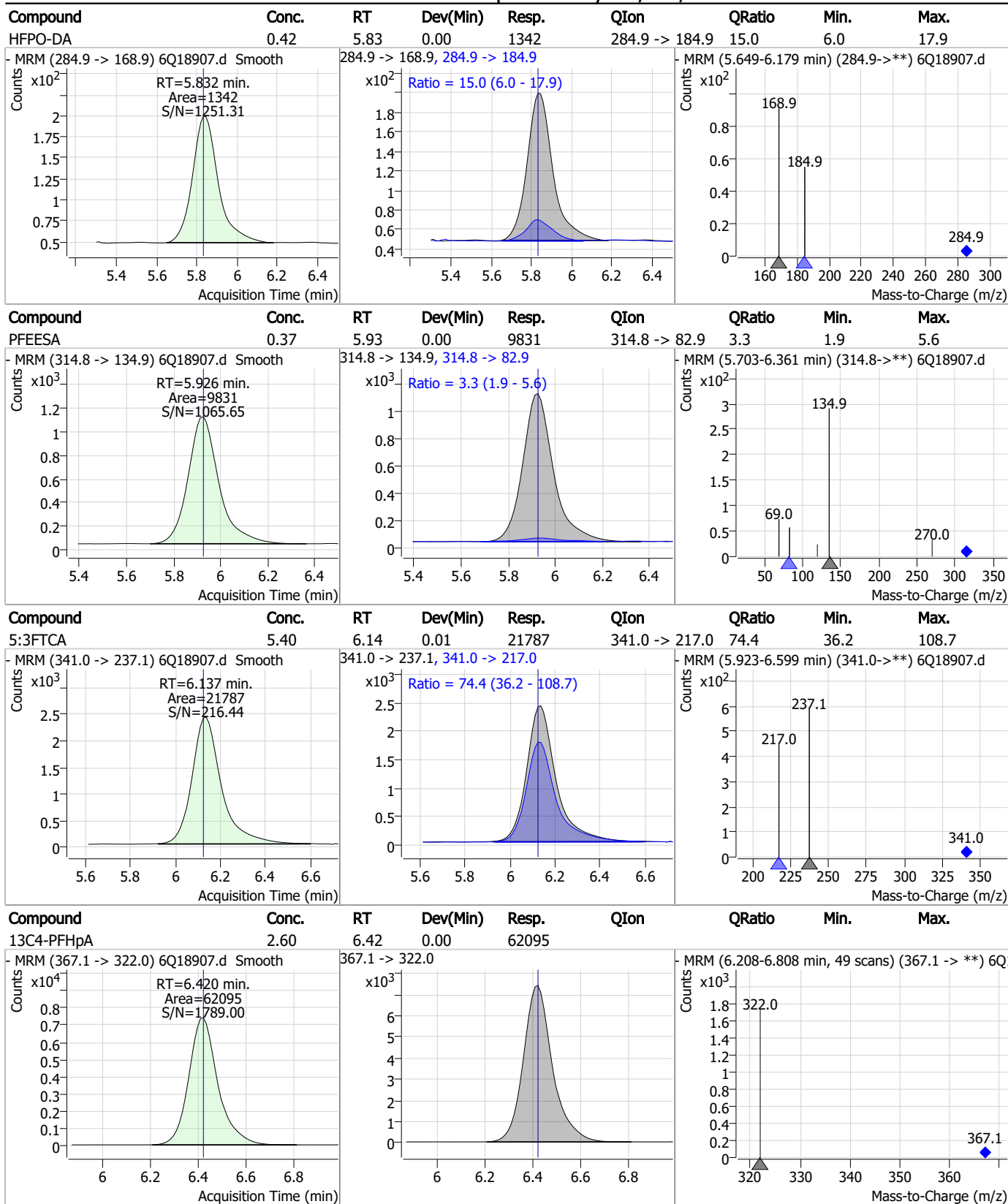
7.7.15 7

Perfluorinated Compounds by LC/MS/MS



7.7.15
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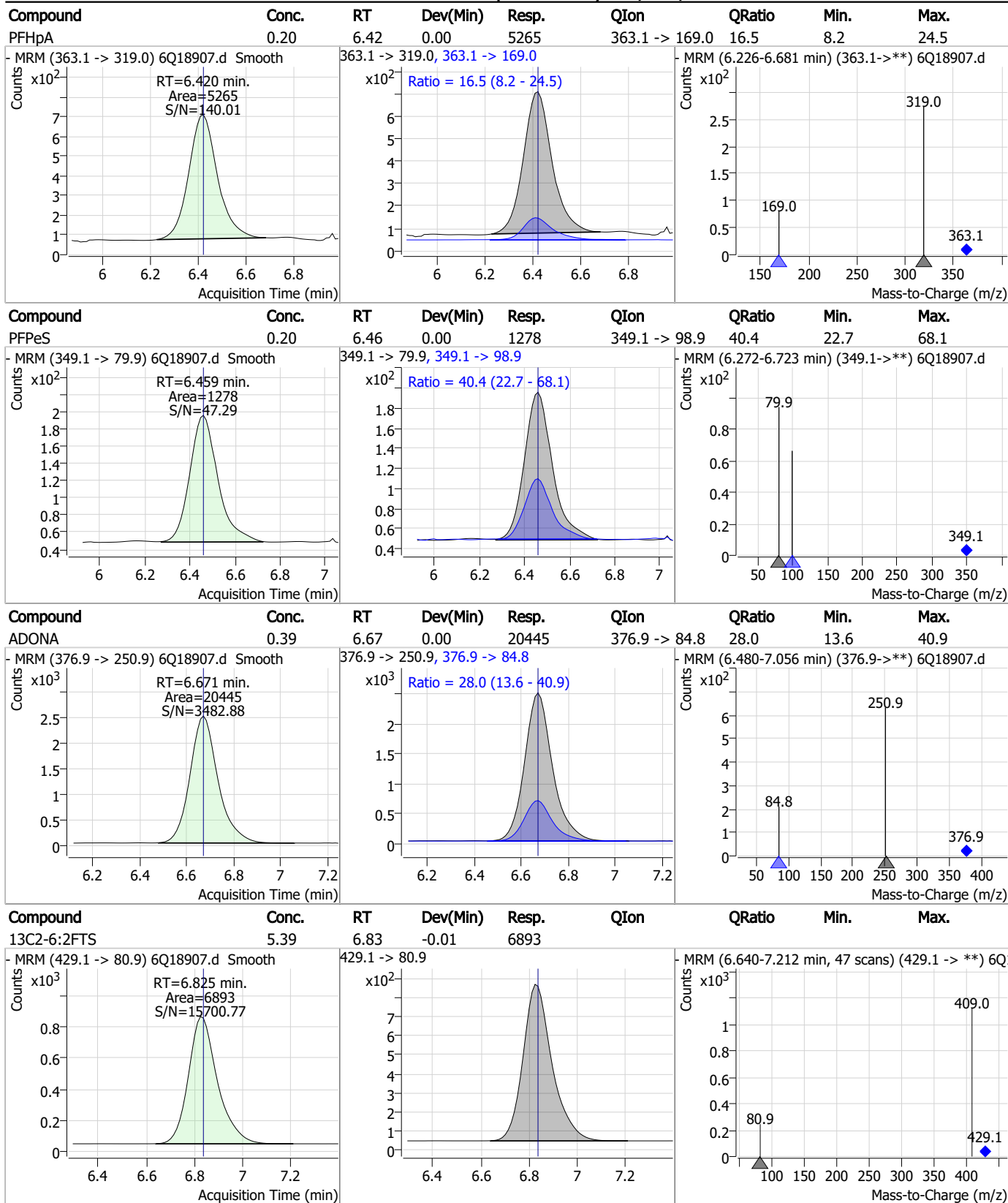
Perfluorinated Compounds by LC/MS/MS



7.7.15

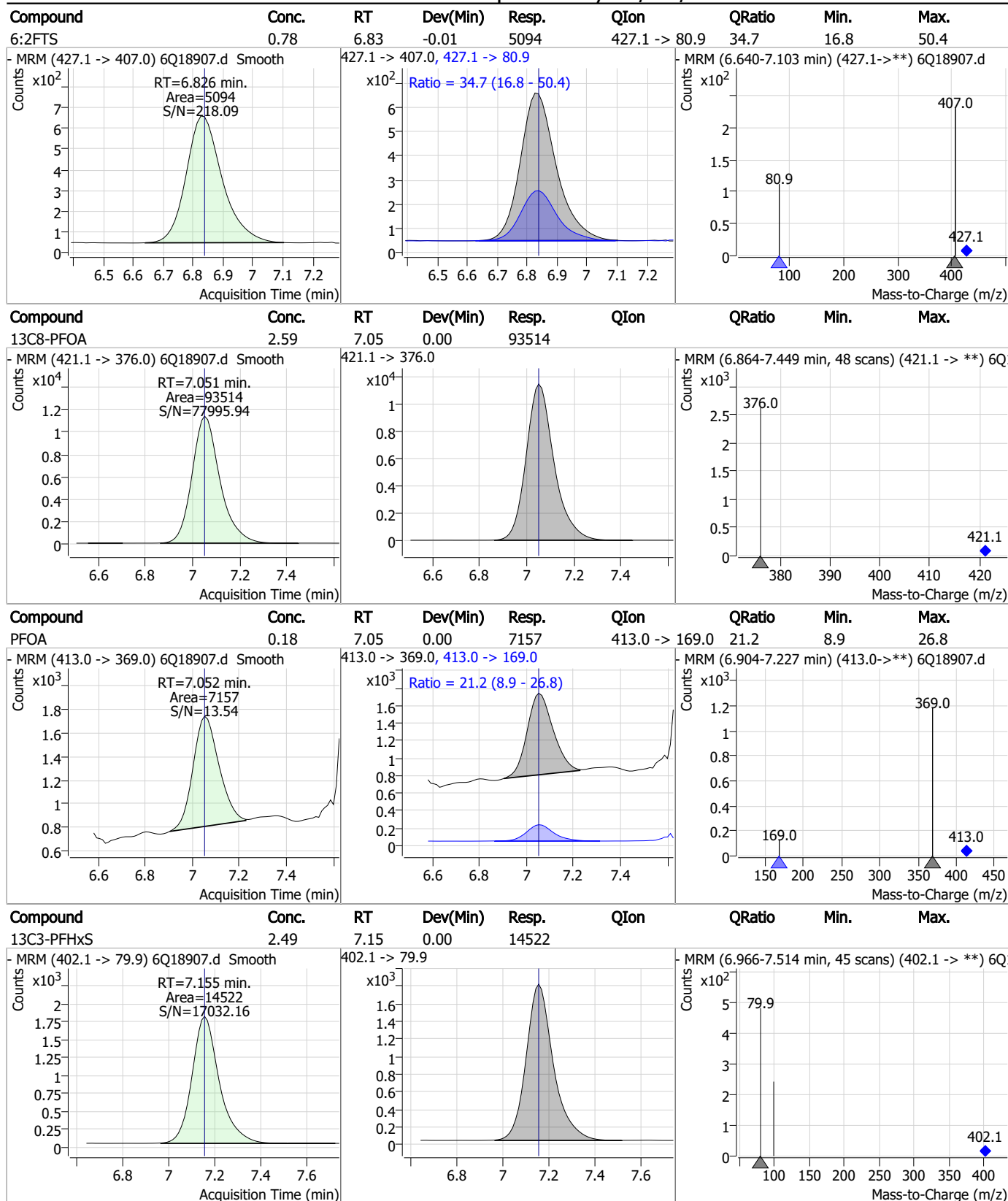
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Perfluorinated Compounds by LC/MS/MS



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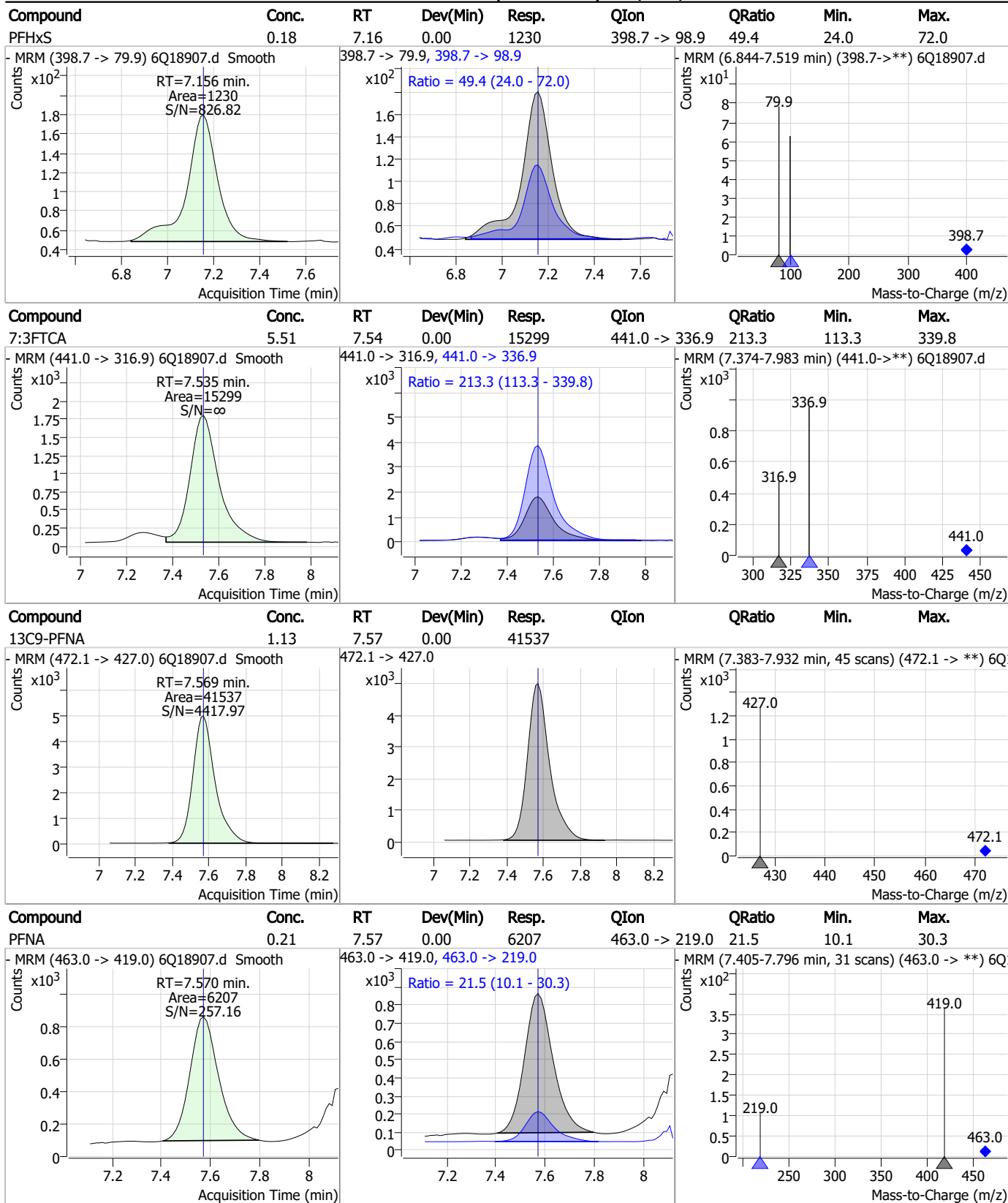
Perfluorinated Compounds by LC/MS/MS



7.7.15

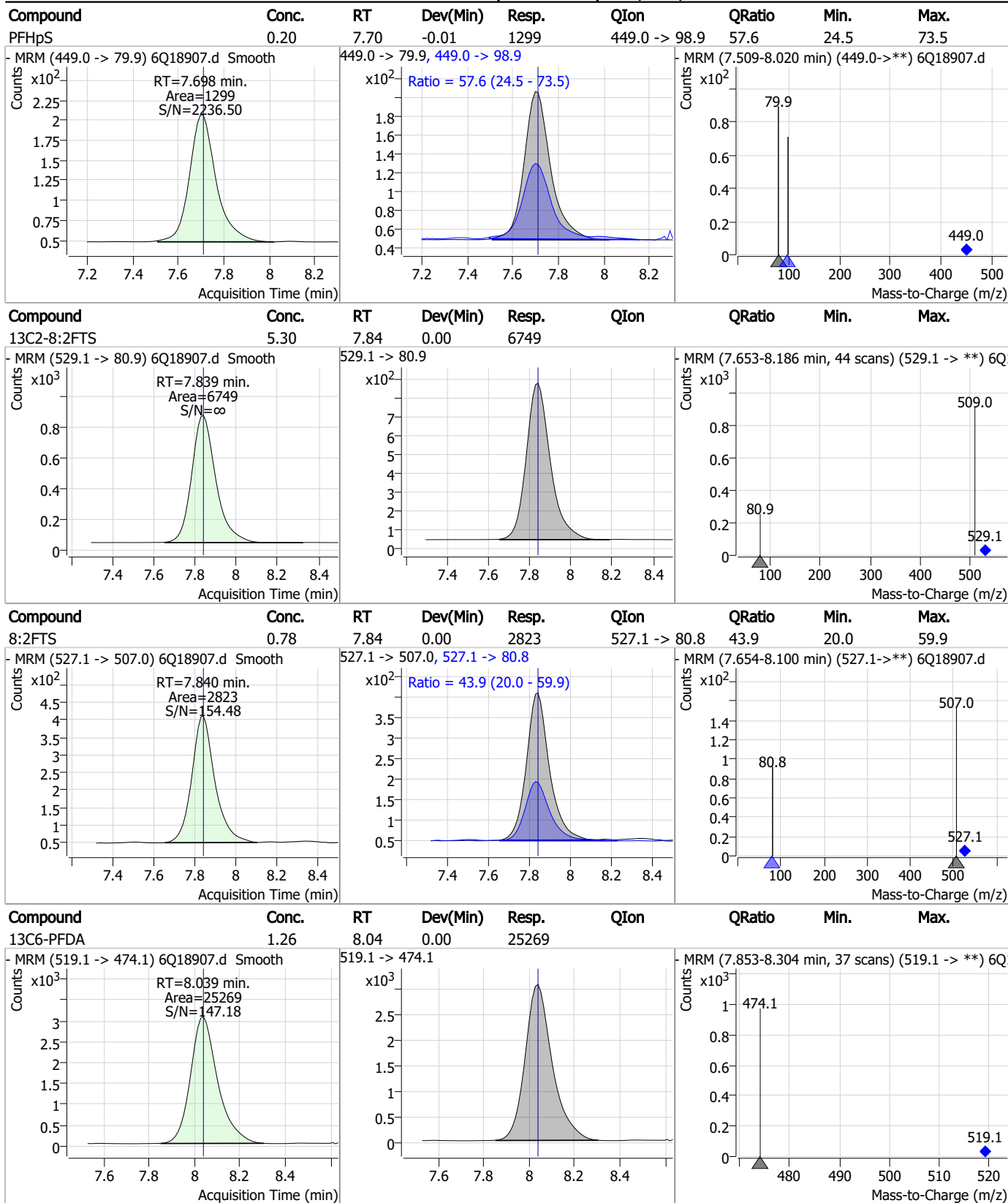


Perfluorinated Compounds by LC/MS/MS



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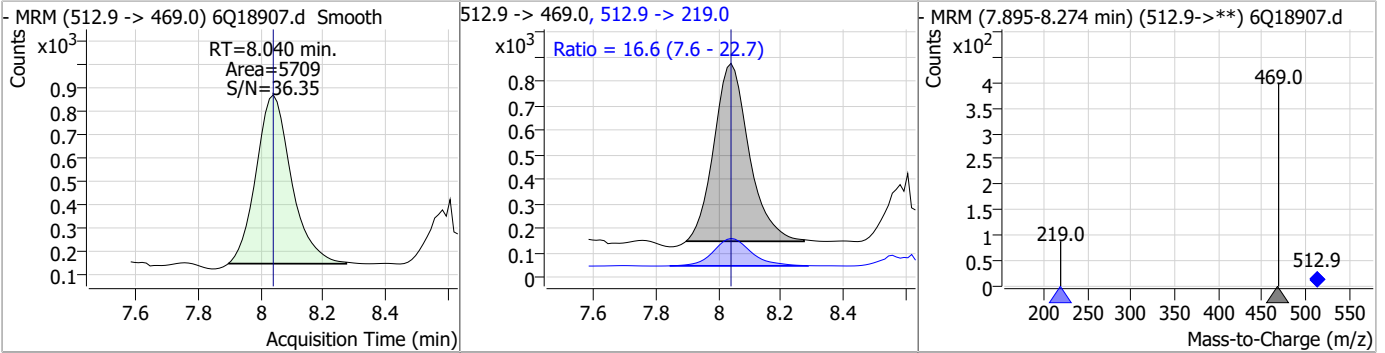
Perfluorinated Compounds by LC/MS/MS



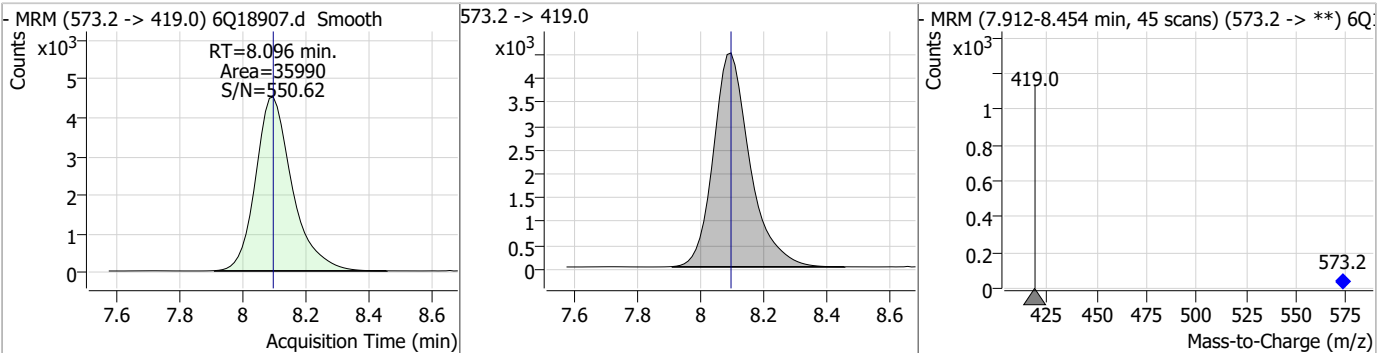
7.7.15

Perfluorinated Compounds by LC/MS/MS

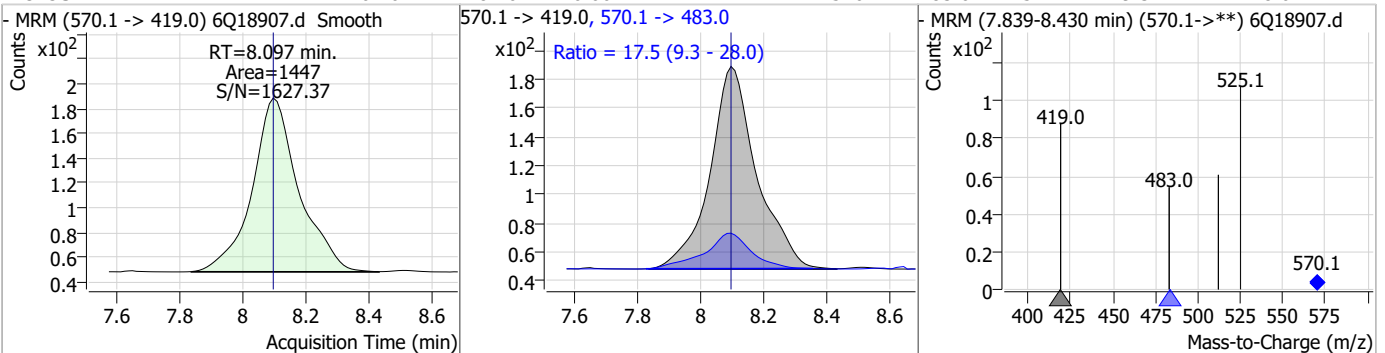
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.19	8.04	0.00	5709	512.9 -> 219.0	16.6	7.6	22.7



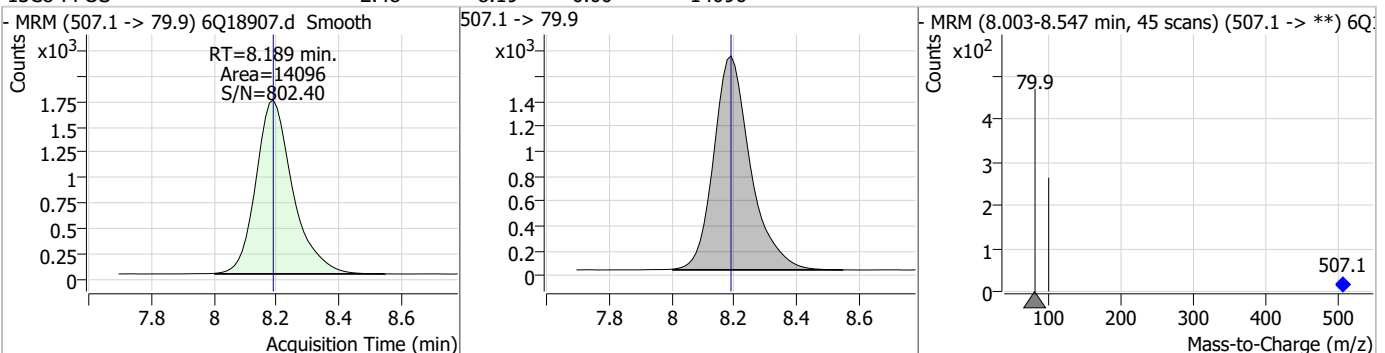
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.34	8.10	0.00	35990				



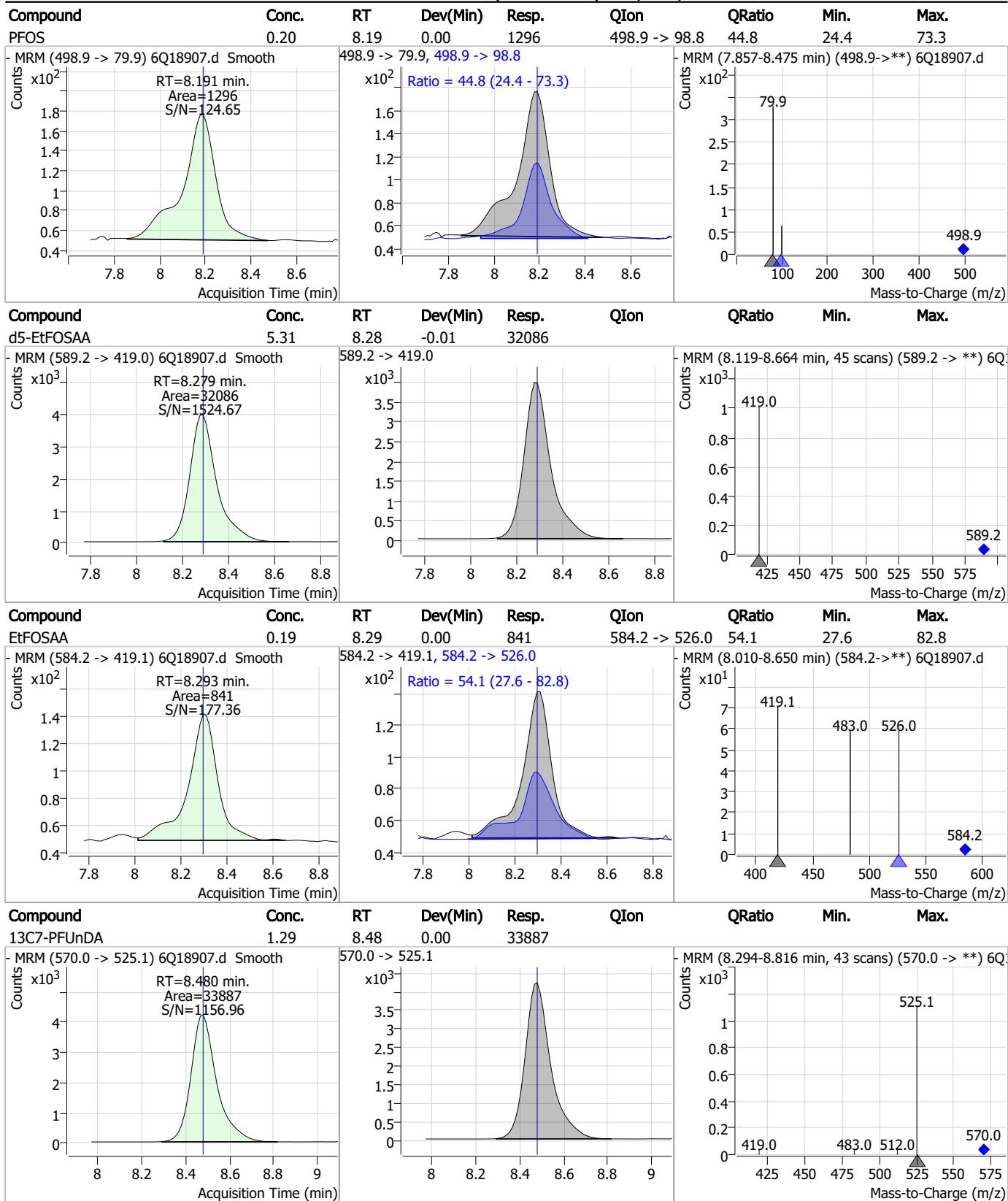
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.20	8.10	0.00	1447	570.1 -> 483.0	17.5	9.3	28.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.48	8.19	0.00	14096				



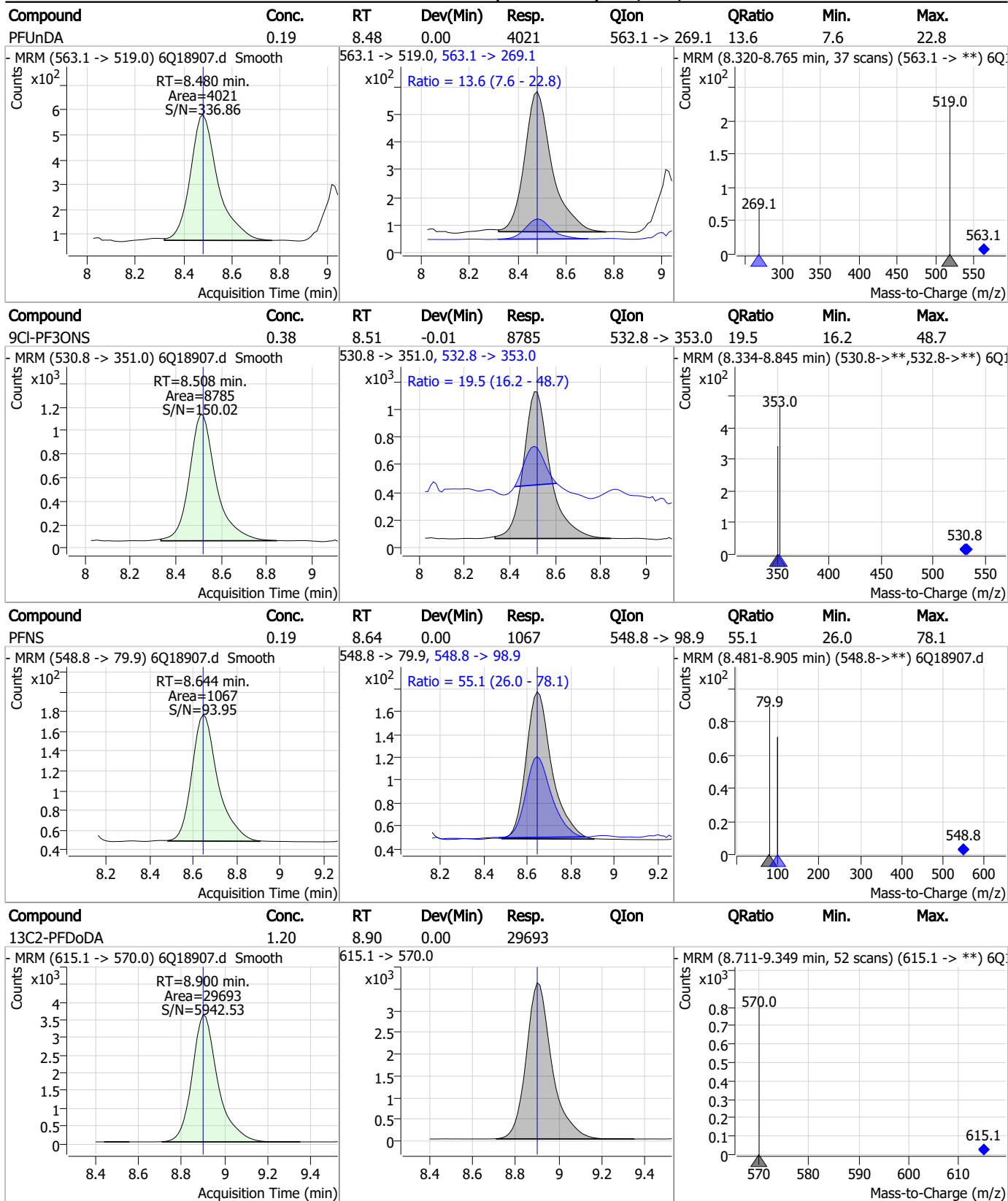
Perfluorinated Compounds by LC/MS/MS



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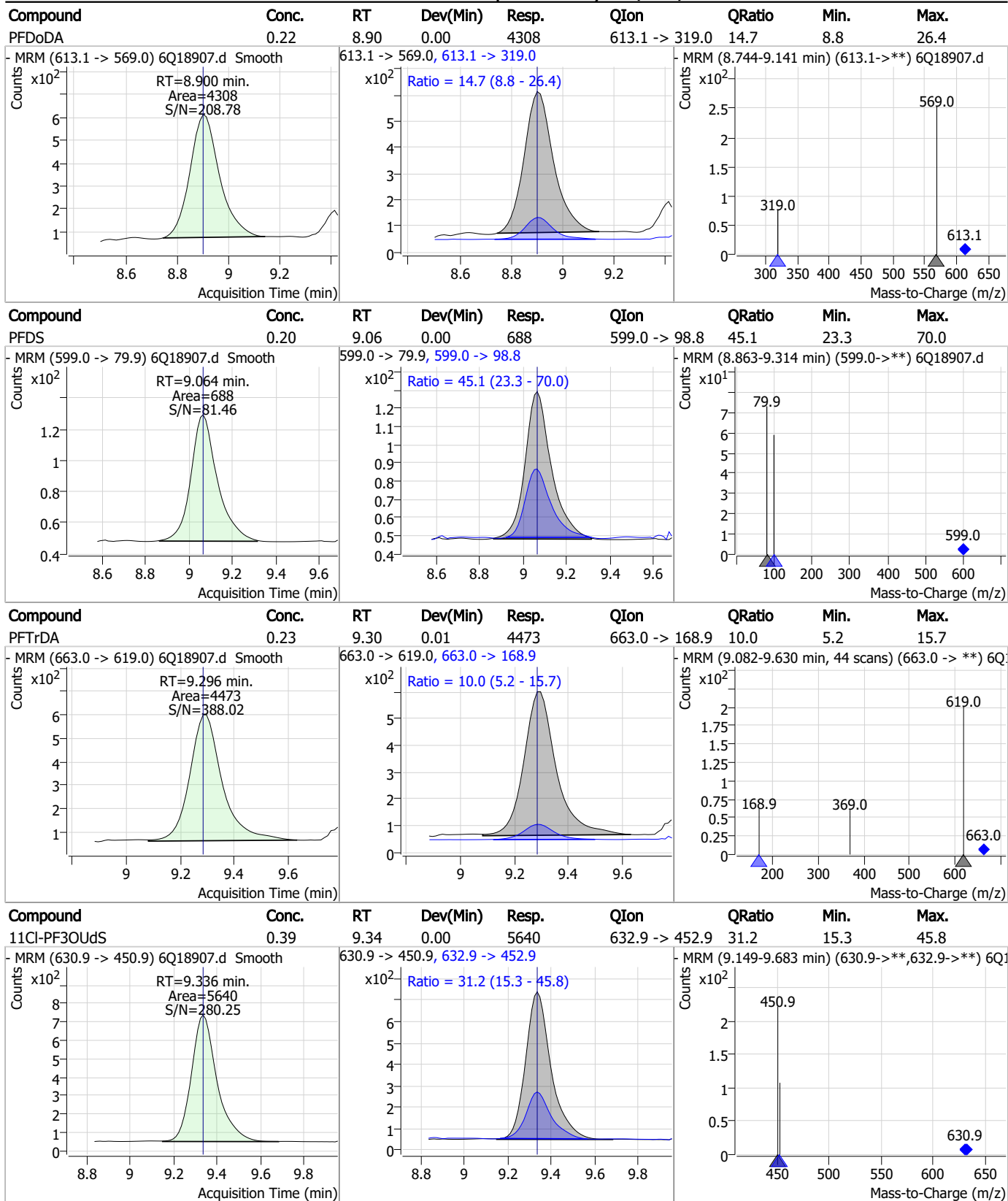


Perfluorinated Compounds by LC/MS/MS



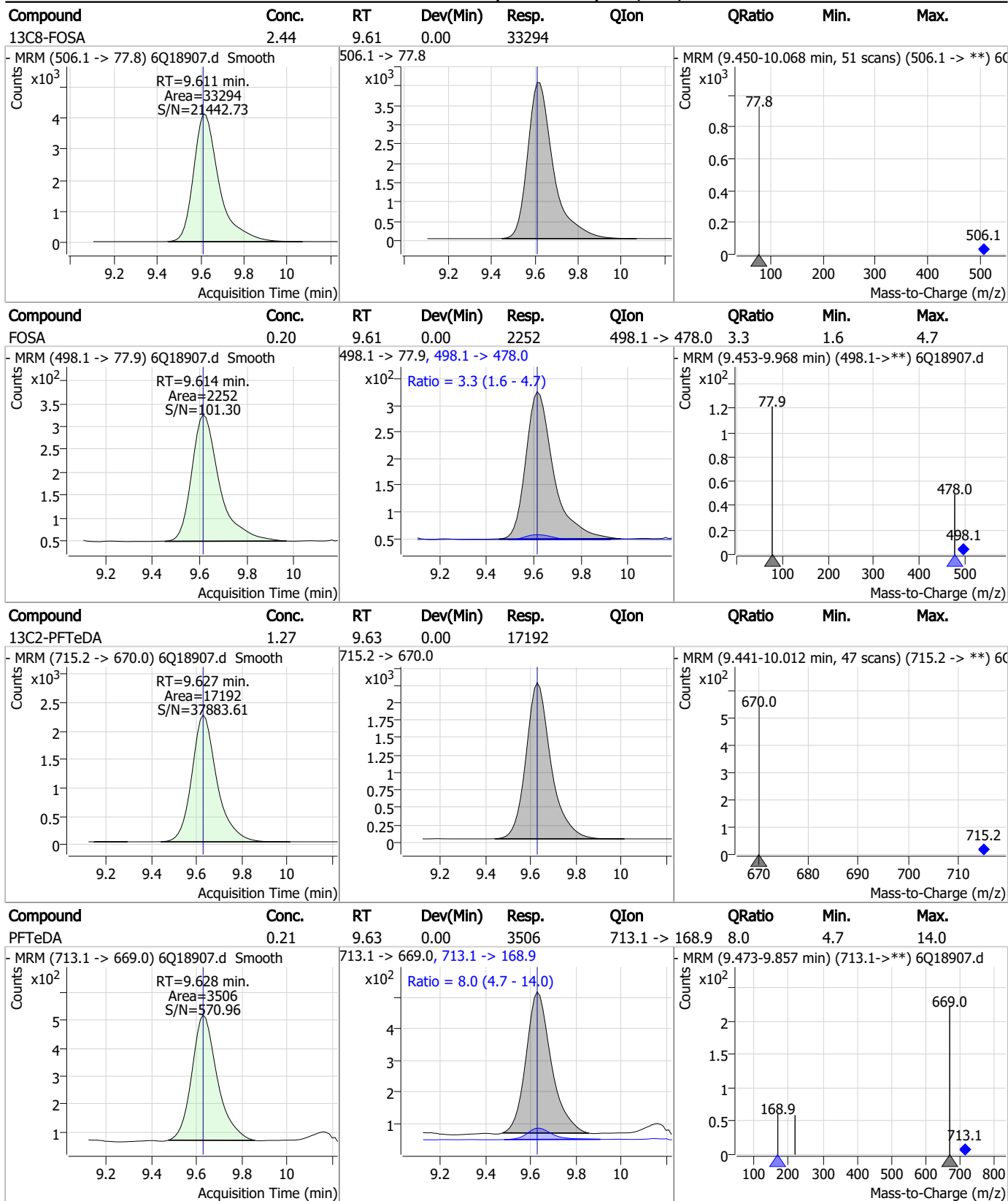
7.7.15
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Perfluorinated Compounds by LC/MS/MS



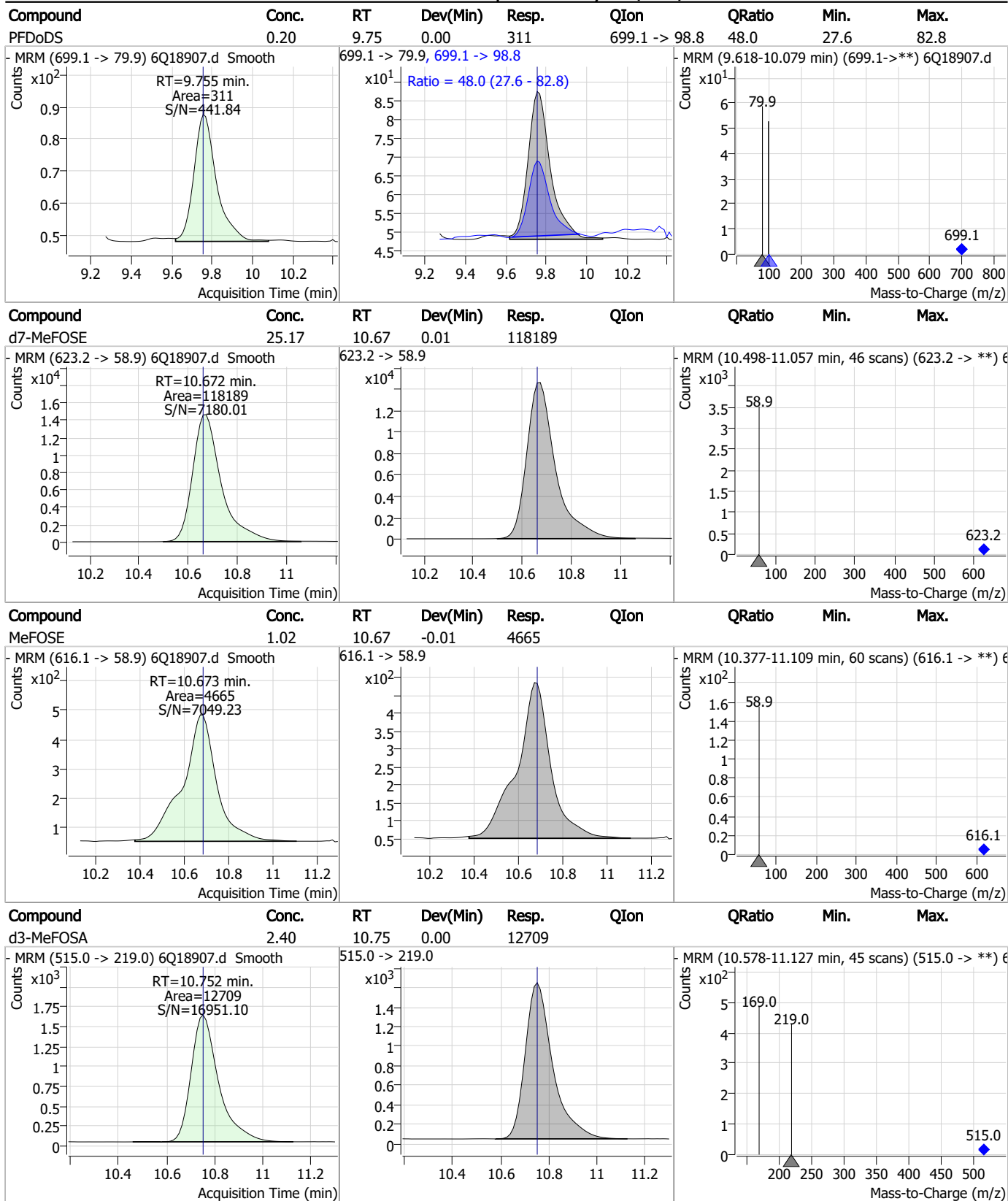
7.7.15
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Perfluorinated Compounds by LC/MS/MS



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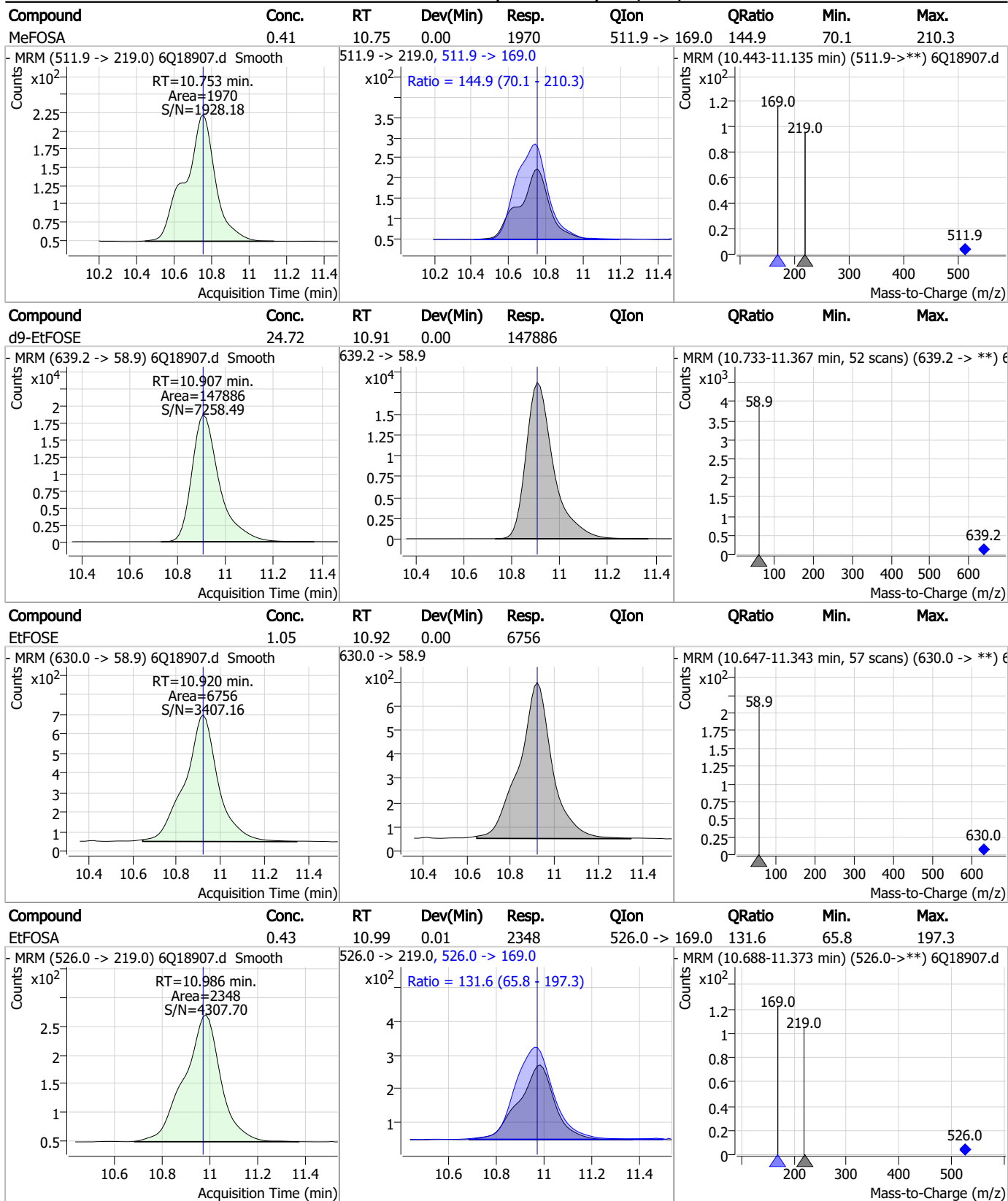
Perfluorinated Compounds by LC/MS/MS



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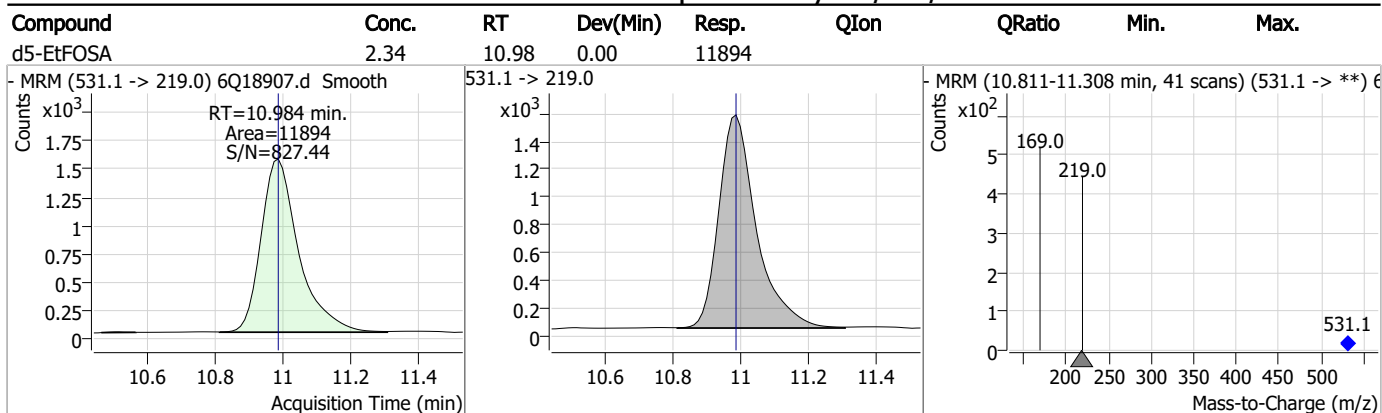
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18918.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 1:36:26 AM
 Sample Name : Ecc282-4
 Vial : P1-A5
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q282.batch.bin
 Sample Information : OP96663,S6Q282,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	185677	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	62017	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	67590	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	62955	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	98844	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	45328	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	28397	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34758	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	32551	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17802	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	35916	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	24276	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15077	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14448	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4742	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7056	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7078	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	35798	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	41152	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	34365	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	121370	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	152909	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13383	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13833	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19436	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	77797	5.00 µg/L	0.000
18O2-PFHxS	7.166	403.0 -> 83.9	10686	2.50 µg/L	0.012
13C4-PFOA	7.051	417.1 -> 372.0	102756	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	35169	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	56830	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	64028	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4742	5.40 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.9%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7056	5.59 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.7%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7078	5.63 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.5%		
13C2-PFDoDA	8.900	615.1 -> 570.0	32551	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.3%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17802	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.1%		
13C3-PFBS	5.384	302.1 -> 79.9	24276	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 103.4%		
13C3-PFHxS	7.155	402.1 -> 79.9	15077	2.61 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.6%	
13C4-PFBA	2.860	216.8 -> 171.9	185677	10.06 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C4-PFHpA	6.420	367.1 -> 322.0	62955	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.7%	
13C5-PFHxA	5.466	318.0 -> 273.0	67590	2.49 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C5-PFPeA	4.272	268.3 -> 223.0	62017	4.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C6-PFDA	8.039	519.1 -> 474.1	28397	1.36 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.9%	
13C7-PFUnDA	8.480	570.0 -> 525.1	34758	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.9%	
13C8-FOSA	9.611	506.1 -> 77.8	35916	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C8-PFOA	7.051	421.1 -> 376.0	98844	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C8-PFOS	8.189	507.1 -> 79.9	14448	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.0%	
13C9-PFNA	7.569	472.1 -> 427.0	45328	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	35798	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	41152	10.20 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.0%	
d3-MeFOSA	10.752	515.0 -> 219.0	13833	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	34365	5.47 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.5%	
d7-MeFOSE	10.660	623.2 -> 58.9	121370	24.88 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	152909	24.61 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.4%	
d5-EtFOSA	10.984	531.1 -> 219.0	13383	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.4%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	65628	10.10 µg/L	99
		327.1 -> 80.9	23899		
6:2FTS	6.838	427.1 -> 407.0	65602	9.81 µg/L	98
		427.1 -> 80.9	21147		
8:2FTS	7.840	527.1 -> 507.0	36044	9.50 µg/L	100
		527.1 -> 80.8	14343		
EtFOSAA	8.293	584.2 -> 419.1	10552	2.25 µg/L	93
		584.2 -> 526.0	5323		
FOSA	9.614	498.1 -> 77.9	28923	2.39 µg/L	100
		498.1 -> 478.0	906		
MeFOSAA	8.097	570.1 -> 419.0	18366	2.57 µg/L	97
		570.1 -> 483.0	3671		
PFBA	2.856	212.8 -> 168.9	59565	9.85 µg/L	100
PFBS	5.385	298.7 -> 79.9	18974	2.26 µg/L	99
		298.7 -> 98.8	7343		
PFDA	8.040	512.9 -> 469.0	77691	2.27 µg/L	99
		512.9 -> 219.0	11585		
PFDODA	8.900	613.1 -> 569.0	51429	2.43 µg/L	97
		613.1 -> 319.0	8376		
PFDS	9.064	599.0 -> 79.9	8384	2.43 µg/L	99

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	3960	2.52 µg/L	100
		363.1 -> 319.0	67280		
PFHpS	7.710	363.1 -> 169.0	10870	2.33 µg/L	94
		449.0 -> 79.9	15271		
PFHxA	5.469	449.0 -> 98.9	8077	2.43 µg/L	99
		313.0 -> 269.0	53966		
PFHxS	7.156	313.0 -> 118.9	2808	2.31 µg/L	98
		398.7 -> 79.9	16340		
PFNA	7.570	398.7 -> 98.9	7582	2.55 µg/L	95
		463.0 -> 419.0	82113		
PFNS	8.644	463.0 -> 219.0	14788	2.36 µg/L	99
		548.8 -> 79.9	13608		
PFOA	7.052	548.8 -> 98.9	7179	2.49 µg/L	97
		413.0 -> 369.0	103557		
PFOS	8.191	413.0 -> 169.0	17074	2.21 µg/L	99
		498.9 -> 79.9	14621		
PFPeA	4.274	498.9 -> 98.8	7275	4.89 µg/L	100
		263.0 -> 219.0	71615		
PFPeS	6.459	349.1 -> 79.9	15684	2.31 µg/L	98
		349.1 -> 98.9	7295		
PFTeDA	9.628	713.1 -> 669.0	42039	2.40 µg/L	99
		713.1 -> 168.9	3769		
PFTrDA	9.284	663.0 -> 619.0	52281	2.42 µg/L	98
		663.0 -> 168.9	5892		
PFUnDA	8.480	563.1 -> 519.0	56686	2.63 µg/L	98
		563.1 -> 269.1	8975		
11CI-PF3OUdS	9.336	630.9 -> 450.9	73949	4.70 µg/L	98
		632.9 -> 452.9	21786		
9CI-PF3ONS	8.520	530.8 -> 351.0	121366	4.87 µg/L	99
		532.8 -> 353.0	38886		
ADONA	6.671	376.9 -> 250.9	265790	4.70 µg/L	99
		376.9 -> 84.8	71496		
HFPO-DA	5.832	284.9 -> 168.9	17259	5.02 µg/L	98
		284.9 -> 184.9	1902		
3:3FTCA	3.727	241.0 -> 177.0	12622	12.16 µg/L	99
		241.0 -> 117.0	1712		
5:3FTCA	6.137	341.0 -> 237.1	263899	61.65 µg/L	98
		341.0 -> 217.0	196635		
7:3FTCA	7.535	441.0 -> 316.9	185001	62.83 µg/L	93
		441.0 -> 336.9	398056		
EtFOSA	10.986	526.0 -> 219.0	30245	4.90 µg/L	97
		526.0 -> 169.0	40805		
EtFOSE	10.920	630.0 -> 58.9	83710	12.55 µg/L	100
		511.9 -> 219.0	26507		
MeFOSA	10.753	511.9 -> 169.0	35813	5.03 µg/L	96
		616.1 -> 58.9	56999		
MeFOSE	10.673	699.1 -> 79.9	4137	12.13 µg/L	100
		699.1 -> 98.8	2110		
PFDoDS	9.755	295.0 -> 201.0	13384	2.54 µg/L	94
		295.0 -> 84.9	3468		
NFDHA	5.348	279.0 -> 85.1	50731	5.02 µg/L	98
		229.0 -> 84.9	38723		
PFMBA	4.688	314.8 -> 134.9	125900	5.01 µg/L	100
		314.8 -> 82.9	4409		
PFMPA	3.401			5.02 µg/L	100
PFEESA	5.926			4.46 µg/L	99

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

7.7.16
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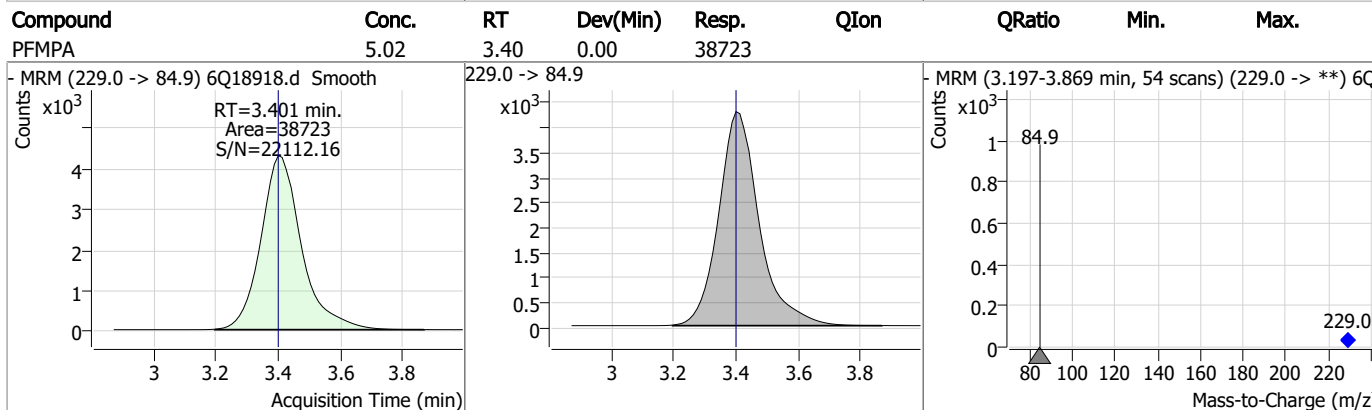
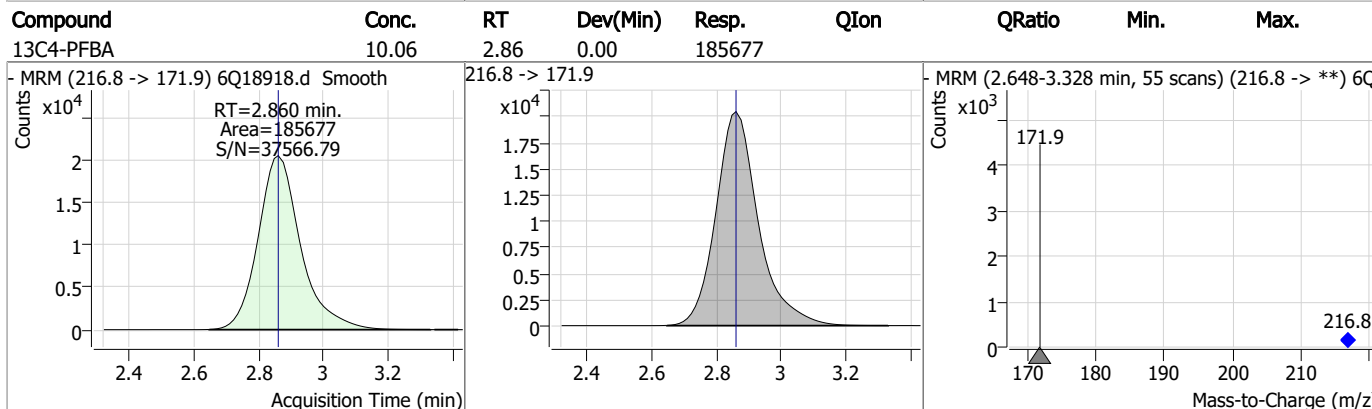
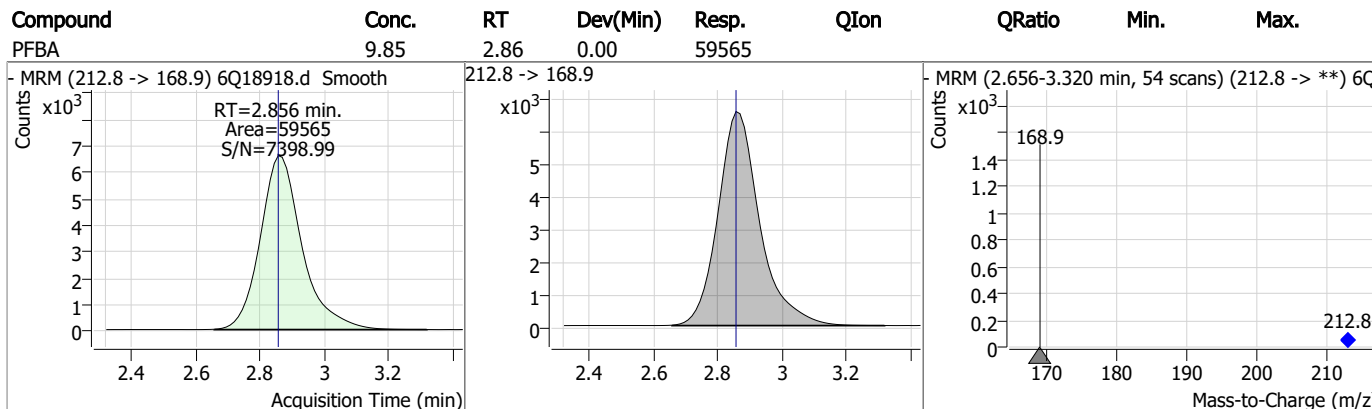
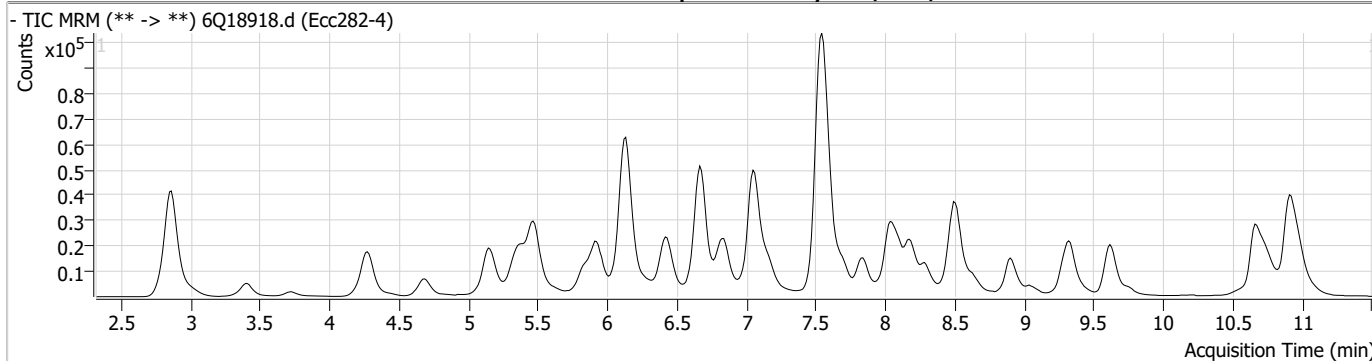
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.16

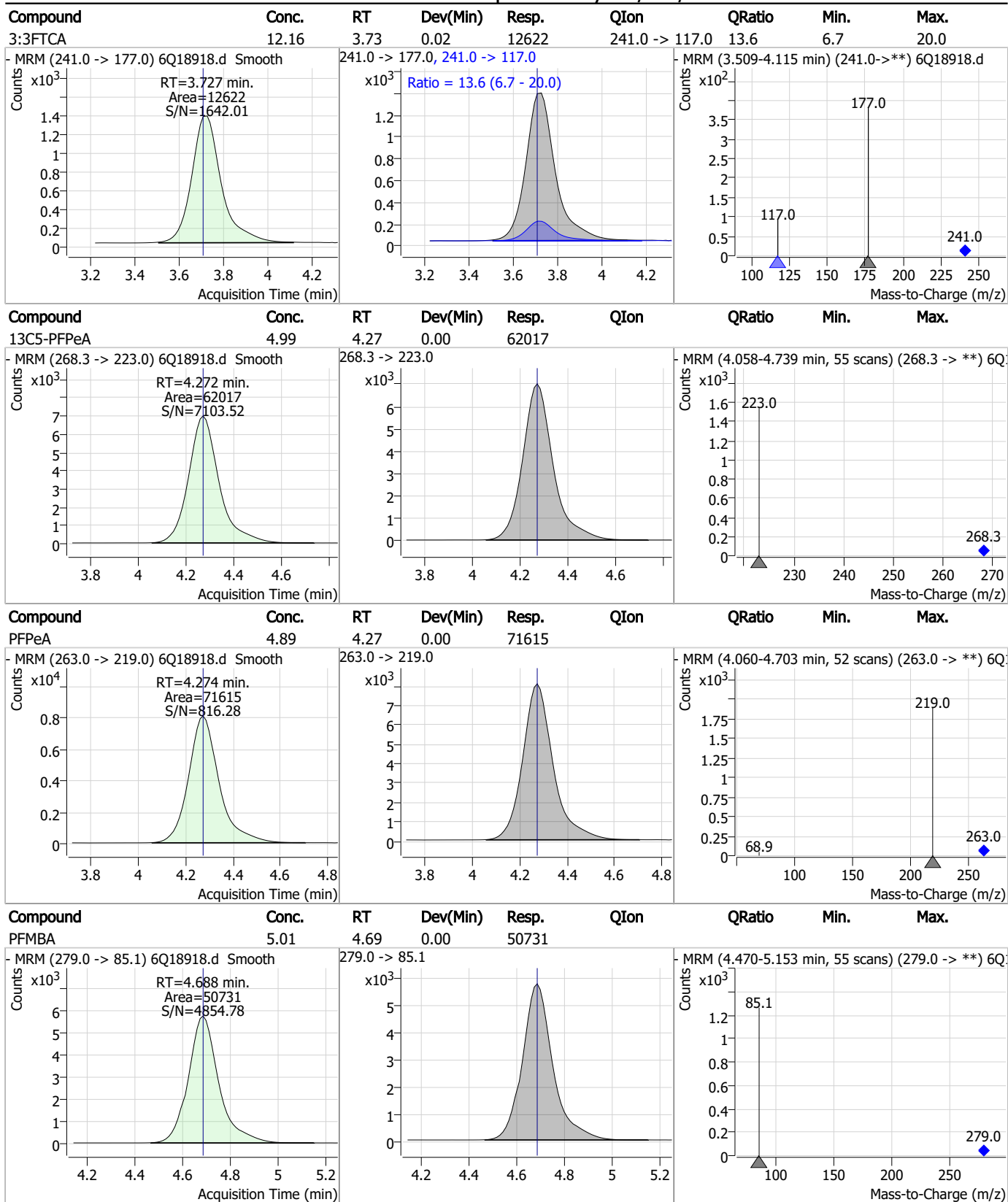
7

Perfluorinated Compounds by LC/MS/MS



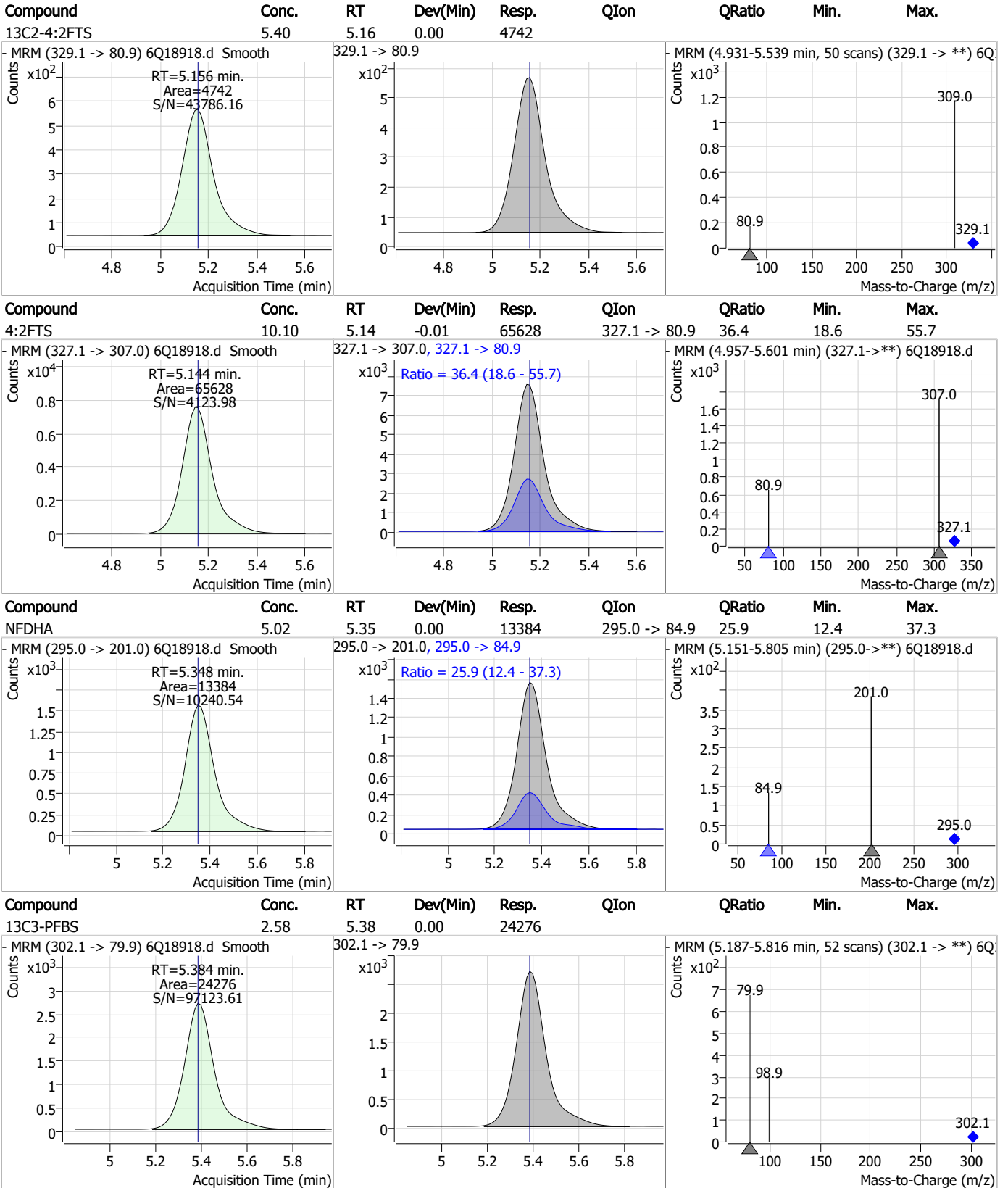
7.7.16
7

Perfluorinated Compounds by LC/MS/MS



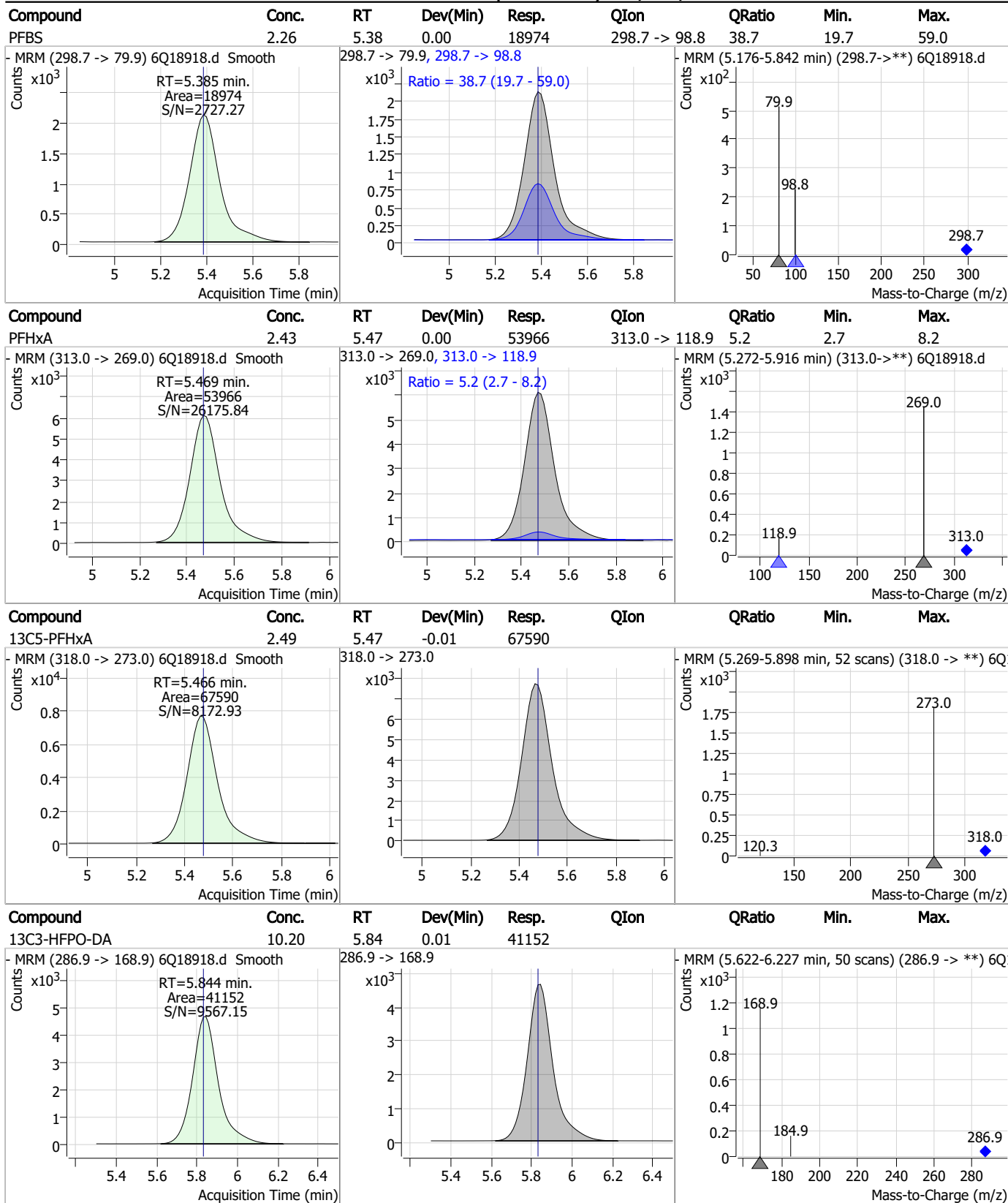
7.7.16
7

Perfluorinated Compounds by LC/MS/MS



7.7.16 7

Perfluorinated Compounds by LC/MS/MS

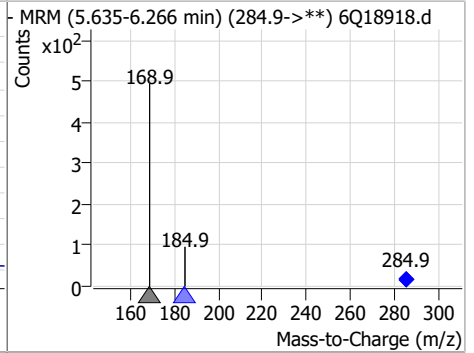
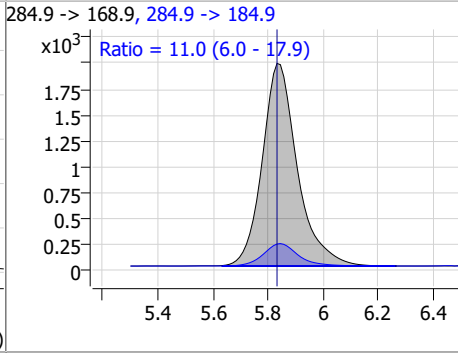
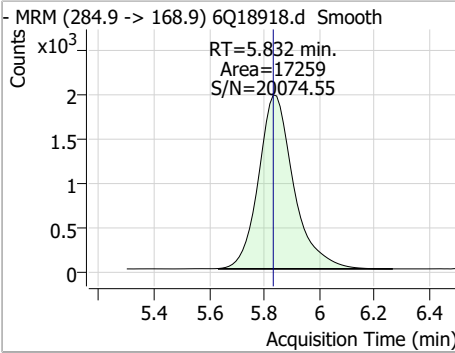


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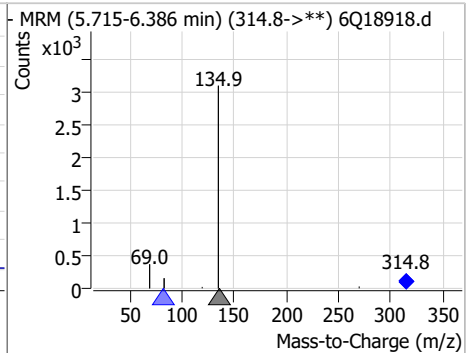
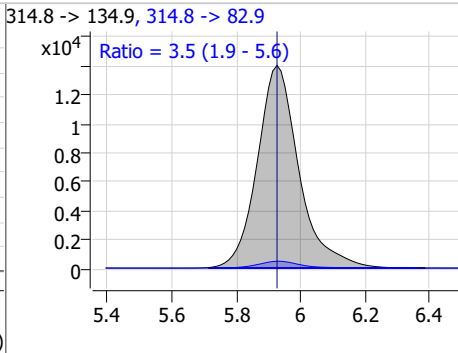
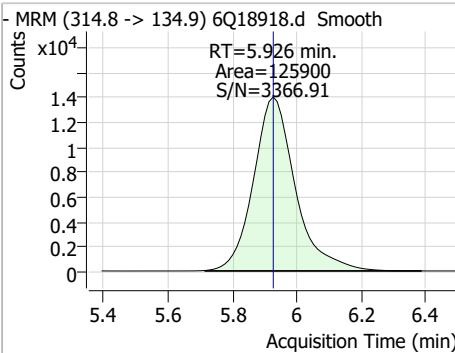
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Perfluorinated Compounds by LC/MS/MS

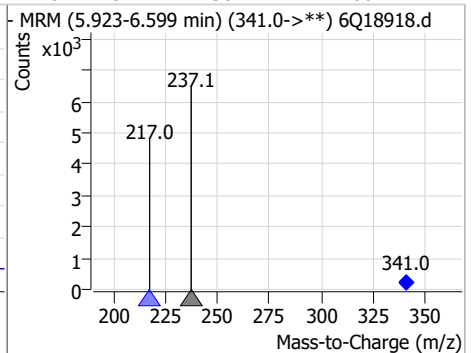
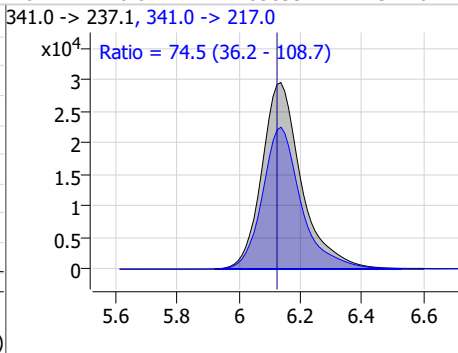
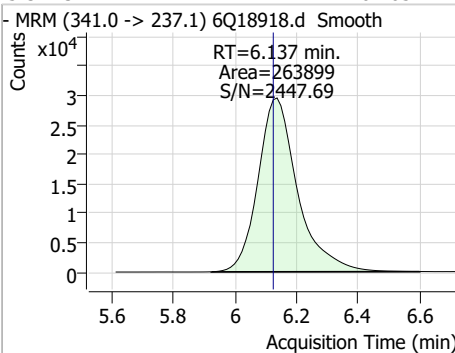
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.02	5.83	0.00	17259	284.9 -> 184.9	11.0	6.0	17.9



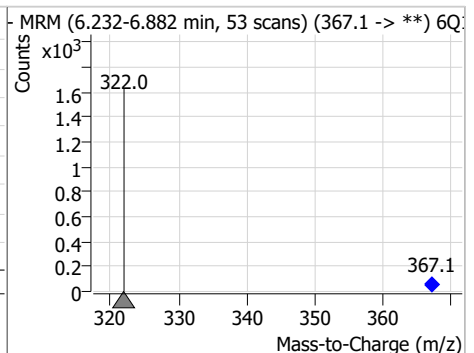
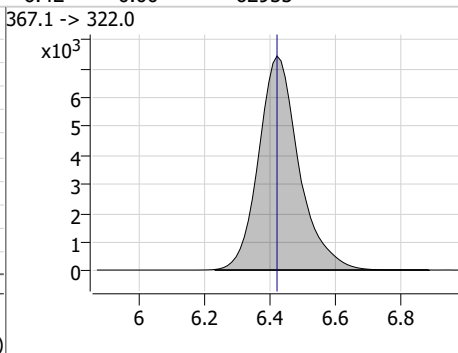
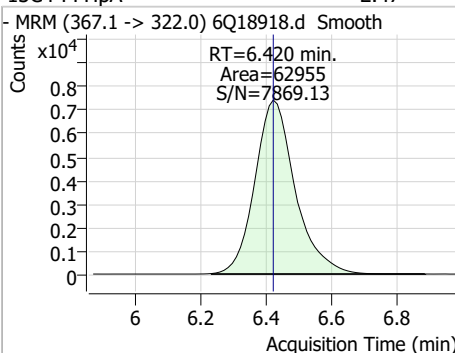
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.46	5.93	0.00	125900	314.8 -> 82.9	3.5	1.9	5.6



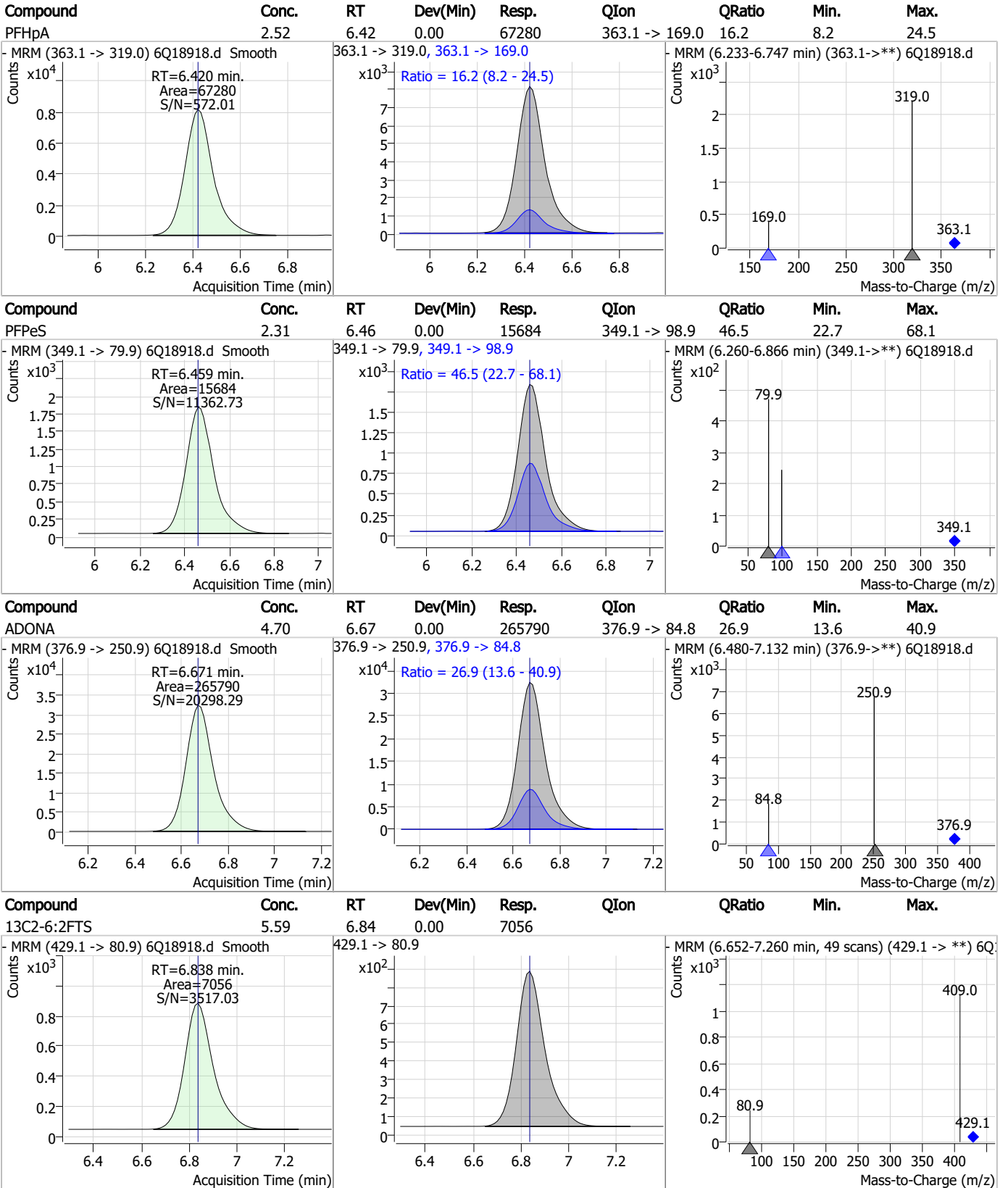
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	61.65	6.14	0.01	263899	341.0 -> 217.0	74.5	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.47	6.42	0.00	62955	367.1 -> 322.0			



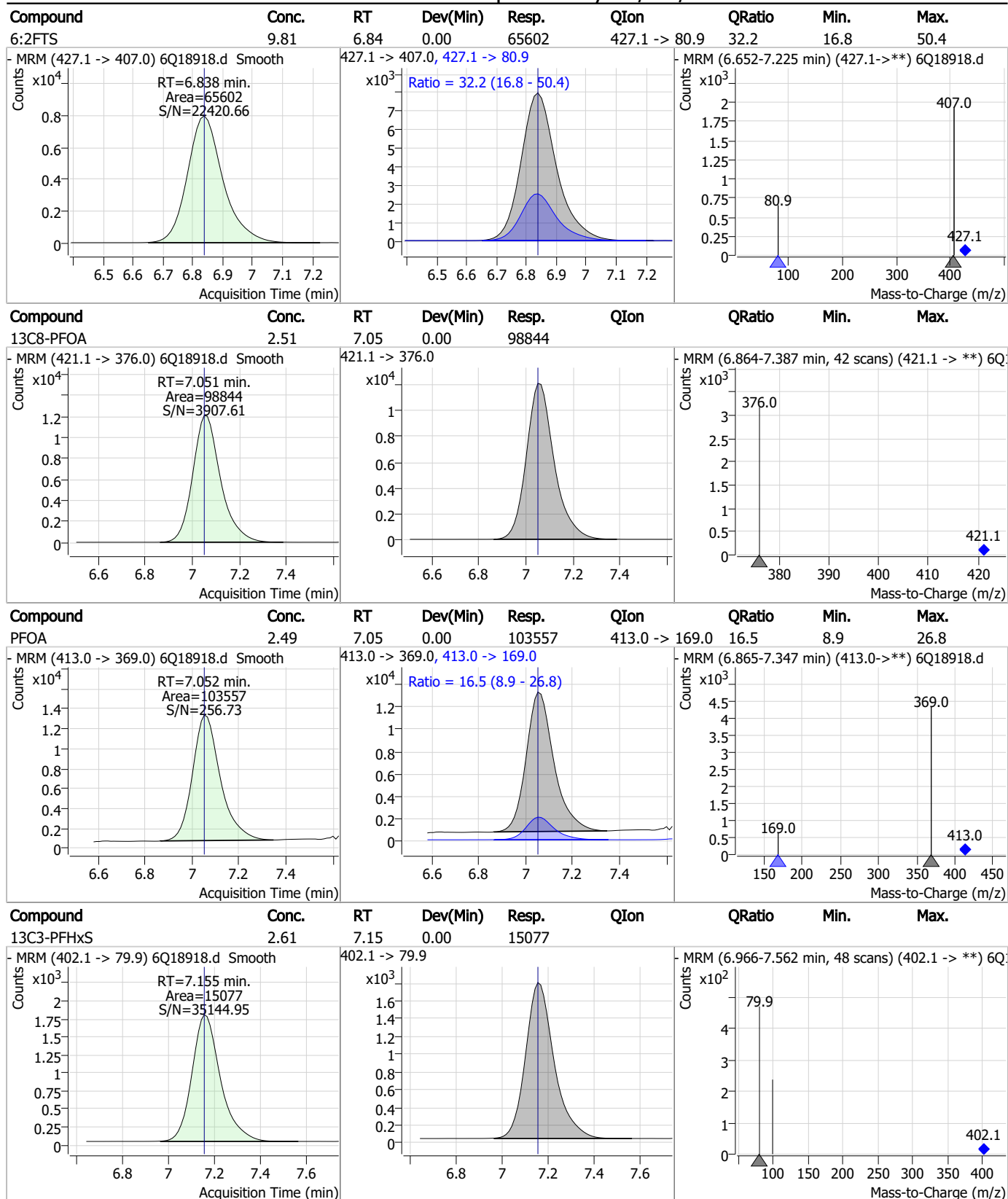
Perfluorinated Compounds by LC/MS/MS



7.7.16 7

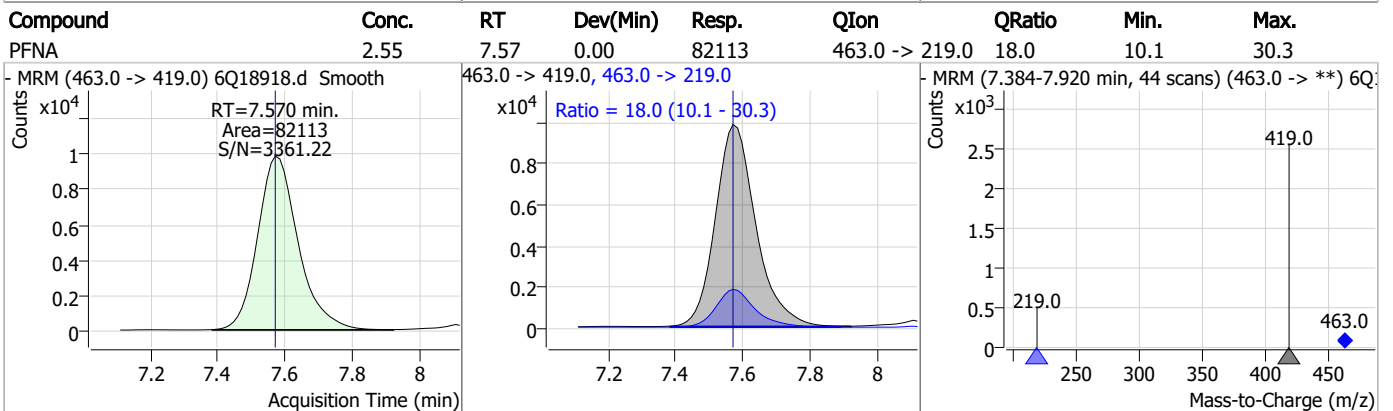
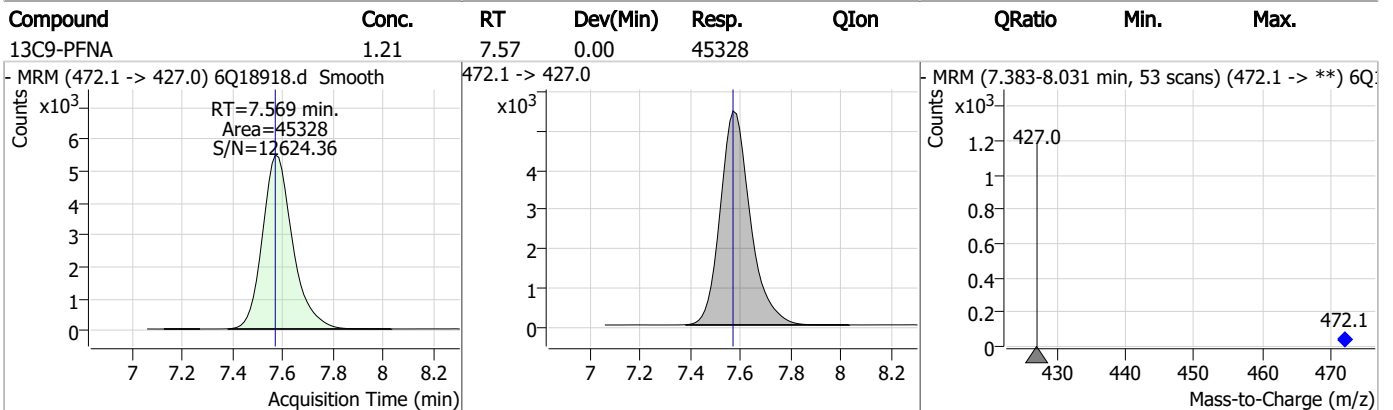
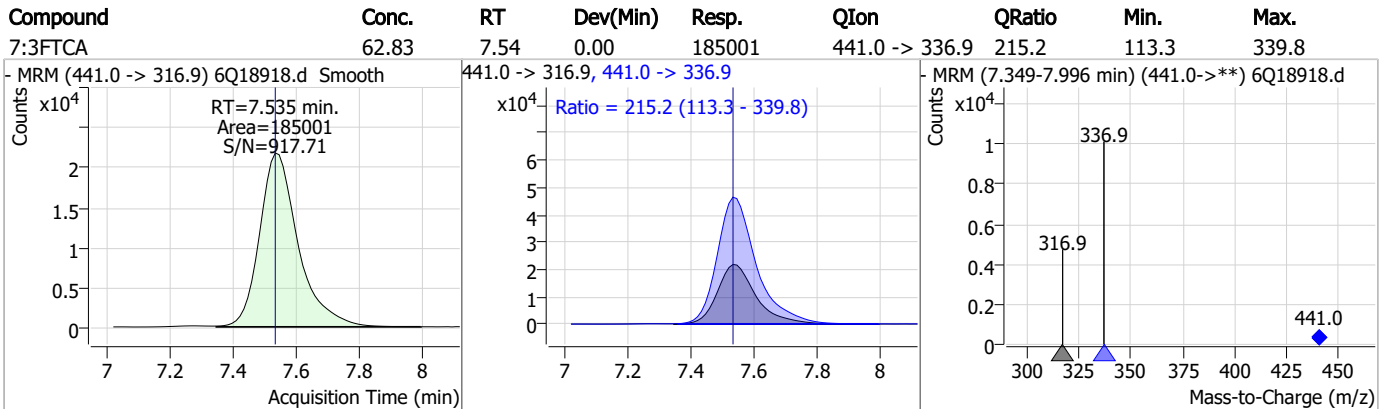
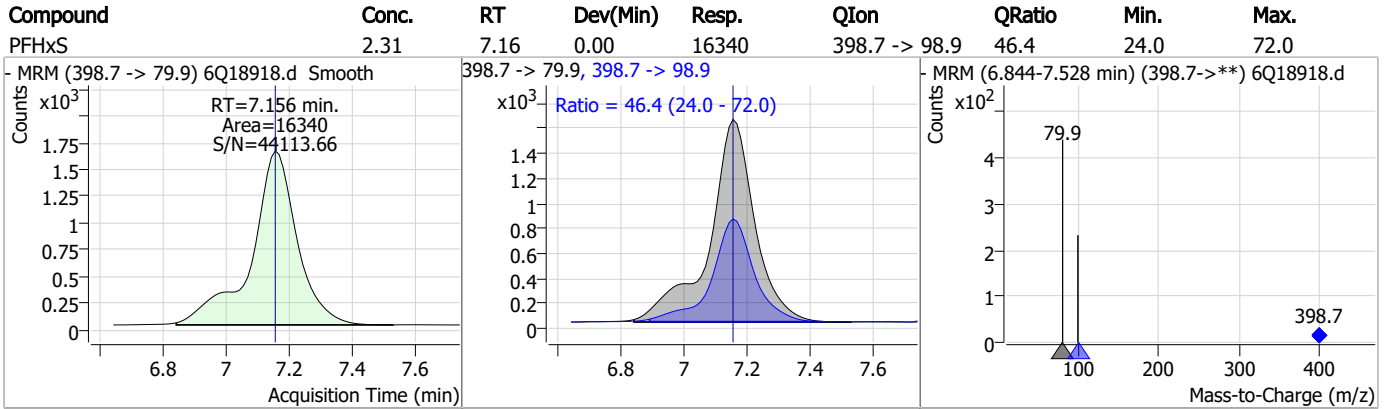


Perfluorinated Compounds by LC/MS/MS



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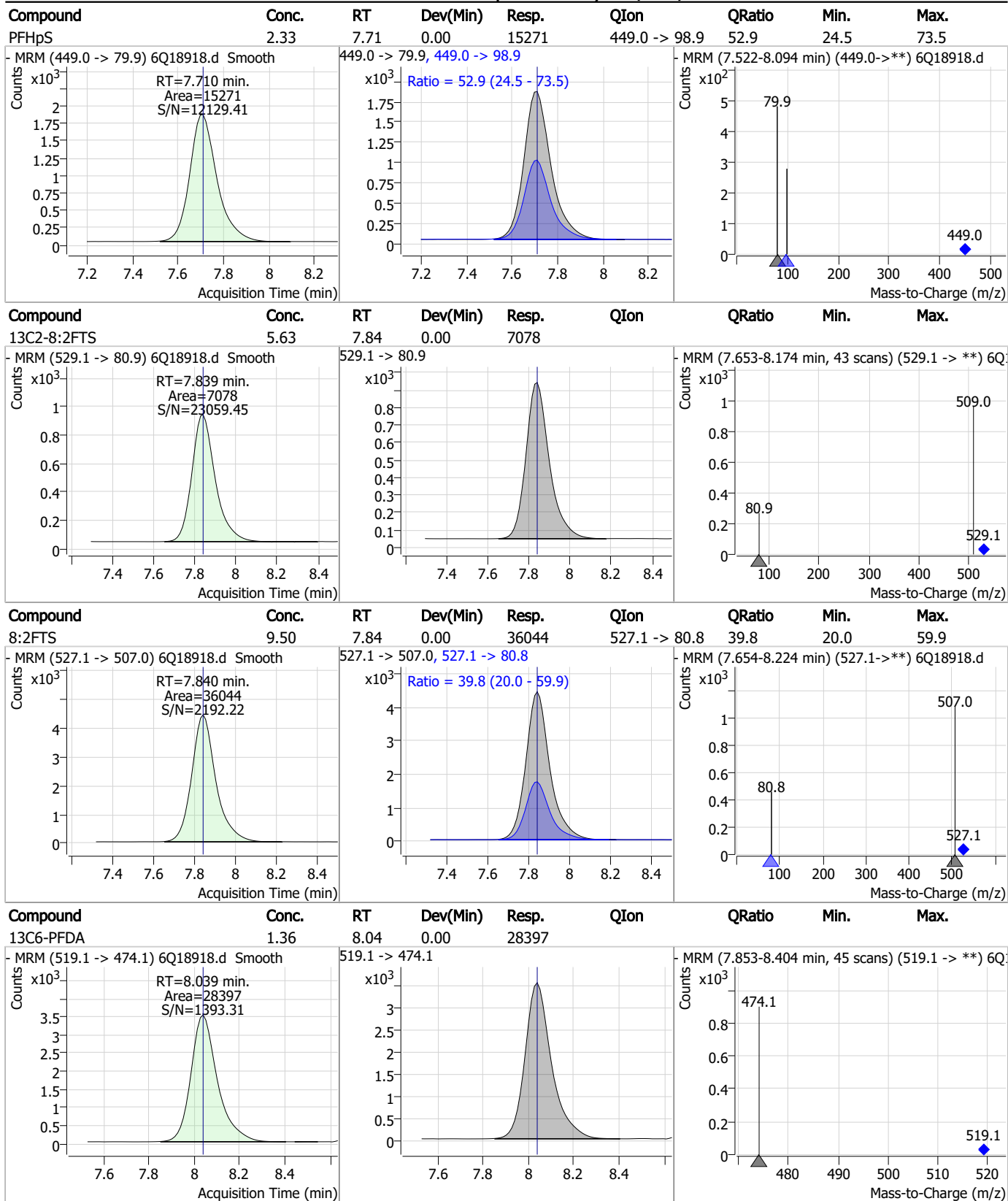
Perfluorinated Compounds by LC/MS/MS



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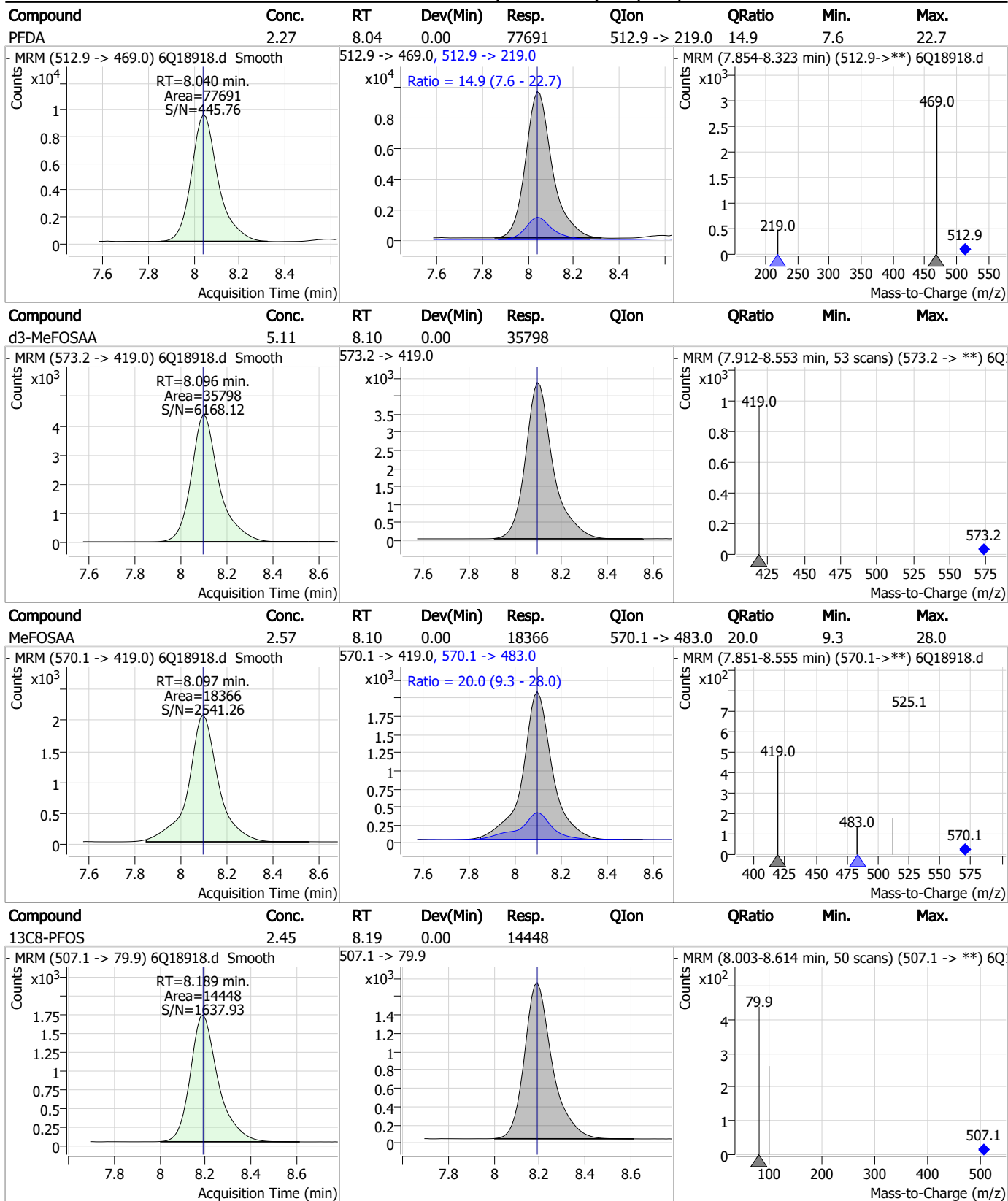


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

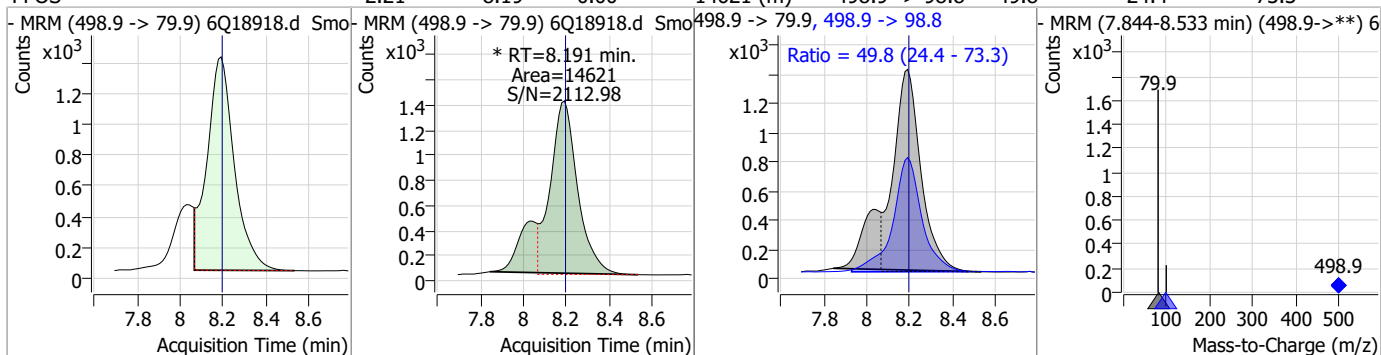


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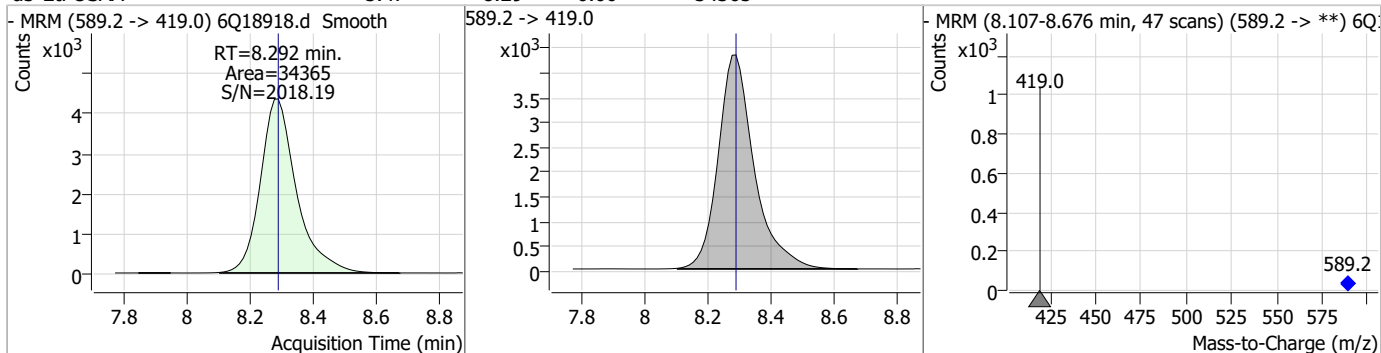
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Perfluorinated Compounds by LC/MS/MS

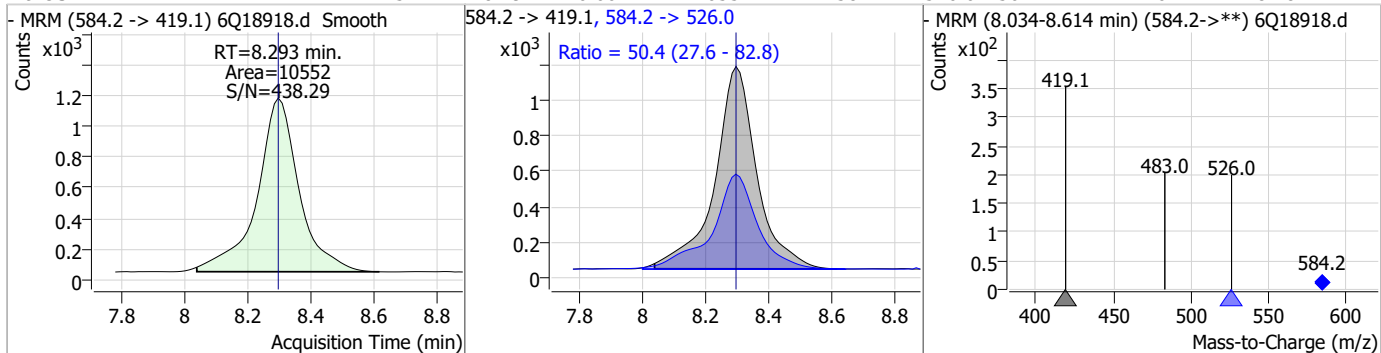
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.21	8.19	0.00	14621 (m)	498.9 -> 98.8	49.8	24.4	73.3



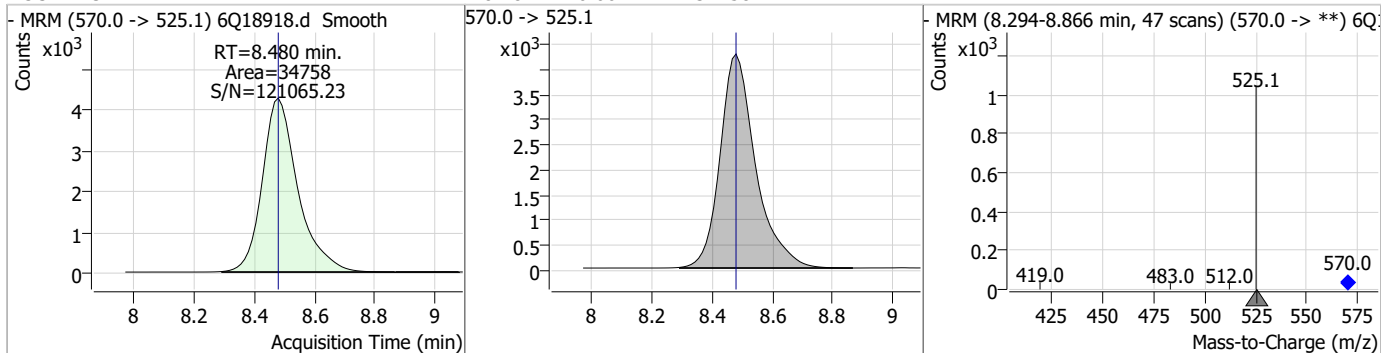
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.47	8.29	0.00	34365				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.25	8.29	0.00	10552	584.2 -> 526.0	50.4	27.6	82.8

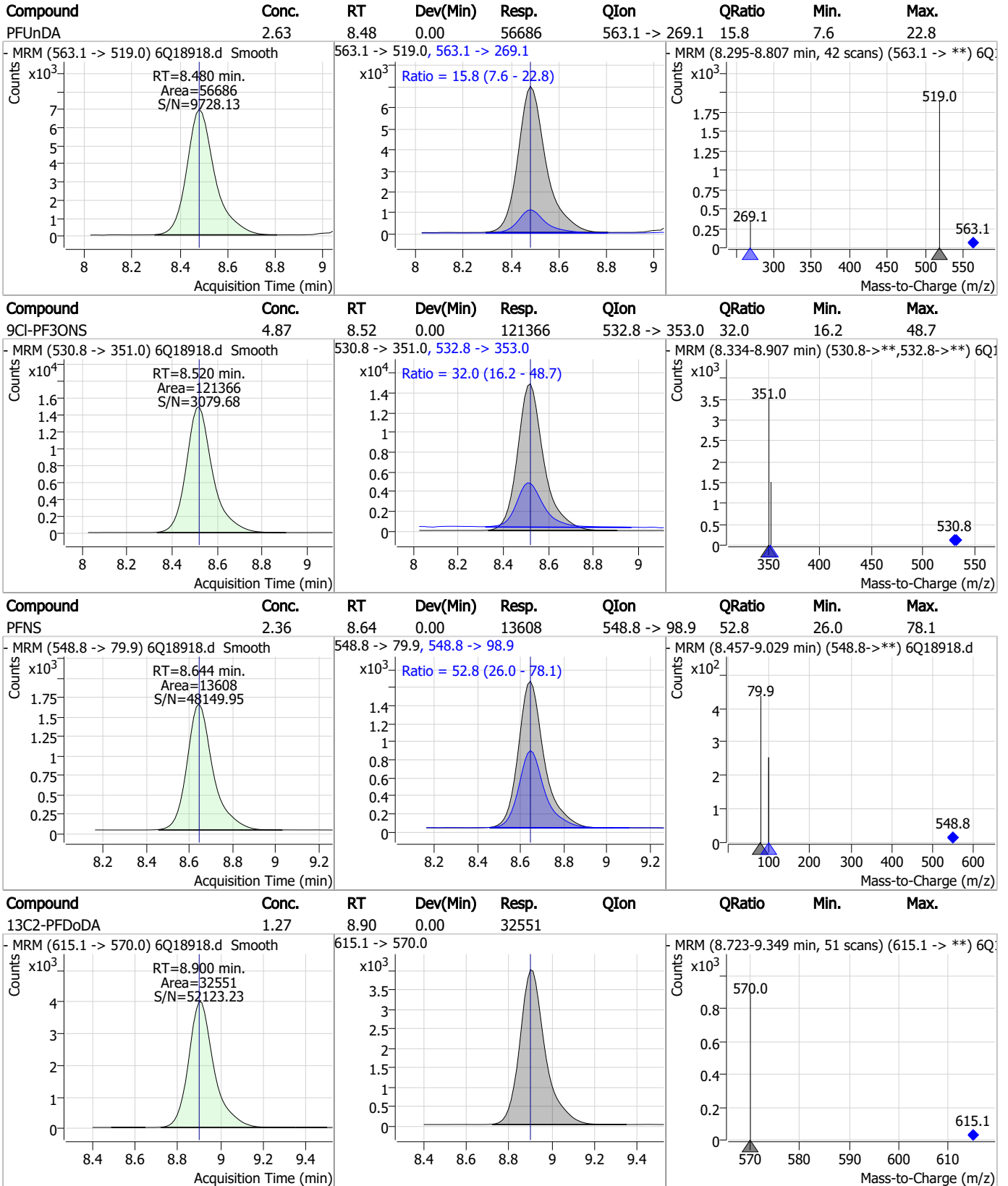


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.27	8.48	0.00	34758				



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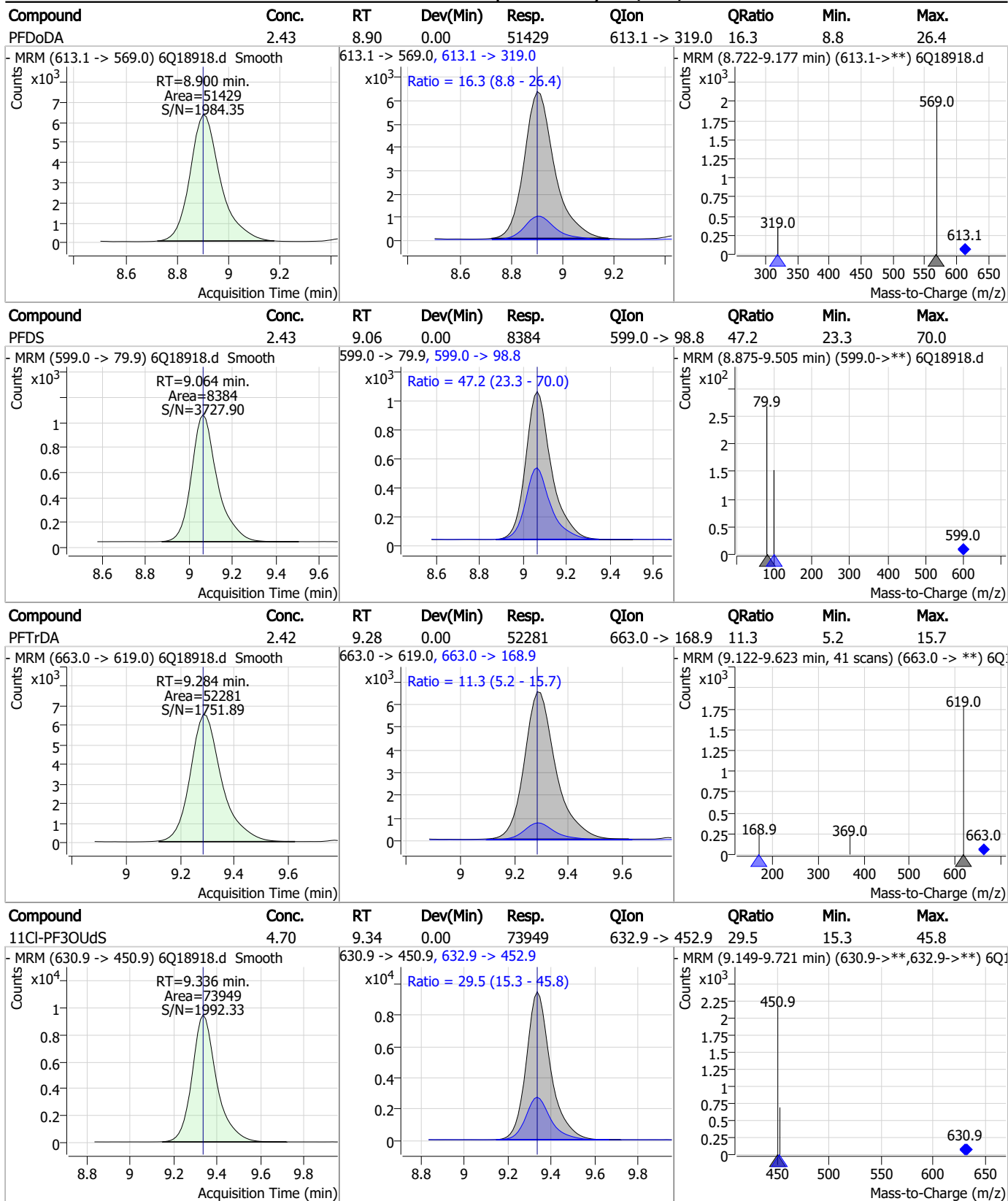
Perfluorinated Compounds by LC/MS/MS



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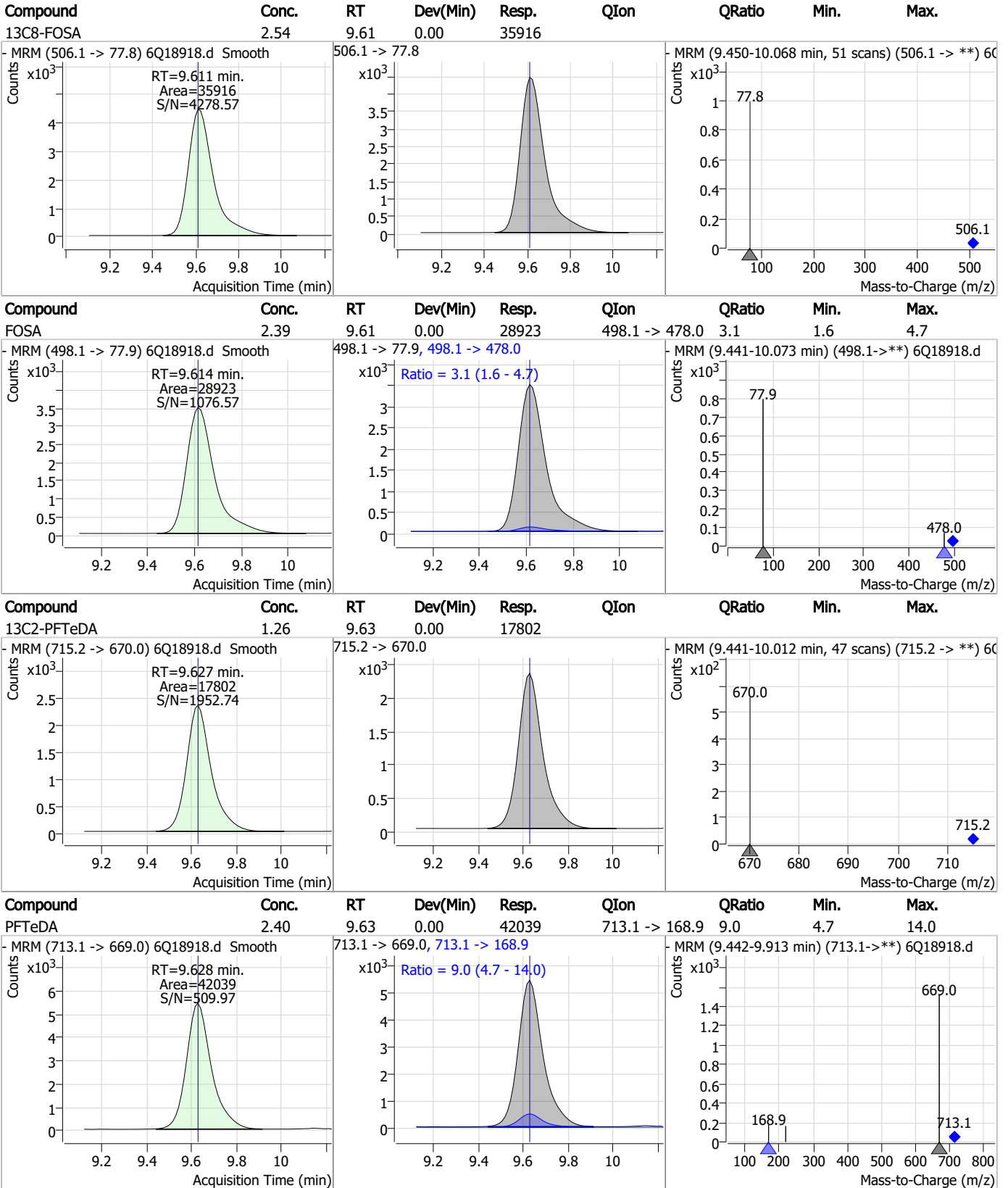


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

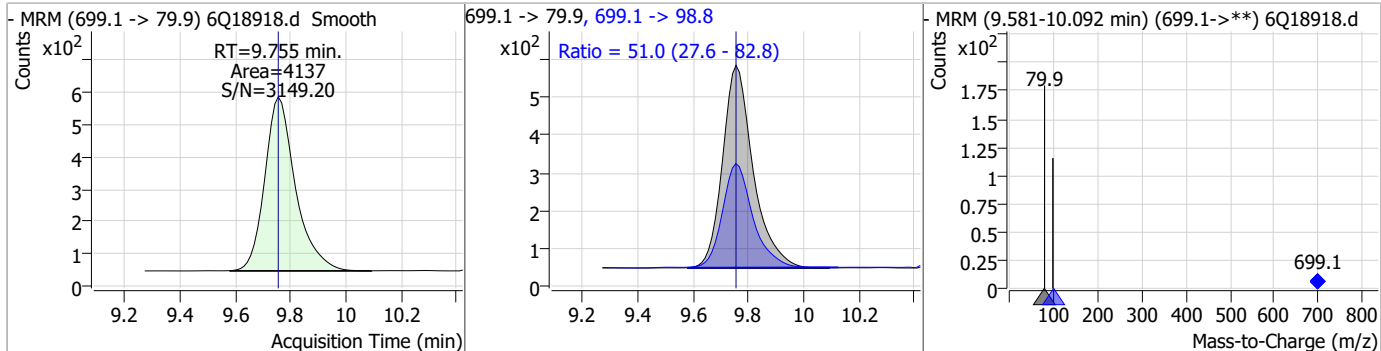


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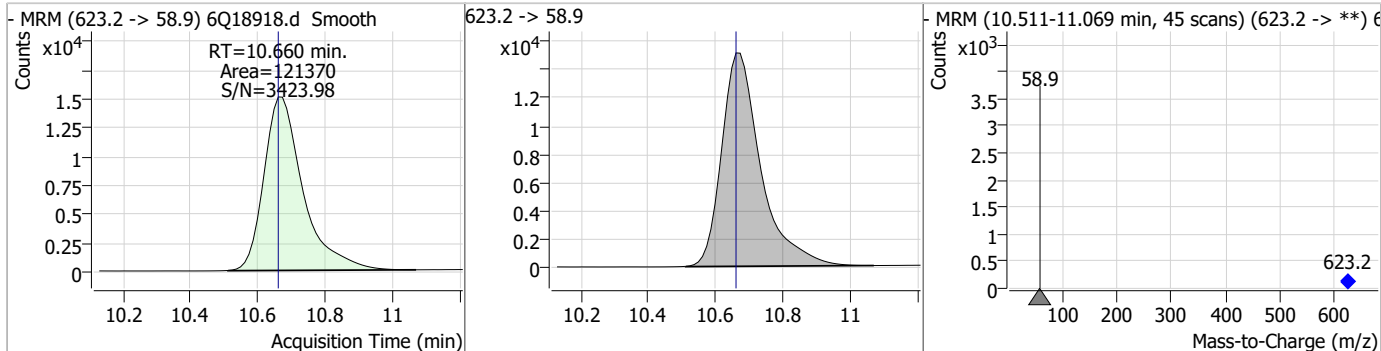


Perfluorinated Compounds by LC/MS/MS

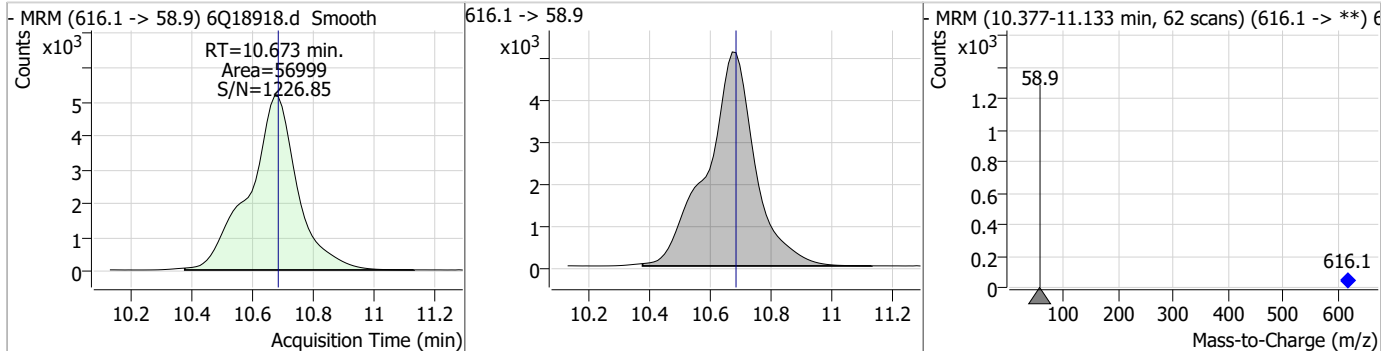
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.54	9.75	0.00	4137	699.1 -> 98.8	51.0	27.6	82.8



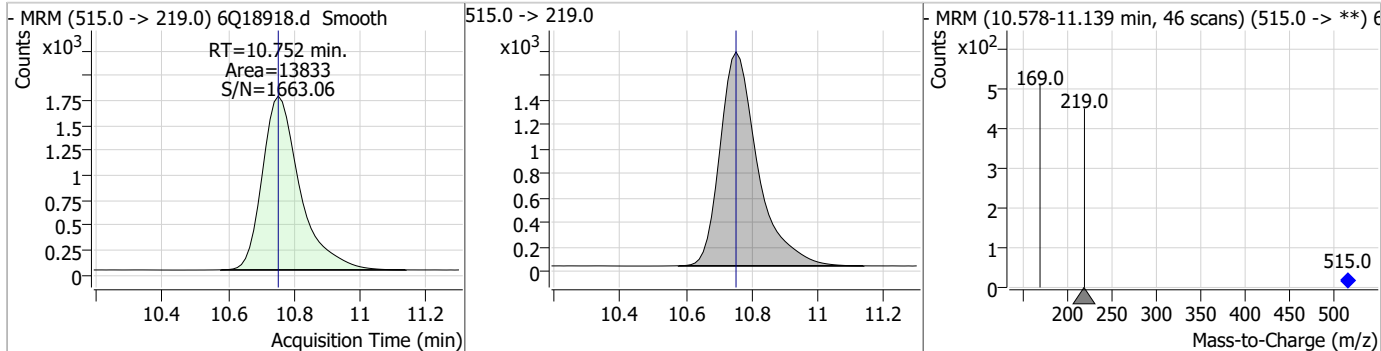
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.88	10.66	0.00	121370				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.13	10.67	-0.01	56999				

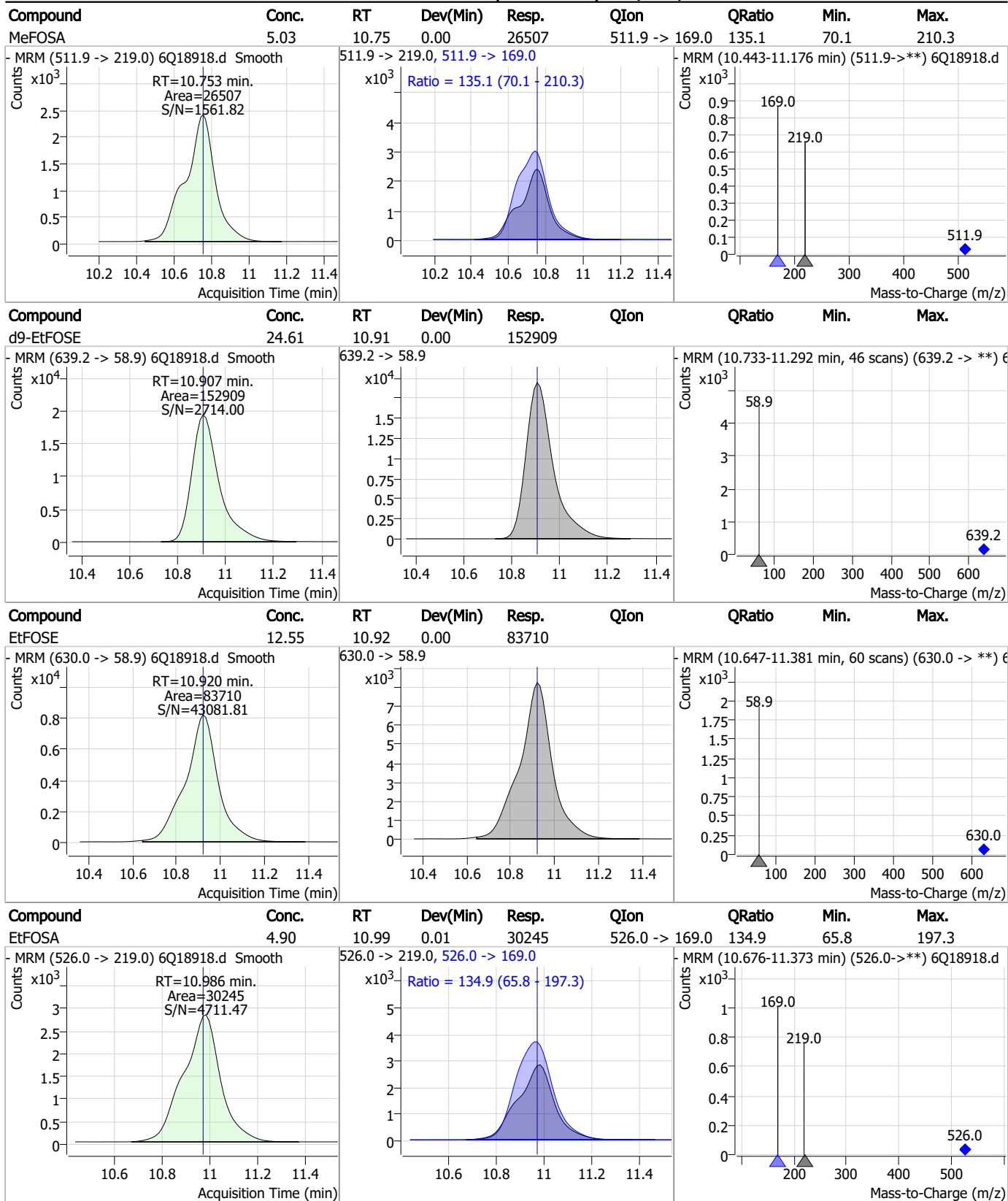


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.51	10.75	0.00	13833				



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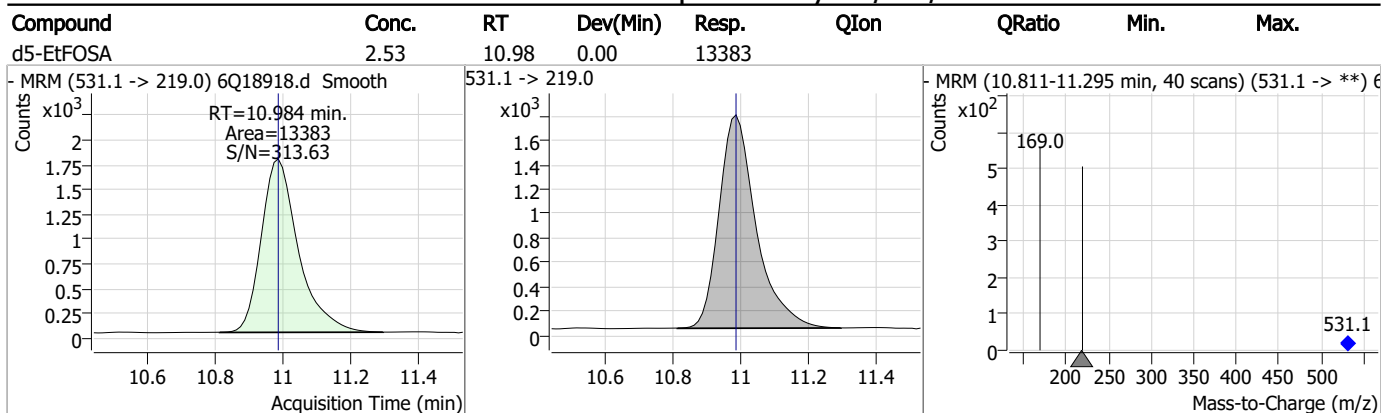
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q282-ECC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18918.D Analyst approved: 06/07/23 11:06 Martha Valls
Injection Time: 06/07/23 01:36 Supervisor approved: 06/07/23 15:49 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

7.7.16.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18931.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 10:54:48 AM
 Sample Name : cc282-4
 Vial : P1-A5
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	195840	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	65641	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	72569	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	66687	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	102651	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	46959	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	28091	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	36548	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	32981	1.25 µg/L	0.012
M2-PFTeDA	9.627	715.2 -> 670.0	18662	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	35843	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	26762	2.50 µg/L	0.013
M3-PFHxS	7.167	402.1 -> 79.9	16118	2.50 µg/L	0.012
M8-PFOS	8.189	507.1 -> 79.9	15541	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5040	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7770	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7347	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	38603	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	44502	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	34581	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	128343	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	163043	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	14109	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14218	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20179	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	82417	5.00 µg/L	0.000
18O2-PFHxS	7.166	403.0 -> 83.9	11333	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	107968	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	38188	1.25 µg/L	0.000
13C5-PFNA	7.583	468.0 -> 423.0	57952	1.25 µg/L	0.014
13C2-PFHxA	5.467	315.1 -> 270.0	65213	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5040	5.41 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.2%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7770	5.80 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.0%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7347	5.51 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.2%		
13C2-PFDoDA	8.912	615.1 -> 570.0	32981	1.18 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.5%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18662	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.6%		
13C3-PFBS	5.397	302.1 -> 79.9	26762	2.69 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 107.5%		
13C3-PFHxS	7.167	402.1 -> 79.9	16118	2.64 µg/L	0.012

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.4%	
13C4-PFBA	2.860	216.8 -> 171.9	195840	10.01 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C4-PFHpA	6.420	367.1 -> 322.0	66687	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C5-PFHxA	5.478	318.0 -> 273.0	72569	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C5-PFPeA	4.272	268.3 -> 223.0	65641	5.19 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.8%	
13C6-PFDA	8.039	519.1 -> 474.1	28091	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C7-PFUnDA	8.480	570.0 -> 525.1	36548	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.7%	
13C8-FOSA	9.623	506.1 -> 77.8	35843	2.44 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C8-PFOA	7.064	421.1 -> 376.0	102651	2.48 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C8-PFOS	8.189	507.1 -> 79.9	15541	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C9-PFNA	7.569	472.1 -> 427.0	46959	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.6%	
d3-MeFOSAA	8.096	573.2 -> 419.0	38603	5.31 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	44502	10.83 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.3%	
d3-MeFOSA	10.752	515.0 -> 219.0	14218	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	34581	5.31 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.1%	
d7-MeFOSE	10.672	623.2 -> 58.9	128343	25.34 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.4%	
d9-EtFOSE	10.907	639.2 -> 58.9	163043	25.28 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
d5-EtFOSA	10.984	531.1 -> 219.0	14109	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	63867	9.25 µg/L	96
		327.1 -> 80.9	25092		
6:2FTS	6.838	427.1 -> 407.0	66606	9.05 µg/L	99
		427.1 -> 80.9	22113		
8:2FTS	7.840	527.1 -> 507.0	35578	9.03 µg/L	95
		527.1 -> 80.8	15415		
EtFOSAA	8.293	584.2 -> 419.1	10916	2.32 µg/L	100
		584.2 -> 526.0	6040		
FOSA	9.614	498.1 -> 77.9	30029	2.49 µg/L	100
		498.1 -> 478.0	910		
MeFOSAA	8.097	570.1 -> 419.0	19838	2.57 µg/L	99
		570.1 -> 483.0	3629		
PFBA	2.856	212.8 -> 168.9	63194	9.90 µg/L	100
PFBS	5.385	298.7 -> 79.9	20259	2.18 µg/L	95
		298.7 -> 98.8	7392		
PFDA	8.040	512.9 -> 469.0	81984	2.42 µg/L	98
		512.9 -> 219.0	11916		
PFDODA	8.900	613.1 -> 569.0	53906	2.51 µg/L	95
		613.1 -> 319.0	8384		
PFDS	9.064	599.0 -> 79.9	9045	2.44 µg/L	97

7.7.17
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
		599.0 -> 98.8	4423			
PFHpA	6.420	363.1 -> 319.0	70532	2.50	µg/L	99
		363.1 -> 169.0	11791			
PFHpS	7.710	449.0 -> 79.9	16754	2.38	µg/L	99
		449.0 -> 98.9	8081			
PFHxA	5.469	313.0 -> 269.0	55783	2.34	µg/L	100
		313.0 -> 118.9	3067			
PFHxS	7.168	398.7 -> 79.9	16474	2.18	µg/L	m 99
		398.7 -> 98.9	7983			
PFNA	7.584	463.0 -> 419.0	84331	2.53	µg/L	94
		463.0 -> 219.0	14716			
PFNS	8.644	548.8 -> 79.9	14765	2.38	µg/L	96
		548.8 -> 98.9	7245			
PFOA	7.066	413.0 -> 369.0	105321	2.44	µg/L	99
		413.0 -> 169.0	18220			
PFOS	8.191	498.9 -> 79.9	16129	2.27	µg/L	99
		498.9 -> 98.8	7768			
PFPeA	4.274	263.0 -> 219.0	74713	4.82	µg/L	100
PFPeS	6.471	349.1 -> 79.9	16735	2.31	µg/L	99
		349.1 -> 98.9	7530			
PFTeDA	9.628	713.1 -> 669.0	45925	2.50	µg/L	97
		713.1 -> 168.9	3761			
PFTrDA	9.296	663.0 -> 619.0	58136	2.65	µg/L	100
		663.0 -> 168.9	6121			
PFUnDA	8.480	563.1 -> 519.0	55668	2.46	µg/L	99
		563.1 -> 269.1	8344			
11CI-PF3OUdS	9.336	630.9 -> 450.9	75767	4.45	µg/L	99
		632.9 -> 452.9	23599			
9CI-PF3ONS	8.520	530.8 -> 351.0	123353	4.58	µg/L	96
		532.8 -> 353.0	36914			
ADONA	6.671	376.9 -> 250.9	277971	4.55	µg/L	100
		376.9 -> 84.8	75493			
HFPO-DA	5.844	284.9 -> 168.9	17976	4.84	µg/L	100
		284.9 -> 184.9	2128			
3:3FTCA	3.727	241.0 -> 177.0	13435	12.23	µg/L	99
		241.0 -> 117.0	1706			
5:3FTCA	6.137	341.0 -> 237.1	269311	58.60	µg/L	100
		341.0 -> 217.0	196113			
7:3FTCA	7.548	441.0 -> 316.9	186764	59.07	µg/L	99
		441.0 -> 336.9	419017			
EtFOSA	10.986	526.0 -> 219.0	31228	4.80	µg/L	100
		526.0 -> 169.0	41251			
EtFOSE	10.920	630.0 -> 58.9	93207	13.11	µg/L	100
MeFOSA	10.753	511.9 -> 219.0	26825	4.95	µg/L	100
		511.9 -> 169.0	37481			
MeFOSE	10.673	616.1 -> 58.9	64202	12.92	µg/L	100
PFDoDS	9.755	699.1 -> 79.9	4334	2.47	µg/L	94
		699.1 -> 98.8	2205			
NFDHA	5.348	295.0 -> 201.0	14091	4.93	µg/L	98
		295.0 -> 84.9	3636			
PFMBA	4.688	279.0 -> 85.1	53133	4.96	µg/L	100
PFMPA	3.401	229.0 -> 84.9	41332	5.06	µg/L	100
PFEESA	5.926	314.8 -> 134.9	131385	4.34	µg/L	99
		314.8 -> 82.9	4617			

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

7.7.17
7

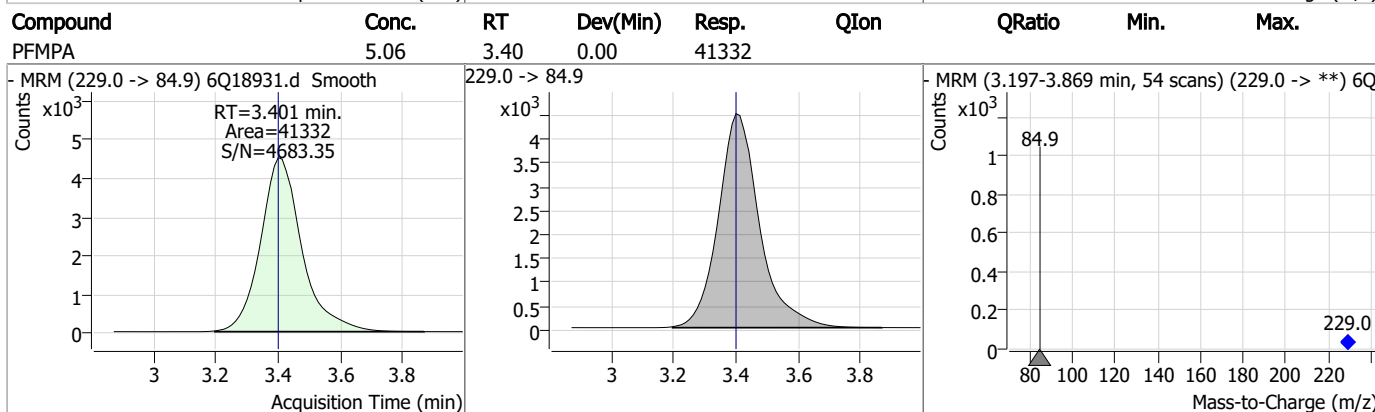
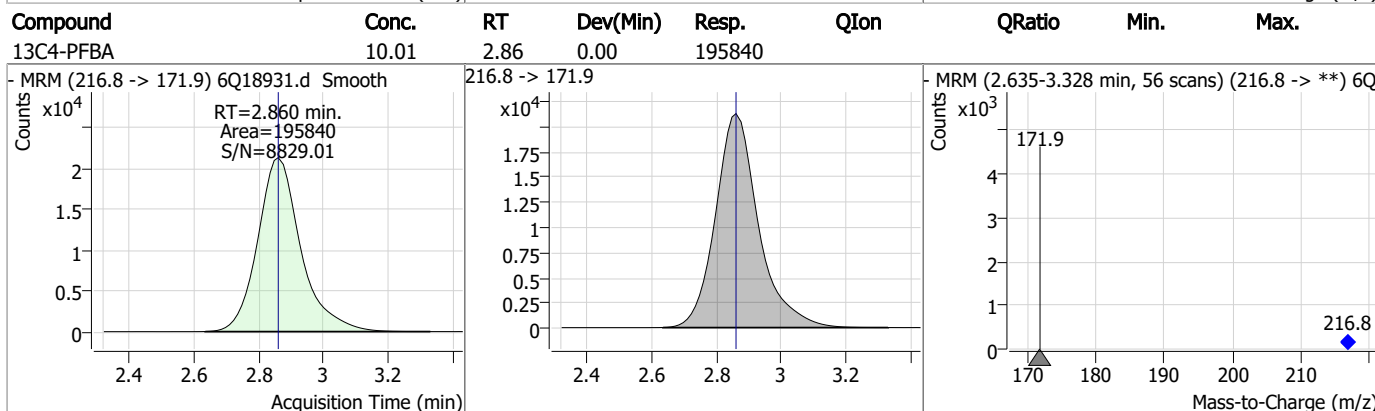
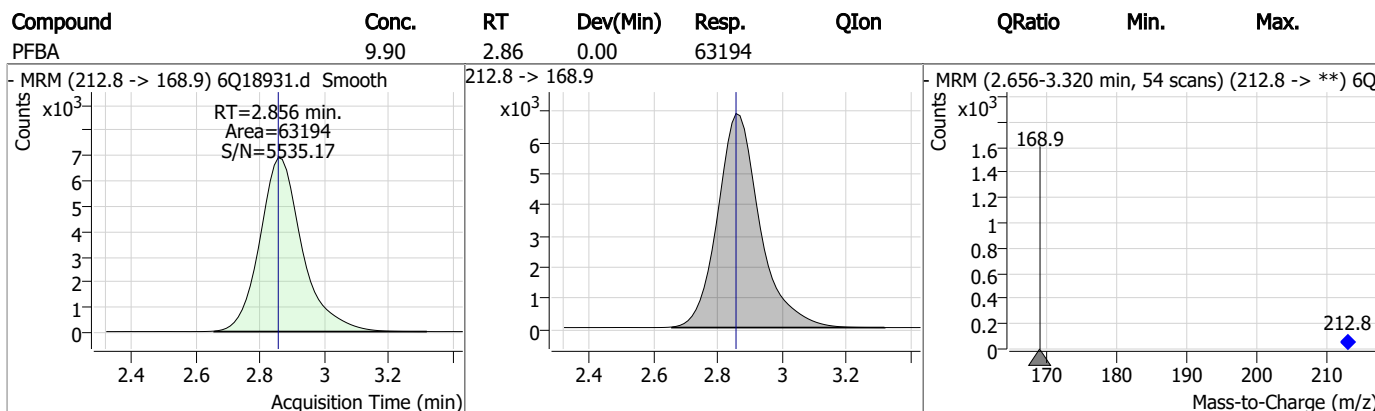
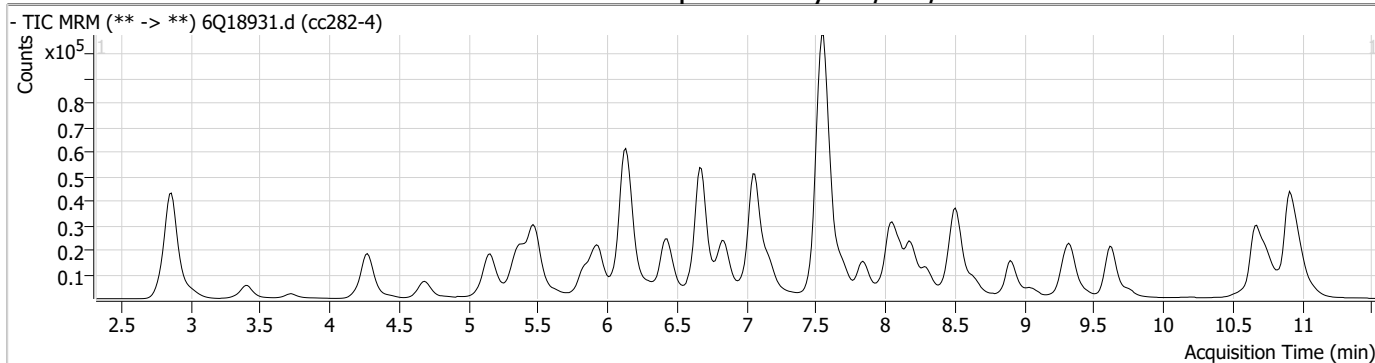
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.17

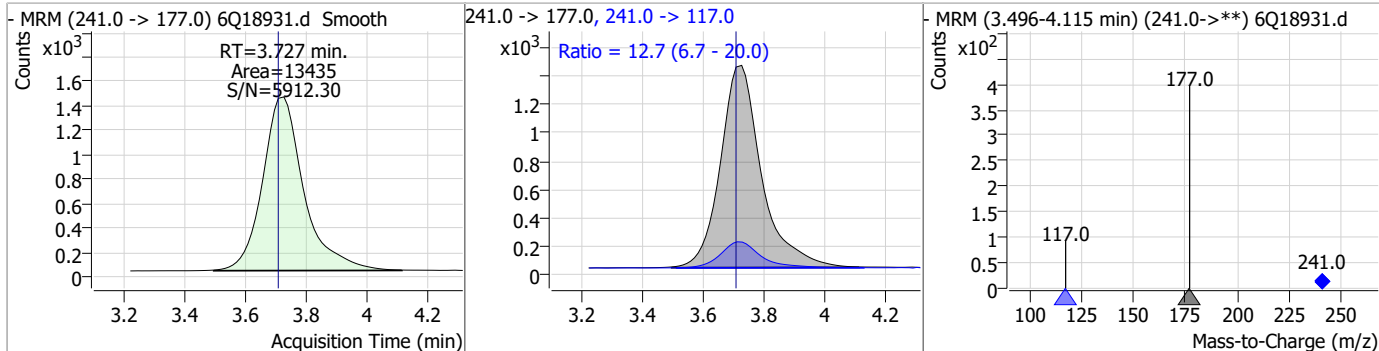
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Perfluorinated Compounds by LC/MS/MS

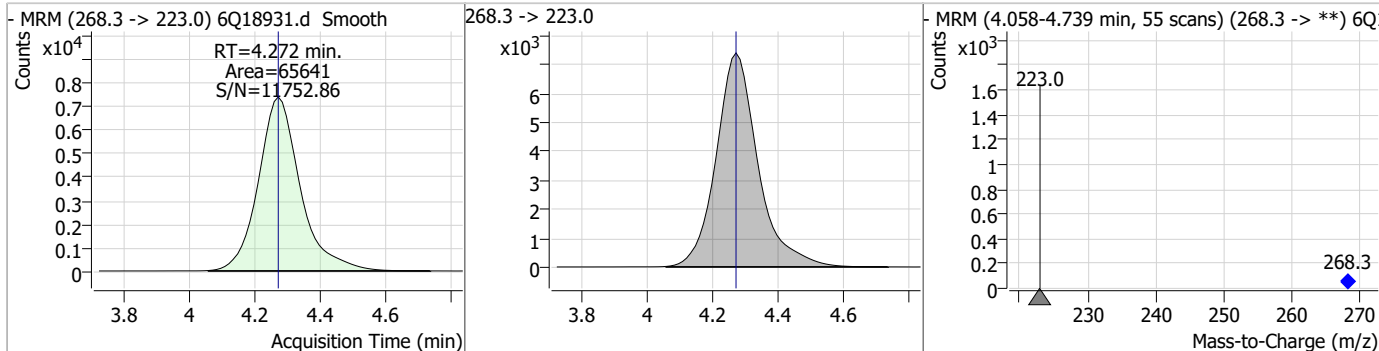


Perfluorinated Compounds by LC/MS/MS

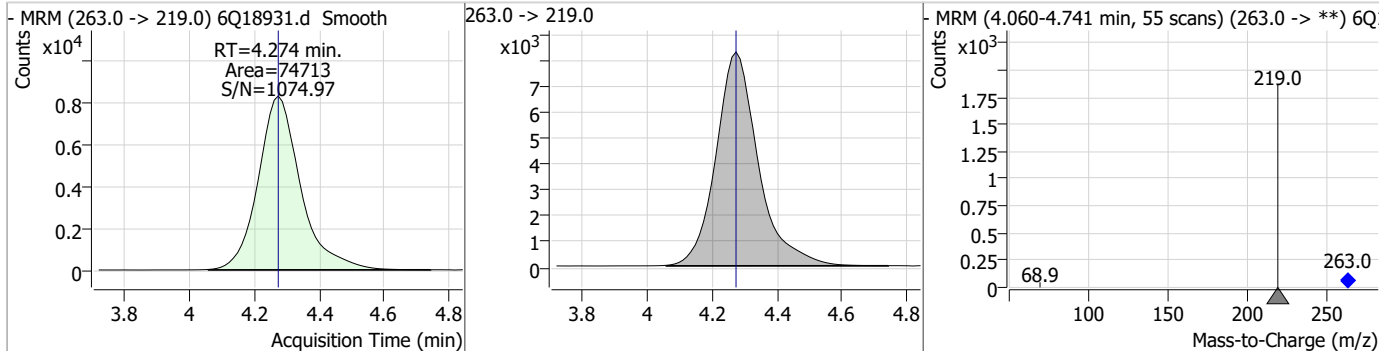
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.23	3.73	0.02	13435	241.0 -> 117.0	12.7	6.7	20.0



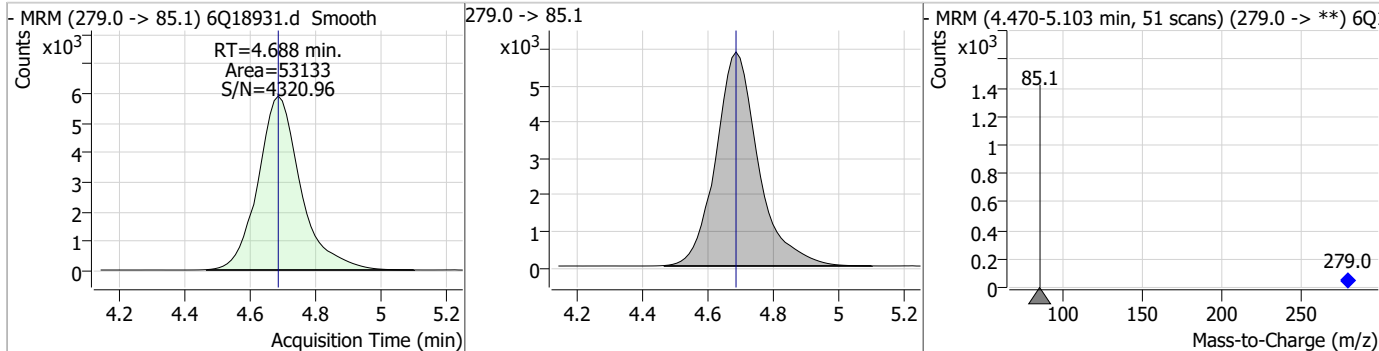
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.19	4.27	0.00	65641				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.82	4.27	0.00	74713				

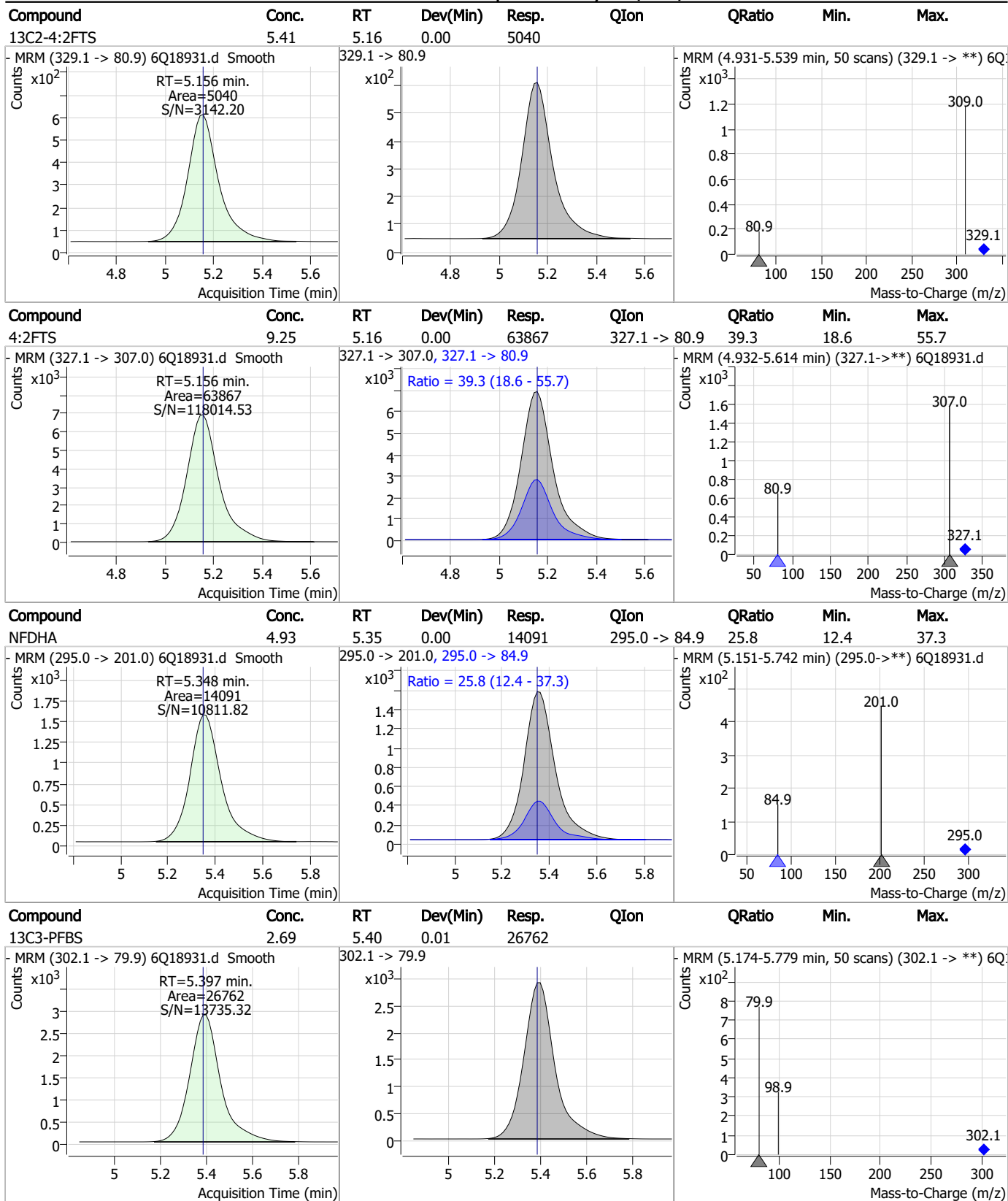


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.96	4.69	0.00	53133				



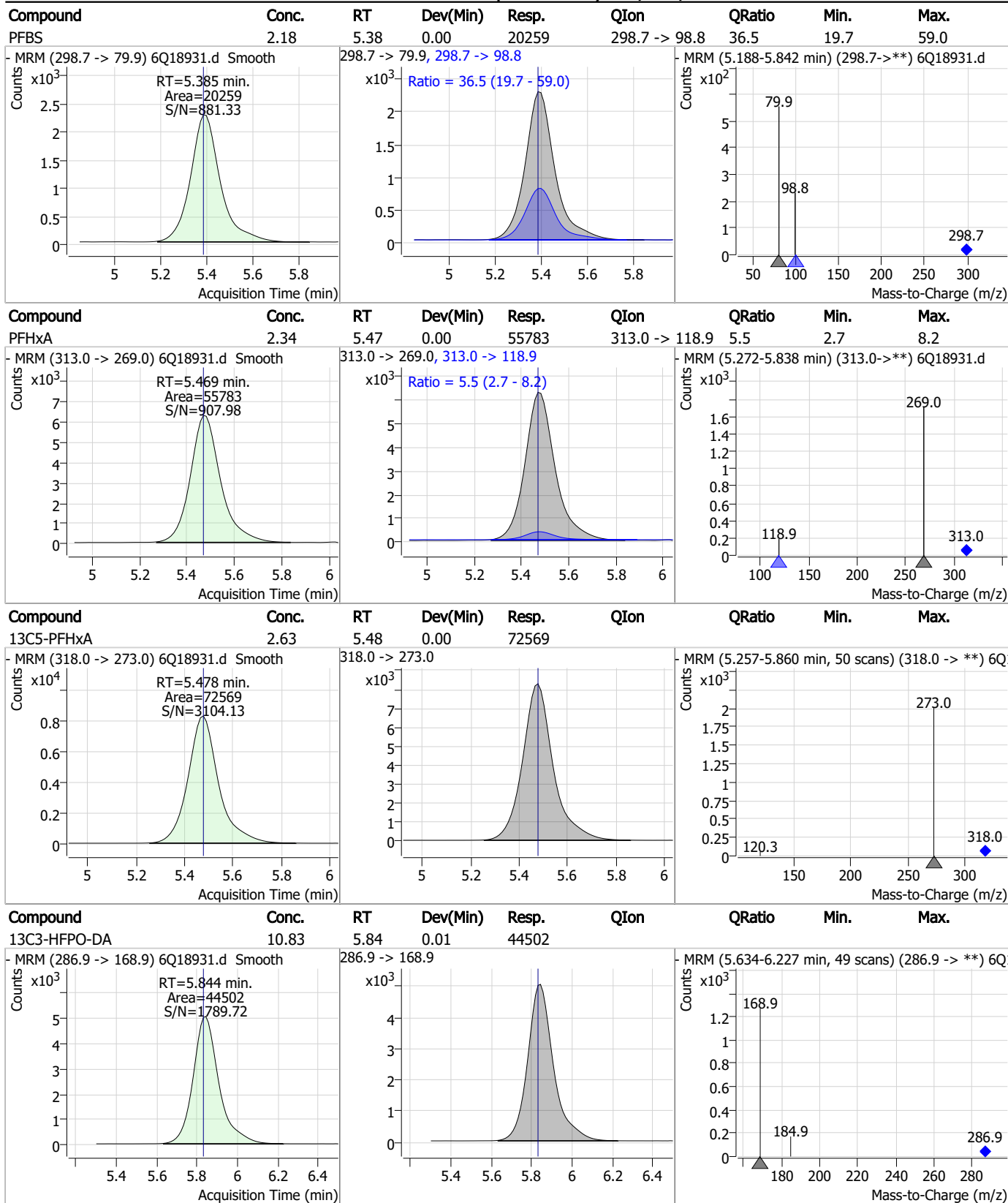
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Perfluorinated Compounds by LC/MS/MS



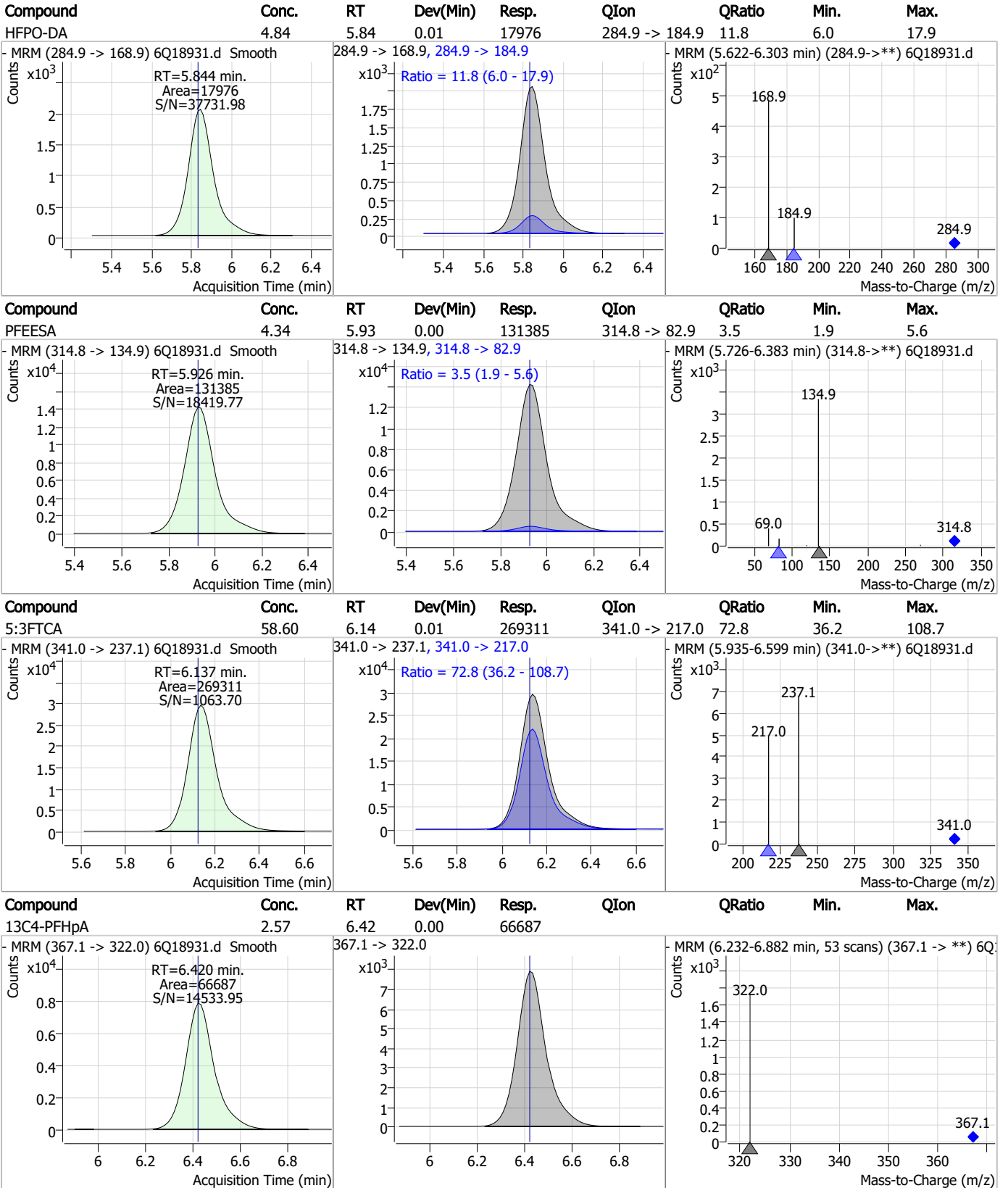
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Perfluorinated Compounds by LC/MS/MS



7.7.17

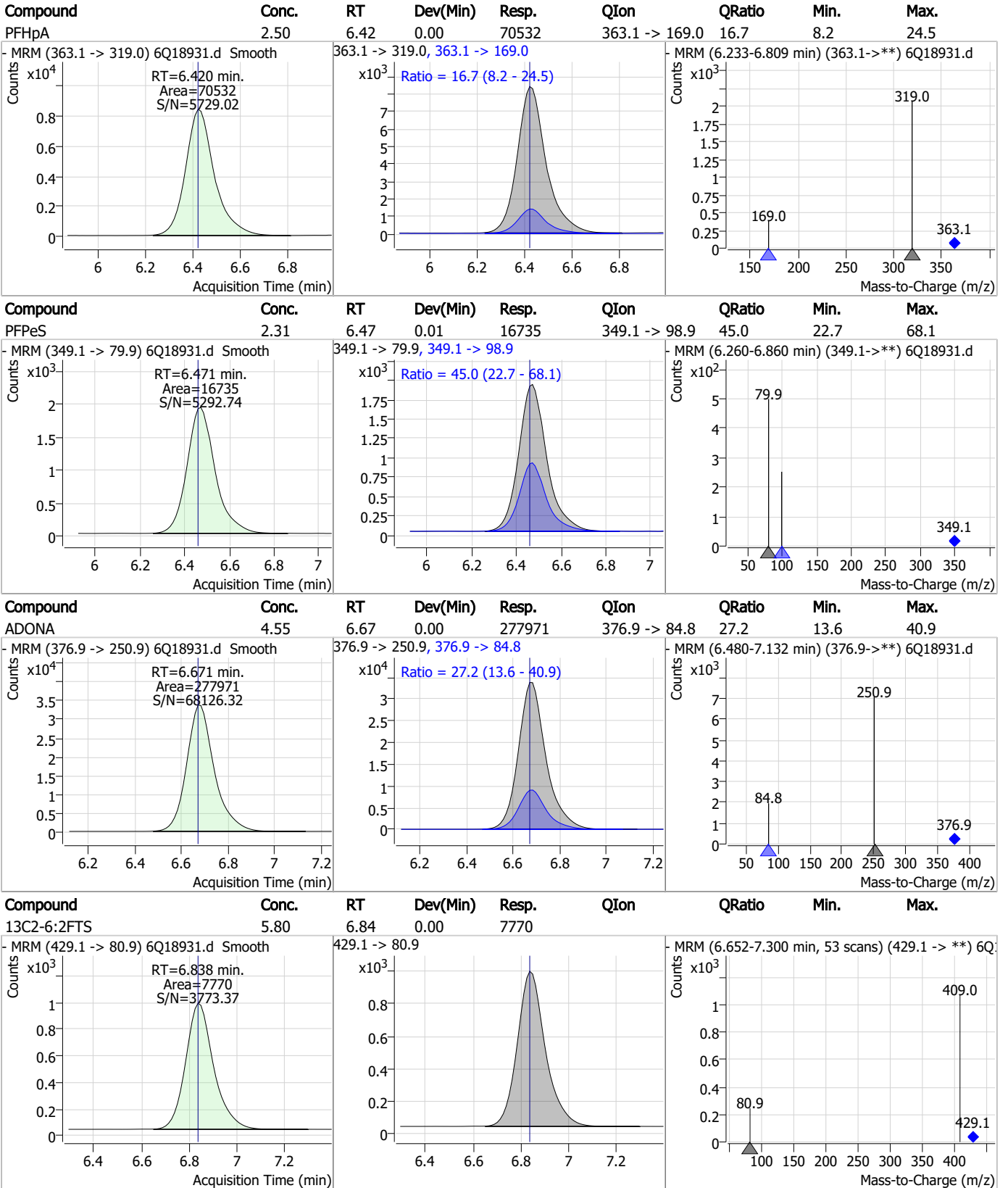
Perfluorinated Compounds by LC/MS/MS



7.7.17

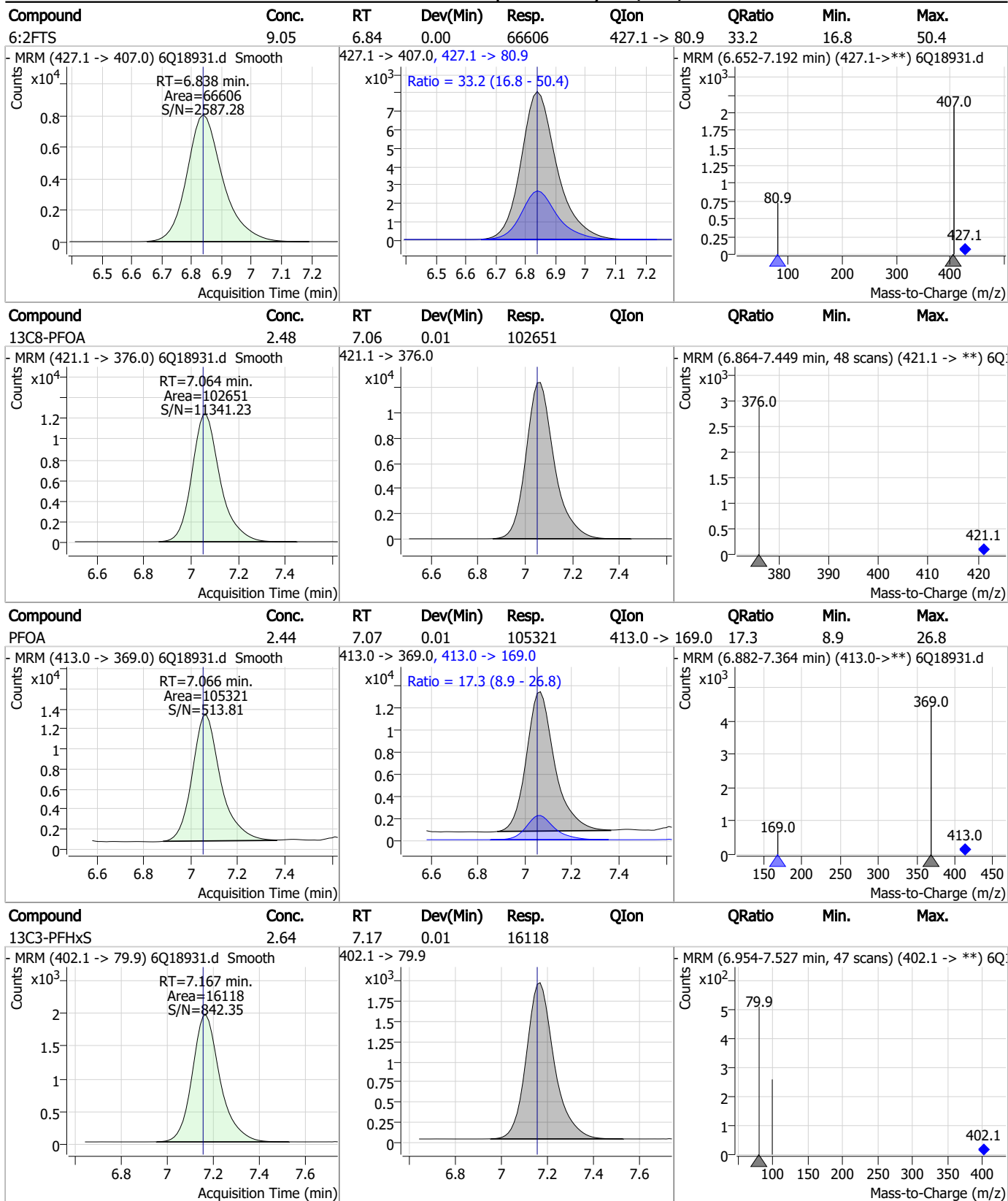


Perfluorinated Compounds by LC/MS/MS



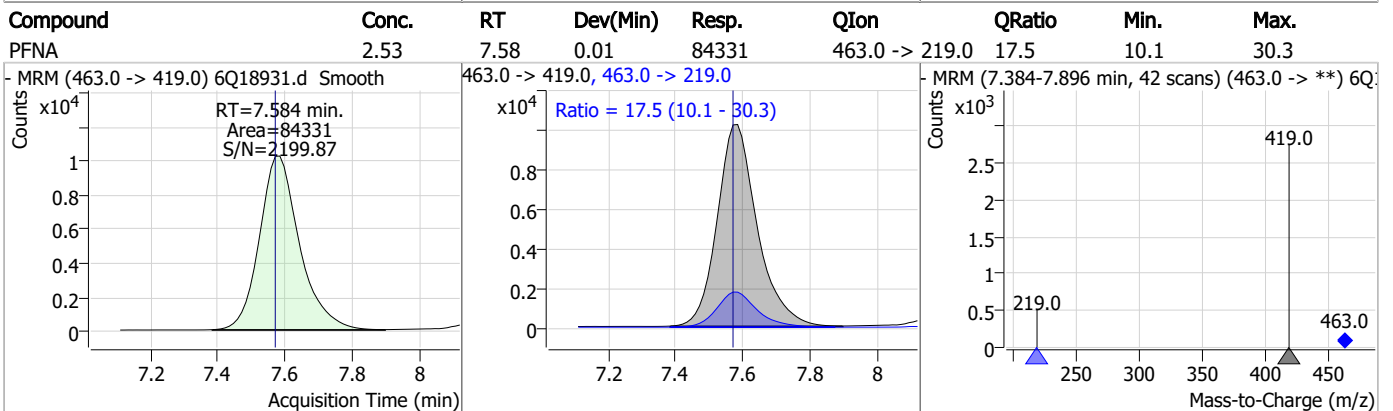
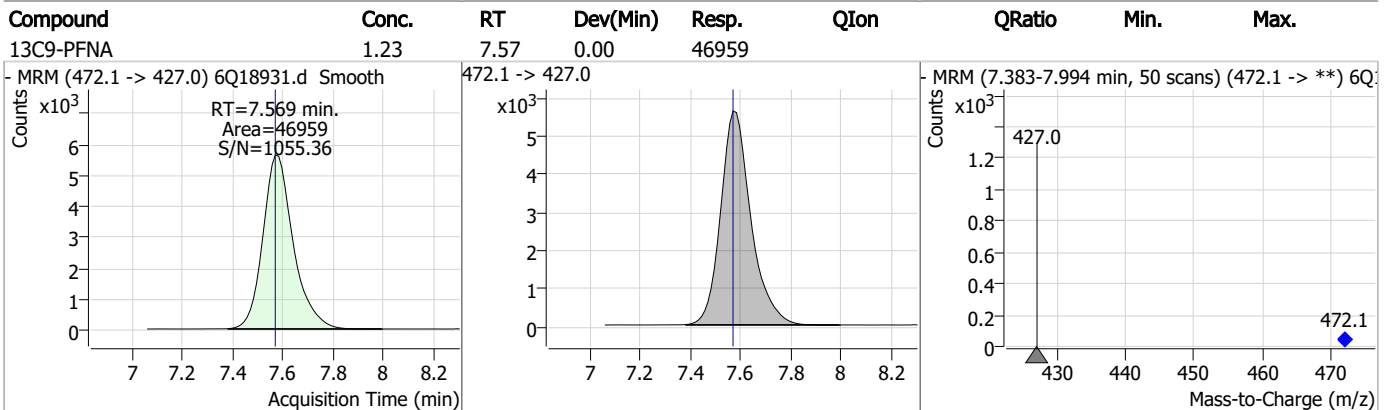
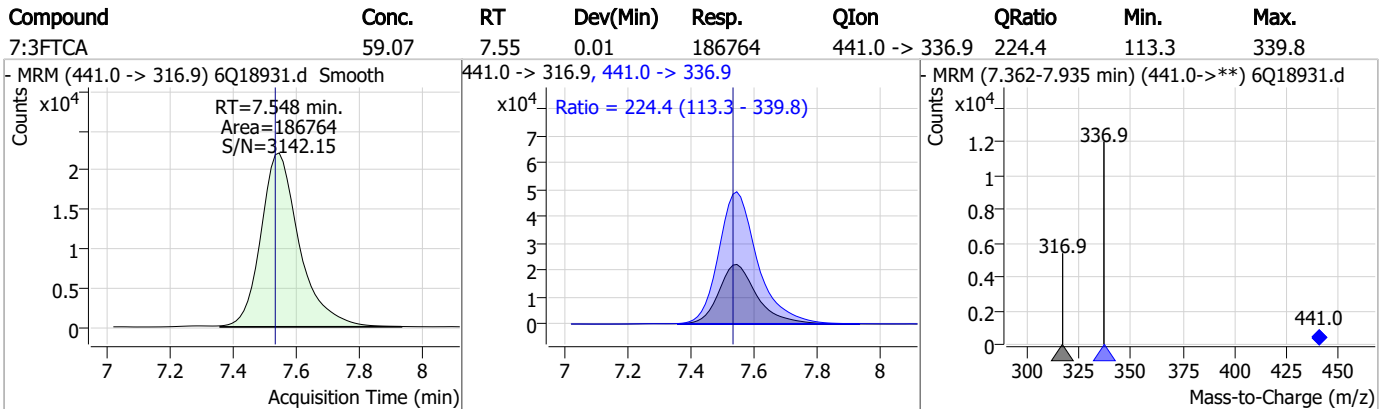
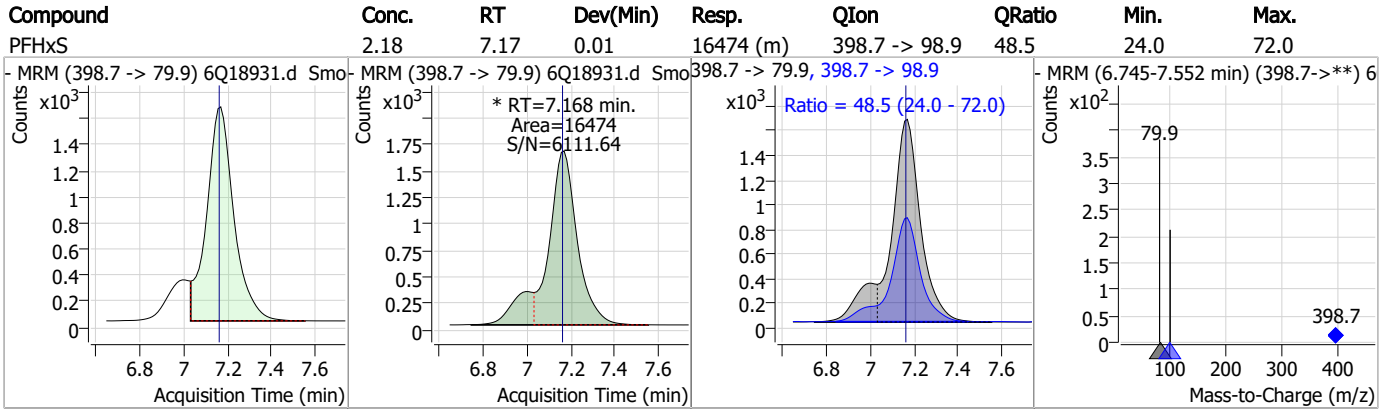
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Perfluorinated Compounds by LC/MS/MS



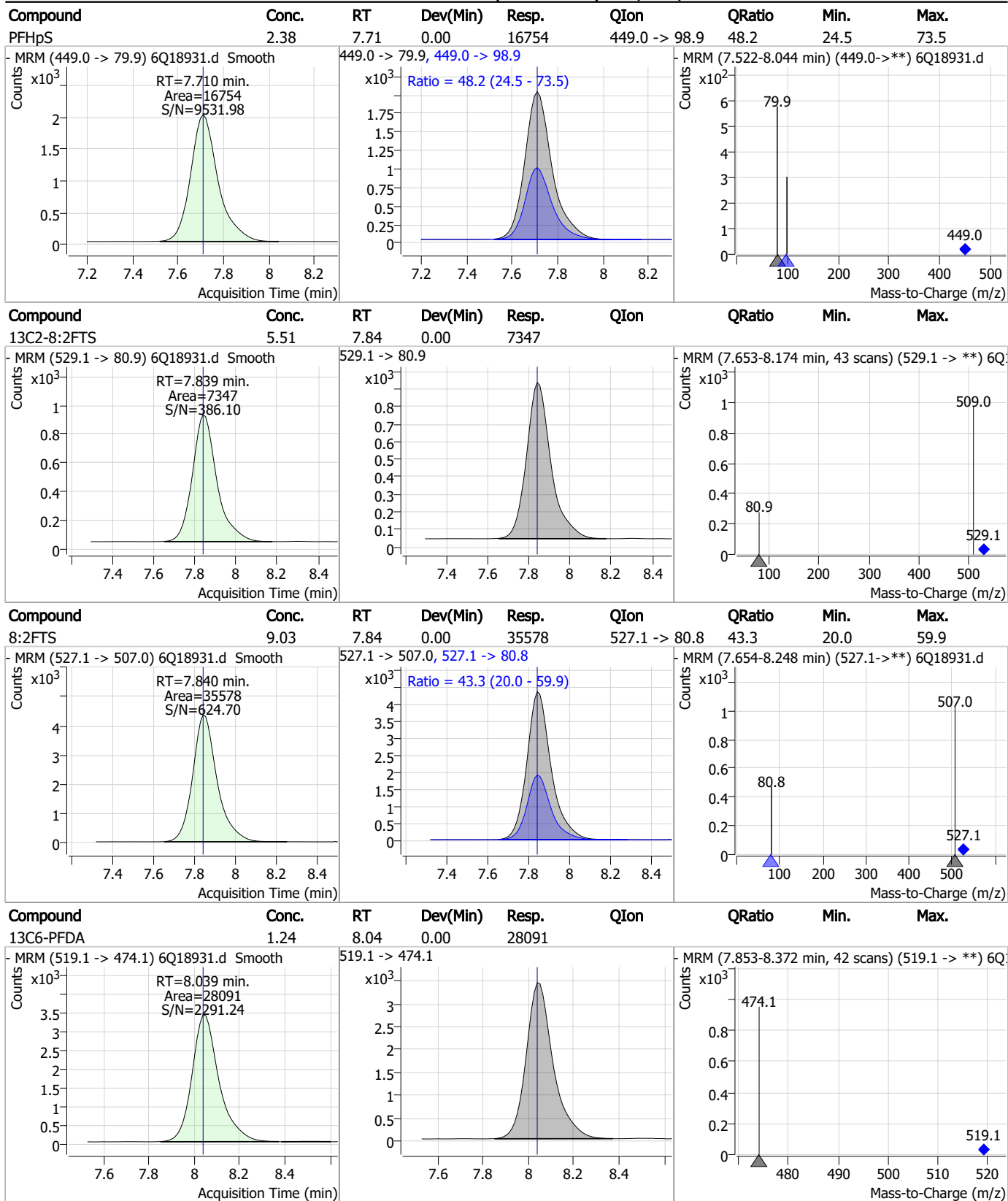
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Perfluorinated Compounds by LC/MS/MS



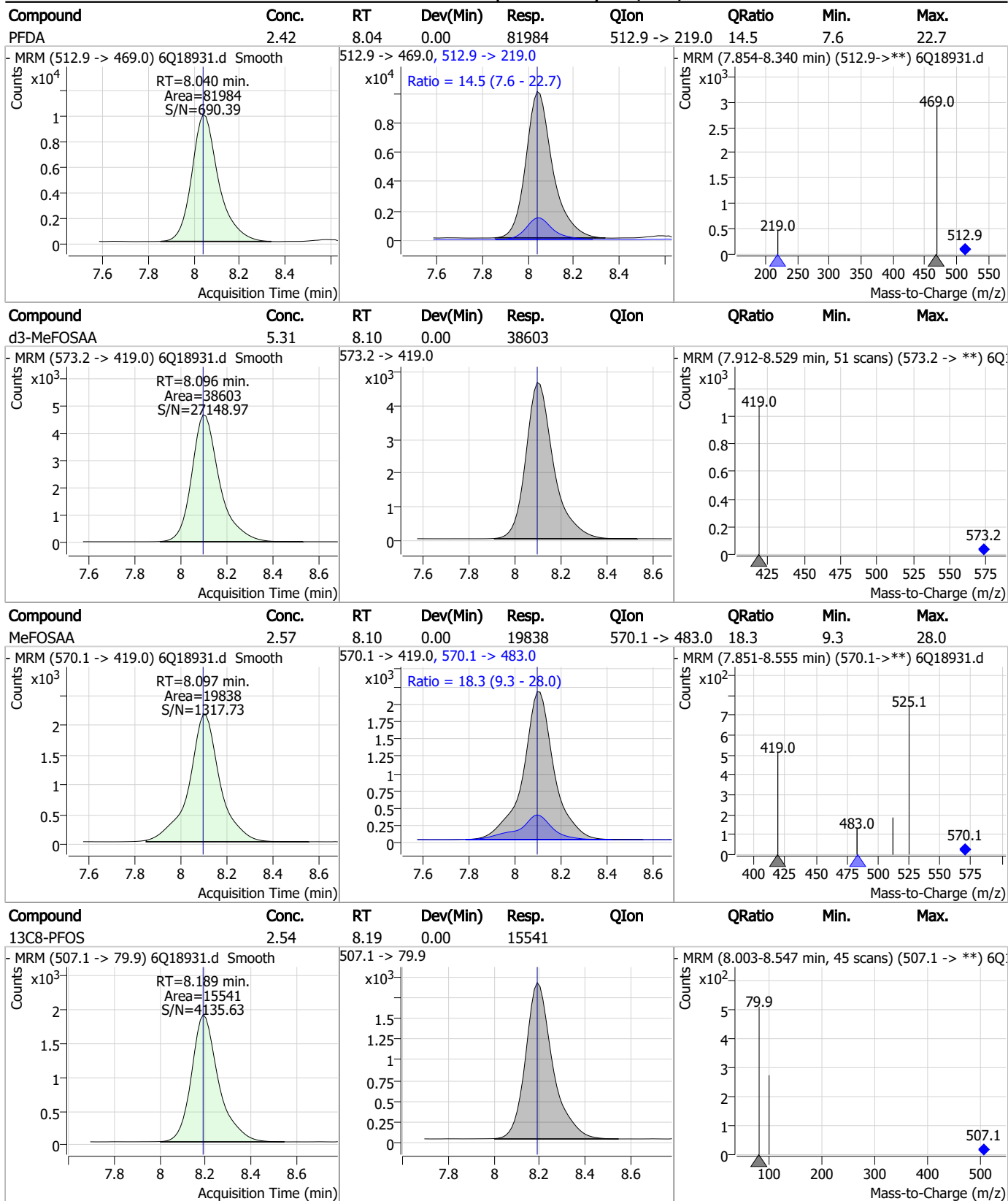
7.7.17 7

Perfluorinated Compounds by LC/MS/MS



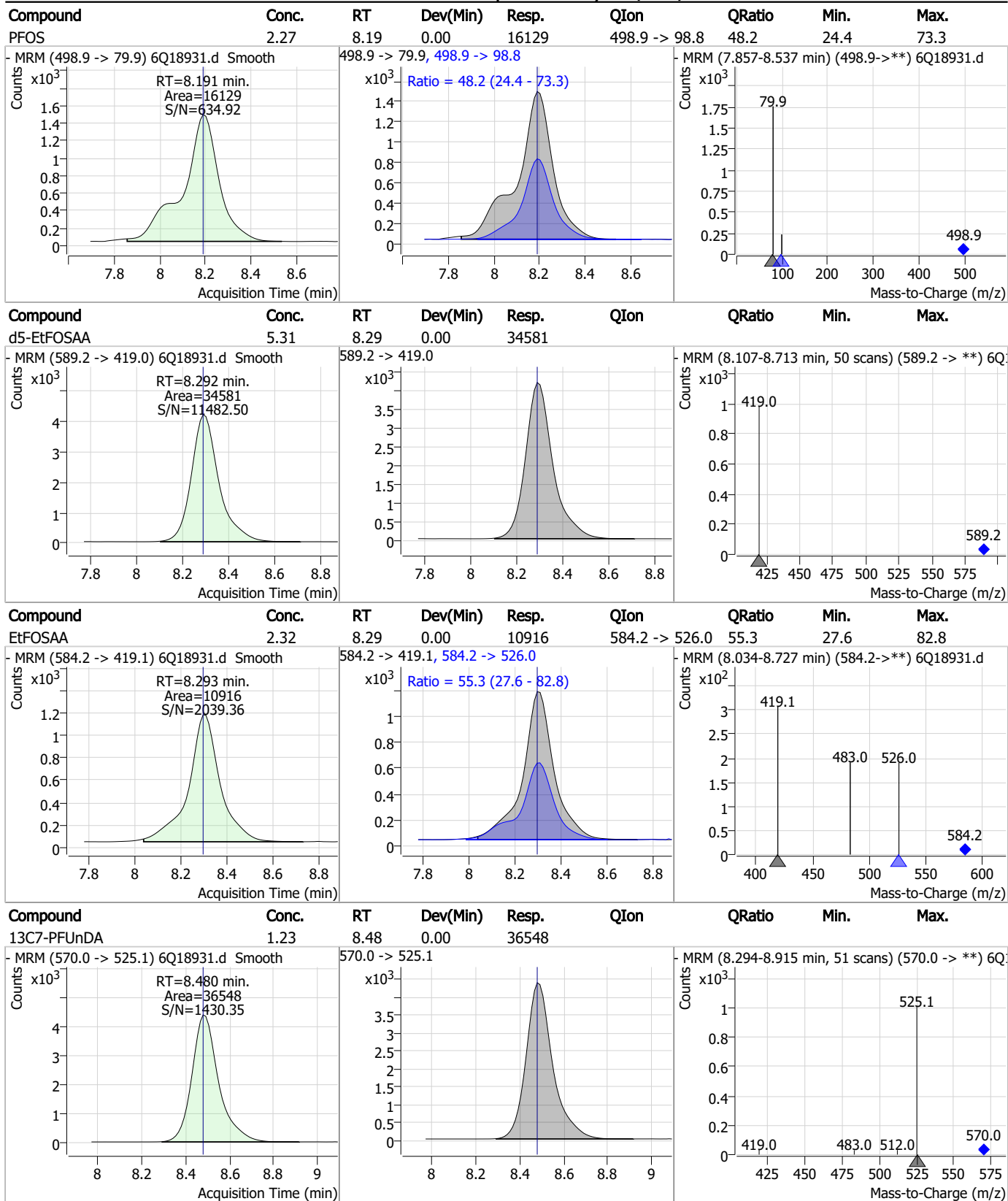
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Perfluorinated Compounds by LC/MS/MS



7.7.17

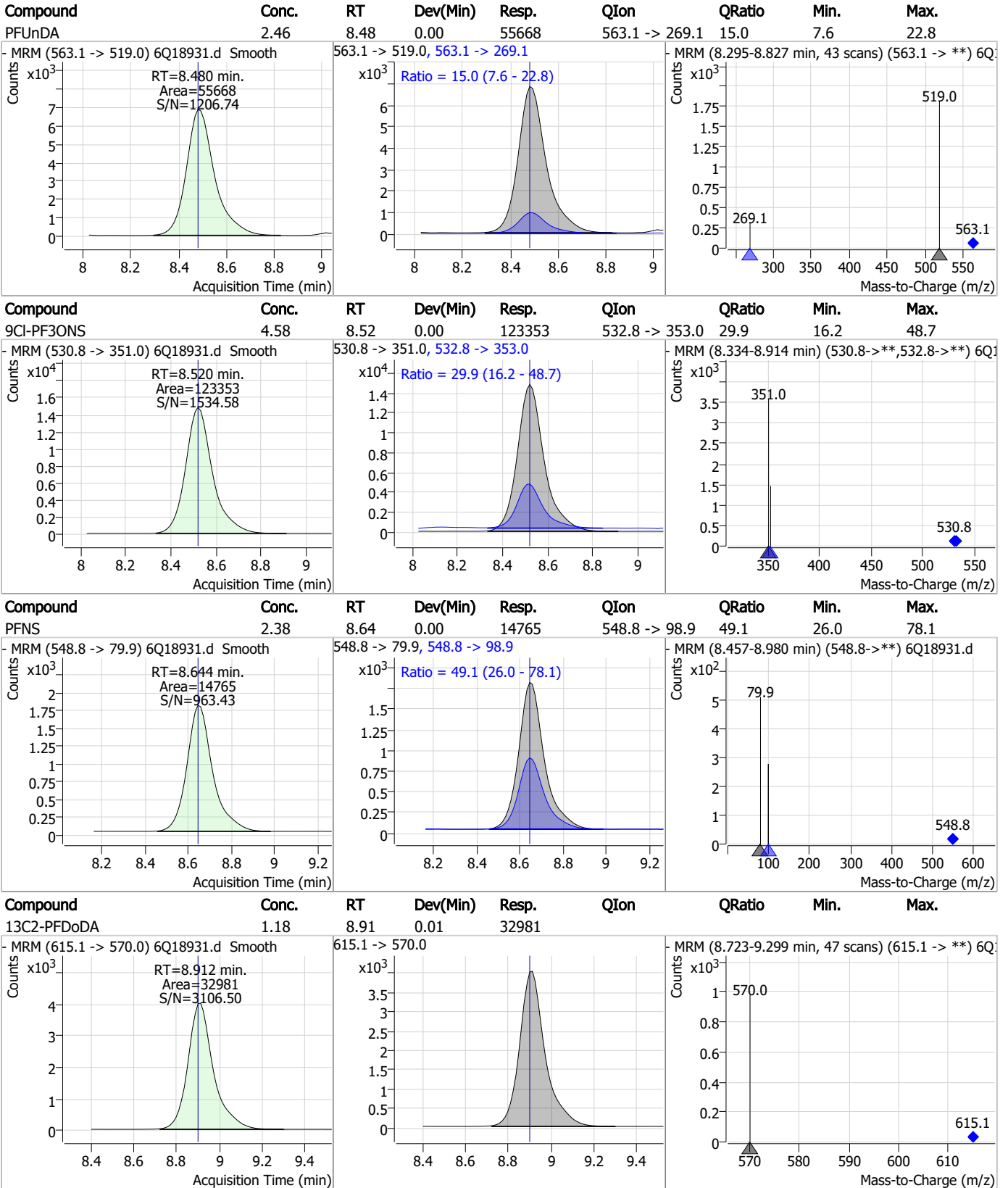
Perfluorinated Compounds by LC/MS/MS



7.7.17

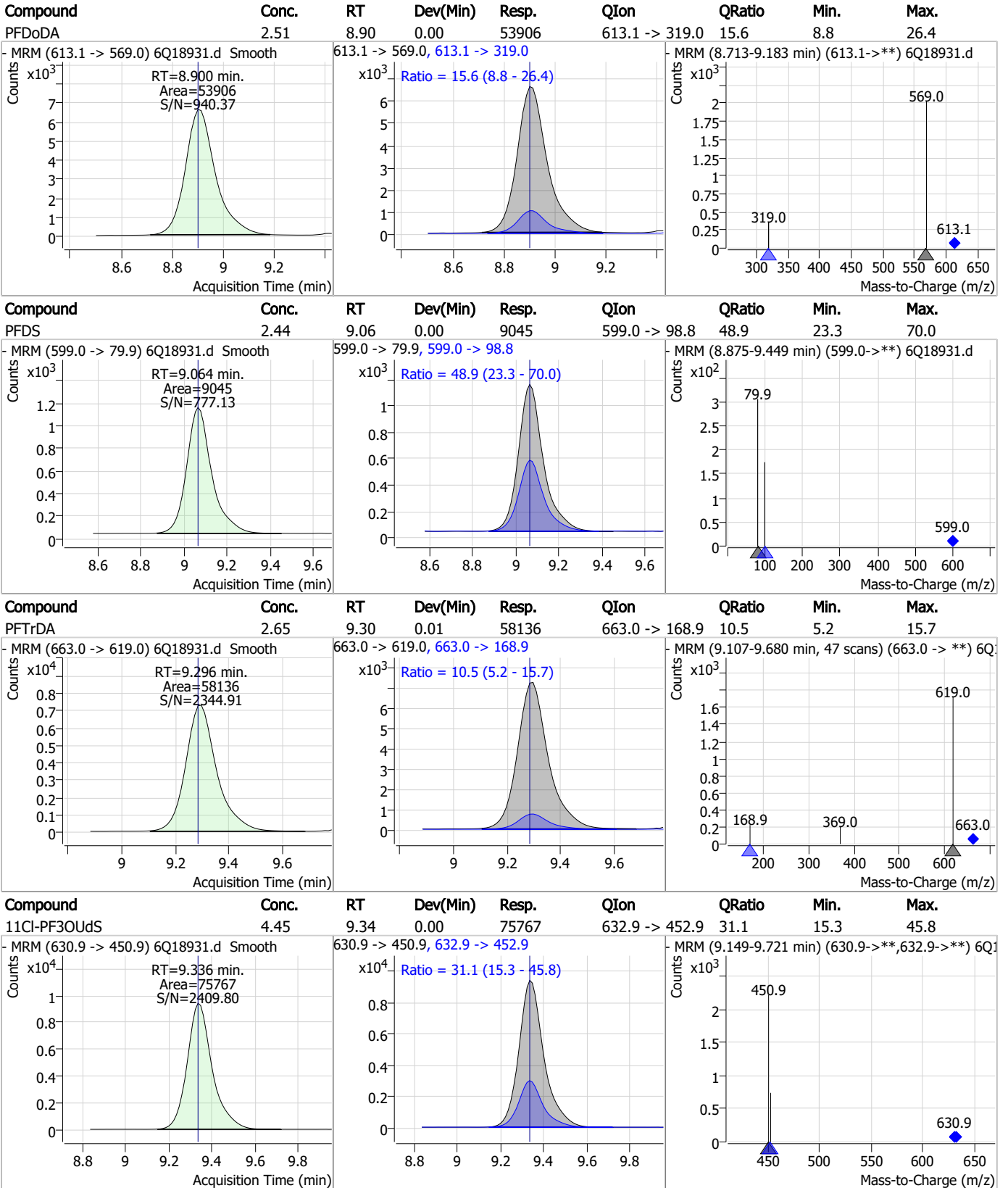
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Perfluorinated Compounds by LC/MS/MS



7.7.17

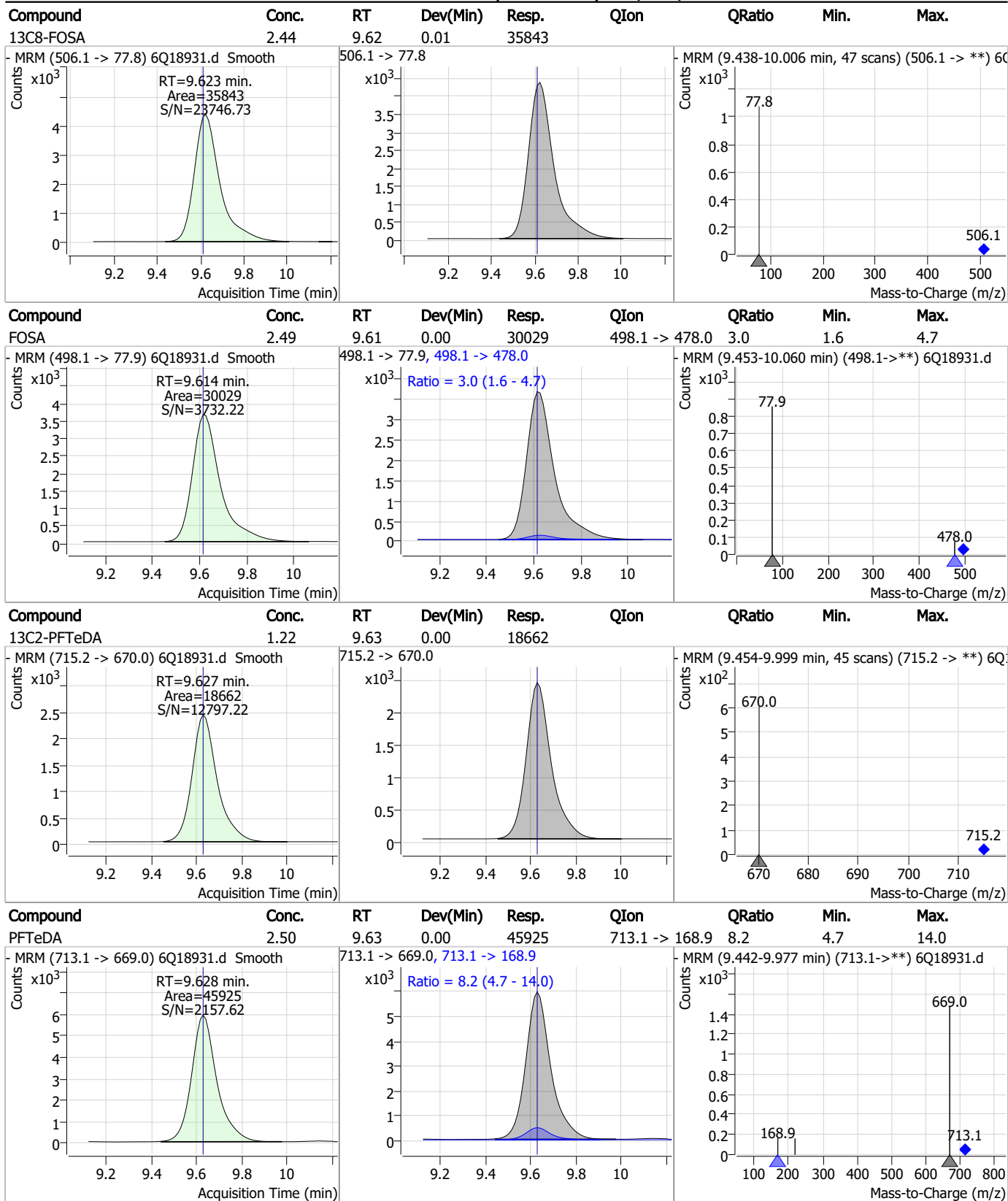
Perfluorinated Compounds by LC/MS/MS



7.7.17



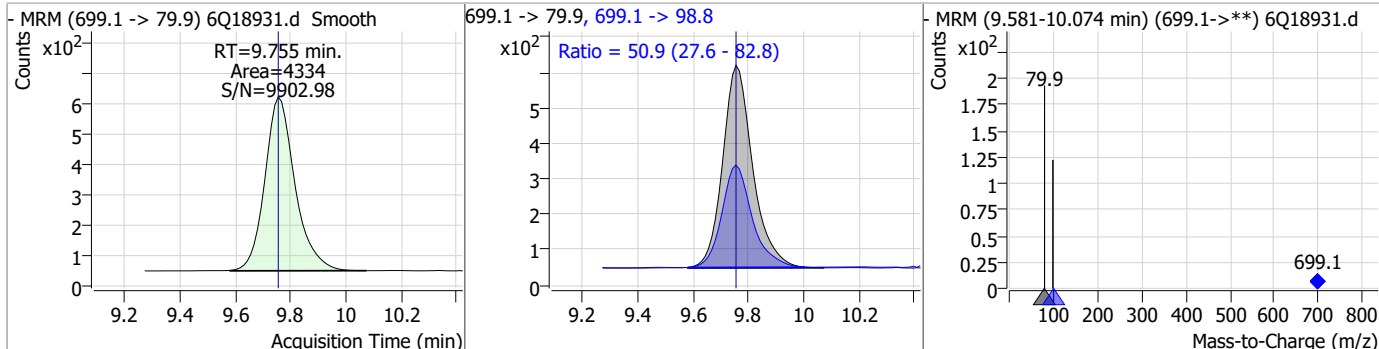
Perfluorinated Compounds by LC/MS/MS



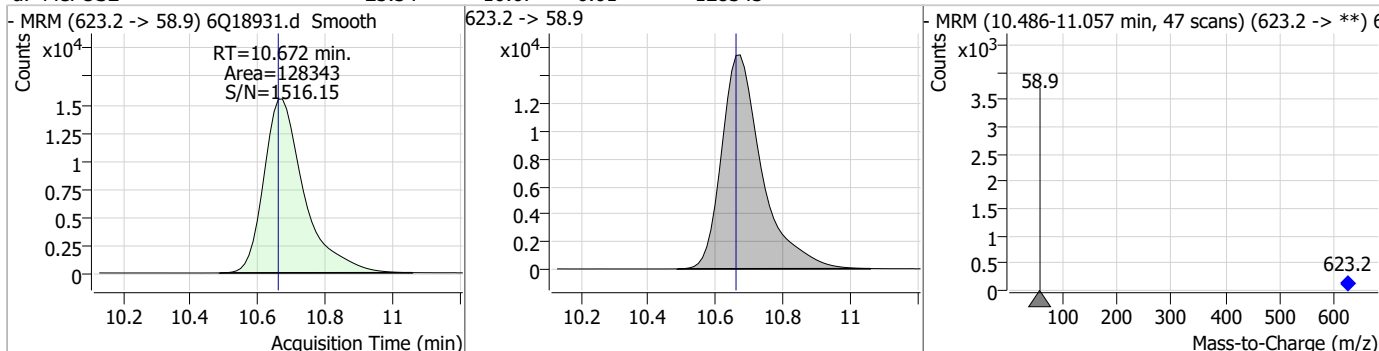
7.7.17

Perfluorinated Compounds by LC/MS/MS

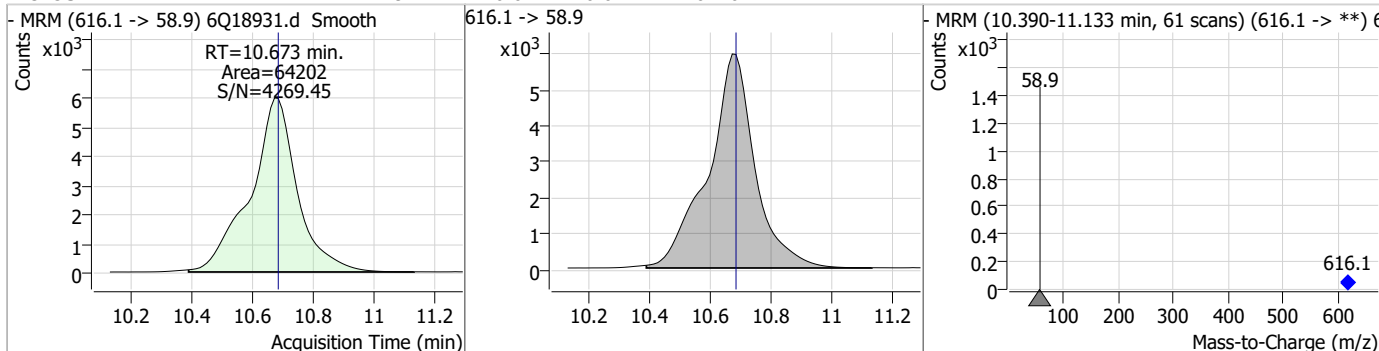
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.47	9.75	0.00	4334	699.1 -> 98.8	50.9	27.6	82.8



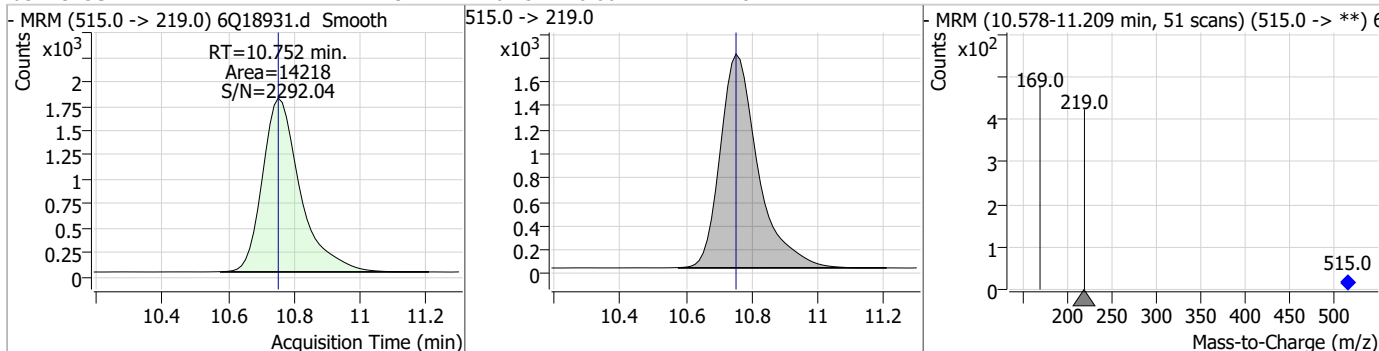
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.34	10.67	0.01	128343				



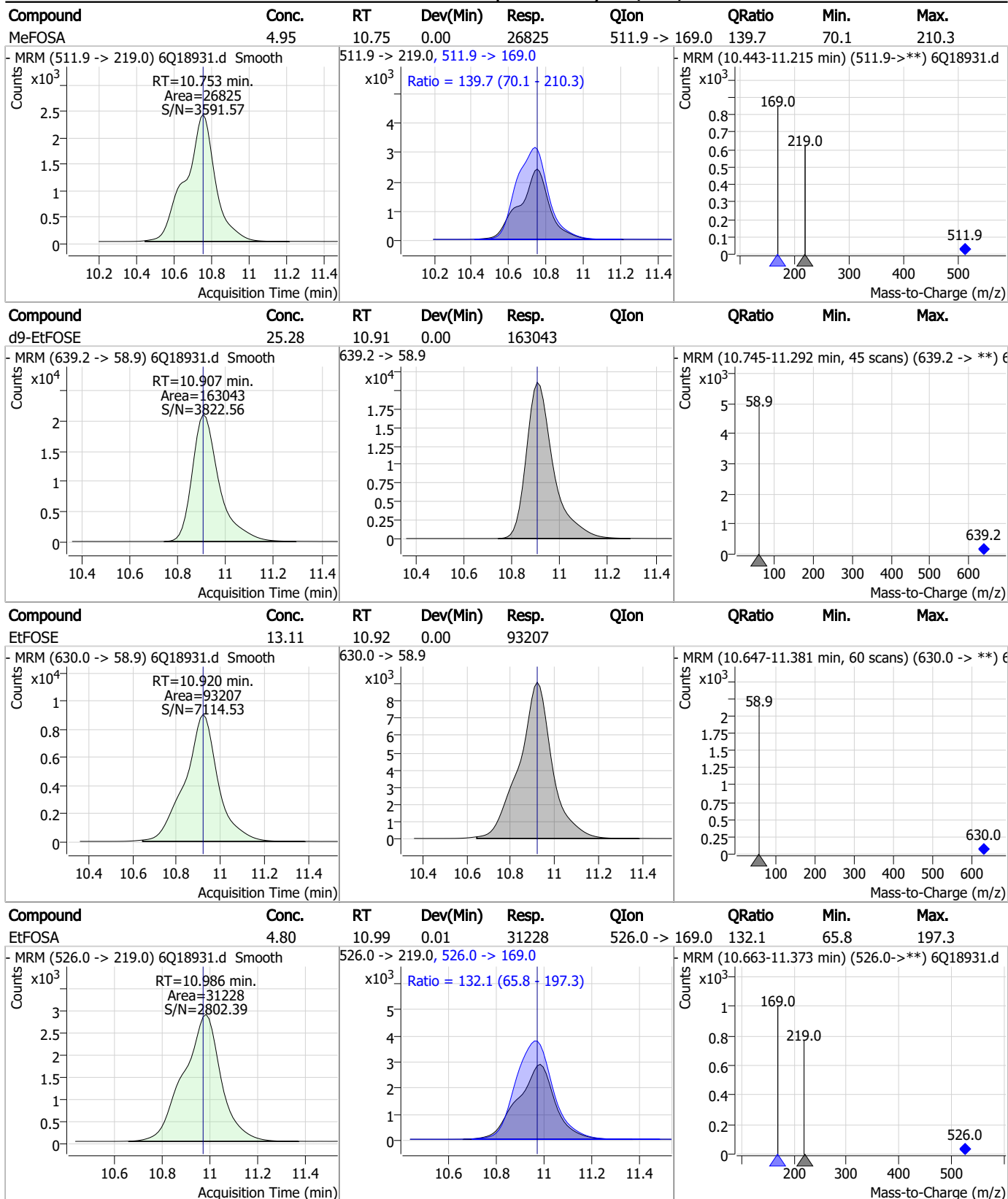
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.92	10.67	-0.01	64202				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.49	10.75	0.00	14218				



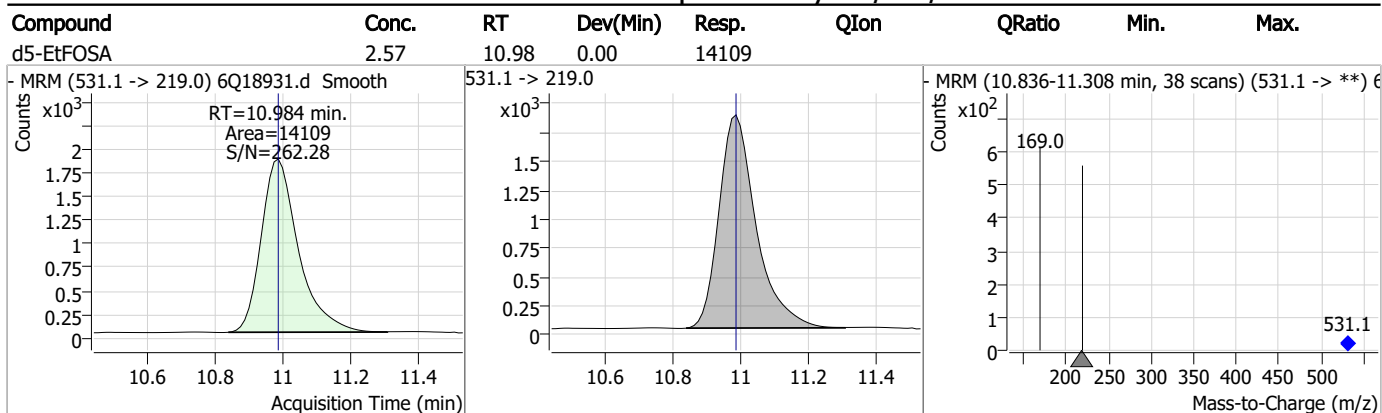
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q283-CC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18931.D Analyst approved: 06/08/23 12:32 Martha Valls
Injection Time: 06/07/23 10:54 Supervisor approved: 06/09/23 13:50 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.17	Split peak

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18932.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 11:09:17 AM
 Sample Name : cc282-1.0LL
 Vial : P1-A2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	185107	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	61666	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	69384	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	64027	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	95531	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	46339	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	27698	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	36240	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	30610	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18432	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	34803	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	24654	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	15935	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14418	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4783	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7146	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6871	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	39025	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	41265	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	34054	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	124038	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	160036	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13491	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13519	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18581	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	77960	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11166	2.50 µg/L	0.000
13C4-PFOA	7.065	417.1 -> 372.0	101422	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	37581	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	53245	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	63562	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4783	5.21 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.2%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7146	5.42 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.3%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6871	5.23 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.6%		
13C2-PFDoDA	8.900	615.1 -> 570.0	30610	1.11 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 89.2%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18432	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.0%		
13C3-PFBS	5.397	302.1 -> 79.9	24654	2.51 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.5%		
13C3-PFHxS	7.155	402.1 -> 79.9	15935	2.64 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.8%	
13C4-PFBA	2.860	216.8 -> 171.9	185107	10.01 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.1%	
13C4-PFHpA	6.420	367.1 -> 322.0	64027	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C5-PFHxA	5.478	318.0 -> 273.0	69384	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C5-PFPeA	4.272	268.3 -> 223.0	61666	5.00 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
13C6-PFDA	8.039	519.1 -> 474.1	27698	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.4%	
13C7-PFUnDA	8.480	570.0 -> 525.1	36240	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.5%	
13C8-FOSA	9.623	506.1 -> 77.8	34803	2.57 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
13C8-PFOA	7.051	421.1 -> 376.0	95531	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.2%	
13C8-PFOS	8.189	507.1 -> 79.9	14418	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.3%	
13C9-PFNA	7.569	472.1 -> 427.0	46339	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.9%	
d3-MeFOSAA	8.096	573.2 -> 419.0	39025	5.83 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.6%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	41265	10.30 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 103.0%	
d3-MeFOSA	10.752	515.0 -> 219.0	13519	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%	
d5-EtFOSAA	8.292	589.2 -> 419.0	34054	5.67 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.5%	
d7-MeFOSE	10.672	623.2 -> 58.9	124038	26.59 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.4%	
d9-EtFOSE	10.907	639.2 -> 58.9	160036	26.94 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 107.8%	
d5-EtFOSA	10.984	531.1 -> 219.0	13491	2.67 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.9%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	5079	0.78 µg/L	96
		327.1 -> 80.9	2011		
6:2FTS	6.838	427.1 -> 407.0	5124	0.76 µg/L	94
		427.1 -> 80.9	1910		
8:2FTS	7.840	527.1 -> 507.0	3036	0.82 µg/L	100
		527.1 -> 80.8	1211		
EtFOSAA	8.293	584.2 -> 419.1	838	0.18 µg/L	97
		584.2 -> 526.0	479		
FOSA	9.626	498.1 -> 77.9	2344	0.20 µg/L	97
		498.1 -> 478.0	93		
MeFOSAA	8.109	570.1 -> 419.0	1667	0.21 µg/L	96
		570.1 -> 483.0	280		
PFBA	2.856	212.8 -> 168.9	4907	0.81 µg/L	100
PFBS	5.398	298.7 -> 79.9	1545	0.18 µg/L	98
		298.7 -> 98.8	588		
PFDA	8.040	512.9 -> 469.0	6294	0.19 µg/L	94
		512.9 -> 219.0	1117		
PFDODA	8.900	613.1 -> 569.0	4525	0.23 µg/L	93
		613.1 -> 319.0	667		
PFDS	9.064	599.0 -> 79.9	700	0.20 µg/L	87

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	386	0.21	µg/L	99
		363.1 -> 319.0	5708			
PFHpS	7.710	363.1 -> 169.0	906	0.18	µg/L	86
		449.0 -> 79.9	1150			
PFHxA	5.481	449.0 -> 98.9	673	0.19	µg/L	99
		313.0 -> 269.0	4391			
PFHxS	7.156	313.0 -> 118.9	229	0.18	µg/L	90
		398.7 -> 79.9	1328			
PFNA	7.570	398.7 -> 98.9	549	0.19	µg/L	99
		463.0 -> 419.0	6252			
PFNS	8.644	463.0 -> 219.0	1248	0.19	µg/L	90
		548.8 -> 79.9	1082			
PFOA	7.066	548.8 -> 98.9	643	0.21	µg/L	99
		413.0 -> 369.0	8402			
PFOS	8.191	413.0 -> 169.0	1485	0.20	µg/L	100
		498.9 -> 79.9	1325			
PFPeA	4.274	498.9 -> 98.8	645	0.41	µg/L	100
		263.0 -> 219.0	5981			
PFPeS	6.471	349.1 -> 79.9	1425	0.20	µg/L	93
		349.1 -> 98.9	584			
PFTeDA	9.628	713.1 -> 669.0	3767	0.21	µg/L	99
		713.1 -> 168.9	342			
PFTrDA	9.284	663.0 -> 619.0	4391	0.22	µg/L	96
		663.0 -> 168.9	533			
PFUnDA	8.480	563.1 -> 519.0	4542	0.20	µg/L	98
		563.1 -> 269.1	737			
11Cl-PF3OUdS	9.336	630.9 -> 450.9	5727	0.36	µg/L	99
		632.9 -> 452.9	1789			
9Cl-PF3ONS	8.520	530.8 -> 351.0	9469	0.38	µg/L	97
		532.8 -> 353.0	2894			
ADONA	6.671	376.9 -> 250.9	20797	0.37	µg/L	99
		376.9 -> 84.8	5740			
HFPO-DA	5.844	284.9 -> 168.9	1442	0.42	µg/L	96
		284.9 -> 184.9	152			
3:3FTCA	3.727	241.0 -> 177.0	1028	1.00	µg/L	99
		241.0 -> 117.0	143			
5:3FTCA	6.137	341.0 -> 237.1	21754	4.95	µg/L	96
		341.0 -> 217.0	16490			
7:3FTCA	7.535	441.0 -> 316.9	15084	4.99	µg/L	96
		441.0 -> 336.9	33221			
EtFOSA	10.986	526.0 -> 219.0	2486	0.40	µg/L	100
		526.0 -> 169.0	3271			
EtFOSE	10.920	630.0 -> 58.9	7136	1.02	µg/L	100
		511.9 -> 219.0	2108			
MeFOSA	10.753	511.9 -> 169.0	2982	0.41	µg/L	99
		616.1 -> 58.9	4896			
MeFOSE	10.673	699.1 -> 79.9	330	1.02	µg/L	100
		699.1 -> 98.8	157			
PFDoDS	9.755	295.0 -> 201.0	1087	0.20	µg/L	90
		295.0 -> 84.9	267			
NFDHA	5.361	279.0 -> 85.1	3984	0.40	µg/L	100
		229.0 -> 84.9	3156			
PFMBA	4.688	314.8 -> 134.9	9918	0.41	µg/L	100
		314.8 -> 82.9	402			
PFMPA	3.401			0.34	µg/L	99
PFEESA	5.926					

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

7.7.18
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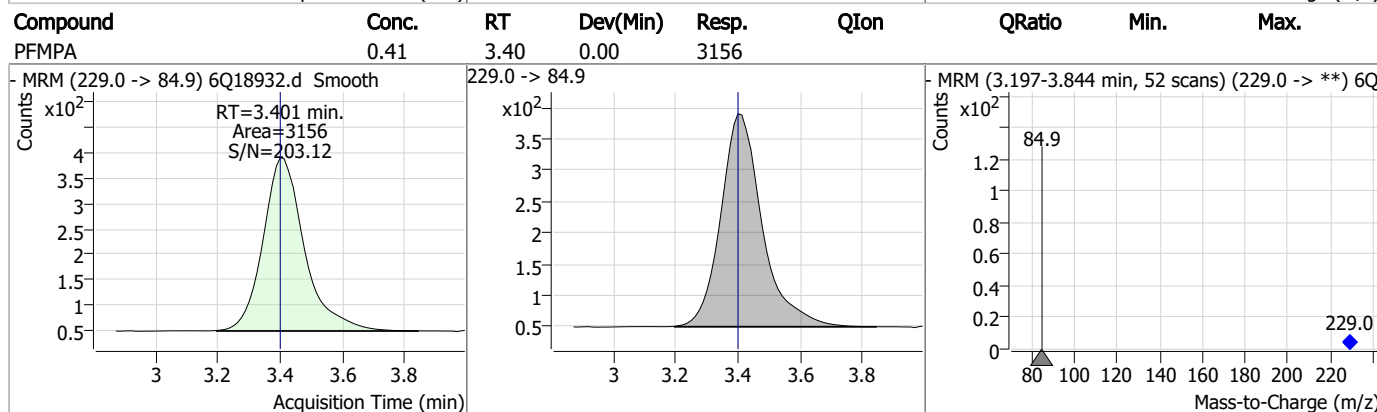
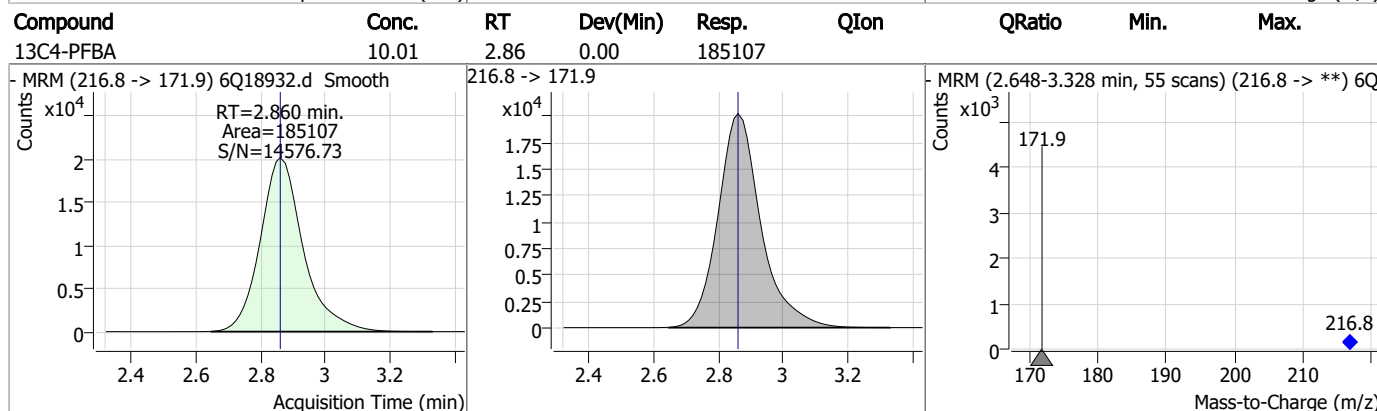
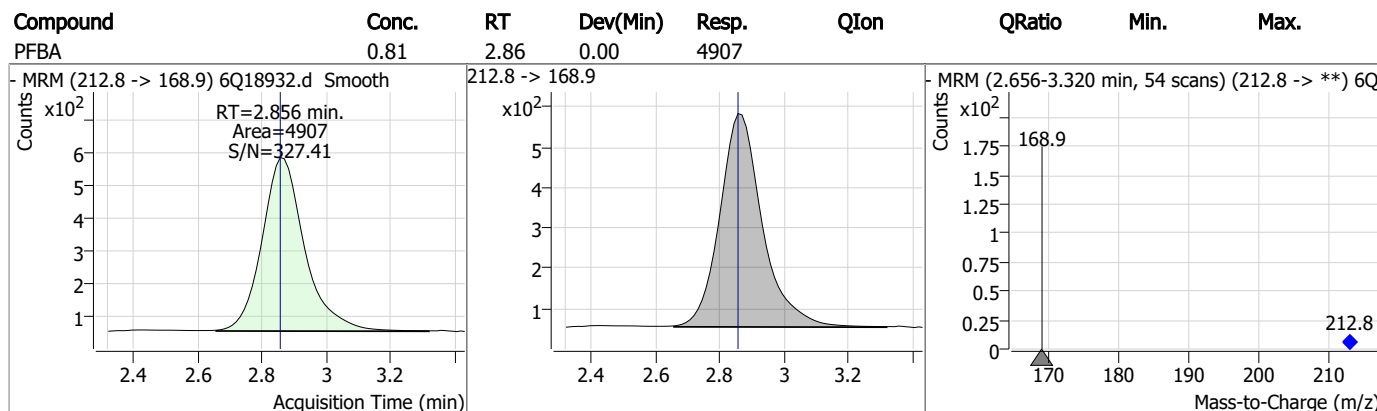
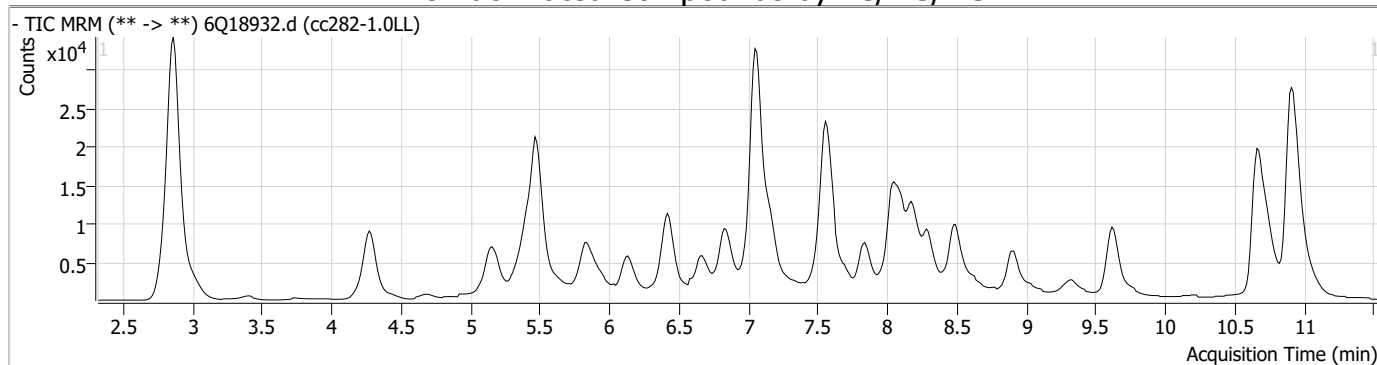
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
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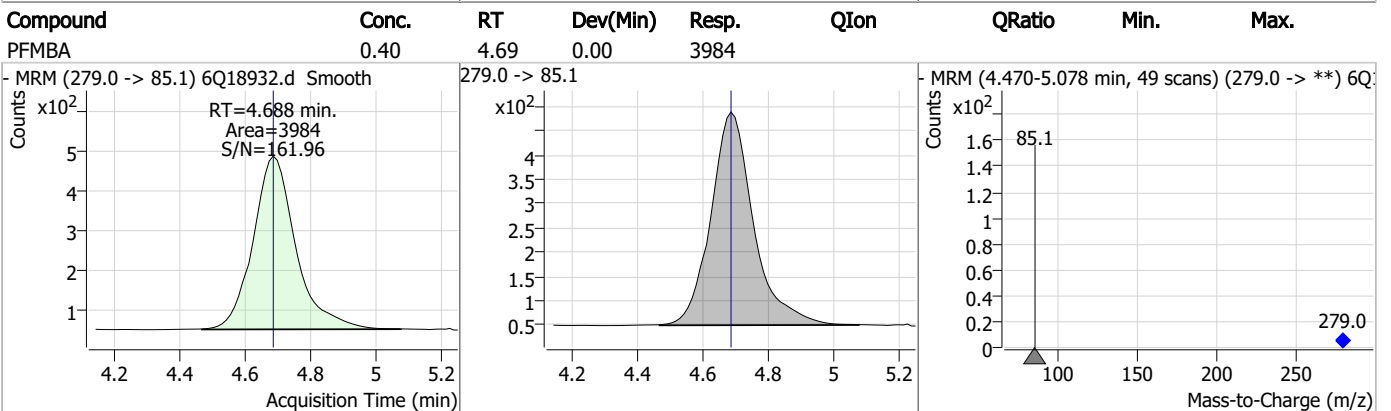
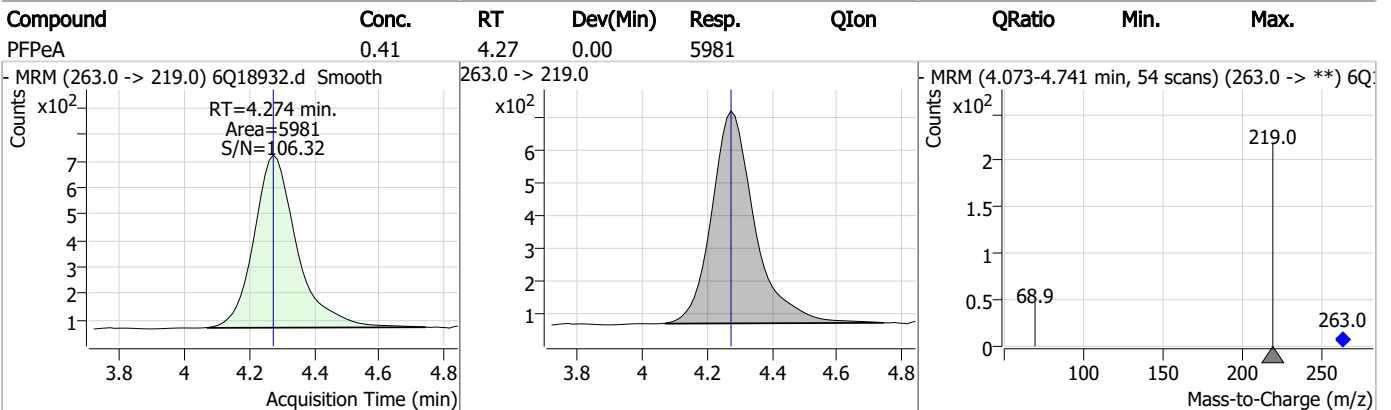
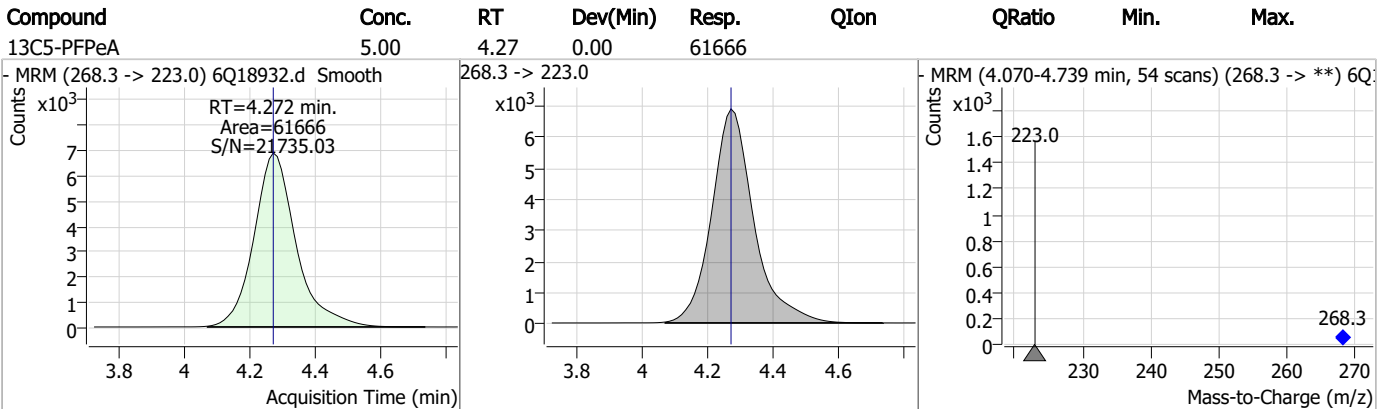
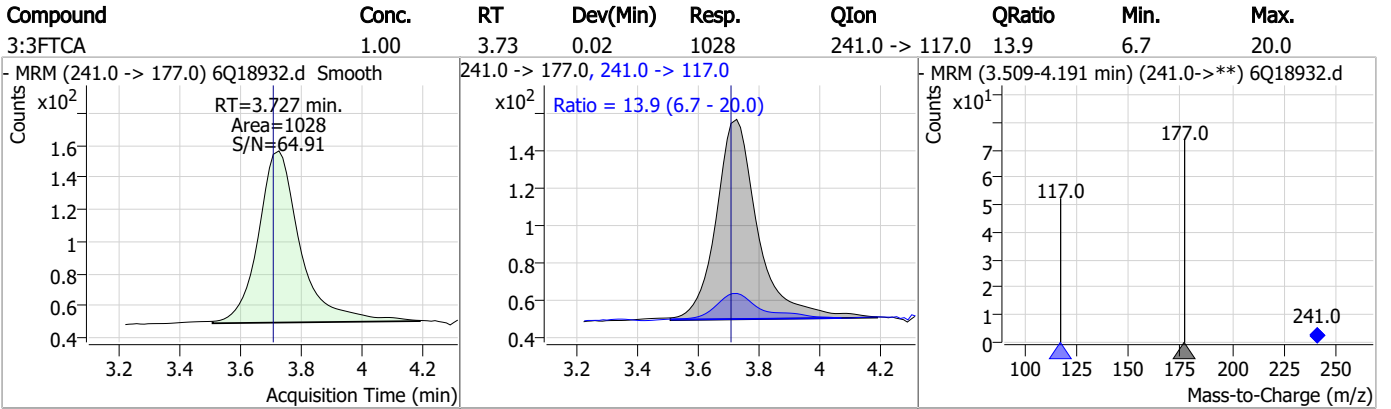
7.7.18

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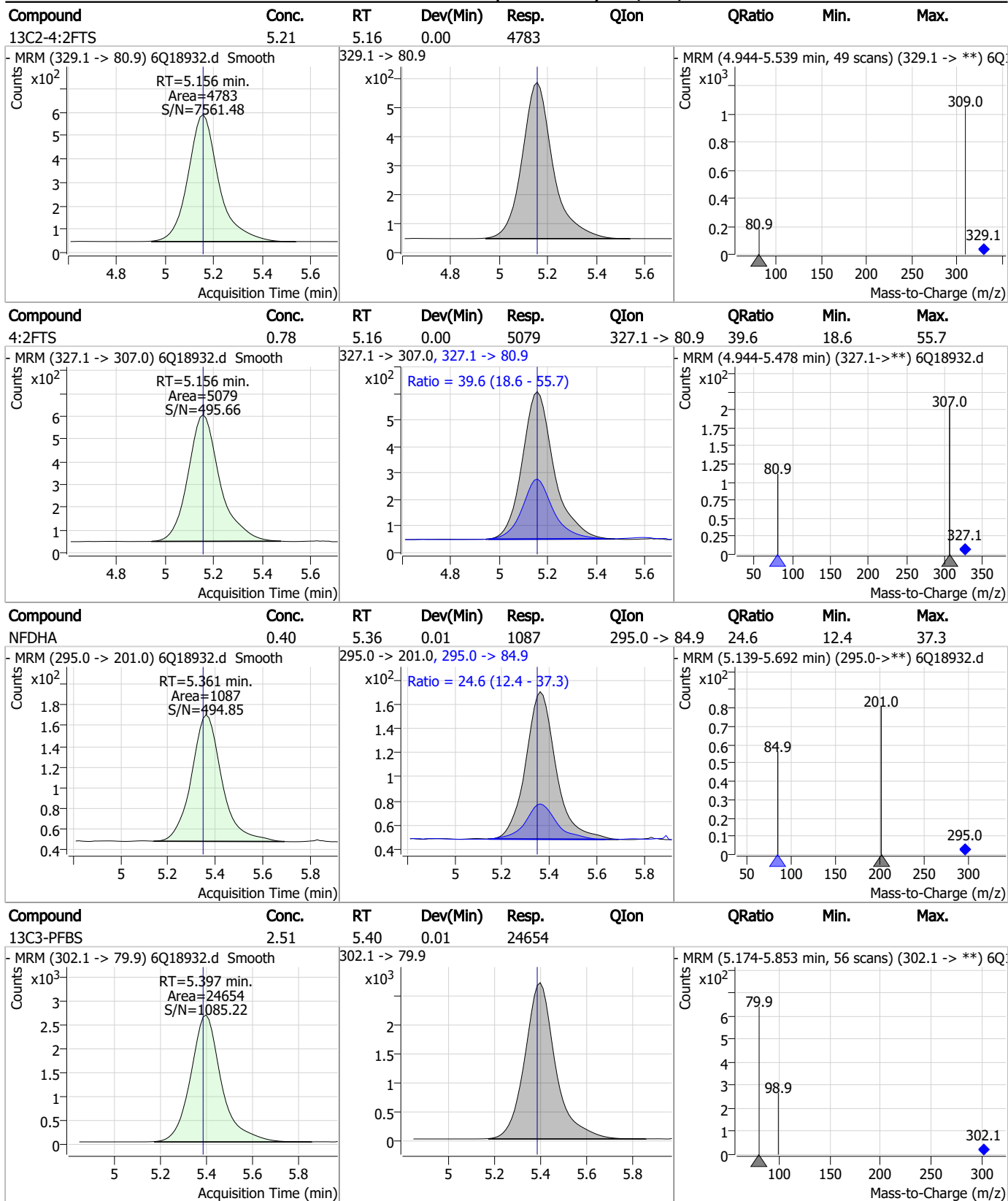
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



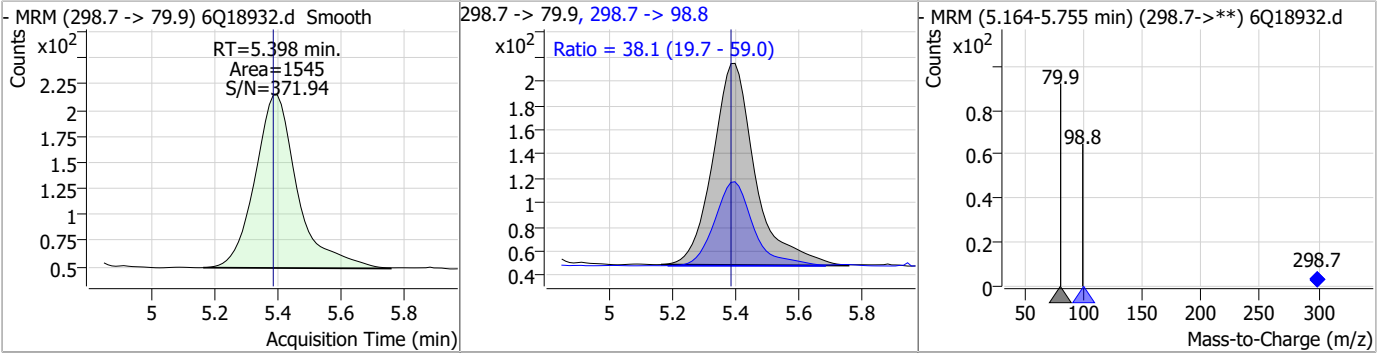
Perfluorinated Compounds by LC/MS/MS



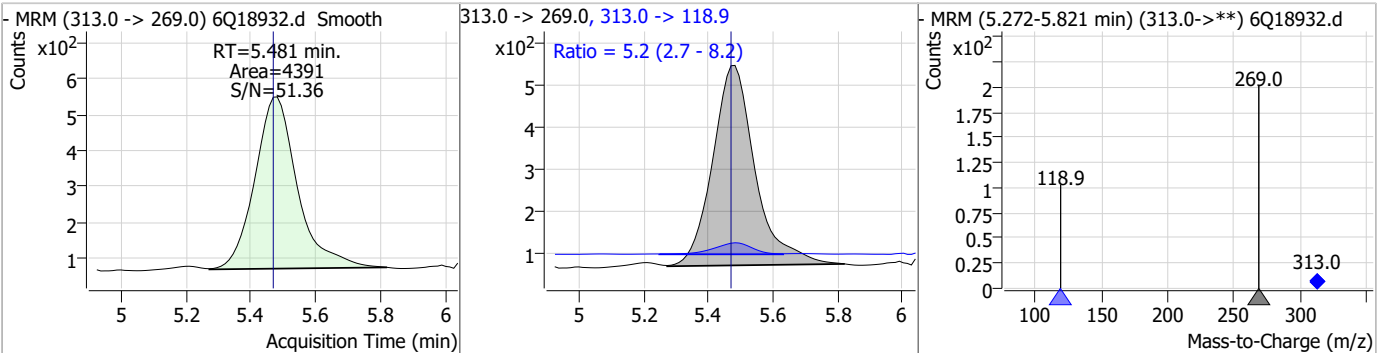
7.7.18 7

Perfluorinated Compounds by LC/MS/MS

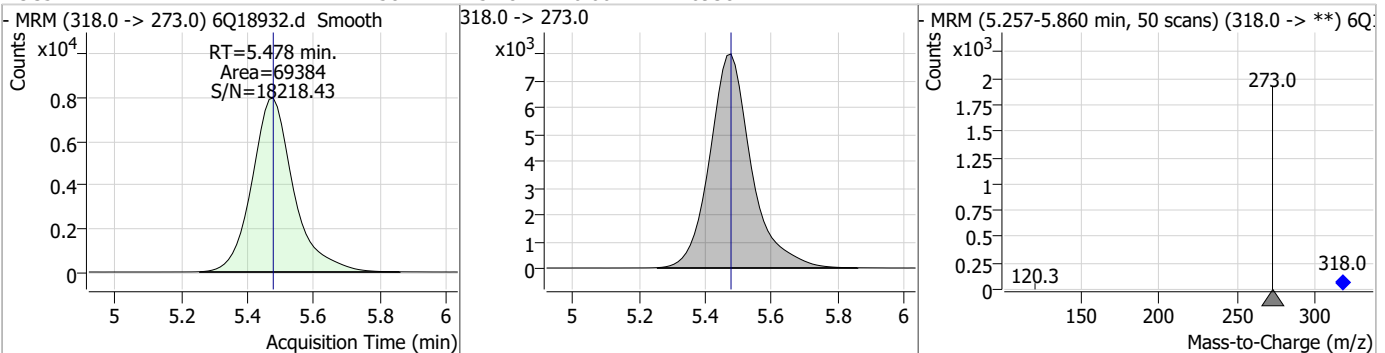
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.18	5.40	0.01	1545	298.7 -> 98.8	38.1	19.7	59.0



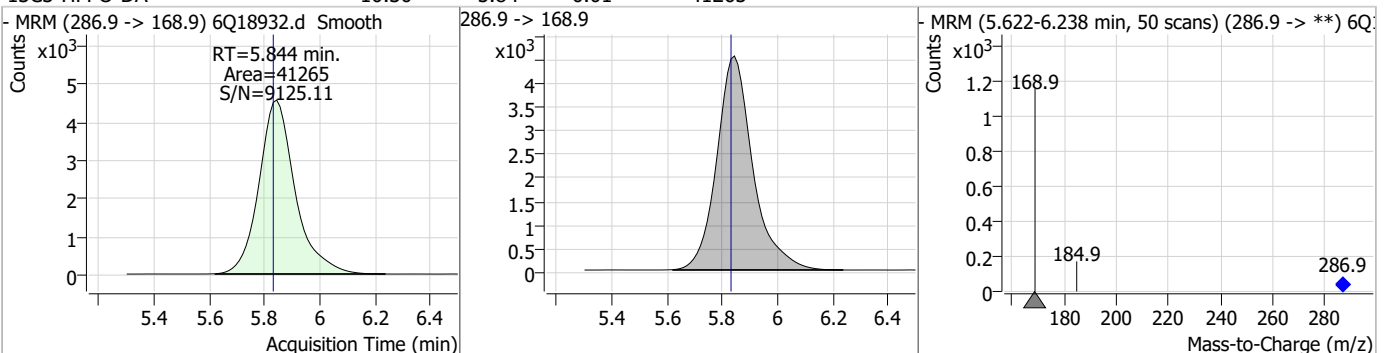
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.19	5.48	0.01	4391	313.0 -> 118.9	5.2	2.7	8.2



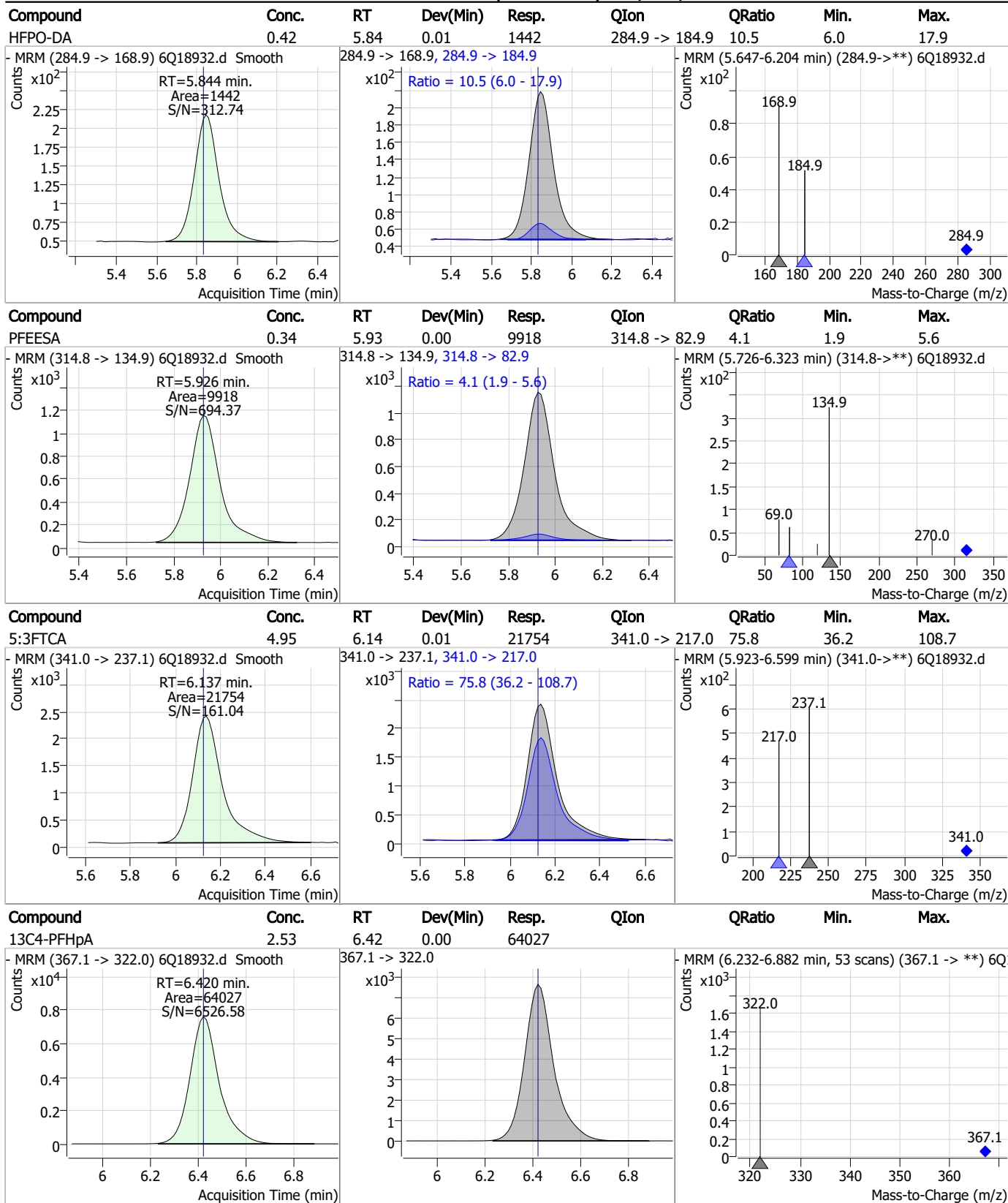
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.58	5.48	0.00	69384	318.0 -> 273.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.30	5.84	0.01	41265	286.9 -> 168.9			

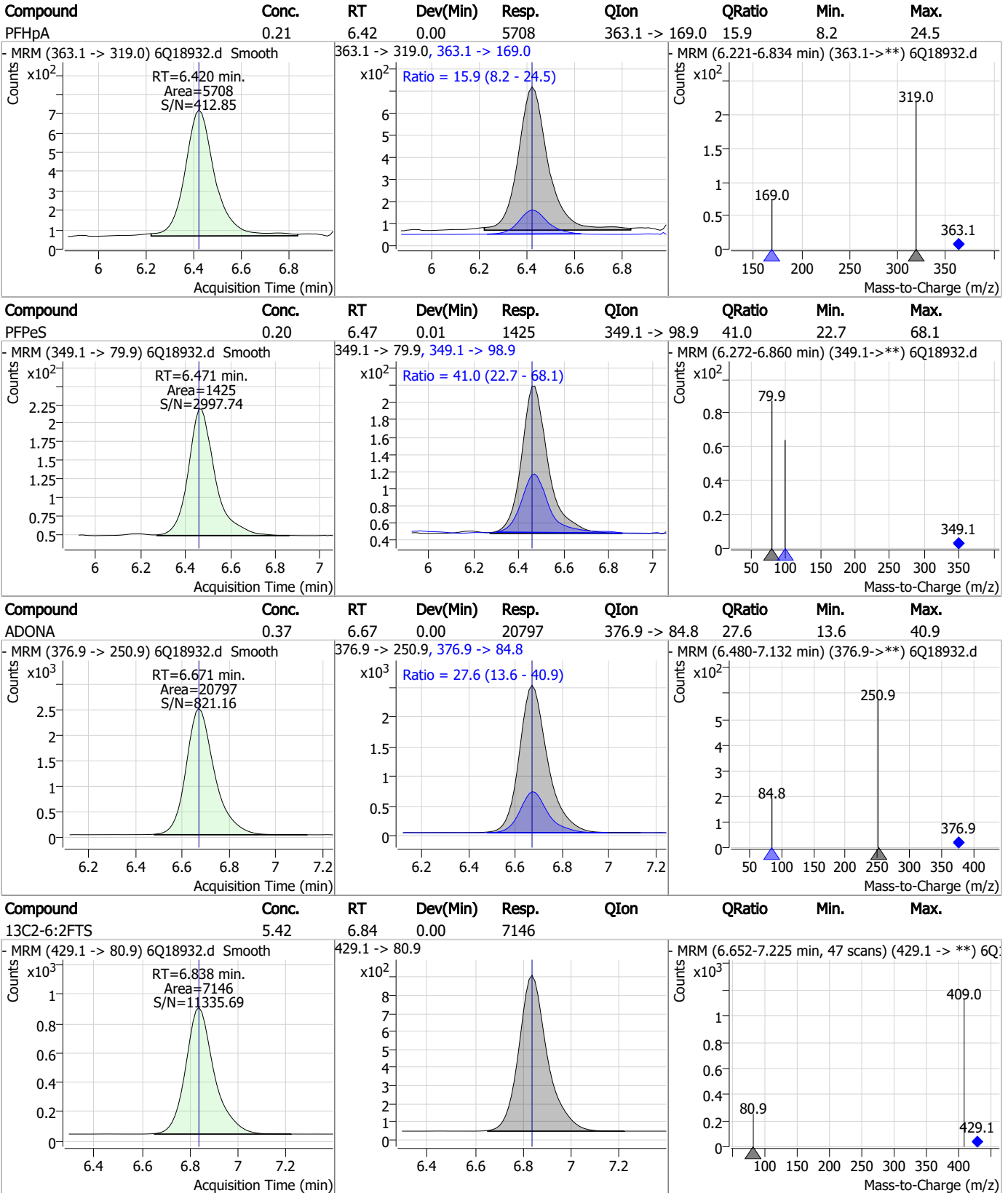


Perfluorinated Compounds by LC/MS/MS



7.7.18 7

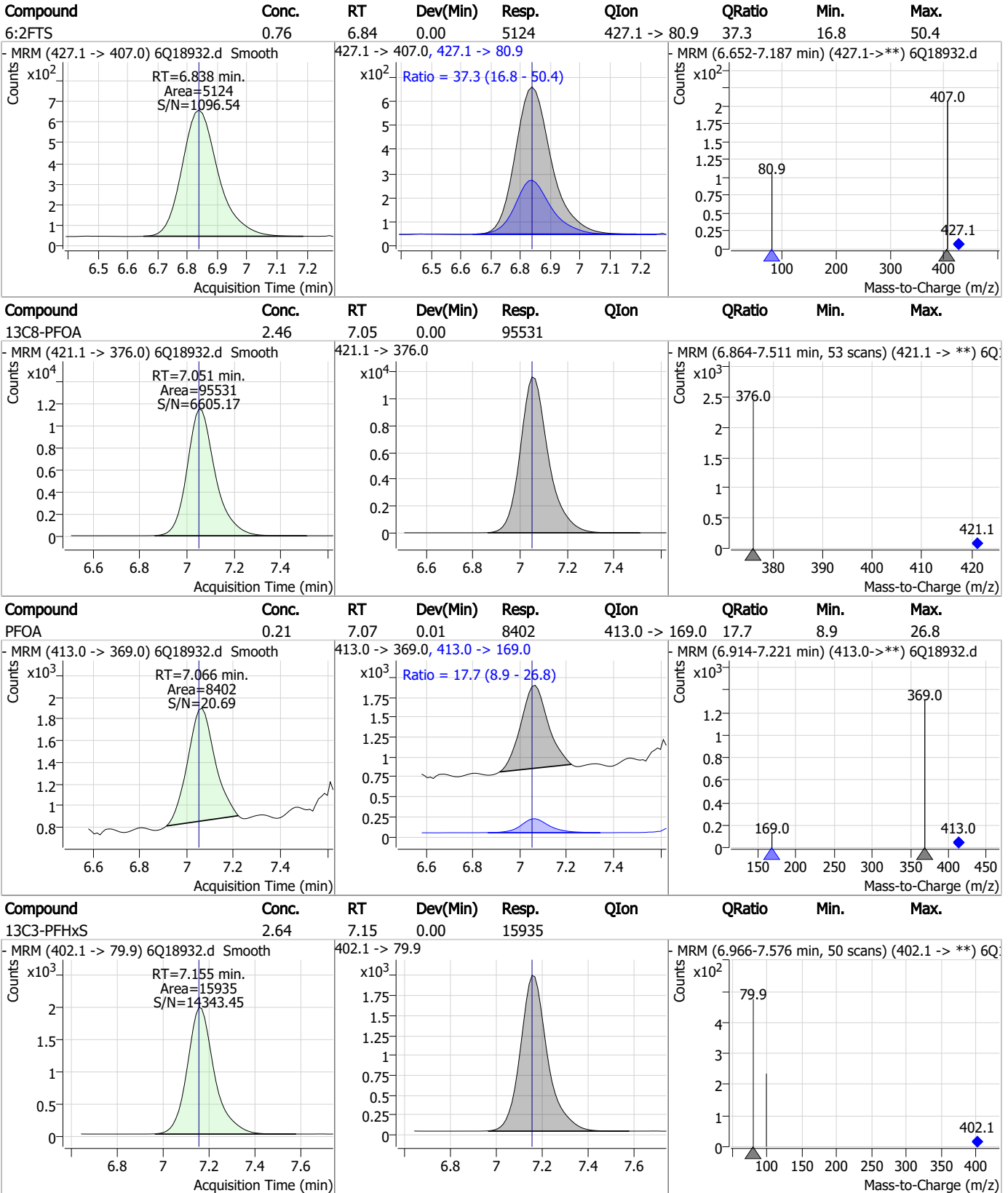
Perfluorinated Compounds by LC/MS/MS



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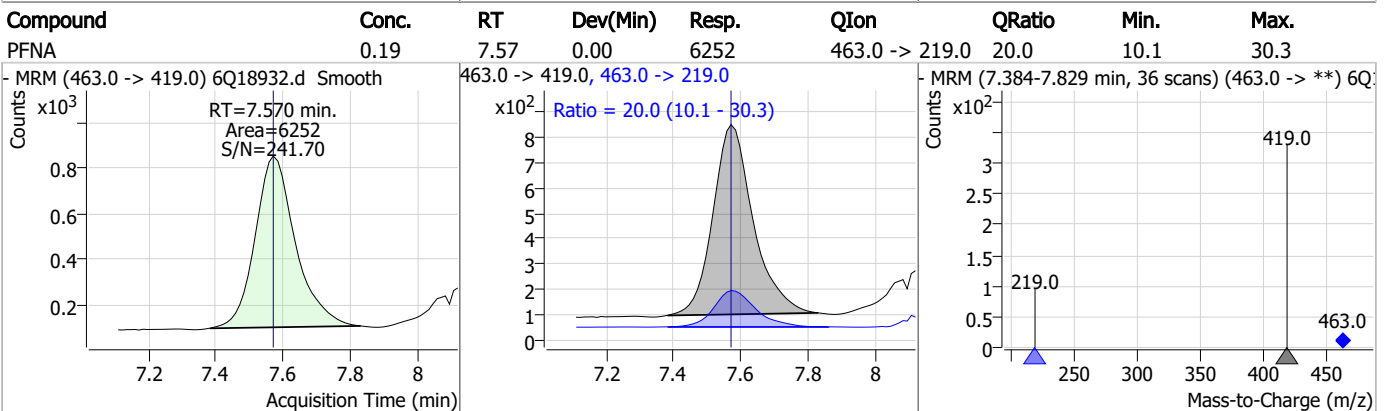
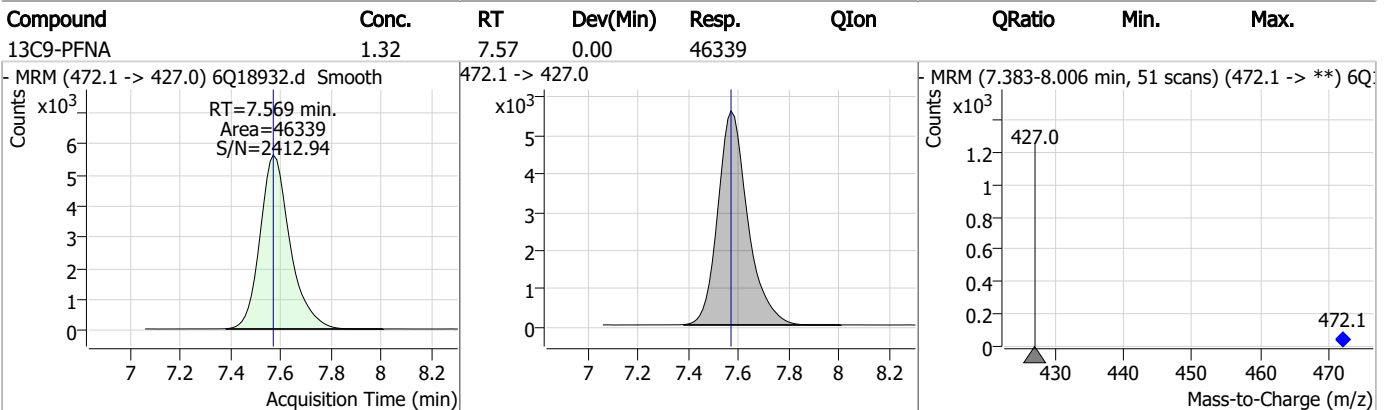
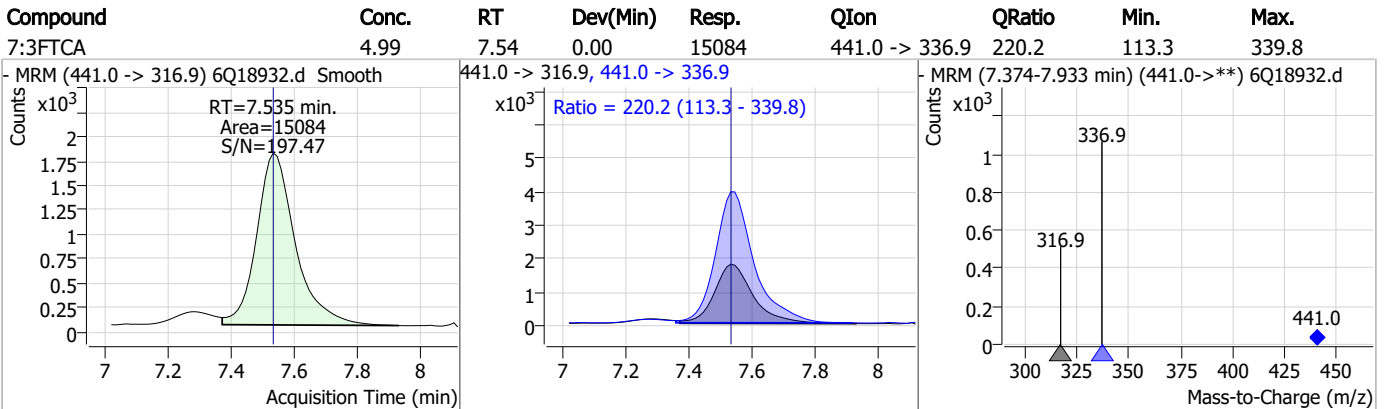
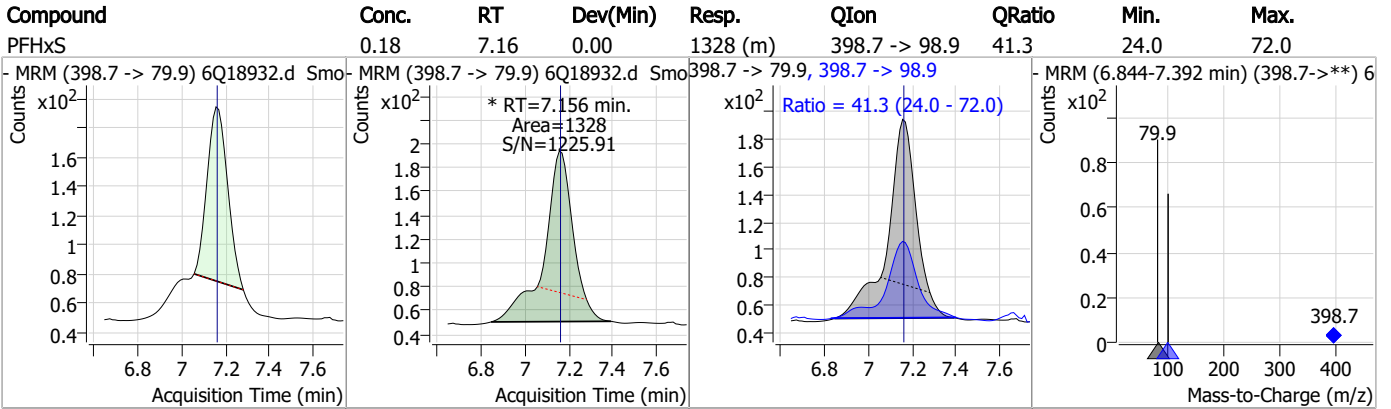
Perfluorinated Compounds by LC/MS/MS



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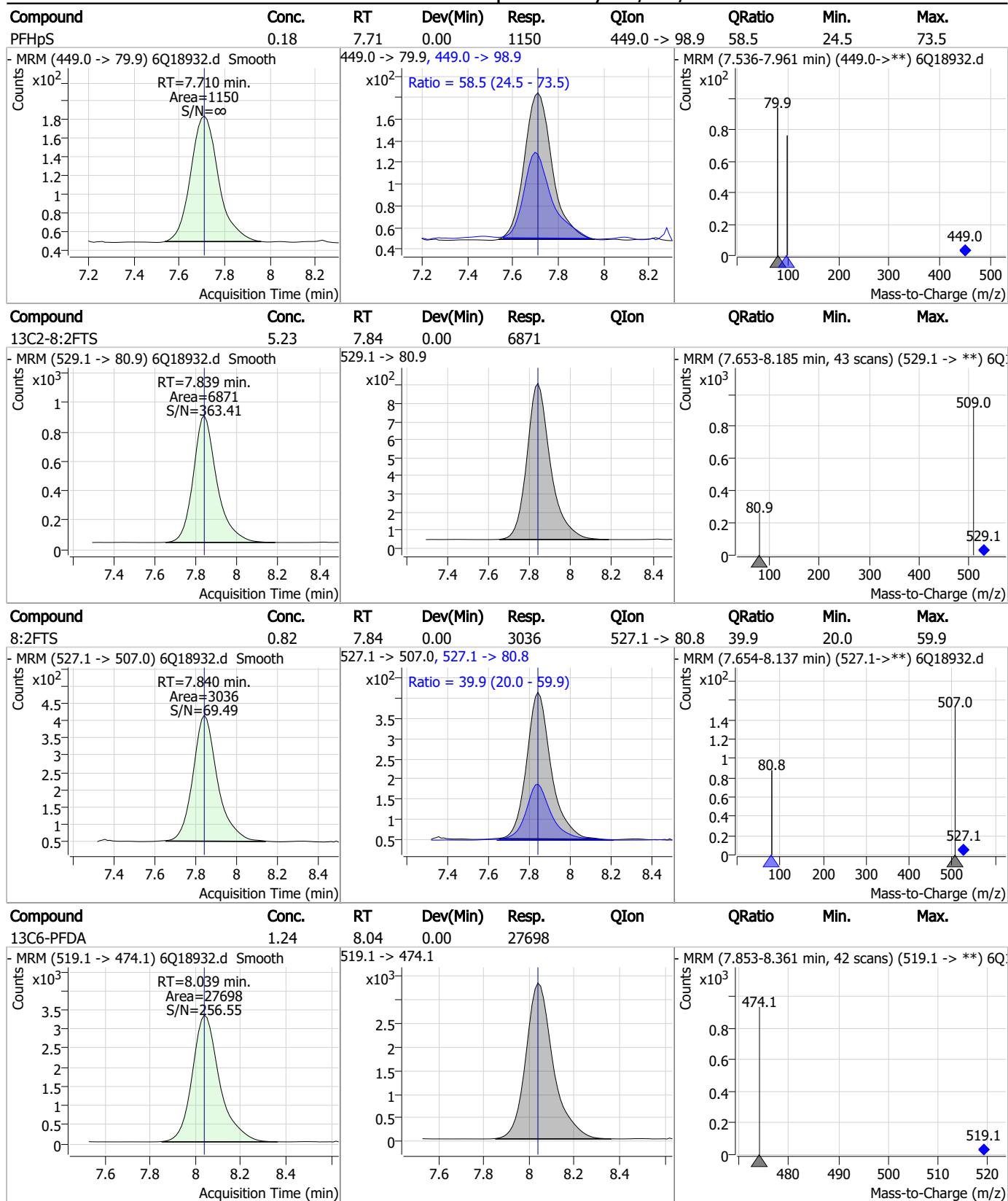


Perfluorinated Compounds by LC/MS/MS



7.7.18 7

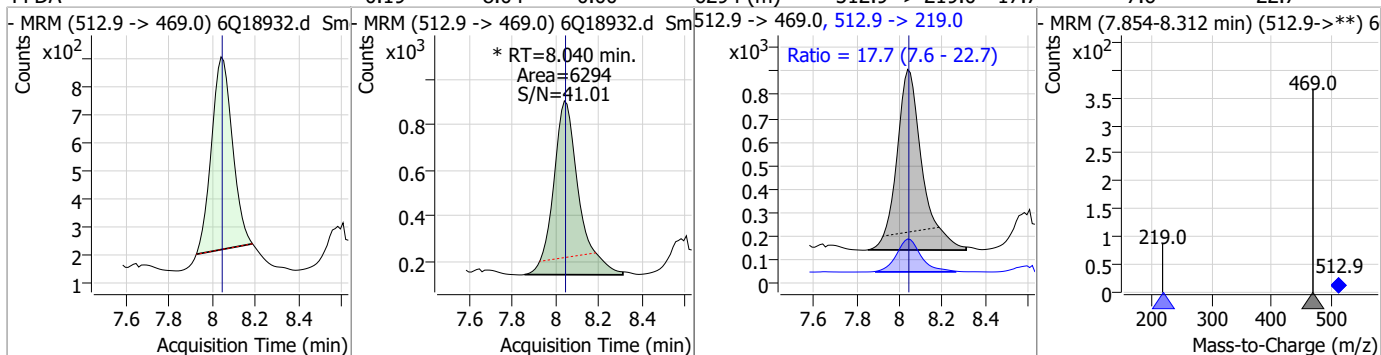
Perfluorinated Compounds by LC/MS/MS



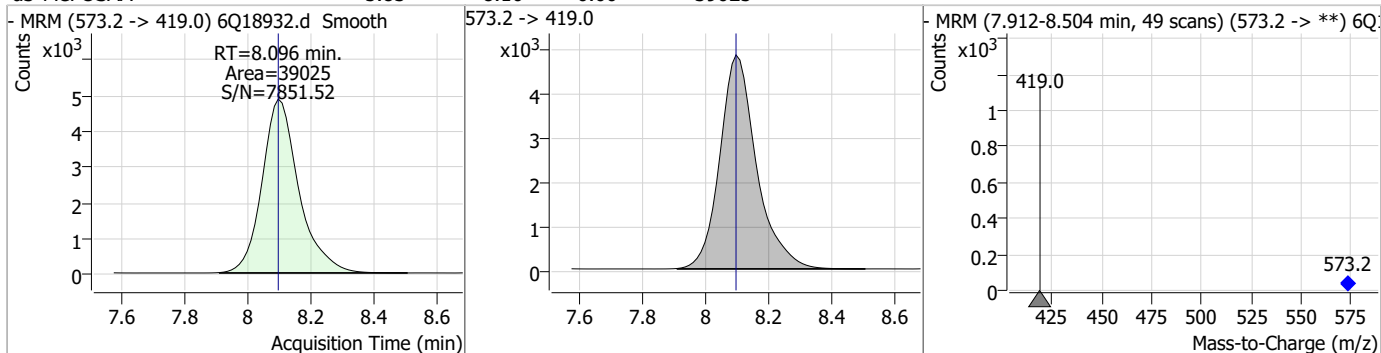
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Perfluorinated Compounds by LC/MS/MS

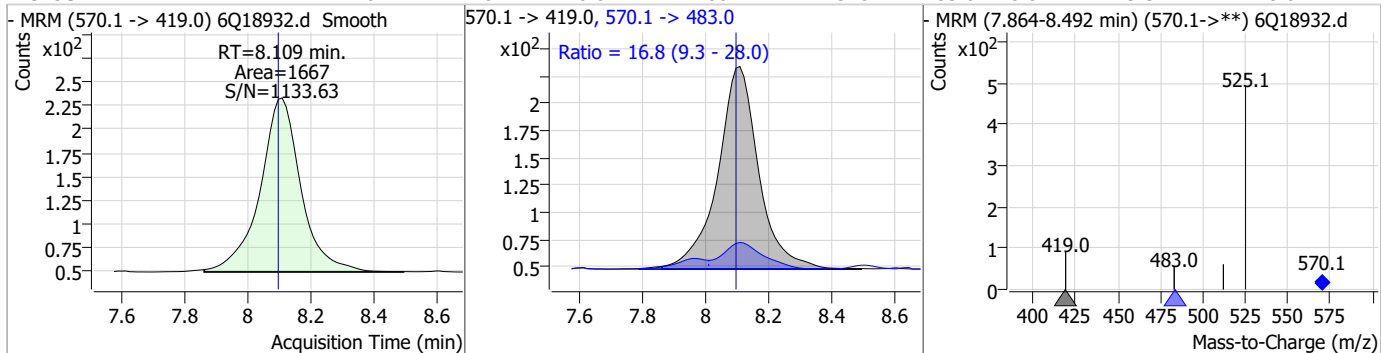
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.19	8.04	0.00	6294 (m)	512.9 -> 219.0	17.7	7.6	22.7



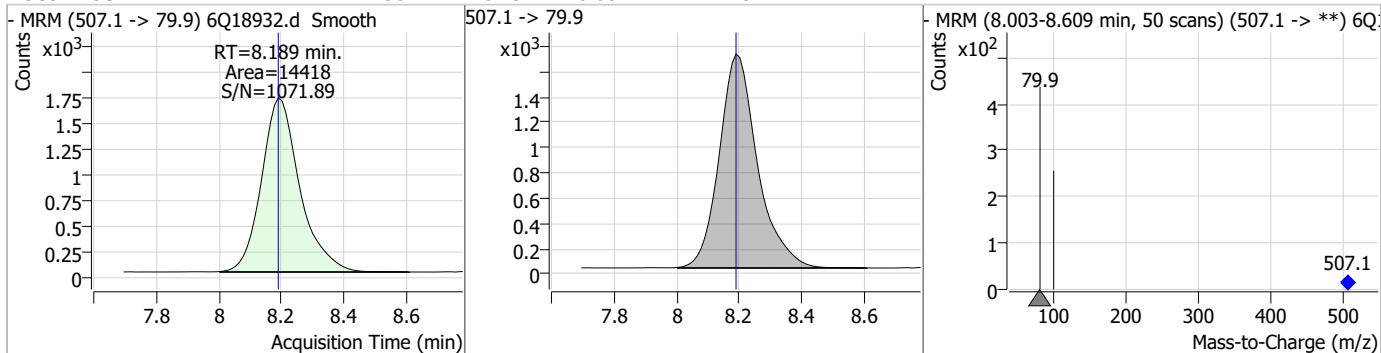
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.83	8.10	0.00	39025				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.21	8.11	0.01	1667	570.1 -> 483.0	16.8	9.3	28.0



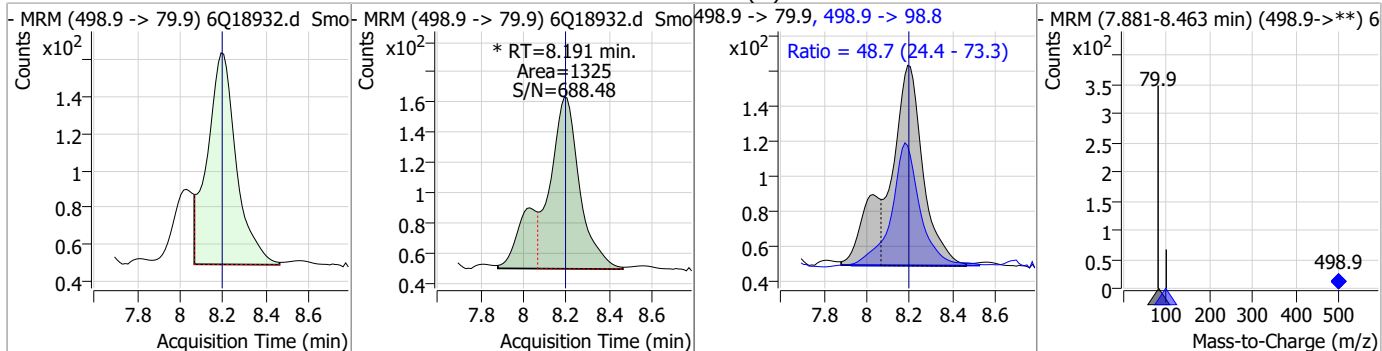
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.56	8.19	0.00	14418				



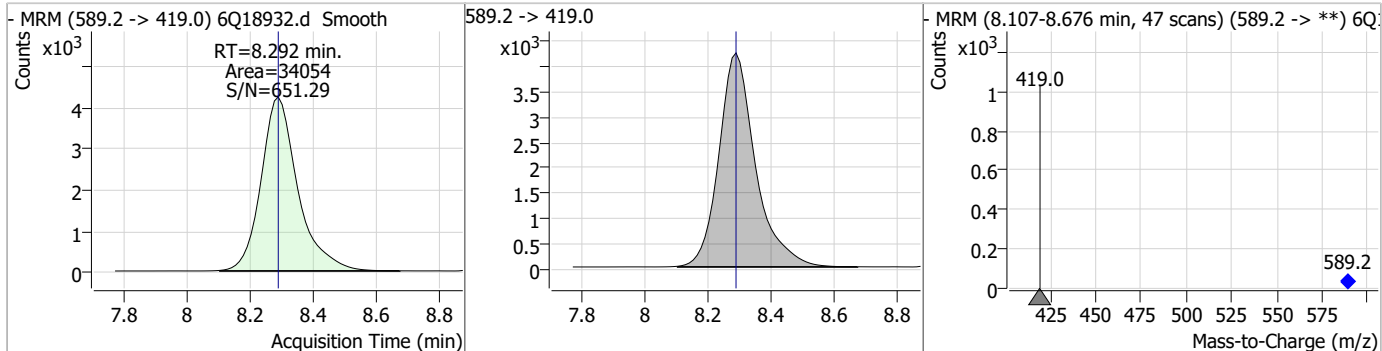
7.7.18
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Perfluorinated Compounds by LC/MS/MS

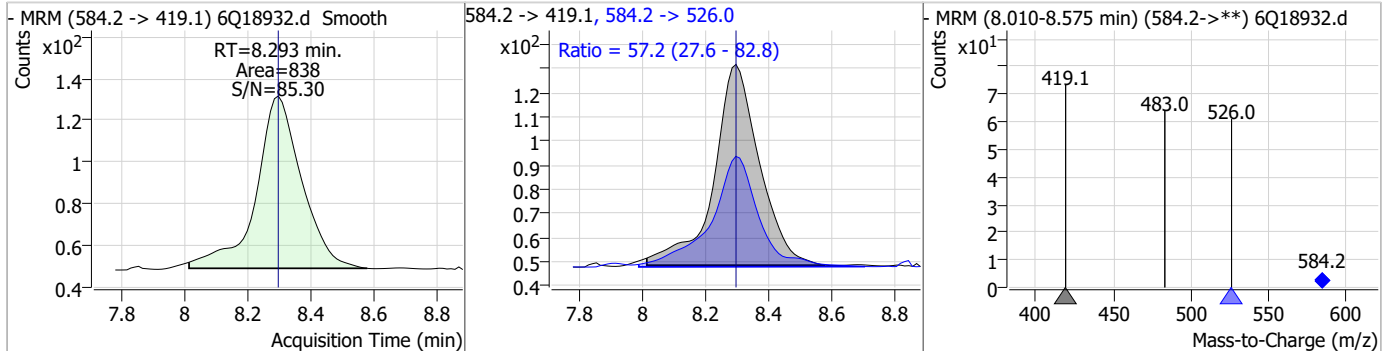
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	0.20	8.19	0.00	1325 (m)	498.9 -> 98.8	48.7	24.4	73.3



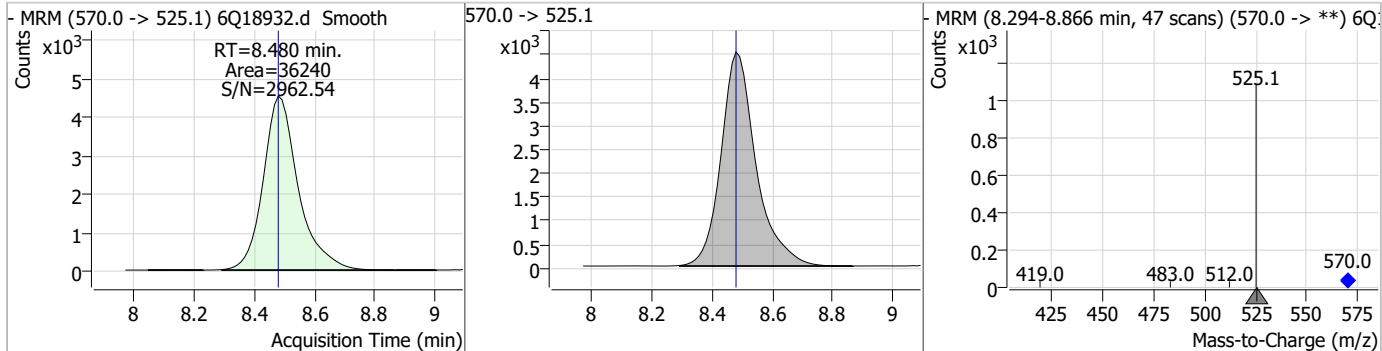
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.67	8.29	0.00	34054				



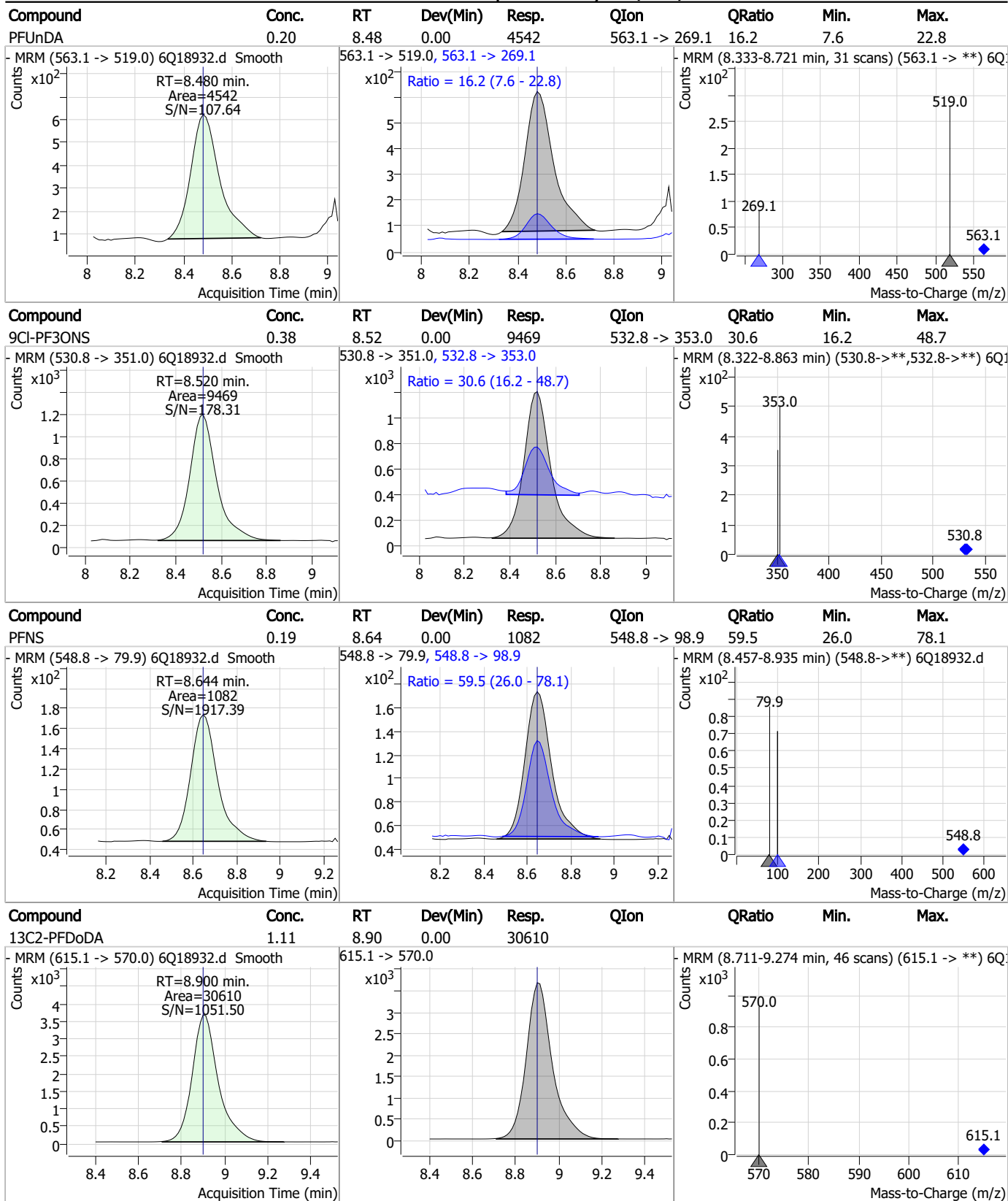
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	0.18	8.29	0.00	838	584.2 -> 526.0	57.2	27.6	82.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.24	8.48	0.00	36240				

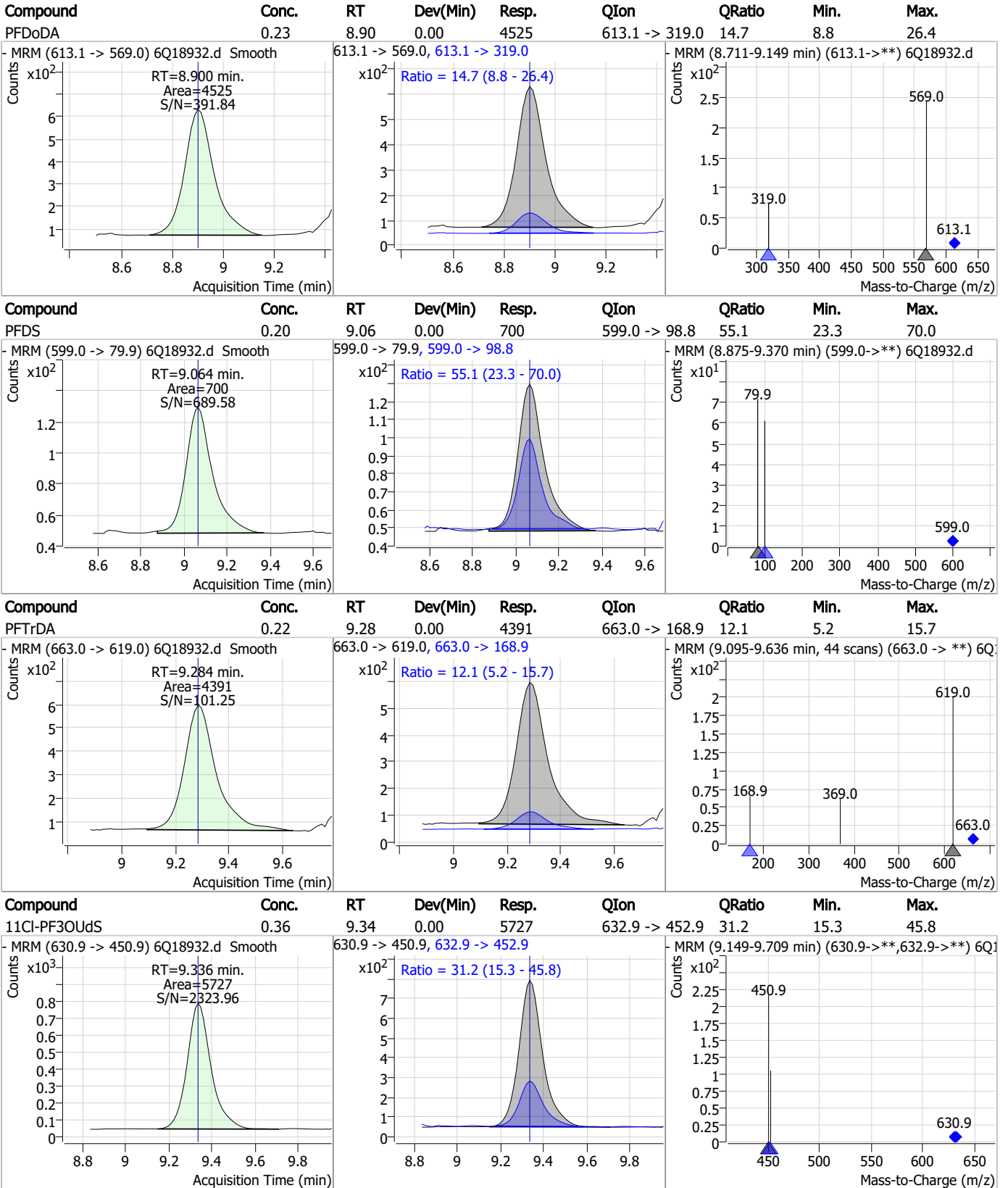


Perfluorinated Compounds by LC/MS/MS



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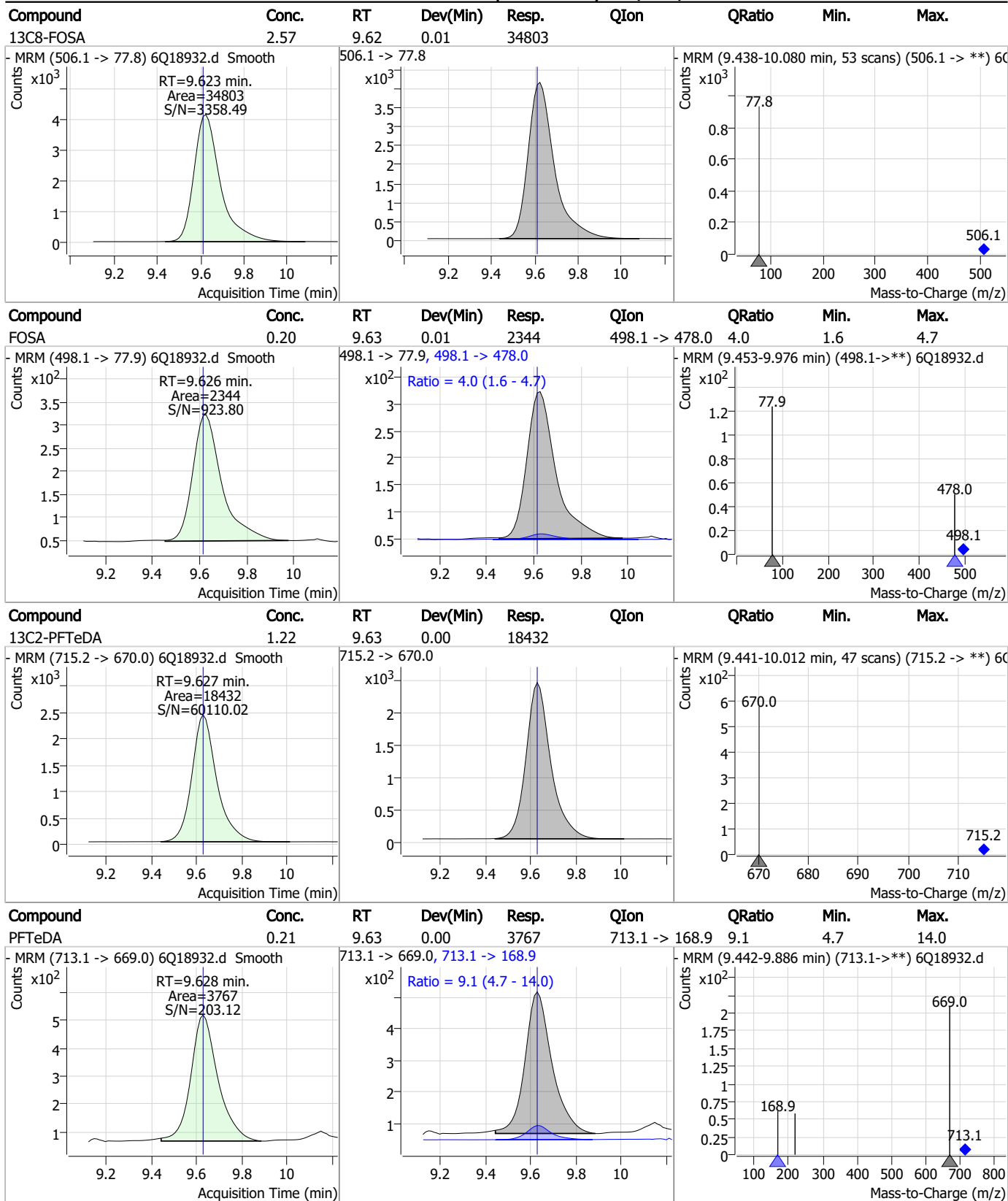
Perfluorinated Compounds by LC/MS/MS



7.7.18 7



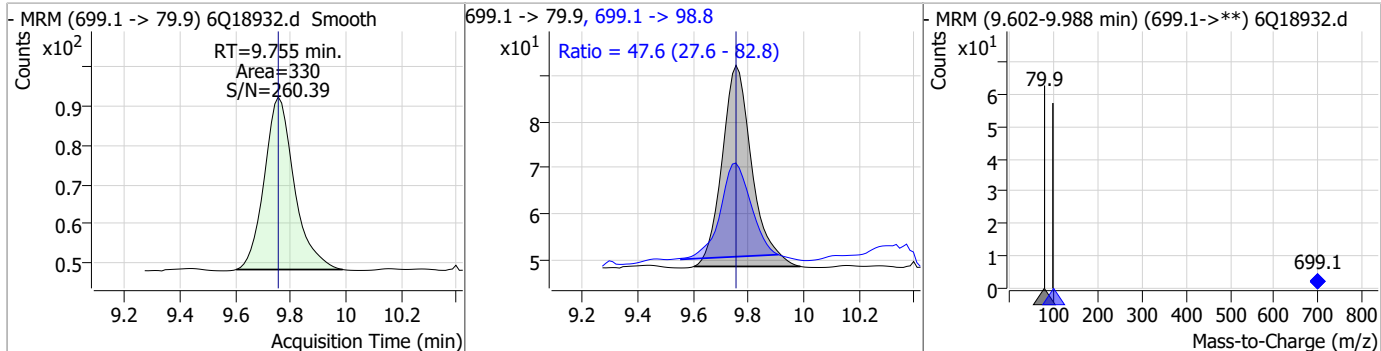
Perfluorinated Compounds by LC/MS/MS



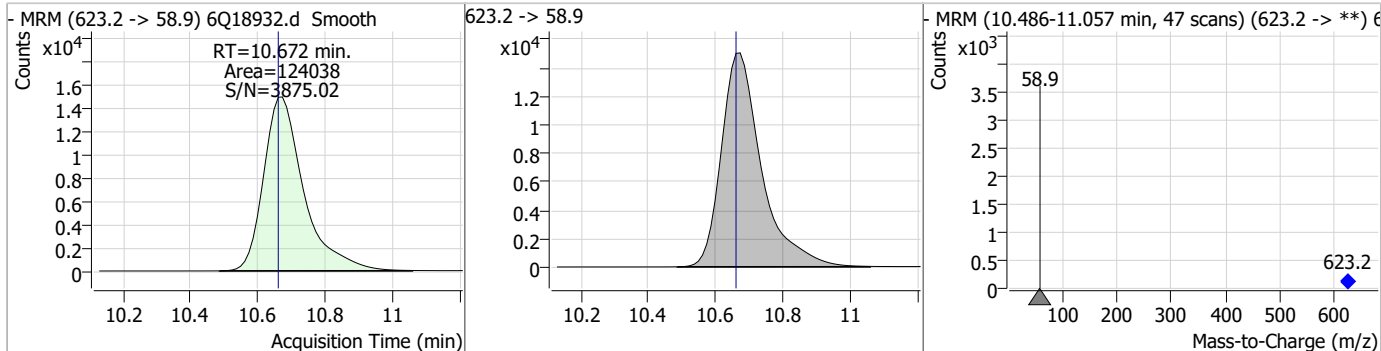
7.7.18 7

Perfluorinated Compounds by LC/MS/MS

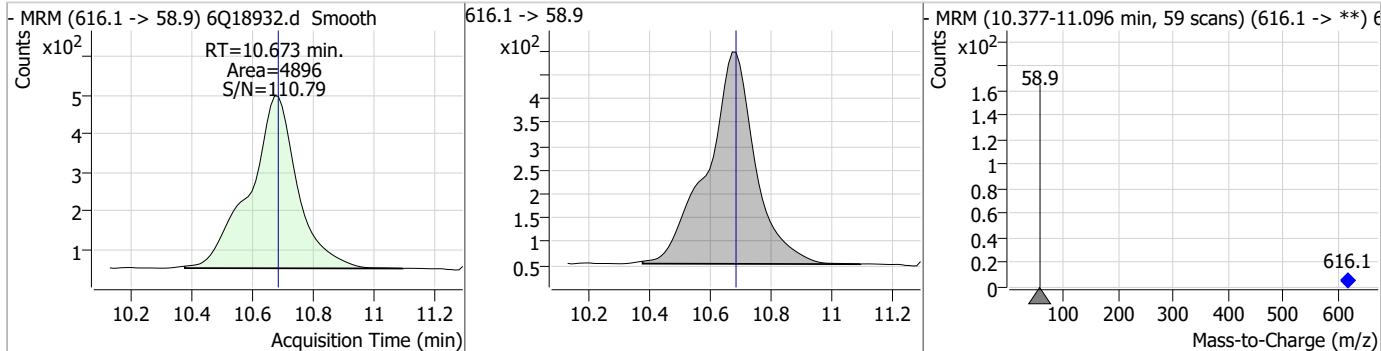
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	0.20	9.75	0.00	330	699.1 -> 98.8	47.6	27.6	82.8



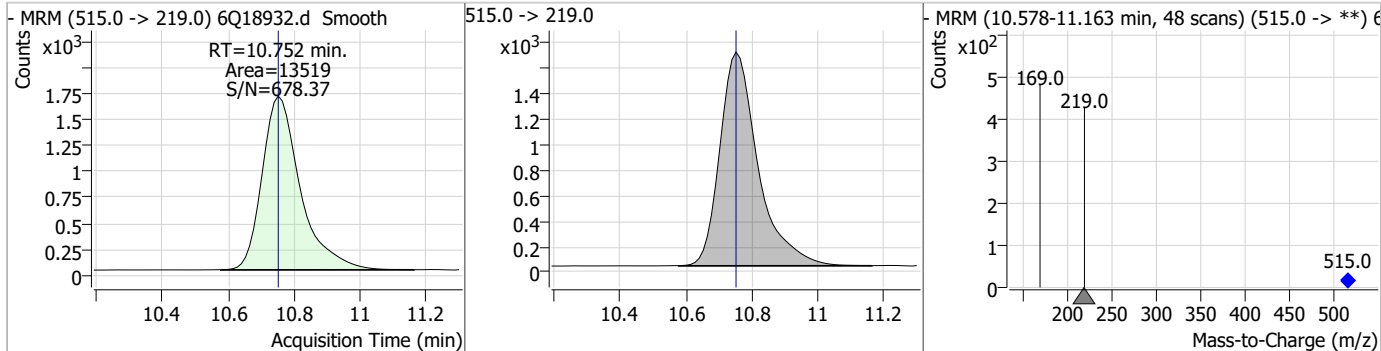
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.59	10.67	0.01	124038				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	1.02	10.67	-0.01	4896				



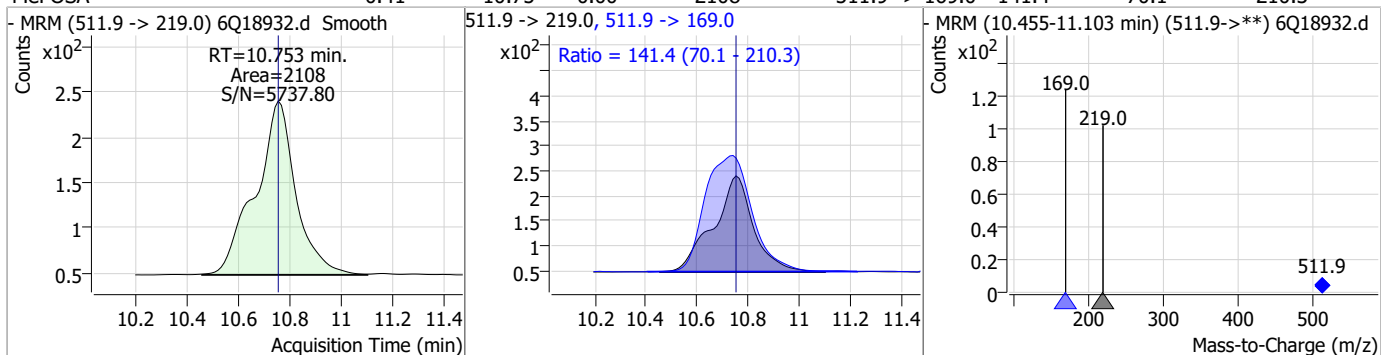
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.57	10.75	0.00	13519				



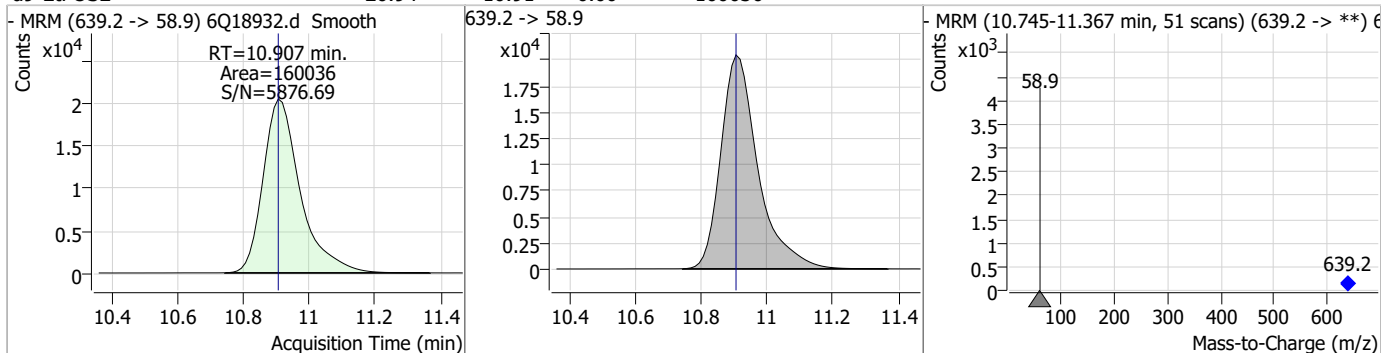
7.7.18
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Perfluorinated Compounds by LC/MS/MS

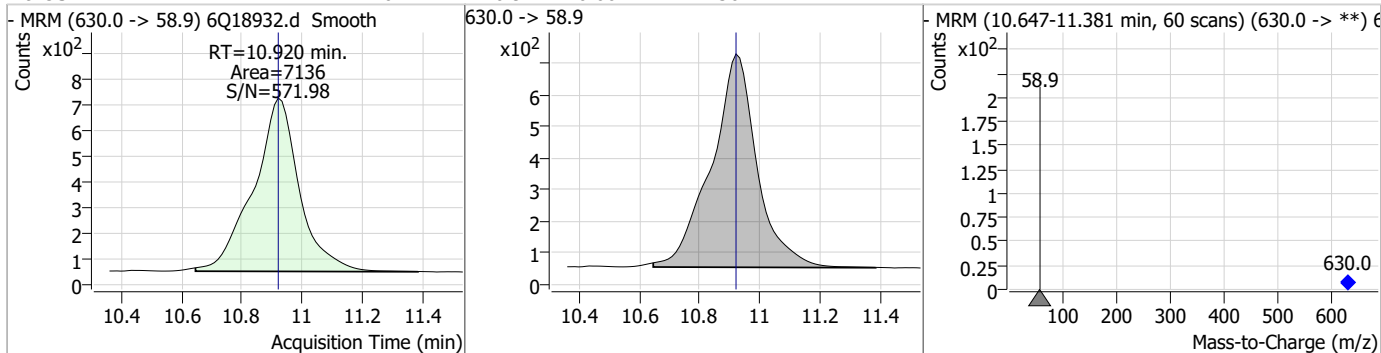
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOFA	0.41	10.75	0.00	2108	511.9 -> 169.0	141.4	70.1	210.3



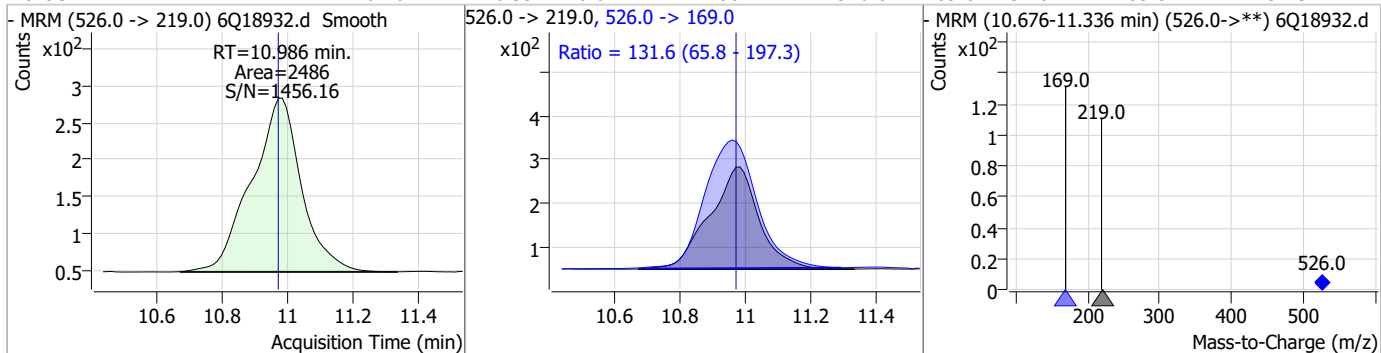
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.94	10.91	0.00	160036				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	1.02	10.92	0.00	7136				

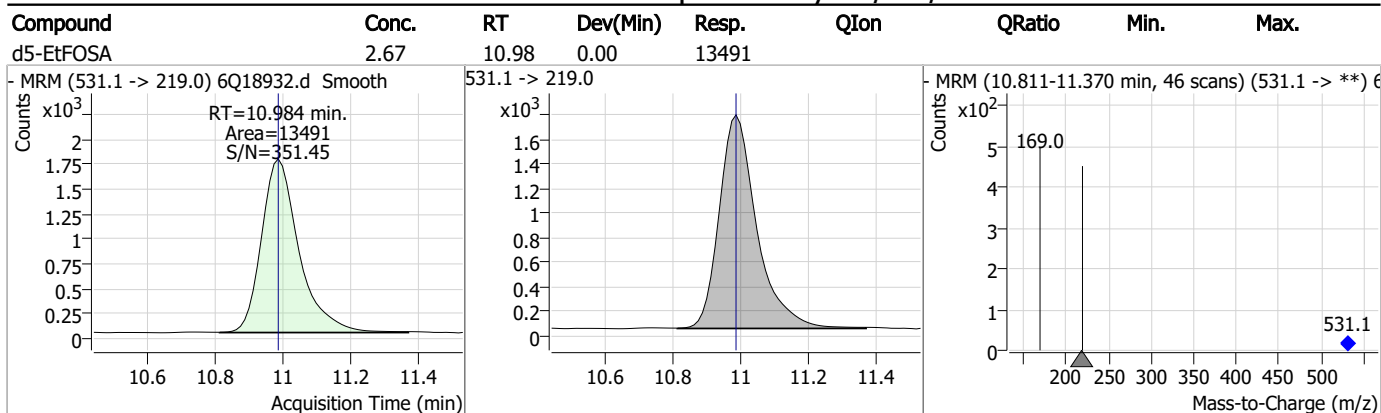


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOFA	0.40	10.99	0.01	2486	526.0 -> 169.0	131.6	65.8	197.3



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q283-CC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18932.D Analyst approved: 06/08/23 12:32 Martha Valls
Injection Time: 06/07/23 11:09 Supervisor approved: 06/09/23 13:50 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak
Perfluorodecanoic acid	335-76-2		8.04	Poor instrument integration
Perfluorooctanesulfonic acid	1763-23-1		8.19	Split peak

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Perfluorinated Compounds by LC/MS/MS

```

Data File       : 6Q18942.d
Operator        : marthav
Acq. Method     : 1633full.m
Acq. Date-Time  : 6/7/2023 1:34:08 PM
Sample Name     : cc282-4
Vial            : P1-A5
DA Method File  : 1633_060623_S6Q282.quantmethod.xml
Batch Name      : s6q283.batch.bin
Sample Information : OP96663,S6Q283,500,,,5.0,1,water
    
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Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	198549	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	66151	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	71135	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	67396	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	103535	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	48248	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	29100	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	40379	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	34299	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18382	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	36958	2.50 µg/L	0.000
M3-PFBS	5.384	302.1 -> 79.9	26097	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	16185	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15194	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	5212	5.00 µg/L	-0.012
M2-6:2FTS	6.838	429.1 -> 80.9	7374	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7411	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	39400	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	43575	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	36325	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	136990	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	175014	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	14049	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14428	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20453	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	83372	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11908	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	106409	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	36052	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	57580	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	67387	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	5212	5.32 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.4%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7374	5.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 104.8%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7411	5.29 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.7%		
13C2-PFDoDA	8.900	615.1 -> 570.0	34299	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.1%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18382	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.8%		
13C3-PFBS	5.384	302.1 -> 79.9	26097	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.7%		
13C3-PFHxS	7.155	402.1 -> 79.9	16185	2.52 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFBA	2.860	216.8 -> 171.9	198549	10.04 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C4-PFHpA	6.420	367.1 -> 322.0	67396	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.4%	
13C5-PFHxA	5.466	318.0 -> 273.0	71135	2.49 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C5-PFPeA	4.272	268.3 -> 223.0	66151	5.06 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C6-PFDA	8.039	519.1 -> 474.1	29100	1.36 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	40379	1.44 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 115.5%	
13C8-FOSA	9.611	506.1 -> 77.8	36958	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C8-PFOA	7.051	421.1 -> 376.0	103535	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C8-PFOS	8.189	507.1 -> 79.9	15194	2.45 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.9%	
13C9-PFNA	7.569	472.1 -> 427.0	48248	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.9%	
d3-MeFOSAA	8.096	573.2 -> 419.0	39400	5.35 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.0%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	43575	10.26 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 102.6%	
d3-MeFOSA	10.752	515.0 -> 219.0	14428	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
d5-EtFOSAA	8.292	589.2 -> 419.0	36325	5.50 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.0%	
d7-MeFOSE	10.672	623.2 -> 58.9	136990	26.68 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	175014	26.77 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 107.1%	
d5-EtFOSA	10.984	531.1 -> 219.0	14049	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.1%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	68242	9.56 µg/L	97
		327.1 -> 80.9	26701		
6:2FTS	6.838	427.1 -> 407.0	68249	9.77 µg/L	100
		427.1 -> 80.9	23121		
8:2FTS	7.840	527.1 -> 507.0	39138	9.85 µg/L	97
		527.1 -> 80.8	14854		
EtFOSAA	8.293	584.2 -> 419.1	12102	2.44 µg/L	95
		584.2 -> 526.0	6254		
FOSA	9.614	498.1 -> 77.9	30530	2.45 µg/L	100
		498.1 -> 478.0	924		
MeFOSAA	8.097	570.1 -> 419.0	18713	2.38 µg/L	93
		570.1 -> 483.0	4039		
PFBA	2.856	212.8 -> 168.9	64048	9.90 µg/L	100
PFBS	5.385	298.7 -> 79.9	19959	2.21 µg/L	99
		298.7 -> 98.8	7665		
PFDA	8.040	512.9 -> 469.0	81189	2.32 µg/L	98
		512.9 -> 219.0	12976		
PFDODA	8.900	613.1 -> 569.0	53939	2.41 µg/L	96
		613.1 -> 319.0	8576		
PFDS	9.064	599.0 -> 79.9	8721	2.40 µg/L	99

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	4124		
PFHpA	6.420	363.1 -> 319.0	71144	2.49 µg/L	99
		363.1 -> 169.0	11764		
PFHpS	7.710	449.0 -> 79.9	16920	2.45 µg/L	99
		449.0 -> 98.9	8452		
PFHxA	5.469	313.0 -> 269.0	54922	2.35 µg/L	100
		313.0 -> 118.9	2955		
PFHxS	7.156	398.7 -> 79.9	16478	2.17 µg/L	100
		398.7 -> 98.9	7869		
PFNA	7.570	463.0 -> 419.0	84647	2.47 µg/L	94
		463.0 -> 219.0	14846		
PFNS	8.644	548.8 -> 79.9	14942	2.47 µg/L	99
		548.8 -> 98.9	7665		
PFOA	7.052	413.0 -> 369.0	107626	2.47 µg/L	97
		413.0 -> 169.0	18008		
PFOS	8.191	498.9 -> 79.9	16195	2.33 µg/L	100
		498.9 -> 98.8	7876		
PFPeA	4.274	263.0 -> 219.0	76030	4.87 µg/L	100
PFPeS	6.459	349.1 -> 79.9	16834	2.31 µg/L	99
		349.1 -> 98.9	7797		
PFTeDA	9.628	713.1 -> 669.0	46394	2.56 µg/L	98
		713.1 -> 168.9	3901		
PFTrDA	9.284	663.0 -> 619.0	56395	2.47 µg/L	99
		663.0 -> 168.9	6101		
PFUnDA	8.480	563.1 -> 519.0	53310	2.13 µg/L	93
		563.1 -> 269.1	9567		
11CI-PF3OUdS	9.336	630.9 -> 450.9	77668	4.66 µg/L	99
		632.9 -> 452.9	23390		
9CI-PF3ONS	8.520	530.8 -> 351.0	123637	4.69 µg/L	99
		532.8 -> 353.0	39367		
ADONA	6.671	376.9 -> 250.9	277408	4.64 µg/L	98
		376.9 -> 84.8	77939		
HFPO-DA	5.832	284.9 -> 168.9	18391	5.05 µg/L	98
		284.9 -> 184.9	2307		
3:3FTCA	3.727	241.0 -> 177.0	13362	12.07 µg/L	99
		241.0 -> 117.0	1715		
5:3FTCA	6.137	341.0 -> 237.1	278182	61.75 µg/L	100
		341.0 -> 217.0	202173		
7:3FTCA	7.535	441.0 -> 316.9	190542	61.48 µg/L	99
		441.0 -> 336.9	428519		
EtFOSA	10.986	526.0 -> 219.0	31879	4.92 µg/L	95
		526.0 -> 169.0	43984		
EtFOSE	10.920	630.0 -> 58.9	94572	12.39 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	27474	5.00 µg/L	100
		511.9 -> 169.0	38513		
MeFOSE	10.673	616.1 -> 58.9	64278	12.12 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	4009	2.34 µg/L	96
		699.1 -> 98.8	2322		
NFDHA	5.348	295.0 -> 201.0	14140	5.04 µg/L	94
		295.0 -> 84.9	3904		
PFMBA	4.688	279.0 -> 85.1	53862	4.99 µg/L	100
PFMPA	3.401	229.0 -> 84.9	41666	5.06 µg/L	100
PFEESA	5.926	314.8 -> 134.9	134537	4.53 µg/L	100
		314.8 -> 82.9	4762		

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

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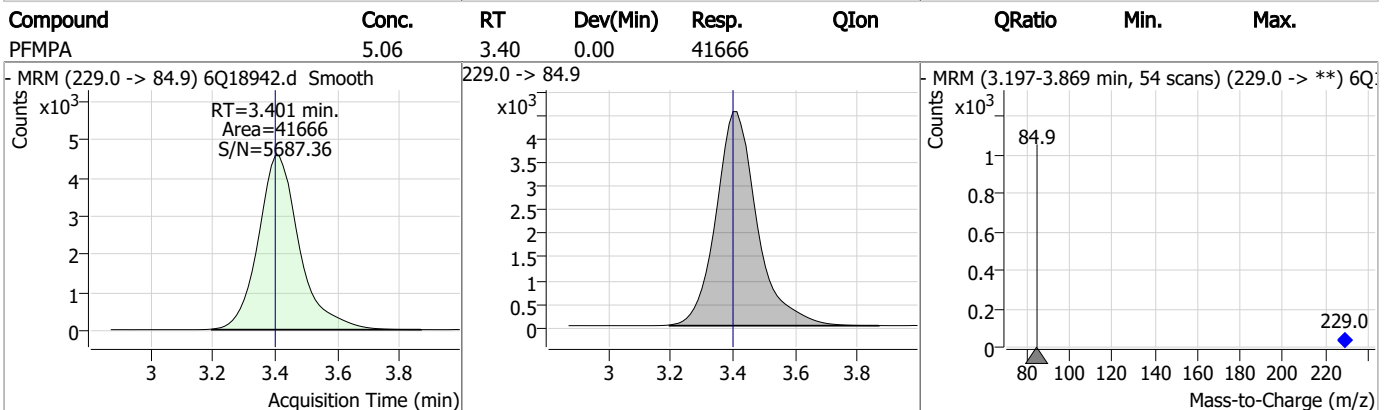
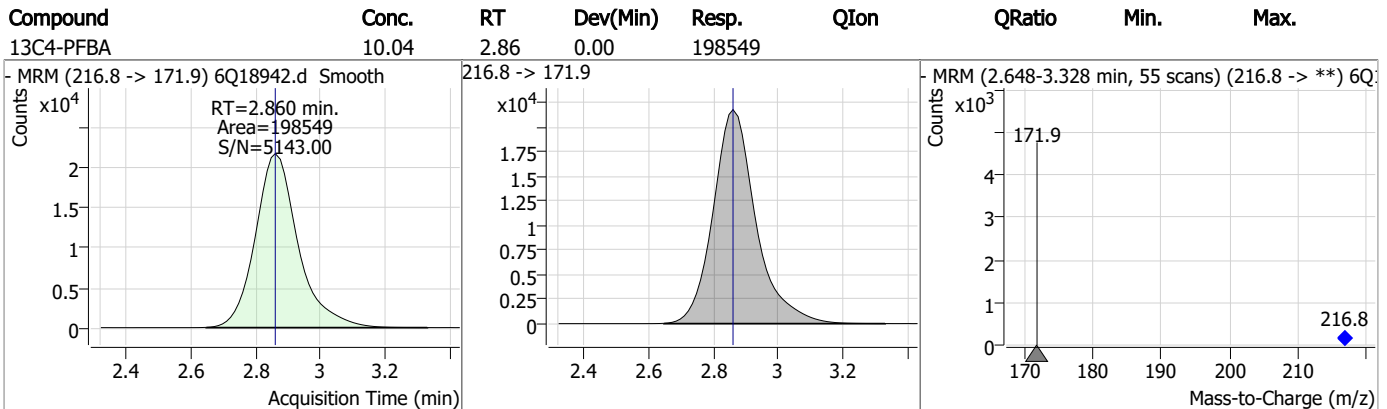
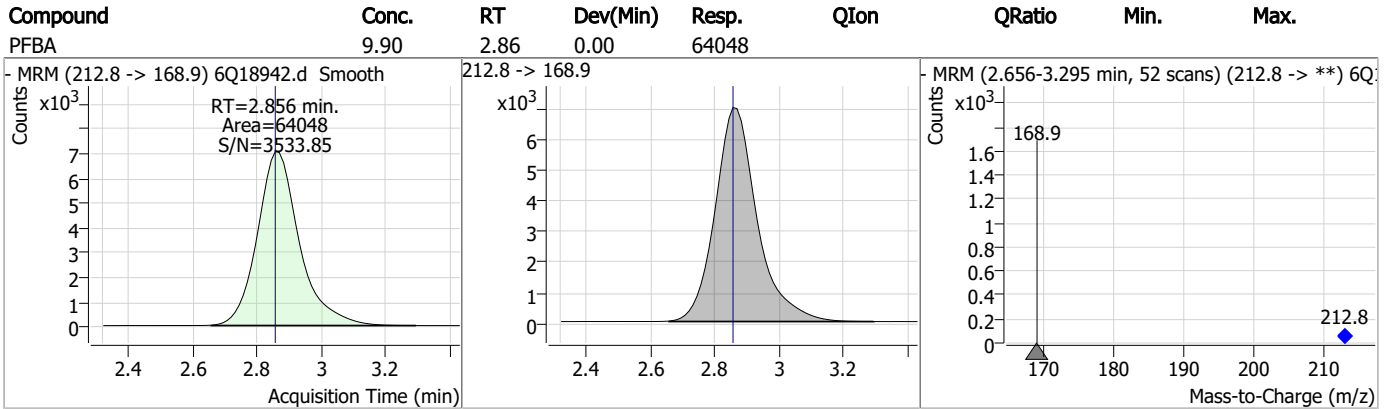
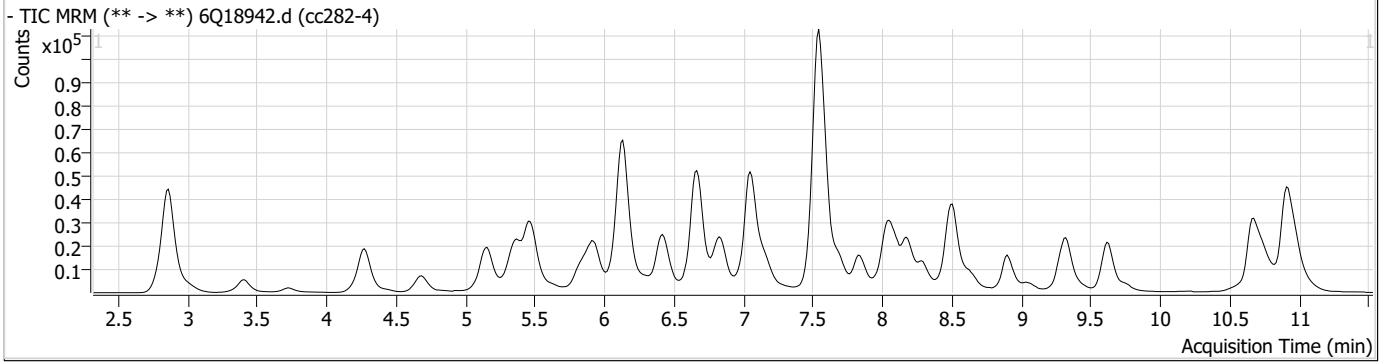
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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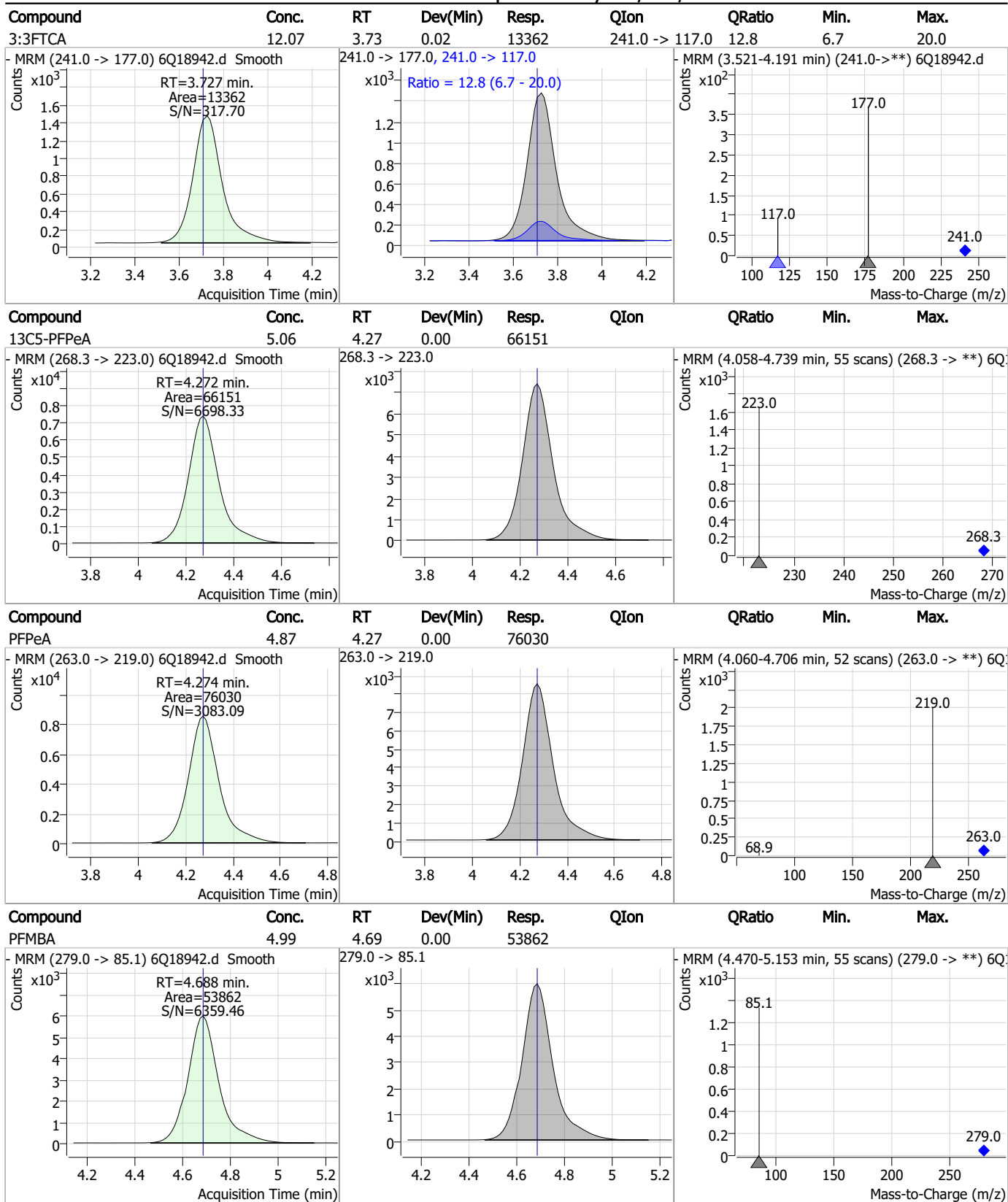
7.7.19

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Perfluorinated Compounds by LC/MS/MS



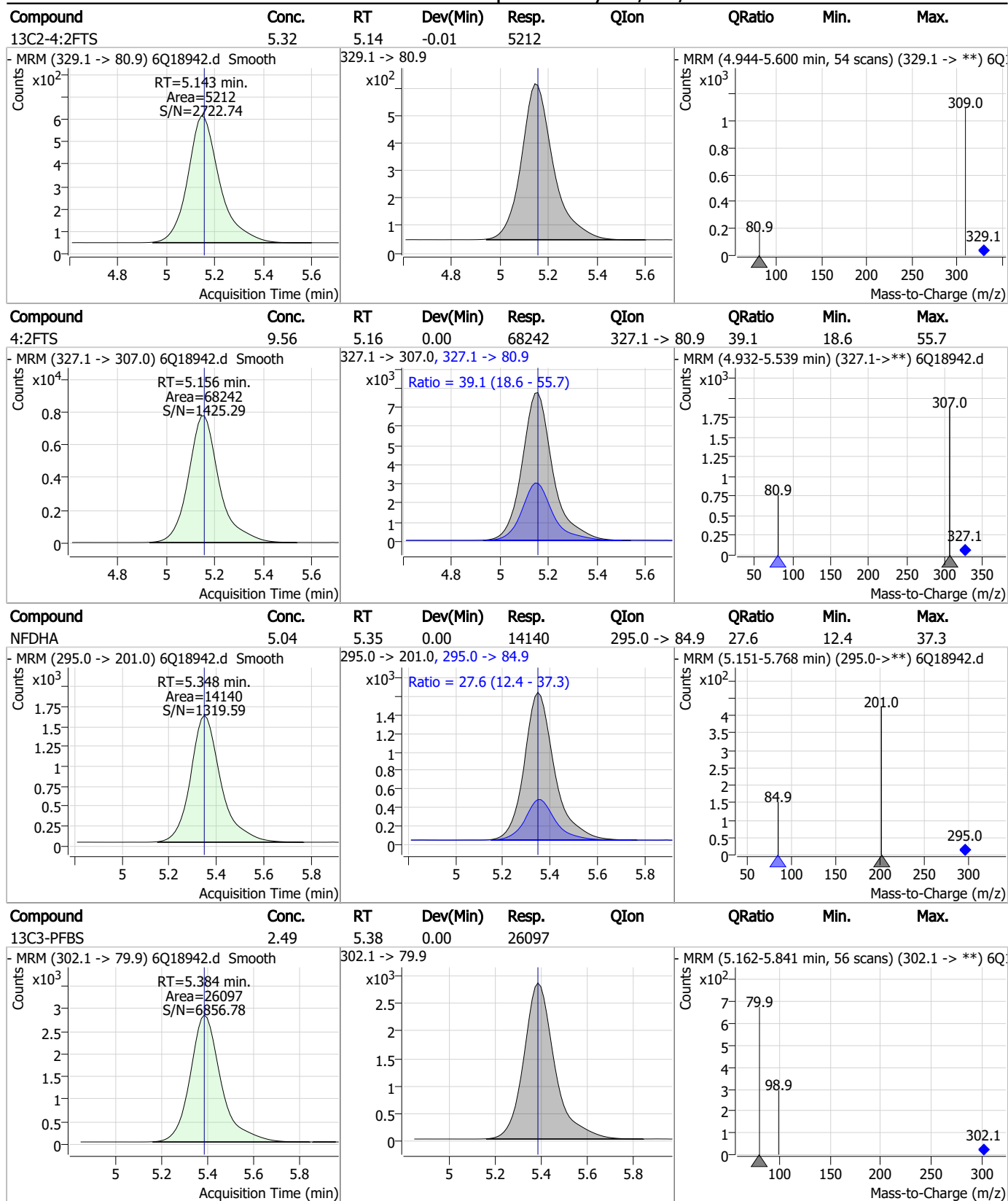
Perfluorinated Compounds by LC/MS/MS



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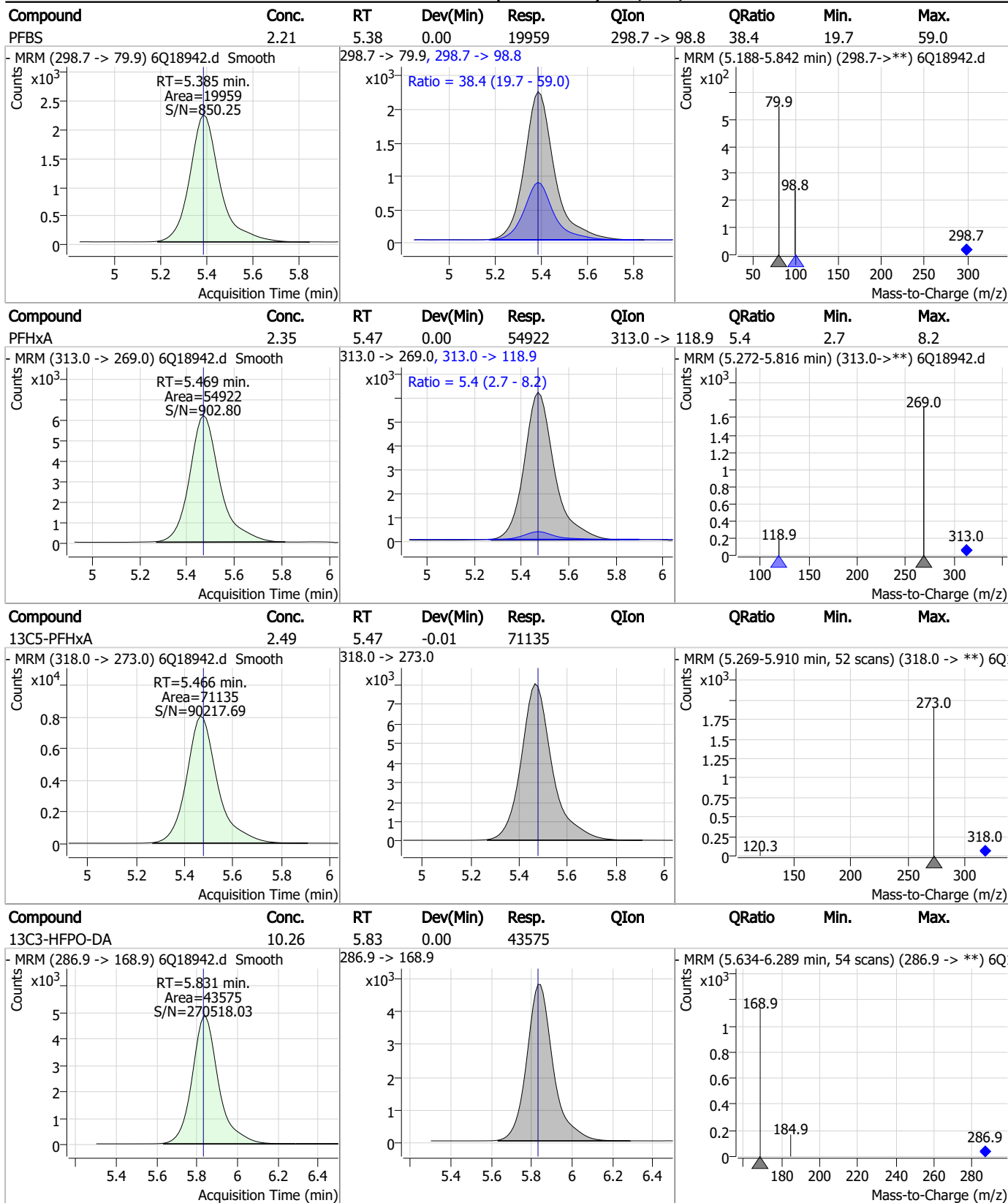
Perfluorinated Compounds by LC/MS/MS



7.7.19 7

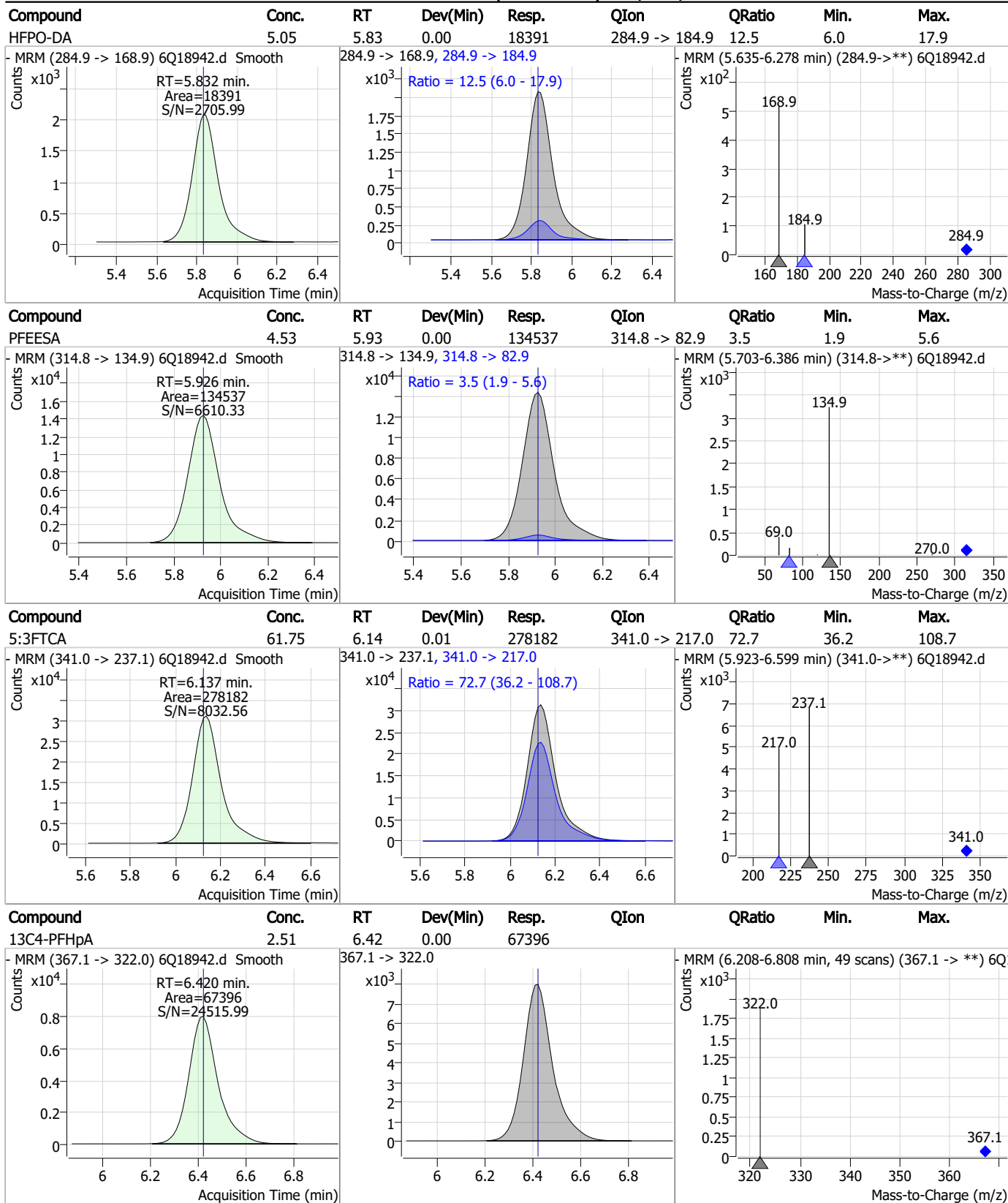


Perfluorinated Compounds by LC/MS/MS



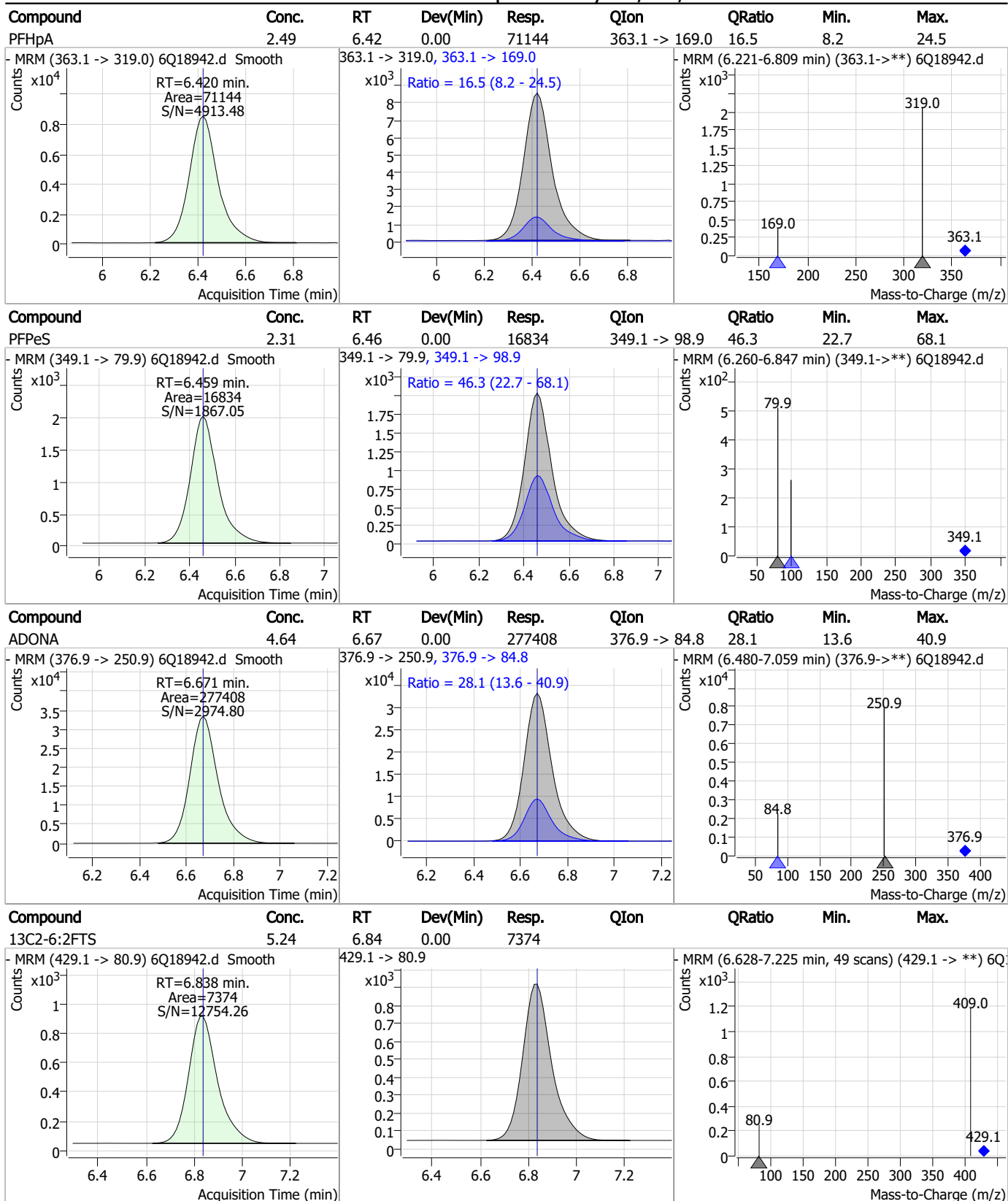
7.7.19 7

Perfluorinated Compounds by LC/MS/MS



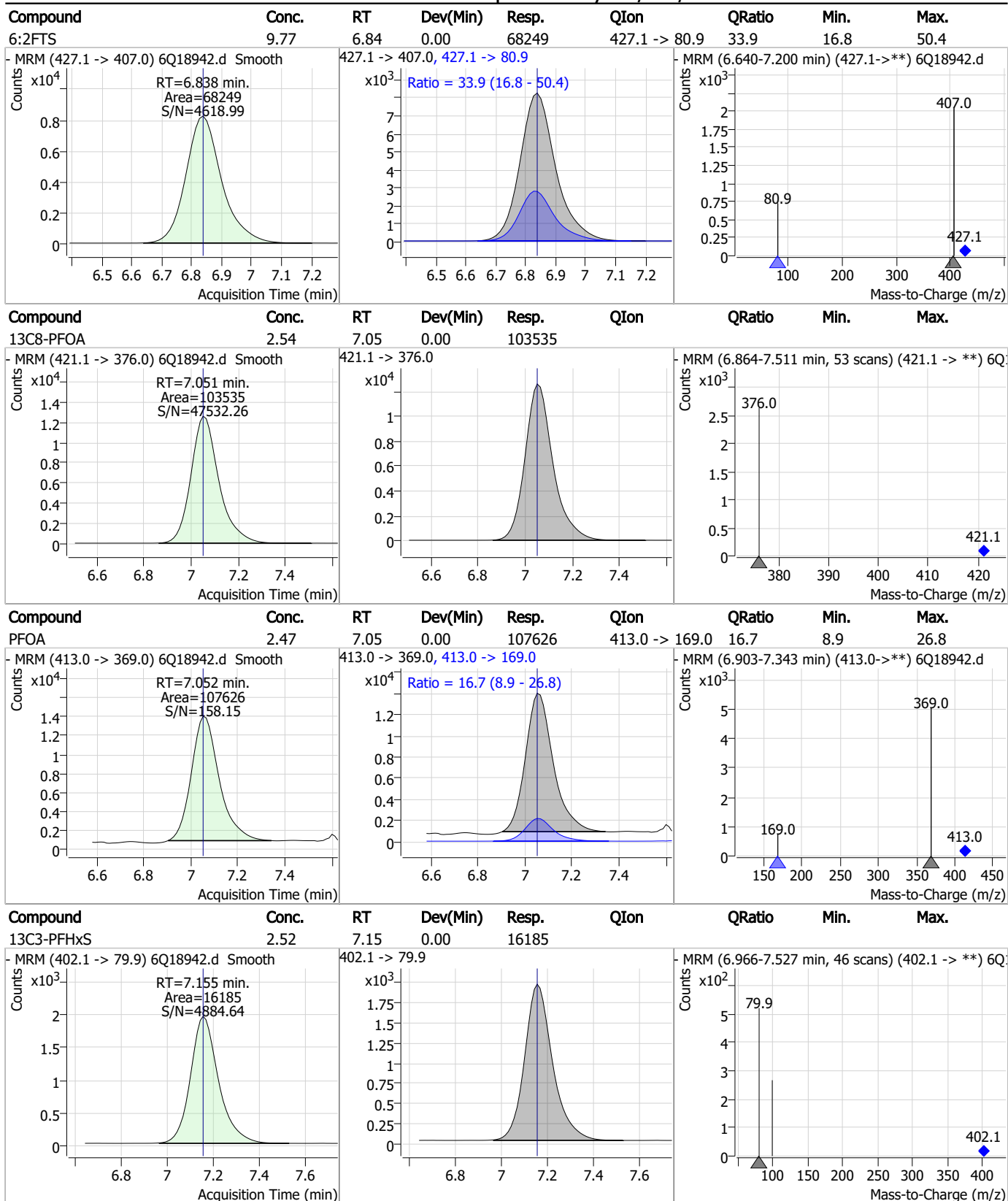
7.7.19 7

Perfluorinated Compounds by LC/MS/MS



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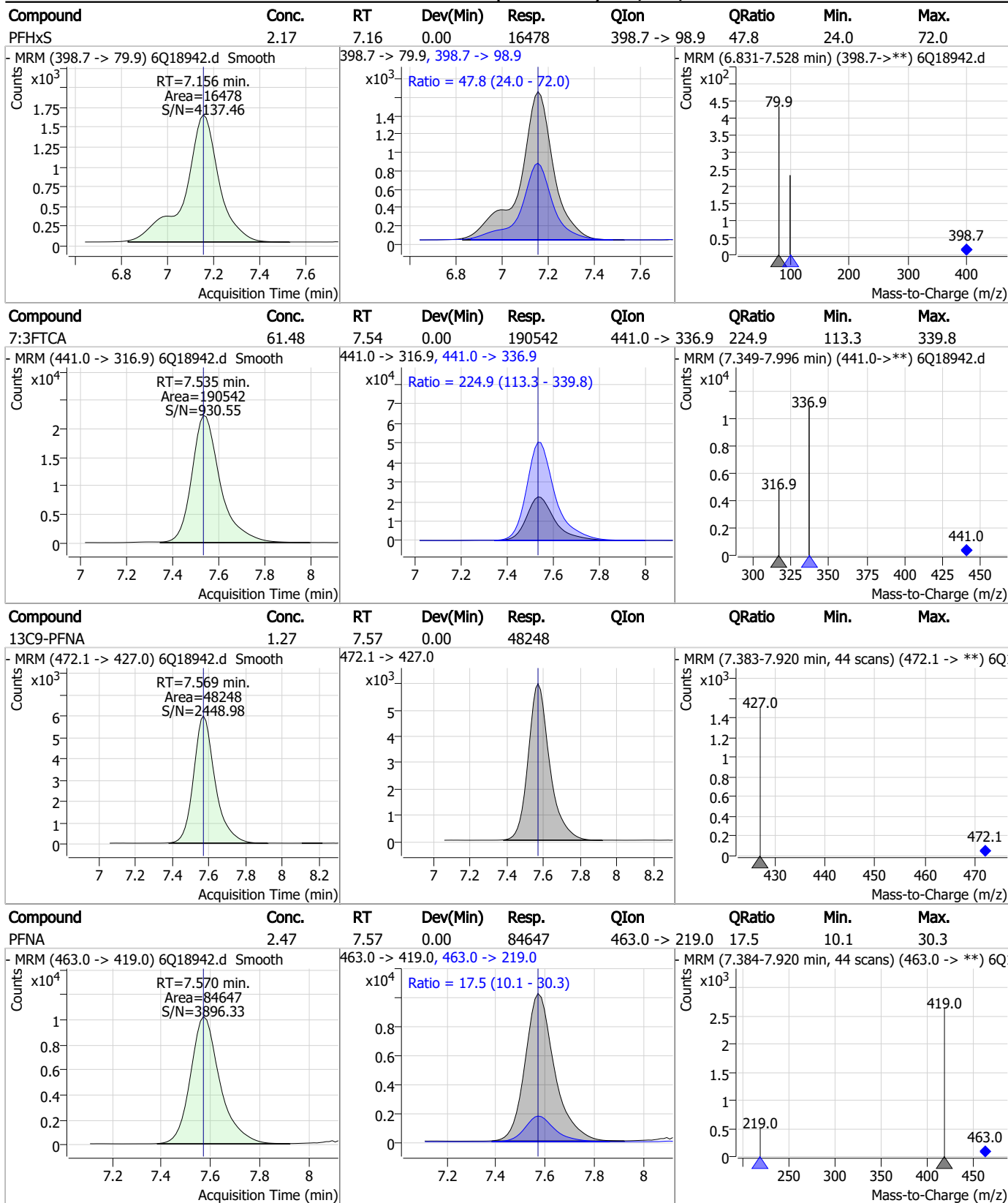
Perfluorinated Compounds by LC/MS/MS



7.7.19

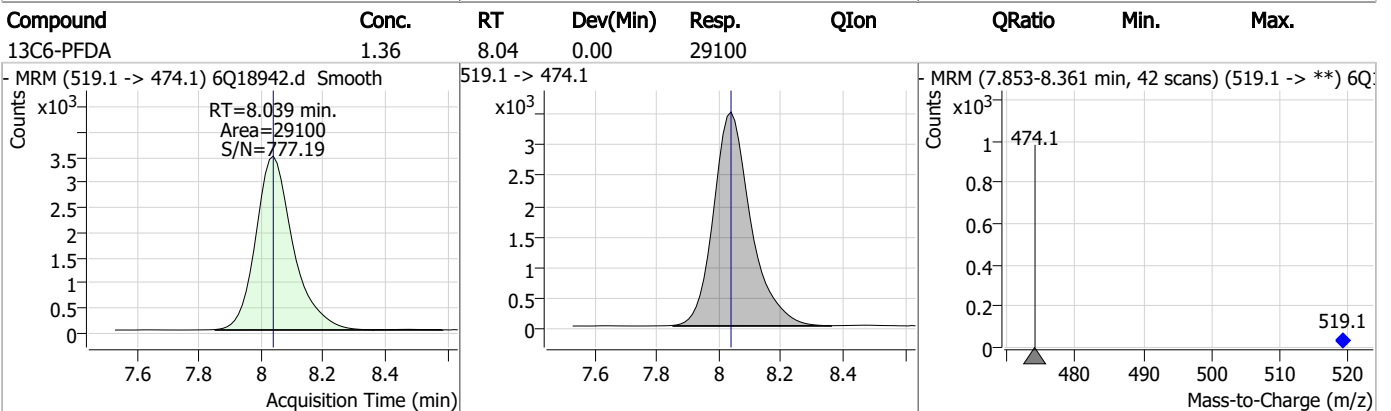
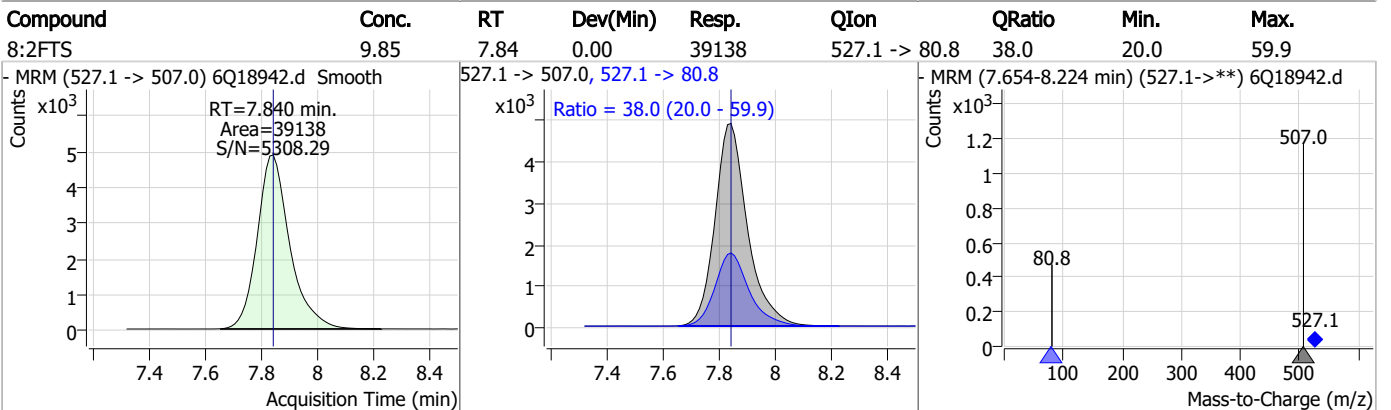
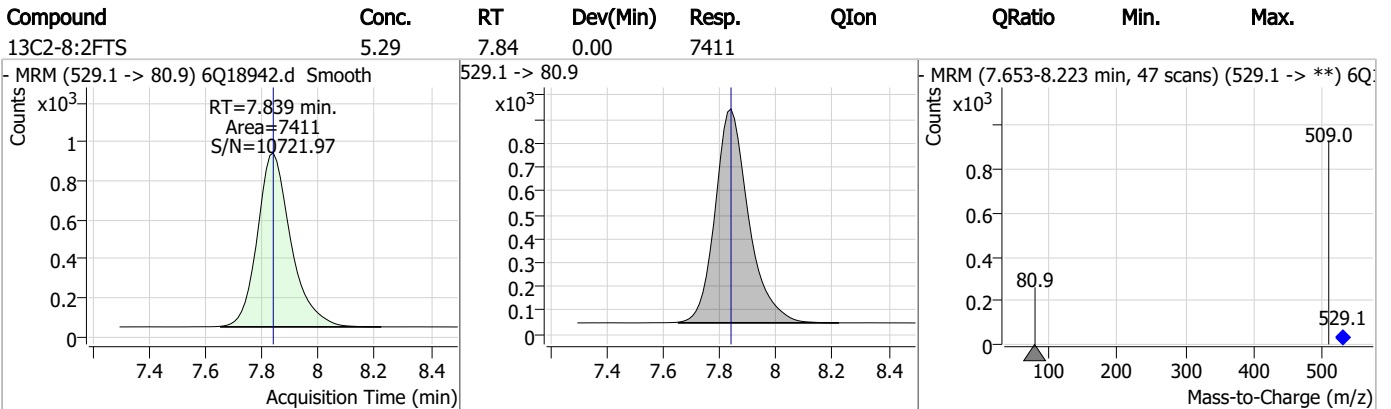
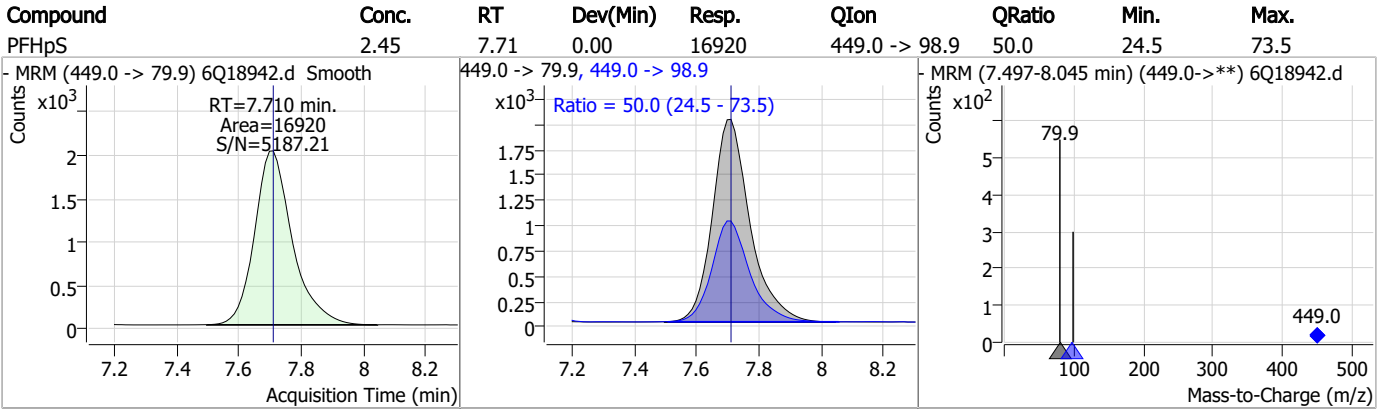
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Perfluorinated Compounds by LC/MS/MS



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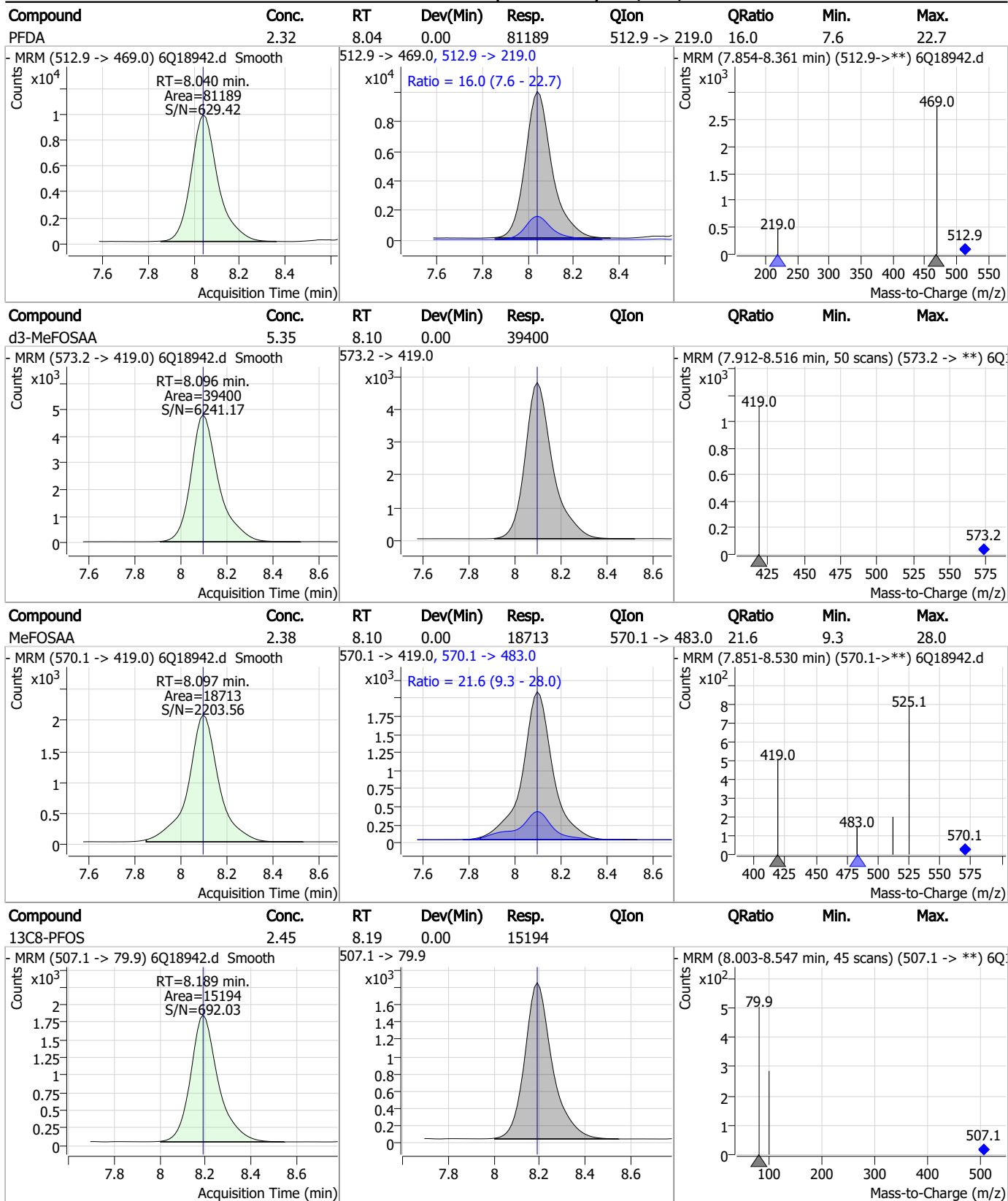
Perfluorinated Compounds by LC/MS/MS



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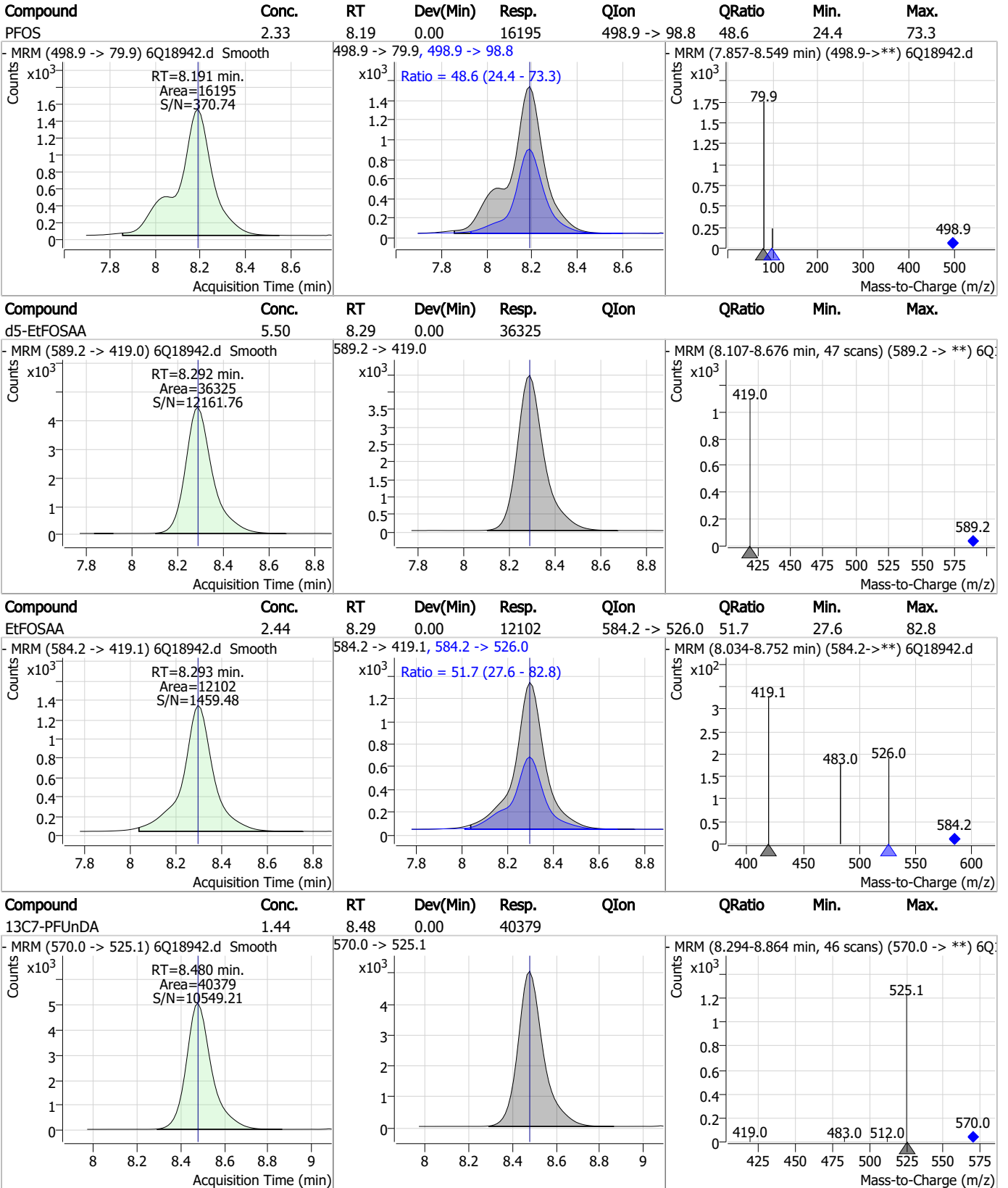
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

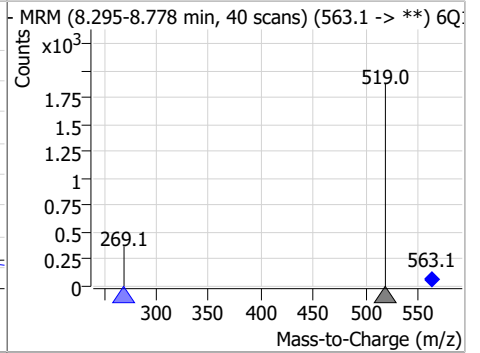
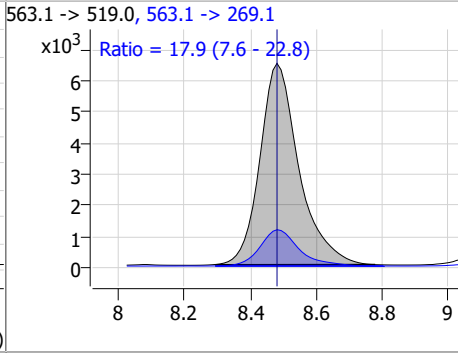
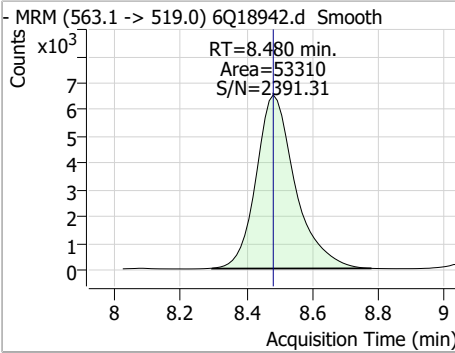


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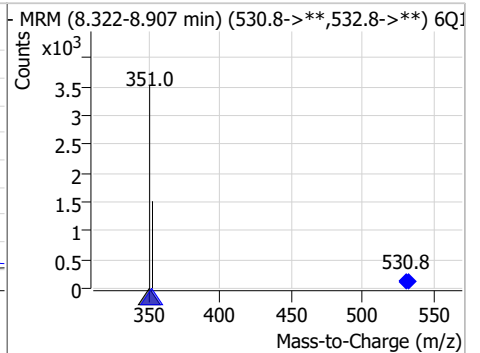
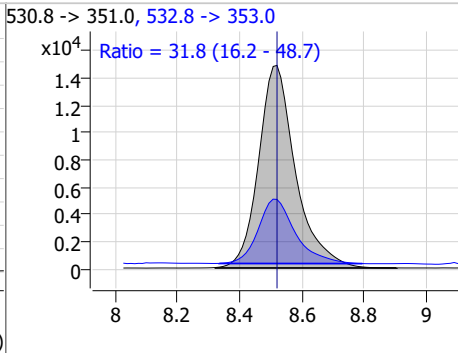
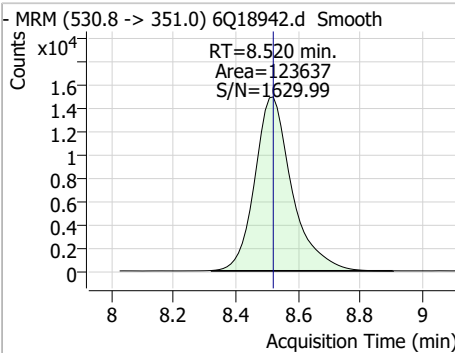


Perfluorinated Compounds by LC/MS/MS

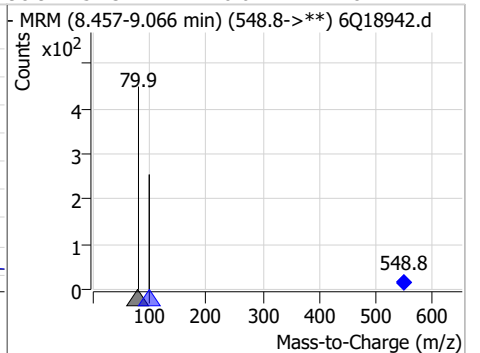
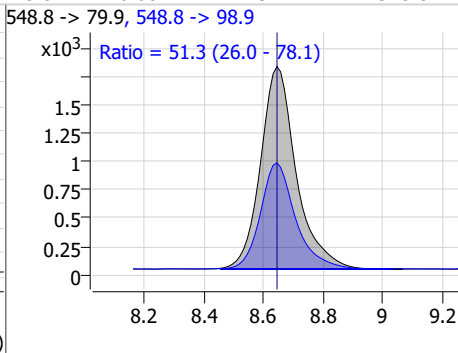
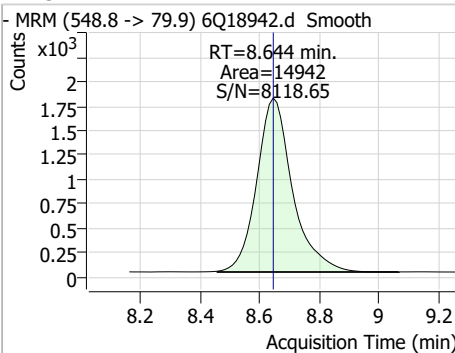
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.13	8.48	0.00	53310	563.1 -> 269.1	17.9	7.6	22.8



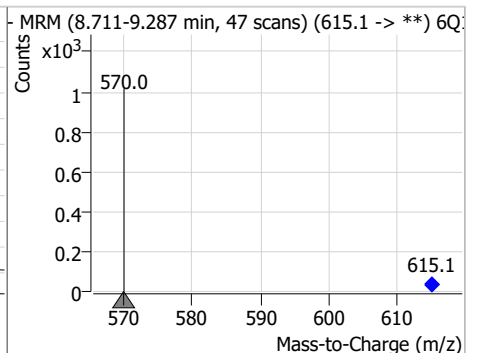
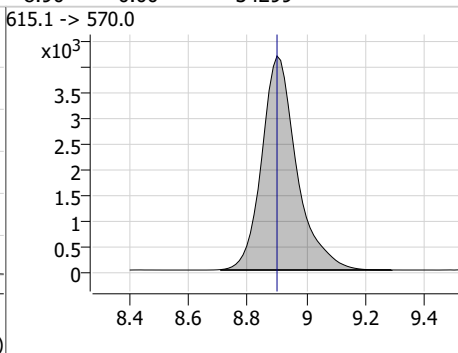
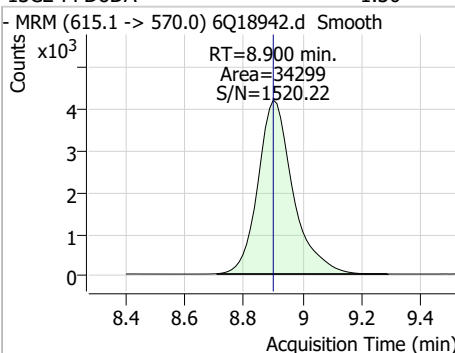
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	4.69	8.52	0.00	123637	532.8 -> 353.0	31.8	16.2	48.7



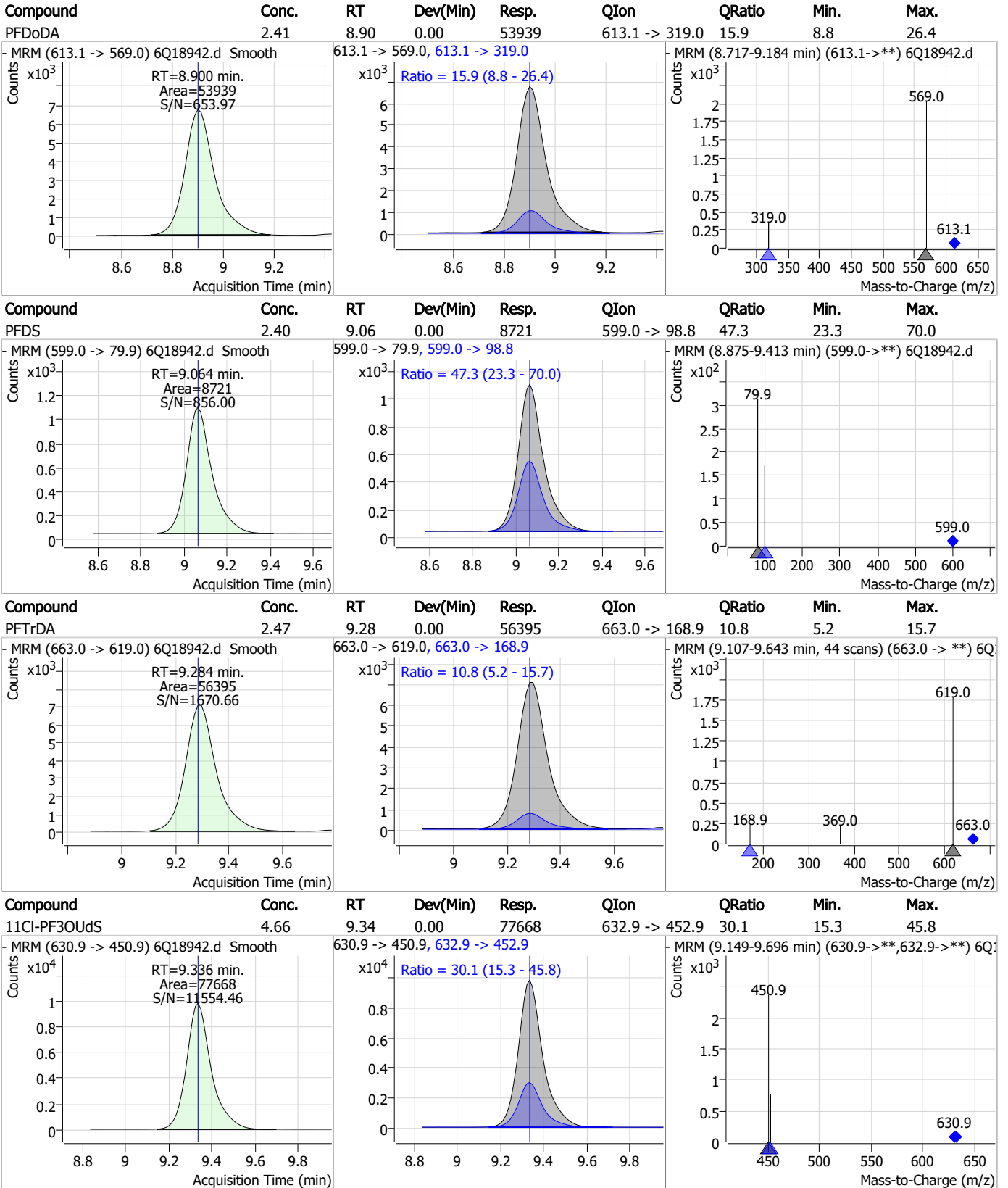
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.47	8.64	0.00	14942	548.8 -> 98.9	51.3	26.0	78.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.30	8.90	0.00	34299	615.1 -> 570.0	-	-	-



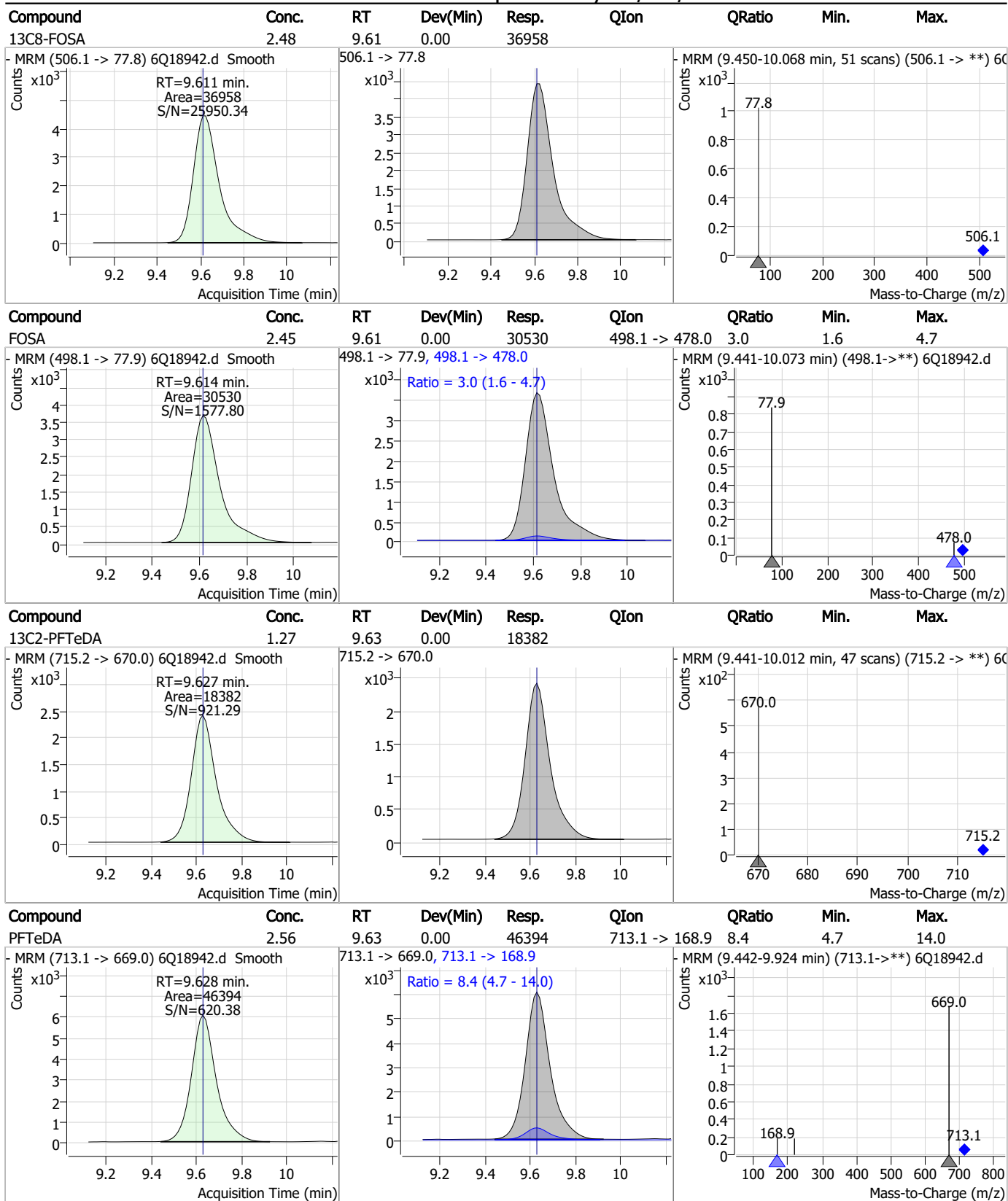
Perfluorinated Compounds by LC/MS/MS



7.7.19 7



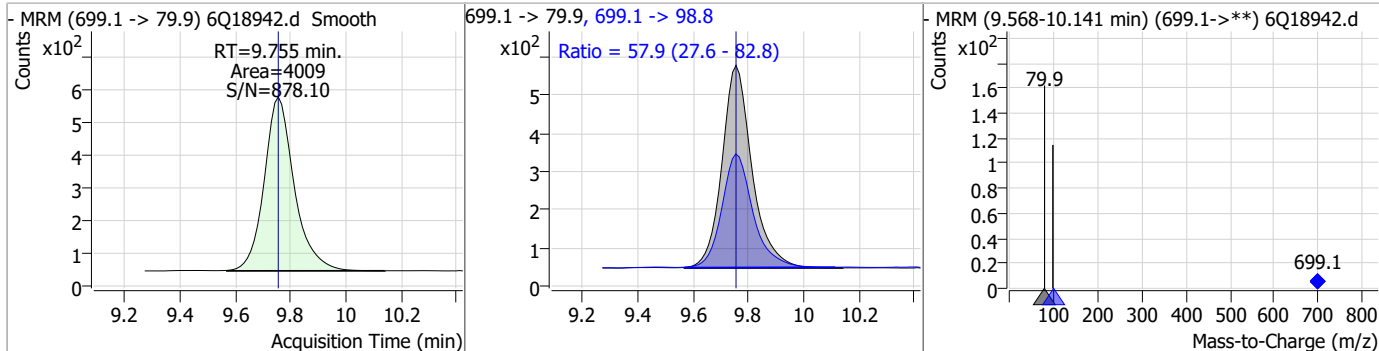
Perfluorinated Compounds by LC/MS/MS



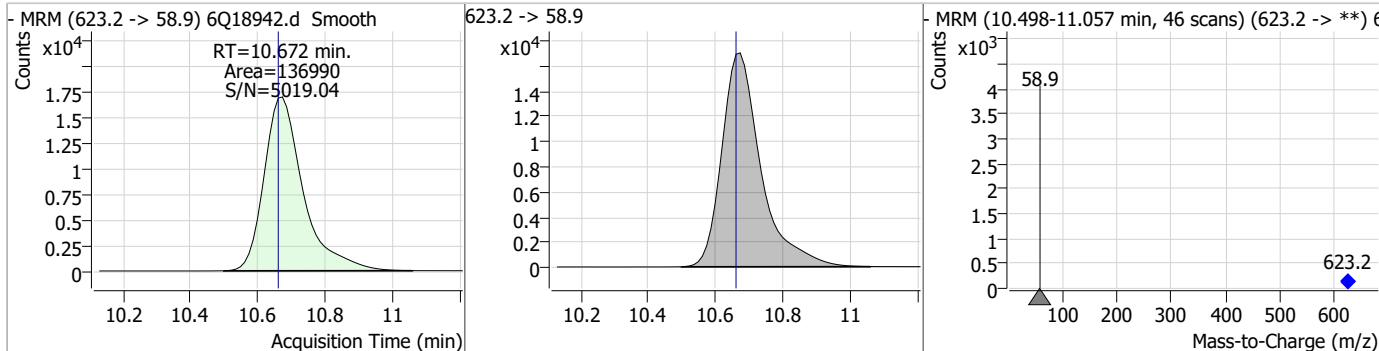
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Perfluorinated Compounds by LC/MS/MS

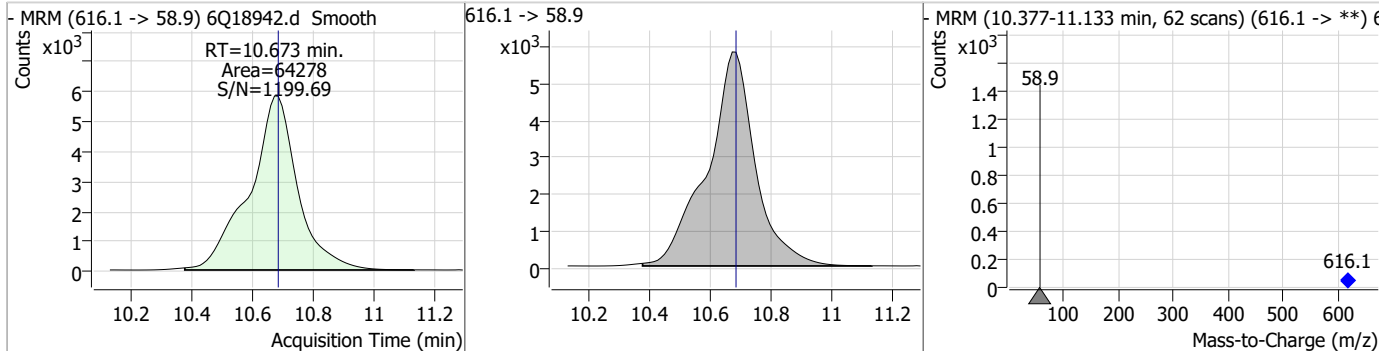
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.34	9.75	0.00	4009	699.1 -> 98.8	57.9	27.6	82.8



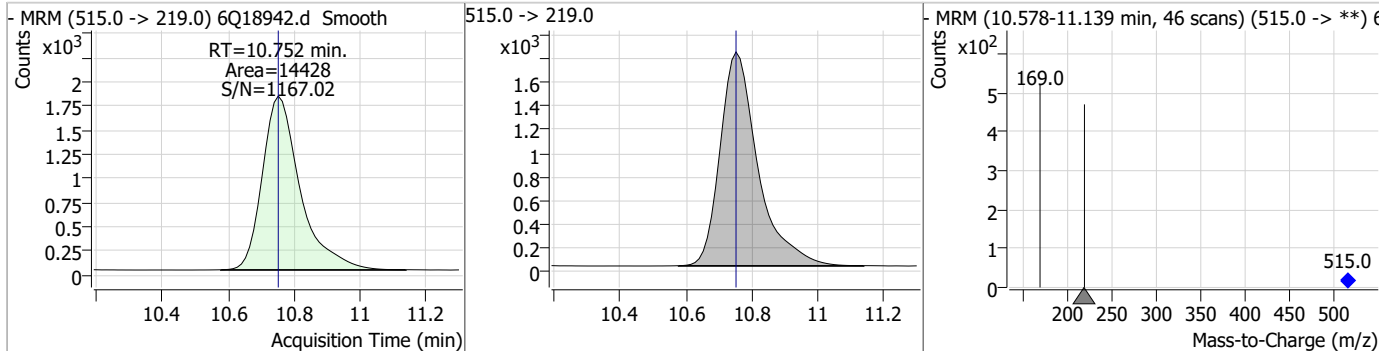
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.68	10.67	0.01	136990				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.12	10.67	-0.01	64278				

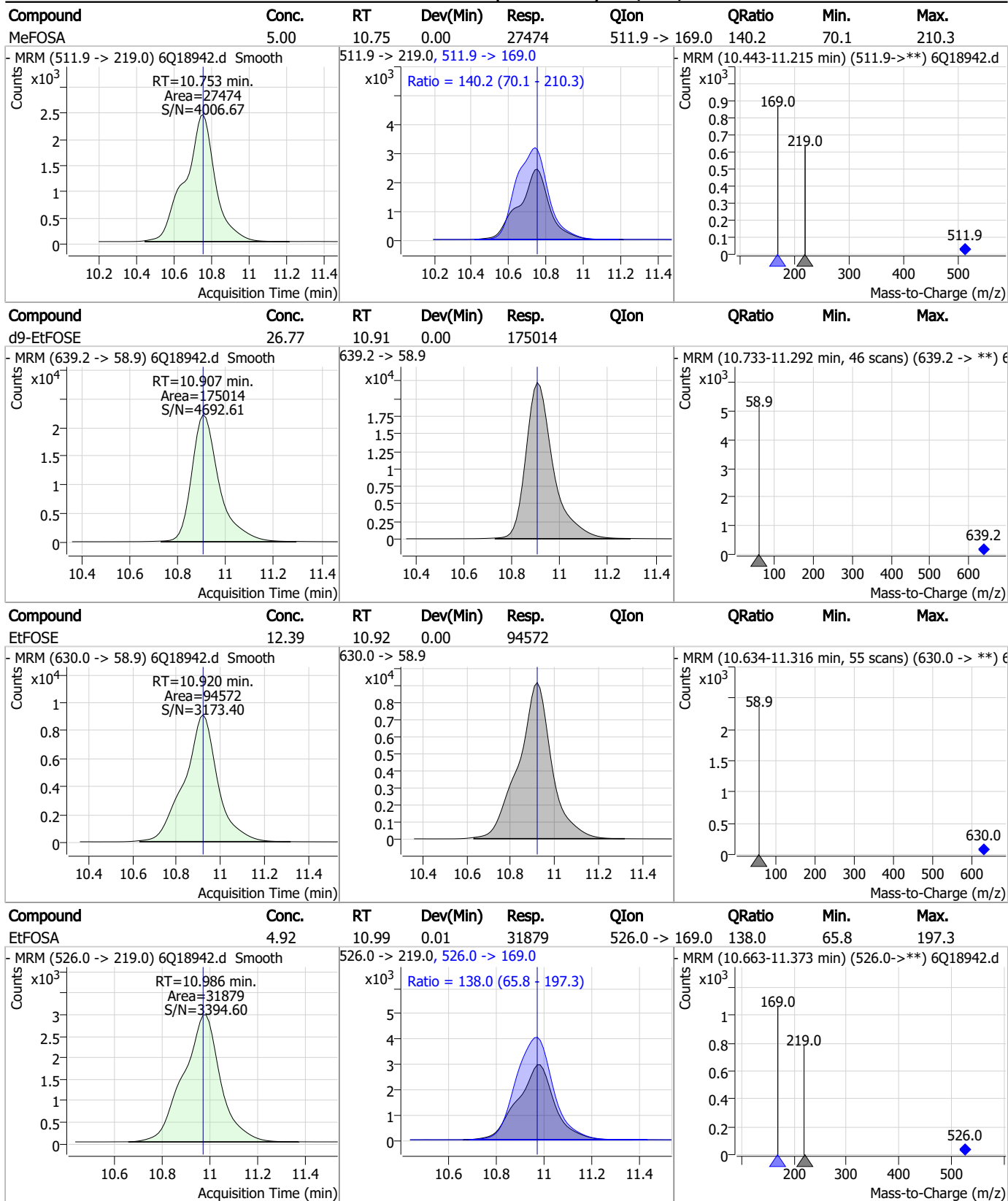


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.49	10.75	0.00	14428				



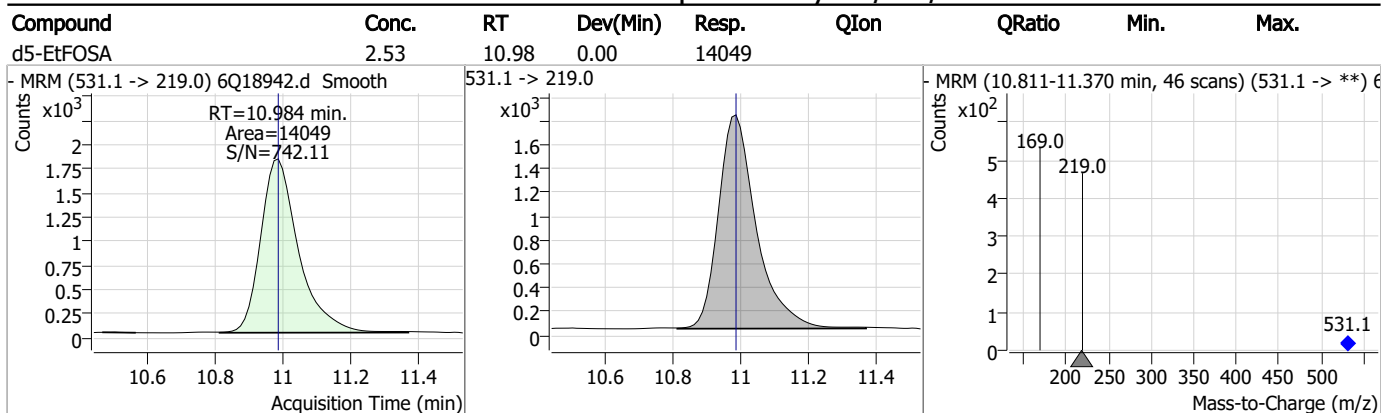
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18980.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/7/2023 10:44:31 PM
 Sample Name : cc282-1.0LL
 Vial : P1-A2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	187253	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	62222	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	65329	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	62893	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	94197	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	44283	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	28149	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34469	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	31091	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17886	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	36123	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	25577	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15386	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14493	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5341	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7369	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7594	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	39557	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	42047	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	35213	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	121065	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	156957	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13242	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13584	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19012	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	79150	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	11431	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	105275	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	35655	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	55356	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	61120	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5341	5.68 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.6%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7369	5.46 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.1%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7594	5.64 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.9%		
13C2-PFDoDA	8.900	615.1 -> 570.0	31091	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.5%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17886	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 100.2%		
13C3-PFBS	5.384	302.1 -> 79.9	25577	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.8%		
13C3-PFHxS	7.155	402.1 -> 79.9	15386	2.49 µg/L	0.000

7.7.20
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C4-PFBA	2.860	216.8 -> 171.9	187253	9.97 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C4-PFHpA	6.420	367.1 -> 322.0	62893	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.3%	
13C5-PFHxA	5.466	318.0 -> 273.0	65329	2.53 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C5-PFPeA	4.272	268.3 -> 223.0	62222	5.25 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 104.9%	
13C6-PFDA	8.039	519.1 -> 474.1	28149	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C7-PFUnDA	8.480	570.0 -> 525.1	34469	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.7%	
13C8-FOSA	9.623	506.1 -> 77.8	36123	2.61 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.4%	
13C8-PFOA	7.051	421.1 -> 376.0	94197	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.3%	
13C8-PFOS	8.189	507.1 -> 79.9	14493	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C9-PFNA	7.569	472.1 -> 427.0	44283	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.3%	
d3-MeFOSAA	8.096	573.2 -> 419.0	39557	5.78 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.5%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	42047	10.92 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.2%	
d3-MeFOSA	10.752	515.0 -> 219.0	13584	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.9%	
d5-EtFOSAA	8.292	589.2 -> 419.0	35213	5.73 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.7%	
d7-MeFOSE	10.672	623.2 -> 58.9	121065	25.37 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	156957	25.82 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.3%	
d5-EtFOSA	10.984	531.1 -> 219.0	13242	2.56 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.5%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	5408	0.74 µg/L	99
		327.1 -> 80.9	1962		
6:2FTS	6.838	427.1 -> 407.0	5591	0.80 µg/L	99
		427.1 -> 80.9	1900		
8:2FTS	7.840	527.1 -> 507.0	3001	0.74 µg/L	98
		527.1 -> 80.8	1237		
EtFOSAA	8.305	584.2 -> 419.1	935	0.19 µg/L	m 92
		584.2 -> 526.0	570		
FOSA	9.614	498.1 -> 77.9	2423	0.20 µg/L	98
		498.1 -> 478.0	62		
MeFOSAA	8.097	570.1 -> 419.0	1696	0.21 µg/L	89
		570.1 -> 483.0	229		
PFBA	2.856	212.8 -> 168.9	4859	0.80 µg/L	100
PFBS	5.385	298.7 -> 79.9	1575	0.18 µg/L	96
		298.7 -> 98.8	583		
PFDA	8.040	512.9 -> 469.0	6577	0.19 µg/L	96
		512.9 -> 219.0	896		
PFDODA	8.900	613.1 -> 569.0	4471	0.22 µg/L	91
		613.1 -> 319.0	610		
PFDS	9.064	599.0 -> 79.9	681	0.20 µg/L	90

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	361	0.21 µg/L	99
		363.1 -> 319.0	5500		
PFHpS	7.698	363.1 -> 169.0	863	0.20 µg/L	91
		449.0 -> 79.9	1316		
PFHxA	5.469	449.0 -> 98.9	725	0.22 µg/L	99
		313.0 -> 269.0	4706		
PFHxS	7.156	313.0 -> 118.9	270	0.18 µg/L	98
		398.7 -> 79.9	1294		
PFNA	7.570	398.7 -> 98.9	637	0.21 µg/L	96
		463.0 -> 419.0	6684		
PFNS	8.644	463.0 -> 219.0	1237	0.19 µg/L	89
		548.8 -> 79.9	1107		
PFOA	7.052	548.8 -> 98.9	666	0.18 µg/L	90
		413.0 -> 369.0	7083		
PFOS	8.178	413.0 -> 169.0	1582	0.20 µg/L	97
		498.9 -> 79.9	1357		
PFPeA	4.274	498.9 -> 98.8	638	0.41 µg/L	100
		263.0 -> 219.0	6076		
PFPeS	6.459	349.1 -> 79.9	1434	0.21 µg/L	91
		349.1 -> 98.9	563		
PFTeDA	9.628	713.1 -> 669.0	3675	0.21 µg/L	99
		713.1 -> 168.9	327		
PFTrDA	9.284	663.0 -> 619.0	4455	0.22 µg/L	100
		663.0 -> 168.9	475		
PFUnDA	8.480	563.1 -> 519.0	4259	0.20 µg/L	97
		563.1 -> 269.1	706		
11CI-PF3OUdS	9.336	630.9 -> 450.9	5989	0.37 µg/L	100
		632.9 -> 452.9	1843		
9CI-PF3ONS	8.520	530.8 -> 351.0	9185	0.36 µg/L	95
		532.8 -> 353.0	3231		
ADONA	6.671	376.9 -> 250.9	21840	0.38 µg/L	97
		376.9 -> 84.8	5649		
HFPO-DA	5.832	284.9 -> 168.9	1379	0.39 µg/L	99
		284.9 -> 184.9	171		
3:3FTCA	3.727	241.0 -> 177.0	996	0.96 µg/L	99
		241.0 -> 117.0	138		
5:3FTCA	6.137	341.0 -> 237.1	22289	5.39 µg/L	100
		341.0 -> 217.0	16229		
7:3FTCA	7.535	441.0 -> 316.9	13527	4.75 µg/L	93
		441.0 -> 336.9	32222		
EtFOSA	10.986	526.0 -> 219.0	2446	0.40 µg/L	95
		526.0 -> 169.0	3368		
EtFOSE	10.920	630.0 -> 58.9	6798	0.99 µg/L	100
		511.9 -> 219.0	2107		
MeFOSA	10.753	511.9 -> 169.0	2981	0.41 µg/L	99
		616.1 -> 58.9	4571		
MeFOSE	10.673	699.1 -> 79.9	314	0.98 µg/L	100
		699.1 -> 98.8	182		
PFDoDS	9.755	295.0 -> 201.0	1009	0.19 µg/L	96
		295.0 -> 84.9	266		
NFDHA	5.361	279.0 -> 85.1	4010	0.39 µg/L	97
		229.0 -> 84.9	3122		
PFMBA	4.688	314.8 -> 134.9	9889	0.40 µg/L	100
		314.8 -> 82.9	400		
PFMPA	3.401			0.36 µg/L	99
PFEESA	5.926				

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

7.7.20
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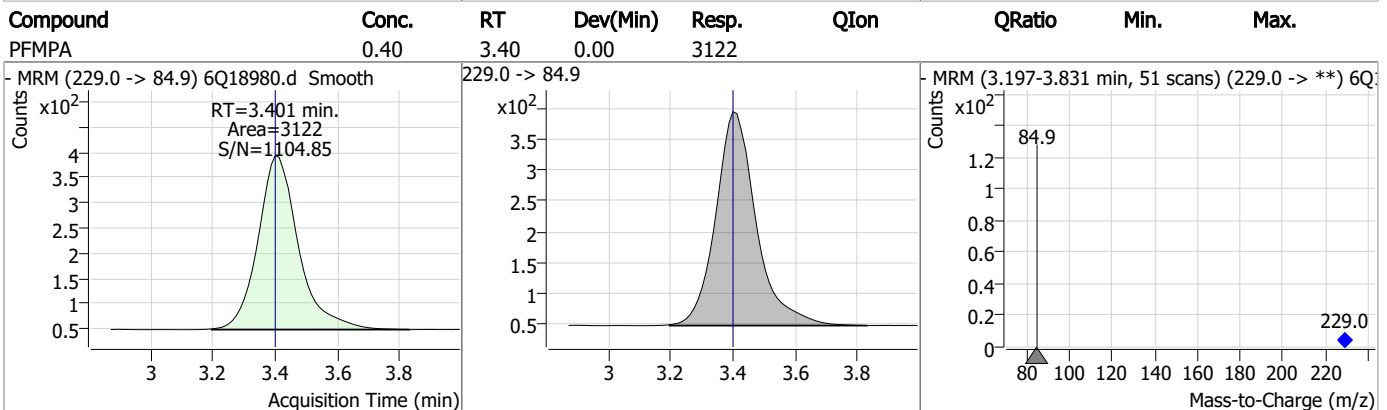
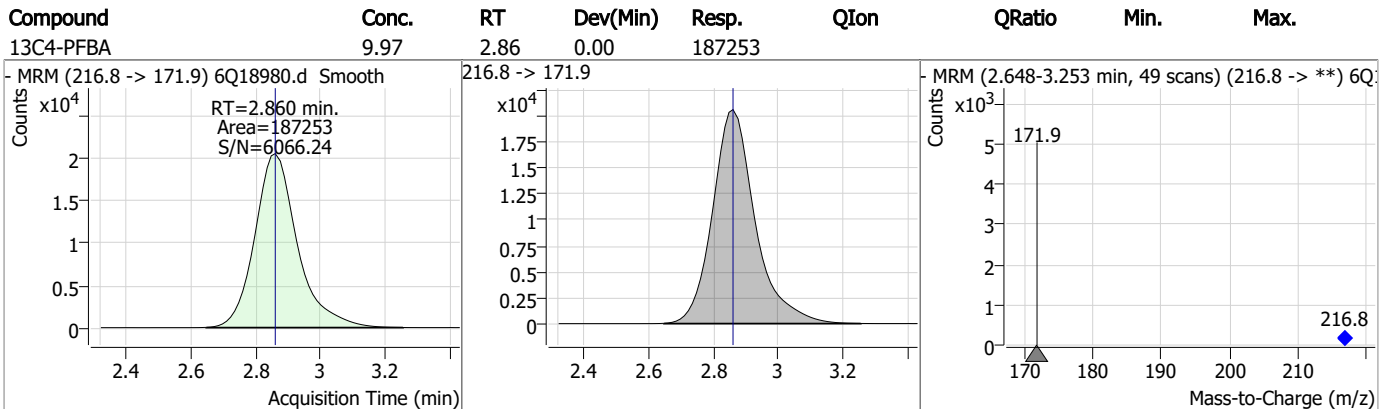
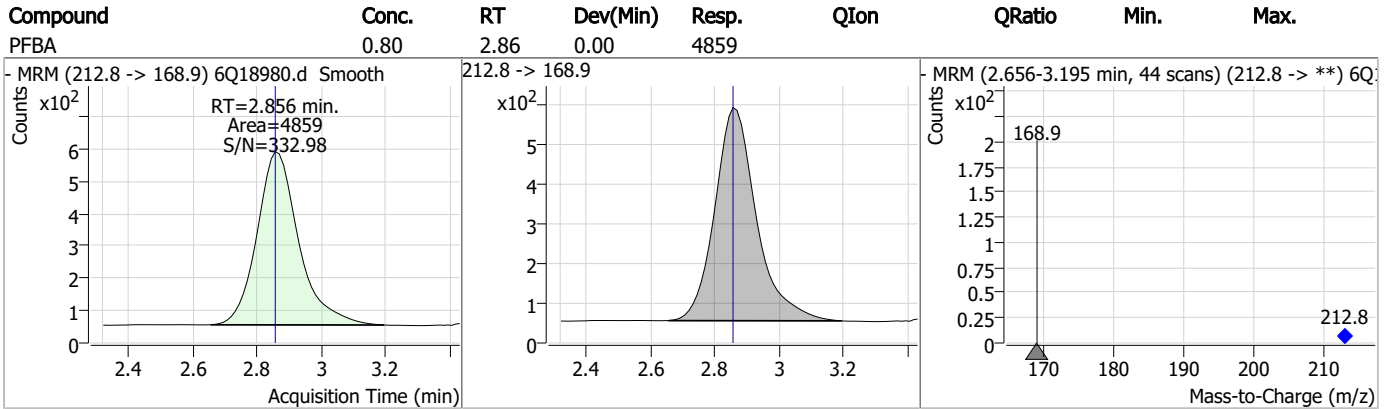
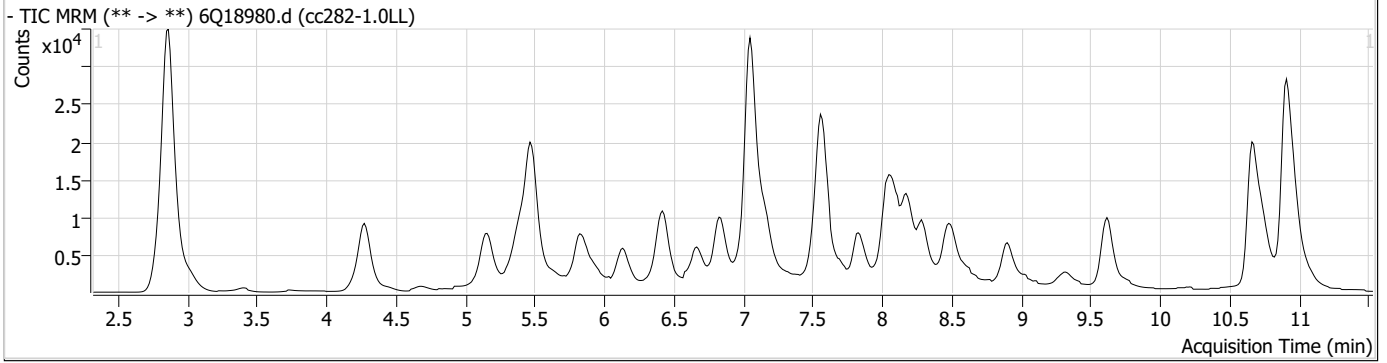
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.20

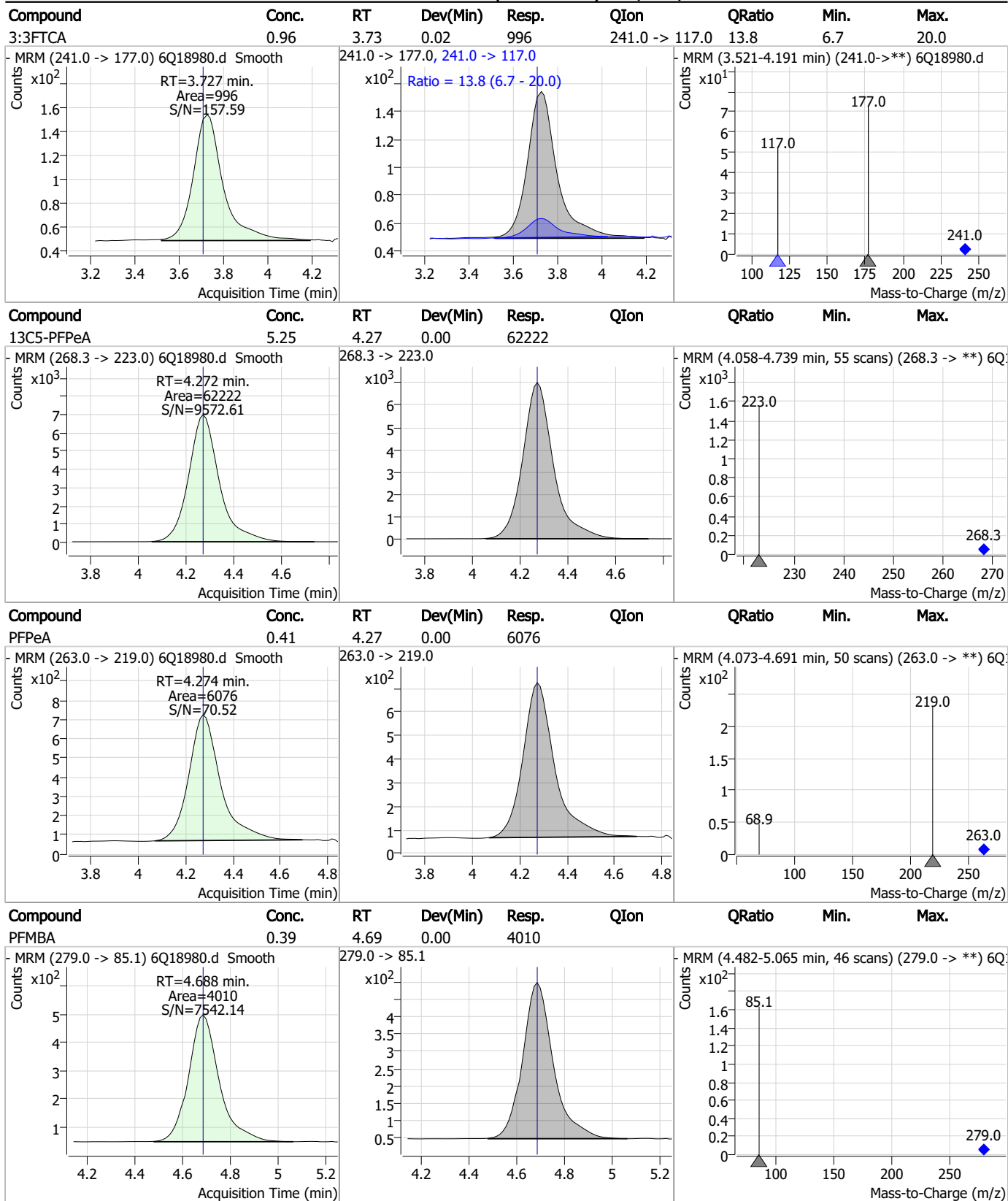
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Perfluorinated Compounds by LC/MS/MS



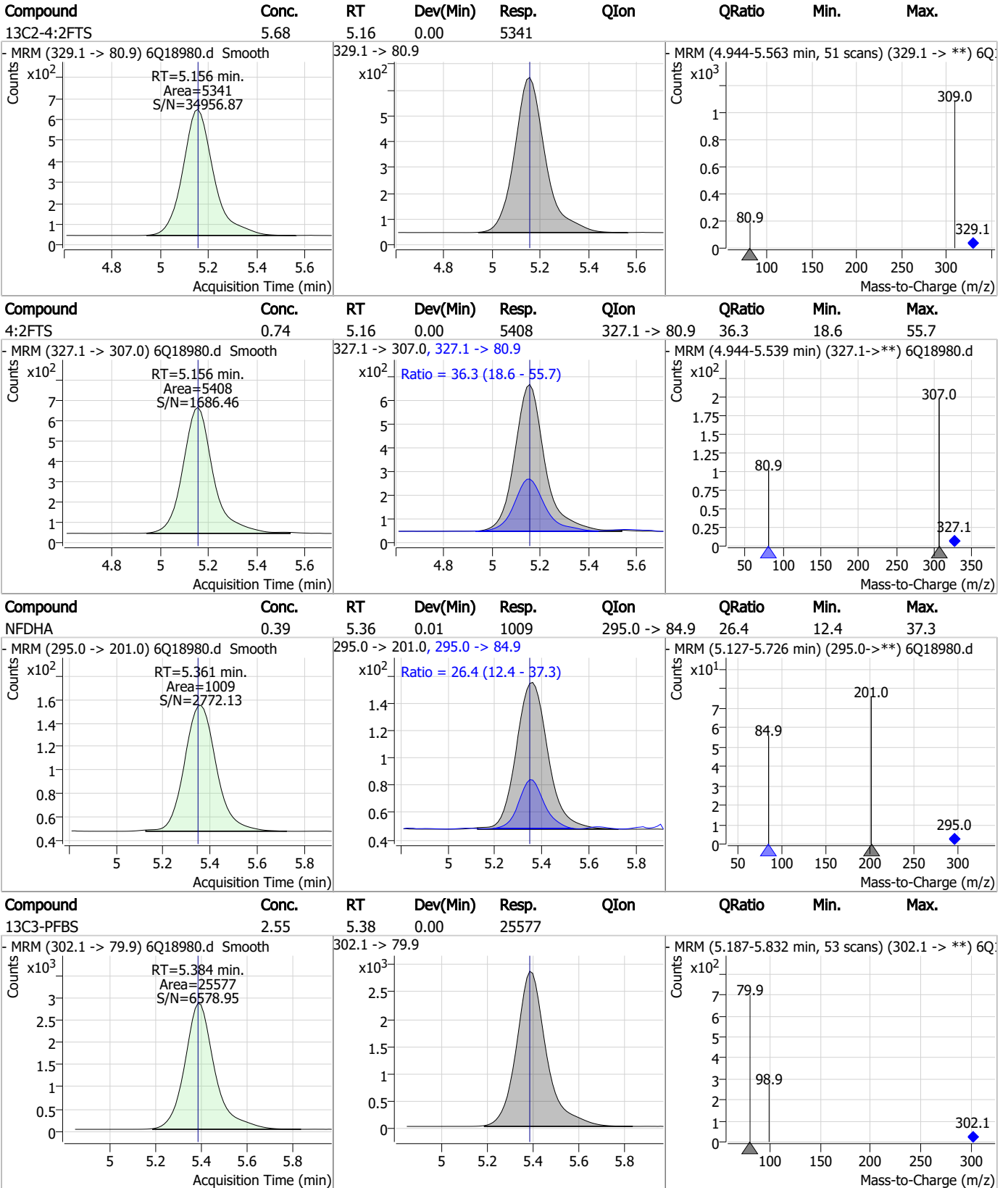
7.7.20 7

Perfluorinated Compounds by LC/MS/MS



7.7.20 7

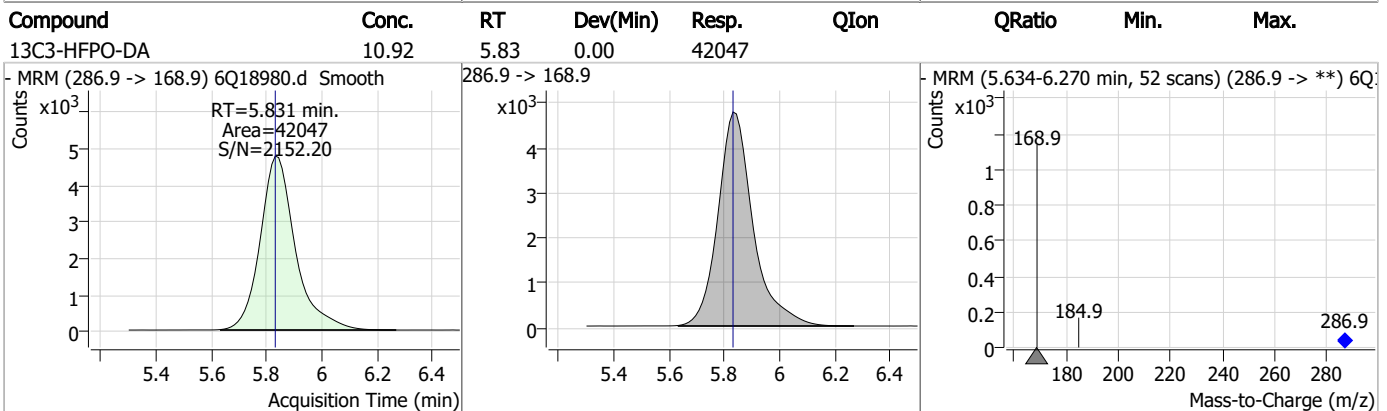
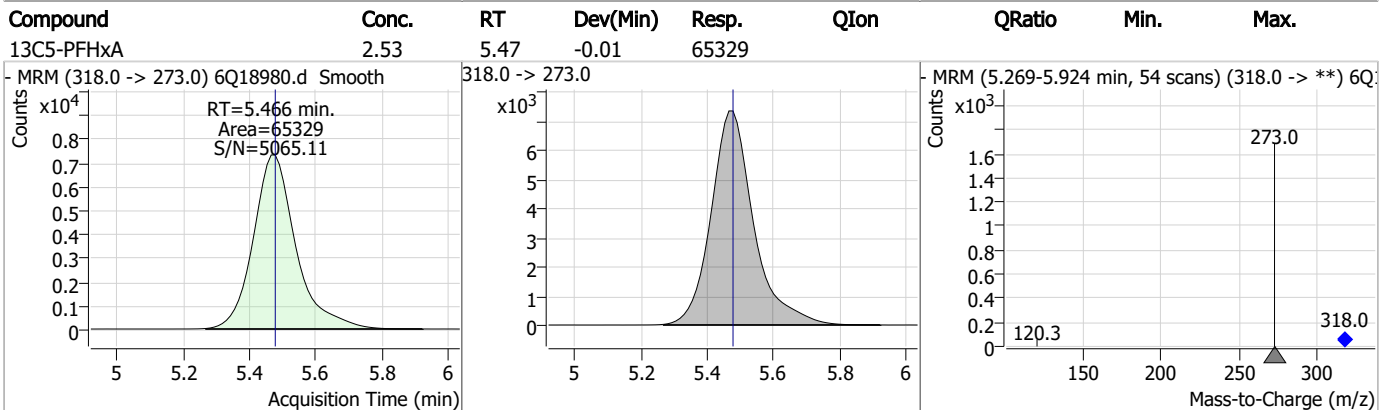
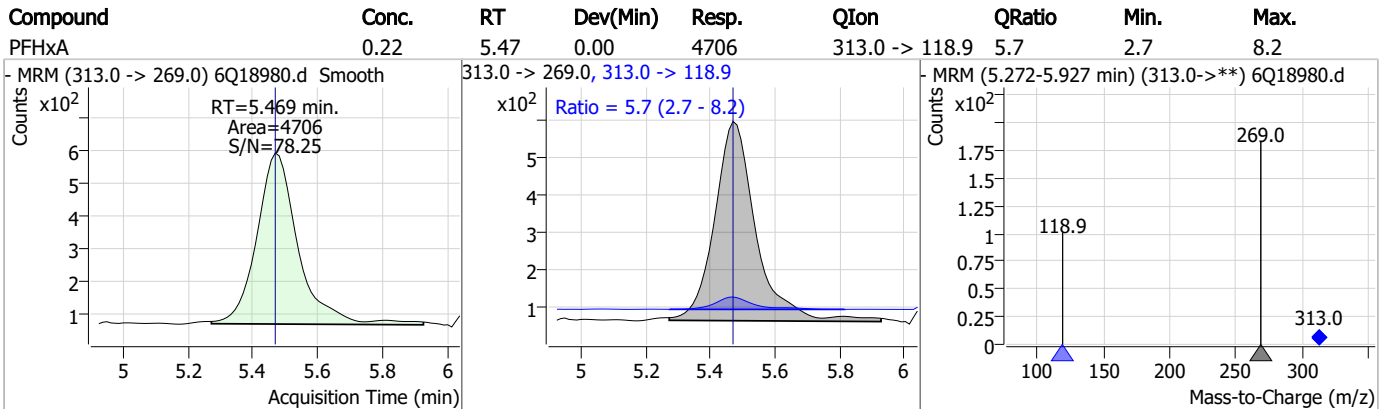
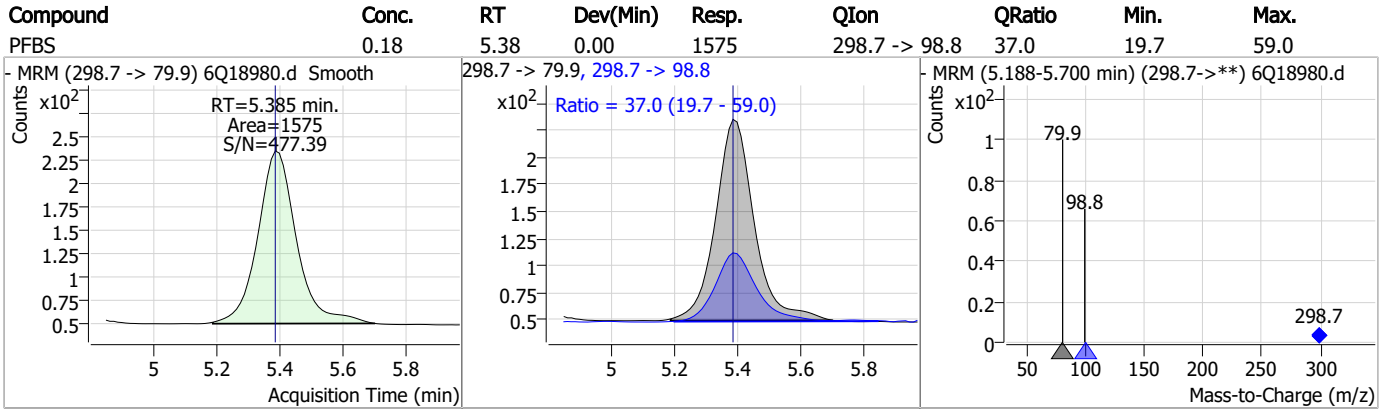
Perfluorinated Compounds by LC/MS/MS



7.7.20 7



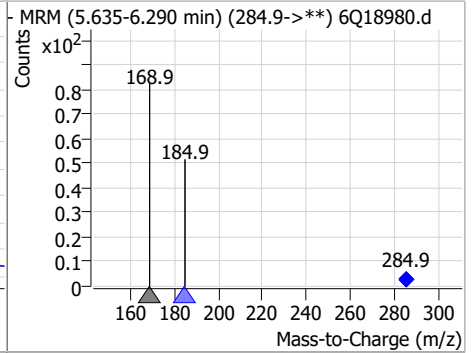
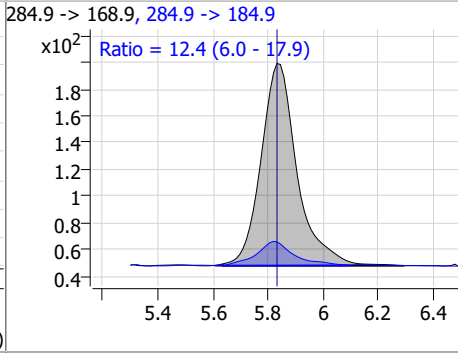
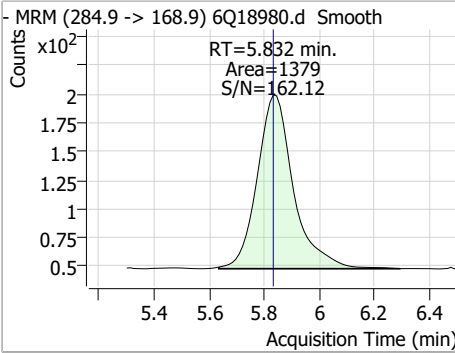
Perfluorinated Compounds by LC/MS/MS



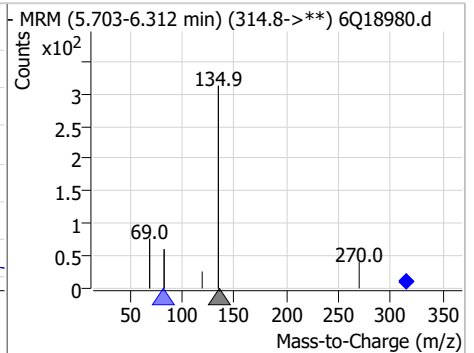
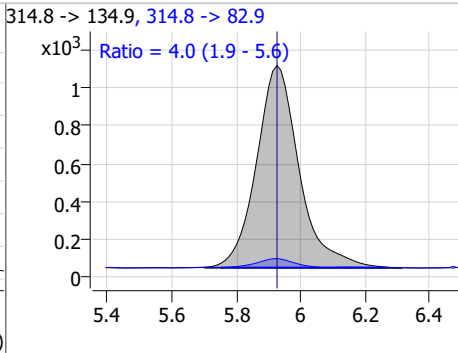
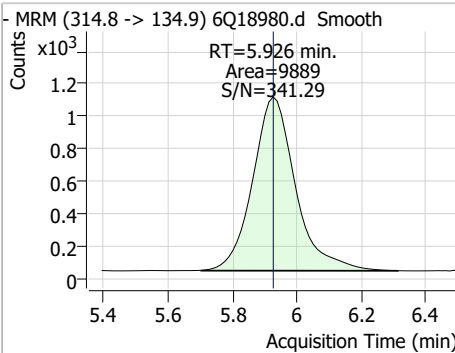
7.7.20 7

Perfluorinated Compounds by LC/MS/MS

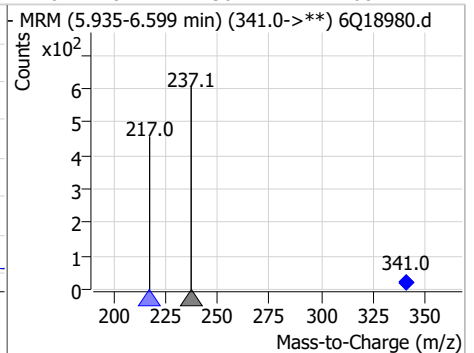
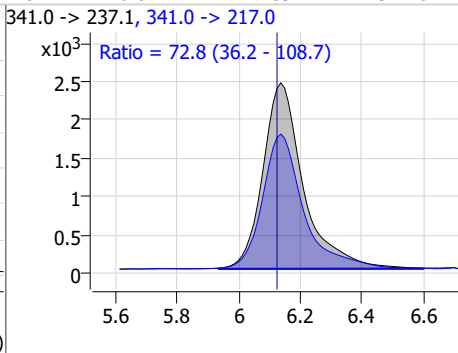
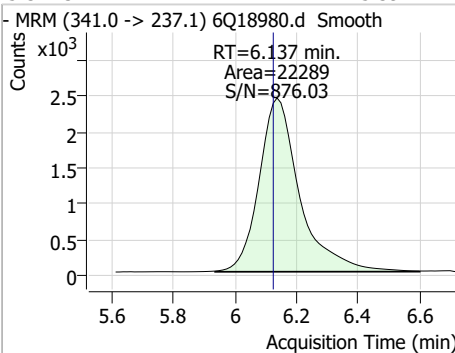
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.39	5.83	0.00	1379	284.9 -> 184.9	12.4	6.0	17.9



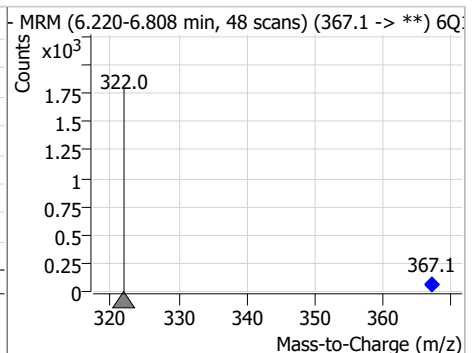
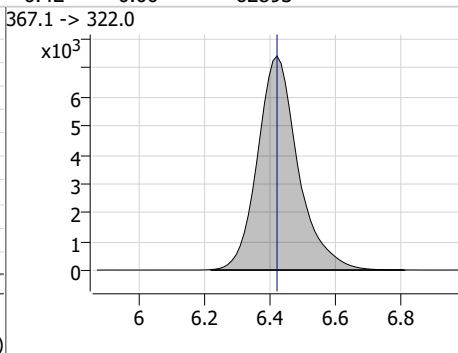
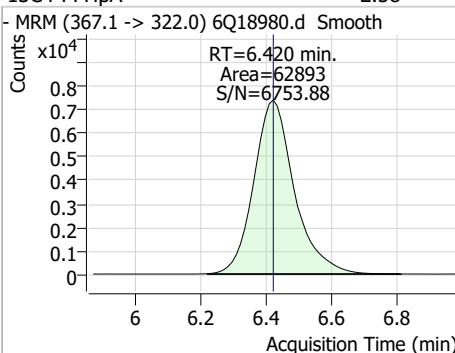
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.36	5.93	0.00	9889	314.8 -> 82.9	4.0	1.9	5.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.39	6.14	0.01	22289	341.0 -> 217.0	72.8	36.2	108.7

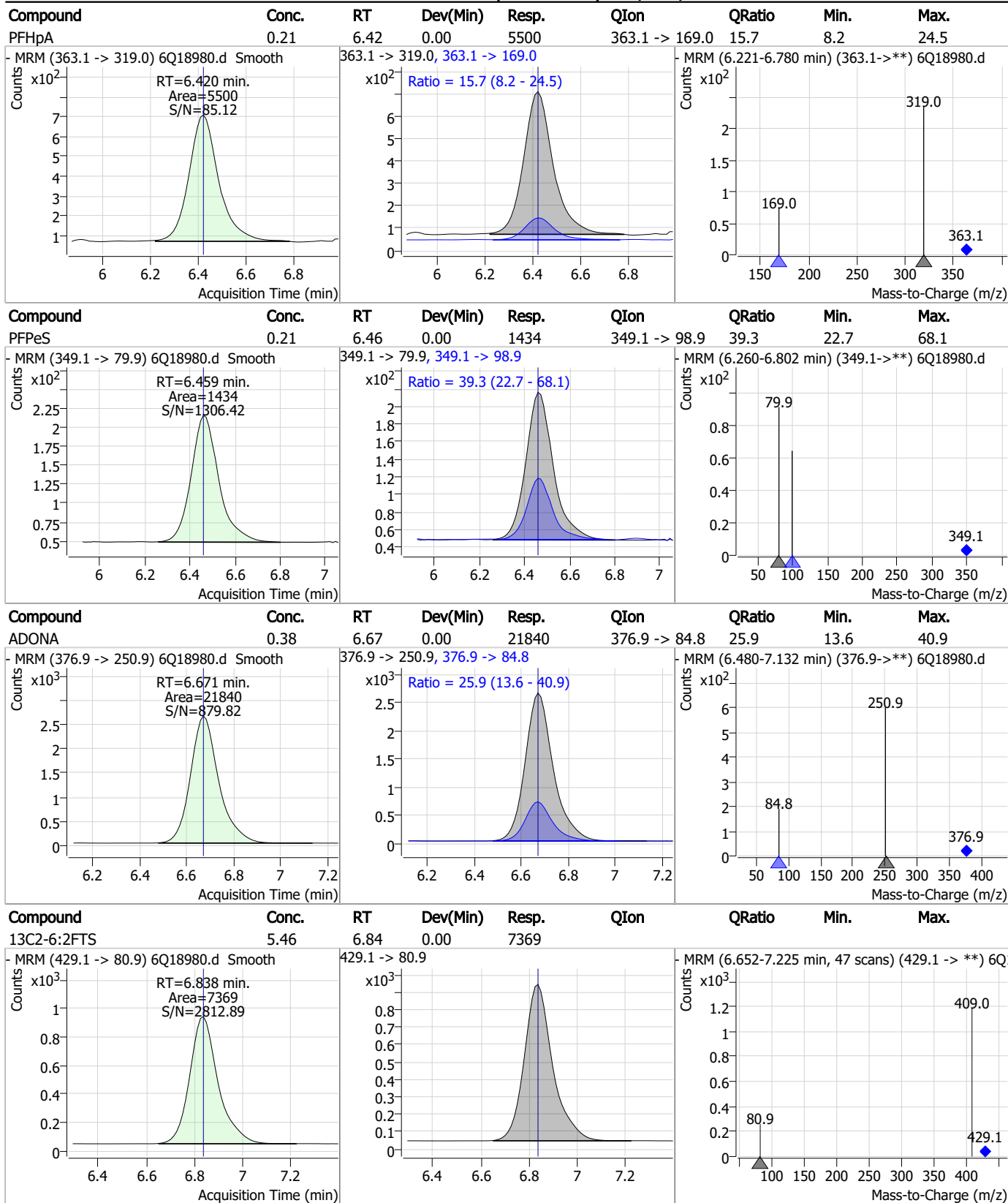


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.58	6.42	0.00	62893	367.1 -> 322.0			



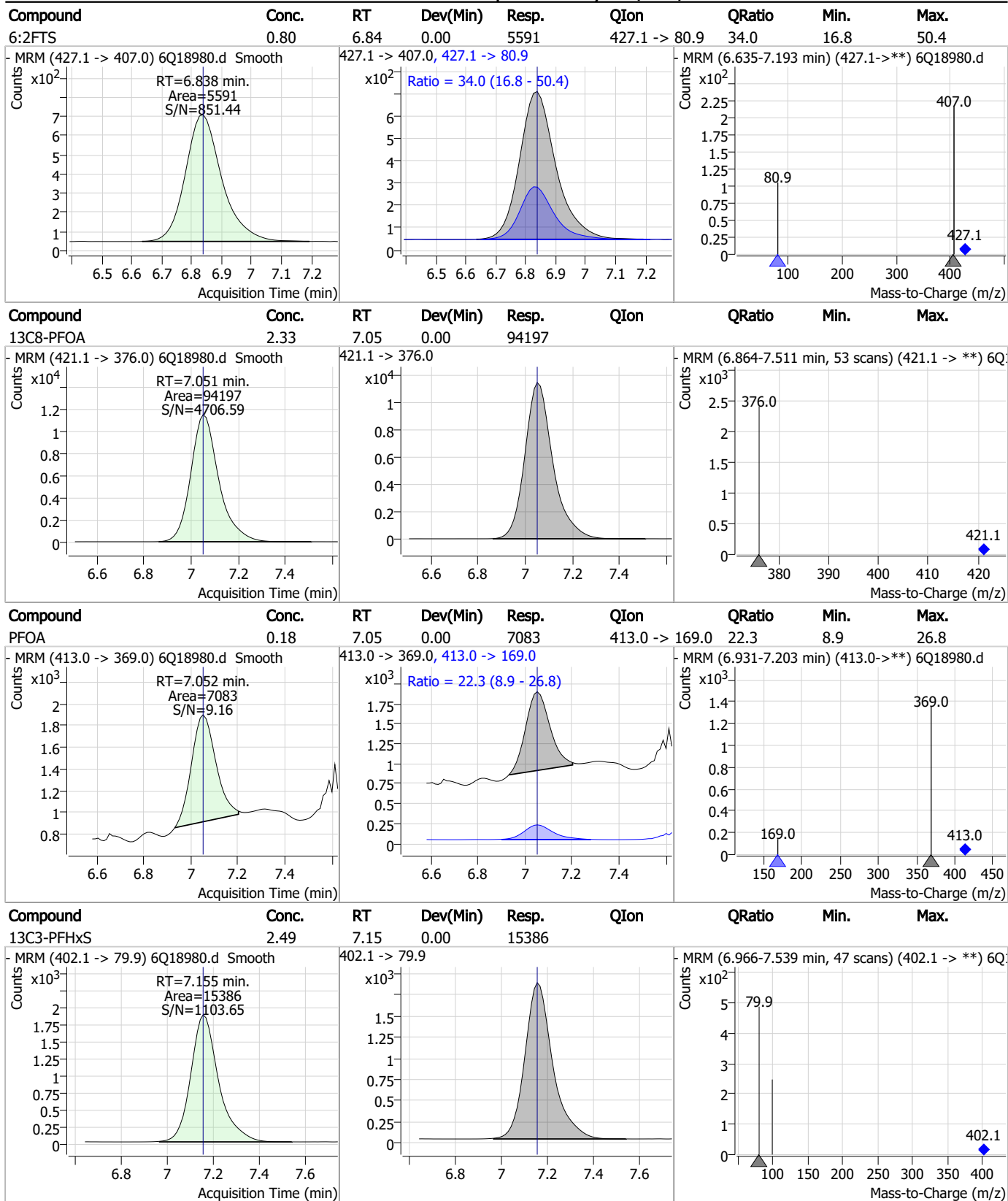
7.7.20
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Perfluorinated Compounds by LC/MS/MS



7.7.20 7

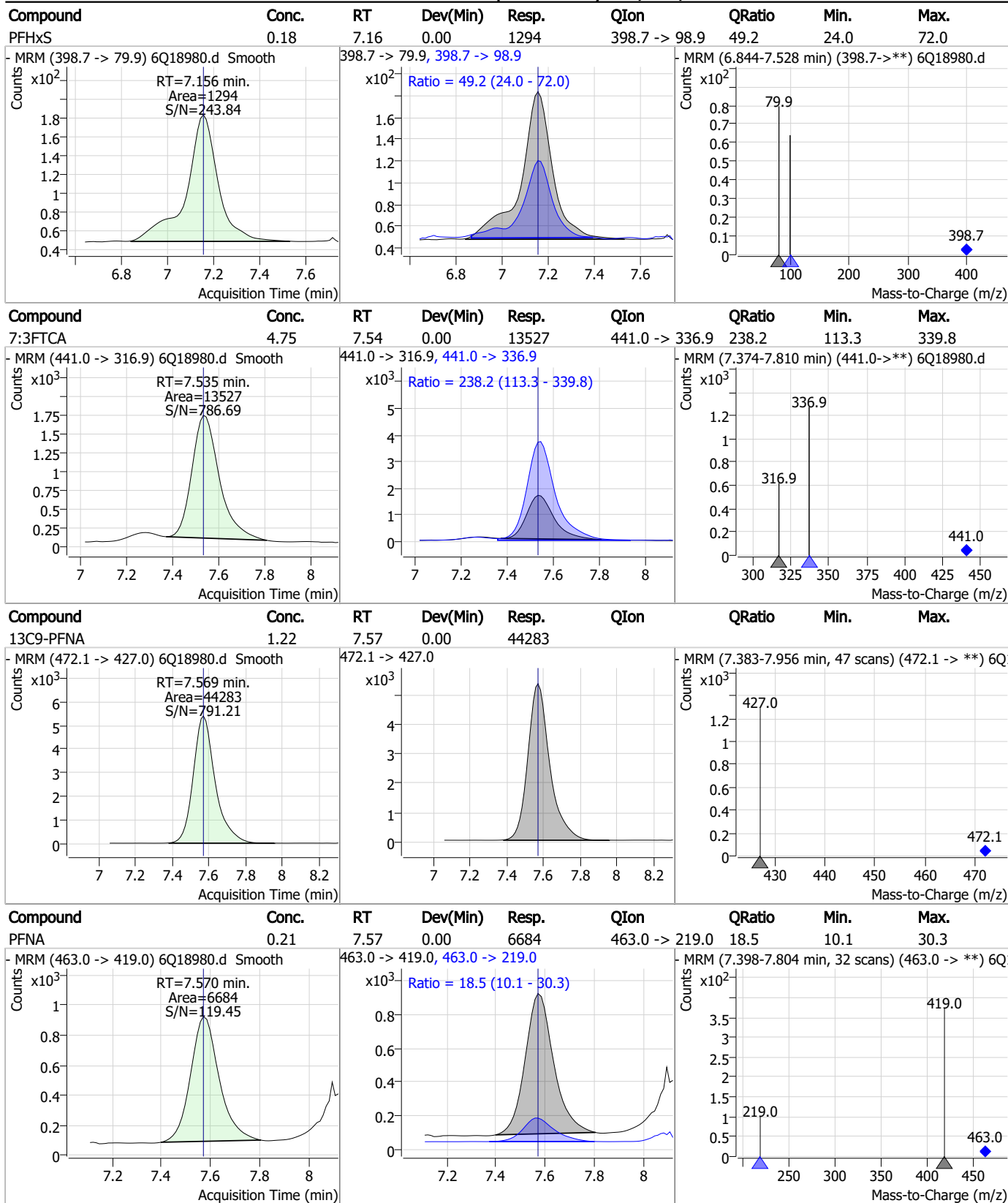
Perfluorinated Compounds by LC/MS/MS



7.7.20
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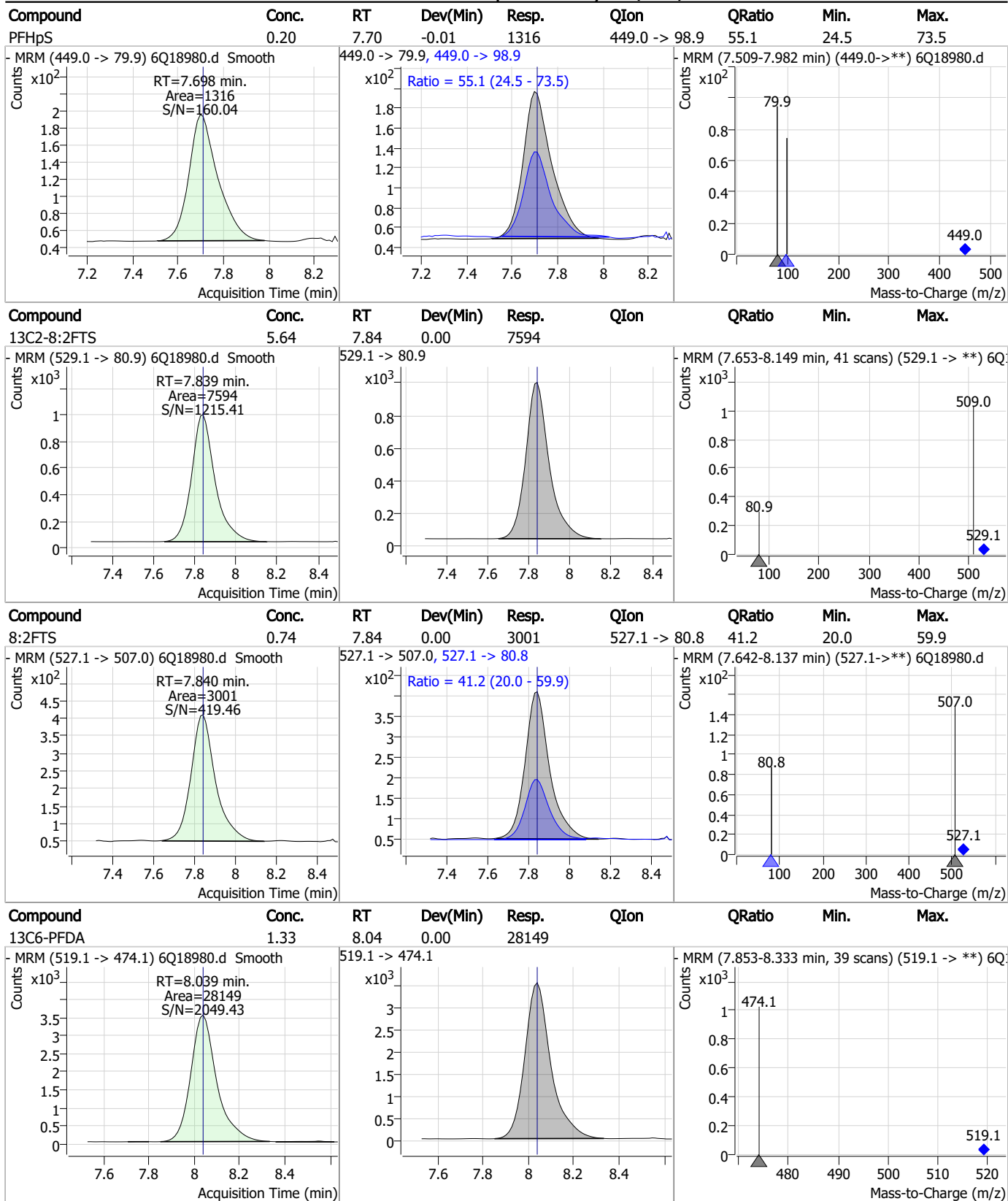


Perfluorinated Compounds by LC/MS/MS



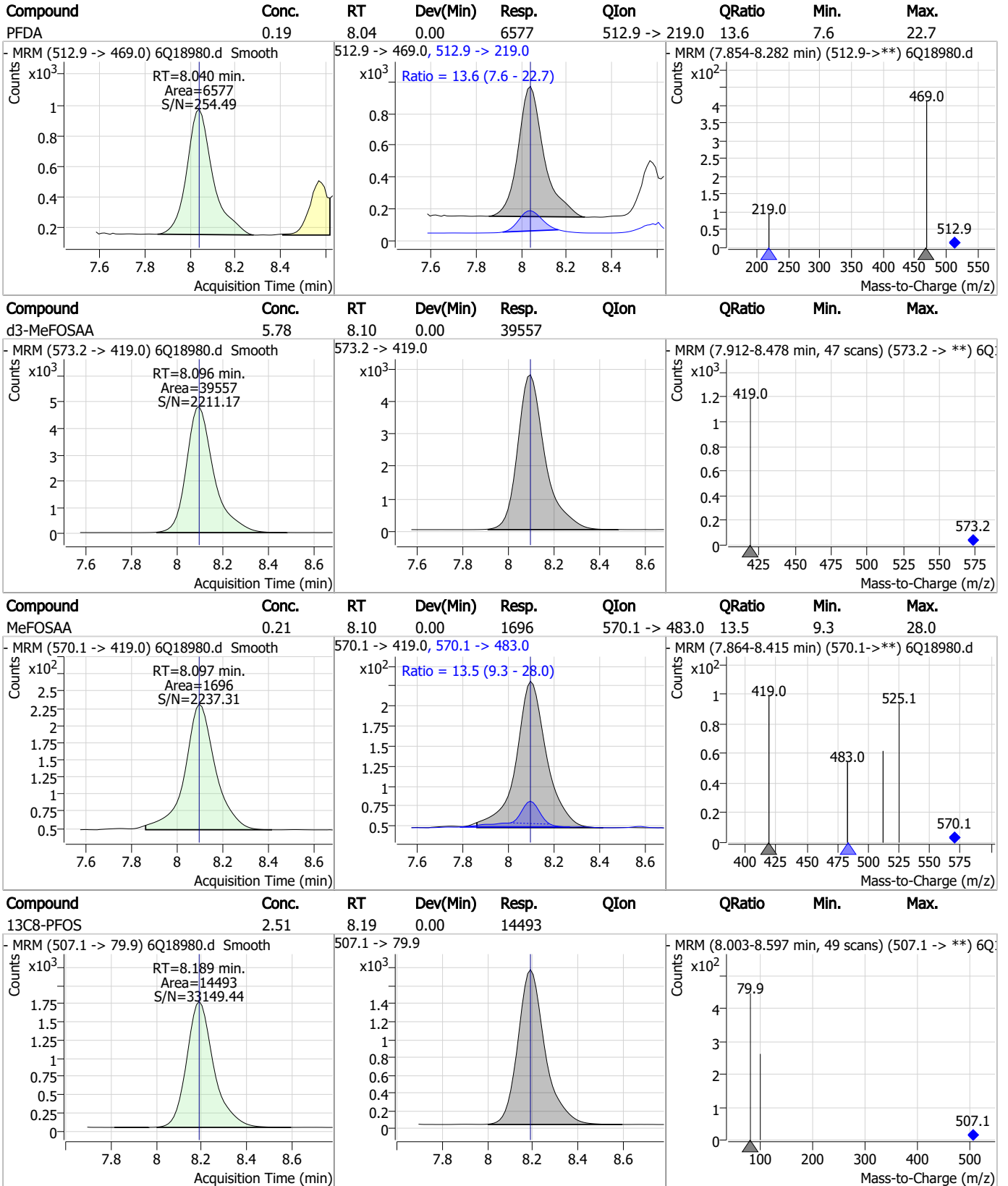
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Perfluorinated Compounds by LC/MS/MS



7.7.20 7

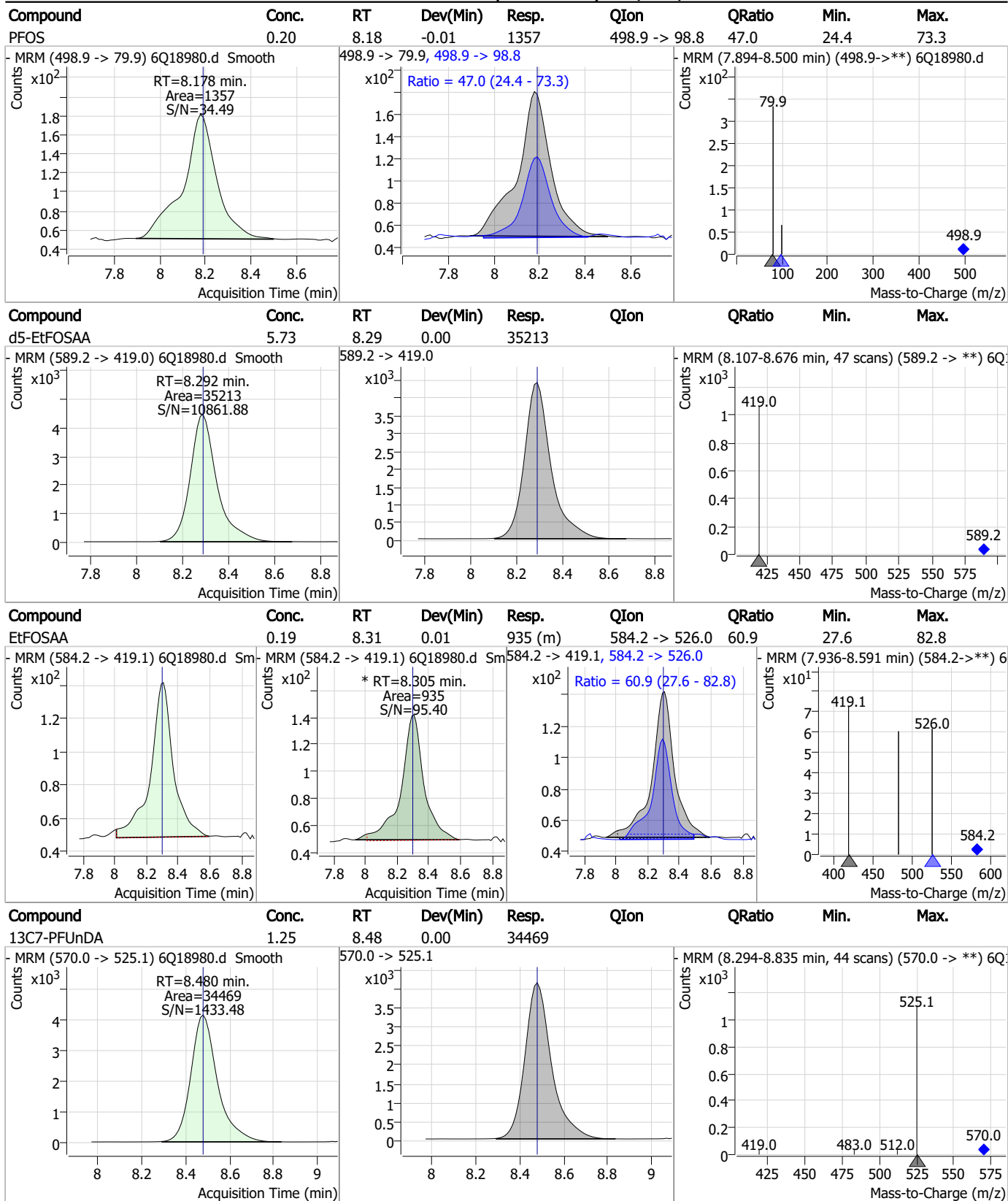
Perfluorinated Compounds by LC/MS/MS



7.7.20 7

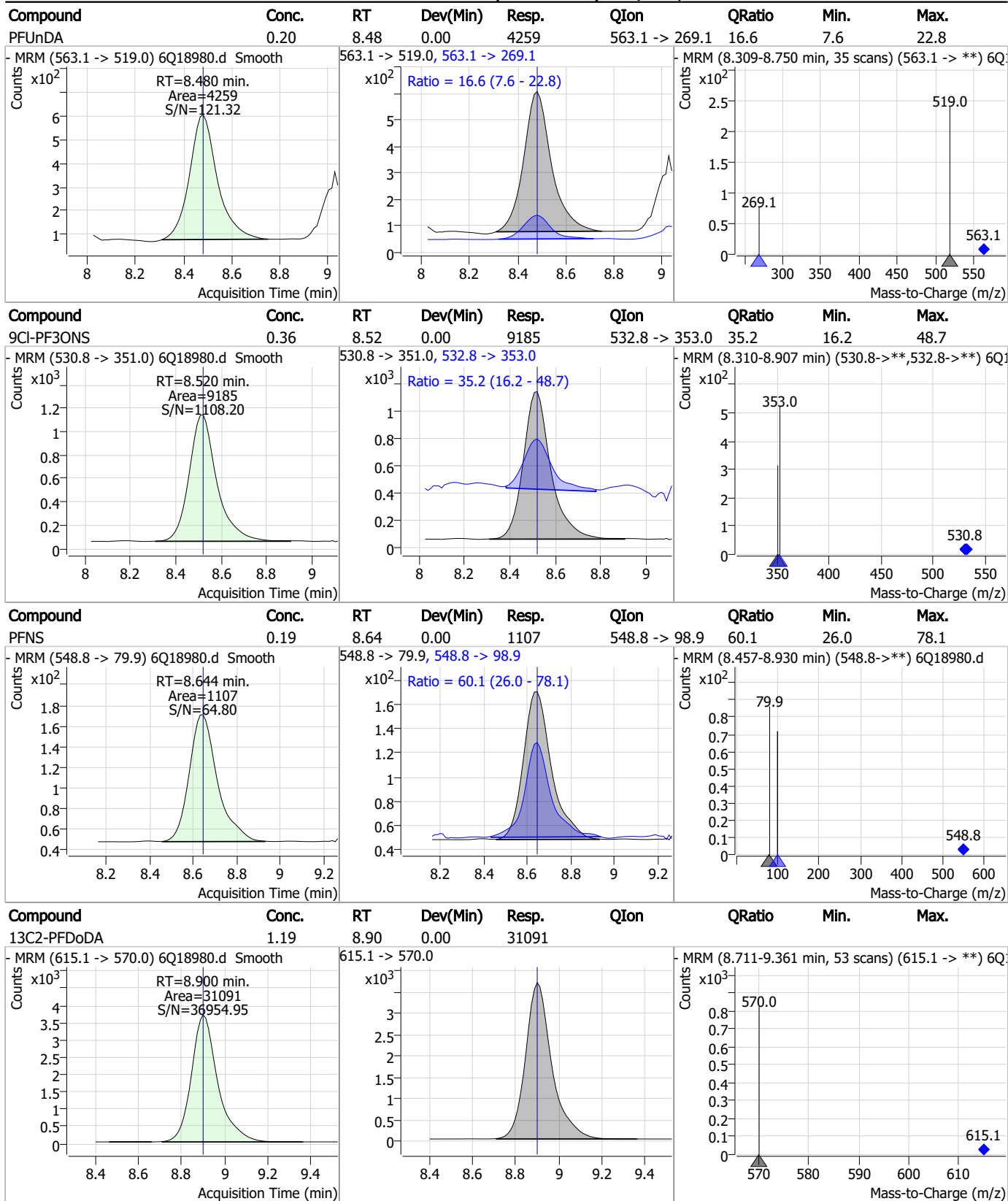


Perfluorinated Compounds by LC/MS/MS



7.7.20 7

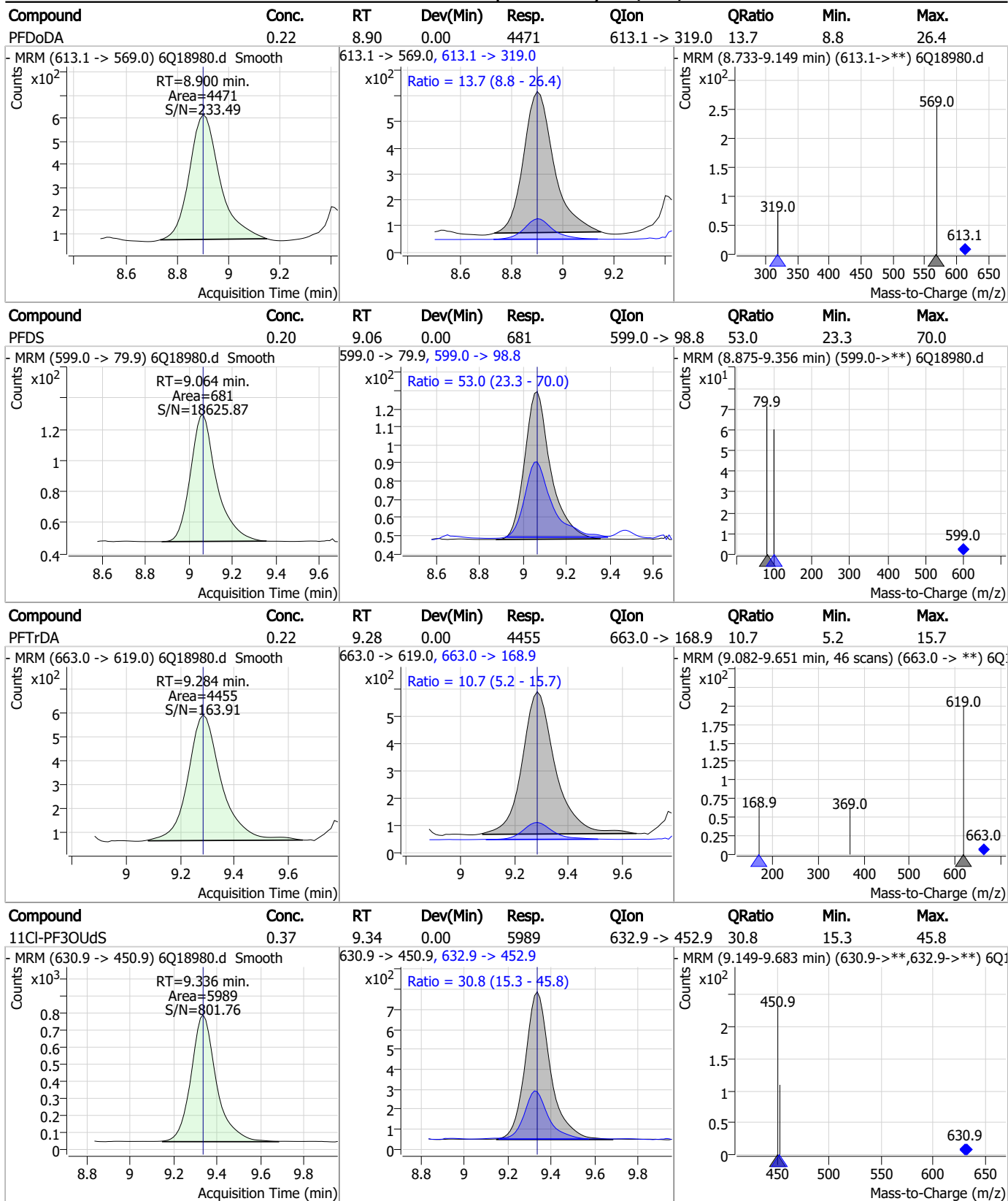
Perfluorinated Compounds by LC/MS/MS



7.7.20 7

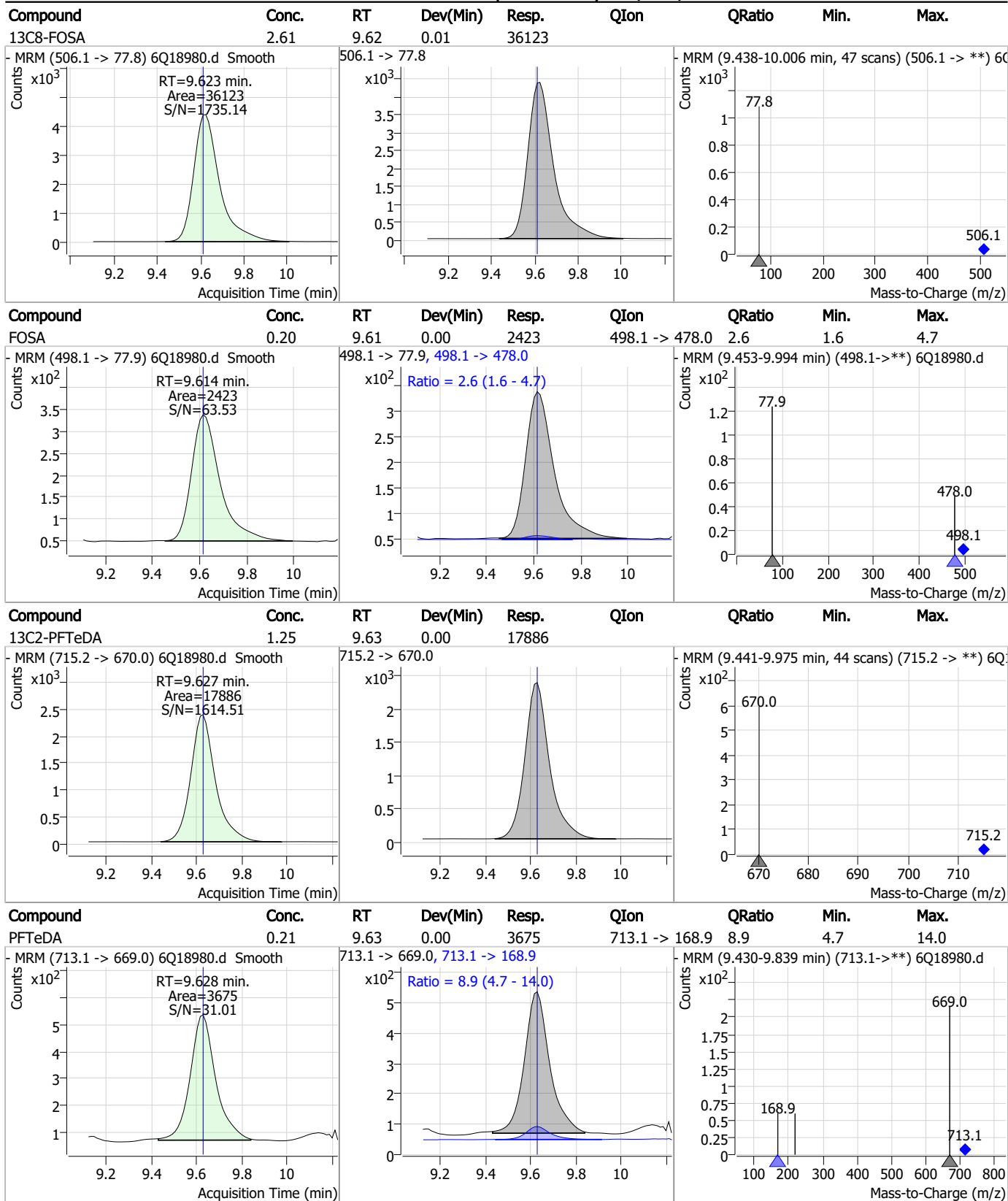


Perfluorinated Compounds by LC/MS/MS



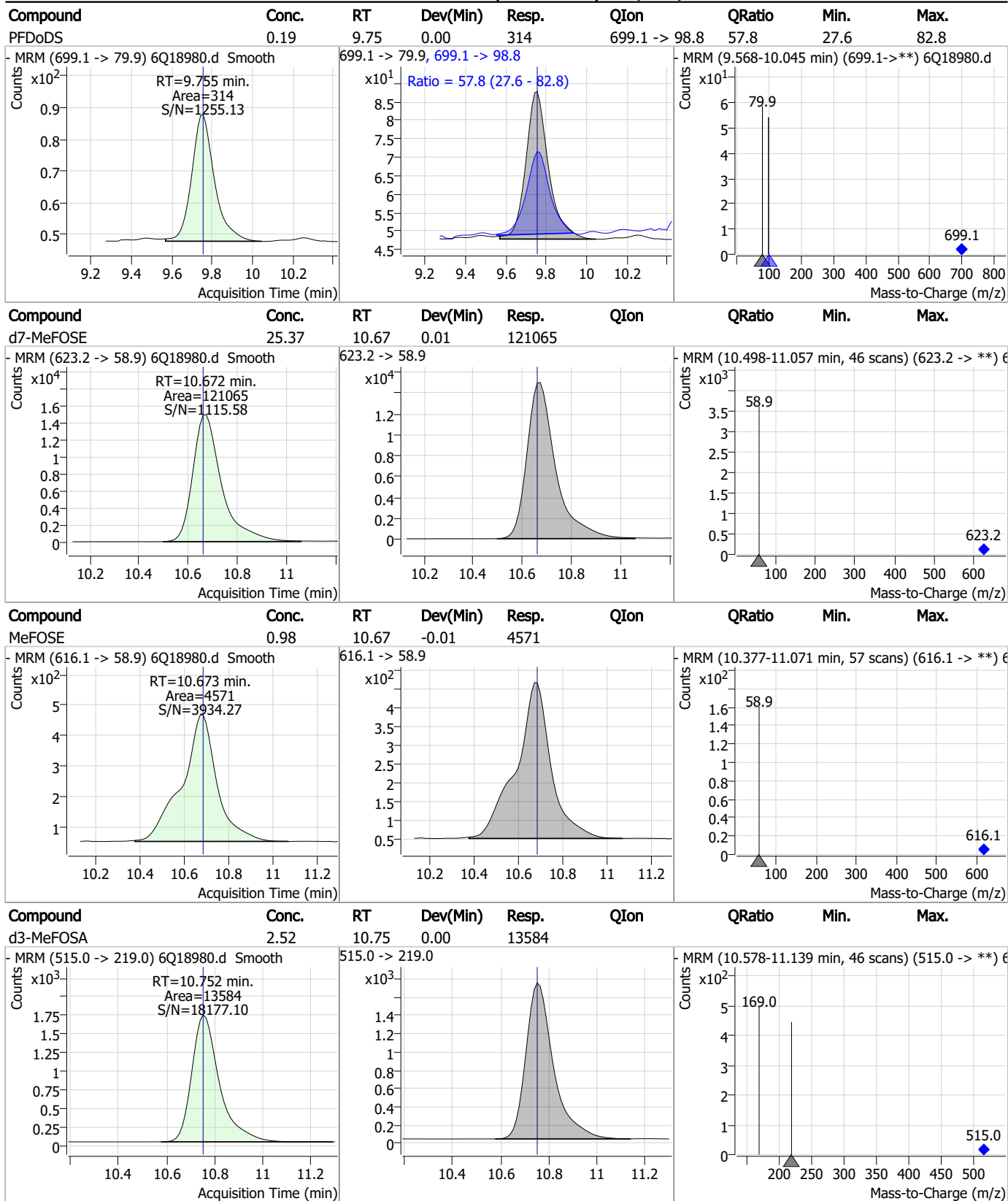
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Perfluorinated Compounds by LC/MS/MS



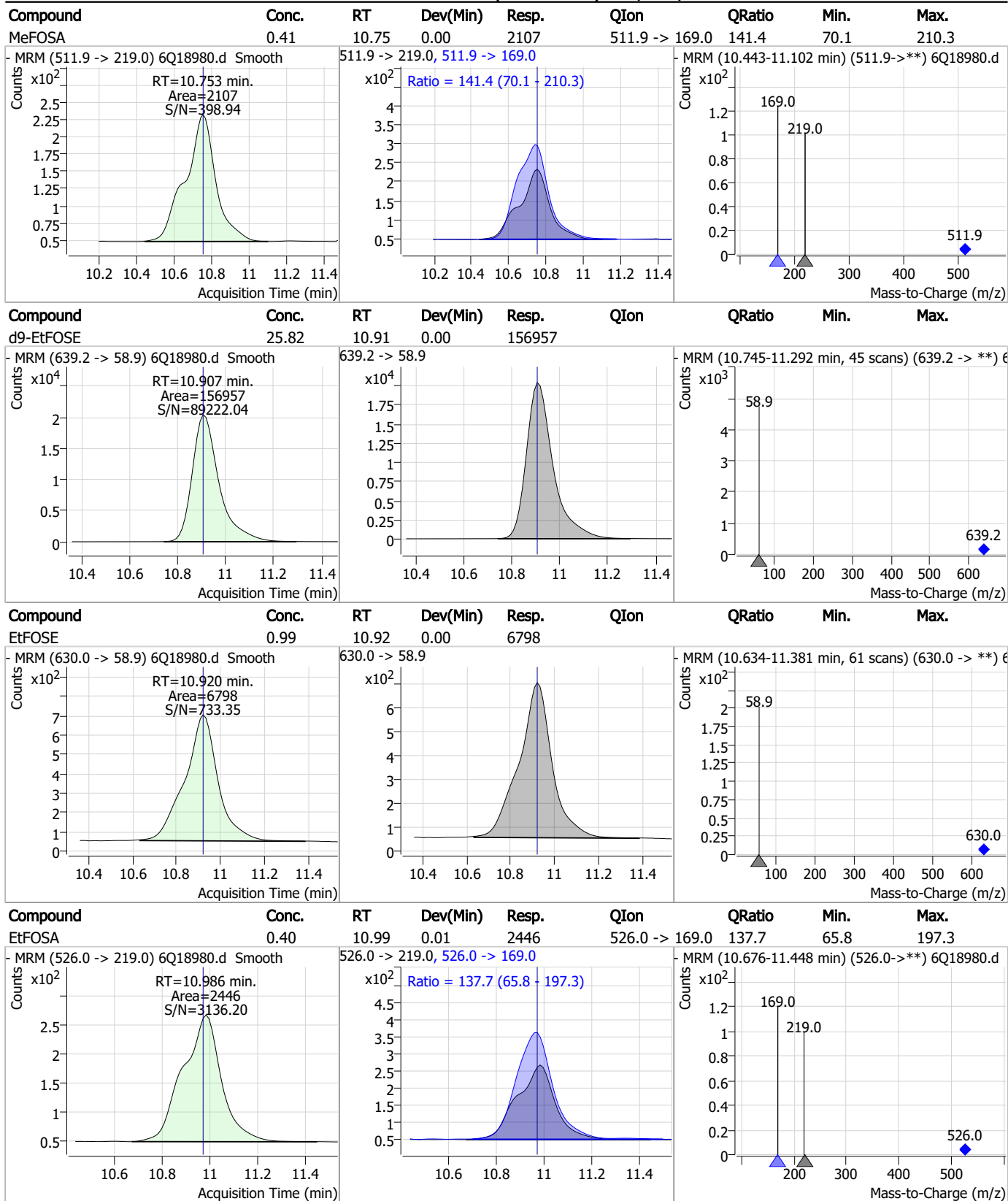
7.7.20 7

Perfluorinated Compounds by LC/MS/MS



7.7.20
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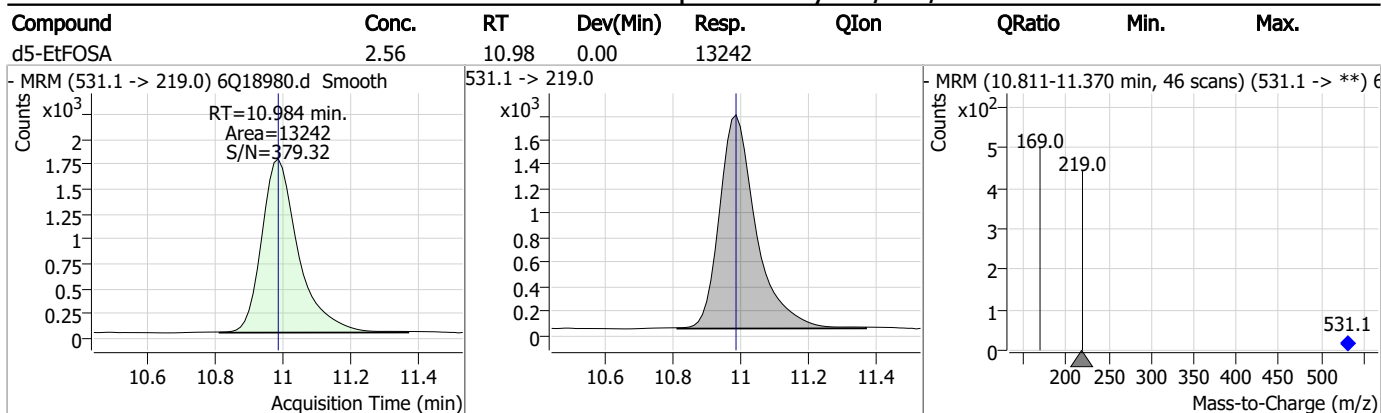
Perfluorinated Compounds by LC/MS/MS



7.7.20
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Perfluorinated Compounds by LC/MS/MS



7.7.20
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Manual Integration Approval Summary

Sample Number: S6Q283-CC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18980.D Analyst approved: 06/08/23 12:32 Martha Valls
Injection Time: 06/07/23 22:44 Supervisor approved: 06/09/23 13:50 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
EiFOSAA	2991-50-6		8.30	Split peak

7.7.20.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18992.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 1:38:18 AM
 Sample Name : cc282-4
 Vial : P1-A5
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	199447	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	67107	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	73399	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	68658	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	103960	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	47082	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	29710	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	38100	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	33795	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18805	1.25 µg/L	0.000
M8-FOSA	9.611	506.1 -> 77.8	37235	2.50 µg/L	0.000
M3-PFBS	5.397	302.1 -> 79.9	25562	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	15958	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15245	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5429	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7249	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	7286	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	39705	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	45089	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	34910	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	127259	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	167731	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	14209	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14537	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20284	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	84098	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11677	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	111102	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	38487	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	57034	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	68323	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5429	5.65 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.1%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7249	5.25 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 105.1%		
13C2-8:2FTS	7.827	529.1 -> 80.9	7286	5.30 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.0%		
13C2-PFDoDA	8.900	615.1 -> 570.0	33795	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.1%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18805	1.22 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 97.6%		
13C3-PFBS	5.397	302.1 -> 79.9	25562	2.49 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 99.6%		
13C3-PFHxS	7.155	402.1 -> 79.9	15958	2.53 µg/L	0.000

7.7.21
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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	2.860	216.8 -> 171.9	199447	9.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.9%	
13C4-PFHpA	6.420	367.1 -> 322.0	68658	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C5-PFHxA	5.478	318.0 -> 273.0	73399	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C5-PFPeA	4.272	268.3 -> 223.0	67107	5.06 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C6-PFDA	8.039	519.1 -> 474.1	29710	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C7-PFUnDA	8.480	570.0 -> 525.1	38100	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C8-FOSA	9.611	506.1 -> 77.8	37235	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.9%	
13C8-PFOA	7.051	421.1 -> 376.0	103960	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%	
13C8-PFOS	8.189	507.1 -> 79.9	15245	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C9-PFNA	7.569	472.1 -> 427.0	47082	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.4%	
d3-MeFOSAA	8.096	573.2 -> 419.0	39705	5.44 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.7%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	45089	10.47 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.7%	
d3-MeFOSA	10.752	515.0 -> 219.0	14537	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%	
d5-EtFOSAA	8.292	589.2 -> 419.0	34910	5.33 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.6%	
d7-MeFOSE	10.660	623.2 -> 58.9	127259	24.99 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.0%	
d9-EtFOSE	10.907	639.2 -> 58.9	167731	25.87 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.5%	
d5-EtFOSA	10.984	531.1 -> 219.0	14209	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	69131	9.30 µg/L	99
		327.1 -> 80.9	26140		
6:2FTS	6.838	427.1 -> 407.0	70977	10.33 µg/L	100
		427.1 -> 80.9	23828		
8:2FTS	7.828	527.1 -> 507.0	38434	9.83 µg/L	100
		527.1 -> 80.8	15468		
EtFOSAA	8.280	584.2 -> 419.1	11133	2.34 µg/L	99
		584.2 -> 526.0	6070		
FOSA	9.614	498.1 -> 77.9	29485	2.35 µg/L	100
		498.1 -> 478.0	908		
MeFOSAA	8.097	570.1 -> 419.0	19431	2.45 µg/L	97
		570.1 -> 483.0	3866		
PFBA	2.856	212.8 -> 168.9	64617	9.94 µg/L	100
PFBS	5.385	298.7 -> 79.9	20121	2.27 µg/L	97
		298.7 -> 98.8	7497		
PFDA	8.040	512.9 -> 469.0	78161	2.18 µg/L	99
		512.9 -> 219.0	12079		
PFDoDA	8.900	613.1 -> 569.0	56438	2.56 µg/L	93
		613.1 -> 319.0	8283		
PFDS	9.052	599.0 -> 79.9	8554	2.35 µg/L	94

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	4326	2.38	µg/L	100
		363.1 -> 319.0	69238			
PFHpS	7.698	363.1 -> 169.0	11363	2.43	µg/L	97
		449.0 -> 79.9	16787			
PFHxA	5.481	449.0 -> 98.9	7874	2.30	µg/L	100
		313.0 -> 269.0	55510			
PFHxS	7.156	313.0 -> 118.9	2960	2.23	µg/L	99
		398.7 -> 79.9	16690			
PFNA	7.570	398.7 -> 98.9	7950	2.49	µg/L	99
		463.0 -> 419.0	83195			
PFNS	8.631	463.0 -> 219.0	16389	2.35	µg/L	94
		548.8 -> 79.9	14294			
PFOA	7.052	548.8 -> 98.9	8030	2.43	µg/L	99
		413.0 -> 369.0	106333			
PFOS	8.191	413.0 -> 169.0	18580	2.25	µg/L	99
		498.9 -> 79.9	15707			
PFPeA	4.274	498.9 -> 98.8	7837	4.81	µg/L	100
		263.0 -> 219.0	76215			
PFPeS	6.459	349.1 -> 79.9	16618	2.31	µg/L	99
		349.1 -> 98.9	7457			
PFTeDA	9.628	713.1 -> 669.0	45609	2.46	µg/L	97
		713.1 -> 168.9	3672			
PFTrDA	9.284	663.0 -> 619.0	56140	2.50	µg/L	99
		663.0 -> 168.9	6025			
PFUnDA	8.480	563.1 -> 519.0	58365	2.47	µg/L	99
		563.1 -> 269.1	9047			
11CI-PF3OUdS	9.323	630.9 -> 450.9	78697	4.56	µg/L	98
		632.9 -> 452.9	23148			
9CI-PF3ONS	8.508	530.8 -> 351.0	125967	4.61	µg/L	97
		532.8 -> 353.0	38941			
ADONA	6.671	376.9 -> 250.9	278974	4.51	µg/L	98
		376.9 -> 84.8	78948			
HFPO-DA	5.844	284.9 -> 168.9	18429	4.89	µg/L	100
		284.9 -> 184.9	2197			
3:3FTCA	3.727	241.0 -> 177.0	13052	11.63	µg/L	100
		241.0 -> 117.0	1737			
5:3FTCA	6.137	341.0 -> 237.1	274529	59.06	µg/L	99
		341.0 -> 217.0	201269			
7:3FTCA	7.535	441.0 -> 316.9	189572	59.28	µg/L	100
		441.0 -> 336.9	430195			
EtFOSA	10.986	526.0 -> 219.0	32342	4.94	µg/L	100
		526.0 -> 169.0	42426			
EtFOSE	10.920	630.0 -> 58.9	90653	12.39	µg/L	100
		511.9 -> 219.0	27568			
MeFOSA	10.753	511.9 -> 169.0	37642	4.98	µg/L	97
		616.1 -> 58.9	60004			
MeFOSE	10.686	699.1 -> 79.9	4243	12.18	µg/L	100
		699.1 -> 98.8	2347			
PFDoDS	9.755	295.0 -> 201.0	14128	2.47	µg/L	100
		295.0 -> 84.9	3935			
NFDHA	5.361	279.0 -> 85.1	53543	4.88	µg/L	94
		229.0 -> 84.9	41634			
PFMBA	4.688	314.8 -> 134.9	130497	4.99	µg/L	100
		314.8 -> 82.9	4686			
PFMPA	3.413			4.26	µg/L	100
PFEESA	5.926					

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

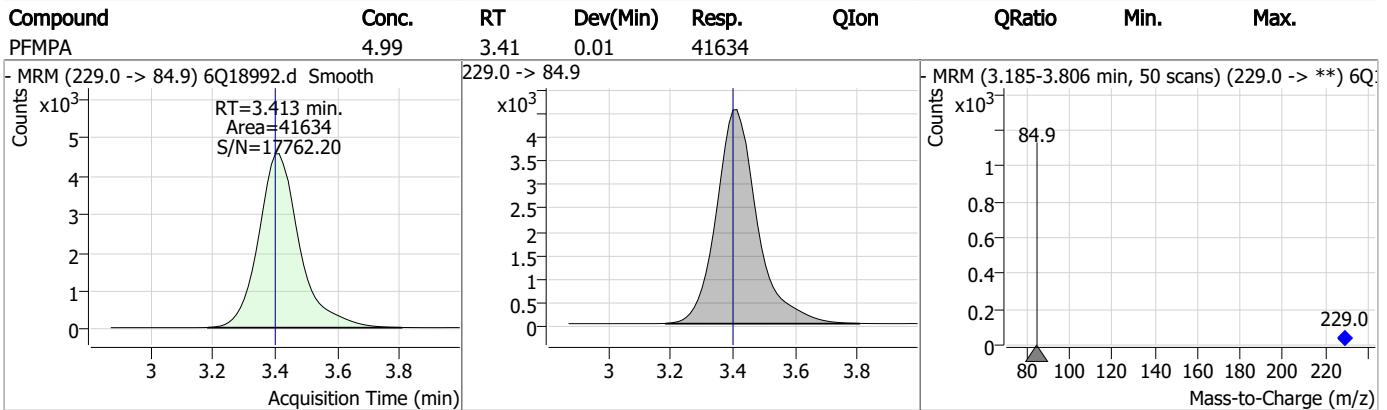
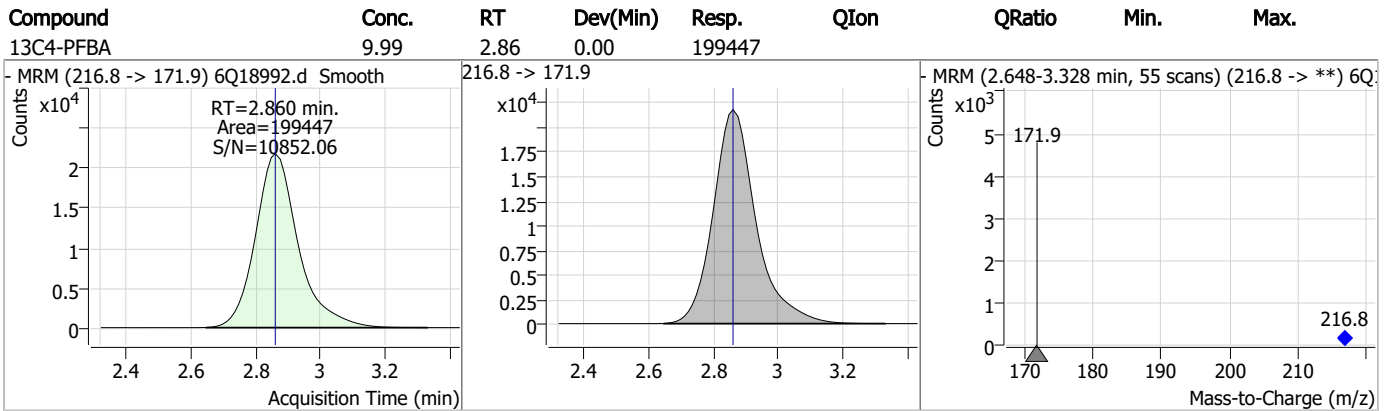
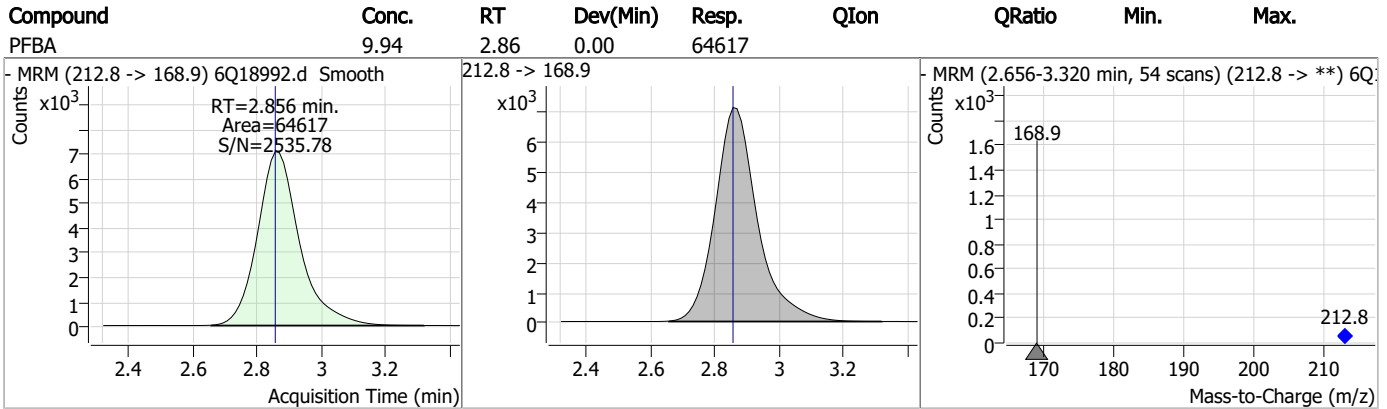
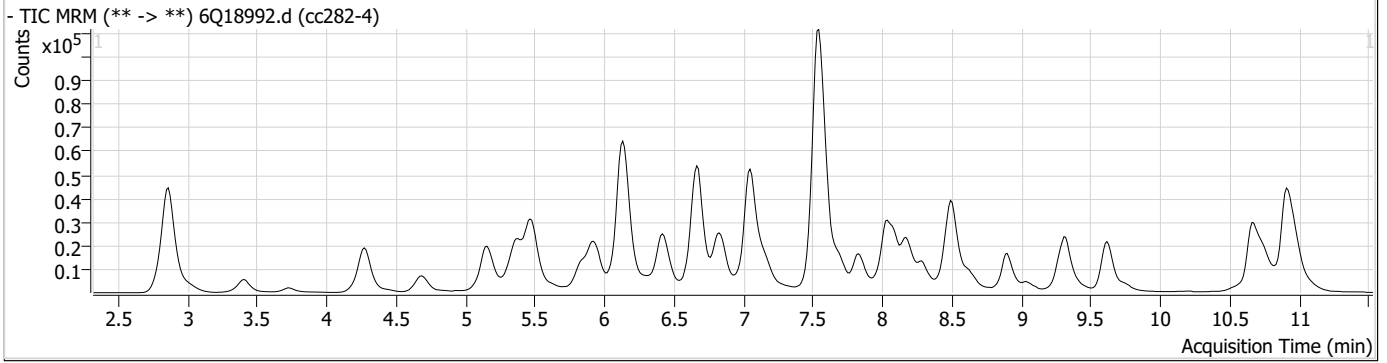
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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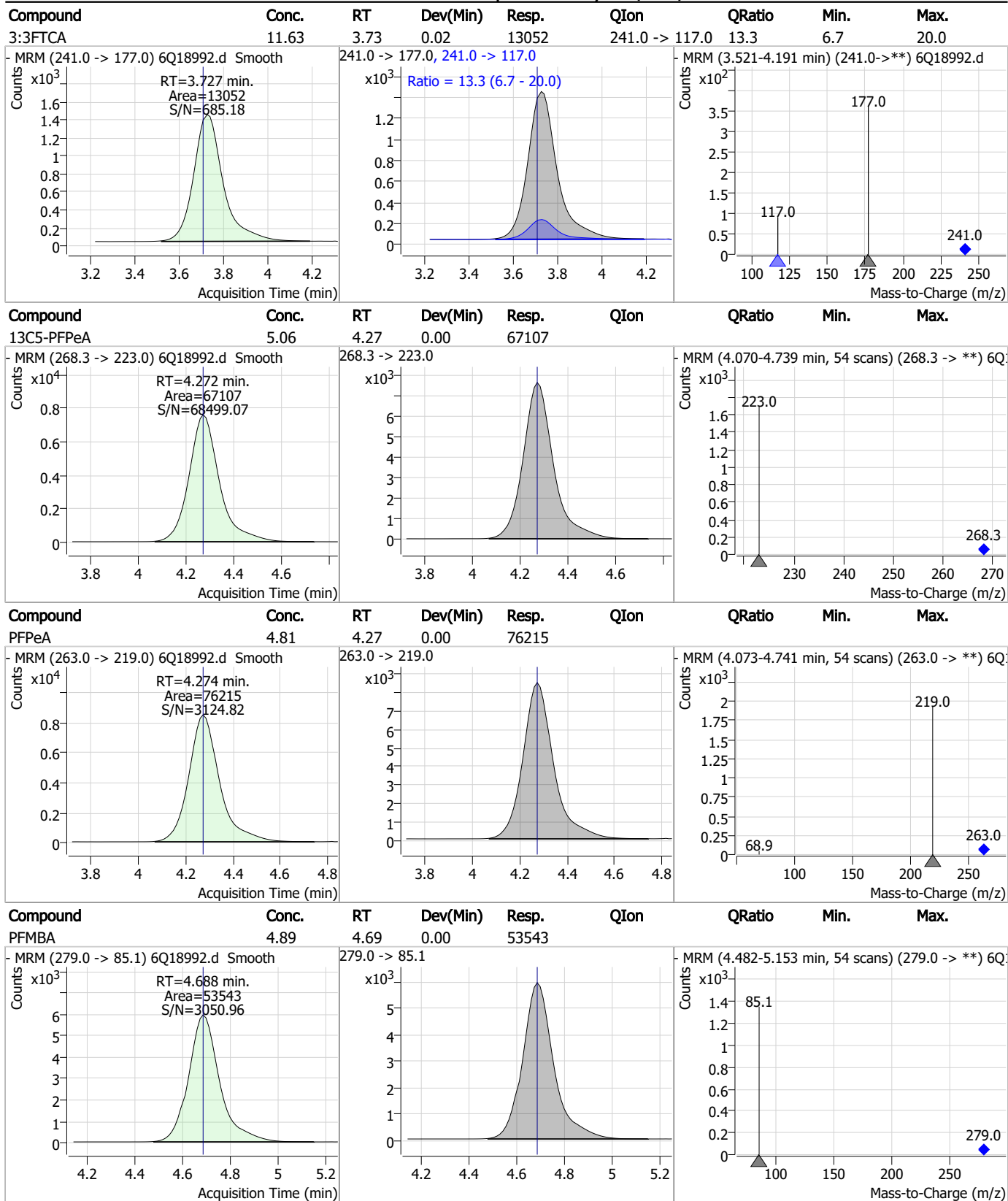
7.7.21

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Perfluorinated Compounds by LC/MS/MS

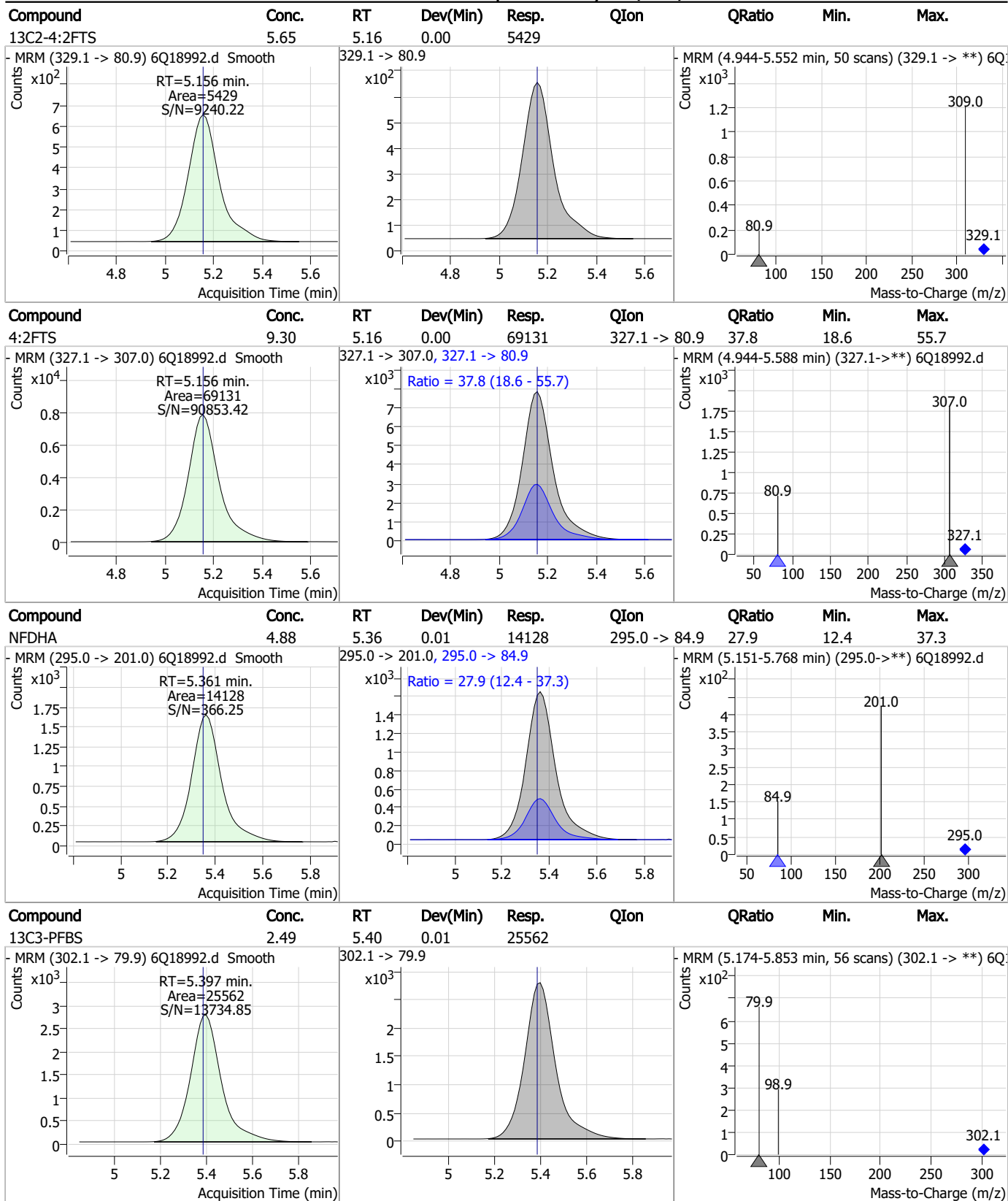


Perfluorinated Compounds by LC/MS/MS



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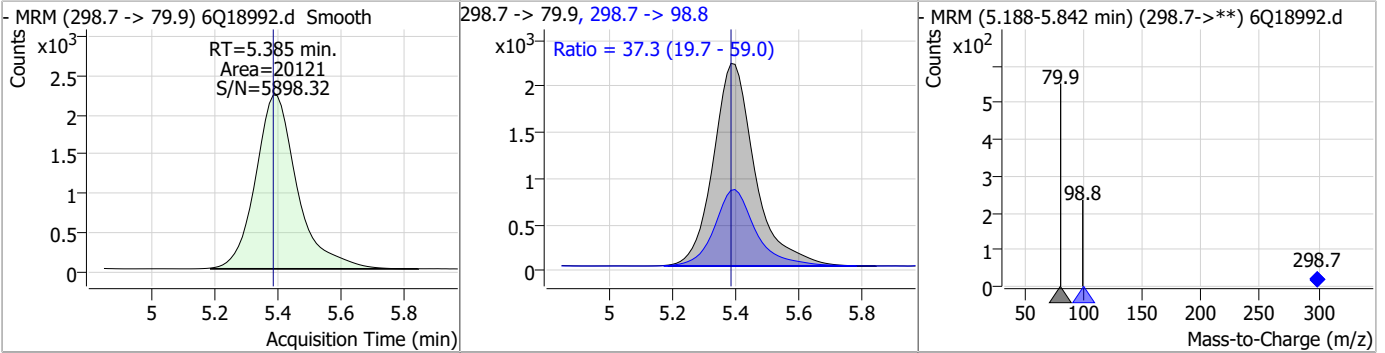
Perfluorinated Compounds by LC/MS/MS



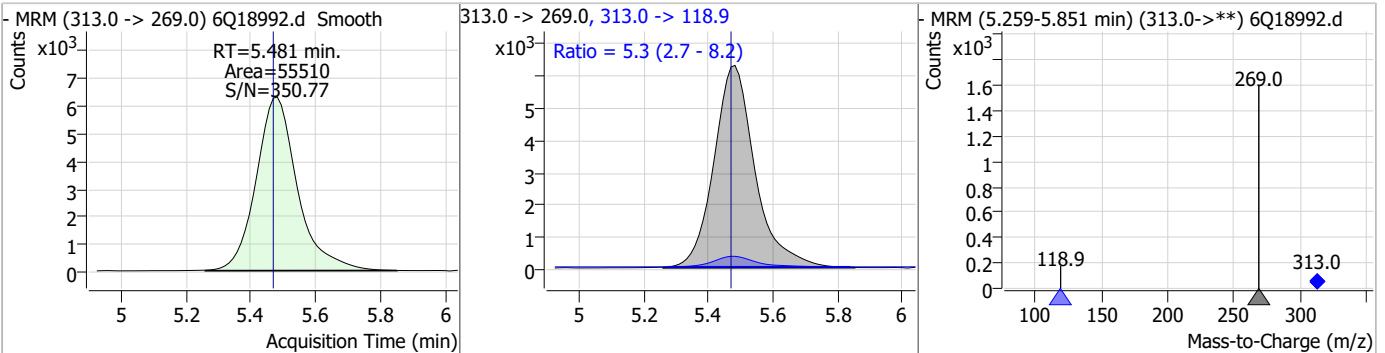
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Perfluorinated Compounds by LC/MS/MS

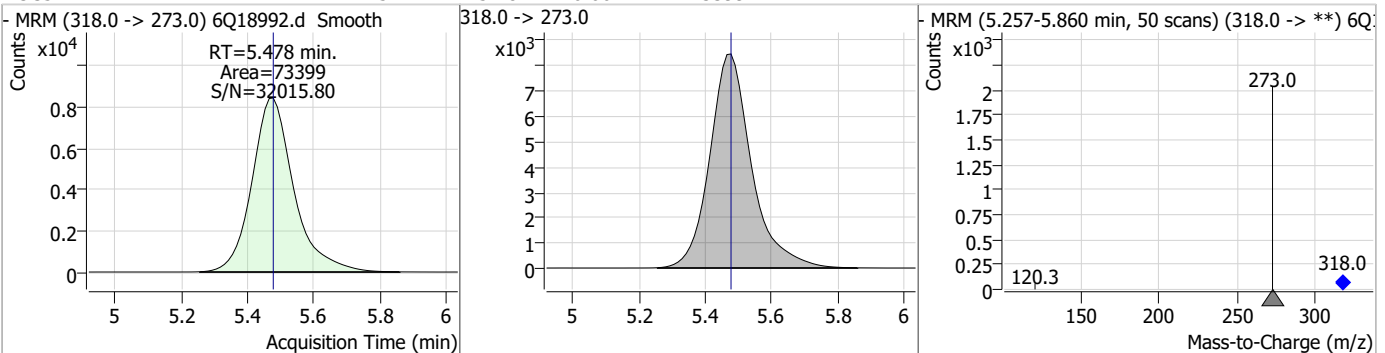
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.27	5.38	0.00	20121	298.7 -> 98.8	37.3	19.7	59.0



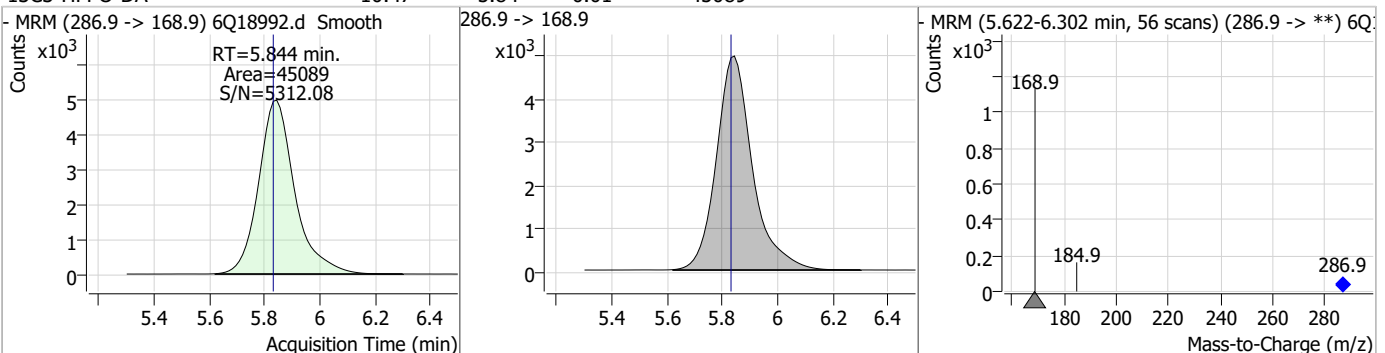
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.30	5.48	0.01	55510	313.0 -> 118.9	5.3	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.54	5.48	0.00	73399	318.0 -> 273.0	-	-	-

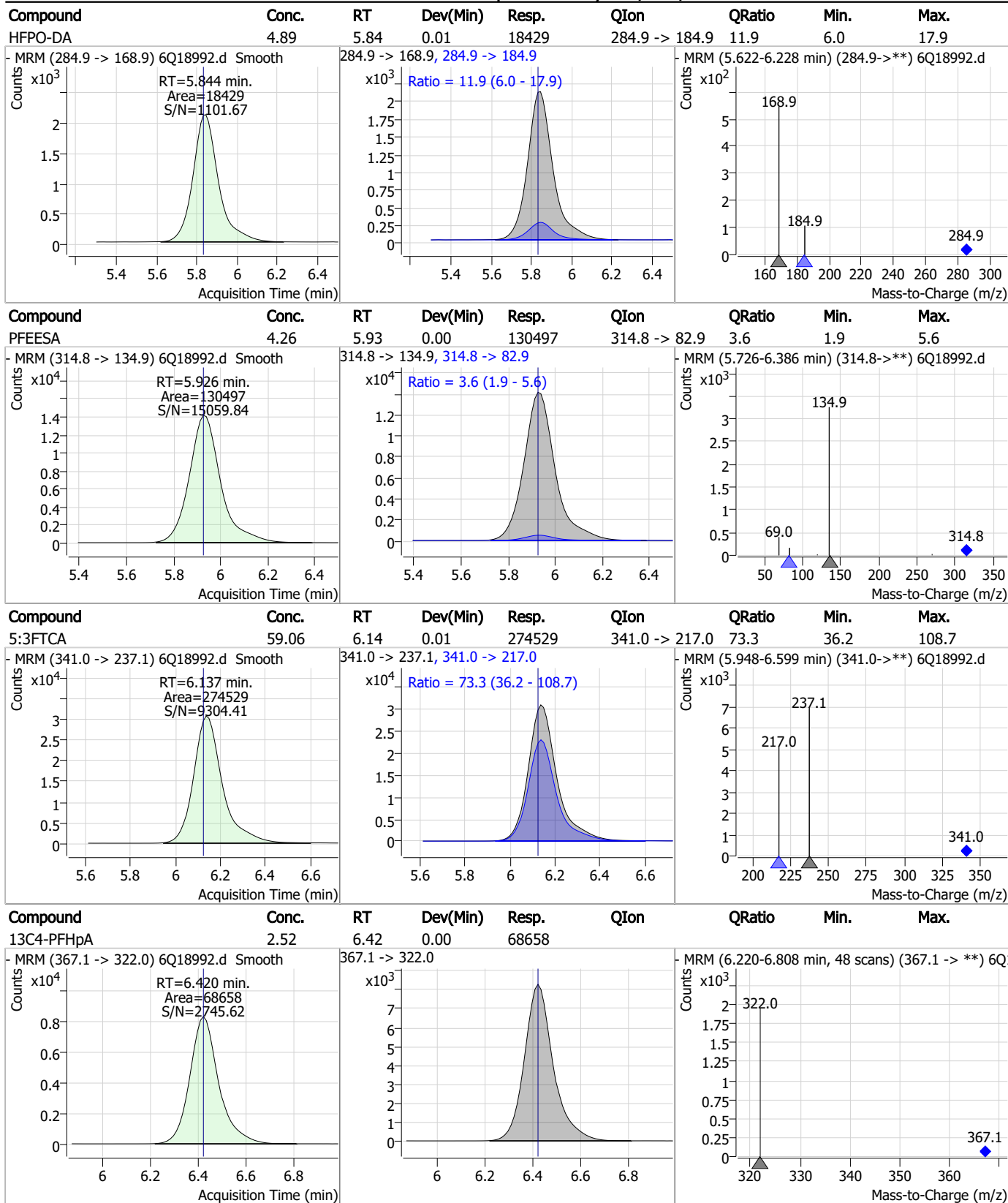


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.47	5.84	0.01	45089	286.9 -> 168.9	-	-	-



7.7.21 7

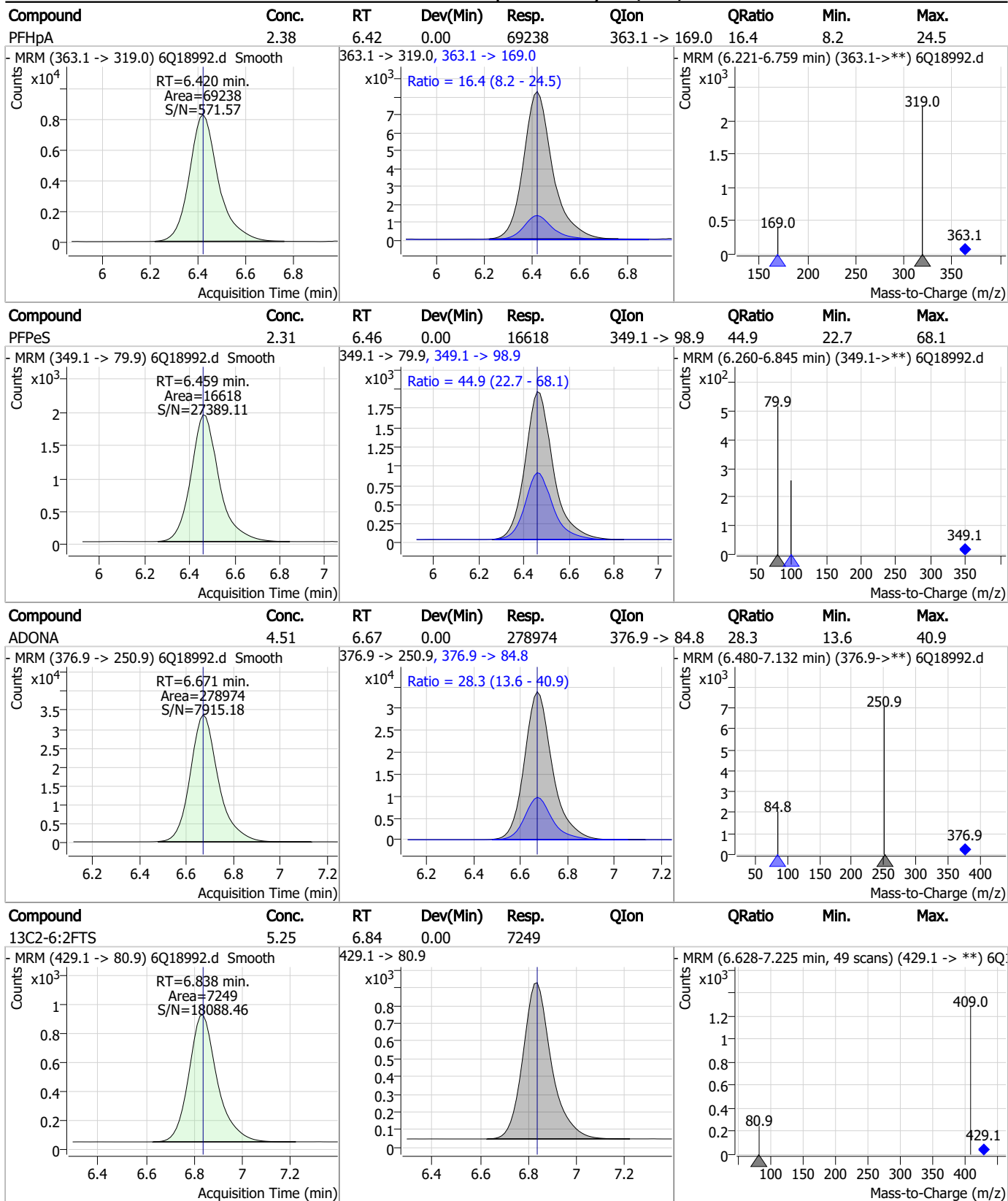
Perfluorinated Compounds by LC/MS/MS



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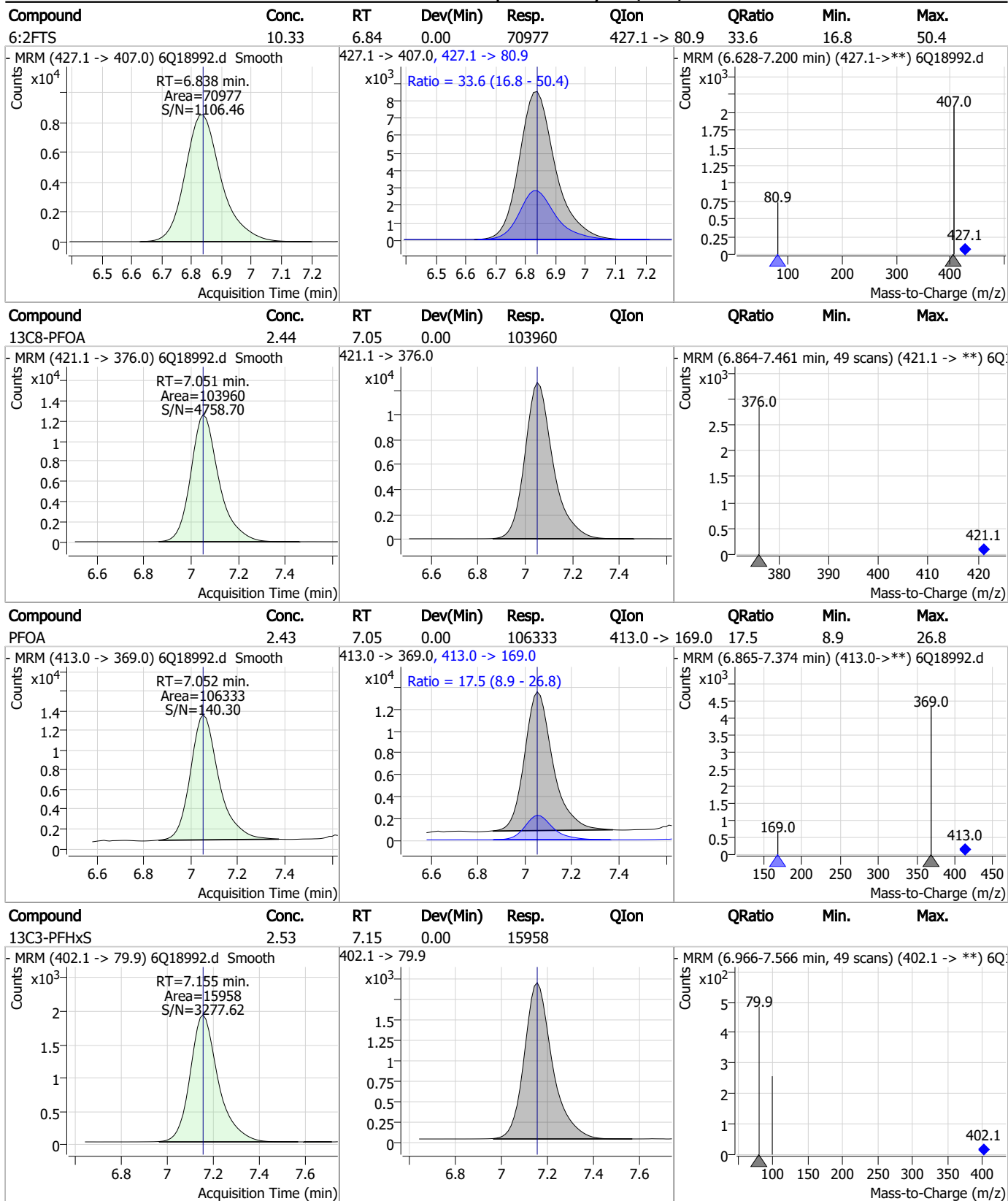
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Perfluorinated Compounds by LC/MS/MS



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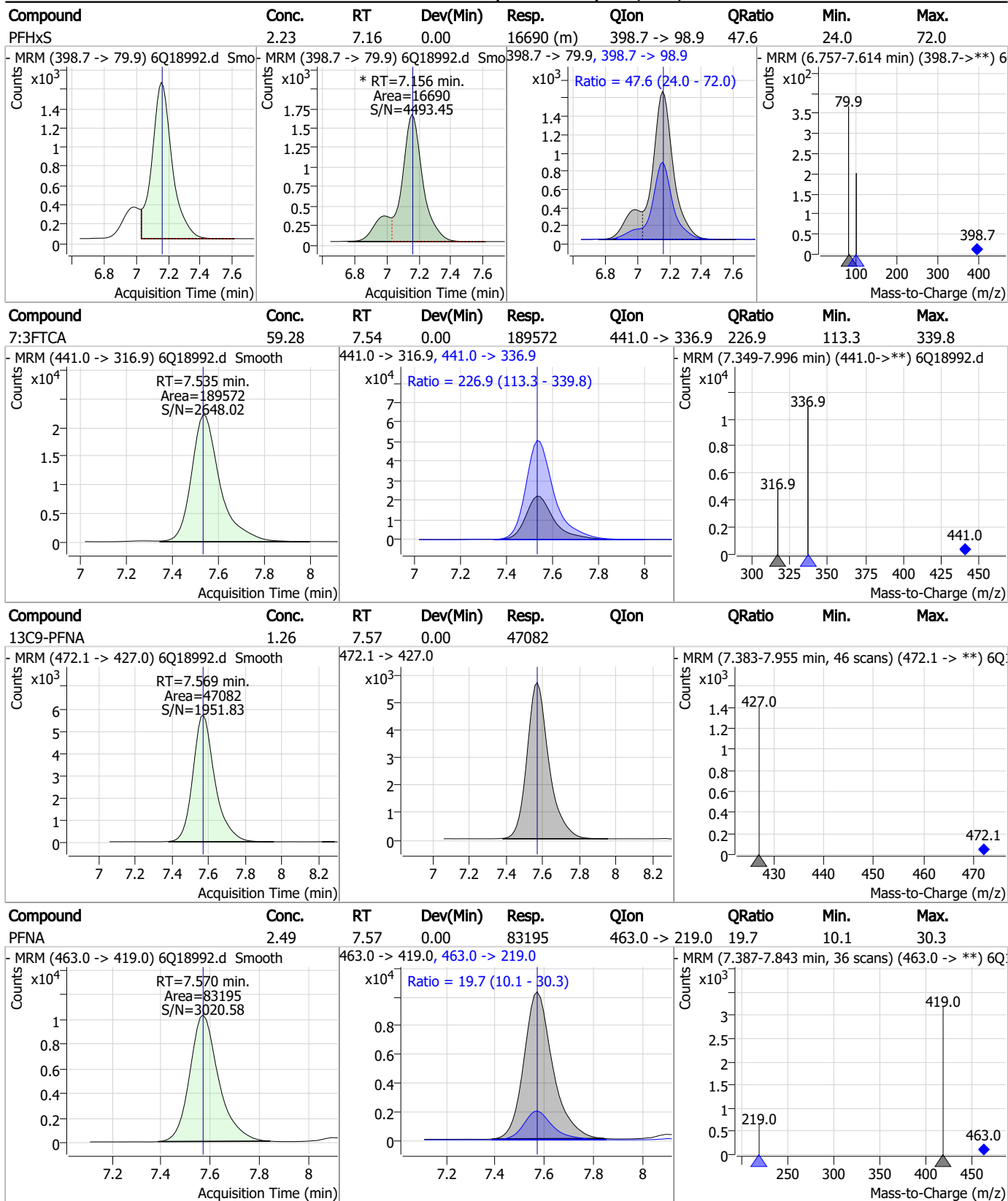
Perfluorinated Compounds by LC/MS/MS



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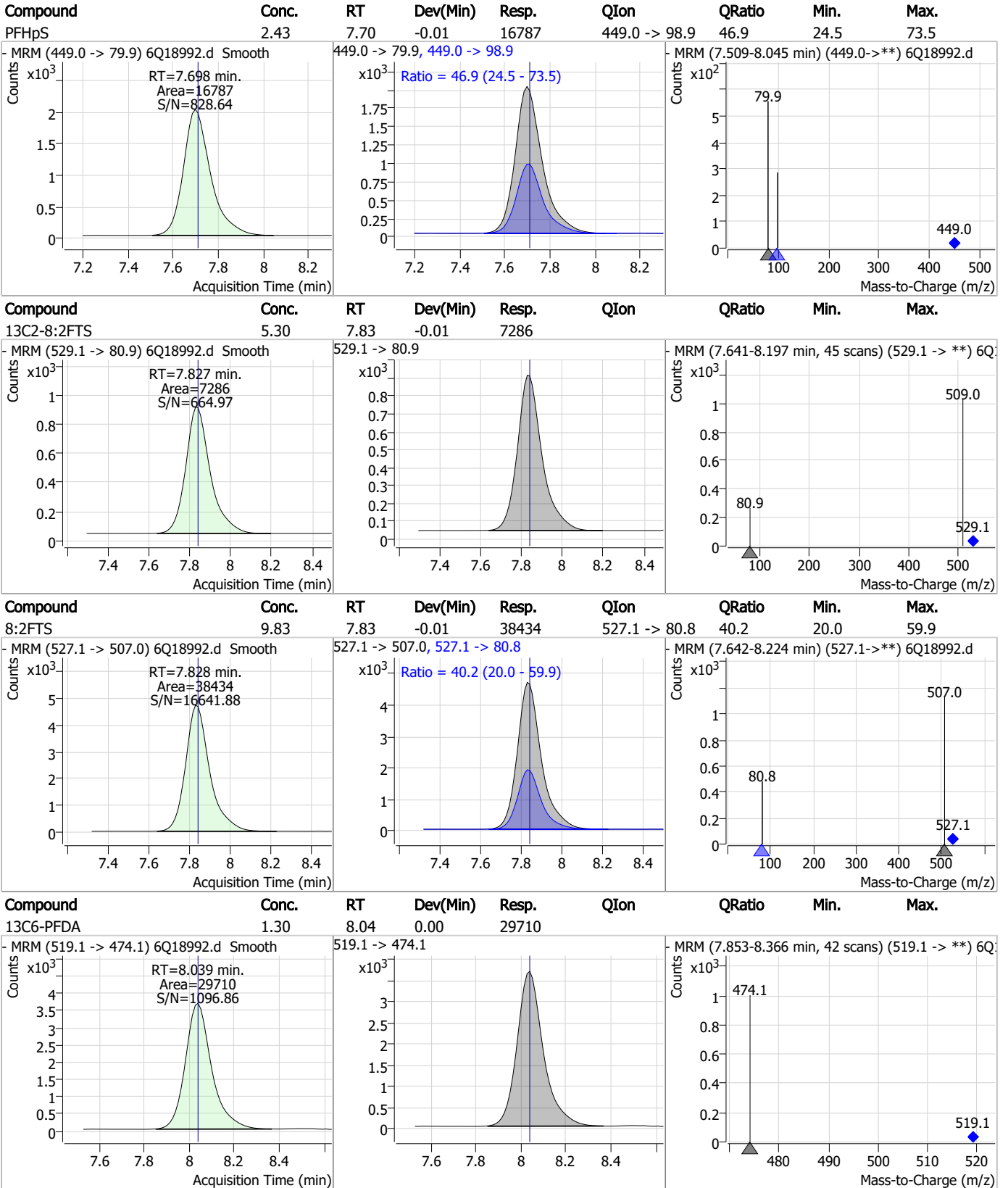
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

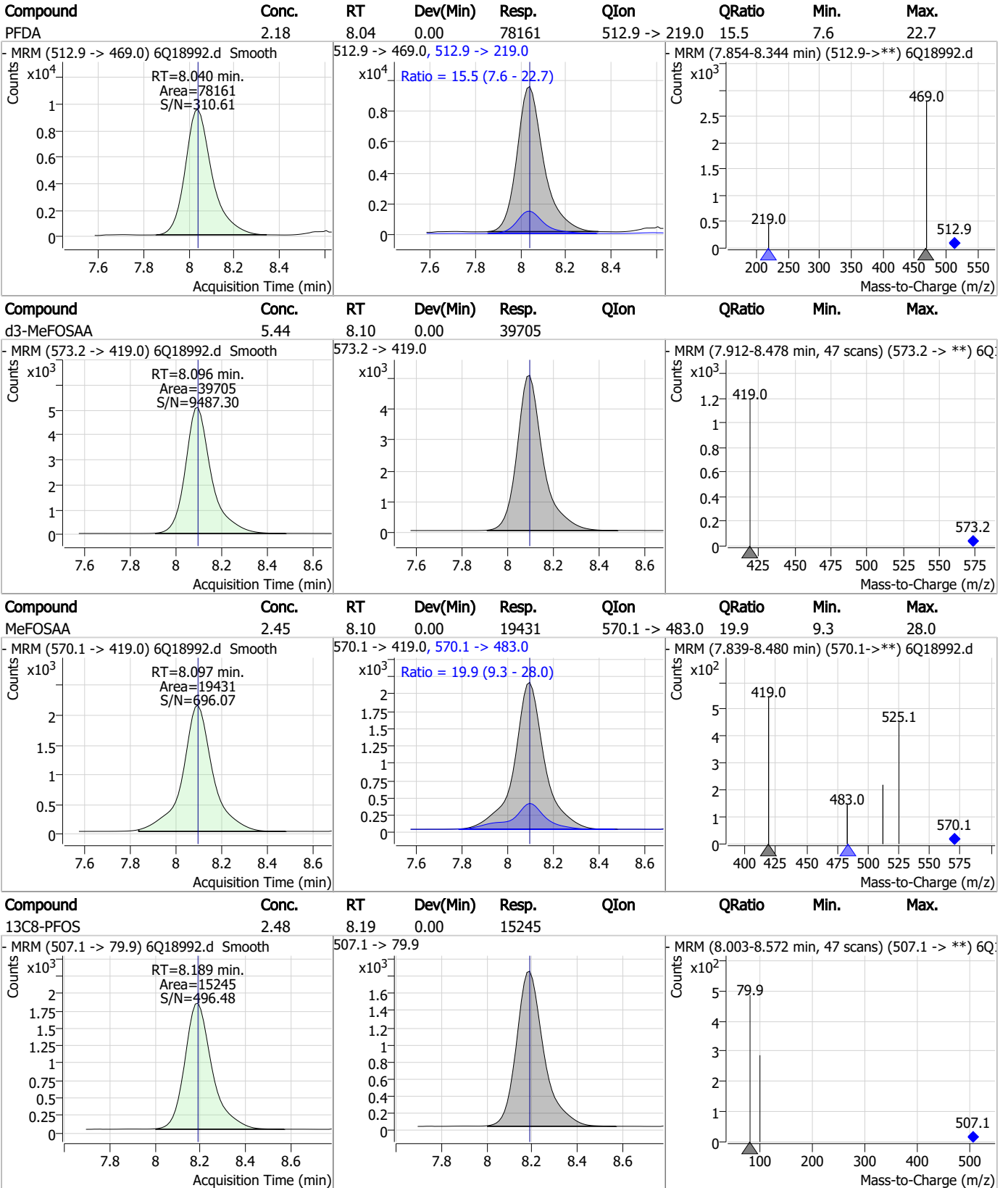


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Perfluorinated Compounds by LC/MS/MS

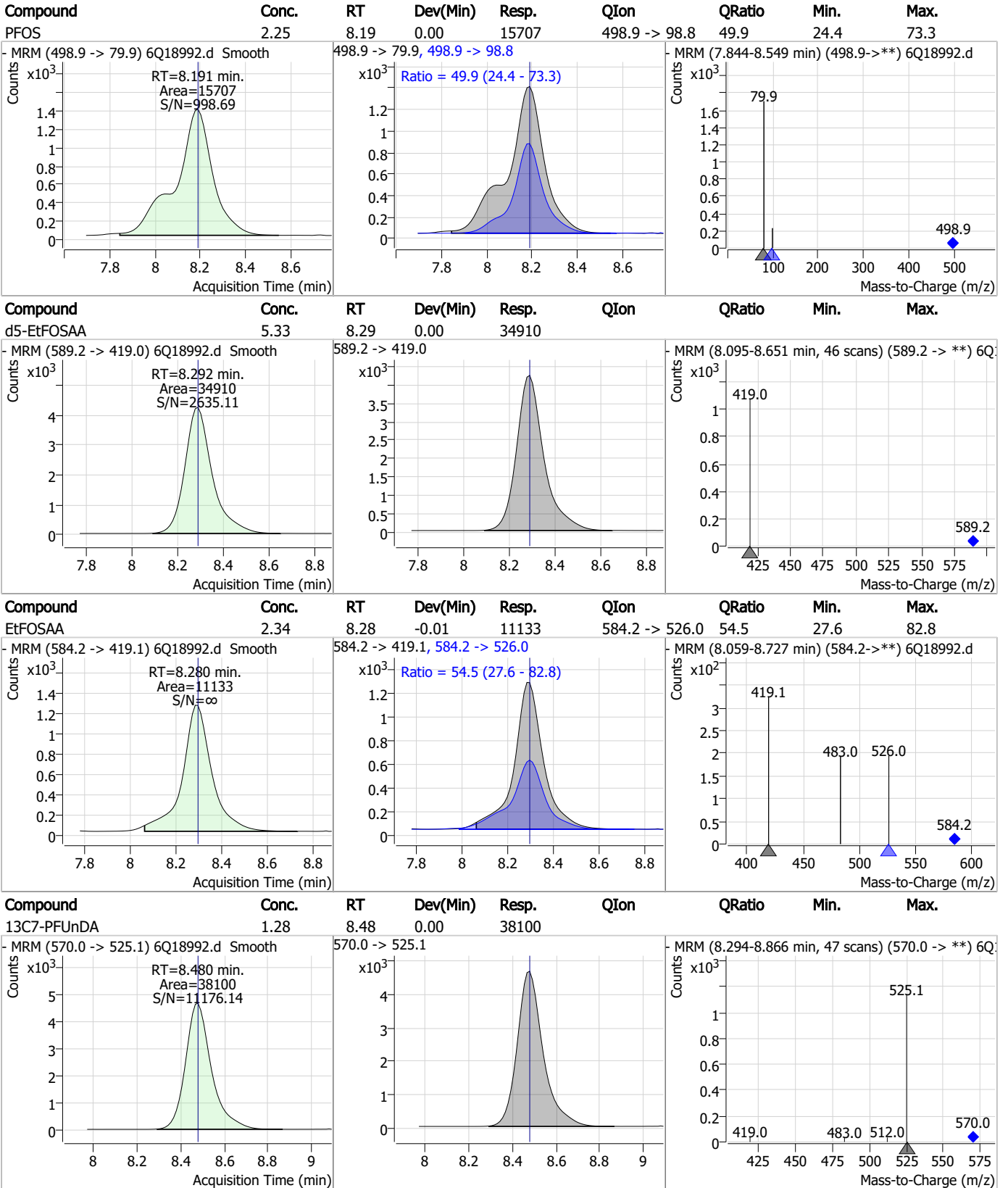


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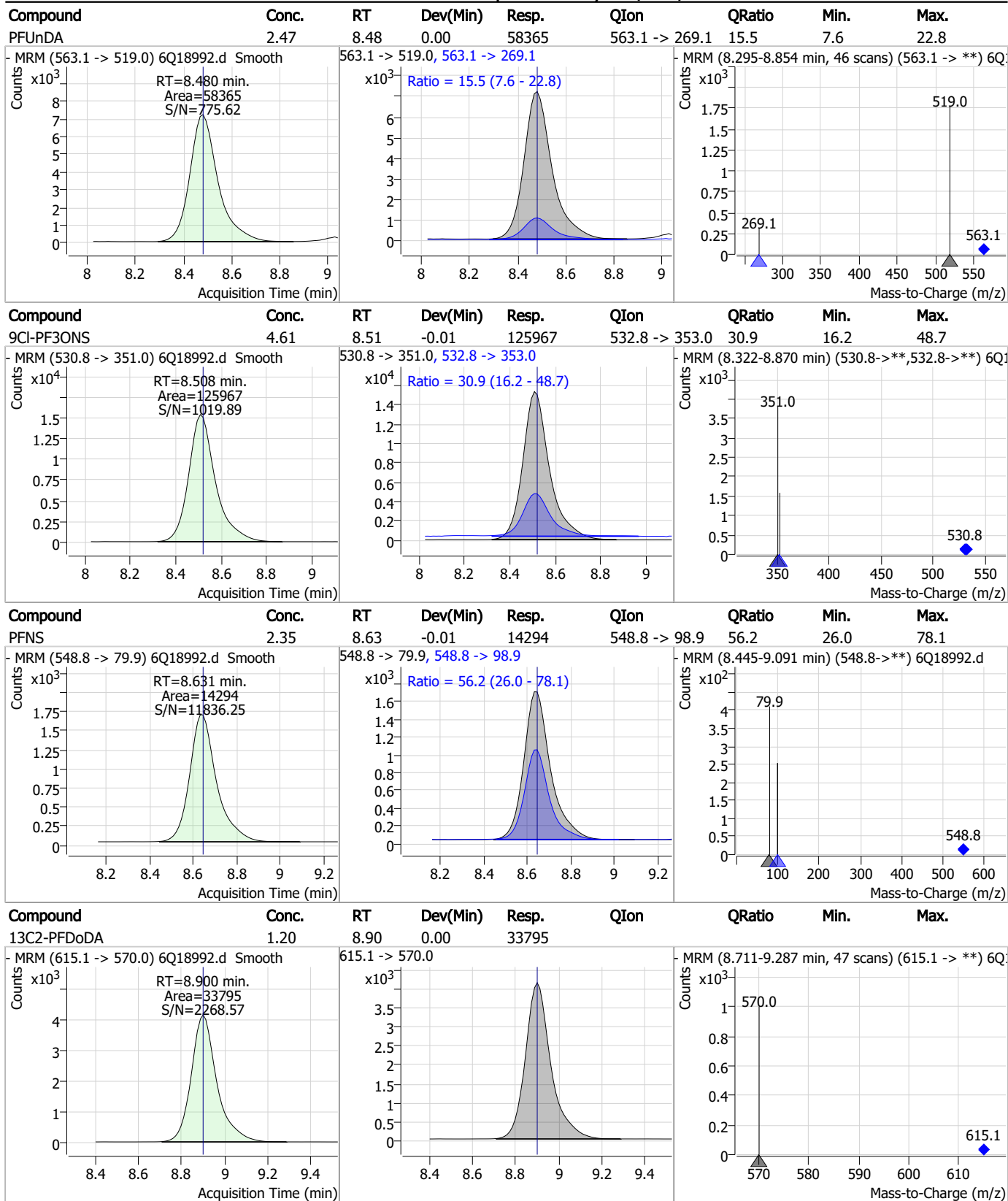
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

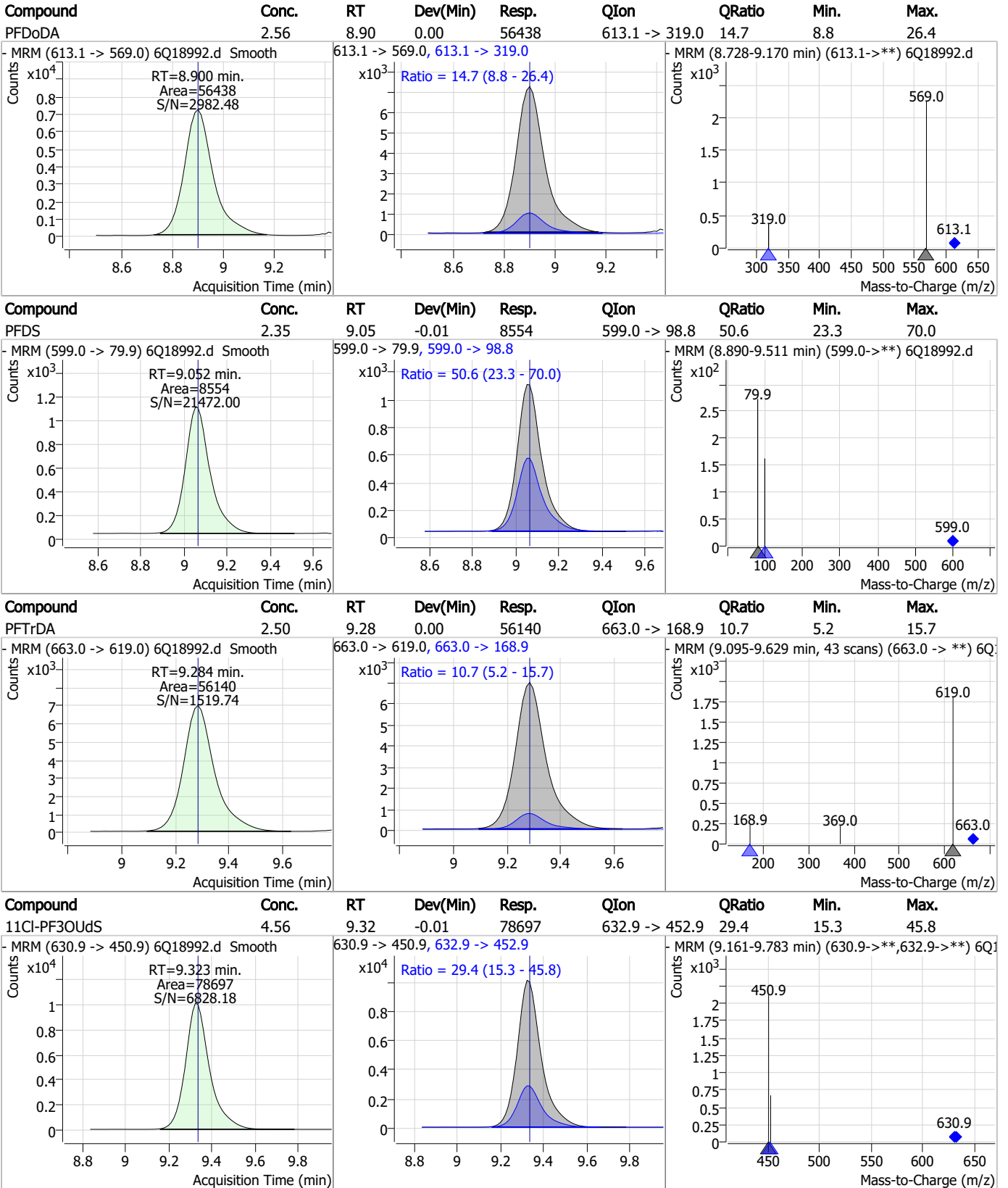


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Perfluorinated Compounds by LC/MS/MS

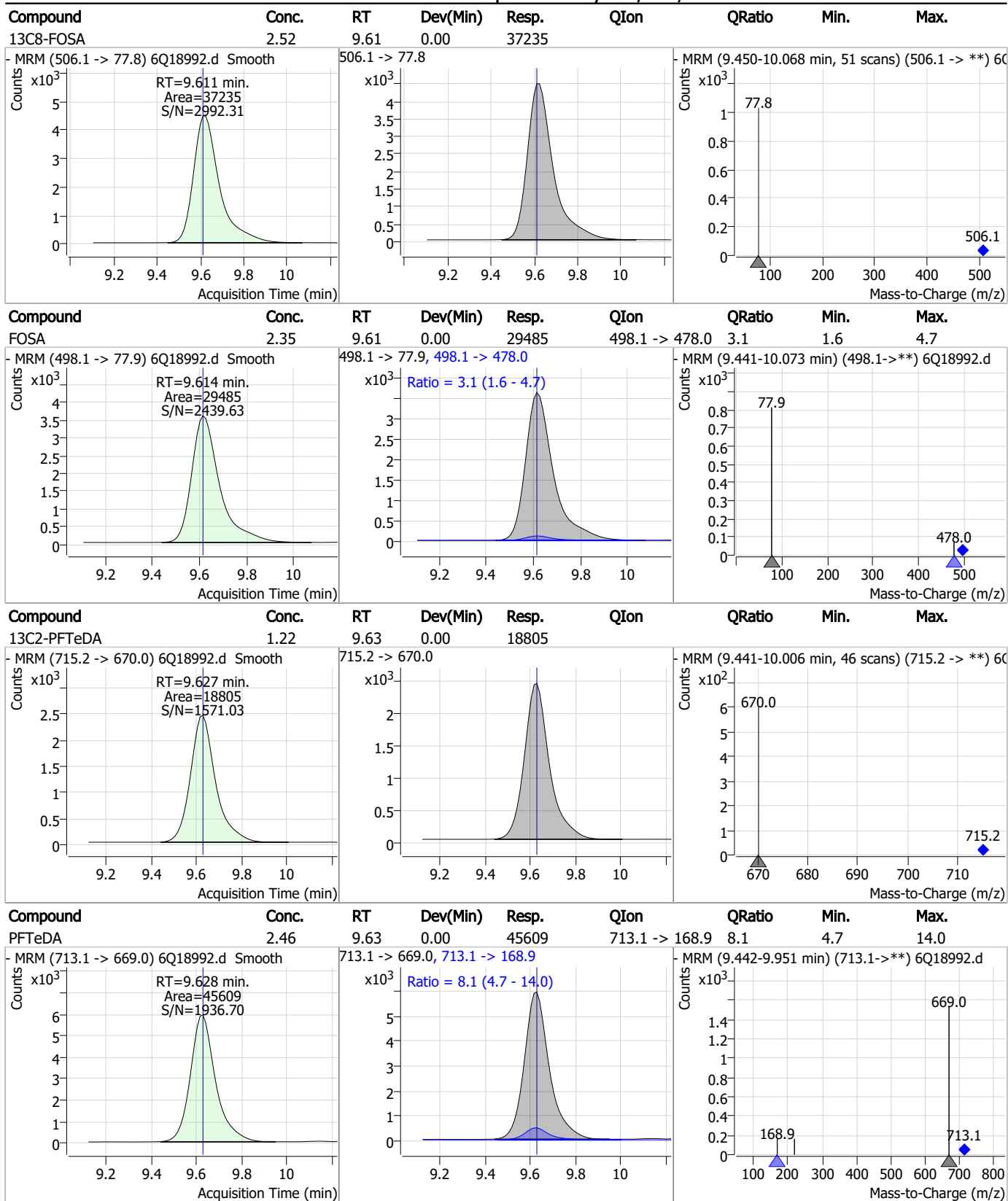


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Perfluorinated Compounds by LC/MS/MS

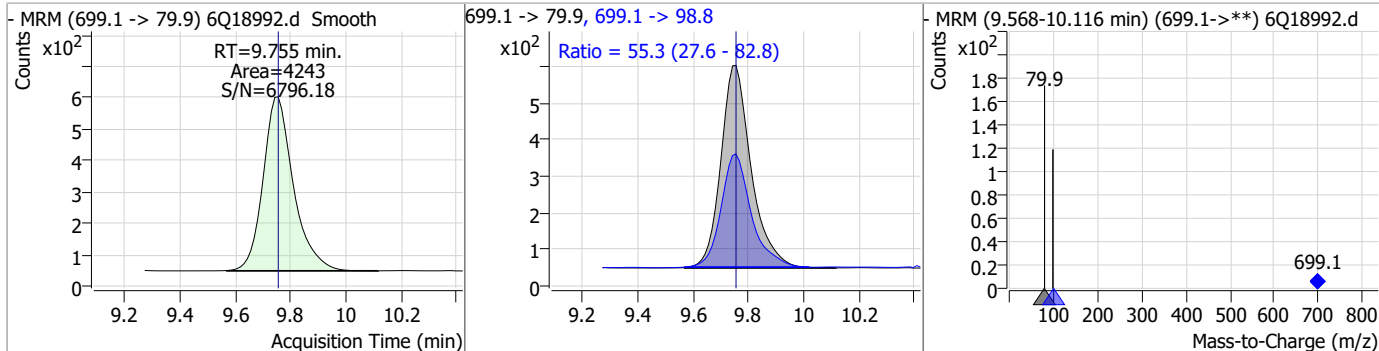


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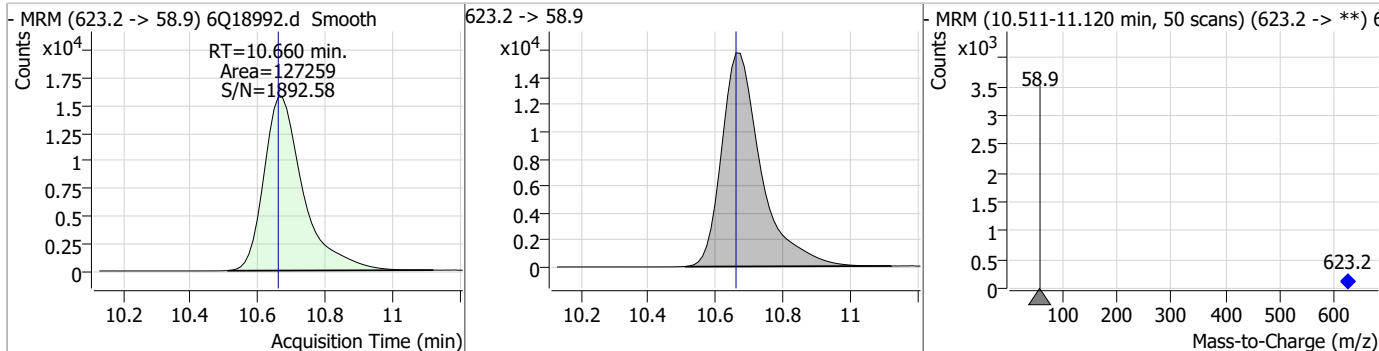
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Perfluorinated Compounds by LC/MS/MS

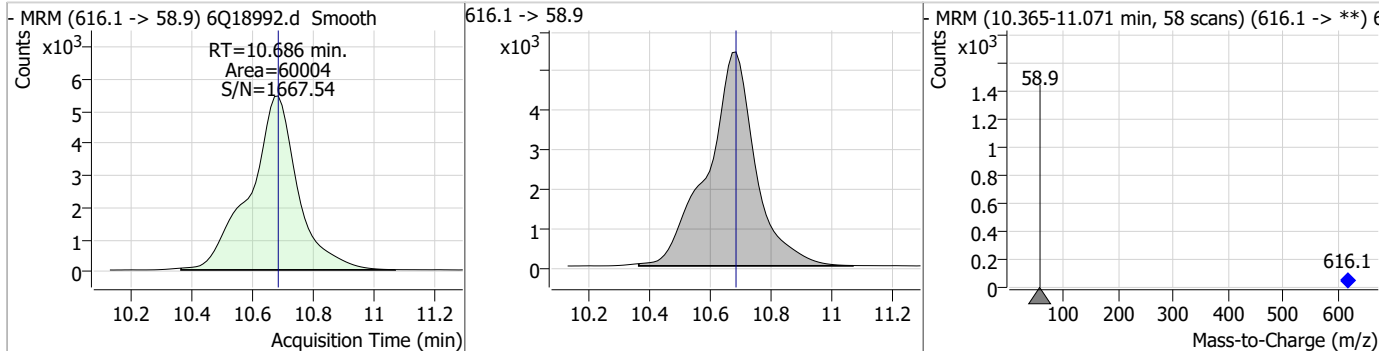
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.47	9.75	0.00	4243	699.1 -> 98.8	55.3	27.6	82.8



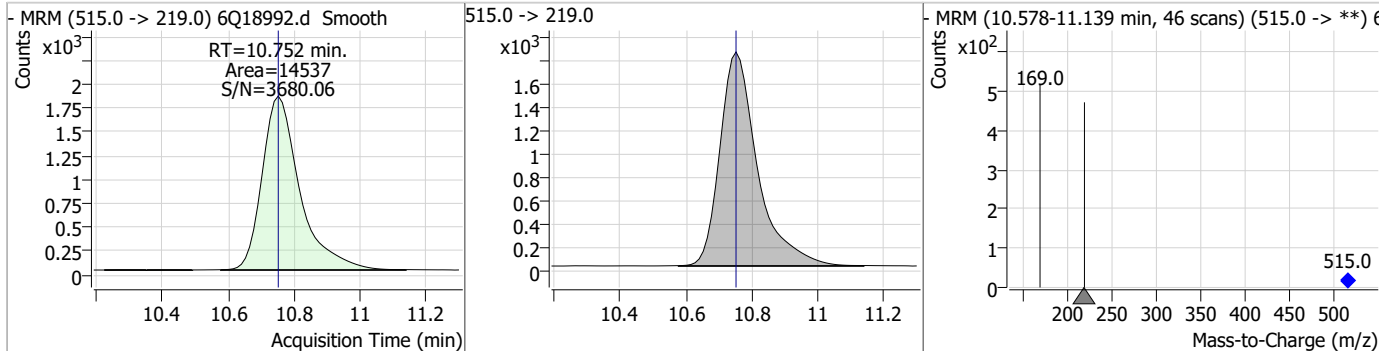
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.99	10.66	0.00	127259				



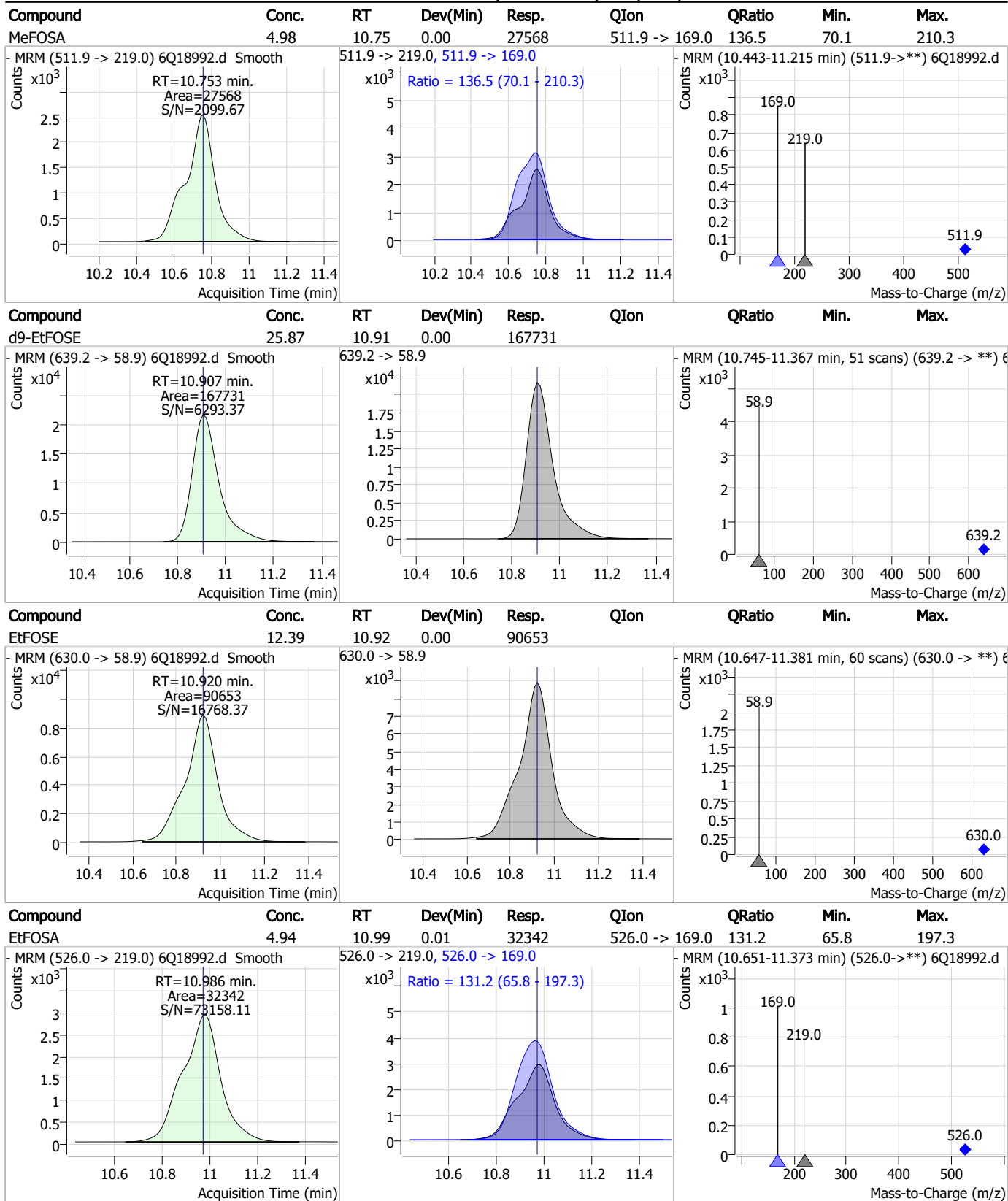
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.18	10.69	0.00	60004				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.53	10.75	0.00	14537				



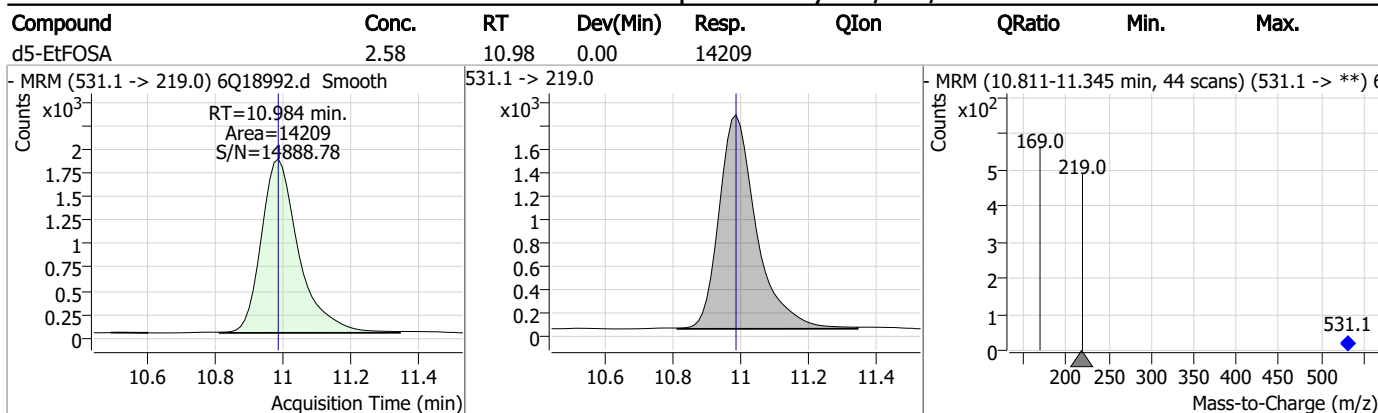
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q283-CC282 Method: EPA DRAFT 1633
Lab FileID: 6Q18992.D Analyst approved: 06/08/23 12:32 Martha Valls
Injection Time: 06/08/23 01:38 Supervisor approved: 06/09/23 13:50 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak

7.7.21.1

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19025.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 9:36:25 AM
 Sample Name : cc282-4
 Vial : P1-A5
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	200545	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	67236	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	72216	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	67868	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	103702	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	47336	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	28369	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	38005	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	33243	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18734	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	37032	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	26860	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	16884	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15345	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5282	5.00 µg/L	0.000
M2-6:2FTS	6.825	429.1 -> 80.9	7693	5.00 µg/L	-0.012
M2-8:2FTS	7.839	529.1 -> 80.9	6994	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	41209	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	44796	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	37199	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	126793	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	165743	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	14714	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14545	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18906	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	84232	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11717	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	117726	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	38595	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	57703	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	67222	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5282	5.48 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.6%		
13C2-6:2FTS	6.825	429.1 -> 80.9	7693	5.56 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.1%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6994	5.07 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.4%		
13C2-PFDoDA	8.900	615.1 -> 570.0	33243	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 94.3%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18734	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.9%		
13C3-PFBS	5.384	302.1 -> 79.9	26860	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.3%		
13C3-PFHxS	7.155	402.1 -> 79.9	16884	2.67 µg/L	0.000

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.8%	
13C4-PFBA	2.860	216.8 -> 171.9	200545	10.03 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.3%	
13C4-PFHpA	6.420	367.1 -> 322.0	67868	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.3%	
13C5-PFHxA	5.466	318.0 -> 273.0	72216	2.54 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C5-PFPeA	4.272	268.3 -> 223.0	67236	5.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C6-PFDA	8.039	519.1 -> 474.1	28369	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C7-PFUnDA	8.480	570.0 -> 525.1	38005	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C8-FOSA	9.623	506.1 -> 77.8	37032	2.69 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.7%	
13C8-PFOA	7.051	421.1 -> 376.0	103702	2.30 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.9%	
13C8-PFOS	8.189	507.1 -> 79.9	15345	2.67 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.0%	
13C9-PFNA	7.569	472.1 -> 427.0	47336	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.8%	
d3-MeFOSAA	8.096	573.2 -> 419.0	41209	6.05 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 121.0%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	44796	10.58 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.8%	
d3-MeFOSA	10.752	515.0 -> 219.0	14545	2.72 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.6%	
d5-EtFOSAA	8.292	589.2 -> 419.0	37199	6.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 121.8%	
d7-MeFOSE	10.660	623.2 -> 58.9	126793	26.72 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.9%	
d9-EtFOSE	10.907	639.2 -> 58.9	165743	27.42 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 109.7%	
d5-EtFOSA	10.984	531.1 -> 219.0	14714	2.86 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.6%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	68917	9.53 µg/L	99
		327.1 -> 80.9	26099		
6:2FTS	6.826	427.1 -> 407.0	67273	9.23 µg/L	98
		427.1 -> 80.9	23233		
8:2FTS	7.840	527.1 -> 507.0	38983	10.39 µg/L	100
		527.1 -> 80.8	15557		
EtFOSAA	8.293	584.2 -> 419.1	11157	2.20 µg/L	99
		584.2 -> 526.0	6041		
FOSA	9.614	498.1 -> 77.9	30519	2.45 µg/L	100
		498.1 -> 478.0	961		
MeFOSAA	8.097	570.1 -> 419.0	19251	2.34 µg/L	96
		570.1 -> 483.0	3952		
PFBA	2.856	212.8 -> 168.9	64999	9.95 µg/L	100
PFBS	5.385	298.7 -> 79.9	20178	2.17 µg/L	95
		298.7 -> 98.8	7335		
PFDA	8.040	512.9 -> 469.0	82031	2.40 µg/L	97
		512.9 -> 219.0	13544		
PFDODA	8.900	613.1 -> 569.0	55827	2.58 µg/L	93
		613.1 -> 319.0	8133		
PFDS	9.064	599.0 -> 79.9	9193	2.51 µg/L	98

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	4377		
PFHpA	6.420	363.1 -> 319.0	70636	2.46 µg/L	99
		363.1 -> 169.0	11796		
PFHpS	7.698	449.0 -> 79.9	16961	2.44 µg/L	98
		449.0 -> 98.9	8540		
PFHxA	5.469	313.0 -> 269.0	57412	2.42 µg/L	99
		313.0 -> 118.9	2952		
PFHxS	7.156	398.7 -> 79.9	17332	2.19 µg/L	99
		398.7 -> 98.9	8171		
PFNA	7.570	463.0 -> 419.0	85300	2.54 µg/L	96
		463.0 -> 219.0	15476		
PFNS	8.644	548.8 -> 79.9	15468	2.53 µg/L	96
		548.8 -> 98.9	7625		
PFOA	7.052	413.0 -> 369.0	106734	2.44 µg/L	99
		413.0 -> 169.0	18535		
PFOS	8.191	498.9 -> 79.9	16189	2.31 µg/L	99
		498.9 -> 98.8	8048		
PFPeA	4.274	263.0 -> 219.0	77333	4.87 µg/L	100
PFPeS	6.459	349.1 -> 79.9	16438	2.16 µg/L	97
		349.1 -> 98.9	7834		
PFTeDA	9.615	713.1 -> 669.0	45189	2.45 µg/L	99
		713.1 -> 168.9	3988		
PFTrDA	9.284	663.0 -> 619.0	56527	2.56 µg/L	100
		663.0 -> 168.9	6020		
PFUnDA	8.480	563.1 -> 519.0	56042	2.38 µg/L	98
		563.1 -> 269.1	9010		
11CI-PF3OUdS	9.336	630.9 -> 450.9	77553	4.53 µg/L	96
		632.9 -> 452.9	25396		
9CI-PF3ONS	8.508	530.8 -> 351.0	121842	4.49 µg/L	98
		532.8 -> 353.0	38311		
ADONA	6.671	376.9 -> 250.9	284605	4.63 µg/L	99
		376.9 -> 84.8	76298		
HFPO-DA	5.832	284.9 -> 168.9	19596	5.24 µg/L	98
		284.9 -> 184.9	2143		
3:3FTCA	3.727	241.0 -> 177.0	13230	11.76 µg/L	100
		241.0 -> 117.0	1733		
5:3FTCA	6.137	341.0 -> 237.1	275769	60.30 µg/L	98
		341.0 -> 217.0	195371		
7:3FTCA	7.548	441.0 -> 316.9	190762	60.63 µg/L	93
		441.0 -> 336.9	411310		
EtFOSA	10.986	526.0 -> 219.0	32354	4.77 µg/L	99
		526.0 -> 169.0	43144		
EtFOSE	10.920	630.0 -> 58.9	86284	11.94 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	27116	4.89 µg/L	99
		511.9 -> 169.0	38493		
MeFOSE	10.673	616.1 -> 58.9	61398	12.51 µg/L	100
PFDoS	9.755	699.1 -> 79.9	4198	2.42 µg/L	97
		699.1 -> 98.8	2417		
NFDHA	5.348	295.0 -> 201.0	14747	5.18 µg/L	97
		295.0 -> 84.9	3451		
PFMBA	4.688	279.0 -> 85.1	54383	4.95 µg/L	100
PFMPA	3.401	229.0 -> 84.9	41989	5.02 µg/L	100
PFEESA	5.926	314.8 -> 134.9	136737	4.54 µg/L	99
		314.8 -> 82.9	4697		

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

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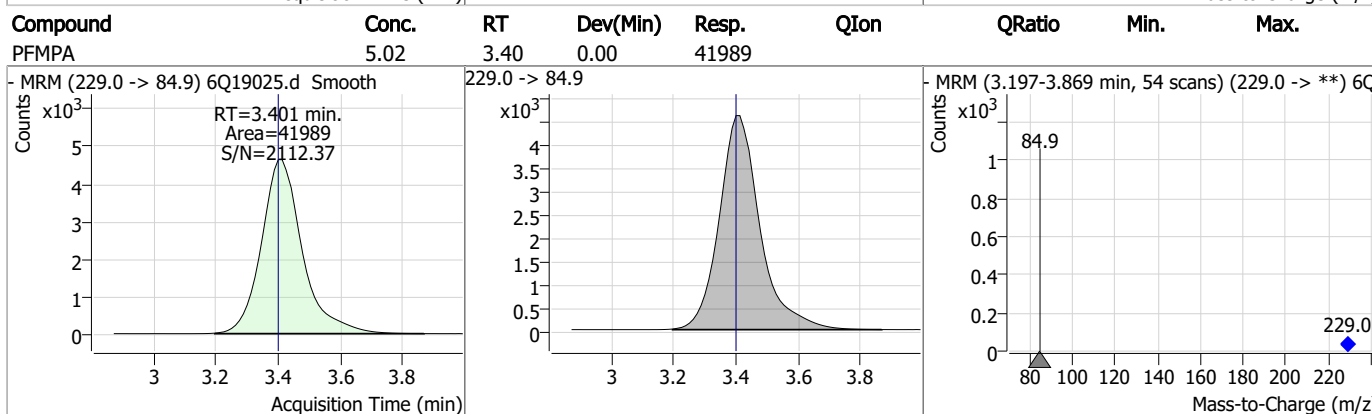
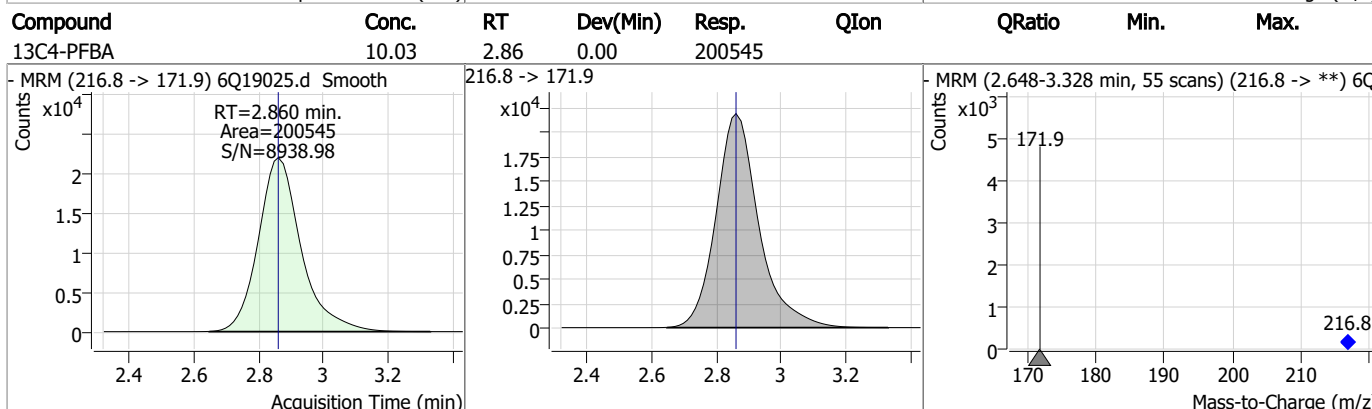
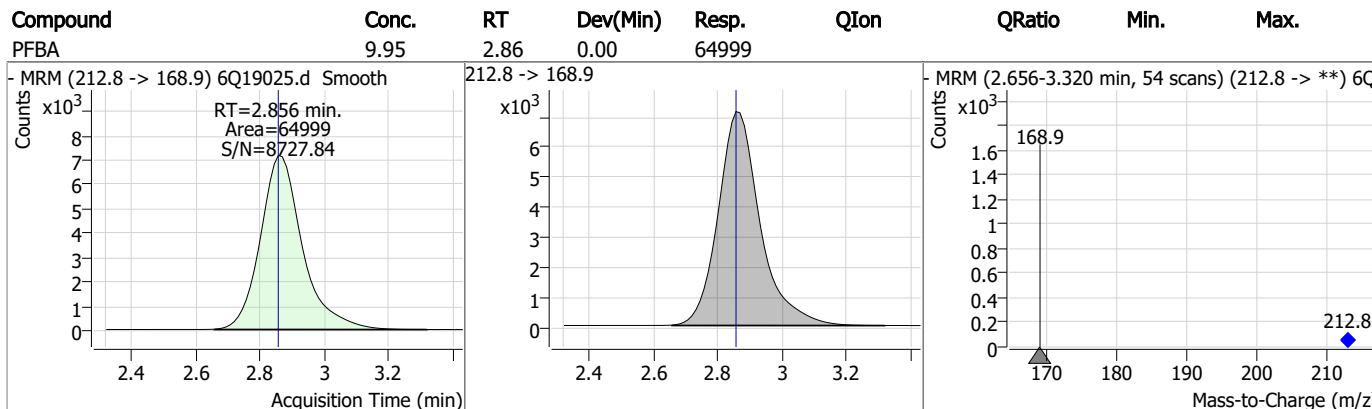
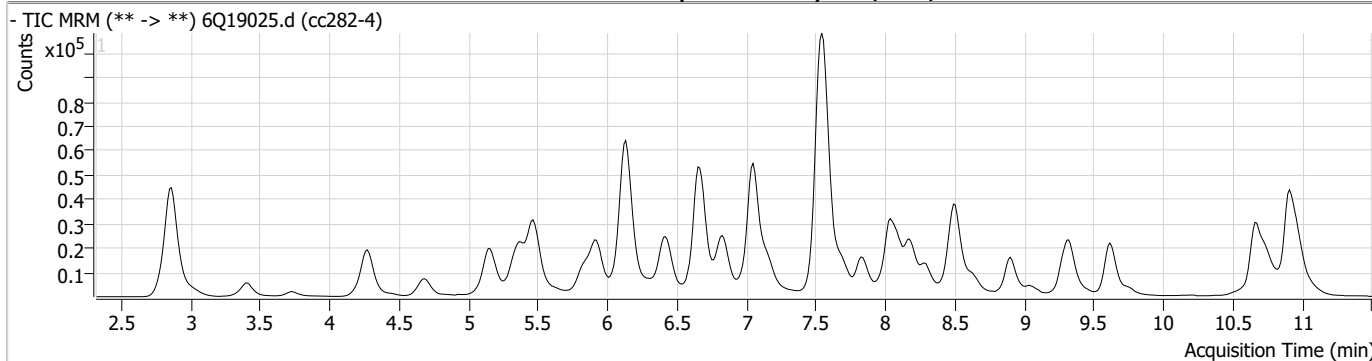
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.22

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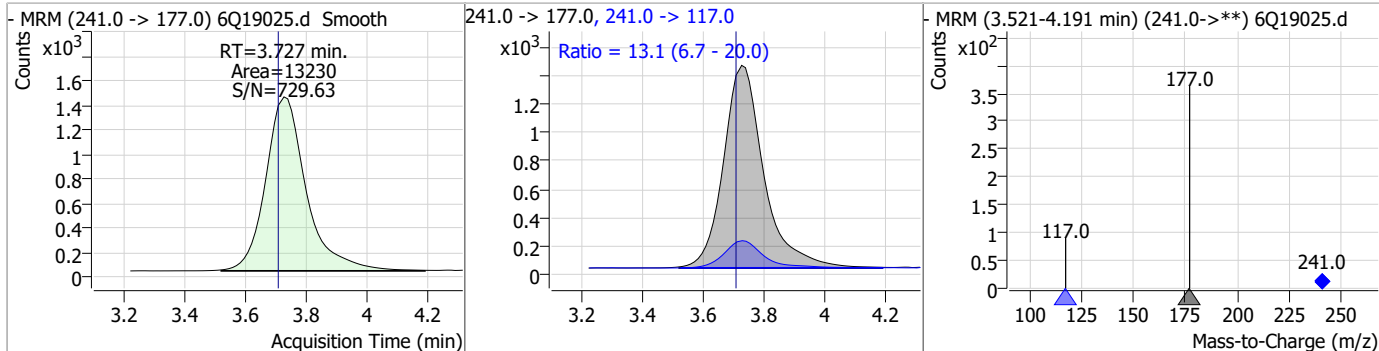
Perfluorinated Compounds by LC/MS/MS



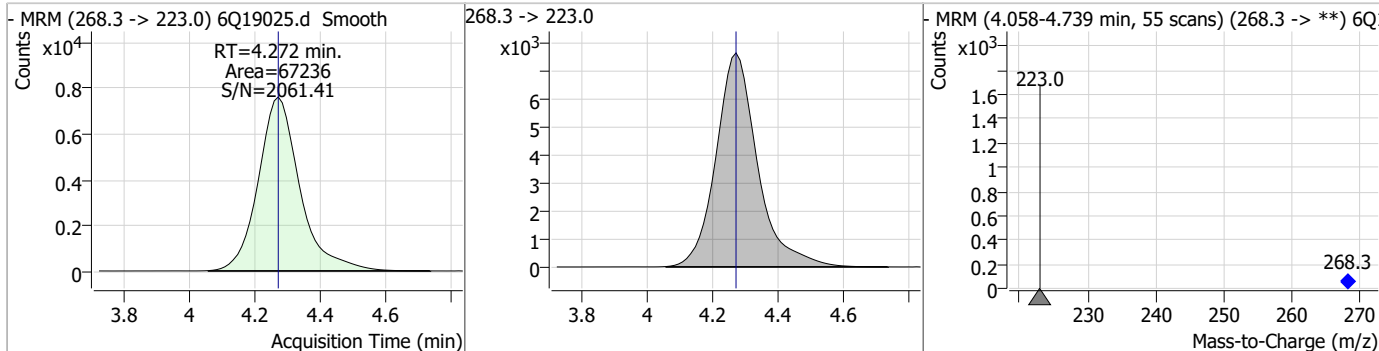
7.7.22
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Perfluorinated Compounds by LC/MS/MS

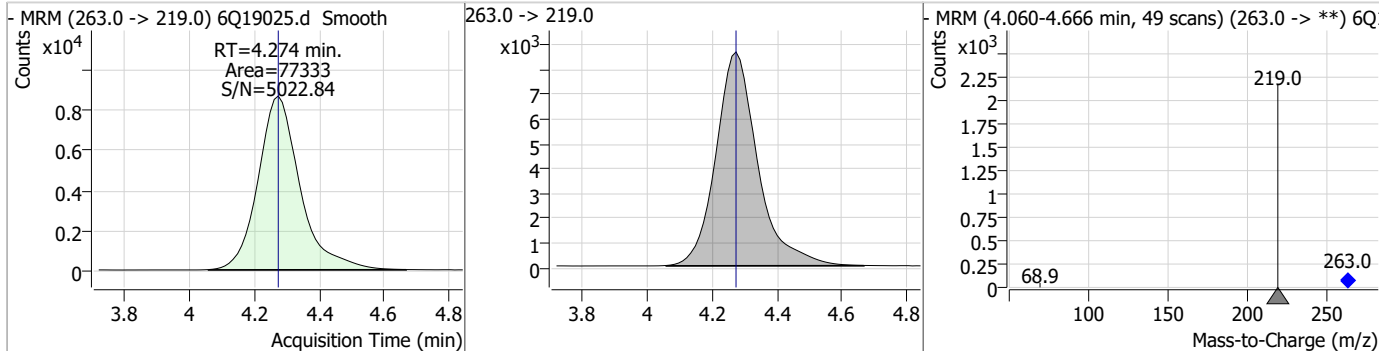
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.76	3.73	0.02	13230	241.0 -> 117.0	13.1	6.7	20.0



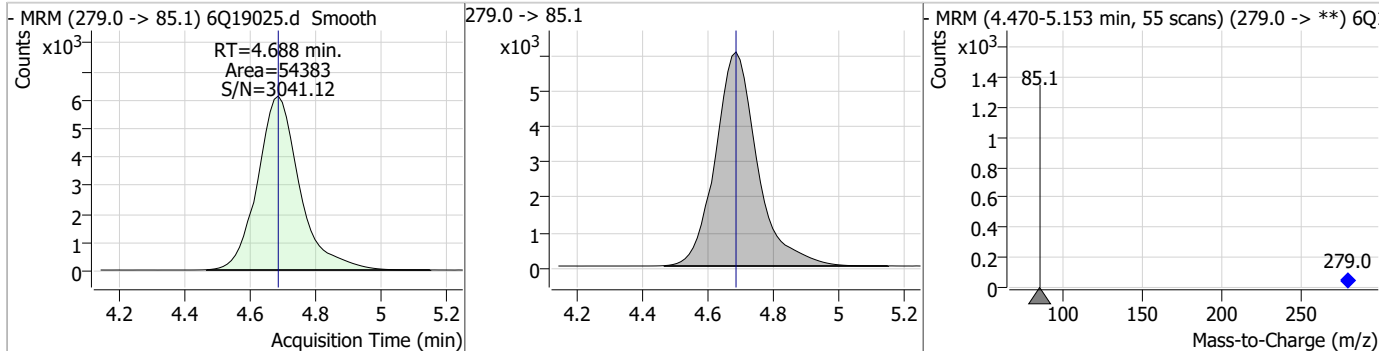
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.15	4.27	0.00	67236				



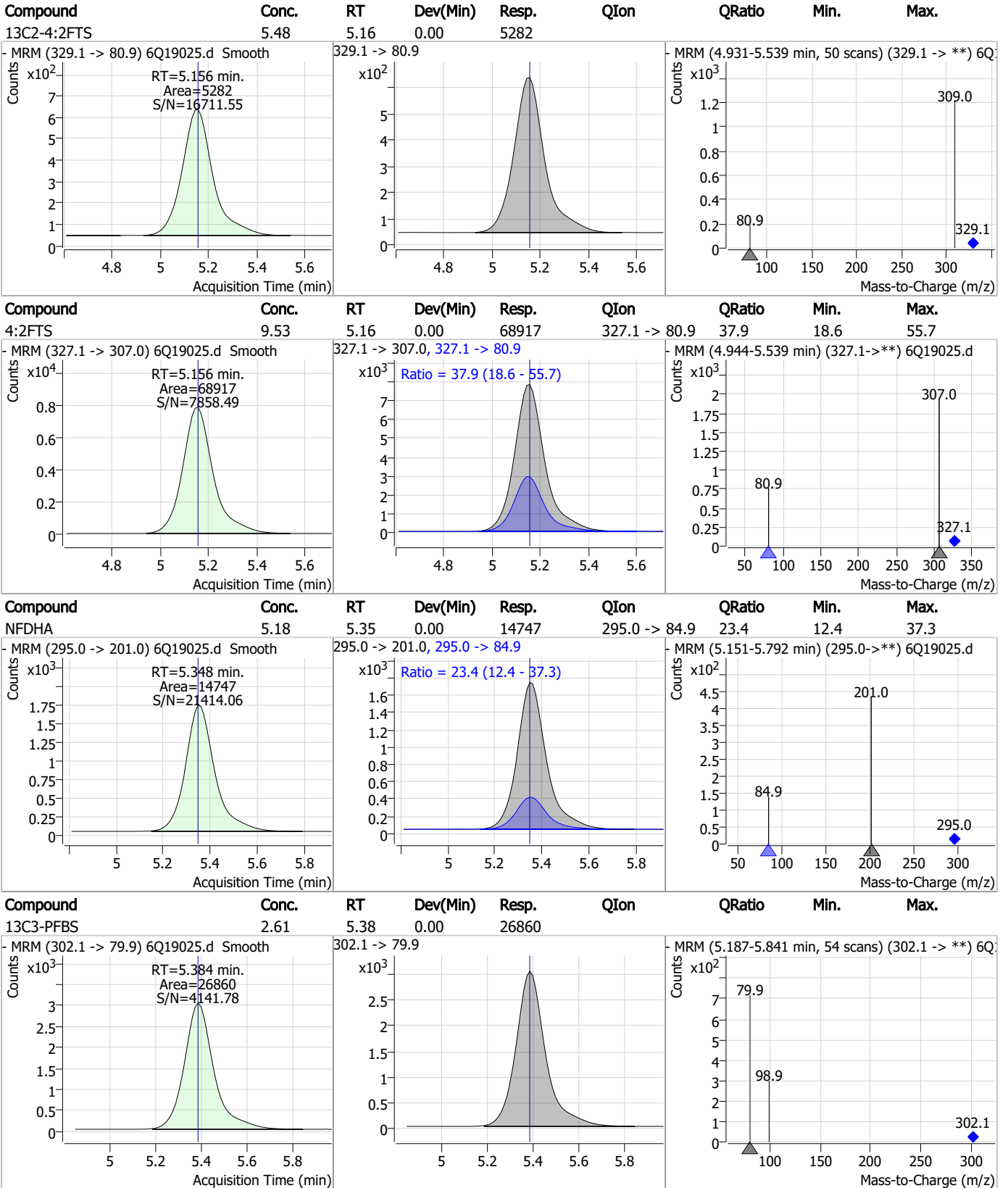
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.87	4.27	0.00	77333				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.95	4.69	0.00	54383				

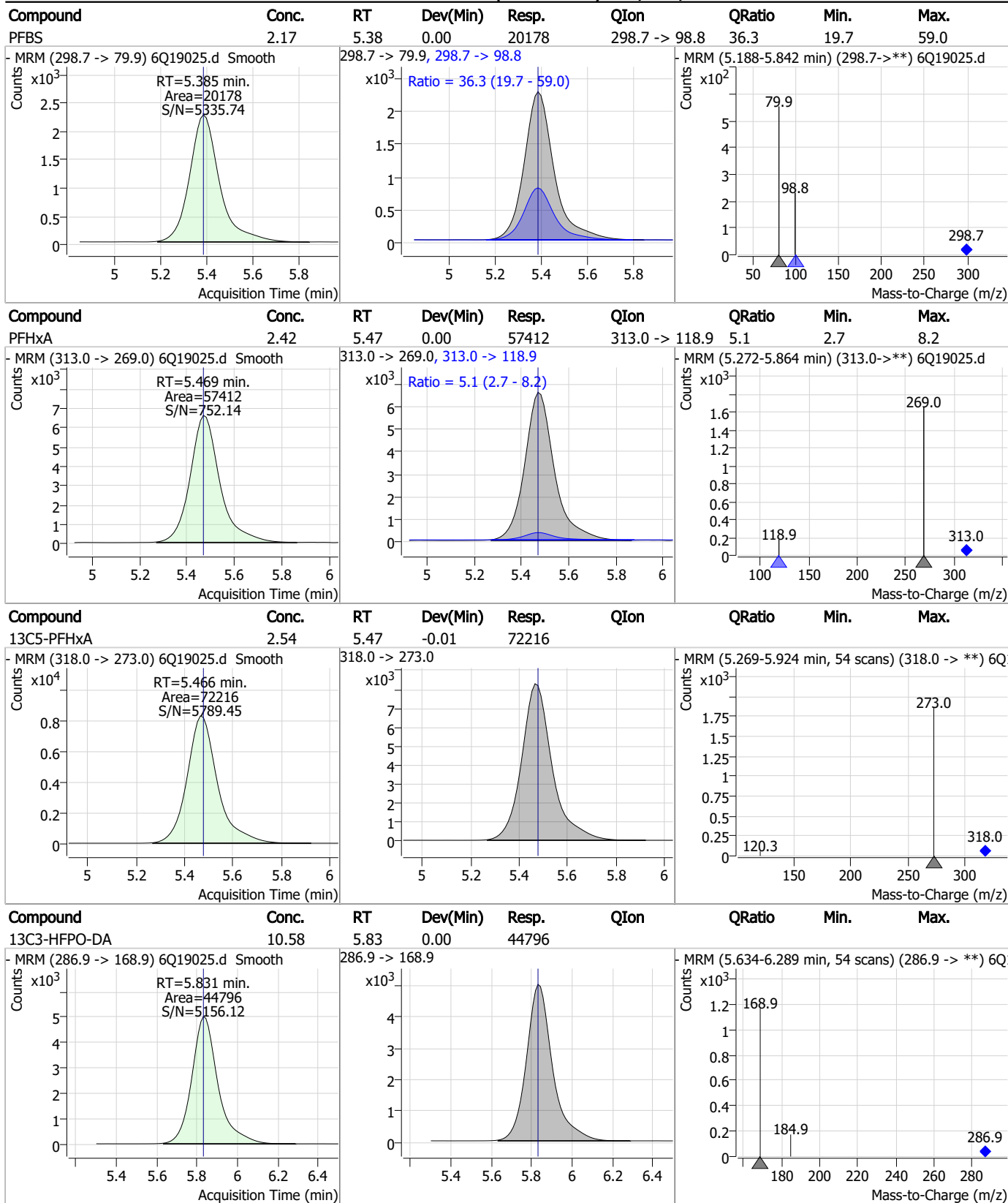


Perfluorinated Compounds by LC/MS/MS



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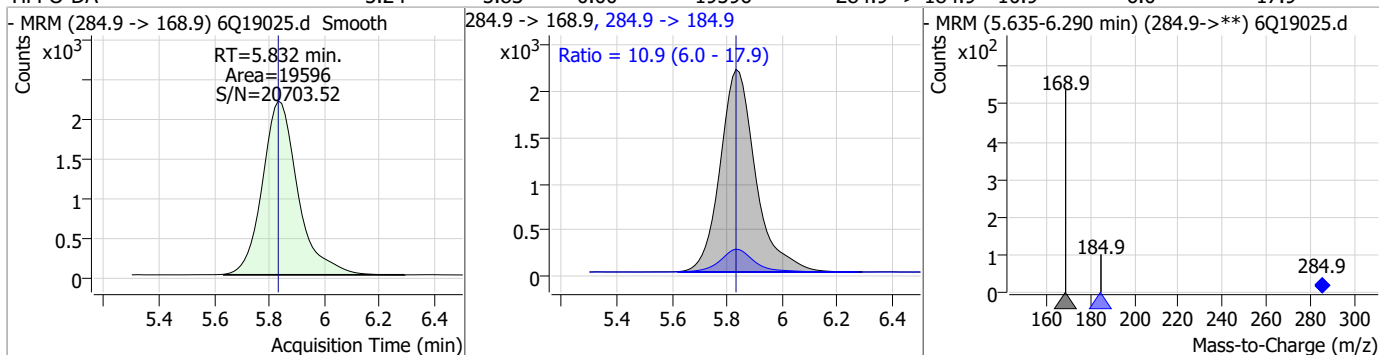
Perfluorinated Compounds by LC/MS/MS



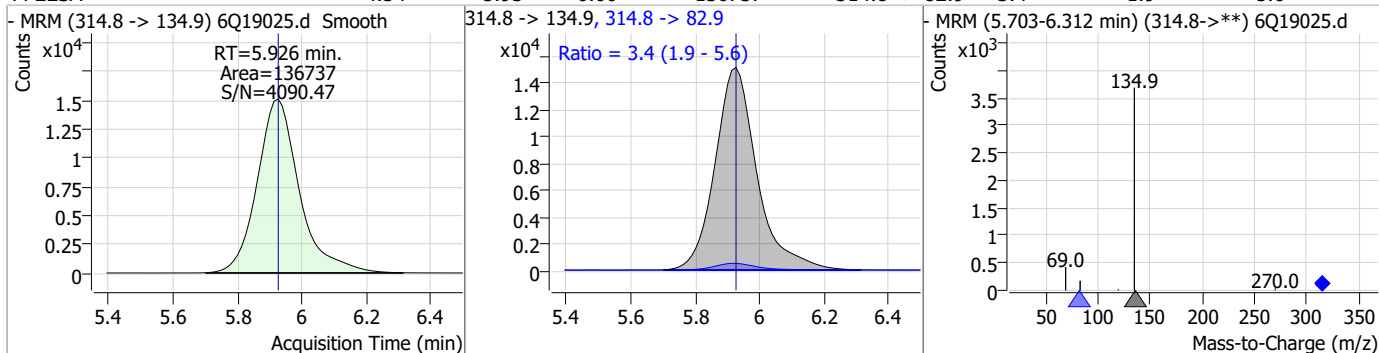
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Perfluorinated Compounds by LC/MS/MS

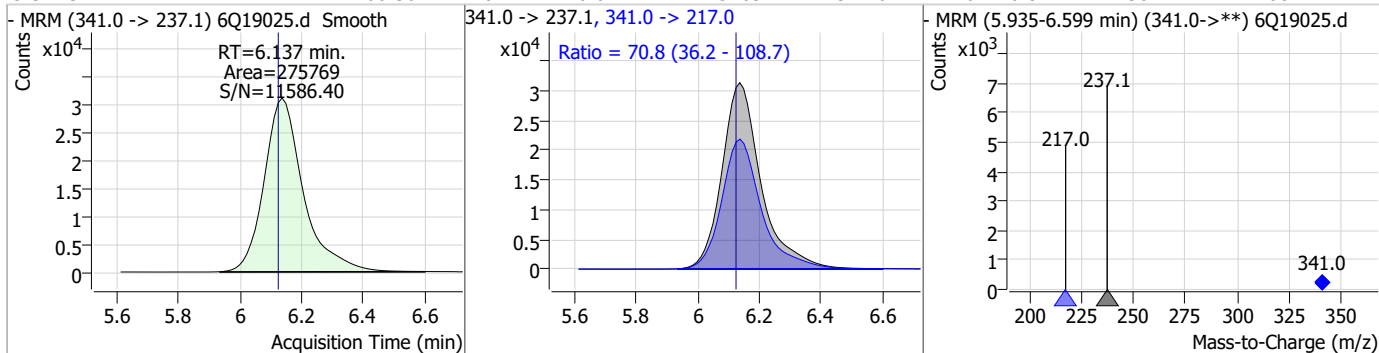
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.24	5.83	0.00	19596	284.9 -> 184.9	10.9	6.0	17.9



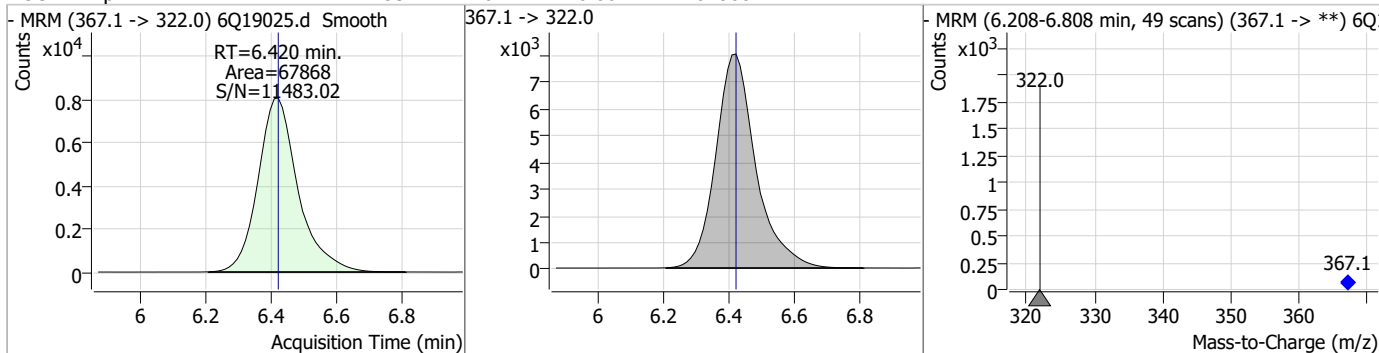
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.54	5.93	0.00	136737	314.8 -> 82.9	3.4	1.9	5.6



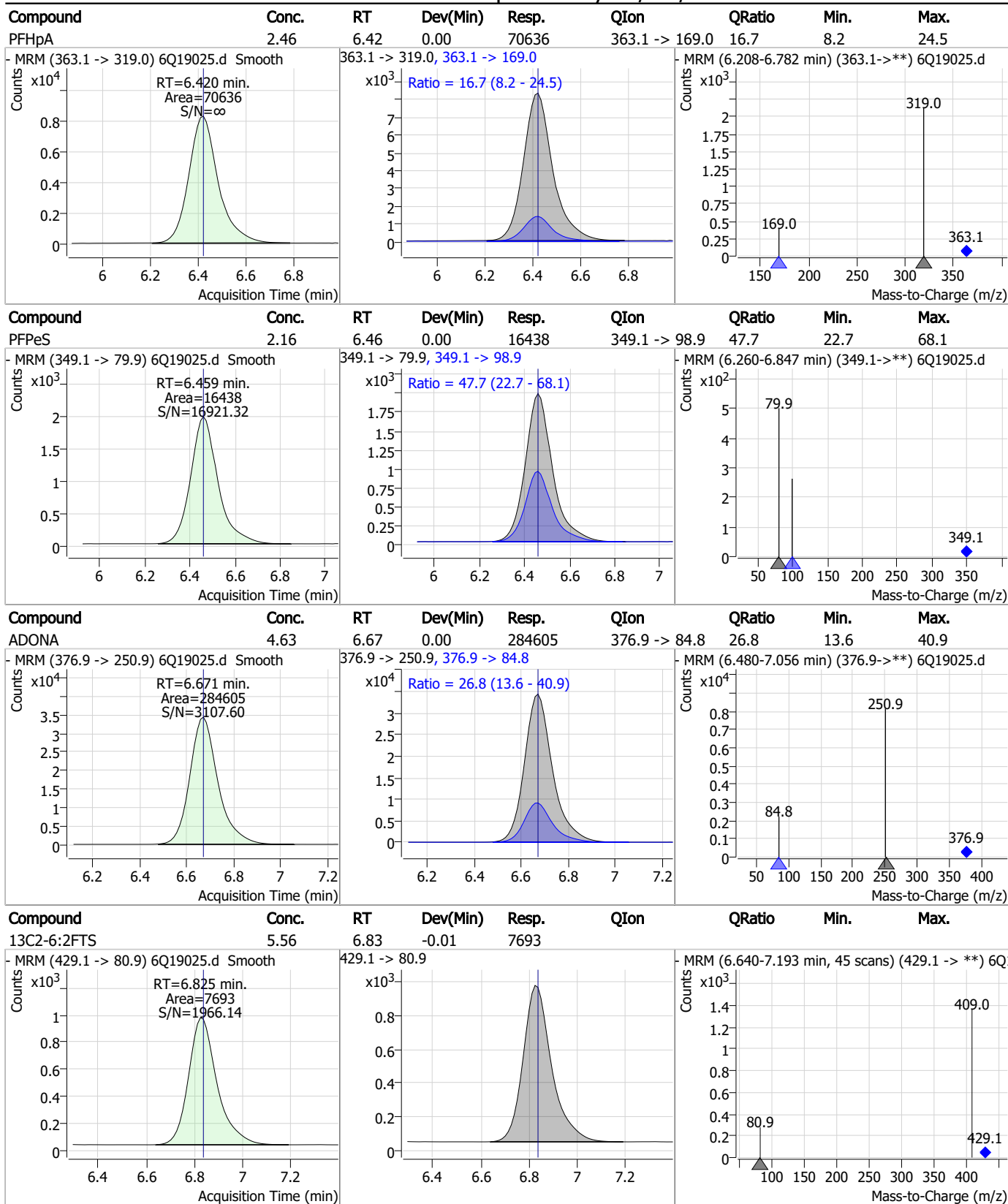
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	60.30	6.14	0.01	275769	341.0 -> 217.0	70.8	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.53	6.42	0.00	67868	367.1 -> 322.0			



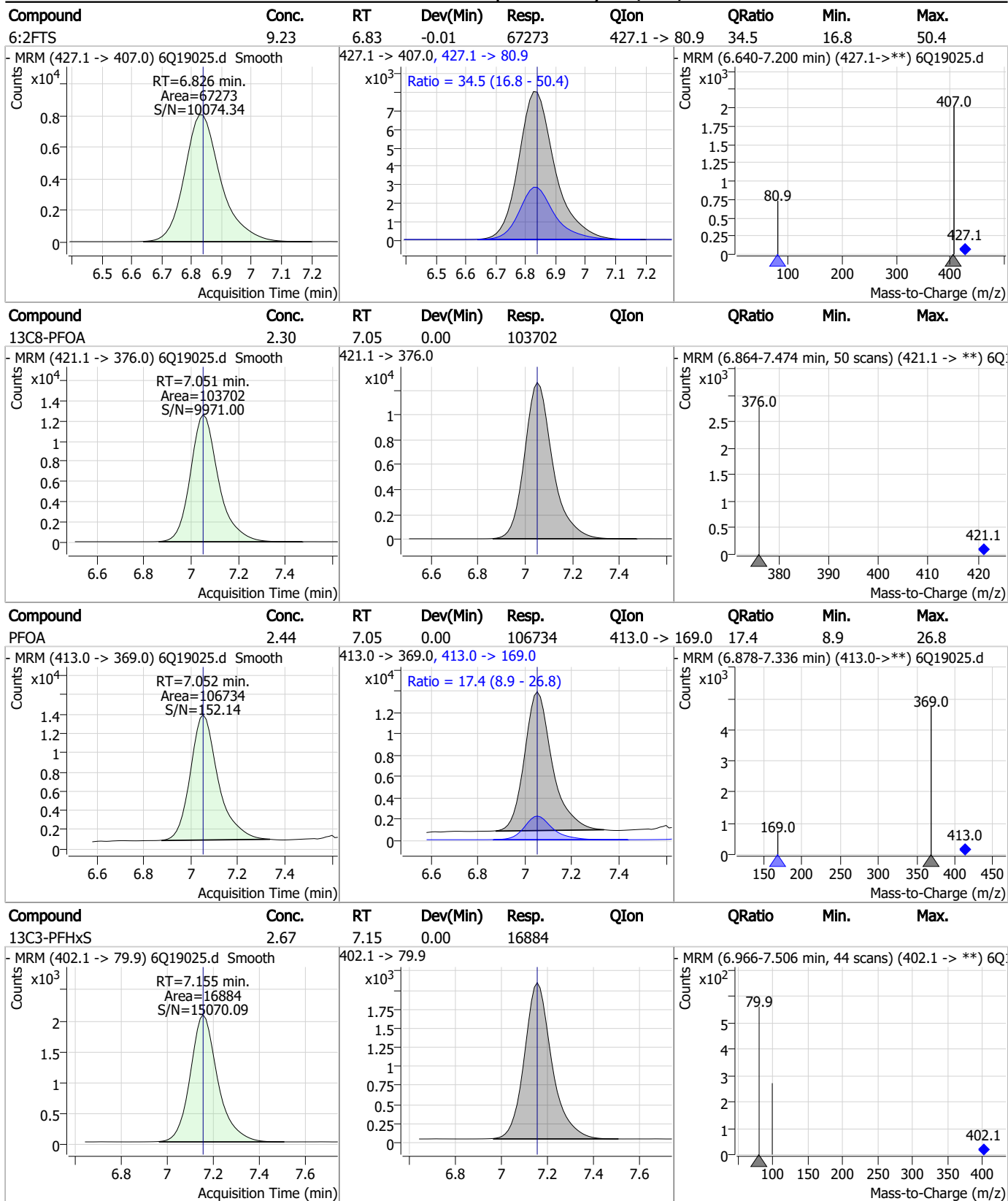
Perfluorinated Compounds by LC/MS/MS



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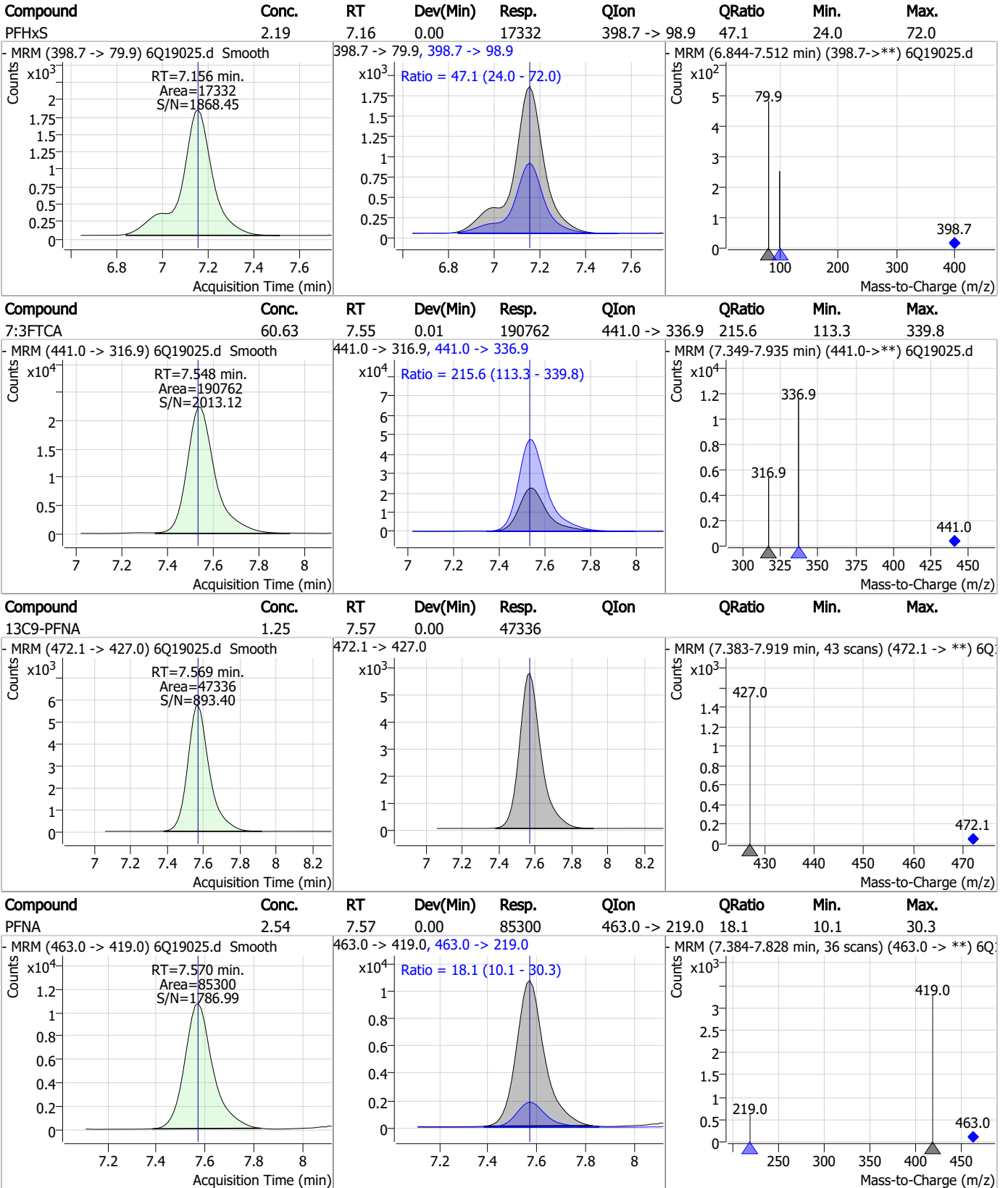
Perfluorinated Compounds by LC/MS/MS



7.7.22

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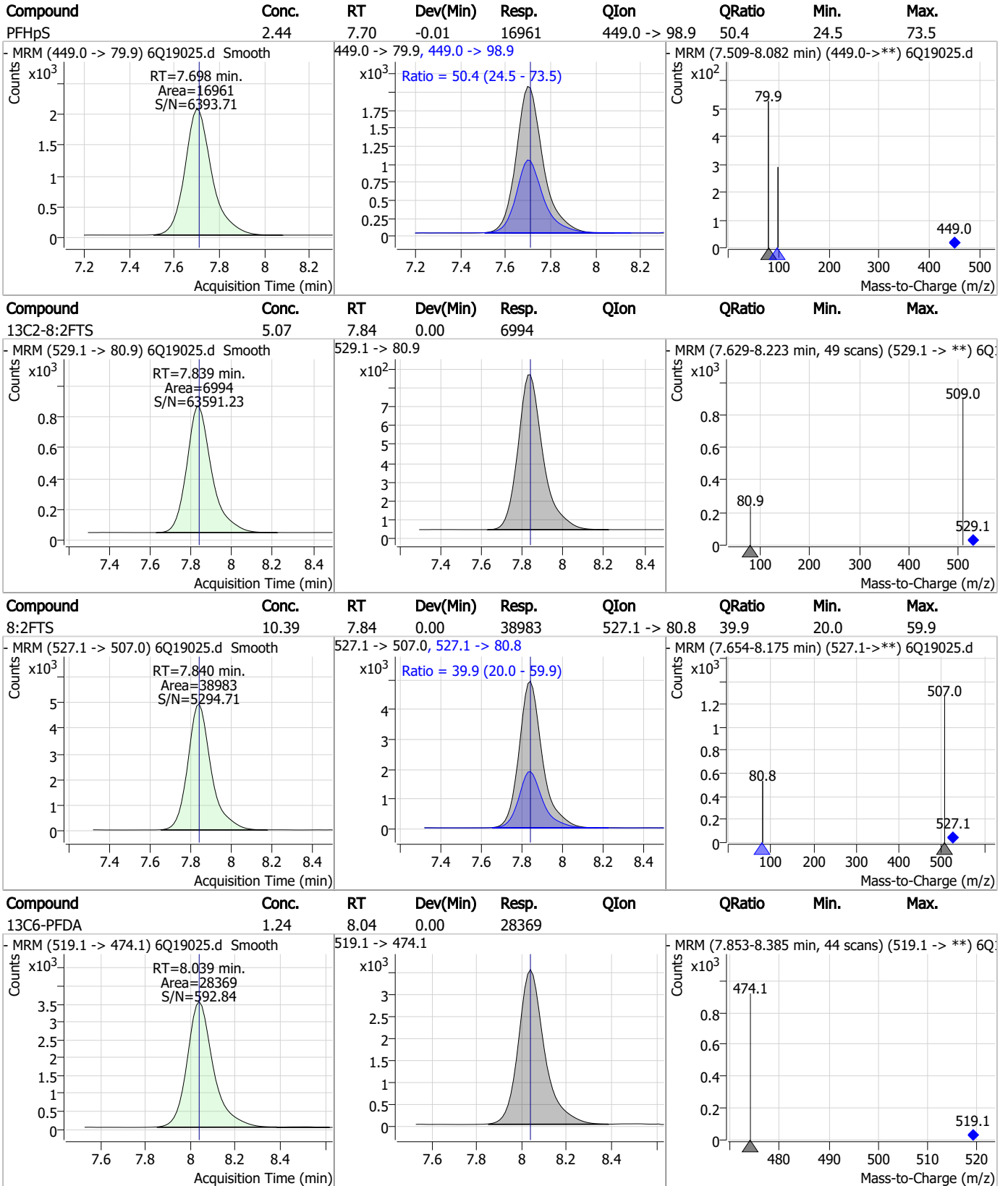
Perfluorinated Compounds by LC/MS/MS



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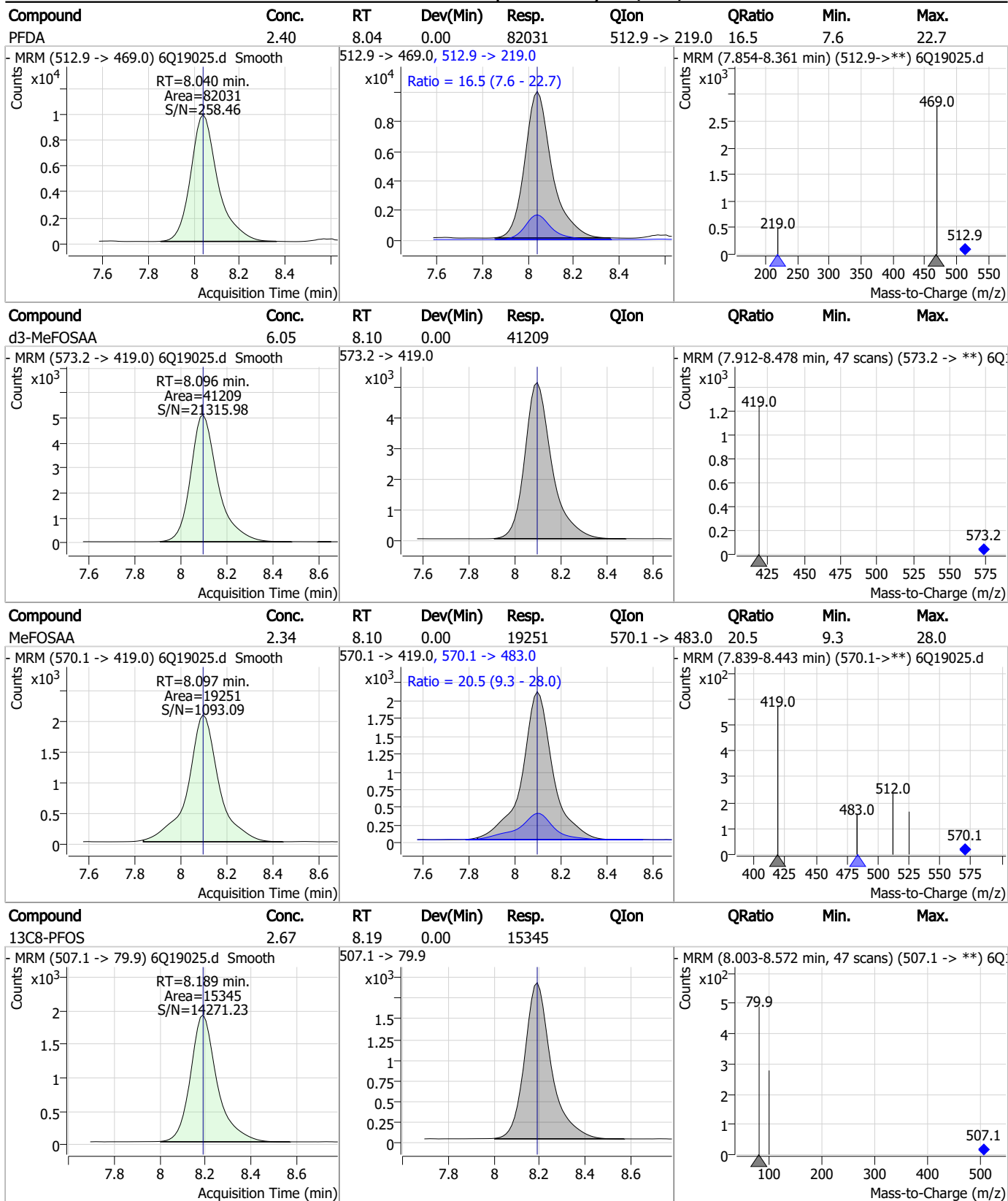
Perfluorinated Compounds by LC/MS/MS



7.7.22

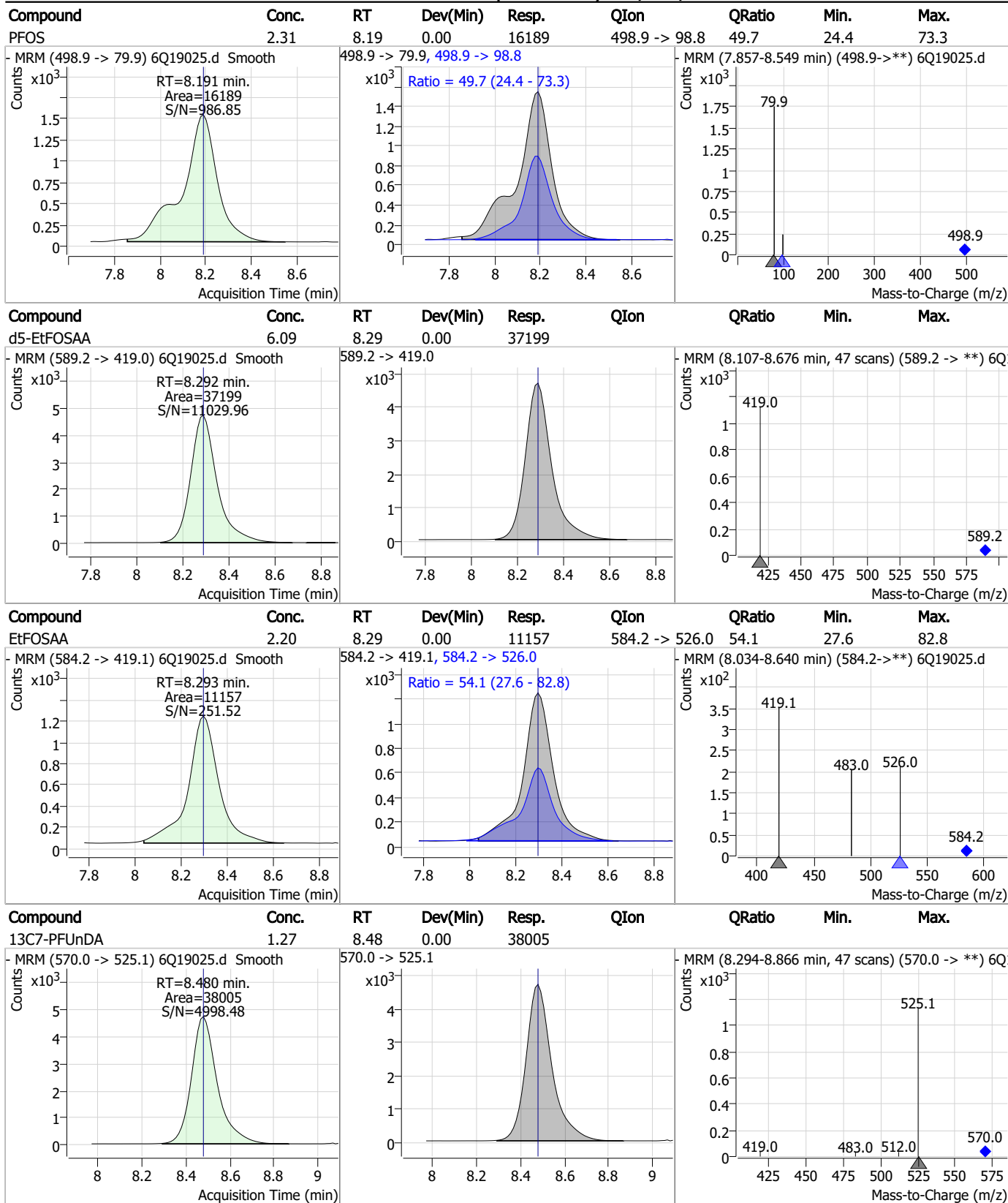
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Perfluorinated Compounds by LC/MS/MS



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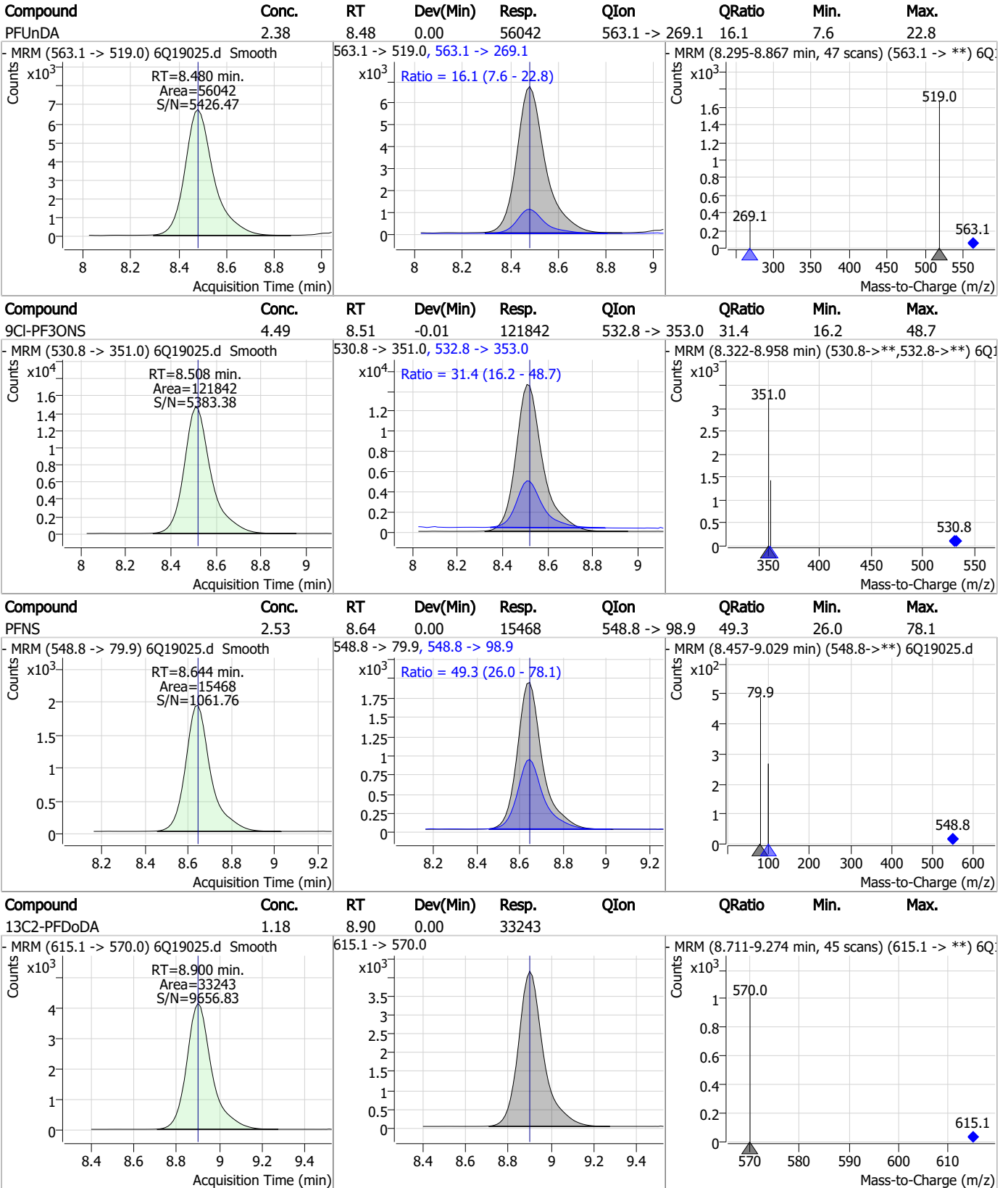
Perfluorinated Compounds by LC/MS/MS



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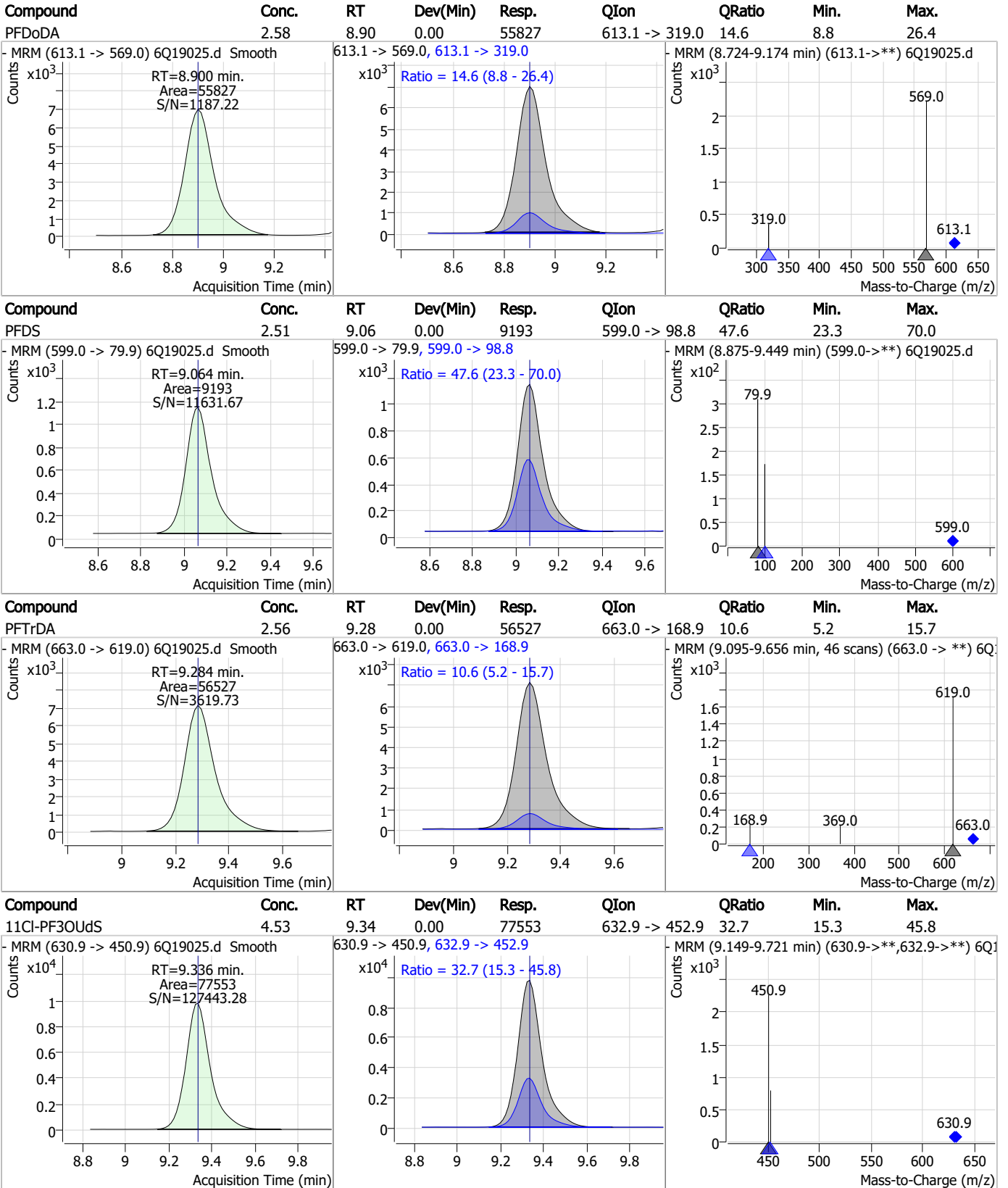
Perfluorinated Compounds by LC/MS/MS



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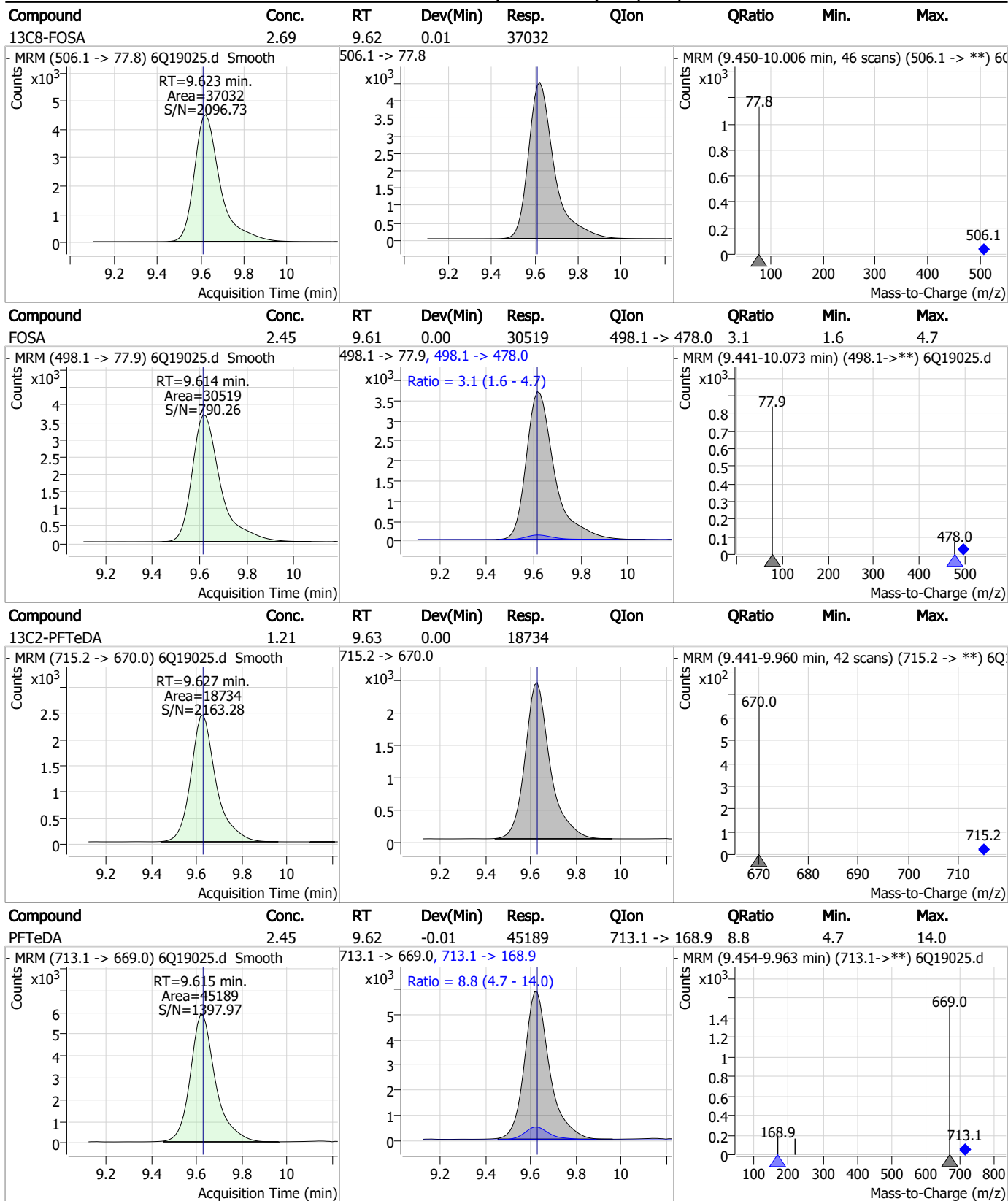
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

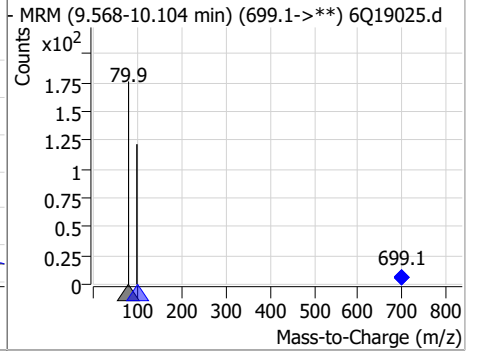
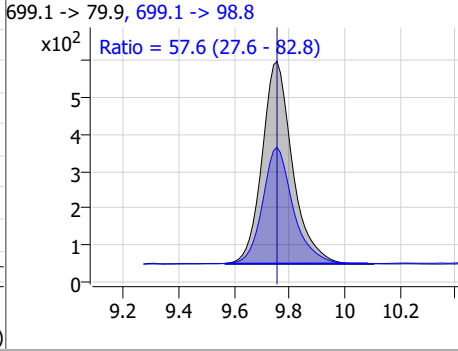
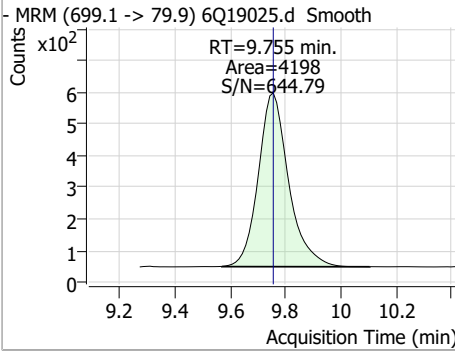


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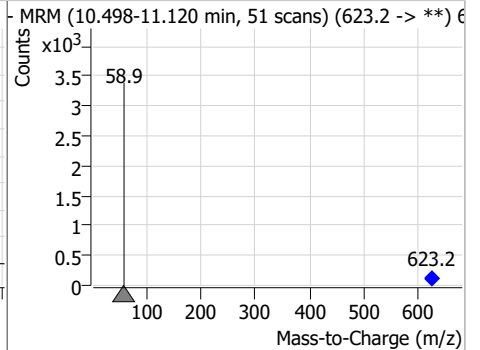
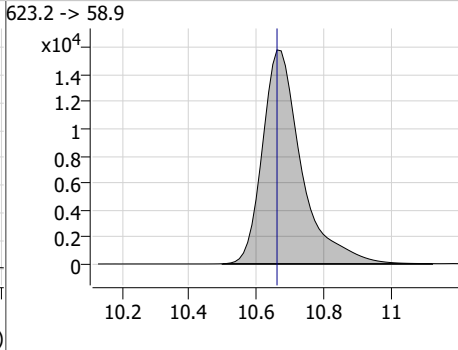
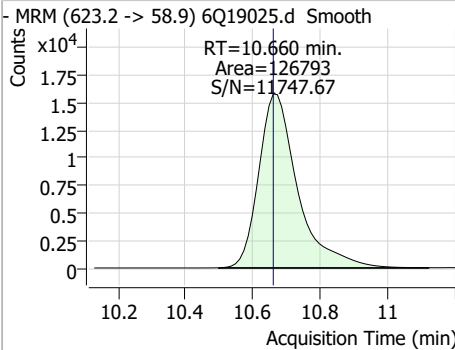


Perfluorinated Compounds by LC/MS/MS

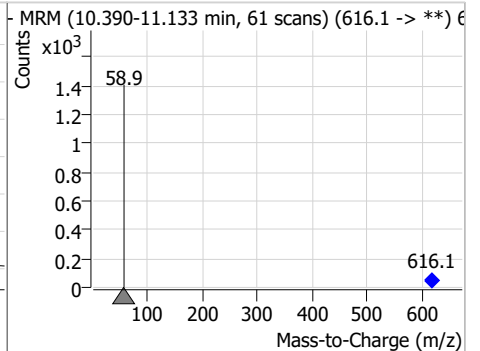
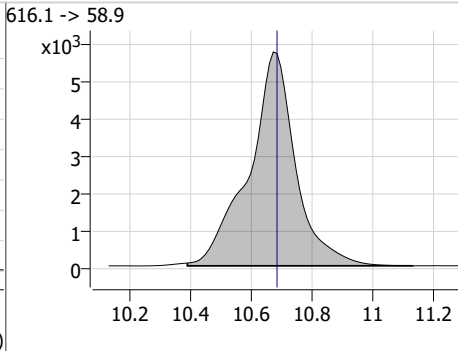
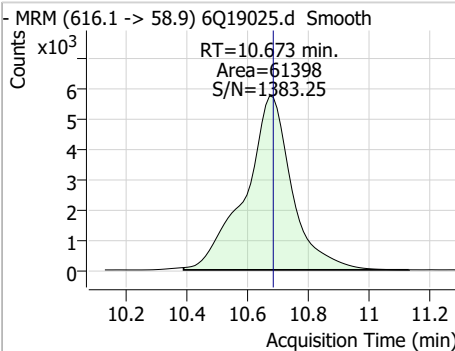
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	2.42	9.75	0.00	4198	699.1 -> 98.8	57.6	27.6	82.8



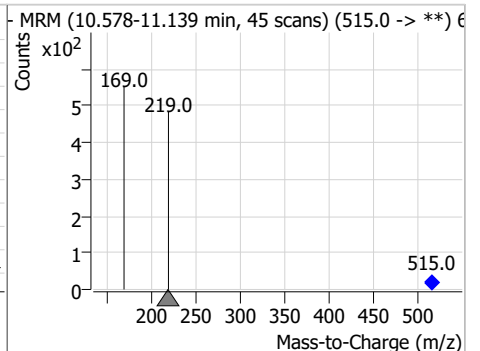
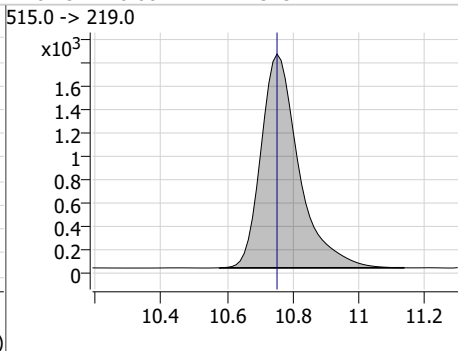
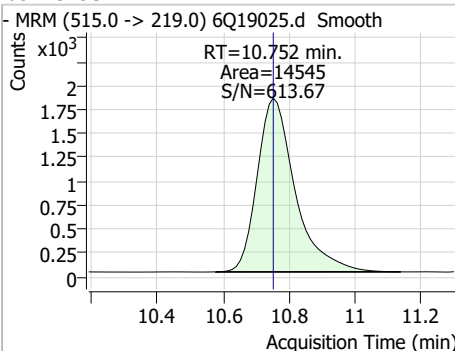
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	26.72	10.66	0.00	126793				



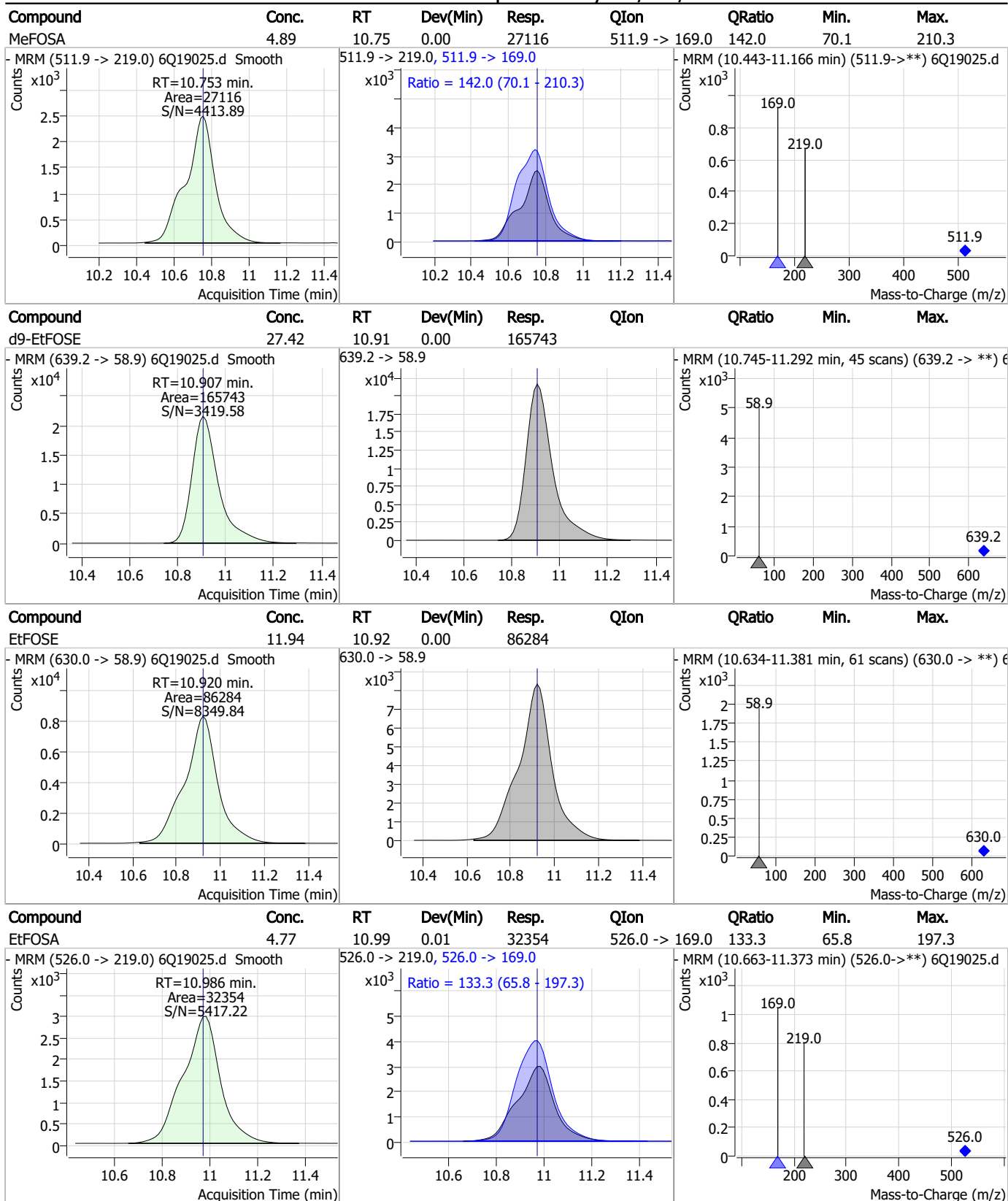
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.51	10.67	-0.01	61398				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.72	10.75	0.00	14545				



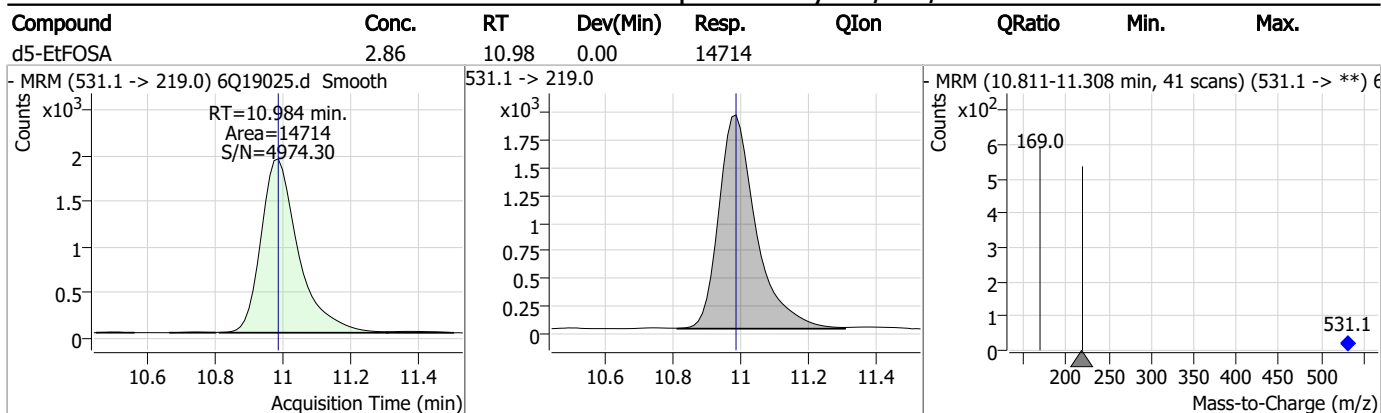
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19031.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 11:03:18 AM
 Sample Name : cc282-1.0LL
 Vial : P1-A2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	187088	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	62075	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	69980	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	62456	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	98796	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	46619	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	26696	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	34566	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	32337	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	17257	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	34054	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	24001	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15162	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14315	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	5104	5.00 µg/L	-0.012
M2-6:2FTS	6.838	429.1 -> 80.9	7343	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7741	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	40241	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	43708	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	35052	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	119617	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	151143	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	12939	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	13395	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	18383	2.50 µg/L	0.000
13C3-PFBA	2.852	216.0 -> 172.0	78190	5.00 µg/L	-0.013
18O2-PFHxS	7.154	403.0 -> 83.9	11107	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	102268	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	35908	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	55722	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	63104	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	5104	5.59 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.8%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7343	5.59 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.9%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7741	5.92 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 118.4%		
13C2-PFDoDA	8.900	615.1 -> 570.0	32337	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 98.6%		
13C2-PFTeDA	9.627	715.2 -> 670.0	17257	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.0%		
13C3-PFBS	5.384	302.1 -> 79.9	24001	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.3%		
13C3-PFHxS	7.155	402.1 -> 79.9	15162	2.53 µg/L	0.000

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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	2.860	216.8 -> 171.9	187088	10.08 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFHpA	6.420	367.1 -> 322.0	62456	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C5-PFHxA	5.466	318.0 -> 273.0	69980	2.62 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.8%	
13C5-PFPeA	4.272	268.3 -> 223.0	62075	5.07 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C6-PFDA	8.039	519.1 -> 474.1	26696	1.25 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C7-PFUnDA	8.480	570.0 -> 525.1	34566	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C8-FOSA	9.623	506.1 -> 77.8	34054	2.55 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.8%	
13C8-PFOA	7.051	421.1 -> 376.0	98796	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C8-PFOS	8.189	507.1 -> 79.9	14315	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.6%	
13C9-PFNA	7.569	472.1 -> 427.0	46619	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.8%	
d3-MeFOSAA	8.096	573.2 -> 419.0	40241	6.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 121.6%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	43708	10.99 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 109.9%	
d3-MeFOSA	10.752	515.0 -> 219.0	13395	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
d5-EtFOSAA	8.292	589.2 -> 419.0	35052	5.90 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 118.1%	
d7-MeFOSE	10.672	623.2 -> 58.9	119617	25.92 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 103.7%	
d9-EtFOSE	10.907	639.2 -> 58.9	151143	25.72 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.9%	
d5-EtFOSA	10.984	531.1 -> 219.0	12939	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.6%	
Target Compounds					QValue
4:2FTS	5.144	327.1 -> 307.0	5332	0.76 µg/L	98
		327.1 -> 80.9	2052		
6:2FTS	6.826	427.1 -> 407.0	5964	0.86 µg/L	98
		427.1 -> 80.9	1926		
8:2FTS	7.840	527.1 -> 507.0	3371	0.81 µg/L	93
		527.1 -> 80.8	1193		
EtFOSAA	8.293	584.2 -> 419.1	1004	0.21 µg/L	88
		584.2 -> 526.0	641		
FOSA	9.626	498.1 -> 77.9	2379	0.21 µg/L	99
		498.1 -> 478.0	67		
MeFOSAA	8.097	570.1 -> 419.0	1618	0.20 µg/L	98
		570.1 -> 483.0	290		
PFBA	2.856	212.8 -> 168.9	4912	0.81 µg/L	100
PFBS	5.385	298.7 -> 79.9	1489	0.18 µg/L	100
		298.7 -> 98.8	588		
PFDA	8.040	512.9 -> 469.0	6461	0.20 µg/L	97
		512.9 -> 219.0	892		
PFDODA	8.900	613.1 -> 569.0	4399	0.21 µg/L	99
		613.1 -> 319.0	800		
PFDS	9.064	599.0 -> 79.9	640	0.19 µg/L	98

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	305	0.21 µg/L	97
		363.1 -> 319.0	5479		
PFHpS	7.698	363.1 -> 169.0	962	0.21 µg/L	95
		449.0 -> 79.9	1342		
PFHxA	5.469	449.0 -> 98.9	611	0.21 µg/L	98
		313.0 -> 269.0	4733		
PFHxS	7.156	313.0 -> 118.9	295	0.18 µg/L	92
		398.7 -> 79.9	1311		
PFNA	7.570	398.7 -> 98.9	697	0.19 µg/L	98
		463.0 -> 419.0	6212		
PFNS	8.644	463.0 -> 219.0	1207	0.20 µg/L	97
		548.8 -> 79.9	1151		
PFOA	7.052	548.8 -> 98.9	572	0.23 µg/L	96
		413.0 -> 369.0	9375		
PFOS	8.191	413.0 -> 169.0	1523	0.18 µg/L	88
		498.9 -> 79.9	1202		
PFPeA	4.274	498.9 -> 98.8	684	0.41 µg/L	100
		263.0 -> 219.0	5997		
PFPeS	6.459	349.1 -> 79.9	1277	0.19 µg/L	99
		349.1 -> 98.9	588		
PFTeDA	9.628	713.1 -> 669.0	3670	0.22 µg/L	96
		713.1 -> 168.9	294		
PFTrDA	9.284	663.0 -> 619.0	4301	0.20 µg/L	98
		663.0 -> 168.9	422		
PFUnDA	8.480	563.1 -> 519.0	3818	0.18 µg/L	87
		563.1 -> 269.1	783		
11Cl-PF3OUdS	9.336	630.9 -> 450.9	5776	0.35 µg/L	100
		632.9 -> 452.9	1752		
9Cl-PF3ONS	8.508	530.8 -> 351.0	9992	0.38 µg/L	95
		532.8 -> 353.0	2942		
ADONA	6.671	376.9 -> 250.9	21074	0.35 µg/L	99
		376.9 -> 84.8	5894		
HFPO-DA	5.832	284.9 -> 168.9	1562	0.43 µg/L	94
		284.9 -> 184.9	149		
3:3FTCA	3.727	241.0 -> 177.0	1066	1.03 µg/L	100
		241.0 -> 117.0	140		
5:3FTCA	6.137	341.0 -> 237.1	22173	5.00 µg/L	100
		341.0 -> 217.0	16030		
7:3FTCA	7.548	441.0 -> 316.9	14996	4.92 µg/L	94
		441.0 -> 336.9	32383		
EtFOSA	10.974	526.0 -> 219.0	2425	0.41 µg/L	97
		526.0 -> 169.0	3287		
EtFOSE	10.920	630.0 -> 58.9	7148	1.08 µg/L	100
		511.9 -> 219.0	2081		
MeFOSA	10.753	511.9 -> 169.0	2938	0.41 µg/L	99
		616.1 -> 58.9	4570		
MeFOSE	10.686	699.1 -> 79.9	352	0.99 µg/L	100
		699.1 -> 98.8	168		
PFDoDS	9.755	295.0 -> 201.0	1121	0.22 µg/L	90
		295.0 -> 84.9	322		
NFDHA	5.348	279.0 -> 85.1	3941	0.41 µg/L	92
		229.0 -> 84.9	3076		
PFMBA	4.688			0.39 µg/L	100
PFMPA	3.401			0.40 µg/L	100
PFEESA	5.926	314.8 -> 134.9	10065	0.34 µg/L	100
		314.8 -> 82.9	376		

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

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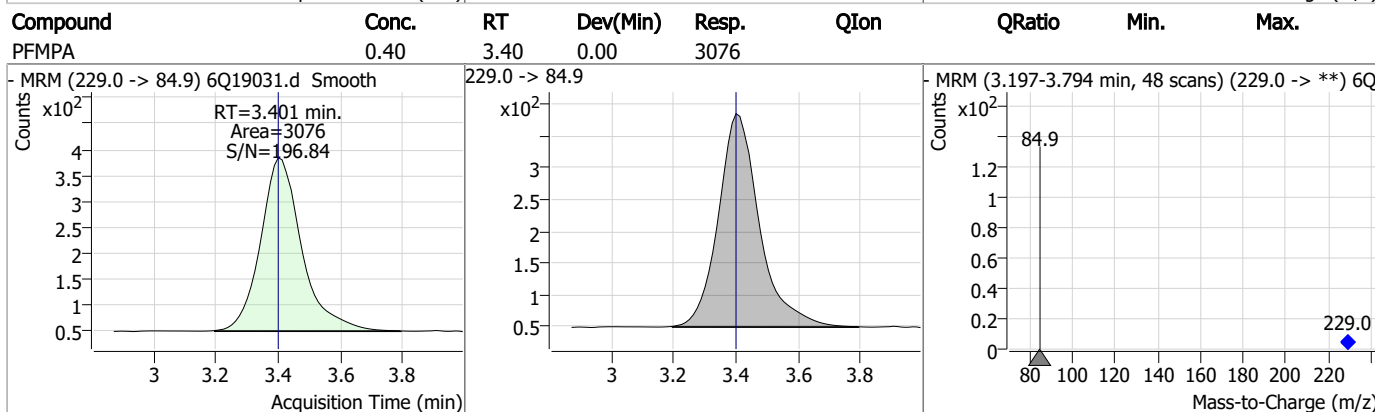
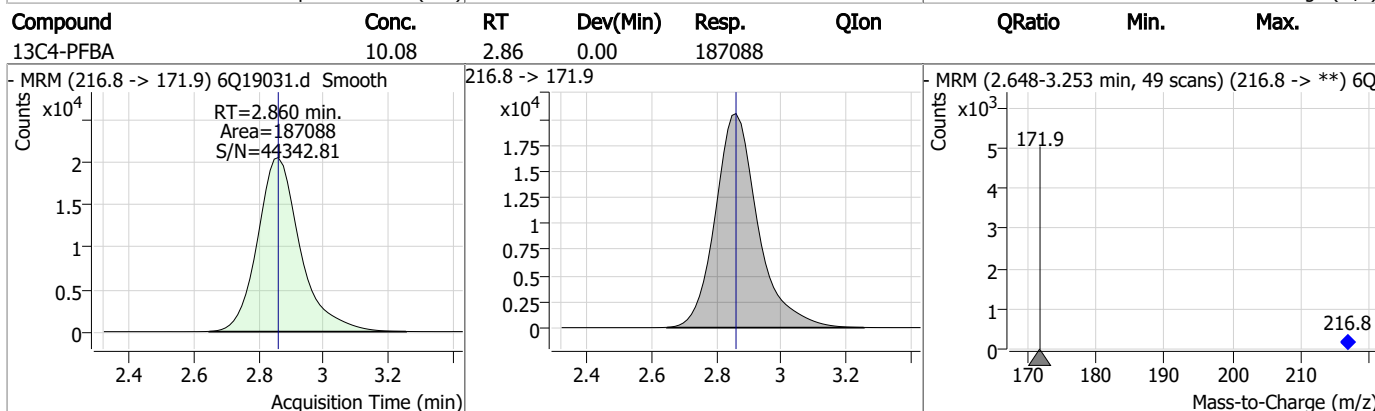
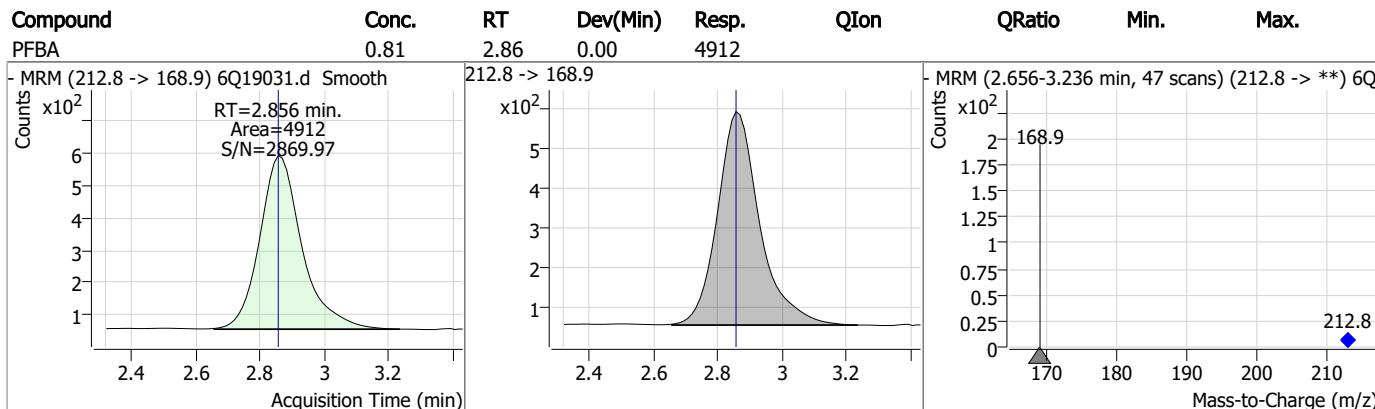
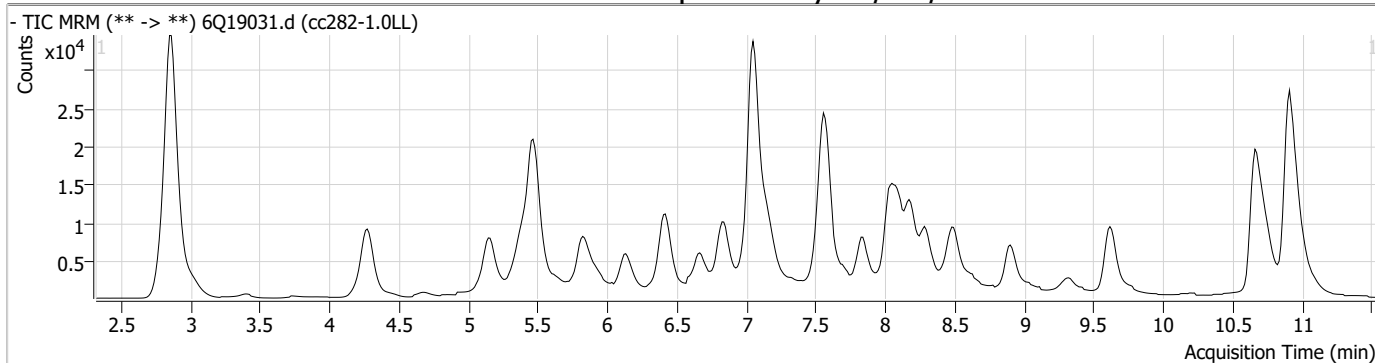
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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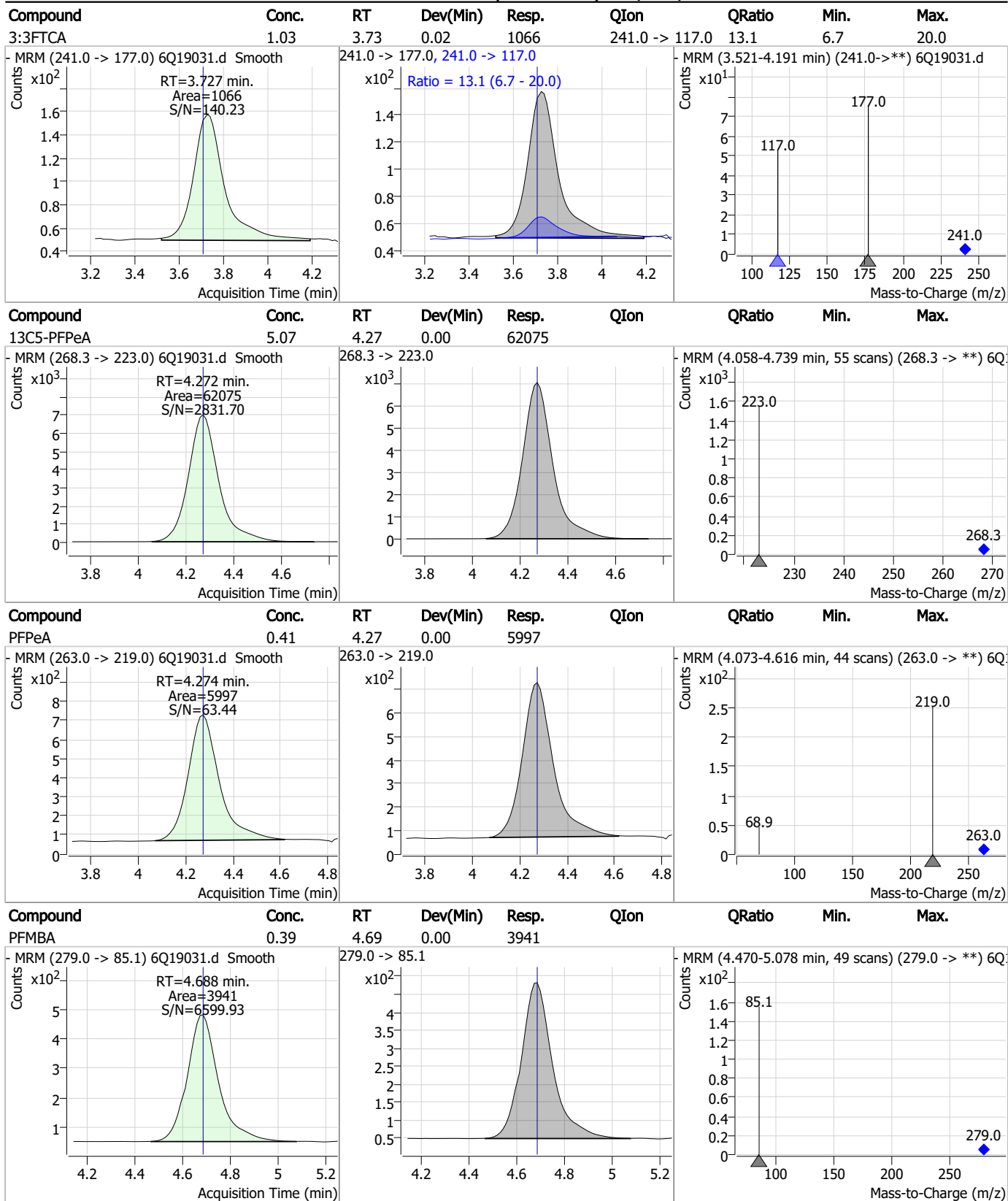
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Perfluorinated Compounds by LC/MS/MS



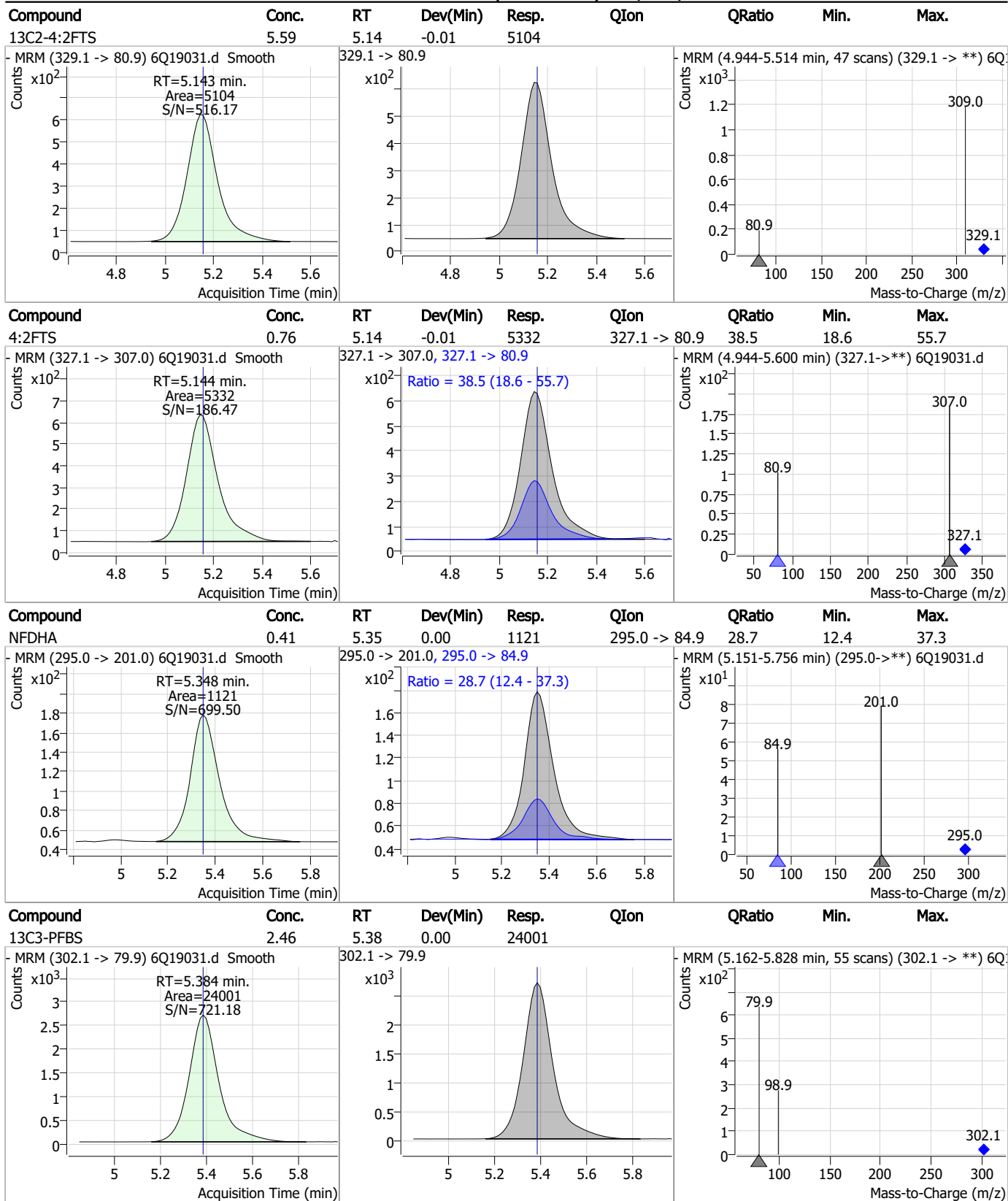
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Perfluorinated Compounds by LC/MS/MS



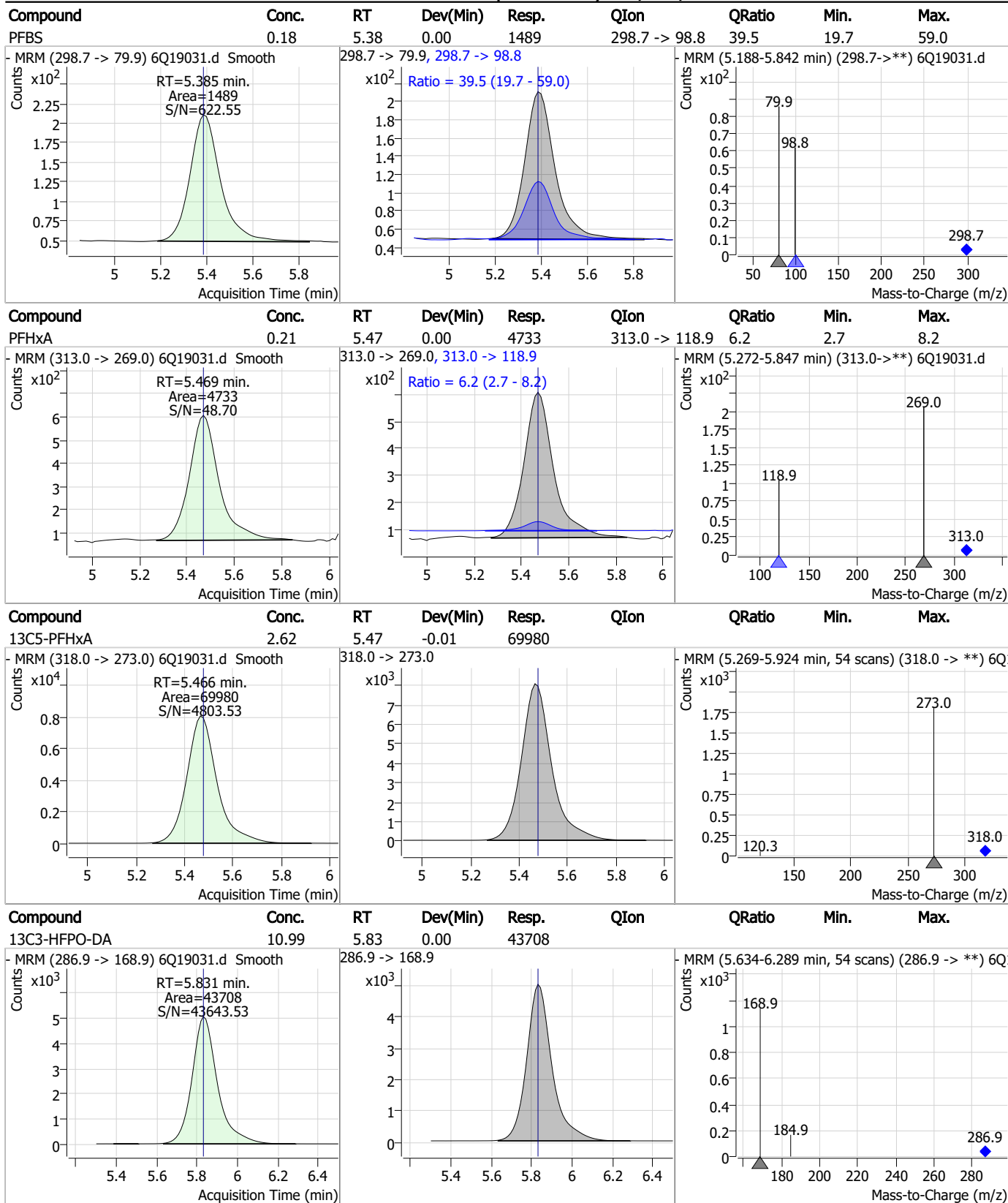
7.7.23 7

Perfluorinated Compounds by LC/MS/MS



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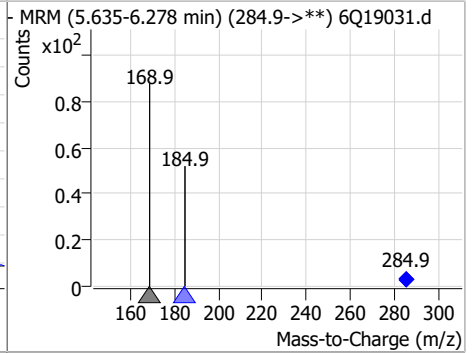
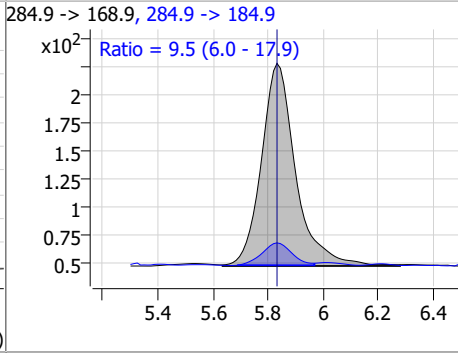
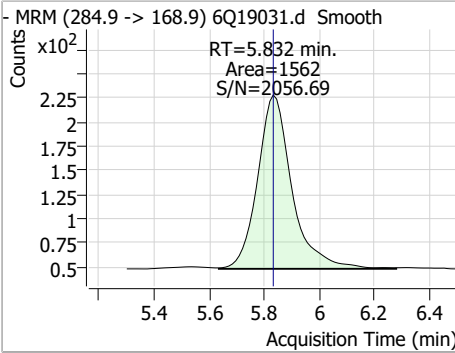
Perfluorinated Compounds by LC/MS/MS



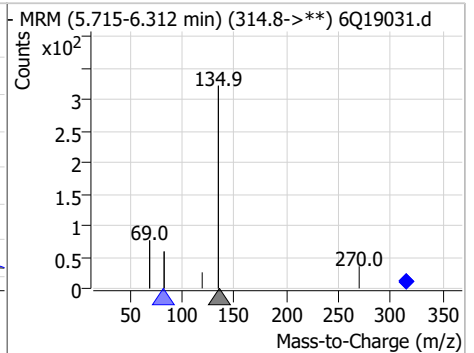
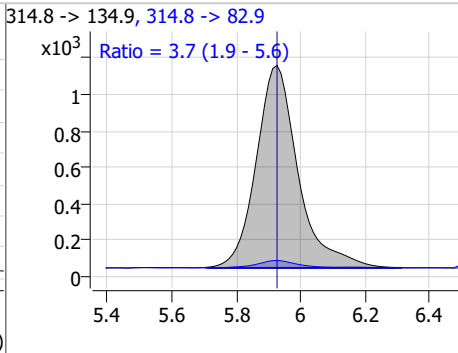
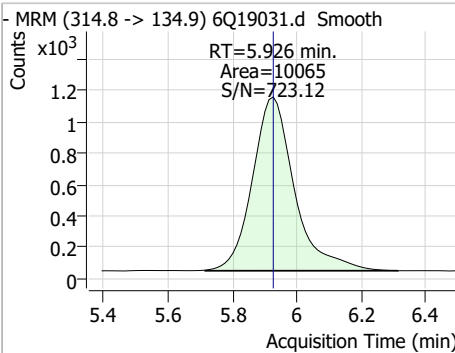
7.7.23 7

Perfluorinated Compounds by LC/MS/MS

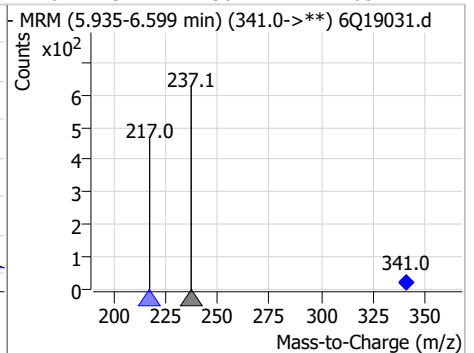
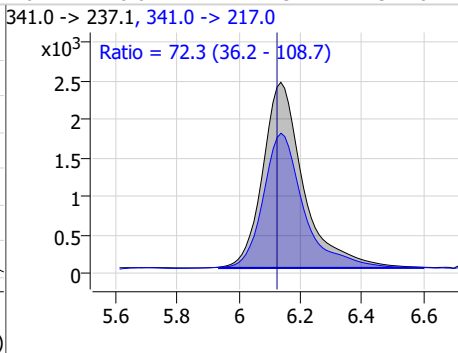
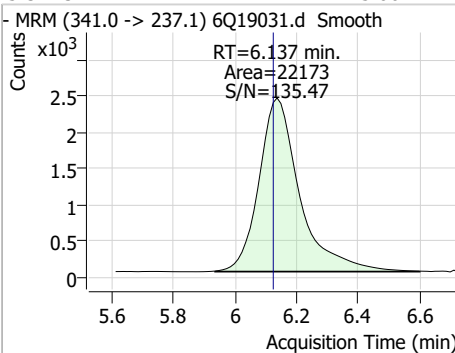
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.43	5.83	0.00	1562	284.9 -> 184.9	9.5	6.0	17.9



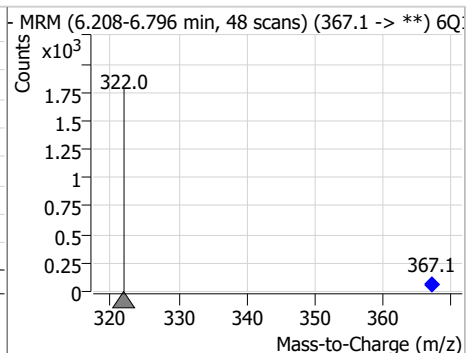
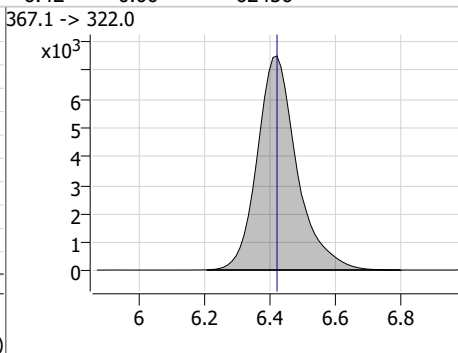
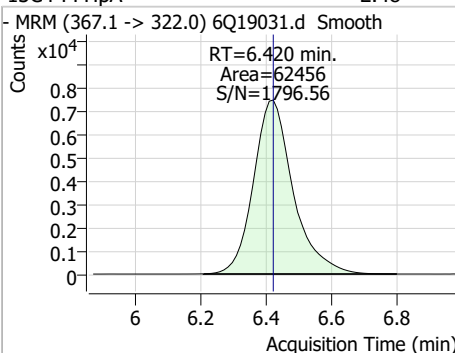
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.34	5.93	0.00	10065	314.8 -> 82.9	3.7	1.9	5.6



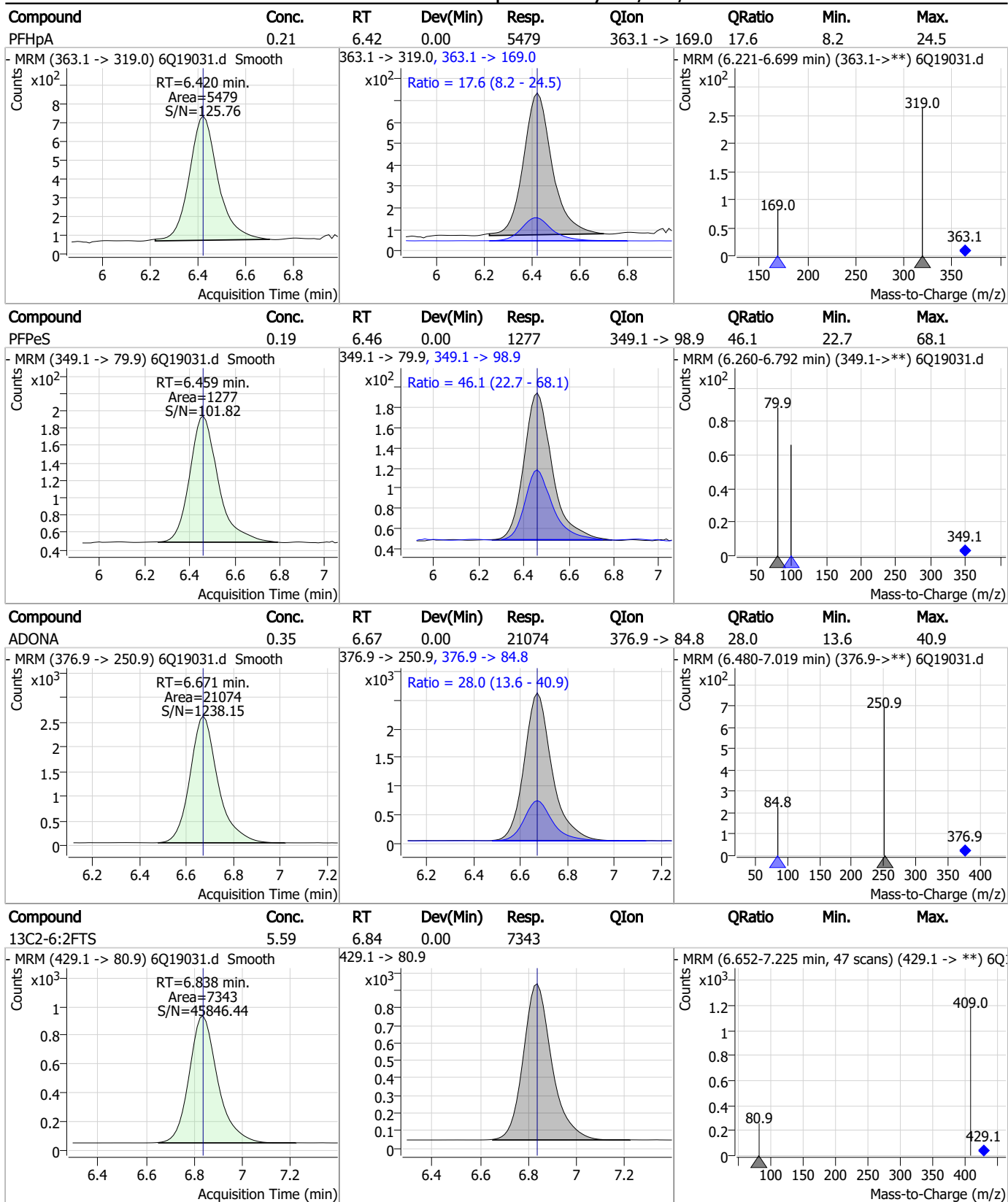
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.00	6.14	0.01	22173	341.0 -> 217.0	72.3	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.48	6.42	0.00	62456	367.1 -> 322.0			

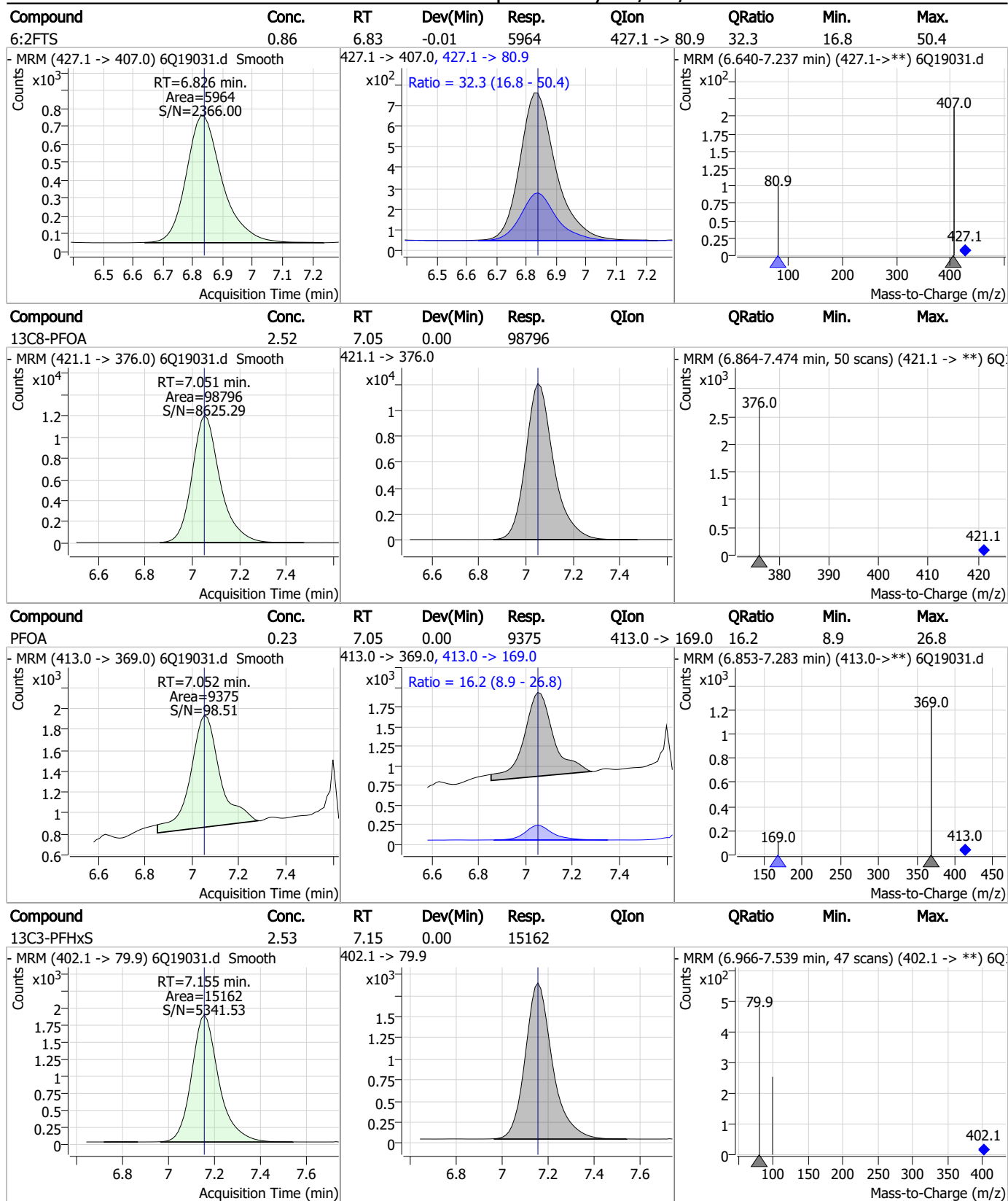


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

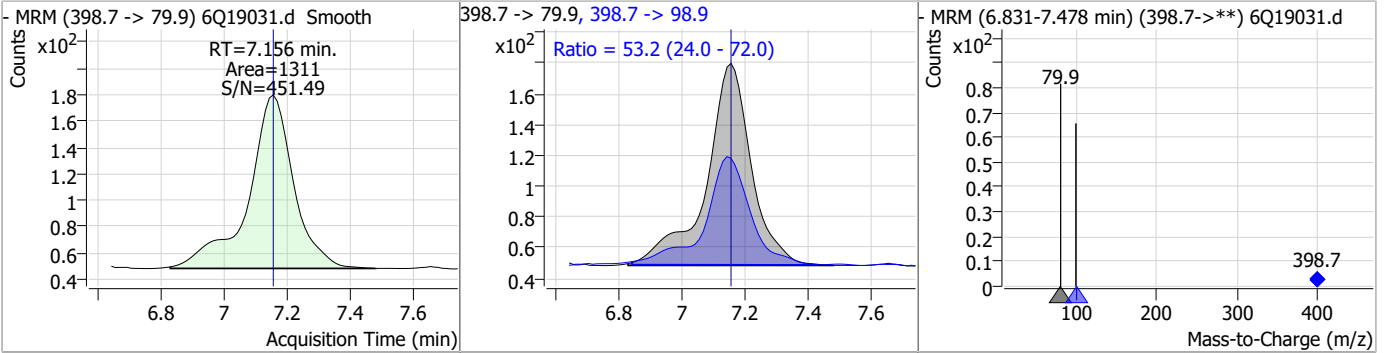


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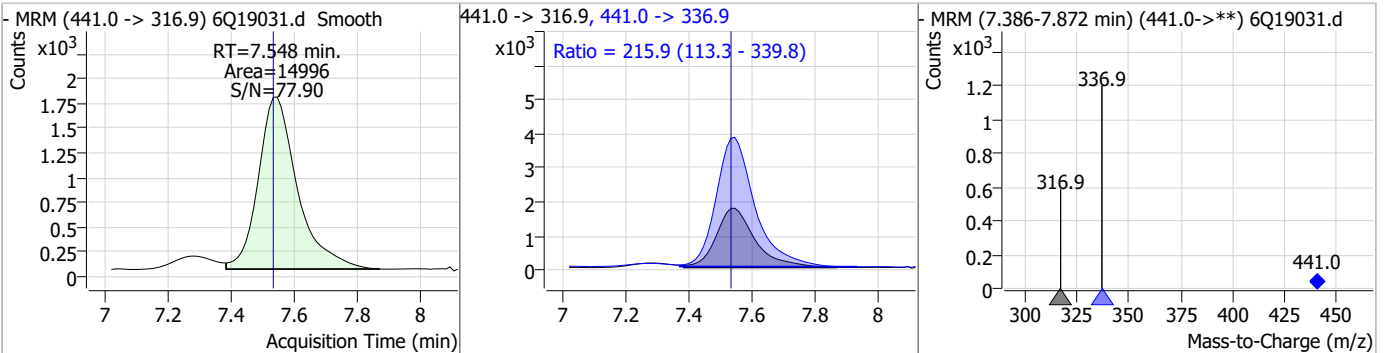
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Perfluorinated Compounds by LC/MS/MS

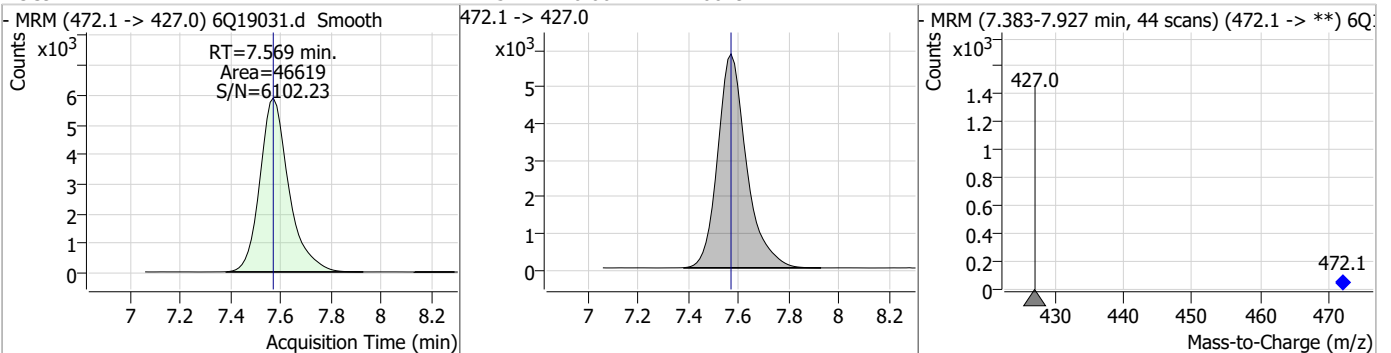
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.18	7.16	0.00	1311	398.7 -> 98.9	53.2	24.0	72.0



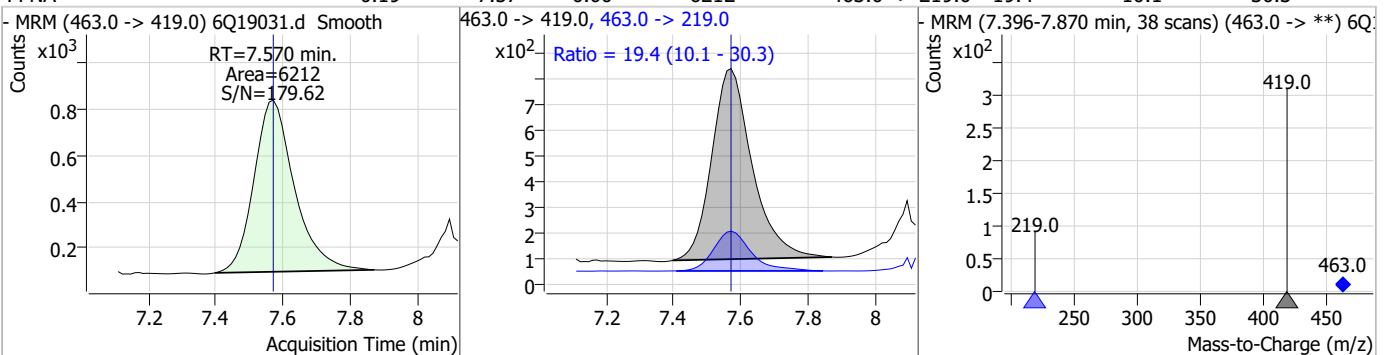
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	4.92	7.55	0.01	14996	441.0 -> 336.9	215.9	113.3	339.8



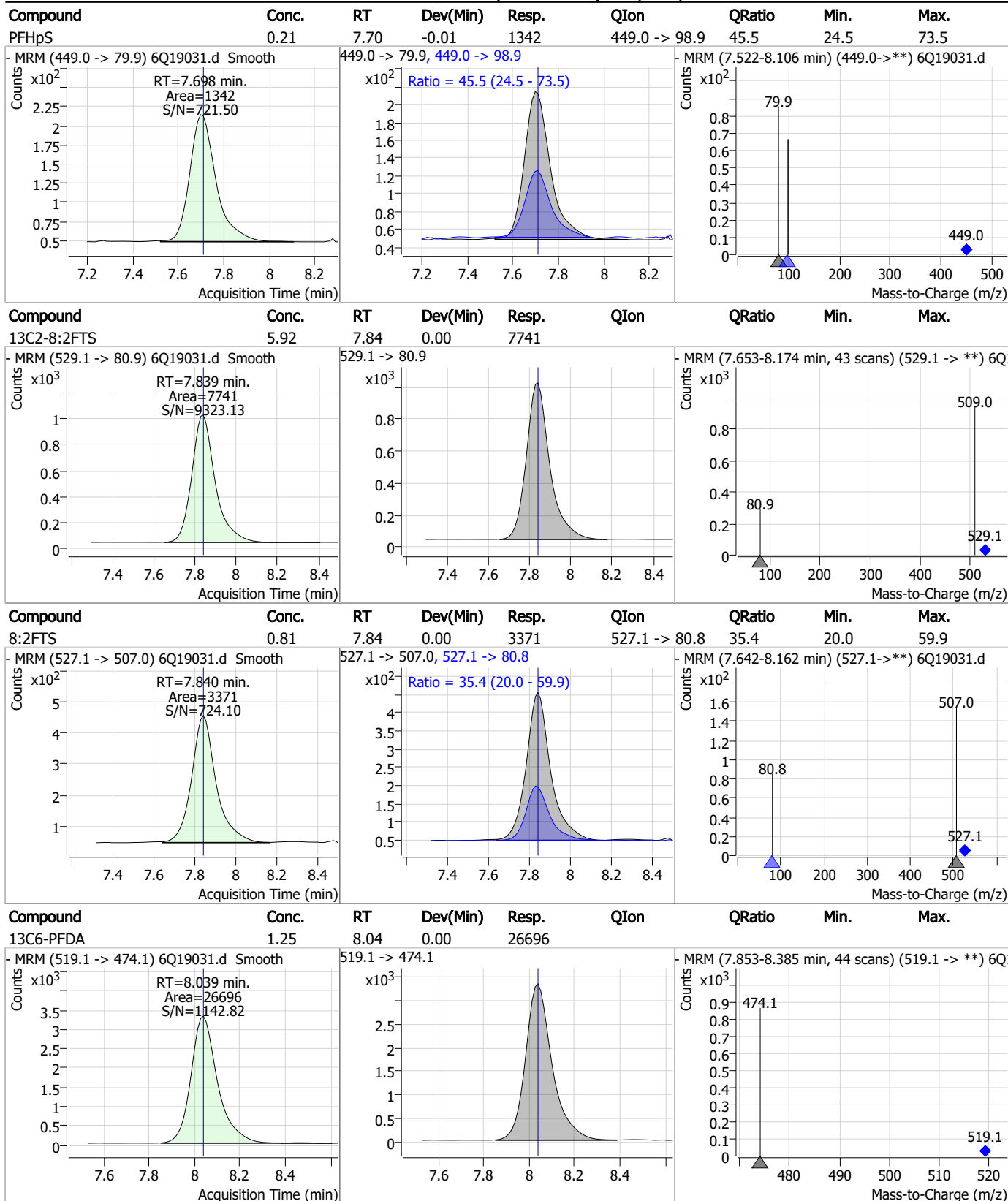
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.27	7.57	0.00	46619	472.1 -> 427.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	0.19	7.57	0.00	6212	463.0 -> 219.0	19.4	10.1	30.3



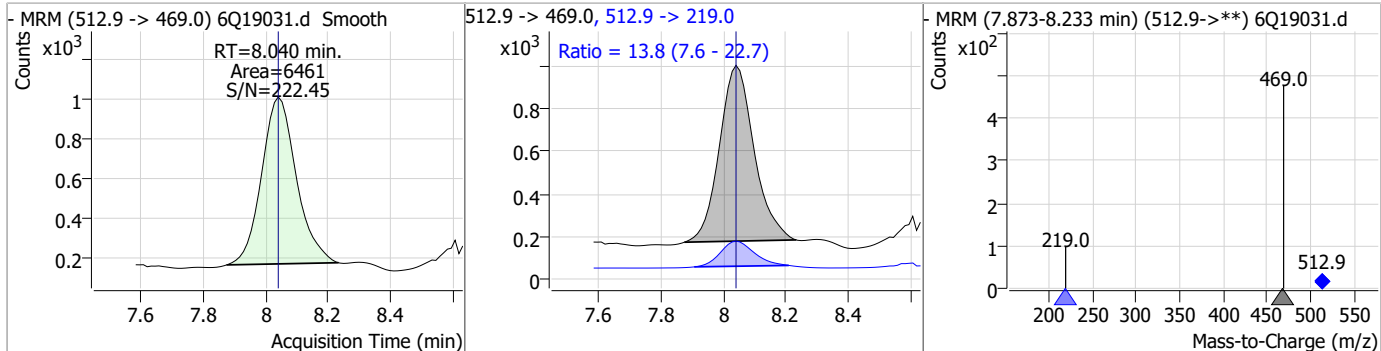
Perfluorinated Compounds by LC/MS/MS



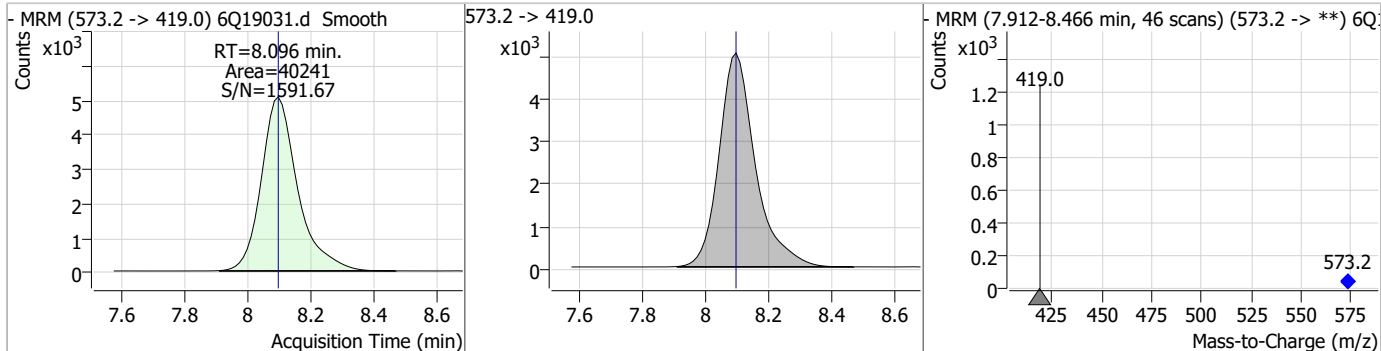
7.7.23 7

Perfluorinated Compounds by LC/MS/MS

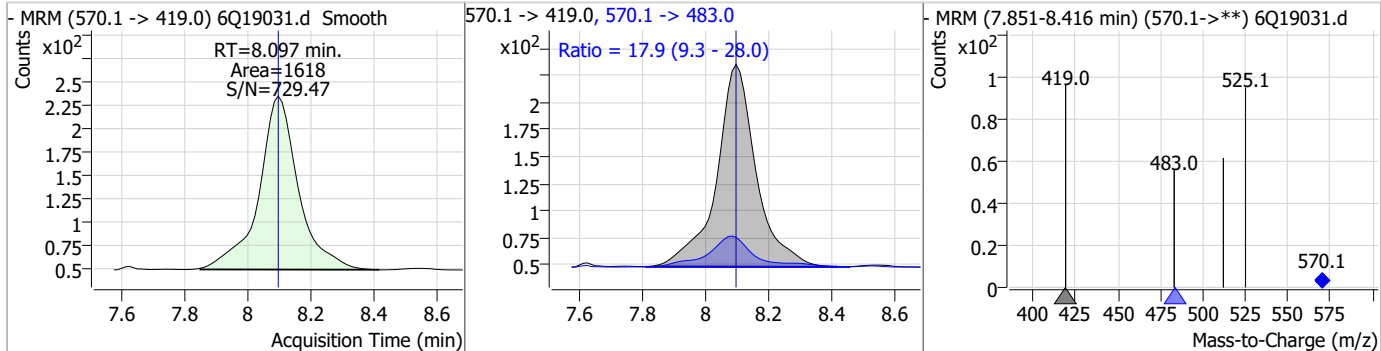
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.20	8.04	0.00	6461	512.9 -> 219.0	13.8	7.6	22.7



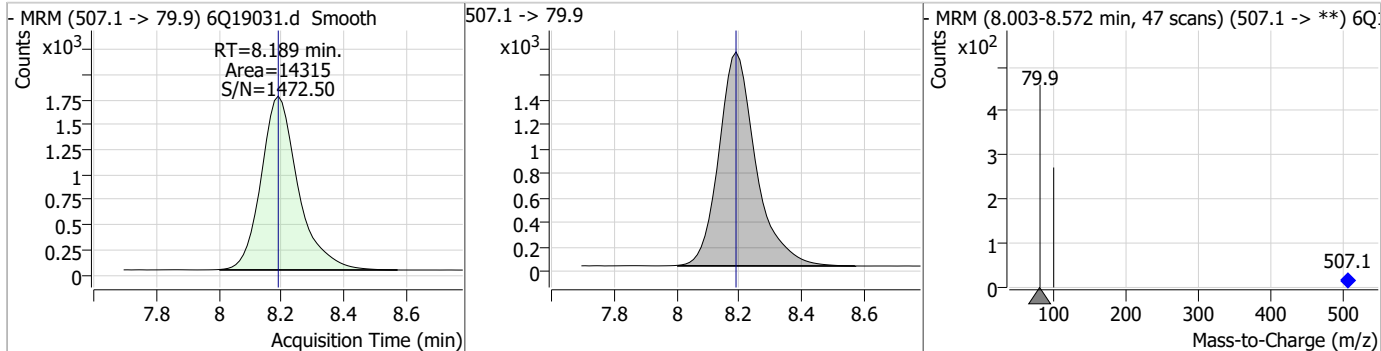
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	6.08	8.10	0.00	40241				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.20	8.10	0.00	1618	570.1 -> 483.0	17.9	9.3	28.0

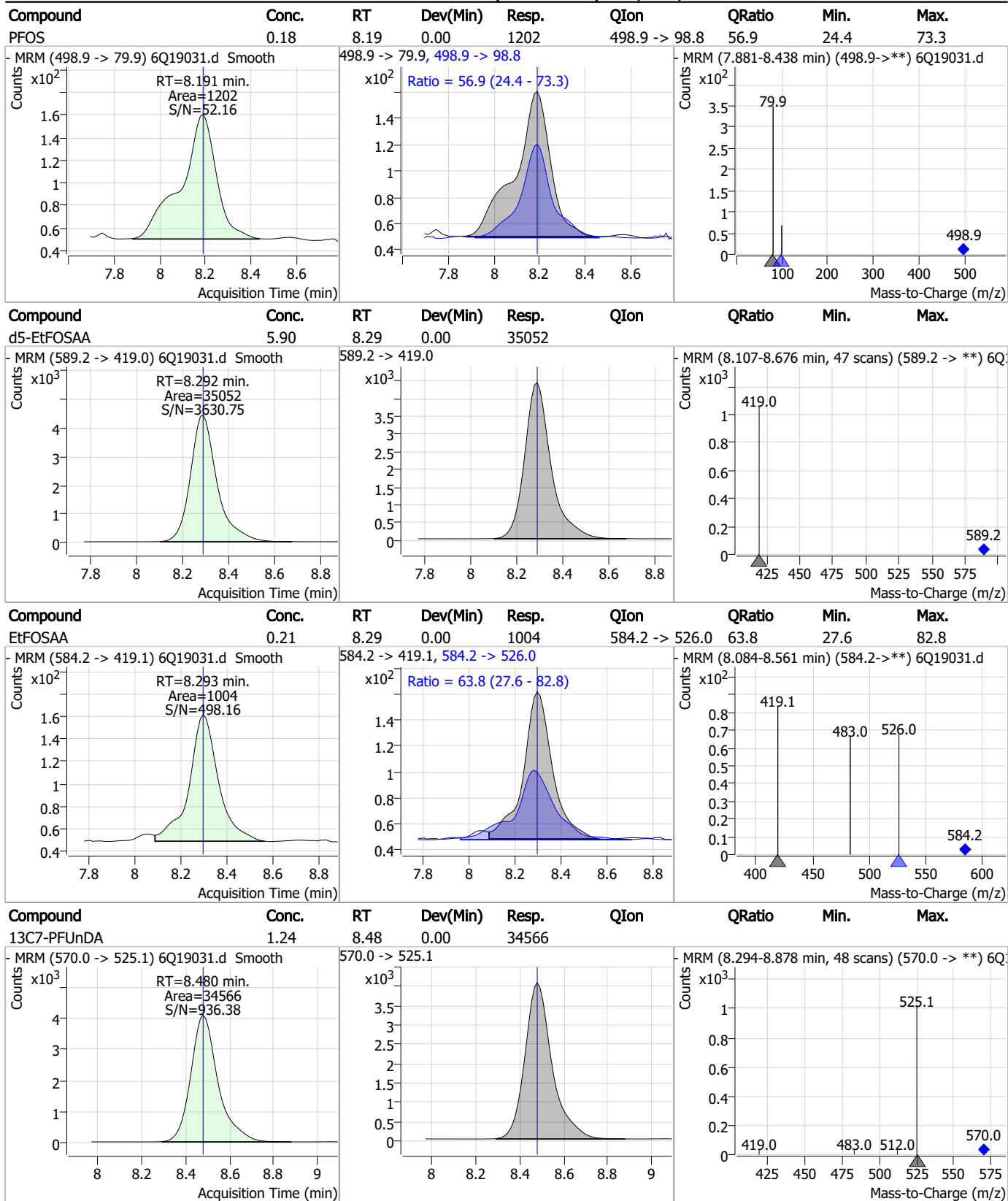


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.57	8.19	0.00	14315				



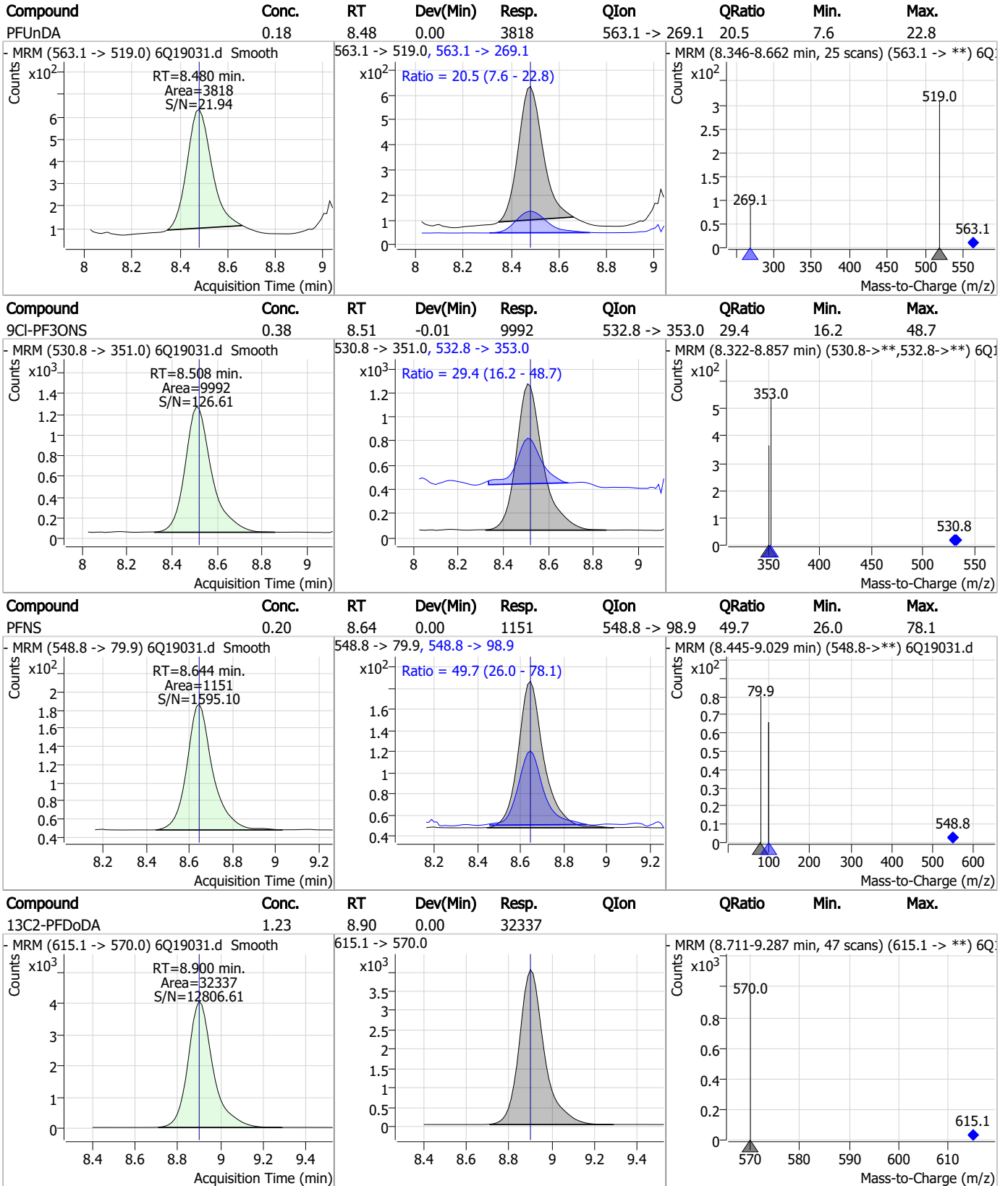
7.7.23
7

Perfluorinated Compounds by LC/MS/MS



7.7.23 7

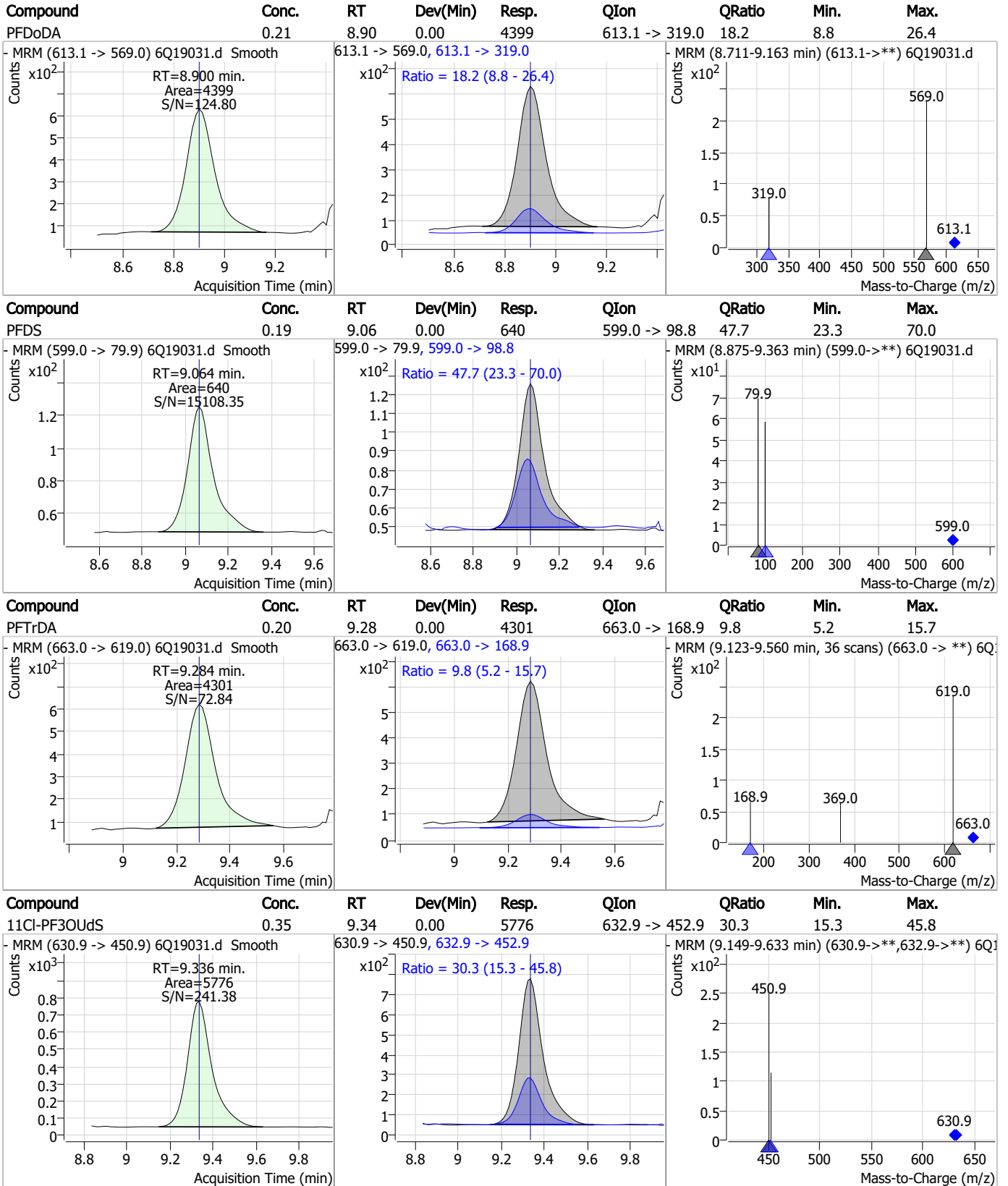
Perfluorinated Compounds by LC/MS/MS



7.7.23 7



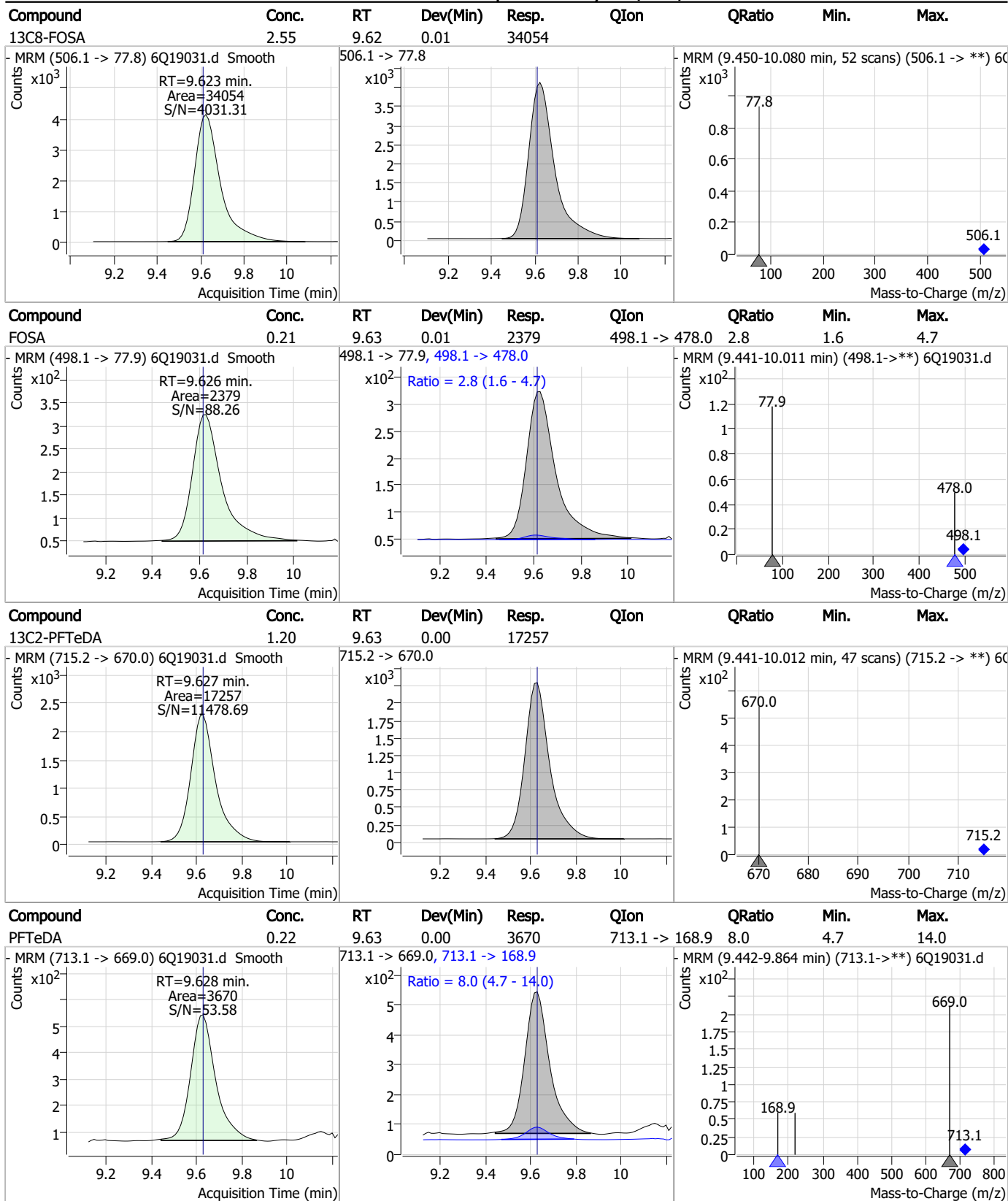
Perfluorinated Compounds by LC/MS/MS



7.7.23 7

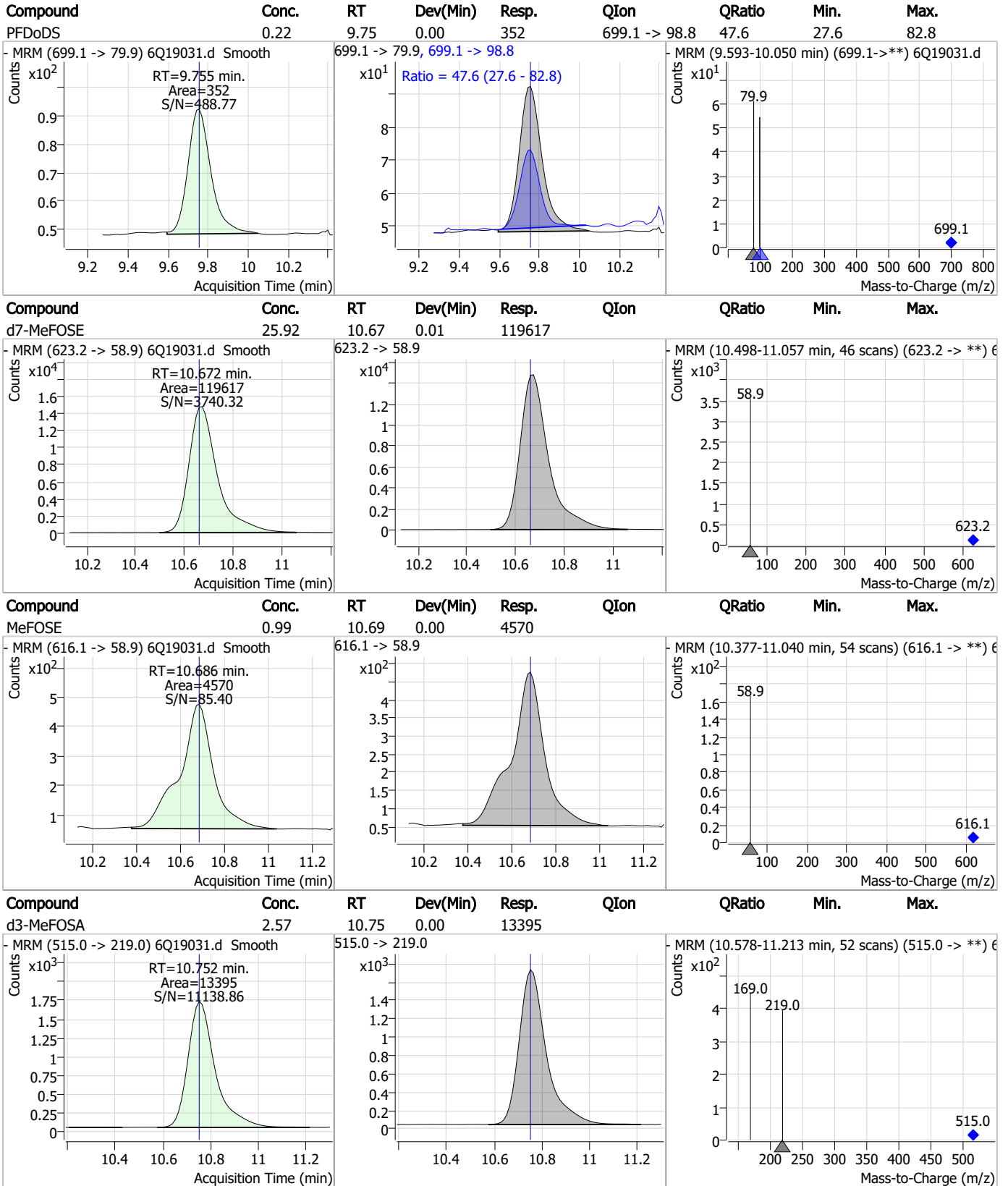


Perfluorinated Compounds by LC/MS/MS



7.7.23

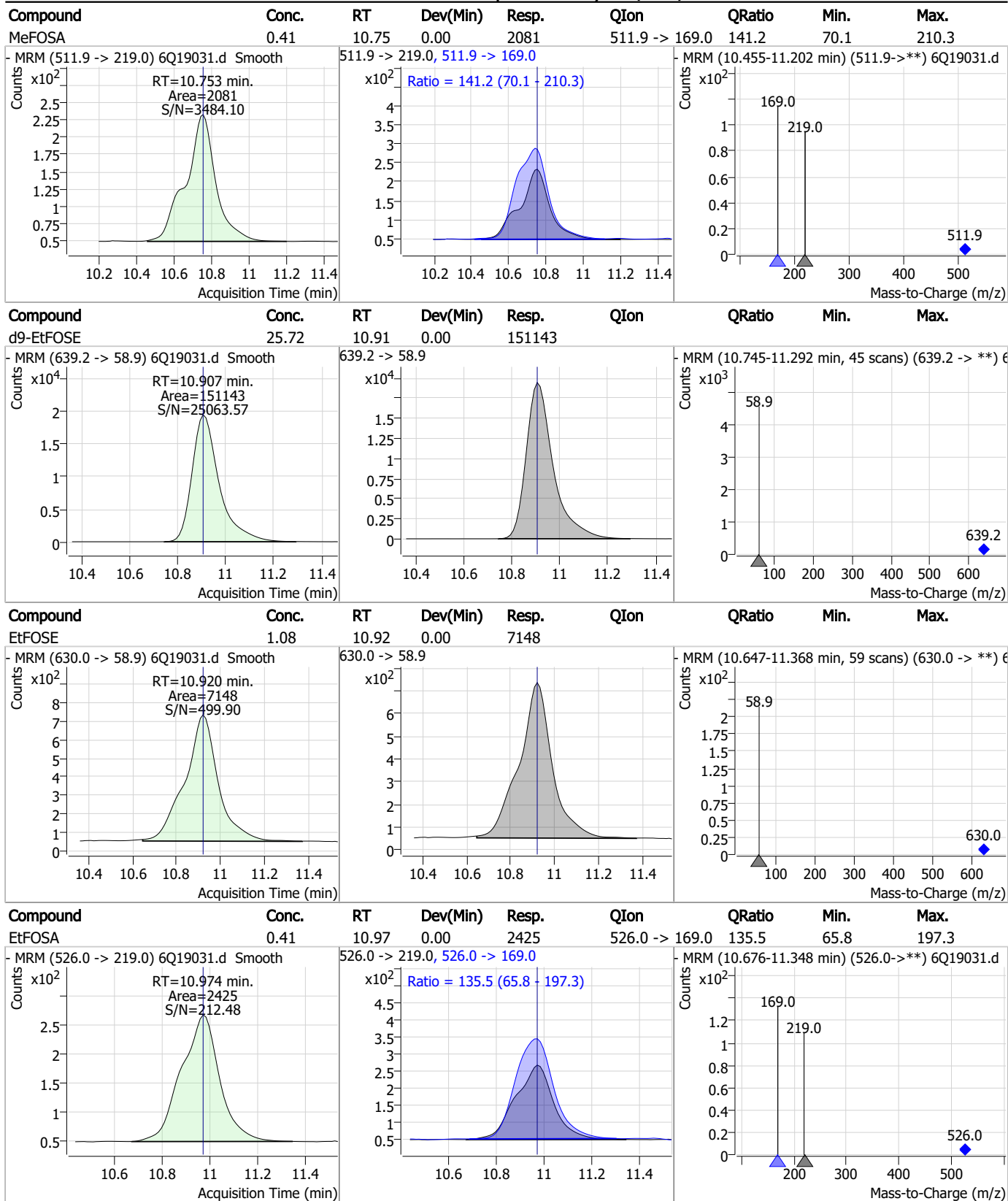
Perfluorinated Compounds by LC/MS/MS



7.7.23

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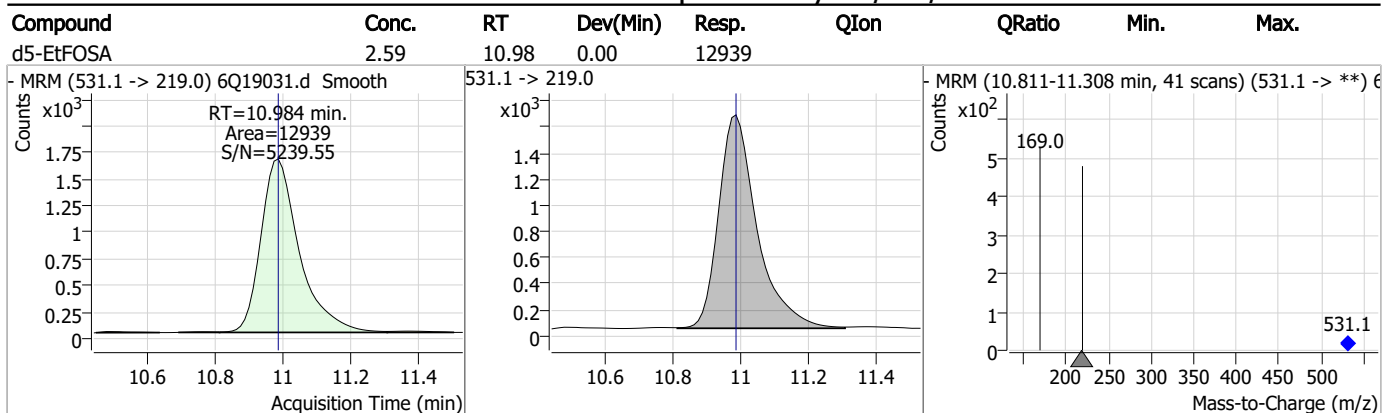
Perfluorinated Compounds by LC/MS/MS



7.7.23

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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19040.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 1:13:43 PM
 Sample Name : ecc282-4
 Vial : P1-A5
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP96663,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.860	216.8 -> 171.9	197272	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	64863	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	71621	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	68560	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	103344	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	45101	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	26883	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	36269	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	34543	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18913	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	35287	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	26038	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15488	2.50 µg/L	0.000
M8-PFOS	8.177	507.1 -> 79.9	14874	2.50 µg/L	-0.012
M2-4:2FTS	5.143	329.1 -> 80.9	5177	5.00 µg/L	-0.012
M2-6:2FTS	6.838	429.1 -> 80.9	7691	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7711	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	38195	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	43692	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	35211	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	123068	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	161653	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13813	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14643	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19770	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	82512	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11739	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	111285	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	36852	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	60246	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	65474	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	5177	5.36 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 107.3%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7691	5.54 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.9%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7711	5.58 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 111.6%		
13C2-PFDoDA	8.900	615.1 -> 570.0	34543	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.6%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18913	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 102.5%		
13C3-PFBS	5.384	302.1 -> 79.9	26038	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.9%		
13C3-PFHxS	7.155	402.1 -> 79.9	15488	2.45 µg/L	0.000

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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	2.860	216.8 -> 171.9	197272	10.08 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C4-PFHpA	6.420	367.1 -> 322.0	68560	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C5-PFHxA	5.478	318.0 -> 273.0	71621	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.4%	
13C5-PFPeA	4.272	268.3 -> 223.0	64863	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.1%	
13C6-PFDA	8.039	519.1 -> 474.1	26883	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C7-PFUnDA	8.480	570.0 -> 525.1	36269	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.5%	
13C8-FOSA	9.623	506.1 -> 77.8	35287	2.45 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.1%	
13C8-PFOA	7.051	421.1 -> 376.0	103344	2.42 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.9%	
13C8-PFOS	8.177	507.1 -> 79.9	14874	2.48 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
13C9-PFNA	7.569	472.1 -> 427.0	45101	1.14 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 91.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	38195	5.36 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.3%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	43692	10.59 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.9%	
d3-MeFOSA	10.752	515.0 -> 219.0	14643	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.6%	
d5-EtFOSAA	8.292	589.2 -> 419.0	35211	5.51 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.3%	
d7-MeFOSE	10.672	623.2 -> 58.9	123068	24.80 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.2%	
d9-EtFOSE	10.907	639.2 -> 58.9	161653	25.58 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 102.3%	
d5-EtFOSA	10.984	531.1 -> 219.0	13813	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.9%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0 327.1 -> 80.9	66131 24716	9.33 µg/L	100
6:2FTS	6.838	427.1 -> 407.0 427.1 -> 80.9	68530 23911	9.40 µg/L	98
8:2FTS	7.828	527.1 -> 507.0 527.1 -> 80.8	37135 15755	8.98 µg/L	96
EtFOSAA	8.293	584.2 -> 419.1 584.2 -> 526.0	11408 6320	2.38 µg/L	100
FOSA	9.614	498.1 -> 77.9 498.1 -> 478.0	29472 933	2.48 µg/L	100
MeFOSAA	8.097	570.1 -> 419.0 570.1 -> 483.0	19088 3942	2.50 µg/L	95
PFBA	2.856	212.8 -> 168.9	63632	9.90 µg/L	100
PFBS	5.385	298.7 -> 79.9 298.7 -> 98.8	20173 7601	2.24 µg/L	97
PFDA	8.040	512.9 -> 469.0 512.9 -> 219.0	80502 13344	2.49 µg/L	97
PFDoDA	8.900	613.1 -> 569.0 613.1 -> 319.0	52805 8371	2.35 µg/L	96
PFDS	9.052	599.0 -> 79.9	8930	2.51 µg/L	98

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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	4303	2.39	µg/L	100
		363.1 -> 319.0	69424			
PFHpS	7.698	363.1 -> 169.0	11358	2.60	µg/L	98
		449.0 -> 79.9	17555			
PFHxA	5.469	449.0 -> 98.9	8348	2.39	µg/L	100
		313.0 -> 269.0	56274			
PFHxS	7.156	313.0 -> 118.9	3003	2.32	µg/L	99
		398.7 -> 79.9	16843			
PFNA	7.570	398.7 -> 98.9	7964	2.53	µg/L	97
		463.0 -> 419.0	80820			
PFNS	8.644	463.0 -> 219.0	15104	2.53	µg/L	97
		548.8 -> 79.9	15011			
PFOA	7.052	548.8 -> 98.9	7490	2.46	µg/L	99
		413.0 -> 369.0	106982			
PFOS	8.191	413.0 -> 169.0	18807	2.34	µg/L	99
		498.9 -> 79.9	15937			
PFPeA	4.274	498.9 -> 98.8	7926	4.94	µg/L	100
		263.0 -> 219.0	75613			
PFPeS	6.459	349.1 -> 79.9	16174	2.32	µg/L	95
		349.1 -> 98.9	7925			
PFTeDA	9.615	713.1 -> 669.0	45177	2.42	µg/L	99
		713.1 -> 168.9	4053			
PFTrDA	9.284	663.0 -> 619.0	53736	2.34	µg/L	98
		663.0 -> 168.9	6141			
PFUnDA	8.480	563.1 -> 519.0	55020	2.45	µg/L	98
		563.1 -> 269.1	8924			
11Cl-PF3OUdS	9.323	630.9 -> 450.9	77161	4.62	µg/L	100
		632.9 -> 452.9	23726			
9Cl-PF3ONS	8.508	530.8 -> 351.0	128249	4.85	µg/L	97
		532.8 -> 353.0	39116			
ADONA	6.671	376.9 -> 250.9	272124	4.53	µg/L	98
		376.9 -> 84.8	77762			
HFPO-DA	5.832	284.9 -> 168.9	18866	5.17	µg/L	99
		284.9 -> 184.9	2208			
3:3FTCA	3.727	241.0 -> 177.0	12824	11.82	µg/L	99
		241.0 -> 117.0	1737			
5:3FTCA	6.137	341.0 -> 237.1	266348	58.72	µg/L	99
		341.0 -> 217.0	191185			
7:3FTCA	7.548	441.0 -> 316.9	188877	60.53	µg/L	94
		441.0 -> 336.9	408507			
EtFOSA	10.974	526.0 -> 219.0	32622	5.13	µg/L	98
		526.0 -> 169.0	42020			
EtFOSE	10.920	630.0 -> 58.9	83986	11.91	µg/L	100
		511.9 -> 219.0	27035			
MeFOSA	10.753	511.9 -> 169.0	37527	4.85	µg/L	99
		616.1 -> 58.9	59460			
MeFOSE	10.673	699.1 -> 79.9	4136	12.48	µg/L	100
		699.1 -> 98.8	2411			
PFDoDS	9.755	295.0 -> 201.0	14035	2.46	µg/L	96
		295.0 -> 84.9	3665			
NFDHA	5.348	279.0 -> 85.1	53567	4.97	µg/L	97
		229.0 -> 84.9	41065			
PFMBA	4.688	314.8 -> 134.9	132661	5.06	µg/L	100
		314.8 -> 82.9	4569			
PFMPA	3.401			5.09	µg/L	100
PFEESA	5.926			4.44	µg/L	99

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

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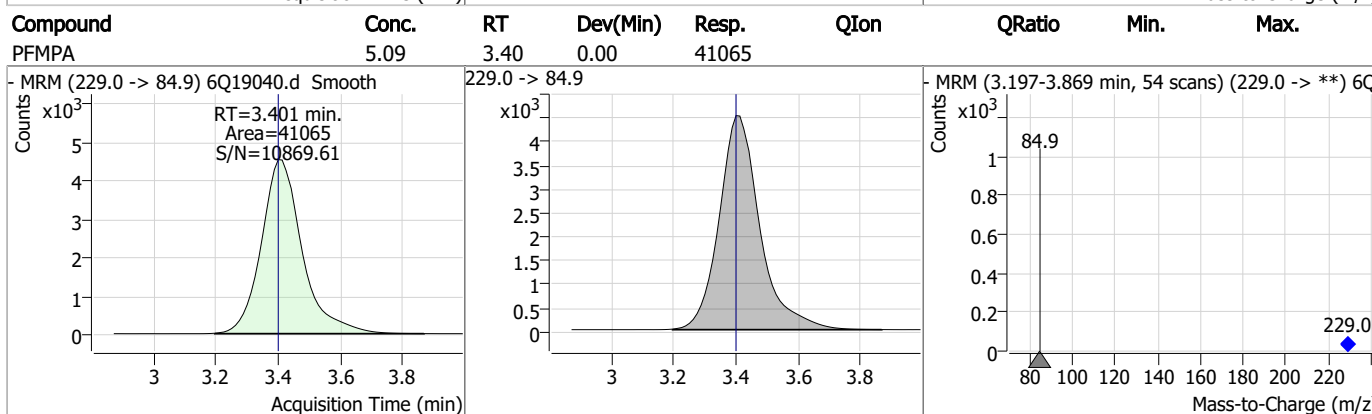
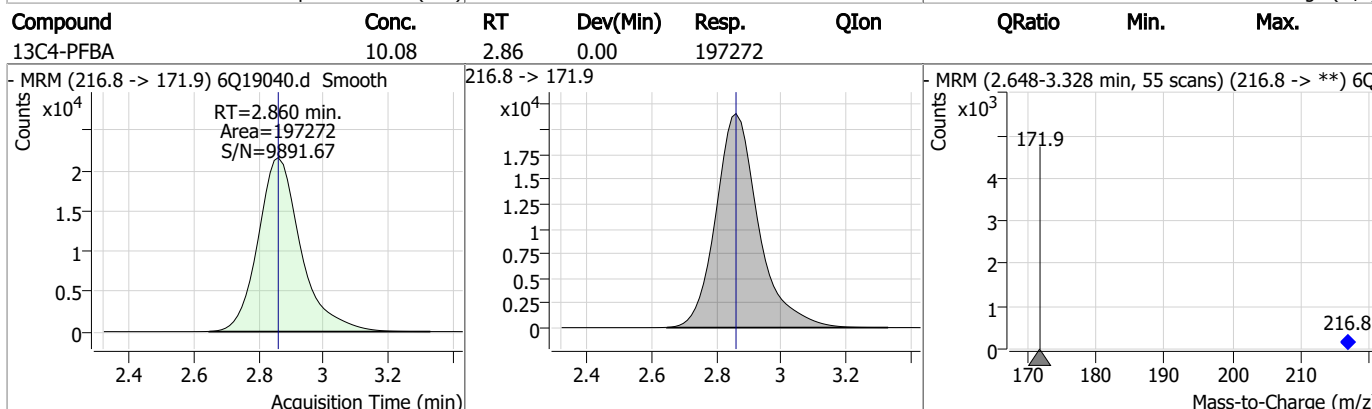
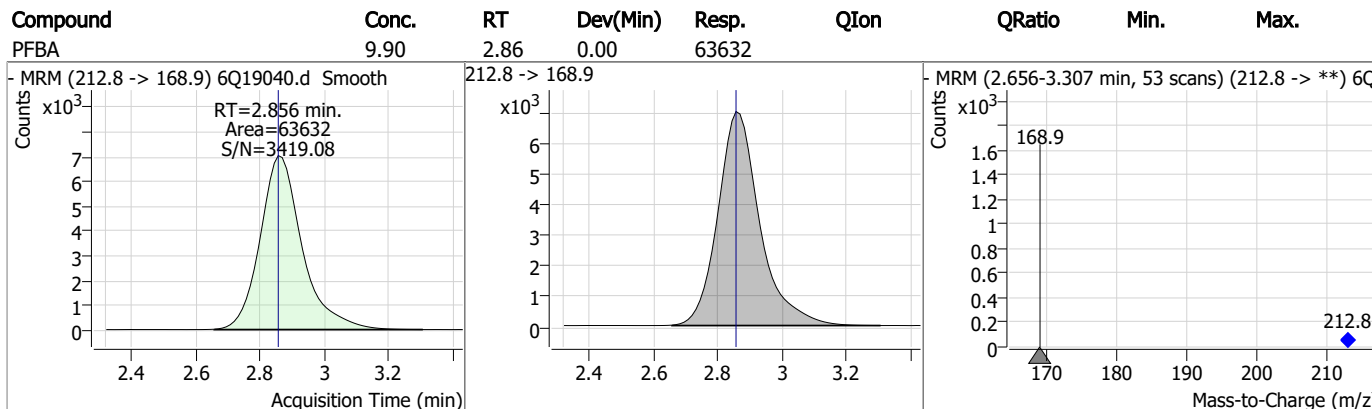
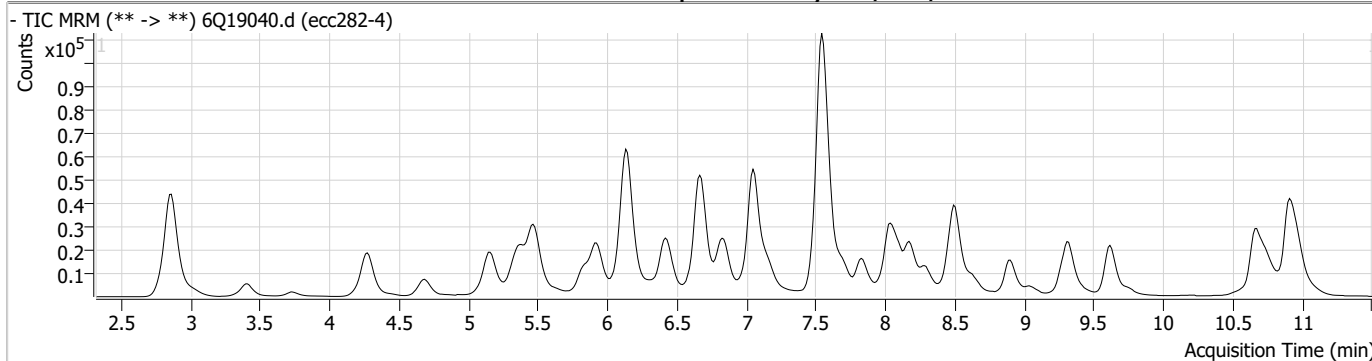
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.24

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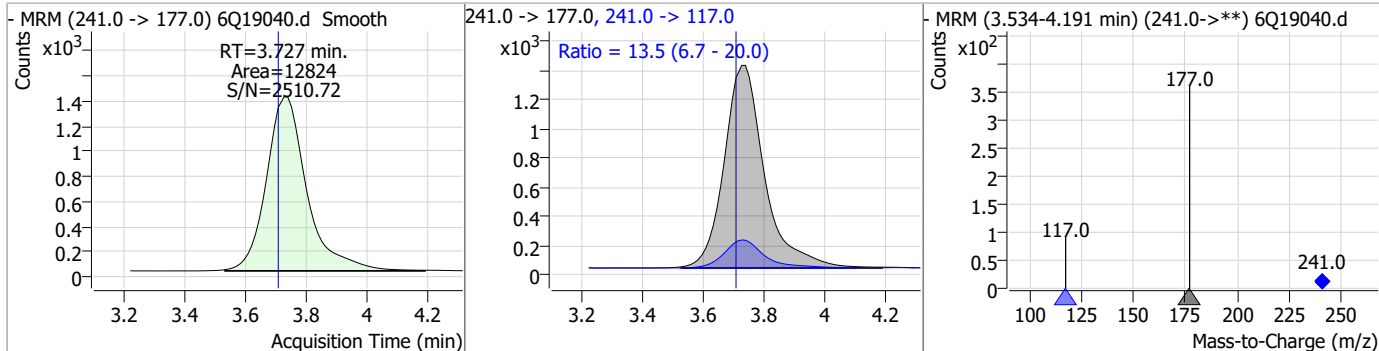
Perfluorinated Compounds by LC/MS/MS



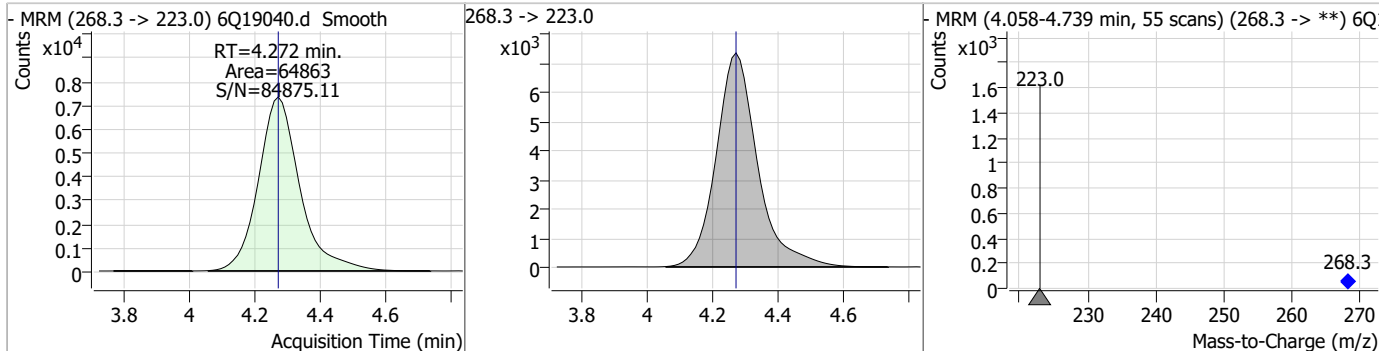
7.7.24
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Perfluorinated Compounds by LC/MS/MS

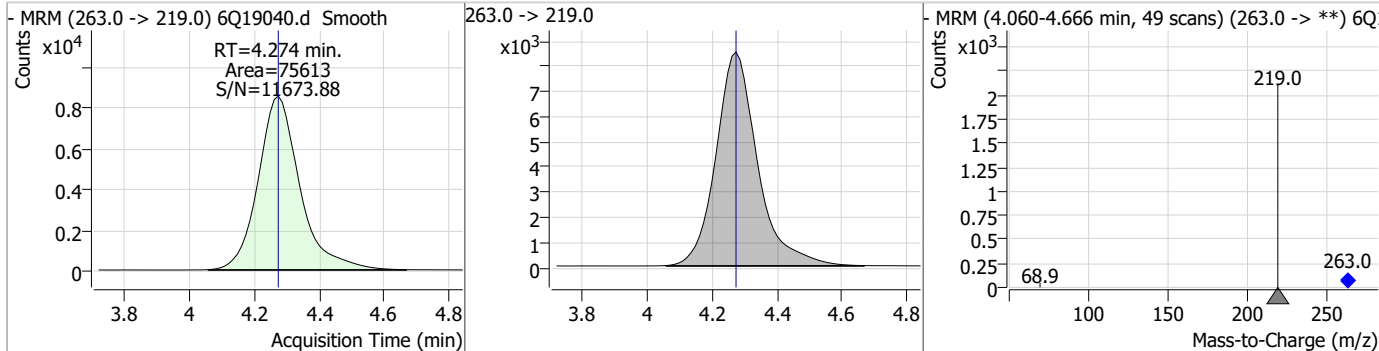
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.82	3.73	0.02	12824	241.0 -> 117.0	13.5	6.7	20.0



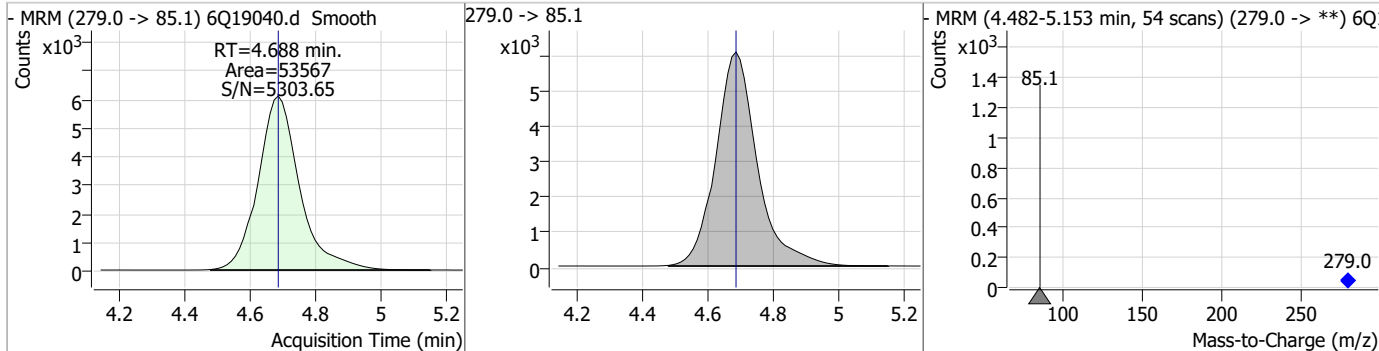
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.11	4.27	0.00	64863				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.94	4.27	0.00	75613				

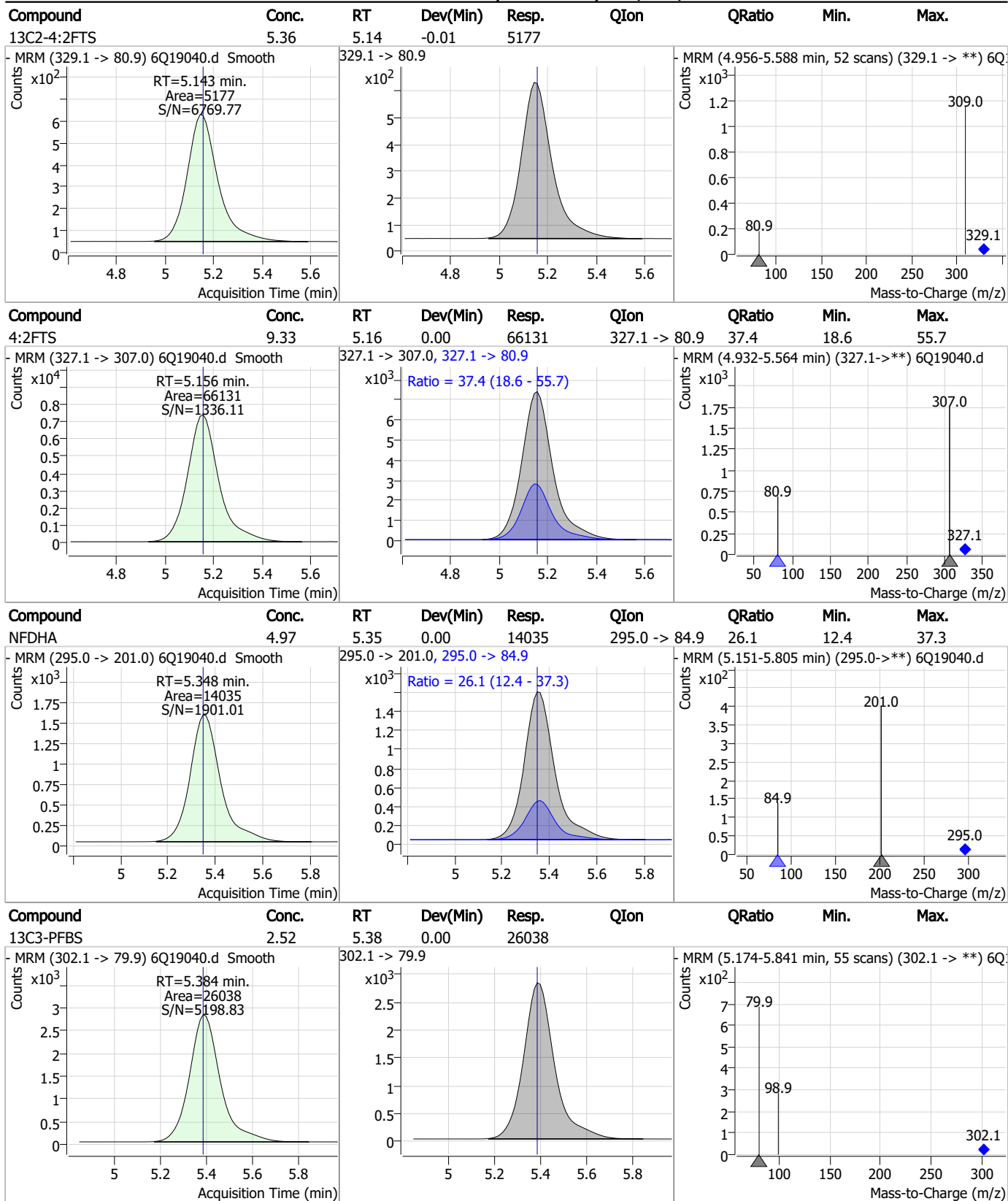


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.06	4.69	0.00	53567				



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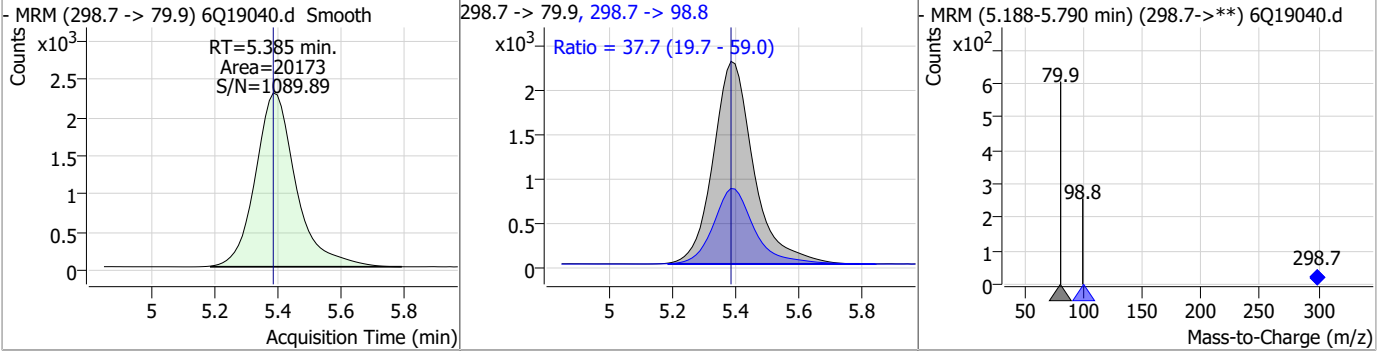
Perfluorinated Compounds by LC/MS/MS



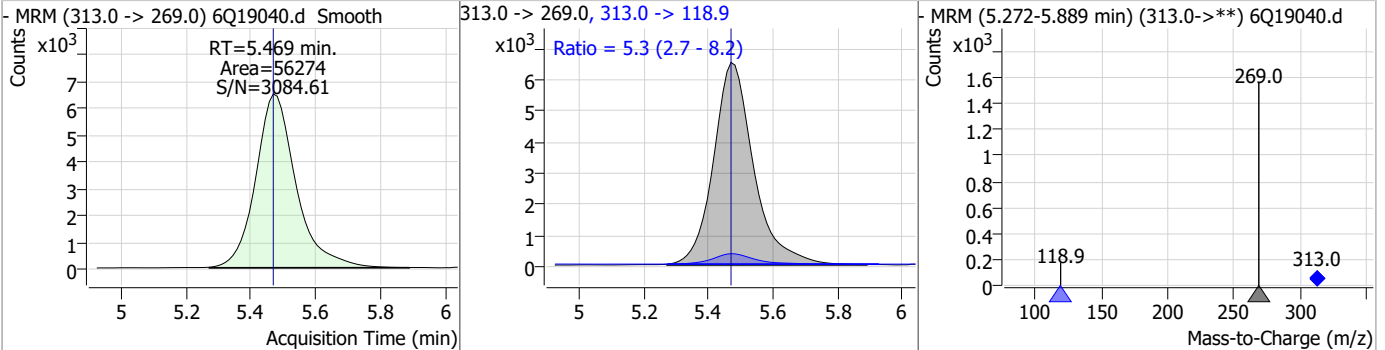
7.7.24
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Perfluorinated Compounds by LC/MS/MS

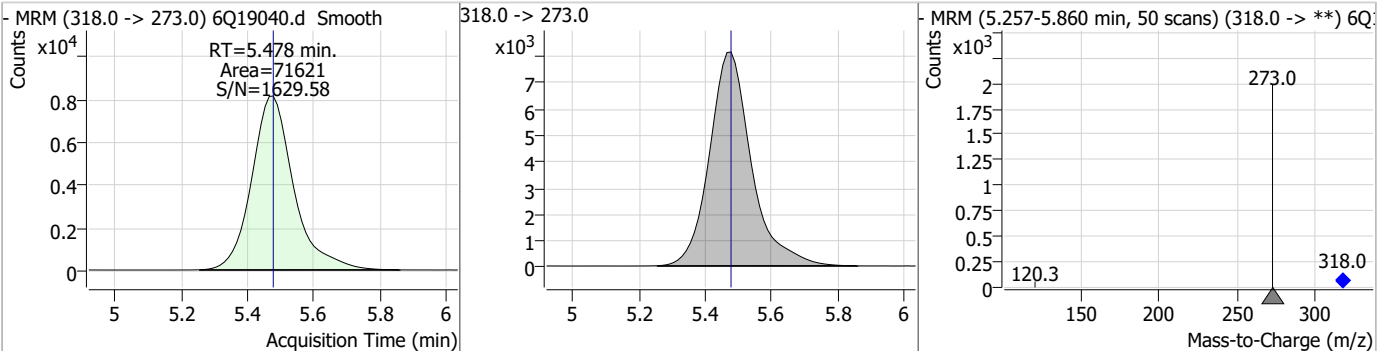
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.24	5.38	0.00	20173	298.7 -> 98.8	37.7	19.7	59.0



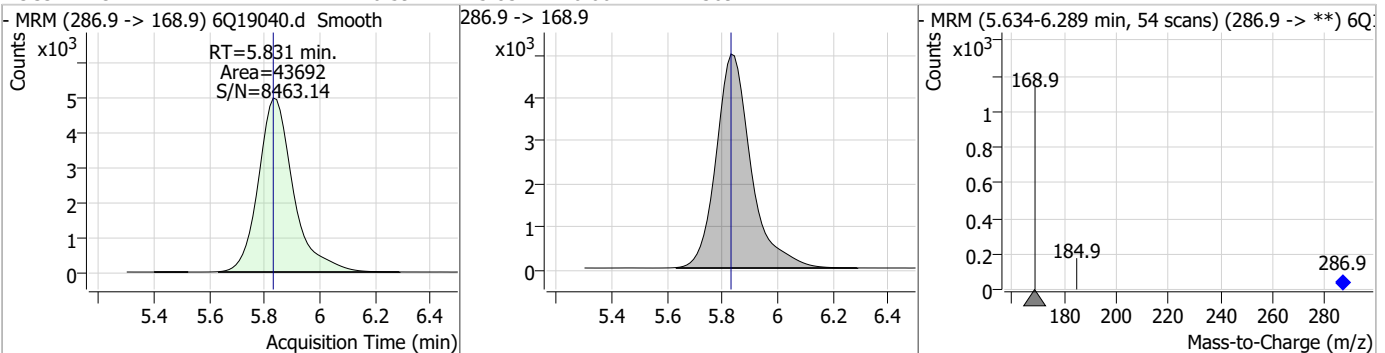
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.39	5.47	0.00	56274	313.0 -> 118.9	5.3	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.58	5.48	0.00	71621	318.0 -> 273.0			

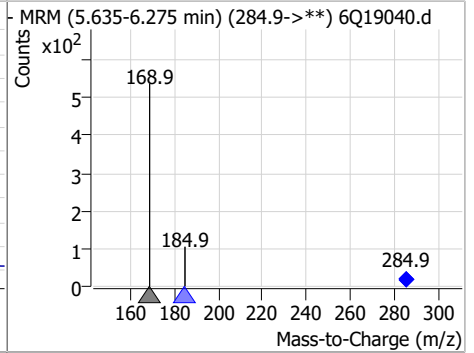
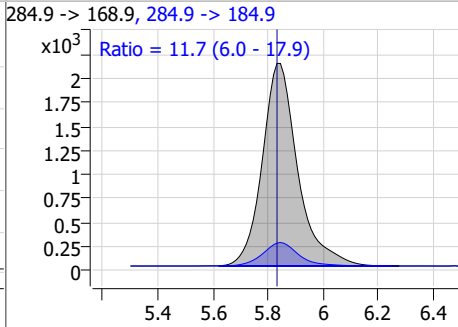
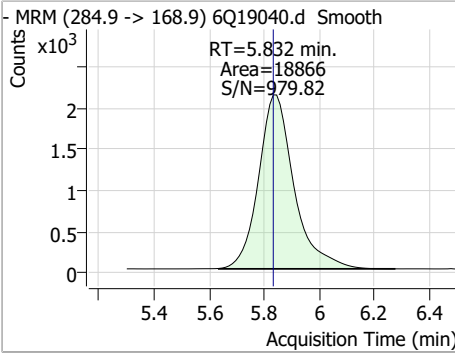


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.59	5.83	0.00	43692	286.9 -> 168.9			

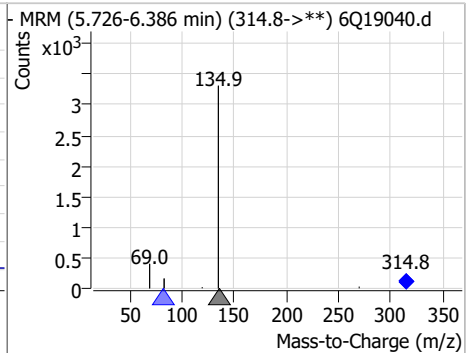
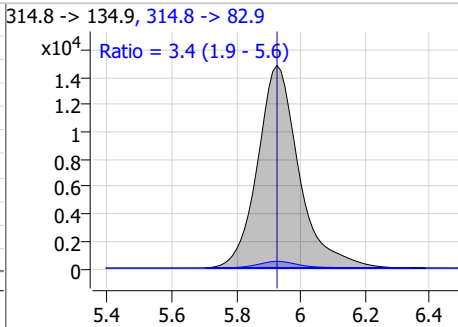
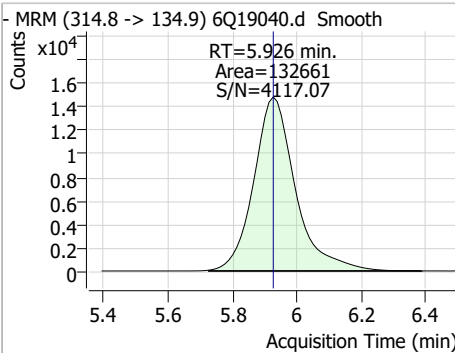


Perfluorinated Compounds by LC/MS/MS

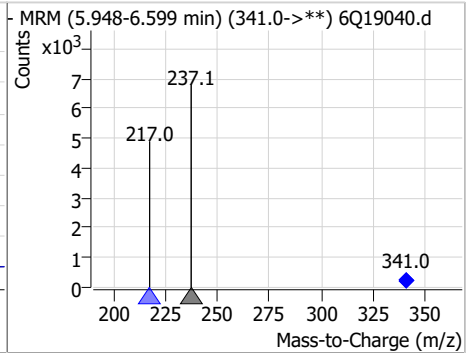
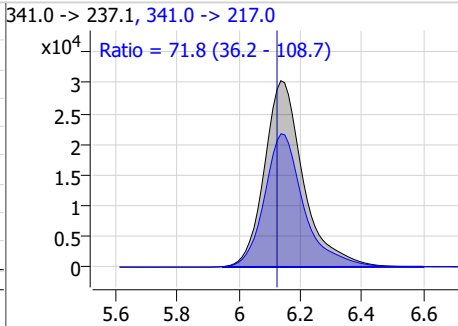
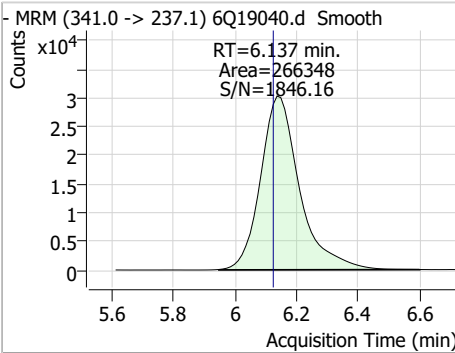
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.17	5.83	0.00	18866	284.9 -> 184.9	11.7	6.0	17.9



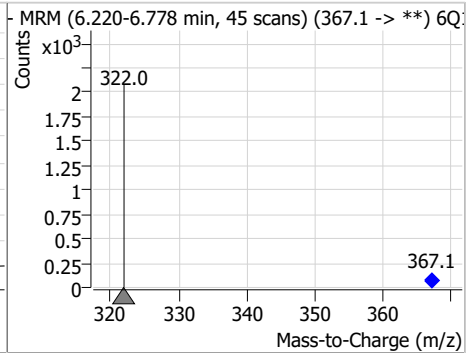
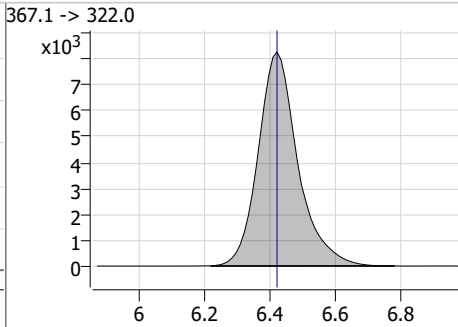
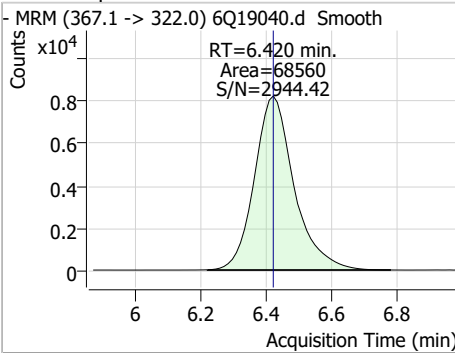
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.44	5.93	0.00	132661	314.8 -> 82.9	3.4	1.9	5.6



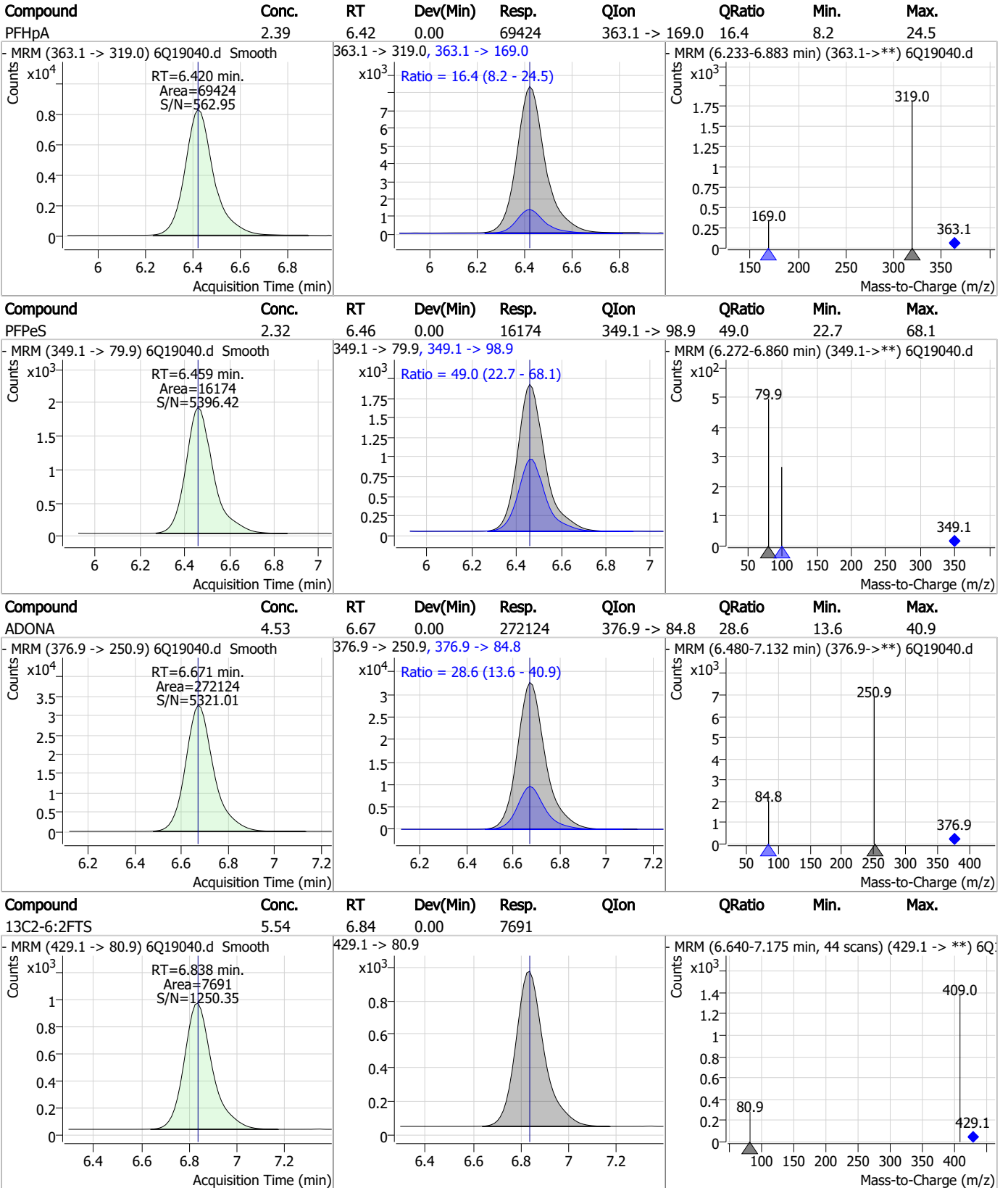
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	58.72	6.14	0.01	266348	341.0 -> 217.0	71.8	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.63	6.42	0.00	68560	367.1 -> 322.0			



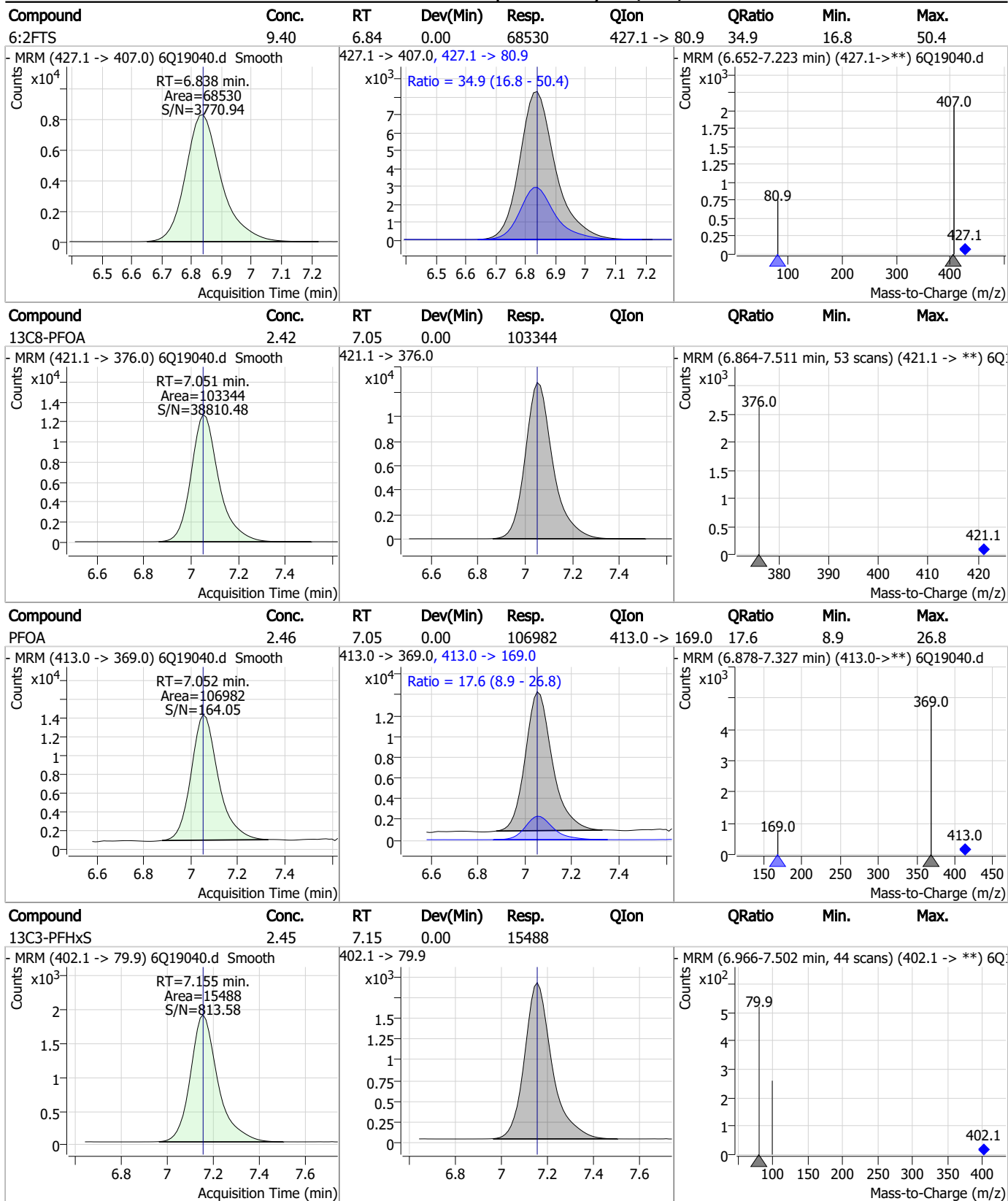
Perfluorinated Compounds by LC/MS/MS



7.7.24

7

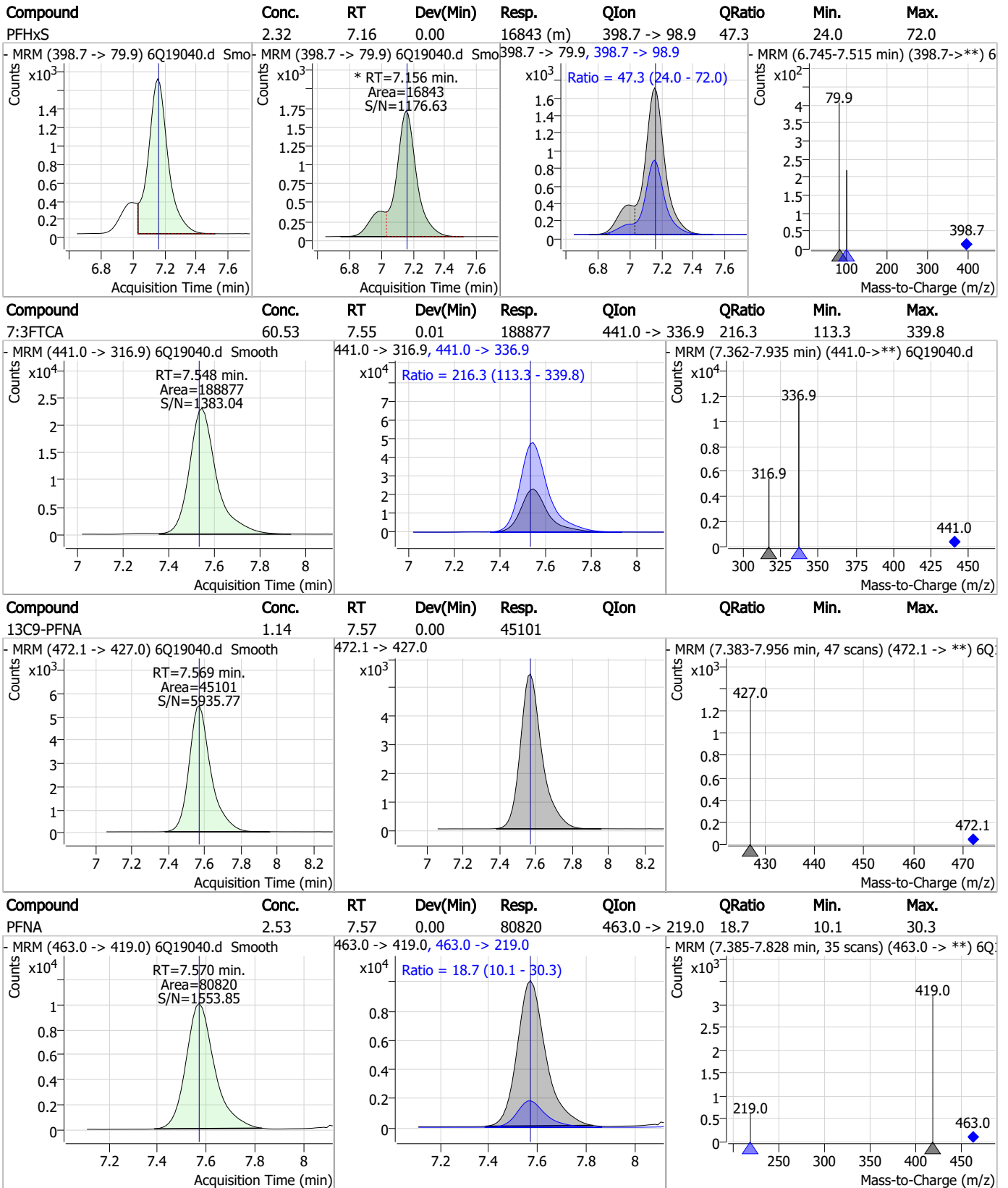
Perfluorinated Compounds by LC/MS/MS



7.7.24

7

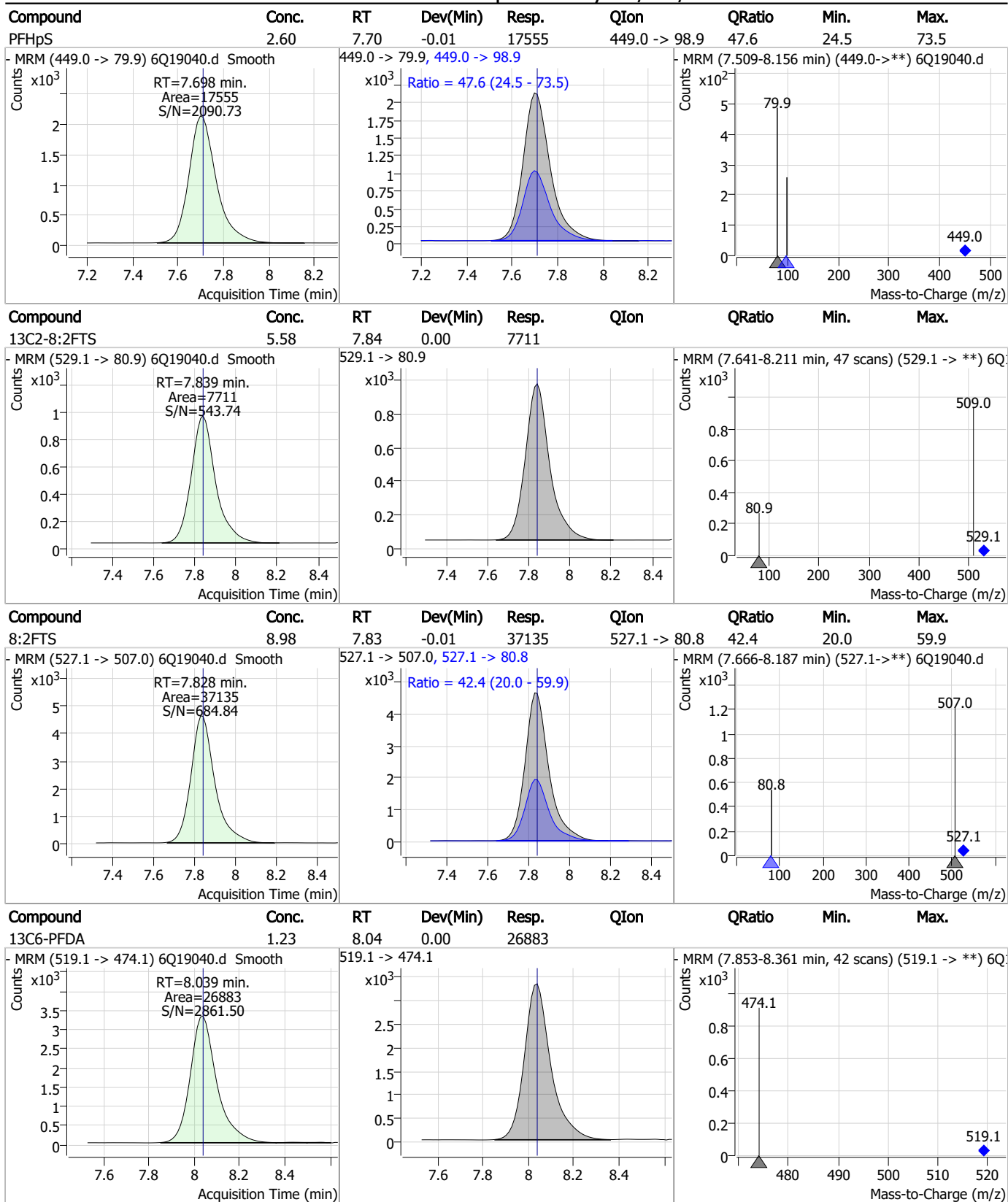
Perfluorinated Compounds by LC/MS/MS



7.7.24

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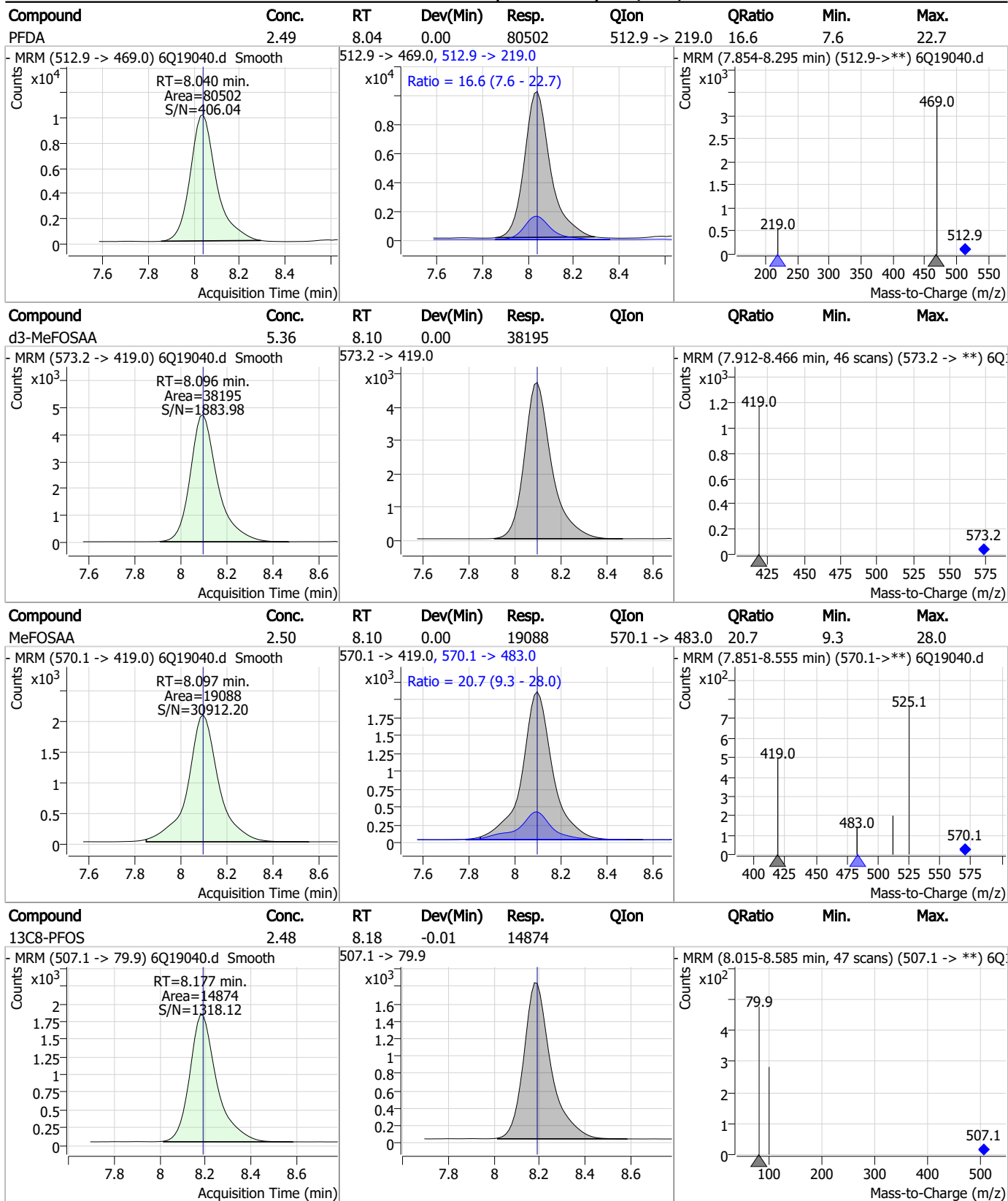
Perfluorinated Compounds by LC/MS/MS



7.7.24

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Perfluorinated Compounds by LC/MS/MS



7.7.24

7

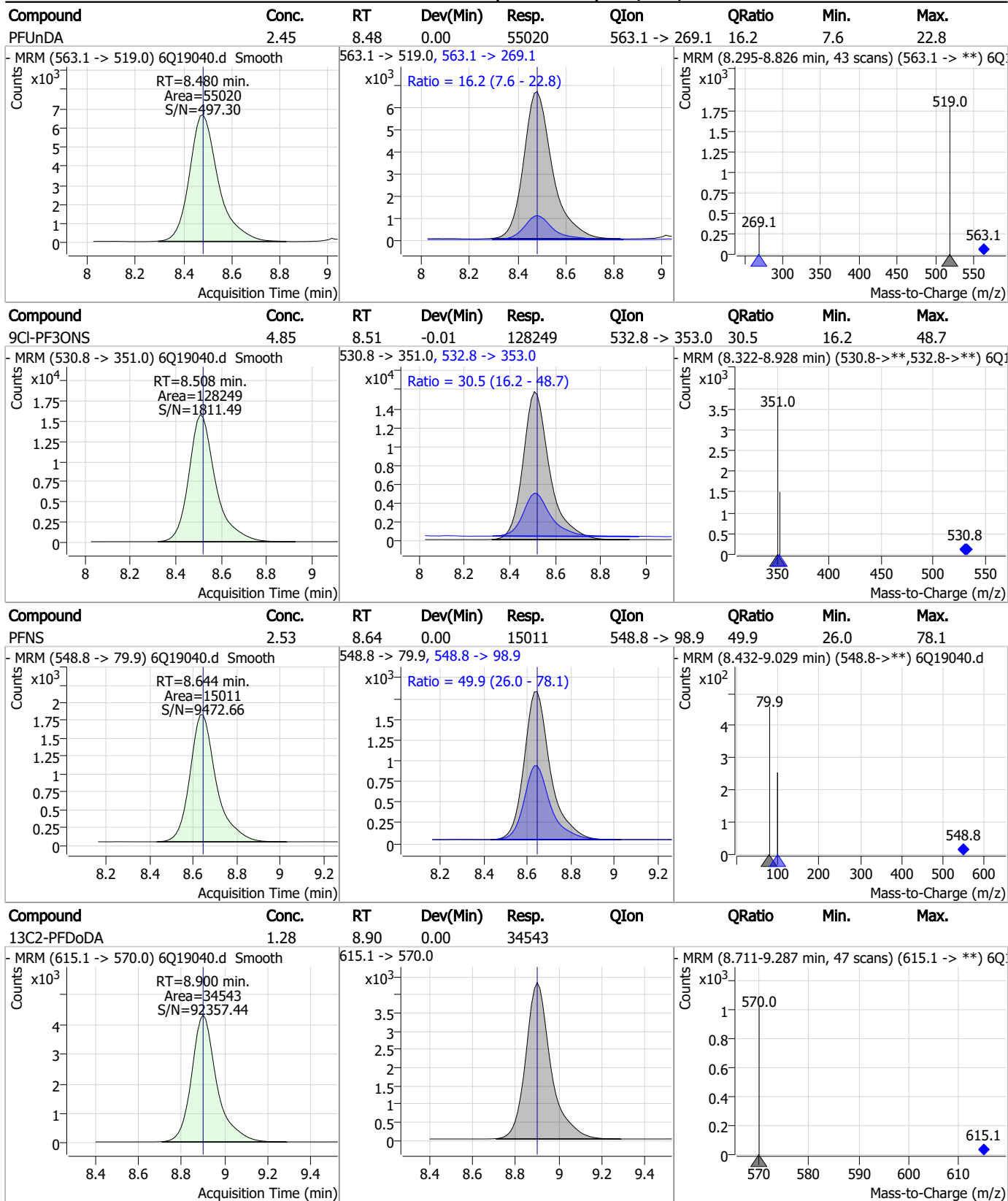
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.34	8.19	0.00	15937	498.9 -> 98.8	49.7	24.4	73.3
d5-EtFOSAA	5.51	8.29	0.00	35211				
EtFOSAA	2.38	8.29	0.00	11408	584.2 -> 526.0	55.4	27.6	82.8
13C7-PFUnDA	1.27	8.48	0.00	36269				

7.7.24

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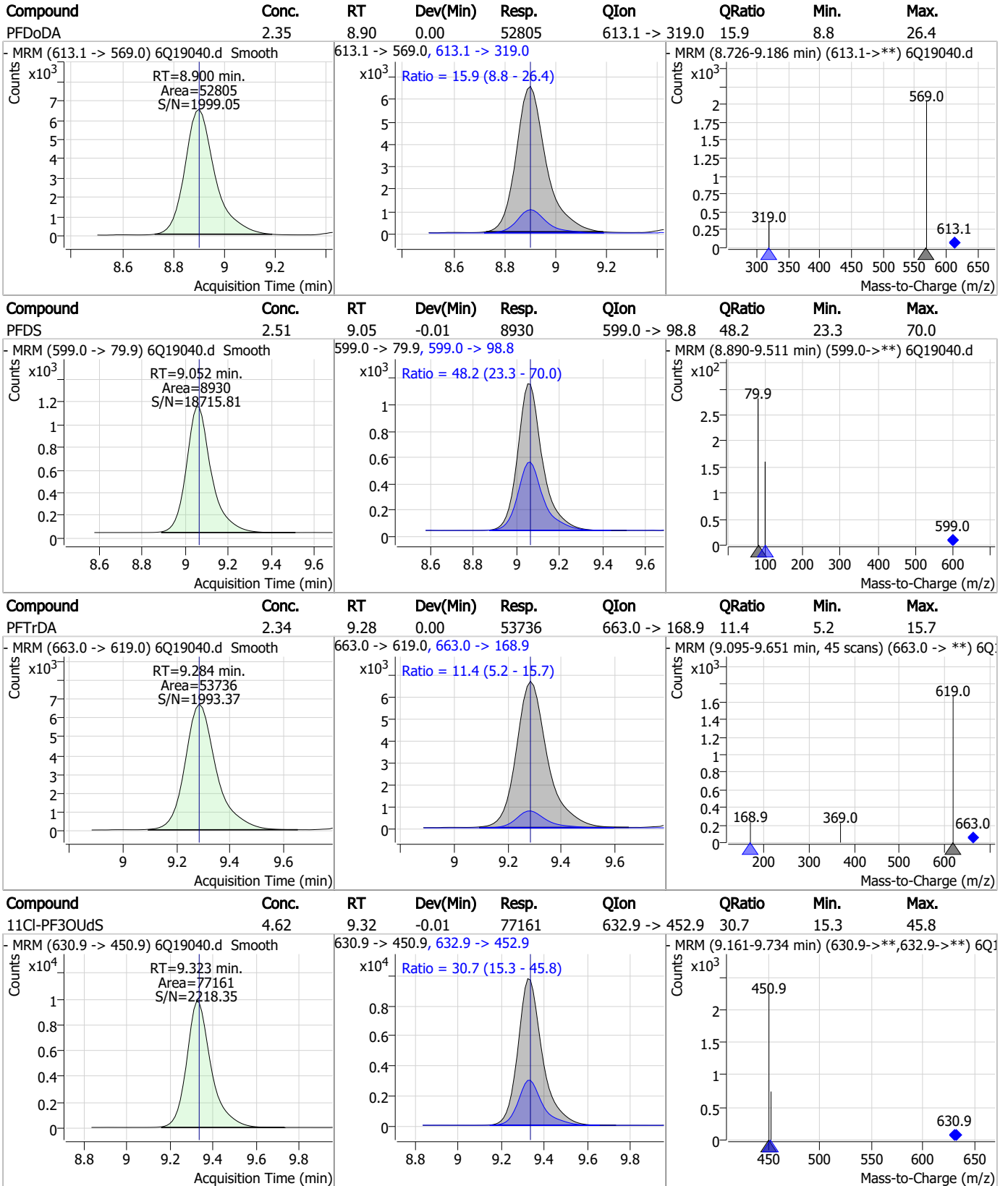
Perfluorinated Compounds by LC/MS/MS



7.7.24

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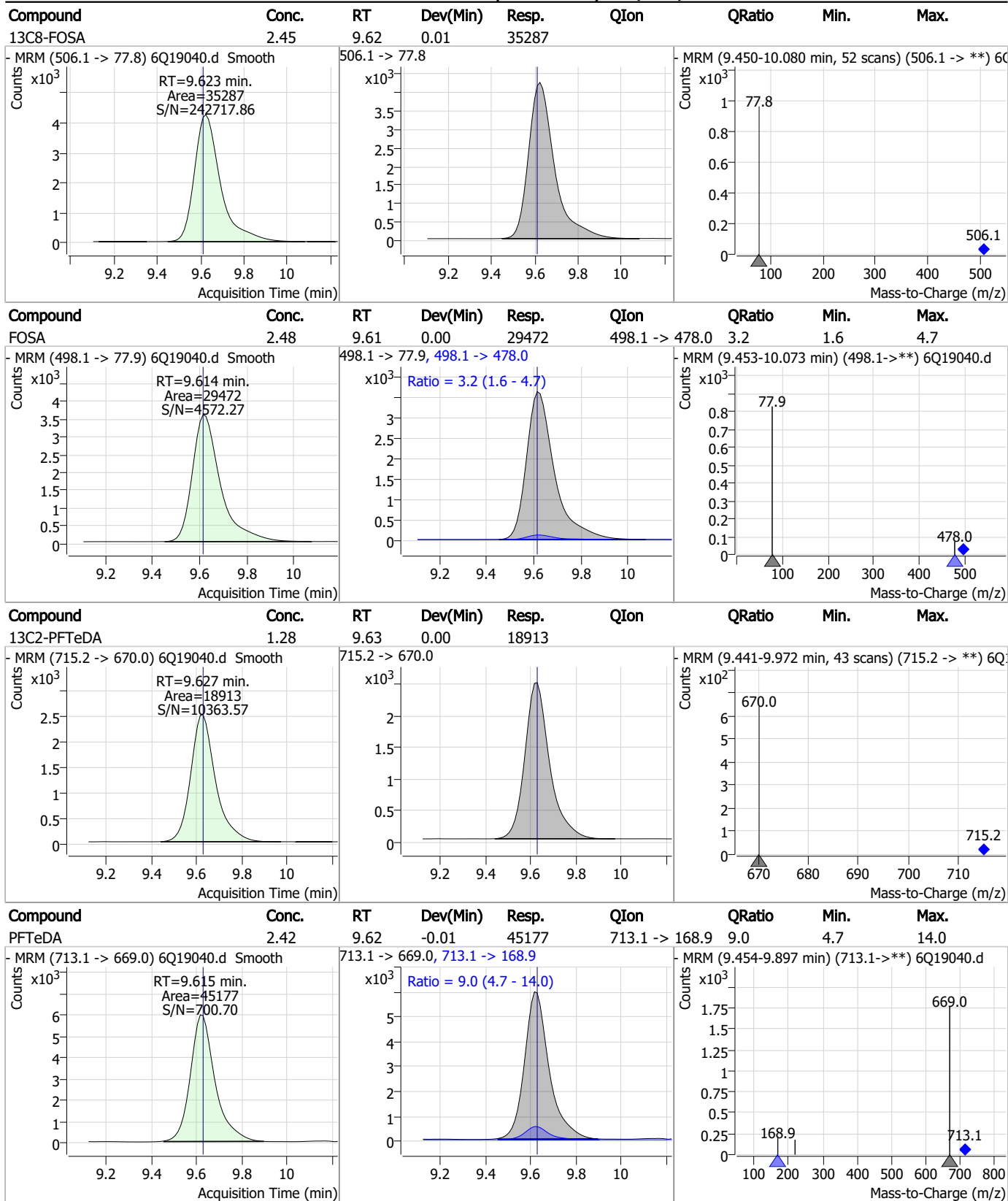
Perfluorinated Compounds by LC/MS/MS



7.7.24 7



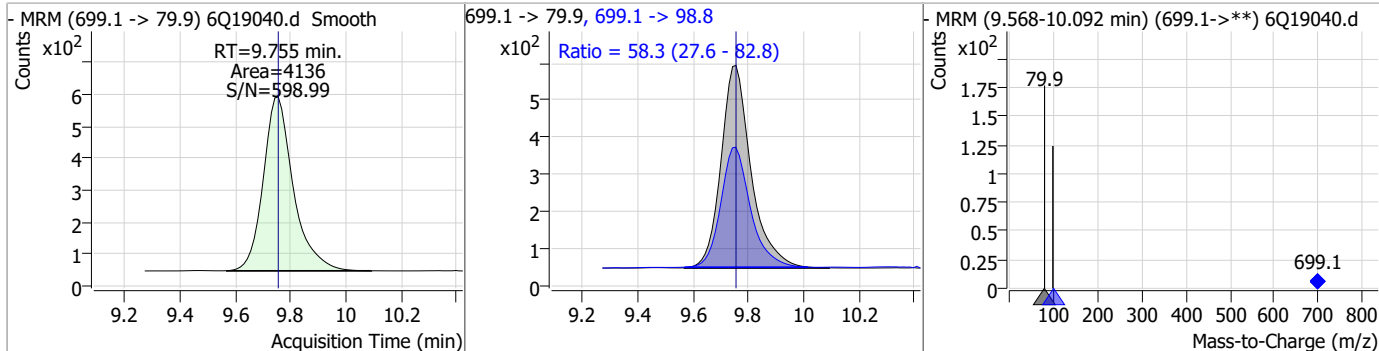
Perfluorinated Compounds by LC/MS/MS



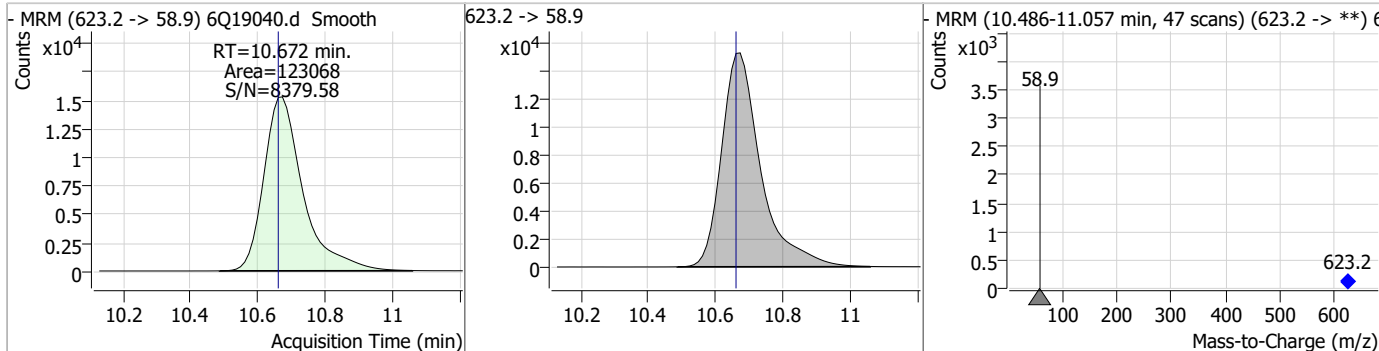
7.7.24 7

Perfluorinated Compounds by LC/MS/MS

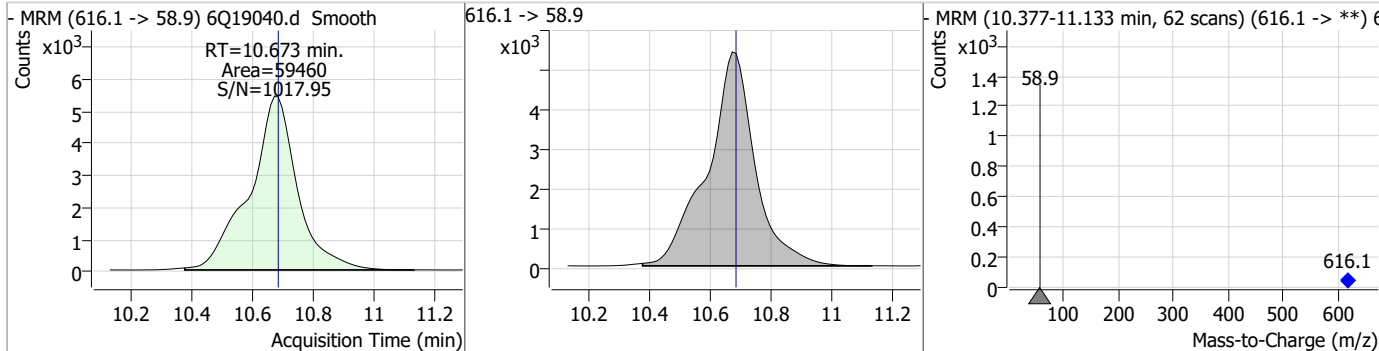
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.46	9.75	0.00	4136	699.1 -> 98.8	58.3	27.6	82.8



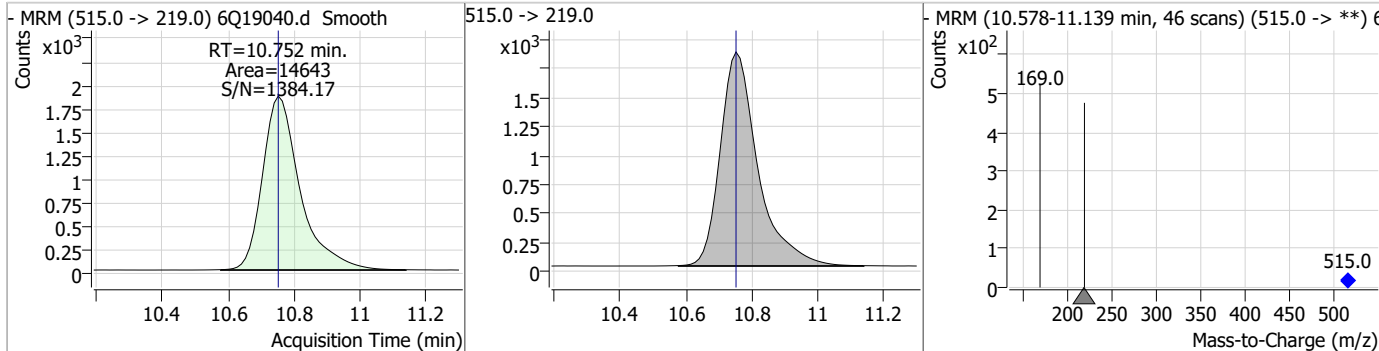
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.80	10.67	0.01	123068				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.48	10.67	-0.01	59460				

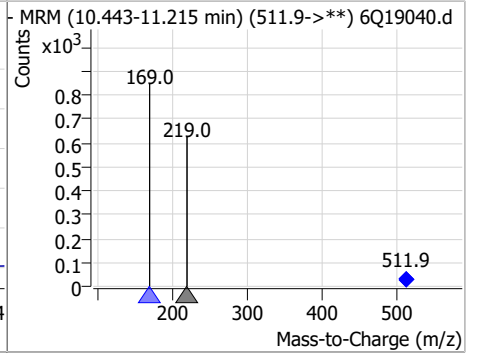
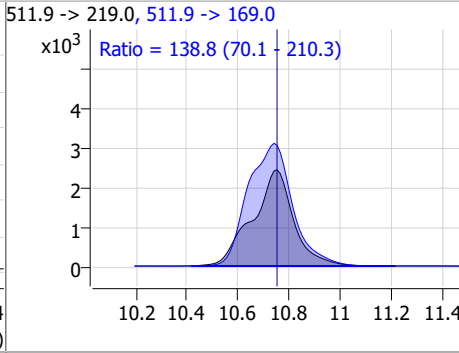
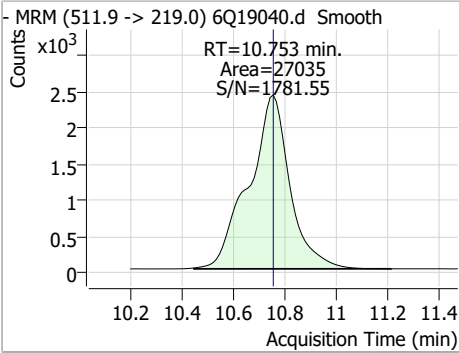


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.61	10.75	0.00	14643				

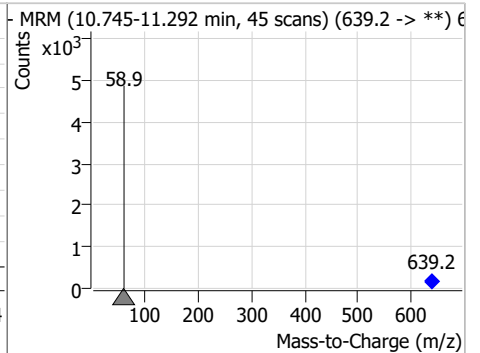
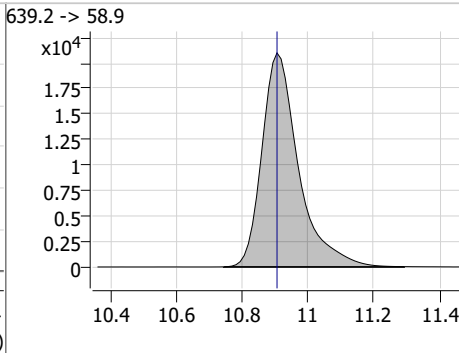
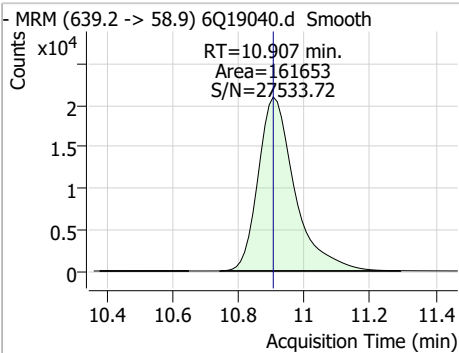


Perfluorinated Compounds by LC/MS/MS

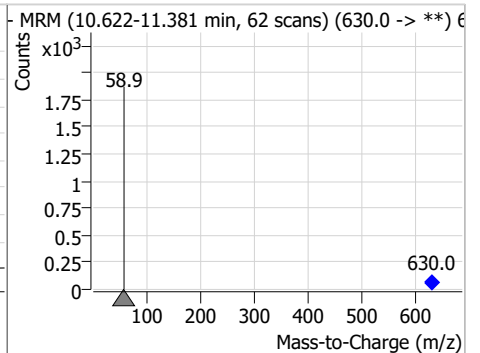
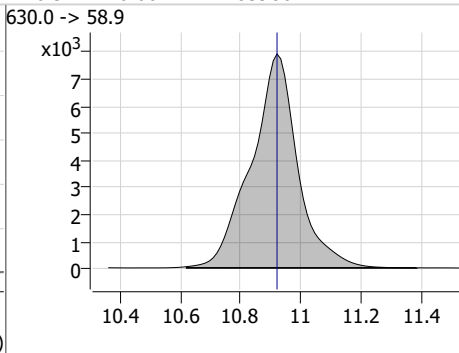
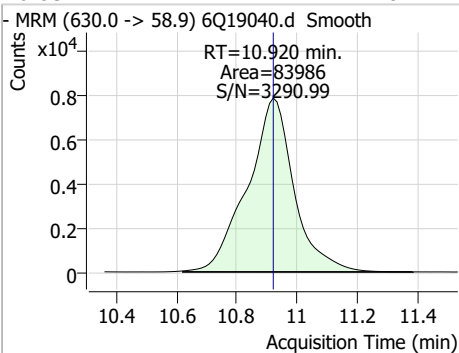
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOFA	4.85	10.75	0.00	27035	511.9 -> 169.0	138.8	70.1	210.3



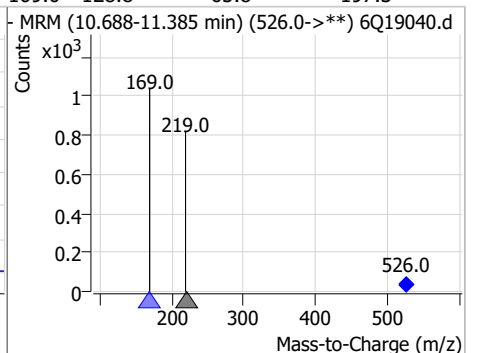
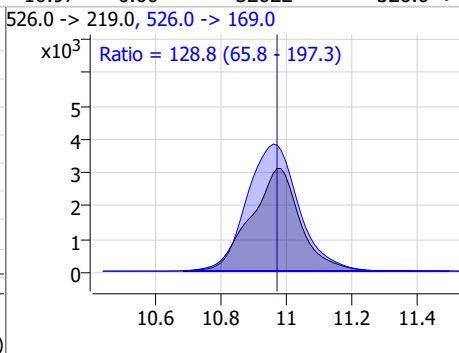
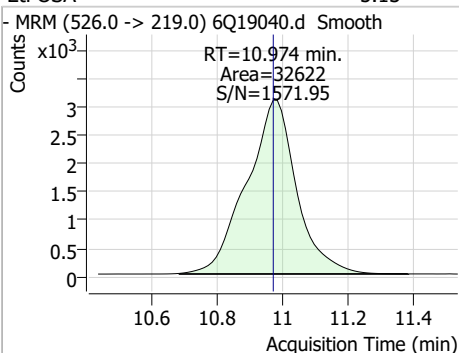
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.58	10.91	0.00	161653				



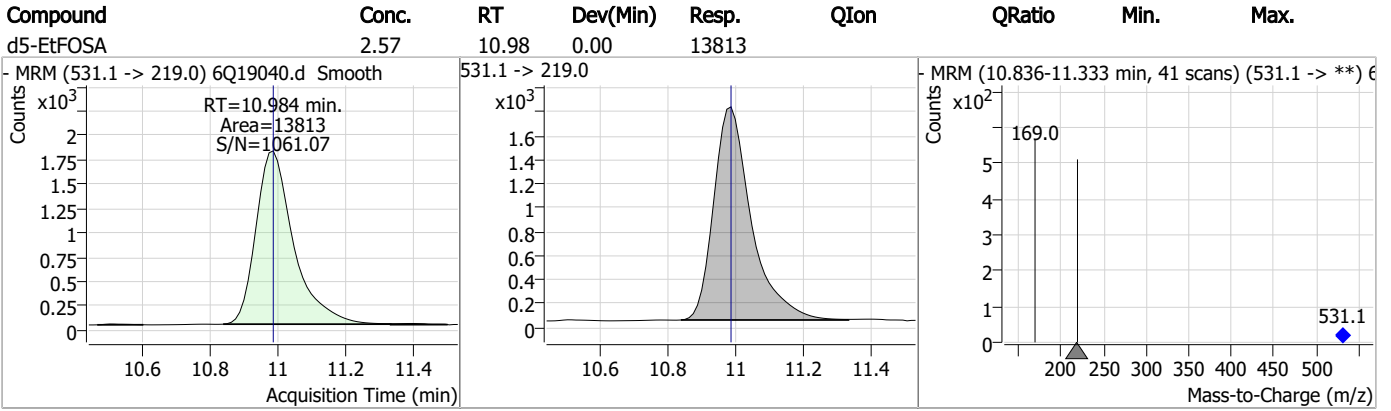
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	11.91	10.92	0.00	83986				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOFA	5.13	10.97	0.00	32622	526.0 -> 169.0	128.8	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



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Manual Integration Approval Summary

Sample Number: S6Q283-ECC282 Method: EPA DRAFT 1633
Lab FileID: 6Q19040.D Analyst approved: 06/08/23 14:25 Martha Valls
Injection Time: 06/08/23 13:13 Supervisor approved: 06/09/23 13:50 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluorohexanesulfonic acid	355-46-4		7.16	Split peak

7.7.24.1

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SGS ORLANDO

DATE:	06/06/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 uI
INSTRUMENT:	LCMS6-6Q

LCMS6-6Q ANALYSIS LOG

METHODS:	1633
PROC. METH:	1633_0060623_S6Q282
CAL DATE:	06/06/23
ANALYST:	M. Valls
RUN BATCH:	S6Q282

ELUENT A LOT #:	ACN 220228
ELUENT B LOT #:	HPLC WATER LOT: 224870 W5% ACN 220225 2mM AMAC: 11387
IC/CC STD LOT #:	LCMS 2127D
ICV STD LOT #:	LCMS 2127C/2125A
ISTD/D STD LOT #:	11765/11764

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q18856.d	P1-B9	CCB	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
2	6Q18857.d	P1-B9	CCB	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
3	6Q18858.d	P1-B9	CCB	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
4	6Q18859.d	P1-B3	RT TDCA	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
5	6Q18860.d	P1-B4	RT BR-LN	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
6	6Q18861.d	P1-A9	High Std	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
7	6Q18862.d	P1-A1	iblk	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
8	6Q18863.d	P1-A5	cc279-4	1633full.m	QC	20/500	OP96663.S6Q282.500,,,5.0,1,water	Surr high
9	6Q18864.d	P1-A2	cc279-1.0LL	1633full.m	QC	1.6/500	OP96663.S6Q282.500,,,5.0,1,water	Surr high, recalibrate
10	6Q18865.d	P5-D9	op97180-bs	1633full.m	Sample		OP97180.S6Q282.500,,,5.0,1,soil	rr sample
11	6Q18866.d	P1-B9	CCB	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
12	6Q18867.d	P1-B9	CCB	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
13	6Q18868.d	P1-B3	RT TDCA	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
14	6Q18869.d	P1-B4	RT BR-LN	1633full.m	Sample		OP96663.S6Q282.500,,,5.0,1,water	✓
15	6Q18870.d	P1-A1	ic282-0	1633full.m	Sample		OP97178.S6Q282.500,,,5.0,1,water	✓
16	6Q18871.d	P1-A2	ic282-1	1633full.m	Calibration	1.6/500	OP97178.S6Q282.500,,,5.0,1,water	✓
17	6Q18872.d	P1-A3	ic282-2	1633full.m	Calibration	3.2/500	OP97178.S6Q282.500,,,5.0,1,water	✓
18	6Q18873.d	P1-A4	ic282-3	1633full.m	Calibration	10/500	OP97178.S6Q282.500,,,5.0,1,water	✓
19	6Q18874.d	P1-A5	icc282-4	1633full.m	Calibration	20/500	OP97178.S6Q282.500,,,5.0,1,water	✓
20	6Q18875.d	P1-A6	ic282-5	1633full.m	Calibration	40/500	OP97178.S6Q282.500,,,5.0,1,water	✓
21	6Q18876.d	P1-A7	ic282-6	1633full.m	Calibration	100/500	OP97178.S6Q282.500,,,5.0,1,water	✓
22	6Q18877.d	P1-A8	ic282-7	1633full.m	Calibration	200/500	OP97178.S6Q282.500,,,5.0,1,water	✓
23	6Q18878.d	P1-A9	ic282-8	1633full.m	Calibration	1x	OP97178.S6Q282.500,,,5.0,1,water	✓
24	6Q18879.d	P1-A1	IBLK	1633full.m	Sample		OP97178.S6Q282.500,,,5.0,1,water	✓
25	6Q18880.d	P1-B1	icv282-4	1633full.m	QC	20/500	OP97178.S6Q282.500,,,5.0,1,water	✓
26	6Q18881.d	P1-B2	icv282-20	1633full.m	QC	100/500	OP97178.S6Q282.500,,,5.0,1,water	✓
27	6Q18882.d	P1-A5	cc282-4	1633full.m	QC	20/500	OP96663.S6Q282.500,,,5.0,1,water	✓
28	6Q18883.d	P1-A2	cc282-1.0LL	1633full.m	QC	1.6/500	OP96663.S6Q282.500,,,5.0,1,water	✓
29	6Q18884.d	P5-D9	op97180-bs	1633full.m	Sample		OP97180.S6Q282.500,,,5.0,1,soil	✓
30	6Q18885.d	P5-E1	op97180-llbs-2	1633full.m	Sample		OP97180.S6Q282.500,,,5.0,1,soil	✓
31	6Q18886.d	P5-E2	op97180-mb	1633full.m	Sample		OP97180.S6Q282.500,,,5.0,1,soil	✓
32	6Q18887.d	P5-E3	FC6086-11	1633full.m	Sample		OP97180.S6Q282.501,,,5.0,1,soil	✓
33	6Q18888.d	P5-E4	FC6086-12	1633full.m	Sample		OP97180.S6Q282.4.96,,,5.0,1,soil	✓
34	6Q18889.d	P5-E5	FC6086-13	1633full.m	Sample		OP97180.S6Q282.4.99,,,5.0,1,soil	✓
35	6Q18890.d	P5-E6	FC6086-14	1633full.m	Sample		OP97180.S6Q282.5.04,,,5.0,1,soil	✓



LCMS6-6Q ANALYSIS LOG

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36	6Q18991.d	P5-E7	FC6086-15	1633full.m	Sample	OP97180,S6Q282,5.05,,5.0,1,soil	✓
37	6Q18992.d	P5-E8	FC6086-16	1633full.m	Sample	OP97180,S6Q282,4.96,,5.0,1,soil	✓
38	6Q18993.d	P5-E9	FC6086-17	1633full.m	Sample	OP97180,S6Q282,5.02,,5.0,1,soil	✓
39	6Q18994.d	P1-A5	cc282-4	1633full.m	QC	20/500 OP96663,S6Q282,500,,5.0,1,water	✓
40	6Q18995.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q282,500,,5.0,1,water	✓
41	6Q18996.d	P5-F1	op97180-ms	1633full.m	Sample	OP97180,S6Q282,4.97,,5.0,1,soil	✓
42	6Q18997.d	P5-F2	op97180-mnsd	1633full.m	Sample	OP97180,S6Q282,4.98,,5.0,1,soil	✓
43	6Q18998.d	P5-F3	FC6086-18	1633full.m	Sample	OP97180,S6Q282,4.98,,5.0,1,soil	✓
44	6Q18999.d	P5-F4	FC6086-19	1633full.m	Sample	OP97180,S6Q282,5.00,,5.0,1,soil	✓
45	6Q18900.d	P5-F5	op97161-bs	1633full.m	Sample	OP97161,S6Q282,500,,5.0,1,water	✓
46	6Q18901.d	P5-F6	op97161-llbs:2	1633full.m	Sample	OP97161,S6Q282,500,,5.0,1,water	✓
47	6Q18902.d	P5-F7	op97161-mb	1633full.m	Sample	OP97161,S6Q282,500,,5.0,1,water	✓
48	6Q18903.d	P5-F8	FC5808-2	1633full.m	Sample	OP97161,S6Q282,540,,5.0,1,water	cf
49	6Q18904.d	P5-F9	FC5808-4	1633full.m	Sample	OP97161,S6Q282,540,,5.0,1,water	cf
50	6Q18905.d	P3-A1	FC5808-4	1633full.m	Sample	OP97161,S6Q282,540,,5.0,10,water	dilution not use.
51	6Q18906.d	P1-A5	cc282-4	1633full.m	QC	20/500 OP96663,S6Q282,500,,5.0,1,water	✓
52	6Q18907.d	P1-A2	cc282-1,0LL	1633full.m	QC	1.6/500 OP96663,S6Q282,500,,5.0,1,water	✓
53	6Q18908.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q282,500,,5.0,1,water	✓
54	6Q18909.d	P6-A1	op97179-bs	1633full.m	Sample	OP97179,S6Q282,500,,5.0,1,water	✓
55	6Q18910.d	P6-A2	op97179-llbs:3	1633full.m	Sample	OP97179,S6Q282,500,,5.0,1,water	✓
56	6Q18911.d	P6-A3	op97179-mb	1633full.m	Sample	OP97179,S6Q282,500,,5.0,1,water	✓
57	6Q18912.d	P6-A4	FC6237-19	1633full.m	Sample	OP97179,S6Q282,375,,5.0,1,water	✓
58	6Q18913.d	P6-A5	op97179-ms	1633full.m	Sample	OP97179,S6Q282,375,,5.0,1,water	✓
59	6Q18914.d	P6-A6	FC6237-20	1633full.m	Sample	OP97179,S6Q282,425,,5.0,1,water	✓
60	6Q18915.d	P6-A7	FC6237-21	1633full.m	Sample	OP97179,S6Q282,545,,5.0,1,water	✓
61	6Q18916.d	P6-A8	FC6237-22	1633full.m	Sample	OP97179,S6Q282,545,,5.0,1,water	✓
62	6Q18917.d	P6-A9	FC6237-23	1633full.m	Sample	OP97179,S6Q282,545,,5.0,1,water	✓
63	6Q18918.d	P1-A5	ecc282-4	1633full.m	QC	20/500 OP96663,S6Q282,500,,5.0,1,water	✓
64	6Q18919.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q282,500,,5.0,1,water	✓
65	6Q18920.d	P6-B1	FC6479-1	1633full.m	Sample	OP97179,S6Q282,560,,5.0,1,water	Power outage, RR samples
66	6Q18921.d	P6-B2	FC6479-2	1633full.m	Sample	OP97179,S6Q282,425,,5.0,1,water	↓
67	6Q18922.d	P6-B3	op97179-dup	1633full.m	Sample	OP97179,S6Q282,425,,5.0,1,water	↓
68	6Q18923.d	P6-B4	FC6479-3	1633full.m	Sample	OP97179,S6Q282,560,,5.0,1,water	↓
69	6Q18924.d	P6-B5	FC6360-3	1633full.m	Sample	OP97124,S6Q282,420,,5.0,10,water	↓

SGS ORLANDO

DATE:	06/07/23
COLUMN TYPE:	Poroshell EC18
AMOUNT INJ:	4 ul
INSTRUMENT:	LCMS6-6Q

LCMS6-6Q ANALYSIS LOG

METHODS:	1633
PROC. METH:	1633_0060623 S6Q282
CAL DATE:	06/06/23
ANALYST:	M. Valls
RUN BATCH:	S6Q283

ELUENT A LOT #:	ACN 220228
ELUENT B LOT #:	HPLC WATER LOT: 224870 W5% ACN 220225 2mM AMAC: 11387
IC/CC STD LOT #:	LCMS 2127D
ICV STD LOT #:	LCMS 2127C/2125A
ISTD/ID STD LOT #:	11765/11764

	Data File	Sample	Sample Name	Method	Sample Type	Level	Misc. Info	Comments
1	6Q18925.d	P1-B9	CCB	1633full.m	Sample		OP96663,S6Q283,500,,,5.0,1,water	✓
2	6Q18926.d	P1-B9	CCB	1633full.m	Sample		OP96663,S6Q283,500,,,5.0,1,water	✓
3	6Q18927.d	P1-B3	RT TDCA	1633full.m	Sample		OP96663,S6Q283,500,,,5.0,1,water	✓
4	6Q18928.d	P1-B4	RT BR-LN	1633full.m	Sample		OP96663,S6Q283,500,,,5.0,1,water	✓
5	6Q18929.d	P1-A9	High Std	1633full.m	Sample		OP96663,S6Q283,500,,,5.0,1,water	✓
6	6Q18930.d	P1-A1	iblk	1633full.m	Sample		OP96663,S6Q283,500,,,5.0,1,water	✓
7	6Q18931.d	P1-A5	cc282-4	1633full.m	QC	20/500	OP96663,S6Q283,500,,,5.0,1,water	✓
8	6Q18932.d	P1-A2	cc282-1,0LL	1633full.m	QC	1.6/500	OP96663,S6Q283,500,,,5.0,1,water	✓
9	6Q18933.d	P6-A1	op97179-bs	1633full.m	Sample		OP97179,S6Q283,500,,,5.0,1,water	✓
10	6Q18934.d	P6-A2	op97179-llbs:3	1633full.m	Sample		OP97179,S6Q283,500,,,5.0,1,water	✓
11	6Q18935.d	P6-A3	op97179-mb	1633full.m	Sample		OP97179,S6Q283,500,,,5.0,1,water	✓
12	6Q18936.d	P6-B1	FC6479-1	1633full.m	Sample		OP97179,S6Q283,560,,,5.0,1,water	✓
13	6Q18937.d	P6-B2	FC6479-2	1633full.m	Sample		OP97179,S6Q283,425,,,5.0,1,water	✓
14	6Q18938.d	P6-B3	op97179-dup	1633full.m	Sample		OP97179,S6Q283,425,,,5.0,1,water	✓
15	6Q18939.d	P6-B4	FC6479-3	1633full.m	Sample		OP97179,S6Q283,560,,,5.0,1,water	✓
16	6Q18940.d	P6-B5	FC6360-3	1633full.m	Sample	50/500	OP97124,S6Q283,420,,,5.0,10,water	✓
17	6Q18941.d	P6-B6	JD66104-1	1633full.m	Sample	50/500	OP97124,S6Q283,60,,,5.0,10,water	✓
18	6Q18942.d	P1-A5	cc282-4	1633full.m	QC	20/500	OP96663,S6Q283,500,,,5.0,1,water	✓
19	6Q18943.d	P1-A1	iccb	1633full.m	Sample		OP96663,S6Q283,500,,,5.0,1,water	✓
20	6Q18944.d	P6-B7	op97120-bs	1633full.m	Sample		OP97120,S6Q283,5.00,,,5.0,1,soil	✓
21	6Q18945.d	P6-B8	op97120-llbs:3	1633full.m	Sample		OP97120,S6Q283,5.00,,,5.0,1,soil	✓
22	6Q18946.d	P6-B9	op97120-mb	1633full.m	Sample		OP97120,S6Q283,5.00,,,5.0,1,soil	✓
23	6Q18947.d	P6-C1	FC6147-1	1633full.m	Sample		OP97120,S6Q283,5.04,,,5.0,1,soil	rf5x
24	6Q18948.d	P6-C2	op97120-ms	1633full.m	Sample		OP97120,S6Q283,5.00,,,5.0,1,soil	rf5x
25	6Q18949.d	P6-C3	op97120-msd	1633full.m	Sample		OP97120,S6Q283,5.00,,,5.0,1,soil	rf5x
26	6Q18950.d	P6-C4	FC6147-2	1633full.m	Sample		OP97120,S6Q283,5.01,,,5.0,1,soil	rf10x
27	6Q18951.d	P6-C5	FC6147-3	1633full.m	Sample		OP97120,S6Q283,4.98,,,5.0,1,soil	rf1x co + 2x
28	6Q18952.d	P6-C6	FC6147-4	1633full.m	Sample		OP97120,S6Q283,5.05,,,5.0,1,soil	rf1x co + 10x
29	6Q18953.d	P6-C7	FC6147-5	1633full.m	Sample		OP97120,S6Q283,5.02,,,5.0,1,soil	rf10x
30	6Q18954.d	P1-A5	cc282-4	1633full.m	QC	20/500	OP96663,S6Q283,500,,,5.0,1,water	✓
31	6Q18955.d	P1-A1	iccb	1633full.m	Sample		OP96663,S6Q283,500,,,5.0,1,water	✓
32	6Q18956.d	P6-C8	FC6147-6	1633full.m	Sample		OP97120,S6Q283,4.96,,,5.0,1,soil	rf5x
33	6Q18957.d	P6-C9	FC6151-1	1633full.m	Sample		OP97120,S6Q283,5.00,,,5.0,1,soil	rf5x
34	6Q18958.d	P6-D1	FC6151-2	1633full.m	Sample		OP97120,S6Q283,5.05,,,5.0,1,soil	rf10x
35	6Q18959.d	P6-D2	FC6151-3	1633full.m	Sample		OP97120,S6Q283,5.02,,,5.0,1,soil	rf10x

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36	6Q18960.d	P6-D3	FC6151-4	1633full.m	Sample	OP97120,S6Q283,5.05,,5.0,1,soil	rr5x
37	6Q18961.d	P6-D4	FC6151-5	1633full.m	Sample	OP97120,S6Q283,5.04,,5.0,1,soil	rr10x
38	6Q18962.d	P6-D5	FC6151-6	1633full.m	Sample	OP97120,S6Q283,5.00,,5.0,1,soil	rr10x + redo lower volume
39	6Q18963.d	P6-D6	FC6202-1	1633full.m	Sample	OP97120,S6Q283,5.04,,5.0,1,soil	rr10x
40	6Q18964.d	P6-D7	FC6202-2	1633full.m	Sample	OP97120,S6Q283,5.03,,5.0,1,soil	rr10x
41	6Q18965.d	P6-D8	FC6202-3	1633full.m	Sample	OP97120,S6Q283,5.03,,5.0,1,soil	rr10x co
42	6Q18966.d	P1-A5	cc282-4	1633full.m	QC	OP96663,S6Q283,500,,,5.0,1,water	✓
43	6Q18967.d	P1-A2	cc282-1.0LL	1633full.m	QC	OP96663,S6Q283,500,,,5.0,1,water	✓
44	6Q18968.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q283,500,,,5.0,1,water	✓
45	6Q18969.d	P6-D9	op97121-bs	1633full.m	Sample	OP97121,S6Q283,5.00,,5.0,1,soil	✓
46	6Q18970.d	P6-E1	op97121-llbs:3	1633full.m	Sample	OP97121,S6Q283,5.00,,5.0,1,soil	✓
47	6Q18971.d	P6-E2	op97121-mb	1633full.m	Sample	OP97121,S6Q283,5.00,,5.0,1,soil	✓
48	6Q18972.d	P6-E3	FC6215-1	1633full.m	Sample	OP97121,S6Q283,5.04,,5.0,1,soil	✓
49	6Q18973.d	P6-E4	op97121-ms	1633full.m	Sample	OP97121,S6Q283,5.02,,5.0,1,soil	✓
50	6Q18974.d	P6-E5	op97121-msd	1633full.m	Sample	OP97121,S6Q283,5.03,,5.0,1,soil	✓
51	6Q18975.d	P6-E6	FC6215-2	1633full.m	Sample	OP97121,S6Q283,4.97,,5.0,1,soil	✓
52	6Q18976.d	P6-E7	FC6215-3	1633full.m	Sample	OP97121,S6Q283,4.98,,5.0,1,soil	✓
53	6Q18977.d	P6-E8	FC6215-4	1633full.m	Sample	OP97121,S6Q283,4.95,,5.0,1,soil	✓
54	6Q18978.d	P6-E9	FC6215-5	1633full.m	Sample	OP97121,S6Q283,4.95,,5.0,1,soil	✓
55	6Q18979.d	P1-A5	cc282-4	1633full.m	QC	OP96663,S6Q283,500,,,5.0,1,water	✓
56	6Q18980.d	P1-A2	cc282-1.0LL	1633full.m	QC	OP96663,S6Q283,500,,,5.0,1,water	✓
57	6Q18981.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q283,500,,,5.0,1,water	✓
58	6Q18982.d	P6-F1	FC6215-6	1633full.m	Sample	OP97121,S6Q283,4.95,,5.0,1,soil	✓
59	6Q18983.d	P6-F2	FC6215-7	1633full.m	Sample	OP97121,S6Q283,5.00,,5.0,1,soil	✓
60	6Q18984.d	P6-F3	FC6215-8	1633full.m	Sample	OP97121,S6Q283,5.05,,5.0,1,soil	✓
61	6Q18985.d	P6-F4	FC6215-9	1633full.m	Sample	OP97121,S6Q283,5.02,,5.0,1,soil	✓
62	6Q18986.d	P6-F5	FC6215-10	1633full.m	Sample	OP97121,S6Q283,5.03,,5.0,1,soil	✓
63	6Q18987.d	P6-F6	FC6215-11	1633full.m	Sample	OP97121,S6Q283,4.97,,5.0,1,soil	✓
64	6Q18988.d	P6-F7	FC6215-12	1633full.m	Sample	OP97121,S6Q283,4.95,,5.0,1,soil	✓
65	6Q18989.d	P6-F8	FC6215-13	1633full.m	Sample	OP97121,S6Q283,5.05,,5.0,1,soil	✓
66	6Q18990.d	P6-F9	FC6215-14	1633full.m	Sample	OP97121,S6Q283,5.01,,5.0,1,soil	✓
67	6Q18991.d	P3-A2	FC6215-15	1633full.m	Sample	OP97121,S6Q283,5.04,,5.0,1,soil	✓
68	6Q18992.d	P1-A5	cc282-4	1633full.m	QC	OP96663,S6Q283,500,,,5.0,1,water	✓
69	6Q18993.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q283,500,,,5.0,1,water	✓
70	6Q18994.d	P3-A3	FC6215-16	1633full.m	Sample	OP97121,S6Q283,500,,,5.0,1,water	✓
71	6Q18995.d	P3-A4	op97216-bs	1633full.m	Sample	OP97216,S6Q283,4.98,,5.0,1,soil	✓
72	6Q18996.d	P3-A5	op97216-llbs:3	1633full.m	Sample	OP97216,S6Q283,500,,,5.0,1,water	✓
73	6Q18997.d	P3-A6	op97216-mb	1633full.m	Sample	OP97216,S6Q283,500,,,5.0,1,water	✓
74	6Q18998.d	P3-A7	FC6537-1	1633full.m	Sample	OP97216,S6Q283,560,,,5.0,1,water	✓
75	6Q18999.d	P3-A8	FC6537-2	1633full.m	Sample	OP97216,S6Q283,550,,,5.0,1,water	✓
76	6Q19000.d	P3-A9	op97216-ms	1633full.m	Sample	OP97216,S6Q283,550,,,5.0,1,water	✓
77	6Q19001.d	P3-B1	FC6537-3	1633full.m	Sample	OP97216,S6Q283,540,,,5.0,1,water	✓
78	6Q19002.d	P3-B2	op97216-dup	1633full.m	Sample	OP97216,S6Q283,550,,,5.0,1,water	✓

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79	6Q19003.d	P3-B3	FC6537-4	1633full.m	Sample	OP97216.S6Q283.560,,,5.0,1,water	✓
80	6Q19004.d	P1-A5	cc282-4	1633full.m	QC	OP96663.S6Q283.500,,,5.0,1,water	✓
81	6Q19005.d	P1-A1	iccb	1633full.m	Sample	OP96663.S6Q283.500,,,5.0,1,water	✓
82	6Q19006.d	P3-B4	FC6537-5	1633full.m	Sample	OP97216.S6Q283.550,,,5.0,1,water	✓
83	6Q19007.d	P2-A1	op97178-bs	1633full.m	Sample	OP97178.S6Q283.500,,,5.0,1,water	✓
84	6Q19008.d	P2-A2	op97178-llbs:3	1633full.m	Sample	OP97178.S6Q283.500,,,5.0,1,water	✓
85	6Q19009.d	P2-A3	op97178-mb	1633full.m	Sample	OP97178.S6Q283.500,,,5.0,1,water	✓
86	6Q19010.d	P2-A4	FC6063-1	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	rr10X E
87	6Q19011.d	P2-A5	FC6237-1	1633full.m	Sample	OP97178.S6Q283.405,,,5.0,1,water	rr1x co + 2x E
88	6Q19012.d	P2-A6	FC6237-2	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	rr2x E
89	6Q19013.d	P2-A7	FC6237-3	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	rr1x co
90	6Q19014.d	P2-A8	FC6237-4	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	rr10X E
91	6Q19015.d	P2-A9	FC6237-5	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	rr1x co
92	6Q19016.d	P1-A5	cc282-4	1633full.m	QC	OP96663.S6Q283.500,,,5.0,1,water	✓
93	6Q19017.d	P1-A1	iccb	1633full.m	Sample	OP96663.S6Q283.500,,,5.0,1,water	✓
94	6Q19018.d	P2-B1	FC6237-6	1633full.m	Sample	OP97178.S6Q283.425,,,5.0,1,water	✓
95	6Q19019.d	P2-B2	FC6237-7	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	✓
96	6Q19020.d	P2-B3	op97178-ms	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	✓
97	6Q19021.d	P2-B4	op97178-msd	1633full.m	Sample	OP97178.S6Q283.500,,,5.0,1,water	✓
98	6Q19022.d	P2-B5	FC6237-8	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	✓
99	6Q19023.d	P2-B6	FC6237-9	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	✓
100	6Q19024.d	P2-B7	FC6237-10	1633full.m	Sample	OP97178.S6Q283.405,,,5.0,1,water	✓
101	6Q19025.d	P1-A5	cc282-4	1633full.m	QC	OP96663.S6Q283.500,,,5.0,1,water	✓
102	6Q19026.d	P1-A1	iccb	1633full.m	Sample	OP96663.S6Q283.500,,,5.0,1,water	✓
103	6Q19027.d	P1-B3	RT TDCA	1633full.m	Sample	OP96663.S6Q283.500,,,5.0,1,water	✓
104	6Q19028.d	P1-B4	RT BR-LN	1633full.m	Sample	OP96663.S6Q283.500,,,5.0,1,water	✓
105	6Q19029.d	P1-A9	High Std	1633full.m	Sample	OP96663.S6Q283.500,,,5.0,1,water	✓
106	6Q19030.d	P1-A1	iblk	1633full.m	Sample	OP96663.S6Q283.500,,,5.0,1,water	✓
107	6Q19031.d	P1-A2	cc282-1.0LL	1633full.m	QC	OP96663.S6Q283.500,,,5.0,1,water	✓
108	6Q19032.d	P2-B8	FC6237-11	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	rr5x
109	6Q19033.d	P2-B9	FC6237-12	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	rr5x
110	6Q19034.d	P2-C1	FC6237-13	1633full.m	Sample	OP97178.S6Q283.405,,,5.0,1,water	rr1x co
111	6Q19035.d	P2-C2	FC6237-14	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	✓
112	6Q19036.d	P2-C3	FC6237-15	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	✓
113	6Q19037.d	P2-C4	FC6237-16	1633full.m	Sample	OP97178.S6Q283.405,,,5.0,1,water	rr to confirm
114	6Q19038.d	P2-C4	FC6237-17	1633full.m	Sample	OP97178.S6Q283.420,,,5.0,1,water	rr10x + redb lower volume (30)
115	6Q19039.d	P1-B9	FC6237-18	1633full.m	Sample	OP97178.S6Q283.405,,,5.0,1,water	rr1x co + rr10x
116	6Q19040.d	P1-A5	ecc282-4	1633full.m	QC	OP96663.S6Q283.500,,,5.0,1,water	✓
117	6Q19041.d	P1-A1	iccb	1633full.m	Sample	OP96663.S6Q283.500,,,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
LCN75 2125A-E	FULL 2.5f 40 spike (Cal std)	11750	28 Comp. PFOA	Alabate	3/3/28	5/10/24	1.0ppm	400ul	4.0ml	100ppb	955formol 581420	5/22/23	8/23/23	MS
LCN75 2125A-E	↓	LCN75 2067	40 2.5f PFOA	595-Std.	—	8/23/23	1.0ppm	400ul	↓	↓	(2.400ml)	↓	↓	↓
LCN75 2125A-E	↓	LCN75 2117	40 2.5f PFOA	↓	—	11/8/23	1.0ppm	400ul	↓	↓	↓	↓	↓	↓
LCN75 2125A-E	↓	LCN75 2101	F05E Std.	↓	—	7/19/23	5.0ppm	400ul	↓	500ppb	↓	↓	↓	↓
LCN75 2125A-E	↓	11804 A-5	MPK-4UES	Wellington Labs	01/1/28	05/23/24	1.0ppm	1.2ml	2.5ml	0.5ppm	PS1400H 05123231133123	5/24/23	10/28/23	MS
LCN75 2125A-E	↓	11635A	H3HPPO-DA	↓	11/6/28	01/14/24	50ppm	20ul	↓	↓	↓	↓	↓	MS
LCN75 2125A-E	↓	11431	D-N-NEBASAN	↓	05/6/27	03/15/24	50ppm	20ul	↓	↓	↓	↓	↓	MS
LCN75 2125A-E	↓	11399B 11807	PERC HxH	Wellington	4/17/28	5/24/24	1.4ppm	25ul	4ml	6.25 125 250ppb	1633 MW 5/24/23	10/28/23	MS	
LCN75 2125A-E	↓	LCN75 2097AB	BE LN ET-ME	595 Labs	NA	10/28/23	2ppm	5ppm	↓	125 512.5ppb (2.088ml)	↓	↓	↓	↓
LCN75 2125A-E	↓	11801B	PERC MxT	Wellington	3/24/26	5/22/24	2ppm	2ppm	↓	125ppb	↓	↓	↓	↓
LCN75 2125A-E	↓	11802B 11809	PERC MxG	↓	12/1/27	5/22/24	2ppm	↓	↓	125ppb	↓	↓	↓	↓
LCN75 2125A-E	↓	11803B 11810	PERC MxT	↓	3/28/28	5/22/24	4.30 ppm	3/20ul	↓	312 1160ppb	↓	↓	↓	↓
LCN75 2125A-E	↓	11819	MPK-4UES	Wellington Labs	01/1/28	05/23/24	1.0ppm	1.2ml	2.5ml	0.5ppm	PS1400H 05123231133123	5/24/23	10/28/23	MS
LCN75 2125A-E	↓	11635A	H3HPPO-DA	↓	11/6/28	01/14/24	50ppm	20ul	↓	↓	↓	↓	↓	MS
LCN75 2125A-E	↓	11584	D-N-NEBASAN	↓	11/1/27	06/10/24	50ppm	24ul	↓	↓	↓	↓	↓	MS
LCN75 2125A-E	↓	11584	D-N-NEBASAN	↓	11/1/27	06/10/24	50ppm	24ul	↓	↓	↓	↓	↓	MS

* 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 2095A-5	(10ppb) PFC TD SURF	11669	HPAC-2UES	Wellington Labs	01/08/23	03/08/24	1.0ppm	2.4mL	~50mL	0.5ppm	05/10/23	03/08/23	09/08/23	NS
↓	↓	11585	HPAC-2A	↓	11/08/23	01/08/24	50ppm	48uL	↓	↓	↓	↓	↓	NS
↓	↓	11431	d-N-HPAC-2A	↓	05/08/23	03/12/24	50ppm	48uL	↓	↓	↓	↓	↓	NS
LCMS 2096A-B	1633 OPPE End std.	11672	PFC-MXH	Wellington	8/8/23	3/23/24	1-4 ppm	250uL	4mL	0.25 ppm	10/33 MIX	3/09/23	9/09/23	MS
↓	↓	11686	PFC-MXI	↓	2/23/23	3/30/24	1-10 ppm	250uL	↓	0.25 ppm	↓	↓	↓	↓
↓	↓	11074A	PFC-MXF	↓	1/11/25	3/23/24	2ppm	500uL	↓	250ppb	↓	↓	↓	↓
↓	↓	11074B	PFC-MXF	↓	12/1/23	3/10/24	2ppm	250uL	↓	125ppb	↓	↓	↓	↓
↓	↓	11675	PFC-MXS	↓	9/14/23	3/03/24	4-20 ppm	312uL	↓	312/1100 ppb	↓	↓	↓	↓
LCMS 2097A	BR-LN metel for 1633	11497	br-N metesa	Wellington	08/23/23	10/28/23	50ppm	200uL	5mL	2ppm	10/33 MIX	4/16/23	10/28/23	MS
↓	↓	11498	br-N Effosa	↓	10/10/23	10/28/23	50ppm	200uL	↓	2ppm	↓	↓	↓	↓
↓	↓	11495	br-N metese	↓	10/07/23	10/28/23	50ppm	500uL	↓	5ppm	↓	↓	↓	↓
↓	↓	11494	br-N Effose	↓	10/17/23	10/28/23	50ppm	500uL	↓	5ppm	↓	↓	↓	↓

* tested
 10/21
 3/02
 on
 5/02

40 mL

* 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
LCM29 2067	40 L1st std. ADD-ON #1	10726A	10:2 FTS	Wellington	3/3/26	3/21/23	50ppm	80uL	4.0mL	1ppm	95% meth 5% H2O	2/8/23	3/21/23 8/23/23	MV
		10840	PFD05		7/9/26	10/18/23							8/23/23	
		10829	N- MeTosA		8/3/26	8/23/23								
		10837	N- EFTosA		8/3/26	8/23/23								
		10842	PFHxDA		9/3/26	10/18/23								
		10841	PFD0A		5/7/26	10/18/23								
		1116B	3:3FTCA PFRPA		2/3/27	2/8/24								
		10685A	5:3FTCA PFRPA		11/1/25	8/23/23								
		1116A	7:3FTCA FHPRA		11/2/25	2/8/24								
		11332	PFECHS		3/2/27	10/18/23								
		10762B	PFEESA		5/3/25	10/18/23								
		10763B	PMBBA PESOHKA		3/3/25	10/18/23								
		10764	PFMPA PF406A		3/3/25	2/8/24								
		10765B	NEHDA 3.6-089A		3/3/25	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	1.57 40 Scan Add-on 1516 spike mix	11523	d7-N-Metose	Wellington	1/23/27	5/9/24	50ppm	200uL	2ml	5ppm (1/5)	95% MeOH 5% H ₂ O	5/19/23	8/23/23	NV
		11460	d9-N-Etfosec		1/23/27	12/6/23		200uL		5ppm				
		11115	M2-PTHXDA		1/23/28	8/23/23		40uL		1ppm				
		10836	D-N-Etfosec		12/30/25	8/23/23		40uL		1ppm				
LCMS 2116	Full List (40) Spike (cal std)	11053	PROA 200 28 Comp.	Absolute	11/9/27	4/18/24	1.0ppm	400uL	4.0ml	100ppb	95% MeOH 5% H ₂ O (2.400ml)	5/19/23	8/23/23	NV
		LCMS 2067	40 List Add on #1	Eqs std.		8/23/23	1.0ppm	400uL						
		LCMS 2117	40 List Add on #2			5/18/23	1.0ppm	400uL						
		LCMS 2054	FoSec Std.			7/24/23	5.0ppm	480uL		500ppb				
LCMS 2117	40 List Add on #2	11250	F85A-1	Wellington	11/10/26	11/8/23	50ppm	80uL	4.0ml	1ppm	95% MeOH 5% H ₂ O	5/19/23	11/8/23	MU
		11249	FHXGA-1		2/29/26	11/3/23	50ppm	80uL						
		11140B	L-PRRS		7/12/26	5/9/24	50ppm	80uL						
		LCMS 2118A	PIC ID Sum (10ppb)		11/8/25	4/24/24	50ppm	48uL						
		11775A	NRFAC 24 ES	Wellington	1/18/28	5/10/24	1.0ppm	2.4ml	5.0ml	0.5ppm	95% MeOH 5% H ₂ O	5/10/23	11/2/23	MU
		1635A	M3-H00 DA		11/8/25	4/24/24	50ppm	48uL						
		11431	d-11 Mehsam		5/16/27	3/13/24	50ppm	48uL						

* based on date opened as specified in each SGS - Orlando SOP.

NS 05/12/23

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	1033 OPike Cal std.	11072A 11072B	PFAC MYH	Wellington 1400	8/8/23	3/23/24	1-4 ppm	250ul	4ml	0.25 250ppb	1033 mix	9/10/23	10/6/23	MS
LCMS 2097		LCMS 2097	8-11 Et, Me	Sgs 1400	9/4	10/28/23	3ppm 5ppm	250ul	1	0.25 30.5ppb				
LCMS 11075		11075	PFAC MYG	Wellington	11/1/25	3/30/24	2ppm	250ul	1	125ppb				
LCMS 11072B		11072B	PFAC MYT	Wellington Labs	9/14/20	3/23/24	4-20 ppm	312ul	4ml	312/1100 ppb				
LCMS 11070	(INTERIM) 537.1 Du std.	11070	MSPF- PEA	Wellington Labs	07/06/20	04/01/24	50ppm	80ul	1	1.0ppm	01/11/24 41.120	04/06/23	05/15/23	NS
LCMS 10436A		10436A	Maria ETS		11/05/23	04/06/24		80ul	1	1.0ppm				NS
LCMS 1050AB		1050AB	d3-N- MESTRA		10/20/23	05/15/23		160ul	1	20ppm				NS
LCMS 10494A		10494A	MPFS		11/02/23	03/20/24		80ul	1	1.0ppm				NS
LCMS 11069		11069	WARFA		12/01/20	03/20/24		80ul	1	1.0ppm				NS
LCMS 11026	Full List (40) List 40 spike (S6)	11026	PF0A 28 Comp.	Absolute	11/9/23	4/11/24	1.0ppm	400ul	4.0ml	100ppb	95% MCH 570720	4/11/23	7/24/23	MS
LCMS 2067		LCMS 2067	40 List RDB #1	Sgs std.	8/23/23		1.0ppm	400ul	1		(2.14031)			
LCMS 2070		LCMS 2070	40 List RDB #2		5/12/23		1.0ppm	400ul	1					
LCMS 2054		LCMS 2054	FOSG Std.		7/24/23		5.0ppm	400ul	1	500ppb				
LCMS 11336	Fose std.	11336	N-et Fose	Wellington	5/13/23	9/19/23	50ppm	200ul	2.0ml	5ppm	95% MCH 570720	4/11/23	9/19/23	MS
LCMS 11338	Fose std.	11338	N-me Fose	Wellington	5/13/23	9/19/23	50ppm	200ul	2.0ml	5ppm				

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CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NMeFOSE

2-(N-Methylperfluorooctanesulfonamido)ethanol Isomeric Mix

PRODUCT CODE:	br-NMeFOSE
LOT NUMBER:	brNMeFOSE0922
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	09/02/2022
LAST TESTED: (mm/dd/yyyy)	09/07/2022 (HRGC/LRMS) 10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-methylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ¹⁹F-NMR
 Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 3: LC/MS Data (SIR)
 Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 24448-09-7 (for linear isomer).

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Revision#:9, Revised 2020-12-23

brNMeFOSE0922 (1 of 7)
rev1

7.9.1
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**WELLINGTON
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**CERTIFICATE OF ANALYSIS
DOCUMENTATION**

br-NEtFOSE

**2-(N-Ethylperfluorooctanesulfonamido)ethanol
Isomeric Mix**

<u>PRODUCT CODE:</u>	br-NEtFOSE
<u>LOT NUMBER:</u>	brNEtFOSE1022
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	09/12/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	09/12/2022 (HRGC/LRMS) 10/07/2022 (LC/MS)
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	10/07/2027
<u>RECOMMENDED STORAGE:</u>	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 ¹⁹F-NMR
- Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 3: LC/MS Data (SIR)
- Figure 4: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 1691-99-2 (for linear isomer).

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brNEtFOSE1022 (1 of 7)
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CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NMeFOSA

N-Methylperfluorooctanesulfonamide Isomeric Mix

<u>PRODUCT CODE:</u>	br-NMeFOSA
<u>LOT NUMBER:</u>	brNMeFOSA0822
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	08/18/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	08/23/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	08/23/2027
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

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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 ¹⁹F-NMR
 Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 31506-32-8 (for linear isomer).

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brNMeFOSA0822 (1 of 6)
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CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NEtFOSA

N-Ethylperfluorooctanesulfonamide Isomeric Mix

<u>PRODUCT CODE:</u>	br-NEtFOSA
<u>LOT NUMBER:</u>	brNEtFOSA0922
<u>CONCENTRATION:</u>	50.0 ± 2.5 µg/mL
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	08/23/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	10/07/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	10/07/2027
<u>RECOMMENDED STORAGE:</u>	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 ¹⁹F-NMR
 Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
 Figure 2: LC/MS Data (SIR)
 Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- CAS #: 4151-50-2 (for linear isomer).

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brNEtFOSA0922 (1 of 6)
rev1

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11799 A-B
rec'd: 05/15/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXH

Native PFAS Solution/Mixture

PRODUCT CODE:	PFAC-MXH
LOT NUMBER:	PFACMXH0423
SOLVENT(S):	Methanol/Isopropanol (2%)/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	04/06/2023
LAST TESTED: (mm/dd/yyyy)	04/19/2023
EXPIRY DATE: (mm/dd/yyyy)	04/19/2028
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

PFAC-MXH is a solution/mixture of 11 native linear perfluoroalkylcarboxylic acids (C₄-C₁₄), eight native perfluoroalkanesulfonates (C₄, C₅, C₇, C₉, C₁₀ and C₁₂ linear; C₆ and C₈ linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide. The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Table B: Isomeric Components and Percent Composition of N-MeFOSAA
- Table C: Isomeric Components and Percent Composition of N-EtFOSAA
- Table D: Isomeric Components and Percent Composition of PFHxSK
- Table E: Isomeric Components and Percent Composition of PFOSK
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Revision#: 9, Revised 2020-12-23

PFACMXH0423 (1 of 11)
rev1

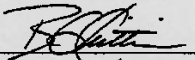
7.9.1
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Table A: PFAC-MXH; Components and Concentrations (ng/mL, ± 5% in methanol/isopropanol (2%)/water (<1%))

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
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: 
 B.G. Chittim, General Manager

Date: 05/11/2023
(mm/dd/yyyy)

11801A-B
rec'd: 05/15/23



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CERTIFICATE OF ANALYSIS
DOCUMENTATION

PFAC-MXF

**Native Replacement PFAS
Solution/Mixture**

PRODUCT CODE:

PFAC-MXF

LOT NUMBER:

PFACMXF0323

SOLVENT(S):

Methanol / Water (<1%)

DATE PREPARED: (mm/dd/yyyy)

03/23/2023

LAST TESTED: (mm/dd/yyyy)

03/24/2023

EXPIRY DATE: (mm/dd/yyyy)

03/24/2026

RECOMMENDED STORAGE:

Refrigerate ampoule

DESCRIPTION:

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonanoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and hexafluoropropylene oxide dimer acid (GenX, HFPO-DA). The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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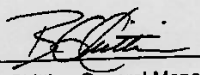
Form#: 13, Issued 2004-11-10
Revision#: 9, Revised 2020-12-23

PFACMXF0323 (1 of 5)
rev0

Table A: PFAC-MXF; Components and Concentrations (ng/mL; \pm 5% in Methanol/Water (<1%))

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)propanoic acid	HFPO-DA	2000		A
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: 
 B.G. Chittim, General Manager

Date: 03/29/2023
(mm/dd/yyyy)

11802 A-B
rec'd: 05/15/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXG

Native Perfluoroalkyl Ether Carboxylic
Acids and Sulfonate Solution/Mixture

PRODUCT CODE:	PFAC-MXG
LOT NUMBER:	PFACMXG1122
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	11/30/2022
LAST TESTED: (mm/dd/yyyy)	12/01/2022
EXPIRY DATE: (mm/dd/yyyy)	12/01/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

The individual components all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Revision#: 9, Revised 2020-12-23

PFACMXG1122 (1 of 5)
rev0

7.9.1

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Table A: PFAC-MXG; Components and Concentrations (ng/mL; \pm 5% in methanol/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
Perfluoro-4-oxapentanoic acid	PF4OPeA	2000		A
Perfluoro-5-oxahexanoic acid	PF5OHxA	2000		B
Perfluoro-3,6-dioxahexanoic acid	3,6-OPFHxA	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: _____

B.G. Chittim, General Manager

Date: 12/09/2022
(mm/dd/yyyy)

11803 A-B
rec'd: 05/15/23

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXJ

Native X:3 Fluorotelomer Carboxylic
Acid Solution/Mixture

PRODUCT CODE:
LOT NUMBER:
SOLVENT(S):
DATE PREPARED: (mm/dd/yyyy)
LAST TESTED: (mm/dd/yyyy)
EXPIRY DATE: (mm/dd/yyyy)
RECOMMENDED STORAGE:

PFAC-MXJ
PFACMXJ0323
Methanol
03/27/2023
03/28/2023
03/28/2028
Refrigerate ampoule

DESCRIPTION:

PFAC-MXJ is a solution/mixture of three native X:3 fluorotelomer carboxylic acids. The components and their concentrations are given in Table A.

The individual components have a chemical purity of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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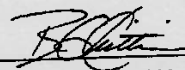
7.9.1
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Concentrations (µg/mL; ± 5% in methanol)

Table A:

PFAC-MXJ; Components and

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: 
B.G. Chittim, General Manager

Date: 04/12/2023
(mm/dd/yyyy)

11807
rec'd 10/16/23



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 (C₄-C₁₄), eight native perfluoroalkanesulfonates (C₄, C₆, C₇, C₉, C₁₀ and C₁₂ linear; C₆ and C₈ linear and branched), three native fluorotelomer sulfonates (4:2, 6:2, and 8:2), two native linear and branched perfluorooctanesulfonamidoacetic acids, and perfluoro-1-octanesulfonamide. The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Table B: Isomeric Components and Percent Composition of N-MeFOSAA
Table C: Isomeric Components and Percent Composition of N-EtFOSAA
Table D: Isomeric Components and Percent Composition of PFHxSK
Table E: Isomeric Components and Percent Composition of PFOSK
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Form#: 13, Issued 2004-11-10
Revision#: 9, Revised 2020-12-23

PFACMXH0423 (1 of 11)
rev1

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**Table A: PFAC-MXH; Components and Concentrations
(ng/mL, ± 5% in methanol/isopropanol (2%)/water (<1%))**

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
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: _____

B.G. Chittim, General Manager

Date: 05/11/2023

(mm/dd/yyyy)

11808
rec'd. 05/16/23



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXF

Native Replacement PFAS
Solution/Mixture

<u>PRODUCT CODE:</u>	PFAC-MXF
<u>LOT NUMBER:</u>	PFACMXF0323
<u>SOLVENT(S):</u>	Methanol / Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	03/23/2023
<u>LAST TESTED:</u> (mm/dd/yyyy)	03/24/2023
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	03/24/2026
<u>RECOMMENDED STORAGE:</u>	Refrigerate ampoule

DESCRIPTION:

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUdS), and hexafluoropropylene oxide dimer acid (GenX, HFPO-DA). The components and their concentrations are given in Table A.

The individual components of this mixture all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Revision#:9, Revised 2020-12-23

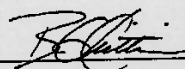
PFACMXF0323 (1 of 5)
rev0

7.9.1
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Table A: PFAC-MXF; Components and Concentrations (ng/mL; \pm 5% in Methanol/Water (<1%))

Compound	Acronym	Concentration* (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)propanoic acid	HFPO-DA	2000		A
Sodium dodecafluoro-3H-4,8-dioxanonoate	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: 
 B.G. Chittim, General Manager

Date: 03/29/2023
(mm/dd/yyyy)

11809
rec'd: 05/16/23



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PFAC-MXG

**Native Perfluoroalkyl Ether Carboxylic
Acids and Sulfonate Solution/Mixture**

<u>PRODUCT CODE:</u>	PFAC-MXG
<u>LOT NUMBER:</u>	PFACMXG1122
<u>SOLVENT(S):</u>	Methanol/Water (<1%)
<u>DATE PREPARED:</u> (mm/dd/yyyy)	11/30/2022
<u>LAST TESTED:</u> (mm/dd/yyyy)	12/01/2022
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	12/01/2027
<u>RECOMMENDED STORAGE:</u>	Store ampoule in a cool, dark place

DESCRIPTION:

PFAC-MXG is a solution/mixture of three native perfluoroalkyl ether carboxylic acids and a native perfluoroalkyl ether sulfonate. The components and their concentrations are given in Table A.

The individual components all have chemical purities of >98%.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Form#: 13, Issued 2004-11-10
Revision#: 9, Revised 2020-12-23

PFACMXG1122 (1 of 5)
rev0

7.9.1

7

Table A: PFAC-MXG; Components and Concentrations (ng/mL; ± 5% in methanol/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		as the salt	as the acid	
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: 
B.G. Chittim, General Manager

Date: 12/09/2022
(mm/dd/yyyy)

11810
rec'd: 05/16/23



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:

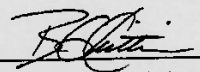
- See page 2 for further details.

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Table A: PFAC-MXJ; Components and Concentrations ($\mu\text{g}/\text{mL}$; $\pm 5\%$ in methanol)

Compound	Acronym	Concentration ($\mu\text{g}/\text{mL}$)
3-Perfluoropropyl propanoic acid	FPrPA	4.00
3-Perfluoropentyl propanoic acid	FPePA	20.0
3-Perfluoroheptyl propanoic acid	FHpPA	20.0

Certified By: 
 B.G. Chittim, General Manager

Date: 04/12/2023
(mm/dd/yyyy)

Form#: 13, Issued 2004-11-10
 Revision#: 9, Revised 2020-12-23

PFACMXJ0323 (3 of 5)
 rev0

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:

FPePA

LOT NUMBER:

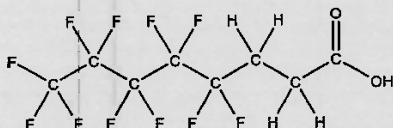
FPePA1120

COMPOUND:

3-Perfluoropentyl propanoic acid

STRUCTURE:**CAS #:**

914637-49-3

**MOLECULAR FORMULA:** $C_8H_5F_{11}O_2$ **MOLECULAR WEIGHT:**

342.11

CONCENTRATION: $50.0 \pm 2.5 \mu\text{g/mL}$ **SOLVENT(S):**

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

11/11/2020

EXPIRY DATE: (mm/dd/yyyy)

11/11/2025

RECOMMENDED STORAGE:

Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 5:3 telomer acid ($C_8H_3F_{11}O_2$) as an impurity determined by ^{19}F NMR.

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B.G. Chittim, General Manager
Date: 11/27/2020

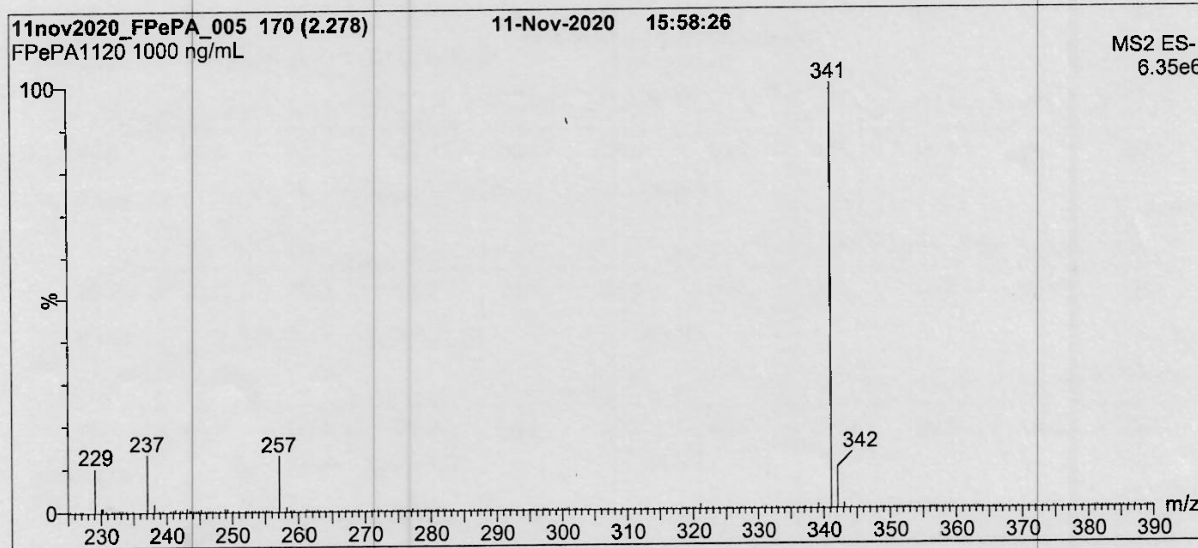
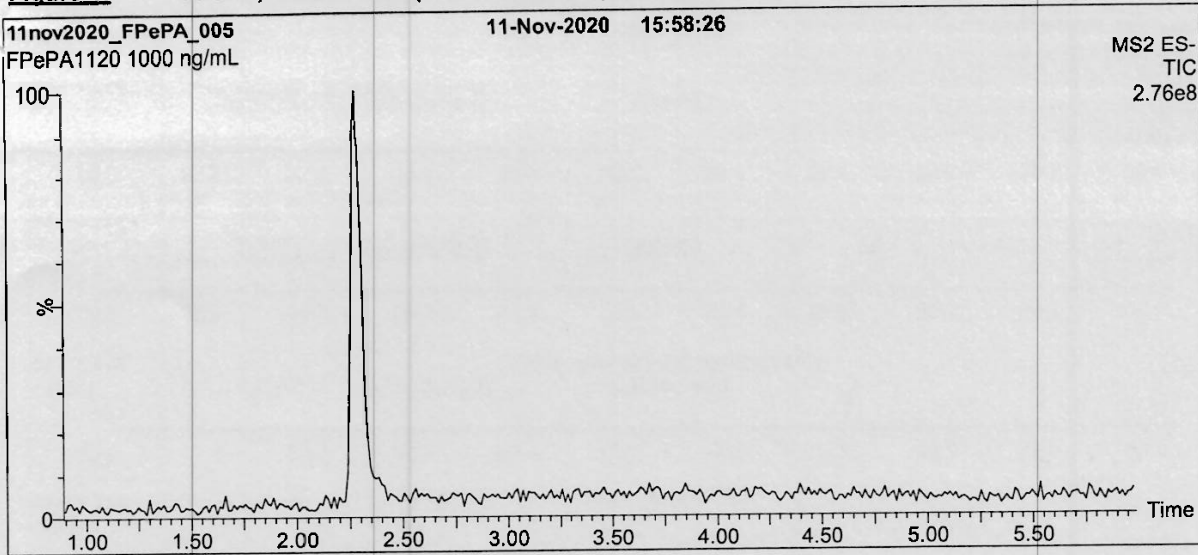
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Revision#: 8, Revised 2020-09-10

FPePA1120 (1 of 4)
rev0

Figure 1: FPePA; LC/MS Data (TIC and Mass Spectrum)



Conditions for Figure 1:

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{1a}
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc 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 μ L/min

MS Parameters:

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 18.50
Desolvation Temperature ($^{\circ}$ C) = 500
Desolvation Gas Flow (L/hr) = 1000

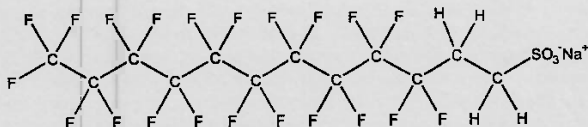
10726 A



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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: C₁₂H₄F₂₁SO₃Na **MOLECULAR WEIGHT:** 650.18
CONCENTRATION: 50.0 ± 2.5 µg/mL (Na salt) **SOLVENT(S):** Methanol
 48.3 ± 2.4 µg/mL (10:2FTS acid)
 48.2 ± 2.4 µg/mL (10:2FTS anion)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 03/03/2021
EXPIRY DATE: (mm/dd/yyyy) 03/03/2026
RECOMMENDED STORAGE: Refrigerate ampoule

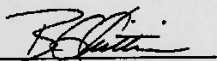
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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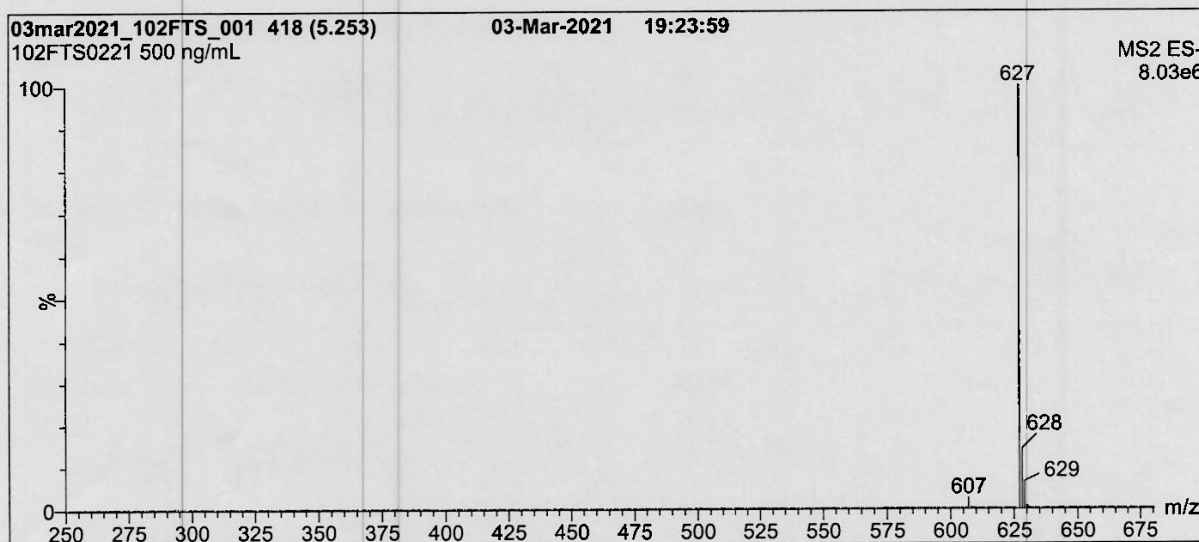
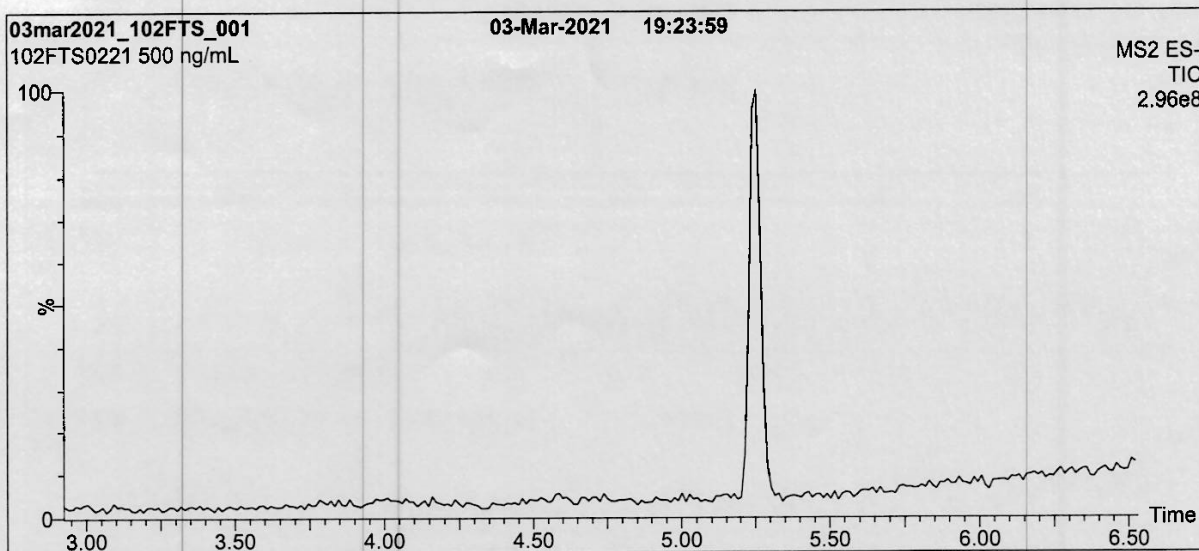
Certified By:  Date: 03/05/2021
(mm/dd/yyyy)
 B.G. Chittim, General Manager

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 Revision#: 9, Revised 2020-12-23

7.9.1
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Figure 1: 10:2FTS; LC/MS Data (Full Scan and Mass Spectrum)



Conditions for Figure 1:

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μ m, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% H₂O / 60% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc 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 μ L/min

MS Parameters:

Experiment: Full Scan (250 - 850 amu)
Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 25.00
Desolvation Temperature ($^{\circ}$ C) = 500
Desolvation Gas Flow (L/hr) = 1000

10762 A-B



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

PFEESA

retd
8/20/21
WPH

LOT NUMBER:

PFEESA0520

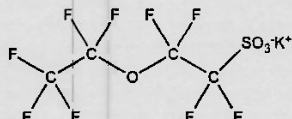
COMPOUND:

Potassium perfluoro(2-ethoxyethane)sulfonate

STRUCTURE:

CAS #:

117205-07-9



MOLECULAR FORMULA:

C₄F₆SO₄K

MOLECULAR WEIGHT:

354.19

CONCENTRATION:

50.0 ± 2.5 µg/ml (K salt)
44.6 ± 2.2 µg/ml (PFEESA acid)
44.5 ± 2.2 µg/ml (PFEESA anion)

SOLVENT(S):

Methanol

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:

B.G. Chittim, General Manager

Date:

05/29/2020
(mm/dd/yyyy)

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Form#: 27, Issued 2004-11-10
Revision#: 7, Revised 2020-01-09

PFEESA0520 (1 of 4)
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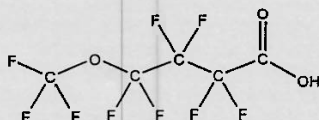
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PF5OHxA *re'd
with
8/20/21* **LOT NUMBER:** PF5OHxA0320

COMPOUND: Perfluoro-5-oxahexanoic acid

SYNONYM: Perfluoro-4-methoxybutanoic acid (PFMBA) **CAS #:** 863090-89-5

STRUCTURE:



MOLECULAR FORMULA: C₅HF₉O₃ **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

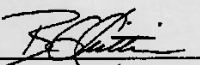
DOCUMENTATION/ DATA ATTACHED:

- 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.

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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
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Form#: 27, Issued 2004-11-10
Revision#: 8, Revised 2020-09-10

PF5OHxA0320 (1 of 4)
rev1

7.9.1
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10764A-B



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CERTIFICATE OF ANALYSIS DOCUMENTATION

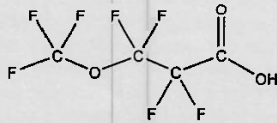
rec'd
WPH
8/20/21

PRODUCT CODE: PF4OPeA **LOT NUMBER:** PF4OPeA0320

COMPOUND: Perfluoro-4-oxapentanoic acid

SYNONYM: Perfluoro-3-methoxypropanoic acid (PFMPA)

STRUCTURE: **CAS #:** 377-73-1



MOLECULAR FORMULA: C₄HF₇O₃ **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

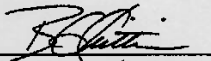
DOCUMENTATION/ DATA ATTACHED:

- 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.

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Certified By:  **Date:** 12/21/2020
(mm/dd/yyyy)

B.G. Chittim, General Manager

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PF4OPeA0320 (1 of 4)
rev1

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PRODUCT CODE:

3,6-OPFHpA

LOT NUMBER:

36OPFHpA0320

COMPOUND:

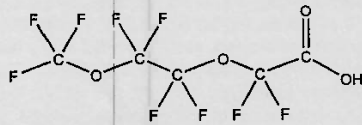
Perfluoro-3,6-dioxaheptanoic acid

rec'd
wfu
8/20/21

STRUCTURE:

CAS #:

151772-58-6



MOLECULAR FORMULA:

C₇H₂F₁₂O₄

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.

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Certified By:

B.G. Chittim, General Manager

Date: 05/27/2020
(mm/dd/yyyy)

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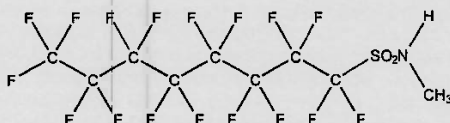
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-MeFOSA-M
COMPOUND: N-methylperfluoro-1-octanesulfonamide

LOT NUMBER: NMeFOSA0721M

STRUCTURE:

CAS #: 31506-32-8



rec'd
WPA
10/5/21

MOLECULAR FORMULA: C₈H₄F₁₇NO₂S
CONCENTRATION: 50.0 ± 2.5 µg/mL
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

MOLECULAR WEIGHT: 513.17
SOLVENT(S): Methanol

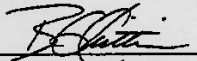
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: 
B.G. Chittim, General Manager

Date: 08/04/2021
(mm/dd/yyyy)

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Revision#: 9, Revised 2020-12-23

NMeFOSA0721M (1 of 4)
rev0

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PRODUCT CODE:

N-EtFOSA-M

10837

LOT NUMBER:

NEtFOSA0821M

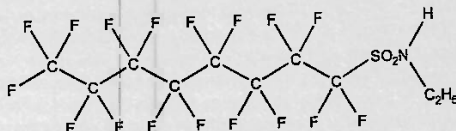
COMPOUND:

N-ethylperfluoro-1-octanesulfonamide

STRUCTURE:

CAS #:

4151-50-2



MOLECULAR FORMULA:

C₁₀H₉F₁₇NO₂S

MOLECULAR WEIGHT:

527.20

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

08/12/2021

EXPIRY DATE: (mm/dd/yyyy)

08/12/2026

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

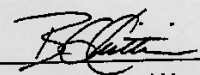
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By:


B.G. Chittim, General Manager

Date: 08/16/2021

(mm/dd/yyyy)

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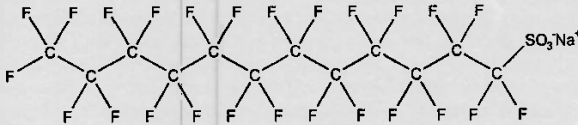
10840

PRODUCT CODE: L-PFDoS
COMPOUND: Sodium perfluoro-1-dodecanesulfonate

LOT NUMBER: LPFDoS0721

STRUCTURE:

CAS #: 1260224-54-1



MOLECULAR FORMULA: C₁₂F₂₅SO₃Na
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)
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

MOLECULAR WEIGHT: 722.14
SOLVENT(S): Methanol

DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~0.2% of perfluoro-n-dodecanoic acid (PFDoA).

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Certified By: 
B.G. Chittim, General Manager

Date: 07/16/2021
(mm/dd/yyyy)

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10847 NS 01/18/23

PRODUCT CODE:

PFODA

LOT NUMBER:

PFODA0821

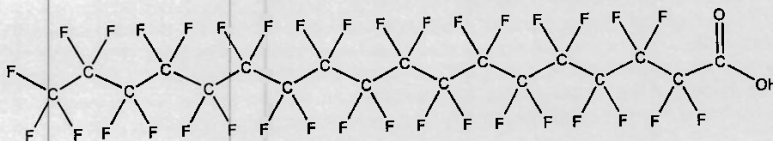
COMPOUND:

Perfluoro-n-octadecanoic acid

STRUCTURE:

CAS #:

16517-11-6



MOLECULAR FORMULA:

C₁₈H₃₅O₂

MOLECULAR WEIGHT:

914.14

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Methanol

Water (<1%)

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

09/03/2021

EXPIRY DATE: (mm/dd/yyyy)

09/03/2026

RECOMMENDED STORAGE:

Store ampoule at ambient temperature in a dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- The solubility of this product in methanol is very sensitive to storage conditions and solvent composition. The stated validity period applies to the sealed ampoules stored at ambient temperature.

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Certified By:

B.G. Chittim, General Manager

Date: 09/28/2021

(mm/dd/yyyy)

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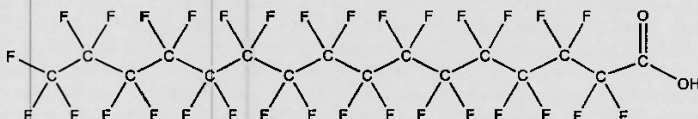
CERTIFICATE OF ANALYSIS DOCUMENTATION

10842 NG on 18/23

PRODUCT CODE: PFHxDA **LOT NUMBER:** PFHxDA0421

COMPOUND: Perfluoro-n-hexadecanoic acid

STRUCTURE: **CAS #:** 67905-19-5



MOLECULAR FORMULA: C₁₆HF₃₁O₂ **MOLECULAR WEIGHT:** 814.13
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
 Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/07/2021
EXPIRY DATE: (mm/dd/yyyy) 05/07/2026
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

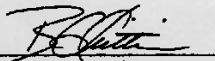
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By:  **Date:** 05/25/2021
 B.G. Chittim, General Manager (mm/dd/yyyy)

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 Revision#:9, Revised 2020-12-23

PFHxDA0421 (1 of 4)
 rev0

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

FHpPA

LOT NUMBER:

FHpPA1020

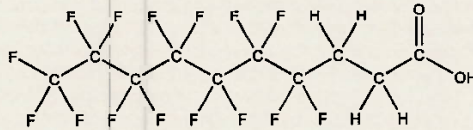
COMPOUND:

3-Perfluoroheptyl propanoic acid

STRUCTURE:

CAS #:

812-70-4



MOLECULAR FORMULA:

C₁₀H₅F₁₅O₂

MOLECULAR WEIGHT:

442.12

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S):

Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

11/12/2020

EXPIRY DATE: (mm/dd/yyyy)

11/12/2025

RECOMMENDED STORAGE:

Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)

Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By:

B.G. Chittim, General Manager

Date:

11/27/2020

(mm/dd/yyyy)

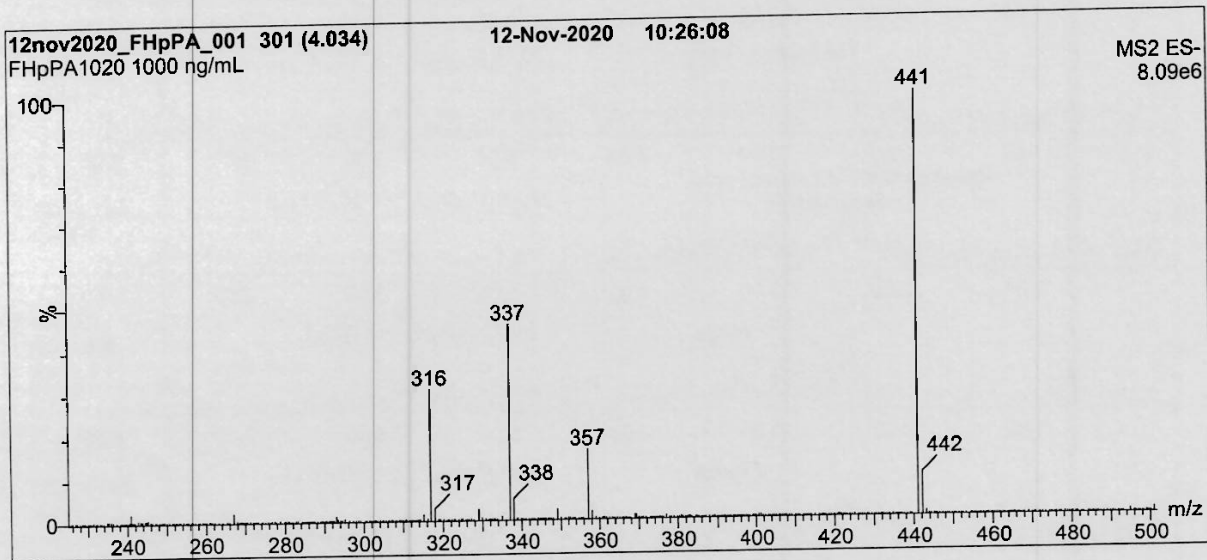
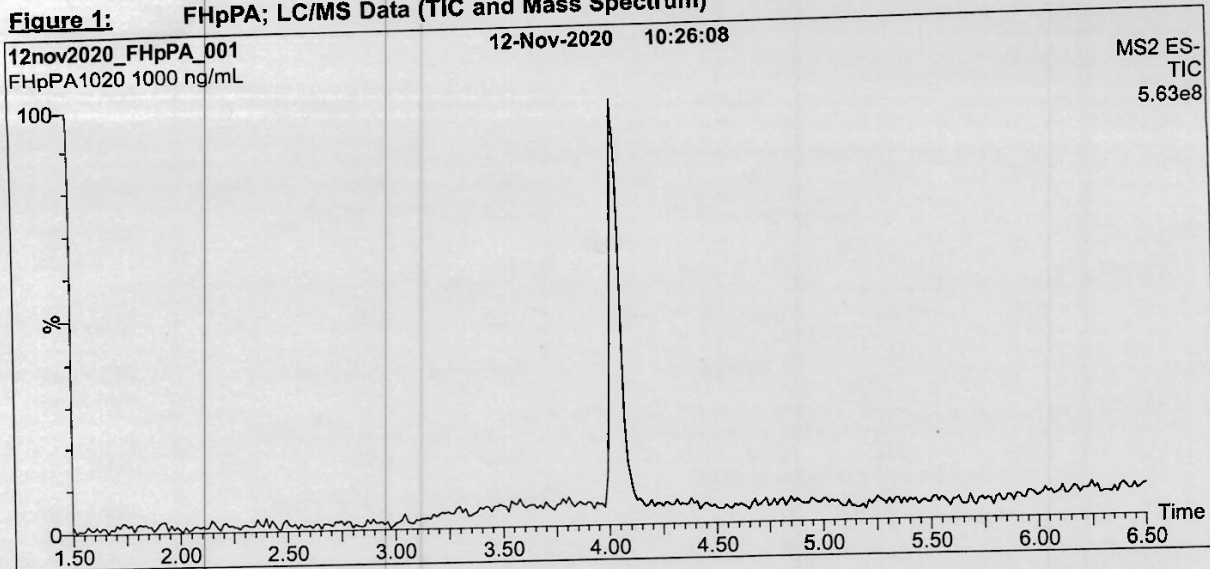
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Revision#: 8, Revised 2020-09-10

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rev0

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Figure 1: FHpPA; LC/MS Data (TIC and Mass Spectrum)



Conditions for Figure 1:

Waters Acquity Ultra Performance LC
Waters Xevo TQ-S micro MS

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP₁₈
1.7 μm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 45% H₂O / 55% (80:20 MeOH:ACN)
(both with 10 mM NH₄OAc 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

FPr PA(3:3 FTA) 1116 B



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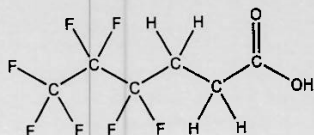
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FPrPA
COMPOUND: 3-Perfluoropropyl propanoic acid

LOT NUMBER: FPrPA0122

STRUCTURE:

CAS #: 356-02-5



MOLECULAR FORMULA: C₆H₅F₇O₂
CONCENTRATION: 50.0 ± 2.5 µg/mL
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 02/03/2022
EXPIRY DATE: (mm/dd/yyyy) 02/03/2027
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 242.09
SOLVENT(S): Methanol

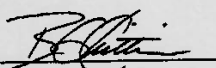
DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains <1% of the unsaturated 3:3 telomer acid (C₈H₃F₉O₂) as an impurity determined by ¹⁹F NMR.

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Certified By: 
B.G. Chittim, General Manager
Date: 02/04/2022
(mm/dd/yyyy)

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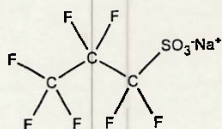
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFPPrS
COMPOUND: Sodium perfluoro-1-propanesulfonate

LOT NUMBER: LPFPPrS0721

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: C₃F₇SO₃Na
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)
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

MOLECULAR WEIGHT: 272.07
SOLVENT(S): Methanol

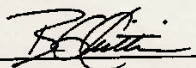
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: 
B.G. Chittim, General Manager
Date: 08/04/2021
(mm/dd/yyyy)

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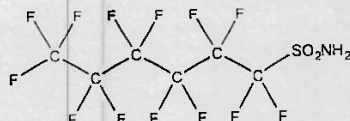
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: FHxSA-I
COMPOUND: Perfluoro-1-hexanesulfonamide

LOT NUMBER: FHxSA12211

STRUCTURE:

CAS #: 41997-13-1



MOLECULAR FORMULA: C₆H₂F₁₃NO₂S
CONCENTRATION: 50.0 ± 2.5 µg/mL
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 12/29/2021
EXPIRY DATE: (mm/dd/yyyy) 12/29/2026
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 399.13
SOLVENT(S): Isopropanol

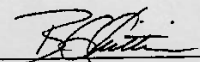
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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B.G. Chittim, General Manager
Date: 01/10/2022
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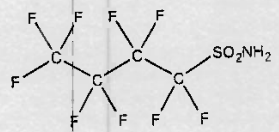
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PRODUCT CODE: FBSA-I
COMPOUND: Perfluoro-1-butananesulfonamide

LOT NUMBER: FBSA11211

STRUCTURE:

CAS #: 30334-69-1



MOLECULAR FORMULA: C₄H₂F₁₀NO₂S
CONCENTRATION: 50.0 ± 2.5 µg/mL
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 11/10/2021
EXPIRY DATE: (mm/dd/yyyy) 11/10/2026
RECOMMENDED STORAGE: Refrigerate ampoule

MOLECULAR WEIGHT: 299.11
SOLVENT(S): Isopropanol

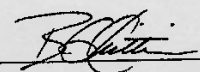
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: 
B.G. Chittim, General Manager

Date: 11/10/2021
(mm/dd/yyyy)

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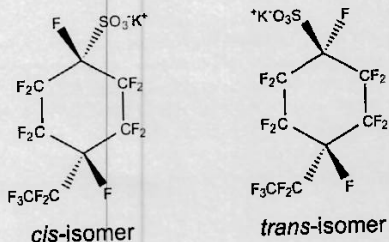
PRODUCT CODE:
COMPOUND:

PFECHS
Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

LOT NUMBER: PFECHS0222

CAS #: 335-24-0

STRUCTURE:



MOLECULAR FORMULA:
CONCENTRATION:

$C_8F_{15}SO_3K$
50.0 ± 2.5 µg/mL (K salt)
46.2 ± 2.3 µg/mL (PFECHS acid)
46.1 ± 2.3 µg/mL (PFECHS anion)

MOLECULAR WEIGHT: 500.22
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)

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11338



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-MeFOSE-M

LOT NUMBER:

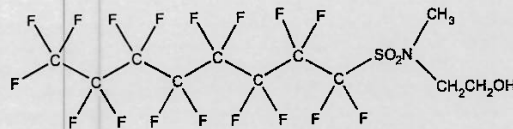
NMeFOSE0522M

COMPOUND:

2-(N-methylperfluoro-1-octanesulfonamido)ethanol

STRUCTURE:**CAS #:**

24448-09-7

**MOLECULAR FORMULA:**C₁₁H₈F₁₇NO₃S**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)

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CERTIFIED WEIGHT REPORT

Part Number: 84929A
 Part Description: 28 Elements
 Purity: 99.9999%
 Net Weight: 1.0 g
 Net Content: 0.9999 g

Expiration Date: 03/15/22
 Recommended Storage: 2-8°C
 NIST Test ID: 6017B

Method: ICP-MS
 Uncertainty: 2-Rel
 Lab: 10202 (99.99%)
 25000 (2%)

Prepared By: [Signature]
 Analyst: [Signature]
 Date: 03/15/22

Reviewed By: [Signature]
 Date: 03/15/22

11750
 rec'd: 04/17/23

Volume(s) shown below were combined and diluted to (mL):
 Note: All assigned values are action concentrations.

Component	Part Number	Label	Dilution Factor	Unit	Assigned Value	Uncertainty	Method	Lab	Concentration	Unit	Uncertainty	Method	Lab	Concentration	Unit	Uncertainty	Method	Lab	
1. Perfluorobutanoic acid (PFBA)	99942	110492	0.02	2.00	0.017	50.1	1.00	0.02	375-22-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2. Perfluoropentanoic acid (PFPA)	99943	017173	0.02	2.00	0.017	50.3	1.01	0.02	2706-90-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3. Perfluorhexanoic acid (PFHxA)	99199	017172	0.02	2.00	0.017	50.2	1.00	0.02	307-24-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4. Perfluorheptanoic acid (PFHpA)	99199	110992	0.02	2.00	0.017	50.1	1.00	0.02	375-85-9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5. Perfluoroctanoic acid (PF(O)A)	99502	006522	0.02	2.00	0.017	50.2	1.00	0.02	335-87-1 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6. Perfluorononanoic acid (PFNA)	99500	110992	0.02	2.00	0.017	50.1	1.00	0.02	375-95-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
7. Perfluordecanoic acid (PFDA)	99195	110992	0.02	2.00	0.017	50.0	1.00	0.02	335-76-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
8. Perfluorundecanoic acid (PFUdA)	99265	071522	0.02	2.00	0.017	50.2	1.00	0.02	2059-94-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
9. Perfluordocosanoic acid (PF(D)A)	99196	071522	0.02	2.00	0.017	50.1	1.00	0.02	307-55-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
10. Perfluortricosanoic acid (PF(T)A)	99264	110122	0.02	2.00	0.017	50.1	1.00	0.02	27609-84-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
11. Perfluorhentrianoic acid (PF(H)A)	99503	028022	0.02	2.00	0.017	50.1	1.00	0.02	376-06-7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
12. Perfluoroheptadecanoic acid (PF(H)A)	3677	FC36A0221	0.02	2.00	0.017	50.0	1.00	0.05	2355-31-8 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
13. Perfluorheptadecanoic acid (PF(H)A)	4182	ENRFG0A1121	0.02	2.00	0.017	50.0	1.00	0.05	2991-90-8 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
14. Perfluorheptadecanoic acid (PF(H)A)	99194	006522	0.02	2.00	0.017	50.2	1.00	0.02	375-73-5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
15. Perfluorundecanoic acid (PF(U)A)	99194	001522	0.02	2.00	0.017	50.1	1.00	0.02	2706-91-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
16. Perfluorundecanoic acid (PF(U)A)	99198	020932	0.02	2.00	0.017	47.6	1.00	0.02	355-45-4 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
17. Perfluorundecanoic acid (PF(U)A)	3072	LFPH50322	0.021	2.10	0.017	47.6	1.00	0.02	375-92-8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
18. Perfluorundecanoic acid (PF(U)A)	99501	020932	0.02	2.00	0.017	50.1	1.00	0.02	1783-28-1 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
19. Perfluorundecanoic acid (PF(U)A)	3677	LFPH51122	0.021	2.10	0.017	48.0	1.01	0.05	66299-12-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
20. Perfluorundecanoic acid (PF(U)A)	3677	LFPH51122	0.021	2.10	0.017	48.2	1.01	0.05	335-77-3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
21. Perfluorundecanoic acid (PF(U)A)	6671	LFPH51122	0.021	2.10	0.017	48.2	1.01	0.05	727124-72-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
22. Perfluorundecanoic acid (PF(U)A)	6671	LFPH51122	0.021	2.10	0.017	50.2	1.00	0.05	210181-7-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
23. Perfluorundecanoic acid (PF(U)A)	5022	BF12222	0.021	2.10	0.017	47.8	1.01	0.05	30108-54-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
24. Perfluorundecanoic acid (PF(U)A)	5022	BF12222	0.021	2.10	0.017	47.8	1.01	0.05	30108-54-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
25. Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.021	2.10	0.017	47.8	1.01	0.05	18282-13-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
26. Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.021	2.10	0.017	47.8	1.01	0.05	278261-28-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
27. Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.021	2.10	0.017	48.3	1.00	0.05	278261-28-2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
28. Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.021	2.10	0.017	47.1	1.00	0.05	819025-14-4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Perfluorundecanoic acid (PF(U)A)	99262	006022	0.02	2.00	0.004	48.8	0.99	0.010	335-67-1 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	99262	006022	0.02	2.00	0.004	0.9	0.01	0.001	335-67-1 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	99198	020932	0.02	2.00	0.017	44.0	0.88	0.02	355-45-4 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	99198	020932	0.02	2.00	0.017	6.0	0.12	0.0020	355-45-4 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	99501	020932	0.02	2.00	0.017	38.1	0.78	0.02	1783-28-1 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	99501	020932	0.02	2.00	0.017	7.5	0.15	0.003	1783-28-1 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	99501	020932	0.02	2.00	0.017	4.0	0.08	0.002	1783-28-1 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	99501	020932	0.02	2.00	0.017	0.5	0.010	0.0002	1783-28-1 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.02	2.00	0.017	36.0	0.72	0.04	2355-31-9 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.02	2.00	0.017	6.5	0.13	0.011	2355-31-9 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.02	2.00	0.017	5.0	0.10	0.005	2355-31-9 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.02	2.00	0.017	2.5	0.05	0.0009	2355-31-9 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.02	2.00	0.017	38.6	0.78	0.04	2991-90-8 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.02	2.00	0.017	7.7	0.15	0.009	2991-90-8 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.02	2.00	0.017	5.3	0.11	0.005	2991-90-8 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorundecanoic acid (PF(U)A)	4182	ENRFG0A1121	0.02	2.00	0.017	0.4	0.007	0.0006	2991-90-8 (L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

A suitable standard (Sect. 3.19) is available for PFDA that contains the linear and branched isomers (Wilmington Labs, Cat. No. T-PFDA or equivalent). This standard should be used to identify the retention times of the branched PFDA isomers, but the linear only PFDA standard must be used for quantitation (Sect. 1.2.2) with a quantitative PFDA standard containing the branched and linear isomers becomes commercially available. 1

*Concentrations for branched and linear isomers are based on LOMs chromatographic analysis only.

The certified value is the concentration calculated from gravimetric and isotopic measurements with an uncertainty stated. The uncertainty is based on the standard deviation of the measurements and the uncertainty of the reference materials. Standards are certified to ±0.5% of the stated value, unless otherwise stated. All standards, after opening, should be stored in a cool, dry place and sealed properly to prevent degradation. NIST Test Method 1813-1817, U.S. Government Printing Office, Washington, DC, 1994.

11764 A-5
rec'd: 04/20/23



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 (¹³C) perfluoroalkylcarboxylic acids (C₄, C₆, C₈-C₁₀) and two mass-labelled (¹⁸O and ¹³C) perfluoroalkanesulfonates (C₆ and C₈). 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 ¹³C or >94% per ¹⁸O.

DOCUMENTATION/ DATA ATTACHED:

Table A: Components and Concentrations of the Solution/Mixture
Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

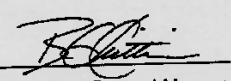
MPFACHIFIS1122 (1 of 5)
rev0

7.9.1
7

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
		as the salt	as the acid	
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: 
R.G. Chittim, General Manager

Date: 12/05/2022
(mm/dd/yyyy)

11765 A-J
Rec'd: 04/20/23



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 (¹³C) perfluoroalkylcarboxylic acids (C₄-C₁₂, C₁₄), three mass-labelled (¹³C) perfluoroalkanesulfonates (C₄, C₆, and C₈), three mass-labelled (one ¹³C and two ²H) perfluoro-1-octanesulfonamides, three mass-labelled (¹³C) fluorotelomer sulfonates (4:2, 6:2, and 8:2), two mass-labelled (²H) perfluorooctanesulfonamidoacetic acids, two mass-labelled (²H) perfluorooctanesulfonamidoethanols, and mass-labelled (¹³C) hexafluoropropylene oxide dimer acid (GenX, M3HFPO-DA). The components and their concentrations are given in Table A.

The individual ¹³C-labelled components all have chemical purities >98% and isotopic purities of ≥99%. The individual ²H-labelled components all have chemical purities >98% and isotopic purities of ≥98%.

DOCUMENTATION/ DATA ATTACHED:

- Table A: Components and Concentrations of the Solution/Mixture
- Figure 1: LC/MS Data (SIR)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acids to their respective methyl esters.

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Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

MPFACHIFES1022 (1 of 7)
rev0

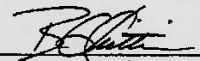
7.9.1

7

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
		as the salt	as the acid	
Perfluoro-n-(¹³ C ₂)butanoic acid	MPFBA	2000		1
Perfluoro-n-(¹³ C ₃)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 ₆)octanoic acid	M8PFOA	500		10
Perfluoro-n-(¹³ C ₇)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	MPFDcA	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 ₂ -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: 
B.G. Chittim, General Manager

Date: 11/24/2022
(mm/dd/yyyy)

SGS - ORLANDO

SPE LIQUID SAMPLE PREP REPORT

Date/Time Started: 6/2/23 12:15
(mm/dd/yy 24:00)

Method: EPA 1633 Draft Q8M

Date/Time Finished: 6/2/23 10:47
(mm/dd/yy 24:00)

Balance ID: _____

Batch#: 0097179

Ext. By: _____

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
OP97179 MB	/	500	7	N/A	25		5.0	B	
OP97179 BS	/	500				200			
OP97179 LLBS	/	500				60			
FC6237-19	2	375							
-20	2	425							
-21	1	545							
-22	1	545							
-23	1	545							
PC6479-1	2	560							
-2	2	425	↓	↓	↓		↓	↓	
-3	2	560	7	N/A	25		5.0	B	
OP FC6237-19 MS	3	375	7	N/A	25	200	5.0	B	
OP MSD									
OP PC6479-2 DUP	3	425	7	N/A	25		5.0	B	

AG
6/2/23

Comments:

EIS (SURR) ID: 11821D-E Conc: 250-5000ng/mL Exp. Date: 5/22/24 Inj. By: AG Ver. By: AG
 SPIKE.1 ID: LCMS 2124-C Conc: Varied Exp. Date: 10/28/23 Inj. By: AG Ver. By: AG
 SPIKE.2 ID: _____ Conc: _____ Exp. Date: _____ Inj. By: _____ Ver. By: _____
 NIS (ISTD) ID: 11820FH Conc: 250-1000ng/mL Exp. Date: 5/30/24 Inj. By: NW Ver. By: NG

TurboVap Temp (Therm ID): _____ N-Evap Temp (Therm ID): _____
 Observed Temp °C: _____ Corr. Temp °C: _____ Observed Temp °C: _____ Corr. Temp °C: _____

Methanol Lot # 224279 1% NH4OH MeOH PF 242 424 SPE Lot # 6736233-03
 Water Lot# 0P97000 0.3M Formic Acid PF 596 Syringe Filter Lot # _____
 Acetic Acid# 194003 3% NH4OH Sol _____ pH paper Lot# 215322
 0.1M Formic PF 415 5% Formic Acid _____ Carbon Lot# 99687

Relinquished By: [Signature]
 Accepted By: [Signature]

Date: 6/2/23
 Date: 6/2/23

7.10.1
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