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Automated Report

Technical Report for

AECOM, INC.

N6274223F0104 RH Fire Suppression System

60697810

SGS Job Number: FC6537

Sampling Date: 05/31/23



Report to:

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Total number of pages in report: 805



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

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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: FC6537

N6274223F0104 RH Fire Suppression System
Project No: 60697810

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FC6537-1	05/31/23	09:20	EMZD 06/01/23	AQ	Ground Water	AF-RHMW12A-WGN01LF-2305W5
FC6537-2	05/31/23	09:20	EMZD 06/01/23	AQ	Ground Water	AF-RHMW12A-WGFD01LF-2305W5
FC6537-3	05/31/23	09:55	ALCP 06/01/23	AQ	Ground Water	AF-RHMW04-WGN01LF-2305W5
FC6537-4	05/31/23	11:40	ALCP 06/01/23	AQ	Ground Water	AF-RHMW06-WGN01LF-2305W5
FC6537-5	05/31/23	12:10	EMZD 06/01/23	AQ	Ground Water	AF-RHMW16-WGN01LF-2305W5

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, INC.

Job No: FC6537

Site: N6274223F0104 RH Fire Suppression System

Report Date: 6/9/2023 2:51:18 PM

On 06/01/2023, 5 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 2.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. - Orlando Job Number of FC6537 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: OP97216

Sample(s) FC6537-2MS, FC6537-3DUP were used as the QC samples indicated.

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: FC6537
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/31/23



Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
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FC6537-1 **AF-RHMW12A-WGN01LF-2305W5**

Perfluoropentanoic acid	3.3 J	7.1	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	0.78 J	3.6	1.8	ng/l	EPA DRAFT 1633

FC6537-2 **AF-RHMW12A-WGFD01LF-2305W5**

Perfluoropentanoic acid	2.7 J	7.3	1.8	ng/l	EPA DRAFT 1633
Perfluorohexanoic acid	0.87 J	3.6	1.8	ng/l	EPA DRAFT 1633

FC6537-3 **AF-RHMW04-WGN01LF-2305W5**

No hits reported in this sample.

FC6537-4 **AF-RHMW06-WGN01LF-2305W5**

No hits reported in this sample.

FC6537-5 **AF-RHMW16-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-RHMW12A-WGN01LF-2305W5		
Lab Sample ID:	FC6537-1	Date Sampled:	05/31/23
Matrix:	AQ - Ground Water	Date Received:	06/01/23
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	6Q18998.D	1	06/08/23 03:05	MV	06/06/23 11:00	OP97216	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	3.3	7.1	1.8	0.84	ng/l	J
307-24-4	Perfluorohexanoic acid	0.78	3.6	1.8	0.45	ng/l	J
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-RHMW12A-WGN01LF-2305W5		
Lab Sample ID:	FC6537-1	Date Sampled:	05/31/23
Matrix:	AQ - Ground Water	Date Received:	06/01/23
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
	13C4-PFBA	67%		20-150%
	13C5-PFPeA	111%		20-150%
	13C5-PFHxA	108%		20-150%
	13C4-PFHpA	109%		20-150%
	13C8-PFOA	116%		20-150%
	13C9-PFNA	109%		20-150%
	13C6-PFDA	108%		20-150%
	13C7-PFUnDA	100%		20-150%
	13C2-PFDoDA	89%		20-150%
	13C2-PFTeDA	85%		20-150%
	13C3-PFBS	118%		20-150%
	13C3-PFHxS	114%		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-RHMW12A-WGN01LF-2305W5		
Lab Sample ID:	FC6537-1	Date Sampled:	05/31/23
Matrix:	AQ - Ground Water	Date Received:	06/01/23
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	91%		20-150%
	d3-MeFOSA	92%		20-150%
	d5-EtFOSA	94%		20-150%
	d3-MeFOSAA	103%		20-150%
	d5-EtFOSAA	99%		20-150%
	d7-MeFOSE	84%		20-150%
	d9-EtFOSE	94%		20-150%
	13C2-4:2FTS	125%		20-180%
	13C2-6:2FTS	133%		20-180%
	13C2-8:2FTS	117%		20-180%
	13C3-HFPO-DA	119%		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-RHMW12A-WGFD01LF-2305W5		
Lab Sample ID:	FC6537-2	Date Sampled:	05/31/23
Matrix:	AQ - Ground Water	Date Received:	06/01/23
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	6Q18999.D	1	06/08/23 03:19	MV	06/06/23 11:00	OP97216	S6Q283
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
PERFLUOROALKYL CARBOXYLIC ACIDS							
375-22-4	Perfluorobutanoic acid	3.6 U	15	3.6	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	2.7	7.3	1.8	0.85	ng/l	J
307-24-4	Perfluorohexanoic acid	0.87	3.6	1.8	0.45	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
335-67-1	Perfluorooctanoic acid	0.91 U	3.6	0.91	0.45	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	0.55	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.76	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.45	ng/l	
PERFLUOROALKYL SULFONIC ACIDS							
375-73-5	Perfluorobutanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.6 U	4.5	3.6	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.64	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.45	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	0.49	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.52	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.58	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.6 U	4.5	3.6	1.0	ng/l	
FLUOROTELOMER SULFONIC ACIDS							
757124-72-4	4:2 Fluorotelomer sulfonate	7.3 U	18	7.3	2.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.3 U	18	7.3	3.7	ng/l	
PERFLUOROOCCTANE SULFONAMIDES							
754-91-6	PFOSA	1.8 U	3.6	1.8	0.61	ng/l	
31506-32-8	MeFOSA	3.6 U	7.3	3.6	0.91	ng/l	
4151-50-2	EtFOSA	3.6 U	7.3	3.6	0.91	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW12A-WGFD01LF-2305W5		
Lab Sample ID:	FC6537-2	Date Sampled:	05/31/23
Matrix:	AQ - Ground Water	Date Received:	06/01/23
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	0.91	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	4.0	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.7	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.91	ng/l	
919005-14-4	ADONA	3.6 U	7.3	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.3	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	7.3	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.3	3.6	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.3	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.3	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.3	1.8	0.71	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.1 U	18	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	91	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	91	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	63%		20-150%
	13C5-PFPeA	108%		20-150%
	13C5-PFHxA	104%		20-150%
	13C4-PFHpA	107%		20-150%
	13C8-PFOA	102%		20-150%
	13C9-PFNA	104%		20-150%
	13C6-PFDA	90%		20-150%
	13C7-PFUnDA	88%		20-150%
	13C2-PFDoDA	81%		20-150%
	13C2-PFTeDA	80%		20-150%
	13C3-PFBS	109%		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-RHMW12A-WGFD01LF-2305W5	
Lab Sample ID:	FC6537-2	Date Sampled: 05/31/23
Matrix:	AQ - Ground Water	Date Received: 06/01/23
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	97%		20-150%
	13C8-FOSA	98%		20-150%
	d3-MeFOSA	97%		20-150%
	d5-EtFOSA	101%		20-150%
	d3-MeFOSAA	113%		20-150%
	d5-EtFOSAA	108%		20-150%
	d7-MeFOSE	88%		20-150%
	d9-EtFOSE	95%		20-150%
	13C2-4:2FTS	118%		20-180%
	13C2-6:2FTS	124%		20-180%
	13C2-8:2FTS	100%		20-180%
	13C3-HFPO-DA	112%		20-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
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 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-RHMW04-WGN01LF-2305W5		
Lab Sample ID:	FC6537-3	Date Sampled:	05/31/23
Matrix:	AQ - Ground Water	Date Received:	06/01/23
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	6Q19001.D	1	06/08/23 03:48	MV	06/06/23 11:00	OP97216	S6Q283
Run #2							

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

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
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PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.7 U	15	3.7	1.8	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	7.4	1.9	0.87	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
335-67-1	Perfluorooctanoic acid	0.93 U	3.7	0.93	0.46	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.46	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	0.56	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.78	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.46	ng/l	

PERFLUOROALKYL SULFONIC ACIDS

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	3.7 U	4.6	3.7	1.0	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.65	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.46	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	0.50	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.53	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.59	ng/l	
79780-39-5	Perfluorododecanesulfonic aci	3.7 U	4.6	3.7	1.1	ng/l	

FLUOROTELOMER SULFONIC ACIDS

757124-72-4	4:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.0	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.2	ng/l	
39108-34-4	8:2 Fluorotelomer sulfonate	7.4 U	19	7.4	3.8	ng/l	

PERFLUOROOCCTANE SULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.62	ng/l	
31506-32-8	MeFOSA	3.7 U	7.4	3.7	0.93	ng/l	
4151-50-2	EtFOSA	3.7 U	7.4	3.7	0.93	ng/l	

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

Report of Analysis

Client Sample ID:	AF-RHMW04-WGN01LF-2305W5	
Lab Sample ID:	FC6537-3	Date Sampled: 05/31/23
Matrix:	AQ - Ground Water	Date Received: 06/01/23
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

PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	3.7 U	4.6	3.7	0.93	ng/l
2991-50-6	EtFOSAA	3.7 U	4.6	3.7	1.2	ng/l

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	19 U	37	19	4.1	ng/l
1691-99-2	EtFOSE	19 U	37	19	6.9	ng/l

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.9 U	3.7	1.9	0.93	ng/l
919005-14-4	ADONA	3.7 U	7.4	3.7	1.7	ng/l
377-73-1	PFMPA	1.9 U	7.4	1.9	0.93	ng/l
863090-89-5	PFMBA	3.7 U	7.4	3.7	1.1	ng/l
151772-58-6	NFDHA	3.7 U	7.4	3.7	1.1	ng/l

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.3	ng/l
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.6	ng/l
113507-82-7	PFEESA	1.9 U	7.4	1.9	0.72	ng/l

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.3 U	19	9.3	4.2	ng/l
914637-49-3	5:3 Fluorotelomer carboxylate	19 U	93	19	8.1	ng/l
812-70-4	7:3 Fluorotelomer carboxylate	19 U	93	19	7.3	ng/l

CAS No. ID Standard Recoveries Run# 1 Run# 2 Limits

13C4-PFBA	108%	20-150%
13C5-PFPeA	110%	20-150%
13C5-PFHxA	105%	20-150%
13C4-PFHpA	109%	20-150%
13C8-PFOA	108%	20-150%
13C9-PFNA	102%	20-150%
13C6-PFDA	103%	20-150%
13C7-PFUnDA	92%	20-150%
13C2-PFDoDA	87%	20-150%
13C2-PFTeDA	88%	20-150%
13C3-PFBS	109%	20-150%
13C3-PFHxS	109%	20-150%

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

Report of Analysis

Client Sample ID:	AF-RHMW04-WGN01LF-2305W5		Date Sampled:	05/31/23
Lab Sample ID:	FC6537-3		Date Received:	06/01/23
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	105%		20-150%
	13C8-FOSA	102%		20-150%
	d3-MeFOSA	97%		20-150%
	d5-EtFOSA	106%		20-150%
	d3-MeFOSAA	115%		20-150%
	d5-EtFOSAA	115%		20-150%
	d7-MeFOSE	93%		20-150%
	d9-EtFOSE	105%		20-150%
	13C2-4:2FTS	115%		20-180%
	13C2-6:2FTS	125%		20-180%
	13C2-8:2FTS	109%		20-180%
	13C3-HFPO-DA	116%		20-150%

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

SGS North America Inc.

Report of Analysis

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Client Sample ID:	AF-RHMW06-WGN01LF-2305W5		
Lab Sample ID:	FC6537-4	Date Sampled:	05/31/23
Matrix:	AQ - Ground Water	Date Received:	06/01/23
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	6Q19003.D	1	06/08/23 04:17	MV	06/06/23 11:00	OP97216	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-RHMW06-WGN01LF-2305W5		Date Sampled:	05/31/23
Lab Sample ID:	FC6537-4		Date Received:	06/01/23
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
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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	105%		20-150%
	13C5-PFPeA	106%		20-150%
	13C5-PFHxA	102%		20-150%
	13C4-PFHpA	105%		20-150%
	13C8-PFOA	101%		20-150%
	13C9-PFNA	106%		20-150%
	13C6-PFDA	94%		20-150%
	13C7-PFUnDA	87%		20-150%
	13C2-PFDoDA	81%		20-150%
	13C2-PFTeDA	77%		20-150%
	13C3-PFBS	107%		20-150%
	13C3-PFHxS	108%		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

4.4
4

Report of Analysis

Client Sample ID:	AF-RHMW06-WGN01LF-2305W5	
Lab Sample ID:	FC6537-4	Date Sampled: 05/31/23
Matrix:	AQ - Ground Water	Date Received: 06/01/23
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	96%		20-150%
	13C8-FOSA	88%		20-150%
	d3-MeFOSA	85%		20-150%
	d5-EtFOSA	87%		20-150%
	d3-MeFOSAA	109%		20-150%
	d5-EtFOSAA	102%		20-150%
	d7-MeFOSE	84%		20-150%
	d9-EtFOSE	92%		20-150%
	13C2-4:2FTS	117%		20-180%
	13C2-6:2FTS	115%		20-180%
	13C2-8:2FTS	111%		20-180%
	13C3-HFPO-DA	112%		20-150%

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

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Report of Analysis

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Client Sample ID:	AF-RHMW16-WGN01LF-2305W5		
Lab Sample ID:	FC6537-5	Date Sampled:	05/31/23
Matrix:	AQ - Ground Water	Date Received:	06/01/23
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	6Q19006.D	1	06/08/23 05:01	MV	06/06/23 11:00	OP97216	S6Q283
Run #2							

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

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

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AF-RHMW16-WGN01LF-2305W5		Date Sampled:	05/31/23
Lab Sample ID:	FC6537-5	Date Received:	06/01/23	
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
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PERFLUOROOCCTANE SULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	3.6 U	4.5	3.6	0.91	ng/l	
2991-50-6	EtFOSAA	3.6 U	4.5	3.6	1.2	ng/l	

PERFLUOROOCCTANE SULFONAMIDO ETHANOLS

24448-09-7	MeFOSE	18 U	36	18	4.0	ng/l	
1691-99-2	EtFOSE	18 U	36	18	6.7	ng/l	

PER and POLYFLUOROETHER CARBOXYLIC ACIDS

13252-13-6	HFPO-DA (GenX)	1.8 U	3.6	1.8	0.91	ng/l	
919005-14-4	ADONA	3.6 U	7.3	3.6	1.7	ng/l	
377-73-1	PFMPA	1.8 U	7.3	1.8	0.91	ng/l	
863090-89-5	PFMBA	3.6 U	7.3	3.6	1.0	ng/l	
151772-58-6	NFDHA	3.6 U	7.3	3.6	1.1	ng/l	

PER and POLYFLUOROETHER SULFONIC ACIDS

756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.3	3.6	1.3	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.3	3.6	1.6	ng/l	
113507-82-7	PFEESA	1.8 U	7.3	1.8	0.71	ng/l	

FLUOROTELOMER CARBOXYLIC ACIDS

356-02-5	3:3 Fluorotelomer carboxylate	9.1 U	18	9.1	4.1	ng/l	
914637-49-3	5:3 Fluorotelomer carboxylate	18 U	91	18	7.9	ng/l	
812-70-4	7:3 Fluorotelomer carboxylate	18 U	91	18	7.1	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	94%		20-150%
	13C5-PFPeA	110%		20-150%
	13C5-PFHxA	109%		20-150%
	13C4-PFHpA	108%		20-150%
	13C8-PFOA	108%		20-150%
	13C9-PFNA	103%		20-150%
	13C6-PFDA	99%		20-150%
	13C7-PFUnDA	90%		20-150%
	13C2-PFDoDA	81%		20-150%
	13C2-PFTeDA	82%		20-150%
	13C3-PFBS	107%		20-150%
	13C3-PFHxS	110%		20-150%

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

4.5
4

Report of Analysis

Client Sample ID:	AF-RHMW16-WGN01LF-2305W5	
Lab Sample ID:	FC6537-5	Date Sampled: 05/31/23
Matrix:	AQ - Ground Water	Date Received: 06/01/23
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	111%		20-150%
	13C8-FOSA	101%		20-150%
	d3-MeFOSA	106%		20-150%
	d5-EtFOSA	105%		20-150%
	d3-MeFOSAA	122%		20-150%
	d5-EtFOSAA	116%		20-150%
	d7-MeFOSE	97%		20-150%
	d9-EtFOSE	104%		20-150%
	13C2-4:2FTS	121%		20-180%
	13C2-6:2FTS	124%		20-180%
	13C2-8:2FTS	109%		20-180%
	13C3-HFPO-DA	118%		20-150%

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

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 #: 2305W5AFSG05

SGS - ORLANDO JOB # :

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FC 6537

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="margin-left: 10px;"> </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		Fax #												
Project Manager: Watson Tanji		Email: watson.tanji@aecom.com	Client Purchase Order #														
Sampler(s) Name(s) (Printed) Sampler 1: <i>El Macho</i> Sampler 2: <i>202 Diemier</i>																	
SGS Orlando Sample #	Field ID / Point of Collection	COLLECTION			CONTAINER INFORMATION										LAB USE ONLY		
		DATE	TIME	SAMPLED BY:	MATRIX	TOTAL QP BOTTLES	OTHER	NONE	PC	NO3H	NO3	NO2	NO3+NO2	NO3+NO2+NO		DI WATER	MICH
1	AF-RHMMW12A-WGN01LF-2305W5	05/3/23	0920	202 EHA	GW	3		X									X
2	AF-RHMMW12A-WGFD01LF-2305W5	05/3/23	0920	202 EHA	GW	3		X									X
										INITIAL ASSESSMENT		SP					
										LABEL VERIFICATION		SP					
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 AWRs 016-2826615						
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 <i>El Macho/AECOM</i>		05/3/23 1330		2 <i>Kenyon AECOM</i>		1530		3 <i>Kenyon AECOM</i>		5/3/23 1400		4 <i>United Cargo</i>					
5 <i>United Cargo</i>				6 <i>Kenyon AECOM</i>		06/01/23 1530		7				8					
Lab Use Only: Cooler Temperature (s) Celsius (corrected):													http://www.sgs.com/en/terms-and-conditions				

2.6 JWH

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5.1
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SGS North America Inc - Orlando

Chain of Custody

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www.sgs.com

COC #: 2305W5AFSG08

SGS - ORLANDO JOB # :

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FC6537

Client / Reporting Information		Project Information		Analytical Information		Matrix Codes									
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System				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 Project Manager: Watson Tanji Phone #: 303-796-4624 / 808-954-4512		Project # 60697810													
Sampler(s) Name(s) (Printed) Sampler 1: Anthony L. Sampler 2: Cristian P.		Client Purchase Order #													
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	PCB	ALOH	INOC	PERCA	NACH-ANAC	DI WATER	MECH	LAB USE ONLY
3	AF-RHMW04-WGN01LF-2305W5	5/31/23	0955	CP	GW	3	X								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 AWP o16-28266157									
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	Date Time								
1 Anthony Lopez AECOM	5/31/23	2 Kenyan AECOM	5/31/23	3 Kenyan	5/31/23	4 United Cargo									
5 United Cargo		6 [Signature] 06/01/23	1530	7		8									
Lab Use Only: Cooler Temperature (e) Celsius (corrected):				http://www.sgs.com/en/terms-and-conditions											

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FC6537: Chain of Custody

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Chain of Custody

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www.sgs.com

COC #: 2305W5AFSG09

SGS - ORLANDO JOB # :

PAGE 1 OF 1

SGS - ORLANDO Quote #

SKIFF #

FC6537

Client / Reporting Information			Project Information			Analytical Information										Matrix Codes
Company Name: AECOM			Project Name: N6274223F0104 RH Fire Suppression System													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 #			PFAS EPA Draft 1633										LAB USE ONLY
Sampler(s) Name(s) (Printed) Sampler 1: <u>Anthony L.</u> Sampler 2: <u>Cristian P.</u>																
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	PCB	NiOH	ANCS	RESCA	NACH-ANAC	DI WATER	MICH	
4	AF-RHMW06-WGN01LF-2305W5	5/31/23	1140	CP	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 AWB 016 28266151
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		Date Time:		
1 Anthony Laycock AECOM		5/31/23 11:30		2 iGon AECOM		06/01/23 1530		3 iGon AECOM		5/31/23		4 United Cargo		8		
5 United Cargo				6 [Signature] 06/01/23 1530				7								
Lab Use Only: Cooler Temperature (s) Celsius (corrected):																
http://www.sgs.com/en/terms-and-conditions																

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FC6537: Chain of Custody

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Chain of Custody

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www.sgs.com

COC #: 2305W5AFSG06

SGS - ORLANDO JOB # :

PAGE 1 OF 1

FC6537

Client / Reporting Information		Project Information		Analytical Information										Matrix Codes				
Company Name: AECOM		Project Name: N6274223F0104 RH Fire Suppression System		<div style="border: 1px solid black; padding: 5px;"> <p style="text-align: center;">EN 5/31/23</p> </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 Project Manager: Watson Tanji Phone #: 303-796-4624 / 808-954-4512		Email: katie.abbott@aecom.com Email: watson.tanji@aecom.com													Project # 60697810		Fax #	
Sampler(s) Name(s) (Printed) Sampler 1: <i>Eli Mar</i>		Sampler 2: <i>20c Diemier</i>													Client Purchase Order #			
SGS Orlando Sample #	Field ID / Point of Collection	DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	PCB	NIOSH	PAHs	PERCH	NIOSH-ZINC	IN WATER	RECH	LAB USE ONLY		
5	AF-RHMW16-WGN01LF-2305W5	05/31/23	1210	206AER	GW	3		X										
<div style="border: 1px solid black; padding: 10px; width: fit-content; margin: auto;"> <p style="font-size: 2em; margin: 0;">EN</p> <p style="font-size: 1.5em; margin: 0;">5/31/23</p> </div>																		
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 A/V/B 016-28266151										
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: 3/23		Received By/Affiliation			Relinquished By/Affiliation			Date Time: 5/31/23 1930		Received By/Affiliation						
1 Eli Martin/AECOM		05/31/23		2 [Signature] AECOM			3 [Signature] AECOM					4 United Cargo						
Relinquished by/Affiliation		Date Time:		Received By/Affiliation			Relinquished By/Affiliation			Date Time:		Received By/Affiliation						
5 United Cargo				6 [Signature] 06/01/23 1530			7					8						
Lab Use Only: Cooler Temperature (s) Celsius (corrected): _____																		

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FC6537: Chain of Custody

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SGS Sample Receipt Summary

Job Number: FC6537

Client: AECOM

Project: N6274223F0104 RH Fire Suppression System

Date / Time Received: 6/1/2023 3:30:00 PM

Delivery Method: United Cargo/Airspace

Airbill #s: United Cargo AWB #: 016-28266151

Therm ID: IR 1;

Therm CF: -0.1;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.7);

Cooler Temps (Corrected) °C: Cooler 1: (2.6);

Cooler Information

Y or N

- 1. Custody Seals Present
- 2. Custody Seals Intact
- 3. Temp criteria achieved
- 4. Cooler temp verification IR Gun
- 5. Cooler media Ice (Bag)

Trip Blank Information

Y or N

N/A

- 1. Trip Blank present / cooler
 - 2. Trip Blank listed on COC
- W or S N/A
- 3. Type Of TB Received

Sample Information

Y or N

N/A

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

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____
 Test Strip Lot #s: pH 0-3 230320 pH 10-12 _____ Other: (Specify) pH 1.0 - 12.0 222221
 Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: SHAYLAP

Date: 6/1/2023 3:30:00 PM

Reviewer: SP

Date: 6/5/2023

FC6537: Chain of Custody

Page 5 of 5

QC Evaluation: DOD QSM5.x Limits

Job Number: FC6537
Account: AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System
Collected: 05/31/23

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

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

* Sample used for QC is not from job FC6537

5.2
5

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: FC6537
 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

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	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: FC6537
 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

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	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: FC6537
 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

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	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: FC6537
 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

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

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

Continuing Calibration Blank

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-ICCB	6Q18993.D	1	06/08/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	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: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-ICCB	6Q18993.D	1	06/08/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	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	99% 20-150%
	13C5-PFHxA	103% 20-150%
	13C4-PFHpA	100% 20-150%
	13C8-PFOA	96% 20-150%
	13C9-PFNA	95% 20-150%
	13C6-PFDA	109% 20-150%
	13C7-PFUnDA	104% 20-150%
	13C2-PFDoDA	99% 20-150%
	13C2-PFTeDA	101% 20-150%
	13C3-PFBS	98% 20-150%
	13C3-PFHxS	101% 20-150%
	13C8-PFOS	101% 20-150%
	13C8-FOSA	103% 20-150%
	d3-MeFOSA	104% 20-150%
	d5-EtFOSA	106% 20-150%
	d3-MeFOSAA	114% 20-150%
	d5-EtFOSAA	114% 20-150%
	d7-MeFOSE	105% 20-150%
	d9-EtFOSE	105% 20-150%
	13C2-4:2FTS	111% 20-180%
	13C2-6:2FTS	116% 20-180%
	13C2-8:2FTS	112% 20-180%
	13C3-HFPO-DA	108% 20-150%

Continuing Calibration Blank

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-ICCB	6Q19005.D	1	06/08/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	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: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S6Q283-ICCB	6Q19005.D	1	06/08/23	MV	n/a	n/a	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-5

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	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	102% 20-150%
	13C5-PFHxA	99% 20-150%
	13C4-PFHpA	102% 20-150%
	13C8-PFOA	98% 20-150%
	13C9-PFNA	99% 20-150%
	13C6-PFDA	99% 20-150%
	13C7-PFUnDA	98% 20-150%
	13C2-PFDoDA	96% 20-150%
	13C2-PFTeDA	96% 20-150%
	13C3-PFBS	103% 20-150%
	13C3-PFHxS	103% 20-150%
	13C8-PFOS	104% 20-150%
	13C8-FOSA	106% 20-150%
	d3-MeFOSA	104% 20-150%
	d5-EtFOSA	108% 20-150%
	d3-MeFOSAA	118% 20-150%
	d5-EtFOSAA	110% 20-150%
	d7-MeFOSE	108% 20-150%
	d9-EtFOSE	107% 20-150%
	13C2-4:2FTS	113% 20-180%
	13C2-6:2FTS	112% 20-180%
	13C2-8:2FTS	117% 20-180%
	13C3-HFPO-DA	104% 20-150%

Method Blank Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97216-MB	6Q18997.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.016	0.0019	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0080	0.00094	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.00050	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.00050	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.00050	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.00061	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.00050	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.00060	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.00060	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.00084	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.00050	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.00050	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0050	0.0011	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.00070	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.00050	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.00054	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.00057	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.00064	ug/l	
79780-39-5	Perfluorododecanesulfonic aci	ND	0.0050	0.0011	ug/l	
757124-72-44:2	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: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97216-MB	6Q18997.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	Result	RL	MDL	Units	Q
113507-82-7	PFEESA	ND	0.0080	0.00078	ug/l	
356-02-5	3:3 Fluorotelomer carboxylate	ND	0.020	0.0045	ug/l	
914637-49-35:3	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	112% 20-150%
	13C5-PFPeA	110% 20-150%
	13C5-PFHxA	113% 20-150%
	13C4-PFHpA	111% 20-150%
	13C8-PFOA	112% 20-150%
	13C9-PFNA	109% 20-150%
	13C6-PFDA	118% 20-150%
	13C7-PFUnDA	107% 20-150%
	13C2-PFDoDA	100% 20-150%
	13C2-PFTeDA	92% 20-150%
	13C3-PFBS	110% 20-150%
	13C3-PFHxS	111% 20-150%
	13C8-PFOS	110% 20-150%
	13C8-FOSA	79% 20-150%
	d3-MeFOSA	84% 20-150%
	d5-EtFOSA	93% 20-150%
	d3-MeFOSAA	119% 20-150%
	d5-EtFOSAA	106% 20-150%
	d7-MeFOSE	75% 20-150%
	d9-EtFOSE	90% 20-150%
	13C2-4:2FTS	125% 20-180%
	13C2-6:2FTS	128% 20-180%
	13C2-8:2FTS	125% 20-180%
	13C3-HFPO-DA	118% 20-150%

Continuing Calibration Blank

Job Number: FC6537
 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: FC6537
 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: FC6537
 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: FC6537
 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%

6.1.7

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Blank Spike Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97216-LLBS	6Q18996.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.03	0.0330	110	40-150
2706-90-3	Perfluoropentanoic acid	0.015	0.0165	110	40-150
307-24-4	Perfluorohexanoic acid	0.0075	0.0081	108	40-150
375-85-9	Perfluoroheptanoic acid	0.0075	0.0086	115	40-150
335-67-1	Perfluorooctanoic acid	0.0075	0.0080	107	40-150
375-95-1	Perfluorononanoic acid	0.0075	0.0080	107	40-150
335-76-2	Perfluorodecanoic acid	0.0075	0.0082	109	40-150
2058-94-8	Perfluoroundecanoic acid	0.0075	0.0080	107	40-150
307-55-1	Perfluorododecanoic acid	0.0075	0.0080	107	40-150
72629-94-8	Perfluorotridecanoic acid	0.0075	0.0081	108	40-150
376-06-7	Perfluorotetradecanoic acid	0.0075	0.0086	115	40-150
375-73-5	Perfluorobutanesulfonic acid	0.00665	0.0071	107	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.00706	0.0075	106	40-150
355-46-4	Perfluorohexanesulfonic acid	0.00686	0.0073	106	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.00715	0.0083	116	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.00696	0.0071	102	40-150
68259-12-1	Perfluorononanesulfonic acid	0.00722	0.0082	114	40-150
335-77-3	Perfluorodecanesulfonic acid	0.00724	0.0077	106	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.00728	0.0075	103	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0281	0.0318	113	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.0285	0.0324	114	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.0288	0.0316	110	40-150
754-91-6	PFOSA	0.0075	0.0084	112	40-150
31506-32-8	MeFOSA	0.015	0.0146	97	40-150
4151-50-2	EtFOSA	0.015	0.0149	99	40-150
2355-31-9	MeFOSAA	0.0075	0.0078	104	40-150
2991-50-6	EtFOSAA	0.0075	0.0073	97	40-150
24448-09-7	MeFOSE	0.0375	0.0396	106	40-150
1691-99-2	EtFOSE	0.0375	0.0396	106	40-150
13252-13-6	HFPO-DA (GenX)	0.015	0.0157	105	40-150
919005-14-4	ADONA	0.0142	0.0139	98	40-150
377-73-1	PFMPA	0.015	0.0165	110	40-150
863090-89-5	PFMBA	0.015	0.0163	109	40-150
151772-58-6	NFDHA	0.015	0.0174	116	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.014	0.0140	100	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0142	0.0133	94	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97216-LLBS	6Q18996.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0134	0.0141	106	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.0375	0.0306	82	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.188	0.190	101	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.188	0.196	105	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	108%	20-150%
	13C5-PFPeA	108%	20-150%
	13C5-PFHxA	107%	20-150%
	13C4-PFHpA	104%	20-150%
	13C8-PFOA	109%	20-150%
	13C9-PFNA	106%	20-150%
	13C6-PFDA	106%	20-150%
	13C7-PFUnDA	103%	20-150%
	13C2-PFDoDA	105%	20-150%
	13C2-PFTeDA	93%	20-150%
	13C3-PFBS	110%	20-150%
	13C3-PFHxS	110%	20-150%
	13C8-PFOS	111%	20-150%
	13C8-FOSA	83%	20-150%
	d3-MeFOSA	89%	20-150%
	d5-EtFOSA	93%	20-150%
	d3-MeFOSAA	120%	20-150%
	d5-EtFOSAA	114%	20-150%
	d7-MeFOSE	72%	20-150%
	d9-EtFOSE	89%	20-150%
	13C2-4:2FTS	117%	20-180%
	13C2-6:2FTS	122%	20-180%
	13C2-8:2FTS	119%	20-180%
	13C3-HFPO-DA	117%	20-150%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97216-BS	6Q18995.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.1	0.108	108	40-150
2706-90-3	Perfluoropentanoic acid	0.05	0.0532	106	40-150
307-24-4	Perfluorohexanoic acid	0.025	0.0263	105	40-150
375-85-9	Perfluoroheptanoic acid	0.025	0.0267	107	40-150
335-67-1	Perfluorooctanoic acid	0.025	0.0272	109	40-150
375-95-1	Perfluorononanoic acid	0.025	0.0270	108	40-150
335-76-2	Perfluorodecanoic acid	0.025	0.0283	113	40-150
2058-94-8	Perfluoroundecanoic acid	0.025	0.0293	117	40-150
307-55-1	Perfluorododecanoic acid	0.025	0.0268	107	40-150
72629-94-8	Perfluorotridecanoic acid	0.025	0.0260	104	40-150
376-06-7	Perfluorotetradecanoic acid	0.025	0.0272	109	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0222	0.0235	106	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0235	0.0252	107	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0229	0.0246	108	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0238	0.0274	115	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0232	0.0262	113	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0241	0.0290	121	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0241	0.0279	116	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0243	0.0274	113	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.0938	0.108	115	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.095	0.110	116	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.096	0.104	108	40-150
754-91-6	PFOSA	0.025	0.0265	106	40-150
31506-32-8	MeFOSA	0.05	0.0501	100	40-150
4151-50-2	EtFOSA	0.05	0.0473	95	40-150
2355-31-9	MeFOSAA	0.025	0.0255	102	40-150
2991-50-6	EtFOSAA	0.025	0.0250	100	40-150
24448-09-7	MeFOSE	0.125	0.126	101	40-150
1691-99-2	EtFOSE	0.125	0.122	98	40-150
13252-13-6	HFPO-DA (GenX)	0.05	0.0514	103	40-150
919005-14-4	ADONA	0.0473	0.0469	99	40-150
377-73-1	PFMPA	0.05	0.0293	59	40-150
863090-89-5	PFMBA	0.05	0.0550	110	40-150
151772-58-6	NFDHA	0.05	0.0548	110	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0468	0.0492	105	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0473	0.0459	97	40-150

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97216-BS	6Q18995.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
113507-82-7	PFEESA	0.0445	0.0488	110	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.125	0.0611	49	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.625	0.623	100	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.625	0.654	105	40-150

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	31%	20-150%
	13C5-PFPeA	107%	20-150%
	13C5-PFHxA	110%	20-150%
	13C4-PFHpA	108%	20-150%
	13C8-PFOA	104%	20-150%
	13C9-PFNA	107%	20-150%
	13C6-PFDA	110%	20-150%
	13C7-PFUnDA	109%	20-150%
	13C2-PFDoDA	110%	20-150%
	13C2-PFTeDA	101%	20-150%
	13C3-PFBS	114%	20-150%
	13C3-PFHxS	110%	20-150%
	13C8-PFOS	103%	20-150%
	13C8-FOSA	91%	20-150%
	d3-MeFOSA	96%	20-150%
	d5-EtFOSA	105%	20-150%
	d3-MeFOSAA	123%	20-150%
	d5-EtFOSAA	123%	20-150%
	d7-MeFOSE	83%	20-150%
	d9-EtFOSE	100%	20-150%
	13C2-4:2FTS	118%	20-180%
	13C2-6:2FTS	120%	20-180%
	13C2-8:2FTS	124%	20-180%
	13C3-HFPO-DA	115%	20-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97216-MS	6Q19000.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283
FC6537-2	6Q18999.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	FC6537-2 ug/l	Spike Q	MS ug/l	MS %	Limits	
375-22-4	Perfluorobutanoic acid	0.015 U		0.0909	0.103	113	40-150
2706-90-3	Perfluoropentanoic acid	0.0027 J		0.0455	0.0528	110	40-150
307-24-4	Perfluorohexanoic acid	0.00087 J		0.0227	0.0249	106	40-150
375-85-9	Perfluoroheptanoic acid	0.0036 U		0.0227	0.0260	114	40-150
335-67-1	Perfluorooctanoic acid	0.0036 U		0.0227	0.0255	112	40-150
375-95-1	Perfluorononanoic acid	0.0036 U		0.0227	0.0259	114	40-150
335-76-2	Perfluorodecanoic acid	0.0036 U		0.0227	0.0260	114	40-150
2058-94-8	Perfluoroundecanoic acid	0.0036 U		0.0227	0.0254	112	40-150
307-55-1	Perfluorododecanoic acid	0.0036 U		0.0227	0.0252	111	40-150
72629-94-8	Perfluorotridecanoic acid	0.0036 U		0.0227	0.0269	118	40-150
376-06-7	Perfluorotetradecanoic acid	0.0036 U		0.0227	0.0245	108	40-150
375-73-5	Perfluorobutanesulfonic acid	0.0036 U		0.0202	0.0226	112	40-150
2706-91-4	Perfluoropentanesulfonic acid	0.0045 U		0.0214	0.0250	117	40-150
355-46-4	Perfluorohexanesulfonic acid	0.0036 U		0.0208	0.0230	111	40-150
375-92-8	Perfluoroheptanesulfonic acid	0.0036 U		0.0217	0.0243	112	40-150
1763-23-1	Perfluorooctanesulfonic acid	0.0036 U		0.0211	0.0243	115	40-150
68259-12-1	Perfluorononanesulfonic acid	0.0036 U		0.0219	0.0226	103	40-150
335-77-3	Perfluorodecanesulfonic acid	0.0036 U		0.0219	0.0231	105	40-150
79780-39-5	Perfluorododecanesulfonic aci	0.0045 U		0.022	0.0225	102	40-150
757124-72-44:2	Fluorotelomer sulfonate	0.018 U		0.0852	0.0978	115	40-150
27619-97-2	6:2 Fluorotelomer sulfonate	0.018 U		0.0864	0.0980	113	40-150
39108-34-4	8:2 Fluorotelomer sulfonate	0.018 U		0.0873	0.0970	111	40-150
754-91-6	PFOSA	0.0036 U		0.0227	0.0265	117	40-150
31506-32-8	MeFOSA	0.0073 U		0.0455	0.0447	98	40-150
4151-50-2	EtFOSA	0.0073 U		0.0455	0.0438	96	40-150
2355-31-9	MeFOSAA	0.0045 U		0.0227	0.0239	105	40-150
2991-50-6	EtFOSAA	0.0045 U		0.0227	0.0238	105	40-150
24448-09-7	MeFOSE	0.036 U		0.114	0.125	110	40-150
1691-99-2	EtFOSE	0.036 U		0.114	0.118	104	40-150
13252-13-6	HFPO-DA (GenX)	0.0036 U		0.0455	0.0498	110	40-150
919005-14-4	ADONA	0.0073 U		0.043	0.0476	111	40-150
377-73-1	PFMPA	0.0073 U		0.0455	0.0343	75	40-150
863090-89-5	PFMBA	0.0073 U		0.0455	0.0504	111	40-150
151772-58-6	NFDHA	0.0073 U		0.0455	0.0501	110	40-150
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0073 U		0.0425	0.0427	100	40-150
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0073 U		0.043	0.0377	88	40-150

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97216-MS	6Q19000.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283
FC6537-2	6Q18999.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	FC6537-2 ug/l	Spike Q	MS ug/l	MS %	Limits
113507-82-7	PFEESA	0.0073 U	0.0405	0.0426	105	40-150
356-02-5	3:3 Fluorotelomer carboxylate	0.018 U	0.114	0.0810	71	40-150
914637-49-35:3	Fluorotelomer carboxylate	0.091 U	0.568	0.563	99	40-150
812-70-4	7:3 Fluorotelomer carboxylate	0.091 U	0.568	0.565	99	40-150

CAS No.	ID Standard Recoveries	MS	FC6537-2	Limits
	13C4-PFBA	35%	63%	20-150%
	13C5-PFPeA	109%	108%	20-150%
	13C5-PFHxA	110%	104%	20-150%
	13C4-PFHpA	104%	107%	20-150%
	13C8-PFOA	104%	102%	20-150%
	13C9-PFNA	96%	104%	20-150%
	13C6-PFDA	93%	90%	20-150%
	13C7-PFUnDA	93%	88%	20-150%
	13C2-PFDoDA	88%	81%	20-150%
	13C2-PFTeDA	89%	80%	20-150%
	13C3-PFBS	109%	109%	20-150%
	13C3-PFHxS	103%	104%	20-150%
	13C8-PFOS	101%	97%	20-150%
	13C8-FOSA	90%	98%	20-150%
	d3-MeFOSA	98%	97%	20-150%
	d5-EtFOSA	106%	101%	20-150%
	d3-MeFOSAA	114%	113%	20-150%
	d5-EtFOSAA	114%	108%	20-150%
	d7-MeFOSE	87%	88%	20-150%
	d9-EtFOSE	97%	95%	20-150%
	13C2-4:2FTS	116%	118%	20-180%
	13C2-6:2FTS	119%	124%	20-180%
	13C2-8:2FTS	103%	100%	20-180%
	13C3-HFPO-DA	110%	112%	20-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97216-DUP	6Q19002.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283
FC6537-3	6Q19001.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	FC6537-3 ug/l	DUP Q ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.015 U	ND		nc	30
2706-90-3	Perfluoropentanoic acid	0.0074 U	ND		nc	30
307-24-4	Perfluorohexanoic acid	0.0037 U	ND		nc	30
375-85-9	Perfluoroheptanoic acid	0.0037 U	ND		nc	30
335-67-1	Perfluorooctanoic acid	0.0037 U	ND		nc	30
375-95-1	Perfluorononanoic acid	0.0037 U	ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0037 U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0037 U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0037 U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0037 U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0037 U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0037 U	ND		nc	30
2706-91-4	Perfluoropentanesulfonic acid	0.0046 U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0037 U	ND		nc	30
375-92-8	Perfluoroheptanesulfonic acid	0.0037 U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0037 U	ND		nc	30
68259-12-1	Perfluorononanesulfonic acid	0.0037 U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0037 U	ND		nc	30
79780-39-5	Perfluorododecanesulfonic aci	0.0046 U	ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.019 U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.019 U	ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.019 U	ND		nc	30
754-91-6	PFOSA	0.0037 U	ND		nc	30
31506-32-8	MeFOSA	0.0074 U	ND		nc	30
4151-50-2	EtFOSA	0.0074 U	ND		nc	30
2355-31-9	MeFOSAA	0.0046 U	ND		nc	30
2991-50-6	EtFOSAA	0.0046 U	ND		nc	30
24448-09-7	MeFOSE	0.037 U	ND		nc	30
1691-99-2	EtFOSE	0.037 U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0037 U	ND		nc	30
919005-14-4	ADONA	0.0074 U	ND		nc	30
377-73-1	PFMPA	0.0074 U	ND		nc	30
863090-89-5	PFMBA	0.0074 U	ND		nc	30
151772-58-6	NFDHA	0.0074 U	ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074 U	ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0074 U	ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97216-DUP	6Q19002.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283
FC6537-3	6Q19001.D	1	06/08/23	MV	06/06/23	OP97216	S6Q283

The QC reported here applies to the following samples:

Method: EPA DRAFT 1633

FC6537-1, FC6537-2, FC6537-3, FC6537-4, FC6537-5

CAS No.	Compound	FC6537-3 ug/l	DUP Q	ug/l	Q	RPD	Limits
113507-82-7	PFEESA	0.0074 U	ND			nc	30
356-02-5	3:3 Fluorotelomer carboxylate	0.019 U	ND			nc	30
914637-49-35:3	Fluorotelomer carboxylate	0.093 U	ND			nc	30
812-70-4	7:3 Fluorotelomer carboxylate	0.093 U	ND			nc	30

CAS No.	ID Standard Recoveries	DUP	FC6537-3	Limits
	13C4-PFBA	113%	108%	20-150%
	13C5-PFPeA	120%	110%	20-150%
	13C5-PFHxA	120%	105%	20-150%
	13C4-PFHpA	115%	109%	20-150%
	13C8-PFOA	114%	108%	20-150%
	13C9-PFNA	105%	102%	20-150%
	13C6-PFDA	105%	103%	20-150%
	13C7-PFUnDA	102%	92%	20-150%
	13C2-PFDoDA	95%	87%	20-150%
	13C2-PFTeDA	90%	88%	20-150%
	13C3-PFBS	119%	109%	20-150%
	13C3-PFHxS	116%	109%	20-150%
	13C8-PFOS	103%	105%	20-150%
	13C8-FOSA	97%	102%	20-150%
	d3-MeFOSA	96%	97%	20-150%
	d5-EtFOSA	101%	106%	20-150%
	d3-MeFOSAA	119%	115%	20-150%
	d5-EtFOSAA	109%	115%	20-150%
	d7-MeFOSE	90%	93%	20-150%
	d9-EtFOSE	97%	105%	20-150%
	13C2-4:2FTS	128%	115%	20-180%
	13C2-6:2FTS	126%	125%	20-180%
	13C2-8:2FTS	124%	109%	20-180%
	13C3-HFPO-DA	124%	116%	20-150%

* = Outside of Control Limits.

Injection Standard Area Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q283-CC282	Injection Date:	06/08/23
Lab File ID:	6Q18992.D	Injection Time:	01:38
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	84098	2.86	68323	5.48	111102	7.05	57034	7.57	38487	8.04
Upper Limit ^d	153380	3.26	127482	5.88	201672	7.45	107782	7.97	70698	8.44
Lower Limit ^e	23007	2.46	19122	5.08	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
S6Q283-ICCB	82281	2.86	67447	5.47	108730	7.07	58337	7.57	36991	8.04	1
S6Q283-ICCB	82281	2.86	67447	5.47	108730	7.07	58337	7.57	36991	8.04	1
ZZZZZZ	71664	2.89	57681	5.48	90358	7.07	49692	7.57	31871	8.04	1
OP97216-BS	65639	2.90	50232	5.48	80490	7.05	42165	7.57	27148	8.04	1
OP97216-LLBS	62835	2.90	48966	5.47	77072	7.05	42493	7.57	27846	8.04	1
OP97216-MB	64031	2.90	49774	5.48	80479	7.07	44571	7.57	28783	8.04	1
FC6537-1	63279	2.92	49789	5.48	76088	7.05	42774	7.57	26810	8.04	1
FC6537-2	64334	2.92	49771	5.48	80929	7.07	41181	7.57	27729	8.04	1
OP97216-MS	62854	2.90	49377	5.48	78329	7.07	42306	7.57	27409	8.04	1
FC6537-3	63727	2.90	51089	5.48	79673	7.05	45873	7.57	28458	8.04	1
OP97216-DUP	59377	2.92	45027	5.48	72760	7.05	40238	7.57	24996	8.04	1
FC6537-4	63475	2.92	49855	5.48	80375	7.07	43115	7.57	28057	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-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: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q283-CC282	Injection Date:	06/08/23
Lab File ID:	6Q18992.D	Injection Time:	01:38
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	11677	7.15	20284	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
S6Q283-ICCB	11726	7.15	19352	8.19	1
S6Q283-ICCB	11726	7.15	19352	8.19	1
ZZZZZZ	10226	7.17	15830	8.19	1
OP97216-BS	8703	7.15	14849	8.19	1
OP97216-LLBS	8636	7.15	14619	8.19	1
OP97216-MB	8786	7.17	14883	8.19	1
FC6537-1	8363	7.15	15131	8.19	1
FC6537-2	8721	7.17	13904	8.19	1
OP97216-MS	8630	7.17	14039	8.19	1
FC6537-3	9027	7.17	14544	8.19	1
OP97216-DUP	7886	7.15	13454	8.19	1
FC6537-4	8704	7.15	14544	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: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q283-CC282	Injection Date:	06/08/23
Lab File ID:	6Q19004.D	Injection Time:	04:32
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	84021	2.86	67578	5.48	111342	7.07	60486	7.57	39182	8.04
Upper Limit ^d	153380	3.26	127482	5.88	201672	7.47	107782	7.97	70698	8.44
Lower Limit ^e	23007	2.46	19122	5.08	30251	6.67	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
S6Q283-ICCB	82505	2.86	66446	5.47	108383	7.05	58685	7.57	38346	8.04	1
S6Q283-ICCB	82505	2.86	66446	5.47	108383	7.05	58685	7.57	38346	8.04	1
FC6537-5	66393	2.90	52134	5.48	82738	7.05	45424	7.57	29400	8.04	1
OP97178-BS	64973	2.90	49530	5.48	76899	7.05	43600	7.57	28039	8.04	1
OP97178-LLBS	66364	2.90	52191	5.48	82177	7.05	44167	7.57	31639	8.04	1
OP97178-MB	71299	2.89	55683	5.48	89368	7.07	47856	7.58	32549	8.04	1
ZZZZZZ	65322	2.90	49228	5.48	76987	7.05	44216	7.57	28406	8.01	1
ZZZZZZ	70721	2.90	53598	5.48	88312	7.05	48886	7.57	33445	8.04	1
ZZZZZZ	70833	2.88	55502	5.48	95315	7.07	50057	7.57	31832	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-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: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Check Std:	S6Q283-CC282	Injection Date:	06/08/23
Lab File ID:	6Q19004.D	Injection Time:	04:32
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	11773	7.17	20580	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
S6Q283-ICCB	11689	7.15	19255	8.19	1
S6Q283-ICCB	11689	7.15	19255	8.19	1
FC6537-5	9212	7.15	14240	8.19	1
OP97178-BS	8795	7.15	15064	8.19	1
OP97178-LLBS	9085	7.17	14615	8.19	1
OP97178-MB	9369	7.17	16360	8.19	1
ZZZZZZ	8723	7.15	13879	8.18	1
ZZZZZZ	10177	7.17	16707	8.19	1
ZZZZZZ	10156	7.17	15065	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.

6.5.2
6

TDCA Retention Time Check

Job Number: FC6537
 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 FC6537)
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: FC6537
 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 FC6537)
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: FC6537
 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
ZZZZZZ	6Q18936.D	06/07/23	12:07	02:11	(unrelated sample)
FC6479-2	6Q18937.D	06/07/23	12:21	02:25	(used for QC only; not part of job FC6537)
OP97179-DUP	6Q18938.D	06/07/23	12:36	02:40	Duplicate
ZZZZZZ	6Q18939.D	06/07/23	12:50	02:54	(unrelated sample)
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 FC6537)
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: FC6537
 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 FC6537)
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
FC6537-1	6Q18998.D	06/08/23	03:05	17:09	AF-RHMW12A-WGN01LF-2305W5
FC6537-2	6Q18999.D	06/08/23	03:19	17:23	AF-RHMW12A-WGFD01LF-2305W5
OP97216-MS	6Q19000.D	06/08/23	03:34	17:38	Matrix Spike
FC6537-3	6Q19001.D	06/08/23	03:48	17:52	AF-RHMW04-WGN01LF-2305W5
OP97216-DUP	6Q19002.D	06/08/23	04:03	18:07	Duplicate
FC6537-4	6Q19003.D	06/08/23	04:17	18:21	AF-RHMW06-WGN01LF-2305W5
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
FC6537-5	6Q19006.D	06/08/23	05:01	19:05	AF-RHMW16-WGN01LF-2305W5

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TDCA Retention Time Check

Job Number: FC6537
 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 FC6537)
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

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TDCA Retention Time Check

Job Number: FC6537
 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: FC6537
Account: AECOMCOD AECOM, INC.
Project: N6274223F0104 RH Fire Suppression System

Run ID: S6Q283	Method: EPA DRAFT 1633
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Lab Sample ID	Lab File ID	Ion Ratios	
		PFPeA	PFHxA
S6Q282-ICC282	6Q18874.D	0	5.4
FC6537-1	6Q18998.D	0	7.6
FC6537-2	6Q18999.D	0	4.7
FC6537-3	6Q19001.D		
FC6537-4	6Q19003.D		
FC6537-5	6Q19006.D		

Isotope Dilution Standard Recovery Summary

Job Number: FC6537
 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
FC6537-1	6Q18998.D	67	111	108	109	116	109	108	100
FC6537-2	6Q18999.D	63	108	104	107	102	104	90	88
FC6537-3	6Q19001.D	108	110	105	109	108	102	103	92
FC6537-4	6Q19003.D	105	106	102	105	101	106	94	87
FC6537-5	6Q19006.D	94	110	109	108	108	103	99	90
OP97216-BS	6Q18995.D	31	107	110	108	104	107	110	109
OP97216-DUP	6Q19002.D	113	120	120	115	114	105	105	102
OP97216-LLBS	6Q18996.D	108	108	107	104	109	106	106	103
OP97216-MB	6Q18997.D	112	110	113	111	112	109	118	107
OP97216-MS	6Q19000.D	35	109	110	104	104	96	93	93
S6Q283-IBLK	6Q18930.D	100	101	100	101	93	98	96	97
S6Q283-IBLK	6Q19030.D	101	101	108	101	95	103	100	101
S6Q283-ICCB	6Q18993.D	100	99	103	100	96	95	109	104
S6Q283-ICCB	6Q19005.D	101	102	99	102	98	99	99	98
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
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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%

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Isotope Dilution Standard Recovery Summary

Job Number: FC6537
 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
FC6537-1	6Q18998.D	89	85	118	114	93	91	92	94
FC6537-2	6Q18999.D	81	80	109	104	97	98	97	101
FC6537-3	6Q19001.D	87	88	109	109	105	102	97	106
FC6537-4	6Q19003.D	81	77	107	108	96	88	85	87
FC6537-5	6Q19006.D	81	82	107	110	111	101	106	105
OP97216-BS	6Q18995.D	110	101	114	110	103	91	96	105
OP97216-DUP	6Q19002.D	95	90	119	116	103	97	96	101
OP97216-LLBS	6Q18996.D	105	93	110	110	111	83	89	93
OP97216-MB	6Q18997.D	100	92	110	111	110	79	84	93
OP97216-MS	6Q19000.D	88	89	109	103	101	90	98	106
S6Q283-IBLK	6Q18930.D	97	97	102	102	105	104	101	107
S6Q283-IBLK	6Q19030.D	94	96	103	102	95	94	98	99
S6Q283-ICCB	6Q18993.D	99	101	98	101	101	103	104	106
S6Q283-ICCB	6Q19005.D	96	96	103	103	104	106	104	108
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-FFOS	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: FC6537
 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
FC6537-1	6Q18998.D	103	99	84	94	125	133	117	119
FC6537-2	6Q18999.D	113	108	88	95	118	124	100	112
FC6537-3	6Q19001.D	115	115	93	105	115	125	109	116
FC6537-4	6Q19003.D	109	102	84	92	117	115	111	112
FC6537-5	6Q19006.D	122	116	97	104	121	124	109	118
OP97216-BS	6Q18995.D	123	123	83	100	118	120	124	115
OP97216-DUP	6Q19002.D	119	109	90	97	128	126	124	124
OP97216-LLBS	6Q18996.D	120	114	72	89	117	122	119	117
OP97216-MB	6Q18997.D	119	106	75	90	125	128	125	118
OP97216-MS	6Q19000.D	114	114	87	97	116	119	103	110
S6Q283-IBLK	6Q18930.D	112	114	112	108	111	102	105	102
S6Q283-IBLK	6Q19030.D	111	107	98	98	118	110	103	108
S6Q283-ICCB	6Q18993.D	114	114	105	105	111	116	112	108
S6Q283-ICCB	6Q19005.D	118	110	108	107	113	112	117	104
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
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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%

Initial Calibration Summary

Job Number: FC6537
 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	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	1633_S6Q282\6Q18872.d	D:\MassHunter\Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter\Data\060623_1633_S6Q282\6Q18873.d	Avg RF	0.5976	0.6462	0.6201	0.6211	0.6019	0.6266	0.6510	0.6123	0.6221	3.066	6/7/2023 3:29:01 PM
D:\MassHunter\Data\060623_1633_S6Q282	1633_S6Q282\6Q18874.d	D:\MassHunter\Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter\Data\060623_1633_S6Q282\6Q18875.d	Avg RF	0.0867	0.0863	0.0808	0.0816	0.0797	0.0838	0.0869	0.0833	0.0837	3.364	6/7/2023 3:29:01 PM
D:\MassHunter\Data\060623_1633_S6Q282	1633_S6Q282\6Q18876.d	D:\MassHunter\Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter\Data\060623_1633_S6Q282\6Q18877.d	Avg RF	1.2527	1.2310	1.1675	1.1480	1.1355	1.1634	1.2134	1.1363	1.1810	3.833	6/7/2023 3:29:01 PM
D:\MassHunter\Data\060623_1633_S6Q282	1633_S6Q282\6Q18878.d	D:\MassHunter\Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter\Data\060623_1633_S6Q282\6Q18879.d	Avg RF	0.8021	0.8318	0.8046	0.8212	0.7888	0.8214	0.8531	0.8073	0.8163	2.462	6/7/2023 3:29:01 PM
D:\MassHunter\Data\060623_1633_S6Q282	1633_S6Q282\6Q18880.d	D:\MassHunter\Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter\Data\060623_1633_S6Q282\6Q18881.d	Avg RF	0.1008	0.0963	0.1021	0.0996	0.0953	0.0985	0.1020	0.0937	0.0985	3.209	6/7/2023 3:29:01 PM
D:\MassHunter\Data\060623_1633_S6Q282	1633_S6Q282\6Q18882.d	D:\MassHunter>Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter\Data\060623_1633_S6Q282\6Q18883.d	Avg RF	0.8584	0.8569	0.8003	0.7991	0.7979	0.8310	0.8068	0.8157	0.8208	3.076	6/7/2023 3:29:01 PM
D:\MassHunter>Data\060623_1633_S6Q282	1633_S6Q282\6Q18884.d	D:\MassHunter>Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter>Data\060623_1633_S6Q282\6Q18885.d	Avg RF	1.0261	1.0261	1.0507	1.0199	1.0138	1.0599	1.0680	1.0217	1.0432	2.527	6/7/2023 3:29:01 PM
D:\MassHunter>Data\060623_1633_S6Q282	1633_S6Q282\6Q18886.d	D:\MassHunter>Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter>Data\060623_1633_S6Q282\6Q18887.d	Avg RF	0.1710	0.1650	0.1578	0.1566	0.1491	0.1546	0.1605	0.1521	0.1583	4.478	6/7/2023 3:29:01 PM
D:\MassHunter>Data\060623_1633_S6Q282	1633_S6Q282\6Q18888.d	D:\MassHunter>Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter>Data\060623_1633_S6Q282\6Q18889.d	Avg RF	0.1157	0.1115	0.1120	0.1060	0.1072	0.1025	0.1060	0.1104	0.1089	3.881	6/7/2023 3:29:01 PM
D:\MassHunter>Data\060623_1633_S6Q282	1633_S6Q282\6Q18890.d	D:\MassHunter>Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter>Data\060623_1633_S6Q282\6Q18891.d	Avg RF	1.0070	1.1078	1.0747	1.0679	1.0196	1.0585	1.1136	1.0290	1.0598	3.714	6/7/2023 3:29:01 PM
D:\MassHunter>Data\060623_1633_S6Q282	1633_S6Q282\6Q18892.d	D:\MassHunter>Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter>Data\060623_1633_S6Q282\6Q18893.d	Avg RF	0.9698	1.0574	1.0518	1.0554	1.0259	1.1354	1.0973	1.0293	1.0528	4.682	6/7/2023 3:29:01 PM
D:\MassHunter>Data\060623_1633_S6Q282	1633_S6Q282\6Q18894.d	D:\MassHunter>Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter>Data\060623_1633_S6Q282\6Q18895.d	Avg RF	0.9491	0.8860	0.8398	0.8027	0.8363	0.9259	0.9366	0.9136	0.8863	6.098	6/7/2023 3:29:01 PM
D:\MassHunter>Data\060623_1633_S6Q282	1633_S6Q282\6Q18896.d	D:\MassHunter>Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter>Data\060623_1633_S6Q282\6Q18897.d	Avg RF	1.5087	1.4792	1.4577	1.4724	1.4184	1.5430	1.6031	1.5604	1.5054	4.018	6/7/2023 3:29:01 PM
D:\MassHunter>Data\060623_1633_S6Q282	1633_S6Q282\6Q18898.d	D:\MassHunter>Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter>Data\060623_1633_S6Q282\6Q18899.d	Avg RF	0.7877	0.8140	0.7677	0.7229	0.8021	0.7429	0.8286	0.7351	0.7751	5.040	6/7/2023 3:29:01 PM
D:\MassHunter>Data\060623_1633_S6Q282	1633_S6Q282\6Q18900.d	D:\MassHunter>Data\060623_1633_S6Q282	6/7/2023 3:29:01 PM	D:\MassHunter\Data\060623_1633_S6Q282\6Q18901.d	Avg RF											6/7/2023 3:29:01 PM

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

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Initial Calibration Summary

Job Number: FC6537
 Account: AECOM 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 PFTIDA	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 M2-8:2FTS	Avg RF	2.6630	2.6560	2.8477	2.7870	2.8144	2.6807	2.6714	2.3334	2.6817	5.957
T 8:2FTS	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 EFOSE	Avg RF	1.0971	1.1213	1.0644	1.0872	1.0560	1.0902	1.1229	1.0846	1.0905	2.183

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Initial Calibration Summary

Job Number: FC6537
 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-EFOFE	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					ISTD					
S 13C3-PFBS	Linear	2.1794	2.1763	2.1488	2.2673	2.1764	2.2145	2.2507	2.1672	2.1976	1.924
S 13C2-6:2FTS	Linear	0.3108	0.3084	0.3081	0.3121	0.2997	0.2995	0.2769	0.2481	0.2955	7.520
S 13C3-PFHxS	Linear	1.2708	1.3838	1.3060	1.3466	1.3563	1.4293	1.3454	1.3536	1.3490	3.513
S 13C2-8:2FTS	Linear	0.3074	0.3146	0.3013	0.2968	0.2904	0.3031	0.2858	0.2547	0.2943	6.263
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					ISTD					
S 13C7-PFUnDA	Linear	0.9456	0.9486	1.0524	1.0121	0.9286	1.0264	0.9822	0.8605	0.9696	6.363
S 13C2-PFDODA	Linear	0.8998	0.8735	0.9716	0.8724	0.8992	0.9480	0.9697	0.8739	0.9135	4.712
S 13C2-PTEdA	Linear	0.4879	0.4849	0.5151	0.4859	0.4925	0.5276	0.5352	0.4766	0.5007	4.405
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					ISTD					
S 13C5-PFHxA	Linear	1.0913	1.0653	1.0451	1.0828	1.0484	1.0412	1.0522	1.0388	1.0581	1.865
S 13C3-HPOD-A	Linear	0.1557	0.1497	0.1512	0.1568	0.1568	0.1612	0.1625	0.1662	0.1575	3.556
S 13C4-PFHpA	Linear	1.0186	0.9913	0.9812	1.0107	1.0080	1.0039	0.9666	0.9914	0.9965	1.722

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

Initial Calibration Summary

Job Number: FC6537
 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: FC6537
 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: FC6537
 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--		
PFEEESA	4.450	4.146	-6.8	93.2

CC Criteria: +/- 30%

Initial Calibration Verification

Job Number: FC6537
 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: FC6537
 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: FC6537
 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: FC6537
 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--		
PFEESA	0.356	0.363	1.9	101.9

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6537
 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: FC6537
 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--		
PFEEESA	4.450	4.261	-4.2	95.8

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q19004.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: 6Q19004
 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	5.475	9.5	109.5
13C2-8:2FTS	5.000	5.790	15.8	115.8
13C2-PFDoDA	1.250	1.192	-4.7	95.3
13C2-PFTeDA	1.250	1.235	-1.2	98.8
13C3-PFBS	2.500	2.542	1.7	101.7
13C3-PFHxS	2.500	2.498	-0.1	99.9
13C4-PFBA	10.000	10.017	0.2	100.2
13C4-PFHpA	2.500	2.469	-1.2	98.8
13C5-PFHxA	2.500	2.487	-0.5	99.5
13C5-PFPeA	5.000	5.070	1.4	101.4
13C6-PFDA	1.250	1.285	2.8	102.8
13C7-PFUnDA	1.250	1.197	-4.2	95.8
13C8-FOSA	2.500	2.525	1.0	101.0
13C8-PFOA	2.500	2.372	-5.1	94.9
13C8-PFOS	2.500	2.565	2.6	102.6
13C9-PFNA	1.250	1.251	0.1	100.1
4:2FTS	9.375	9.707	3.5	103.5
6:2FTS	9.500	10.084	6.2	106.2
8:2FTS	9.600	9.324	-2.9	97.1
d3-MeFOSAA	5.000	5.336	6.7	106.7
EtFOSAA	2.500	2.408	-3.7	96.3
FOSA	2.500	2.324	-7.0	93.0
MeFOSAA	2.500	2.514	0.5	100.5
PFBA	10.000	9.921	-0.8	99.2
PFBS	2.218	2.150	-3.1	96.9
PFDA	2.500	2.180	-12.8	87.2
PFDoDA	2.500	2.517	0.7	100.7
PFDS	2.413	2.303	-4.6	95.4
PFHpA	2.500	2.584	3.4	103.4
PFHpS	2.383	2.302	-3.4	96.6
PFHxA	2.500	2.451	-2.0	98.0
PFHxS	2.285	2.273	-0.5	99.5
PFNA	2.500	2.304	-7.8	92.2
PFNS	2.405	2.367	-1.6	98.4
PFOA	2.500	2.546	1.8	101.8
PFOS	2.320	2.101	-9.5	90.5

Continuing Calibration Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q19004.D

PFPeA	5.000	4.842	-3.2	96.8
PFPeS	2.353	2.308	-1.9	98.1
PFTeDA	2.500	2.442	-2.3	97.7
PFTTrDA	2.500	2.528	1.1	101.1
PFUnDA	2.500	2.476	-1.0	99.0
M4-PFBA	---	--ISTD--		
M5-PFPeA	---	--ISTD--		
M5-PFHxA	---	--ISTD--		
M4-PFHpA	---	--ISTD--		
M8-PFOA	---	--ISTD--		
M9-PFNA	---	--ISTD--		
M6-PFDA	---	--ISTD--		
M7-PFUnDA	---	--ISTD--		
M2-PFDODA	---	--ISTD--		
M2-PFTeDA	---	--ISTD--		
M8-FOSA	---	--ISTD--		
M3-PFBS	---	--ISTD--		
M3-PFHxS	---	--ISTD--		
M8-PFOS	---	--ISTD--		
M2-4:2FTS	---	--ISTD--		
M2-6:2FTS	---	--ISTD--		
M2-8:2FTS	---	--ISTD--		
M3-MeFOSAA	---	--ISTD--		
11C1-PF3OUdS	4.725	4.439	-6.1	93.9
13C3-HFPO-DA	10.000	10.640	6.4	106.4
9C1-PF3ONS	4.675	4.596	-1.7	98.3
ADONA	4.725	4.562	-3.5	96.5
HFPO-DA	5.000	5.010	0.2	100.2
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	11.999	-3.9	96.1
5:3FTCA	62.400	58.842	-5.7	94.3
7:3FTCA	62.400	62.850	0.7	100.7
d3-MeFOSA	2.500	2.439	-2.4	97.6
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.971	-0.6	99.4
EtFOSE	12.500	12.022	-3.8	96.2
MeFOSA	5.000	5.039	0.8	100.8
MeFOSE	12.500	12.246	-2.0	98.0
PFDODS	2.425	2.358	-2.7	97.3
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.294	5.9	105.9
d7-MeFOSE	25.000	24.699	-1.2	98.8
d9-EtFOSE	25.000	25.090	0.4	100.4
d5-EtFOSA	2.500	2.522	0.9	100.9
NFDHA	5.000	5.089	1.8	101.8
PFMBA	5.000	4.994	-0.1	99.9
PFMPA	5.000	5.072	1.4	101.4
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.575	2.8	102.8

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q19016.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: 6Q19016
 Type : QC
 Level : 4

Cpnd Name	Exp. Conc	Final Conc	Dev %	Area %
13C2-4:2FTS	5.000	5.098	2.0	102.0
13C2-6:2FTS	5.000	5.320	6.4	106.4
13C2-8:2FTS	5.000	5.080	1.6	101.6
13C2-PFDoDA	1.250	1.194	-4.5	95.5
13C2-PFTeDA	1.250	1.168	-6.6	93.4
13C3-PFBS	2.500	2.542	1.7	101.7
13C3-PFHxS	2.500	2.330	-6.8	93.2
13C4-PFBA	10.000	10.000	0.0	100.0
13C4-PFHpA	2.500	2.524	1.0	101.0
13C5-PFHxA	2.500	2.570	2.8	102.8
13C5-PFPeA	5.000	5.049	1.0	101.0
13C6-PFDA	1.250	1.242	-0.7	99.3
13C7-PFUnDA	1.250	1.271	1.7	101.7
13C8-FOSA	2.500	2.541	1.6	101.6
13C8-PFOA	2.500	2.385	-4.6	95.4
13C8-PFOS	2.500	2.520	0.8	100.8
13C9-PFNA	1.250	1.243	-0.6	99.4
4:2FTS	9.375	9.332	-0.5	99.5
6:2FTS	9.500	9.655	1.6	101.6
8:2FTS	9.600	9.690	0.9	100.9
d3-MeFOSAA	5.000	5.603	12.1	112.1
EtFOSAA	2.500	2.266	-9.4	90.6
FOSA	2.500	2.370	-5.2	94.8
MeFOSAA	2.500	2.512	0.5	100.5
PFBA	10.000	9.983	-0.2	99.8
PFBS	2.218	2.041	-8.0	92.0
PFDA	2.500	2.304	-7.9	92.1
PFDoDA	2.500	2.439	-2.4	97.6
PFDS	2.413	2.420	0.3	100.3
PFHpA	2.500	2.377	-4.9	95.1
PFHpS	2.383	2.350	-1.4	98.6
PFHxA	2.500	2.397	-4.1	95.9
PFHxS	2.285	2.286	0.1	100.1
PFNA	2.500	2.394	-4.3	95.7
PFNS	2.405	2.331	-3.1	96.9
PFOA	2.500	2.581	3.2	103.2
PFOS	2.320	2.290	-1.3	98.7

Continuing Calibration Summary

Job Number: FC6537
 Account: AECOMCOD AECOM, INC.
 Project: N6274223F0104 RH Fire Suppression System

Sample: S6Q283-CC282
 Lab FileID: 6Q19016.D

PFPeA	5.000	4.860	-2.8	97.2
PFPeS	2.353	2.371	0.8	100.8
PFTeDA	2.500	2.456	-1.8	98.2
PFTTrDA	2.500	2.591	3.6	103.6
PFUnDA	2.500	2.410	-3.6	96.4
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	4.350	-7.9	92.1
13C3-HFPO-DA	10.000	10.863	8.6	108.6
9C1-PF3ONS	4.675	4.483	-4.1	95.9
ADONA	4.725	4.379	-7.3	92.7
HFPO-DA	5.000	5.157	3.1	103.1
M3-HFPO-DA	---	--ISTD--		
3:3FTCA	12.480	12.004	-3.8	96.2
5:3FTCA	62.400	57.521	-7.8	92.2
7:3FTCA	62.400	58.796	-5.8	94.2
d3-MeFOSA	2.500	2.479	-0.8	99.2
M5-EtFOSAA	---	--ISTD--		
M7-MeFOSE	---	--ISTD--		
M9-EtFOSE	---	--ISTD--		
M5-EtFOSA	---	--ISTD--		
EtFOSA	5.000	4.820	-3.6	96.4
EtFOSE	12.500	11.812	-5.5	94.5
MeFOSA	5.000	5.028	0.6	100.6
MeFOSE	12.500	12.076	-3.4	96.6
PFDoDS	2.425	2.443	0.8	100.8
M3-MeFOSA	---	--ISTD--		
d5-EtFOSAA	5.000	5.557	11.1	111.1
d7-MeFOSE	25.000	25.263	1.1	101.1
d9-EtFOSE	25.000	25.397	1.6	101.6
d5-EtFOSA	2.500	2.602	4.1	104.1
NFDHA	5.000	4.992	-0.2	99.8
PFMBA	5.000	4.941	-1.2	98.8
PFMPA	5.000	5.048	1.0	101.0
13C4-PFOS	---	--ISTD--		
13C3-PFBA	---	--ISTD--		
18O2-PFHxS	---	--ISTD--		
13C4-PFOA	---	--ISTD--		
13C2-PFDA	---	--ISTD--		
13C5-PFNA	---	--ISTD--		
13C2-PFHxA	---	--ISTD--		
PFEEESA	4.450	4.288	-3.6	96.4

CC Criteria: +/- 30%

Continuing Calibration Summary

Job Number: FC6537
 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: FC6537
 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%

Continuing Calibration Summary

Job Number: FC6537
 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: FC6537
 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: FC6537
 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: FC6537
 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--		
PFEEESA	4.450	4.439	-0.2	99.8

CC Criteria: +/- 30%

Run Sequence Report

Job Number: FC6537
 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 FC6537)
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: FC6537
 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 FC6537)
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
6

Run Sequence Report

Job Number: FC6537
 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
ZZZZZZ	6Q18936.D	06/07/23 12:07	OP97179	(unrelated sample)
FC6479-2	6Q18937.D	06/07/23 12:21	OP97179	(used for QC only; not part of job FC6537)
OP97179-DUP	6Q18938.D	06/07/23 12:36	OP97179	Duplicate
ZZZZZZ	6Q18939.D	06/07/23 12:50	OP97179	(unrelated sample)
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 FC6537)
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 FC6537)
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: FC6537
 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
FC6537-1	6Q18998.D	06/08/23 03:05	OP97216	AF-RHMW12A-WGN01LF-2305W5
FC6537-2	6Q18999.D	06/08/23 03:19	OP97216	AF-RHMW12A-WGFD01LF-2305W5
OP97216-MS	6Q19000.D	06/08/23 03:34	OP97216	Matrix Spike
FC6537-3	6Q19001.D	06/08/23 03:48	OP97216	AF-RHMW04-WGN01LF-2305W5
OP97216-DUP	6Q19002.D	06/08/23 04:03	OP97216	Duplicate
FC6537-4	6Q19003.D	06/08/23 04:17	OP97216	AF-RHMW06-WGN01LF-2305W5
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
FC6537-5	6Q19006.D	06/08/23 05:01	OP97216	AF-RHMW16-WGN01LF-2305W5
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 FC6537)
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
6

Run Sequence Report

Job Number: FC6537
 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
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MS Semi-volatiles

Raw Data

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18998.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 3:05:16 AM
 Sample Name : FC6537-1
 Vial : P3-A7
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97216,S6Q283,560,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	101112	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	53500	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	56743	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	54120	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	84436	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	38278	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	21446	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	25907	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	21742	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	11413	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	25123	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	21745	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	12815	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	10720	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4290	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6591	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5742	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	27980	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	37325	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	24075	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	80200	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	113989	25.00 µg/L	0.000
M5-EtFOSA	10.972	531.1 -> 219.0	9639	2.50 µg/L	-0.012
M3-MeFOSA	10.752	515.0 -> 219.0	9908	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	15131	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	63279	5.00 µg/L	0.052
18O2-PFHxS	7.154	403.0 -> 83.9	8363	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	76088	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	26810	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	42774	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	49789	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4290	6.24 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 124.8%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6591	6.67 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 133.4%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5742	5.83 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.7%		
13C2-PFDoDA	8.900	615.1 -> 570.0	21742	1.11 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 88.8%		
13C2-PFTeDA	9.627	715.2 -> 670.0	11413	1.06 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 85.0%		
13C3-PFBS	5.397	302.1 -> 79.9	21745	2.96 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 118.3%		
13C3-PFHxS	7.155	402.1 -> 79.9	12815	2.84 µg/L	0.000

7.1.1
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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 = 113.6%	
13C4-PFBA	2.913	216.8 -> 171.9	101112	6.73 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 67.3%	
13C4-PFHpA	6.420	367.1 -> 322.0	54120	2.73 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.1%	
13C5-PFHxA	5.478	318.0 -> 273.0	56743	2.69 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.7%	
13C5-PFPeA	4.284	268.3 -> 223.0	53500	5.54 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.8%	
13C6-PFDA	8.039	519.1 -> 474.1	21446	1.35 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	25907	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	25123	2.98 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 91.3%	
13C8-PFOA	7.064	421.1 -> 376.0	84436	2.89 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.7%	
13C8-PFOS	8.189	507.1 -> 79.9	10720	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.4%	
13C9-PFNA	7.569	472.1 -> 427.0	38278	1.36 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.9%	
d3-MeFOSAA	8.096	573.2 -> 419.0	27980	5.13 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	37325	11.90 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 119.0%	
d3-MeFOSA	10.752	515.0 -> 219.0	9908	2.31 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	24075	4.93 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 98.5%	
d7-MeFOSE	10.660	623.2 -> 58.9	80200	21.12 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 84.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	113989	23.57 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.3%	
d5-EtFOSA	10.972	531.1 -> 219.0	9639	2.34 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.8%	

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	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.	

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	5.481	449.0 -> 98.9	1631	0.09 µg/L	93
		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	4.287	498.9 -> 98.8	4645	0.37 µg/L	100
		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

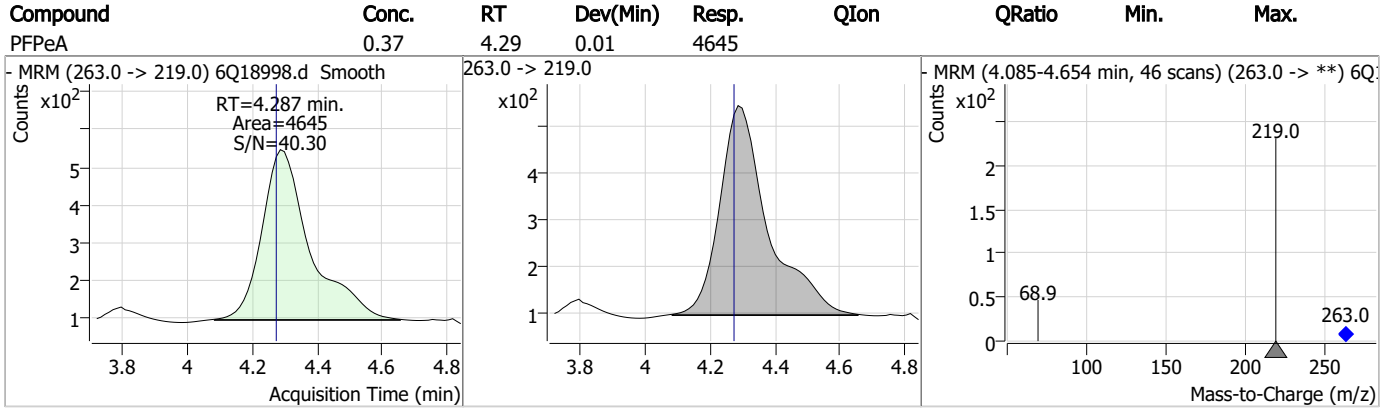
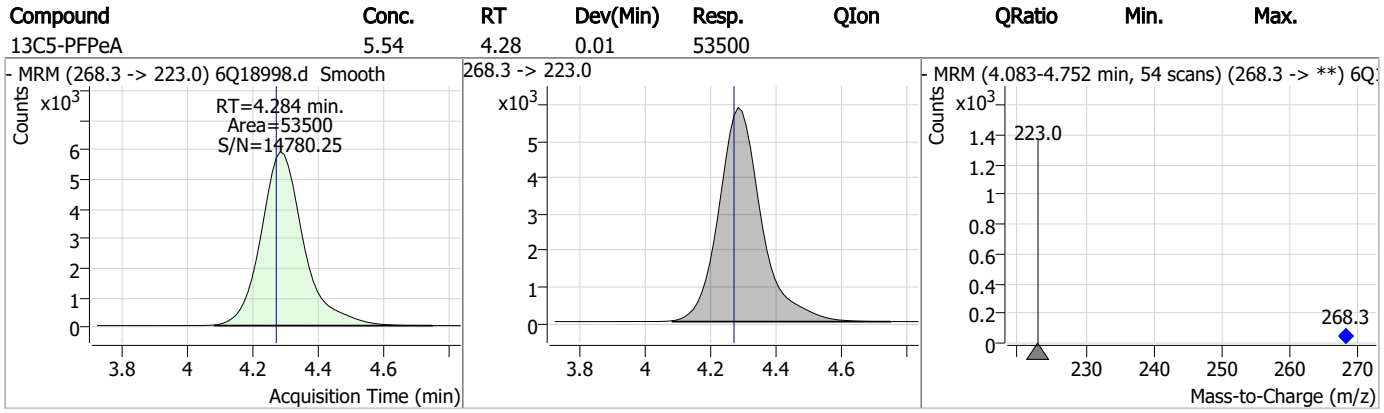
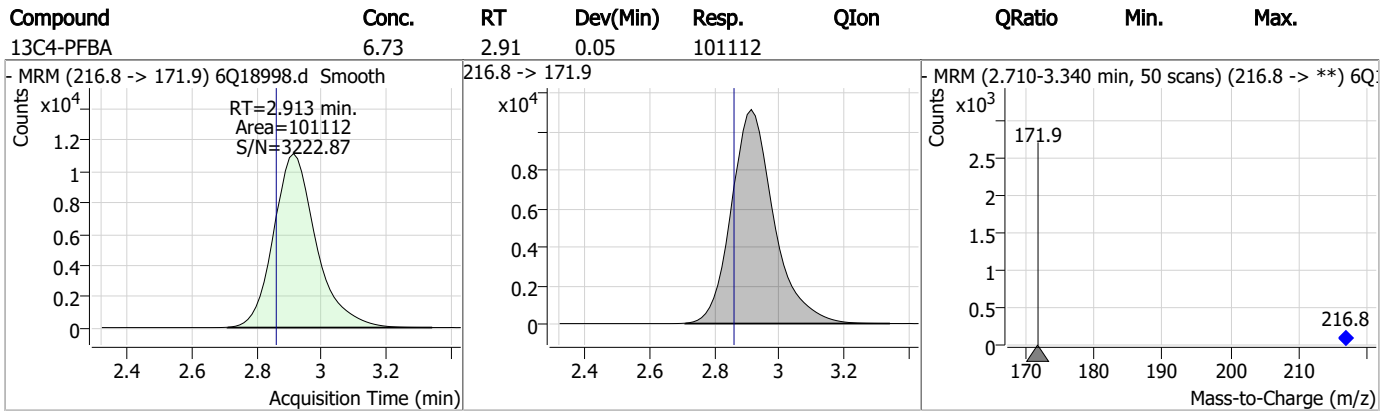
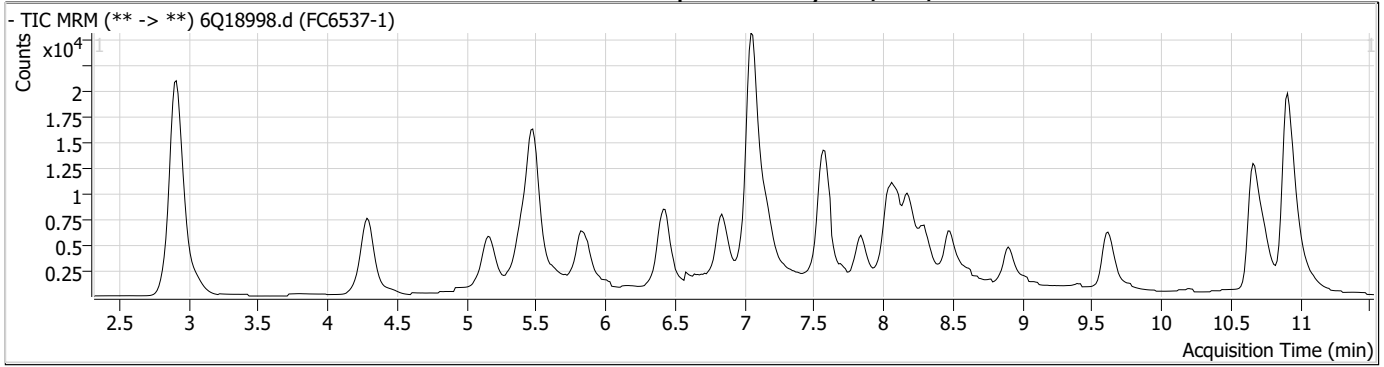
7.1.1
7

Perfluorinated Compounds by LC/MS/MS

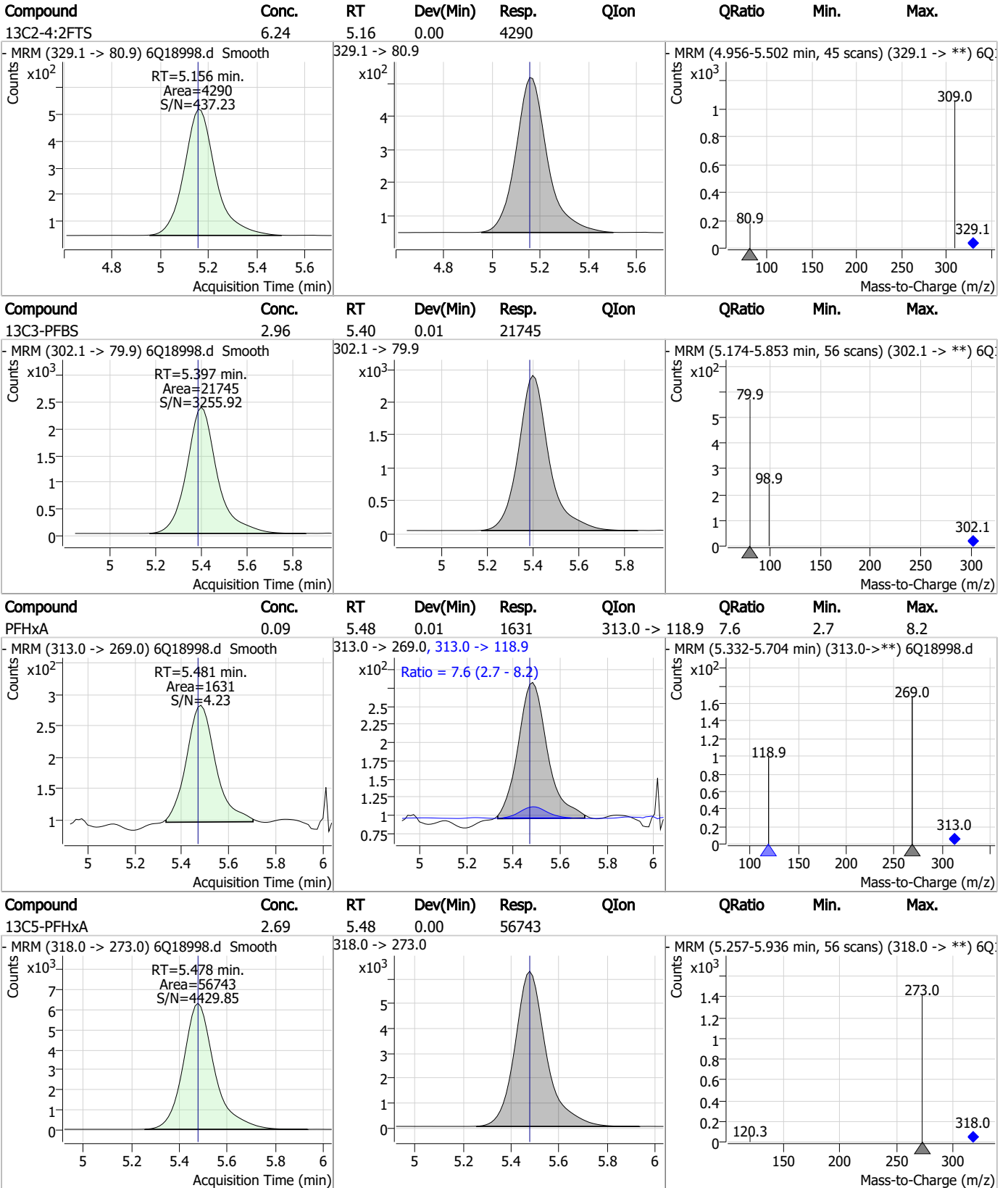
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.1.1
7

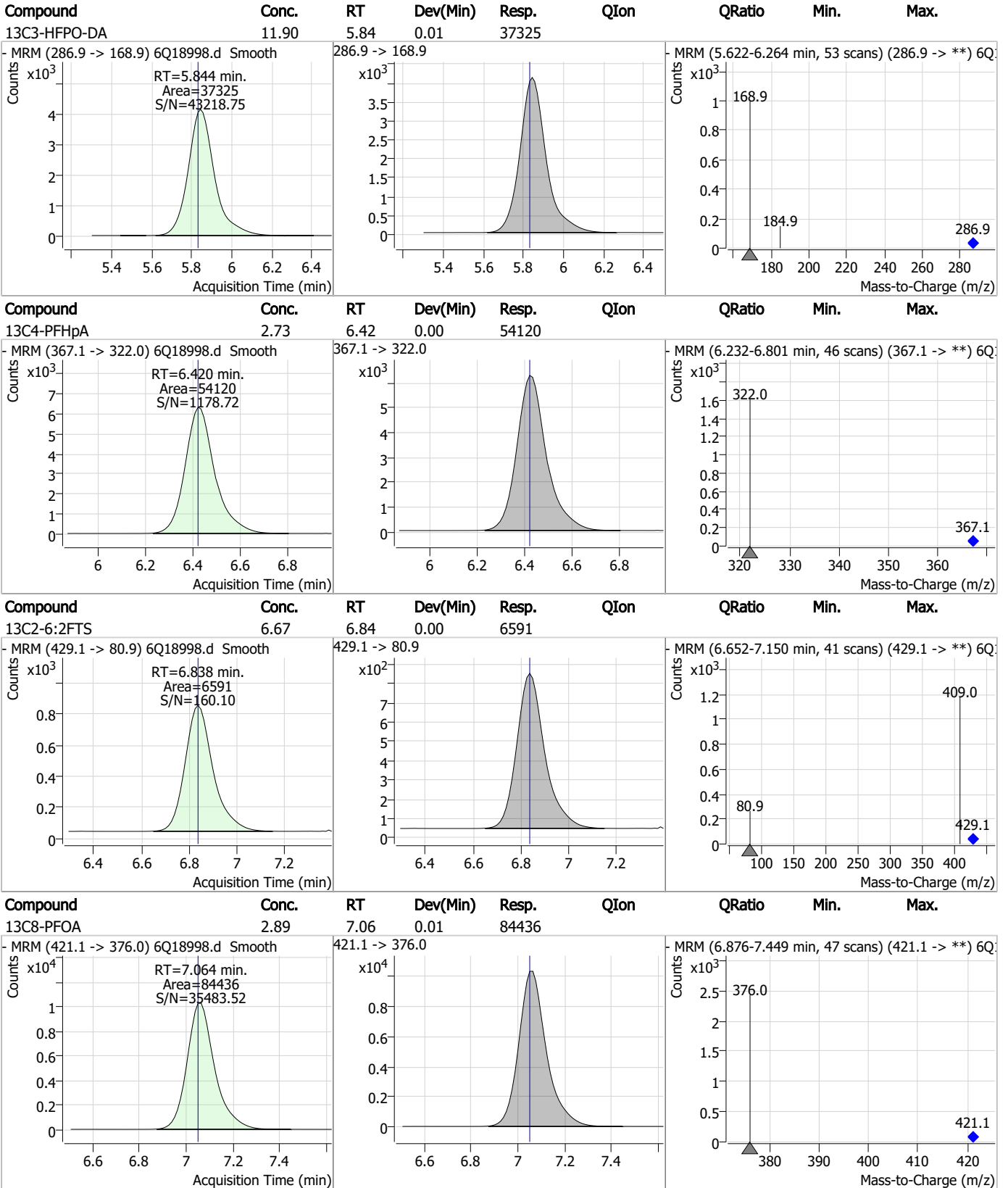
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



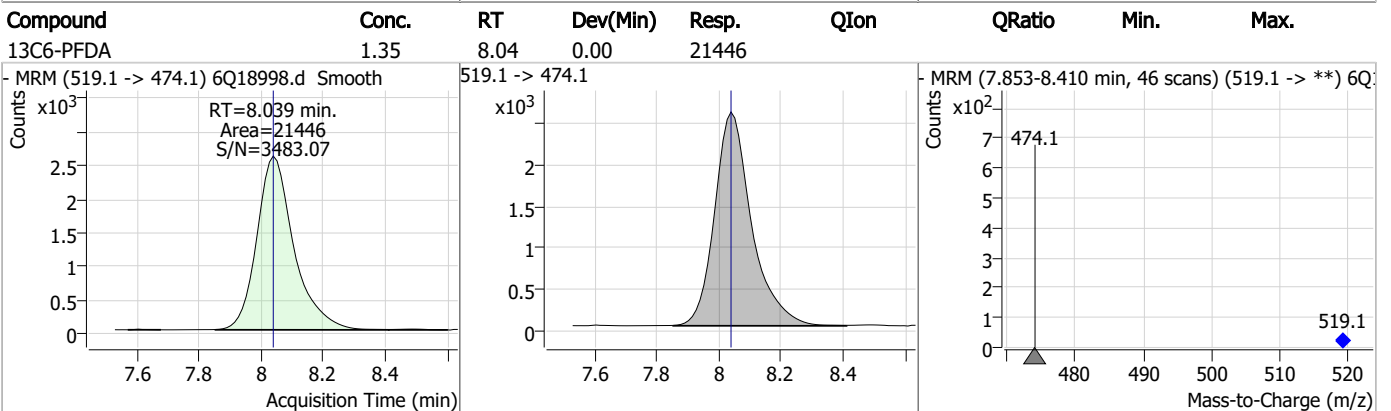
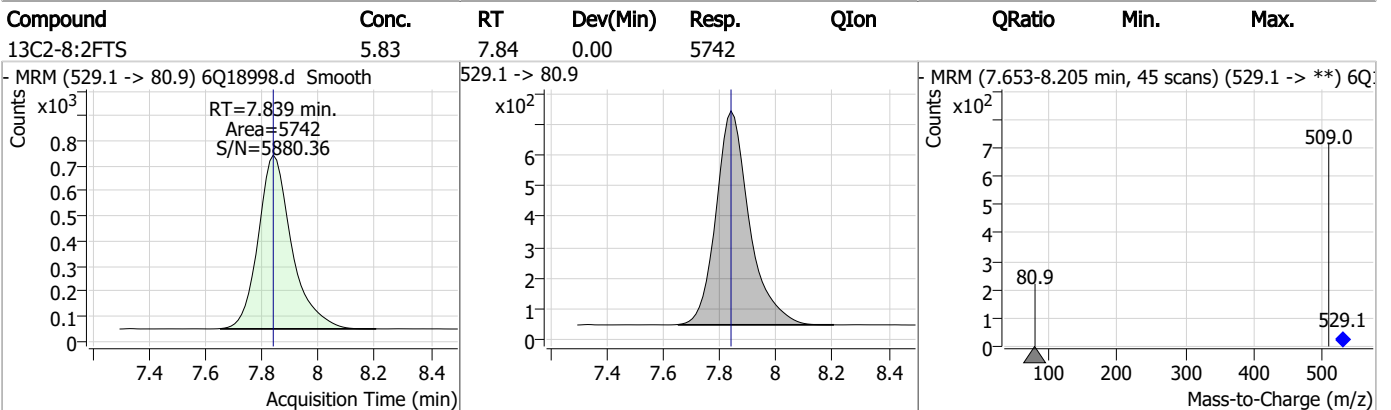
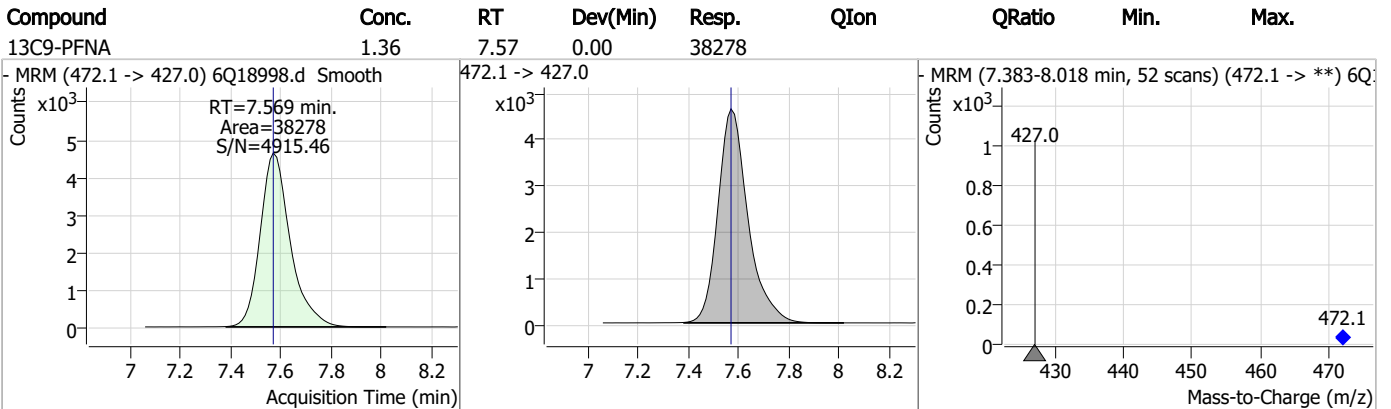
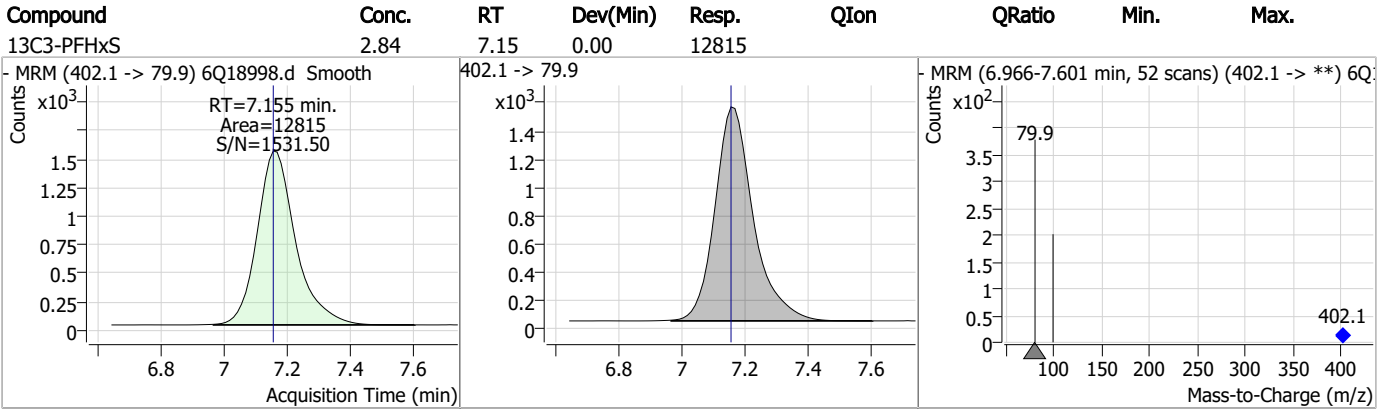
Perfluorinated Compounds by LC/MS/MS



7.1.1

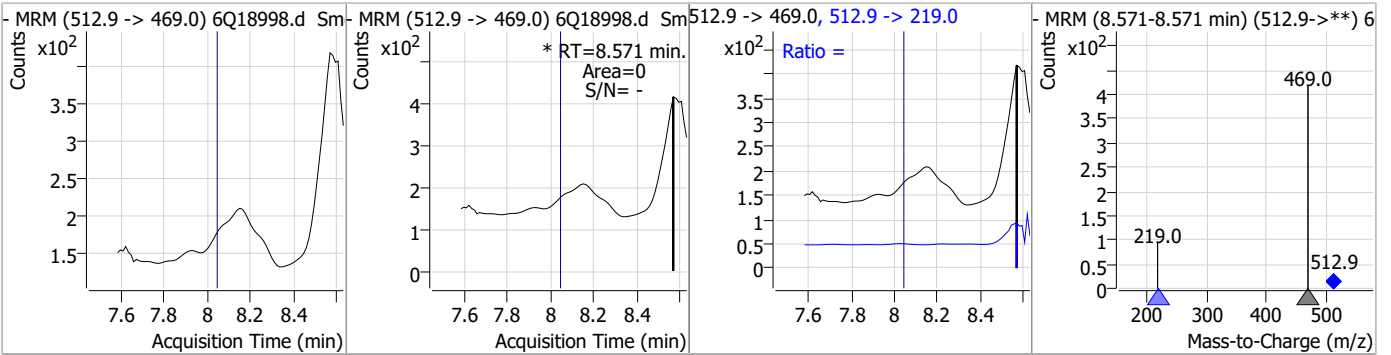
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Perfluorinated Compounds by LC/MS/MS

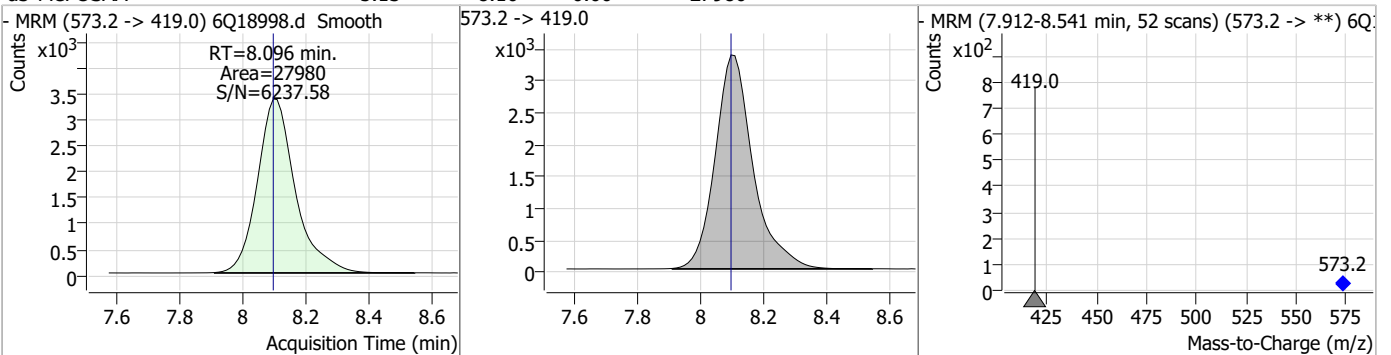


Perfluorinated Compounds by LC/MS/MS

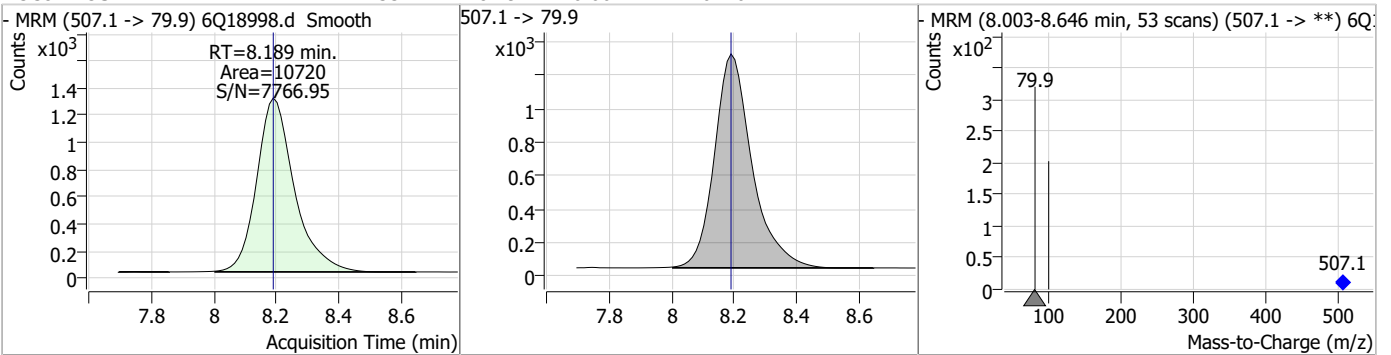
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0	0		0	512.9 -> 219.0		7.6	22.7



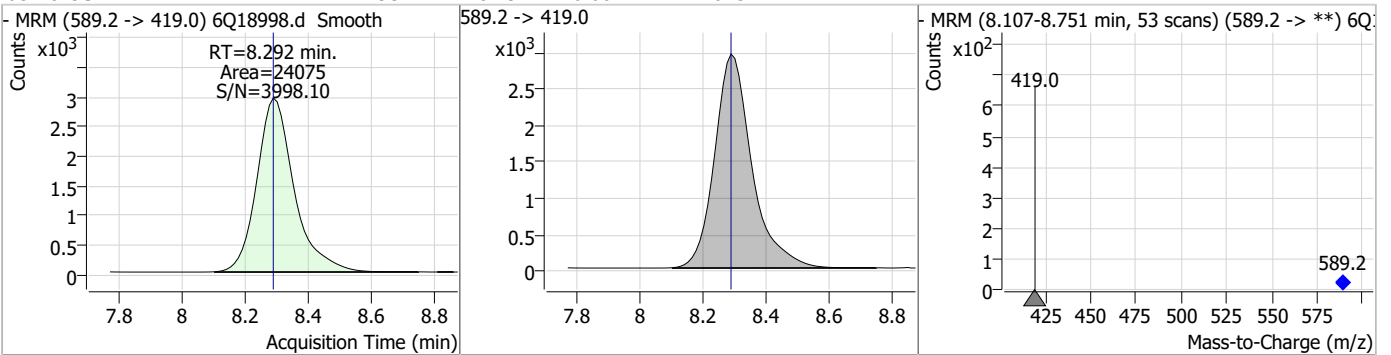
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.13	8.10	0.00	27980				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.33	8.19	0.00	10720				



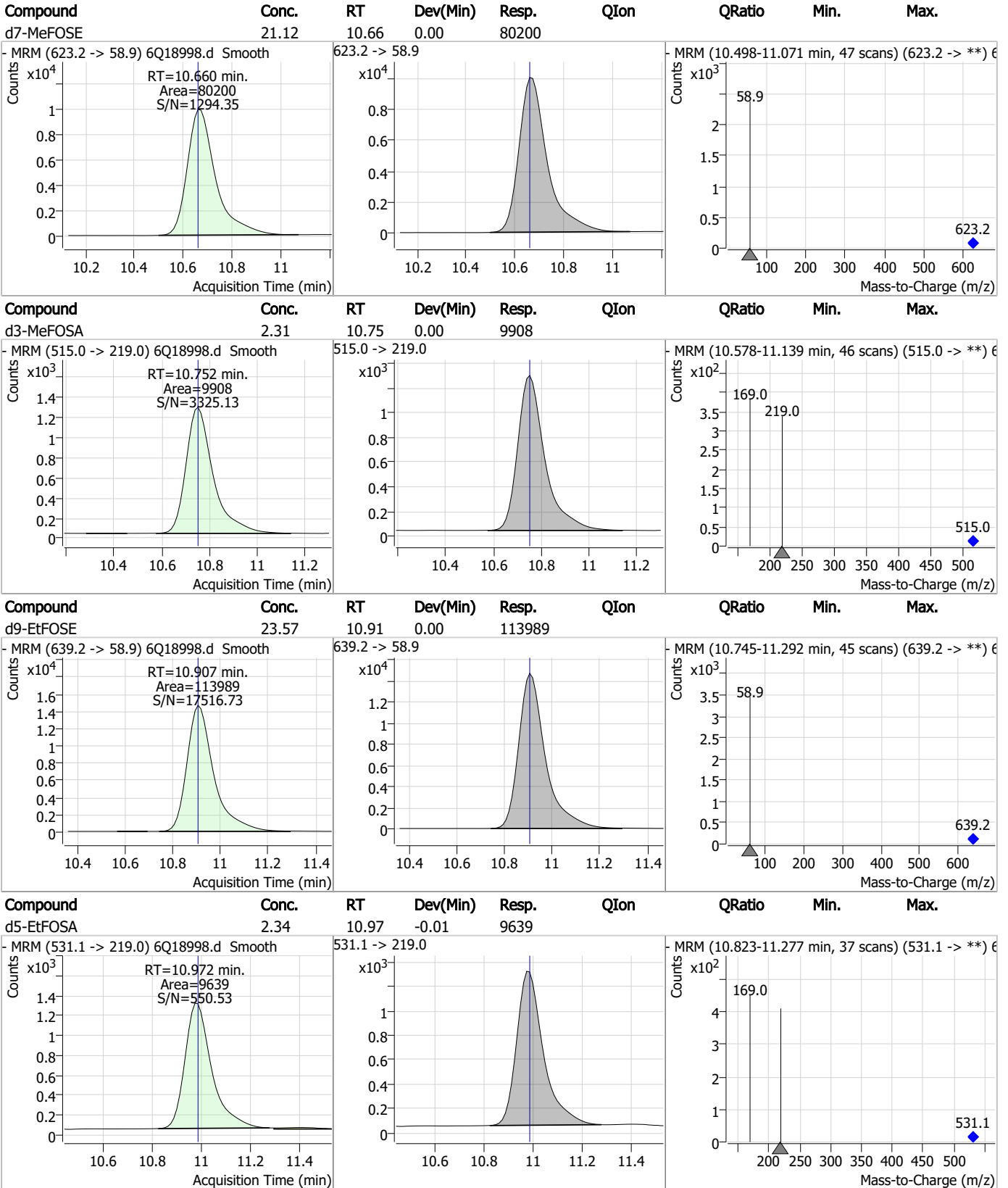
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.93	8.29	0.00	24075				



Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.25	8.48	0.00	25907				
13C2-PFDoDA	1.11	8.90	0.00	21742				
13C8-FOSA	2.28	9.62	0.01	25123				
13C2-PFTeDA	1.06	9.63	0.00	11413				

Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18999.d
Operator : marthav
Acq. Method : 1633full.m
Acq. Date-Time : 6/8/2023 3:19:44 AM
Sample Name : FC6537-2
Vial : P3-A8
DA Method File : 1633_060623_S6Q282.quantmethod.xml
Batch Name : s6q283.batch.bin
Sample Information : OP97216,S6Q283,550,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	96847	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	51938	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	54854	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	52999	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	79039	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	35242	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	18531	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	23726	1.25 µg/L	0.000
M2-PFDoDA	8.912	615.1 -> 570.0	20523	1.25 µg/L	0.012
M2-PFTeDA	9.627	715.2 -> 670.0	11114	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	24790	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	20897	2.50 µg/L	0.013
M3-PFHxS	7.167	402.1 -> 79.9	12226	2.50 µg/L	0.012
M8-PFOS	8.189	507.1 -> 79.9	10269	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4242	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6387	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5157	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	28240	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	35274	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	24256	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	77096	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	105214	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	9499	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	9542	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	13904	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	64334	5.00 µg/L	0.052
18O2-PFHxS	7.166	403.0 -> 83.9	8721	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	80929	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	27729	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	41181	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	49771	2.50 µg/L	0.012

System Monitoring Compounds

13C2-4:2FTS	5.156	329.1 -> 80.9	4242	5.91 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 118.3%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6387	6.20 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 123.9%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5157	5.02 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 100.5%		
13C2-PFDoDA	8.912	615.1 -> 570.0	20523	1.01 µg/L	0.012
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 81.0%		
13C2-PFTeDA	9.627	715.2 -> 670.0	11114	1.00 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 80.1%		
13C3-PFBS	5.397	302.1 -> 79.9	20897	2.73 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 109.0%		
13C3-PFHxS	7.167	402.1 -> 79.9	12226	2.60 µg/L	0.012

7.12
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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 = 103.9%	
13C4-PFBA	2.913	216.8 -> 171.9	96847	6.34 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 63.4%	
13C4-PFHpA	6.420	367.1 -> 322.0	52999	2.67 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.9%	
13C5-PFHxA	5.478	318.0 -> 273.0	54854	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.2%	
13C5-PFPeA	4.284	268.3 -> 223.0	51938	5.38 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.6%	
13C6-PFDA	8.039	519.1 -> 474.1	18531	1.13 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.1%	
13C7-PFUnDA	8.480	570.0 -> 525.1	23726	1.10 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 88.3%	
13C8-FOSA	9.623	506.1 -> 77.8	24790	2.45 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.0%	
13C8-PFOA	7.064	421.1 -> 376.0	79039	2.55 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.9%	
13C8-PFOS	8.189	507.1 -> 79.9	10269	2.43 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.4%	
13C9-PFNA	7.569	472.1 -> 427.0	35242	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.1%	
d3-MeFOSAA	8.096	573.2 -> 419.0	28240	5.64 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.8%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	35274	11.25 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 112.5%	
d3-MeFOSA	10.752	515.0 -> 219.0	9542	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	24256	5.40 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.0%	
d7-MeFOSE	10.672	623.2 -> 58.9	77096	22.09 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 88.4%	
d9-EtFOSE	10.907	639.2 -> 58.9	105214	23.67 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 94.7%	
d5-EtFOSA	10.984	531.1 -> 219.0	9499	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.6%	

7.12
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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	8.608	512.9 -> 469.0	0	µg/L m	1
		512.9 -> 219.0	0		
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	-	599.0 -> 98.8	-	N.D.		
		363.1 -> 319.0				
PFHpS	-	363.1 -> 169.0	-	N.D.		
		449.0 -> 79.9				
PFHxA	5.481	449.0 -> 98.9	1731	0.10	µg/L	98
		313.0 -> 269.0				
PFHxS	-	313.0 -> 118.9	81	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	4.287	498.9 -> 98.8	3625	0.30	µg/L	m
		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

7.1.2

7

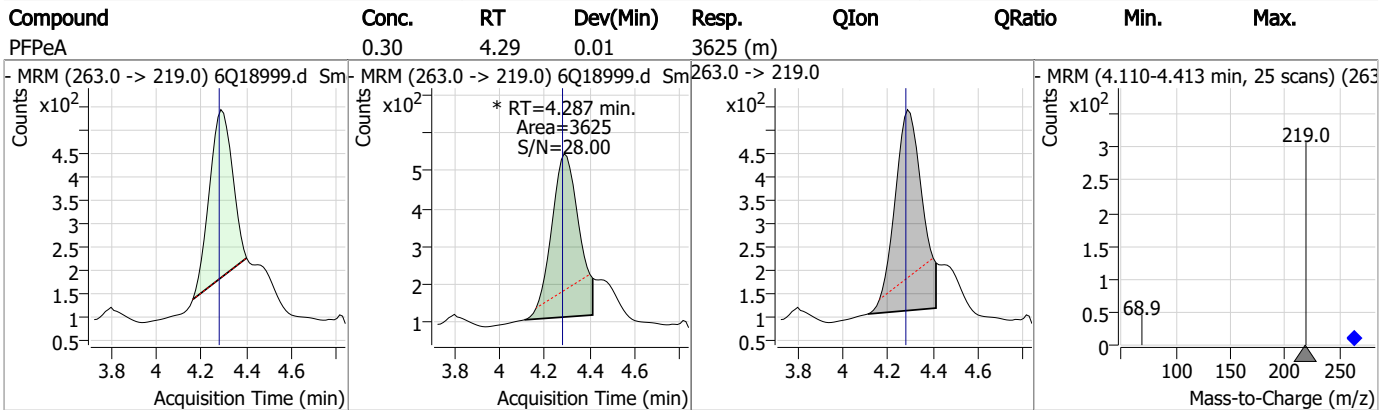
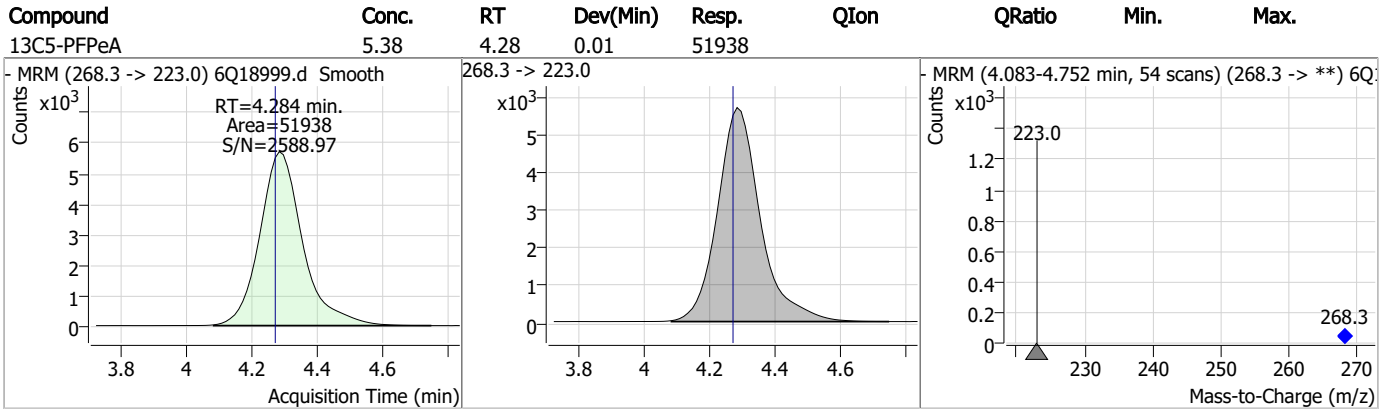
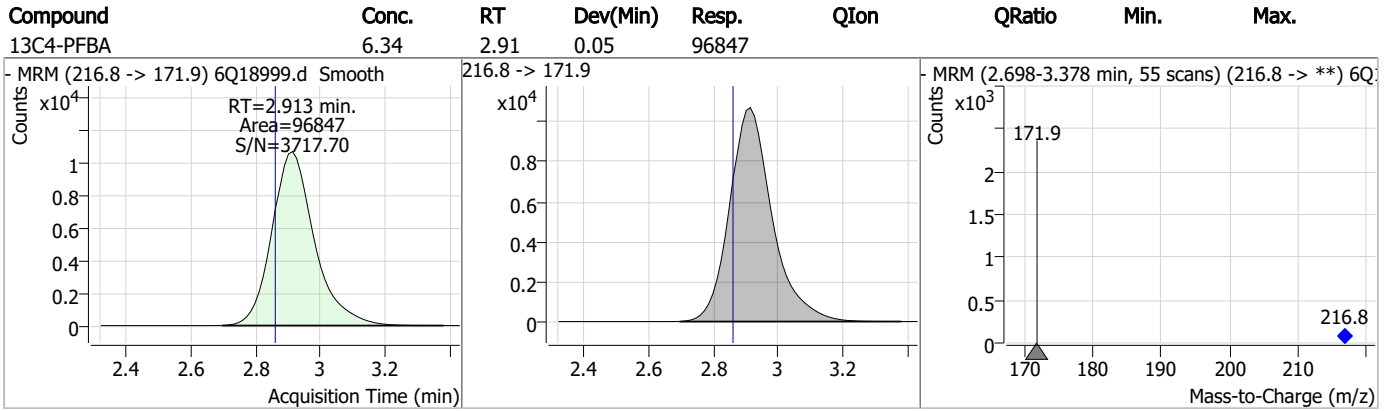
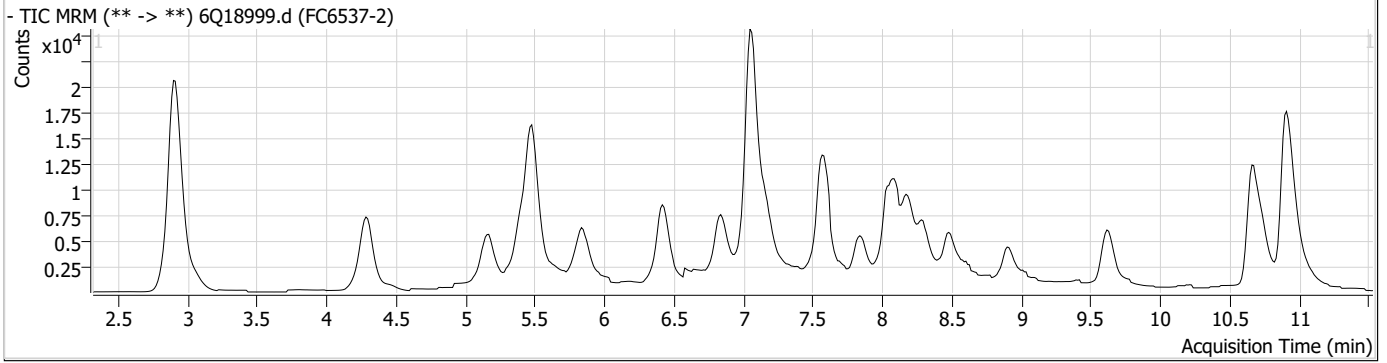
Perfluorinated Compounds by LC/MS/MS

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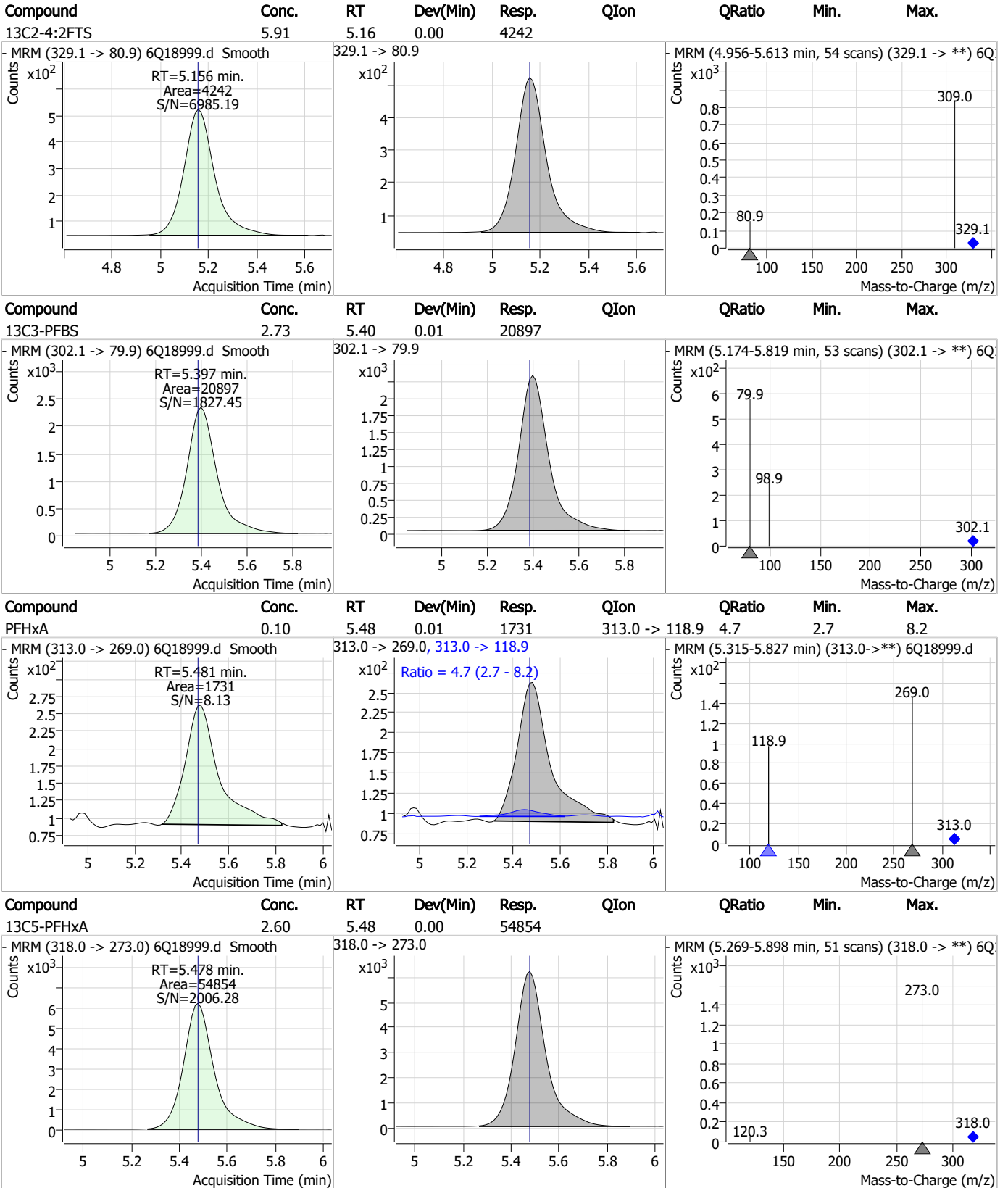
7.1.2
7



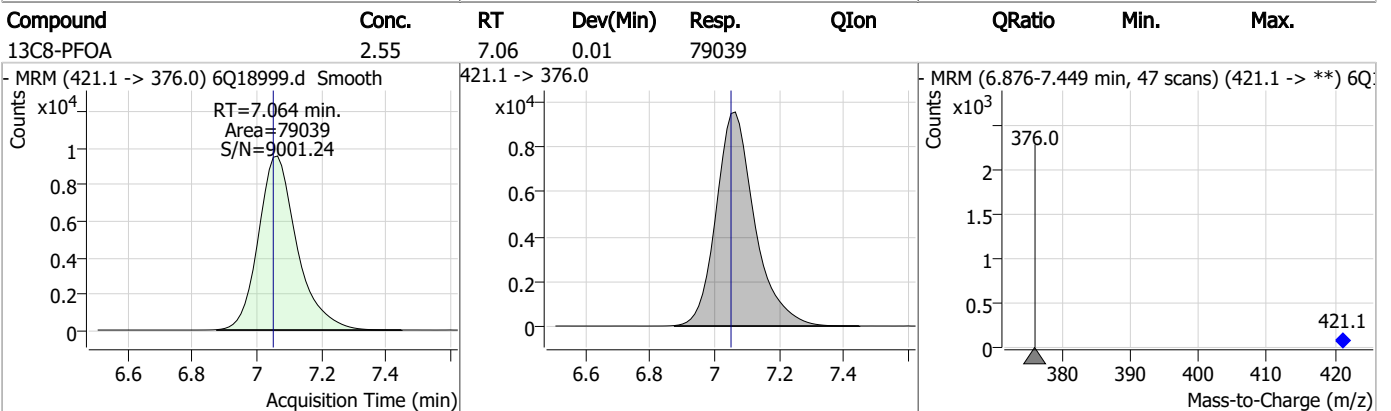
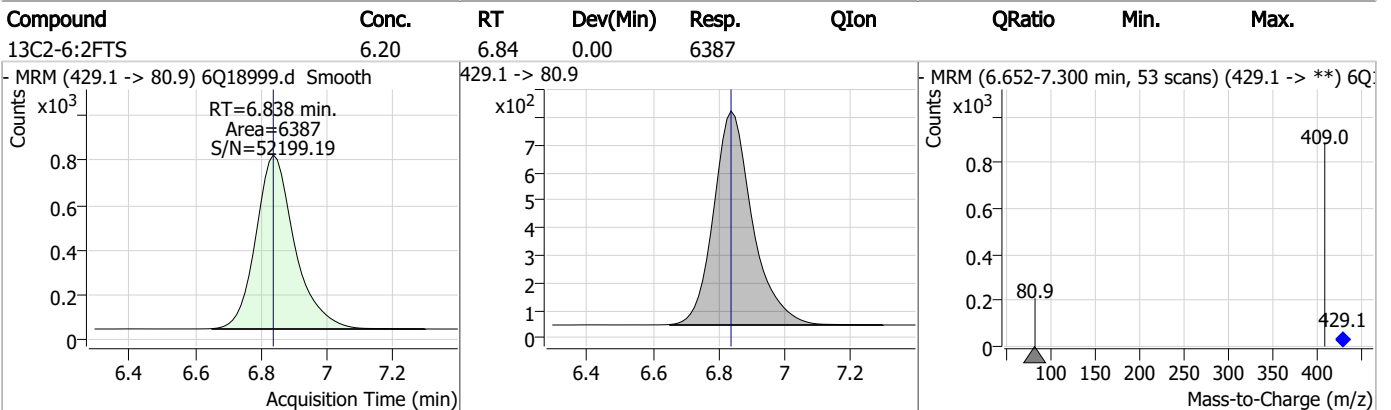
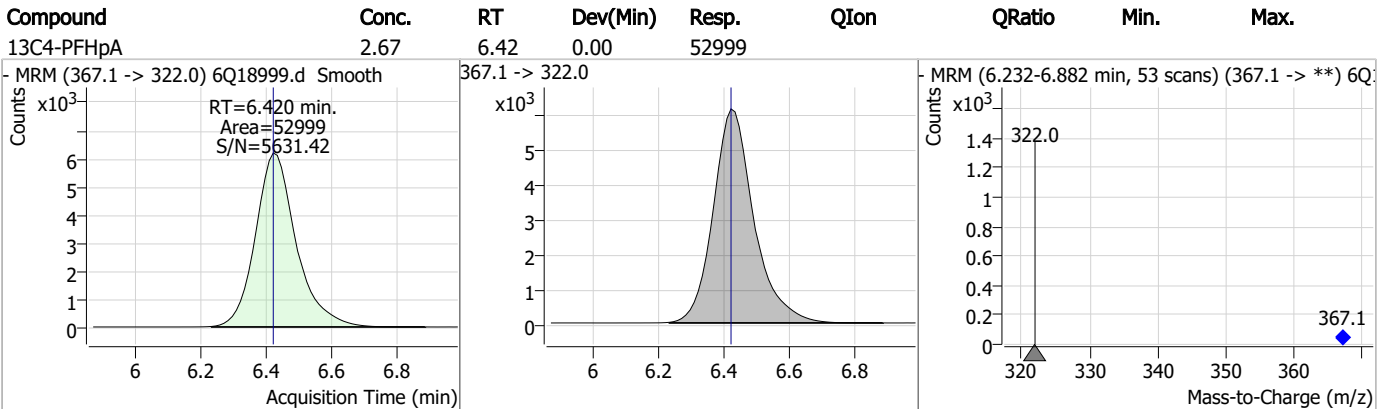
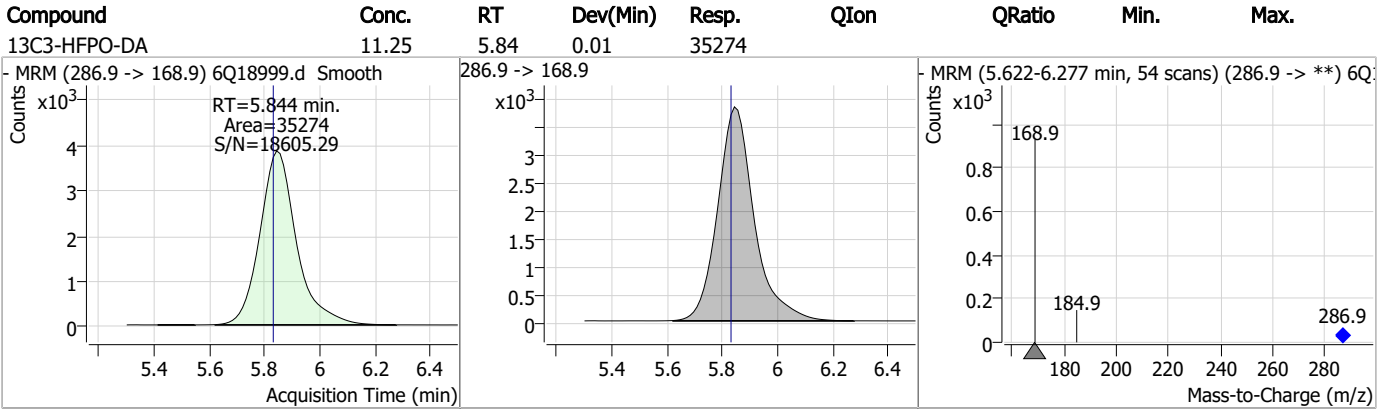
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



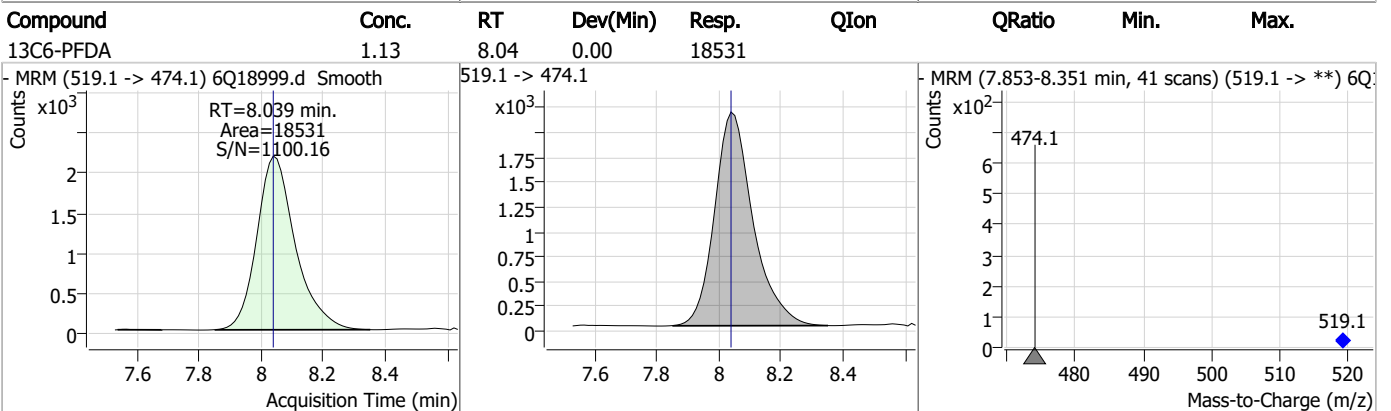
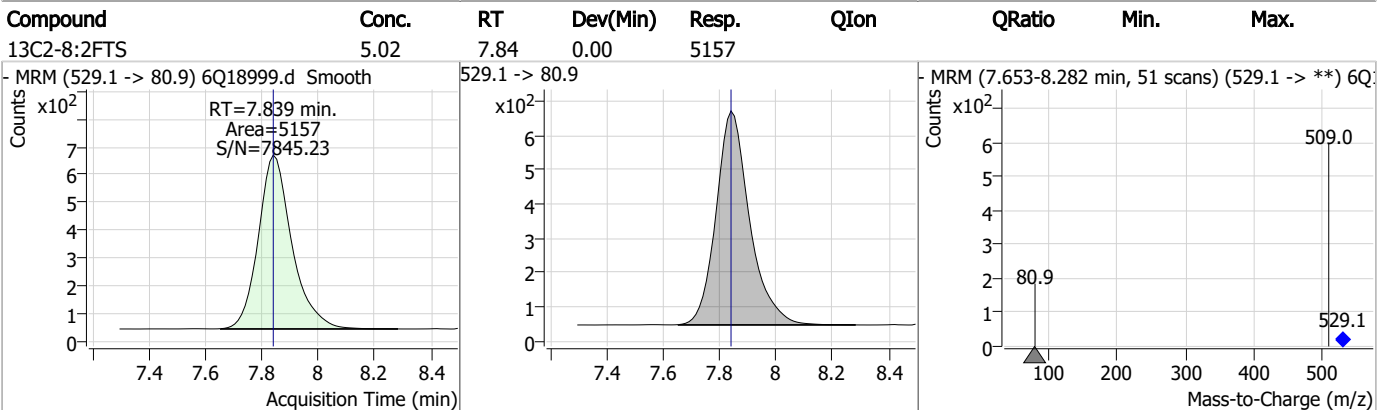
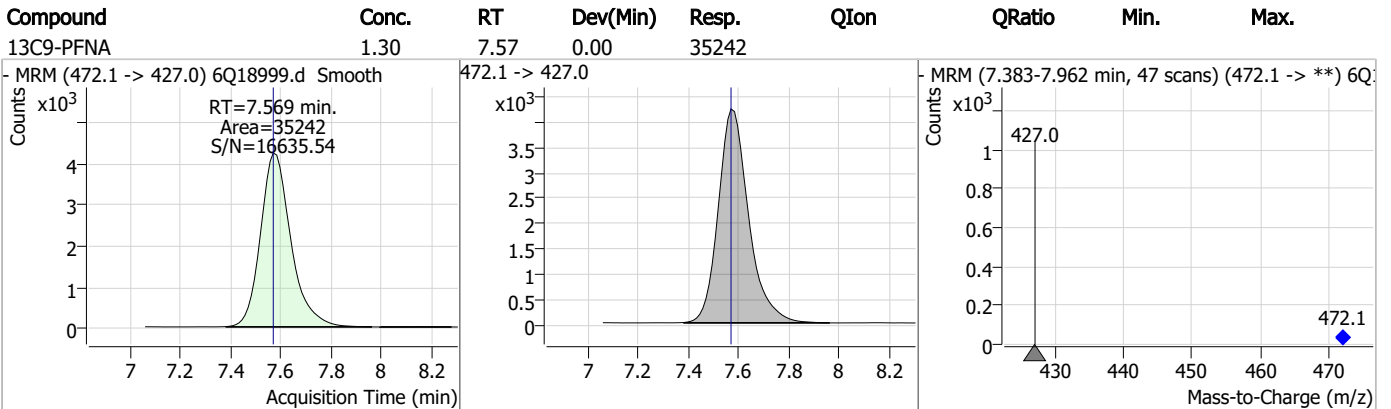
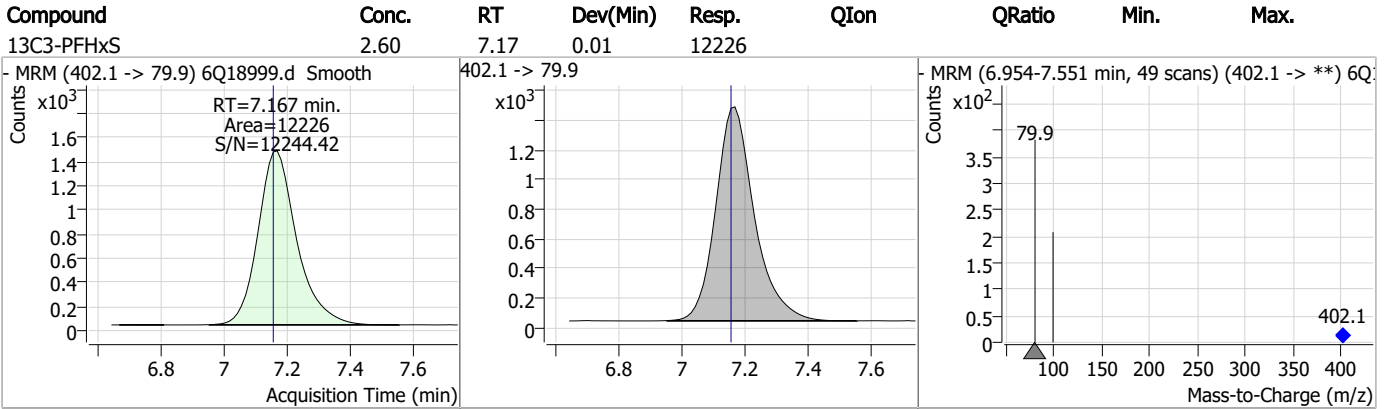
Perfluorinated Compounds by LC/MS/MS



7.1.2

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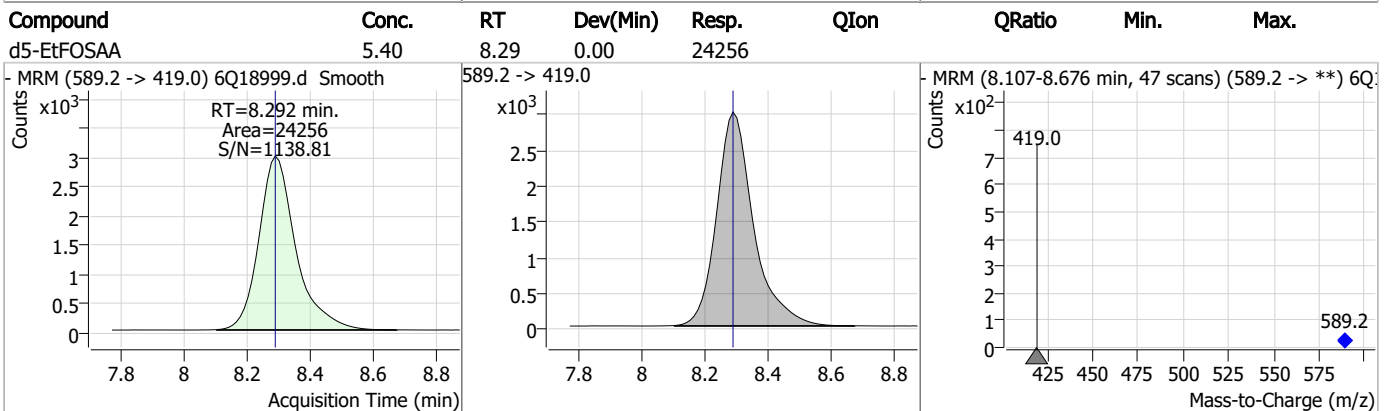
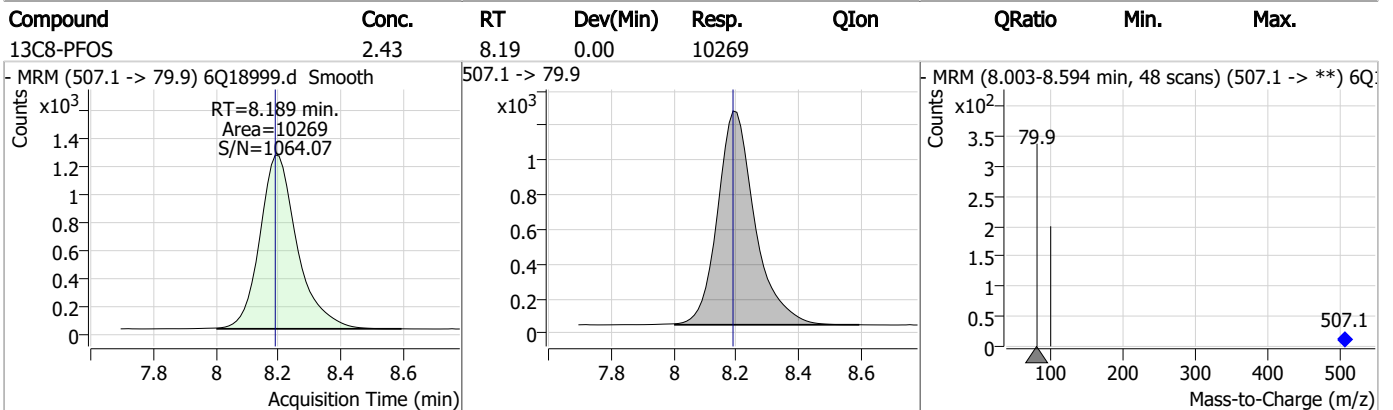
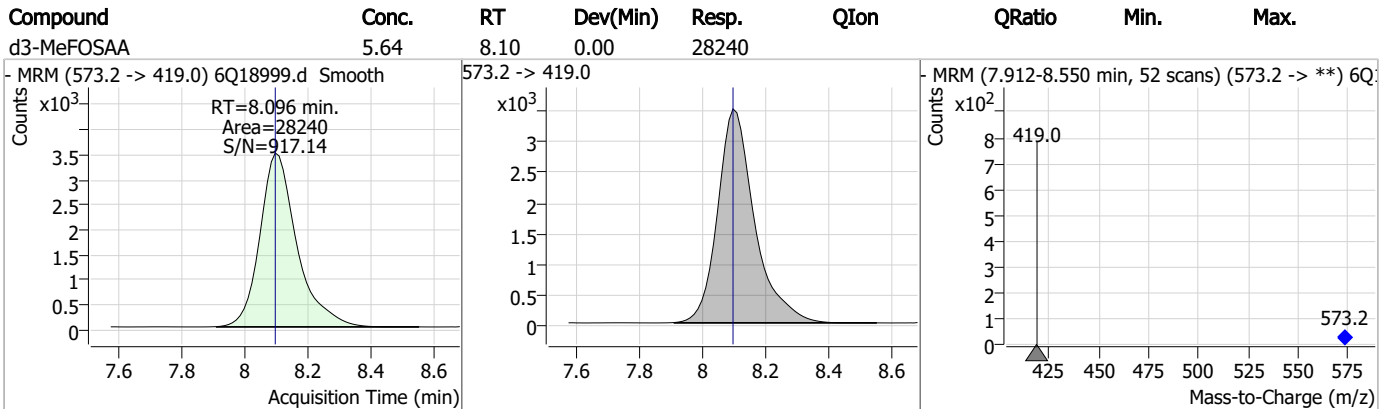
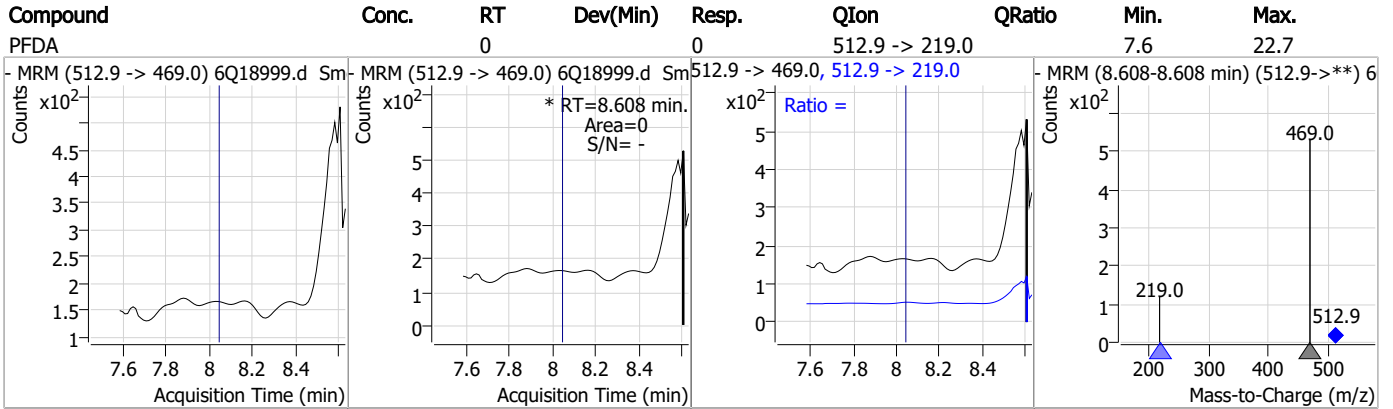
Perfluorinated Compounds by LC/MS/MS



7.1.2

7

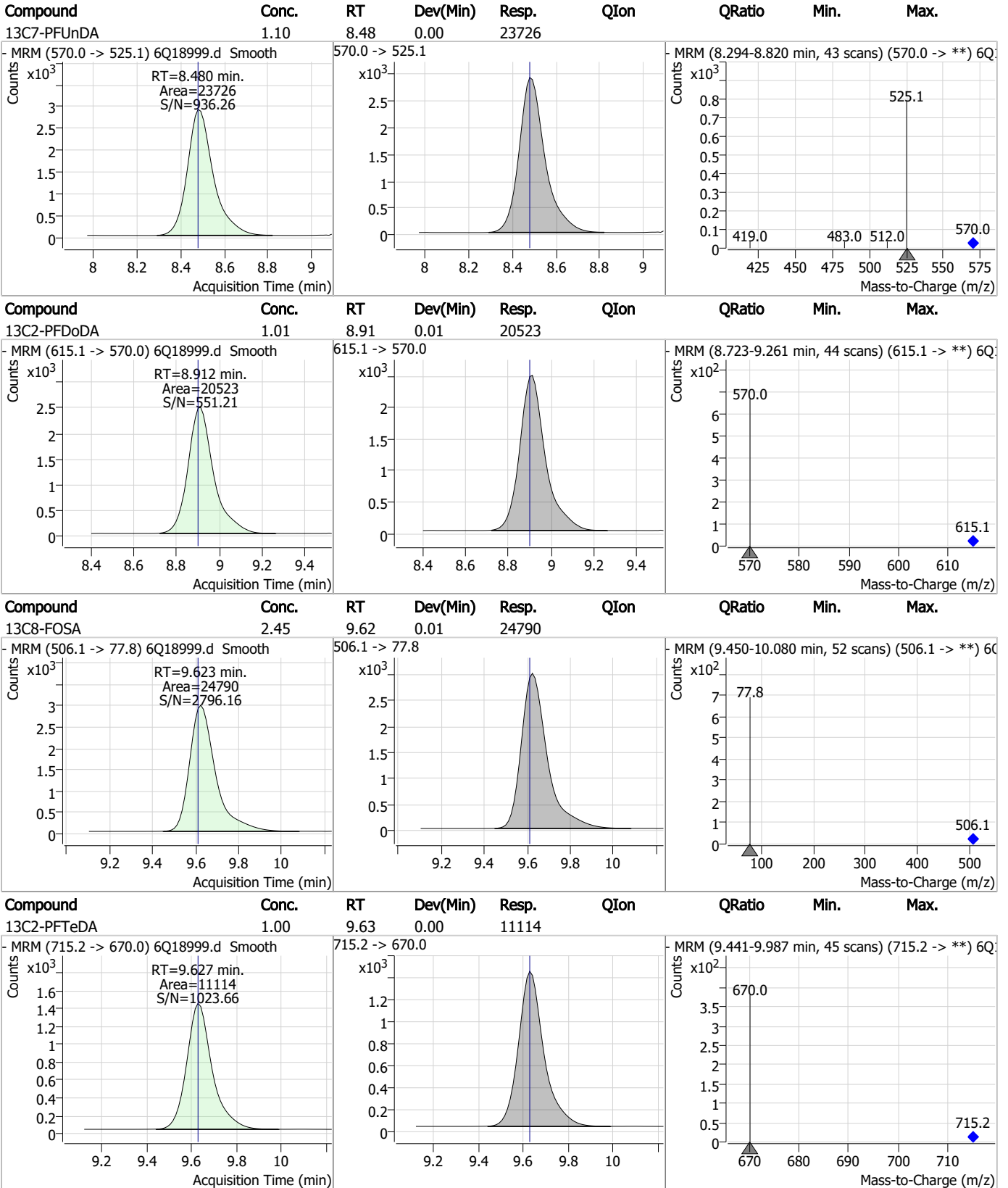
Perfluorinated Compounds by LC/MS/MS



7.1.2

7

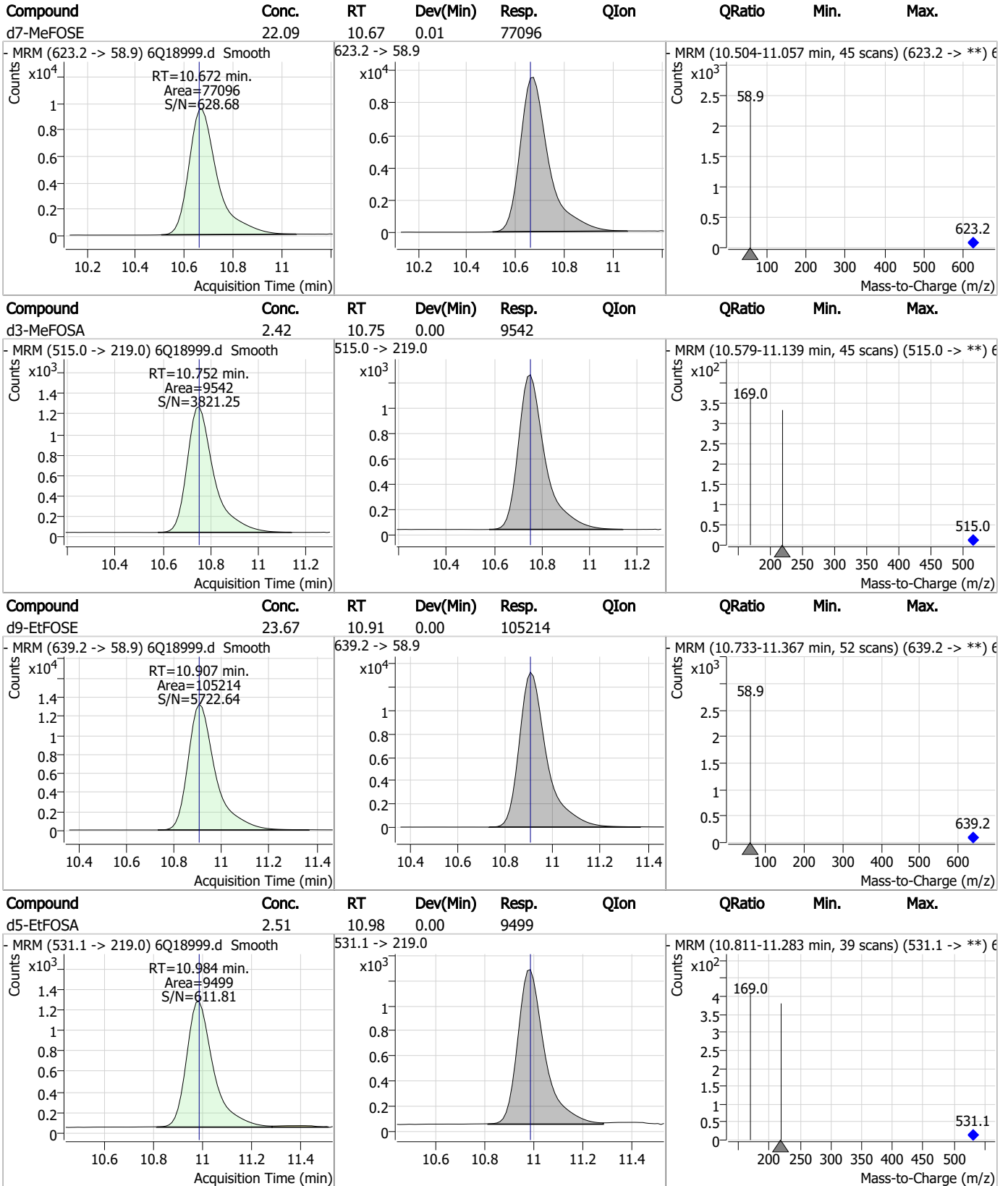
Perfluorinated Compounds by LC/MS/MS



7.1.2

7

Perfluorinated Compounds by LC/MS/MS



Manual Integration Approval Summary

Sample Number: FC6537-2 Method: EPA DRAFT 1633
Lab FileID: 6Q18999.D Analyst approved: 06/08/23 13:04 Martha Valls
Injection Time: 06/08/23 03:19 Supervisor approved: 06/09/23 14:08 Natasha Gumtie

Parameter	CAS	Sig#	R.T. (min.)	Reason
Perfluoropentanoic acid	2706-90-3		4.29	Split peak

7.1.2.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19001.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 3:48:42 AM
 Sample Name : FC6537-3
 Vial : P3-B1
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97216,S6Q283,540,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	164013	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	54474	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	56575	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	55723	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	82336	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	38445	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	21682	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	25399	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	22573	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	12597	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	26985	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	21643	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	13279	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	11571	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4279	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6667	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5814	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	30055	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	37445	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	27114	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	85246	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	121903	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	10432	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	10037	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	14544	2.50 µg/L	0.000
13C3-PFBA	2.904	216.0 -> 172.0	63727	5.00 µg/L	0.040
18O2-PFHxS	7.166	403.0 -> 83.9	9027	2.50 µg/L	0.012
13C4-PFOA	7.051	417.1 -> 372.0	79673	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	28458	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	45873	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	51089	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4279	5.76 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.3%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6667	6.25 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 125.0%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5814	5.47 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.4%		
13C2-PFDoDA	8.900	615.1 -> 570.0	22573	1.09 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 86.8%		
13C2-PFTeDA	9.627	715.2 -> 670.0	12597	1.11 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 88.4%		
13C3-PFBS	5.397	302.1 -> 79.9	21643	2.73 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 109.1%		
13C3-PFHxS	7.155	402.1 -> 79.9	13279	2.73 µg/L	0.000

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.0%	
13C4-PFBA	2.913	216.8 -> 171.9	164013	10.85 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.5%	
13C4-PFHpA	6.420	367.1 -> 322.0	55723	2.74 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.5%	
13C5-PFHxA	5.478	318.0 -> 273.0	56575	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.7%	
13C5-PFPeA	4.284	268.3 -> 223.0	54474	5.50 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.9%	
13C6-PFDA	8.039	519.1 -> 474.1	21682	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.7%	
13C7-PFUnDA	8.480	570.0 -> 525.1	25399	1.15 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 92.1%	
13C8-FOSA	9.623	506.1 -> 77.8	26985	2.55 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C8-PFOA	7.051	421.1 -> 376.0	82336	2.69 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.8%	
13C8-PFOS	8.189	507.1 -> 79.9	11571	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.9%	
13C9-PFNA	7.569	472.1 -> 427.0	38445	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	30055	5.74 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.8%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	37445	11.63 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 116.3%	
d3-MeFOSA	10.752	515.0 -> 219.0	10037	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	27114	5.77 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 115.5%	
d7-MeFOSE	10.660	623.2 -> 58.9	85246	23.35 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 93.4%	
d9-EtFOSE	10.907	639.2 -> 58.9	121903	26.22 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 104.9%	
d5-EtFOSA	10.984	531.1 -> 219.0	10432	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.6%	

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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	8.584	512.9 -> 469.0	0	µg/L m	1
		512.9 -> 219.0	0		
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8			
PFHpA	-	363.1 -> 319.0	-	N.D.	
		363.1 -> 169.0			
PFHpS	-	449.0 -> 79.9	-	N.D.	
		449.0 -> 98.9			
PFHxA	-	313.0 -> 269.0	-	N.D.	
		313.0 -> 118.9			
PFHxS	-	398.7 -> 79.9	-	N.D.	
		398.7 -> 98.9			
PFNA	-	463.0 -> 419.0	-	N.D.	
		463.0 -> 219.0			
PFNS	-	548.8 -> 79.9	-	N.D.	
		548.8 -> 98.9			
PFOA	-	413.0 -> 369.0	-	N.D.	
		413.0 -> 169.0			
PFOS	-	498.9 -> 79.9	-	N.D.	
		498.9 -> 98.8			
PFPeA	-	263.0 -> 219.0	-	N.D.	
PFPeS	-	349.1 -> 79.9	-	N.D.	
		349.1 -> 98.9			
PFTeDA	-	713.1 -> 669.0	-	N.D.	
		713.1 -> 168.9			
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

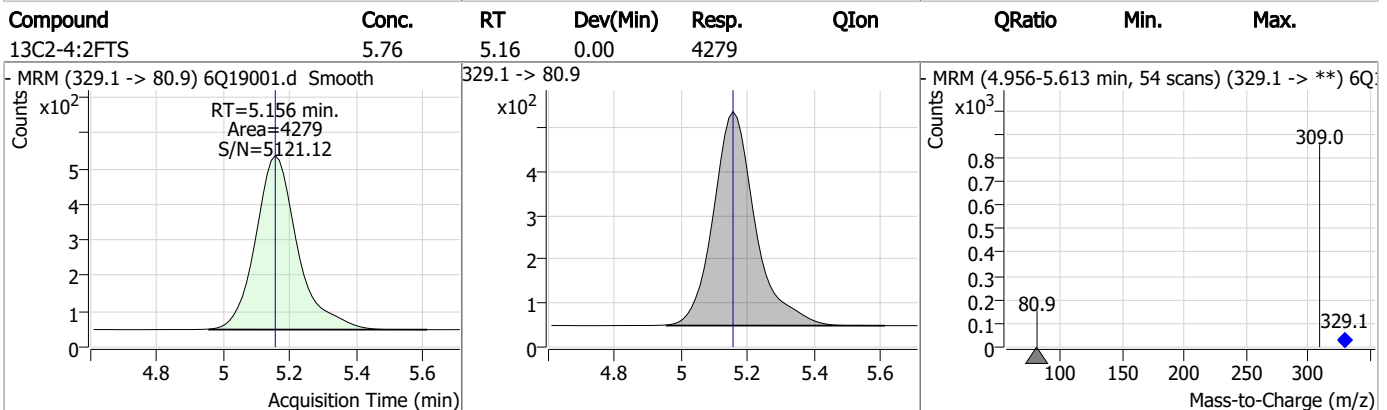
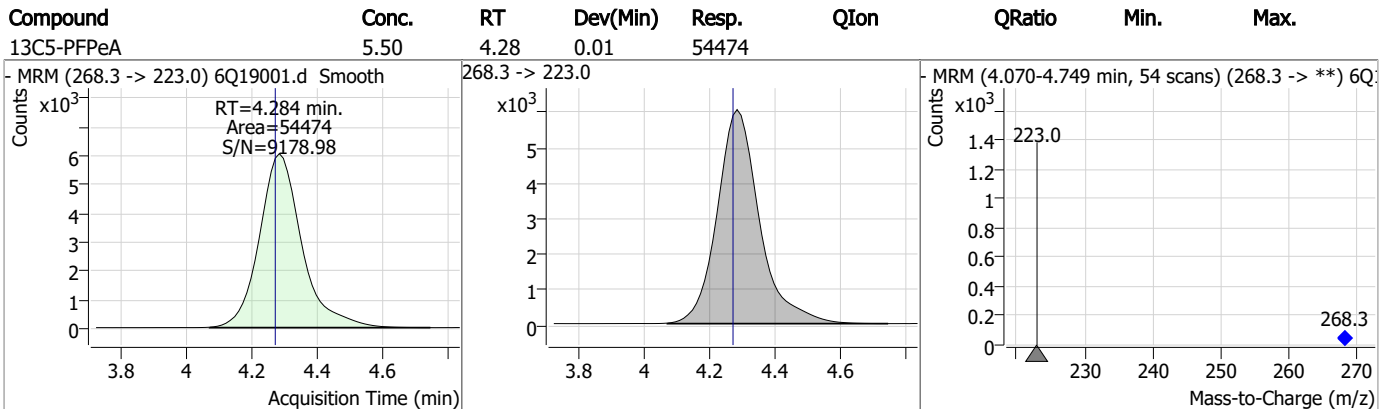
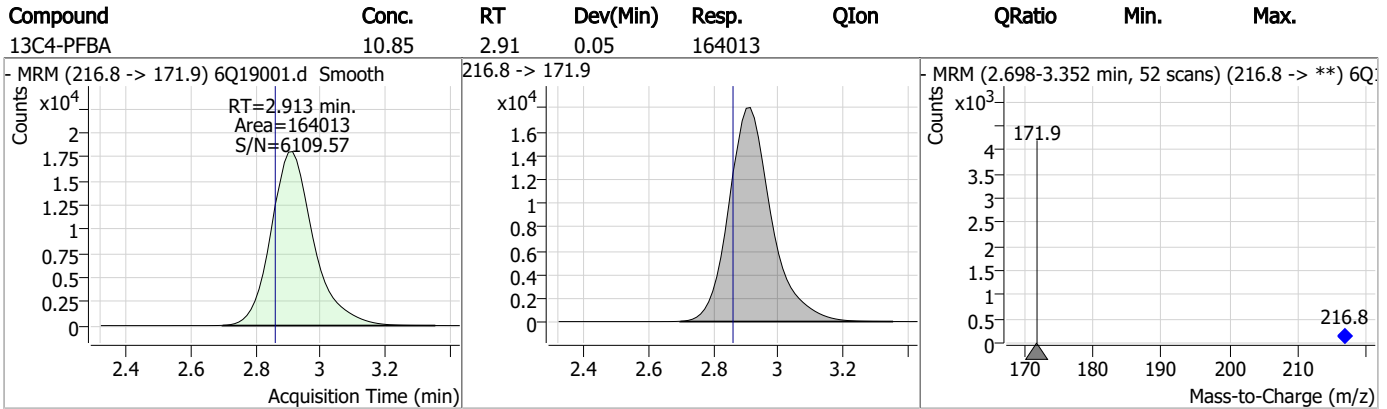
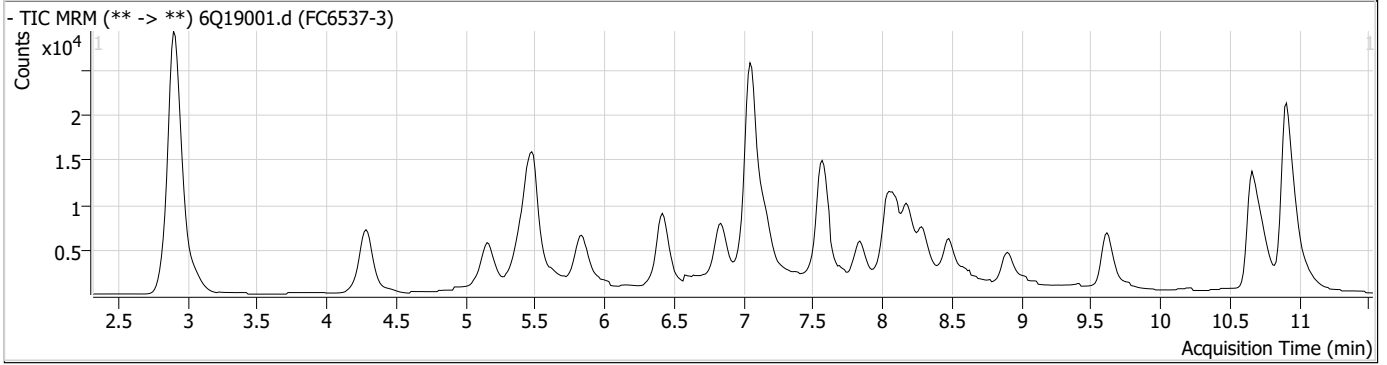
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.1.3
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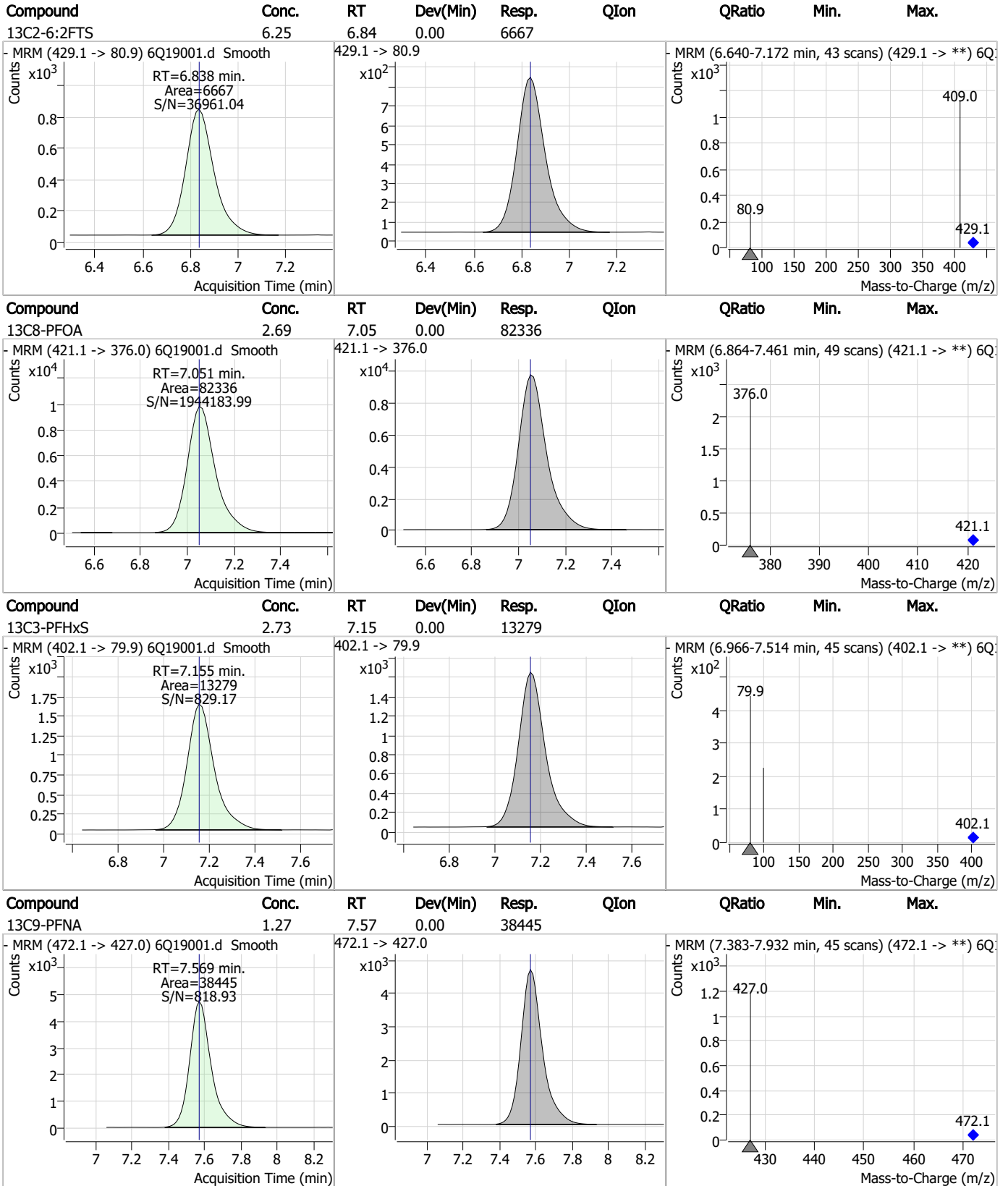
Perfluorinated Compounds by LC/MS/MS



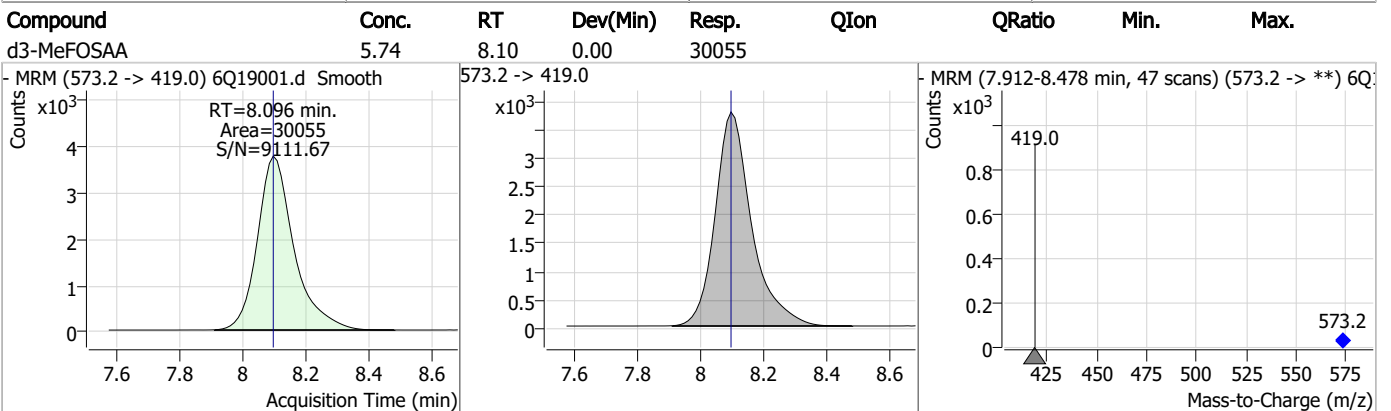
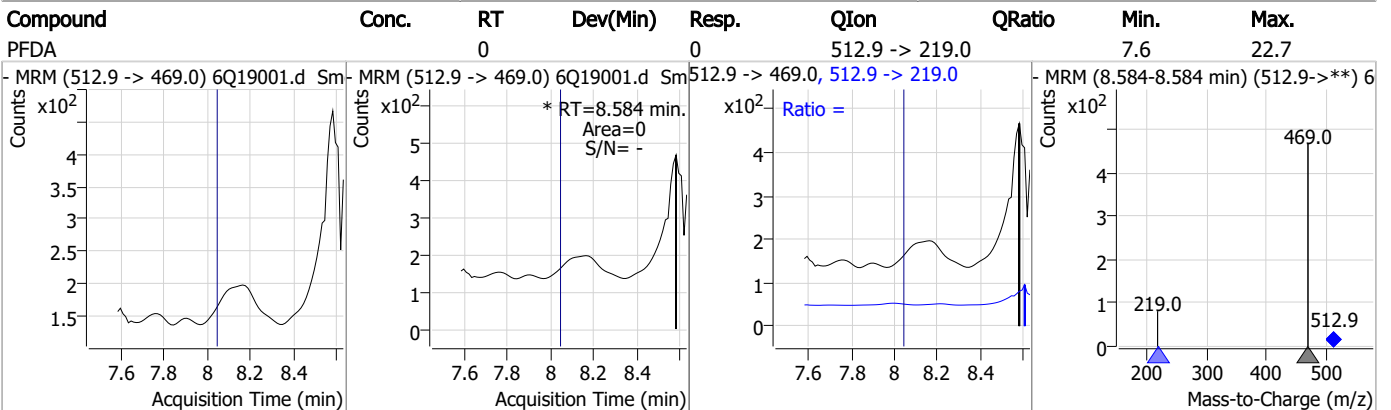
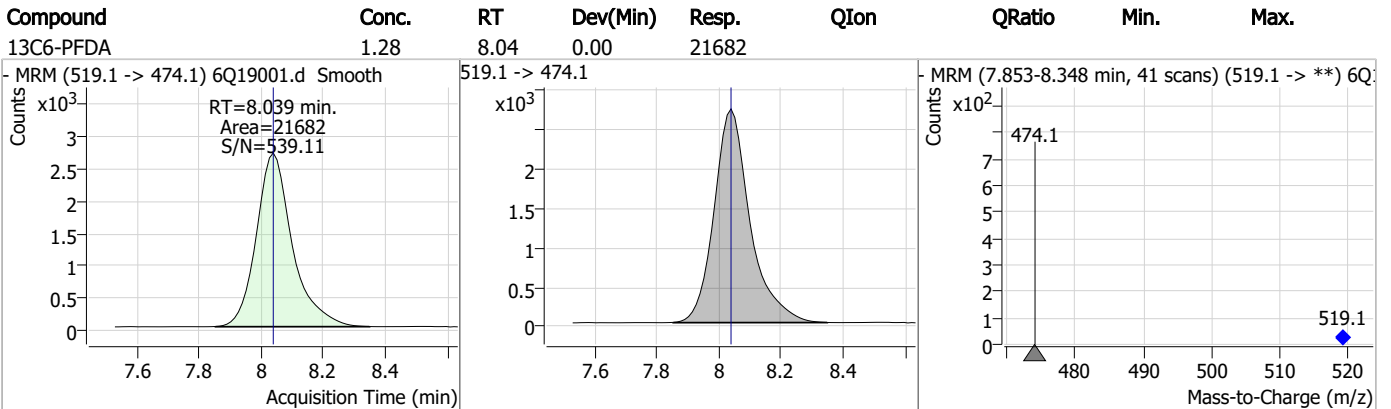
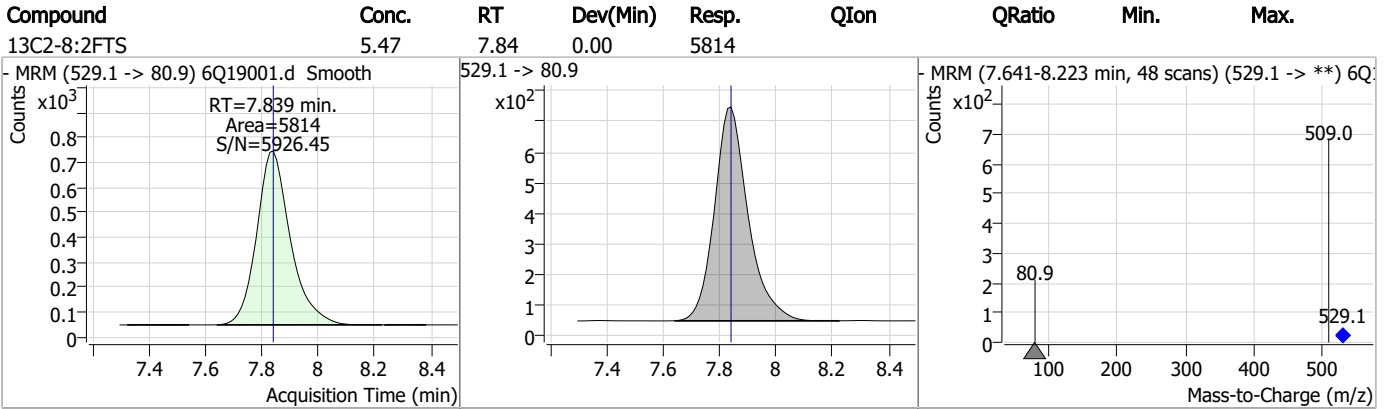
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.73	5.40	0.01	21643				
- MRM (302.1 -> 79.9) 6Q19001.d Smooth Counts x10 ³ RT=5.397 min. Area=21643 S/N=13101.56 Acquisition Time (min)			302.1 -> 79.9 Counts x10 ³ Acquisition Time (min)			- MRM (5.174-5.853 min, 56 scans) (302.1 -> **) 6Q Counts x10 ² 79.9 98.9 302.1 Mass-to-Charge (m/z)		
13C5-PFHxA	2.62	5.48	0.00	56575				
- MRM (318.0 -> 273.0) 6Q19001.d Smooth Counts x10 ³ RT=5.478 min. Area=56575 S/N=8391.47 Acquisition Time (min)			318.0 -> 273.0 Counts x10 ³ Acquisition Time (min)			- MRM (5.257-5.924 min, 55 scans) (318.0 -> **) 6Q Counts x10 ³ 120.3 273.0 318.0 Mass-to-Charge (m/z)		
13C3-HFPO-DA	11.63	5.84	0.01	37445				
- MRM (286.9 -> 168.9) 6Q19001.d Smooth Counts x10 ³ RT=5.844 min. Area=37445 S/N=4193.28 Acquisition Time (min)			286.9 -> 168.9 Counts x10 ³ Acquisition Time (min)			- MRM (5.634-6.289 min, 54 scans) (286.9 -> **) 6Q Counts x10 ³ 168.9 184.9 286.9 Mass-to-Charge (m/z)		
13C4-PFHpA	2.74	6.42	0.00	55723				
- MRM (367.1 -> 322.0) 6Q19001.d Smooth Counts x10 ³ RT=6.420 min. Area=55723 S/N=2577.70 Acquisition Time (min)			367.1 -> 322.0 Counts x10 ³ Acquisition Time (min)			- MRM (6.232-6.796 min, 46 scans) (367.1 -> **) 6Q Counts x10 ³ 322.0 367.1 Mass-to-Charge (m/z)		

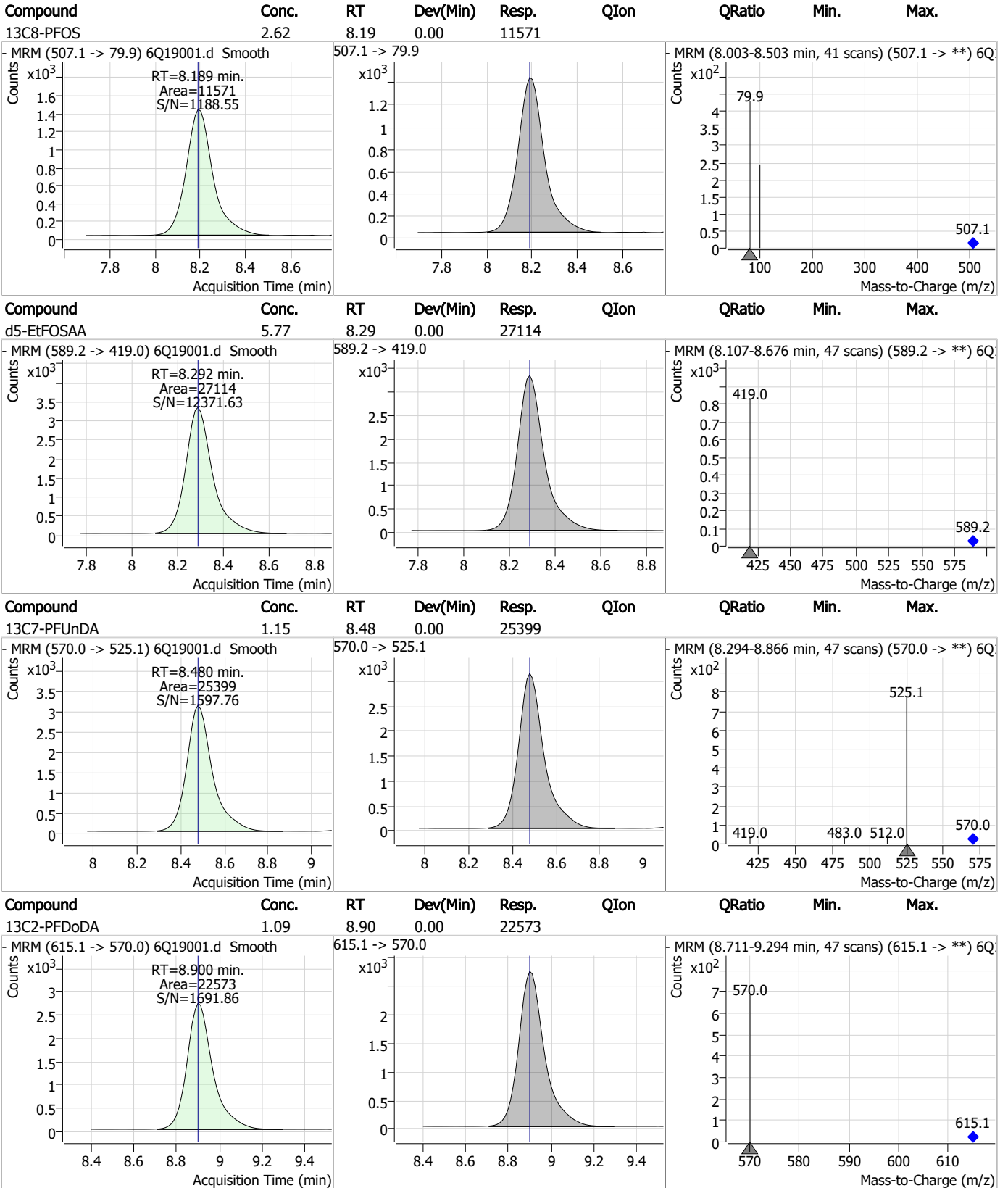
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



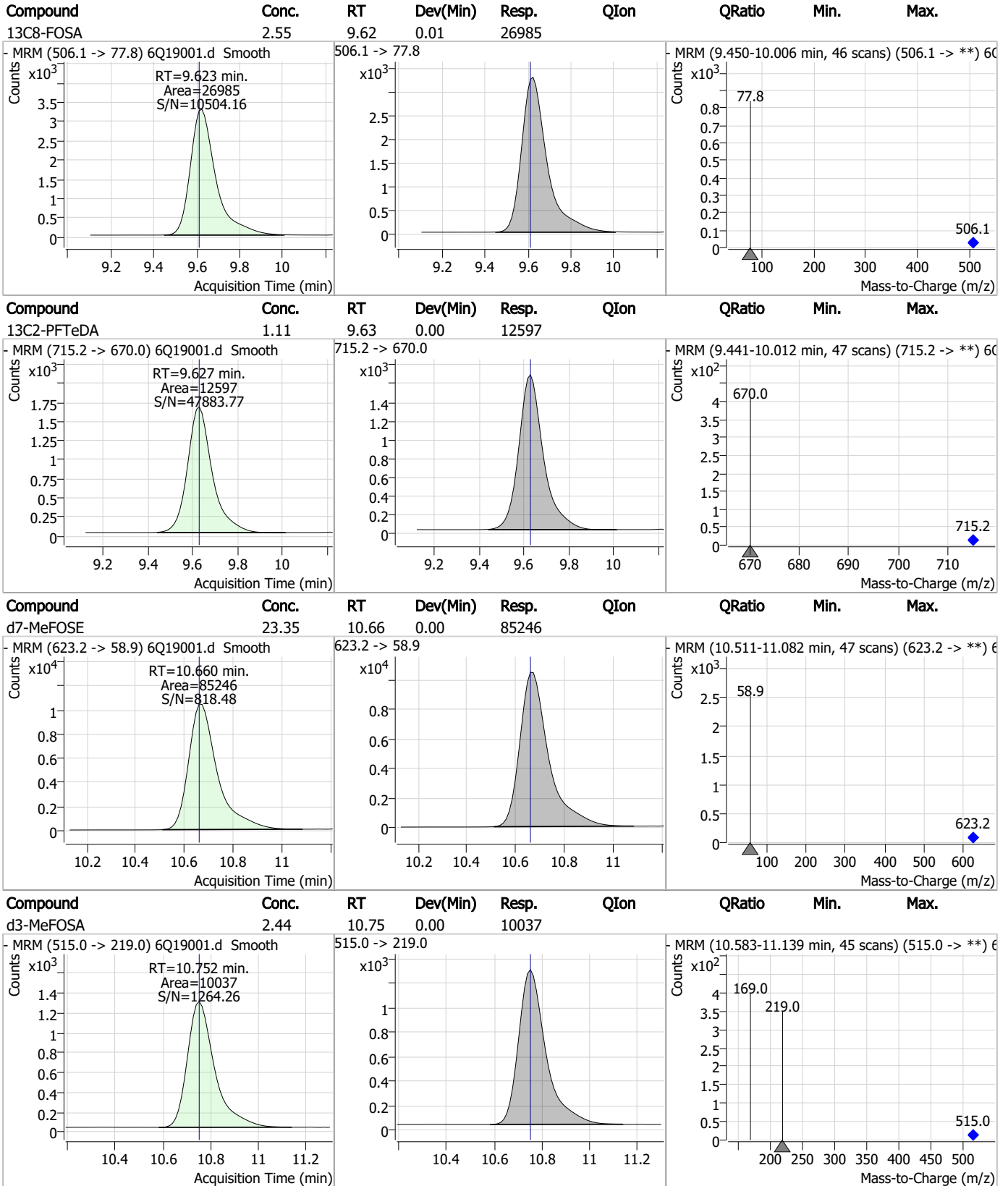
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

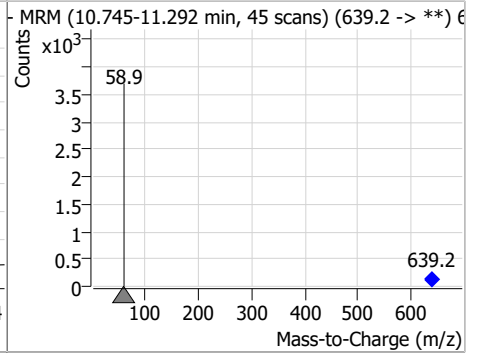
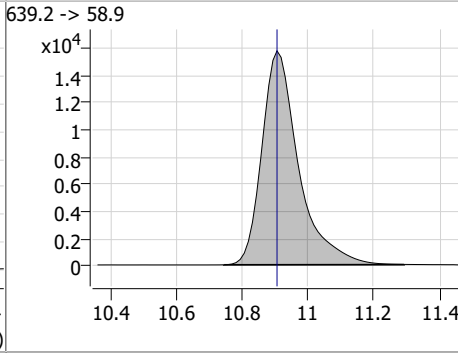
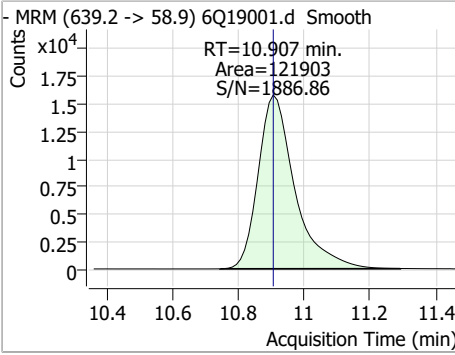


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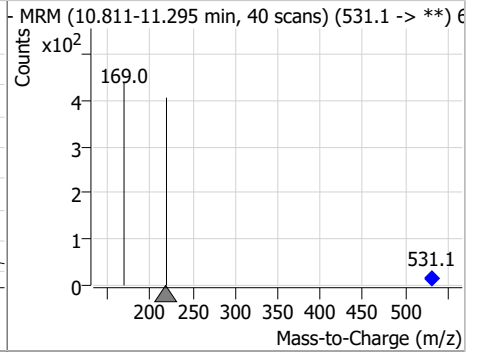
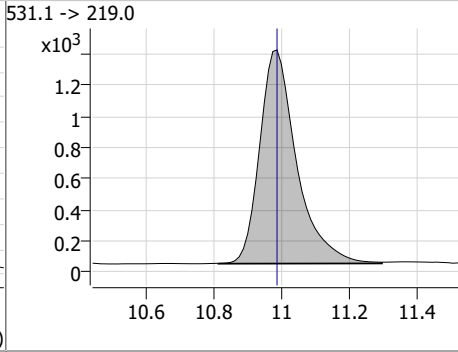
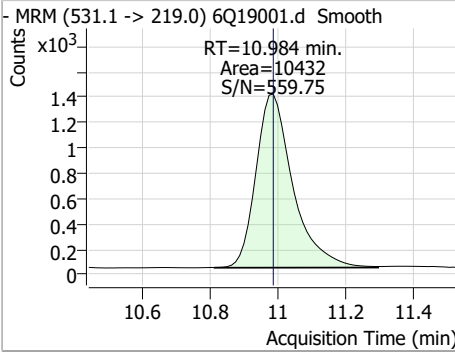
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.22	10.91	0.00	121903				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOFA	2.64	10.98	0.00	10432				



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19003.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 4:17:44 AM
 Sample Name : FC6537-4
 Vial : P3-B3
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97216,S6Q283,560,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	158508	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	51454	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	53912	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	52348	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	78111	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	37563	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	19599	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	23573	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	20721	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	10844	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	23258	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	20400	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	12647	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	10597	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4176	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	5916	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5669	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	28604	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	35231	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	24026	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	77080	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	107147	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	8619	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	8781	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	14544	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	63475	5.00 µg/L	0.052
18O2-PFHxS	7.154	403.0 -> 83.9	8704	2.50 µg/L	0.000
13C4-PFOA	7.065	417.1 -> 372.0	80375	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	28057	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	43115	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	49855	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4176	5.83 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.7%		
13C2-6:2FTS	6.838	429.1 -> 80.9	5916	5.75 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.0%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5669	5.53 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.7%		
13C2-PFDoDA	8.900	615.1 -> 570.0	20721	1.01 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 80.8%		
13C2-PFTeDA	9.627	715.2 -> 670.0	10844	0.96 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 77.2%		
13C3-PFBS	5.397	302.1 -> 79.9	20400	2.67 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 106.7%		
13C3-PFHxS	7.155	402.1 -> 79.9	12647	2.69 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 = 107.7%	
13C4-PFBA	2.913	216.8 -> 171.9	158508	10.52 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 105.2%	
13C4-PFHpA	6.420	367.1 -> 322.0	52348	2.63 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.4%	
13C5-PFHxA	5.478	318.0 -> 273.0	53912	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.2%	
13C5-PFPeA	4.284	268.3 -> 223.0	51454	5.32 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.4%	
13C6-PFDA	8.039	519.1 -> 474.1	19599	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.2%	
13C7-PFUnDA	8.480	570.0 -> 525.1	23573	1.08 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 86.7%	
13C8-FOSA	9.623	506.1 -> 77.8	23258	2.20 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.9%	
13C8-PFOA	7.064	421.1 -> 376.0	78111	2.53 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.4%	
13C8-PFOS	8.189	507.1 -> 79.9	10597	2.40 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.0%	
13C9-PFNA	7.569	472.1 -> 427.0	37563	1.32 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	28604	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	35231	11.22 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 112.2%	
d3-MeFOSA	10.752	515.0 -> 219.0	8781	2.13 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 85.3%	
d5-EtFOSAA	8.292	589.2 -> 419.0	24026	5.11 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 102.3%	
d7-MeFOSE	10.660	623.2 -> 58.9	77080	21.11 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 84.5%	
d9-EtFOSE	10.907	639.2 -> 58.9	107147	23.04 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 92.2%	
d5-EtFOSA	10.984	531.1 -> 219.0	8619	2.18 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 87.2%	

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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

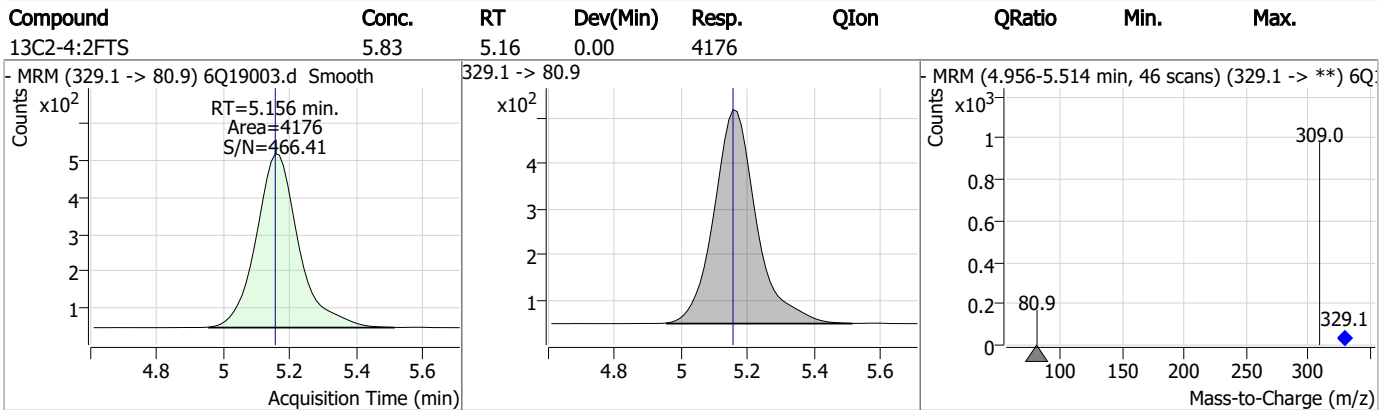
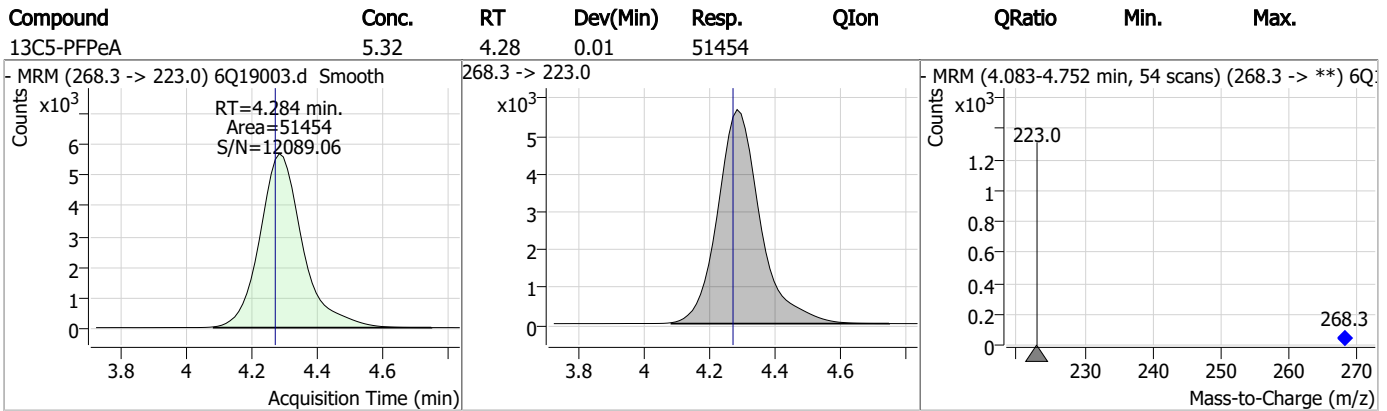
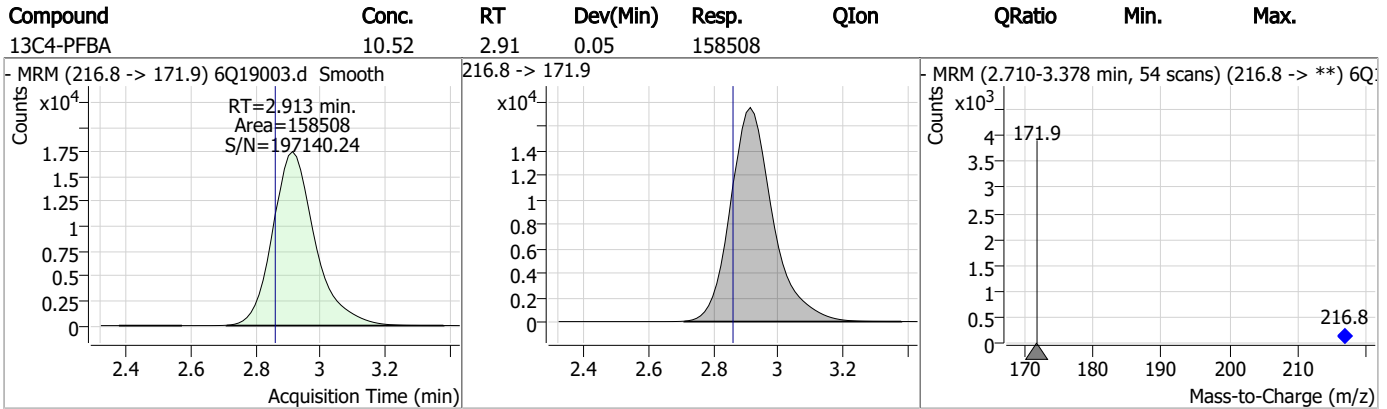
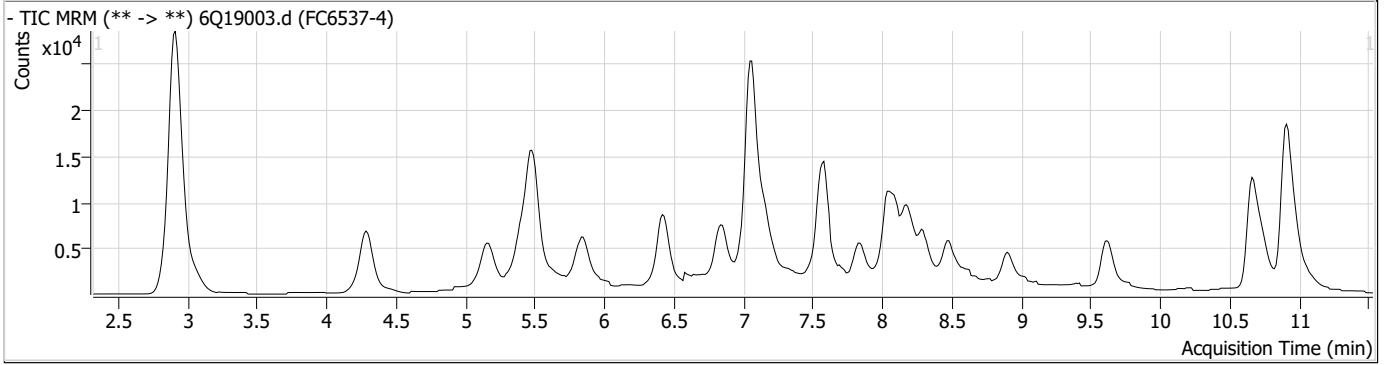
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.1.4

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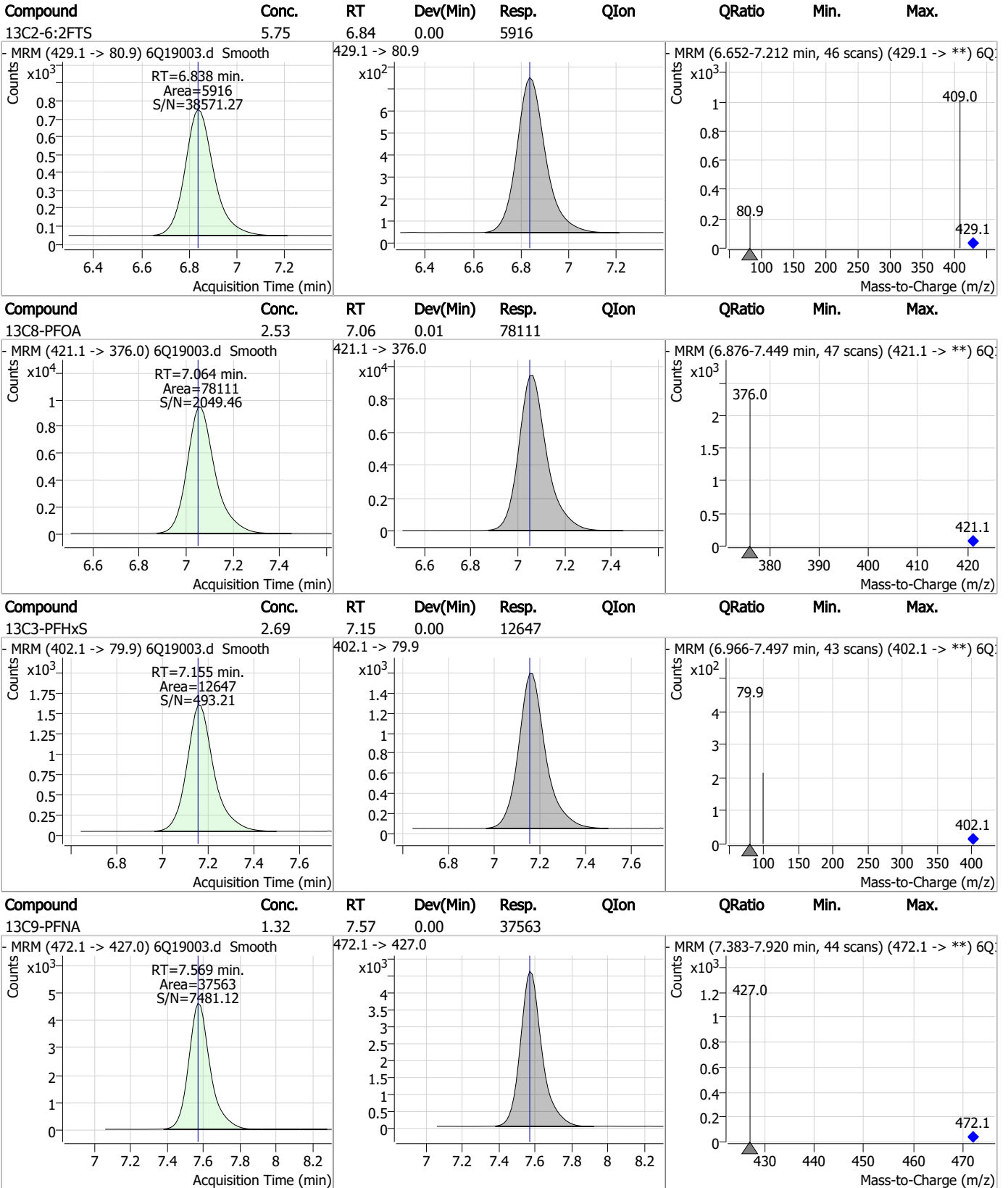
Perfluorinated Compounds by LC/MS/MS



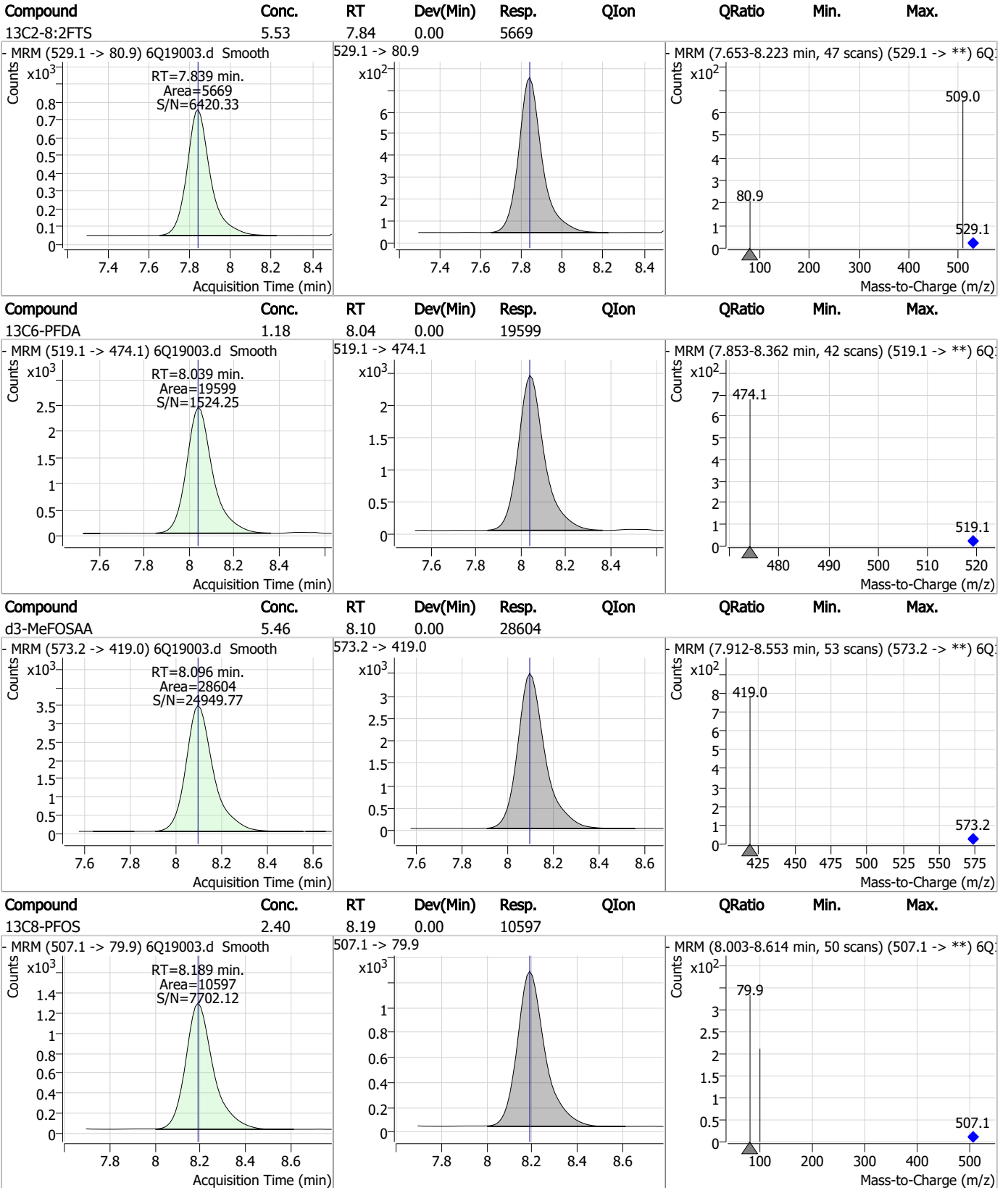
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.67	5.40	0.01	20400				
13C5-PFHxA	2.55	5.48	0.00	53912				
13C3-HFPO-DA	11.22	5.84	0.01	35231				
13C4-PFHpA	2.63	6.42	0.00	52348				

Perfluorinated Compounds by LC/MS/MS



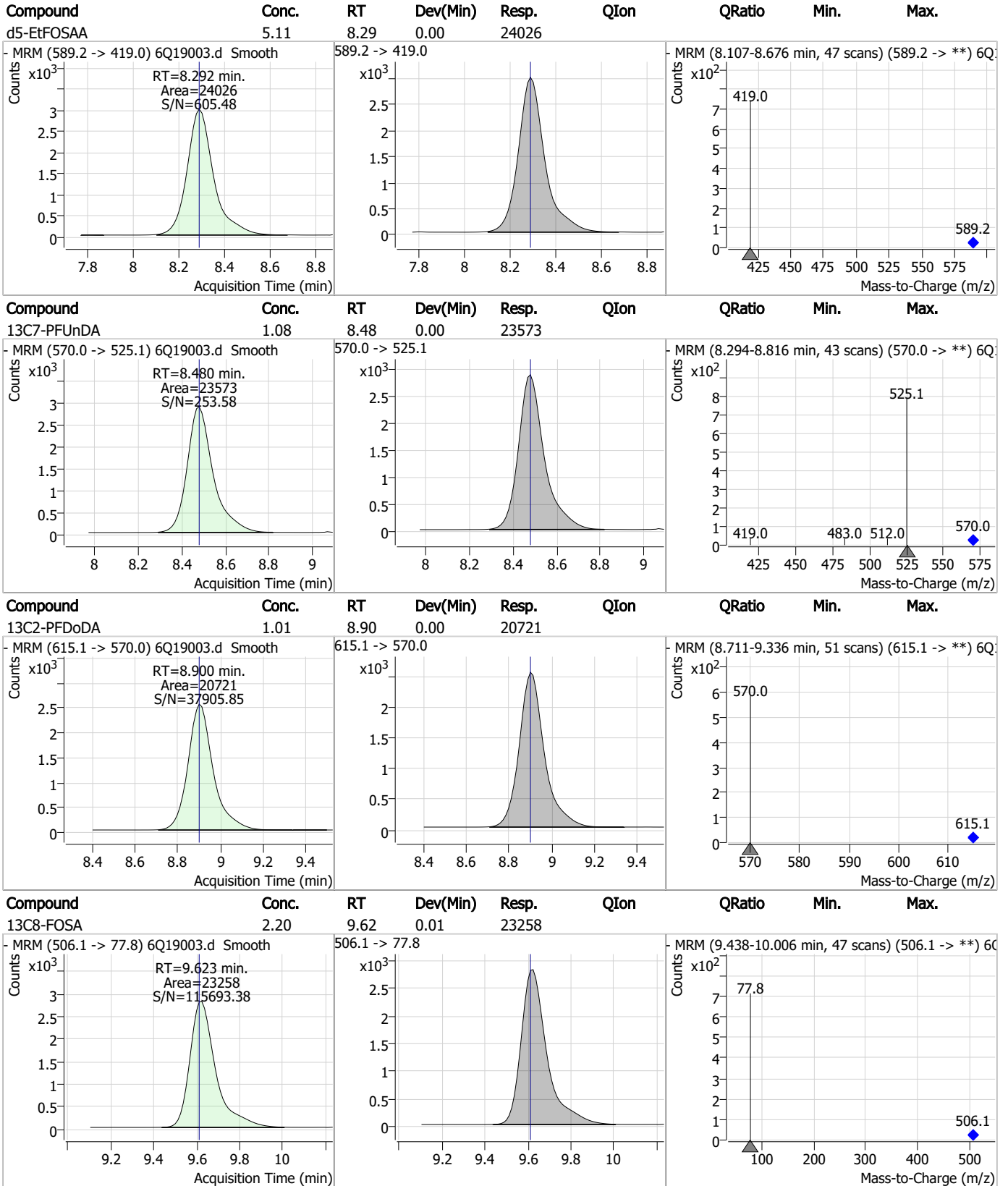
Perfluorinated Compounds by LC/MS/MS



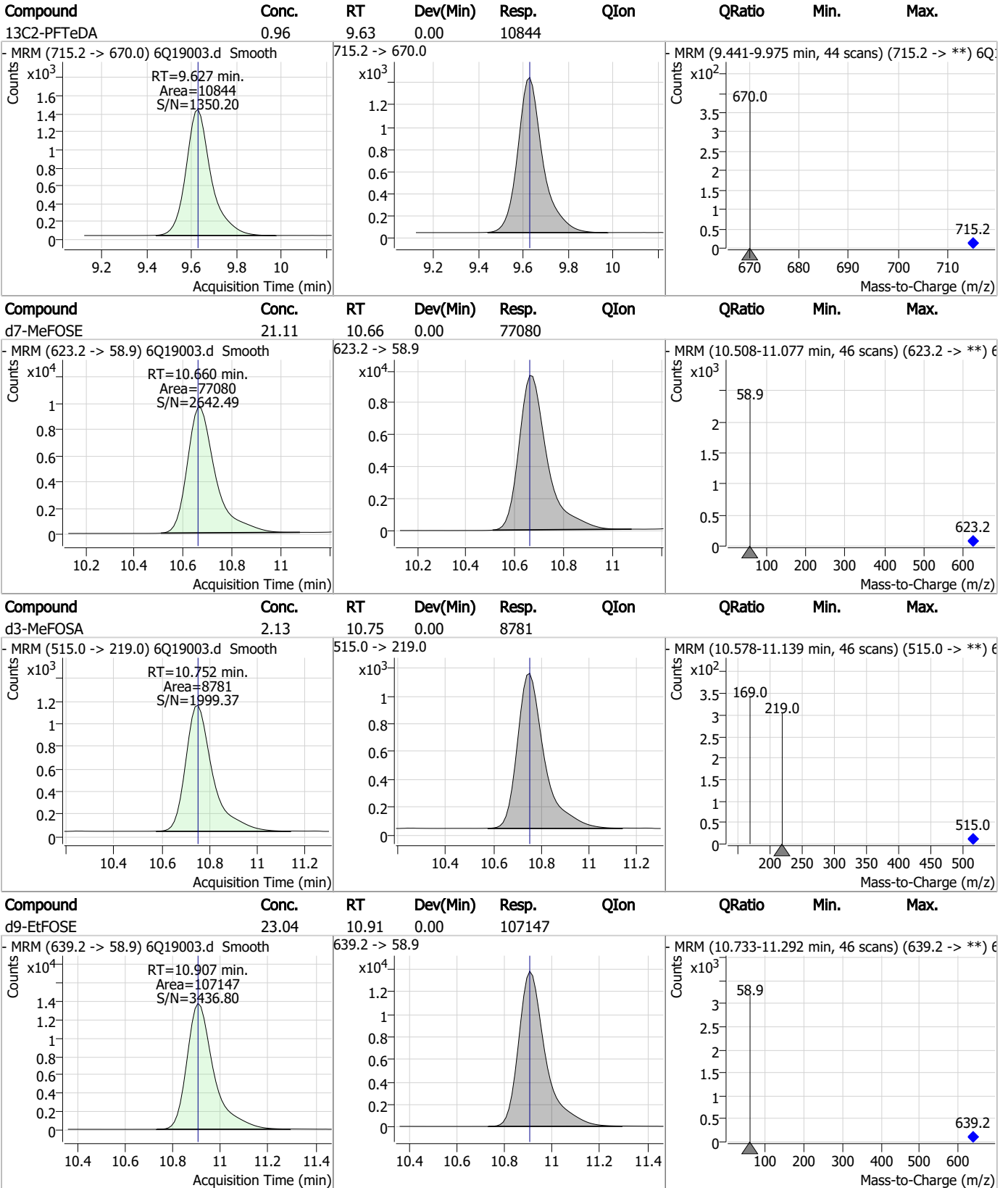
7.1.4

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



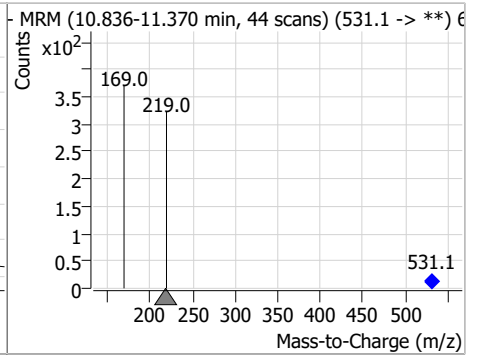
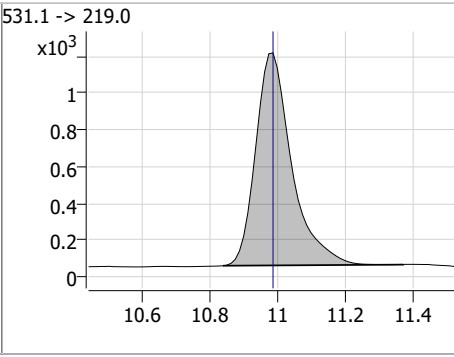
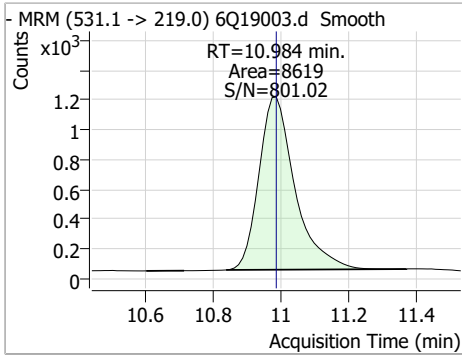
7.1.4

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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSA	2.18	10.98	0.00	8619				



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19006.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 5:01:10 AM
 Sample Name : FC6537-5
 Vial : P3-B4
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97216,S6Q283,550,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	147990	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	55580	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	60226	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	55872	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	85778	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	38530	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	21673	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	25782	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	21768	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	12004	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	26172	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	21585	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	13668	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	11954	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4595	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6771	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5899	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	31233	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	38684	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	26721	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	86940	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	117856	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	10111	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	10677	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	14240	2.50 µg/L	0.000
13C3-PFBA	2.904	216.0 -> 172.0	66393	5.00 µg/L	0.040
18O2-PFHxS	7.154	403.0 -> 83.9	9212	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	82738	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	29400	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	45424	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	52134	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4595	6.07 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 121.3%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6771	6.22 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 124.4%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5899	5.44 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.8%		
13C2-PFDoDA	8.900	615.1 -> 570.0	21768	1.01 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 81.1%		
13C2-PFTeDA	9.627	715.2 -> 670.0	12004	1.02 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 81.5%		
13C3-PFBS	5.397	302.1 -> 79.9	21585	2.67 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 106.6%		
13C3-PFHxS	7.155	402.1 -> 79.9	13668	2.75 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 = 110.0%	
13C4-PFBA	2.913	216.8 -> 171.9	147990	9.39 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 93.9%	
13C4-PFHpA	6.420	367.1 -> 322.0	55872	2.69 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.6%	
13C5-PFHxA	5.478	318.0 -> 273.0	60226	2.73 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.2%	
13C5-PFPeA	4.284	268.3 -> 223.0	55580	5.49 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.9%	
13C6-PFDA	8.039	519.1 -> 474.1	21673	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	25782	1.13 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 90.4%	
13C8-FOSA	9.623	506.1 -> 77.8	26172	2.53 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C8-PFOA	7.064	421.1 -> 376.0	85778	2.70 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.1%	
13C8-PFOS	8.189	507.1 -> 79.9	11954	2.77 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.6%	
13C9-PFNA	7.569	472.1 -> 427.0	38530	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 103.2%	
d3-MeFOSAA	8.096	573.2 -> 419.0	31233	6.09 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 121.8%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	38684	11.78 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 117.8%	
d3-MeFOSA	10.752	515.0 -> 219.0	10677	2.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.9%	
d5-EtFOSAA	8.292	589.2 -> 419.0	26721	5.81 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 116.2%	
d7-MeFOSE	10.672	623.2 -> 58.9	86940	24.32 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.3%	
d9-EtFOSE	10.907	639.2 -> 58.9	117856	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	10111	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.5%	

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	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.	

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

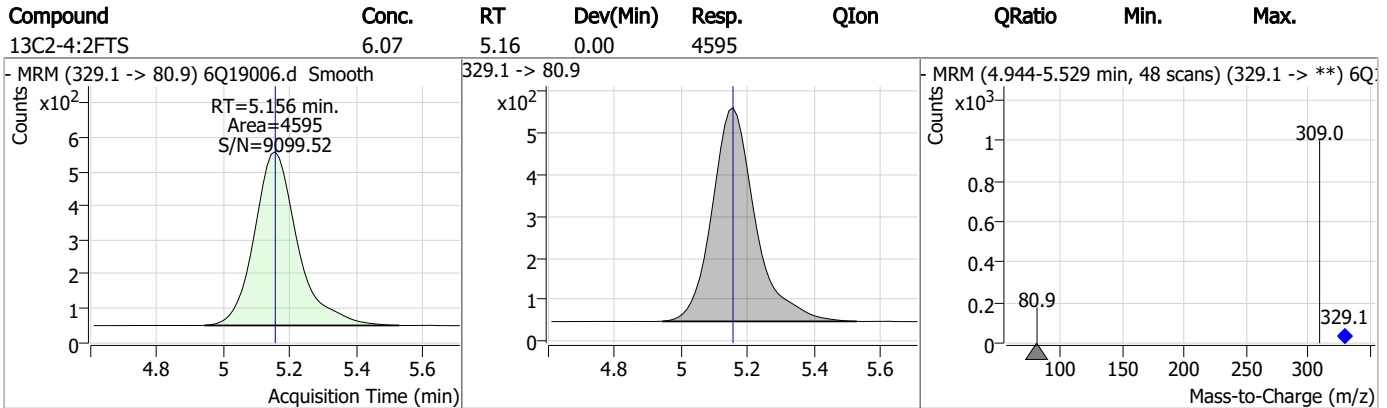
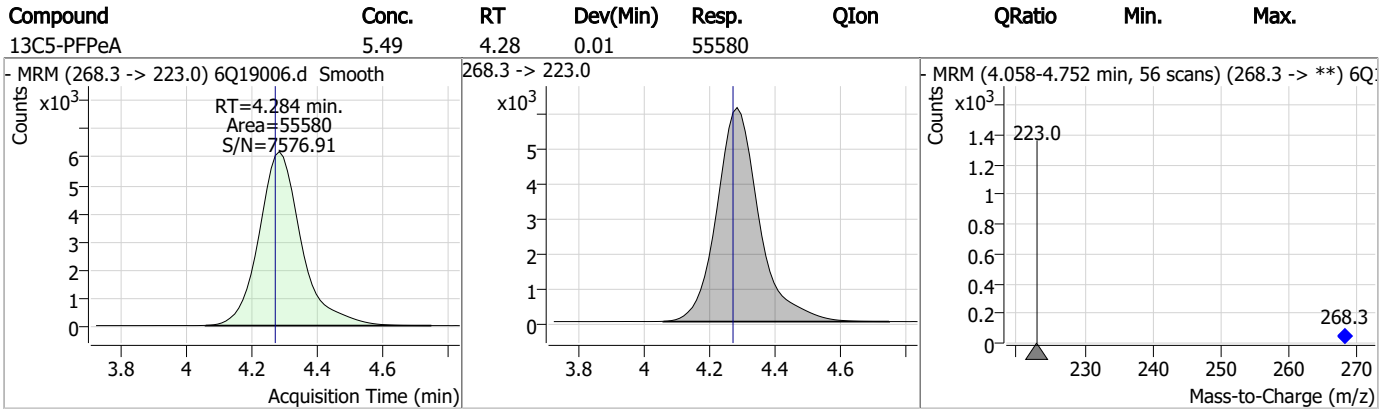
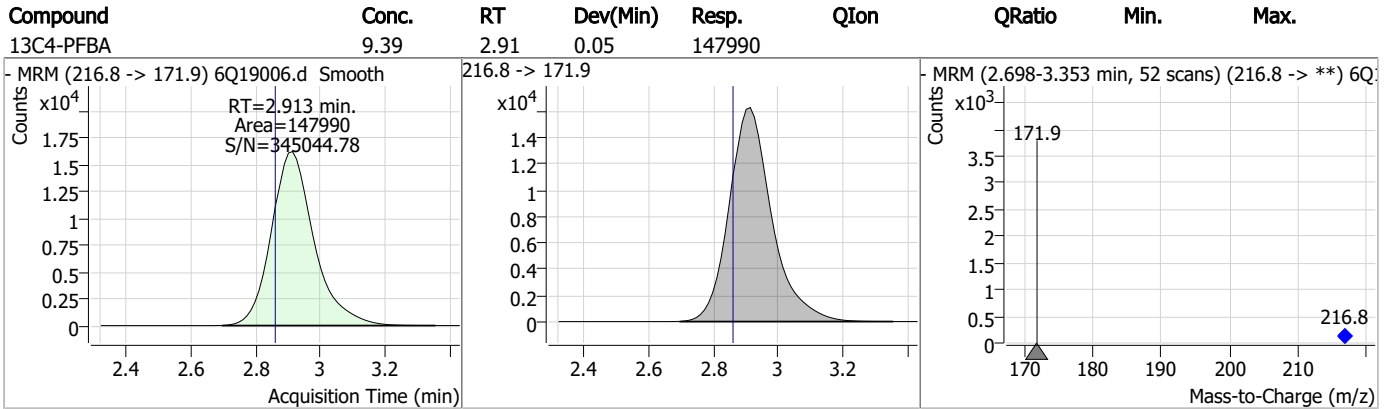
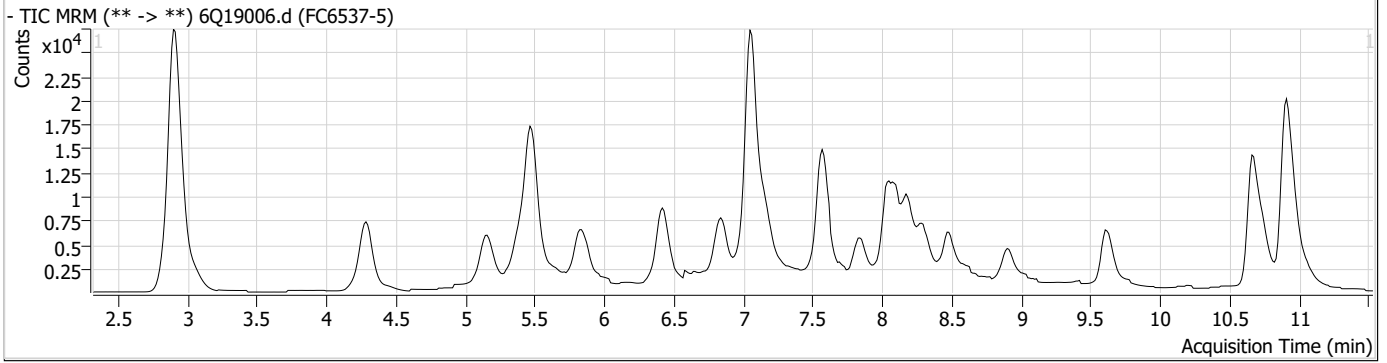
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.1.5

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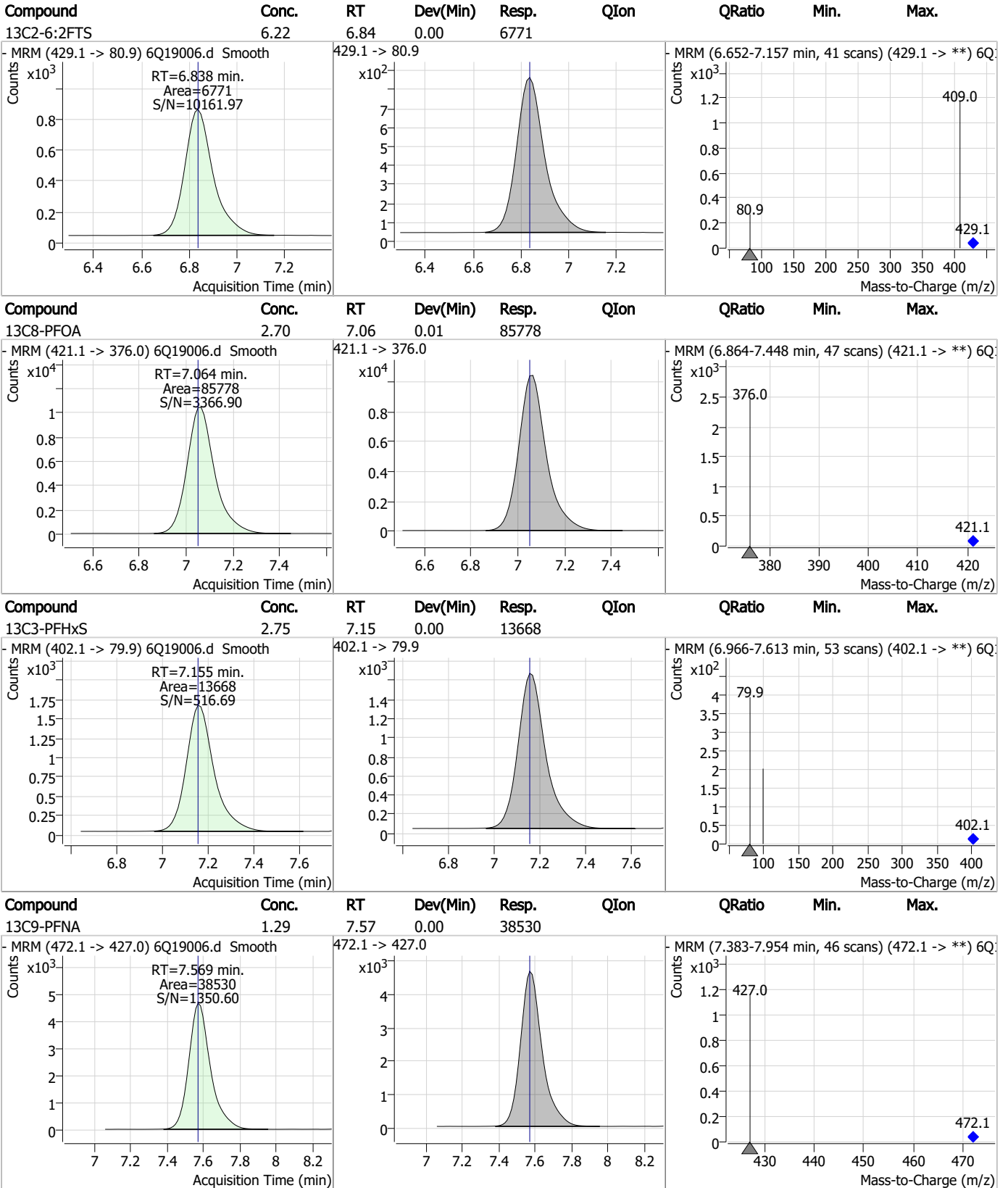
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.67	5.40	0.01	21585				
13C5-PFHxA	2.73	5.48	0.00	60226				
13C3-HFPO-DA	11.78	5.84	0.01	38684				
13C4-PFHpA	2.69	6.42	0.00	55872				

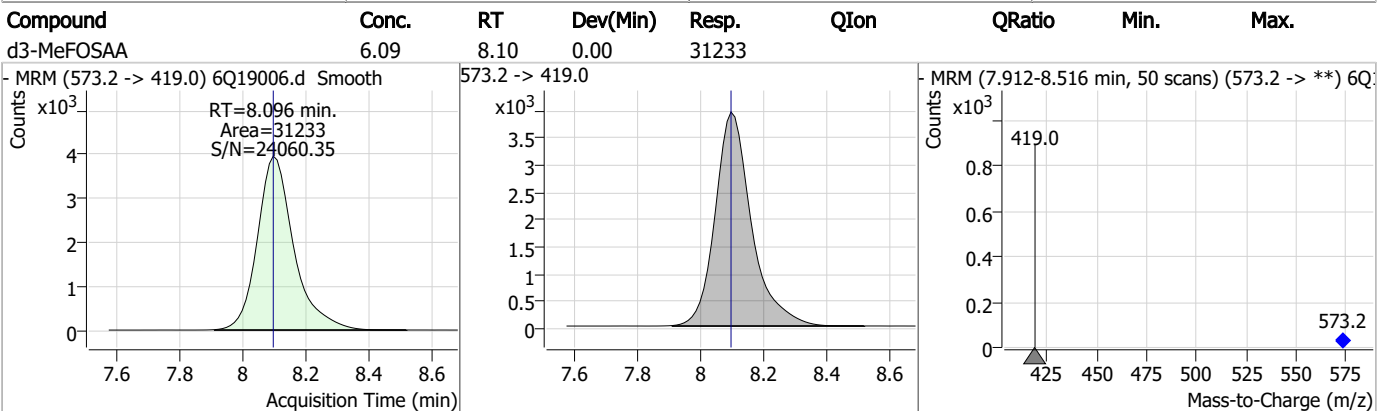
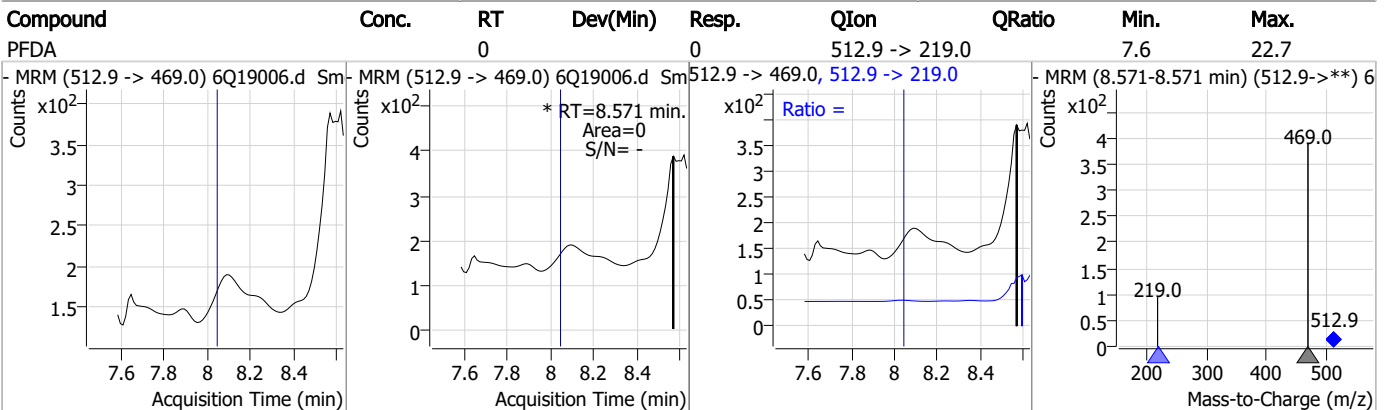
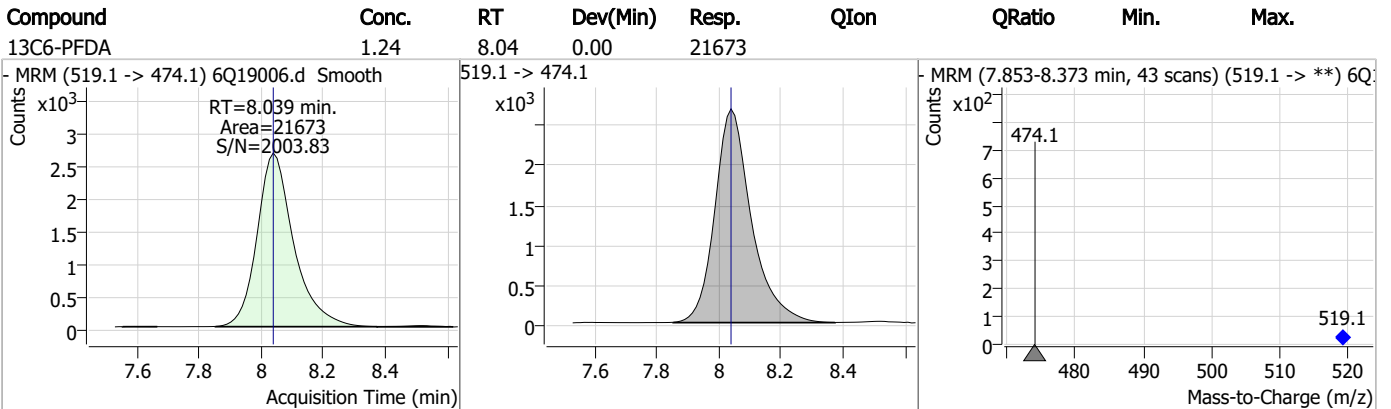
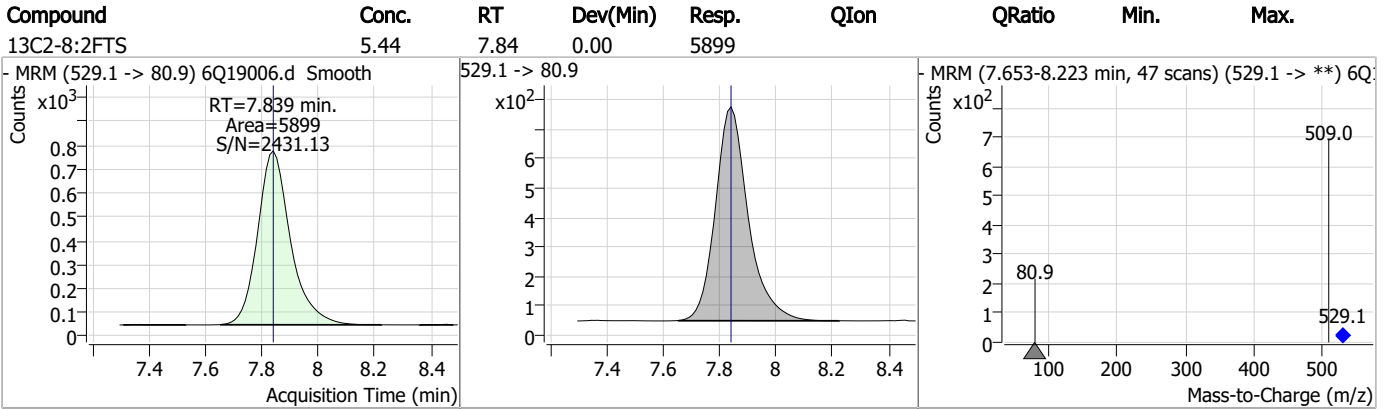
Perfluorinated Compounds by LC/MS/MS



7.1.5

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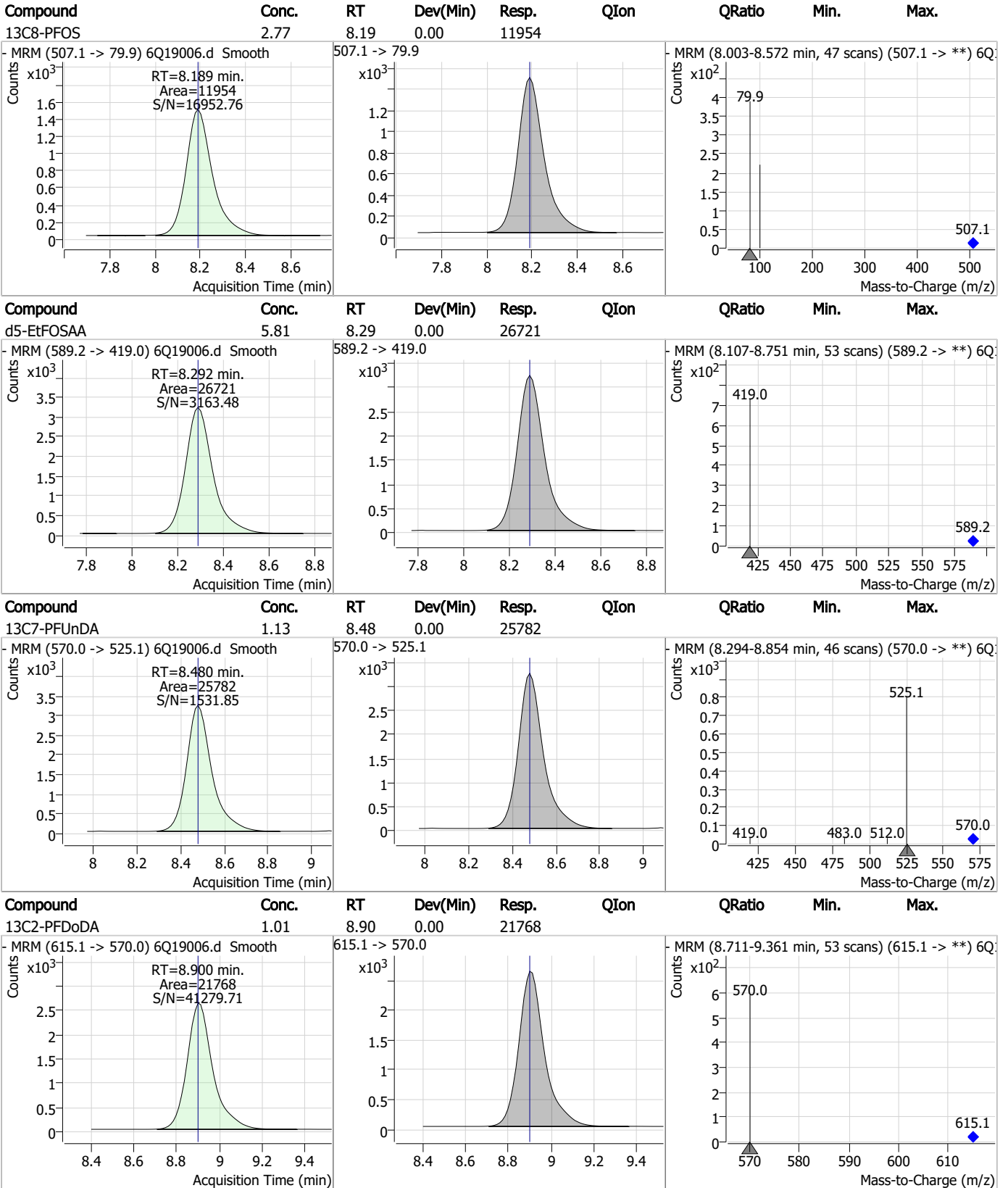
Perfluorinated Compounds by LC/MS/MS



7.1.5

7

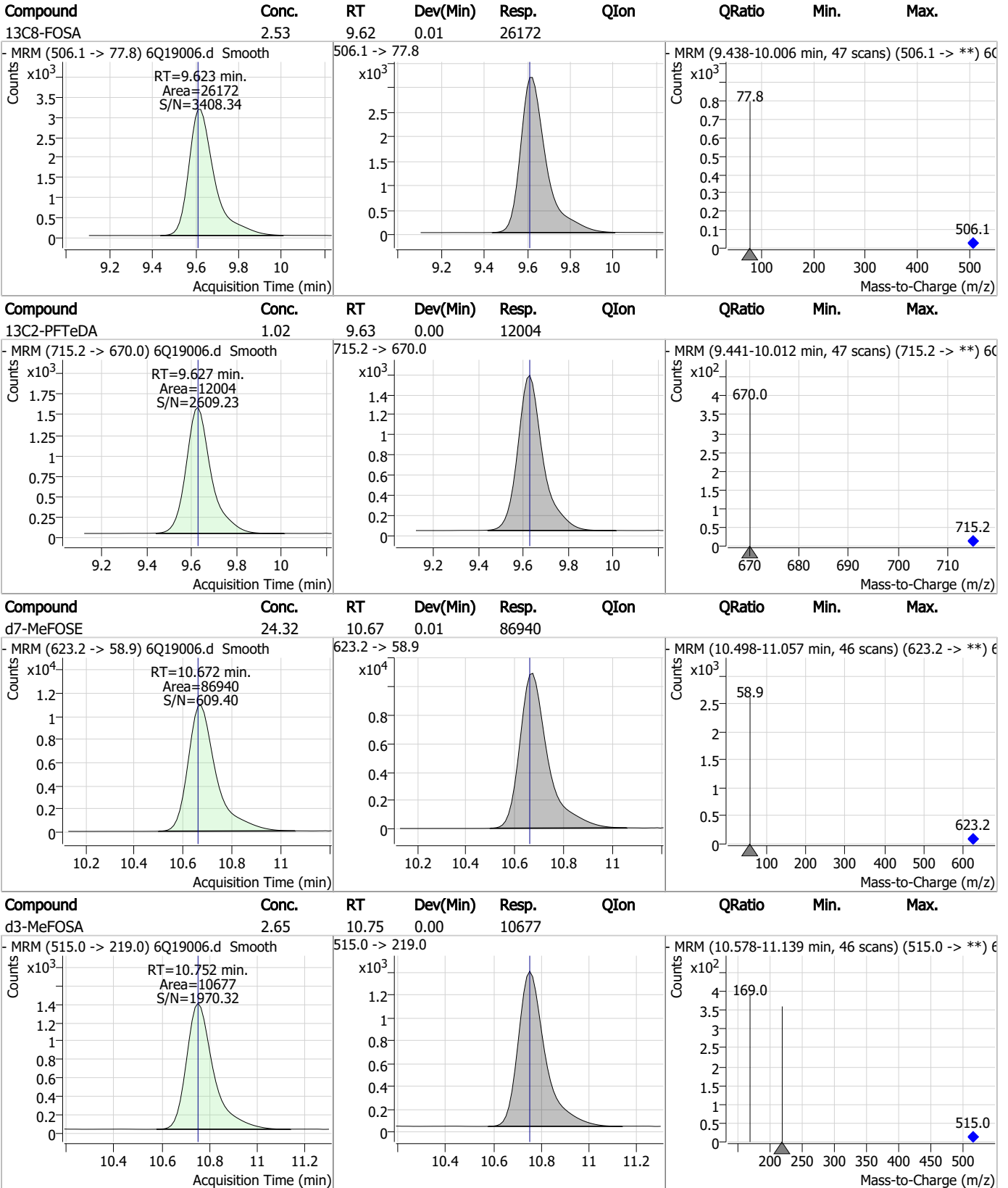
Perfluorinated Compounds by LC/MS/MS



7.1.5

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Perfluorinated Compounds by LC/MS/MS

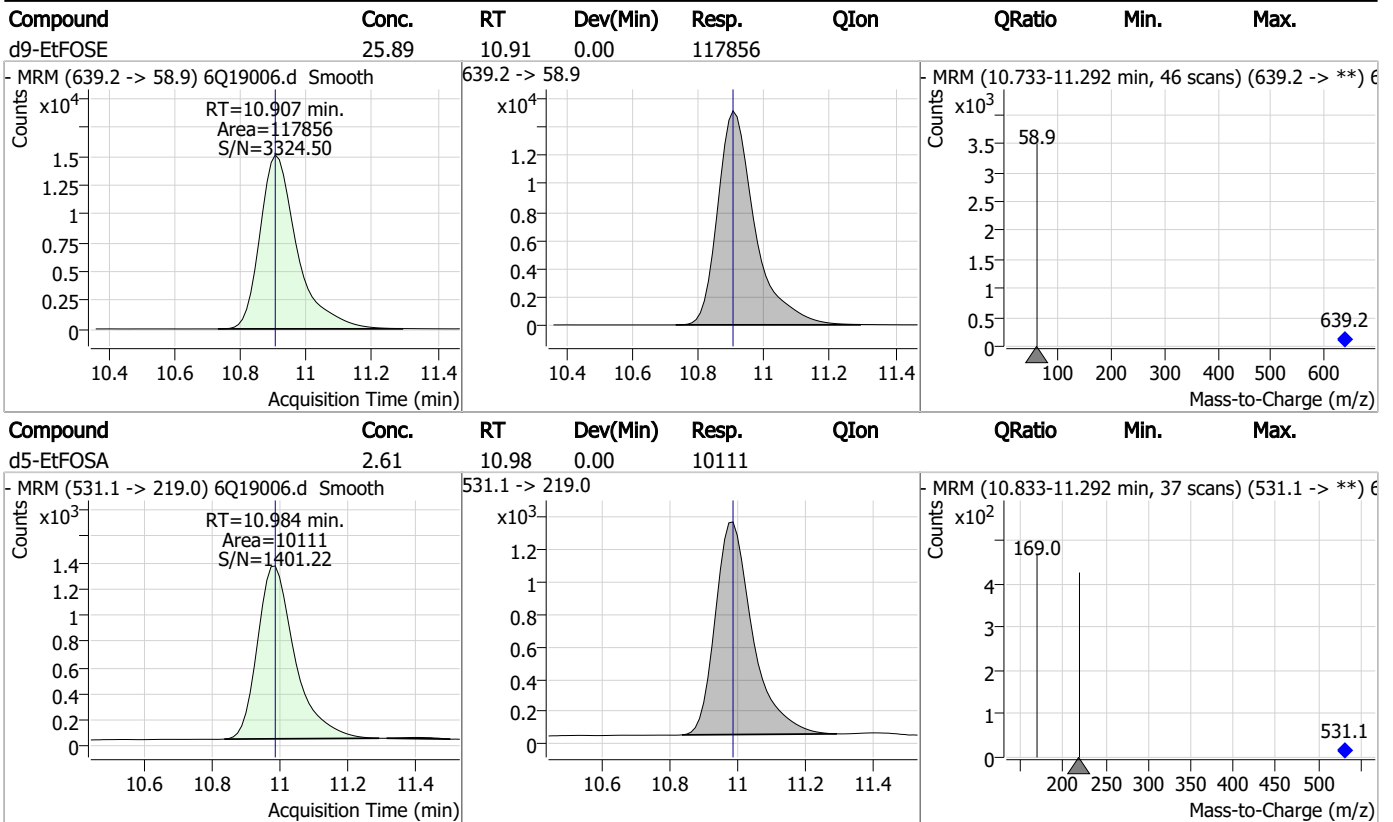


7.1.5

7



Perfluorinated Compounds by LC/MS/MS



7.1.5
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18997.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 2:50:46 AM
 Sample Name : op97216-mb
 Vial : P3-A6
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97216,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	170006	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	53253	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	59520	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	55105	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	86217	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	39840	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	25298	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	29888	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	26168	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	13256	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	21497	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	21290	2.50 µg/L	0.013
M3-PFHxS	7.167	402.1 -> 79.9	13143	2.50 µg/L	0.012
M8-PFOS	8.189	507.1 -> 79.9	12445	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4533	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6671	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6465	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	31888	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	36927	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	25589	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	69964	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	107648	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	9375	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	8801	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	14883	2.50 µg/L	0.000
13C3-PFBA	2.904	216.0 -> 172.0	64031	5.00 µg/L	0.040
18O2-PFHxS	7.166	403.0 -> 83.9	8786	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	80479	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	28783	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	44571	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	49774	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4533	6.27 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 125.5%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6671	6.42 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 128.5%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6465	6.25 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 125.0%		
13C2-PFDoDA	8.900	615.1 -> 570.0	26168	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.5%		
13C2-PFTeDA	9.627	715.2 -> 670.0	13256	1.15 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 92.0%		
13C3-PFBS	5.397	302.1 -> 79.9	21290	2.76 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 110.3%		
13C3-PFHxS	7.167	402.1 -> 79.9	13143	2.77 µg/L	0.012

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 = 110.9%	
13C4-PFBA	2.913	216.8 -> 171.9	170006	11.19 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 111.9%	
13C4-PFHpA	6.420	367.1 -> 322.0	55105	2.78 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.1%	
13C5-PFHxA	5.478	318.0 -> 273.0	59520	2.83 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 113.0%	
13C5-PFPeA	4.284	268.3 -> 223.0	53253	5.51 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.3%	
13C6-PFDA	8.039	519.1 -> 474.1	25298	1.48 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 118.5%	
13C7-PFUnDA	8.480	570.0 -> 525.1	29888	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	21497	1.98 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 79.4%	
13C8-PFOA	7.064	421.1 -> 376.0	86217	2.79 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.7%	
13C8-PFOS	8.189	507.1 -> 79.9	12445	2.76 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 110.2%	
13C9-PFNA	7.569	472.1 -> 427.0	39840	1.36 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.7%	
d3-MeFOSAA	8.096	573.2 -> 419.0	31888	5.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.0%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	36927	11.77 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 117.7%	
d3-MeFOSA	10.752	515.0 -> 219.0	8801	2.09 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 83.5%	
d5-EtFOSAA	8.292	589.2 -> 419.0	25589	5.32 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.5%	
d7-MeFOSE	10.672	623.2 -> 58.9	69964	18.73 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 74.9%	
d9-EtFOSE	10.907	639.2 -> 58.9	107648	22.62 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.5%	
d5-EtFOSA	10.984	531.1 -> 219.0	9375	2.32 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 92.7%	

7.2.1
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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	8.608	512.9 -> 469.0	0	µg/L m	1
		512.9 -> 219.0	0		
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
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	7.600	548.8 -> 98.9	0	µg/L	m	1
		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

7.2.1
7

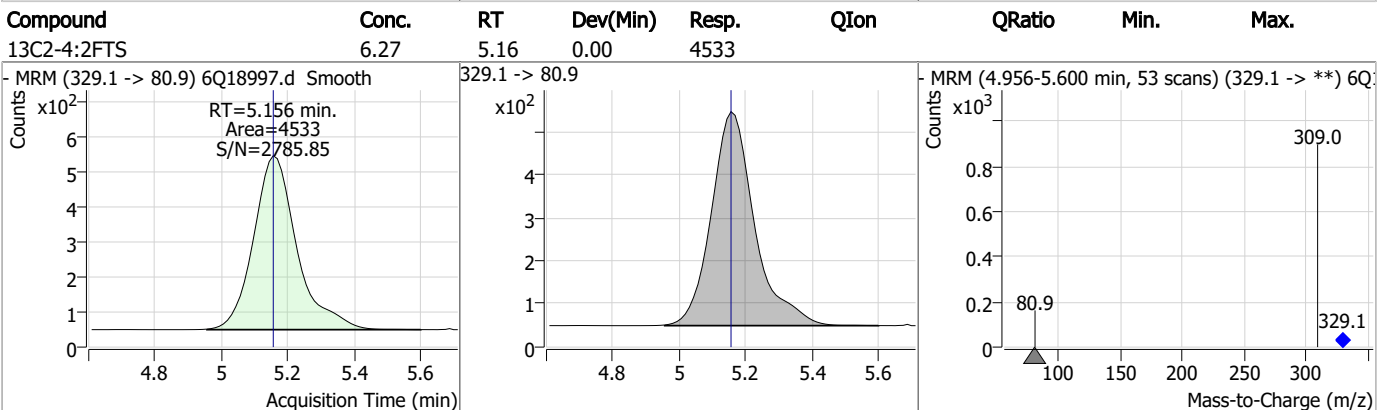
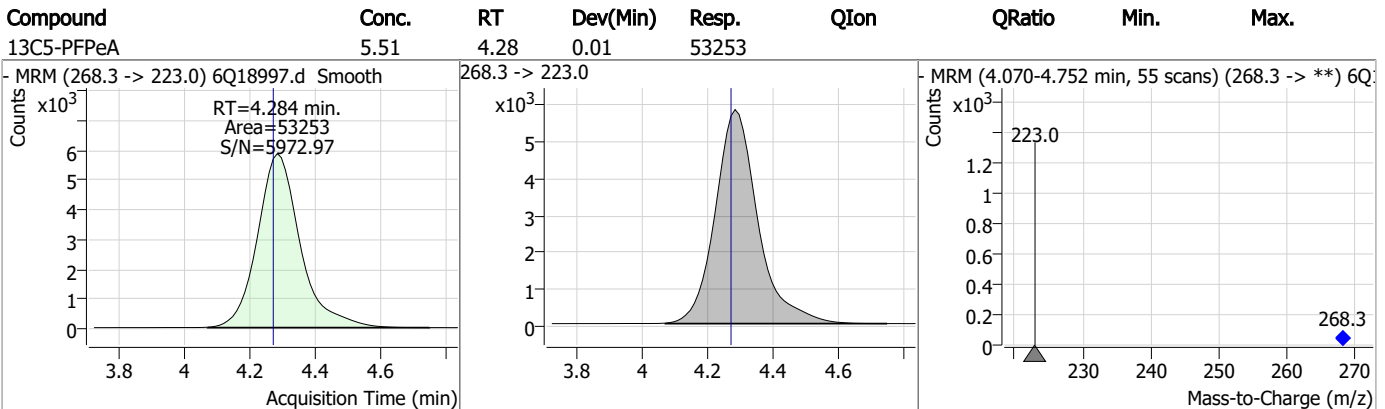
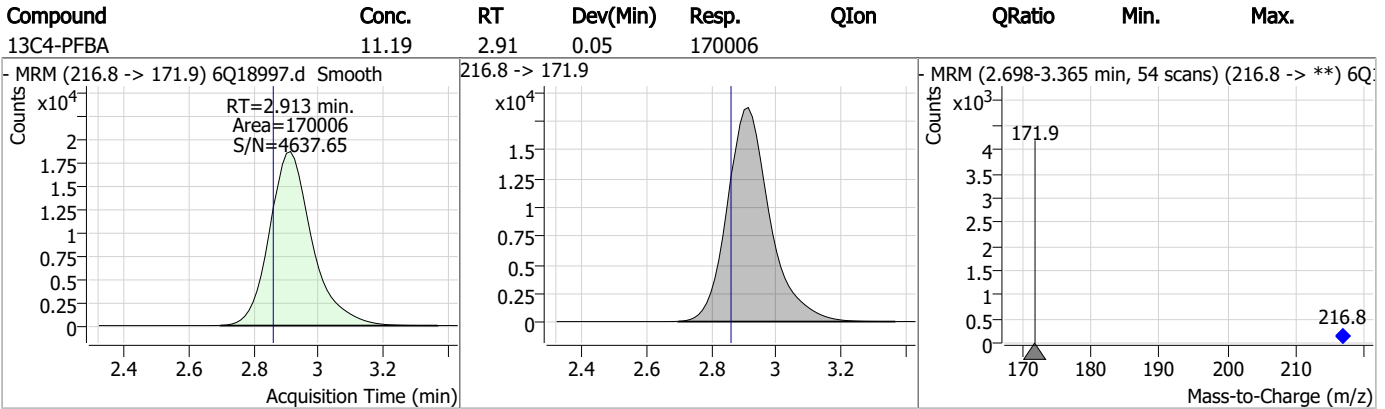
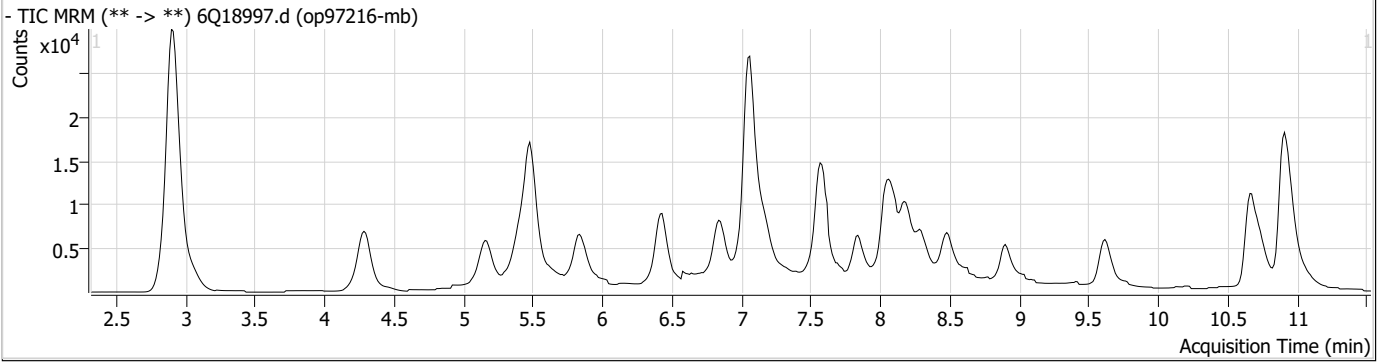
Perfluorinated Compounds by LC/MS/MS

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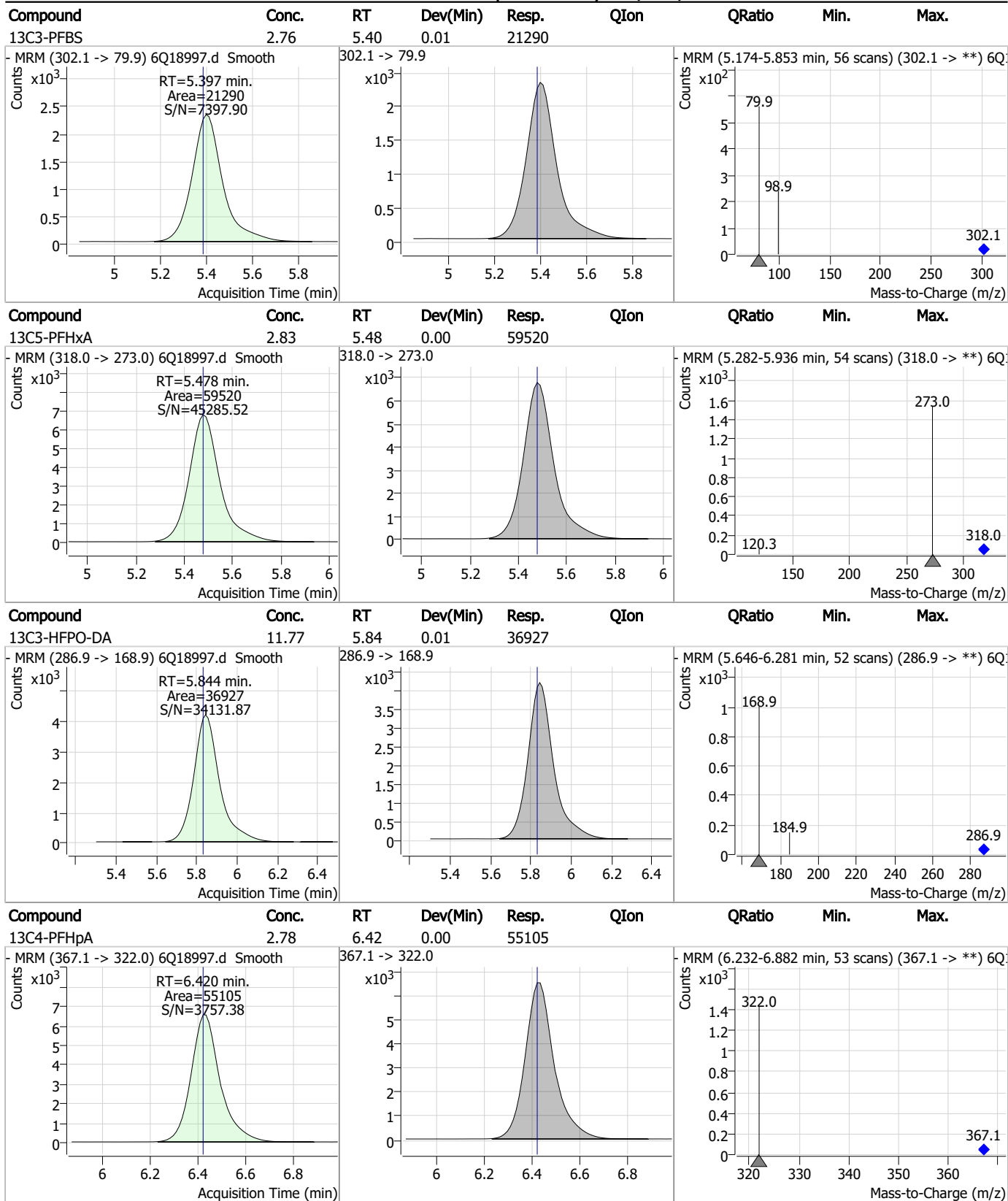
7.2.1

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Perfluorinated Compounds by LC/MS/MS

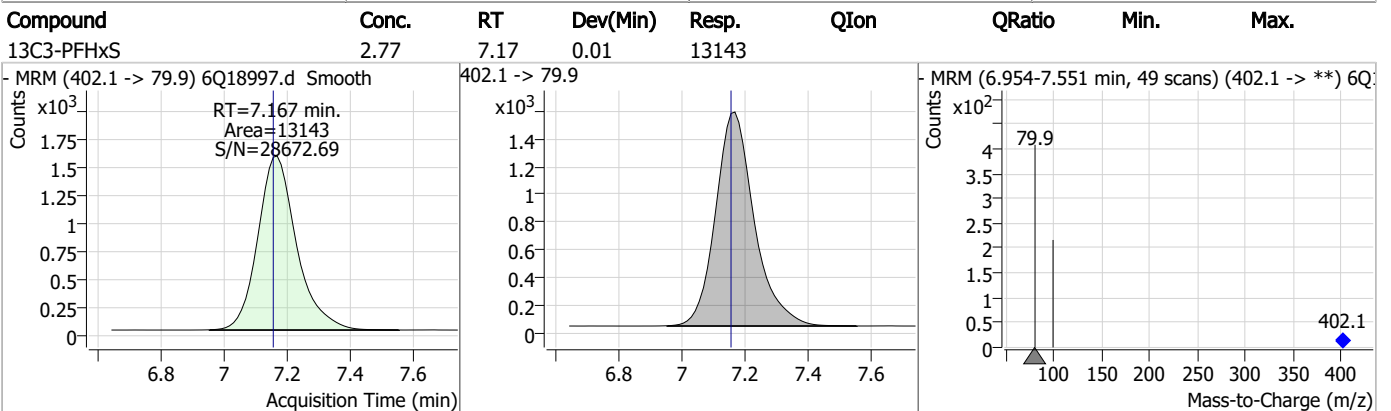
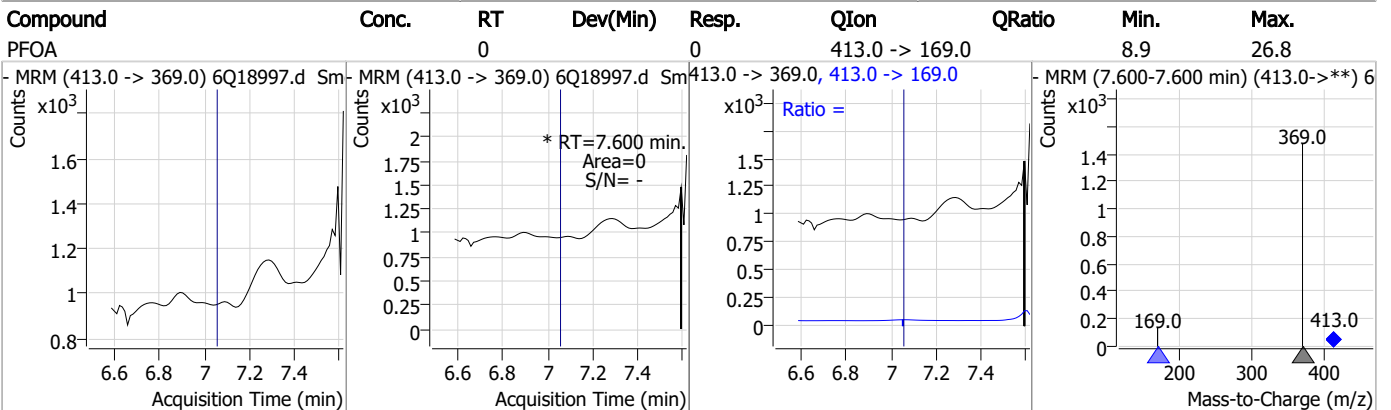
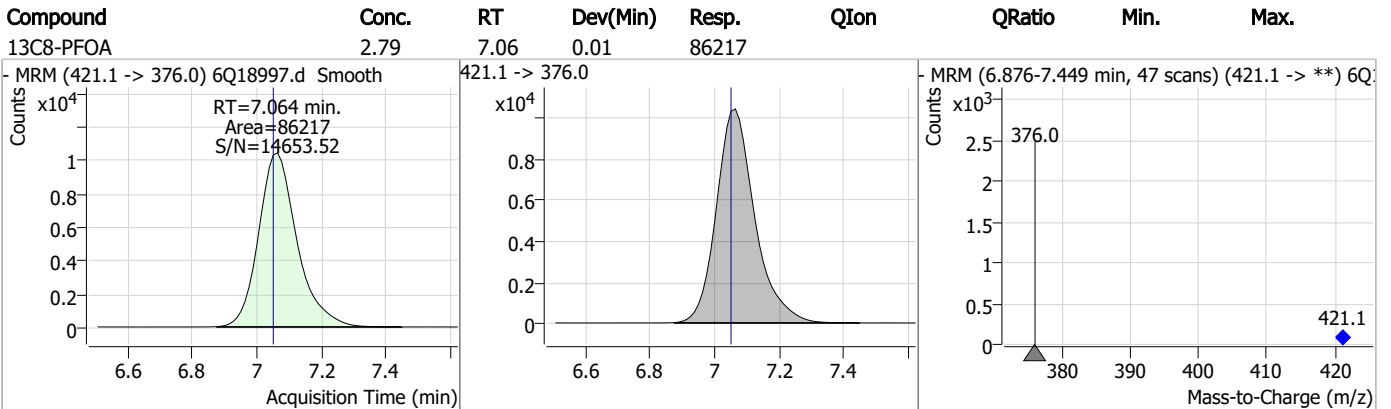
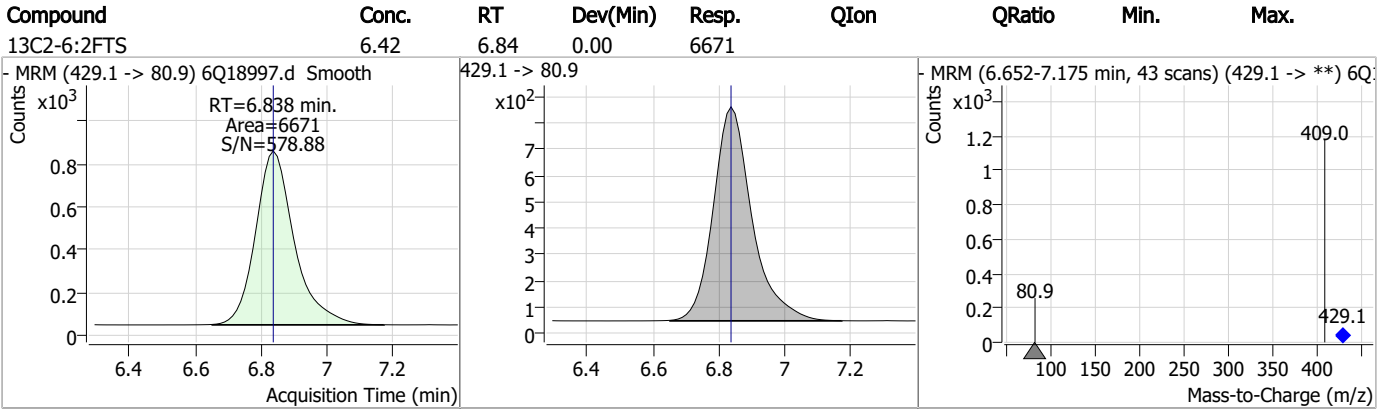


Perfluorinated Compounds by LC/MS/MS

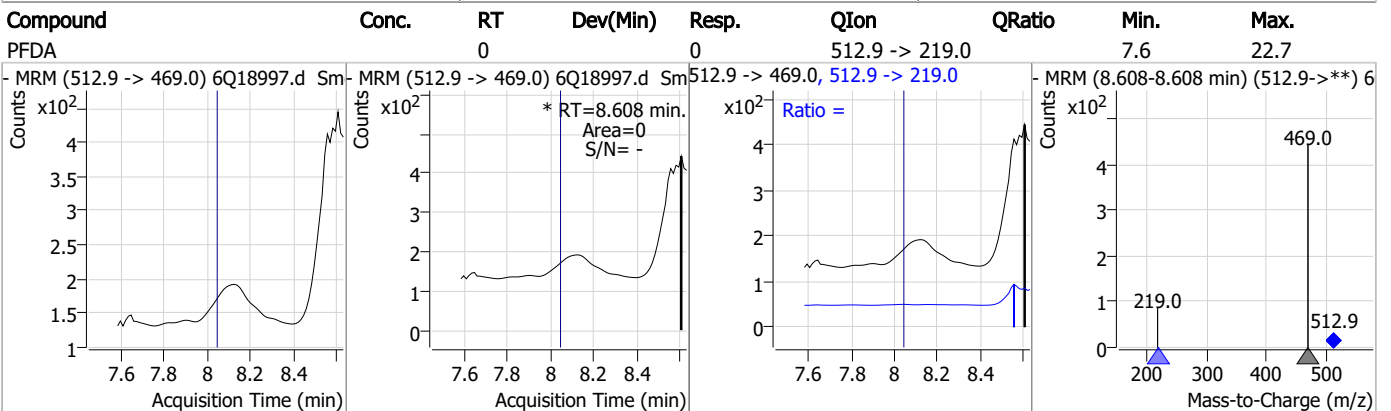
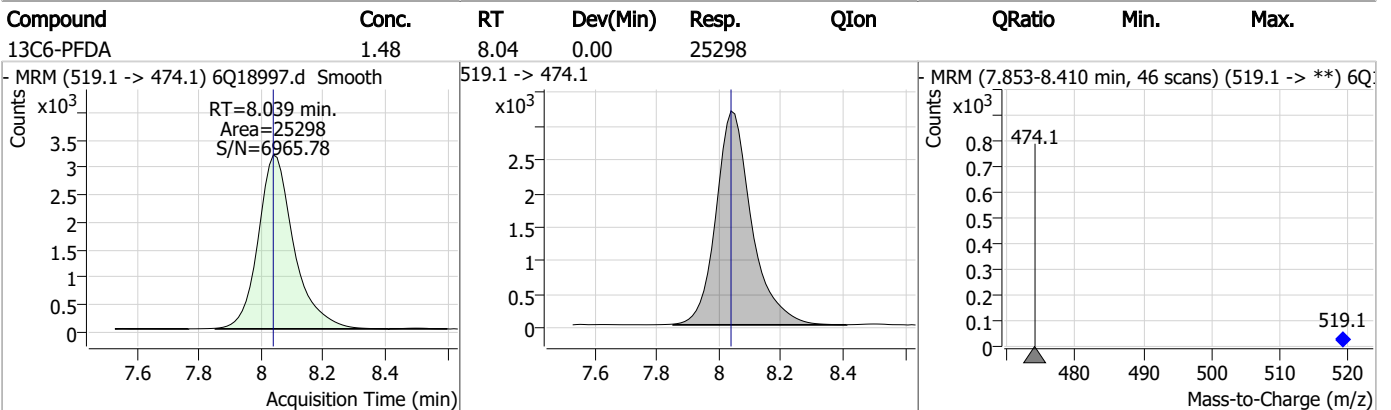
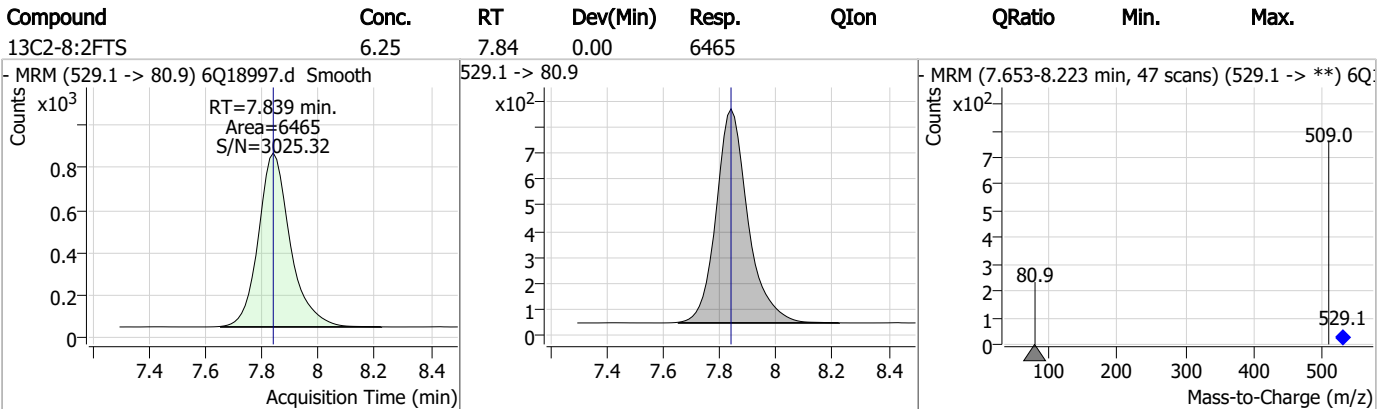
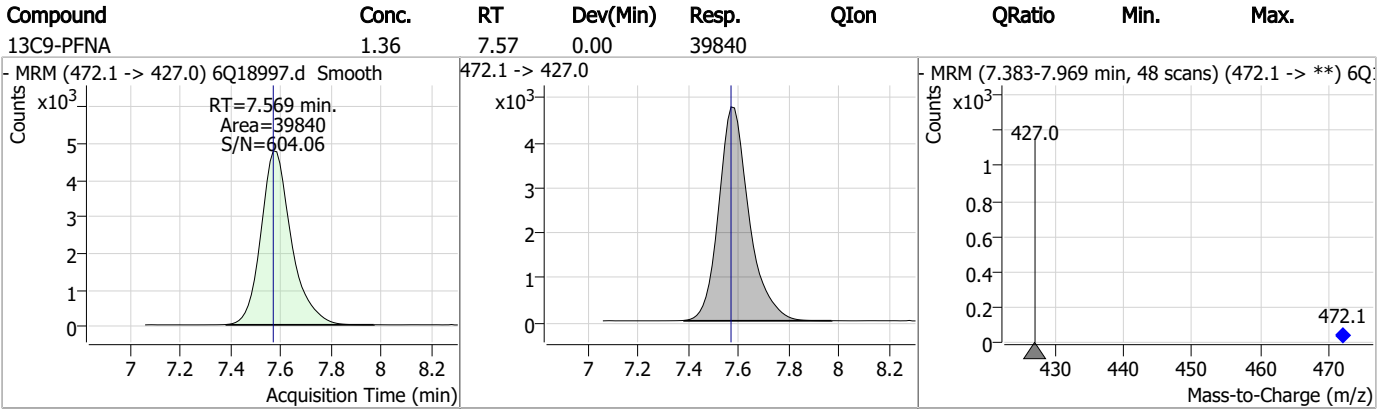


7.2.1
7

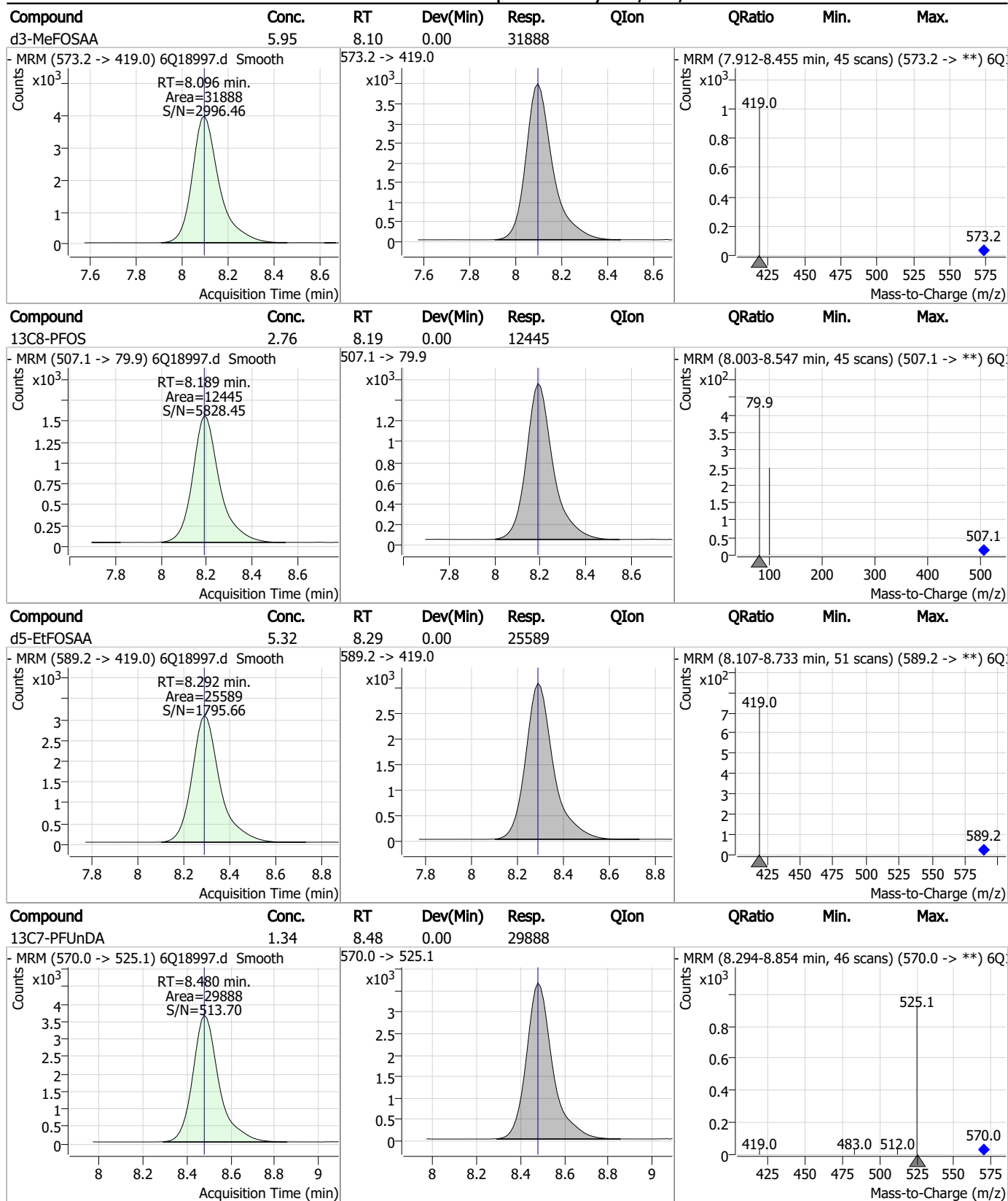
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

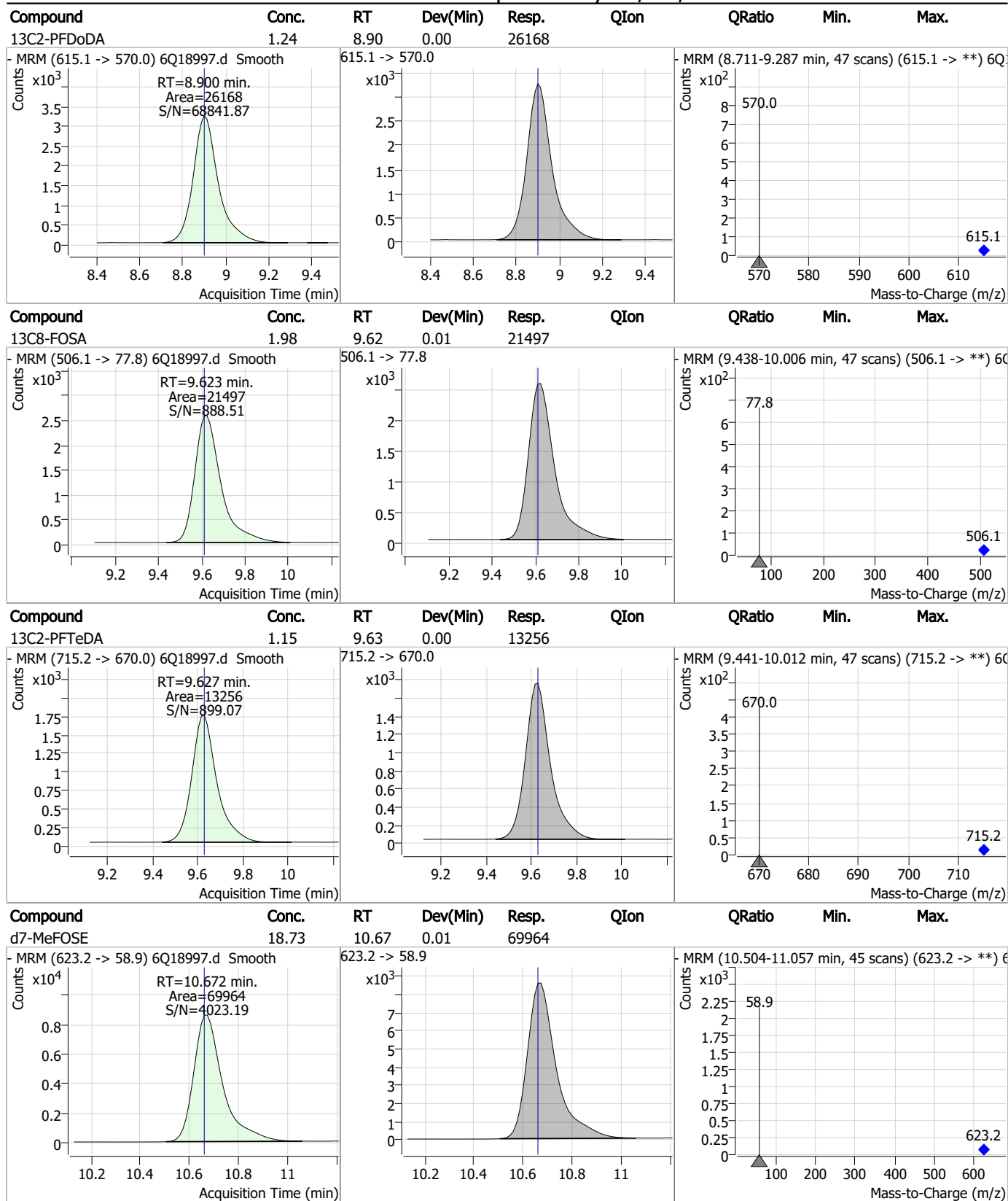


Perfluorinated Compounds by LC/MS/MS



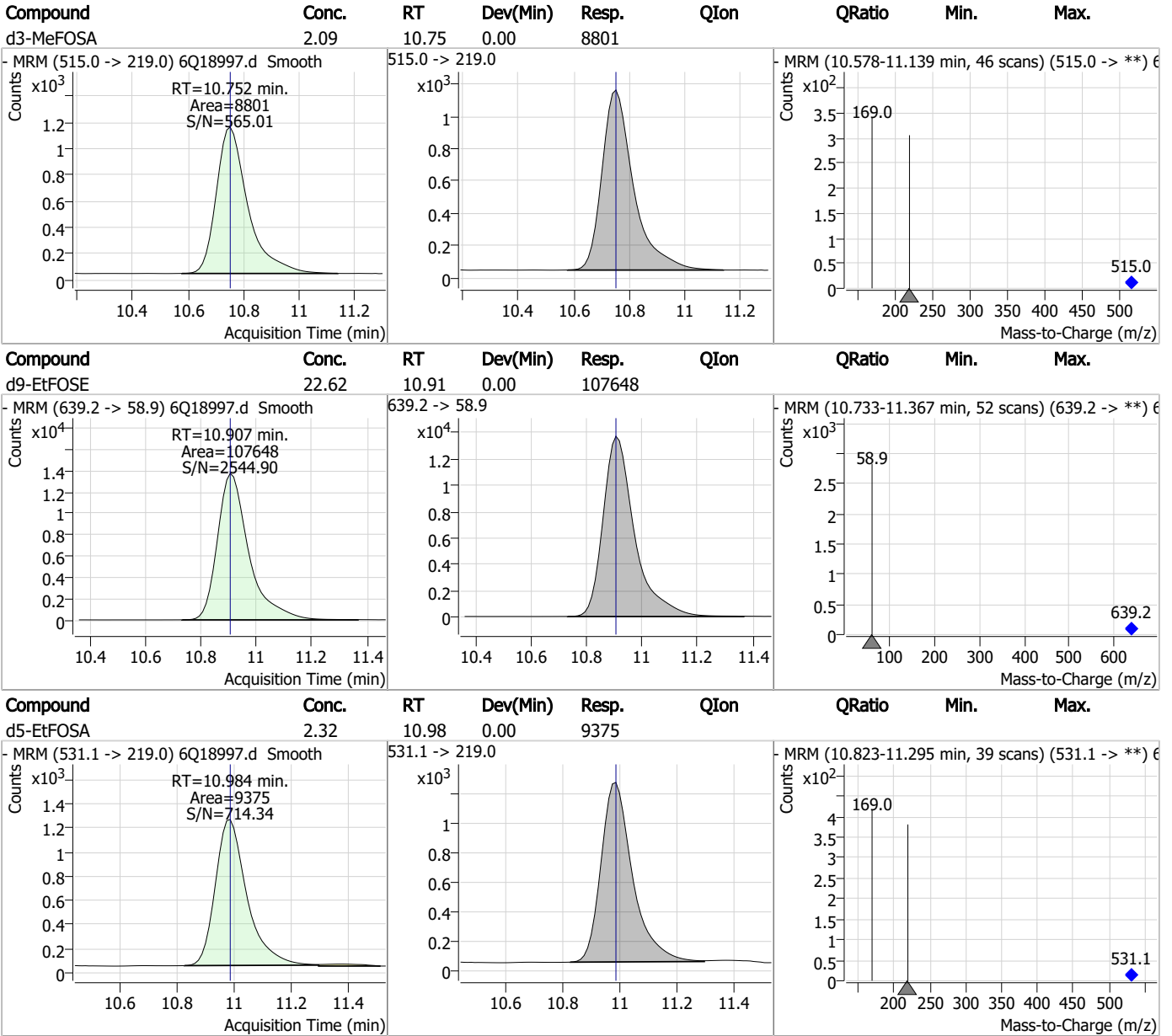
7.2.1
7

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

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

7.2.2
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 = 102.1%	
13C4-PFBA	2.860	216.8 -> 171.9	191357	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	65658	2.51 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.5%	
13C5-PFHxA	5.478	318.0 -> 273.0	69041	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C5-PFPeA	4.272	268.3 -> 223.0	63952	5.03 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 100.6%	
13C6-PFDA	8.039	519.1 -> 474.1	27028	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.0%	
13C7-PFUnDA	8.480	570.0 -> 525.1	35557	1.21 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 96.6%	
13C8-FOSA	9.623	506.1 -> 77.8	35814	2.60 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.0%	
13C8-PFOA	7.064	421.1 -> 376.0	98372	2.33 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.0%	
13C8-PFOS	8.189	507.1 -> 79.9	15076	2.62 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 105.0%	
13C9-PFNA	7.583	472.1 -> 427.0	45707	1.22 µg/L	0.014
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 97.6%	
d3-MeFOSAA	8.096	573.2 -> 419.0	38032	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	42032	10.18 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.8%	
d3-MeFOSA	10.752	515.0 -> 219.0	13515	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	34773	5.69 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.8%	
d7-MeFOSE	10.672	623.2 -> 58.9	133009	27.99 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 112.0%	
d9-EtFOSE	10.907	639.2 -> 58.9	163012	26.94 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 107.7%	
d5-EtFOSA	10.984	531.1 -> 219.0	13704	2.66 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.6%	

7.2.2
7

Target Compounds

QValue

4:2FTS	-	327.1 -> 307.0 327.1 -> 80.9	-	N.D.	
6:2FTS	-	427.1 -> 407.0 427.1 -> 80.9	-	N.D.	
8:2FTS	-	527.1 -> 507.0 527.1 -> 80.8	-	N.D.	
EtFOSAA	-	584.2 -> 419.1 584.2 -> 526.0	-	N.D.	
FOSA	-	498.1 -> 77.9 498.1 -> 478.0	-	N.D.	
MeFOSAA	-	570.1 -> 419.0 570.1 -> 483.0	-	N.D.	
PFBA	-	212.8 -> 168.9	-	N.D.	
PFBS	-	298.7 -> 79.9 298.7 -> 98.8	-	N.D.	
PFDA	-	512.9 -> 469.0 512.9 -> 219.0	-	N.D.	
PFDODA	-	613.1 -> 569.0 613.1 -> 319.0	-	N.D.	
PFDS	-	599.0 -> 79.9	-	N.D.	



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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

7.2.2
7

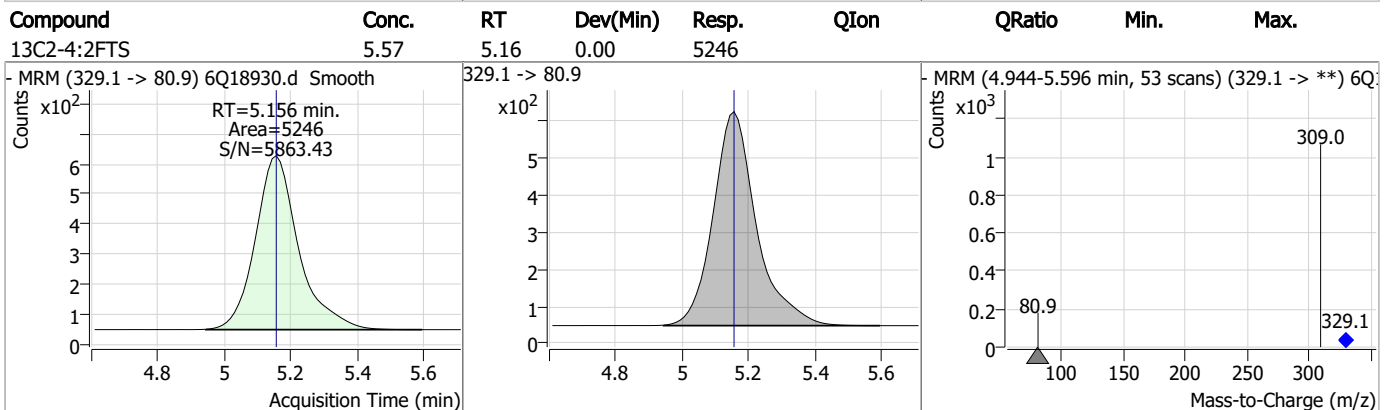
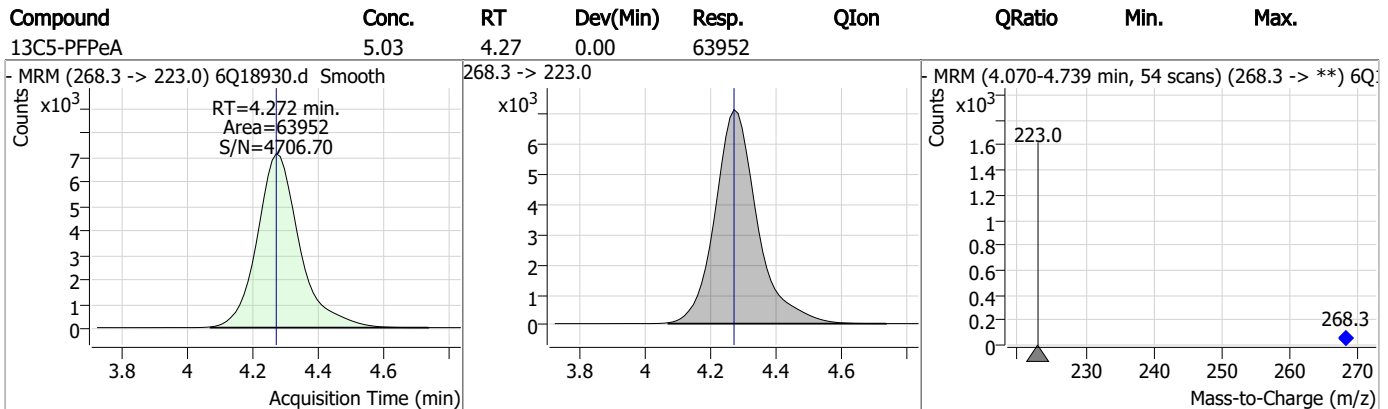
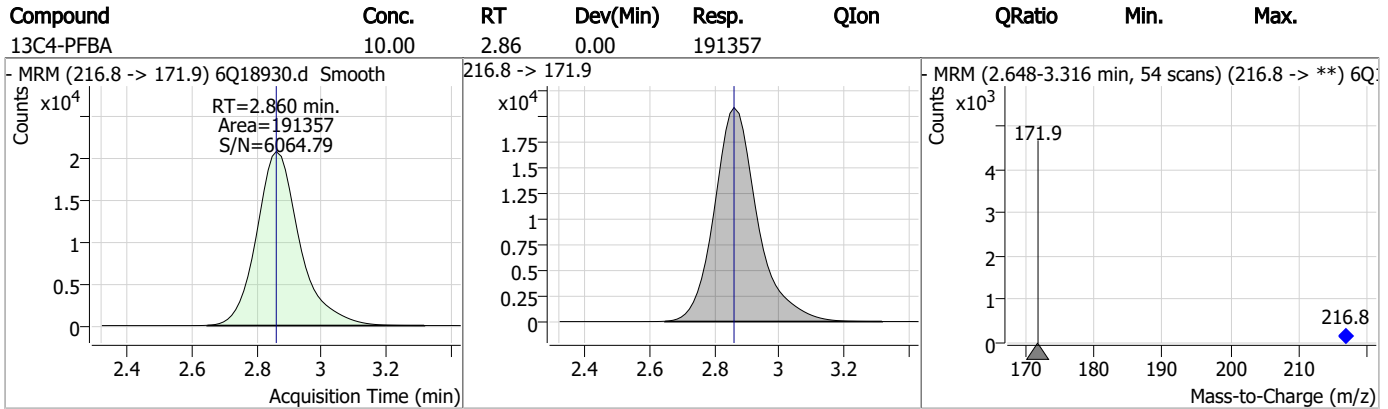
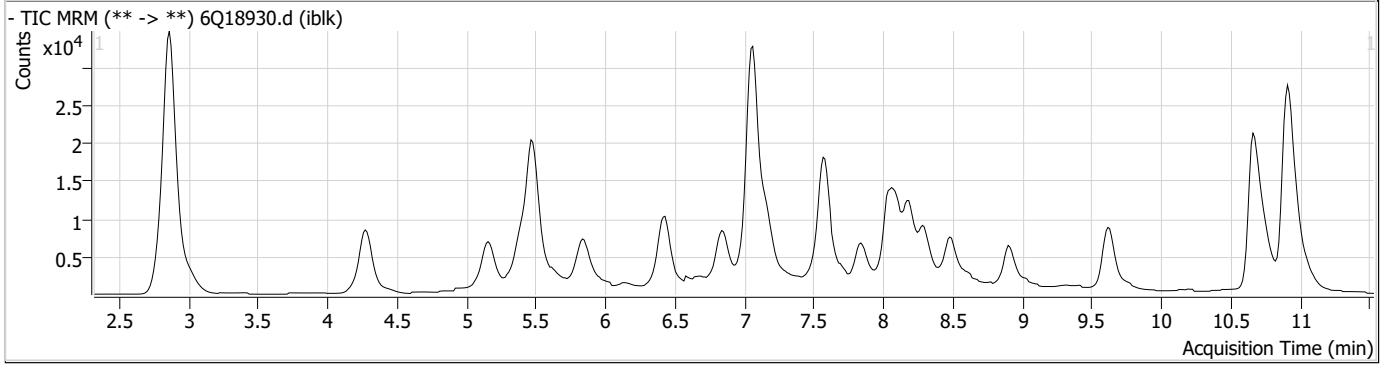
Perfluorinated Compounds by LC/MS/MS

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

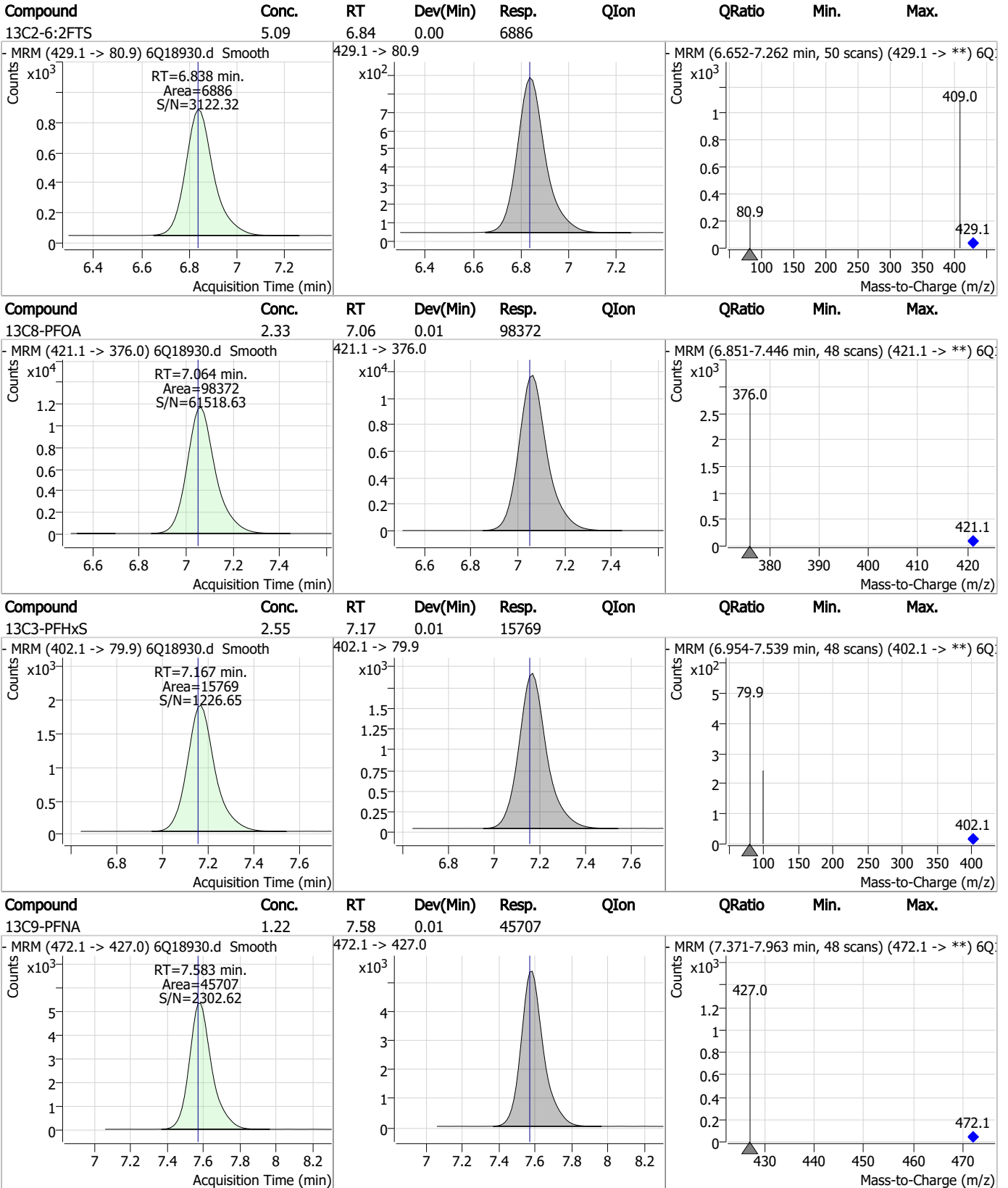


Perfluorinated Compounds by LC/MS/MS

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				

7.2.2
7

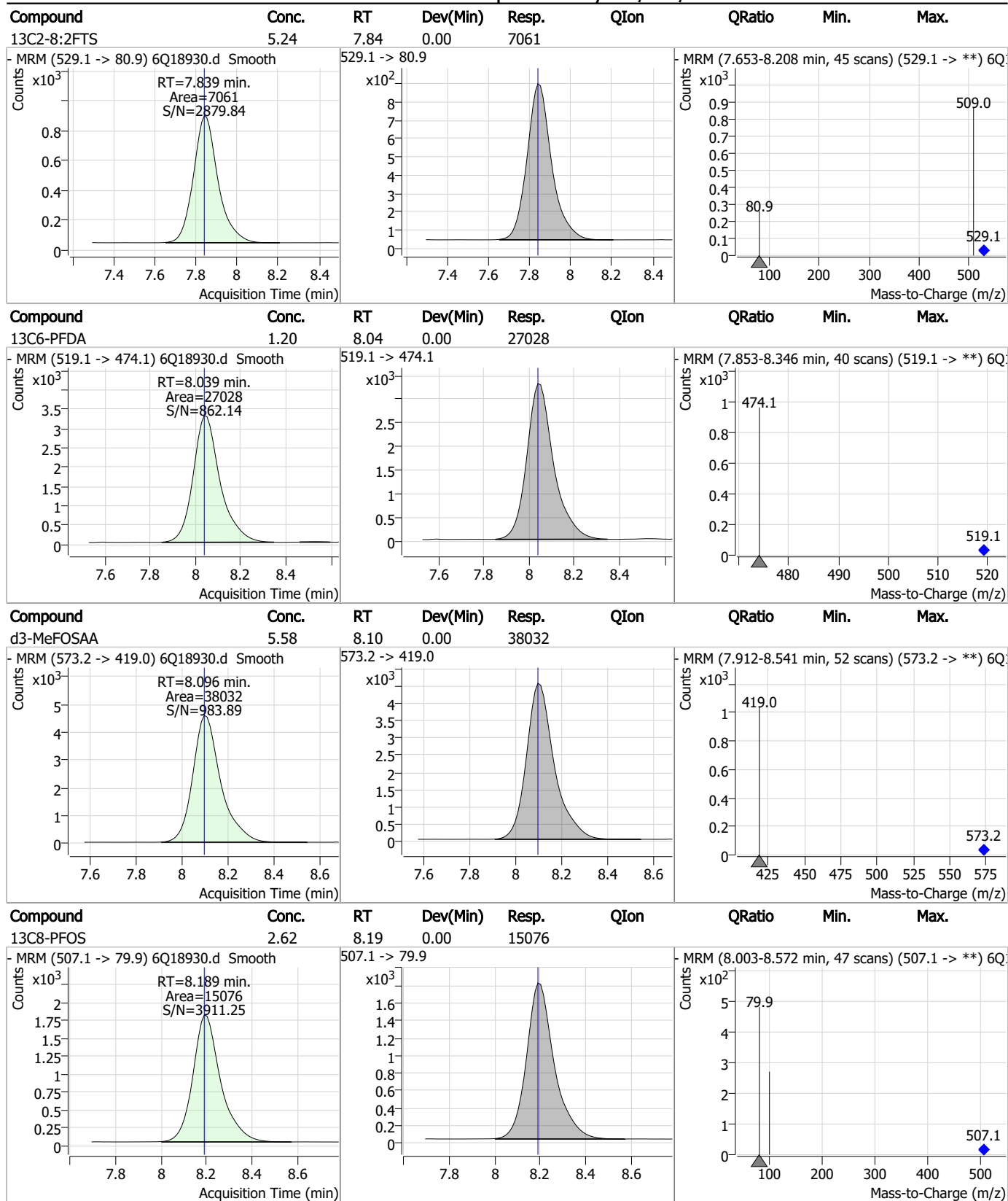
Perfluorinated Compounds by LC/MS/MS



7.2.2

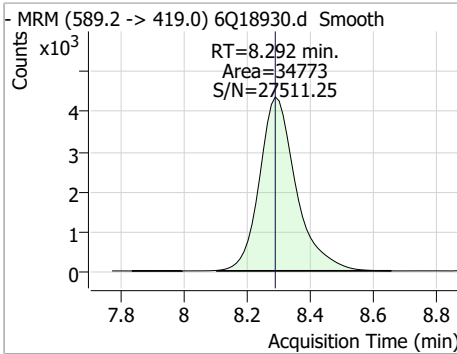
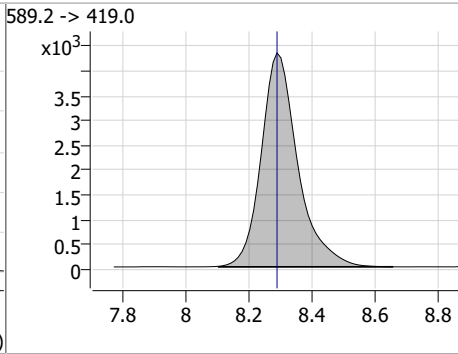
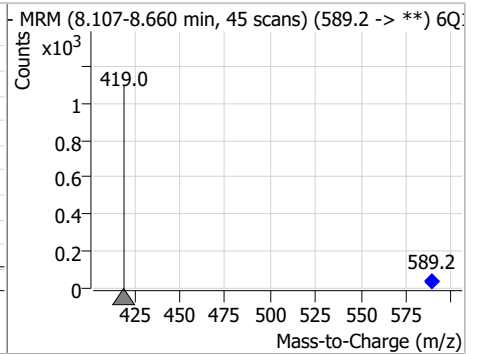
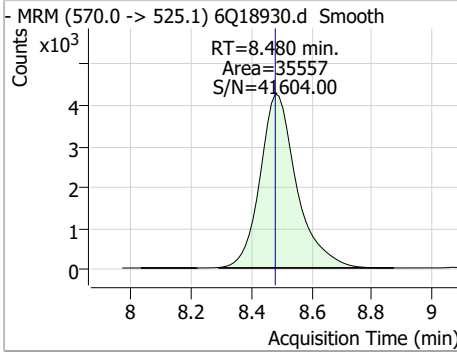
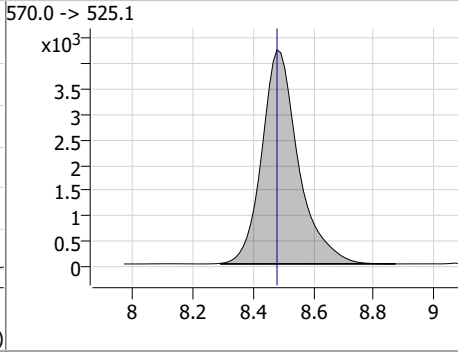
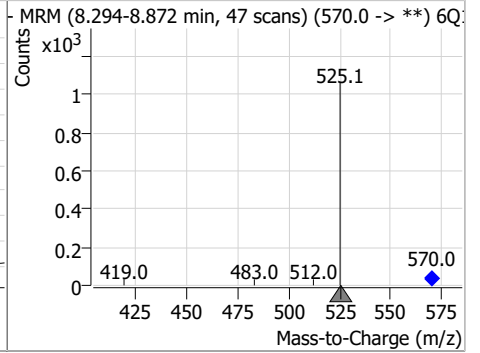
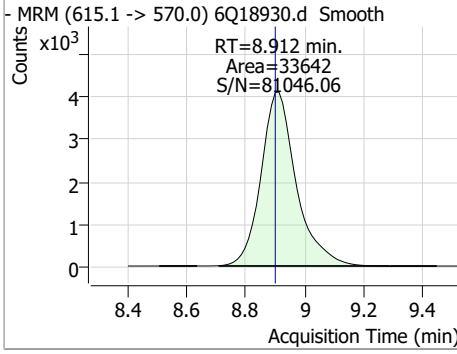
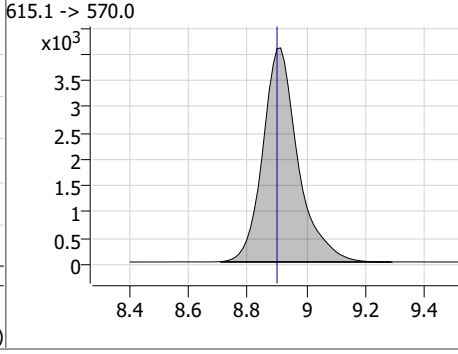
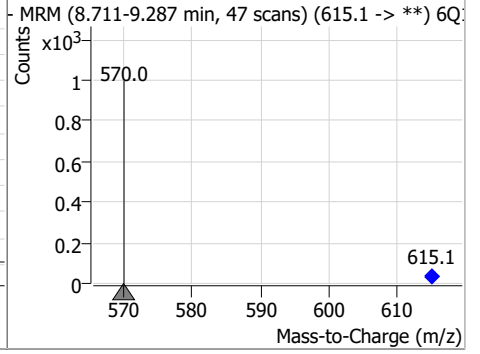
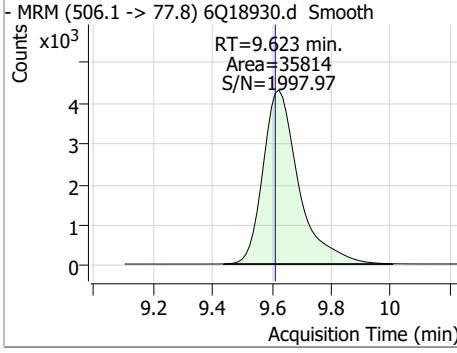
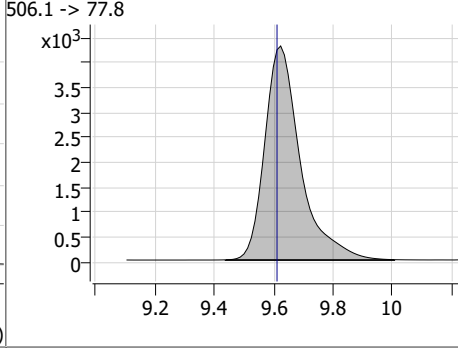
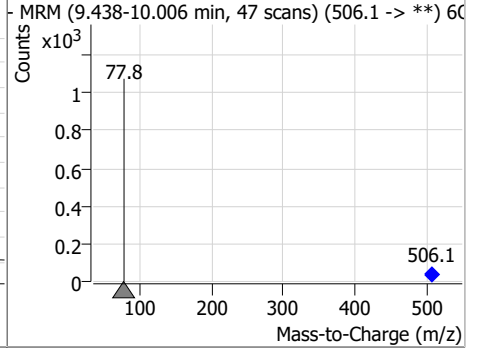
7

Perfluorinated Compounds by LC/MS/MS



7.2.2
7

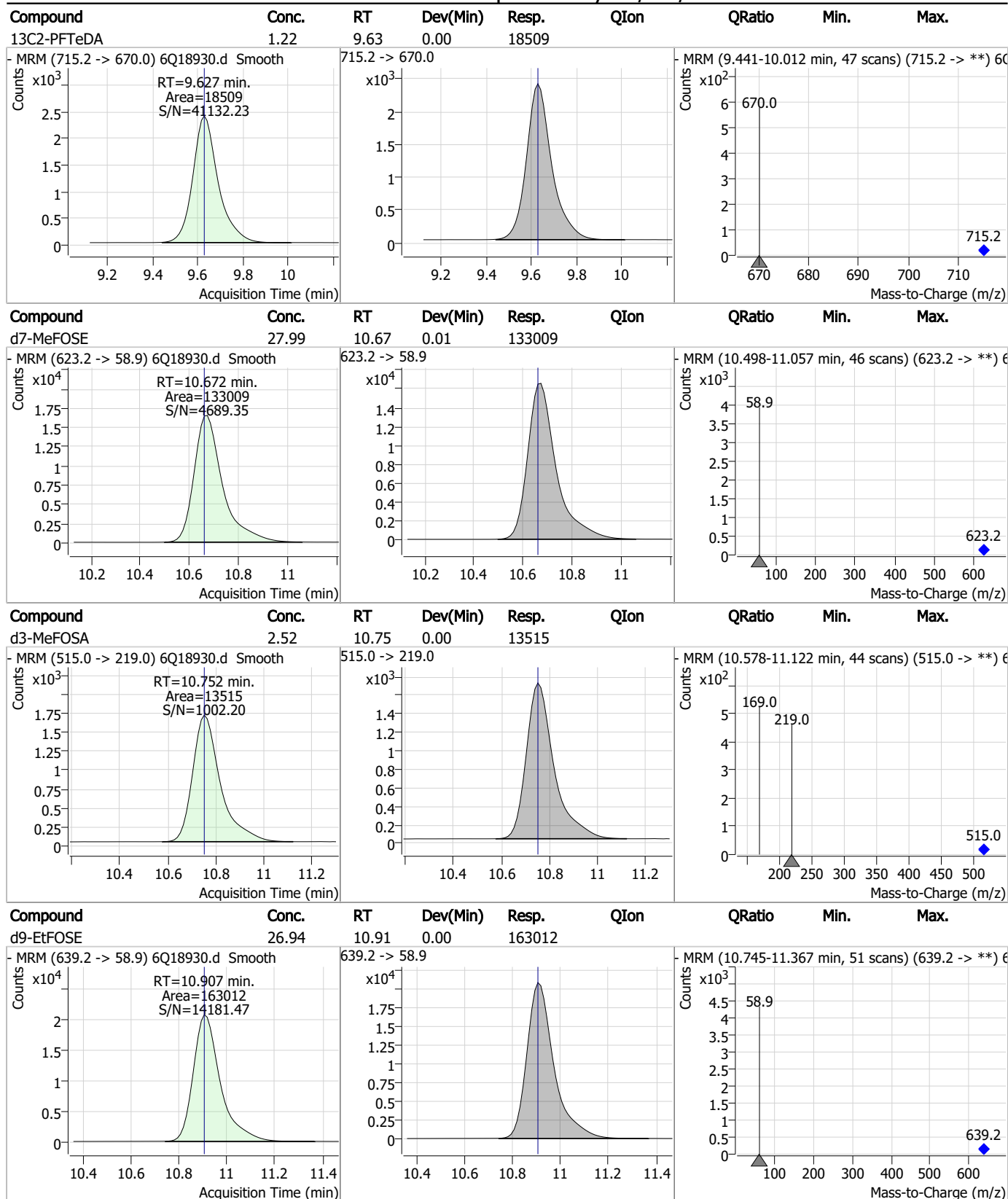
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.69	8.29	0.00	34773				
- MRM (589.2 -> 419.0) 6Q18930.d Smooth Counts x10 ³ RT=8.292 min. Area=34773 S/N=27511.25 			589.2 -> 419.0 x10 ³ 			- MRM (8.107-8.660 min, 45 scans) (589.2 -> **) 6Q Counts x10 ³ 419.0 		
13C7-PFUnDA	1.21	8.48	0.00	35557				
- MRM (570.0 -> 525.1) 6Q18930.d Smooth Counts x10 ³ RT=8.480 min. Area=35557 S/N=41604.00 			570.0 -> 525.1 x10 ³ 			- MRM (8.294-8.872 min, 47 scans) (570.0 -> **) 6Q Counts x10 ³ 525.1 		
13C2-PFDoDA	1.21	8.91	0.01	33642				
- MRM (615.1 -> 570.0) 6Q18930.d Smooth Counts x10 ³ RT=8.912 min. Area=33642 S/N=81046.06 			615.1 -> 570.0 x10 ³ 			- MRM (8.711-9.287 min, 47 scans) (615.1 -> **) 6Q Counts x10 ³ 570.0 		
13C8-FOSA	2.60	9.62	0.01	35814				
- MRM (506.1 -> 77.8) 6Q18930.d Smooth Counts x10 ³ RT=9.623 min. Area=35814 S/N=1997.97 			506.1 -> 77.8 x10 ³ 			- MRM (9.438-10.006 min, 47 scans) (506.1 -> **) 6Q Counts x10 ³ 77.8 		

7.2.2

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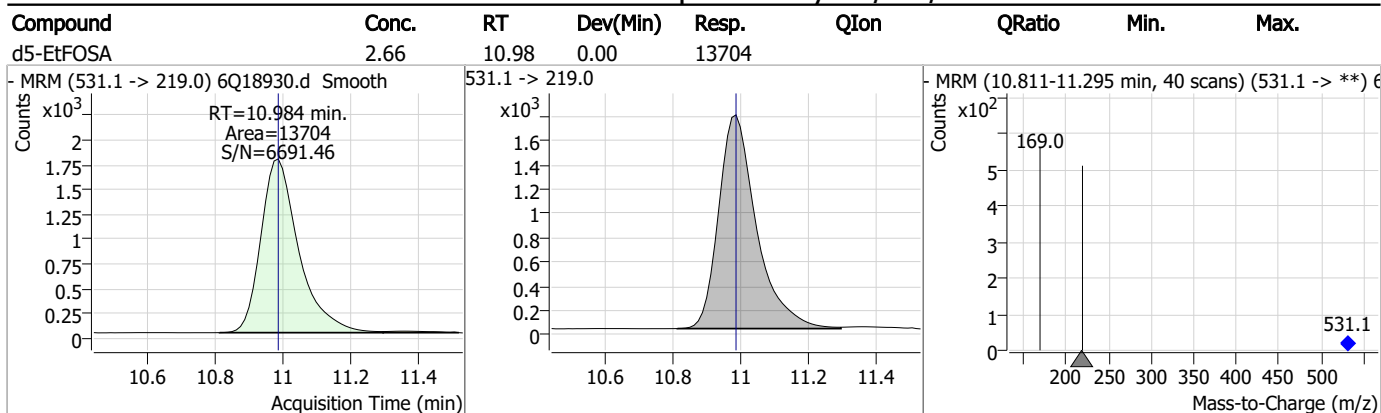
Perfluorinated Compounds by LC/MS/MS



7.2.2
7



Perfluorinated Compounds by LC/MS/MS



7.22
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18993.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 1:52:51 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	194801	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	64832	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	73560	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	66917	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	100006	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	45403	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	29781	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	37350	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	33582	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18753	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	36260	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	25355	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15902	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	14858	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5349	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	8005	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7755	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	39890	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	46027	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	35494	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	128000	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	163162	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	13927	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14303	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19352	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	82281	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11726	2.50 µg/L	0.000
13C4-PFOA	7.065	417.1 -> 372.0	108730	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	36991	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	58337	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	67447	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5349	5.55 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 110.9%		
13C2-6:2FTS	6.838	429.1 -> 80.9	8005	5.78 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.5%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7755	5.62 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.4%		
13C2-PFDoDA	8.900	615.1 -> 570.0	33582	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 99.4%		
13C2-PFTeDA	9.627	715.2 -> 670.0	18753	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.2%		
13C3-PFBS	5.384	302.1 -> 79.9	25355	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 98.4%		
13C3-PFHxS	7.155	402.1 -> 79.9	15902	2.51 µg/L	0.000

7.2.3
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 = 100.5%	
13C4-PFBA	2.860	216.8 -> 171.9	194801	9.98 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 99.8%	
13C4-PFHpA	6.420	367.1 -> 322.0	66917	2.49 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.6%	
13C5-PFHxA	5.478	318.0 -> 273.0	73560	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.1%	
13C5-PFPeA	4.272	268.3 -> 223.0	64832	4.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 99.1%	
13C6-PFDA	8.039	519.1 -> 474.1	29781	1.36 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 108.5%	
13C7-PFUnDA	8.480	570.0 -> 525.1	37350	1.30 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.1%	
13C8-FOSA	9.623	506.1 -> 77.8	36260	2.57 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.0%	
13C8-PFOA	7.064	421.1 -> 376.0	100006	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	14858	2.53 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.2%	
13C9-PFNA	7.569	472.1 -> 427.0	45403	1.18 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 94.7%	
d3-MeFOSAA	8.096	573.2 -> 419.0	39890	5.72 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.5%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	46027	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	14303	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.4%	
d5-EtFOSAA	8.292	589.2 -> 419.0	35494	5.68 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 113.6%	
d7-MeFOSE	10.660	623.2 -> 58.9	128000	26.35 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.4%	
d9-EtFOSE	10.907	639.2 -> 58.9	163162	26.37 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 105.5%	
d5-EtFOSA	10.984	531.1 -> 219.0	13927	2.65 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.0%	

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	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.	

7.2.3
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

7.2.3
7

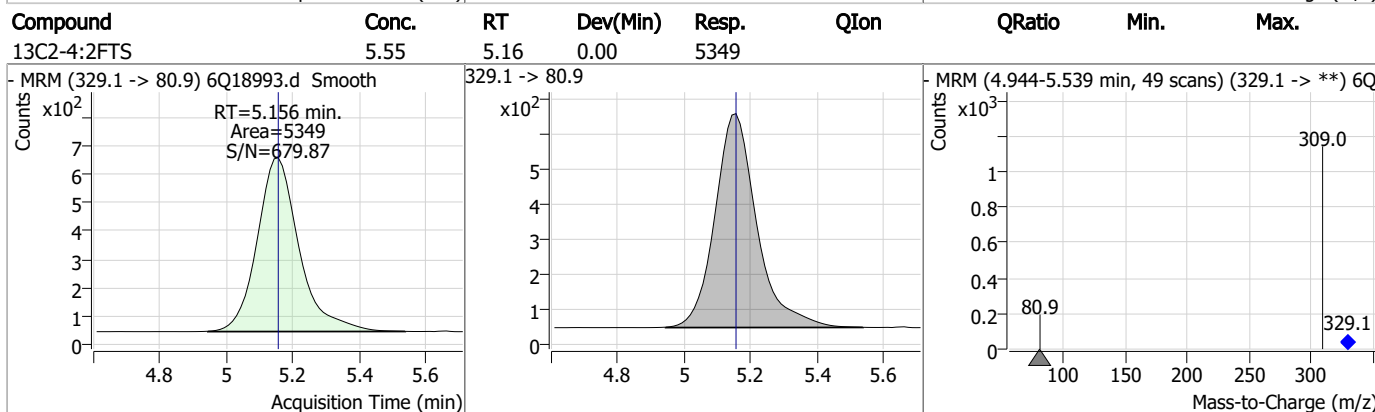
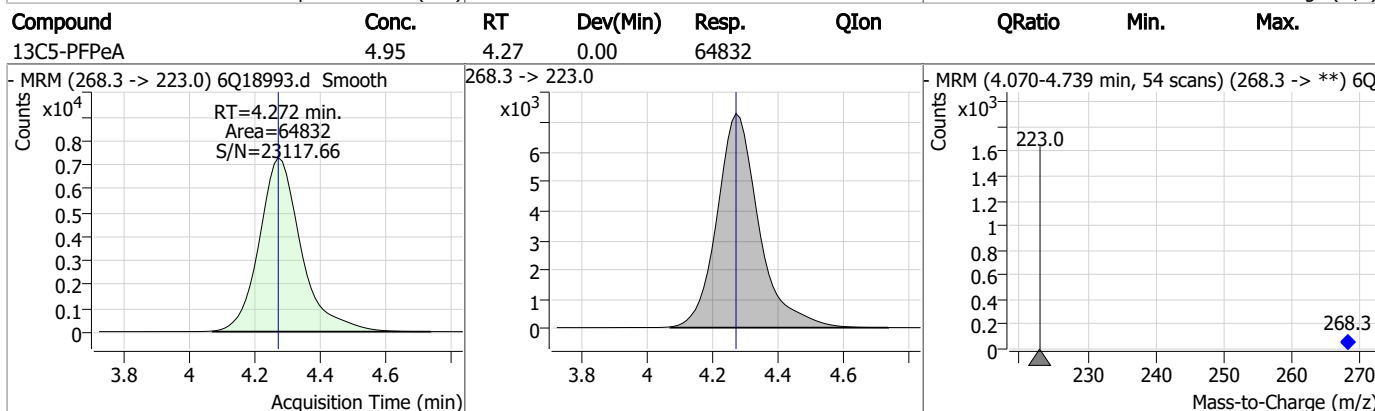
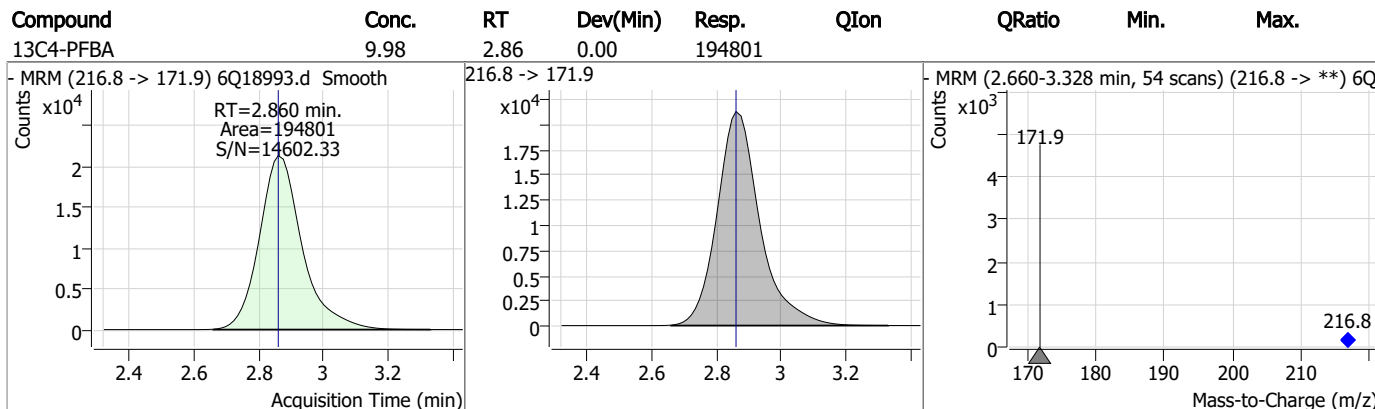
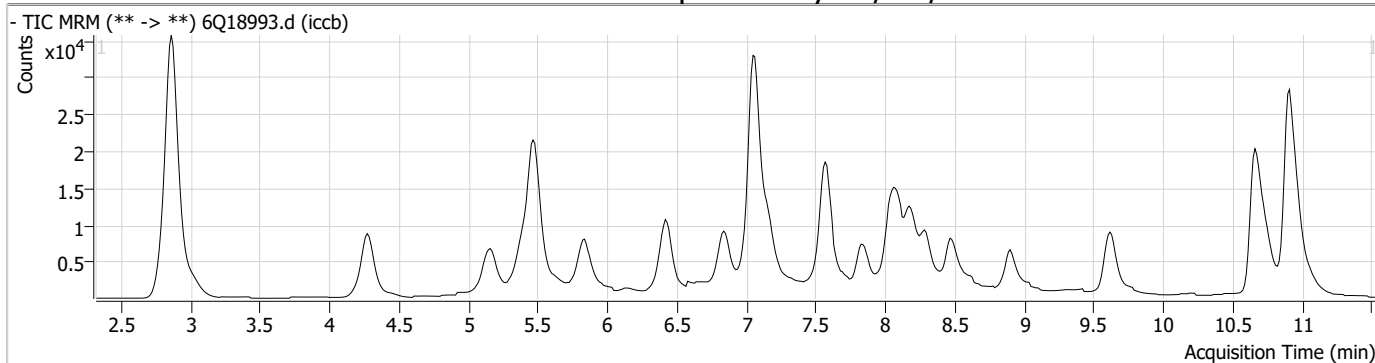
Perfluorinated Compounds by LC/MS/MS

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

7

Perfluorinated Compounds by LC/MS/MS



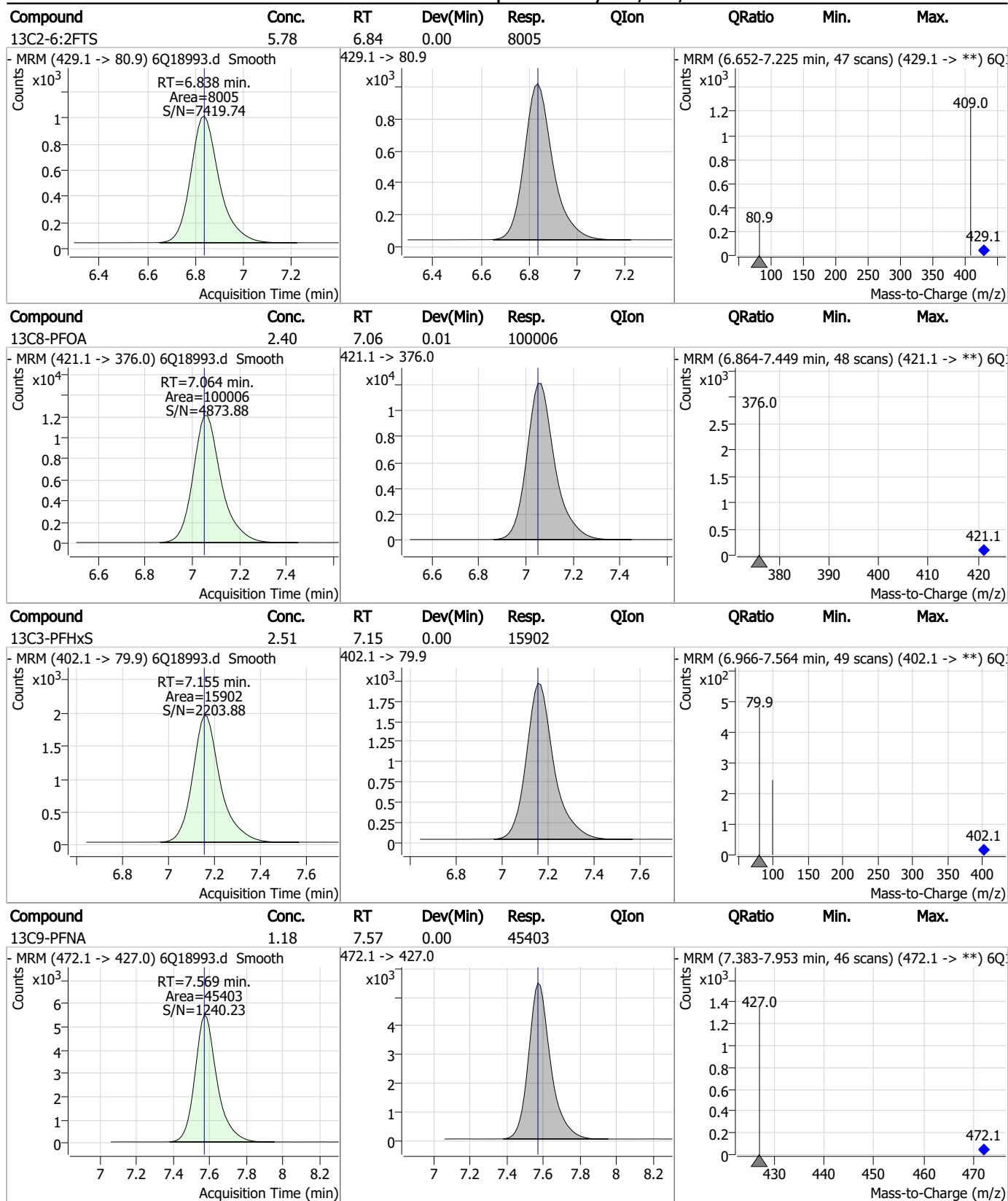
7.2.3
7

Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.46	5.38	0.00	25355				
13C5-PFHxA	2.58	5.48	0.00	73560				
13C3-HFPO-DA	10.83	5.84	0.01	46027				
13C4-PFHpA	2.49	6.42	0.00	66917				

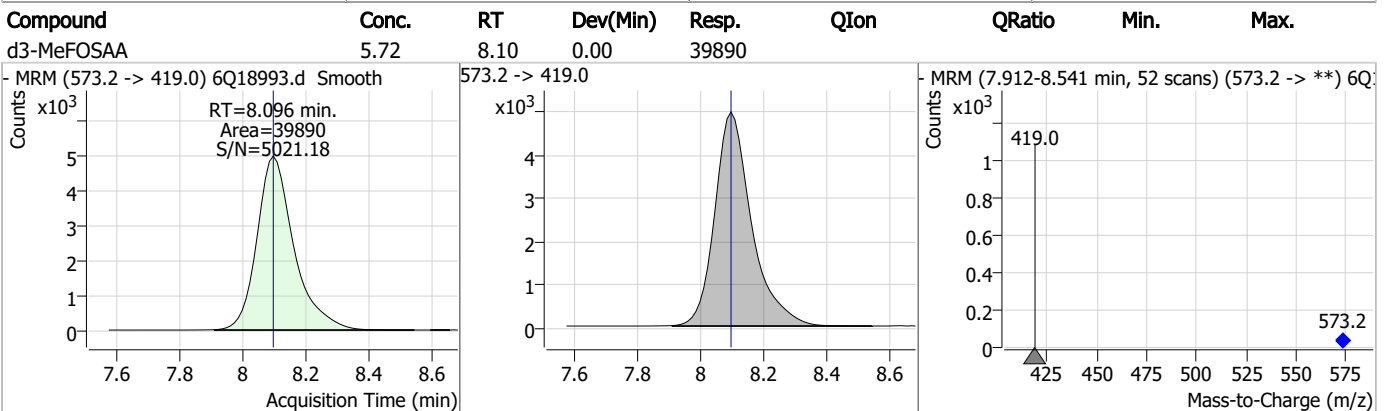
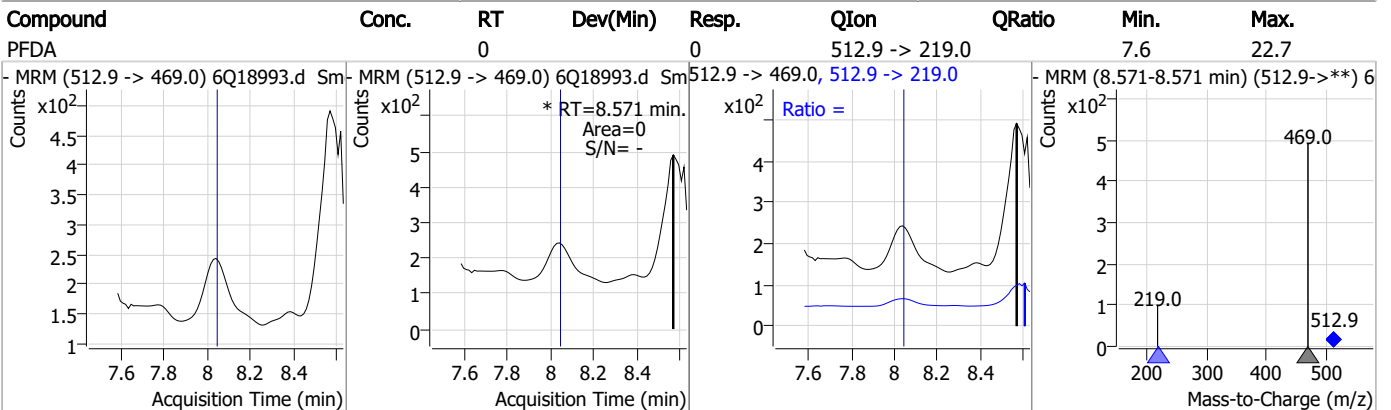
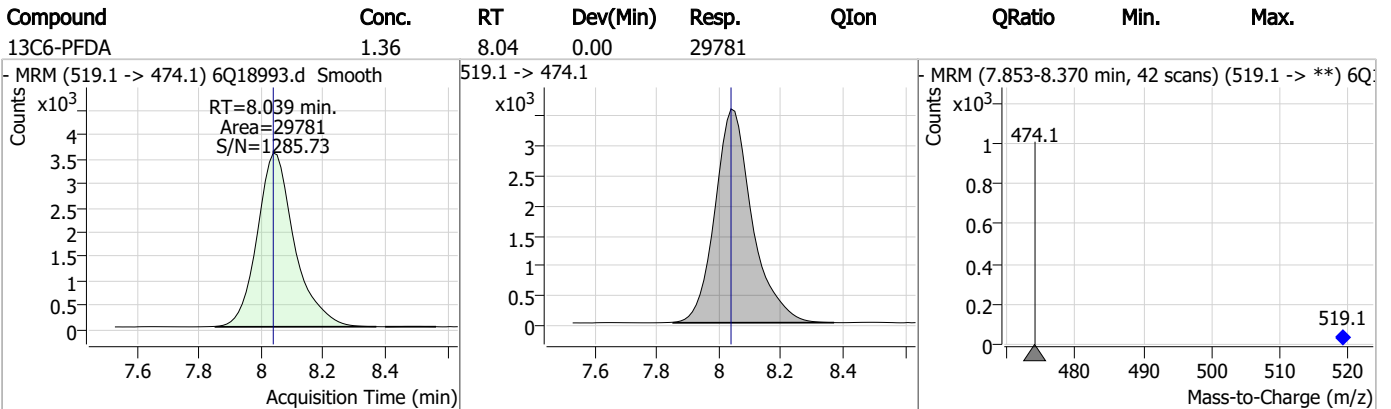
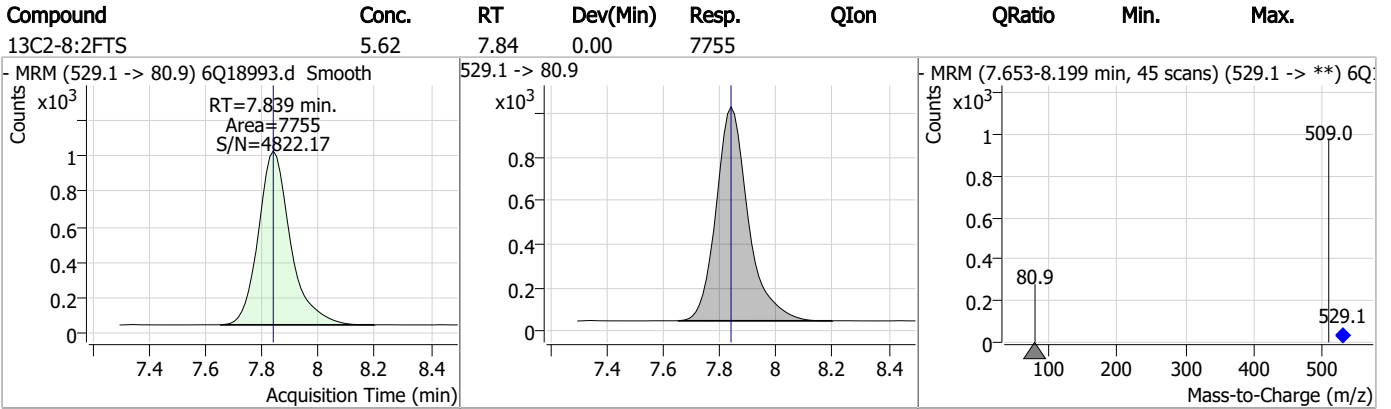
7.2.3
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Perfluorinated Compounds by LC/MS/MS

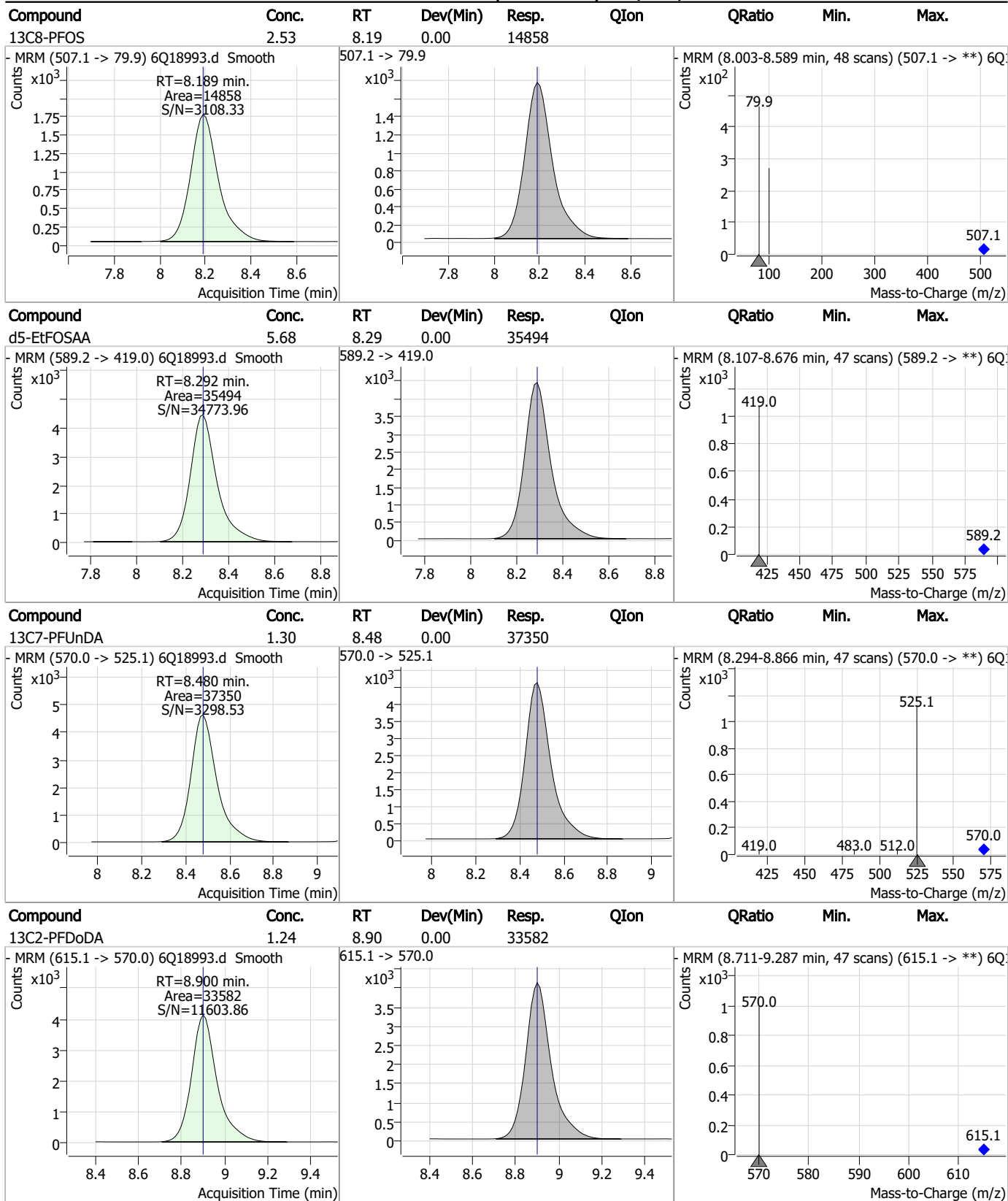


7.2.3
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Perfluorinated Compounds by LC/MS/MS



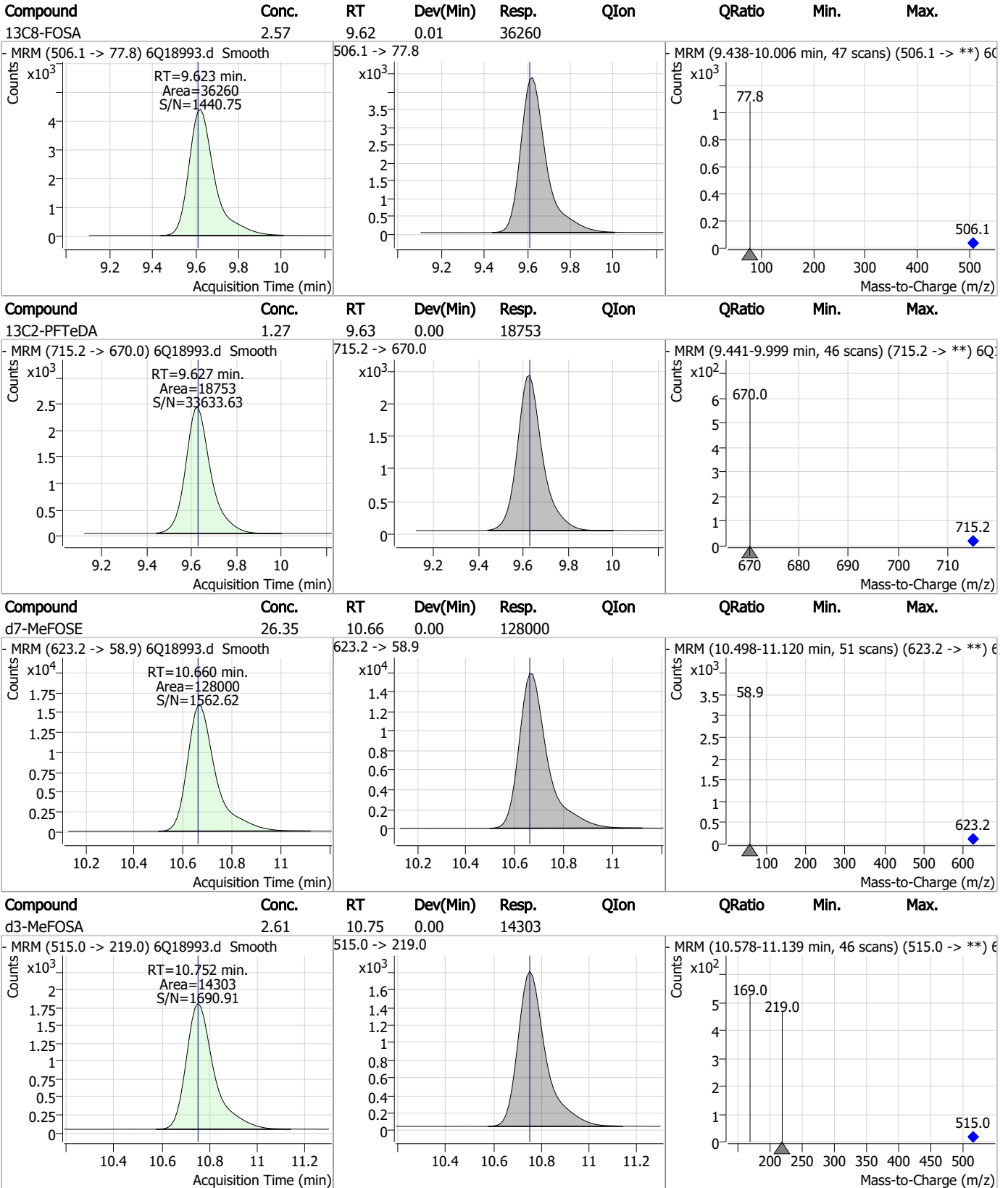
Perfluorinated Compounds by LC/MS/MS



7.2.3

7

Perfluorinated Compounds by LC/MS/MS

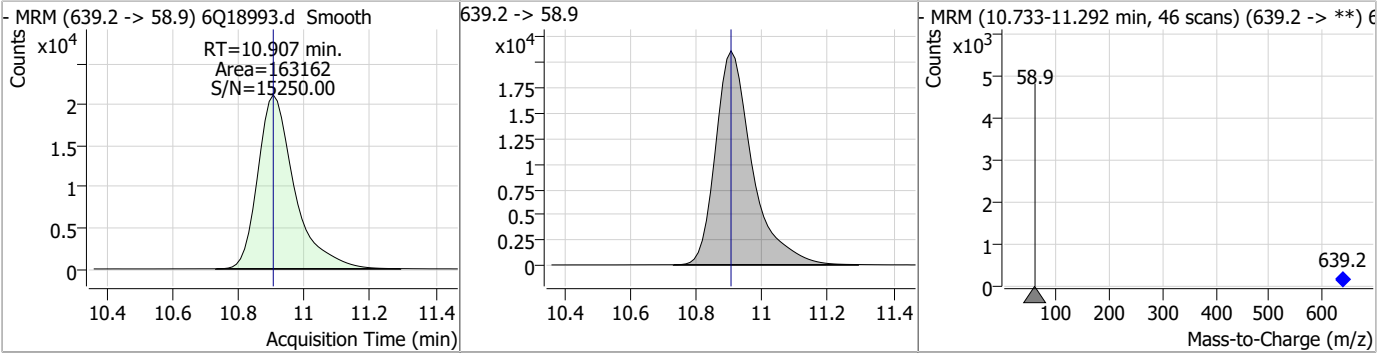


7.2.3

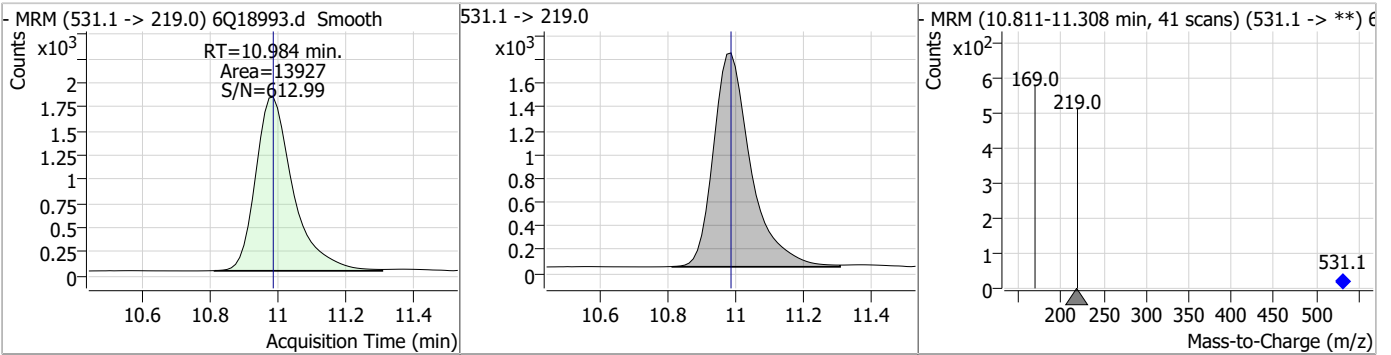
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Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.37	10.91	0.00	163162				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOFA	2.65	10.98	0.00	13927				



7.2.3

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19005.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 4:46:41 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	197921	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	65470	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	69923	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	67527	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	102318	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	47742	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	28235	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	36544	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	33654	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18361	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	37221	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	26410	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	16288	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15123	2.50 µg/L	0.000
M2-4:2FTS	5.143	329.1 -> 80.9	5414	5.00 µg/L	-0.012
M2-6:2FTS	6.838	429.1 -> 80.9	7717	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	8061	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	40759	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	43532	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	34266	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	130258	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	164410	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	14063	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14231	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	19255	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	82505	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	11689	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	108383	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	38346	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	58685	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	66446	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.143	329.1 -> 80.9	5414	5.63 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 112.6%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7717	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	8061	5.86 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 117.2%		
13C2-PFDoDA	8.900	615.1 -> 570.0	33654	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	18361	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.6%		
13C3-PFBS	5.384	302.1 -> 79.9	26410	2.57 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 102.8%		
13C3-PFHxS	7.155	402.1 -> 79.9	16288	2.58 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 = 103.3%	
13C4-PFBA	2.860	216.8 -> 171.9	197921	10.11 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
13C4-PFHpA	6.420	367.1 -> 322.0	67527	2.55 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.0%	
13C5-PFHxA	5.478	318.0 -> 273.0	69923	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	65470	5.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.6%	
13C6-PFDA	8.039	519.1 -> 474.1	28235	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C7-PFUnDA	8.480	570.0 -> 525.1	36544	1.23 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 98.3%	
13C8-FOSA	9.623	506.1 -> 77.8	37221	2.66 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.2%	
13C8-PFOA	7.051	421.1 -> 376.0	102318	2.46 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.5%	
13C8-PFOS	8.189	507.1 -> 79.9	15123	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C9-PFNA	7.569	472.1 -> 427.0	47742	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.0%	
d3-MeFOSAA	8.096	573.2 -> 419.0	40759	5.88 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 117.6%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	43532	10.40 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 104.0%	
d3-MeFOSA	10.752	515.0 -> 219.0	14231	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.4%	
d5-EtFOSAA	8.292	589.2 -> 419.0	34266	5.51 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 110.2%	
d7-MeFOSE	10.672	623.2 -> 58.9	130258	26.95 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 107.8%	
d9-EtFOSE	10.907	639.2 -> 58.9	164410	26.71 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 106.8%	
d5-EtFOSA	10.984	531.1 -> 219.0	14063	2.69 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 107.5%	

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	8.584	512.9 -> 469.0	0	µg/L m	1
		512.9 -> 219.0	0		
PFDODA	-	613.1 -> 569.0	-	N.D.	
		613.1 -> 319.0			
PFDS	-	599.0 -> 79.9	-	N.D.	

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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

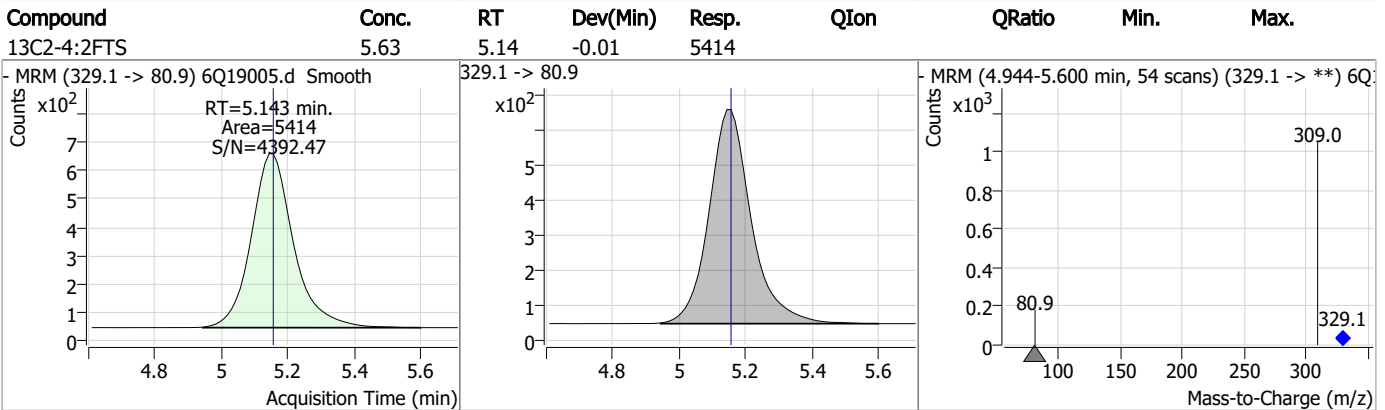
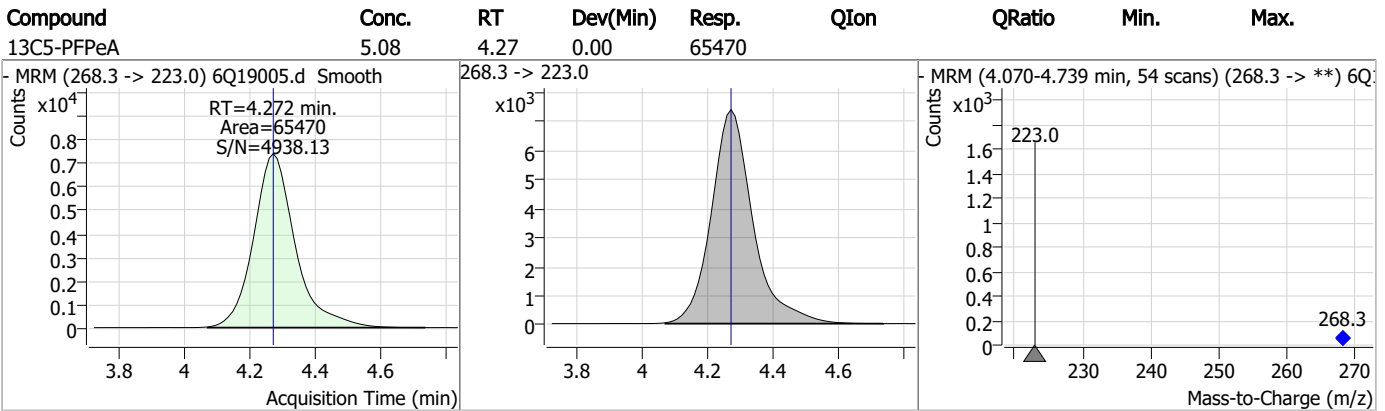
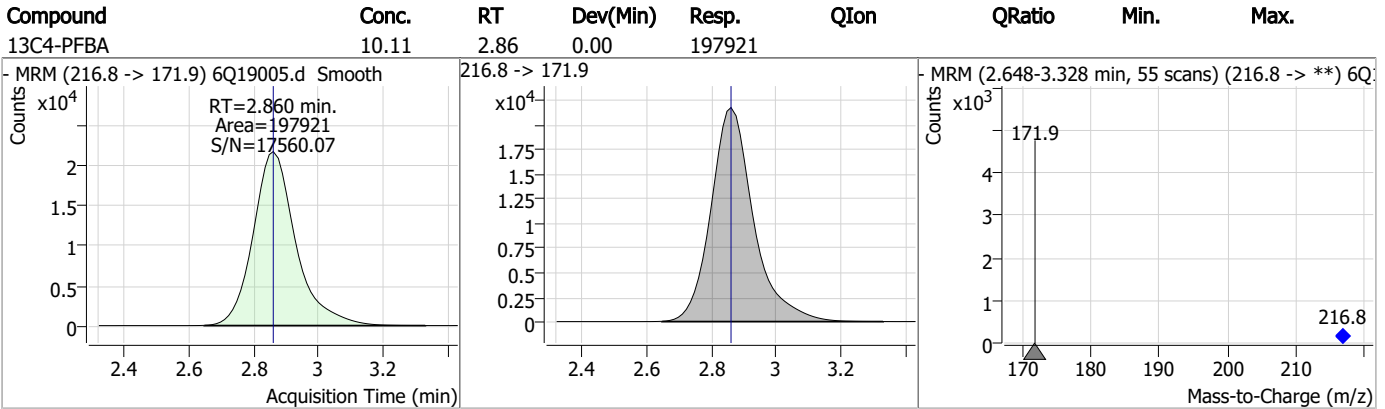
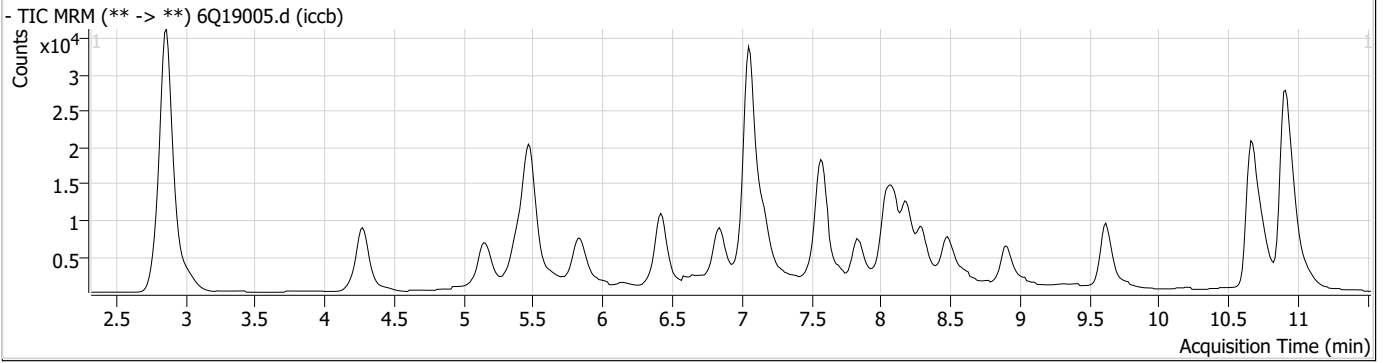
Perfluorinated Compounds by LC/MS/MS

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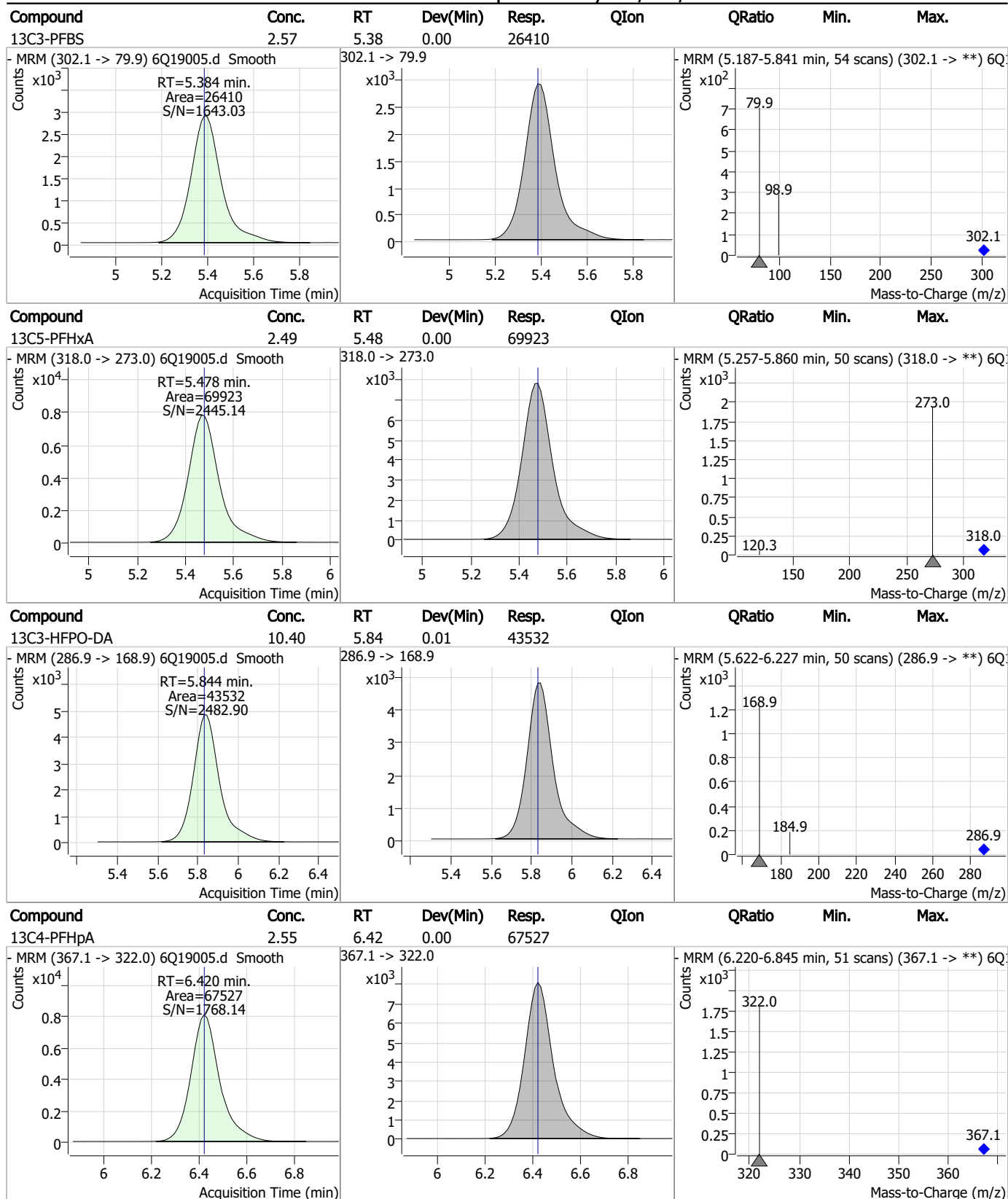
7.2.4

7

Perfluorinated Compounds by LC/MS/MS



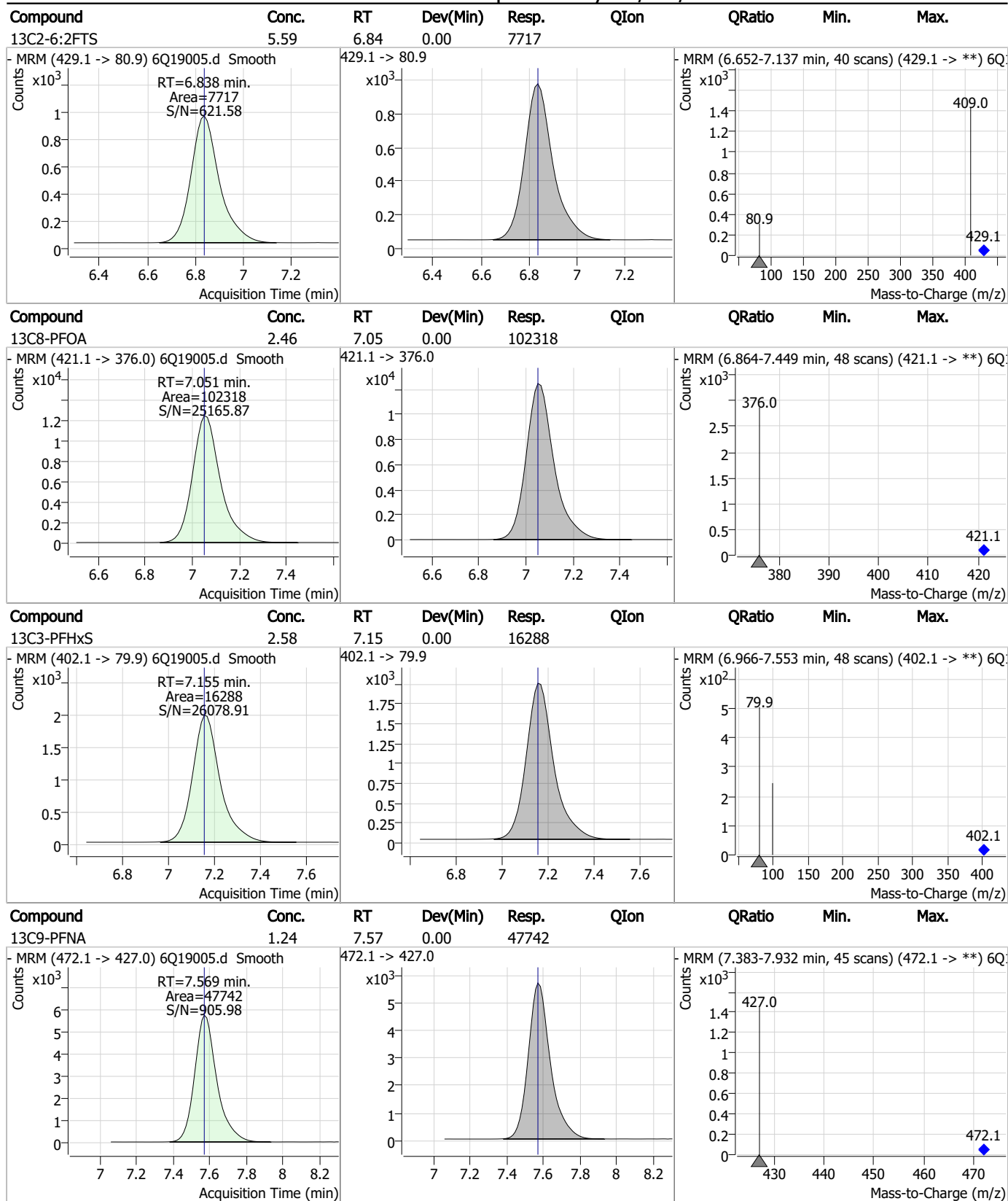
Perfluorinated Compounds by LC/MS/MS



7.2.4

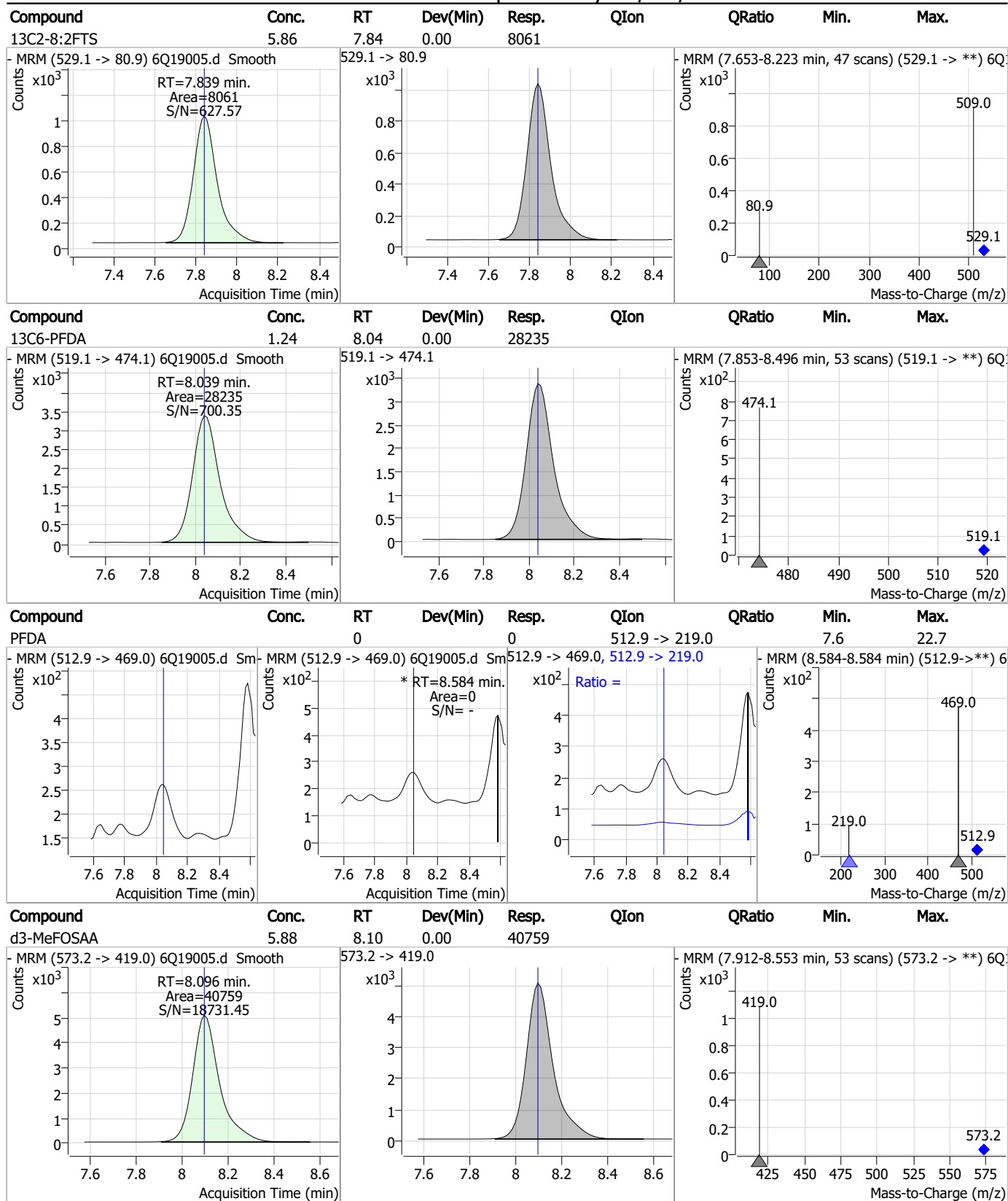
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Perfluorinated Compounds by LC/MS/MS



7.2.4
7

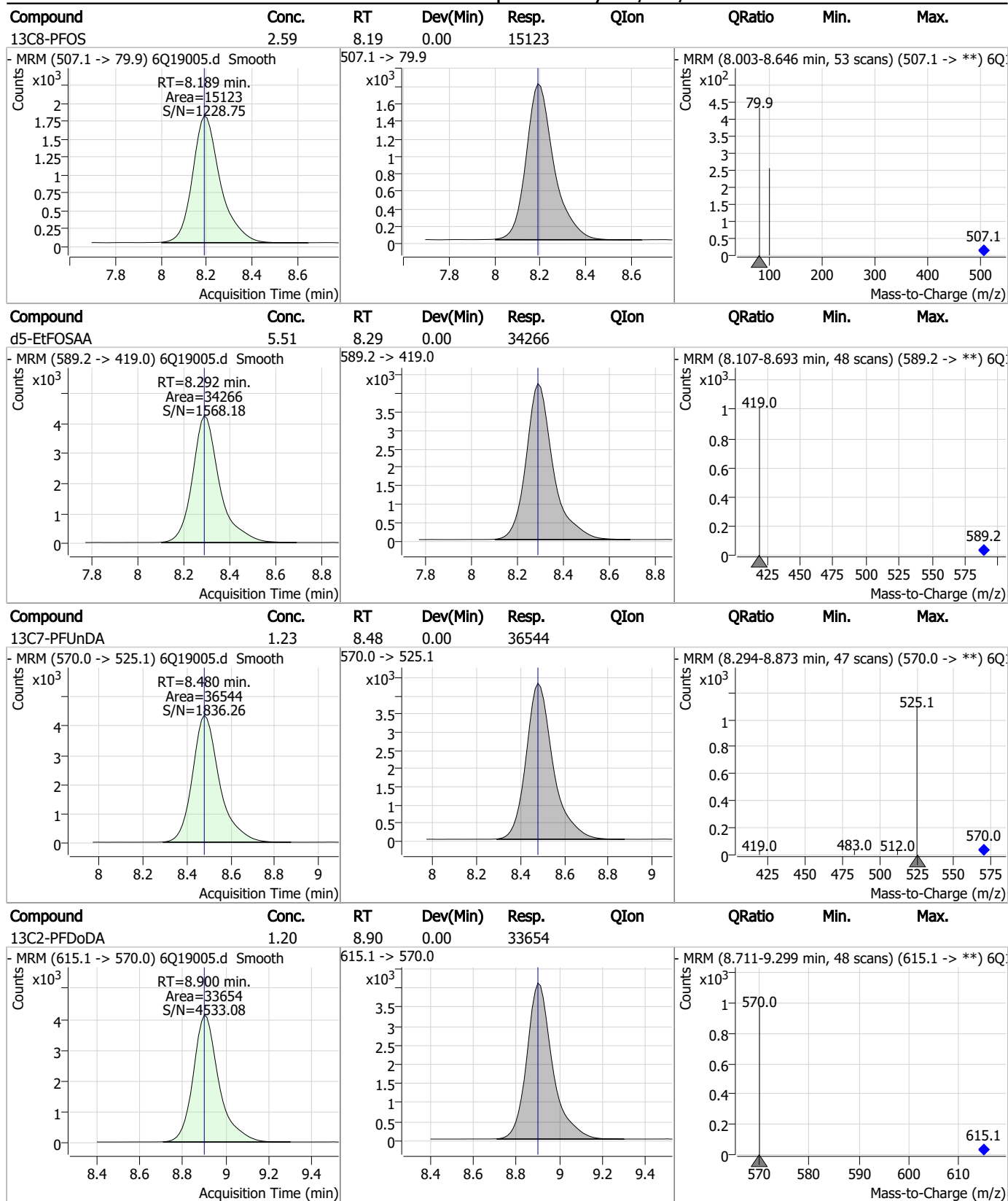
Perfluorinated Compounds by LC/MS/MS



7.2.4
7



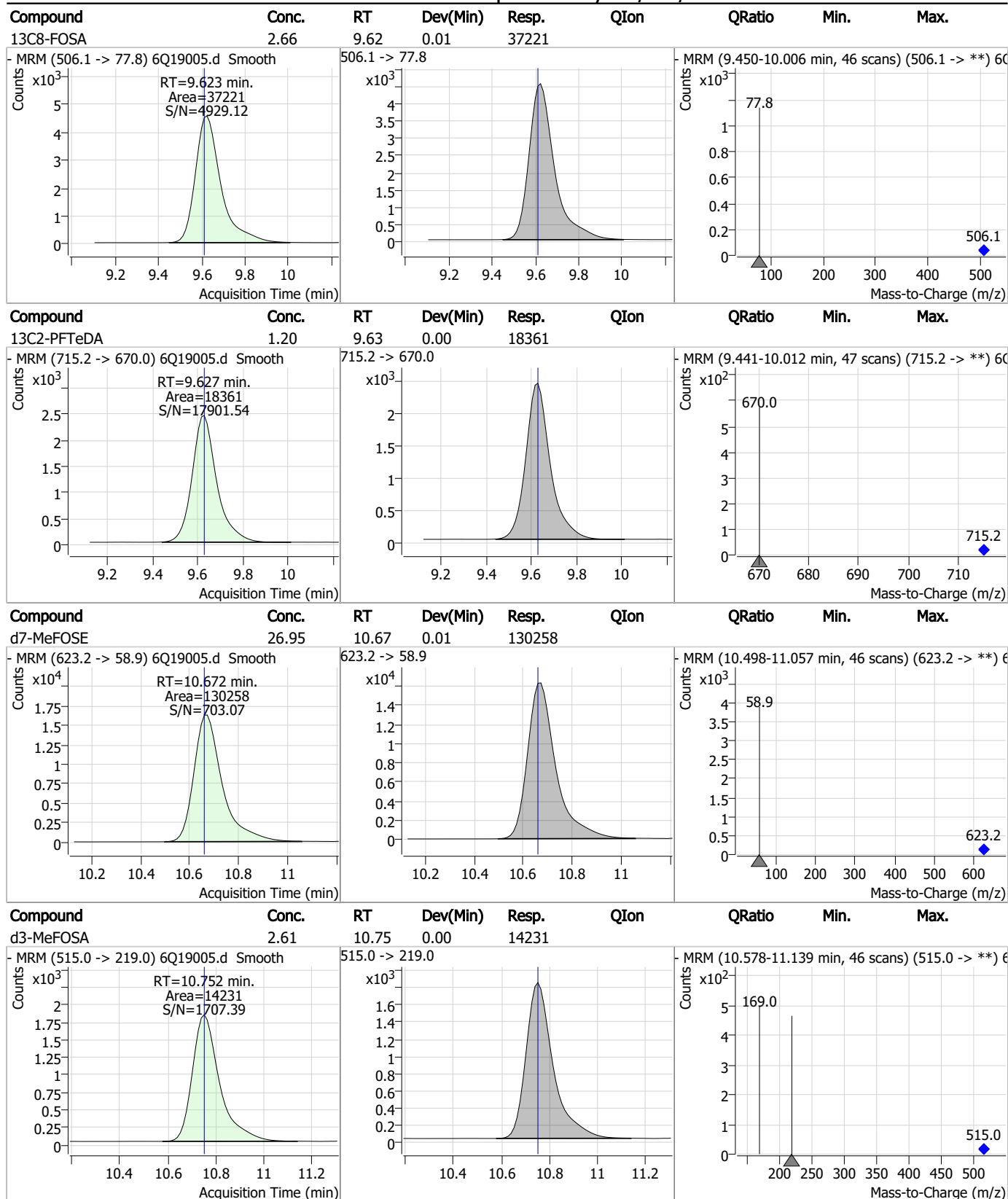
Perfluorinated Compounds by LC/MS/MS



7.2.4
7



Perfluorinated Compounds by LC/MS/MS

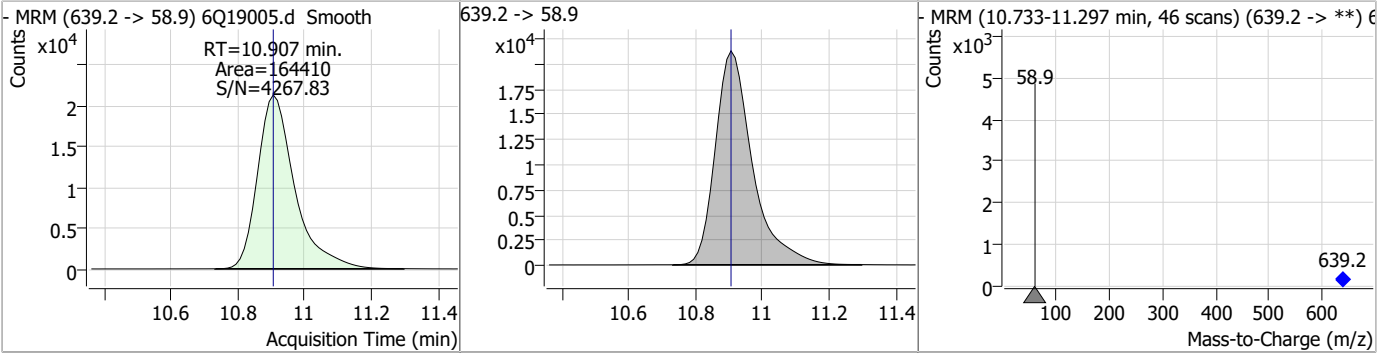


7.2.4
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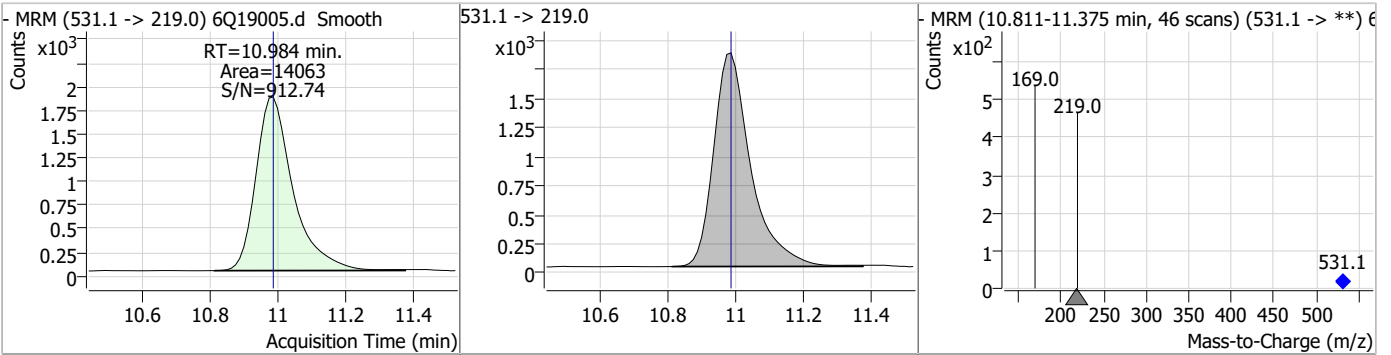


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.71	10.91	0.00	164410				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOFA	2.69	10.98	0.00	14063				



7.2.4

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

7.2.5
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 = 101.7%	
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	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.	

7.25
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

7.2.5
7

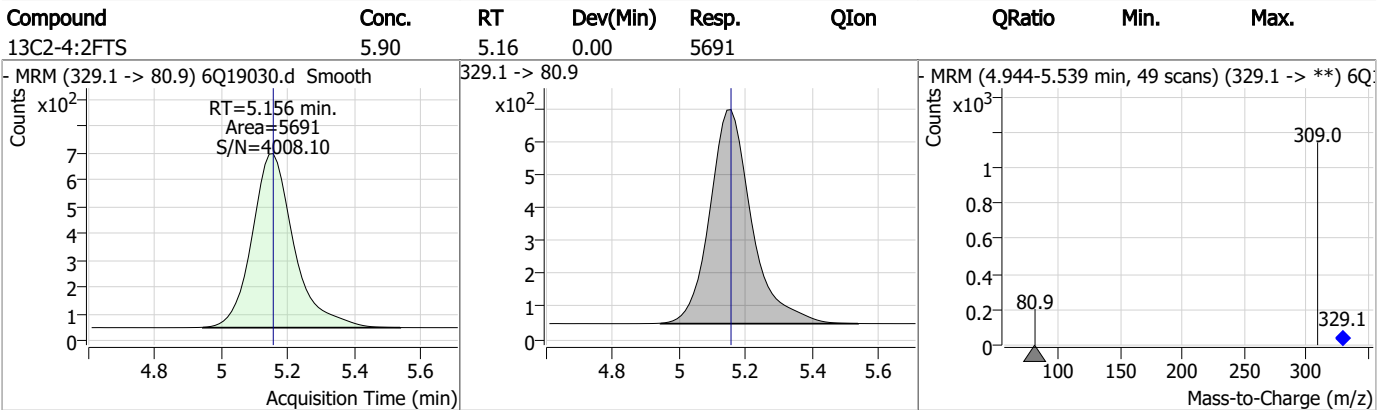
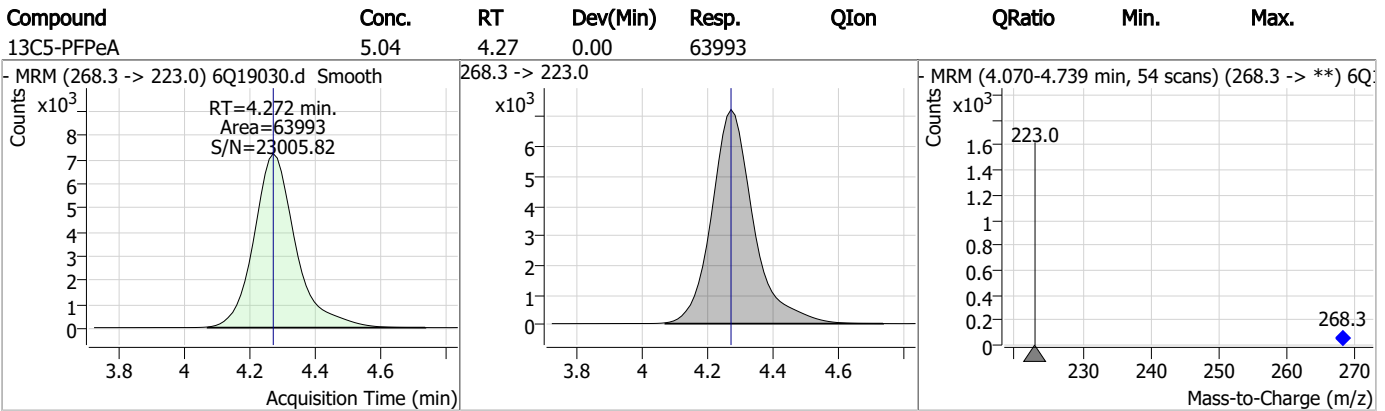
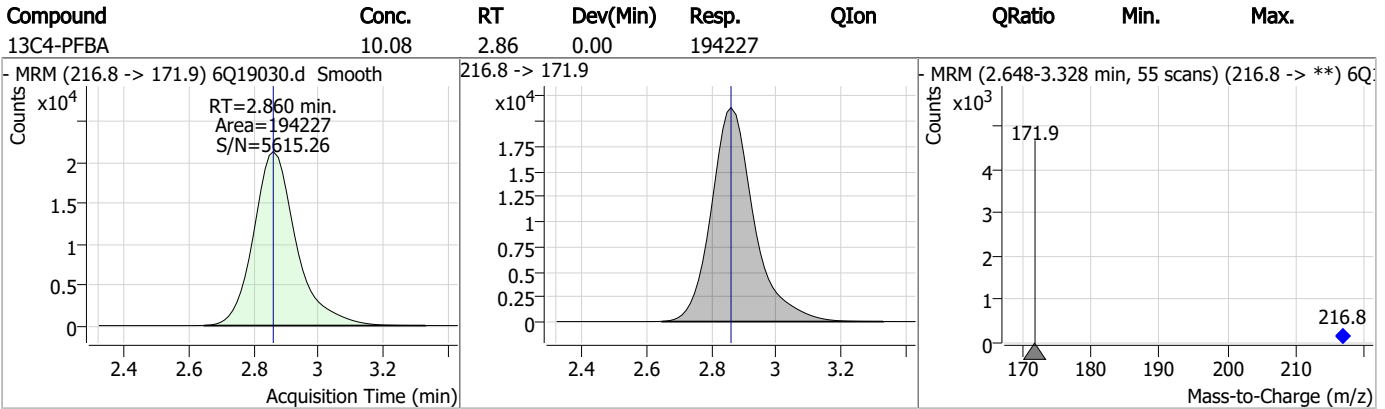
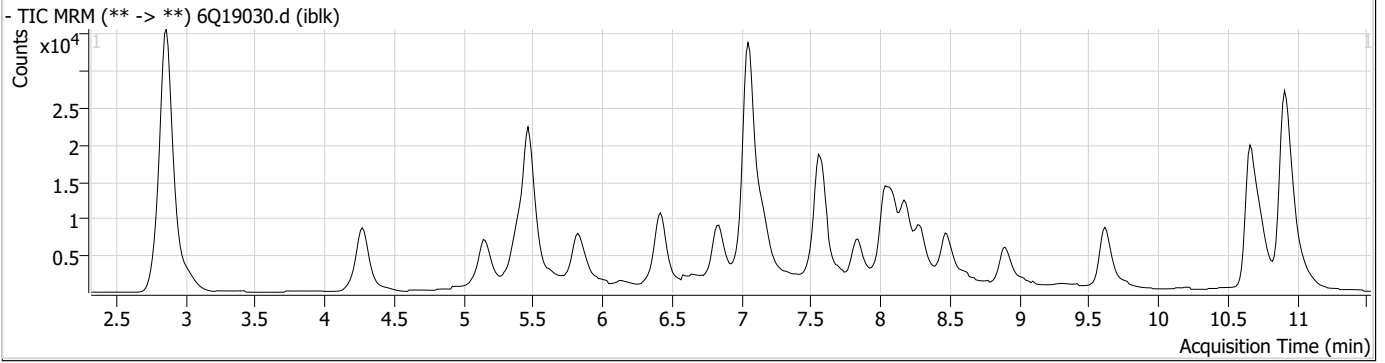
Perfluorinated Compounds by LC/MS/MS

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

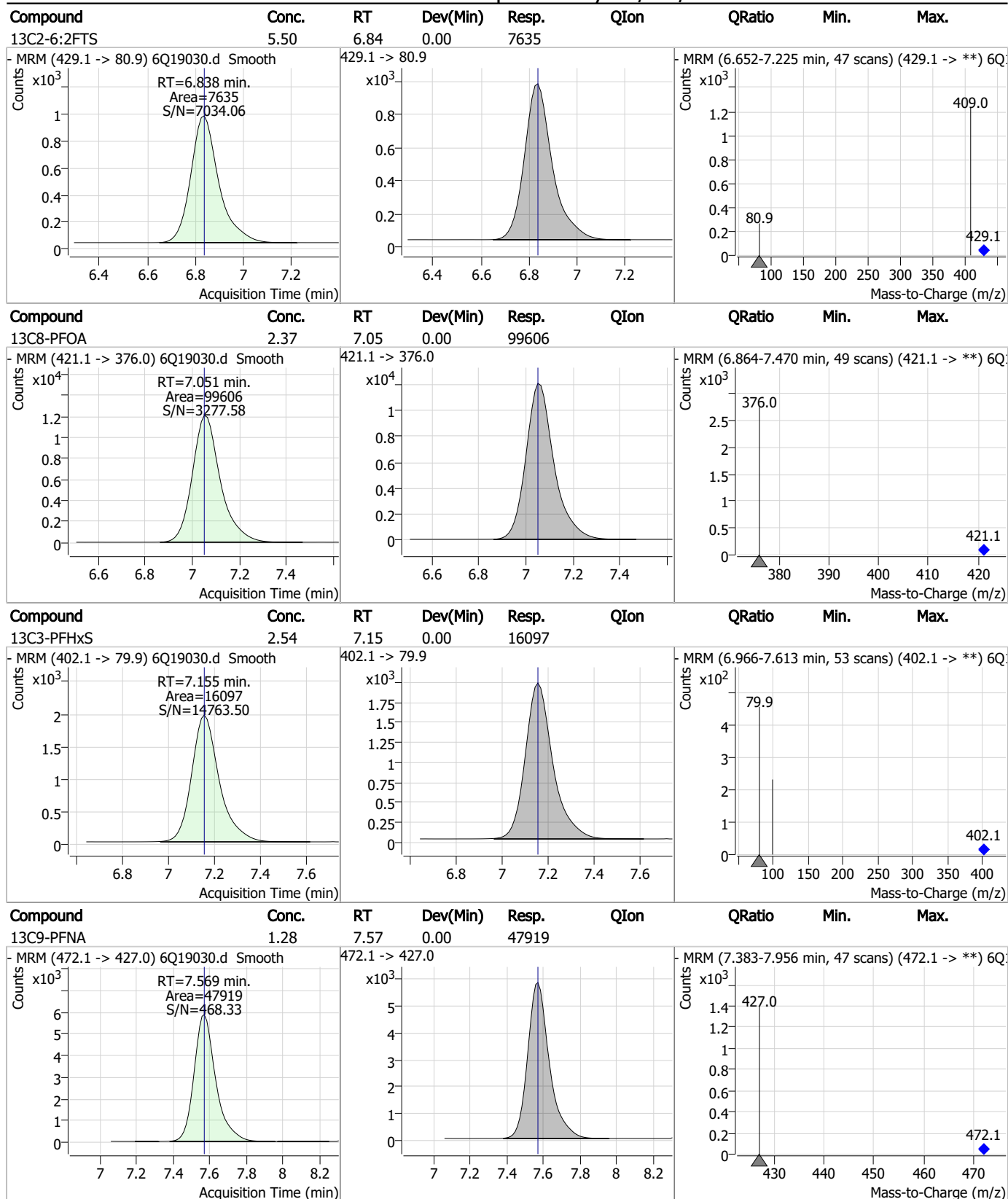


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.58	5.38	0.00	26666				
13C5-PFHxA	2.71	5.47	-0.01	75001				
13C3-HFPO-DA	10.83	5.83	0.00	44600				
13C4-PFHpA	2.53	6.42	0.00	65833				

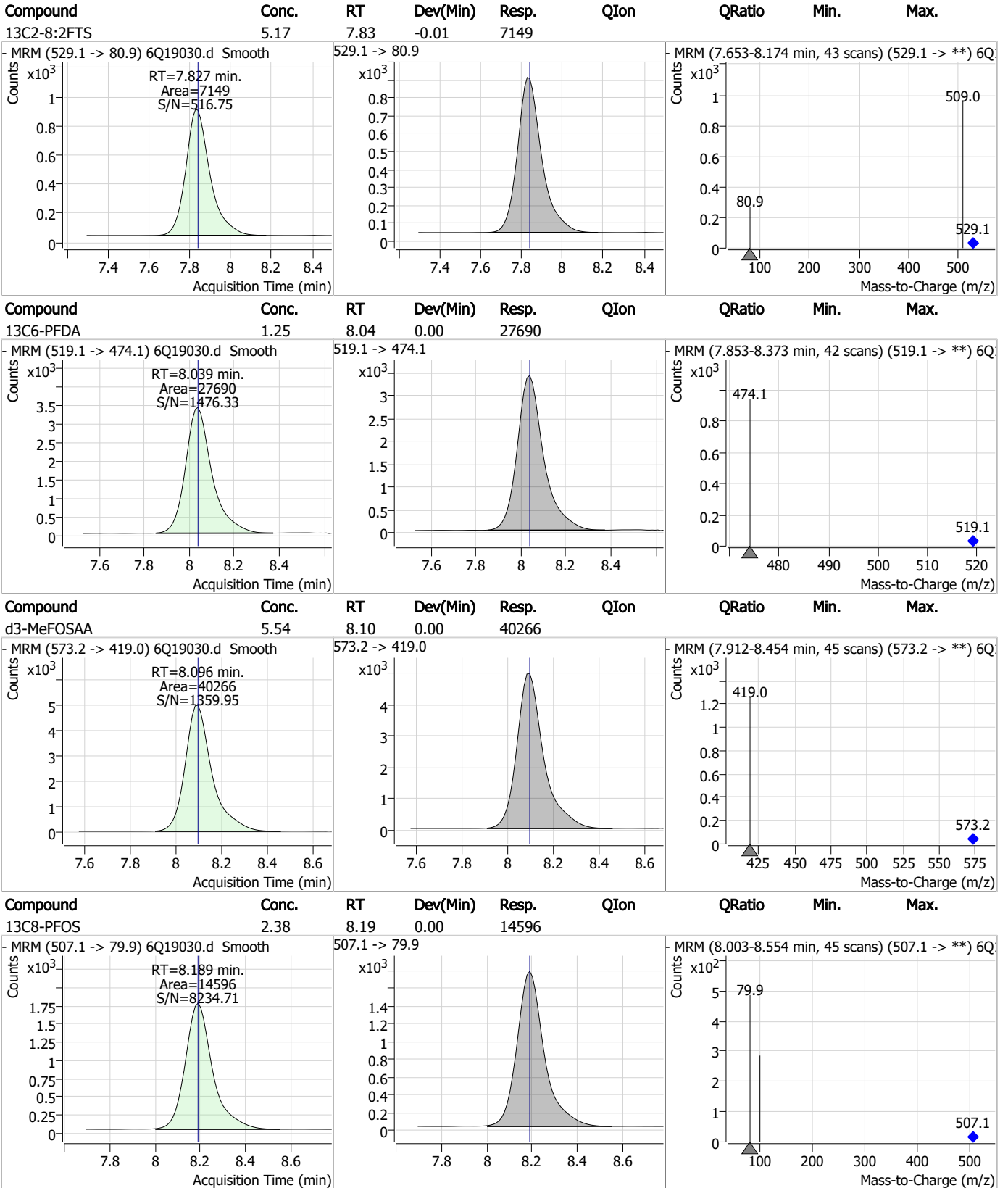
7.25
7

Perfluorinated Compounds by LC/MS/MS



7.2.5
7

Perfluorinated Compounds by LC/MS/MS



7.2.5

7

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				
13C7-PFUnDA	1.26	8.48	0.00	36531				
13C2-PFDoDA	1.17	8.90	0.00	32003				
13C8-FOSA	2.35	9.62	0.01	34445				

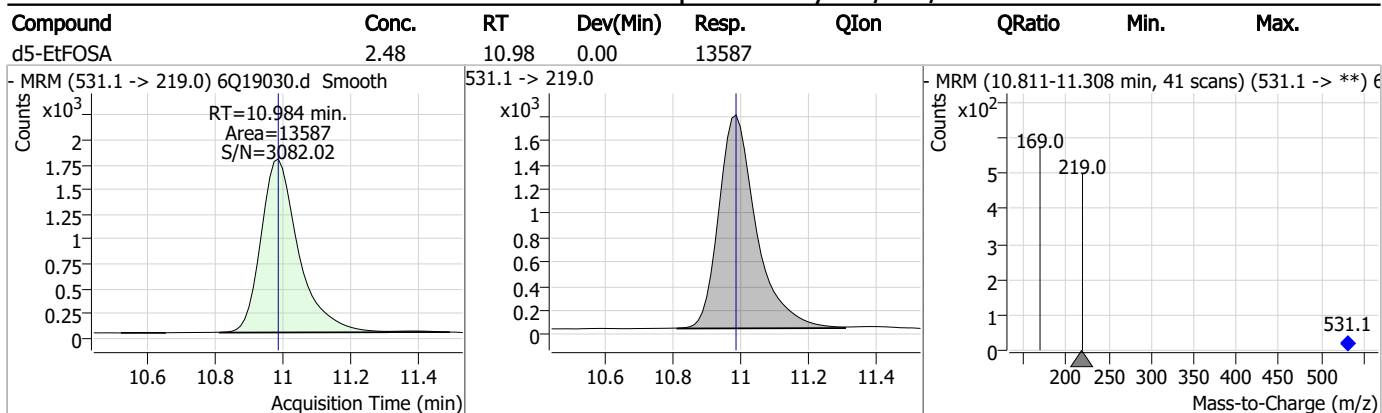
7.25
7

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				

7.25
7

Perfluorinated Compounds by LC/MS/MS



7.2.5

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

7.2.6
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

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.	

7.2.6

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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

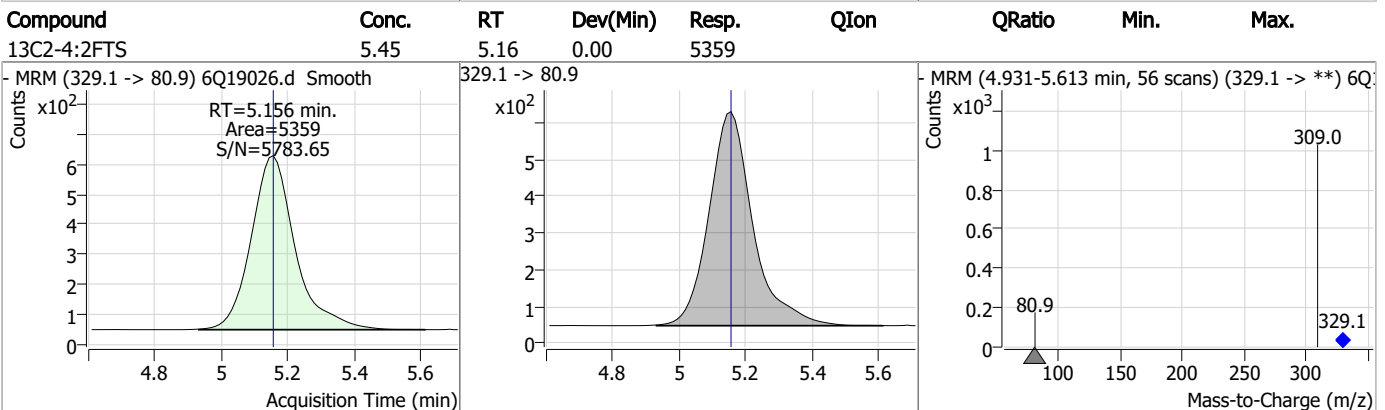
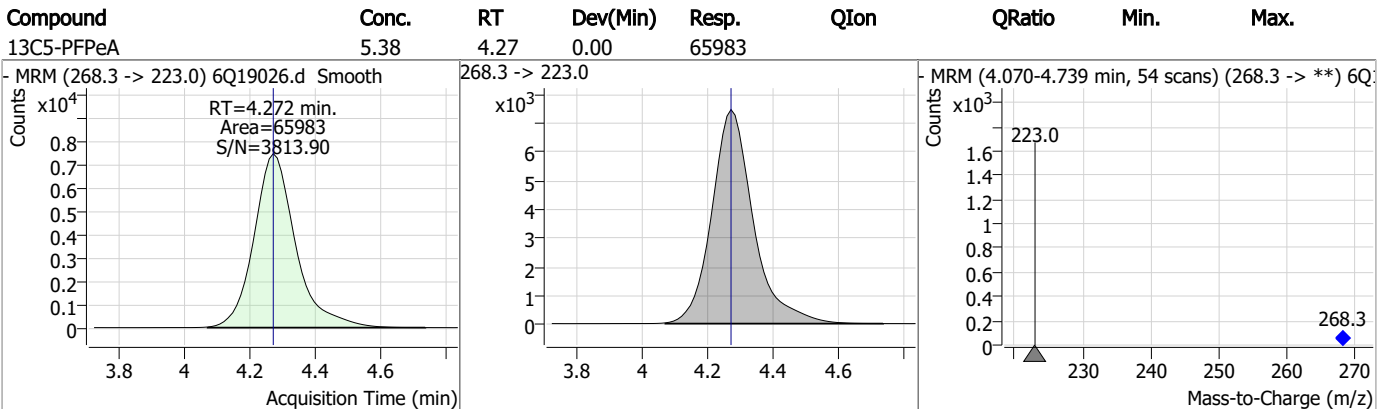
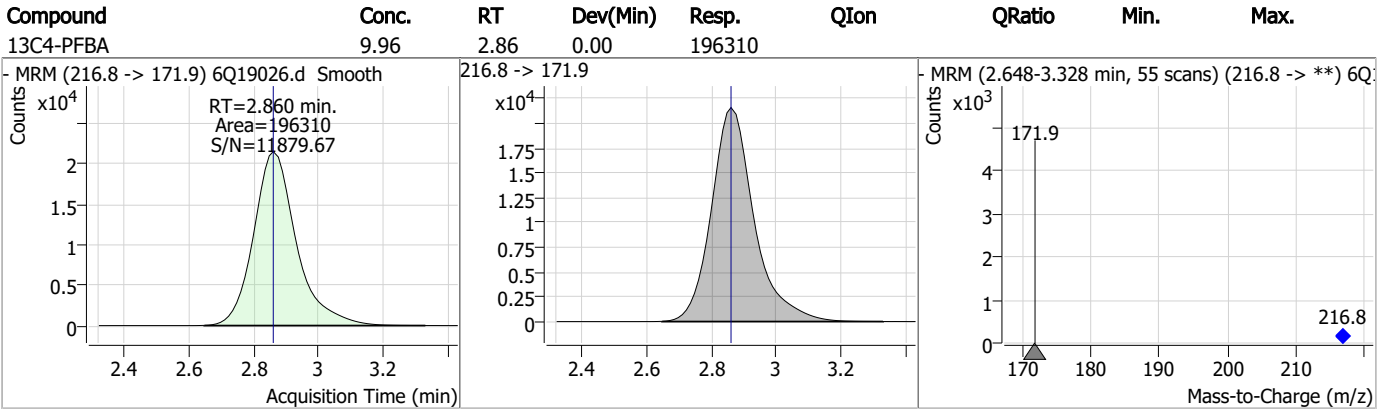
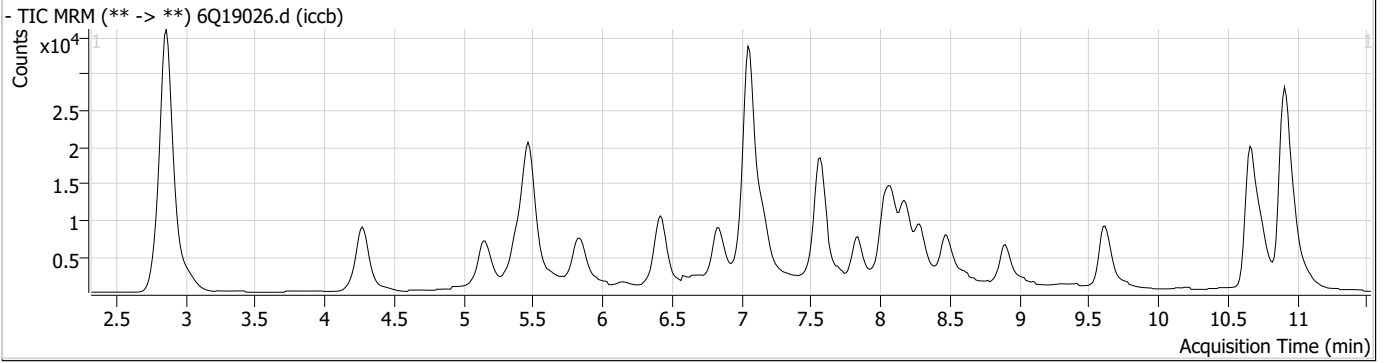
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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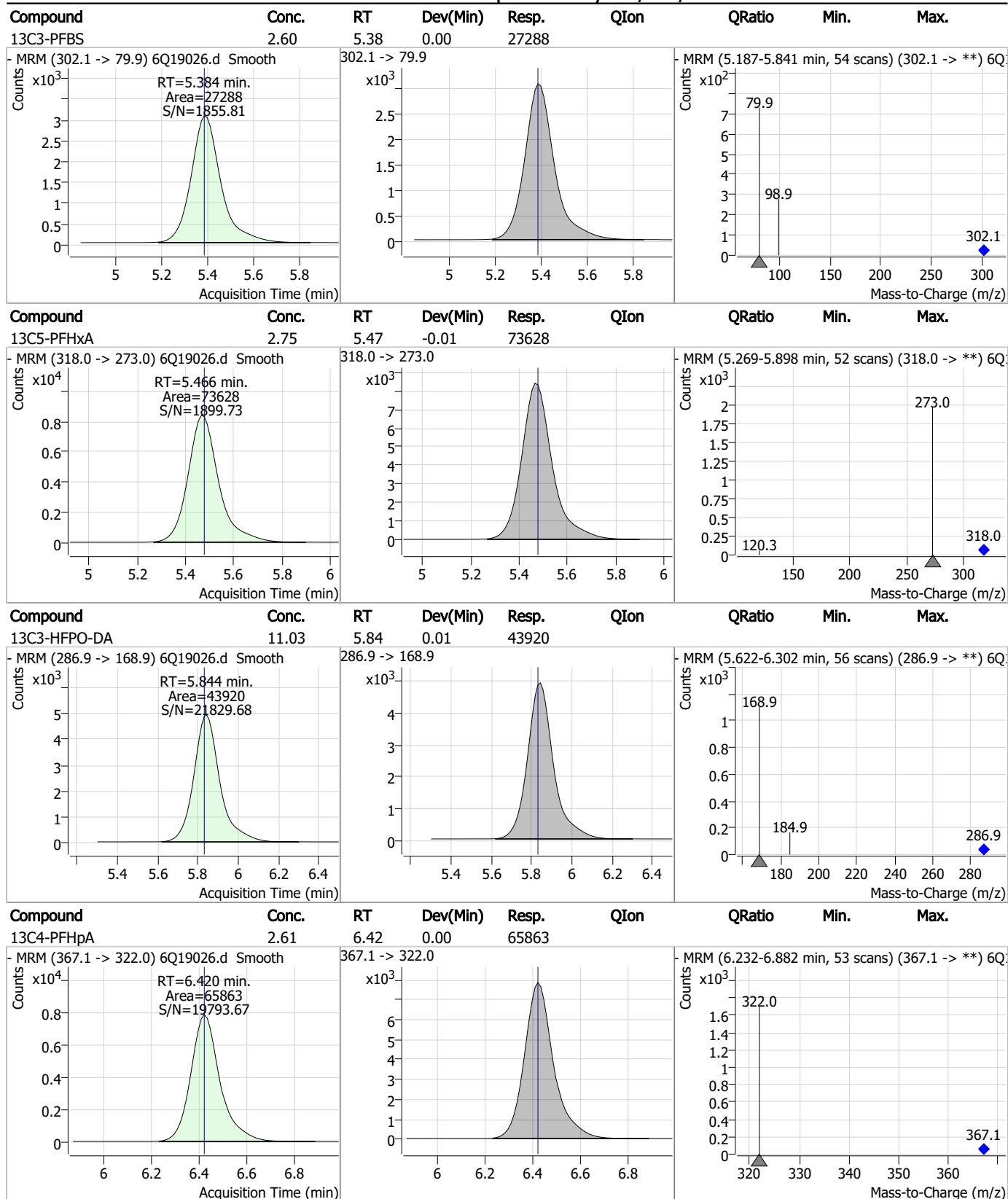
7.2.6

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Perfluorinated Compounds by LC/MS/MS

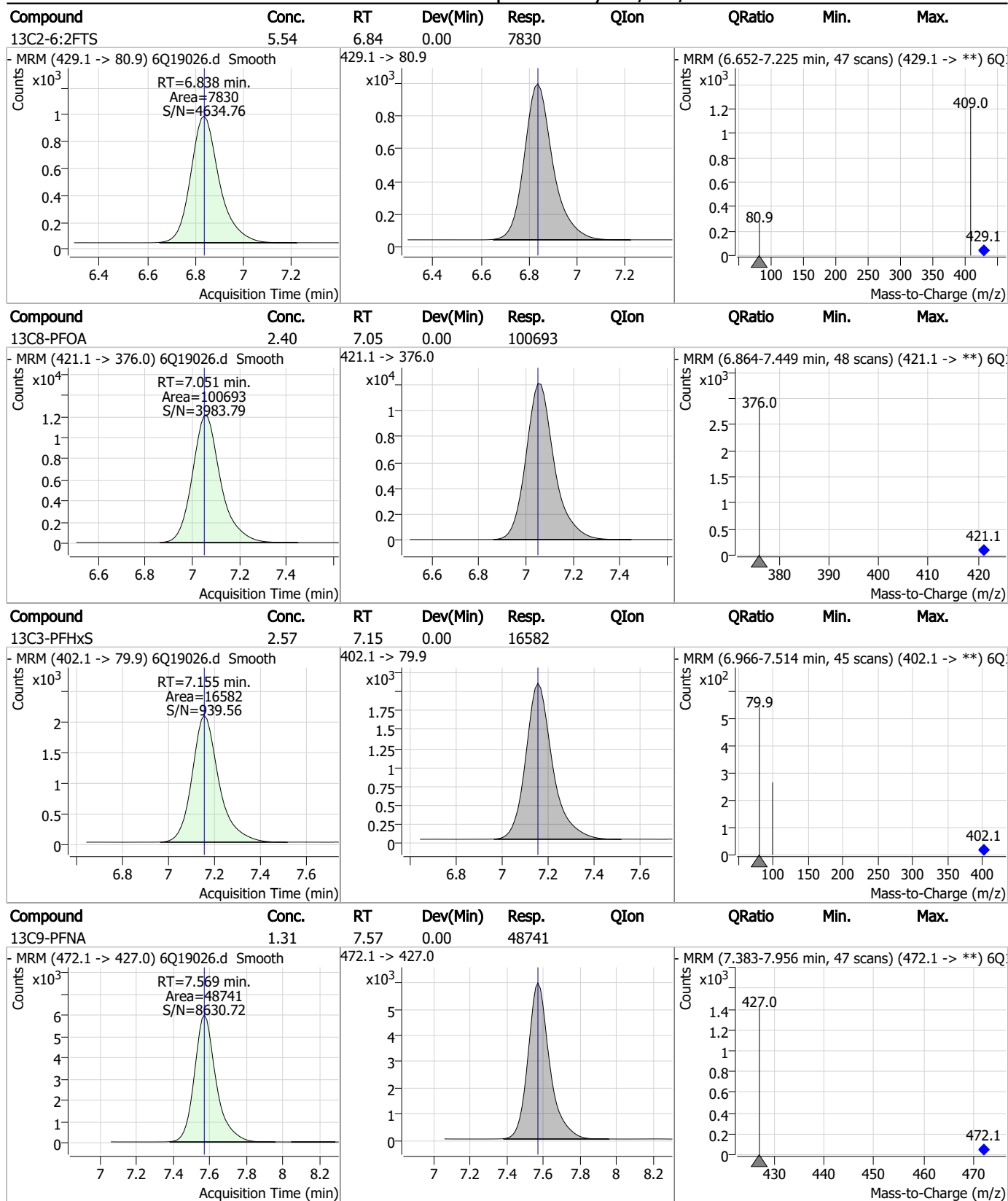


Perfluorinated Compounds by LC/MS/MS



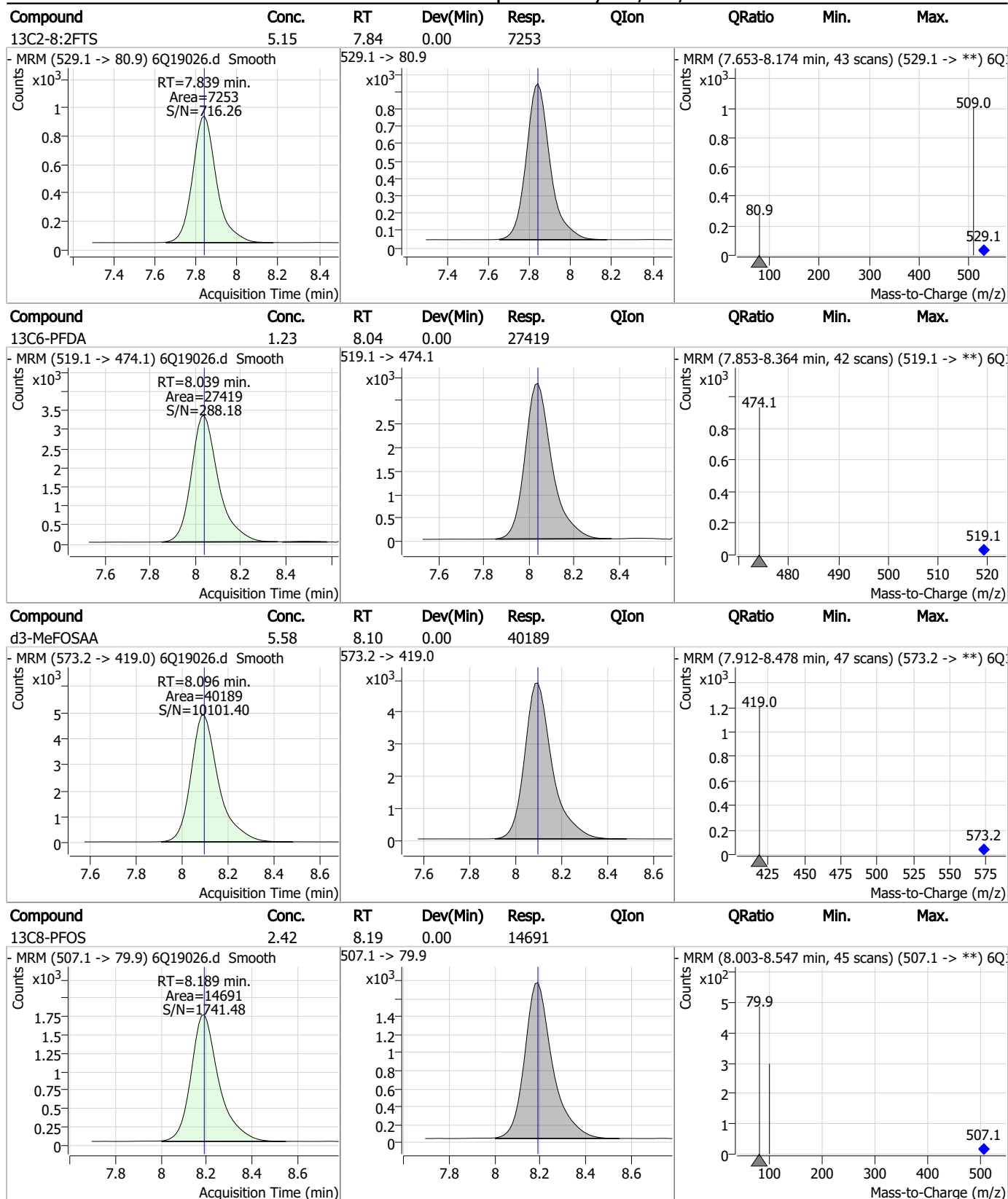
7.2.6
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Perfluorinated Compounds by LC/MS/MS



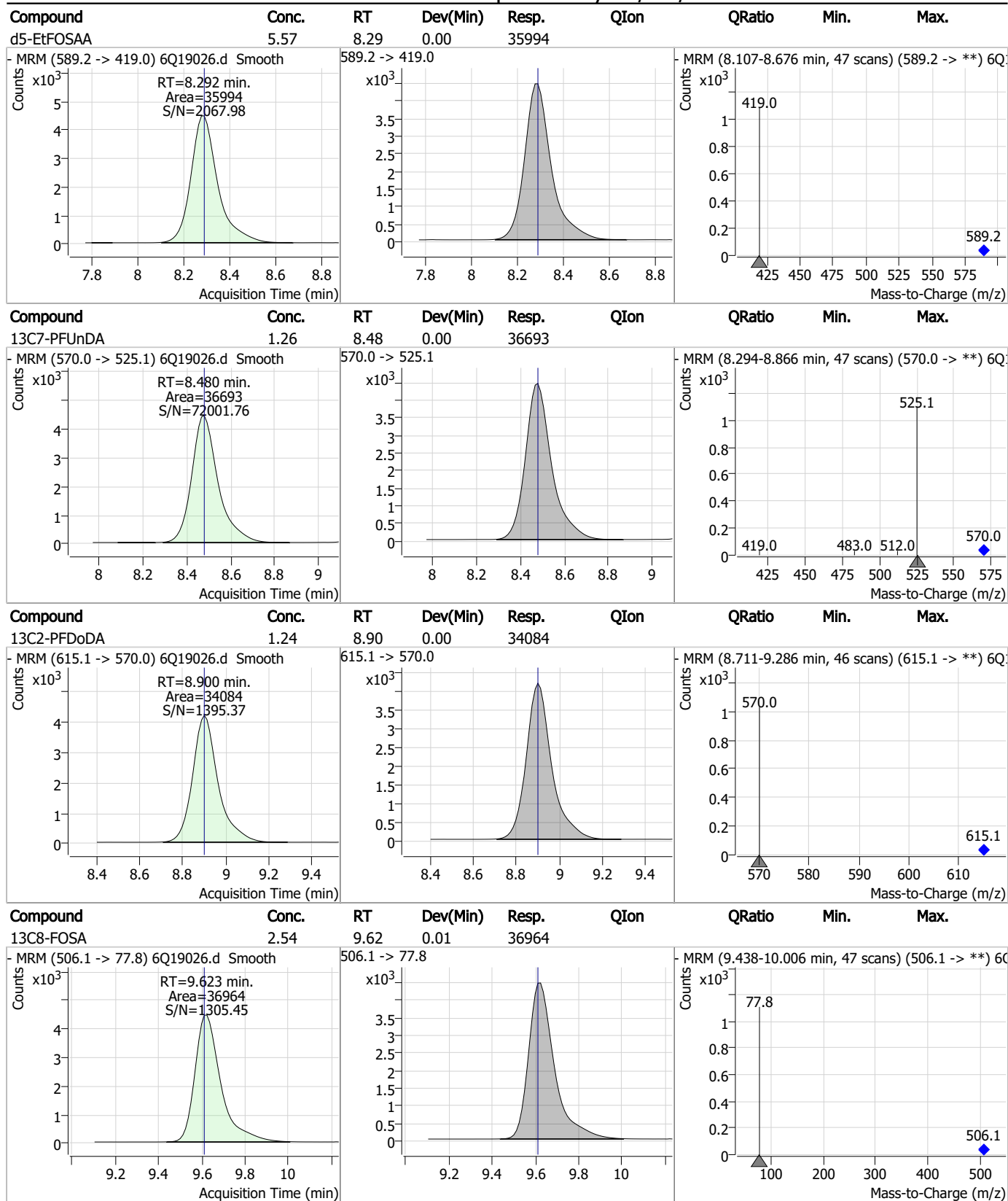
7.2.6
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Perfluorinated Compounds by LC/MS/MS



7.2.6
7

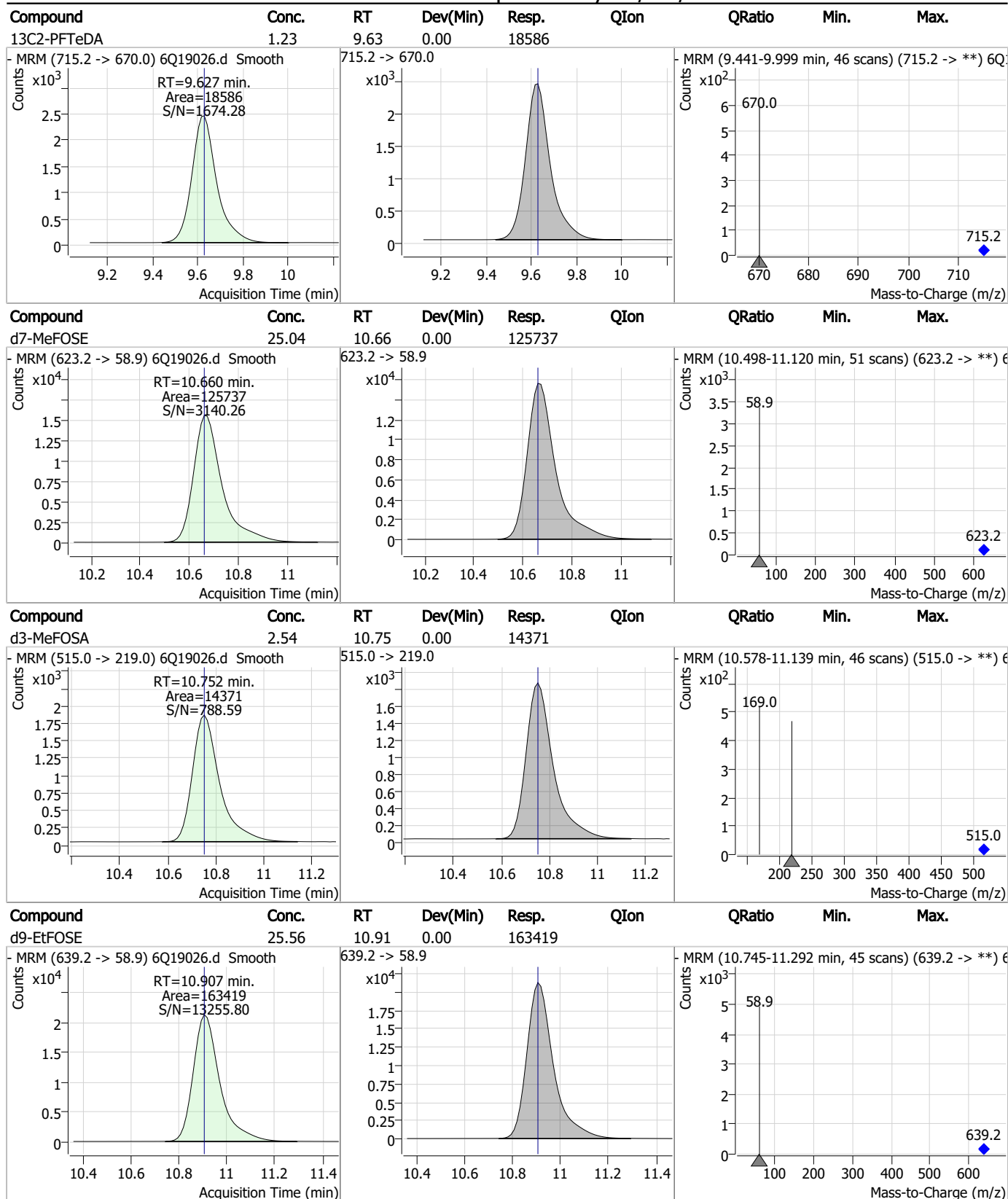
Perfluorinated Compounds by LC/MS/MS



7.2.6
7



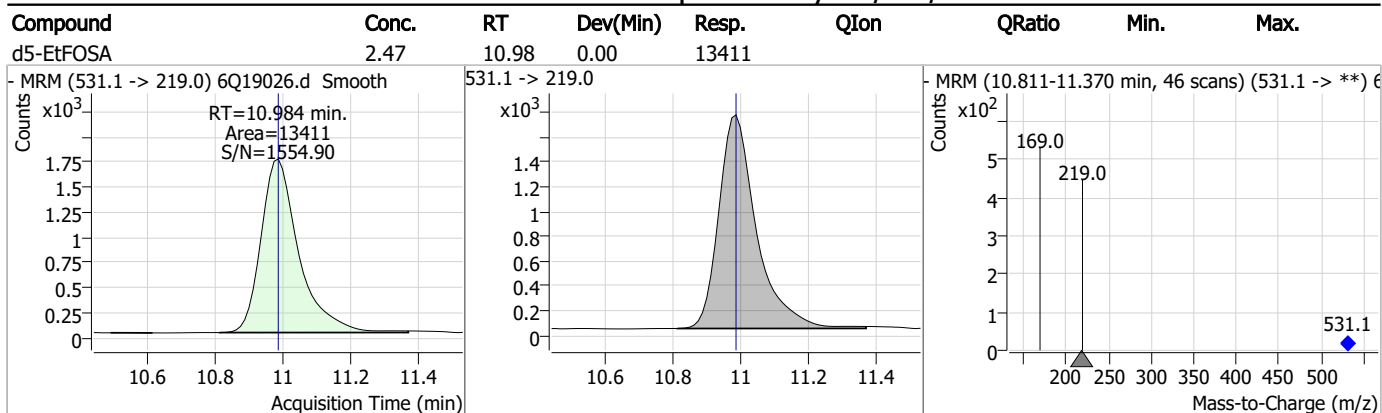
Perfluorinated Compounds by LC/MS/MS



7.2.6

7

Perfluorinated Compounds by LC/MS/MS



7.2.6

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%	

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.	

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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			

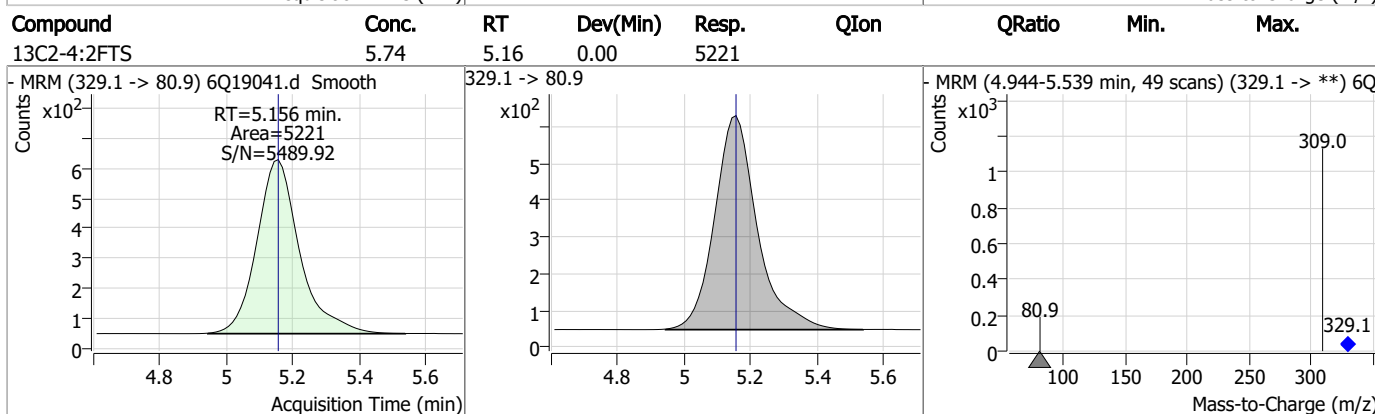
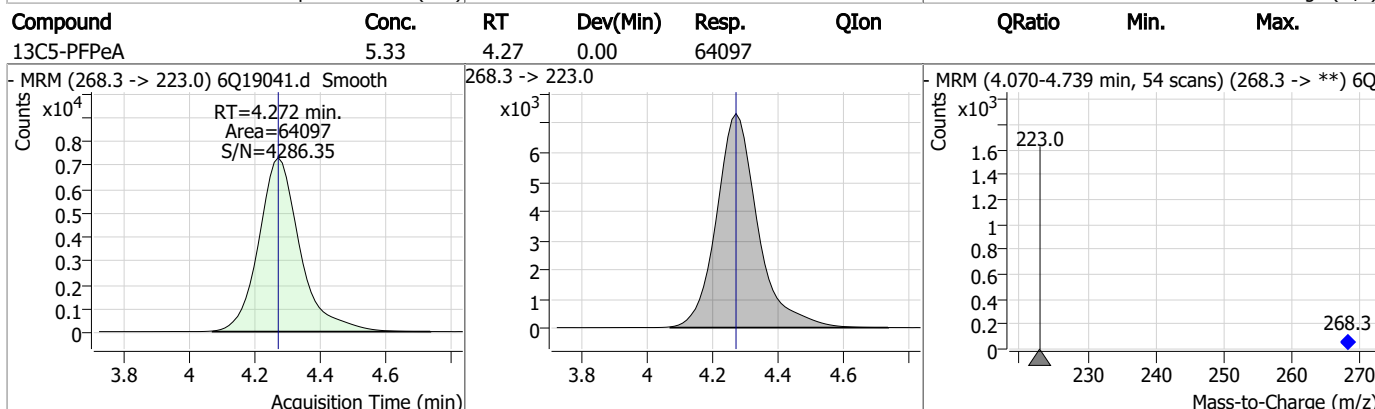
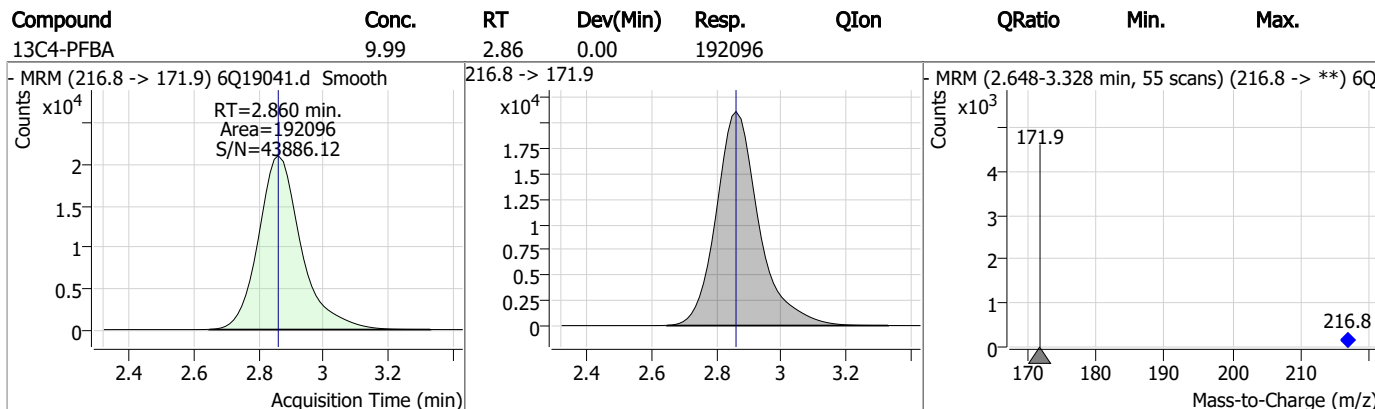
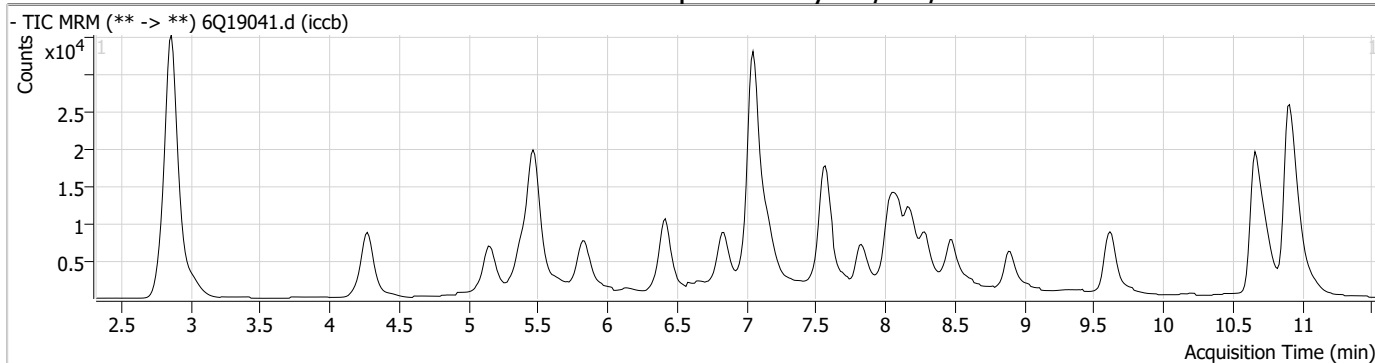
= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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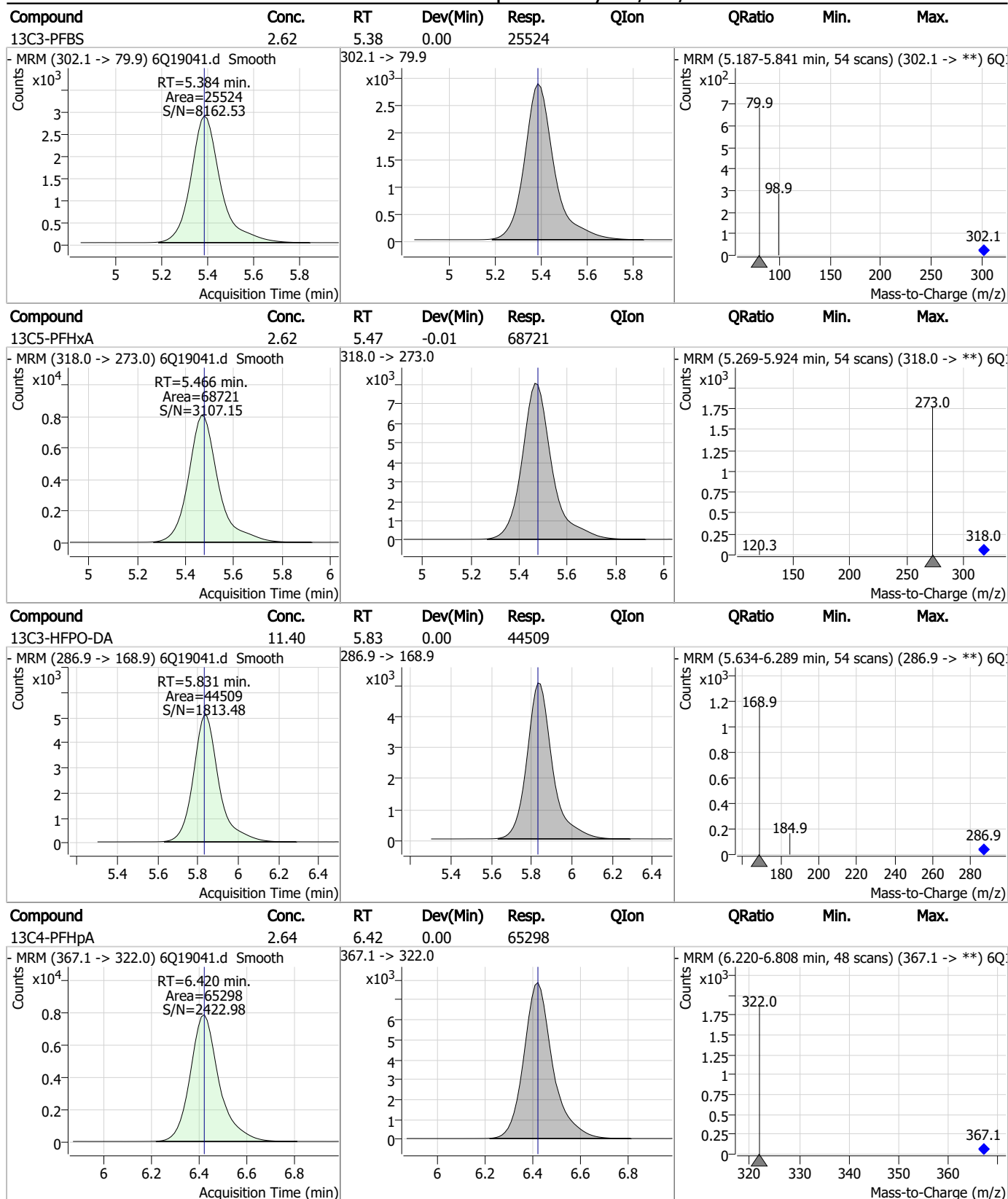
7.2.7
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Perfluorinated Compounds by LC/MS/MS



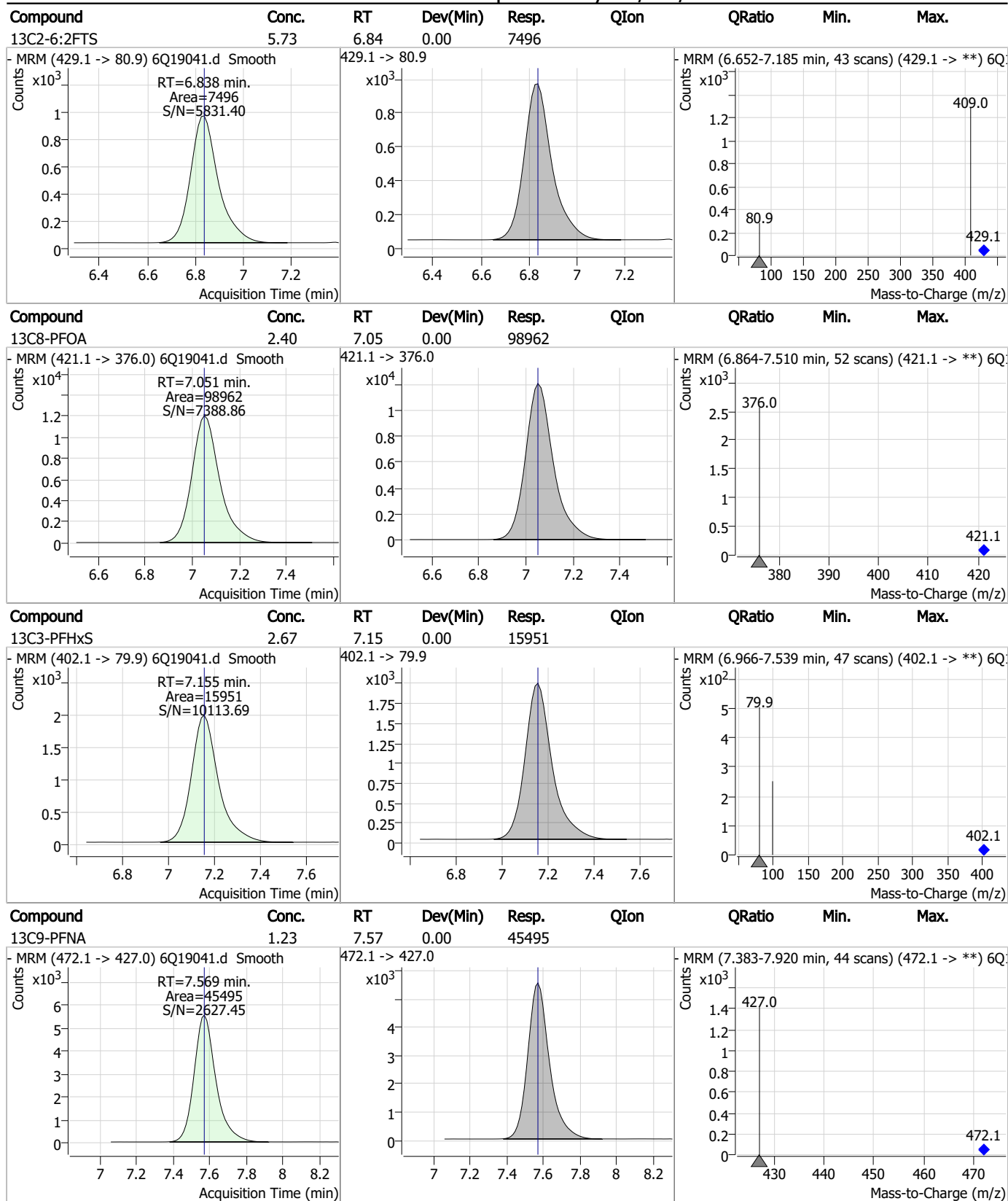
7.2.7
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Perfluorinated Compounds by LC/MS/MS



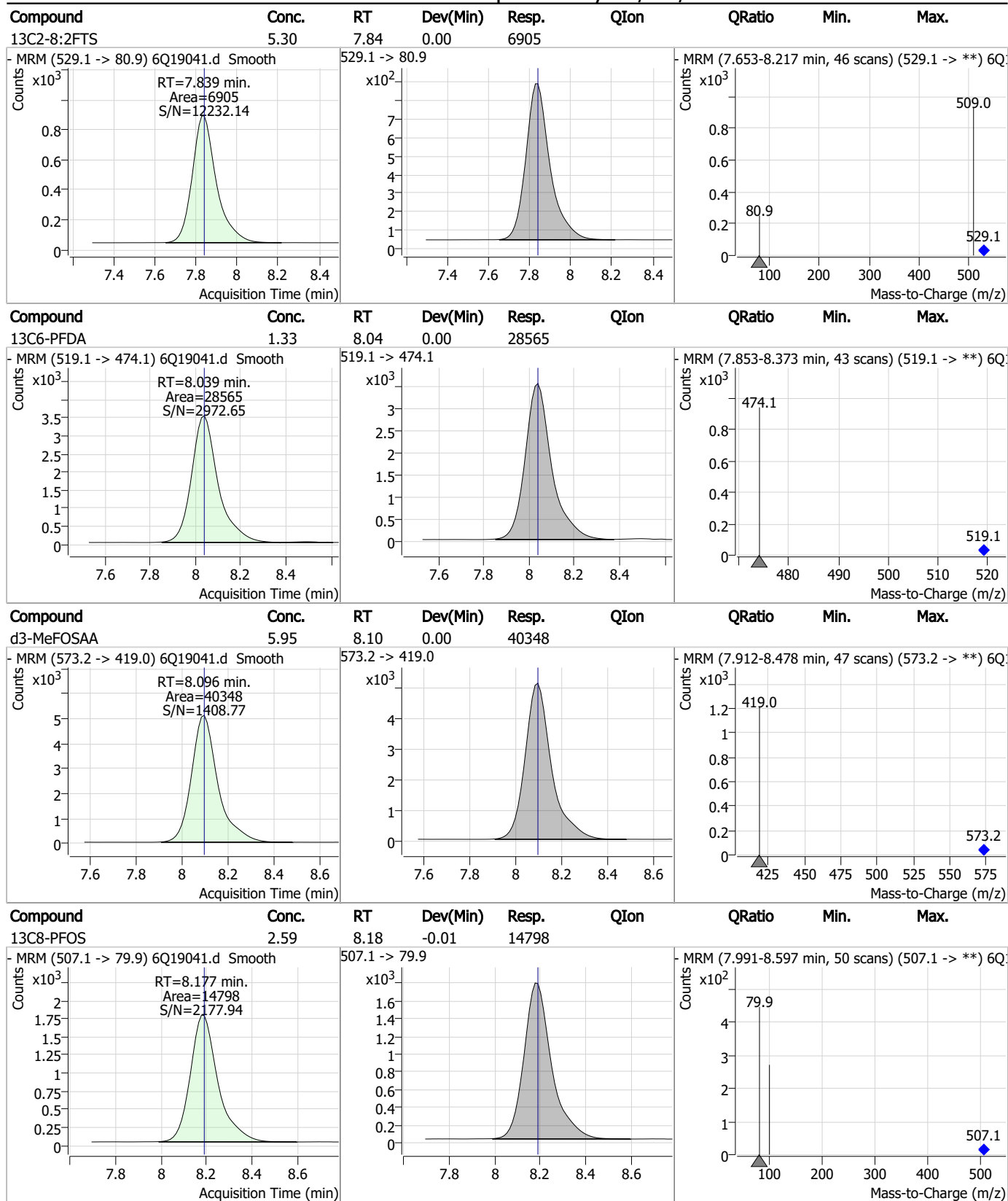
7.27

Perfluorinated Compounds by LC/MS/MS



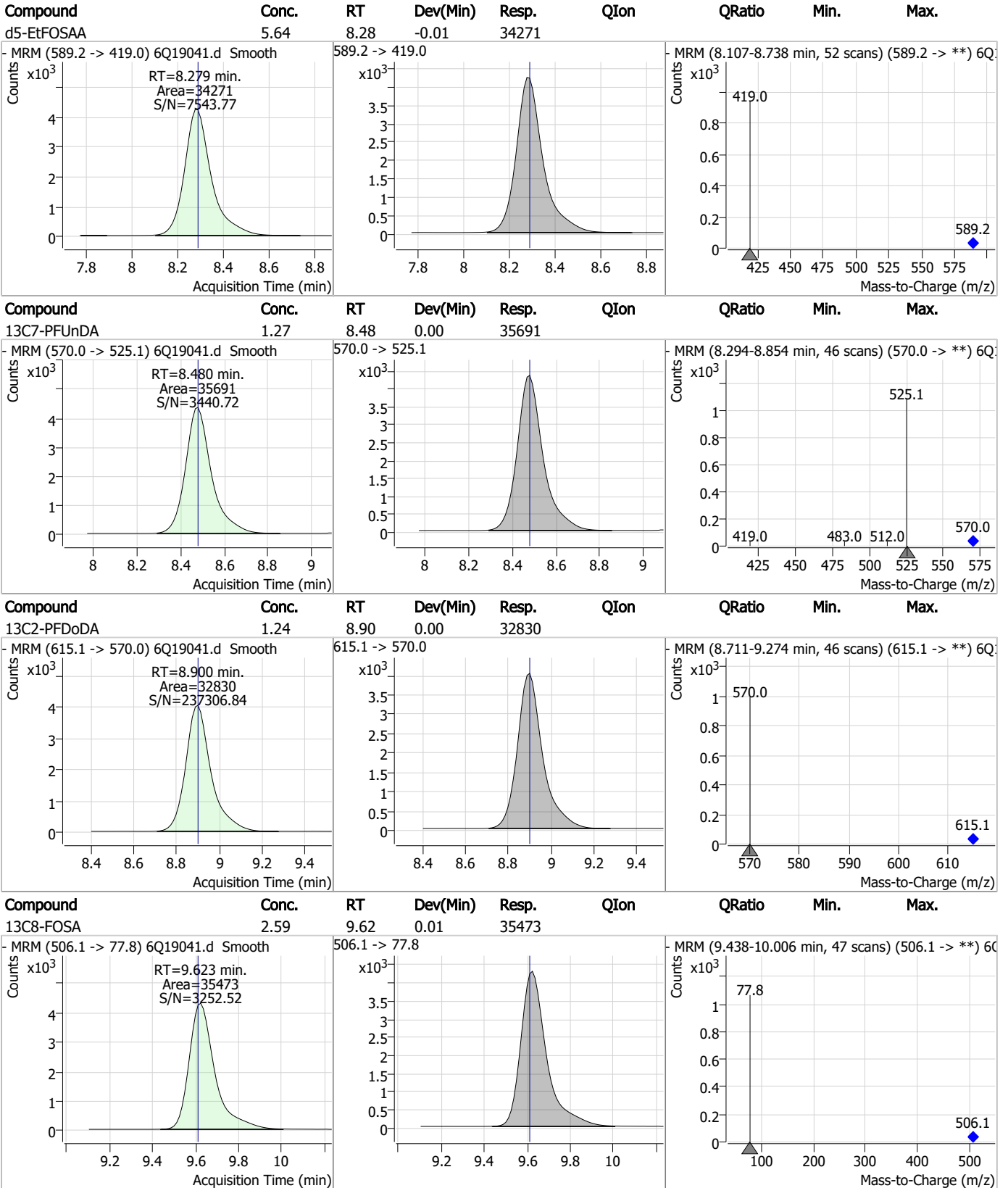
7.27
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Perfluorinated Compounds by LC/MS/MS



7.27
7

Perfluorinated Compounds by LC/MS/MS



7.27

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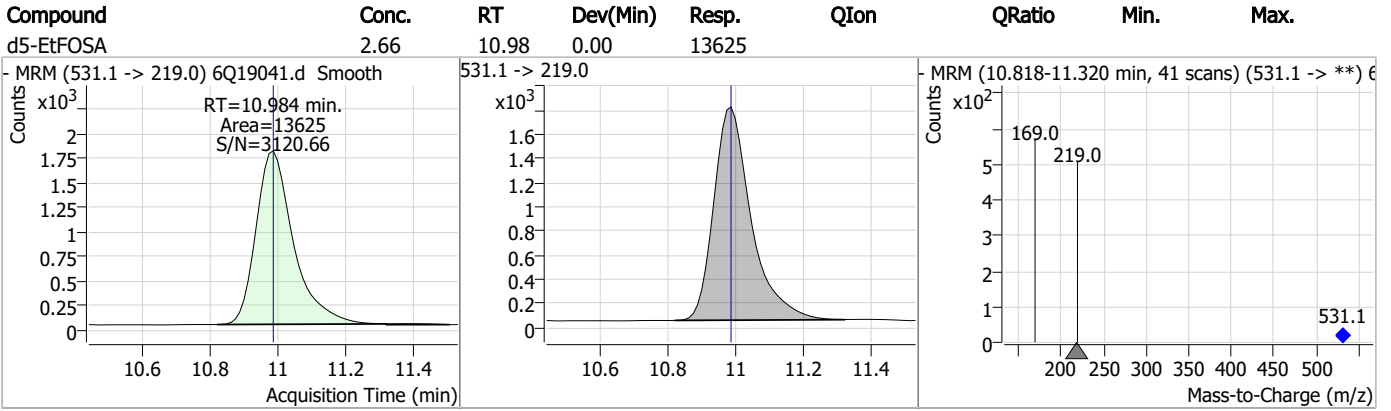


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFTeDA	1.29	9.61	-0.01	18713				
d7-MeFOSE	25.90	10.66	0.00	122355				
d3-MeFOSA	2.62	10.75	0.00	13953				
d9-EtFOSE	25.51	10.91	0.00	153495				

7.2.7
7

Perfluorinated Compounds by LC/MS/MS



7.27
7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q18995.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 2:21:48 AM
 Sample Name : op97216-bs
 Vial : P3-A4
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97216,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	47957	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	52232	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	58356	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	54297	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	80457	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	37160	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	22082	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	28733	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	27172	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	13737	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	24463	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	21881	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	12971	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	11629	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4236	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6162	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6334	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	32942	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	36506	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	29494	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	77349	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	118319	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	10574	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	10133	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	14849	2.50 µg/L	0.000
13C3-PFBA	2.904	216.0 -> 172.0	65639	5.00 µg/L	0.040
18O2-PFHxS	7.154	403.0 -> 83.9	8703	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	80490	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	27148	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	42165	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	50232	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4236	5.92 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 118.4%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6162	5.99 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 119.8%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6334	6.18 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 123.7%		
13C2-PFDoDA	8.900	615.1 -> 570.0	27172	1.37 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 109.6%		
13C2-PFTeDA	9.627	715.2 -> 670.0	13737	1.26 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 101.1%		
13C3-PFBS	5.397	302.1 -> 79.9	21881	2.86 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 114.4%		
13C3-PFHxS	7.155	402.1 -> 79.9	12971	2.76 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 = 110.5%	
13C4-PFBA	2.913	216.8 -> 171.9	47957	3.08 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 30.8%	
13C4-PFHpA	6.420	367.1 -> 322.0	54297	2.71 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.5%	
13C5-PFHxA	5.478	318.0 -> 273.0	58356	2.74 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 109.8%	
13C5-PFPeA	4.284	268.3 -> 223.0	52232	5.36 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 107.2%	
13C6-PFDA	8.039	519.1 -> 474.1	22082	1.37 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.7%	
13C7-PFUnDA	8.480	570.0 -> 525.1	28733	1.36 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 109.2%	
13C8-FOSA	9.623	506.1 -> 77.8	24463	2.26 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 90.5%	
13C8-PFOA	7.064	421.1 -> 376.0	80457	2.61 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.3%	
13C8-PFOS	8.189	507.1 -> 79.9	11629	2.58 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.2%	
13C9-PFNA	7.569	472.1 -> 427.0	37160	1.34 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 107.2%	
d3-MeFOSAA	8.096	573.2 -> 419.0	32942	6.16 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 123.2%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	36506	11.53 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 115.3%	
d3-MeFOSA	10.752	515.0 -> 219.0	10133	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.4%	
d5-EtFOSAA	8.292	589.2 -> 419.0	29494	6.15 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 123.0%	
d7-MeFOSE	10.672	623.2 -> 58.9	77349	20.75 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 83.0%	
d9-EtFOSE	10.907	639.2 -> 58.9	118319	24.92 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 99.7%	
d5-EtFOSA	10.984	531.1 -> 219.0	10574	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	62859	10.83 µg/L	100
		327.1 -> 80.9	23448		
6:2FTS	6.838	427.1 -> 407.0	64066	10.97 µg/L	99
		427.1 -> 80.9	21866		
8:2FTS	7.840	527.1 -> 507.0	35240	10.37 µg/L	98
		527.1 -> 80.8	14554		
EtFOSAA	8.293	584.2 -> 419.1	10052	2.50 µg/L	96
		584.2 -> 526.0	5293		
FOSA	9.614	498.1 -> 77.9	21849	2.65 µg/L	99
		498.1 -> 478.0	726		
MeFOSAA	8.097	570.1 -> 419.0	16806	2.55 µg/L	97
		570.1 -> 483.0	3352		
PFBA	2.907	212.8 -> 168.9	16839	10.78 µg/L	100
PFBS	5.398	298.7 -> 79.9	17838	2.35 µg/L	96
		298.7 -> 98.8	6566		
PFDA	8.040	512.9 -> 469.0	75294	2.83 µg/L	98
		512.9 -> 219.0	10808		
PFDoDA	8.900	613.1 -> 569.0	47368	2.68 µg/L	95
		613.1 -> 319.0	7401		
PFDS	9.064	599.0 -> 79.9	7760	2.79 µg/L	99

7.3.1
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Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	3587		
PFHpA	6.420	363.1 -> 319.0	61366	2.67 µg/L	99
		363.1 -> 169.0	10207		
PFHpS	7.710	449.0 -> 79.9	14456	2.74 µg/L	96
		449.0 -> 98.9	7437		
PFHxA	5.481	313.0 -> 269.0	50352	2.63 µg/L	100
		313.0 -> 118.9	2710		
PFHxS	7.156	398.7 -> 79.9	14935	2.46 µg/L	98
		398.7 -> 98.9	7017		
PFNA	7.570	463.0 -> 419.0	71013	2.70 µg/L	96
		463.0 -> 219.0	13036		
PFNS	8.644	548.8 -> 79.9	13421	2.90 µg/L	95
		548.8 -> 98.9	6486		
PFOA	7.066	413.0 -> 369.0	92327	2.72 µg/L	99
		413.0 -> 169.0	17063		
PFOS	8.191	498.9 -> 79.9	13961	2.62 µg/L	95
		498.9 -> 98.8	7311		
PFPeA	4.287	263.0 -> 219.0	65621	5.32 µg/L	100
PFPeS	6.471	349.1 -> 79.9	14734	2.52 µg/L	96
		349.1 -> 98.9	7078		
PFTeDA	9.628	713.1 -> 669.0	36787	2.72 µg/L	98
		713.1 -> 168.9	3157		
PFTrDA	9.284	663.0 -> 619.0	46922	2.60 µg/L	99
		663.0 -> 168.9	5050		
PFUnDA	8.480	563.1 -> 519.0	52156	2.93 µg/L	100
		563.1 -> 269.1	7935		
11CI-PF3OUdS	9.336	630.9 -> 450.9	64053	4.59 µg/L	97
		632.9 -> 452.9	20662		
9CI-PF3ONS	8.520	530.8 -> 351.0	108844	4.92 µg/L	96
		532.8 -> 353.0	32672		
ADONA	6.671	376.9 -> 250.9	234921	4.69 µg/L	97
		376.9 -> 84.8	67914		
HFPO-DA	5.844	284.9 -> 168.9	15677	5.14 µg/L	97
		284.9 -> 184.9	2023		
3:3FTCA	3.777	241.0 -> 177.0	5337	6.11 µg/L	99
		241.0 -> 117.0	732		
5:3FTCA	6.149	341.0 -> 237.1	230347	62.33 µg/L	100
		341.0 -> 217.0	166221		
7:3FTCA	7.548	441.0 -> 316.9	166235	65.39 µg/L	97
		441.0 -> 336.9	367917		
EtFOSA	10.974	526.0 -> 219.0	23029	4.73 µg/L	98
		526.0 -> 169.0	29716		
EtFOSE	10.920	630.0 -> 58.9	63154	12.24 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	19344	5.01 µg/L	99
		511.9 -> 169.0	26787		
MeFOSE	10.673	616.1 -> 58.9	37726	12.60 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	3595	2.74 µg/L	95
		699.1 -> 98.8	1867		
NFDHA	5.361	295.0 -> 201.0	12602	5.48 µg/L	96
		295.0 -> 84.9	3388		
PFMBA	4.688	279.0 -> 85.1	46924	5.50 µg/L	100
PFMPA	3.442	229.0 -> 84.9	19051	2.93 µg/L	100
PFEESA	5.938	314.8 -> 134.9	118866	4.88 µg/L	100
		314.8 -> 82.9	4252		

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

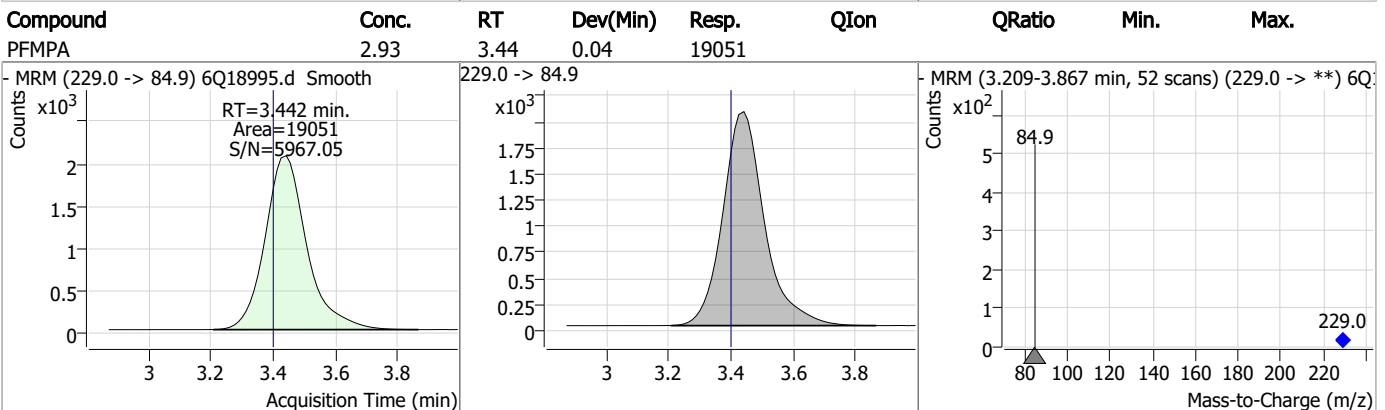
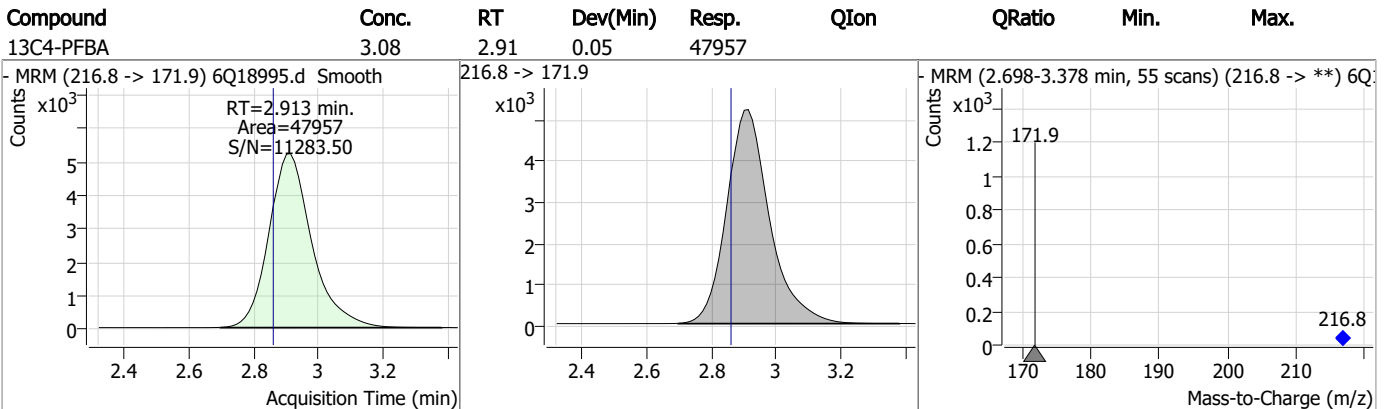
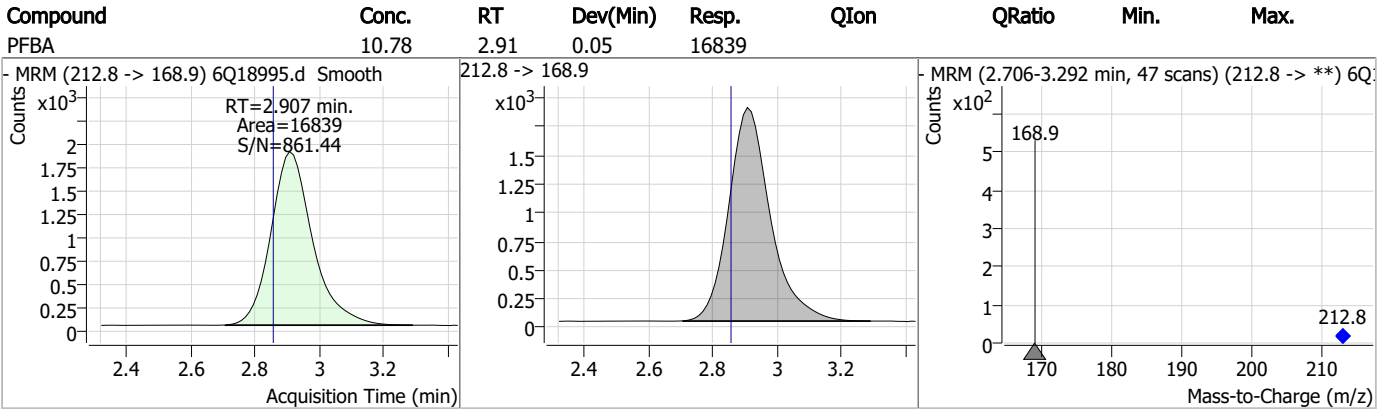
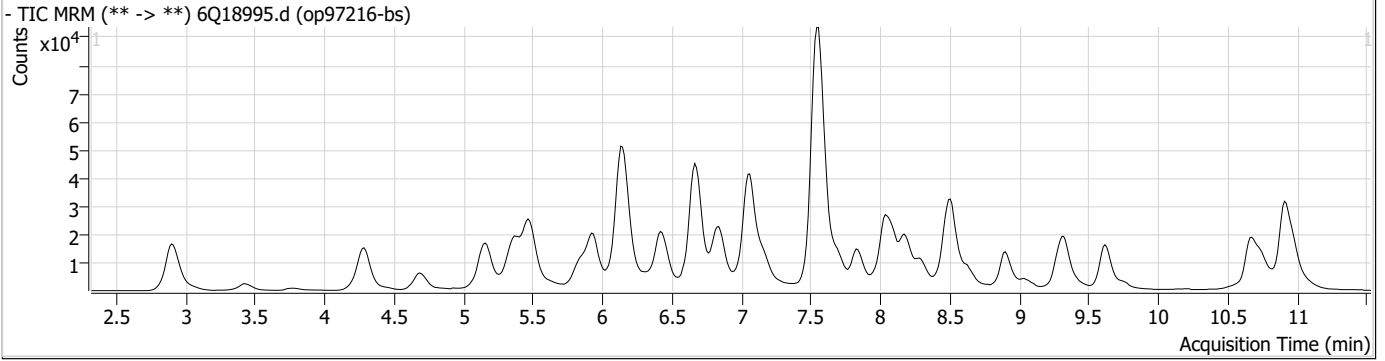
Perfluorinated Compounds by LC/MS/MS

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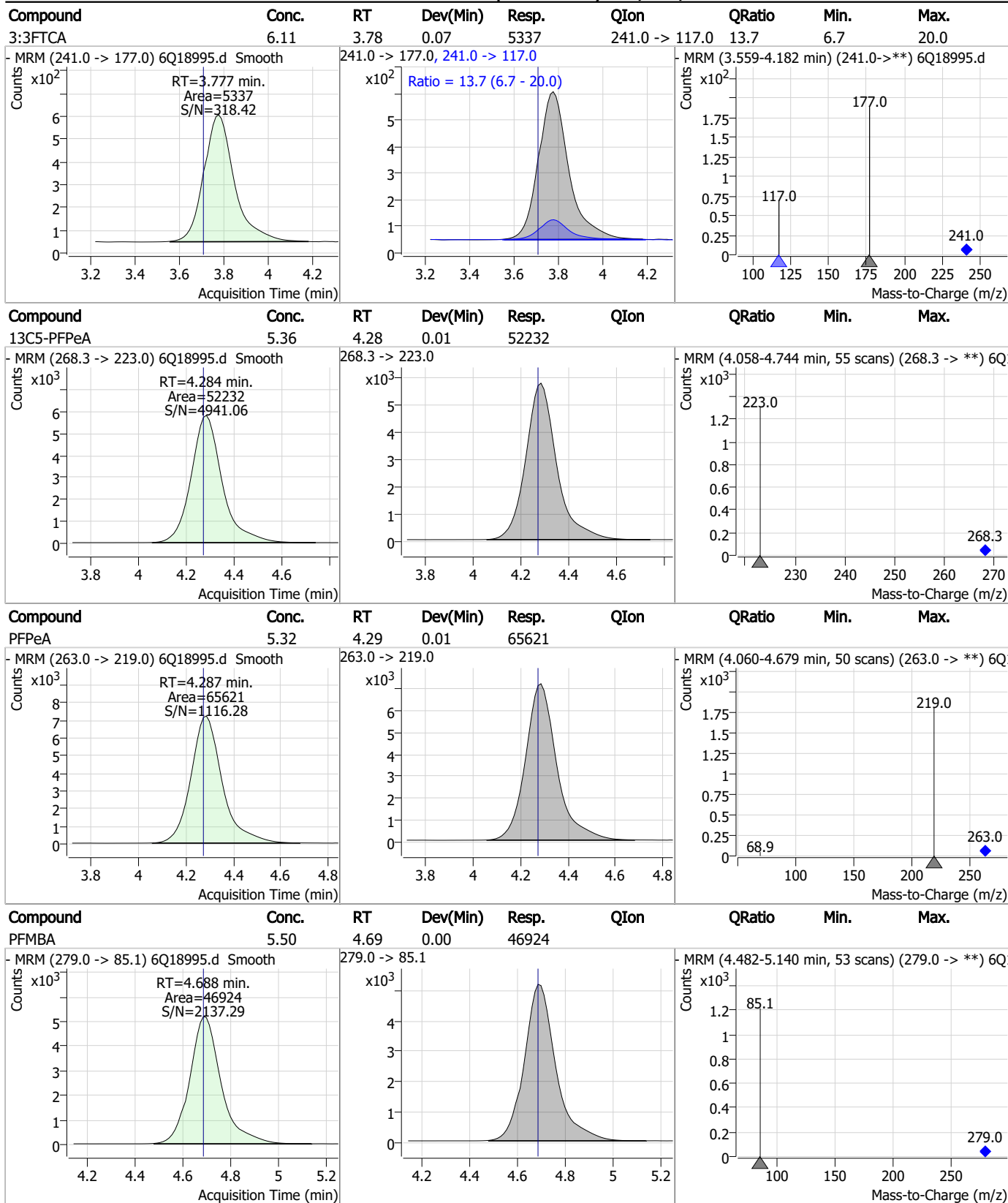
7.3.1

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Perfluorinated Compounds by LC/MS/MS

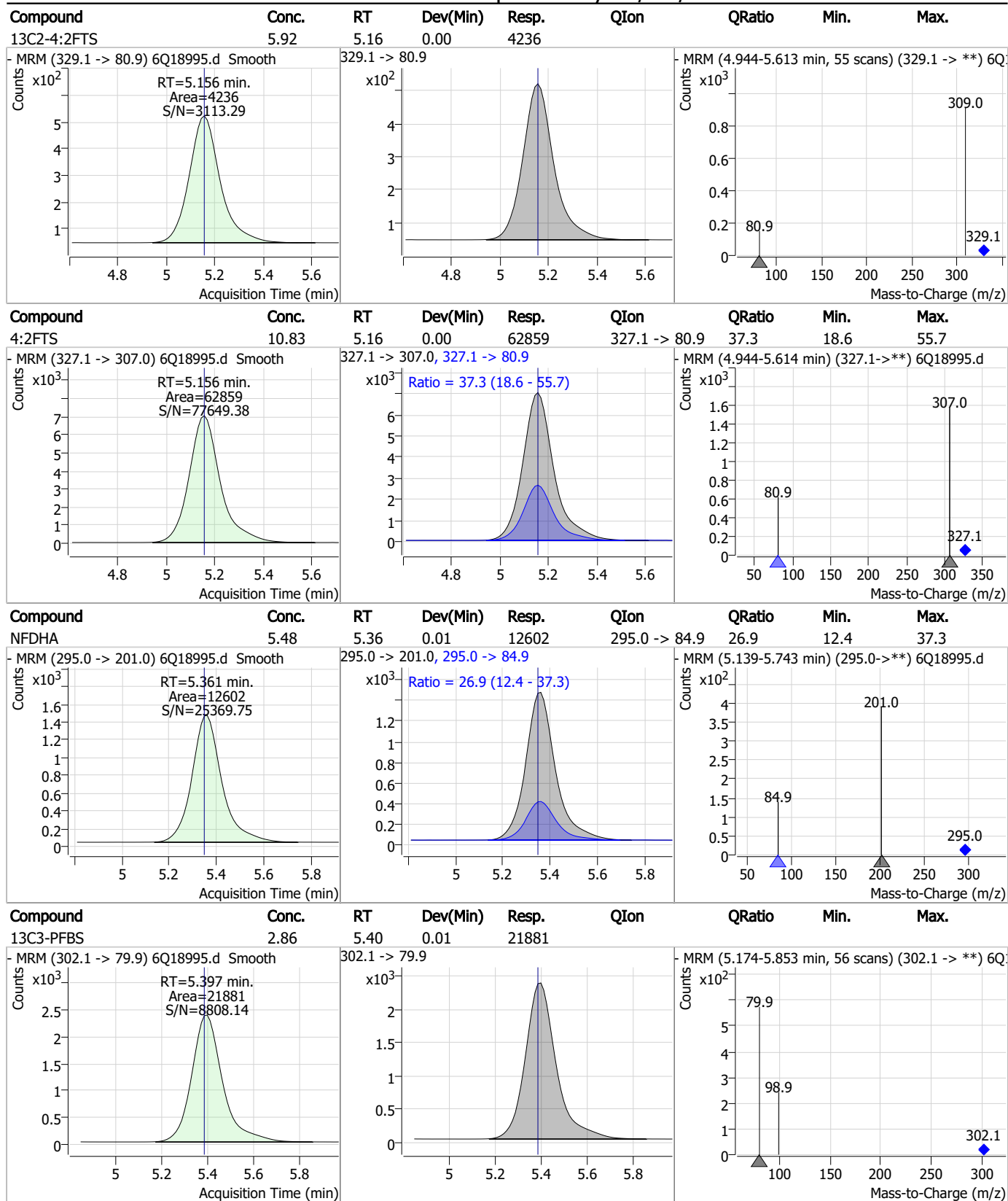


Perfluorinated Compounds by LC/MS/MS



7.3.1
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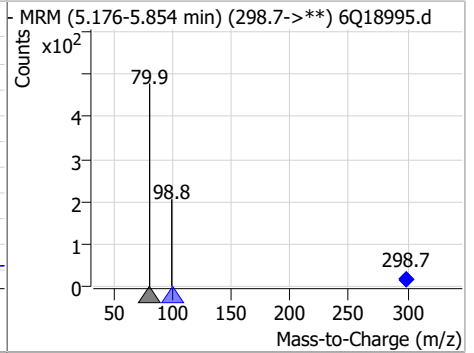
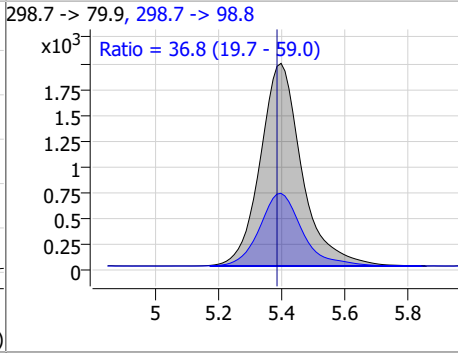
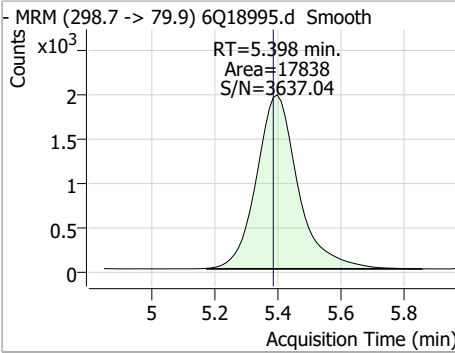
Perfluorinated Compounds by LC/MS/MS



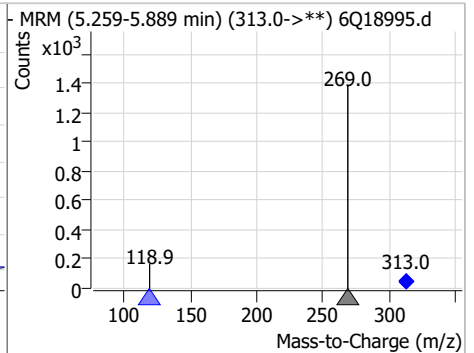
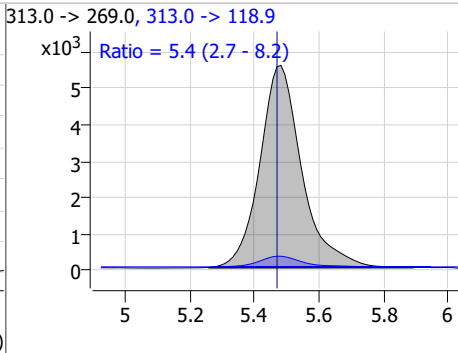
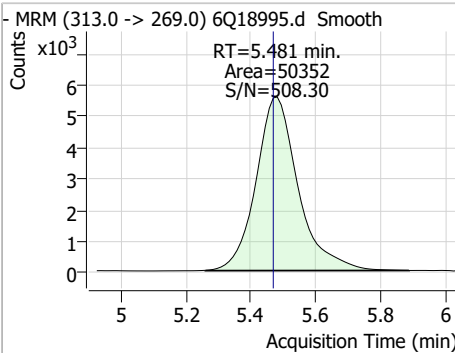
7.3.1
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Perfluorinated Compounds by LC/MS/MS

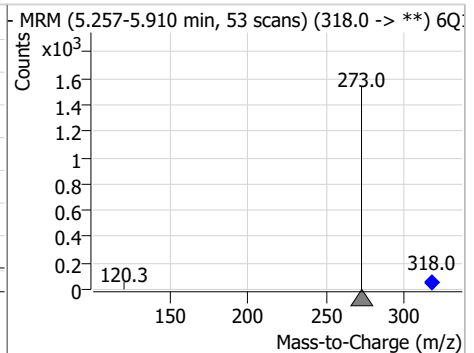
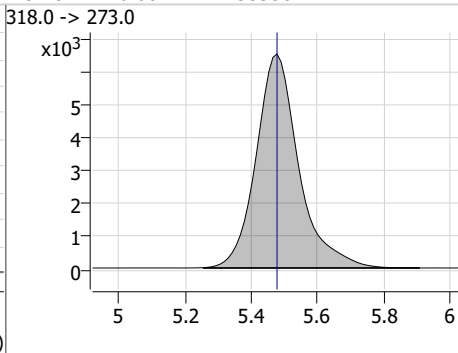
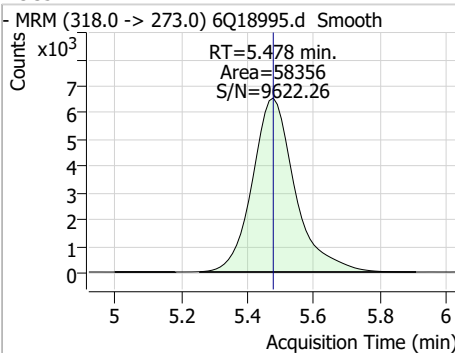
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.35	5.40	0.01	17838	298.7 -> 98.8	36.8	19.7	59.0



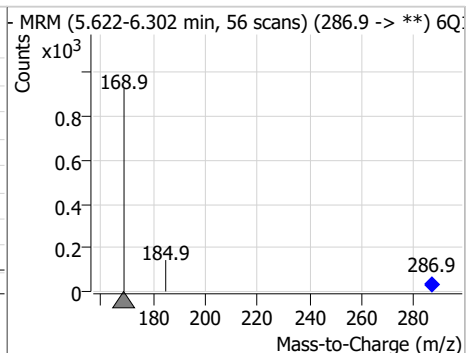
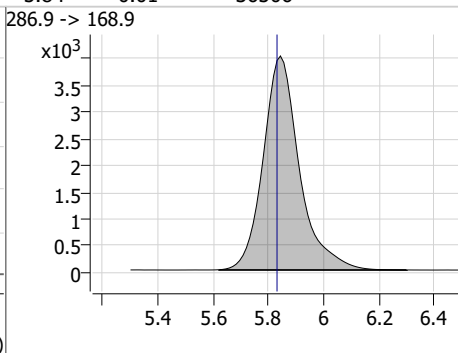
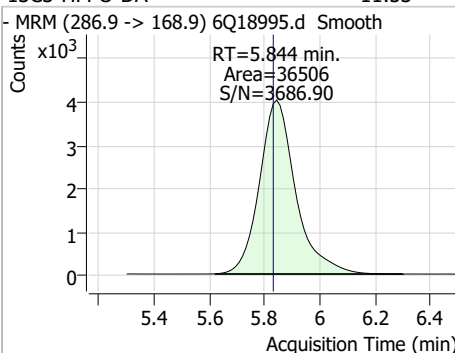
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.63	5.48	0.01	50352	313.0 -> 118.9	5.4	2.7	8.2



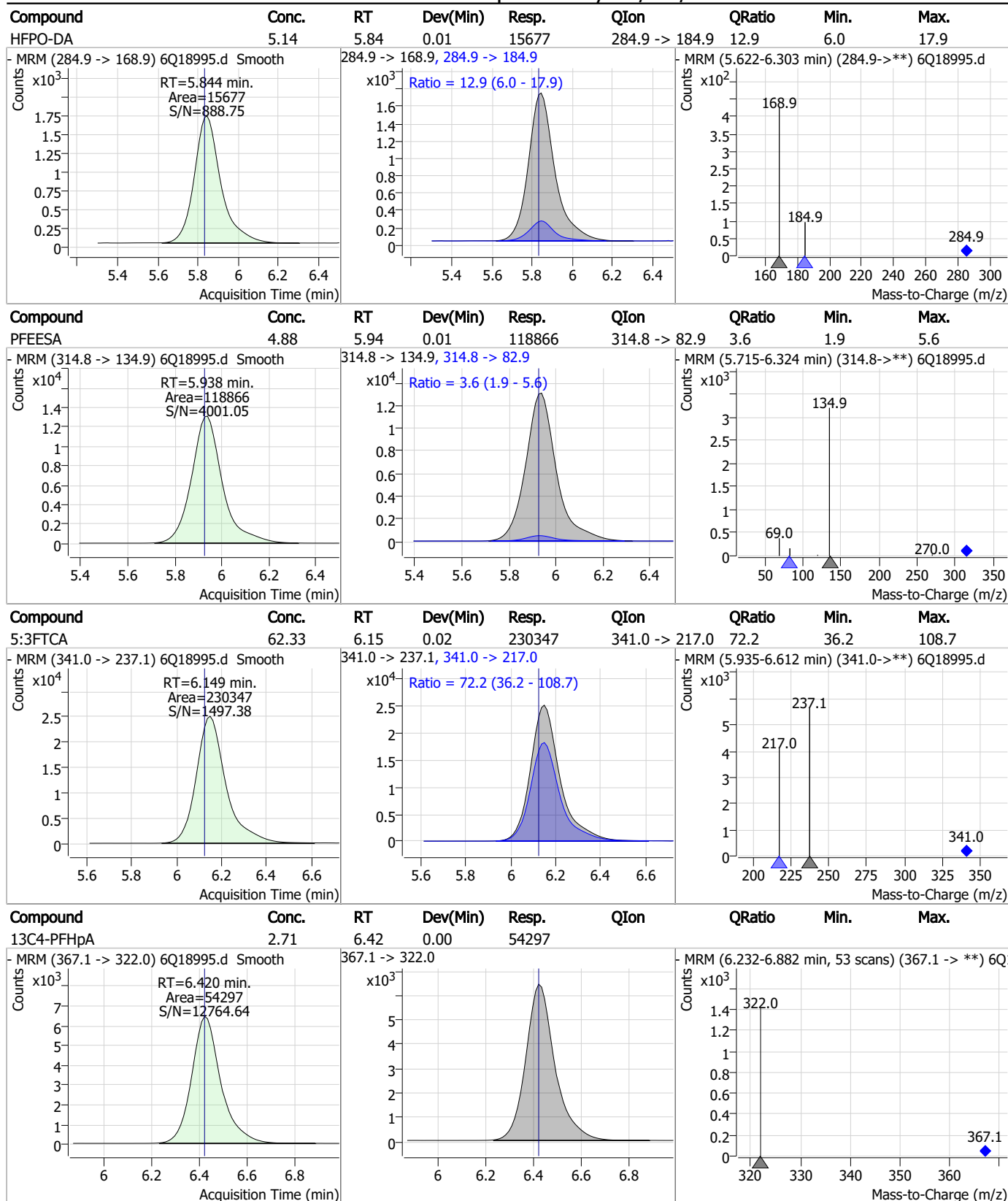
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.74	5.48	0.00	58356	318.0 -> 273.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.53	5.84	0.01	36506	286.9 -> 168.9			

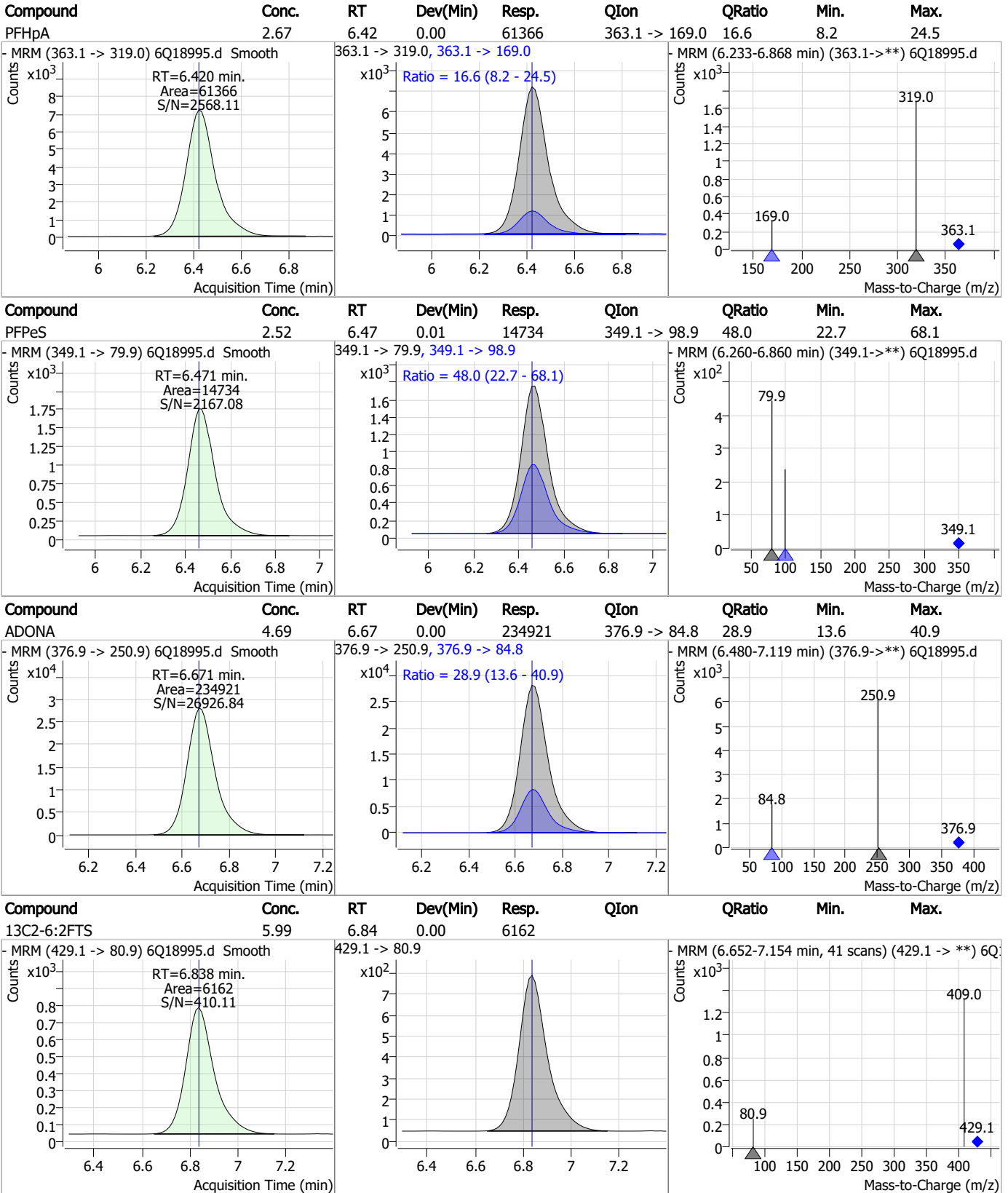


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

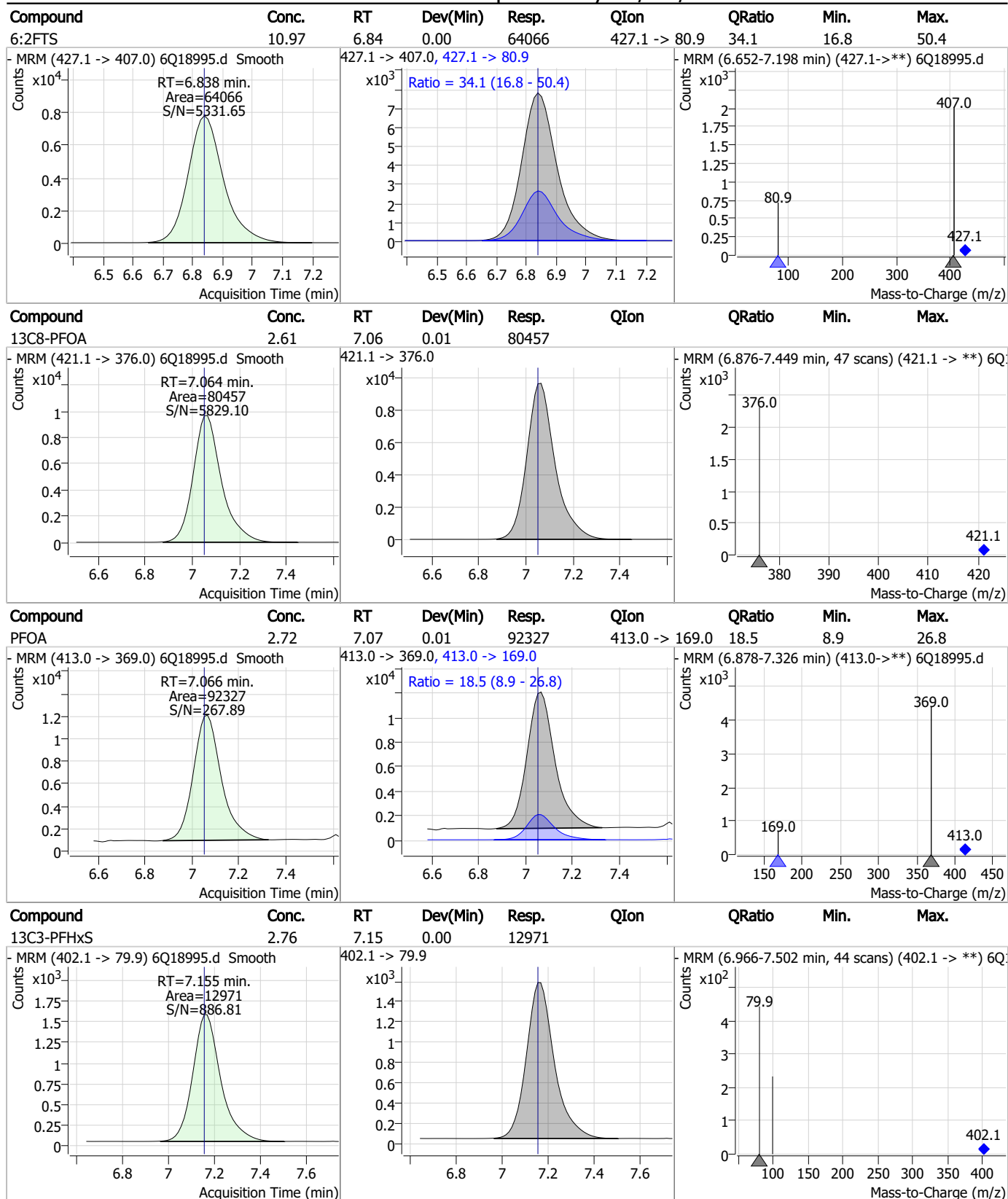


7.3.1

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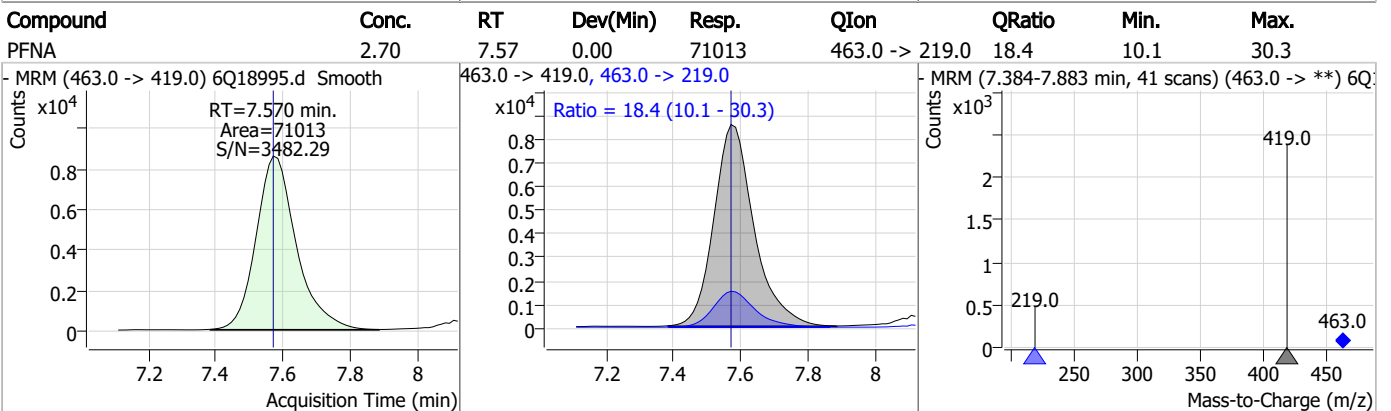
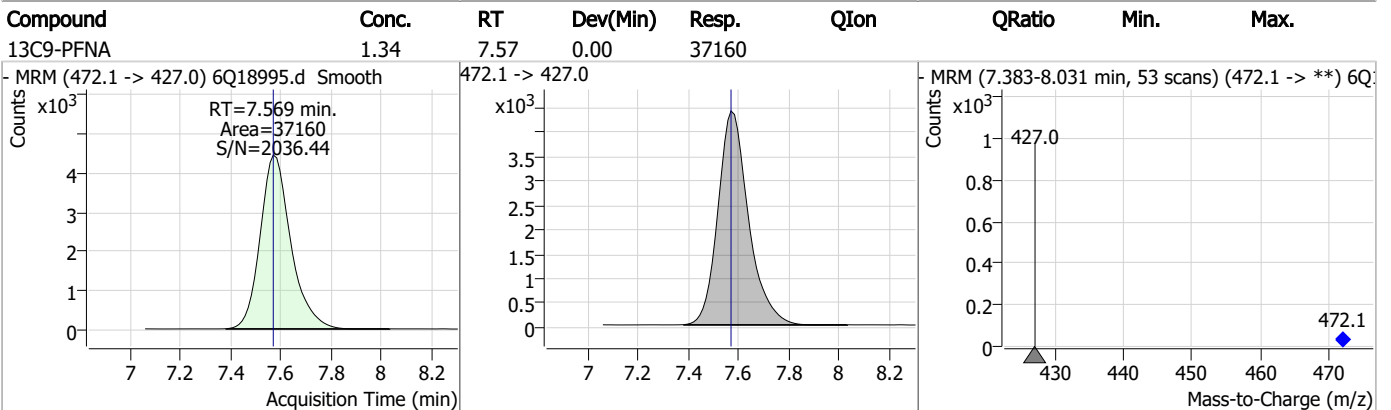
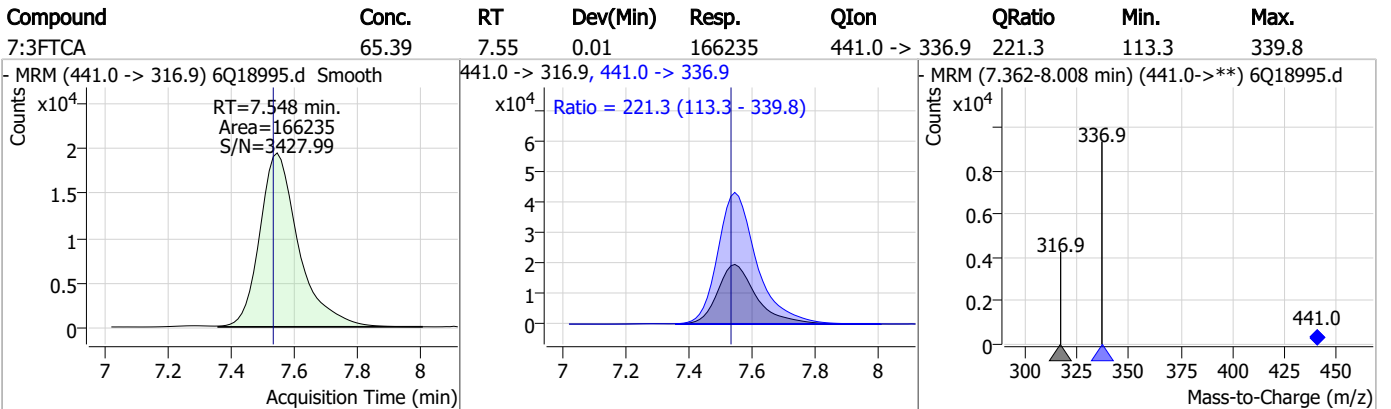
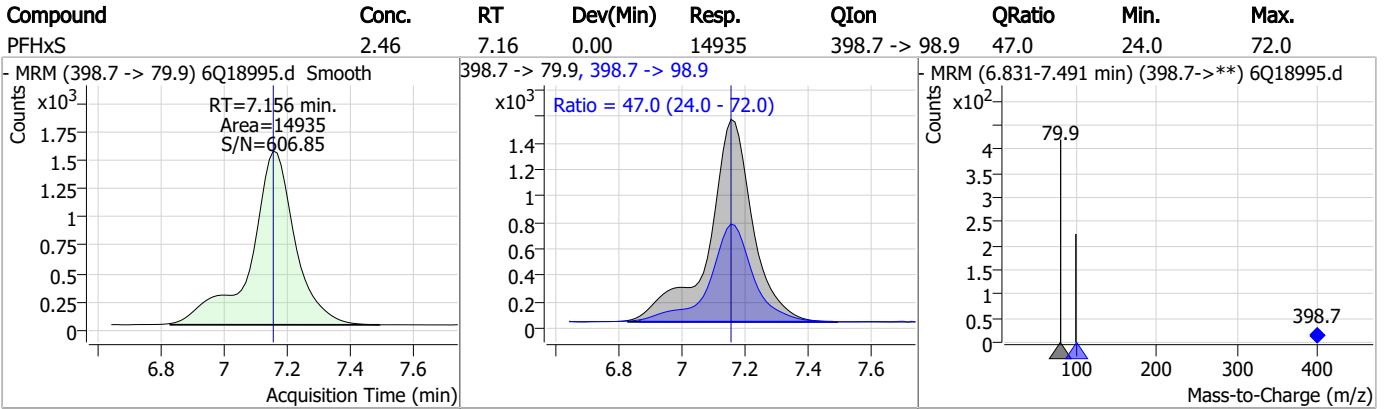


Perfluorinated Compounds by LC/MS/MS



7.3.1

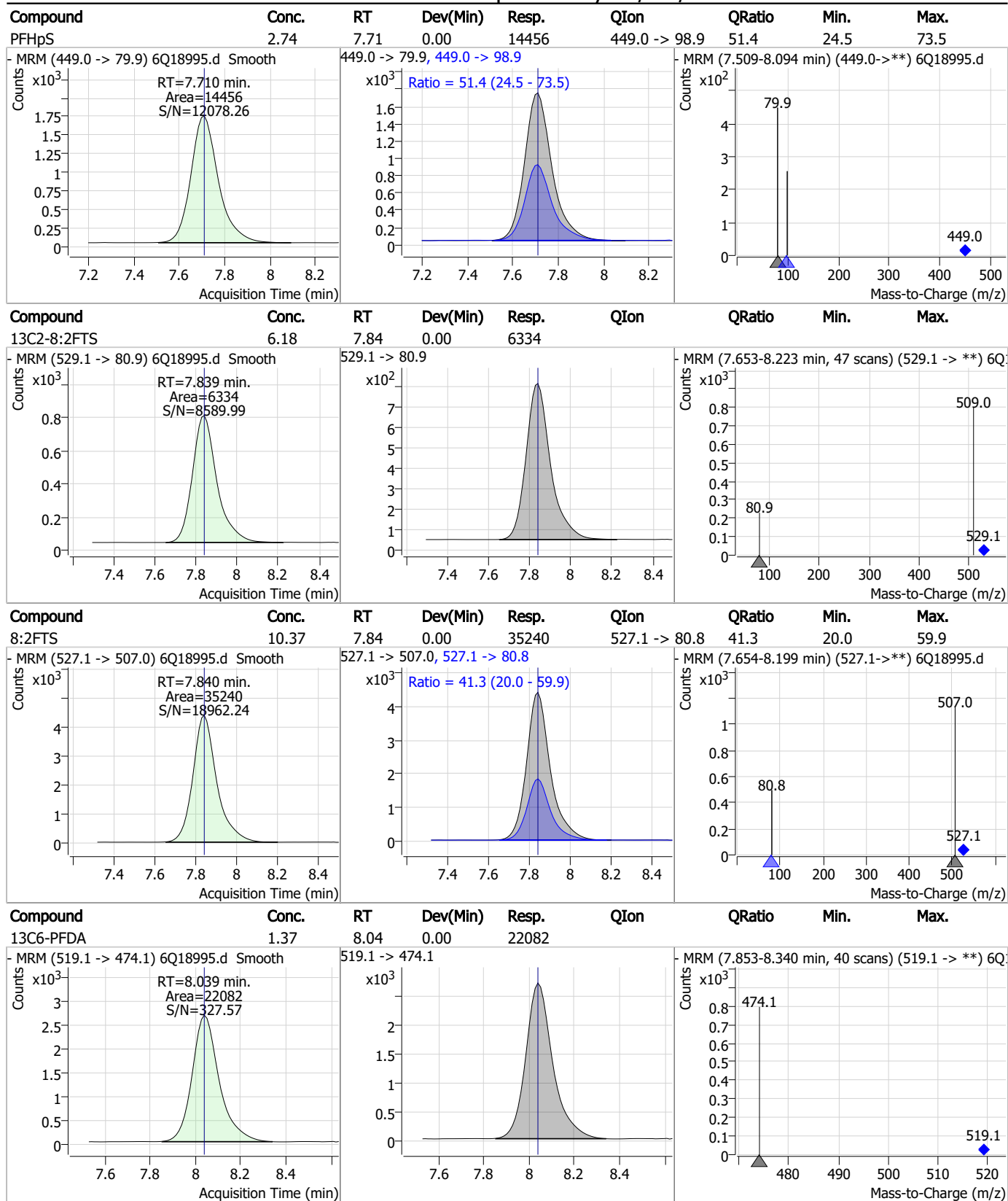
Perfluorinated Compounds by LC/MS/MS



7.3.1

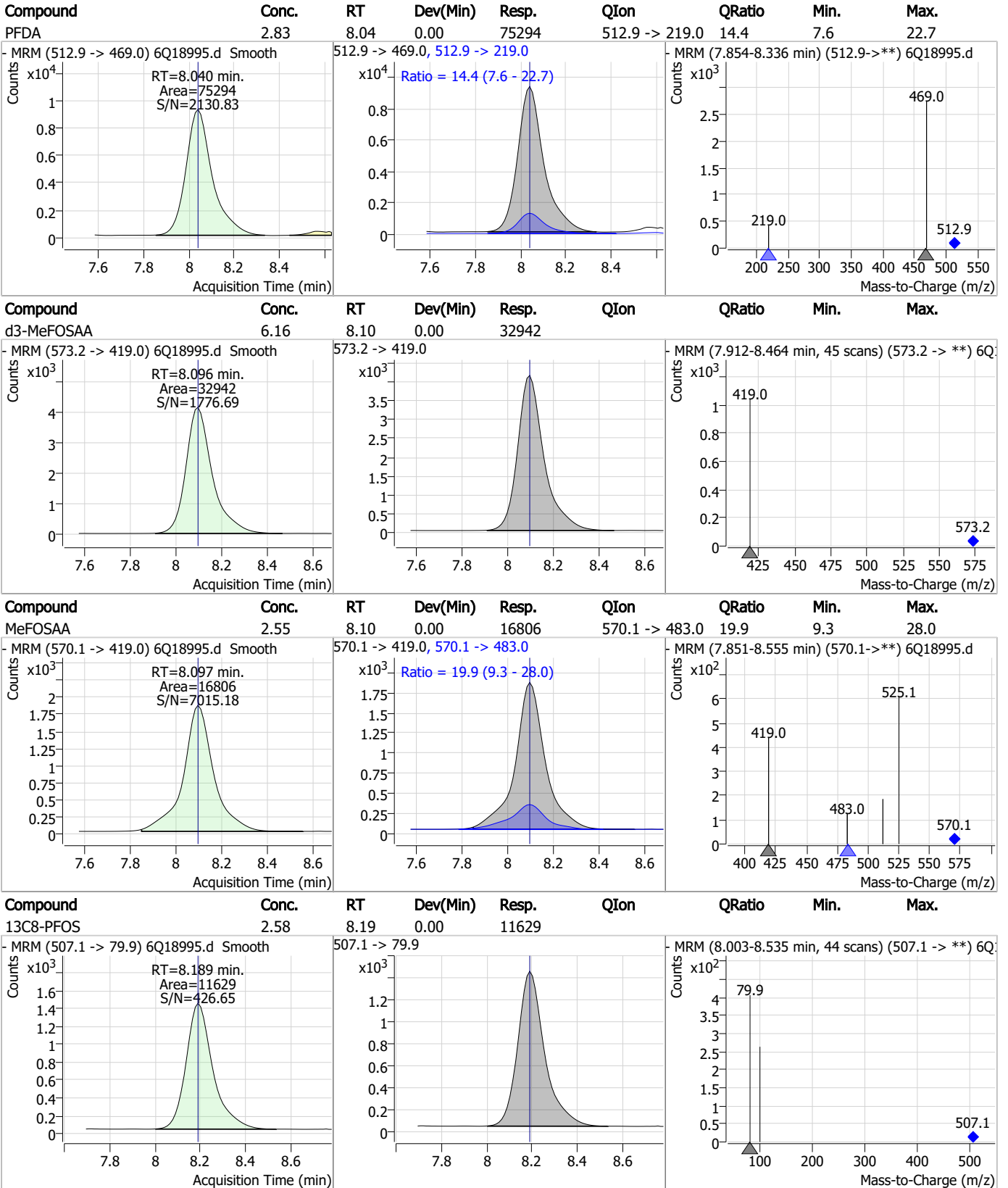
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Perfluorinated Compounds by LC/MS/MS



7.3.1
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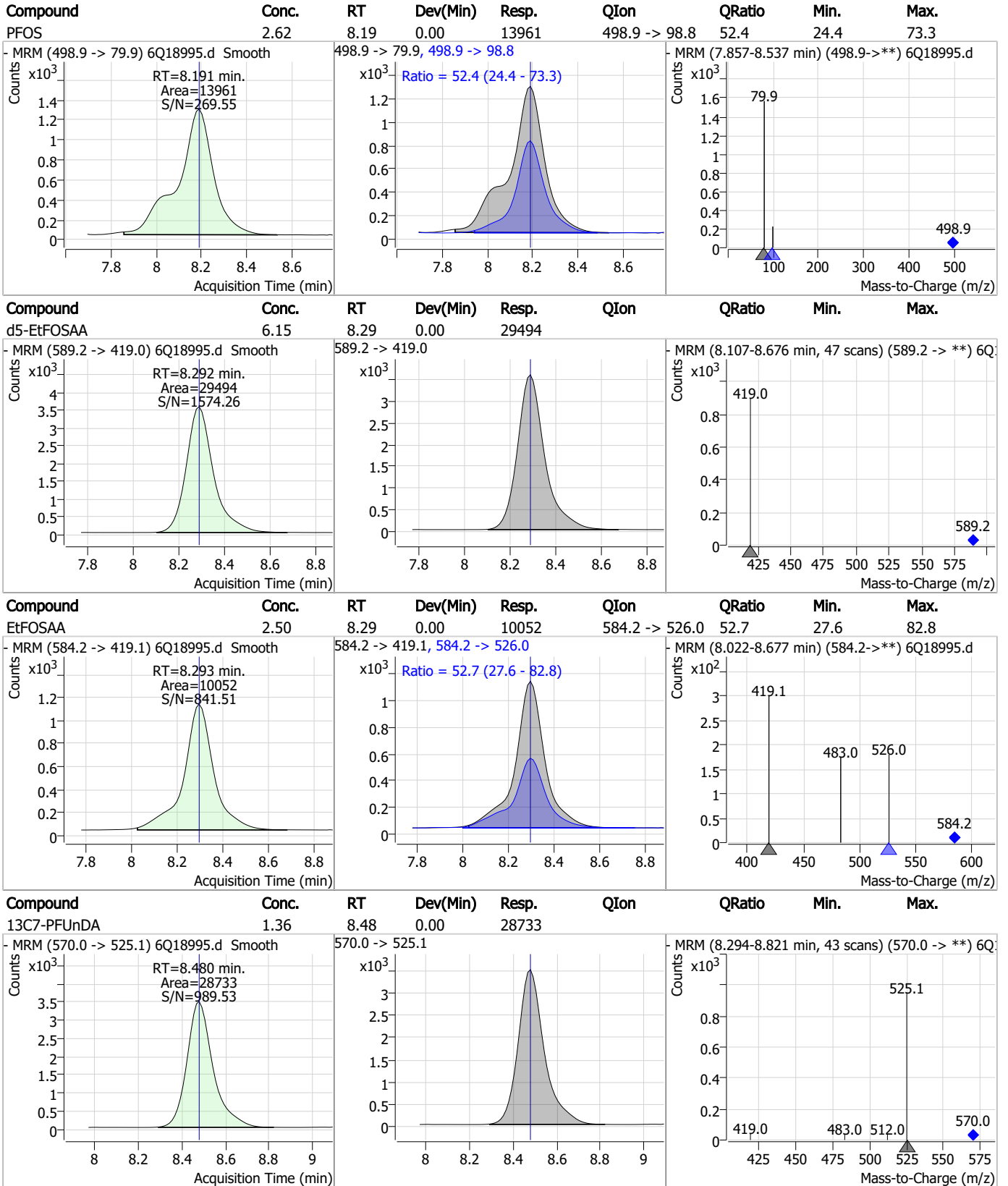
Perfluorinated Compounds by LC/MS/MS



7.3.1

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Perfluorinated Compounds by LC/MS/MS

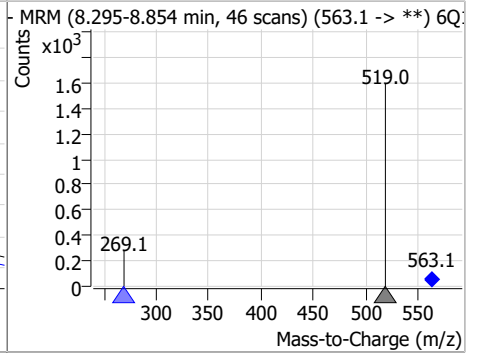
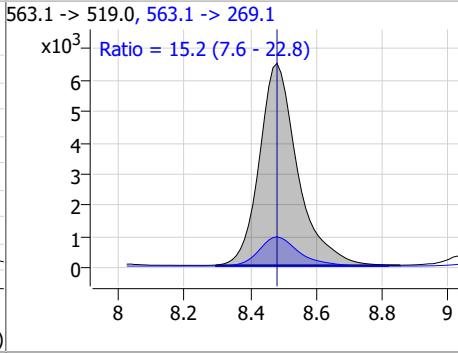
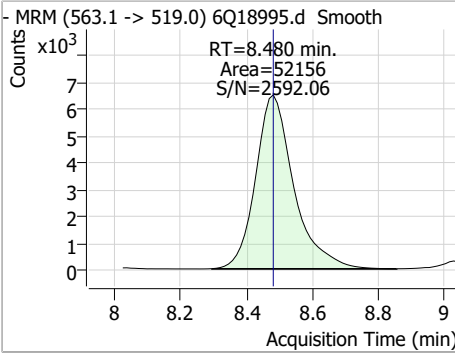


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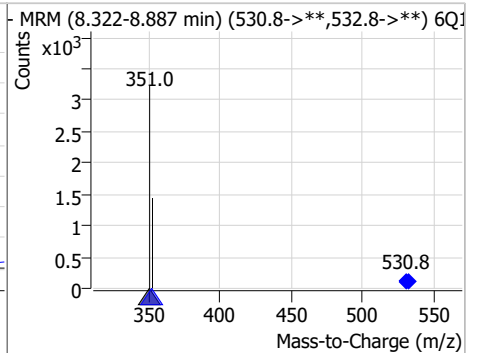
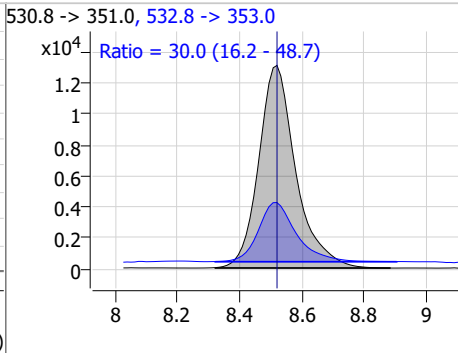
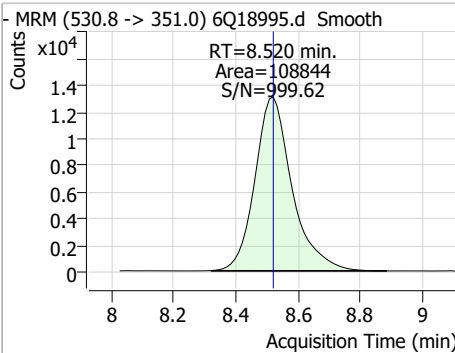
7

Perfluorinated Compounds by LC/MS/MS

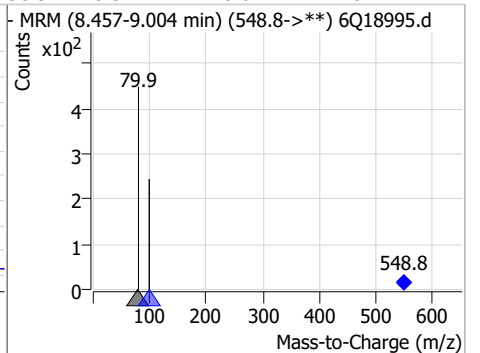
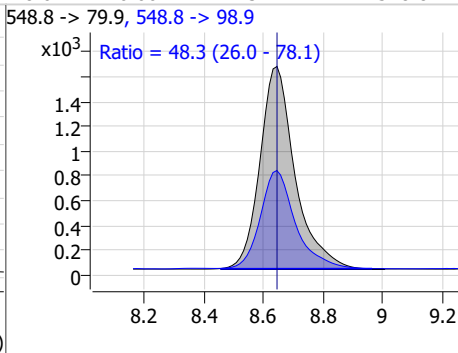
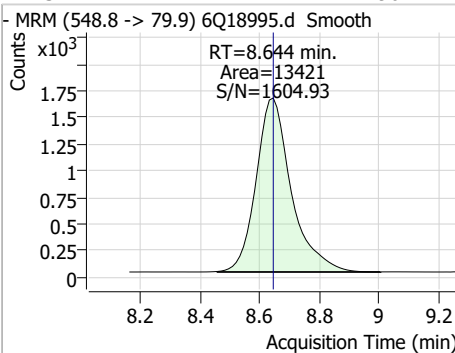
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.93	8.48	0.00	52156	563.1 -> 269.1	15.2	7.6	22.8



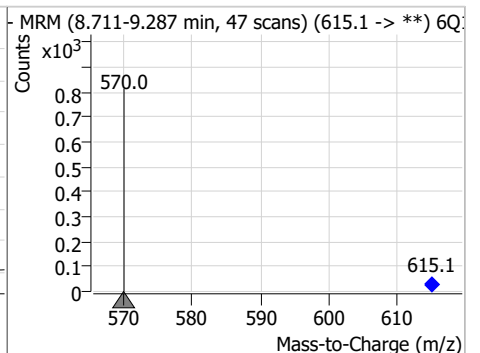
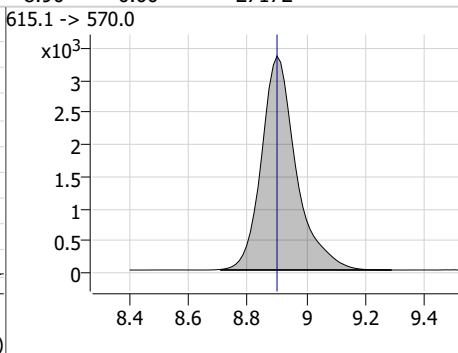
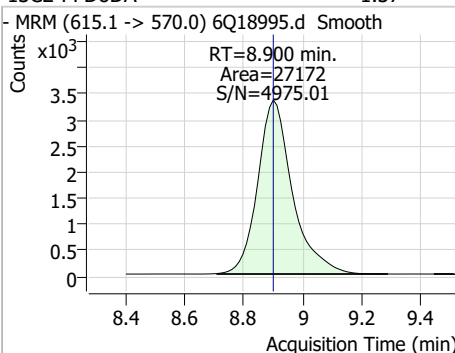
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	4.92	8.52	0.00	108844	532.8 -> 353.0	30.0	16.2	48.7



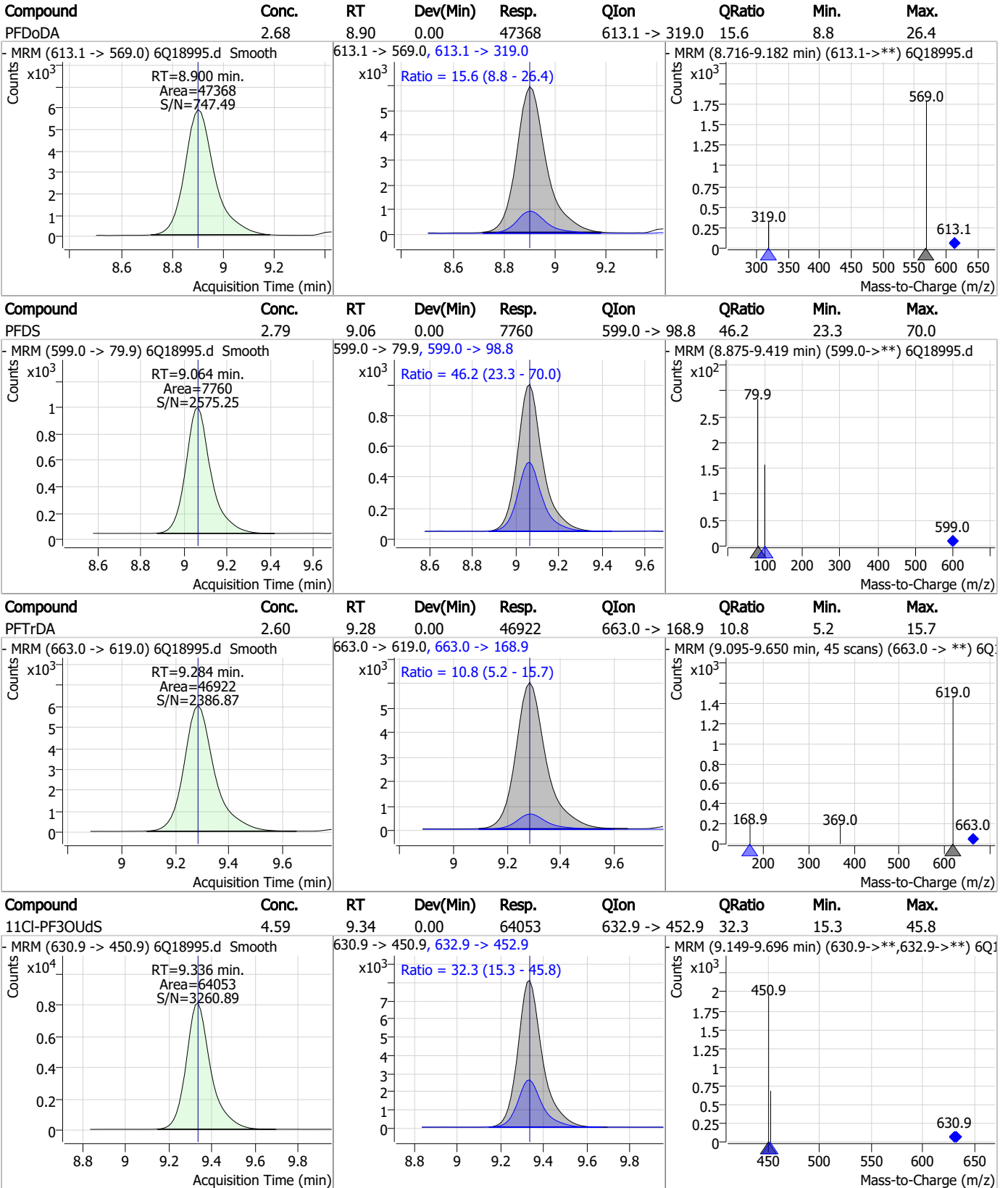
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.90	8.64	0.00	13421	548.8 -> 98.9	48.3	26.0	78.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.37	8.90	0.00	27172	615.1 -> 570.0			



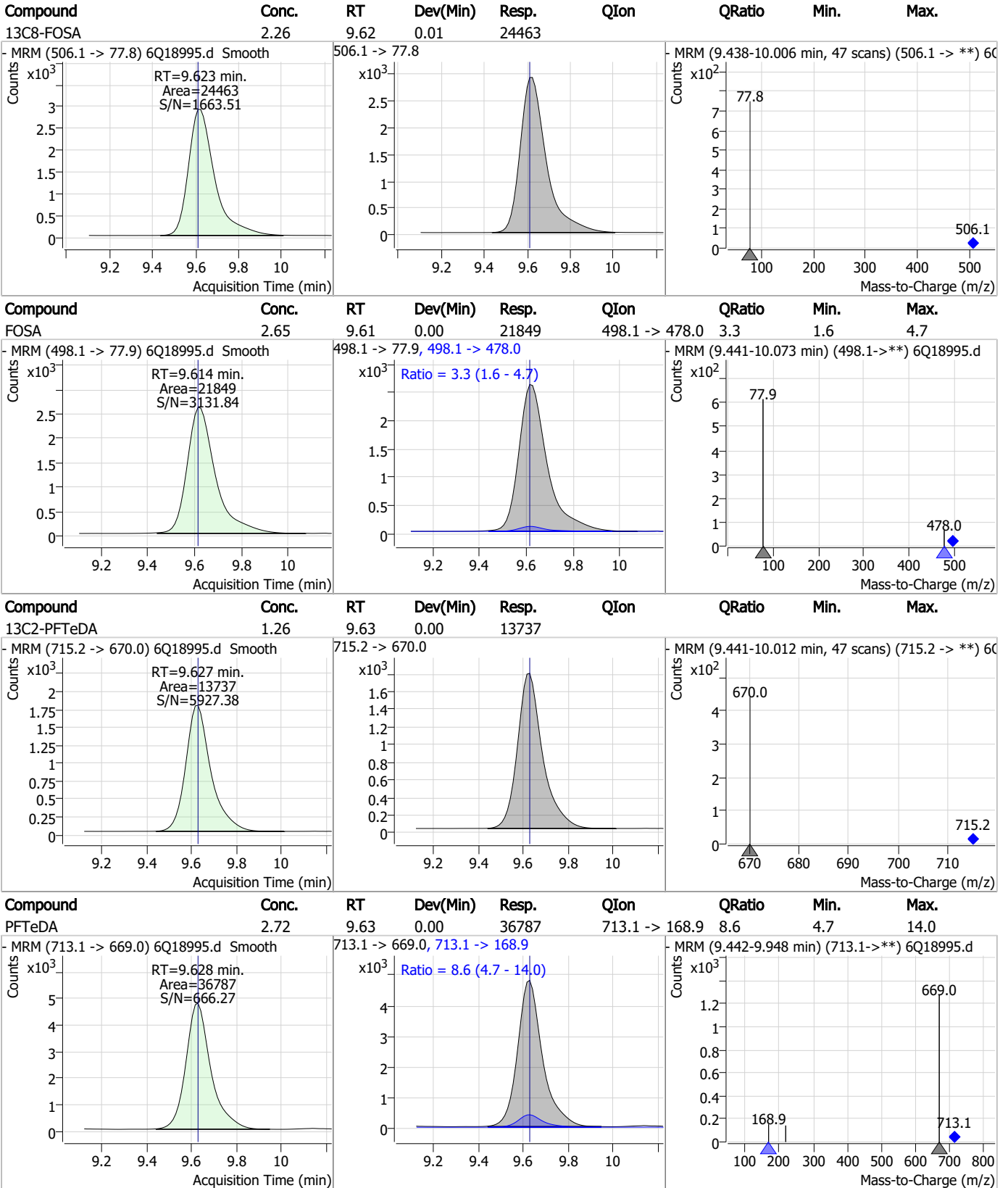
Perfluorinated Compounds by LC/MS/MS



7.3.1

7

Perfluorinated Compounds by LC/MS/MS

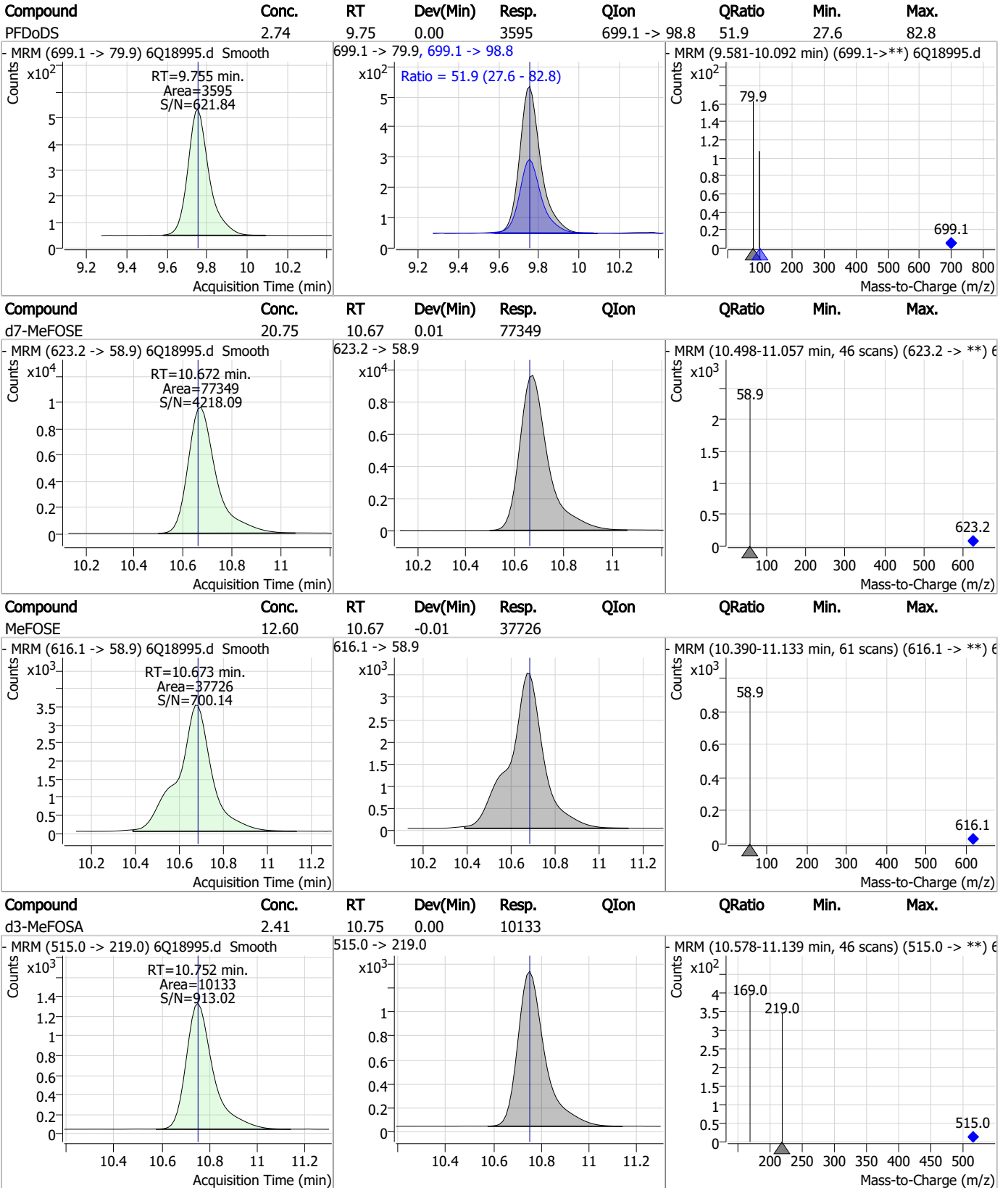


7.3.1

7



Perfluorinated Compounds by LC/MS/MS

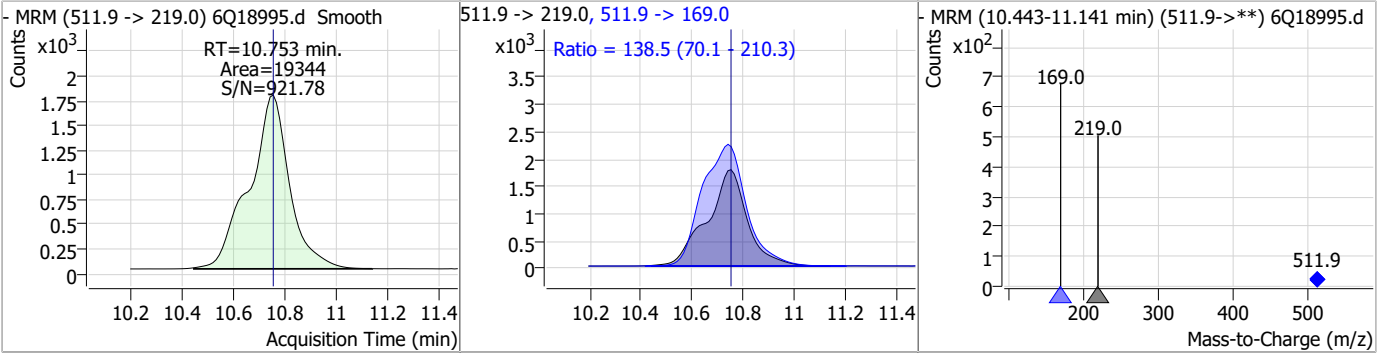


7.3.1

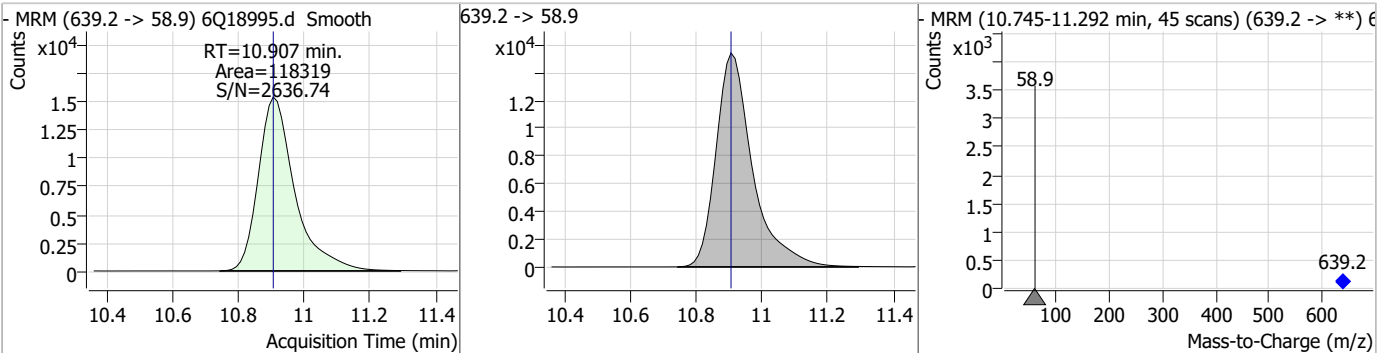
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Perfluorinated Compounds by LC/MS/MS

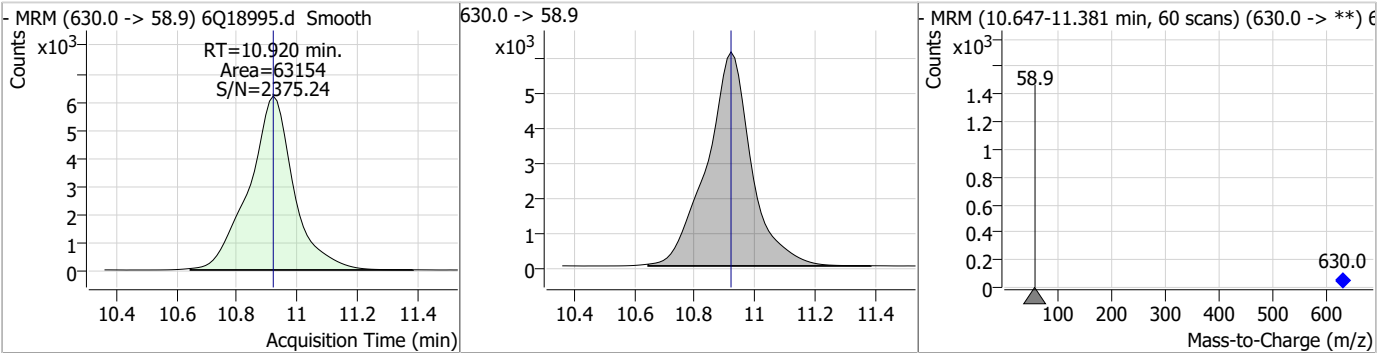
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	5.01	10.75	0.00	19344	511.9 -> 169.0	138.5	70.1	210.3



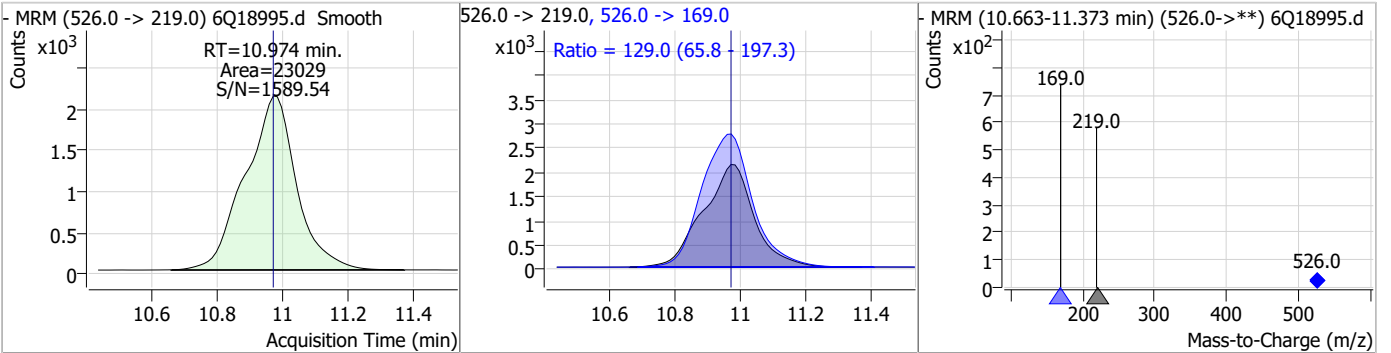
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.92	10.91	0.00	118319				



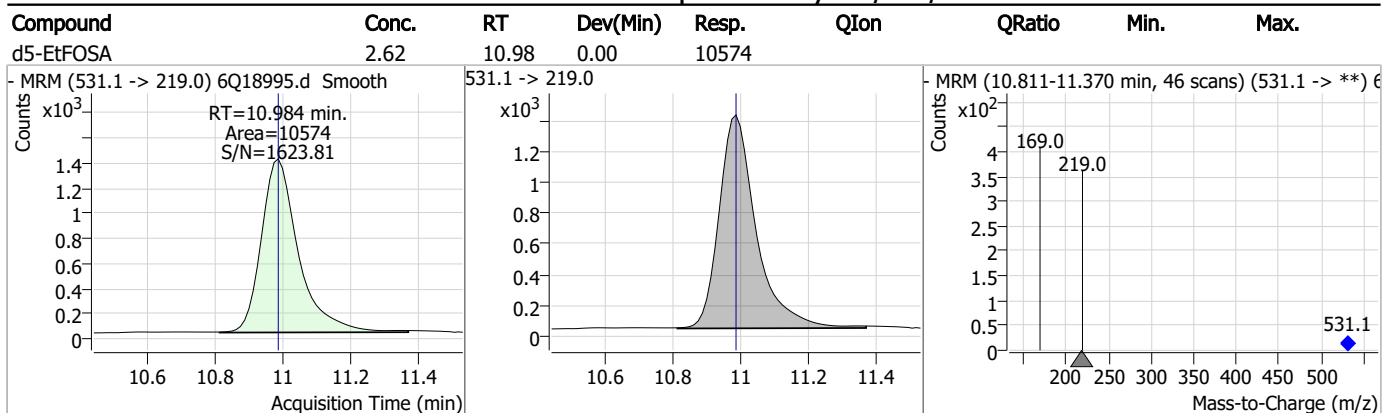
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.24	10.92	0.00	63154				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.73	10.97	0.00	23029	526.0 -> 169.0	129.0	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 : 6Q18996.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 2:36:18 AM
 Sample Name : op97216-llbs:3
 Vial : P3-A5
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97216,S6Q283,500,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	161287	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	51529	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	55306	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	50861	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	80362	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	37150	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	21902	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	27748	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	26687	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	13029	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	22044	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	20788	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	12769	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	12330	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4161	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6225	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	6053	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	31675	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	36034	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	26967	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	66142	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	104234	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	9252	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	9235	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	14619	2.50 µg/L	0.000
13C3-PFBA	2.904	216.0 -> 172.0	62835	5.00 µg/L	0.040
18O2-PFHxS	7.154	403.0 -> 83.9	8636	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	77072	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	27846	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	42493	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	48966	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4161	5.86 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 117.2%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6225	6.10 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 122.0%		
13C2-8:2FTS	7.839	529.1 -> 80.9	6053	5.95 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 119.1%		
13C2-PFDoDA	8.900	615.1 -> 570.0	26687	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 104.9%		
13C2-PFTeDA	9.627	715.2 -> 670.0	13029	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.4%		
13C3-PFBS	5.397	302.1 -> 79.9	20788	2.74 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 109.5%		
13C3-PFHxS	7.155	402.1 -> 79.9	12769	2.74 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 = 109.6%	
13C4-PFBA	2.913	216.8 -> 171.9	161287	10.82 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.2%	
13C4-PFHpA	6.420	367.1 -> 322.0	50861	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.2%	
13C5-PFHxA	5.478	318.0 -> 273.0	55306	2.67 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 106.7%	
13C5-PFPeA	4.284	268.3 -> 223.0	51529	5.42 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 108.5%	
13C6-PFDA	8.039	519.1 -> 474.1	21902	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	27748	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C8-FOSA	9.623	506.1 -> 77.8	22044	2.07 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 82.9%	
13C8-PFOA	7.051	421.1 -> 376.0	80362	2.72 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 108.8%	
13C8-PFOS	8.189	507.1 -> 79.9	12330	2.78 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 111.2%	
13C9-PFNA	7.569	472.1 -> 427.0	37150	1.33 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 106.4%	
d3-MeFOSAA	8.096	573.2 -> 419.0	31675	6.02 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 120.3%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	36034	11.68 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 116.8%	
d3-MeFOSA	10.752	515.0 -> 219.0	9235	2.23 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 89.2%	
d5-EtFOSAA	8.292	589.2 -> 419.0	26967	5.71 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 114.2%	
d7-MeFOSE	10.672	623.2 -> 58.9	66142	18.02 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 72.1%	
d9-EtFOSE	10.907	639.2 -> 58.9	104234	22.30 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 89.2%	
d5-EtFOSA	10.984	531.1 -> 219.0	9252	2.33 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 93.2%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	18128	3.18 µg/L	99
		327.1 -> 80.9	6816		
6:2FTS	6.838	427.1 -> 407.0	19131	3.24 µg/L	99
		427.1 -> 80.9	6363		
8:2FTS	7.840	527.1 -> 507.0	10254	3.16 µg/L	98
		527.1 -> 80.8	4212		
EtFOSAA	8.293	584.2 -> 419.1	2701	0.73 µg/L	87
		584.2 -> 526.0	1751		
FOSA	9.614	498.1 -> 77.9	6228	0.84 µg/L	98
		498.1 -> 478.0	230		
MeFOSAA	8.097	570.1 -> 419.0	4952	0.78 µg/L	97
		570.1 -> 483.0	984		
PFBA	2.907	212.8 -> 168.9	17330	3.30 µg/L	100
PFBS	5.398	298.7 -> 79.9	5147	0.71 µg/L	97
		298.7 -> 98.8	1915		
PFDA	8.040	512.9 -> 469.0	21625	0.82 µg/L	100
		512.9 -> 219.0	3325		
PFDODA	8.900	613.1 -> 569.0	13835	0.80 µg/L	95
		613.1 -> 319.0	2139		
PFDS	9.064	599.0 -> 79.9	2272	0.77 µg/L	98

7.3.2
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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	1027	0.86 µg/L	97
		363.1 -> 319.0	18591		
PFHpS	7.698	363.1 -> 169.0	2776	0.83 µg/L	93
		449.0 -> 79.9	4619		
PFHxA	5.469	449.0 -> 98.9	2047	0.81 µg/L	99
		313.0 -> 269.0	14757		
PFHxS	7.156	313.0 -> 118.9	757	0.73 µg/L	99
		398.7 -> 79.9	4368		
PFNA	7.570	398.7 -> 98.9	2128	0.80 µg/L	98
		463.0 -> 419.0	21184		
PFNS	8.644	463.0 -> 219.0	4078	0.82 µg/L	98
		548.8 -> 79.9	4025		
PFOA	7.052	548.8 -> 98.9	2040	0.80 µg/L	98
		413.0 -> 369.0	27158		
PFOS	8.191	413.0 -> 169.0	5091	0.71 µg/L	95
		498.9 -> 79.9	4004		
PFPeA	4.287	498.9 -> 98.8	2083	1.65 µg/L	100
		263.0 -> 219.0	20058		
PFPeS	6.459	349.1 -> 79.9	4313	0.75 µg/L	99
		349.1 -> 98.9	1916		
PFTeDA	9.628	713.1 -> 669.0	11083	0.86 µg/L	98
		713.1 -> 168.9	946		
PFTrDA	9.284	663.0 -> 619.0	14361	0.81 µg/L	99
		663.0 -> 168.9	1554		
PFUnDA	8.480	563.1 -> 519.0	13701	0.80 µg/L	94
		563.1 -> 269.1	2407		
11CI-PF3OUdS	9.336	630.9 -> 450.9	18302	1.33 µg/L	98
		632.9 -> 452.9	5787		
9CI-PF3ONS	8.520	530.8 -> 351.0	30593	1.40 µg/L	95
		532.8 -> 353.0	10747		
ADONA	6.671	376.9 -> 250.9	68591	1.39 µg/L	97
		376.9 -> 84.8	19859		
HFPO-DA	5.844	284.9 -> 168.9	4736	1.57 µg/L	91
		284.9 -> 184.9	737		
3:3FTCA	3.777	241.0 -> 177.0	2640	3.06 µg/L	96
		241.0 -> 117.0	395		
5:3FTCA	6.149	341.0 -> 237.1	66578	19.01 µg/L	100
		341.0 -> 217.0	48513		
7:3FTCA	7.548	441.0 -> 316.9	47107	19.55 µg/L	96
		441.0 -> 336.9	103979		
EtFOSA	10.974	526.0 -> 219.0	6347	1.49 µg/L	98
		526.0 -> 169.0	8218		
EtFOSE	10.920	630.0 -> 58.9	18023	3.96 µg/L	100
		511.9 -> 219.0	5149		
MeFOSA	10.753	511.9 -> 169.0	7548	1.46 µg/L	95
		616.1 -> 58.9	10134		
MeFOSE	10.686	699.1 -> 79.9	1047	3.96 µg/L	100
		699.1 -> 98.8	571		
PFDoDS	9.755	295.0 -> 201.0	3797	0.75 µg/L	99
		295.0 -> 84.9	993		
NFDHA	5.361	279.0 -> 85.1	13692	1.74 µg/L	97
		229.0 -> 84.9	10605		
PFMBA	4.688	314.8 -> 134.9	32507	1.63 µg/L	100
		314.8 -> 82.9	1150		
PFMPA	3.442			1.65 µg/L	100
PFEESA	5.926			1.41 µg/L	100

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

7.3.2
7

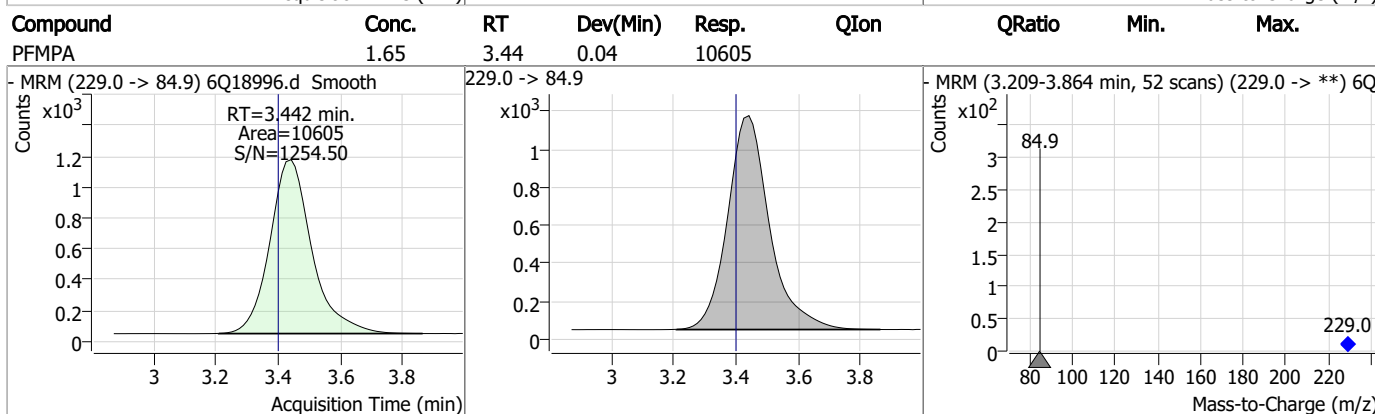
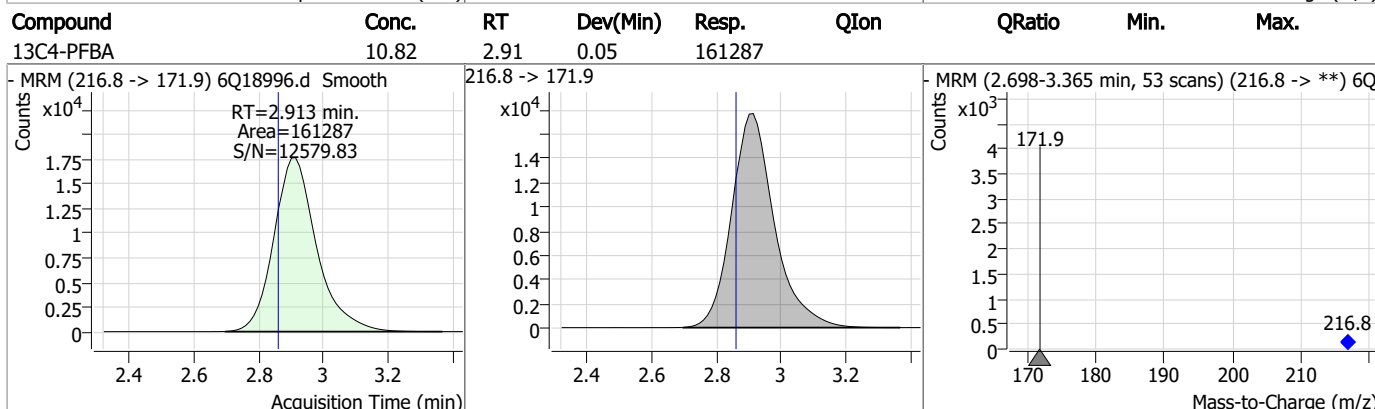
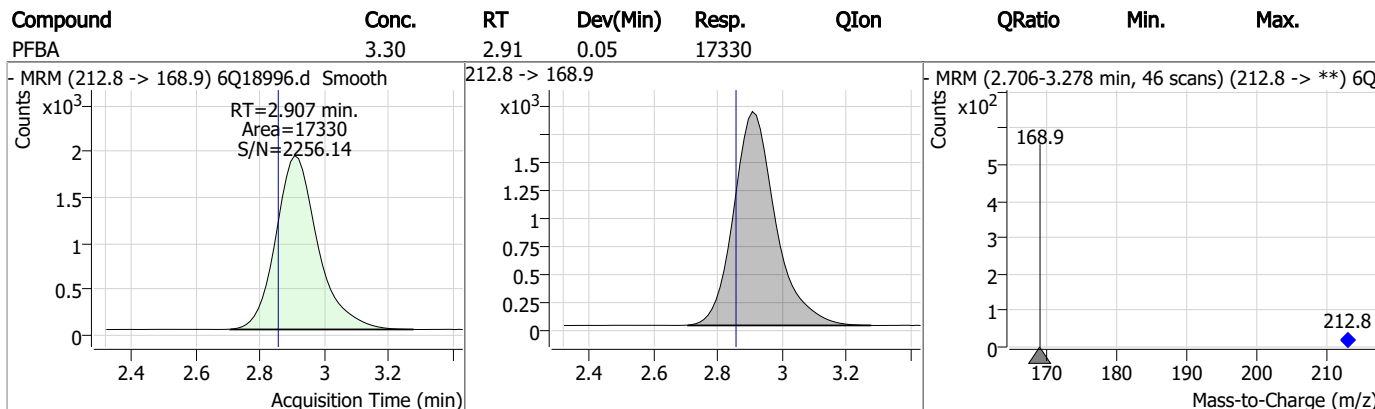
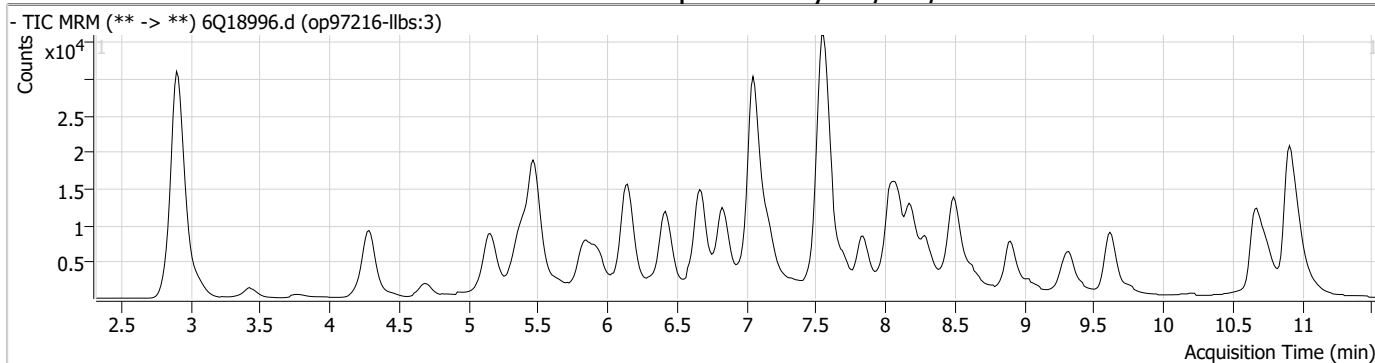
Perfluorinated Compounds by LC/MS/MS

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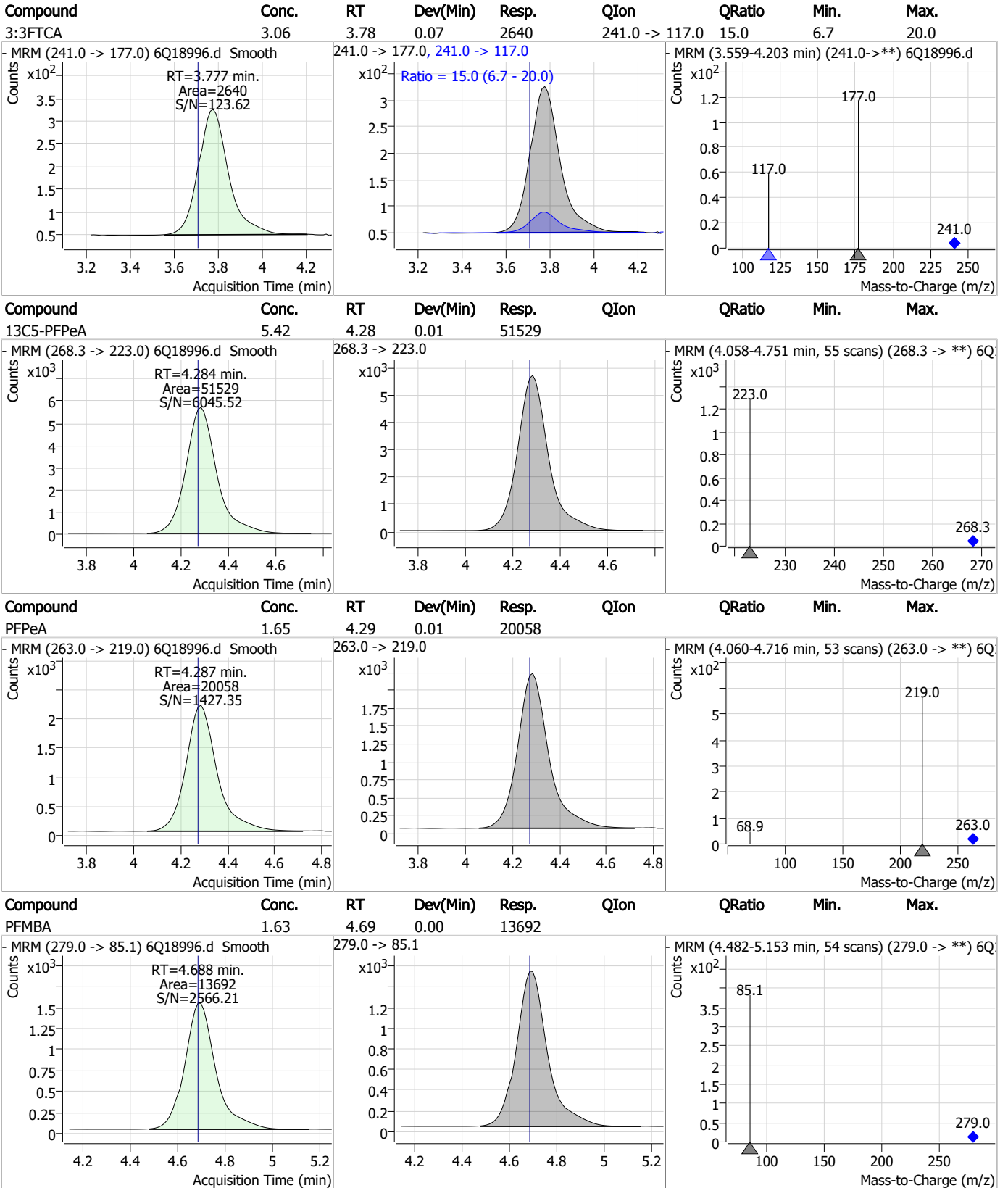
7.3.2

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

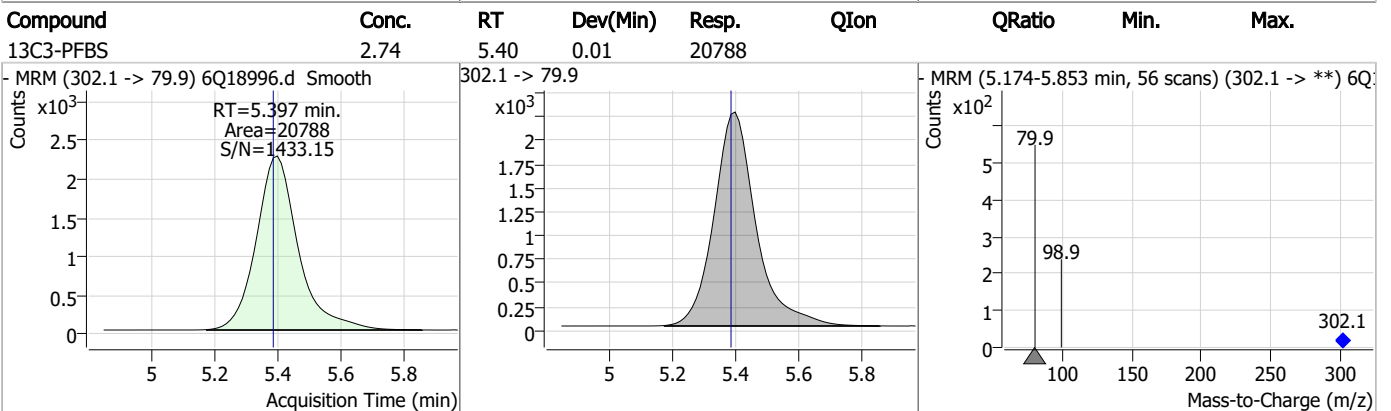
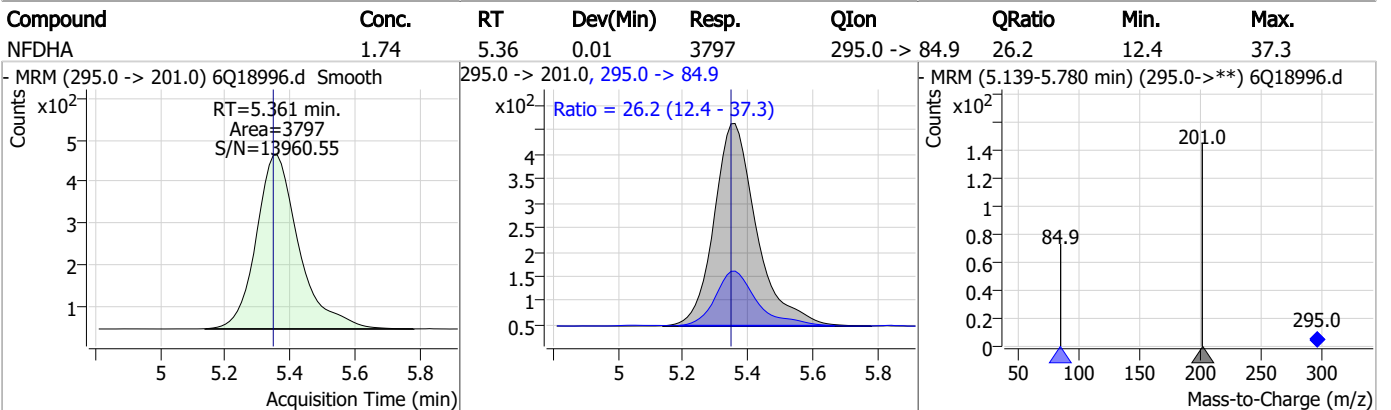
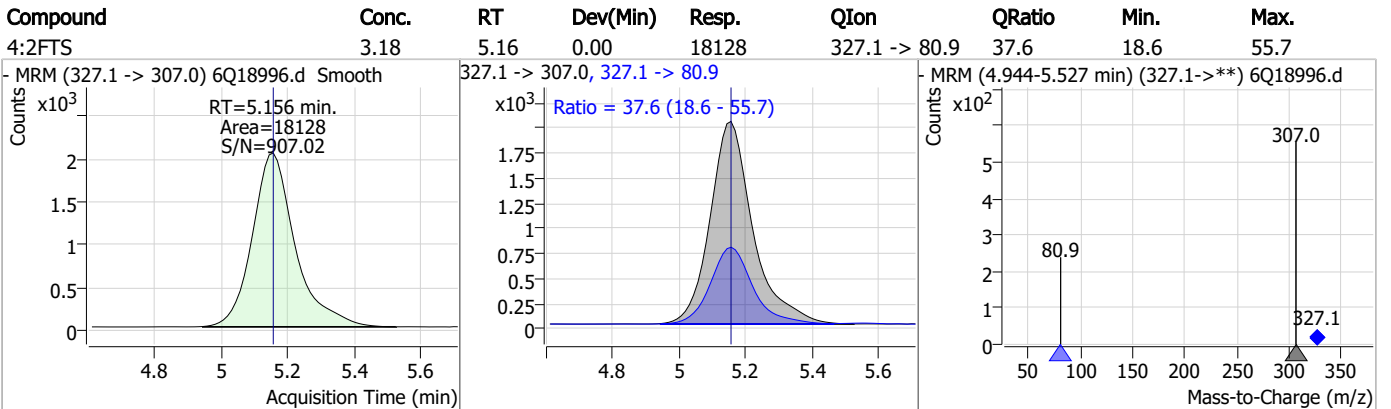
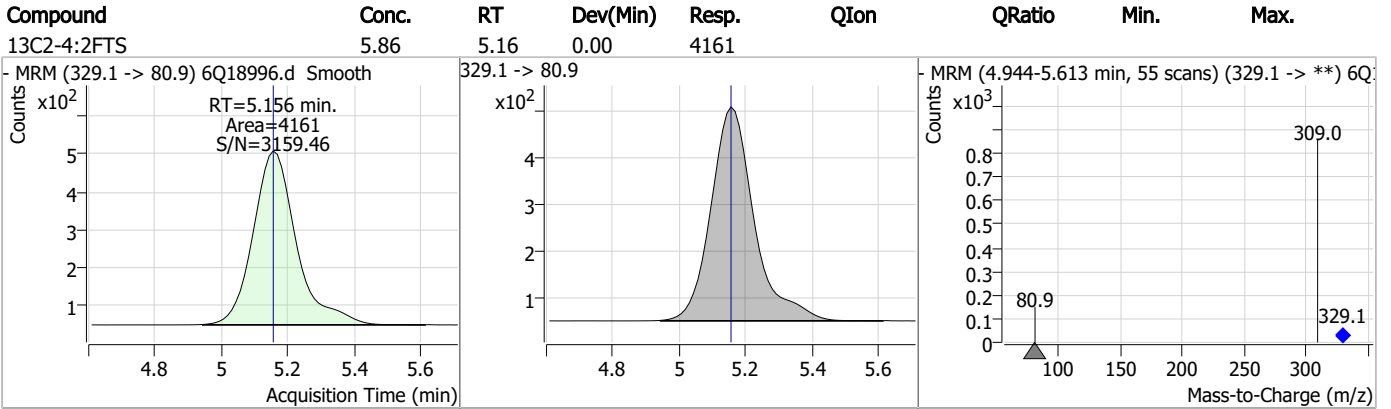


7.3.2

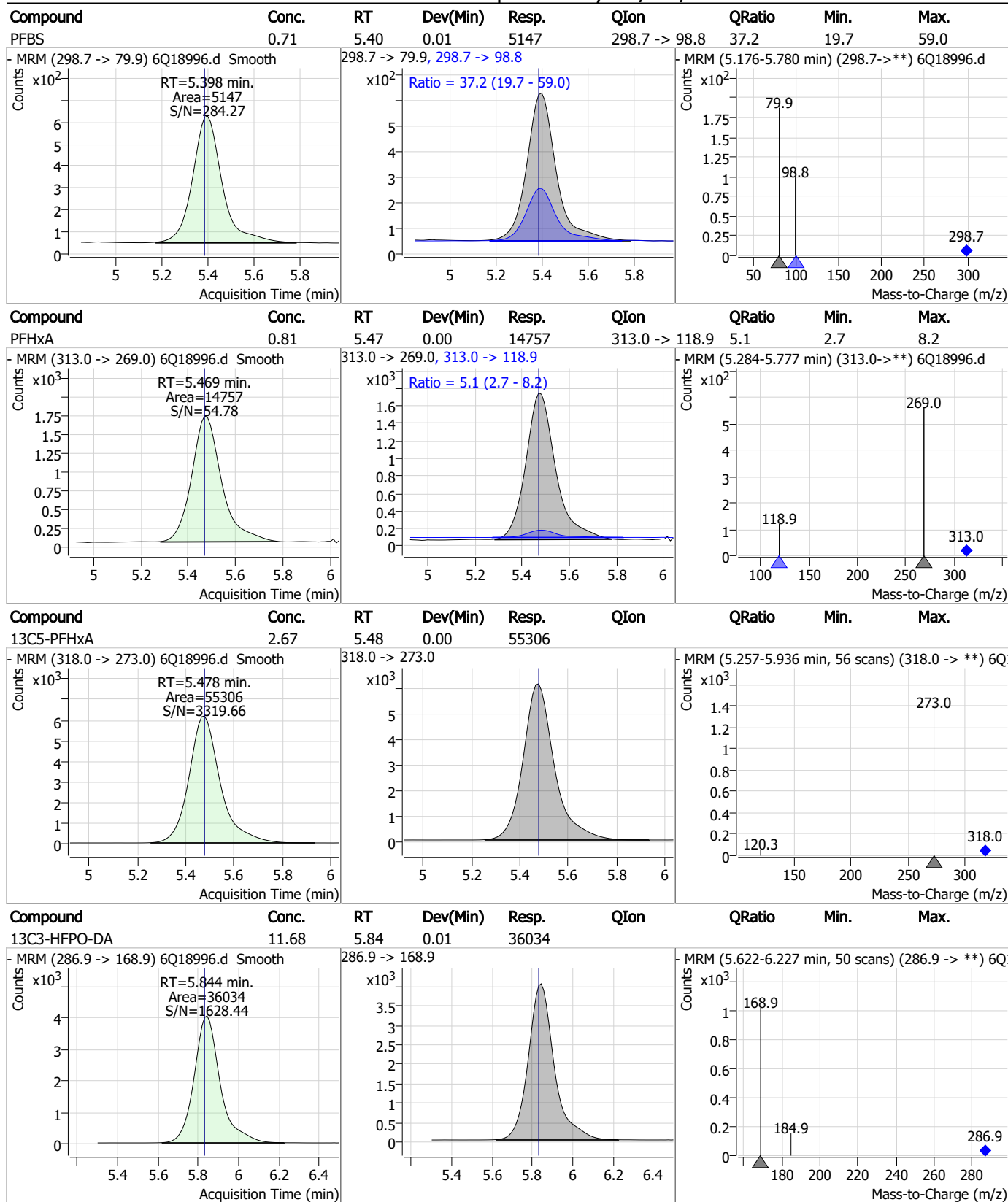
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Perfluorinated Compounds by LC/MS/MS

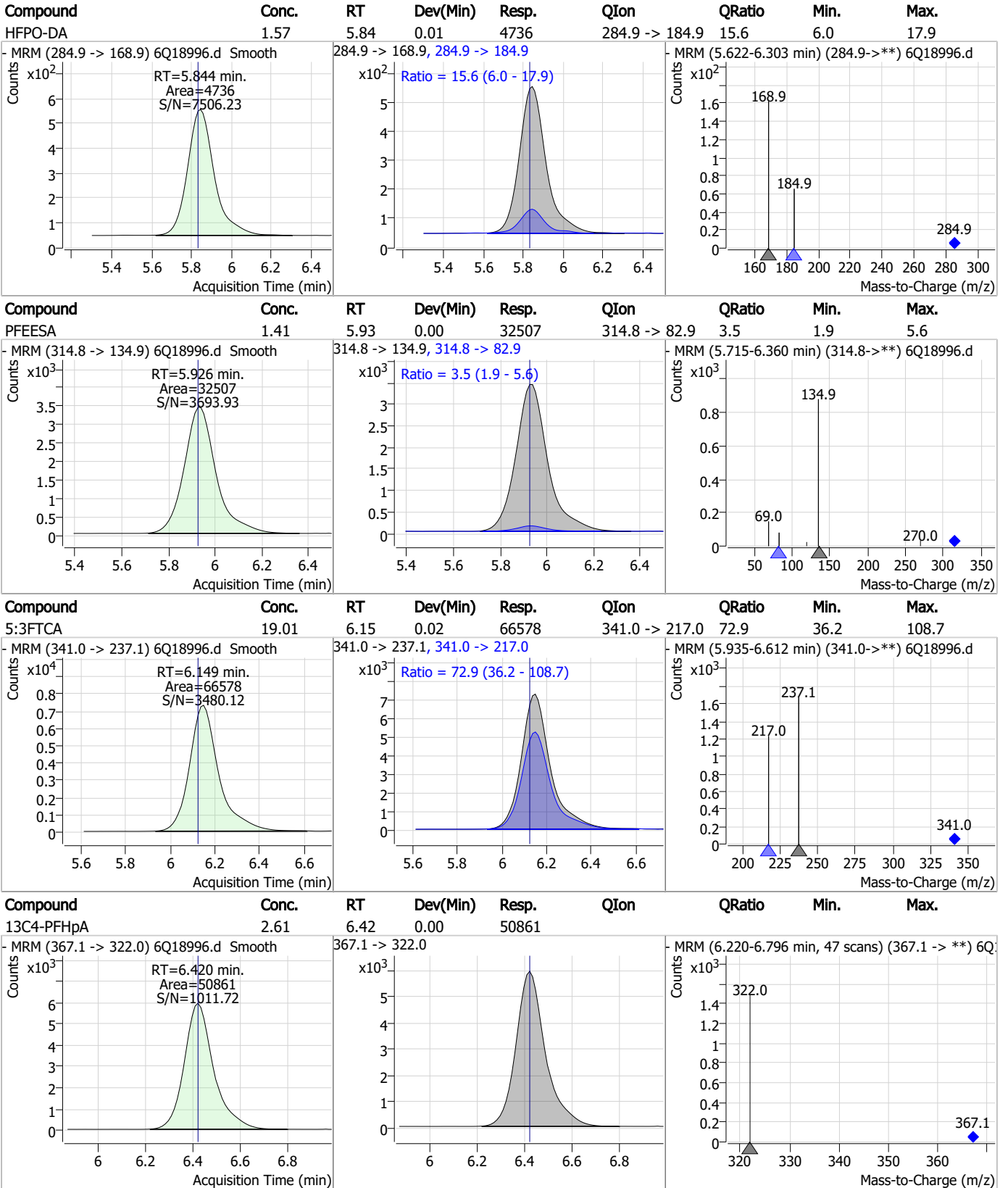


Perfluorinated Compounds by LC/MS/MS



7.3.2
7

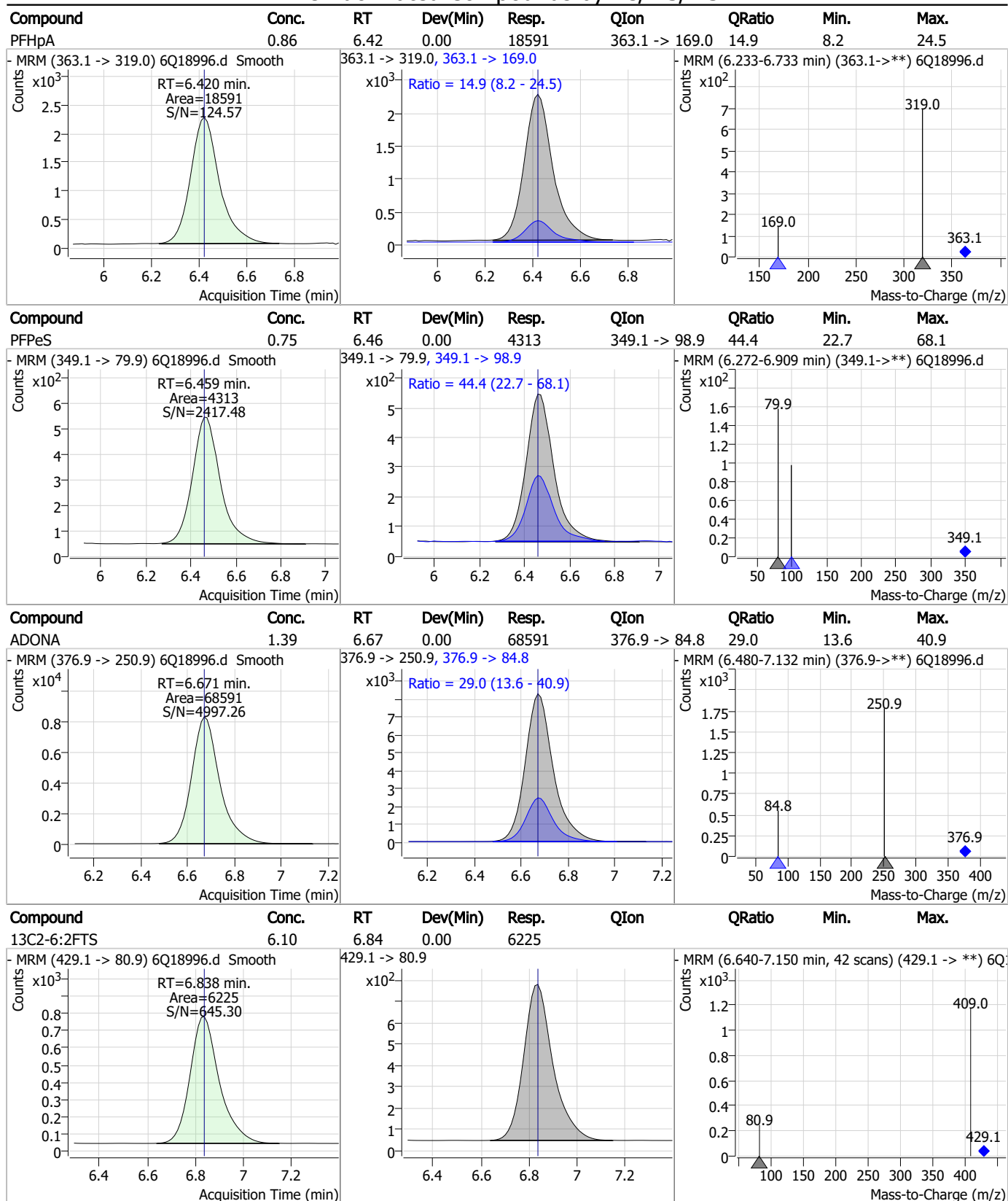
Perfluorinated Compounds by LC/MS/MS



7.3.2

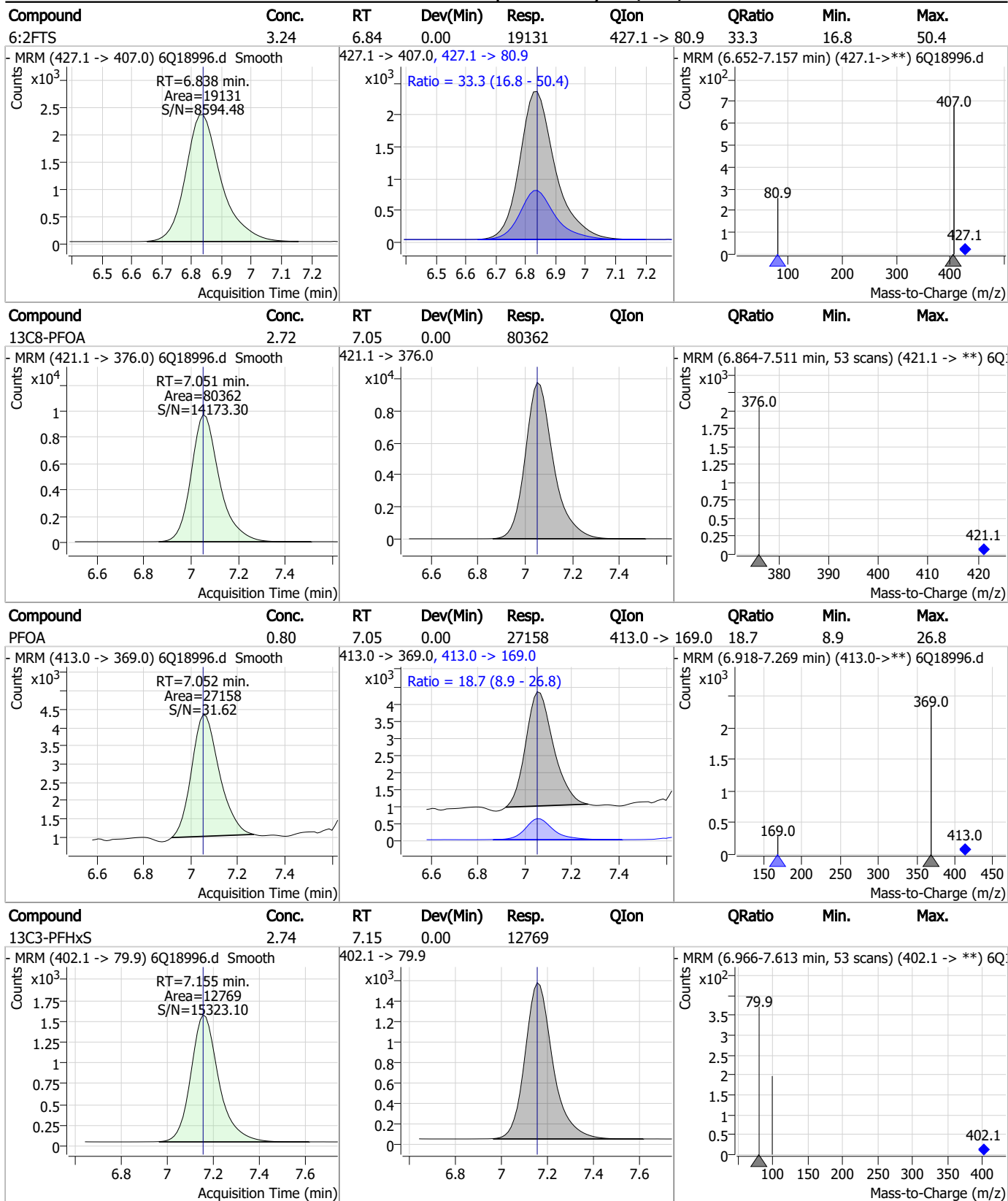
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Perfluorinated Compounds by LC/MS/MS



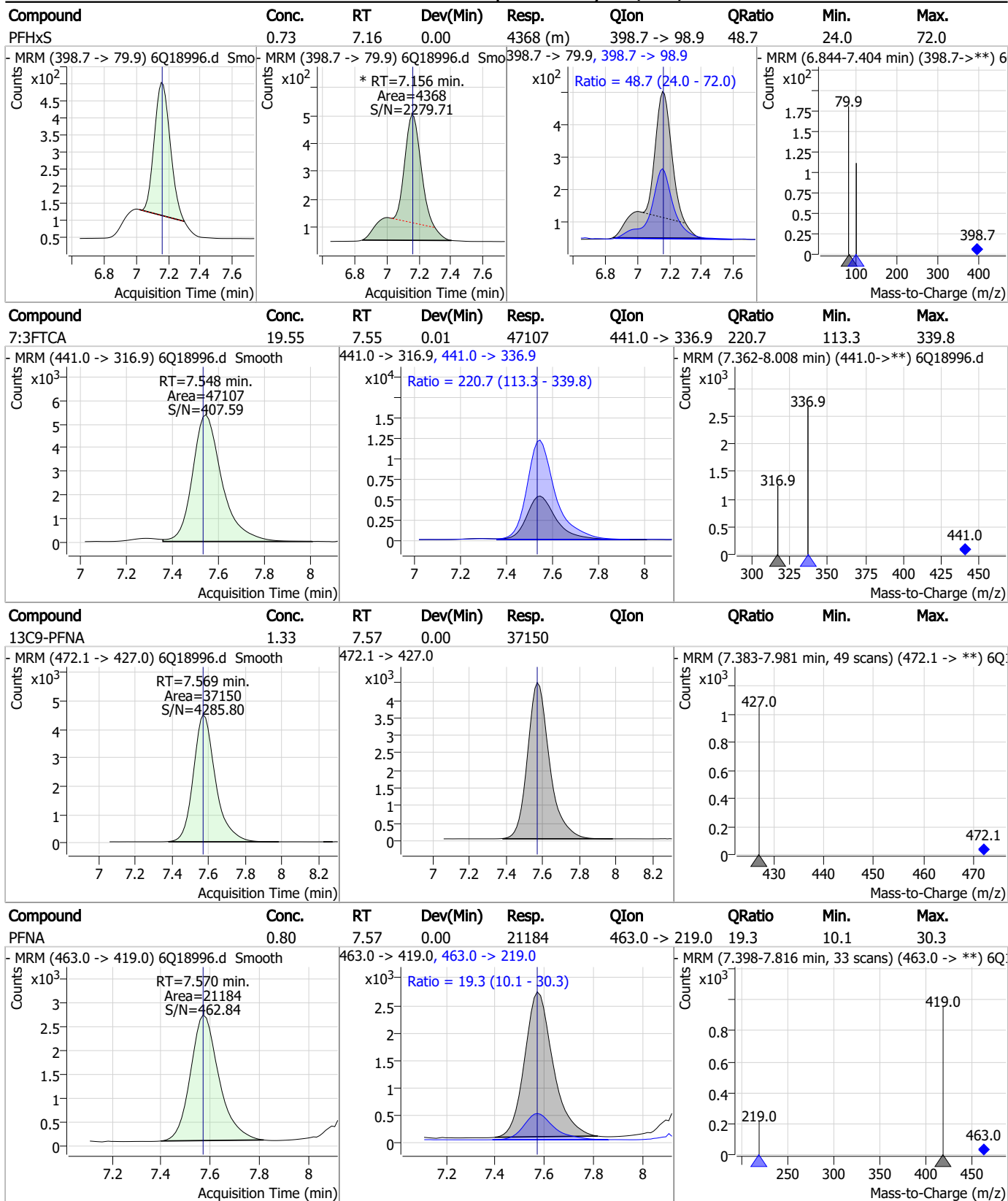
7.3.2
7

Perfluorinated Compounds by LC/MS/MS



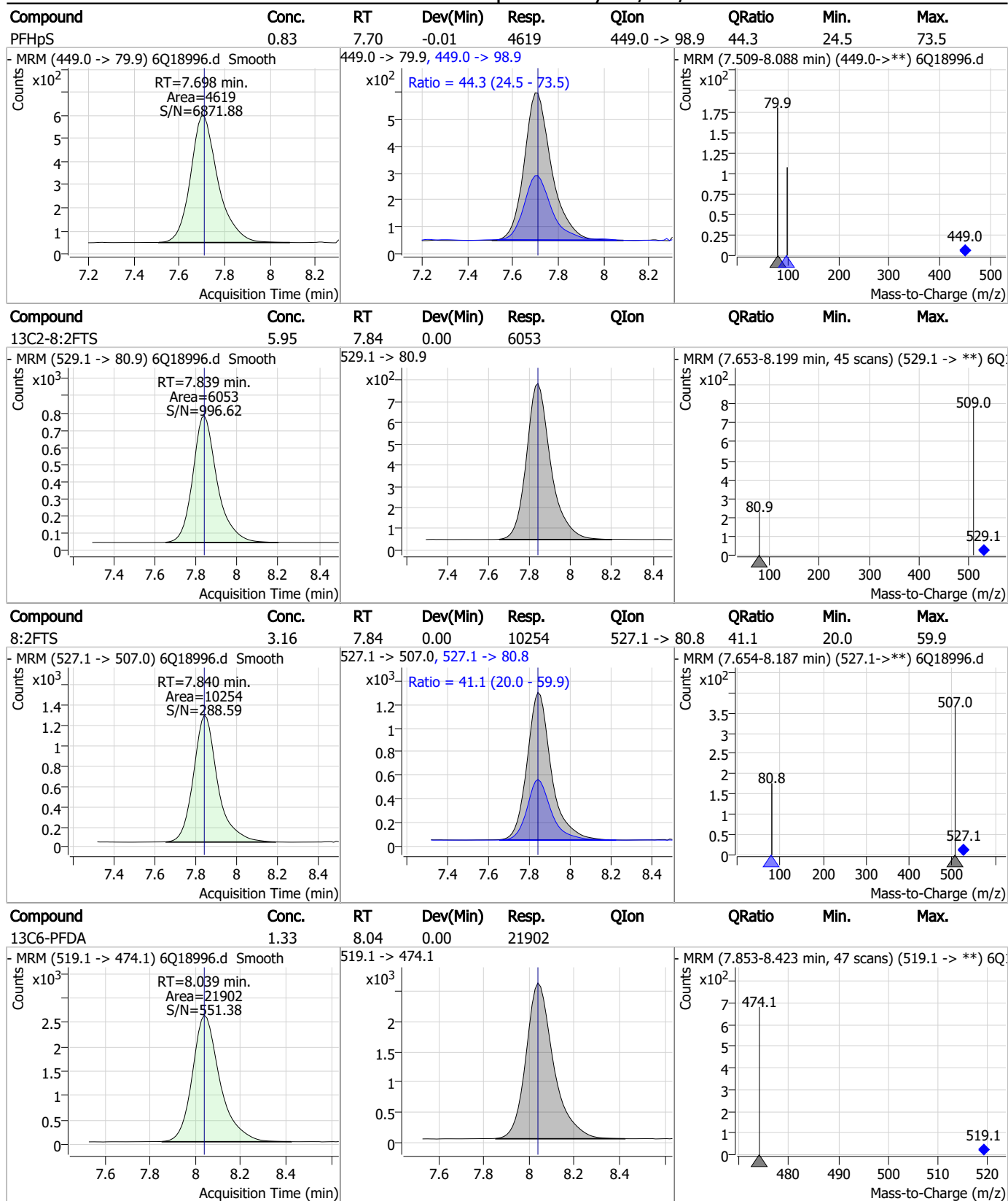
7.3.2
7

Perfluorinated Compounds by LC/MS/MS



7.3.2
7

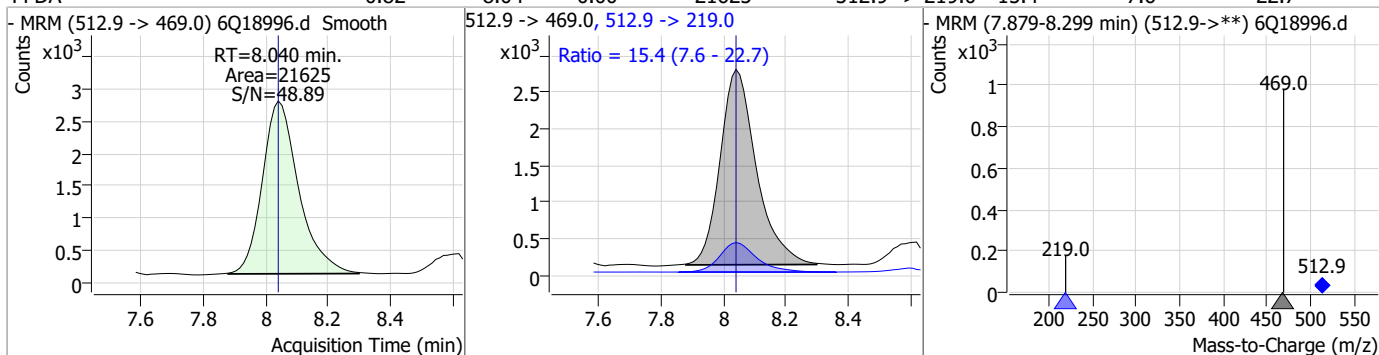
Perfluorinated Compounds by LC/MS/MS



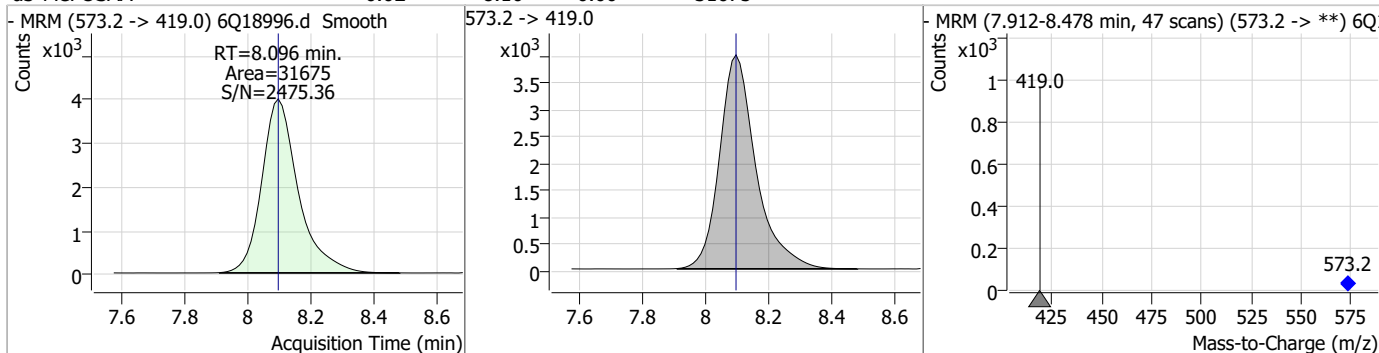
7.3.2
7

Perfluorinated Compounds by LC/MS/MS

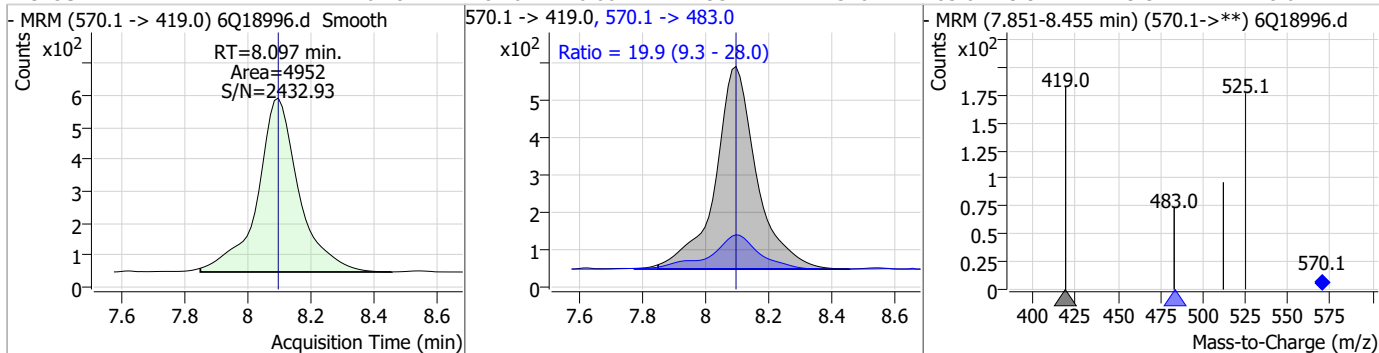
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.82	8.04	0.00	21625	512.9 -> 219.0	15.4	7.6	22.7



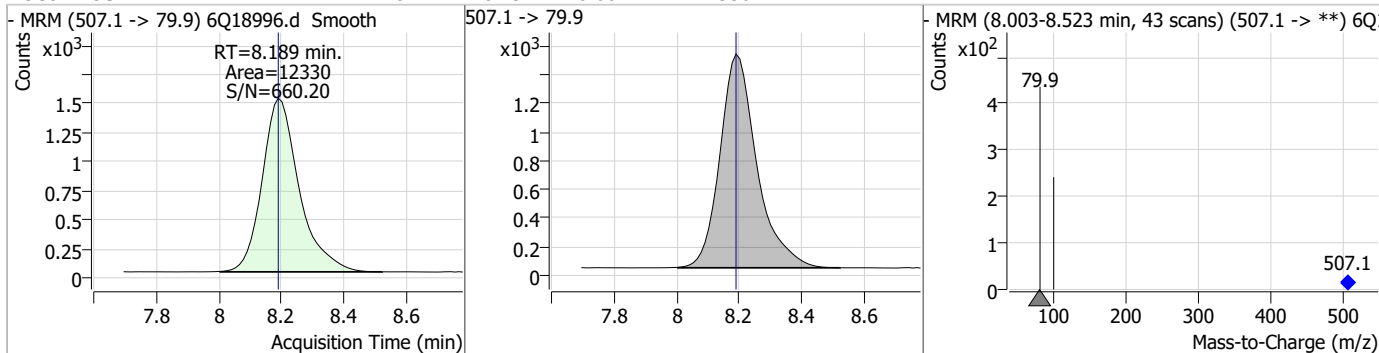
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	6.02	8.10	0.00	31675				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.78	8.10	0.00	4952	570.1 -> 483.0	19.9	9.3	28.0

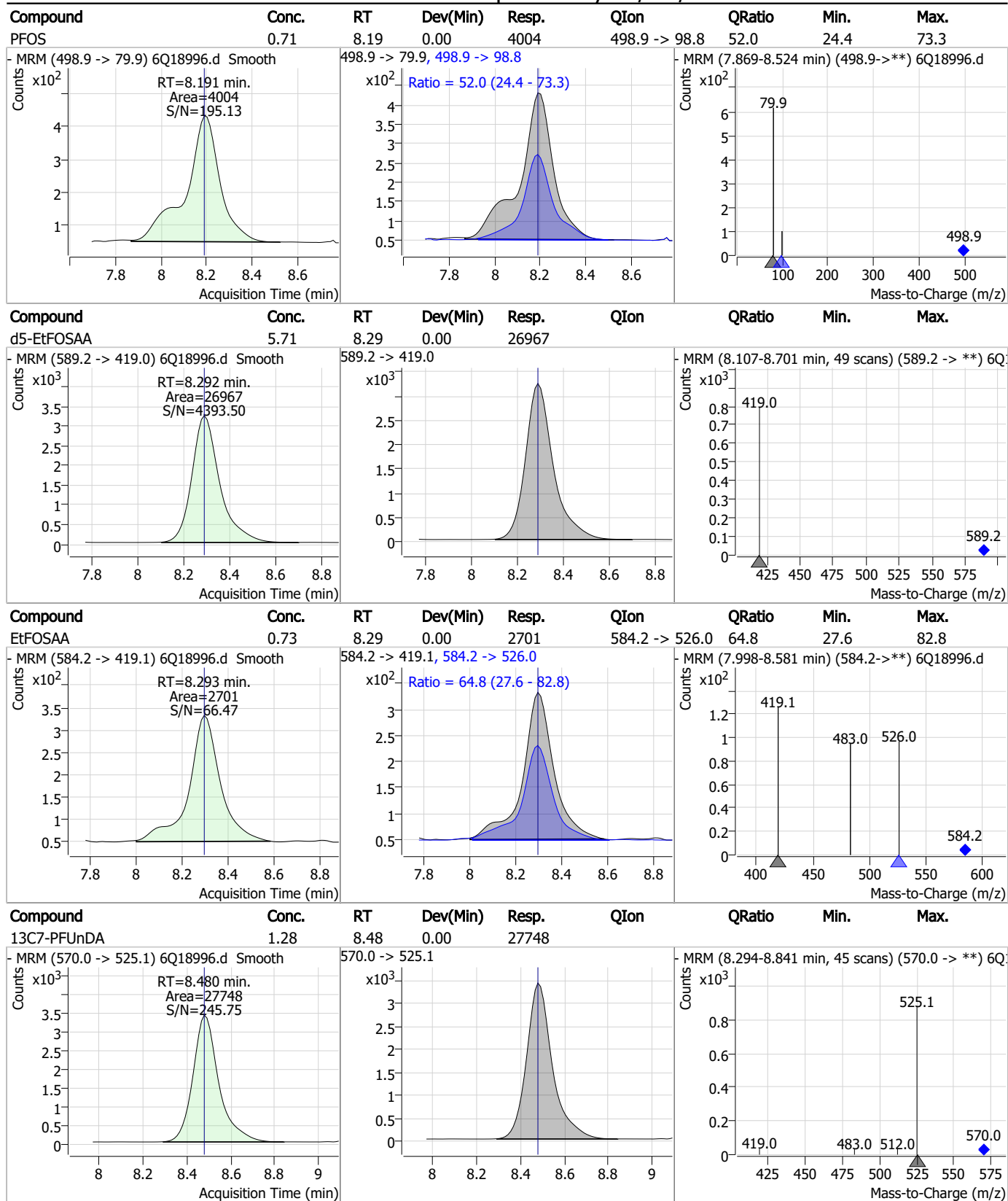


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.78	8.19	0.00	12330				



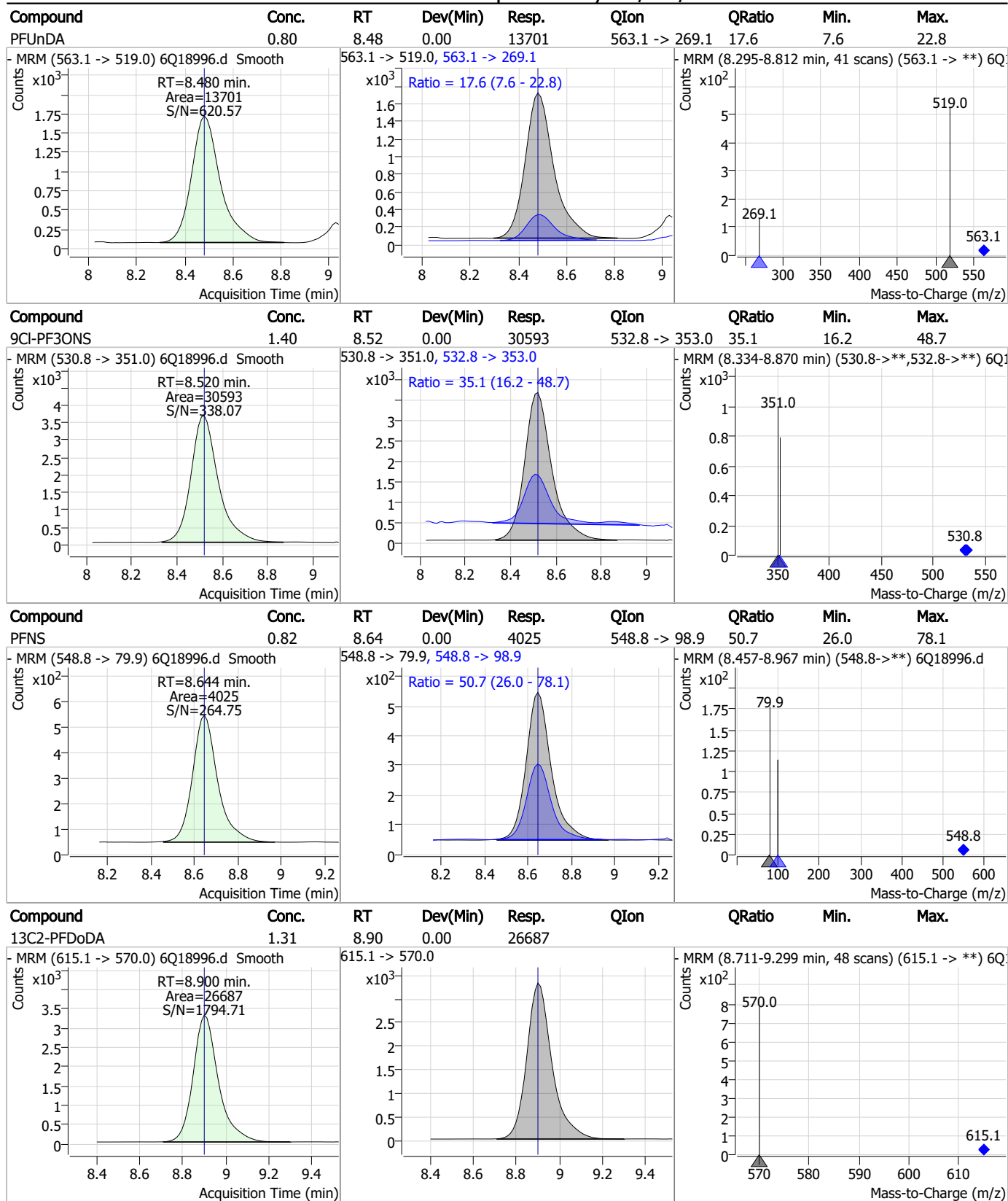
7.3.2
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Perfluorinated Compounds by LC/MS/MS



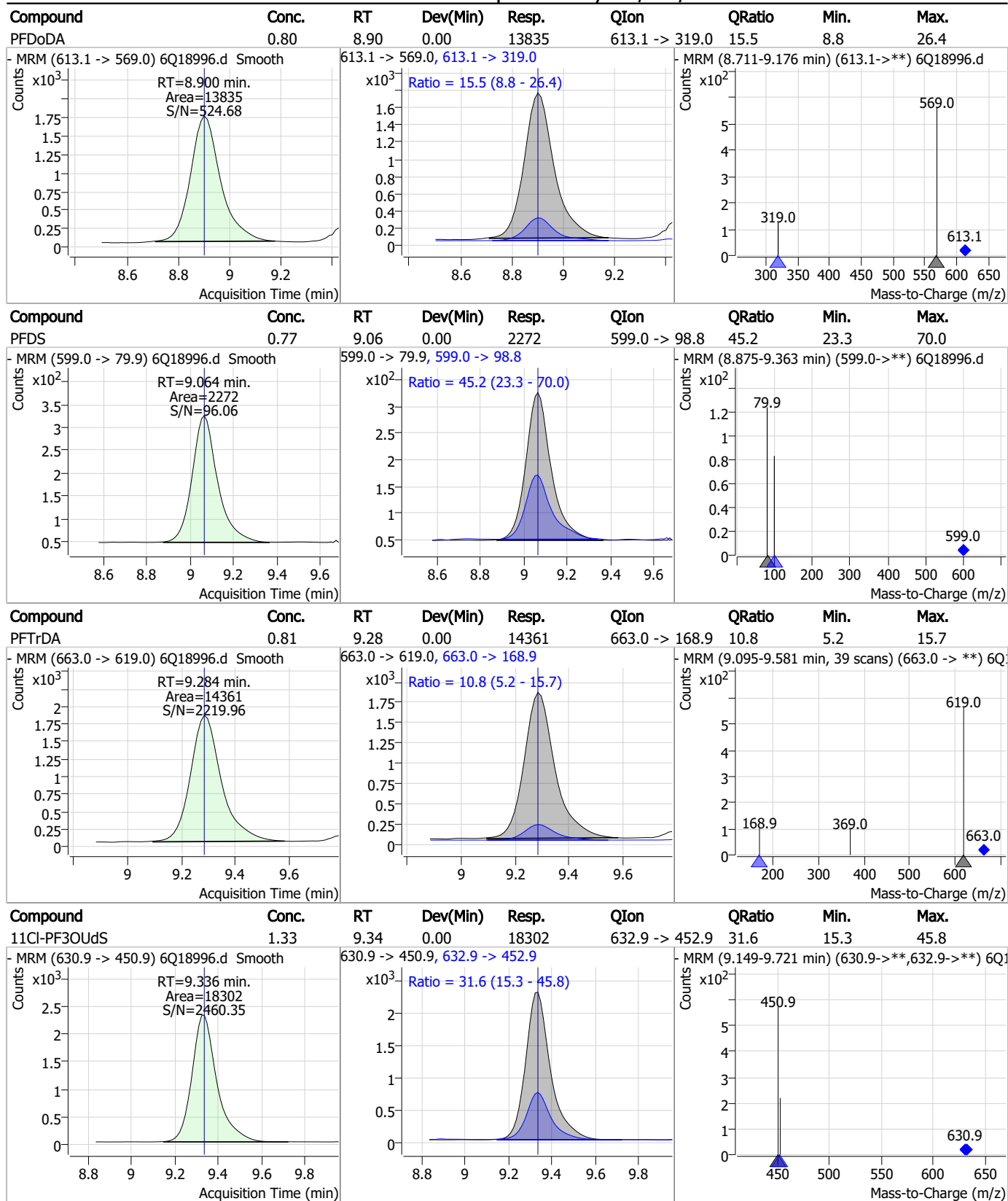
7.3.2
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Perfluorinated Compounds by LC/MS/MS



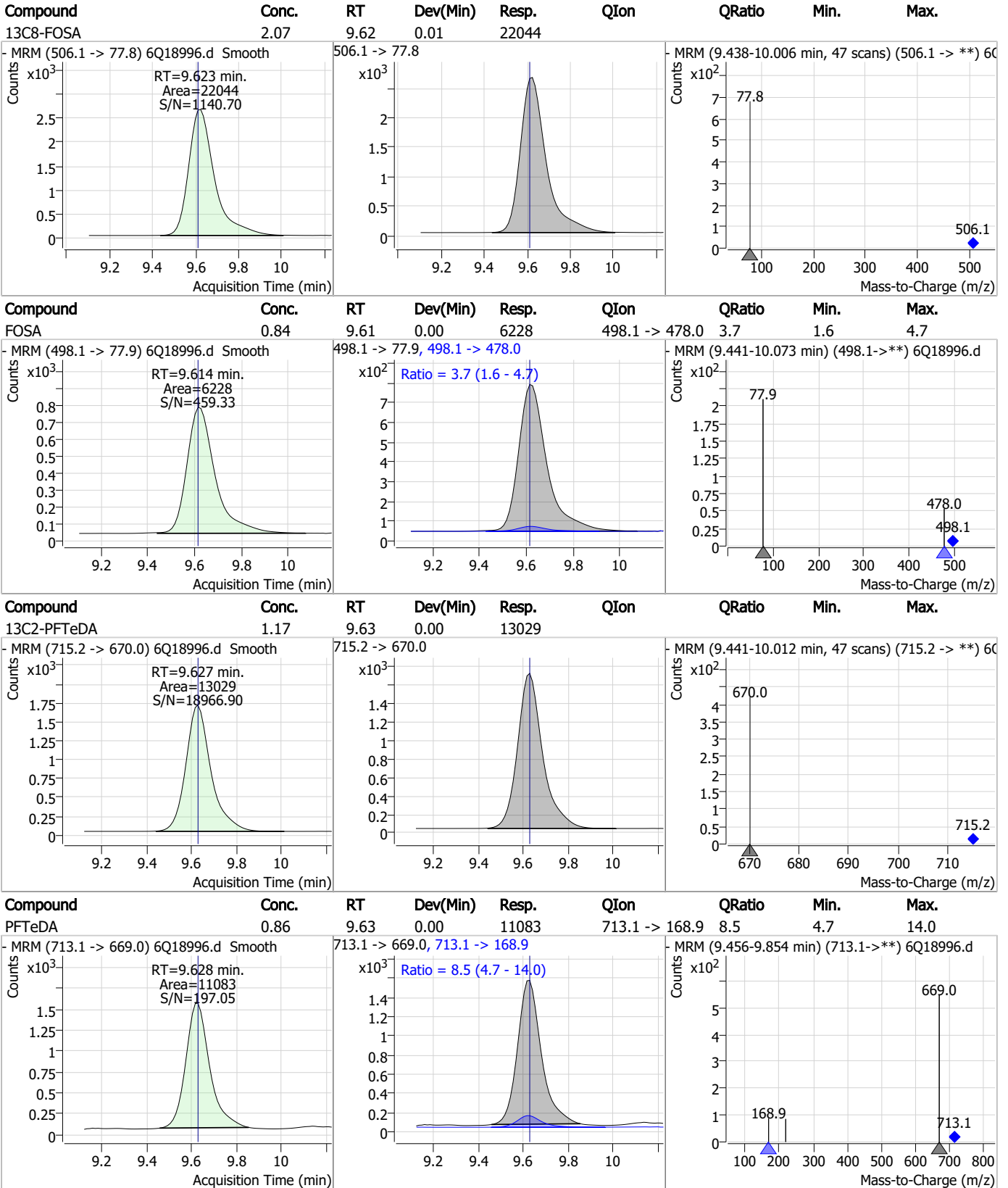
7.3.2
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Perfluorinated Compounds by LC/MS/MS



7.3.2
7

Perfluorinated Compounds by LC/MS/MS



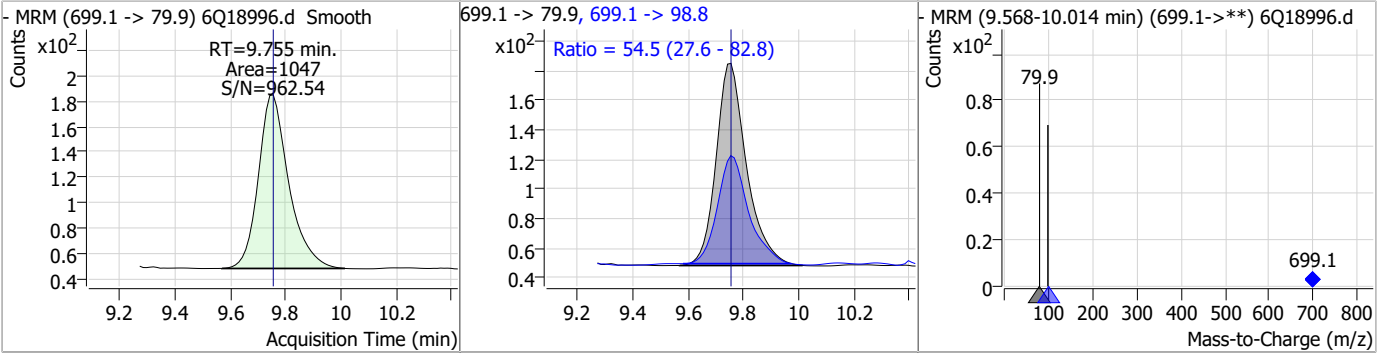
7.3.2

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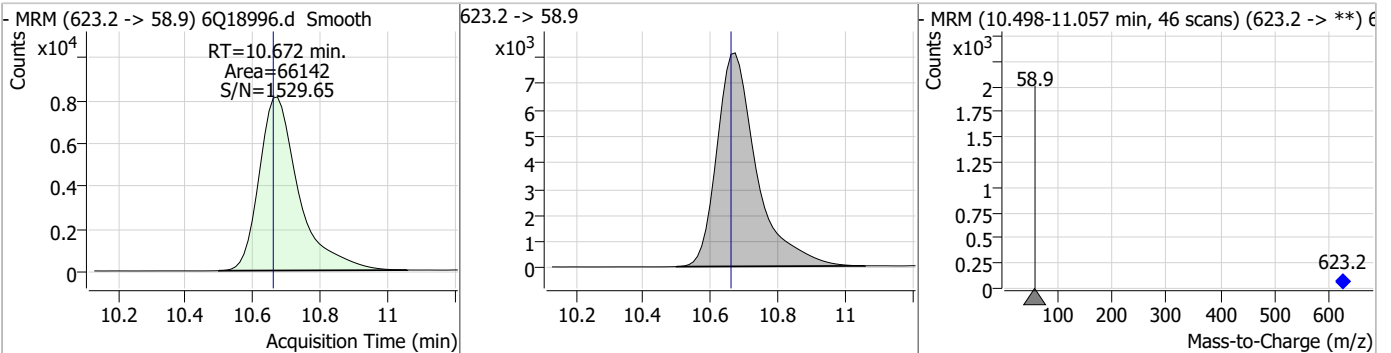


Perfluorinated Compounds by LC/MS/MS

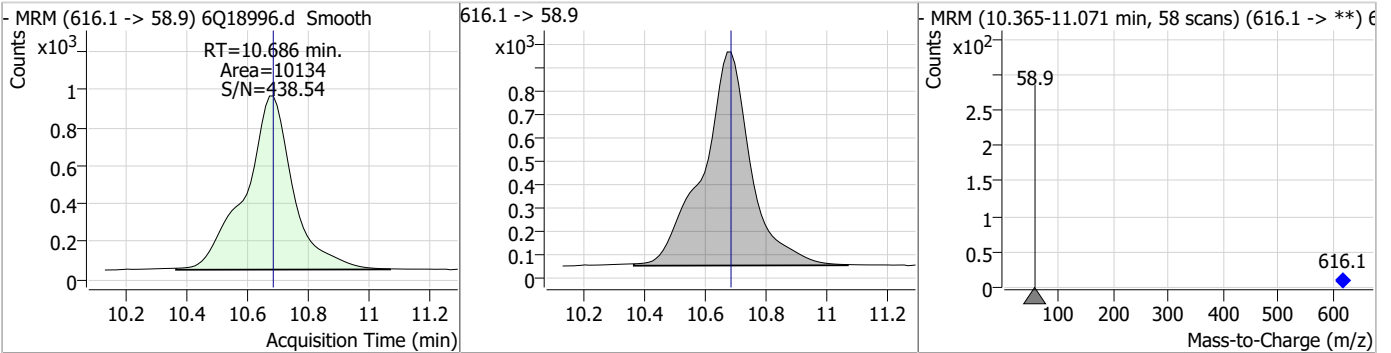
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	0.75	9.75	0.00	1047	699.1 -> 98.8	54.5	27.6	82.8



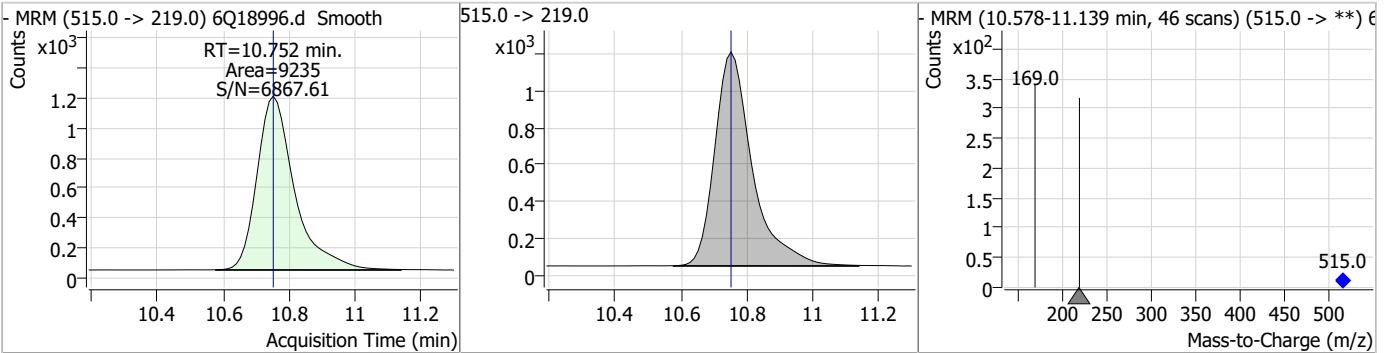
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	18.02	10.67	0.01	66142				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	3.96	10.69	0.00	10134				

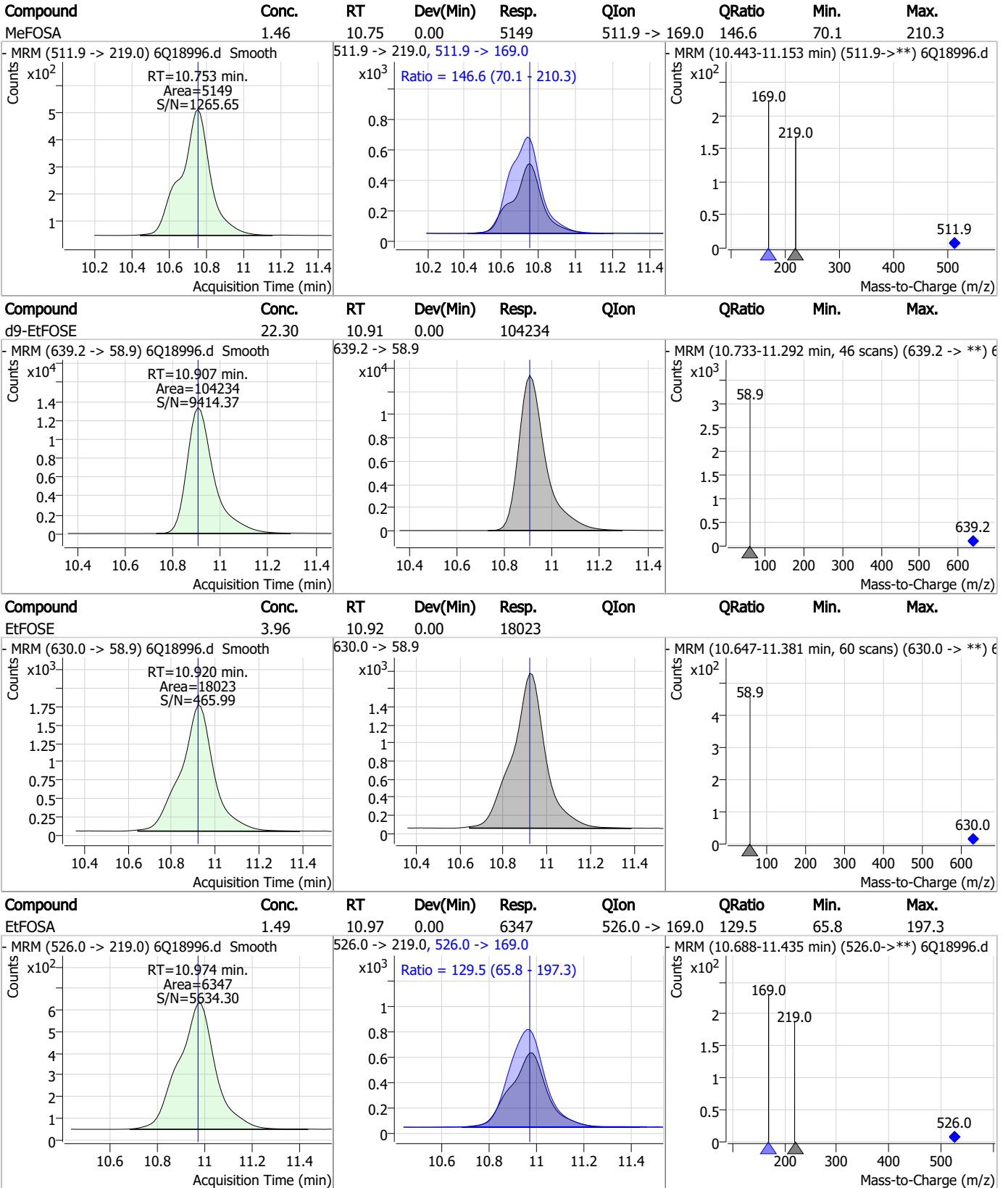


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.23	10.75	0.00	9235				



7.3.2
7

Perfluorinated Compounds by LC/MS/MS

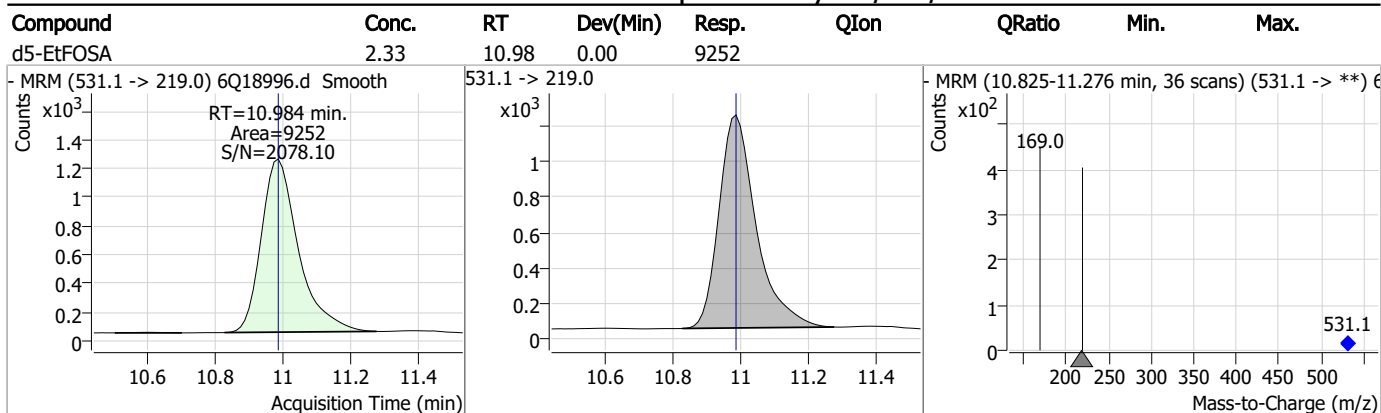


7.3.2

7



Perfluorinated Compounds by LC/MS/MS



7.3.2
7

Manual Integration Approval Summary

Sample Number: OP97216-LLBS Method: EPA DRAFT 1633
Lab FileID: 6Q18996.D Analyst approved: 06/08/23 12:32 Martha Valls
Injection Time: 06/08/23 02:36 Supervisor approved: 06/09/23 14:08 Natasha Gumtie

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

7.3.2.1

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19000.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 3:34:13 AM
 Sample Name : op97216-ms
 Vial : P3-A9
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97216,S6Q283,550,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	52124	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	52015	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	57624	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	51385	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	78435	2.50 µg/L	0.000
M9-PFNA	7.583	472.1 -> 427.0	33412	1.25 µg/L	0.014
M6-PFDA	8.039	519.1 -> 474.1	18889	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	24796	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	22057	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	12220	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	22992	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	20764	2.50 µg/L	0.013
M3-PFHxS	7.167	402.1 -> 79.9	11962	2.50 µg/L	0.012
M8-PFOS	8.189	507.1 -> 79.9	10726	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4128	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	6044	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	5218	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	28806	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	34252	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	25810	5.00 µg/L	0.000
M7-MeFOSE	10.672	623.2 -> 58.9	76657	25.00 µg/L	0.012
M9-EtFOSE	10.907	639.2 -> 58.9	109090	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	10075	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	9781	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	14039	2.50 µg/L	0.000
13C3-PFBA	2.904	216.0 -> 172.0	62854	5.00 µg/L	0.040
18O2-PFHxS	7.166	403.0 -> 83.9	8630	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	78329	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	27409	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	42306	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	49377	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4128	5.82 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 116.3%		
13C2-6:2FTS	6.838	429.1 -> 80.9	6044	5.93 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 118.5%		
13C2-8:2FTS	7.839	529.1 -> 80.9	5218	5.14 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.7%		
13C2-PFDoDA	8.900	615.1 -> 570.0	22057	1.10 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 88.1%		
13C2-PFTeDA	9.627	715.2 -> 670.0	12220	1.11 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 89.0%		
13C3-PFBS	5.397	302.1 -> 79.9	20764	2.74 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 109.5%		
13C3-PFHxS	7.167	402.1 -> 79.9	11962	2.57 µg/L	0.012

7.4.1
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 = 102.7%		
13C4-PFBA	2.913	216.8 -> 171.9	52124	3.49 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 34.9%		
13C4-PFHpA	6.420	367.1 -> 322.0	51385	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.4%		
13C5-PFHxA	5.478	318.0 -> 273.0	57624	2.76 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 110.3%		
13C5-PFPeA	4.284	268.3 -> 223.0	52015	5.43 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 108.6%		
13C6-PFDA	8.039	519.1 -> 474.1	18889	1.16 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 92.9%		
13C7-PFUnDA	8.480	570.0 -> 525.1	24796	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.3%		
13C8-FOSA	9.623	506.1 -> 77.8	22992	2.25 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 90.0%		
13C8-PFOA	7.051	421.1 -> 376.0	78435	2.61 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 104.4%		
13C8-PFOS	8.189	507.1 -> 79.9	10726	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 100.7%		
13C9-PFNA	7.583	472.1 -> 427.0	33412	1.20 µg/L	0.014
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 96.1%		
d3-MeFOSAA	8.096	573.2 -> 419.0	28806	5.70 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.9%		
13C3-HFPO-DA	5.844	286.9 -> 168.9	34252	11.01 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%		Recovery = 110.1%		
d3-MeFOSA	10.752	515.0 -> 219.0	9781	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	25810	5.69 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 113.8%		
d7-MeFOSE	10.672	623.2 -> 58.9	76657	21.75 µg/L	0.012
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 87.0%		
d9-EtFOSE	10.907	639.2 -> 58.9	109090	24.31 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%		Recovery = 97.2%		
d5-EtFOSA	10.984	531.1 -> 219.0	10075	2.64 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 105.6%		
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	60805	10.75 µg/L	97
		327.1 -> 80.9	23817		
6:2FTS	6.838	427.1 -> 407.0	61746	10.78 µg/L	99
		427.1 -> 80.9	20461		
8:2FTS	7.840	527.1 -> 507.0	29857	10.67 µg/L	94
		527.1 -> 80.8	12963		
EtFOSAA	8.305	584.2 -> 419.1	9204	2.62 µg/L	93
		584.2 -> 526.0	4644		
FOSA	9.614	498.1 -> 77.9	22622	2.92 µg/L	100
		498.1 -> 478.0	668		
MeFOSAA	8.097	570.1 -> 419.0	15163	2.63 µg/L	94
		570.1 -> 483.0	3236		
PFBA	2.907	212.8 -> 168.9	19256	11.34 µg/L	100
PFBS	5.398	298.7 -> 79.9	17853	2.48 µg/L	98
		298.7 -> 98.8	6841		
PFDA	8.040	512.9 -> 469.0	65065	2.86 µg/L	100
		512.9 -> 219.0	9768		
PFDODA	8.900	613.1 -> 569.0	39887	2.78 µg/L	95
		613.1 -> 319.0	6100		
PFDS	9.064	599.0 -> 79.9	6527	2.55 µg/L	97

7.4.1
7

Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
		599.0 -> 98.8	3165		
PFHpA	6.420	363.1 -> 319.0	62331	2.86 µg/L	99
		363.1 -> 169.0	10026		
PFHpS	7.710	449.0 -> 79.9	13028	2.68 µg/L	90
		449.0 -> 98.9	7276		
PFHxA	5.481	313.0 -> 269.0	51832	2.74 µg/L	100
		313.0 -> 118.9	2749		
PFHxS	7.168	398.7 -> 79.9	14210	2.53 µg/L	99
		398.7 -> 98.9	6709		
PFNA	7.570	463.0 -> 419.0	67427	2.85 µg/L	98
		463.0 -> 219.0	13017		
PFNS	8.644	548.8 -> 79.9	10642	2.49 µg/L	96
		548.8 -> 98.9	5874		
PFOA	7.066	413.0 -> 369.0	92658	2.81 µg/L	99
		413.0 -> 169.0	16178		
PFOS	8.191	498.9 -> 79.9	13108	2.67 µg/L	98
		498.9 -> 98.8	6548		
PFPeA	4.287	263.0 -> 219.0	71351	5.81 µg/L	100
PFPeS	6.459	349.1 -> 79.9	14817	2.75 µg/L	97
		349.1 -> 98.9	6447		
PFTeDA	9.628	713.1 -> 669.0	32394	2.69 µg/L	99
		713.1 -> 168.9	2847		
PFTrDA	9.284	663.0 -> 619.0	43382	2.96 µg/L	99
		663.0 -> 168.9	4429		
PFUnDA	8.480	563.1 -> 519.0	42886	2.79 µg/L	99
		563.1 -> 269.1	6713		
11CI-PF3OUdS	9.336	630.9 -> 450.9	54344	4.15 µg/L	96
		632.9 -> 452.9	17713		
9CI-PF3ONS	8.520	530.8 -> 351.0	97385	4.70 µg/L	93
		532.8 -> 353.0	27979		
ADONA	6.671	376.9 -> 250.9	246212	5.23 µg/L	98
		376.9 -> 84.8	65160		
HFPO-DA	5.844	284.9 -> 168.9	15658	5.47 µg/L	99
		284.9 -> 184.9	1826		
3:3FTCA	3.777	241.0 -> 177.0	7750	8.91 µg/L	99
		241.0 -> 117.0	1012		
5:3FTCA	6.149	341.0 -> 237.1	225837	61.89 µg/L	98
		341.0 -> 217.0	166663		
7:3FTCA	7.548	441.0 -> 316.9	155942	62.12 µg/L	97
		441.0 -> 336.9	346227		
EtFOSA	10.986	526.0 -> 219.0	22393	4.82 µg/L	97
		526.0 -> 169.0	28762		
EtFOSE	10.920	630.0 -> 58.9	61549	12.93 µg/L	100
MeFOSA	10.753	511.9 -> 219.0	18339	4.92 µg/L	95
		511.9 -> 169.0	26782		
MeFOSE	10.673	616.1 -> 58.9	40740	13.73 µg/L	100
PFDoDS	9.755	699.1 -> 79.9	2996	2.48 µg/L	99
		699.1 -> 98.8	1642		
NFDHA	5.361	295.0 -> 201.0	12504	5.51 µg/L	95
		295.0 -> 84.9	3384		
PFMBA	4.700	279.0 -> 85.1	47087	5.54 µg/L	100
PFMPA	3.442	229.0 -> 84.9	24393	3.77 µg/L	100
PFEESA	5.938	314.8 -> 134.9	112636	4.68 µg/L	100
		314.8 -> 82.9	4150		

7.4.1
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= Qualifier out of range, m = manually integrated, + = Area summed



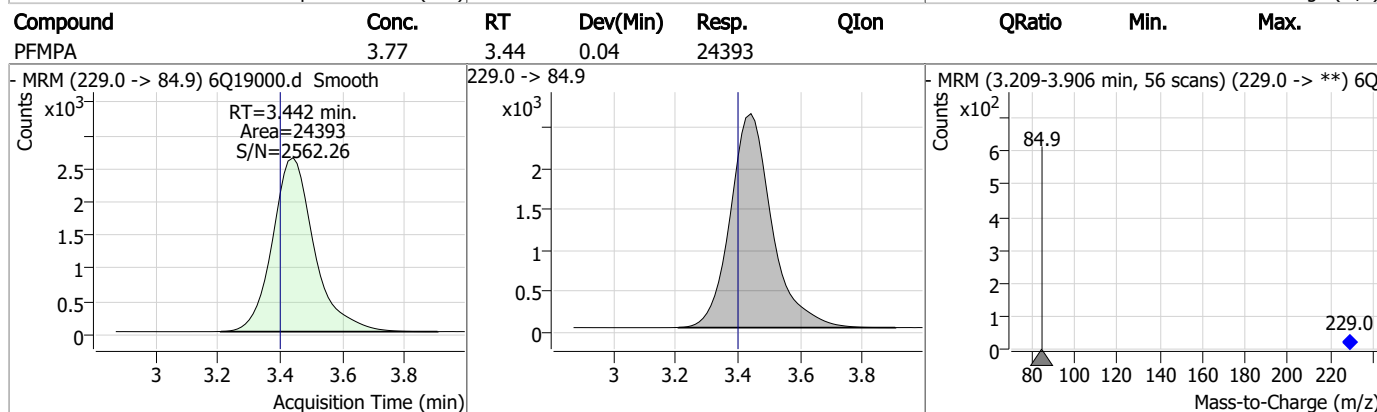
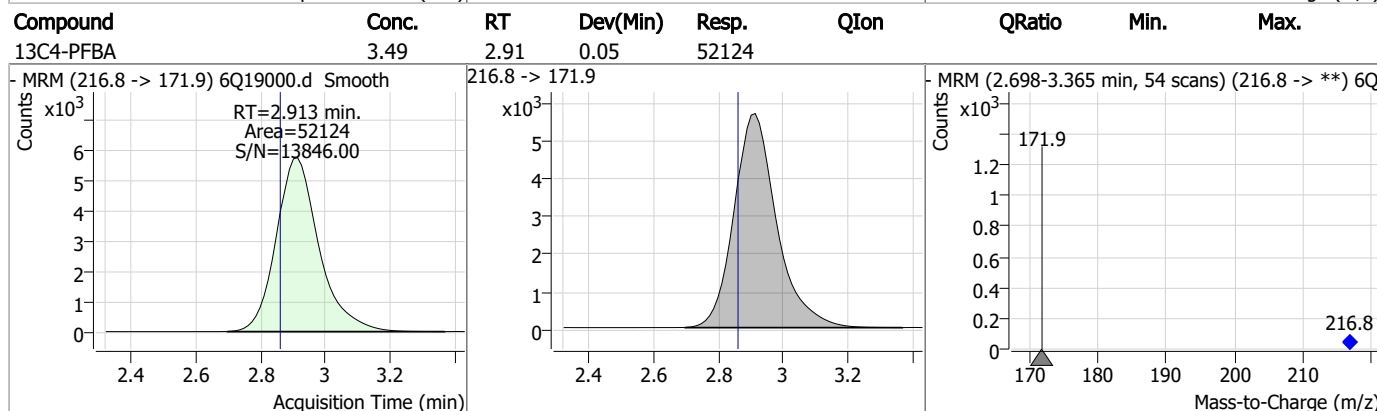
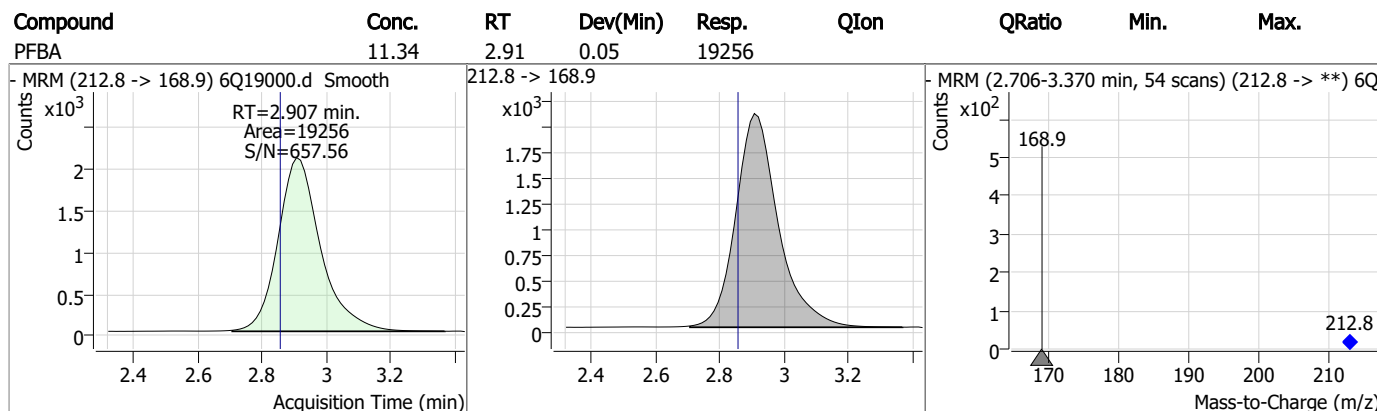
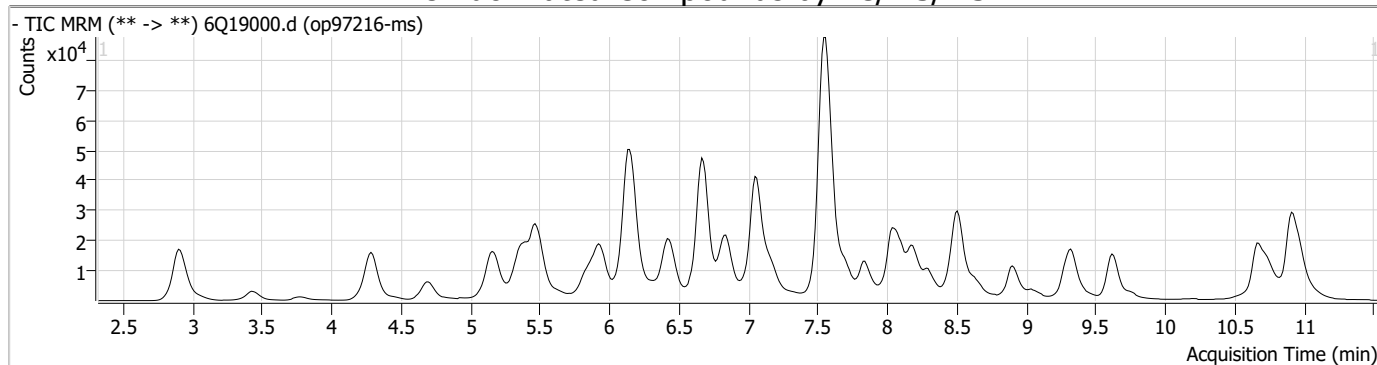
Perfluorinated Compounds by LC/MS/MS

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

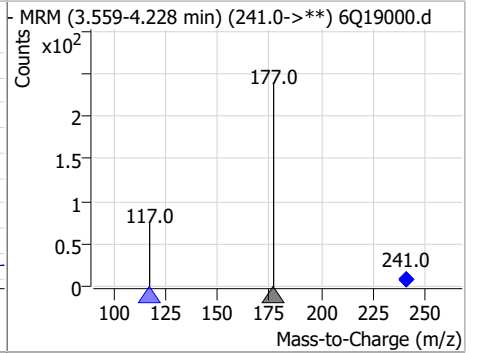
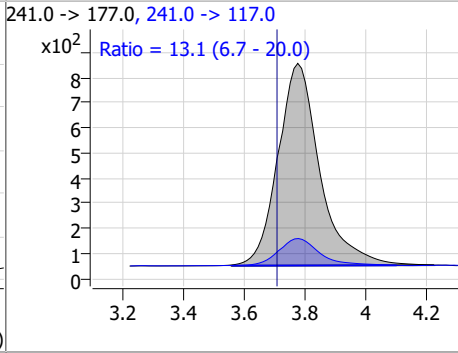
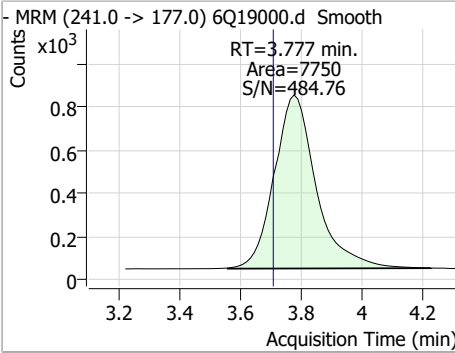
7

Perfluorinated Compounds by LC/MS/MS

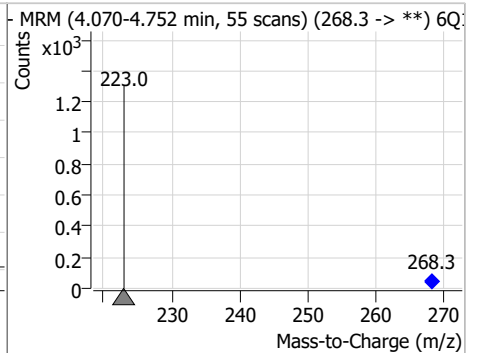
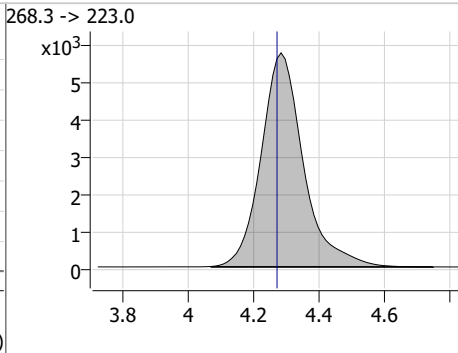
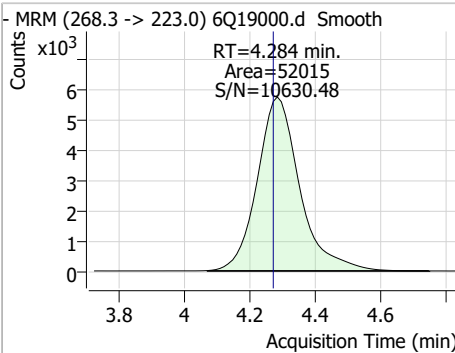


Perfluorinated Compounds by LC/MS/MS

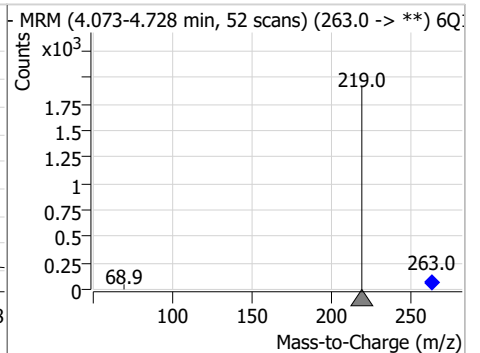
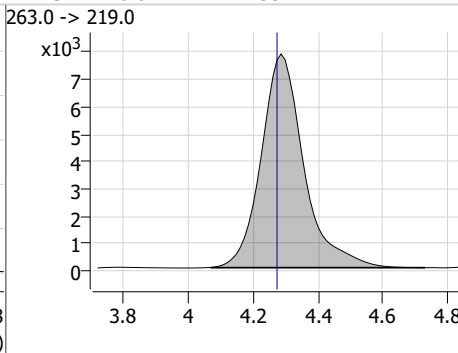
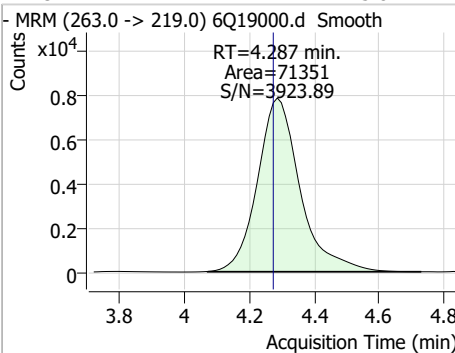
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	8.91	3.78	0.07	7750	241.0 -> 117.0	13.1	6.7	20.0



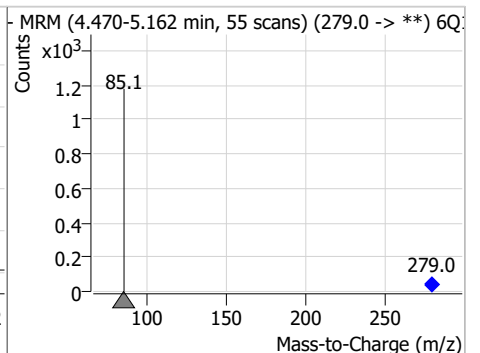
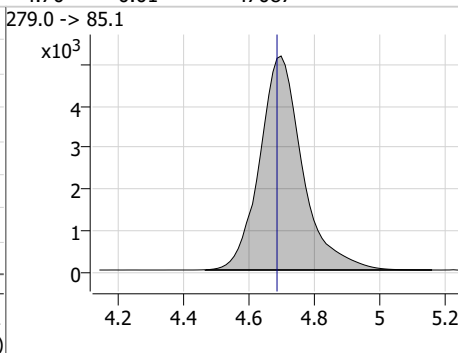
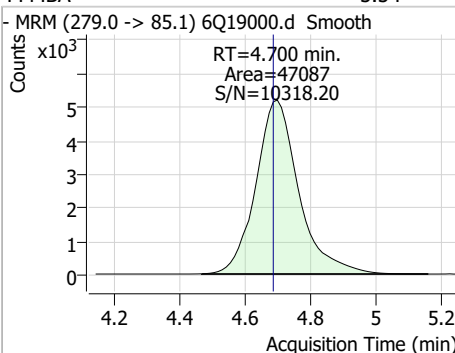
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.43	4.28	0.01	52015				



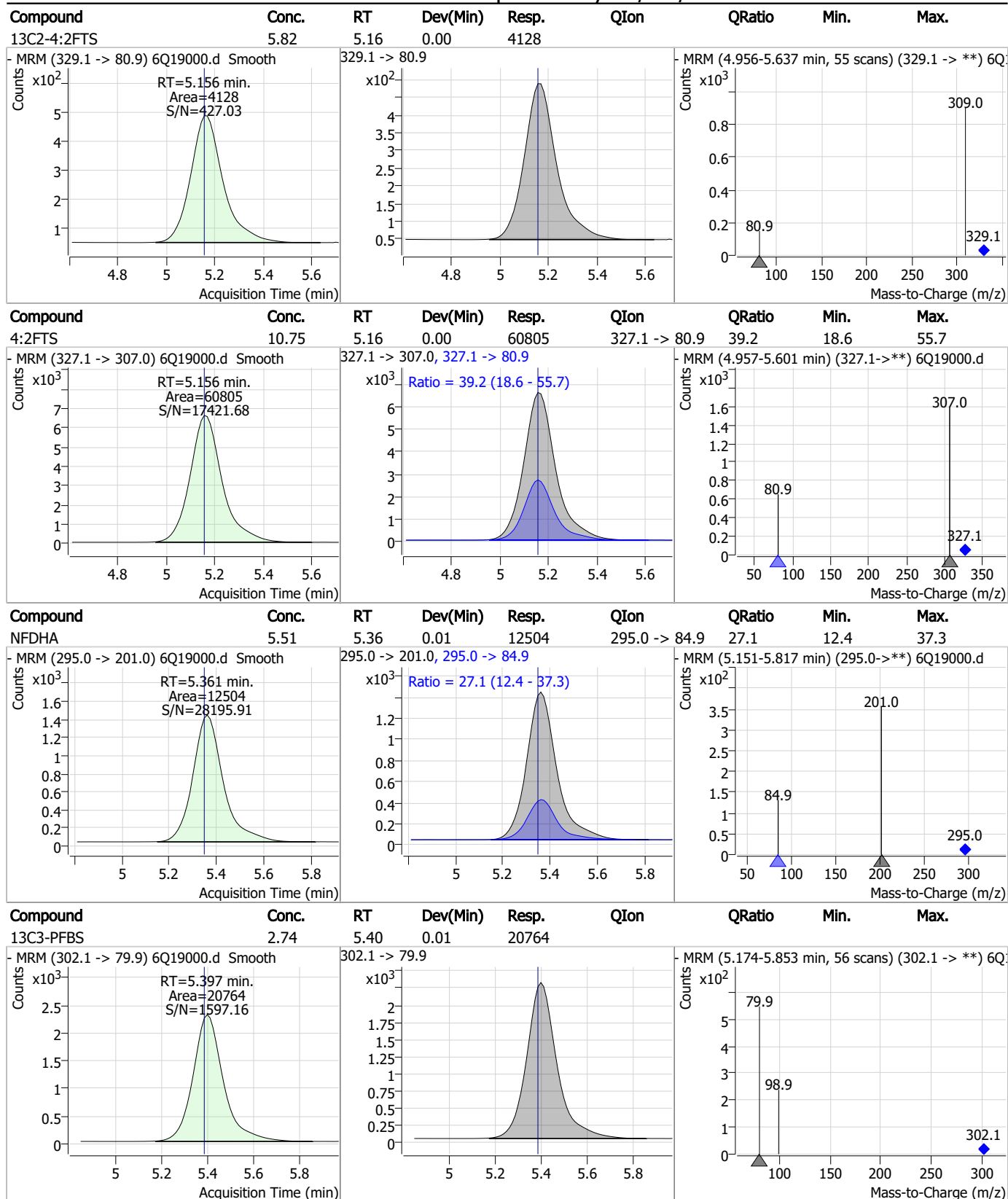
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	5.81	4.29	0.01	71351				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.54	4.70	0.01	47087				



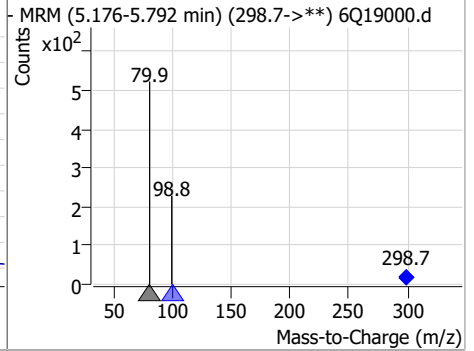
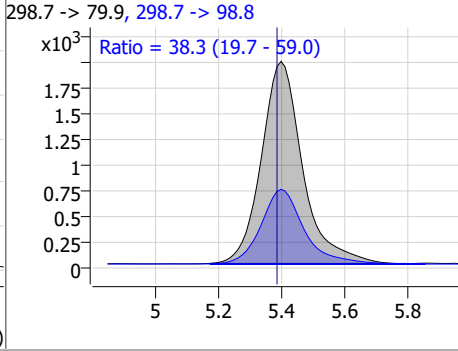
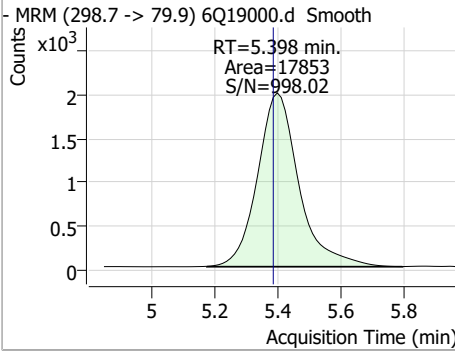
Perfluorinated Compounds by LC/MS/MS



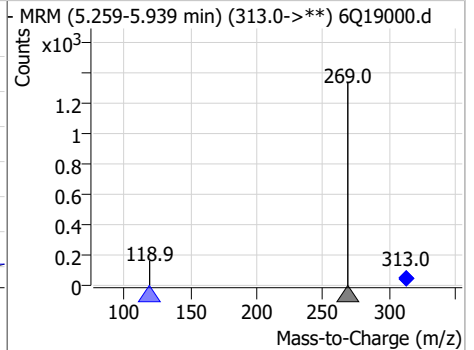
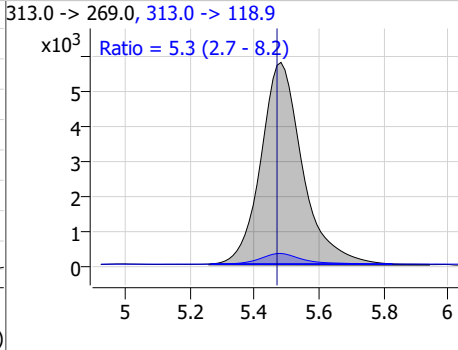
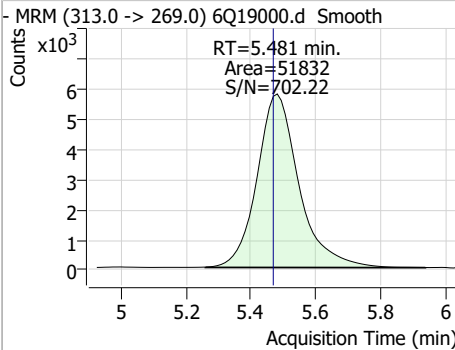
7.4.1
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Perfluorinated Compounds by LC/MS/MS

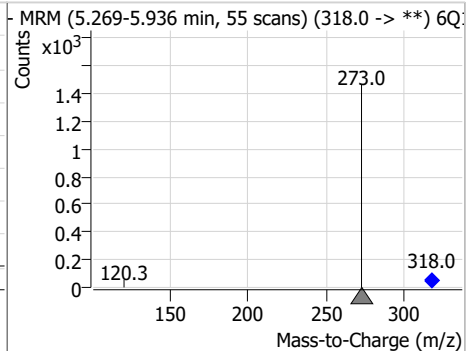
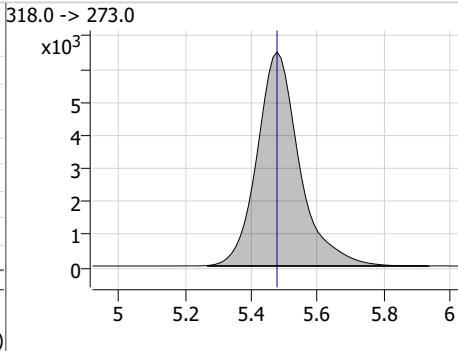
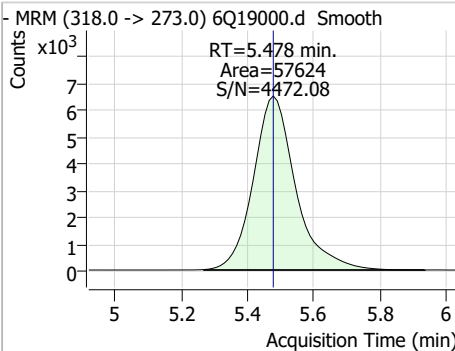
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.48	5.40	0.01	17853	298.7 -> 98.8	38.3	19.7	59.0



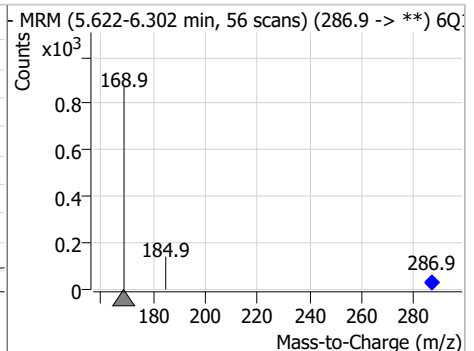
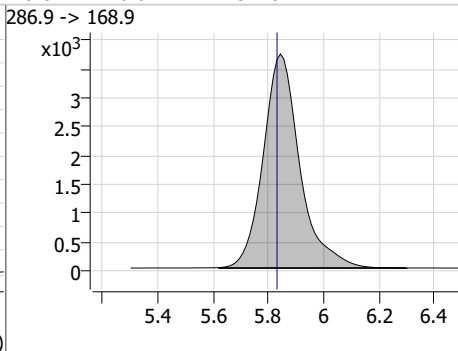
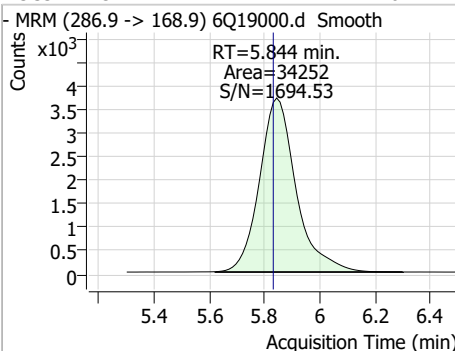
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.74	5.48	0.01	51832	313.0 -> 118.9	5.3	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.76	5.48	0.00	57624	318.0 -> 273.0			



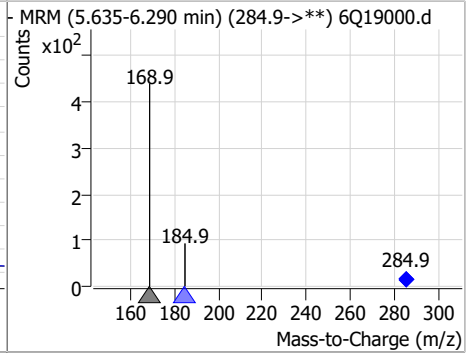
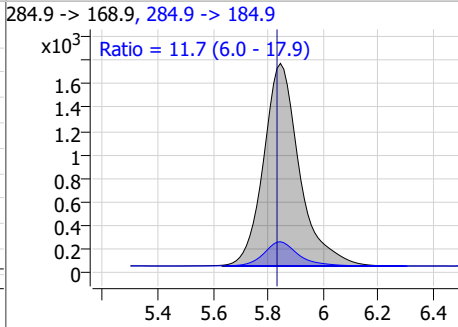
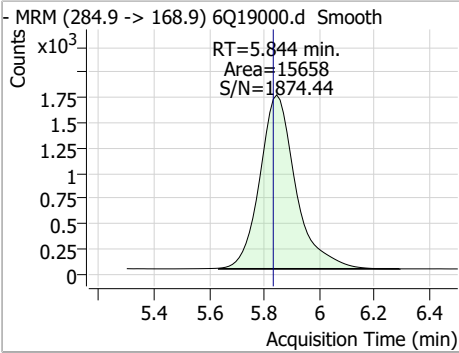
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	11.01	5.84	0.01	34252	286.9 -> 168.9			



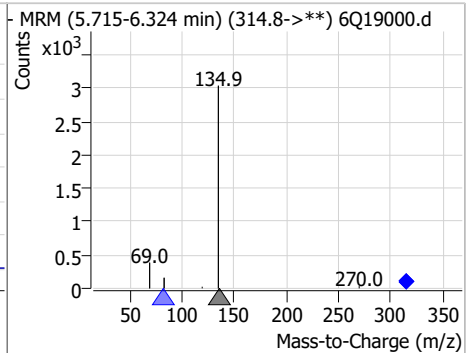
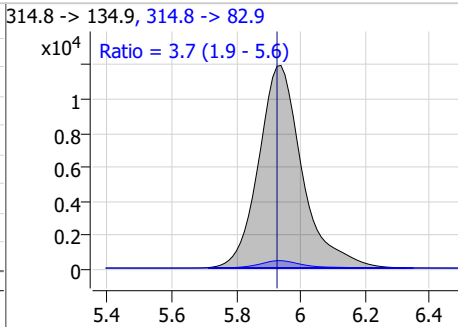
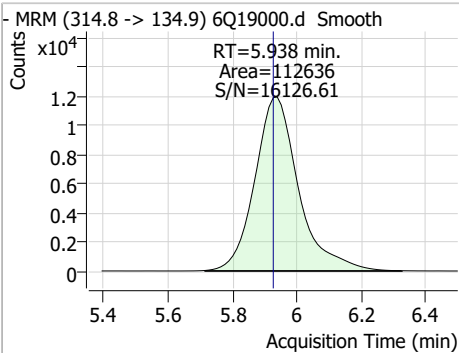
7.4.1
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Perfluorinated Compounds by LC/MS/MS

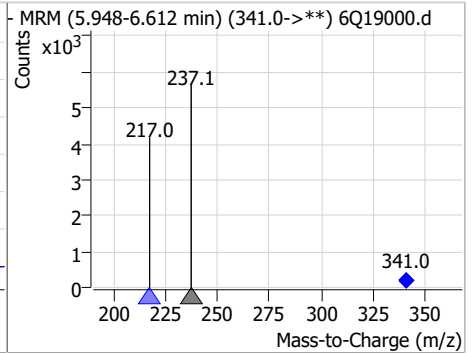
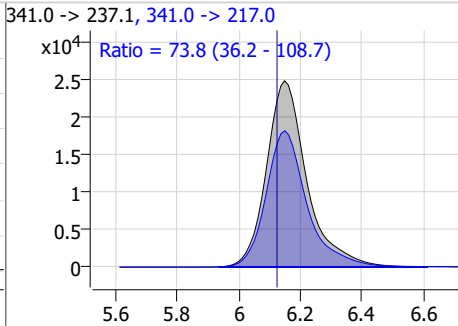
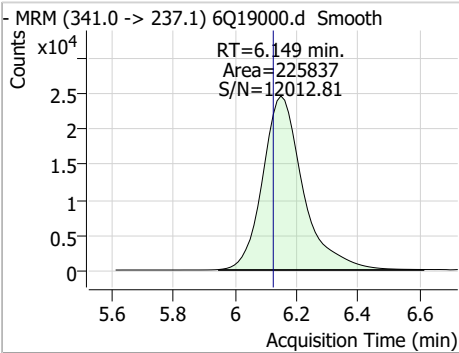
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.47	5.84	0.01	15658	284.9 -> 184.9	11.7	6.0	17.9



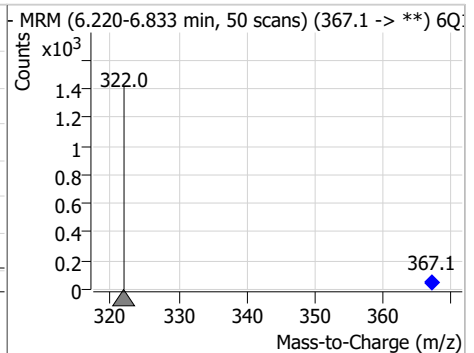
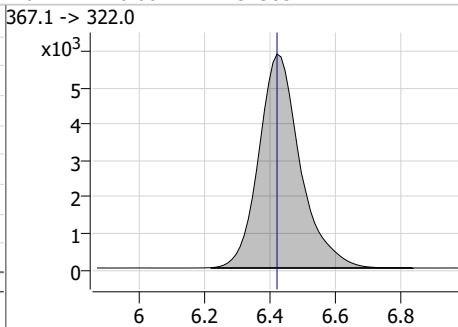
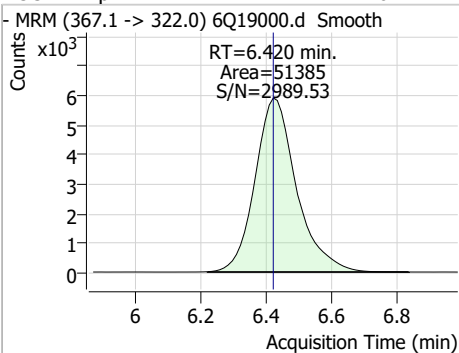
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.68	5.94	0.01	112636	314.8 -> 82.9	3.7	1.9	5.6



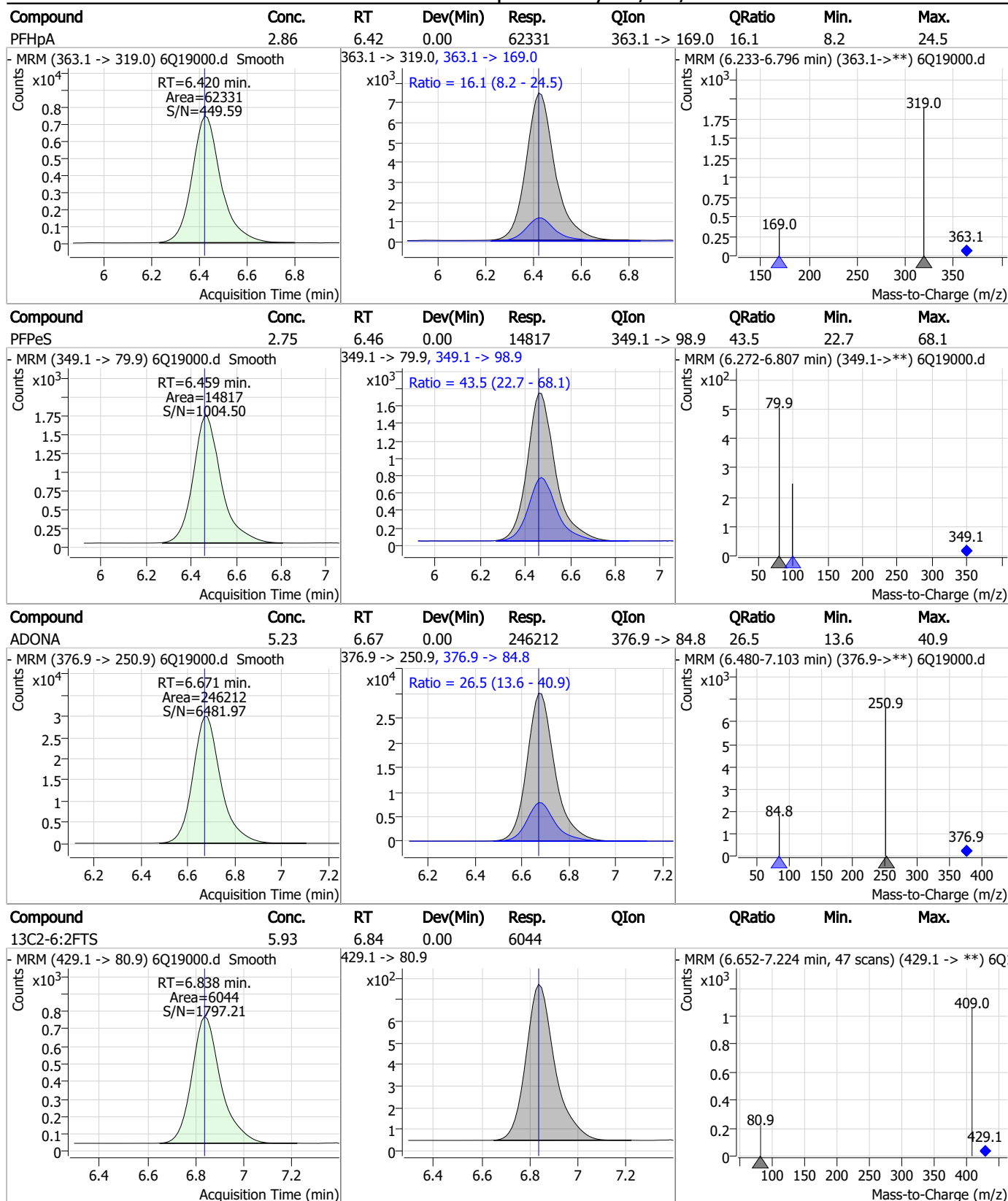
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	61.89	6.15	0.02	225837	341.0 -> 217.0	73.8	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.61	6.42	0.00	51385	367.1 -> 322.0			

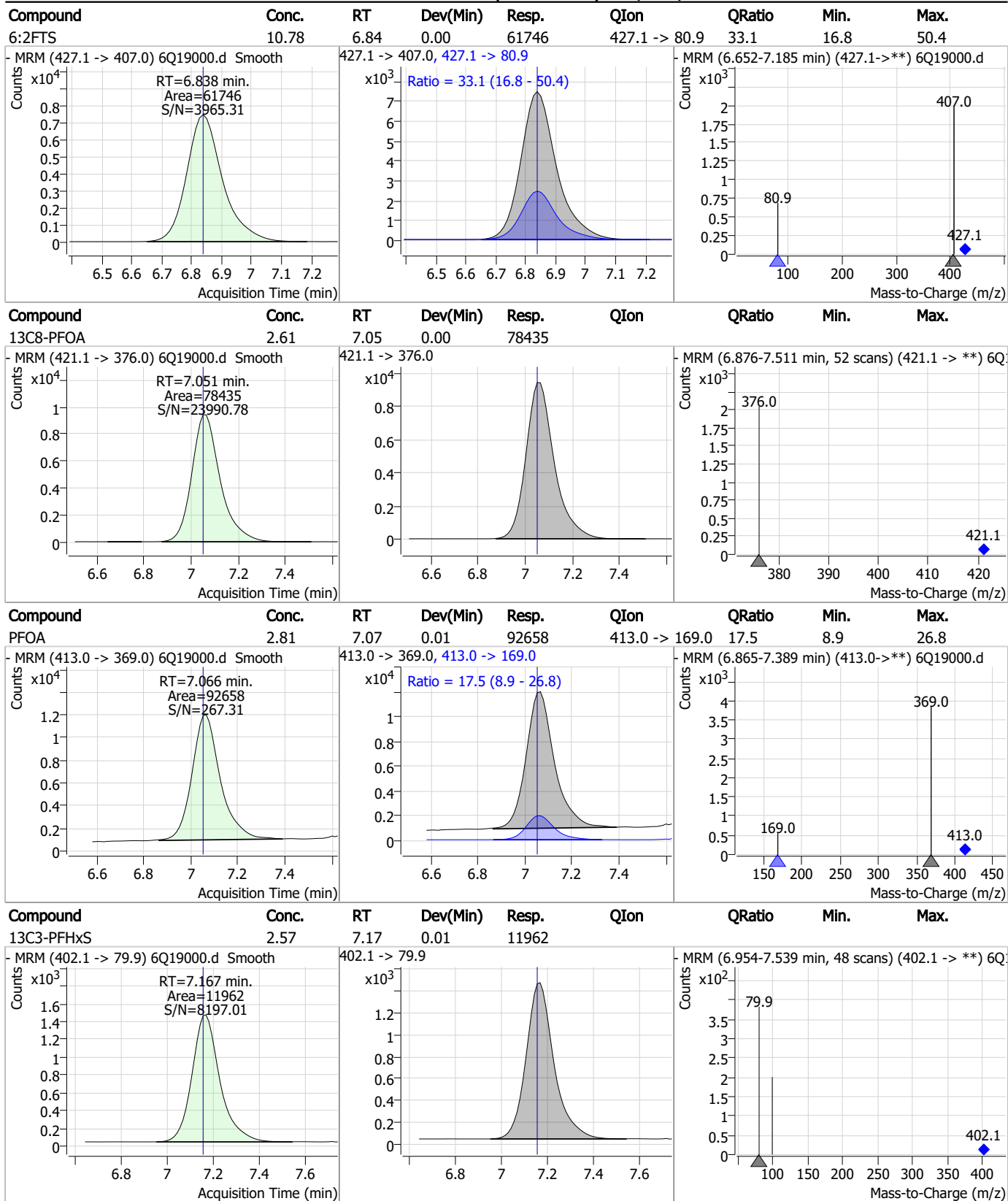


Perfluorinated Compounds by LC/MS/MS



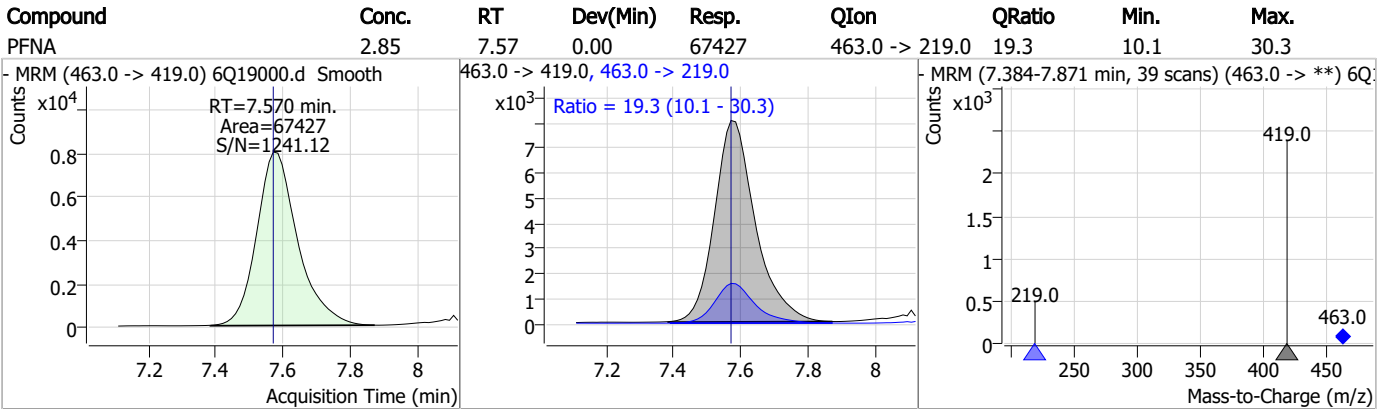
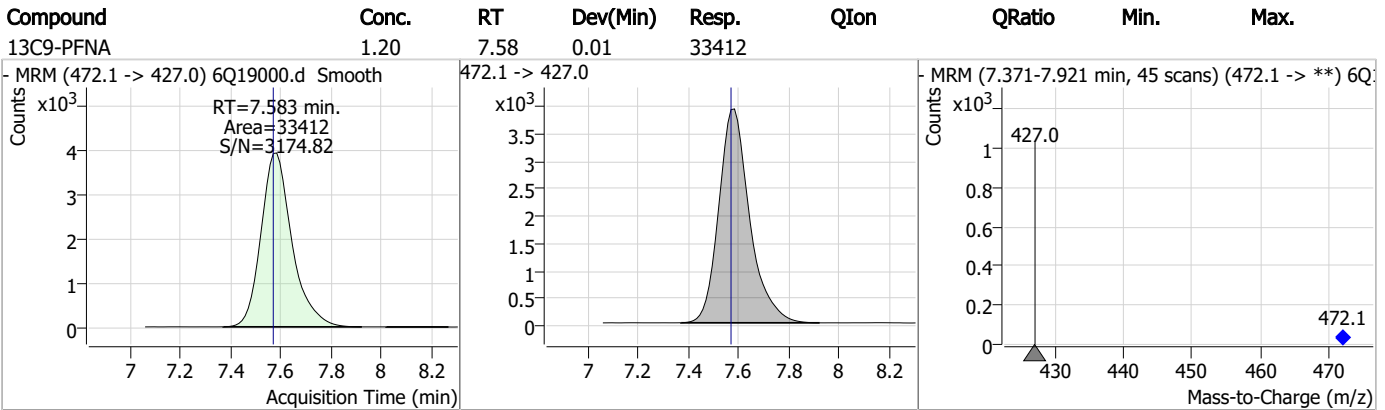
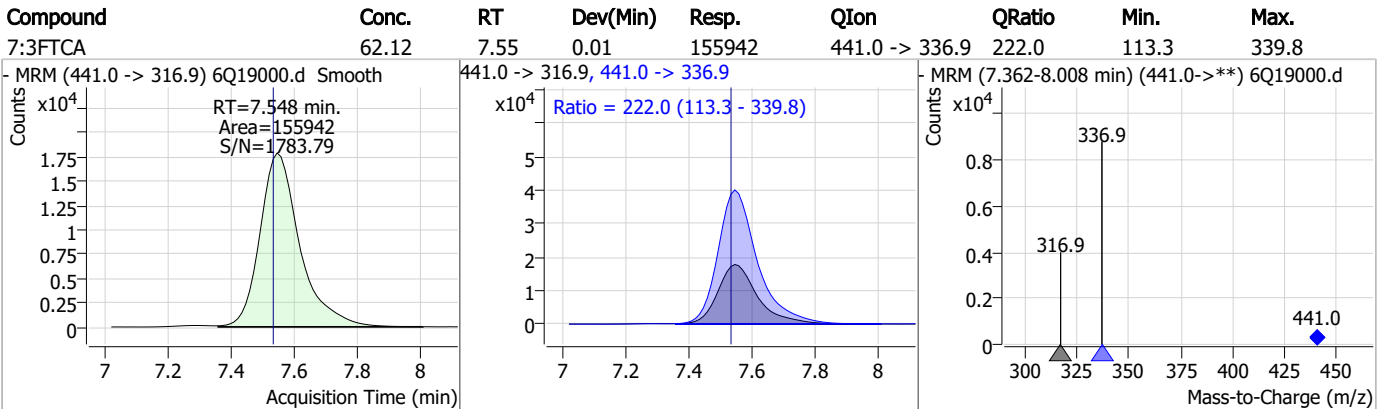
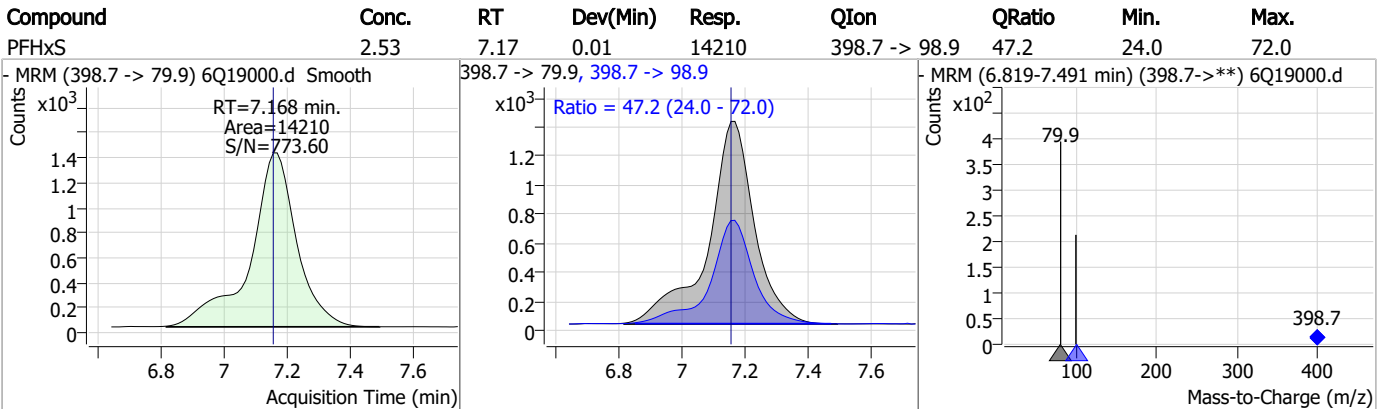
7.4.1
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Perfluorinated Compounds by LC/MS/MS



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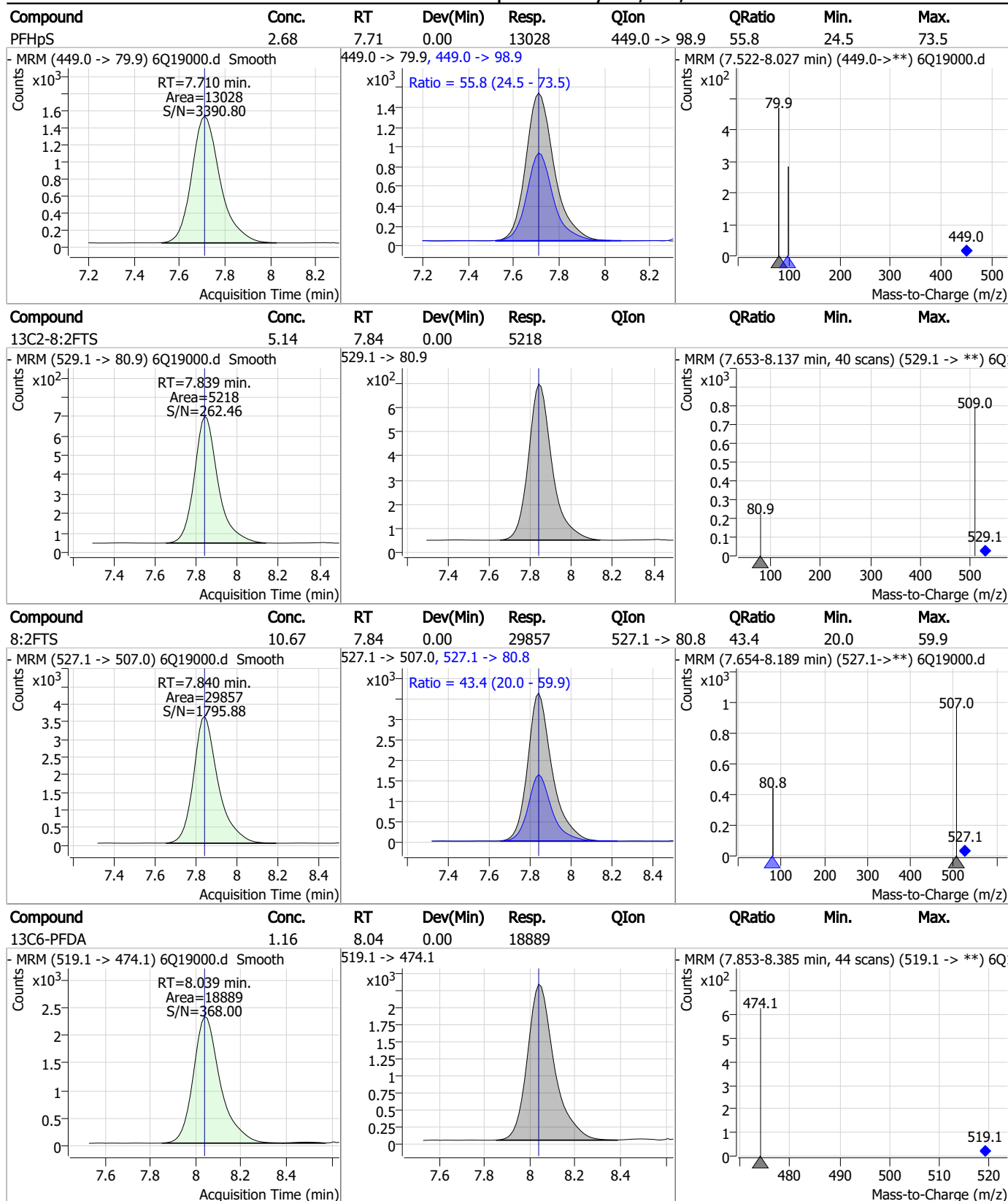
Perfluorinated Compounds by LC/MS/MS



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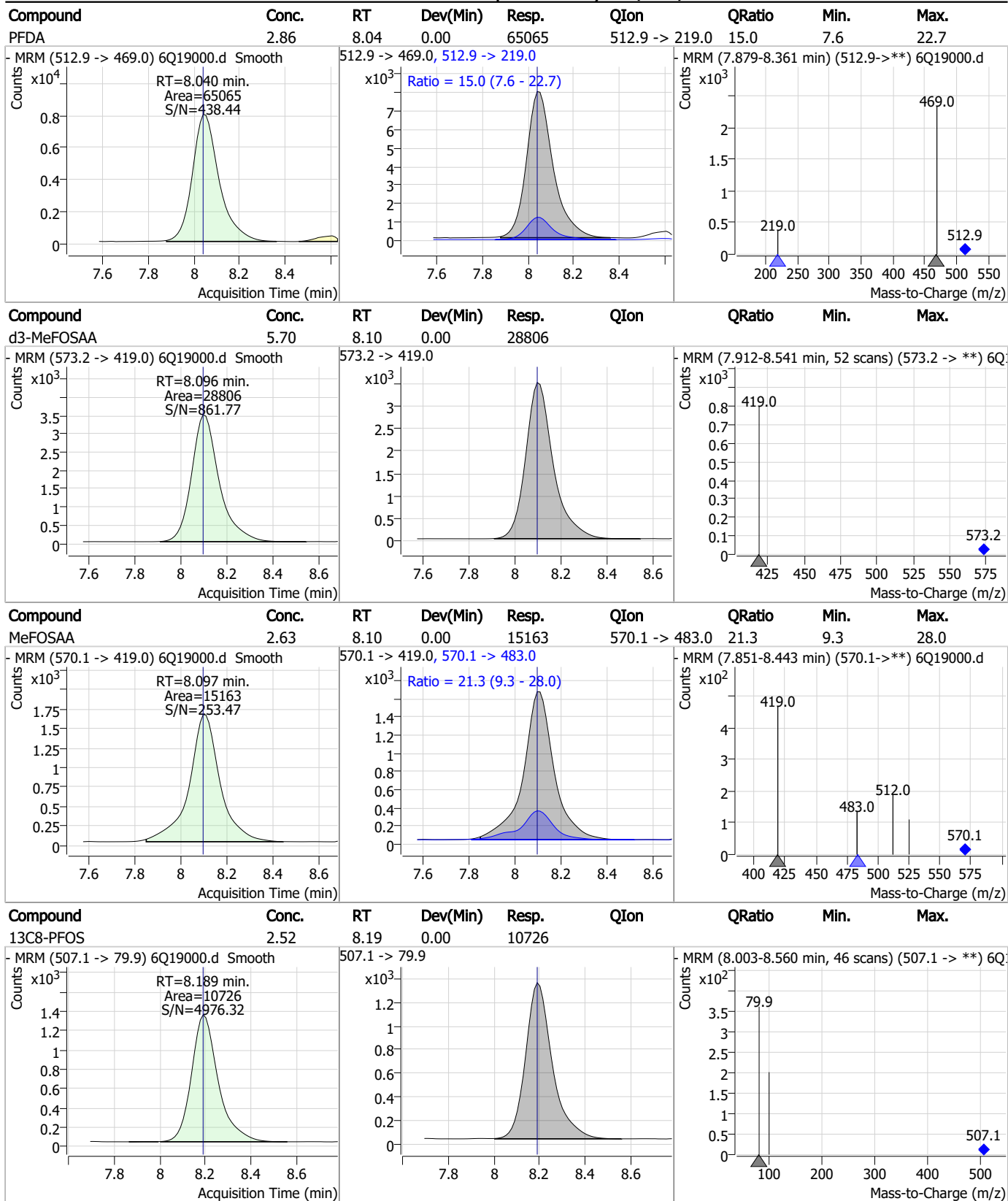
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Perfluorinated Compounds by LC/MS/MS



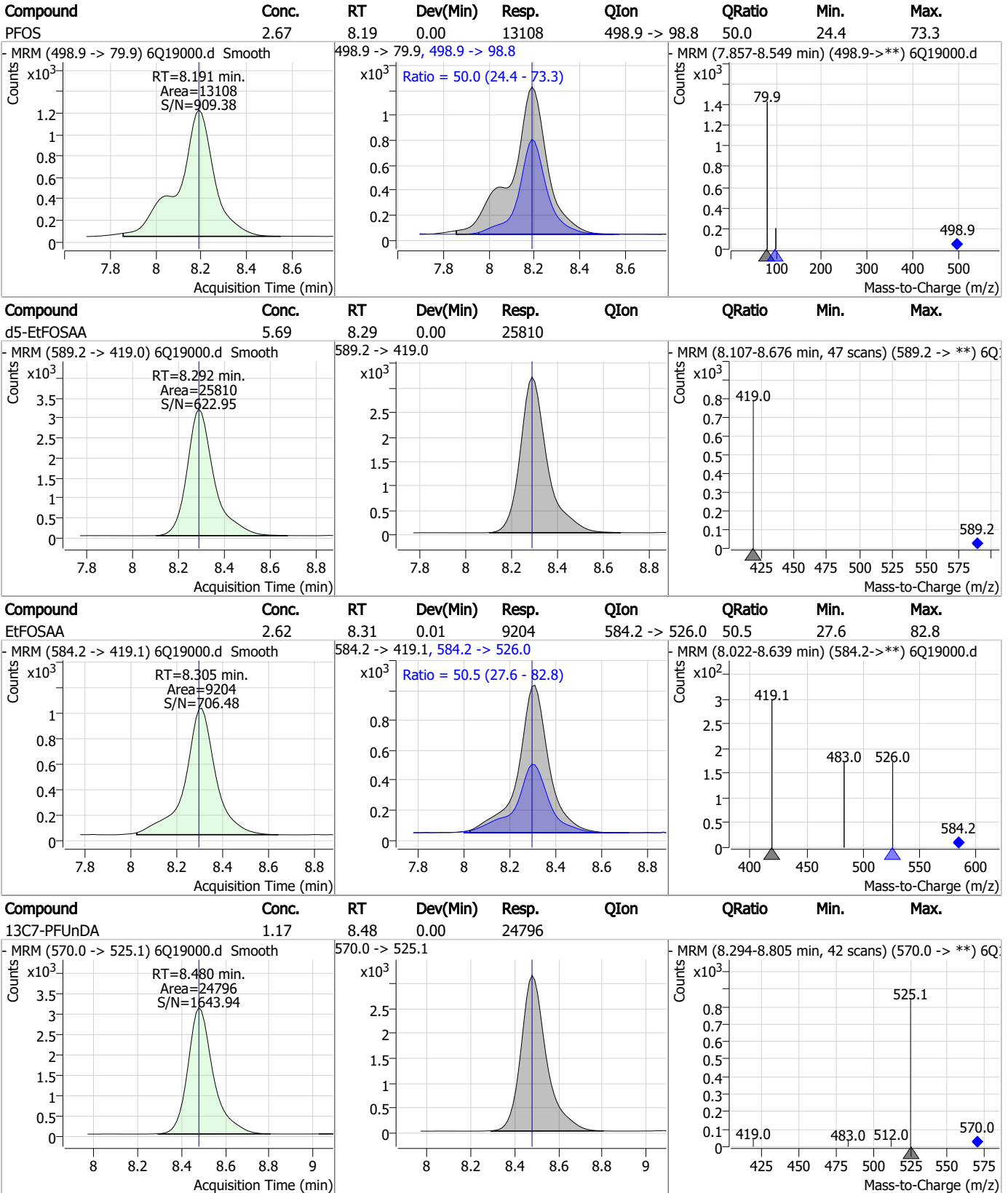
7.4.1
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

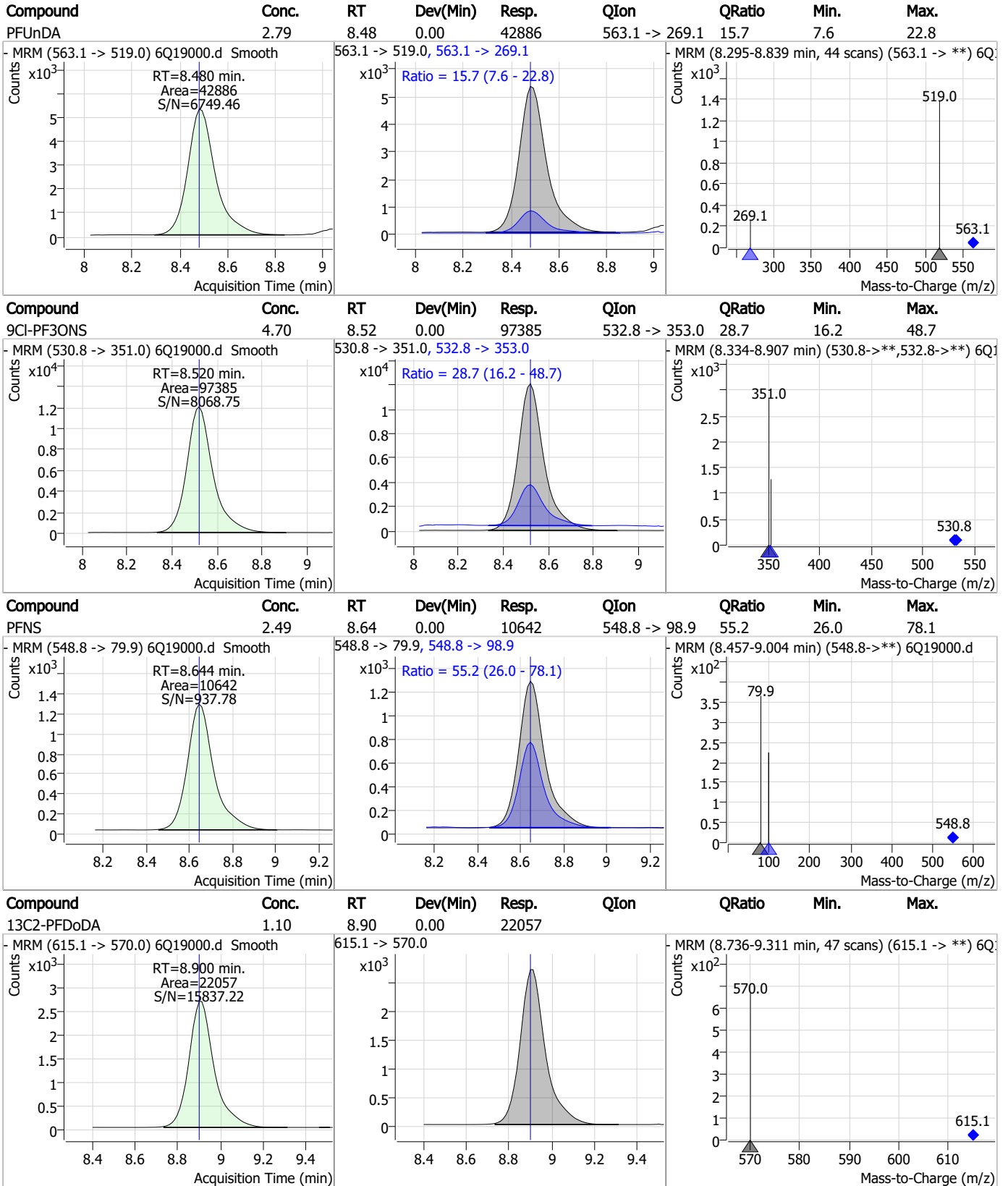


7.4.1

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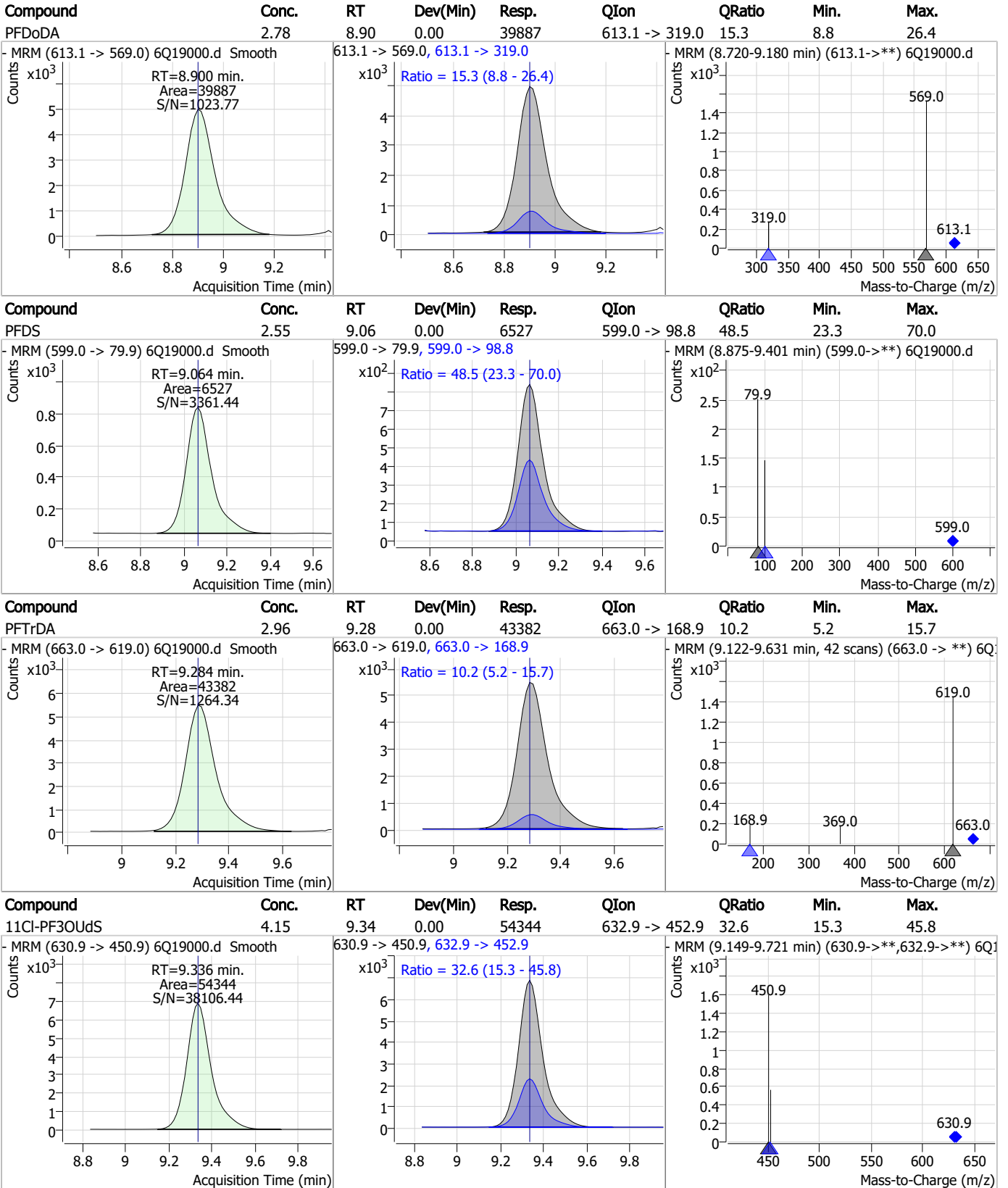
Perfluorinated Compounds by LC/MS/MS



7.4.1

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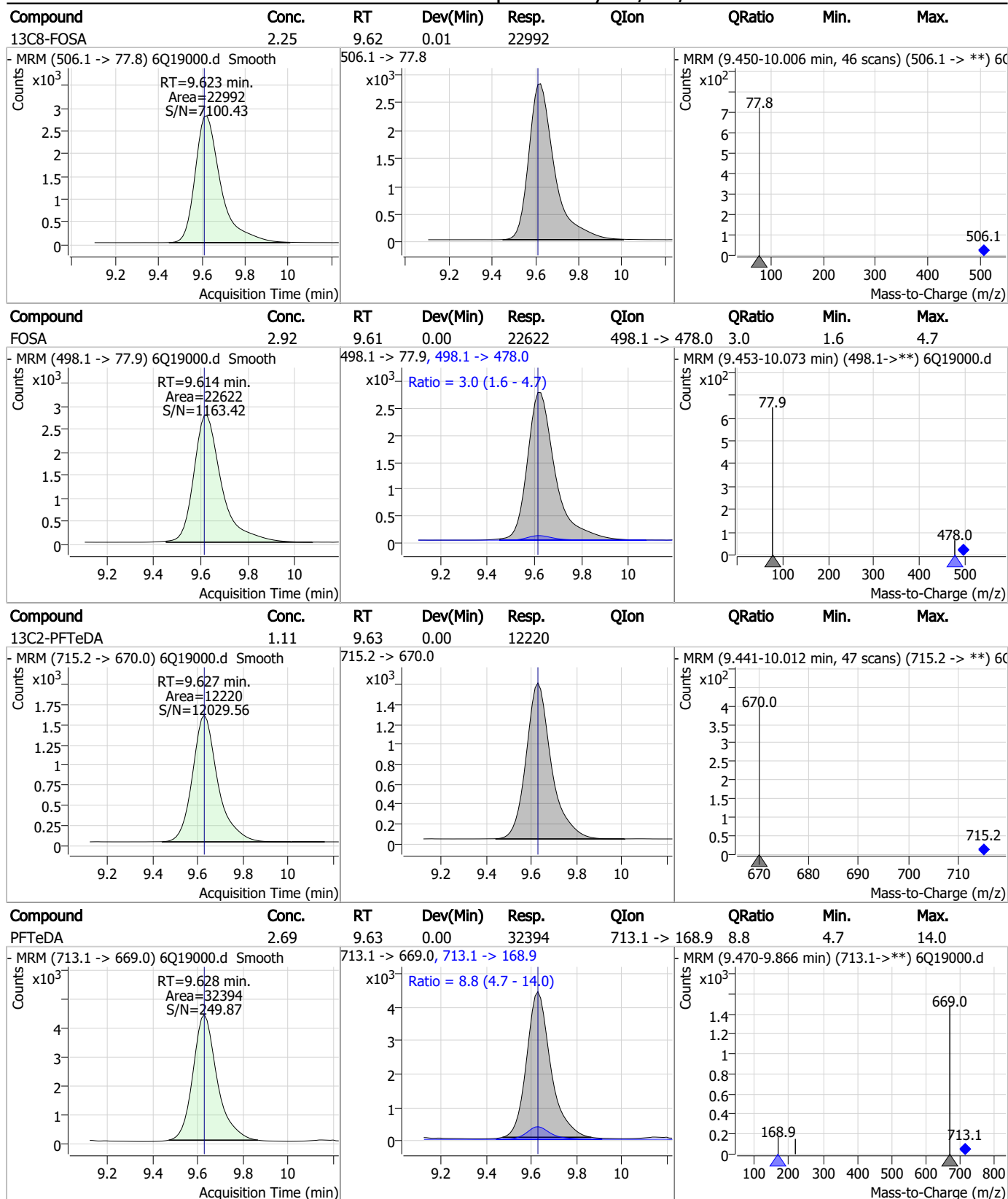
Perfluorinated Compounds by LC/MS/MS



7.4.1

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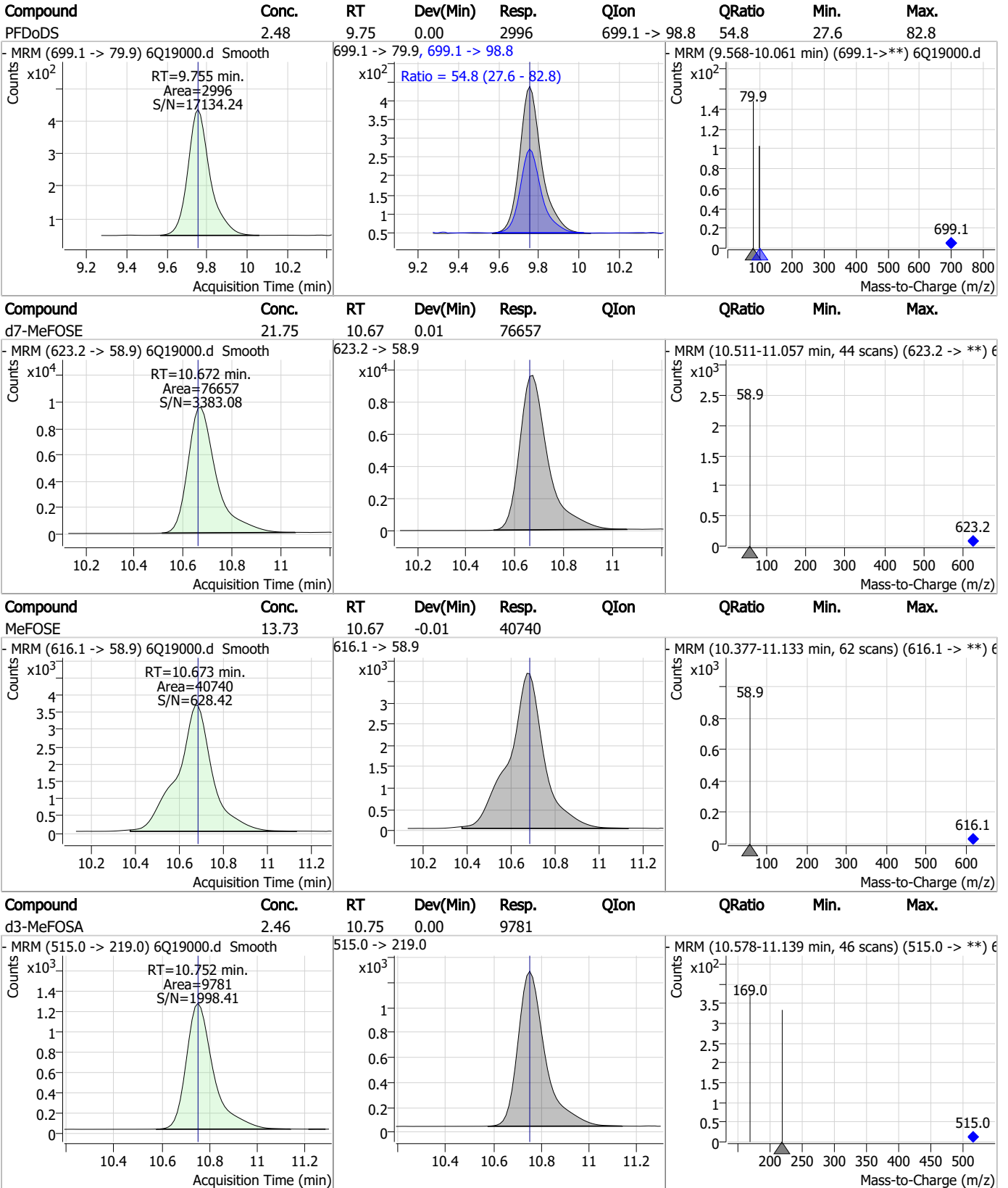
Perfluorinated Compounds by LC/MS/MS



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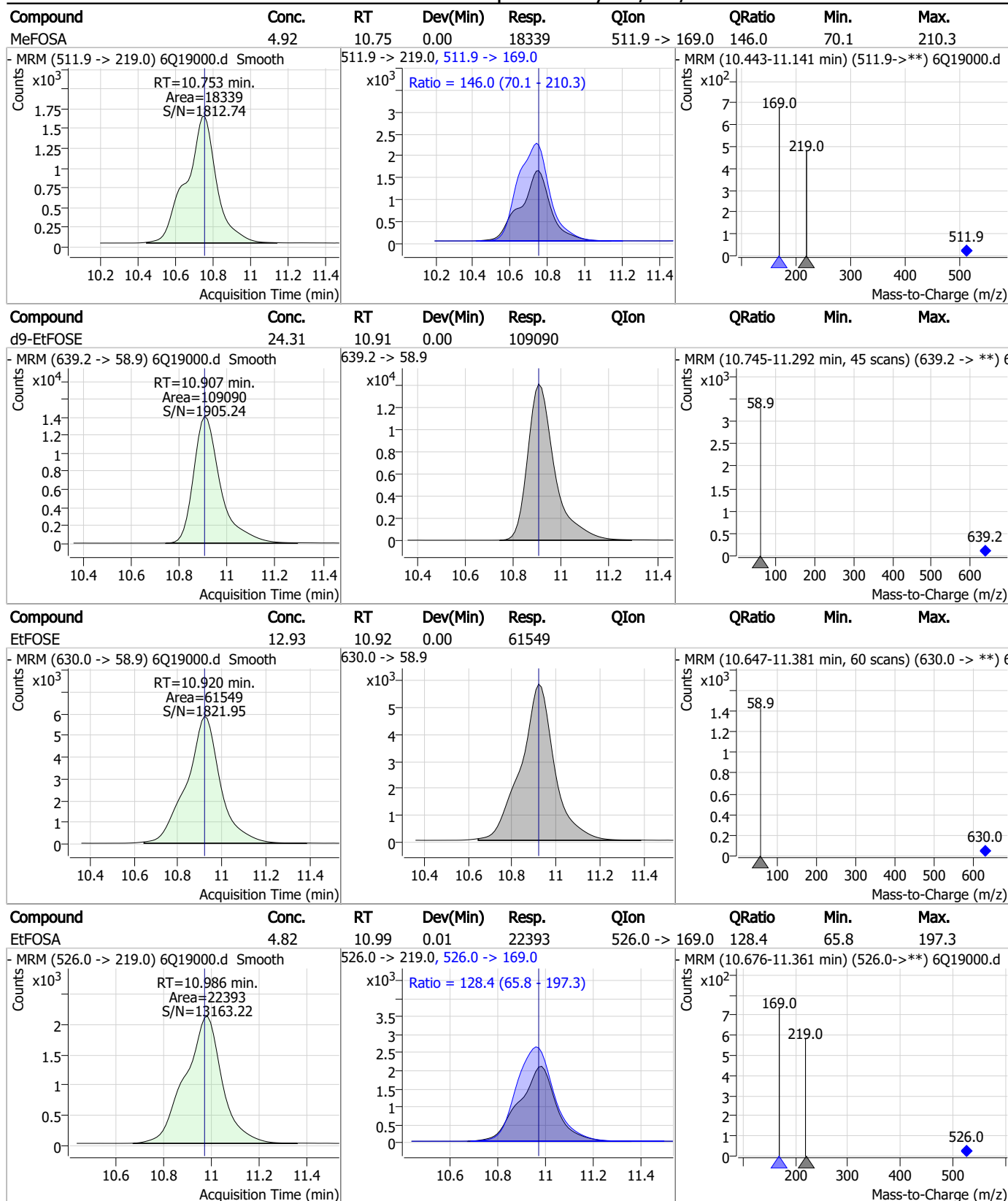
Perfluorinated Compounds by LC/MS/MS



7.4.1

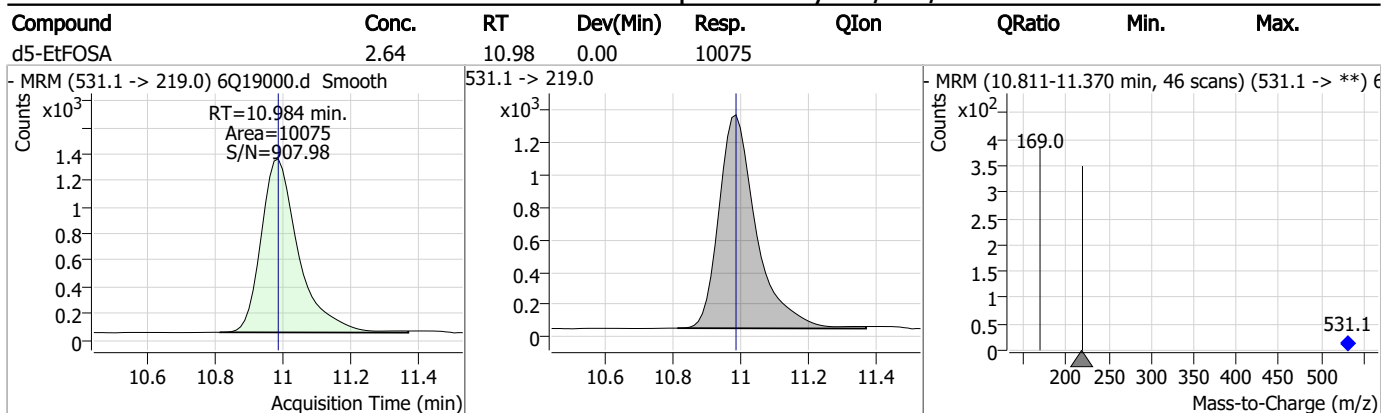
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19002.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 4:03:11 AM
 Sample Name : op97216-dup
 Vial : P3-B2
 DA Method File : 1633_060623_S6Q282.quantmethod.xml
 Batch Name : s6q283.batch.bin
 Sample Information : OP97216,S6Q283,550,,,5.0,1,water

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M4-PFBA	2.913	216.8 -> 171.9	158700	10.00 µg/L	0.053
M5-PFPeA	4.284	268.3 -> 223.0	52342	5.00 µg/L	0.012
M5-PFHxA	5.478	318.0 -> 273.0	57143	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	51750	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	79639	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	34578	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	19490	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	24825	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	21742	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	11286	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	23698	2.50 µg/L	0.012
M3-PFBS	5.397	302.1 -> 79.9	20687	2.50 µg/L	0.013
M3-PFHxS	7.155	402.1 -> 79.9	12328	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	10562	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	4156	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	5854	5.00 µg/L	0.000
M2-8:2FTS	7.827	529.1 -> 80.9	5763	5.00 µg/L	-0.012
M3-MeFOSAA	8.096	573.2 -> 419.0	28898	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	35116	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	23775	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	76347	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	104675	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	9218	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	9181	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	13454	2.50 µg/L	0.000
13C3-PFBA	2.916	216.0 -> 172.0	59377	5.00 µg/L	0.052
18O2-PFHxS	7.154	403.0 -> 83.9	7886	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	72760	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	24996	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	40238	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	45027	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	4156	6.41 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 128.2%		
13C2-6:2FTS	6.838	429.1 -> 80.9	5854	6.28 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 125.6%		
13C2-8:2FTS	7.827	529.1 -> 80.9	5763	6.21 µg/L	-0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 124.2%		
13C2-PFDoDA	8.900	615.1 -> 570.0	21742	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.2%		
13C2-PFTeDA	9.627	715.2 -> 670.0	11286	1.13 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 90.2%		
13C3-PFBS	5.397	302.1 -> 79.9	20687	2.98 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 119.4%		
13C3-PFHxS	7.155	402.1 -> 79.9	12328	2.90 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 = 115.9%	
13C4-PFBA	2.913	216.8 -> 171.9	158700	11.26 µg/L	0.053
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 112.6%	
13C4-PFHpA	6.420	367.1 -> 322.0	51750	2.88 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 115.3%	
13C5-PFHxA	5.478	318.0 -> 273.0	57143	3.00 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 119.9%	
13C5-PFPeA	4.284	268.3 -> 223.0	52342	5.99 µg/L	0.012
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.8%	
13C6-PFDA	8.039	519.1 -> 474.1	19490	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 105.1%	
13C7-PFUnDA	8.480	570.0 -> 525.1	24825	1.28 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.4%	
13C8-FOSA	9.623	506.1 -> 77.8	23698	2.42 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.8%	
13C8-PFOA	7.051	421.1 -> 376.0	79639	2.85 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 114.2%	
13C8-PFOS	8.189	507.1 -> 79.9	10562	2.59 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 103.5%	
13C9-PFNA	7.569	472.1 -> 427.0	34578	1.31 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 104.5%	
d3-MeFOSAA	8.096	573.2 -> 419.0	28898	5.96 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 119.3%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	35116	12.38 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 123.8%	
d3-MeFOSA	10.752	515.0 -> 219.0	9181	2.41 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 96.4%	
d5-EtFOSAA	8.292	589.2 -> 419.0	23775	5.47 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 109.4%	
d7-MeFOSE	10.660	623.2 -> 58.9	76347	22.61 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 90.4%	
d9-EtFOSE	10.907	639.2 -> 58.9	104675	24.34 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 97.4%	
d5-EtFOSA	10.984	531.1 -> 219.0	9218	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.9%	

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	-	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	-	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)
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	7.253	548.8 -> 98.9	0	µg/L	m	1
		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
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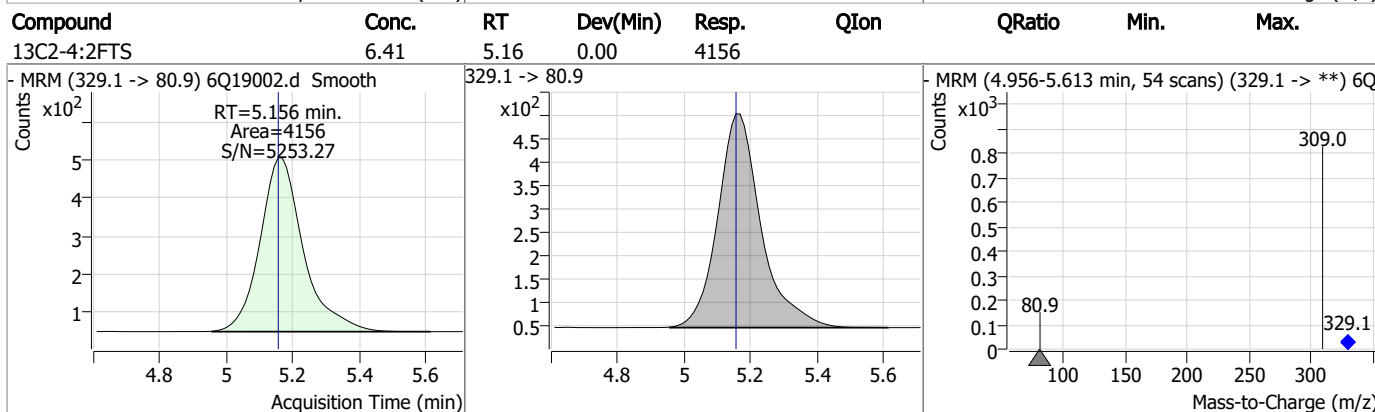
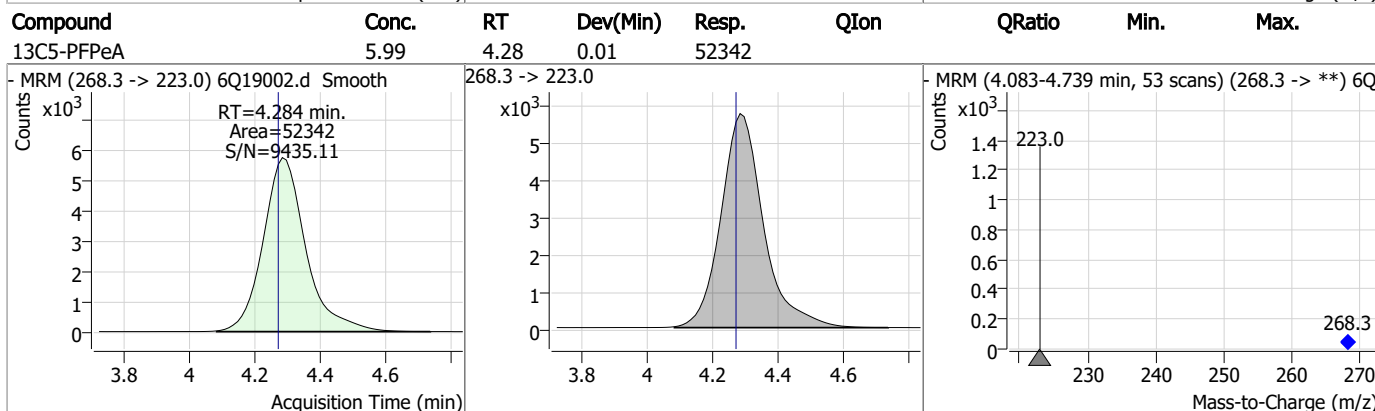
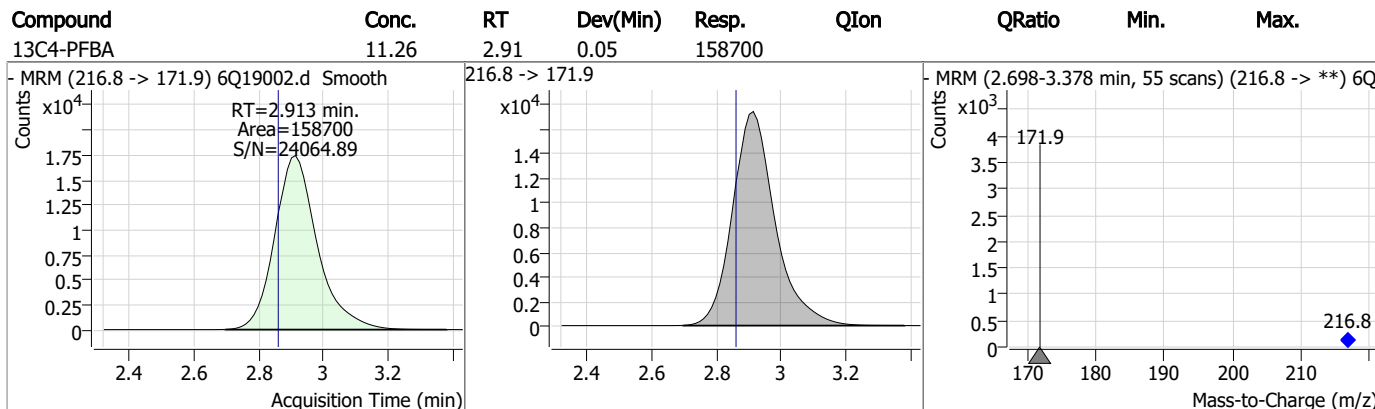
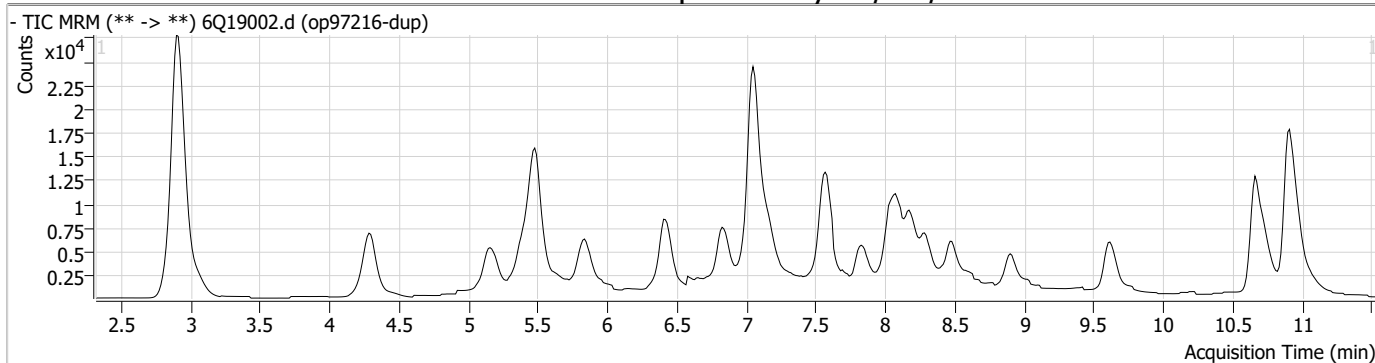
Perfluorinated Compounds by LC/MS/MS

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

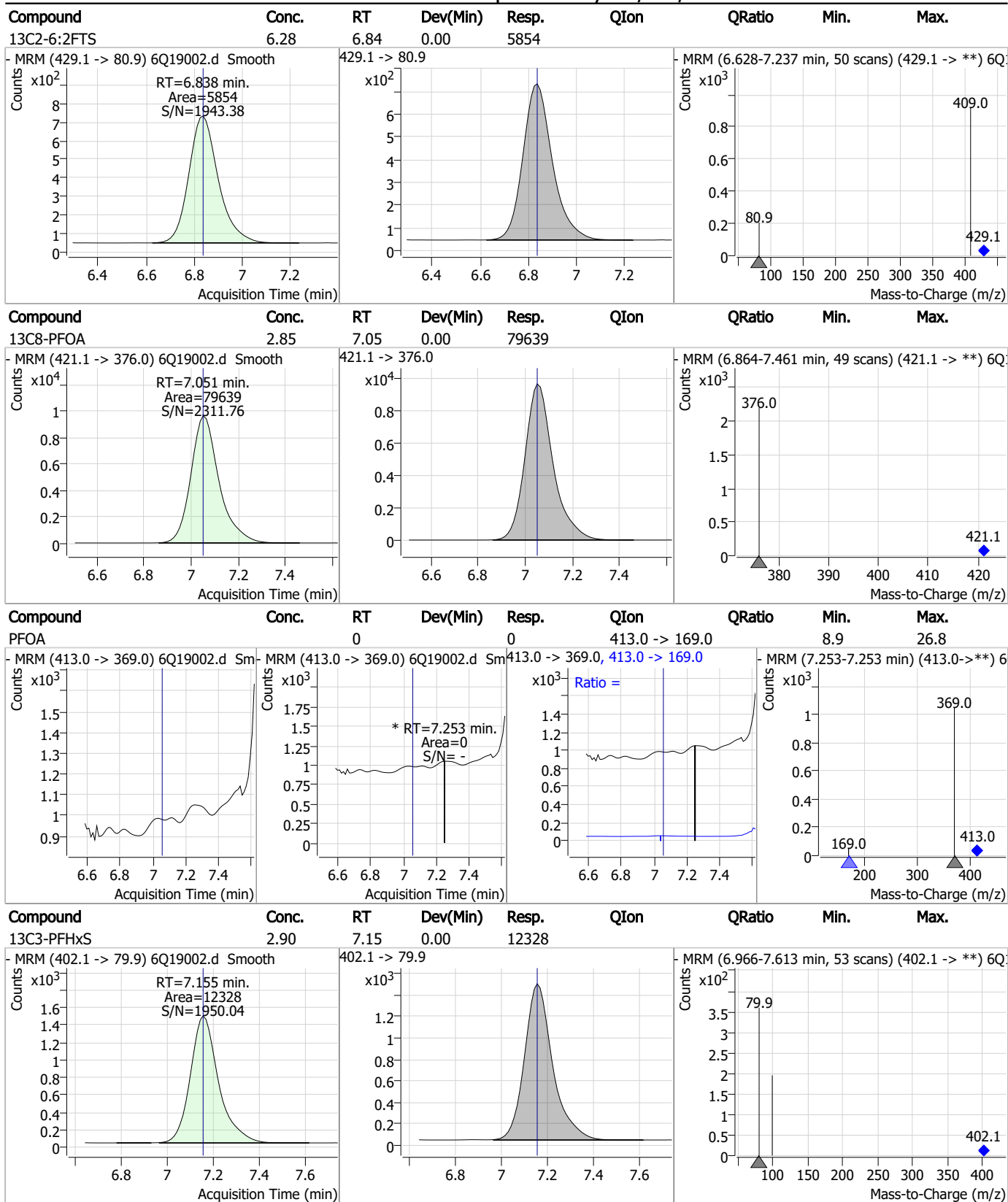


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-PFBS	2.98	5.40	0.01	20687				
13C5-PFHxA	3.00	5.48	0.00	57143				
13C3-HFPO-DA	12.38	5.84	0.01	35116				
13C4-PFHpA	2.88	6.42	0.00	51750				

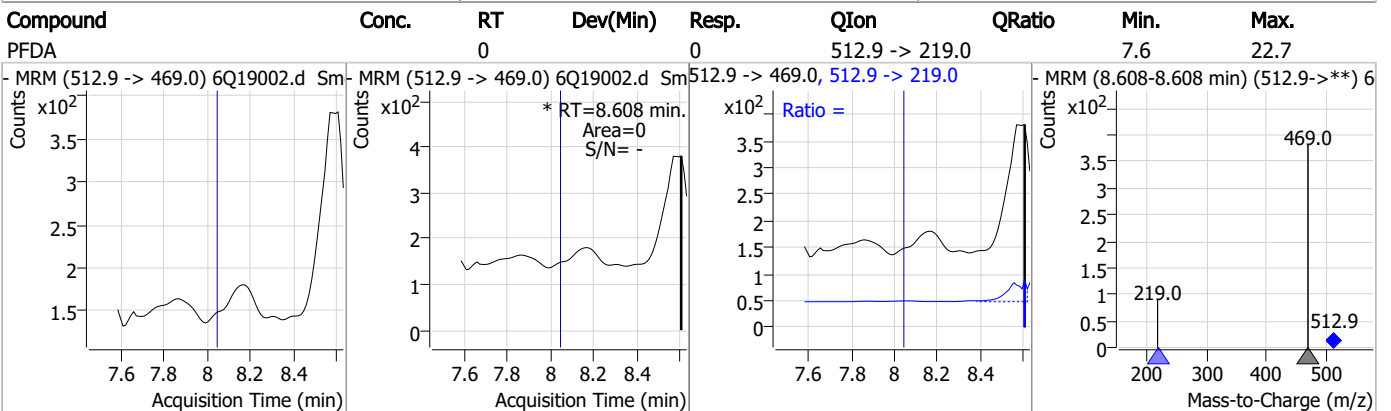
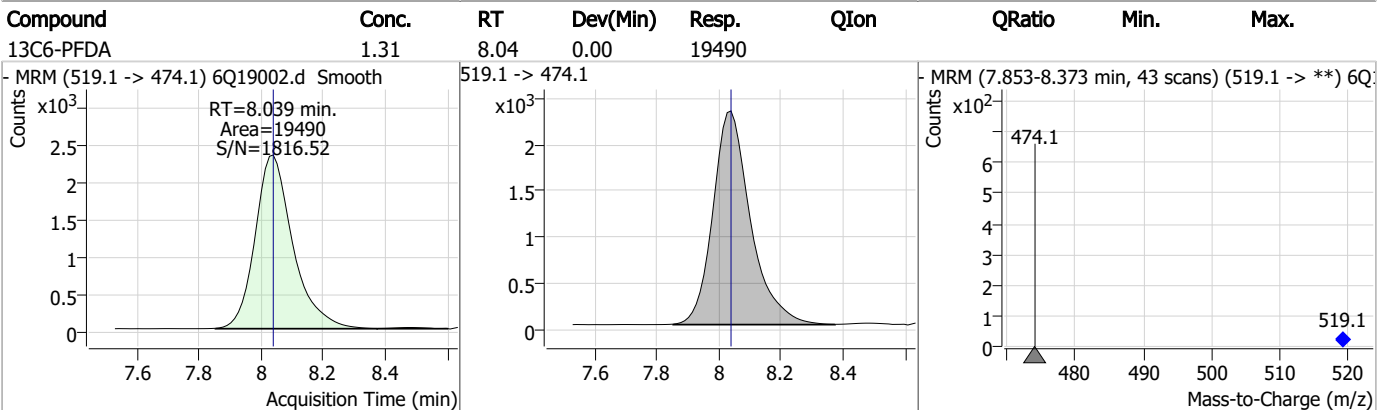
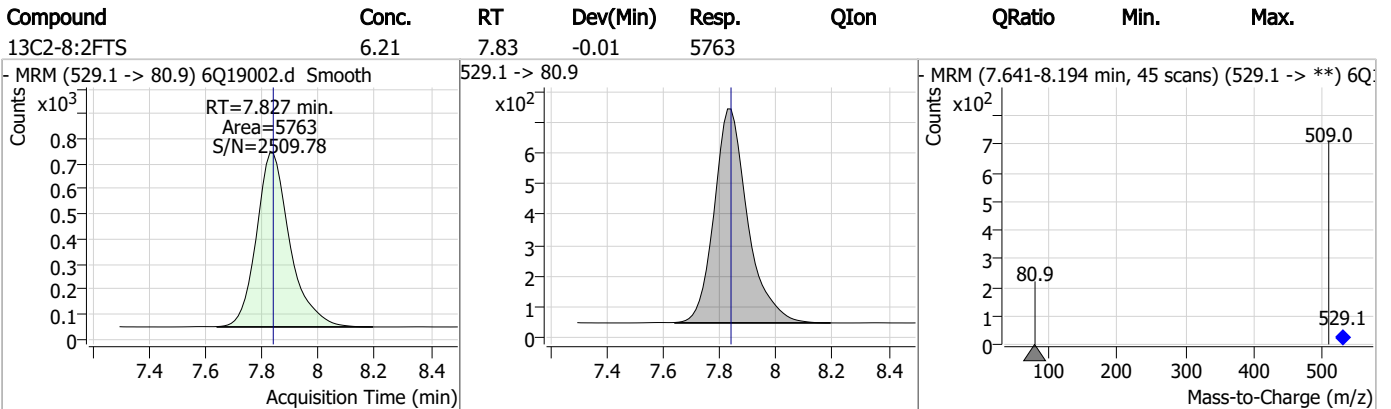
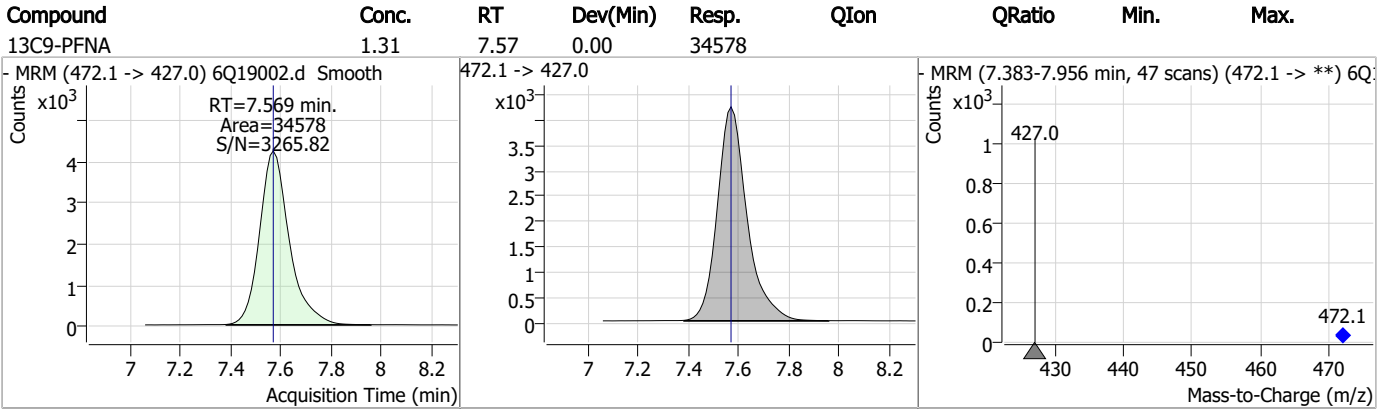
7.5.1
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Perfluorinated Compounds by LC/MS/MS

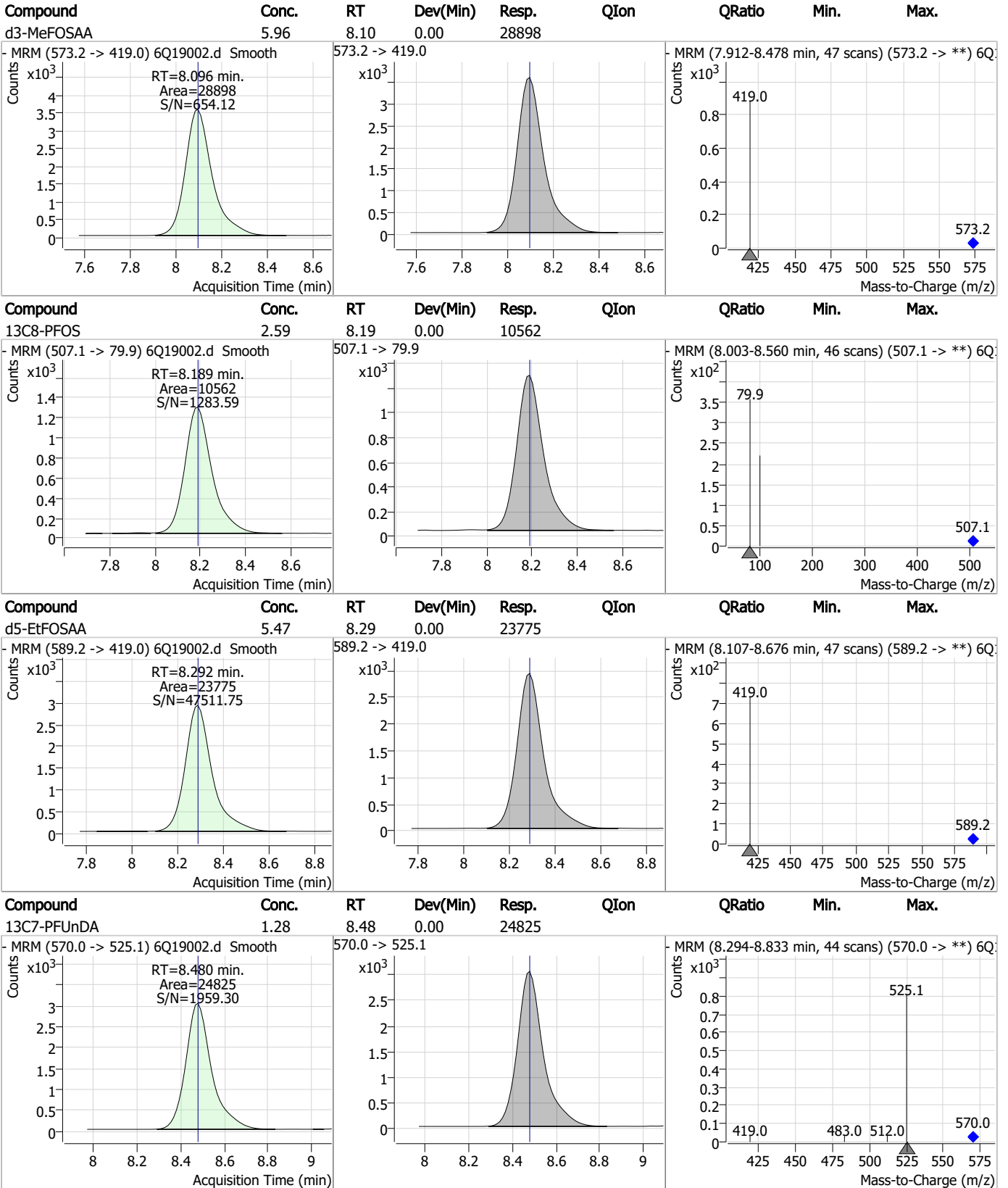


7.5.1
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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



7.5.1

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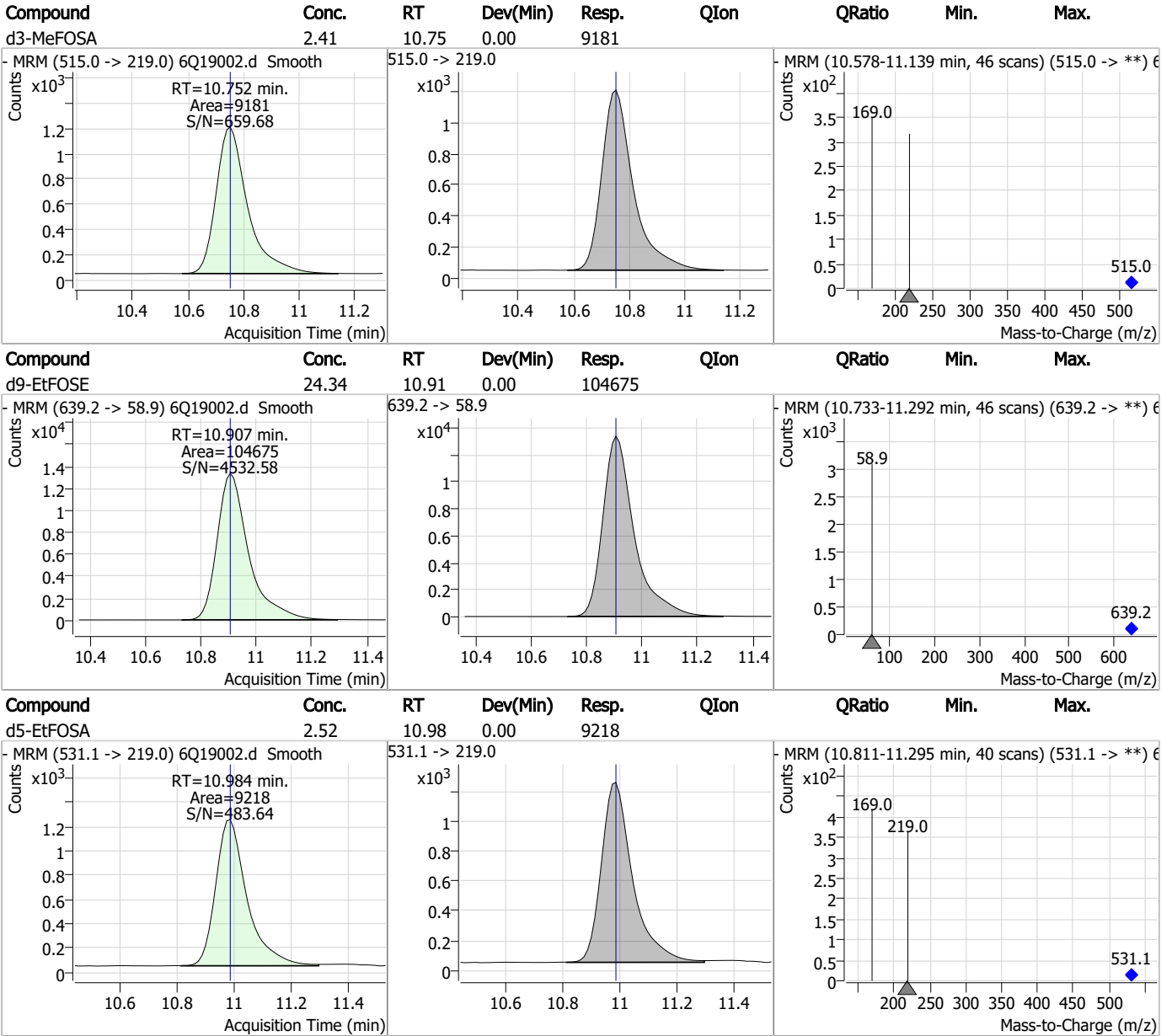
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.19	8.90	0.00	21742				
13C8-FOSA	2.42	9.62	0.01	23698				
13C2-PFTeDA	1.13	9.63	0.00	11286				
d7-MeFOSE	22.61	10.66	0.00	76347				

7.5.1

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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

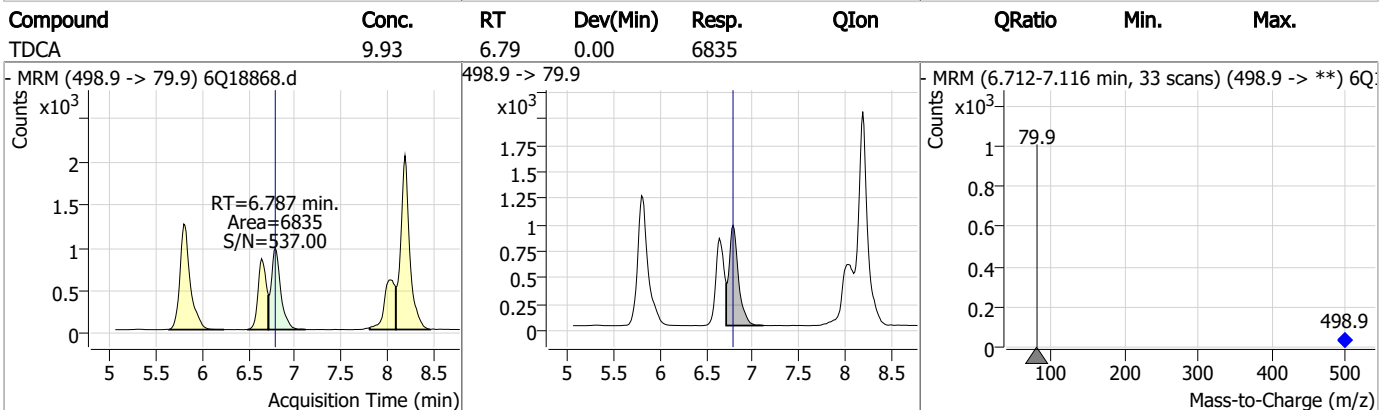
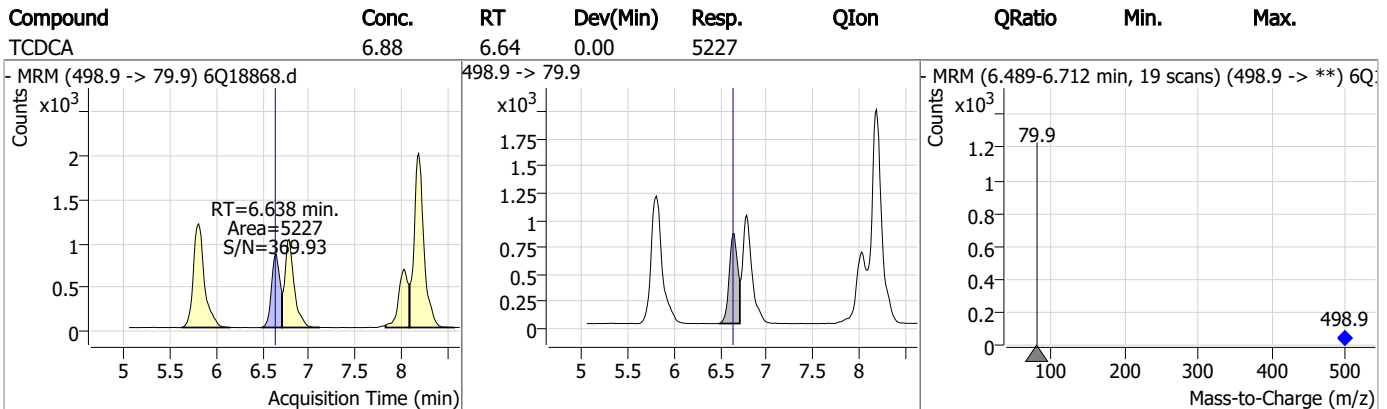
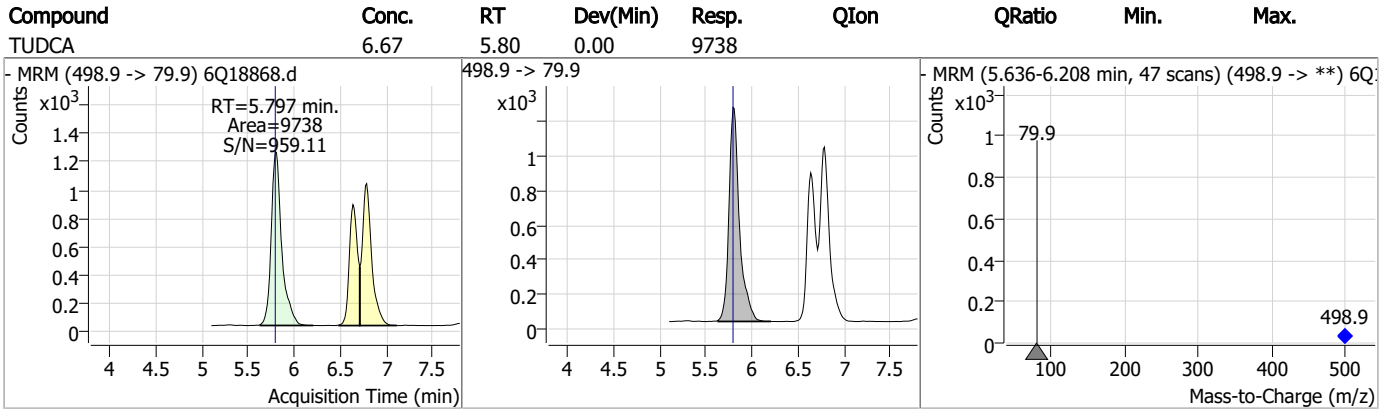
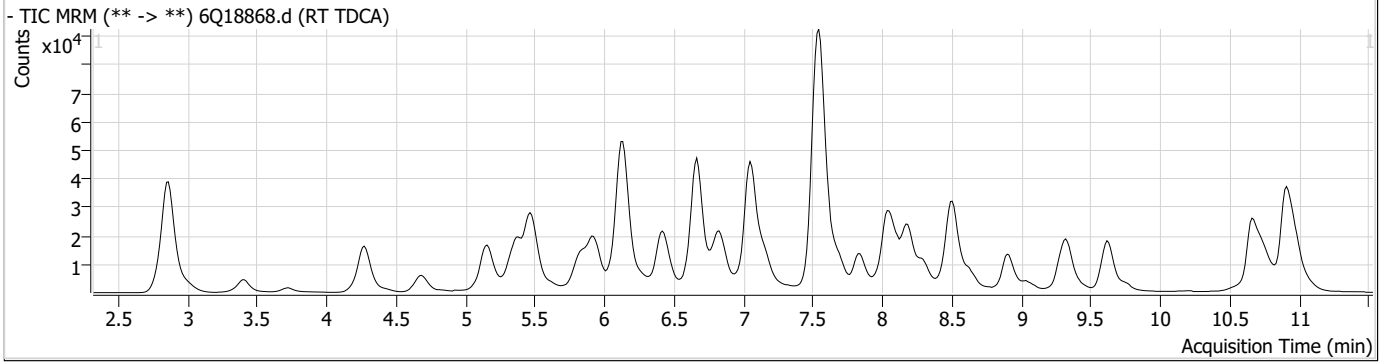
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M8-PFOS	8.189	507.1 -> 79.9	16472	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	23669	2.50 µg/L	0.000
System Monitoring Compounds					
13C8-PFOS	8.189	507.1 -> 79.9	16472	1.77 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		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

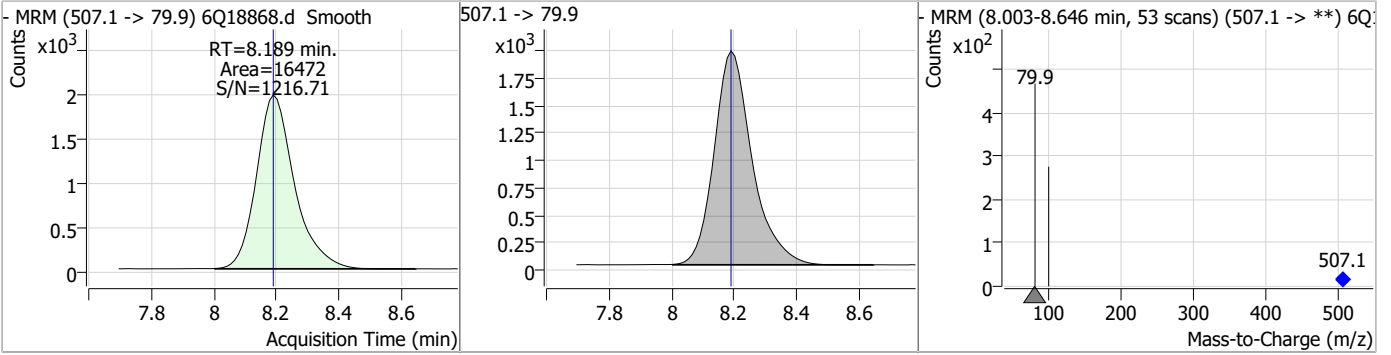
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Perfluorinated Compounds by LC/MS/MS

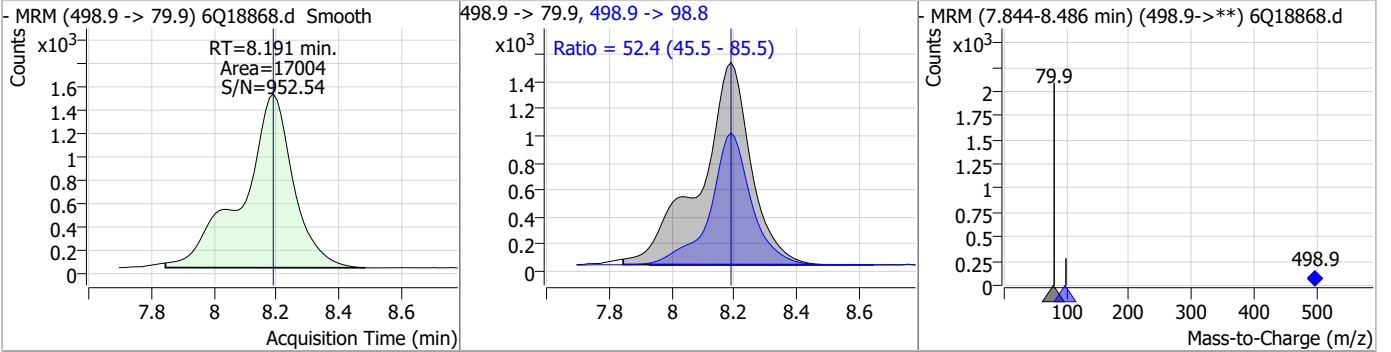


Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	1.77	8.19	0.00	16472				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	3.02	8.19	0.00	17004	498.9 -> 98.8	52.4	45.5	85.5



7.6.1

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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
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 = 99.7%	
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

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	24.15	µg/L	100
		314.8 -> 82.9	20682			
PFMPA	3.401			21.59	µg/L	99
PFEESA	5.926					

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

7.6.2
7

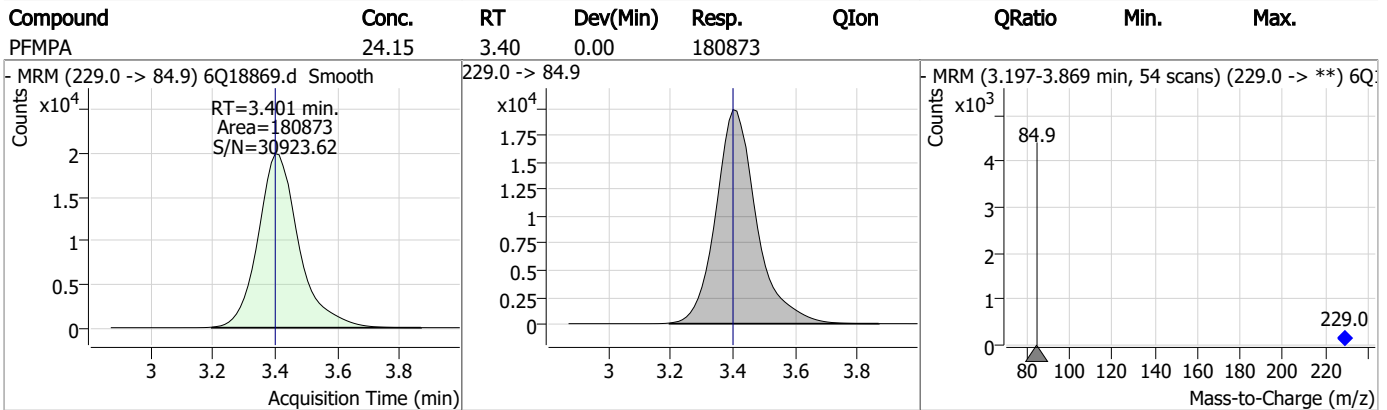
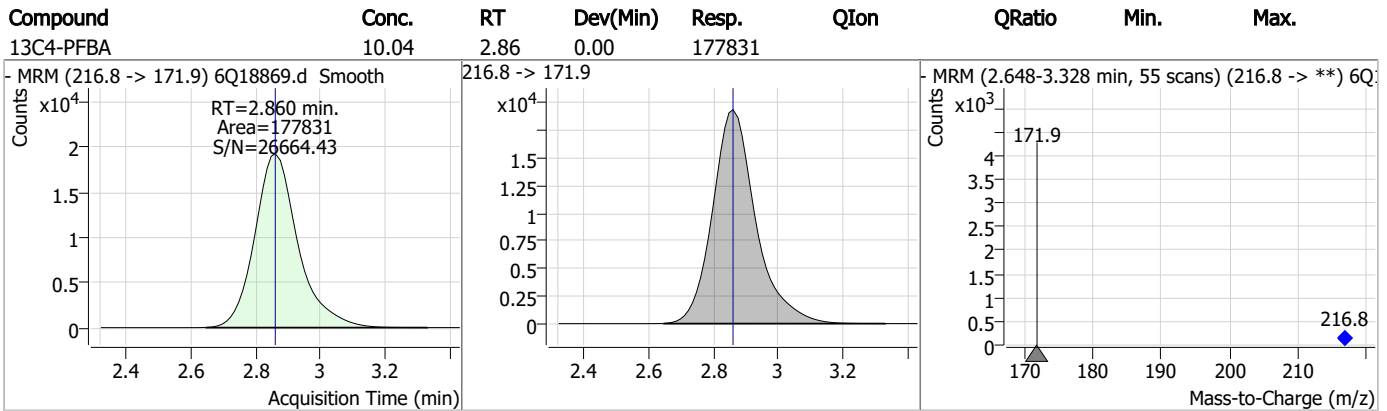
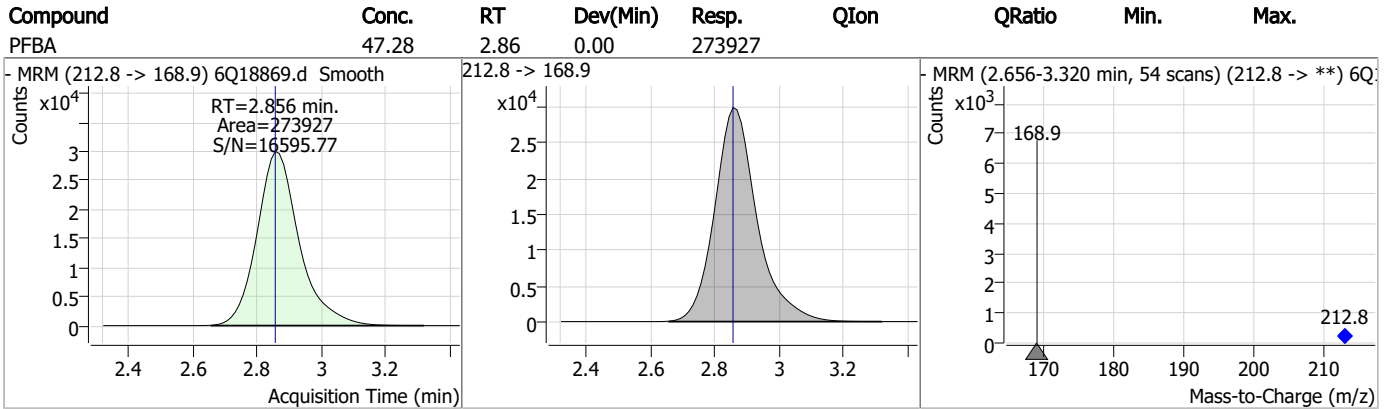
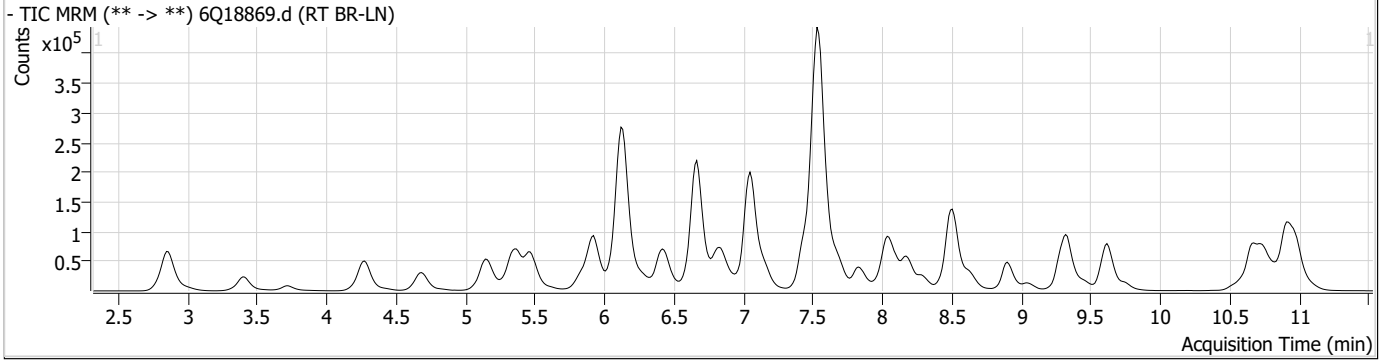
Perfluorinated Compounds by LC/MS/MS

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

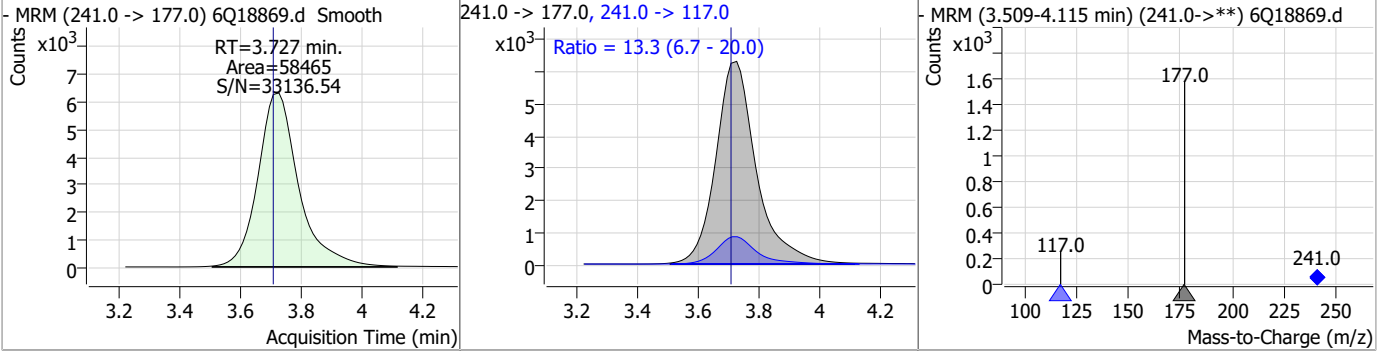
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Perfluorinated Compounds by LC/MS/MS

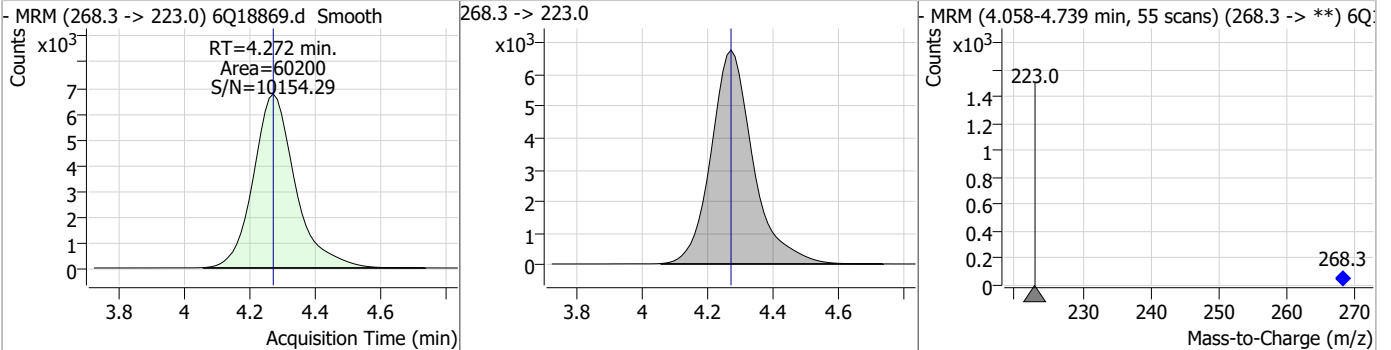


Perfluorinated Compounds by LC/MS/MS

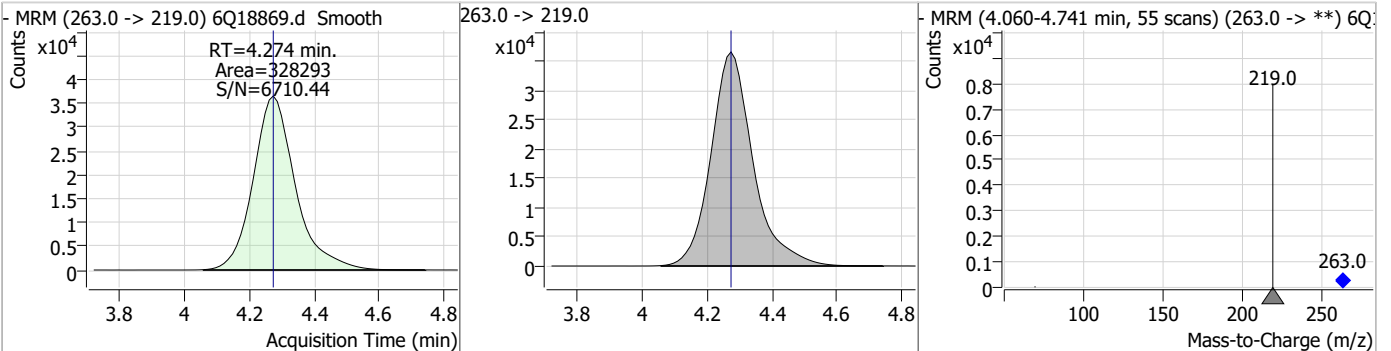
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	58.05	3.73	0.02	58465	241.0 -> 117.0	13.3	6.7	20.0



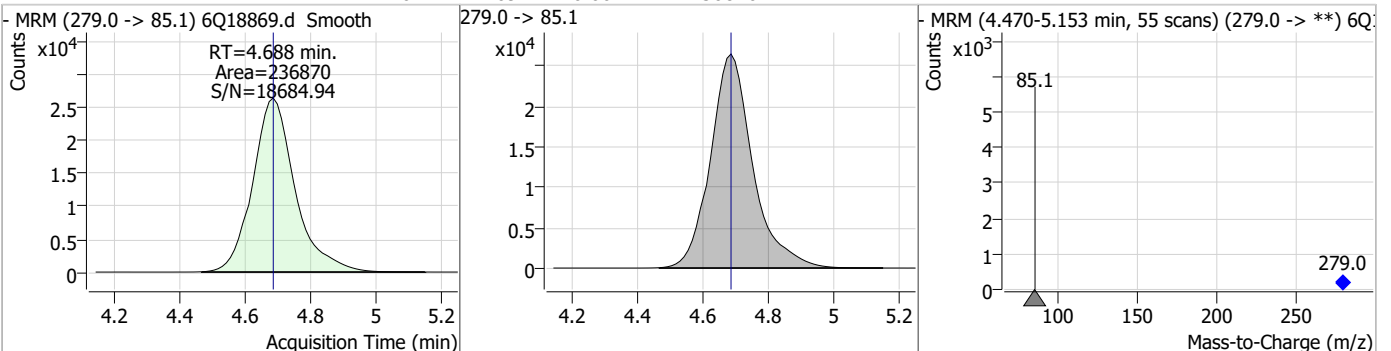
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.05	4.27	0.00	60200				



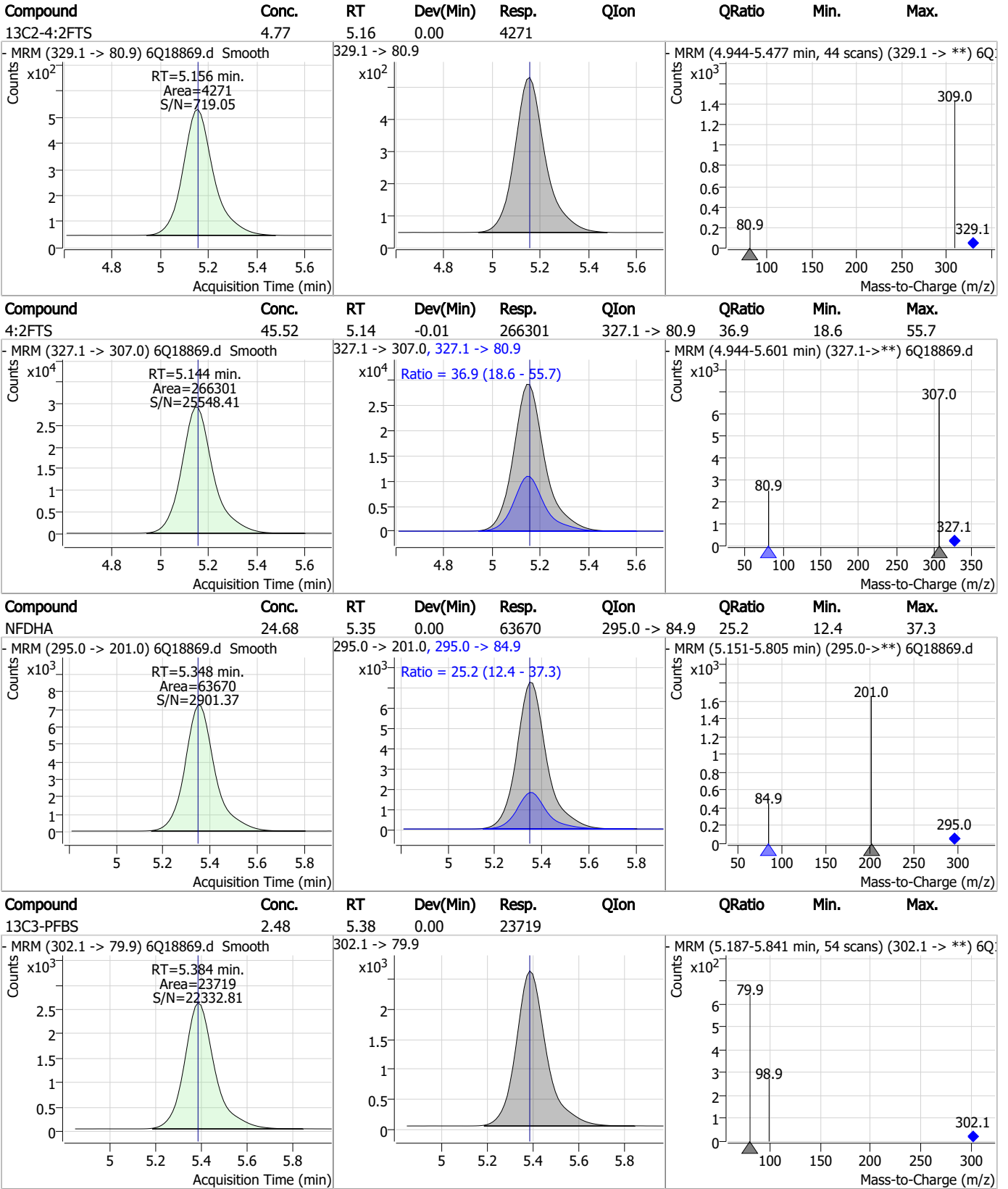
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	23.09	4.27	0.00	328293				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	24.10	4.69	0.00	236870				



Perfluorinated Compounds by LC/MS/MS

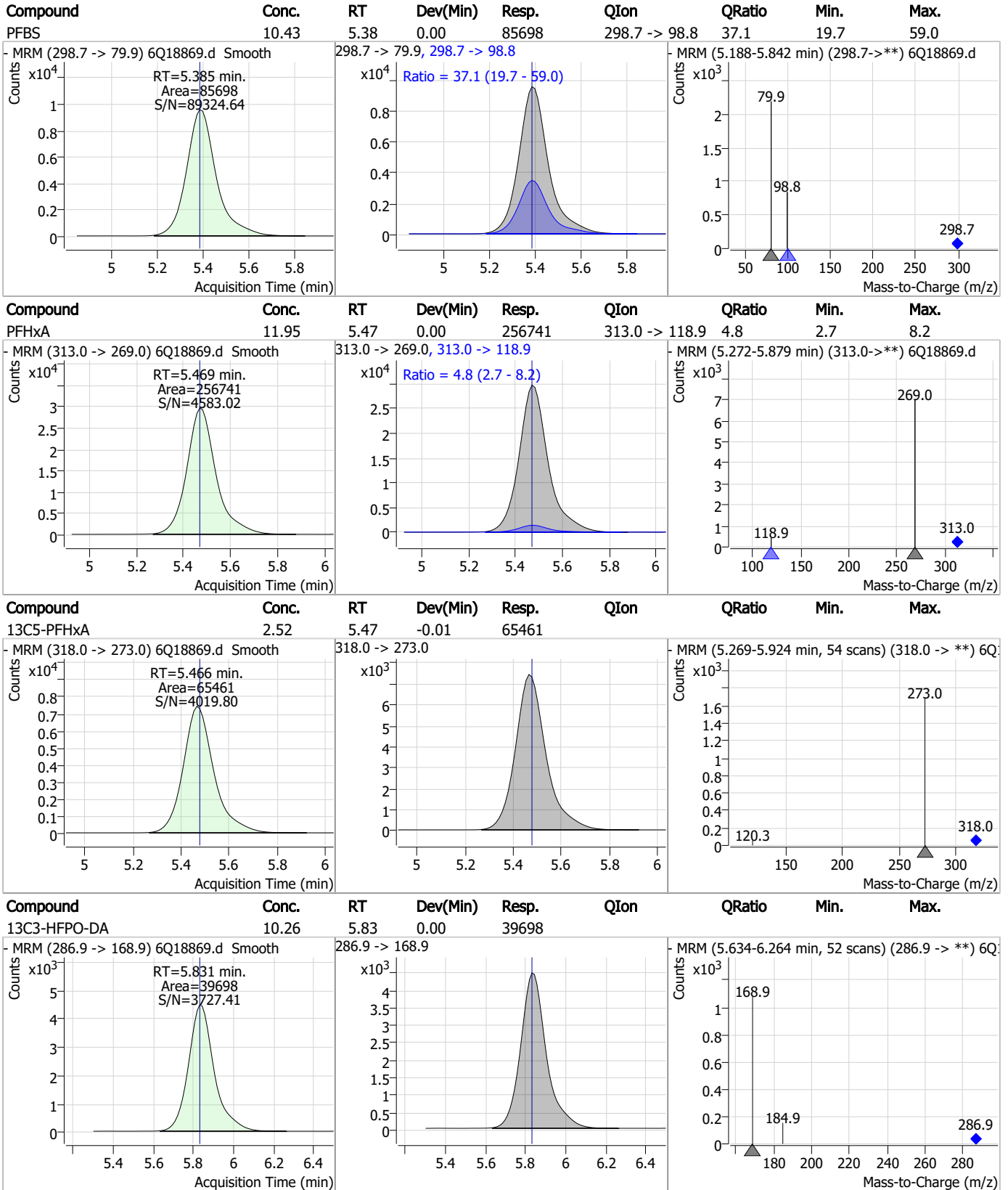


7.6.2

7



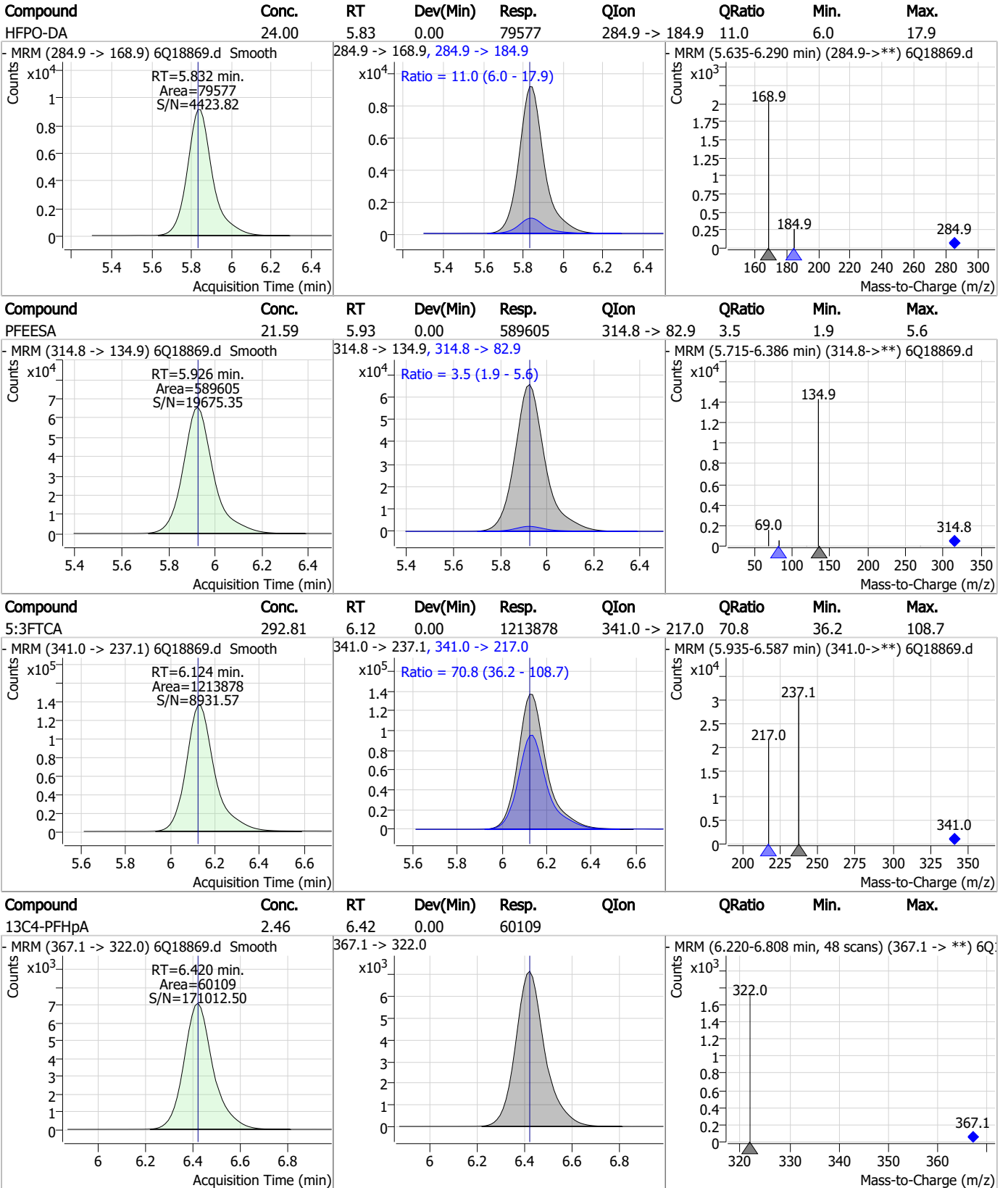
Perfluorinated Compounds by LC/MS/MS



7.6.2

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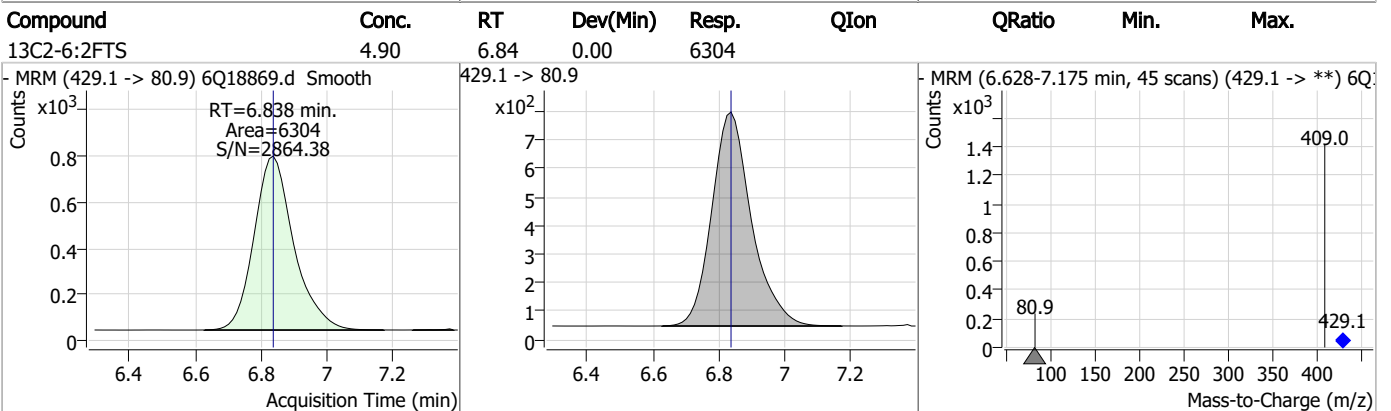
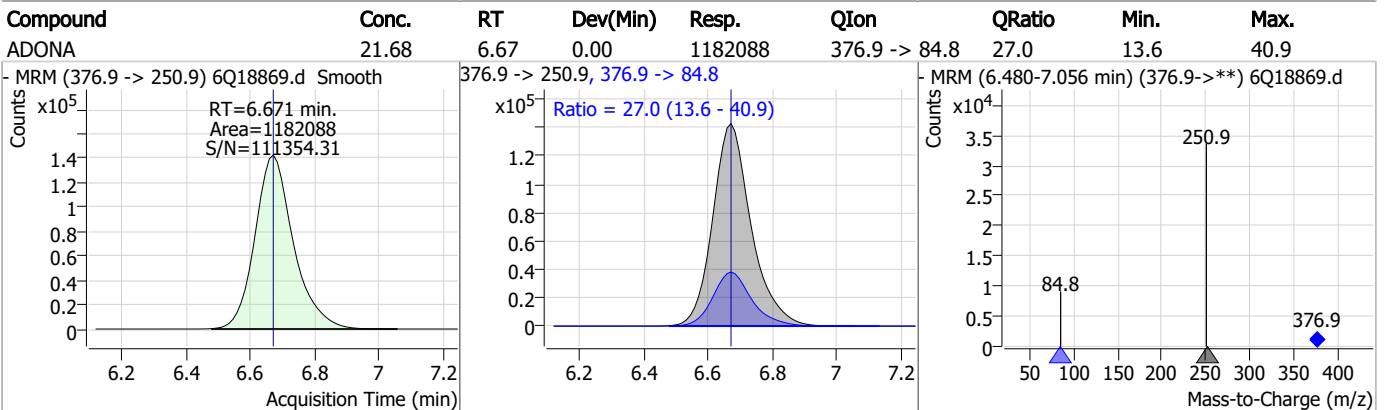
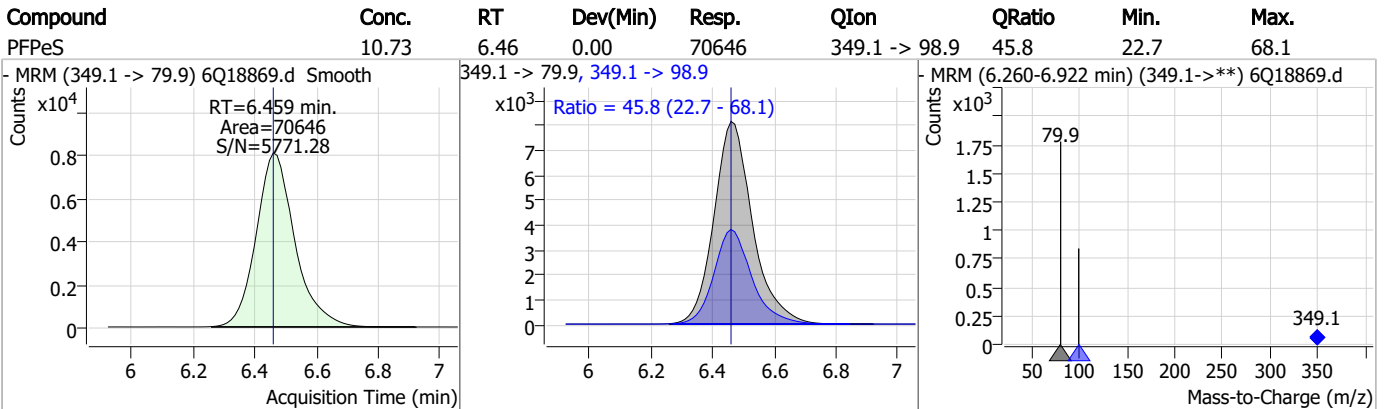
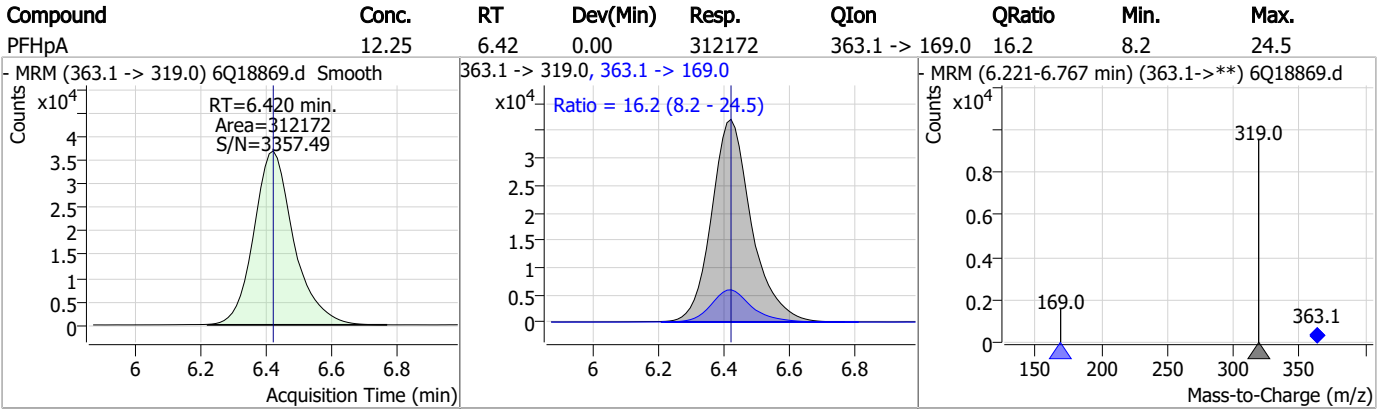
Perfluorinated Compounds by LC/MS/MS



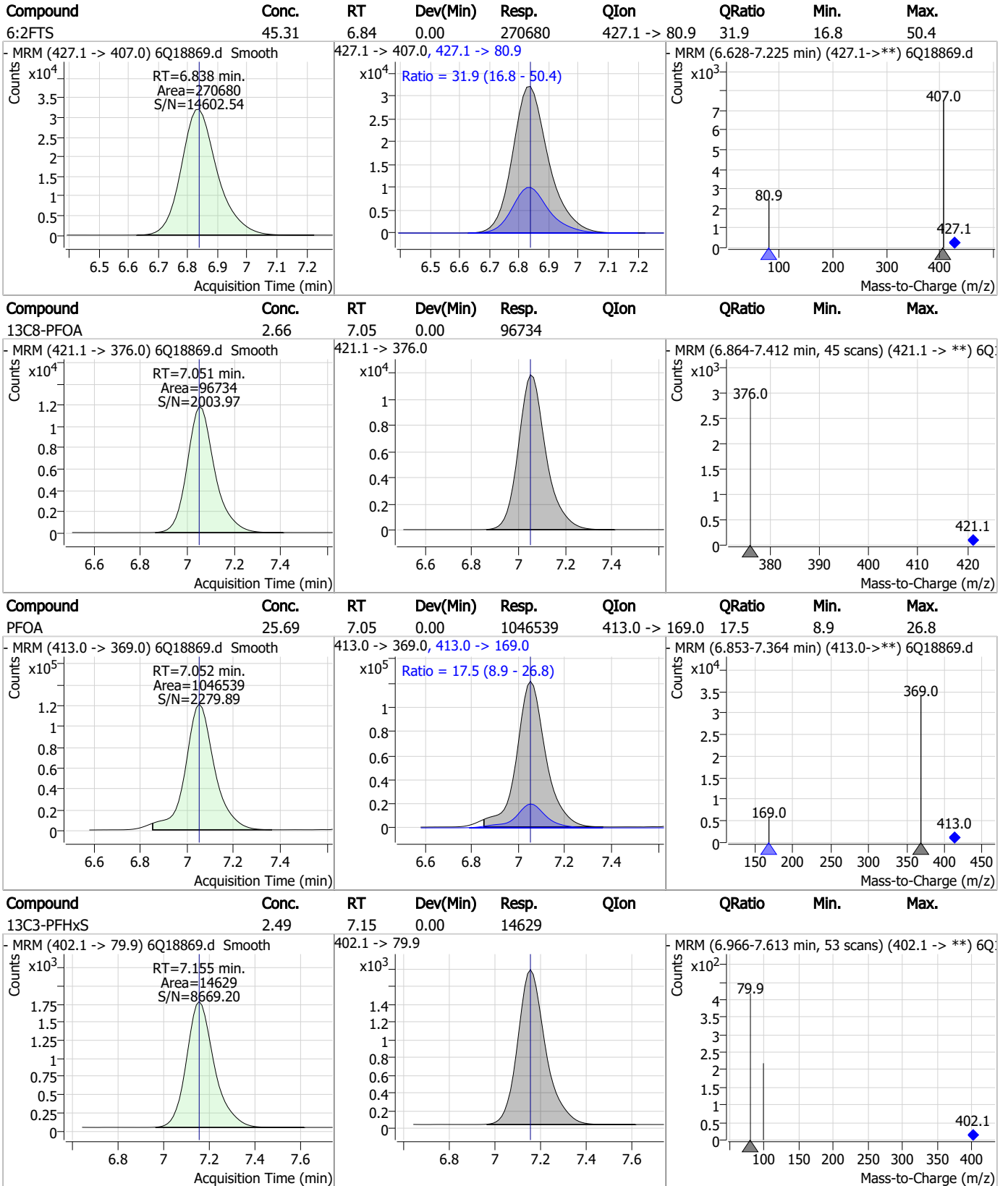
7.6.2

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Perfluorinated Compounds by LC/MS/MS



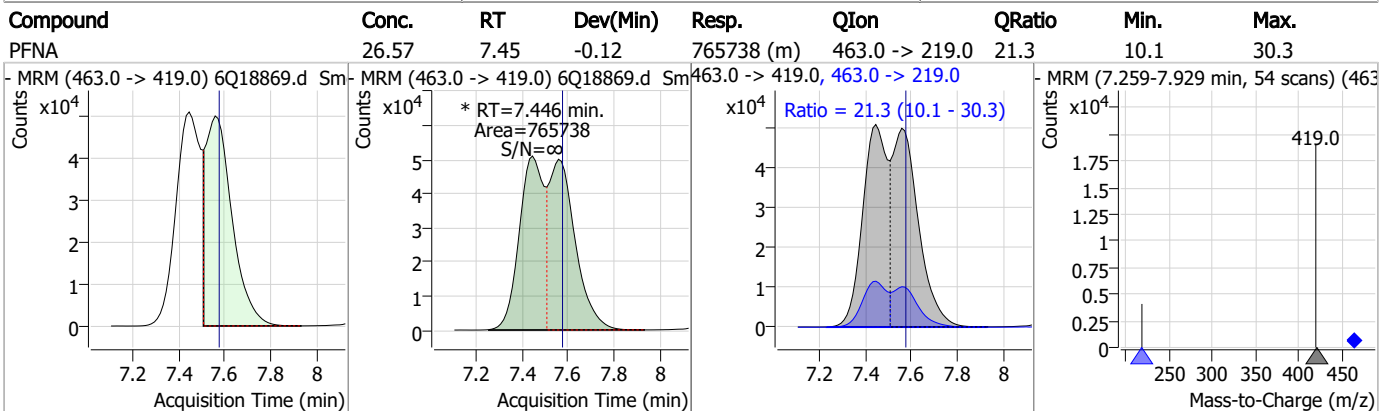
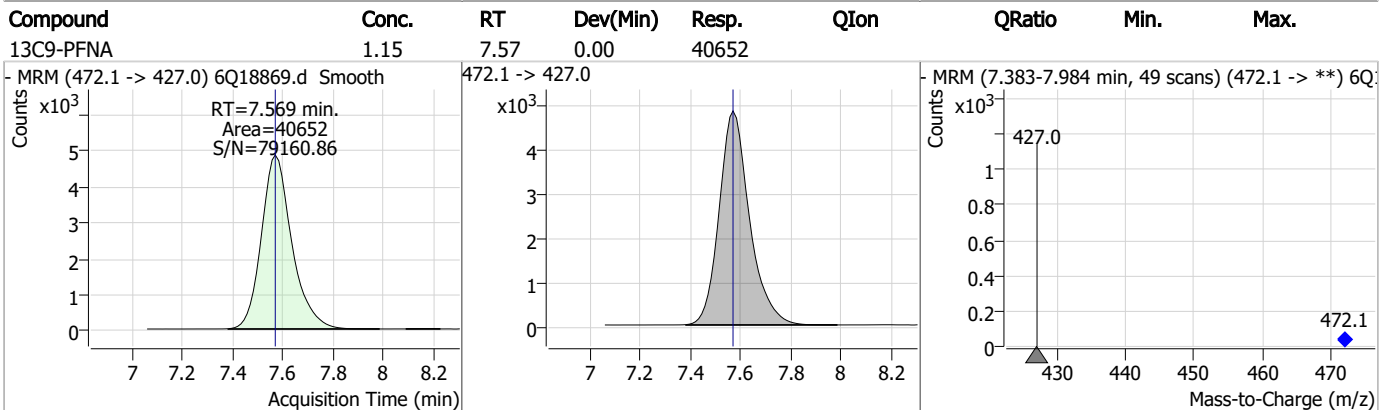
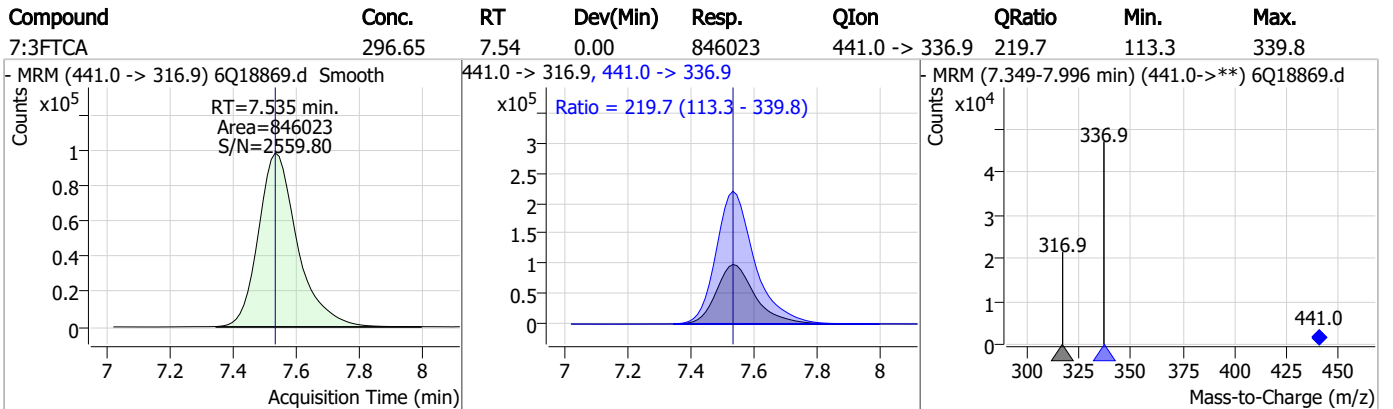
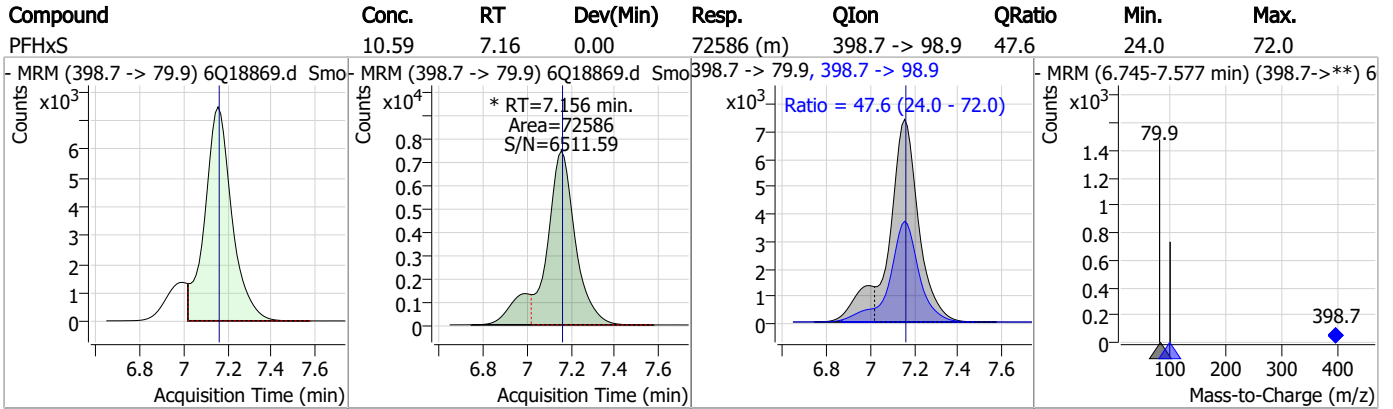
Perfluorinated Compounds by LC/MS/MS



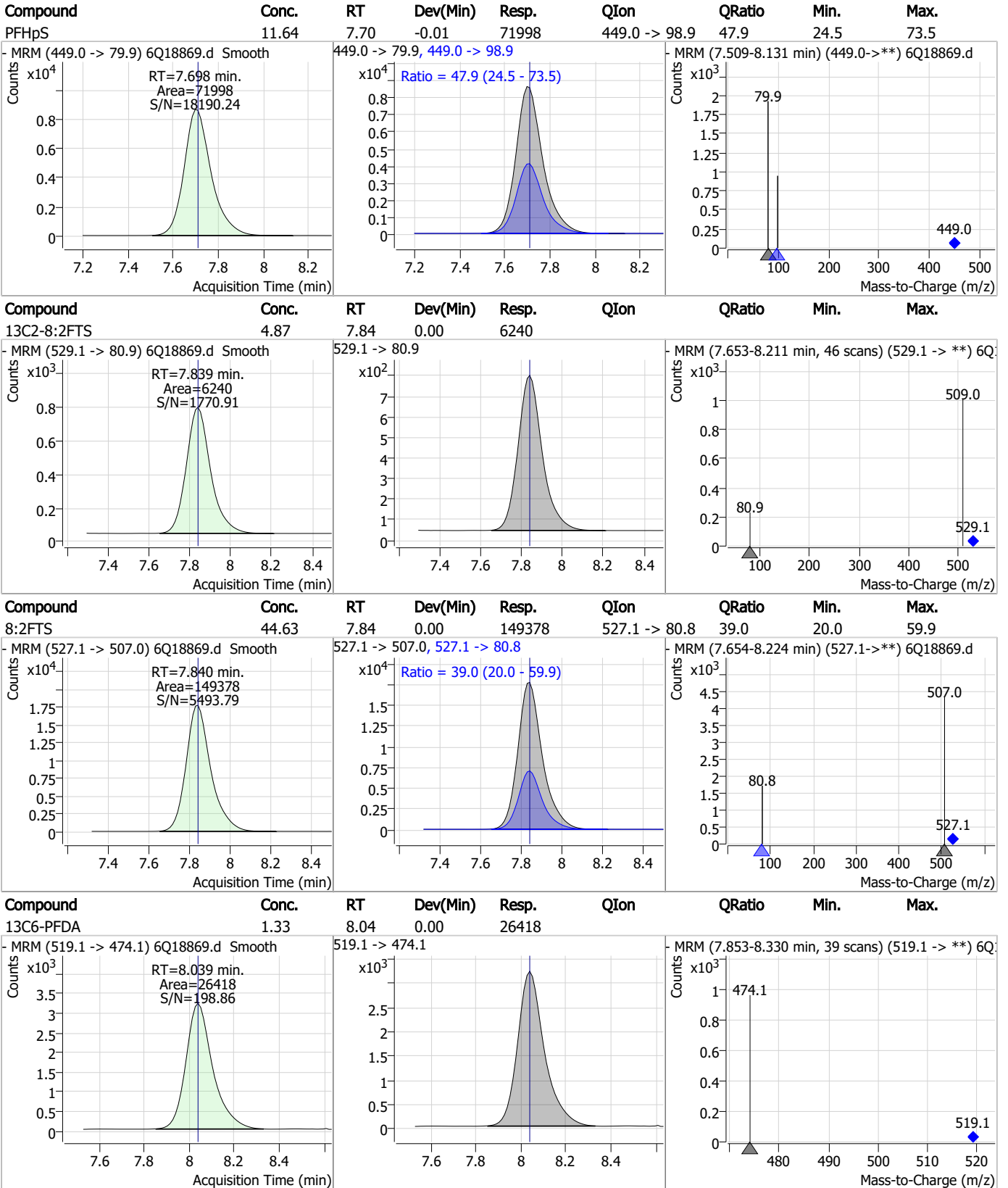
7.6.2

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

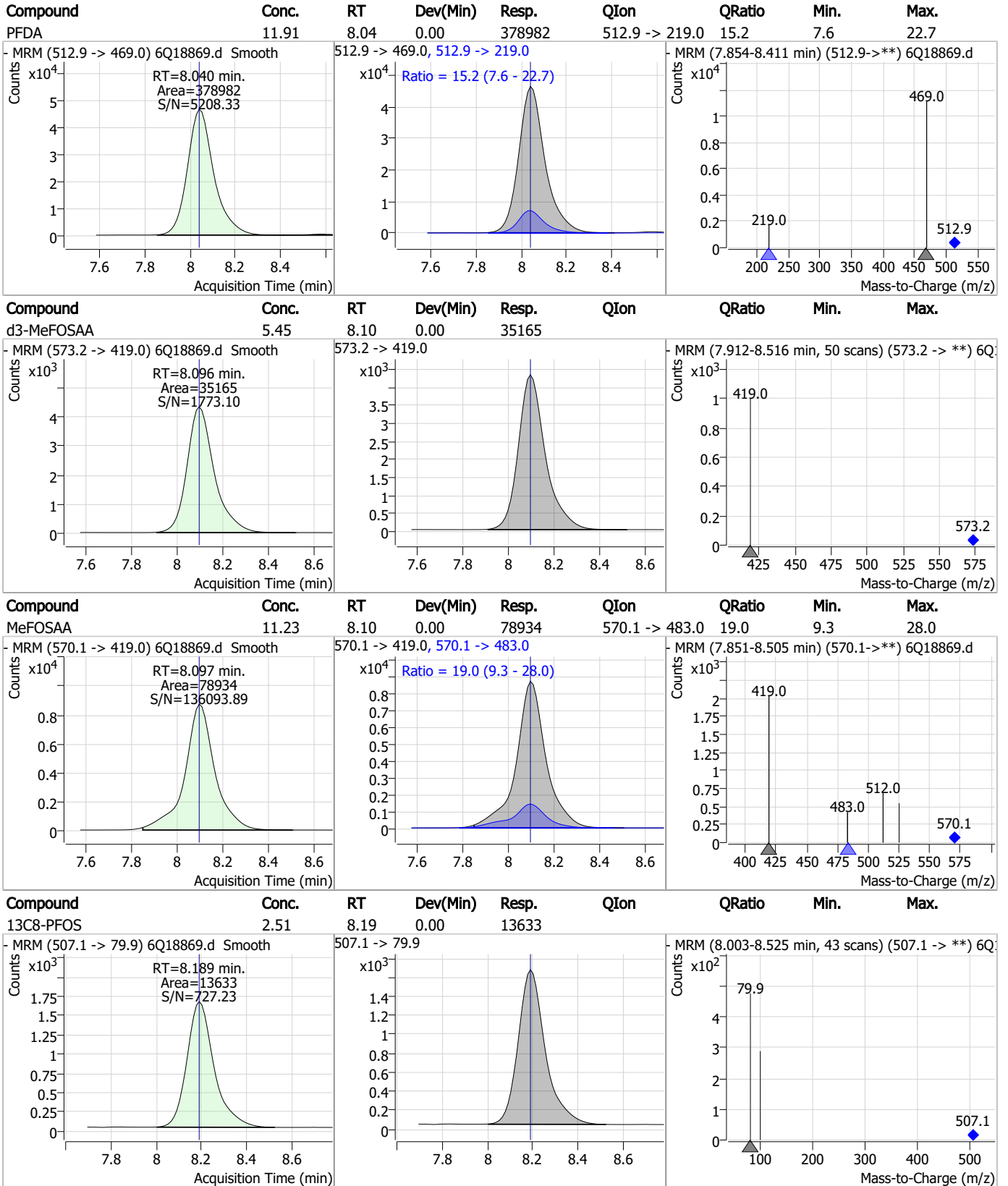


7.6.2

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Perfluorinated Compounds by LC/MS/MS

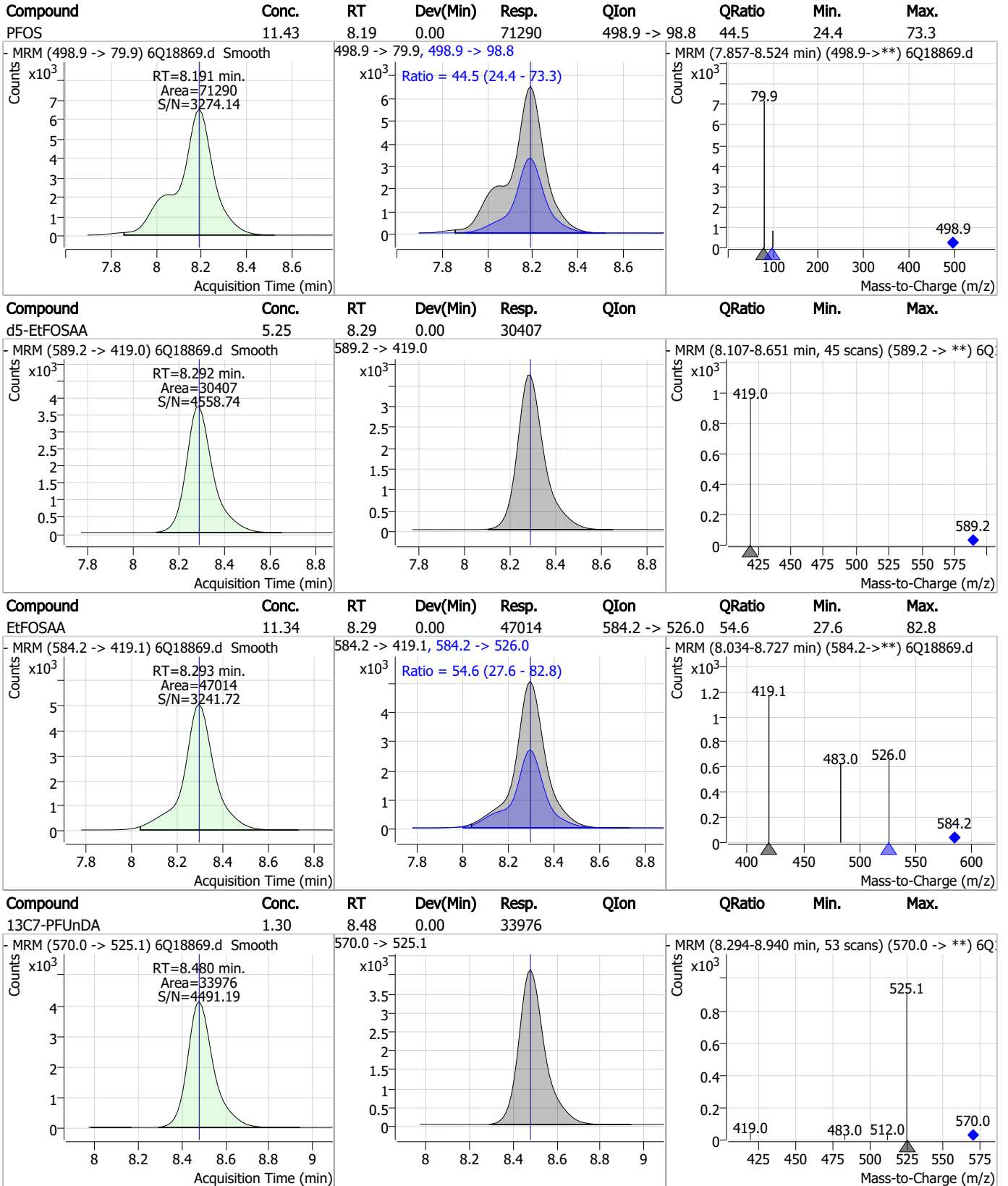


7.6.2

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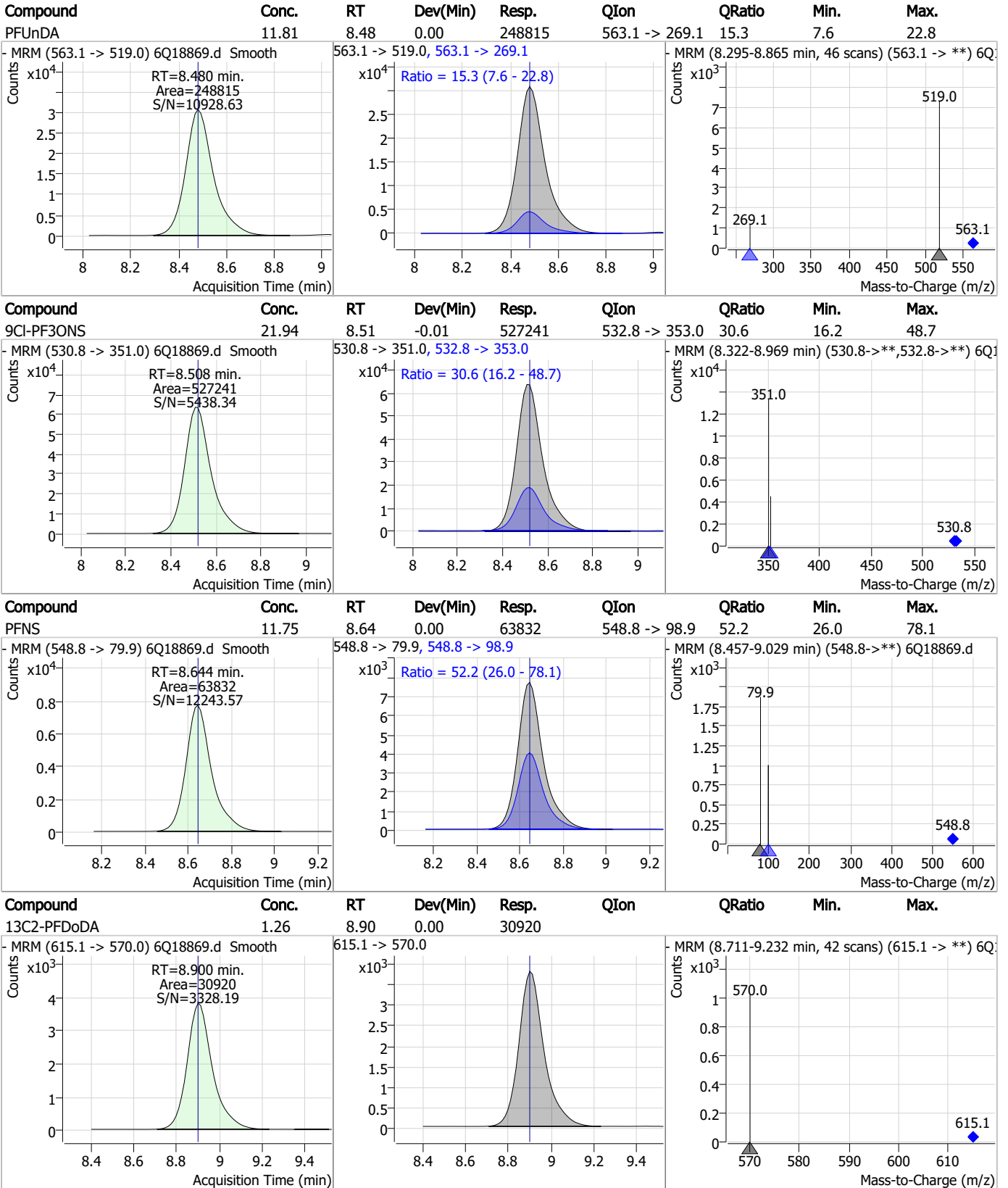
Perfluorinated Compounds by LC/MS/MS



7.6.2

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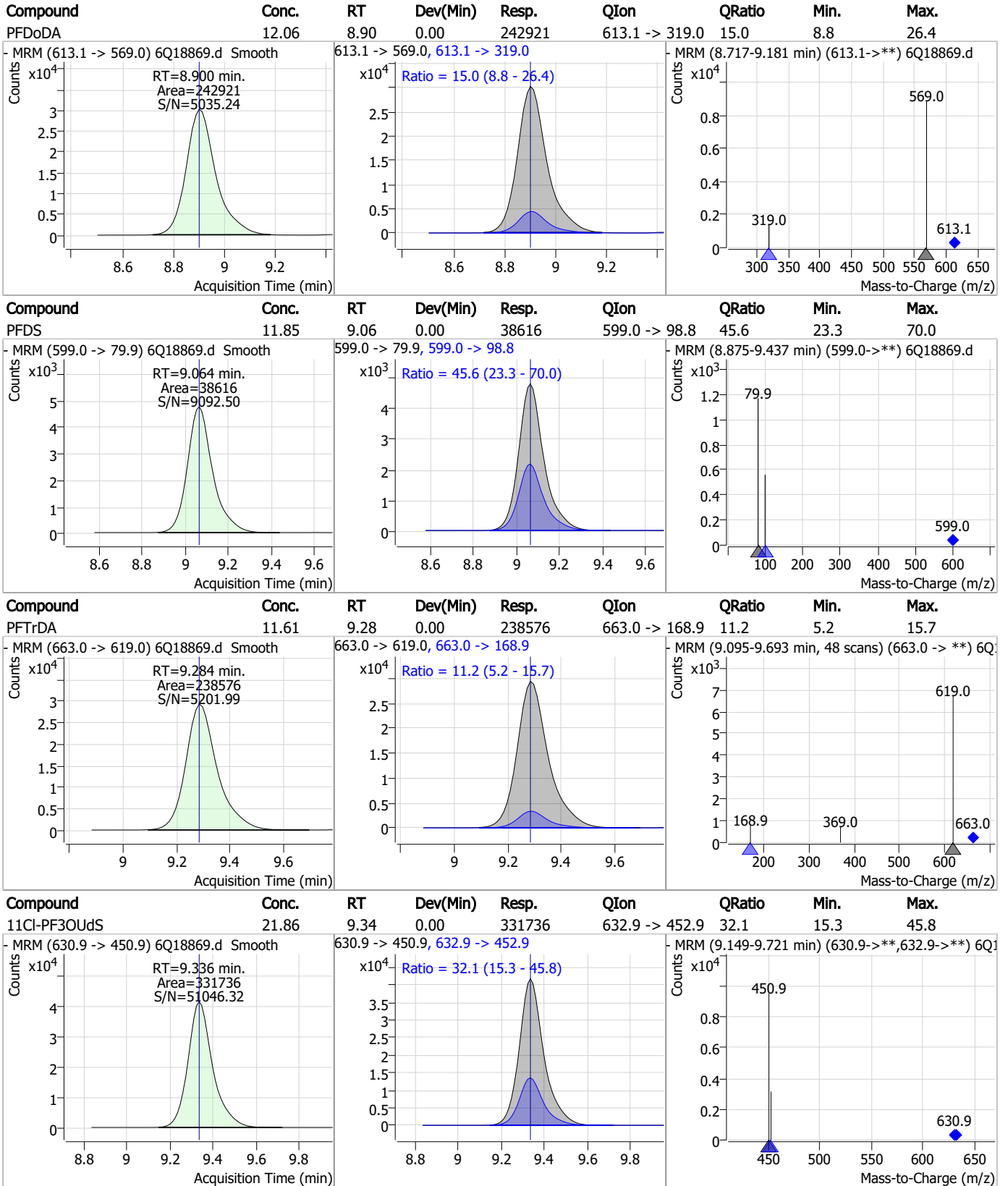
Perfluorinated Compounds by LC/MS/MS



7.6.2

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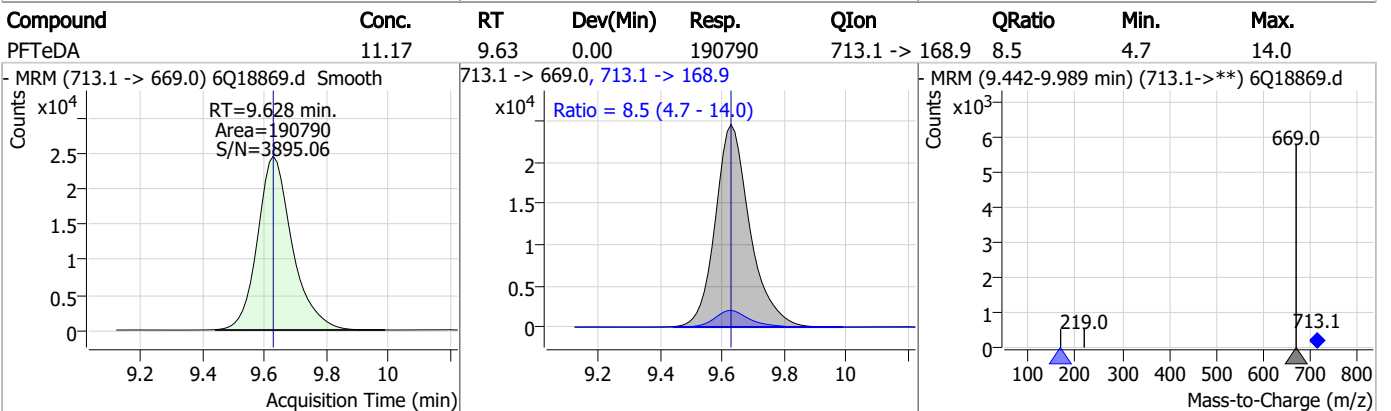
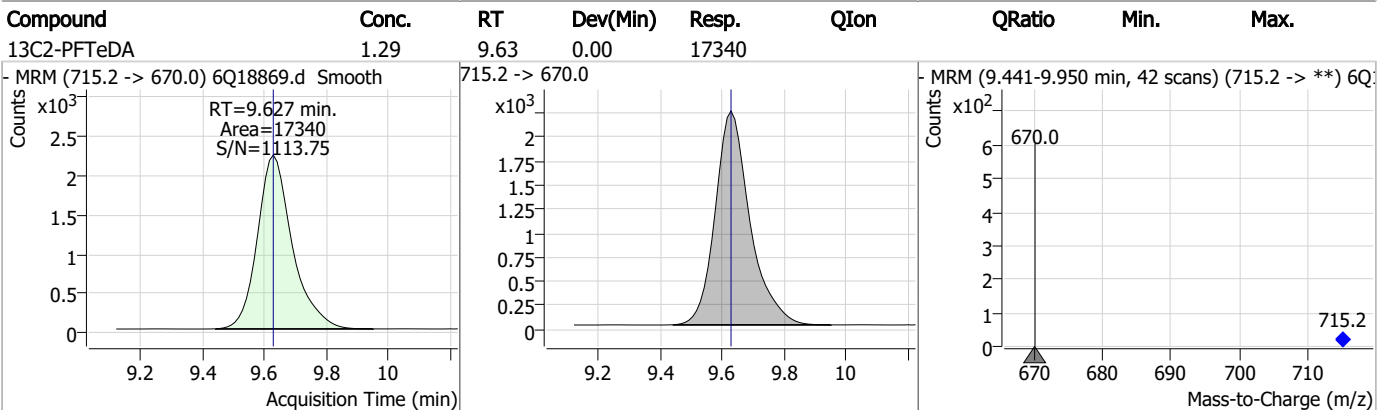
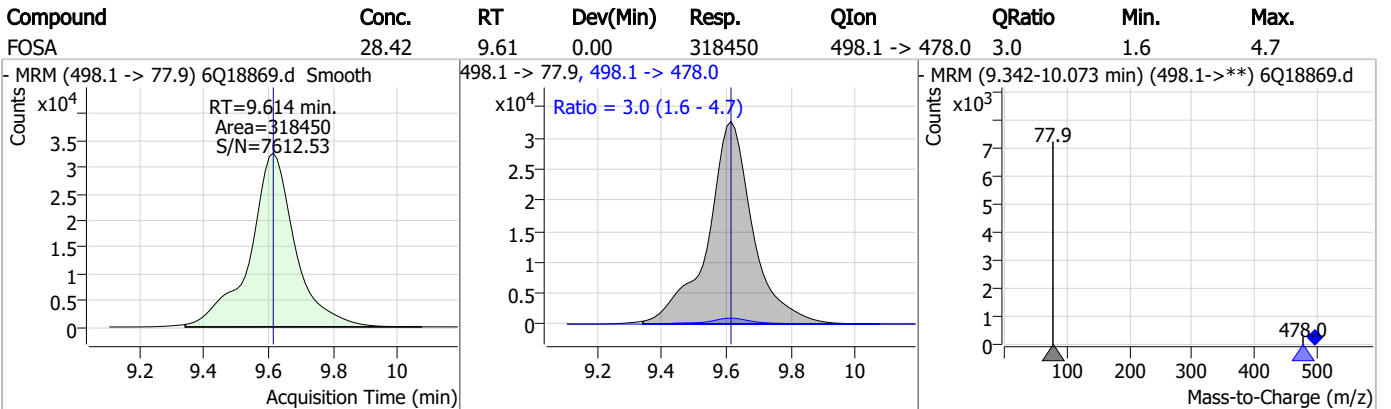
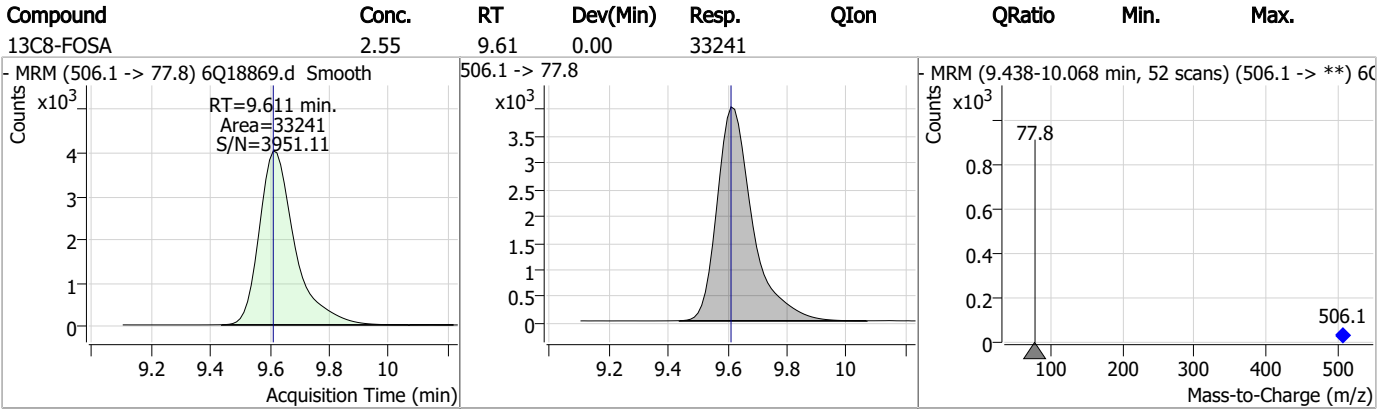
Perfluorinated Compounds by LC/MS/MS



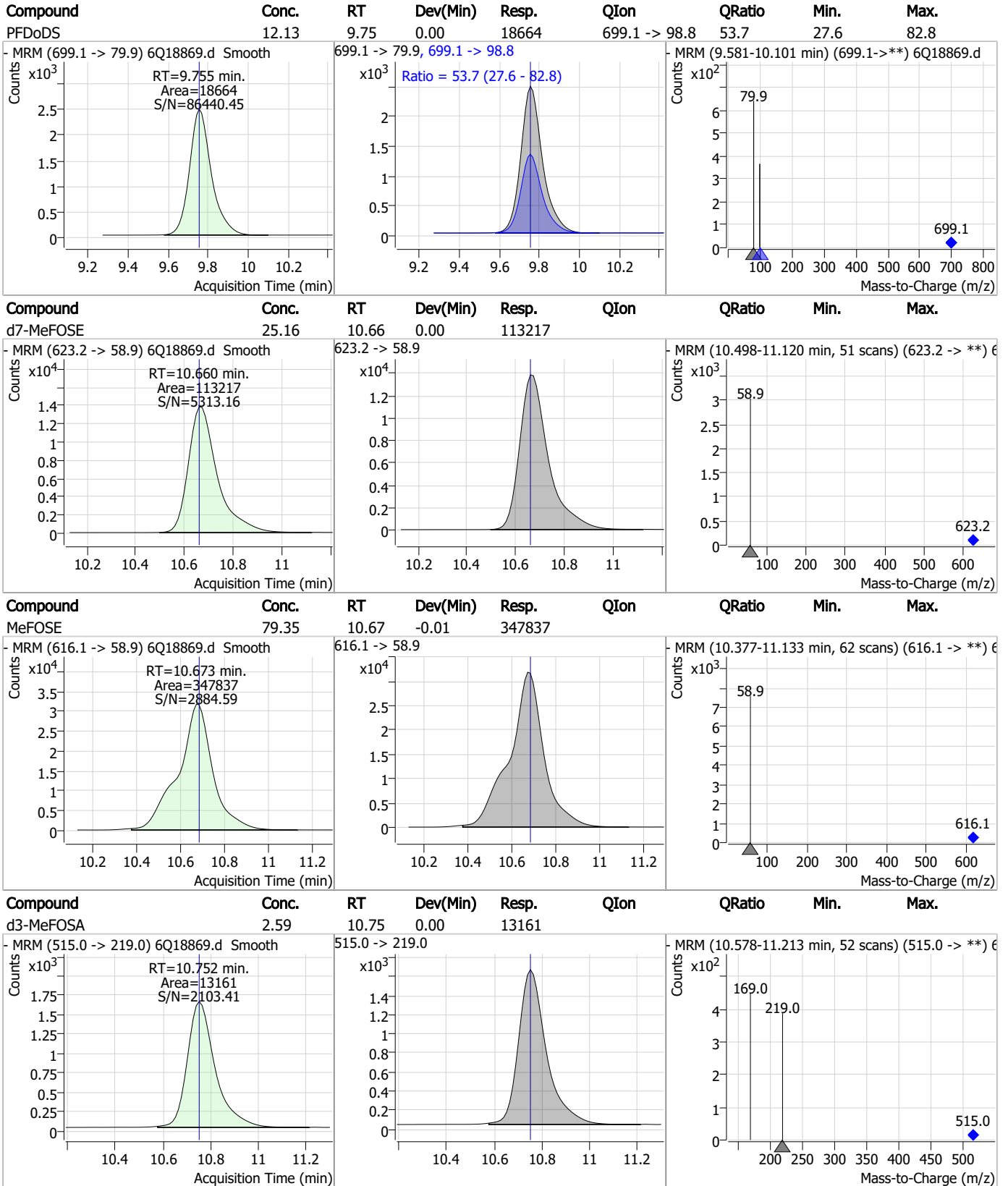
7.6.2

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

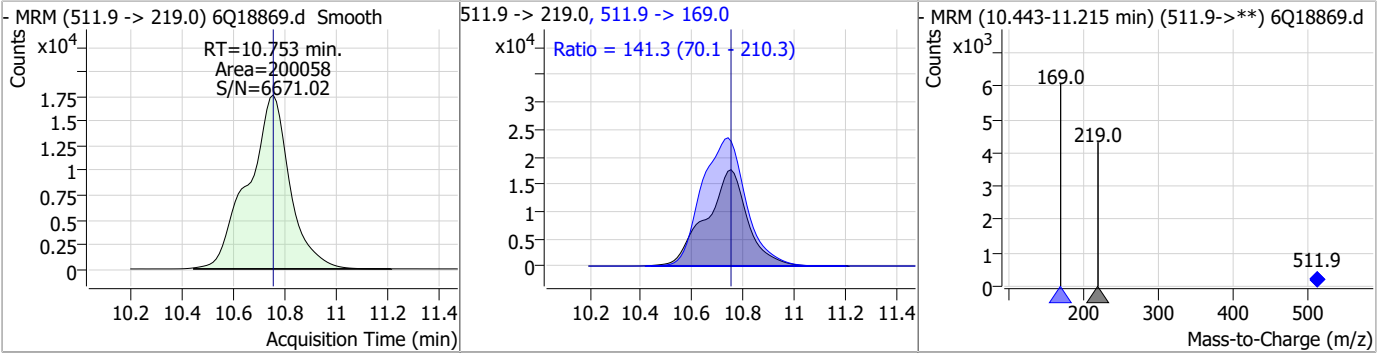


7.6.2

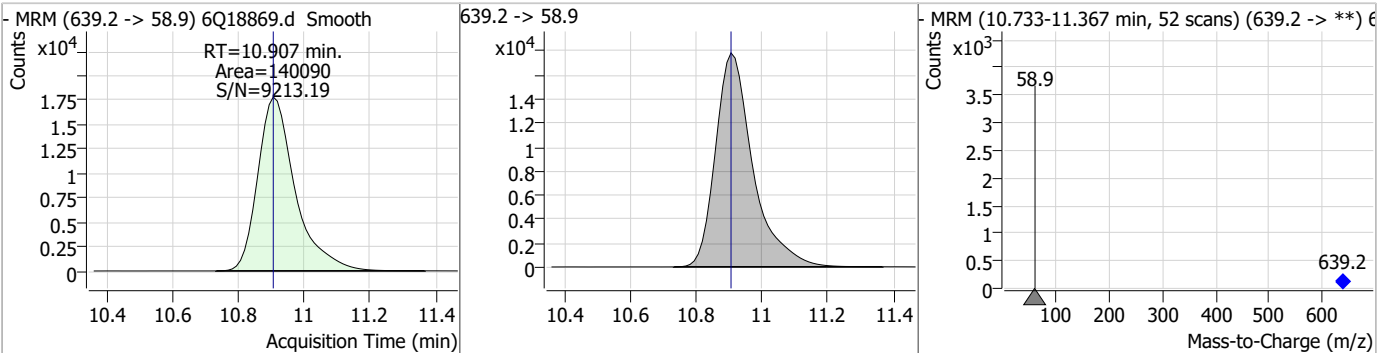
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Perfluorinated Compounds by LC/MS/MS

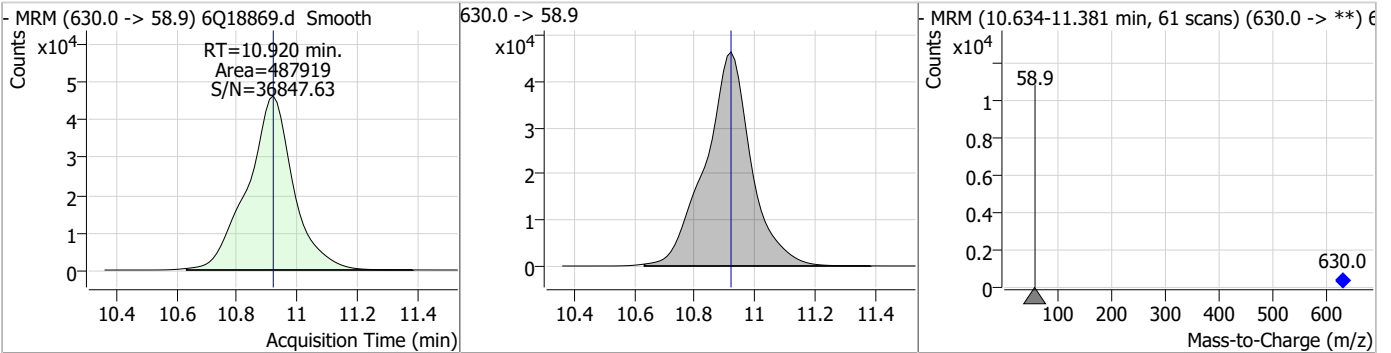
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	39.90	10.75	0.00	200058	511.9 -> 169.0	141.3	70.1	210.3



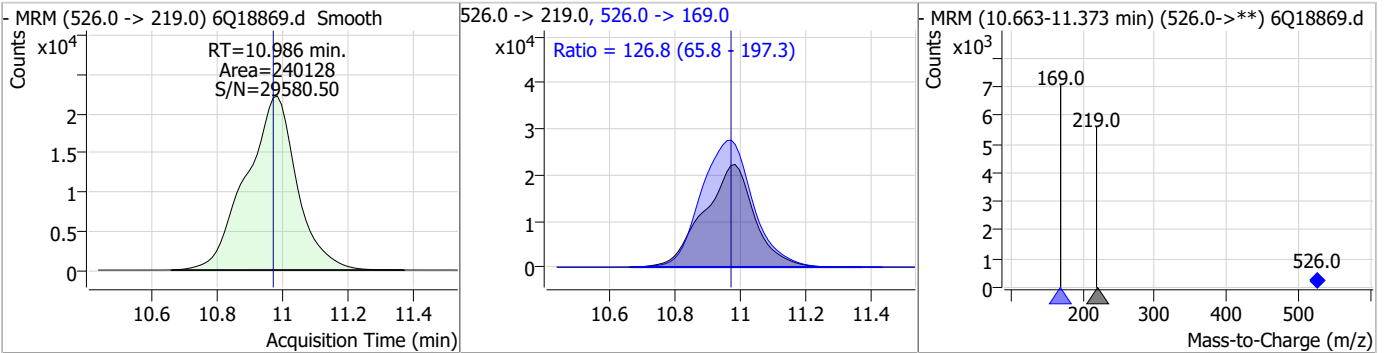
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.44	10.91	0.00	140090				



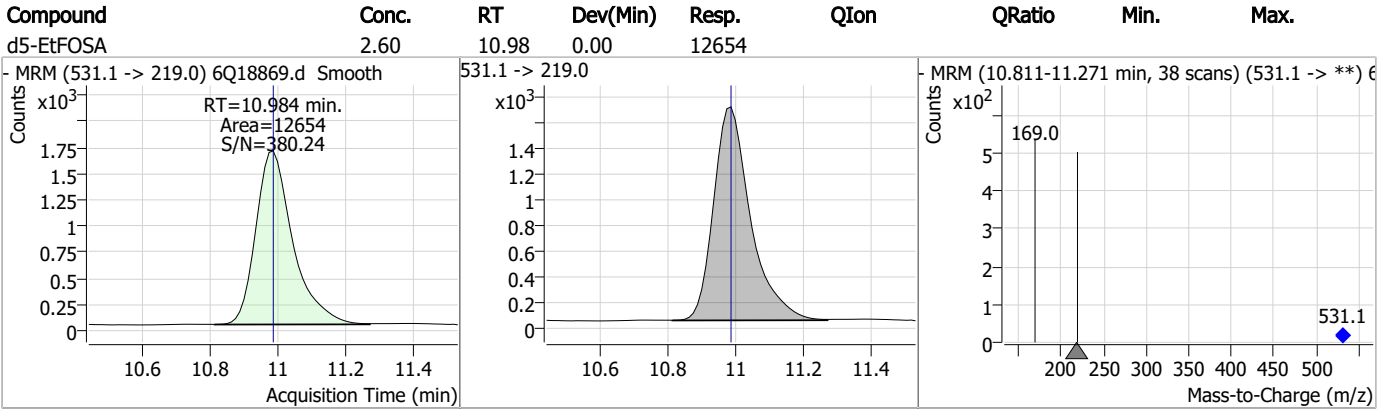
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	79.85	10.92	0.00	487919				



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

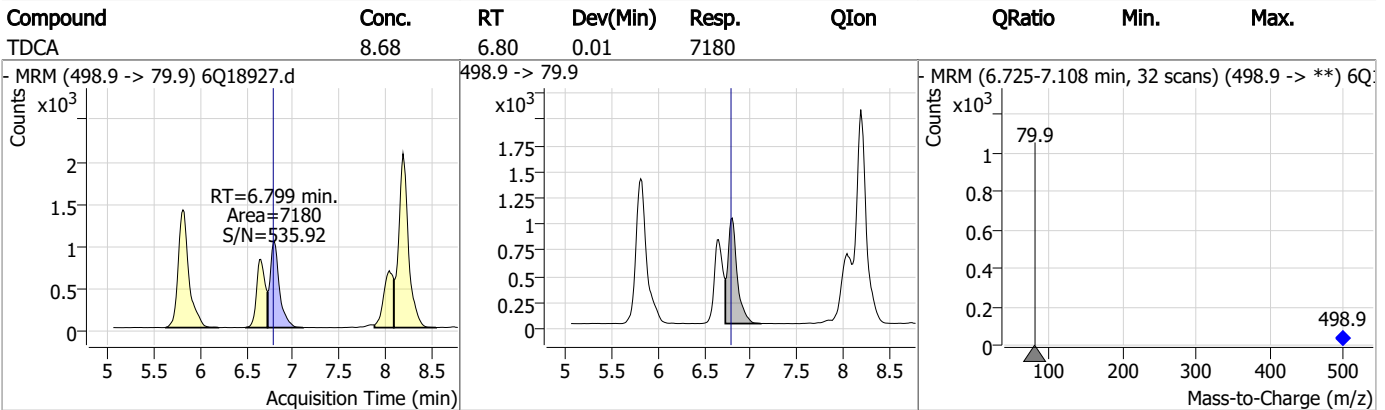
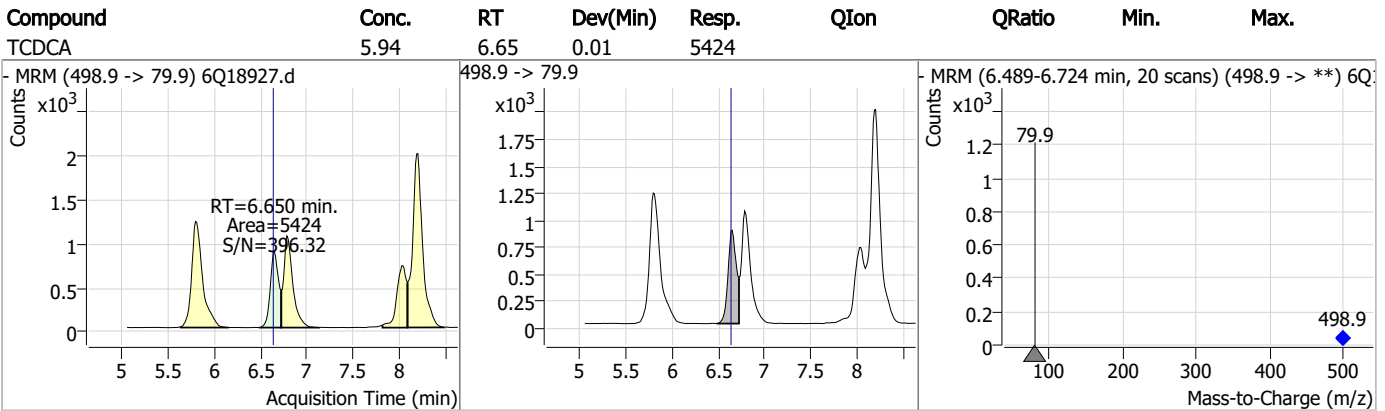
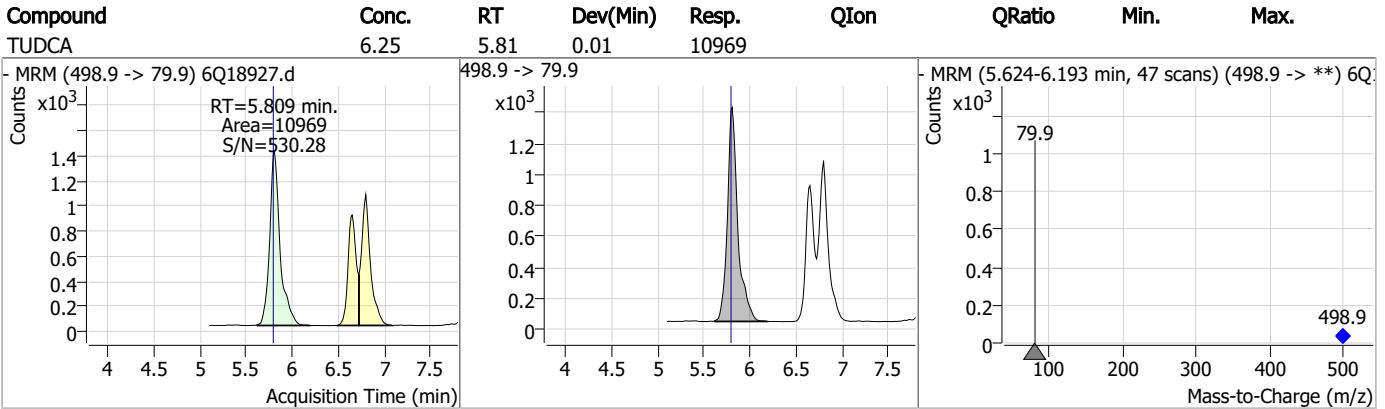
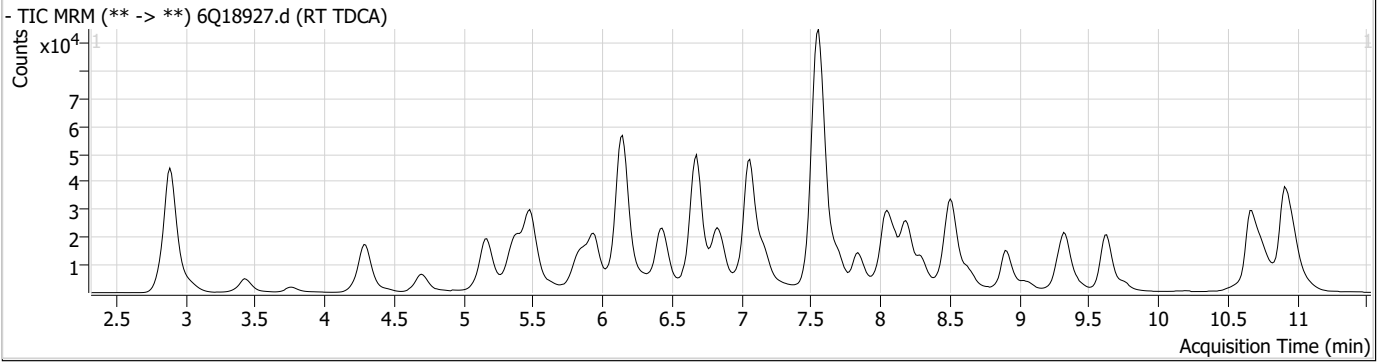
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
Internal Standards					
M8-PFOS	8.189	507.1 -> 79.9	19805	2.50 µg/L	0.000
13C4-PFOS	8.202	502.8 -> 79.9	25986	2.50 µg/L	0.012
System Monitoring Compounds					
13C8-PFOS	8.189	507.1 -> 79.9	19805	1.93 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		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

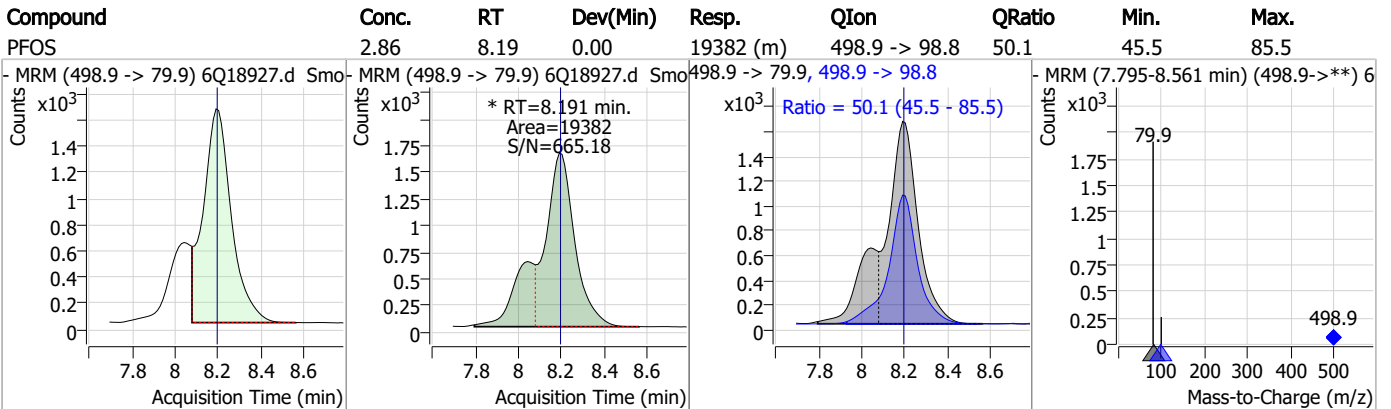
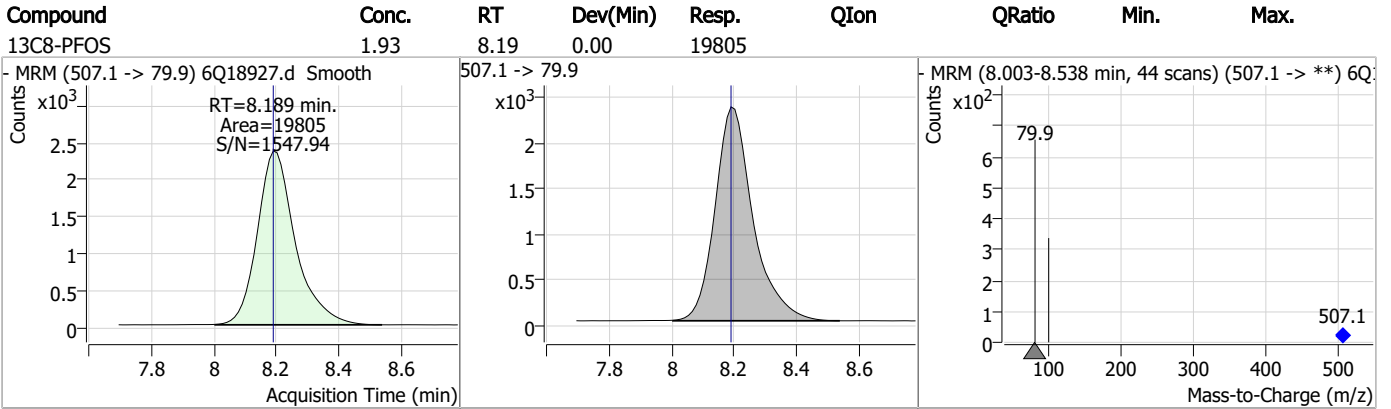
7.6.3

7

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
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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 = 101.1%	
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

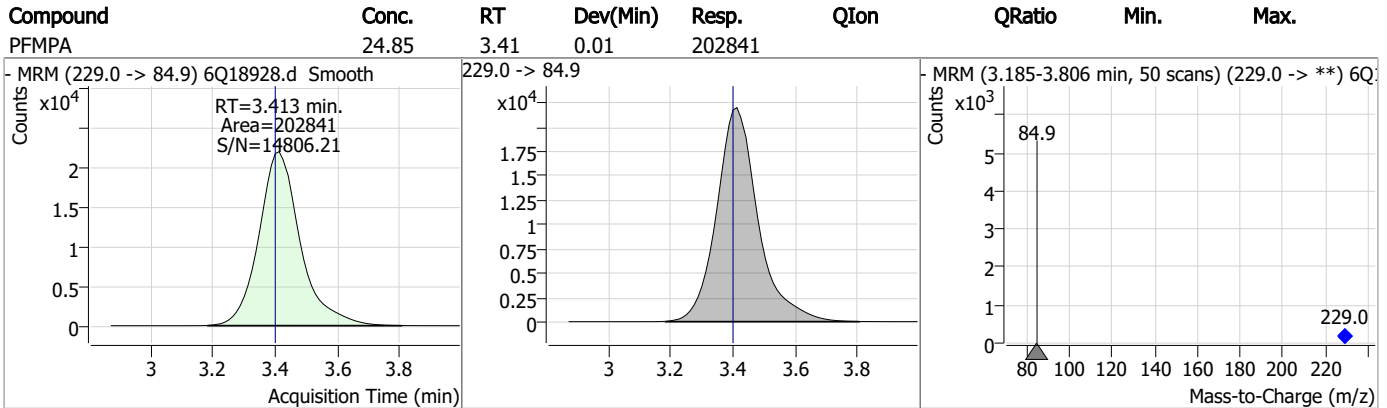
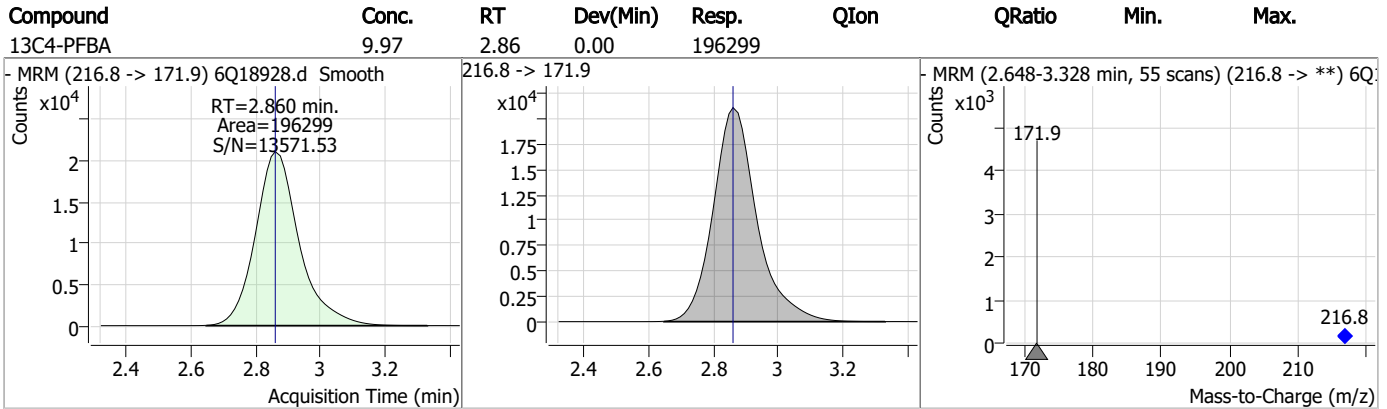
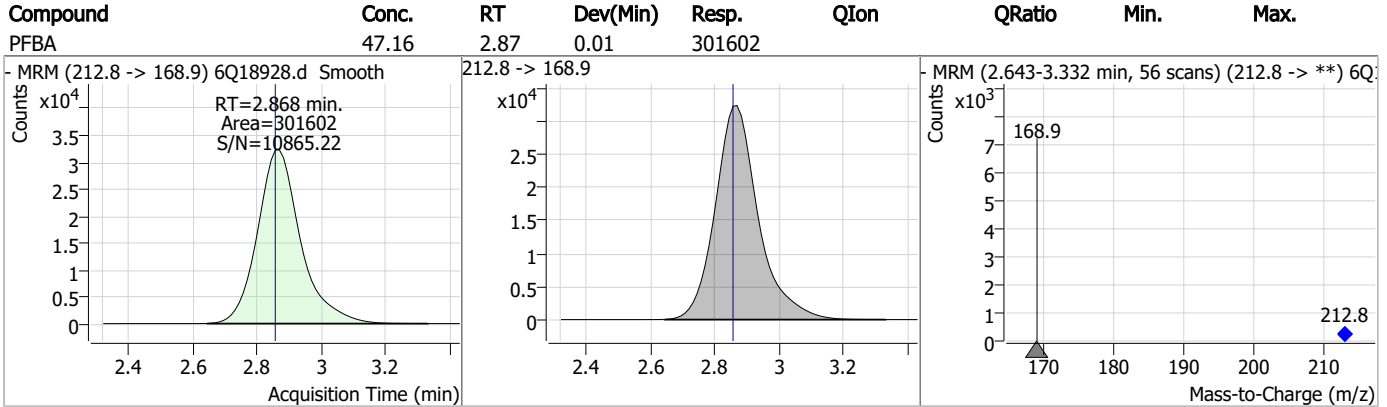
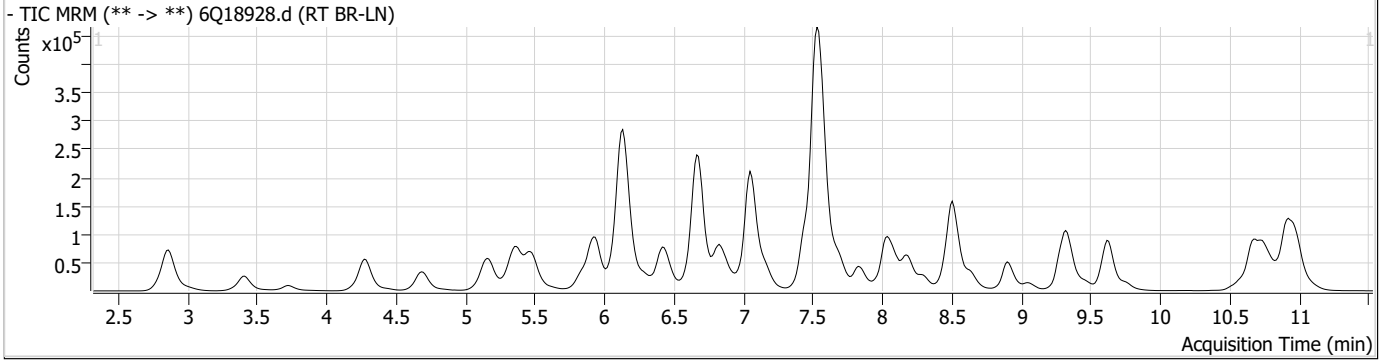
Perfluorinated Compounds by LC/MS/MS

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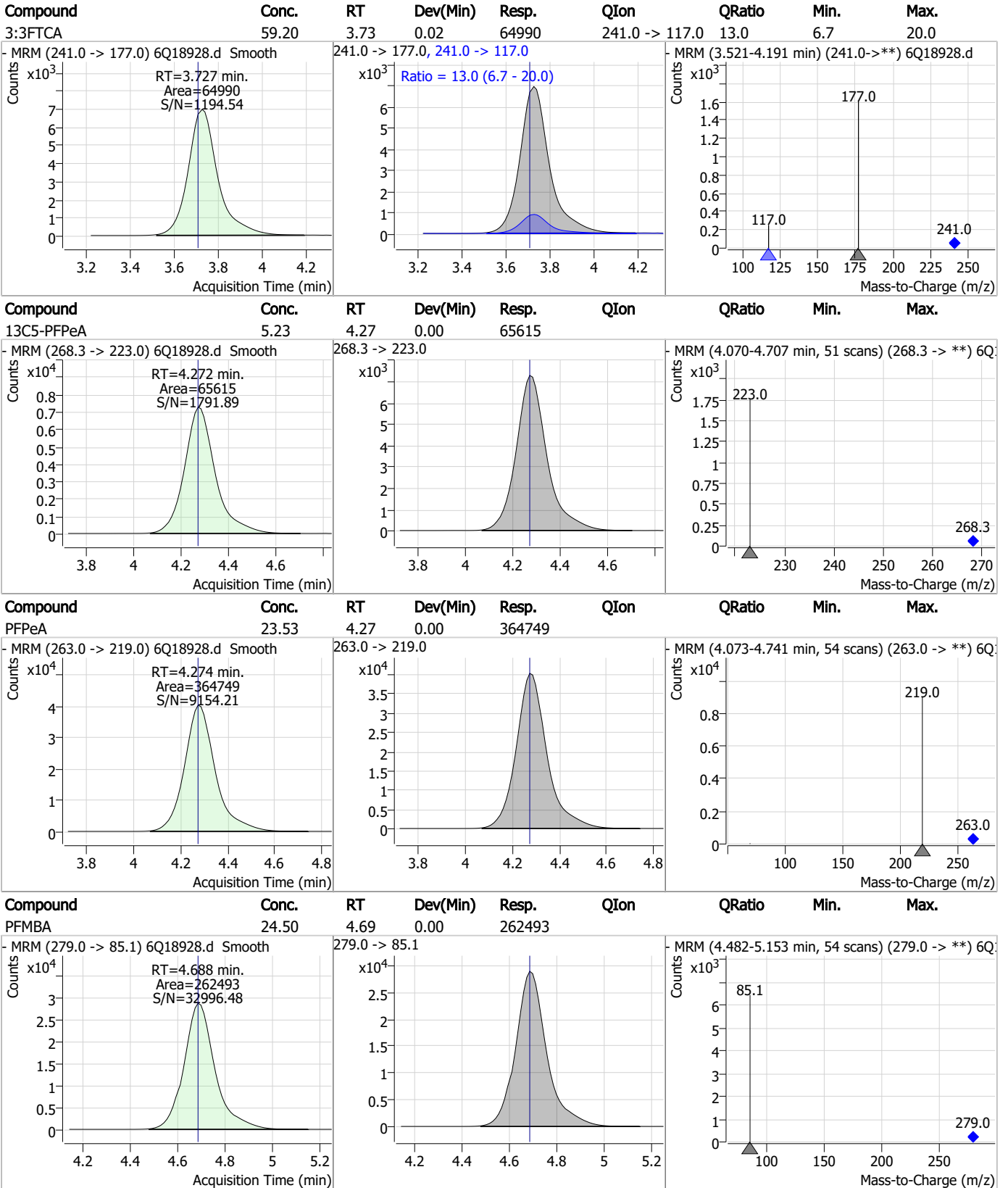
7.6.4

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Perfluorinated Compounds by LC/MS/MS



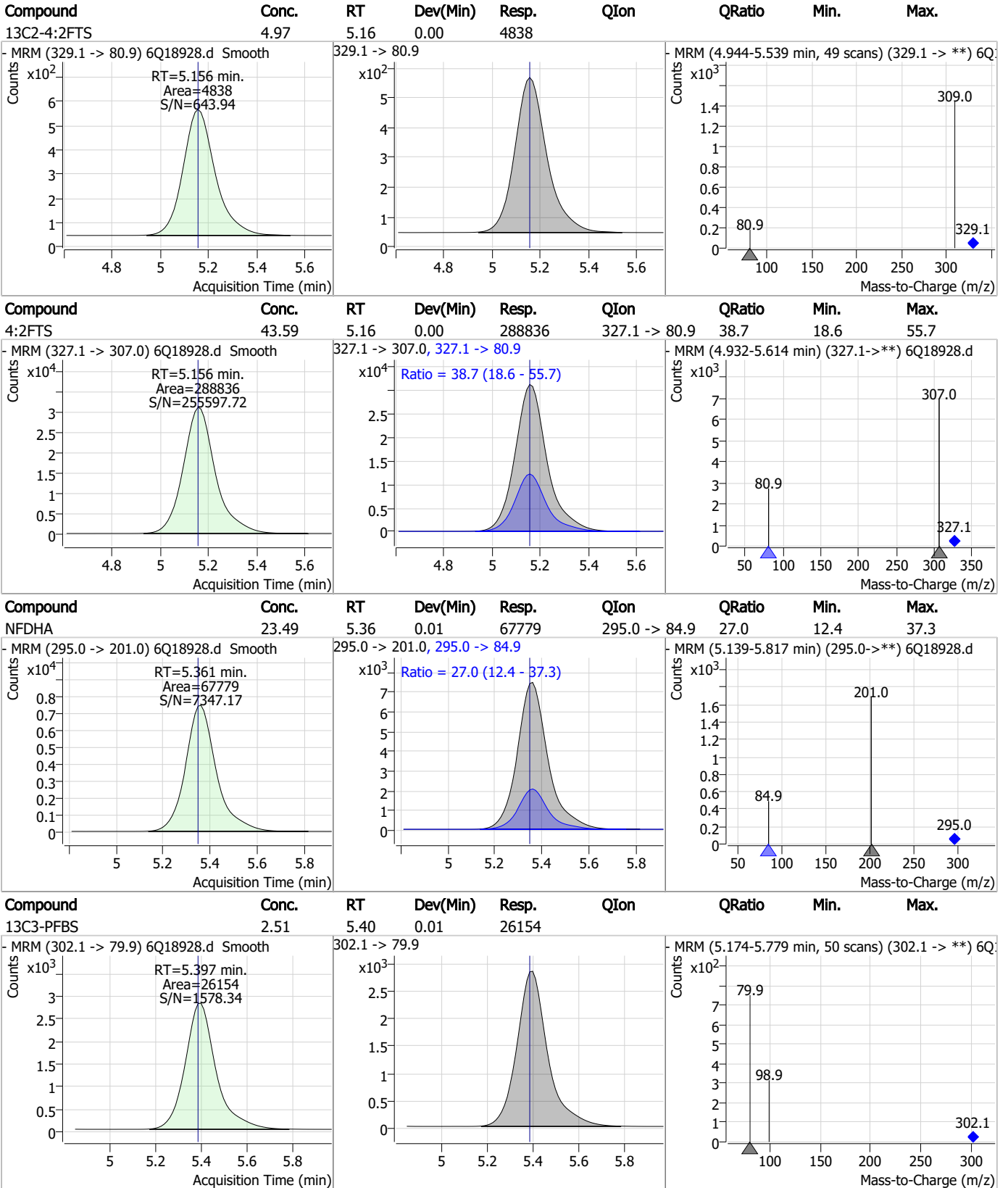
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

Perfluorinated Compounds by LC/MS/MS

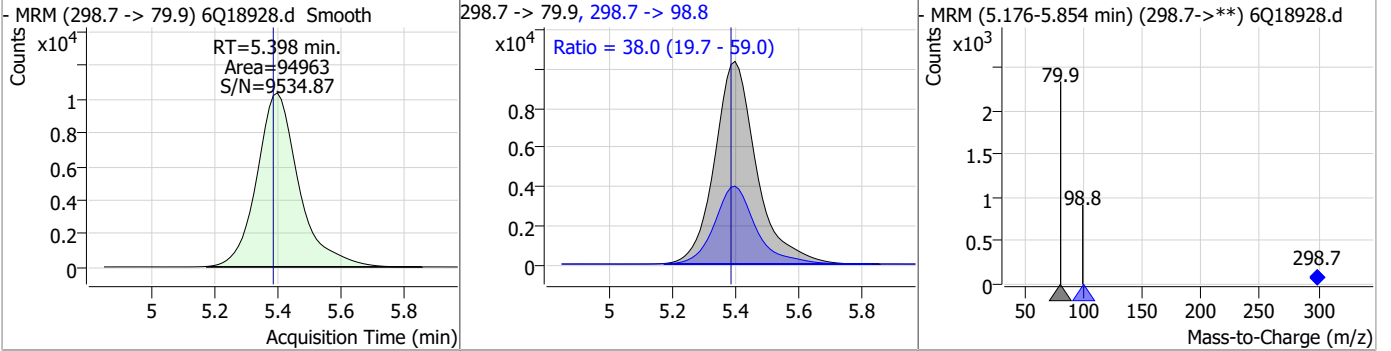


7.6.4

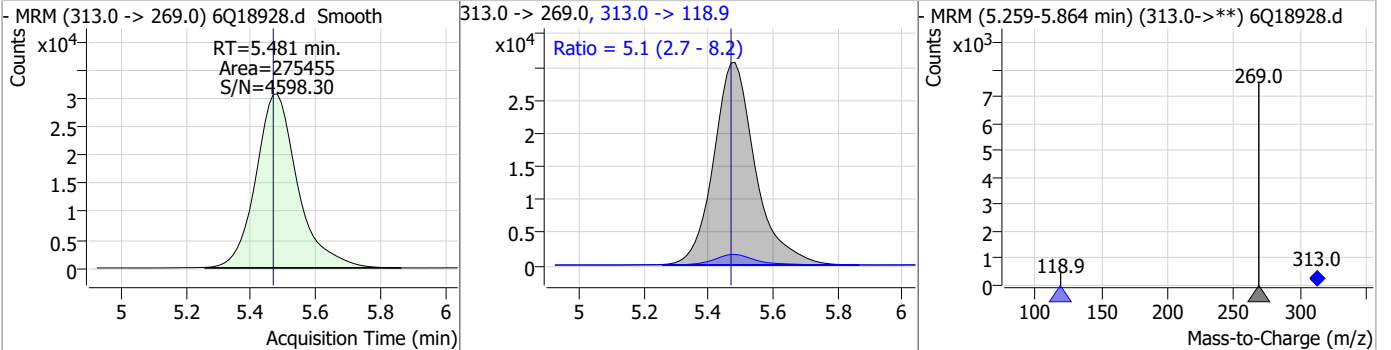
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Perfluorinated Compounds by LC/MS/MS

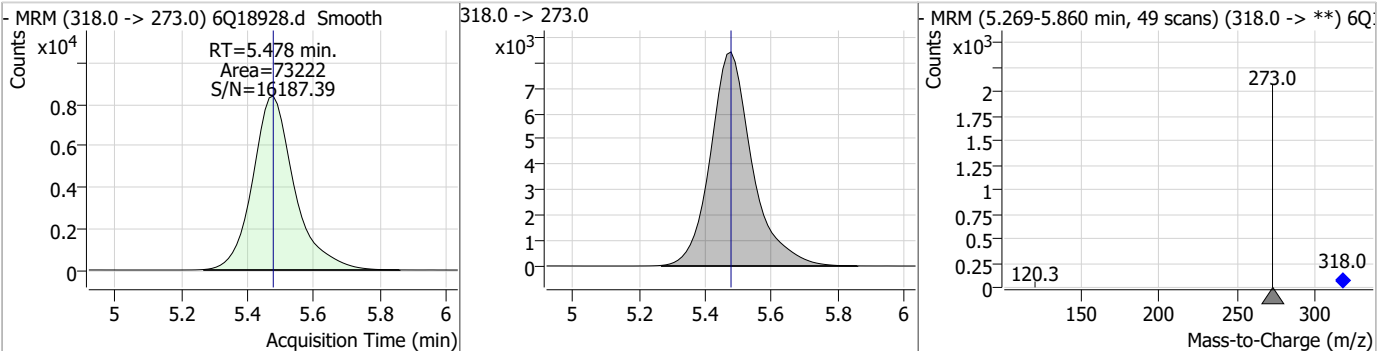
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	10.48	5.40	0.01	94963	298.7 -> 98.8	38.0	19.7	59.0



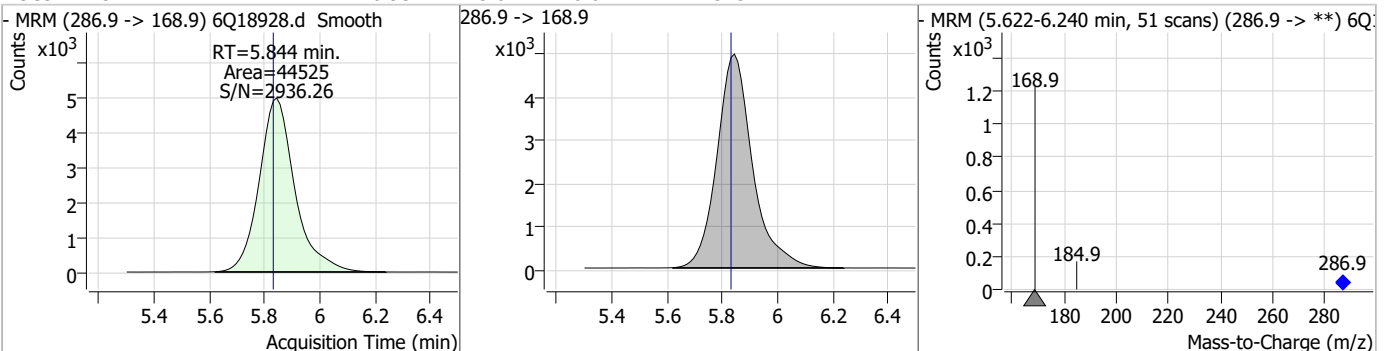
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	11.46	5.48	0.01	275455	313.0 -> 118.9	5.1	2.7	8.2



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

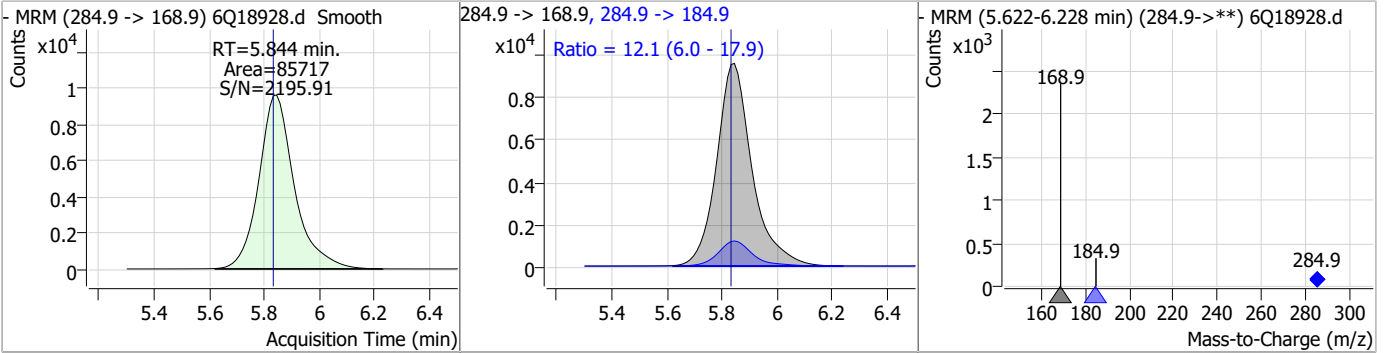


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.93	5.84	0.01	44525	286.9 -> 168.9	-	-	-

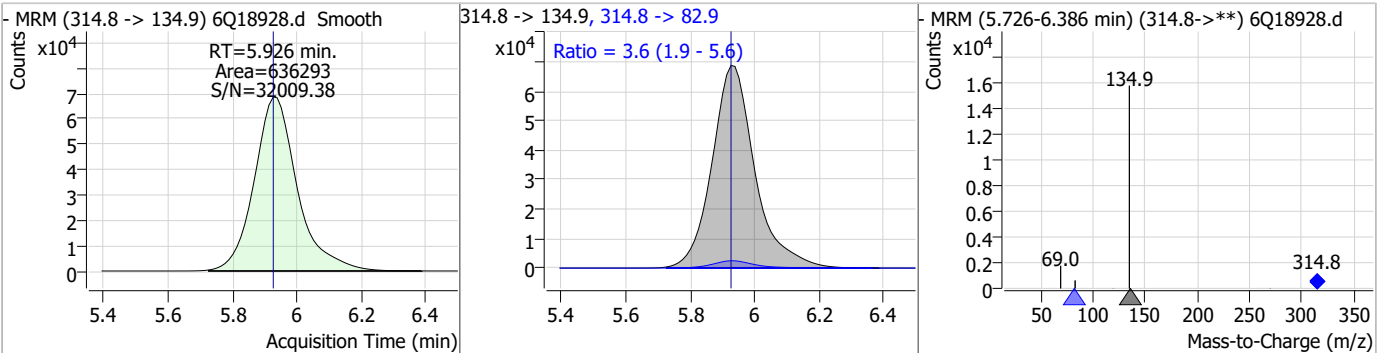


Perfluorinated Compounds by LC/MS/MS

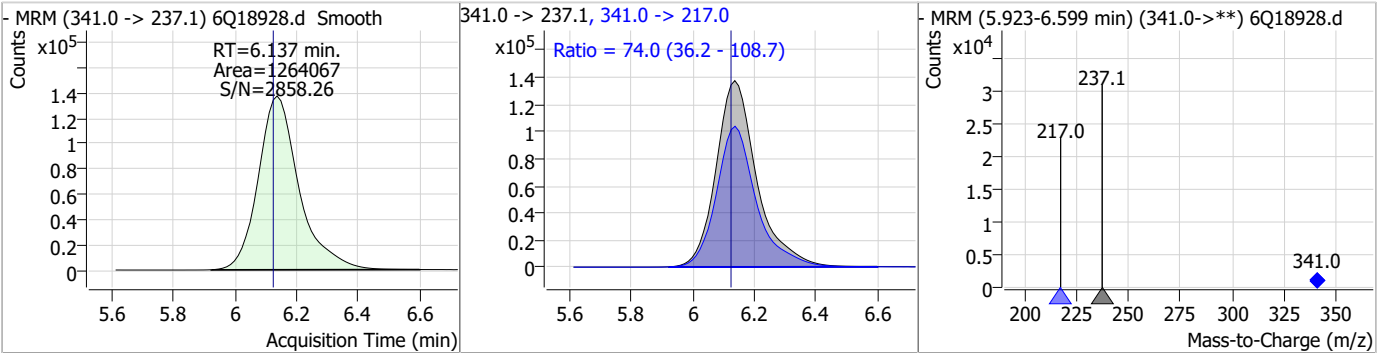
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	23.05	5.84	0.01	85717	284.9 -> 184.9	12.1	6.0	17.9



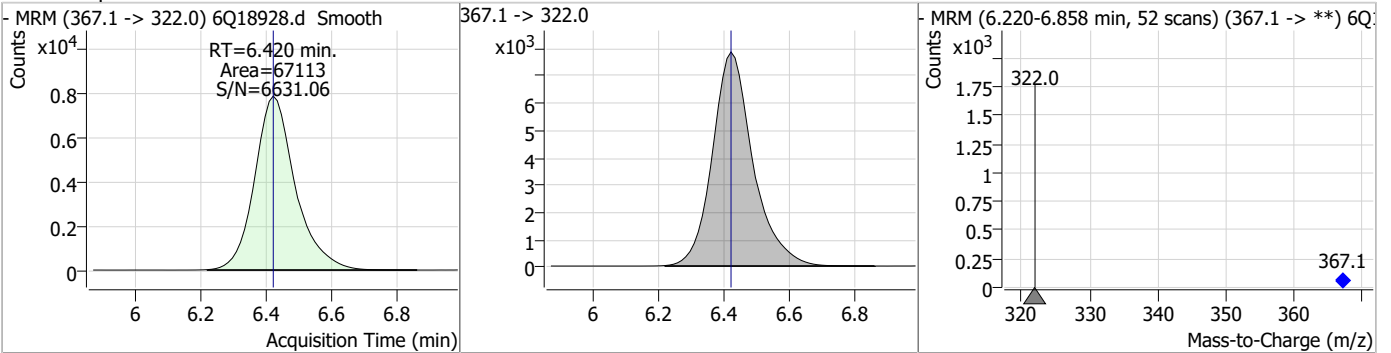
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	20.83	5.93	0.00	636293	314.8 -> 82.9	3.6	1.9	5.6



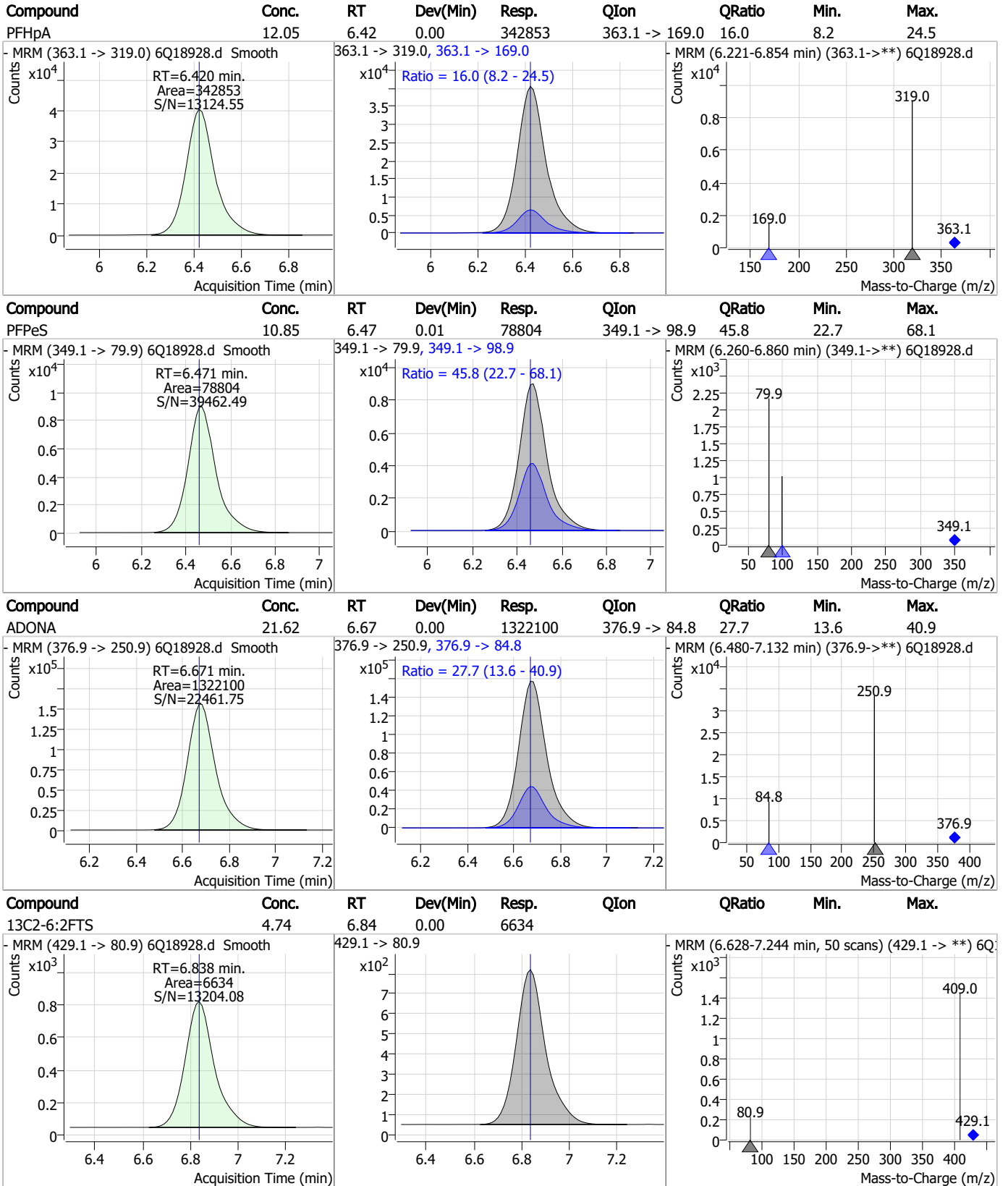
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	272.60	6.14	0.01	1264067	341.0 -> 217.0	74.0	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.60	6.42	0.00	67113	367.1 -> 322.0			



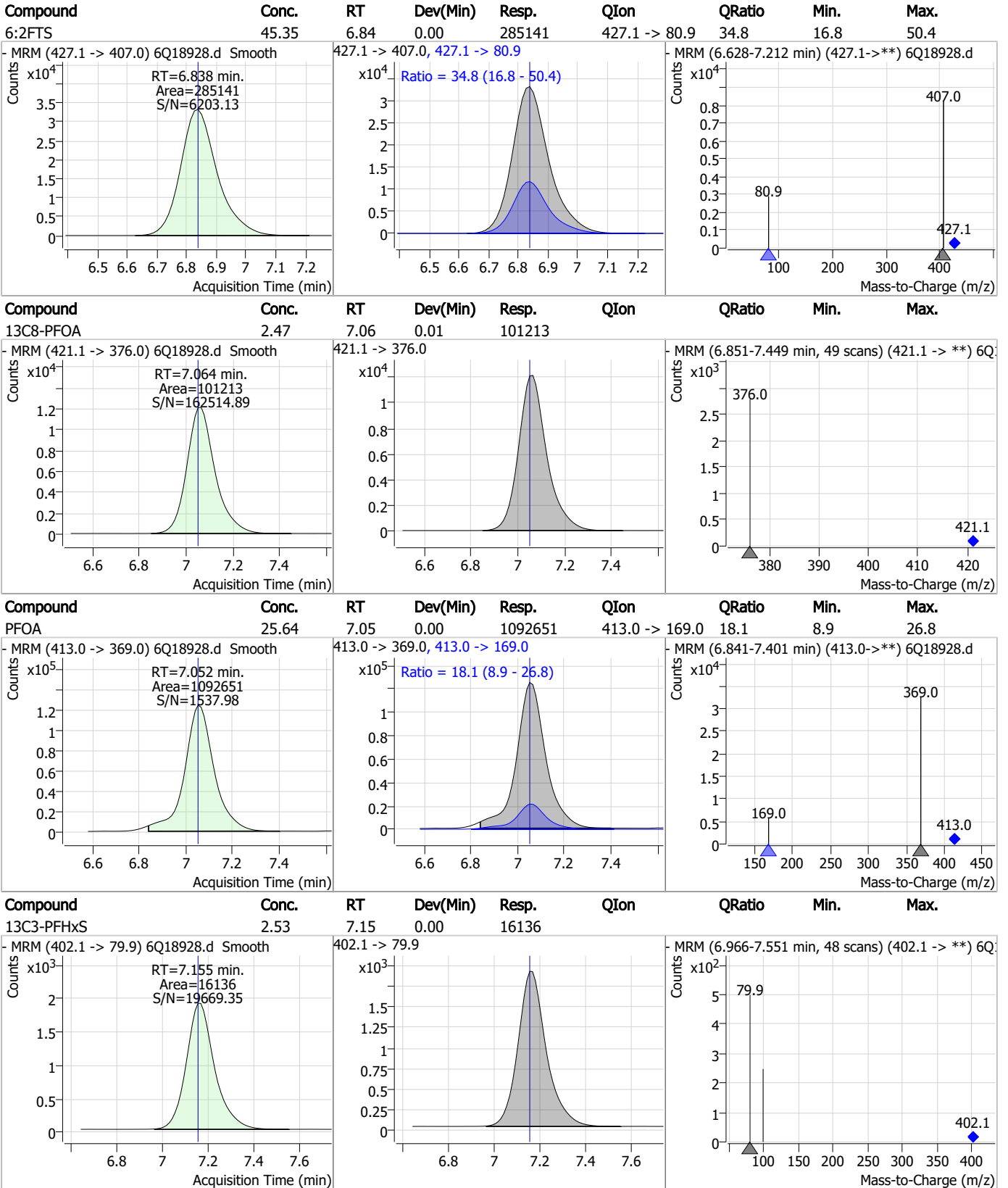
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

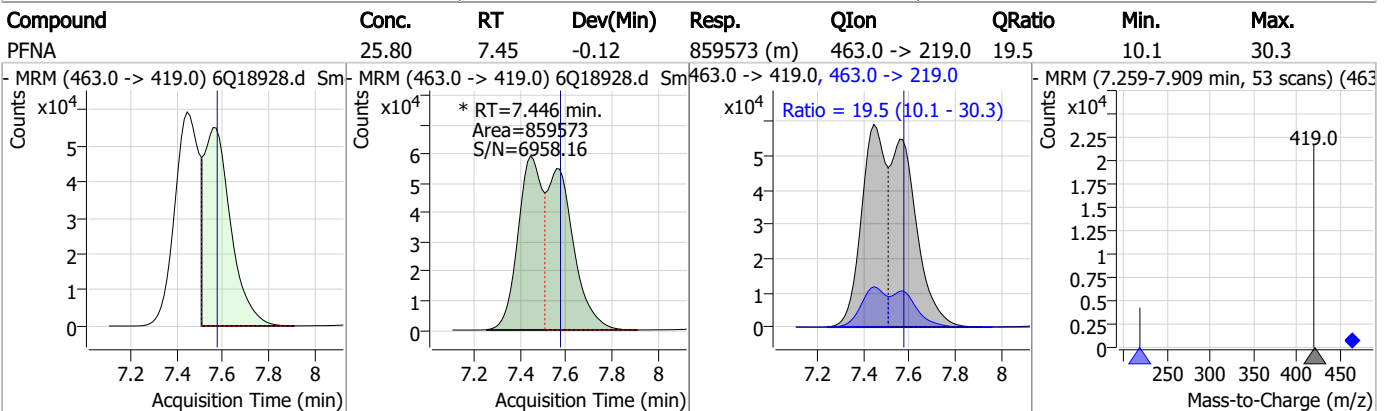
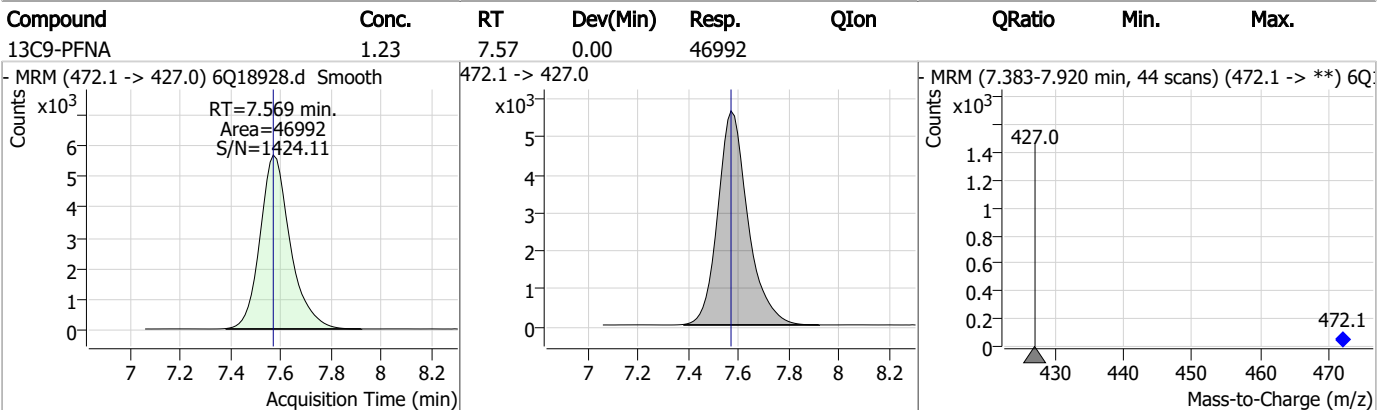
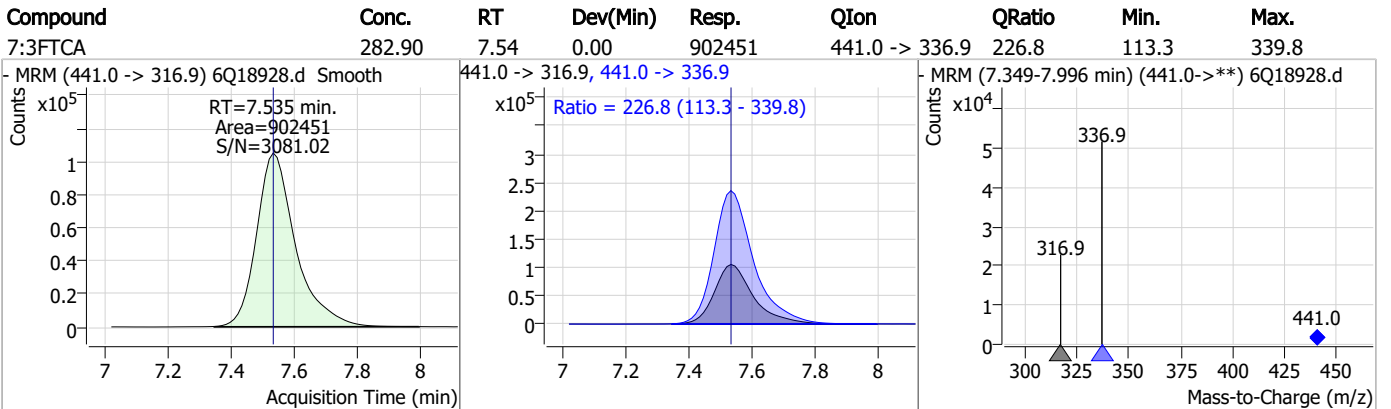
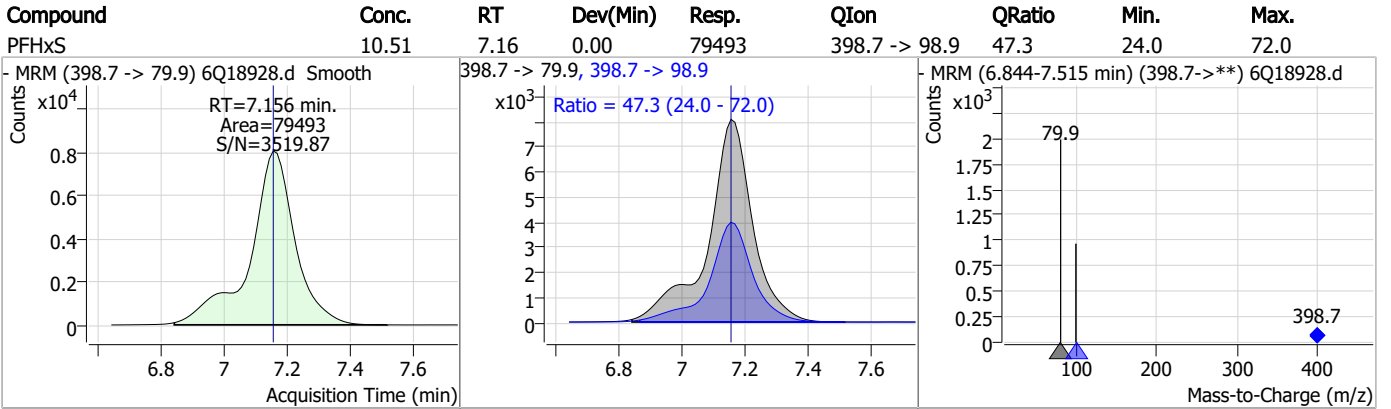
Perfluorinated Compounds by LC/MS/MS



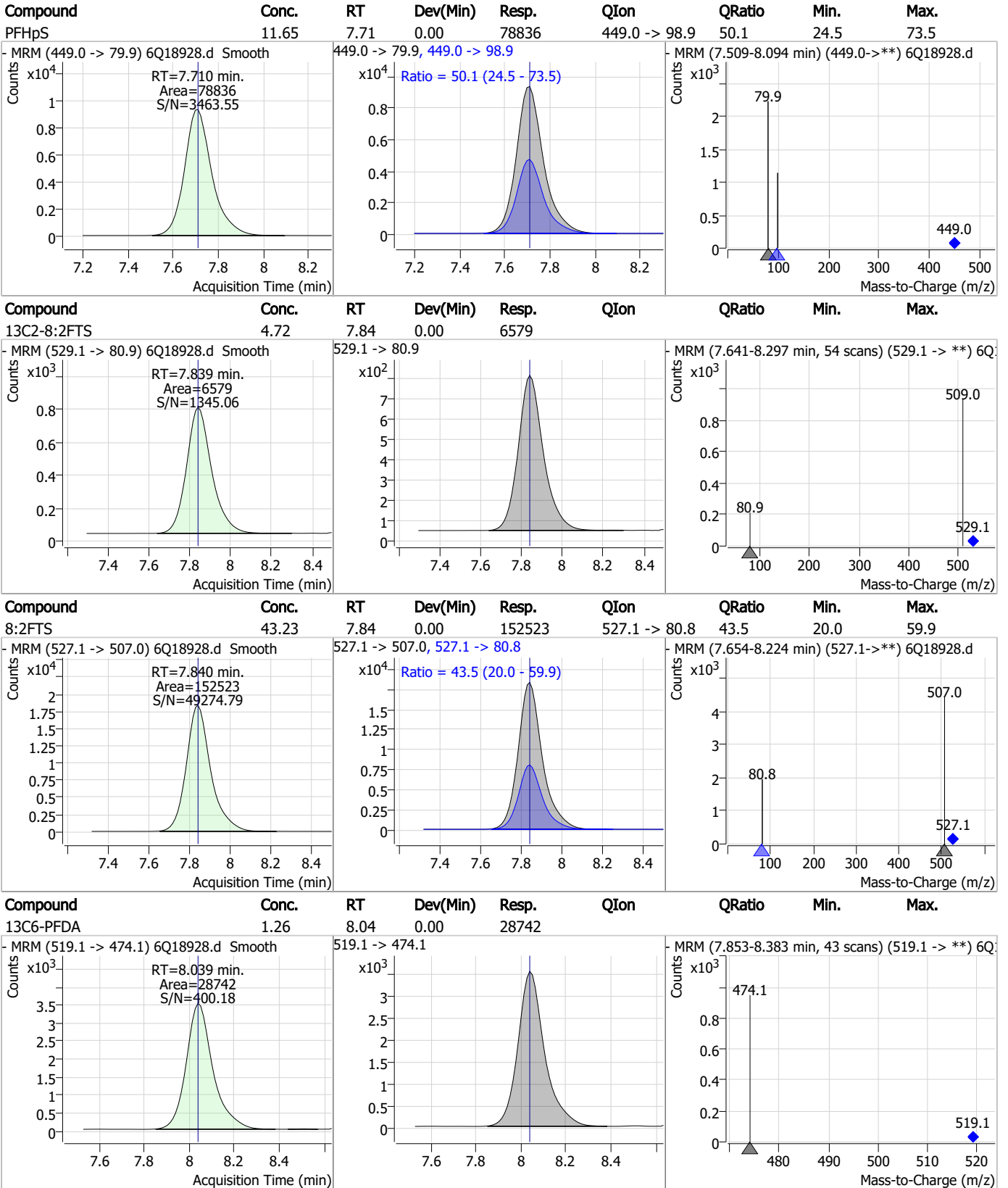
7.6.4

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Perfluorinated Compounds by LC/MS/MS



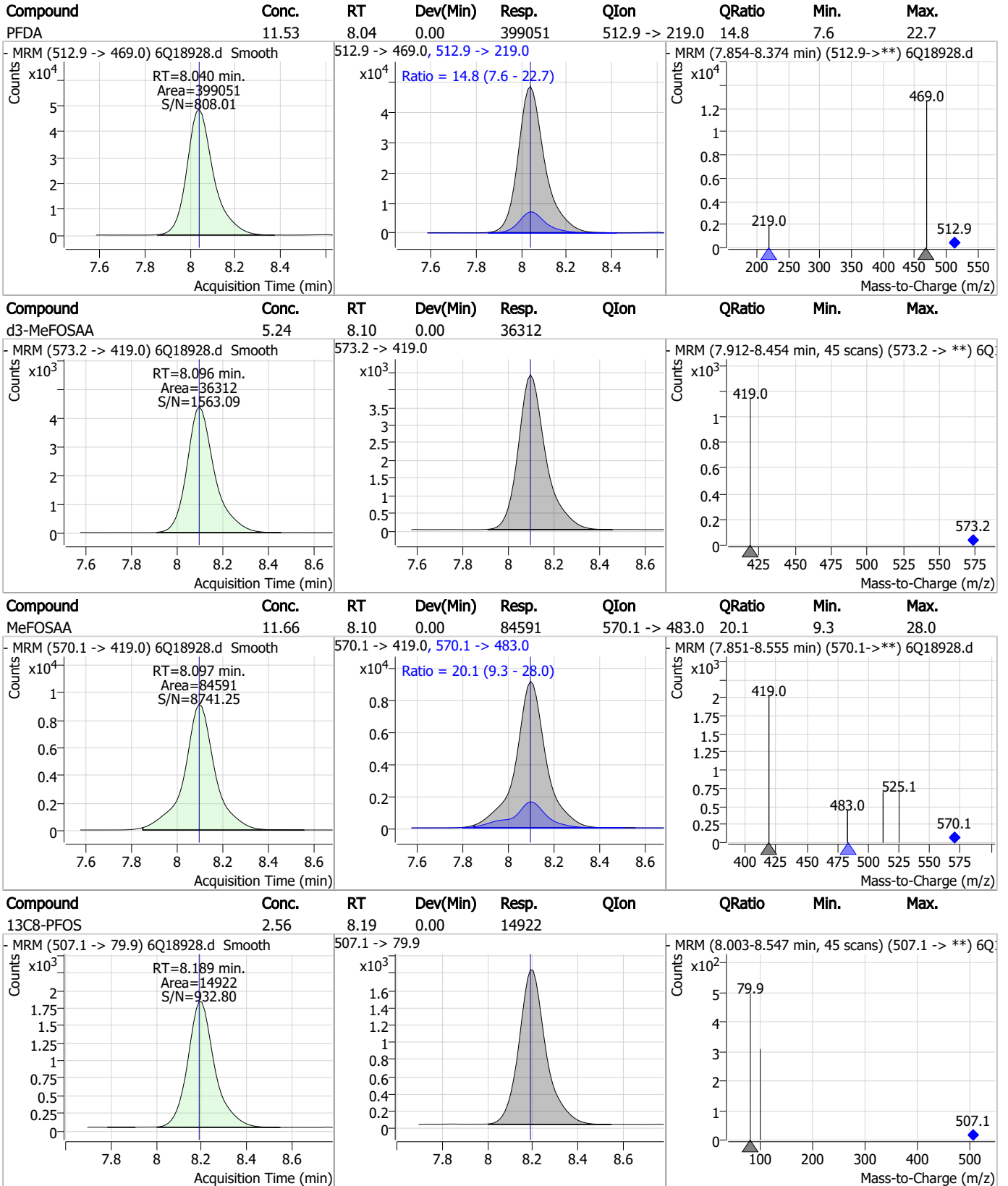
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

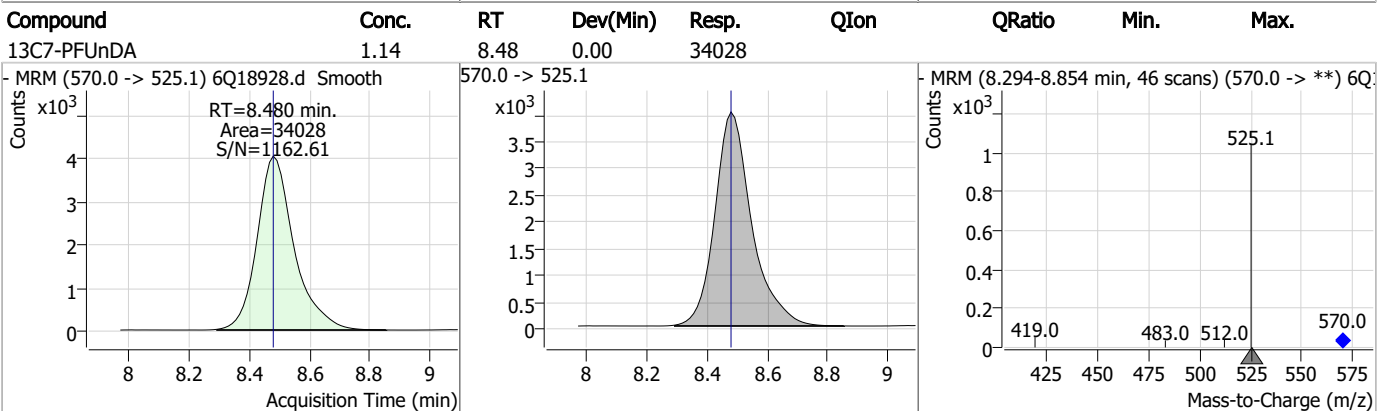
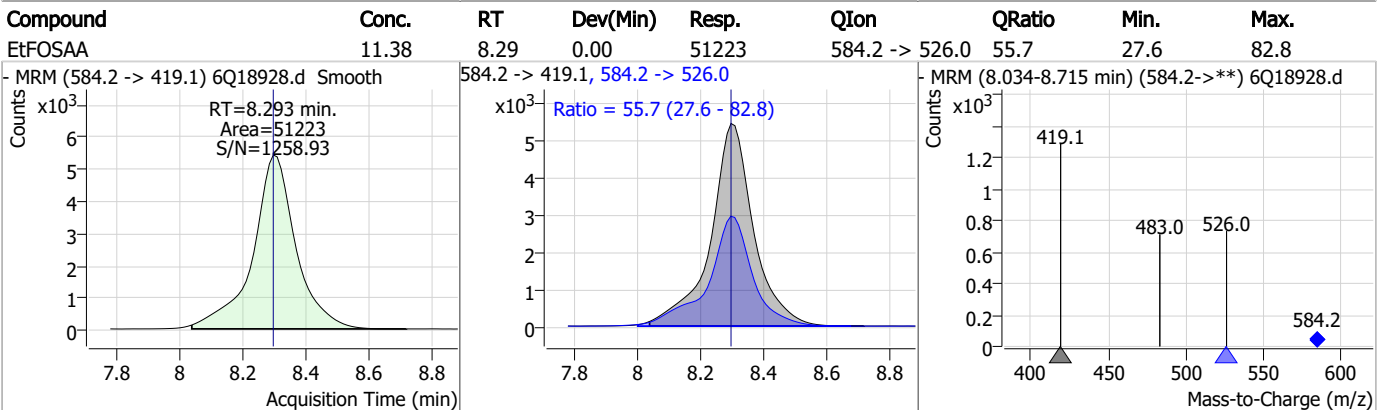
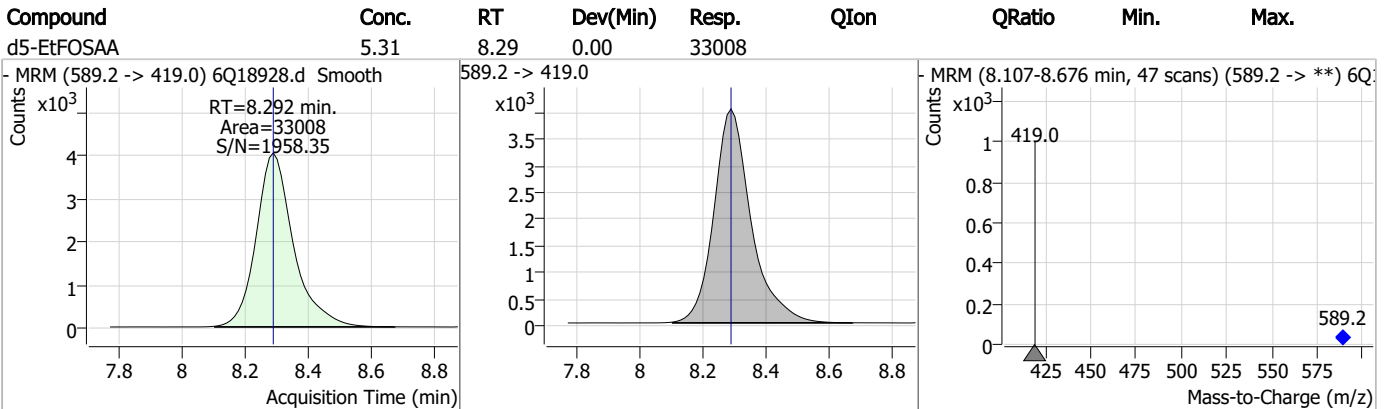
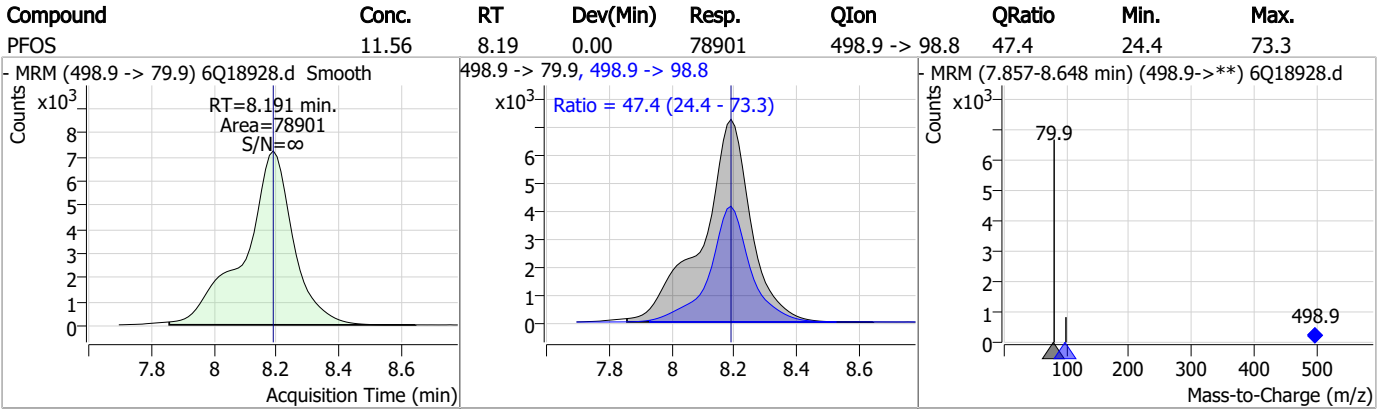
Perfluorinated Compounds by LC/MS/MS



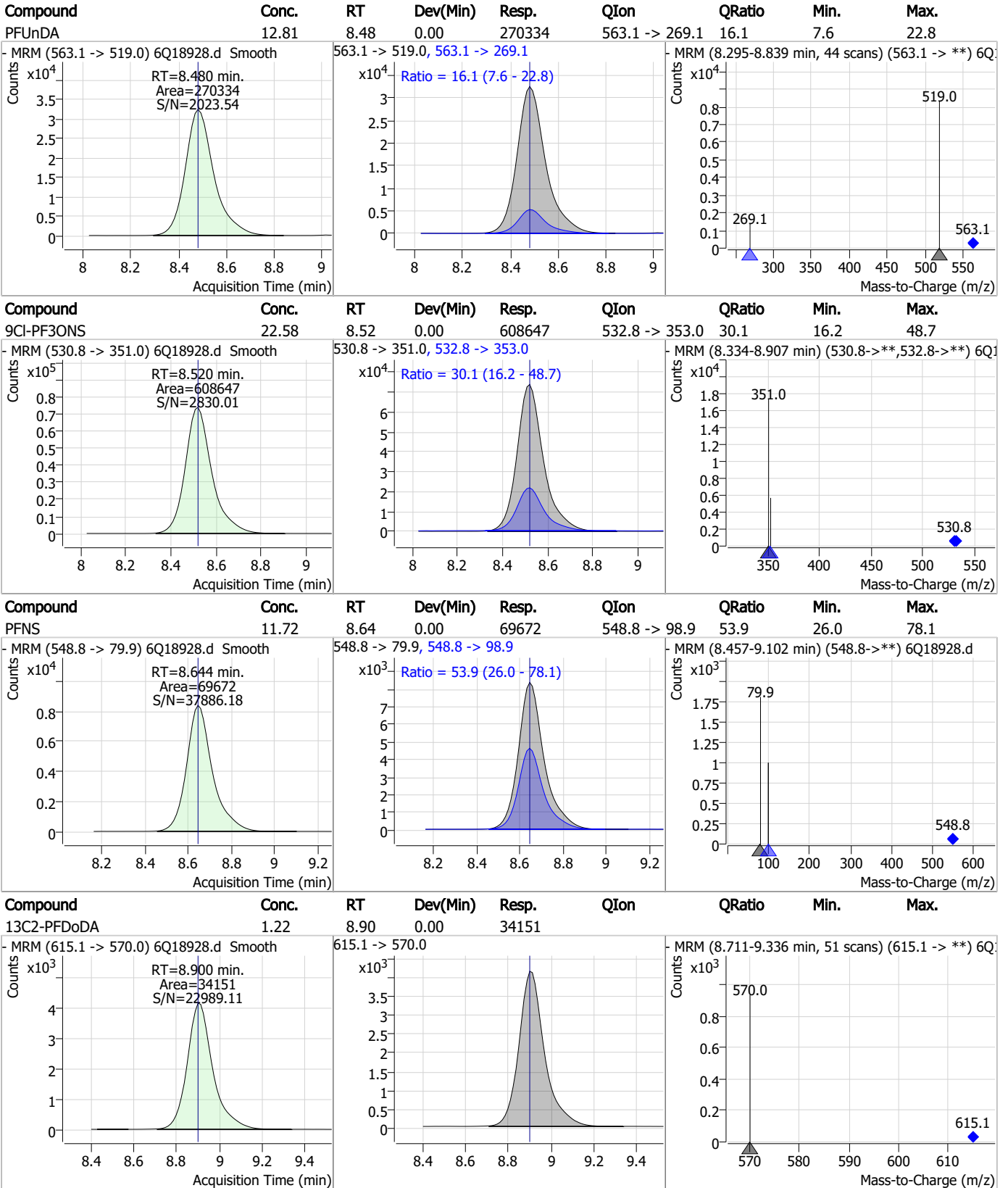
7.6.4

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Perfluorinated Compounds by LC/MS/MS



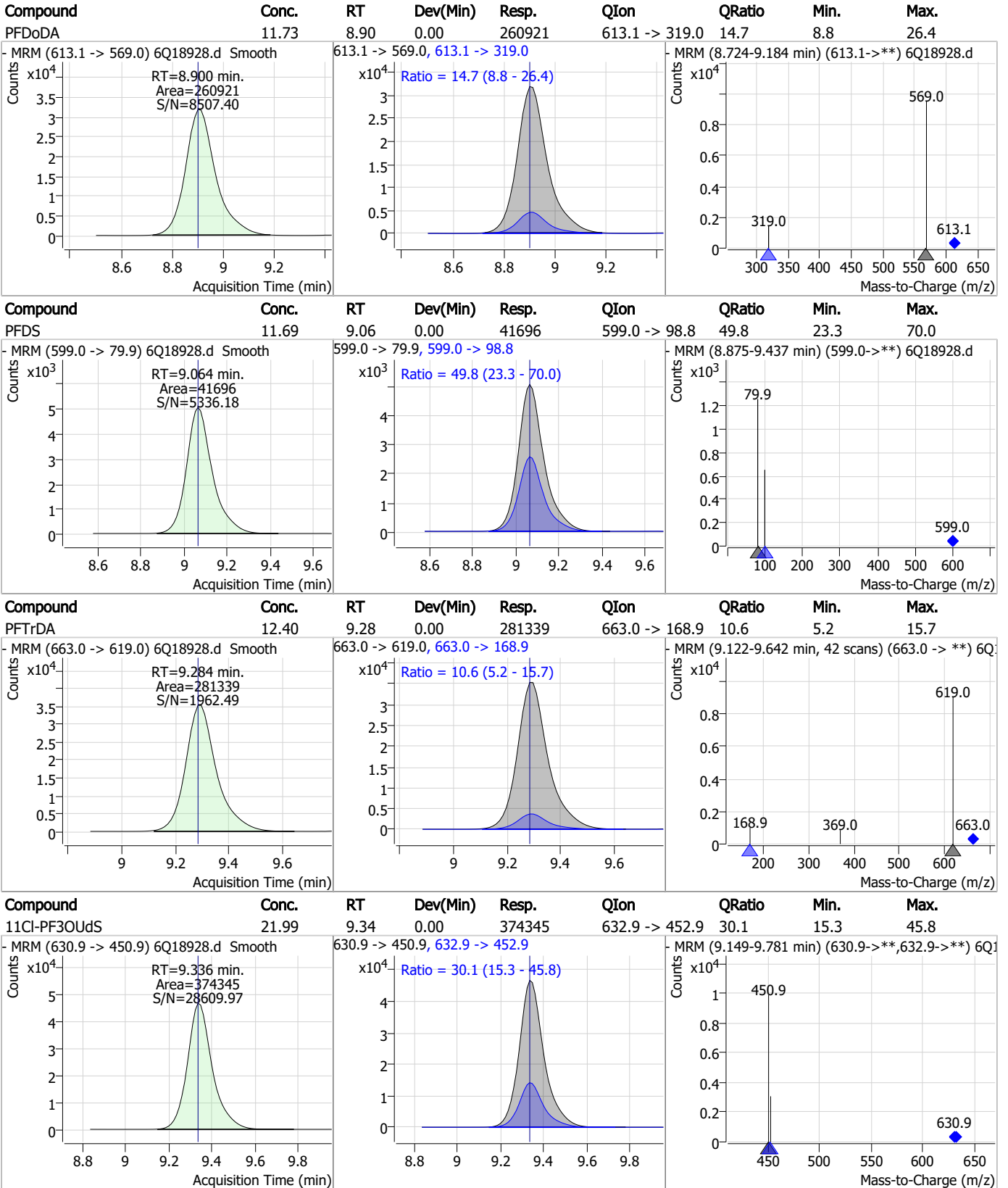
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

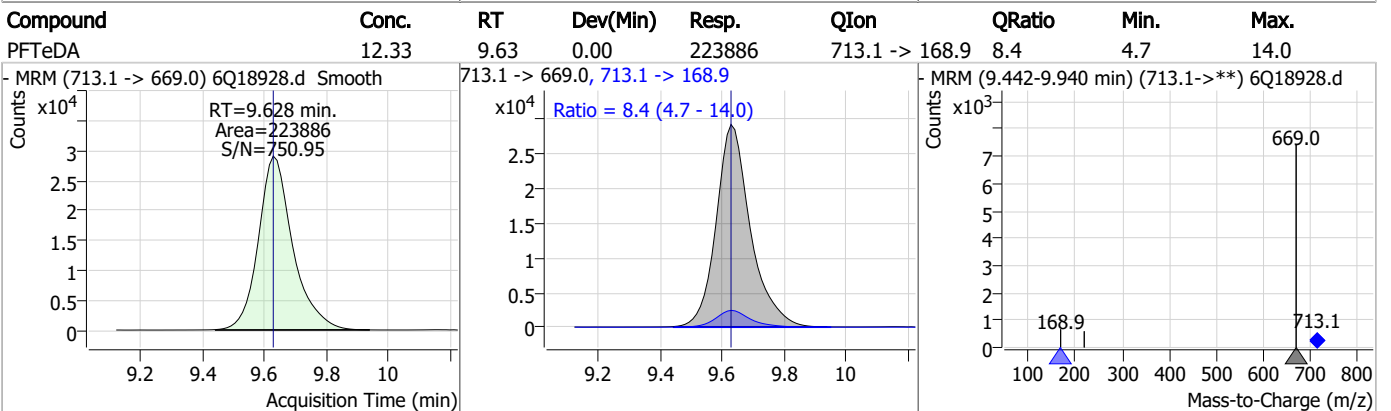
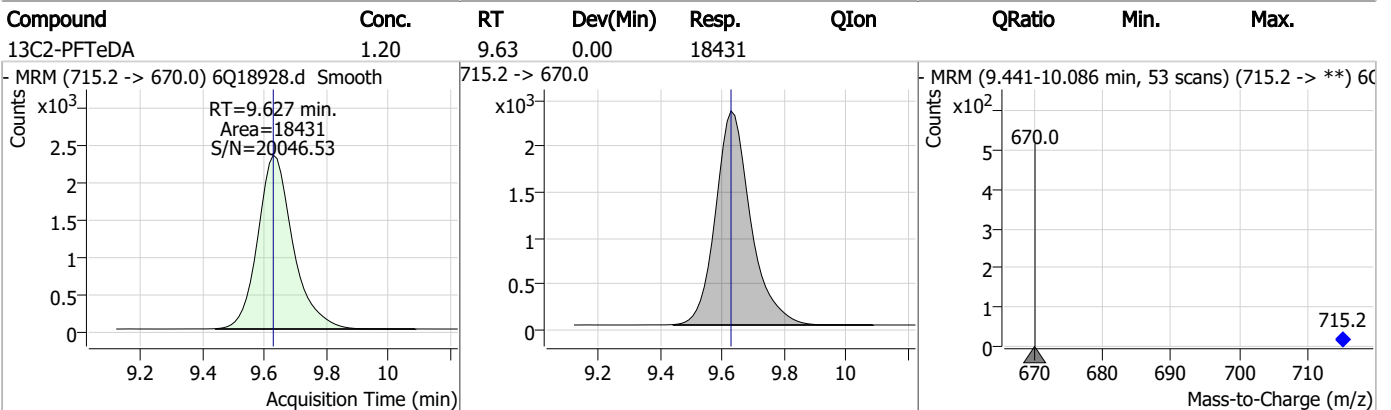
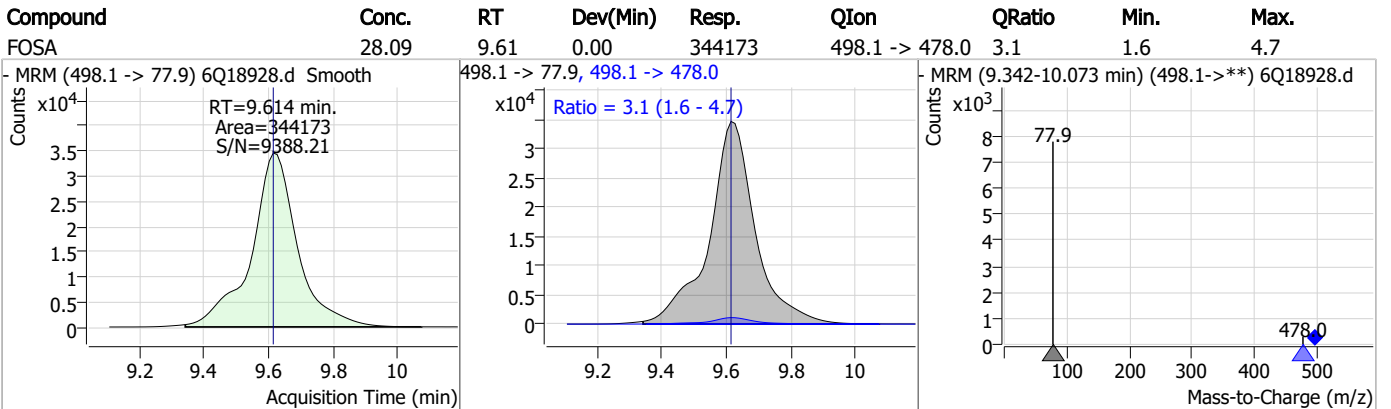
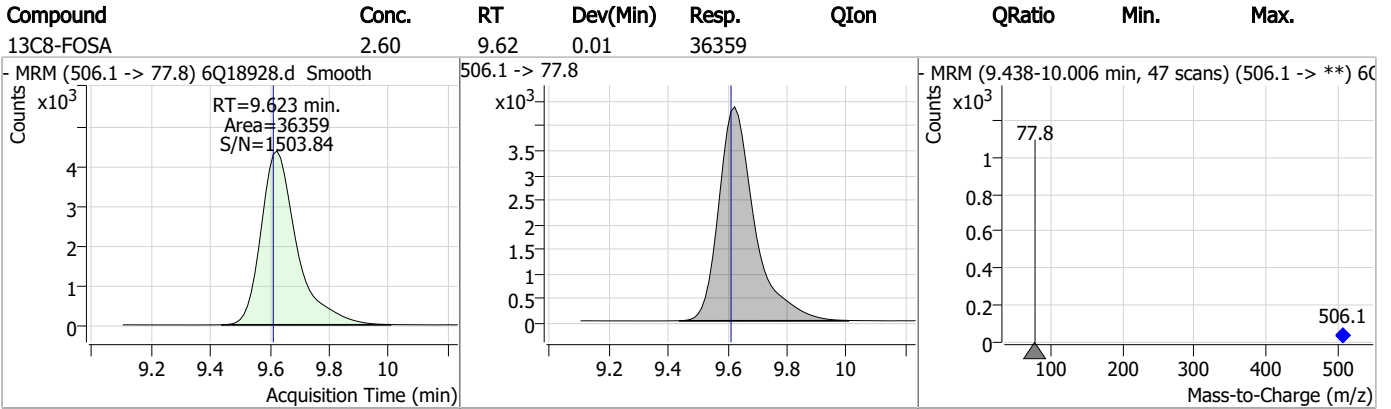
Perfluorinated Compounds by LC/MS/MS



7.6.4

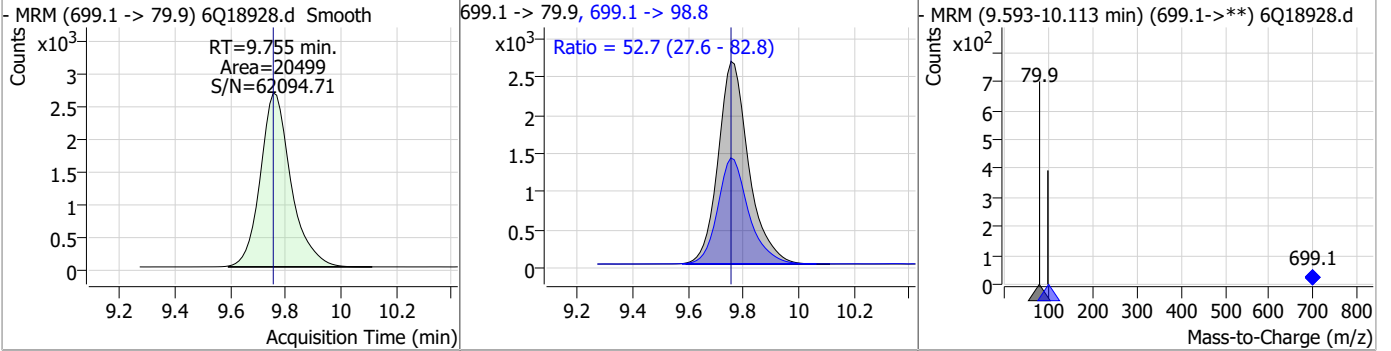
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Perfluorinated Compounds by LC/MS/MS

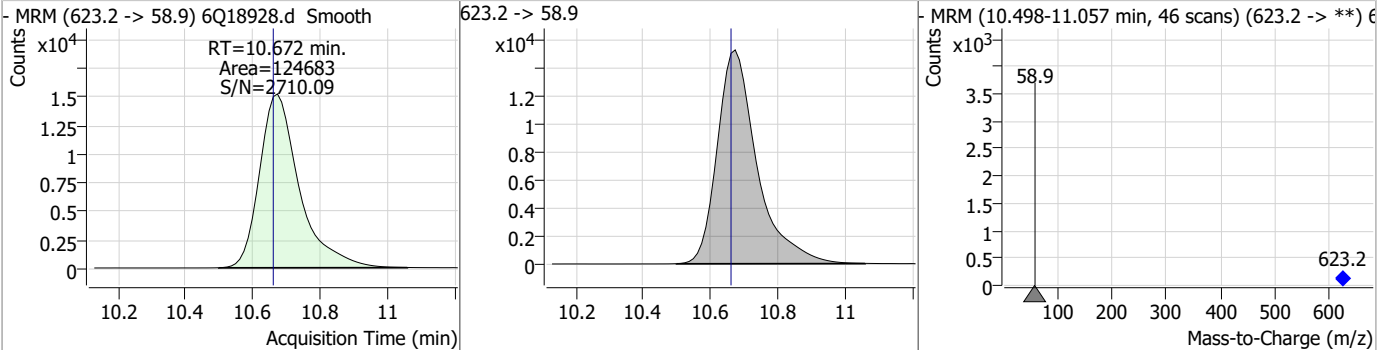


Perfluorinated Compounds by LC/MS/MS

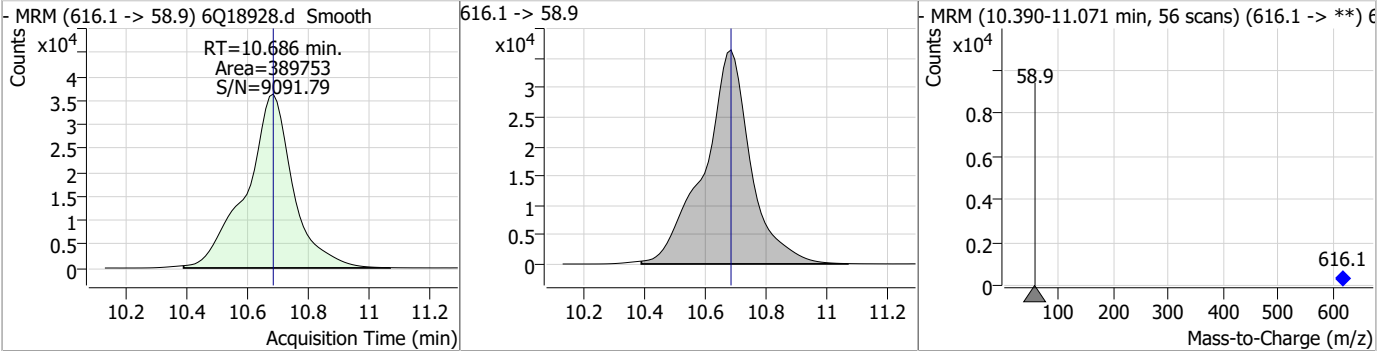
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	12.17	9.75	0.00	20499	699.1 -> 98.8	52.7	27.6	82.8



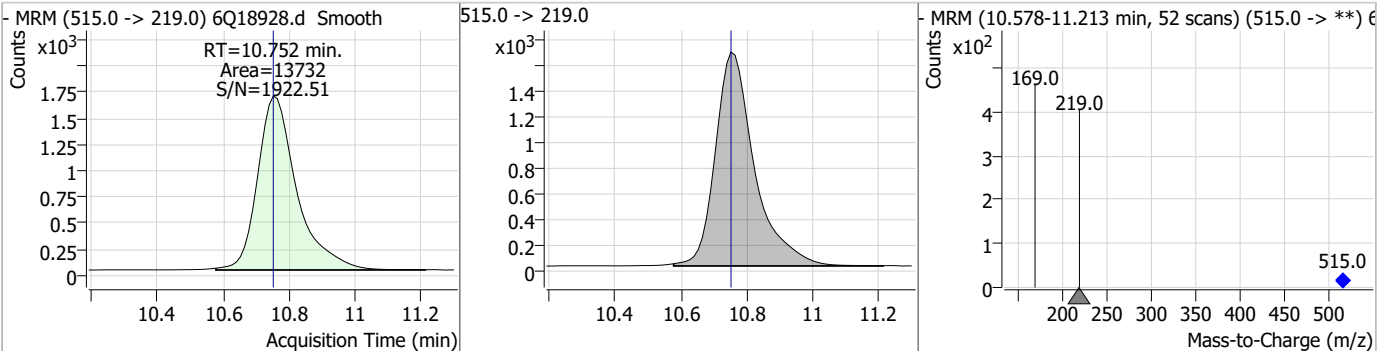
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.81	10.67	0.01	124683				



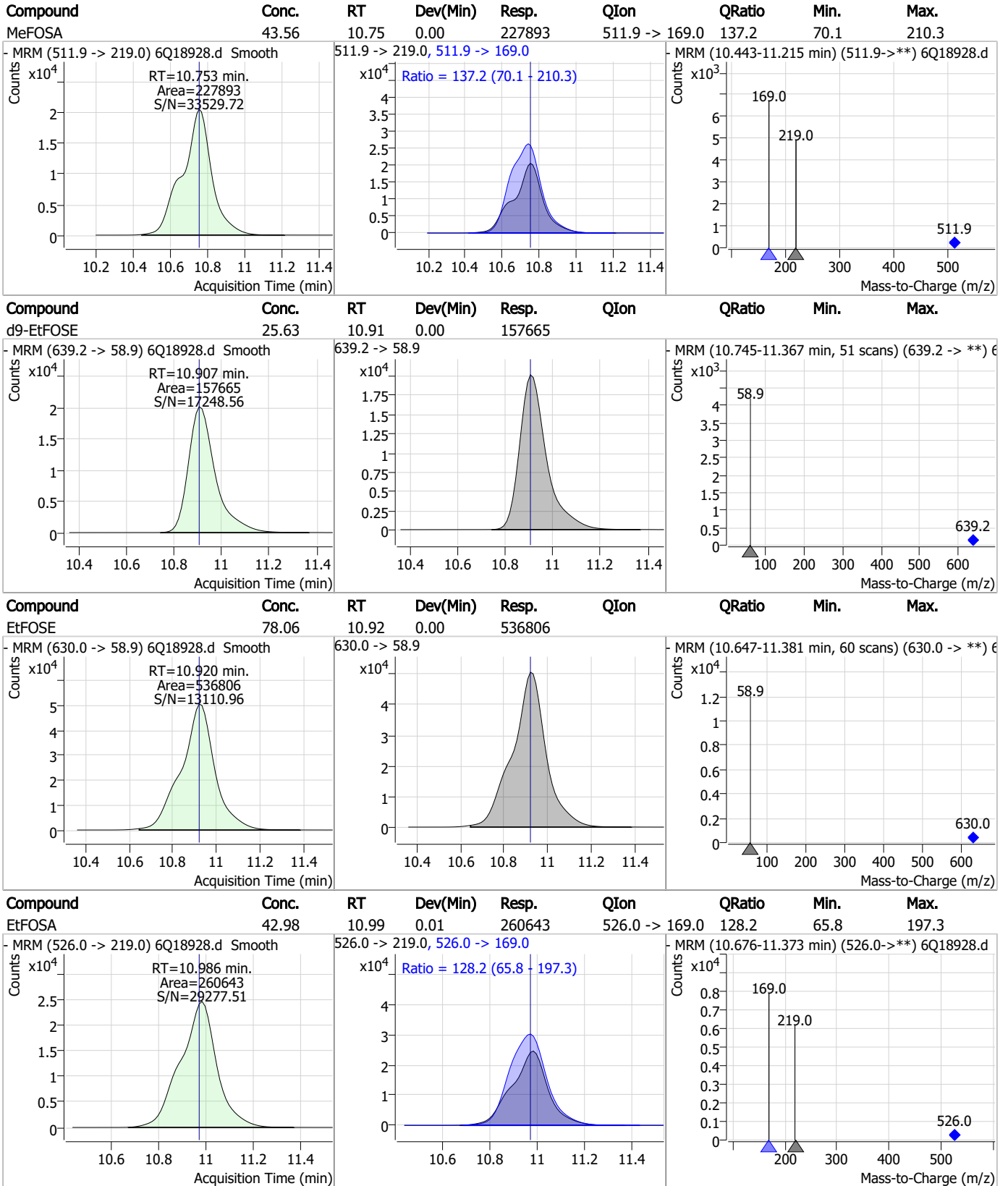
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	80.74	10.69	0.00	389753				



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



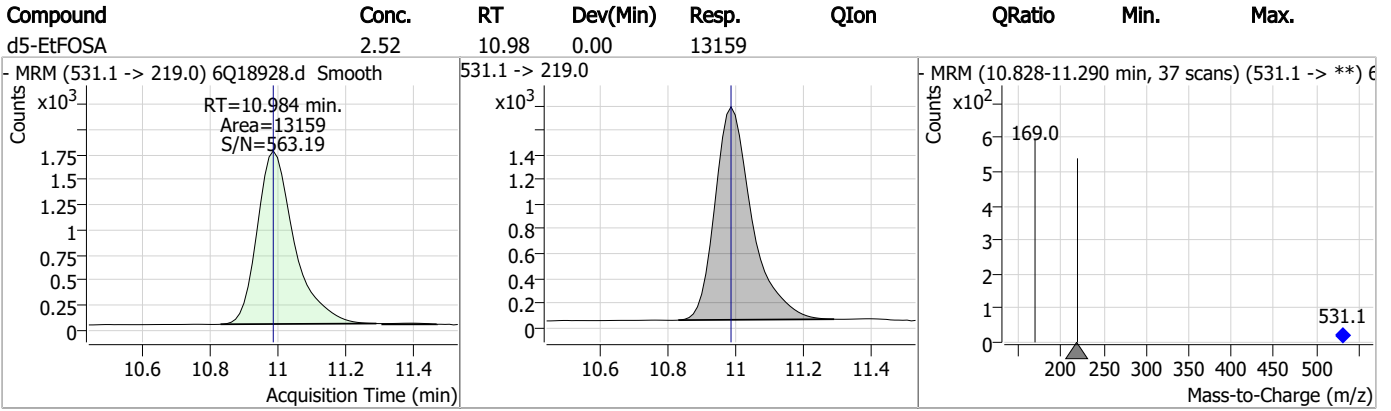
Perfluorinated Compounds by LC/MS/MS



7.6.4

7

Perfluorinated Compounds by LC/MS/MS



7.6.4

7

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

7

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

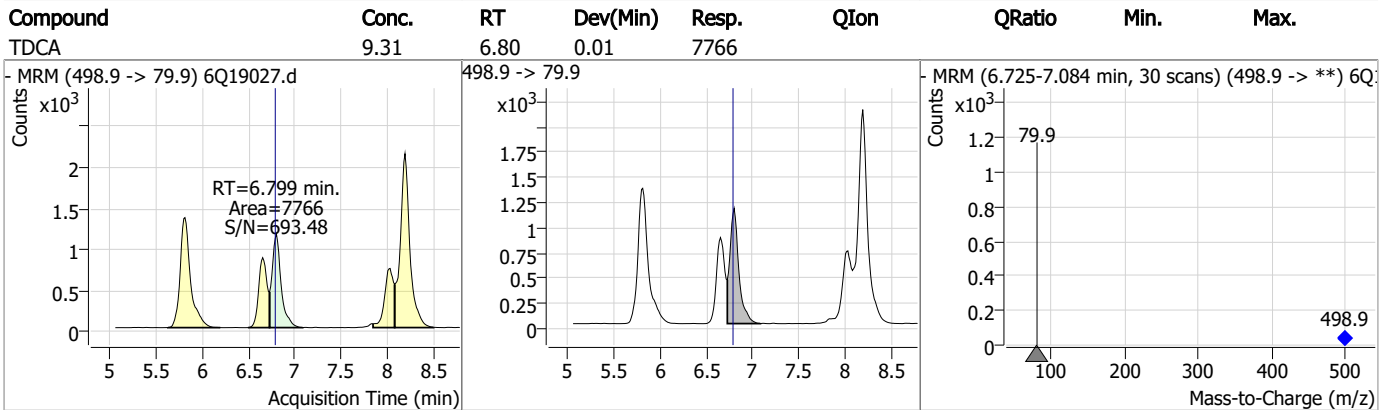
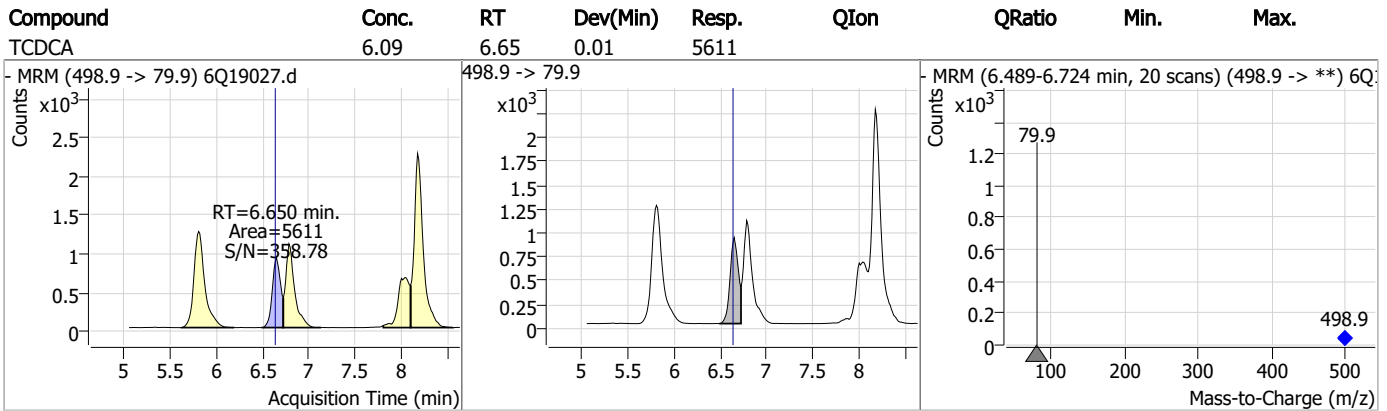
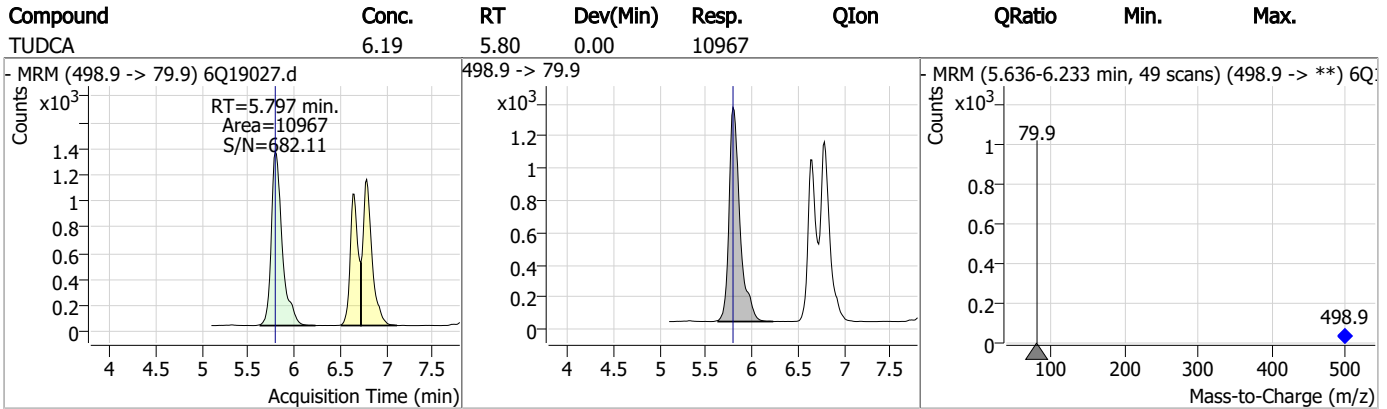
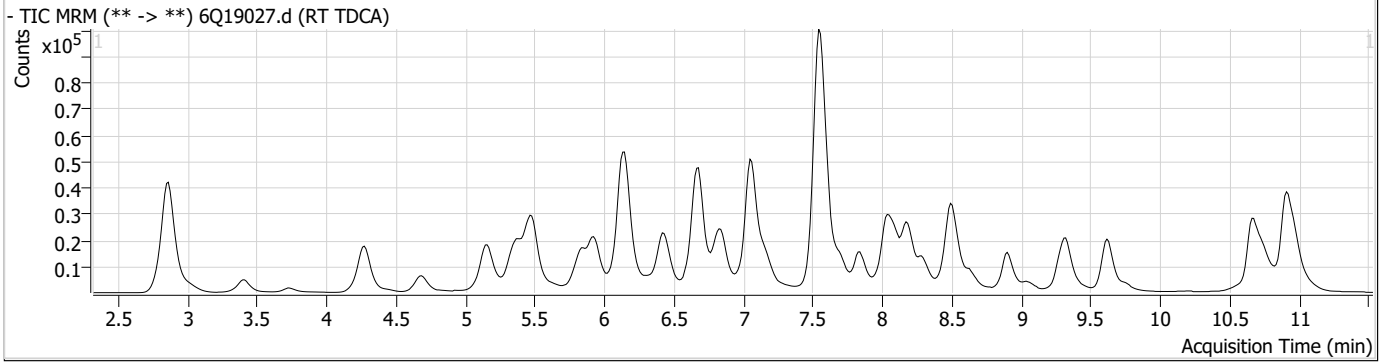
Compound	RT	Transition	Response	Conc.	Units	Dev(Min)	QValue
Internal Standards							
M8-PFOS	8.189	507.1 -> 79.9	19967	2.50	µg/L	0.000	
13C4-PFOS	8.190	502.8 -> 79.9	24741	2.50	µg/L	0.000	
System Monitoring Compounds							
13C8-PFOS	8.189	507.1 -> 79.9	19967	2.05	µg/L	0.000	
Spiked Amount: 2.50	Range: 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

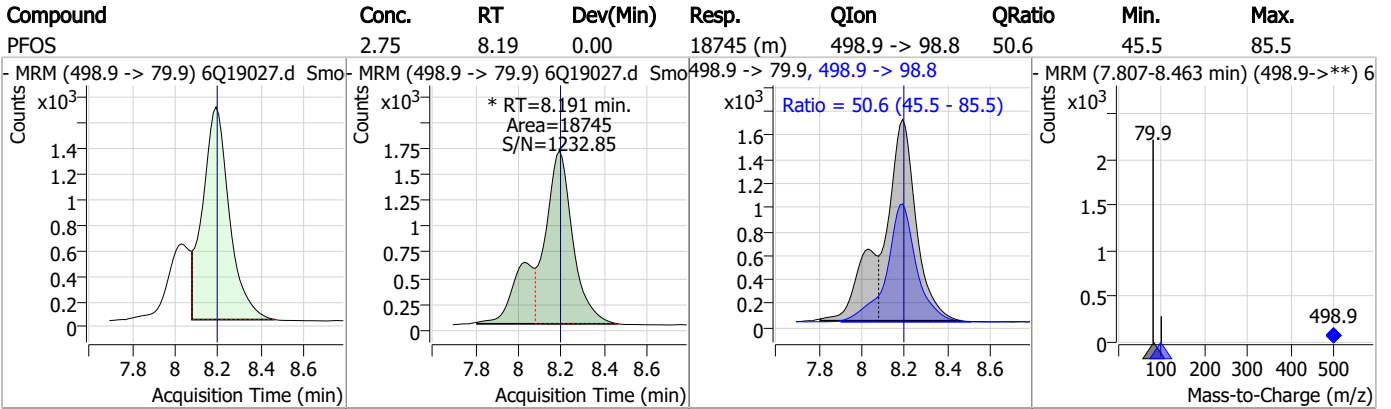
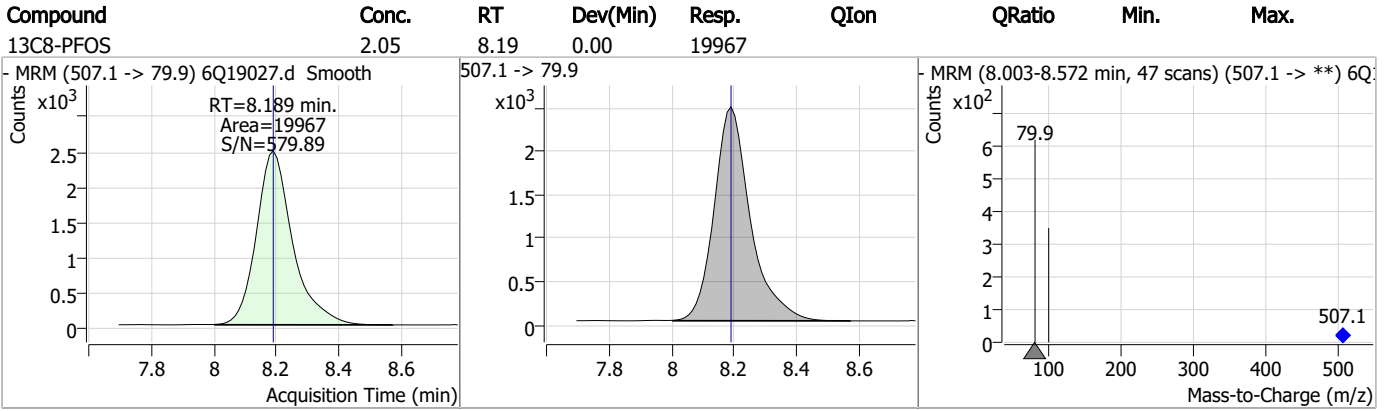
7.6.5

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

7.6.5.1

7

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

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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

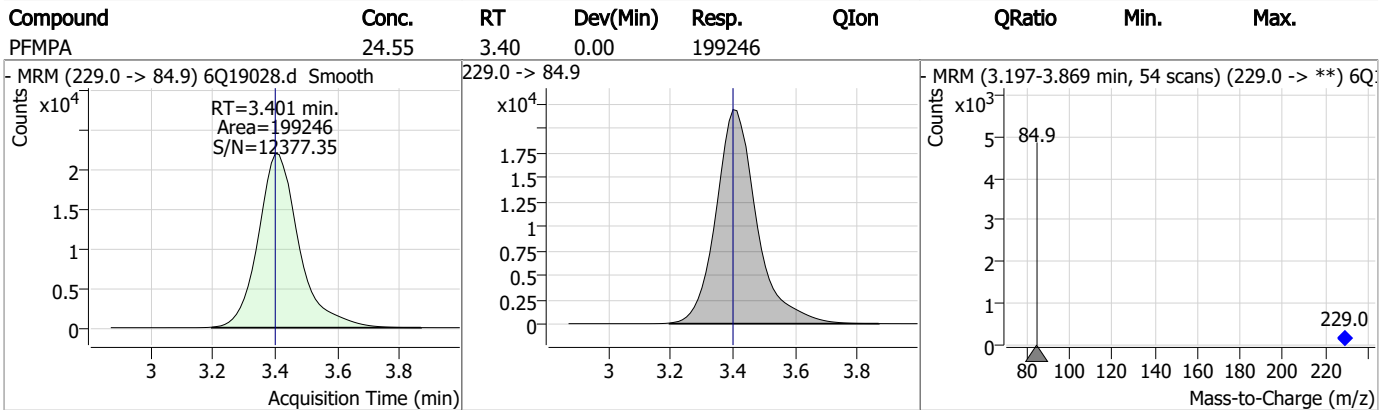
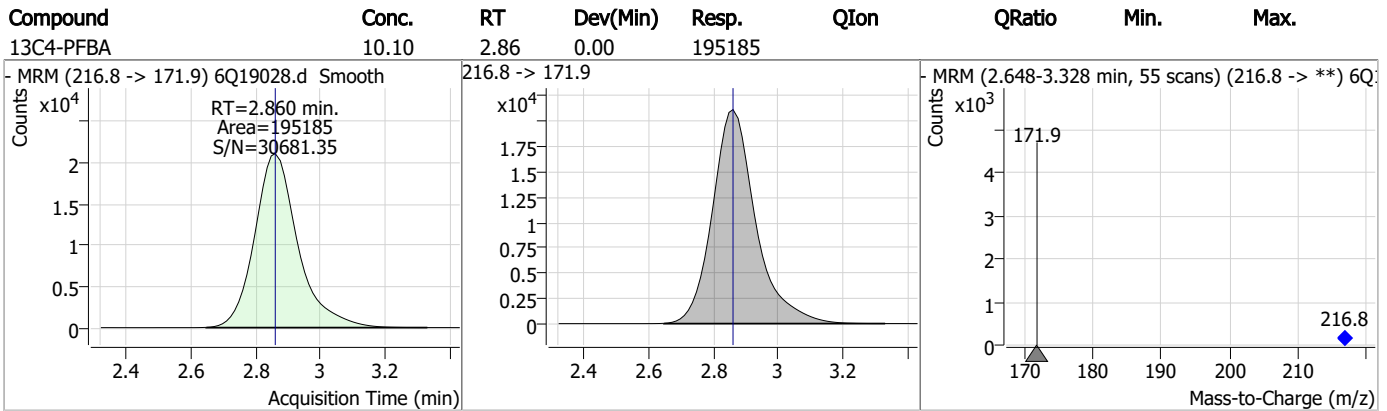
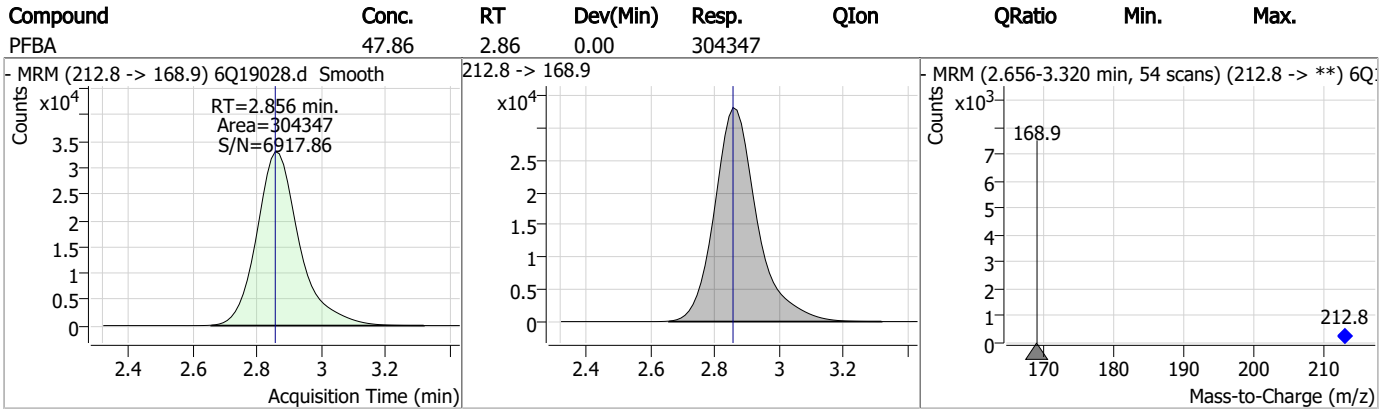
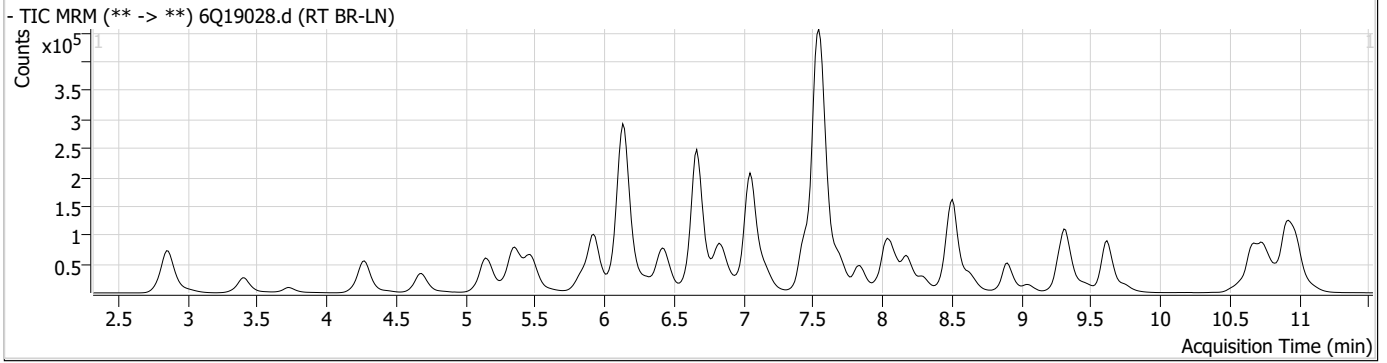
Perfluorinated Compounds by LC/MS/MS

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

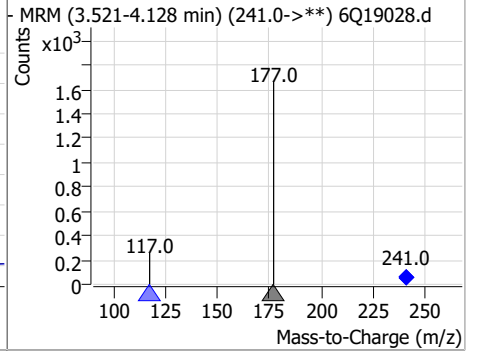
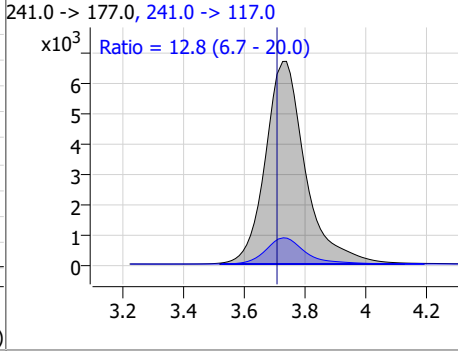
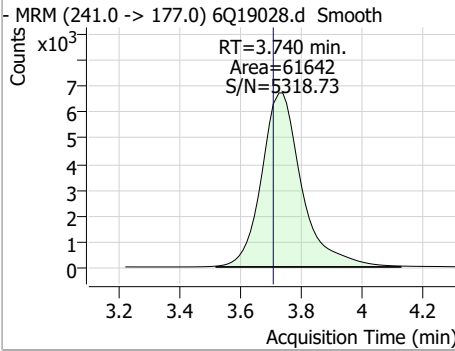
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Perfluorinated Compounds by LC/MS/MS

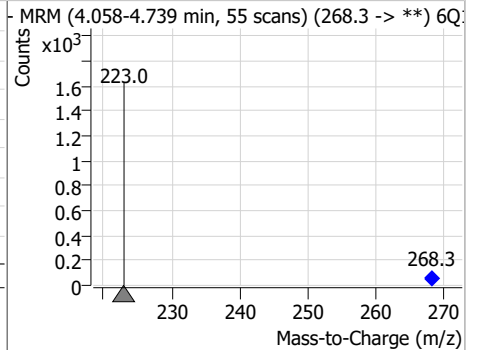
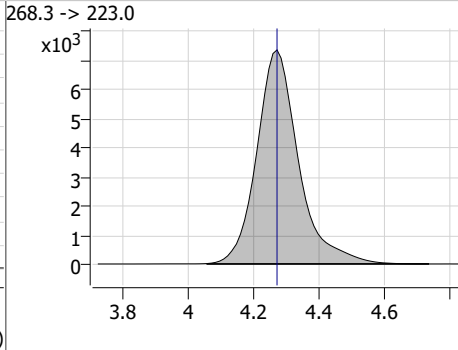
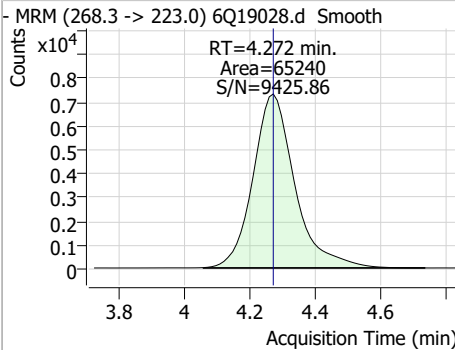


Perfluorinated Compounds by LC/MS/MS

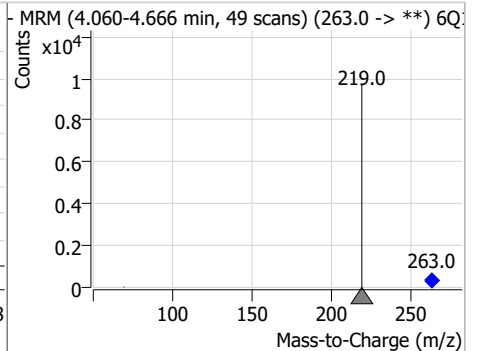
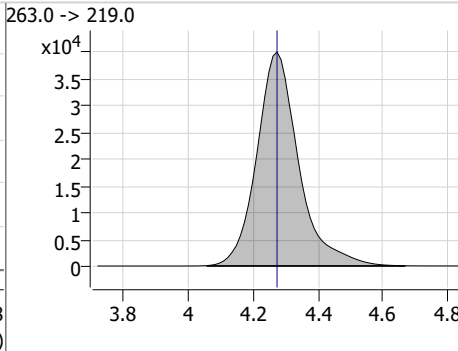
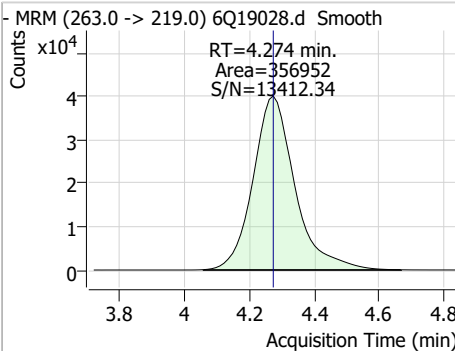
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	56.47	3.74	0.03	61642	241.0 -> 117.0	12.8	6.7	20.0



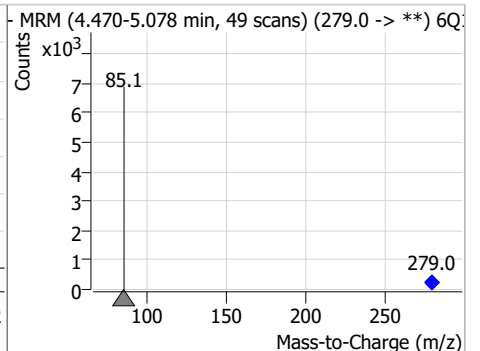
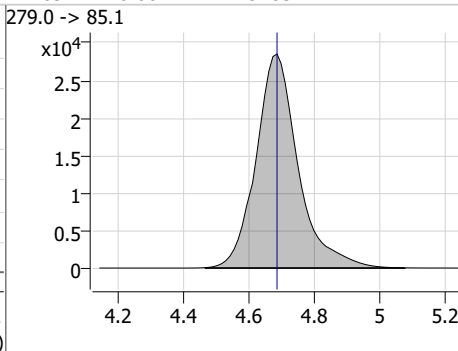
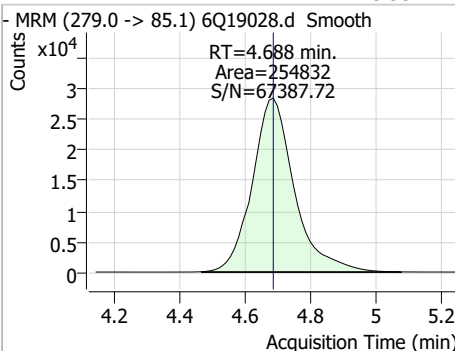
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.17	4.27	0.00	65240				



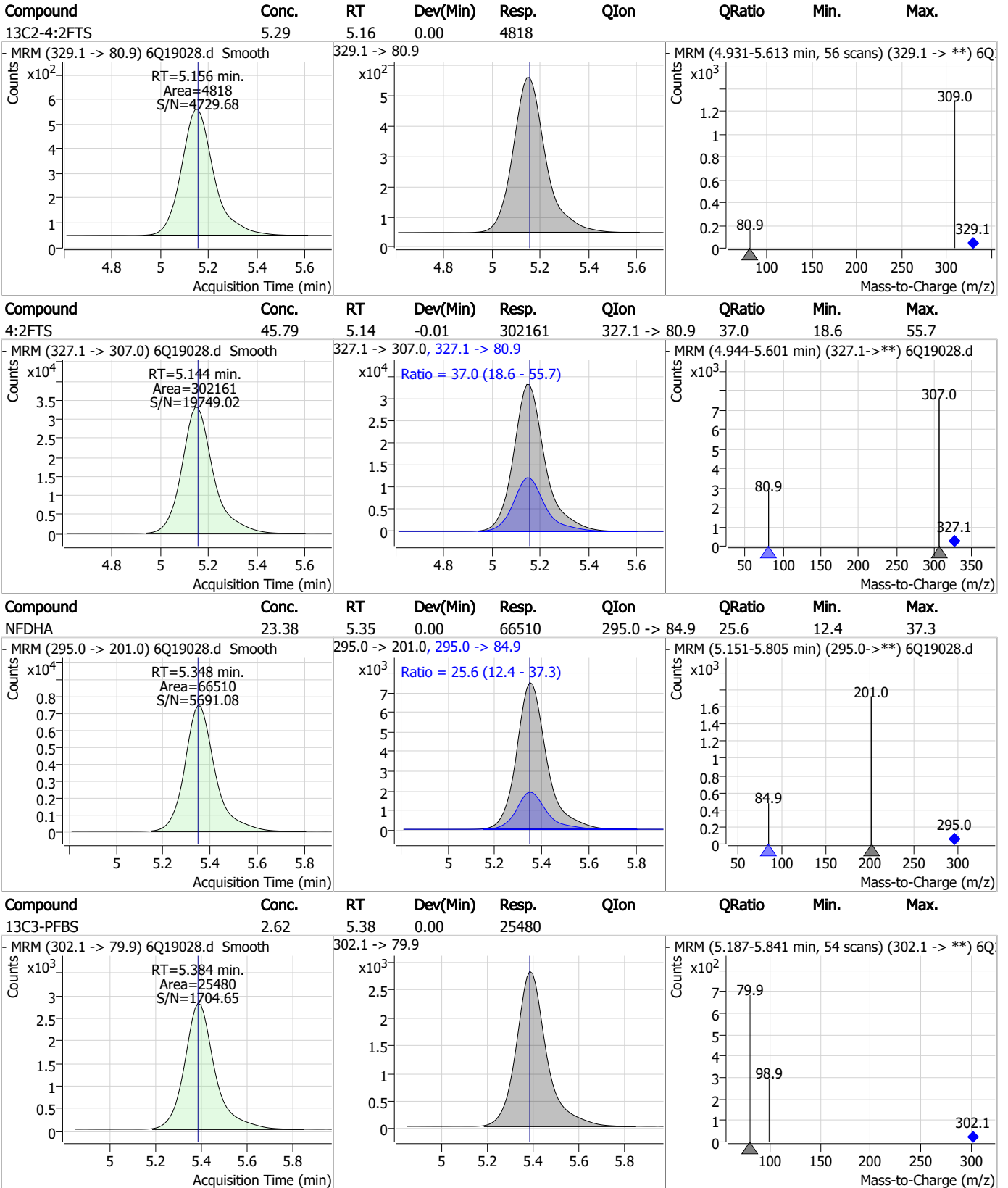
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	23.16	4.27	0.00	356952				



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



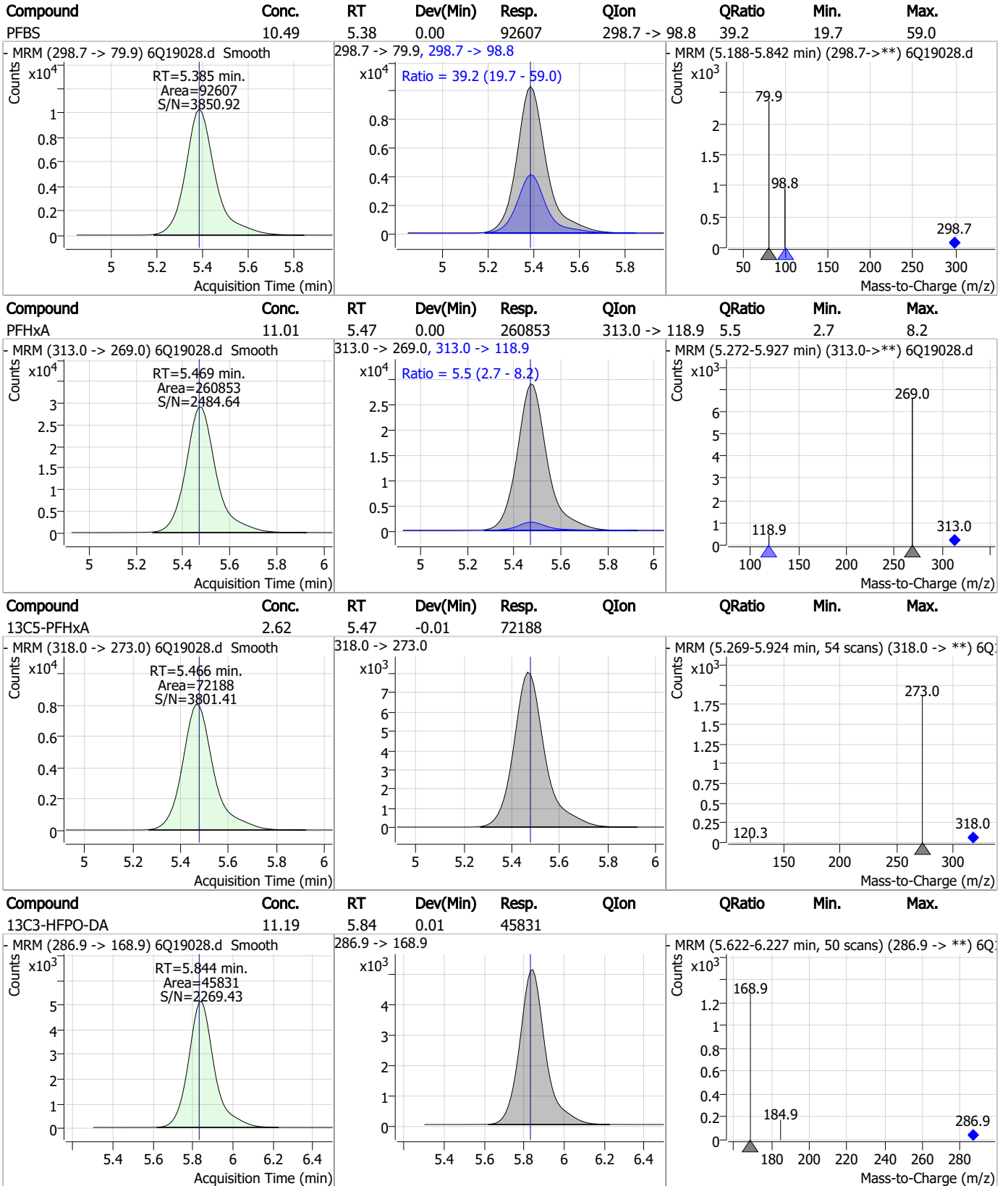
Perfluorinated Compounds by LC/MS/MS



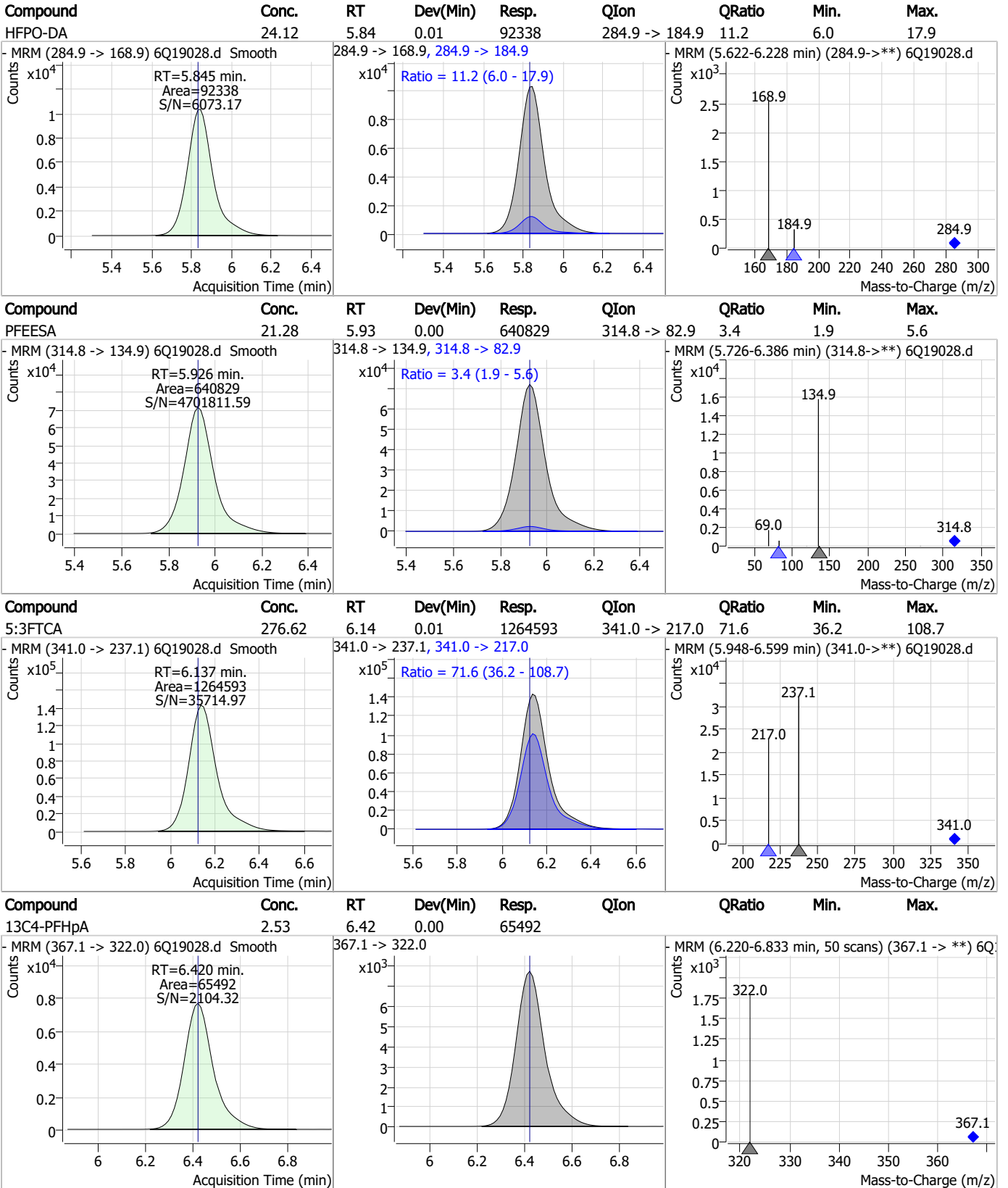
7.6.6

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Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

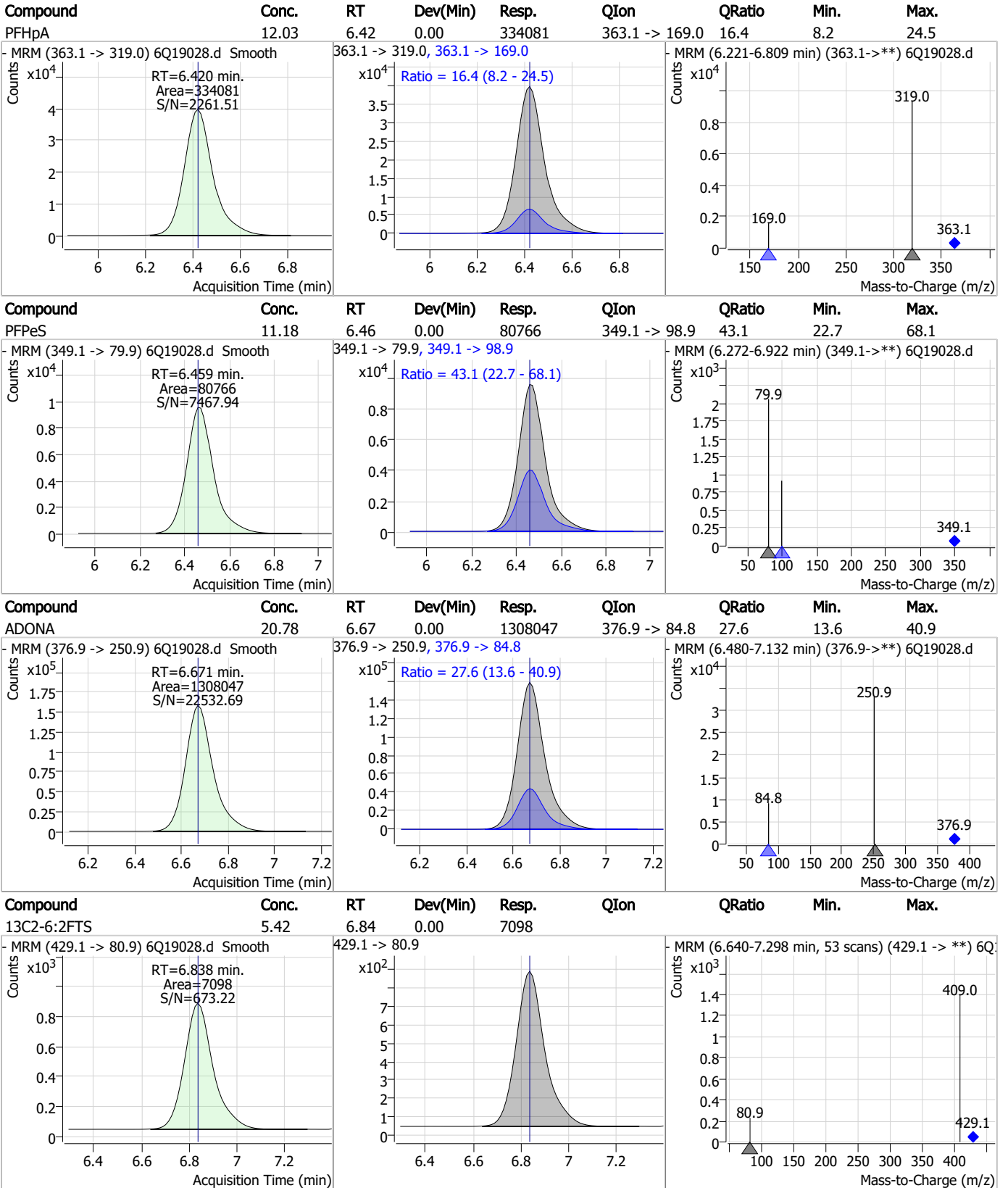


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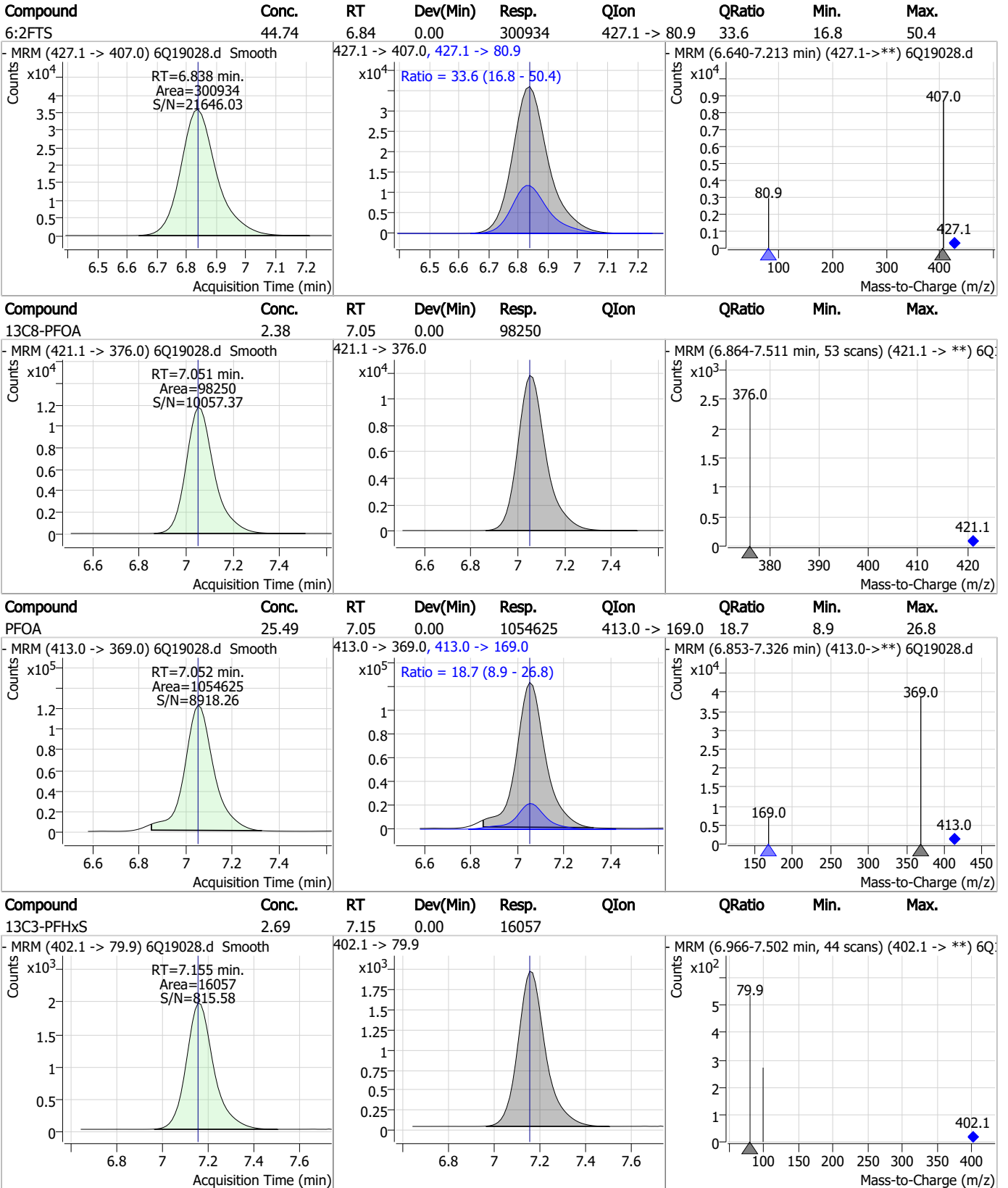
Perfluorinated Compounds by LC/MS/MS



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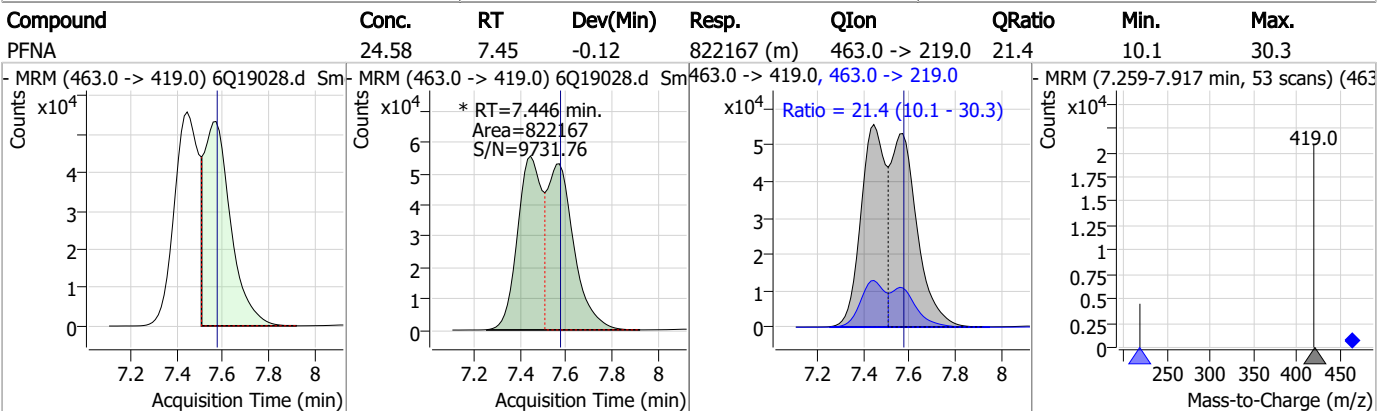
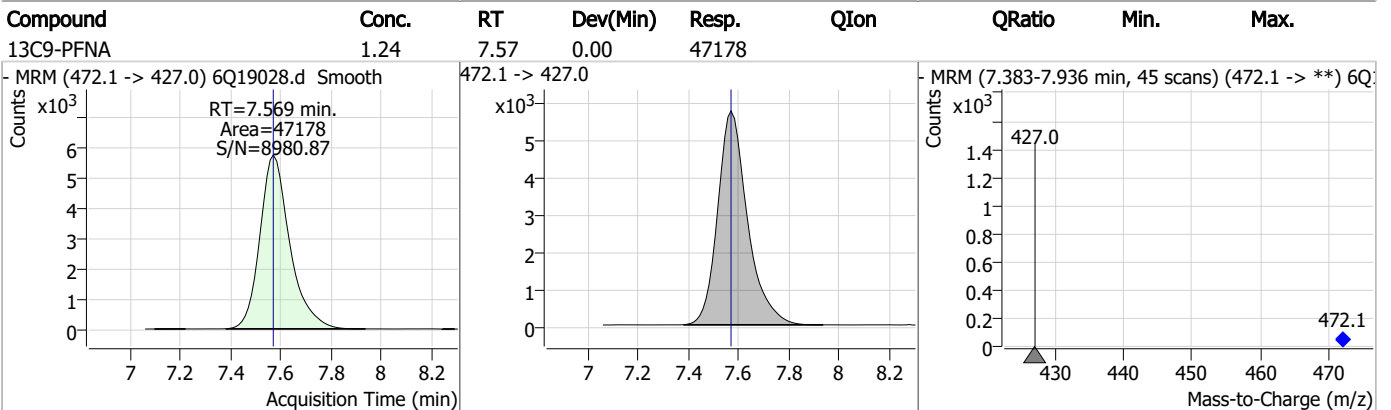
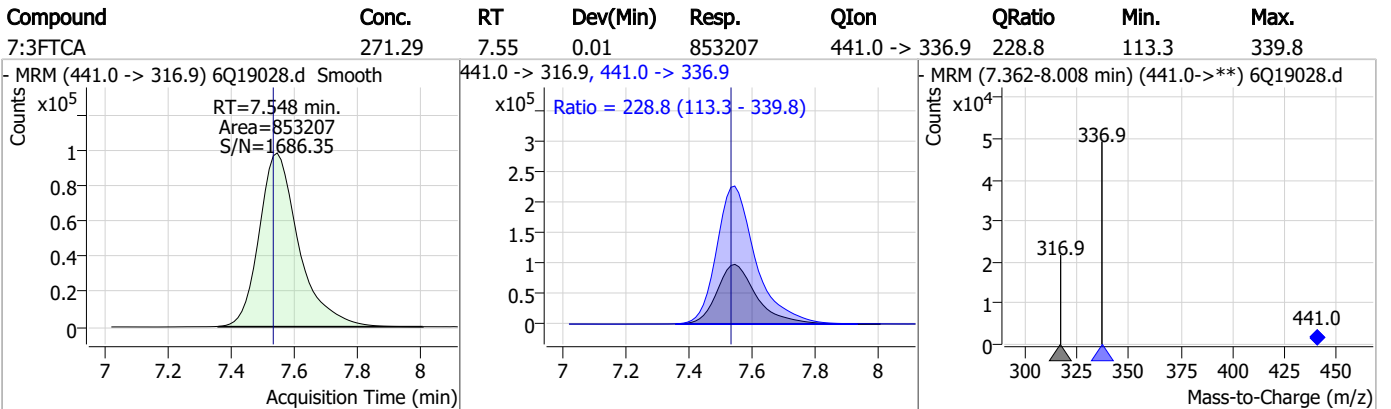
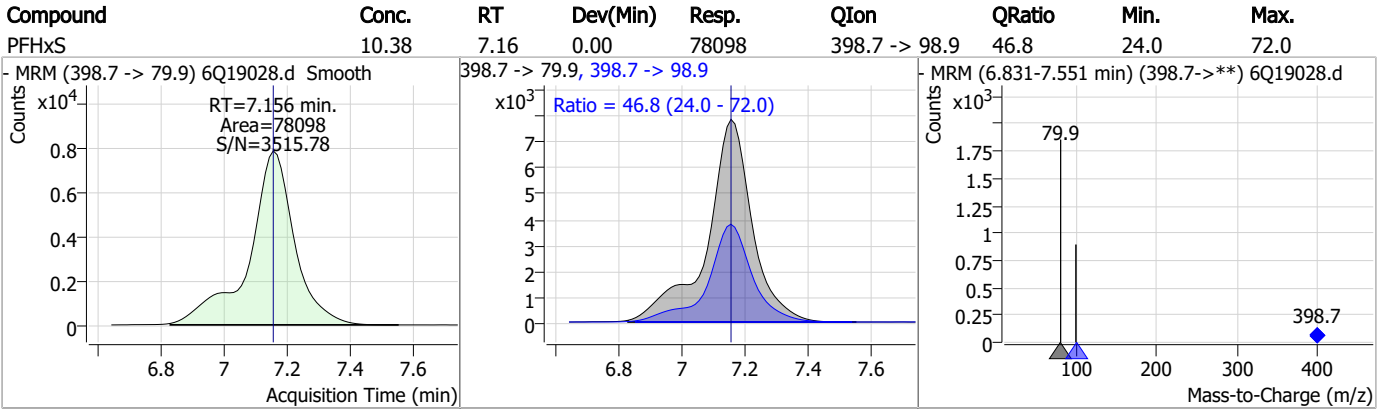
Perfluorinated Compounds by LC/MS/MS



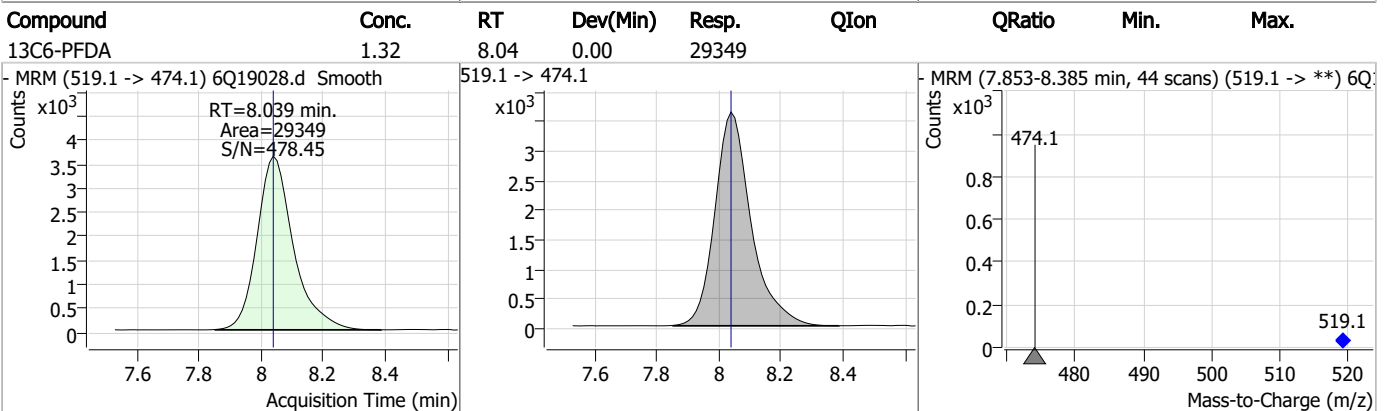
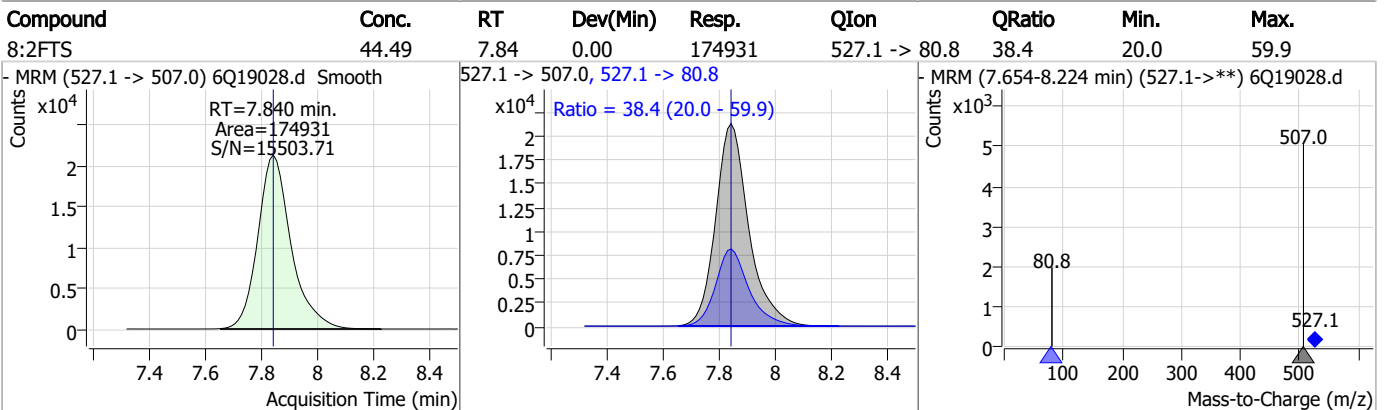
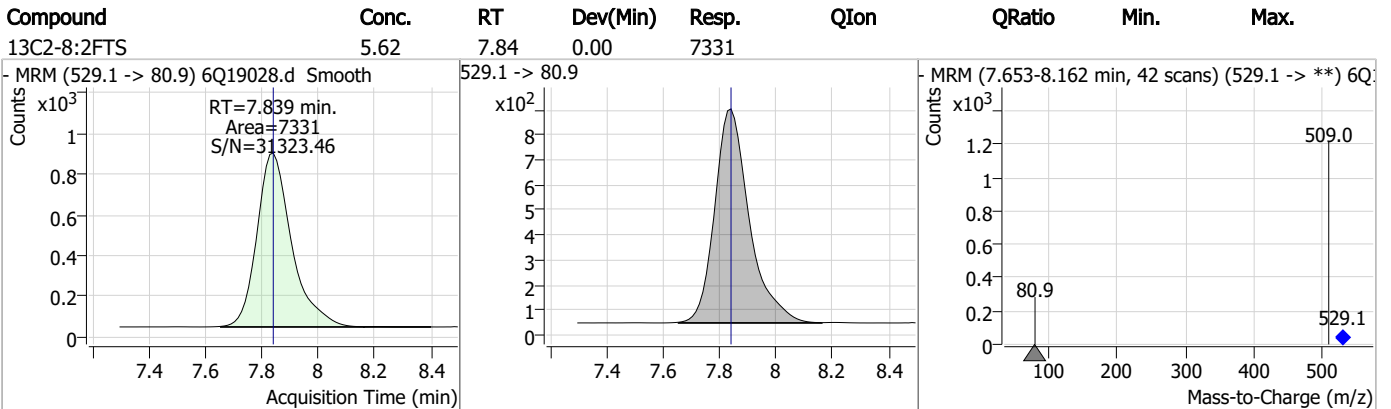
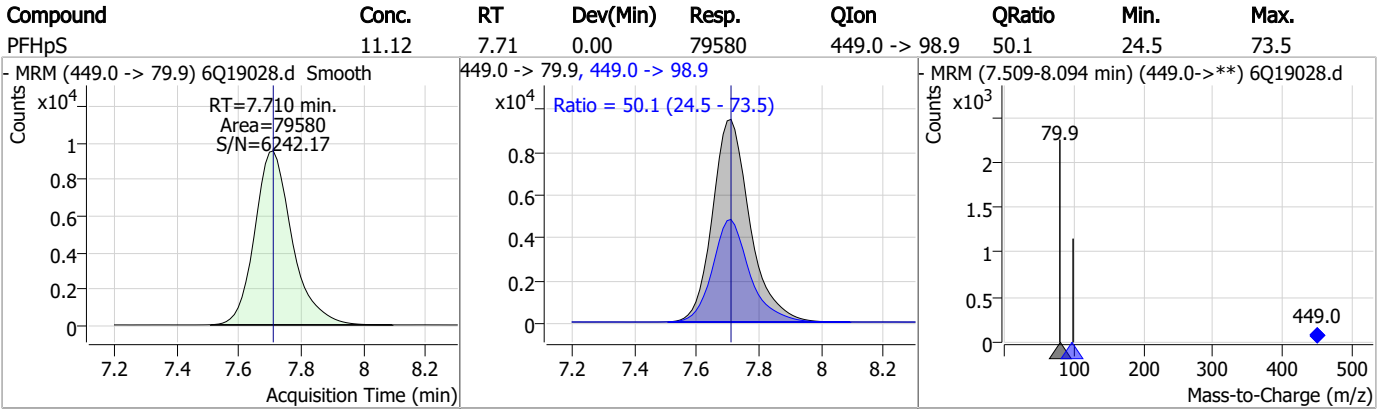
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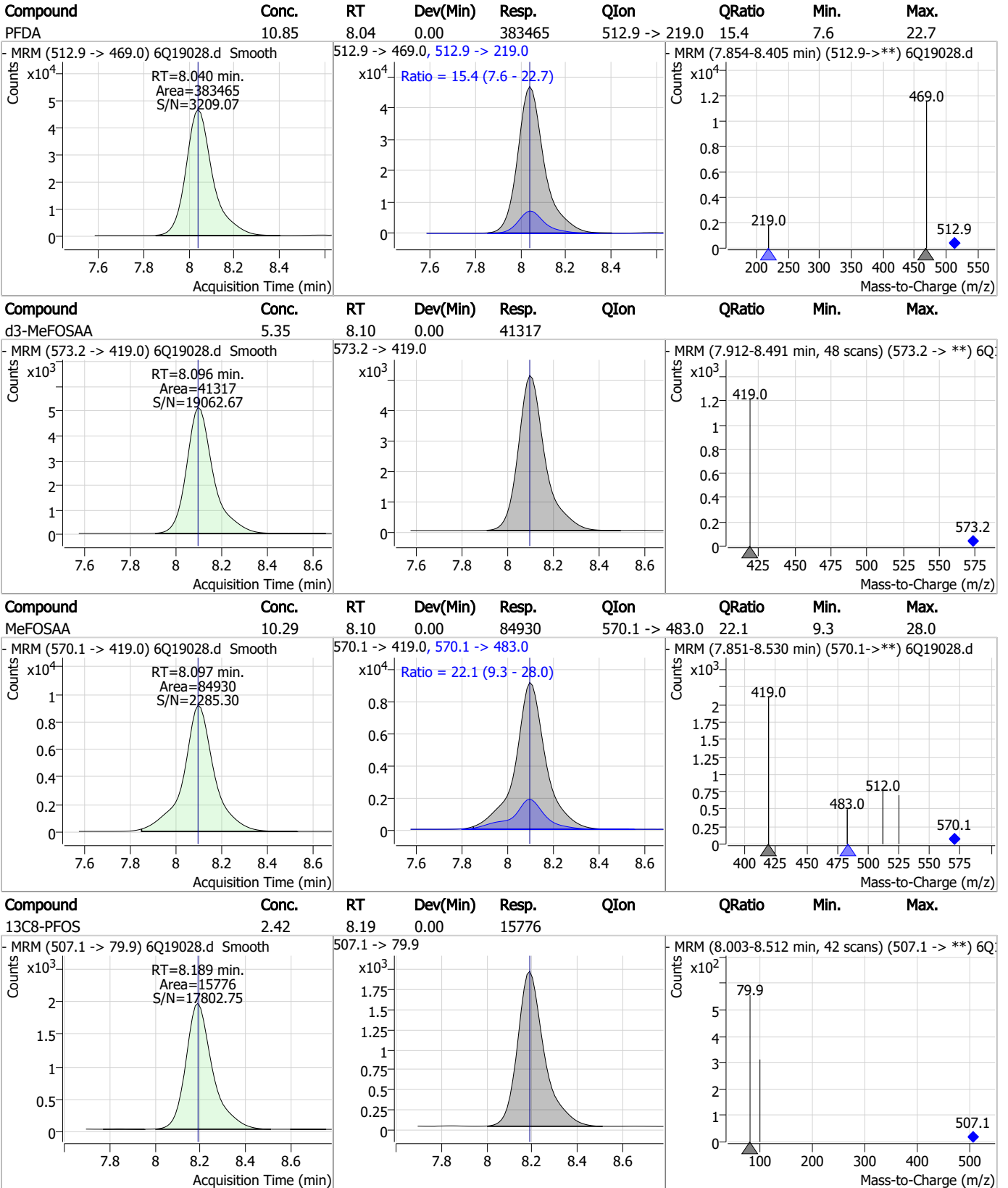
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



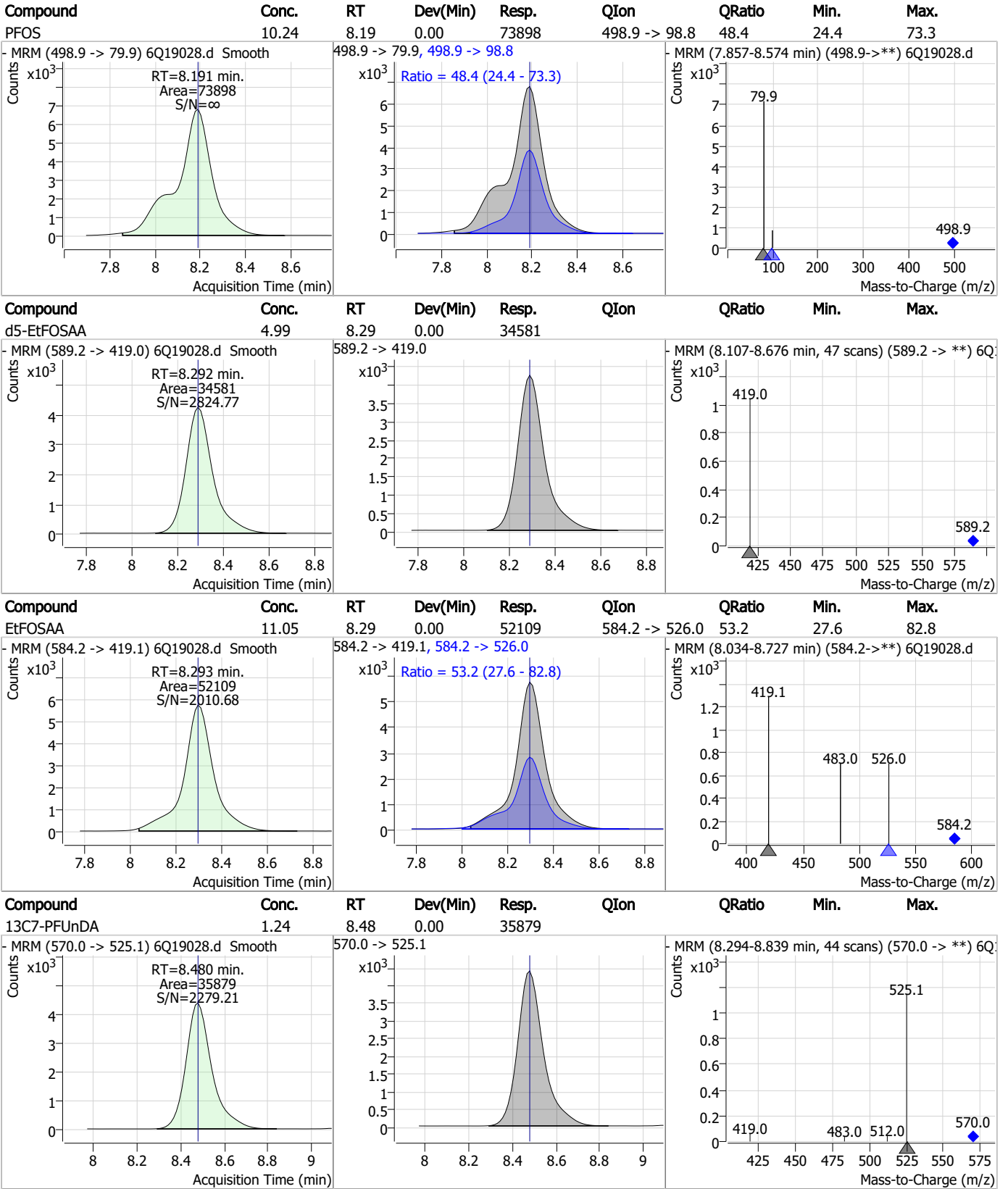
Perfluorinated Compounds by LC/MS/MS



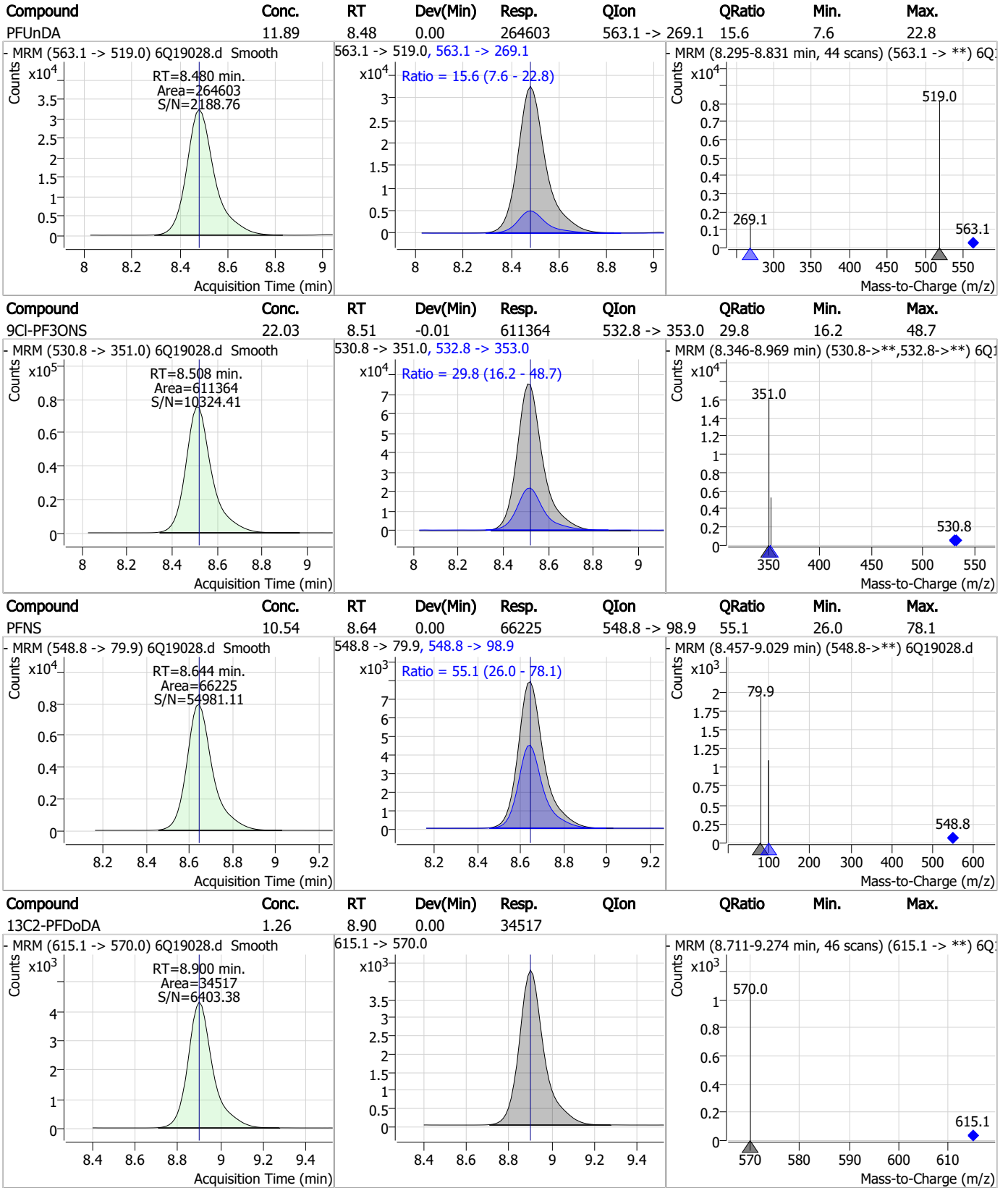
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Perfluorinated Compounds by LC/MS/MS

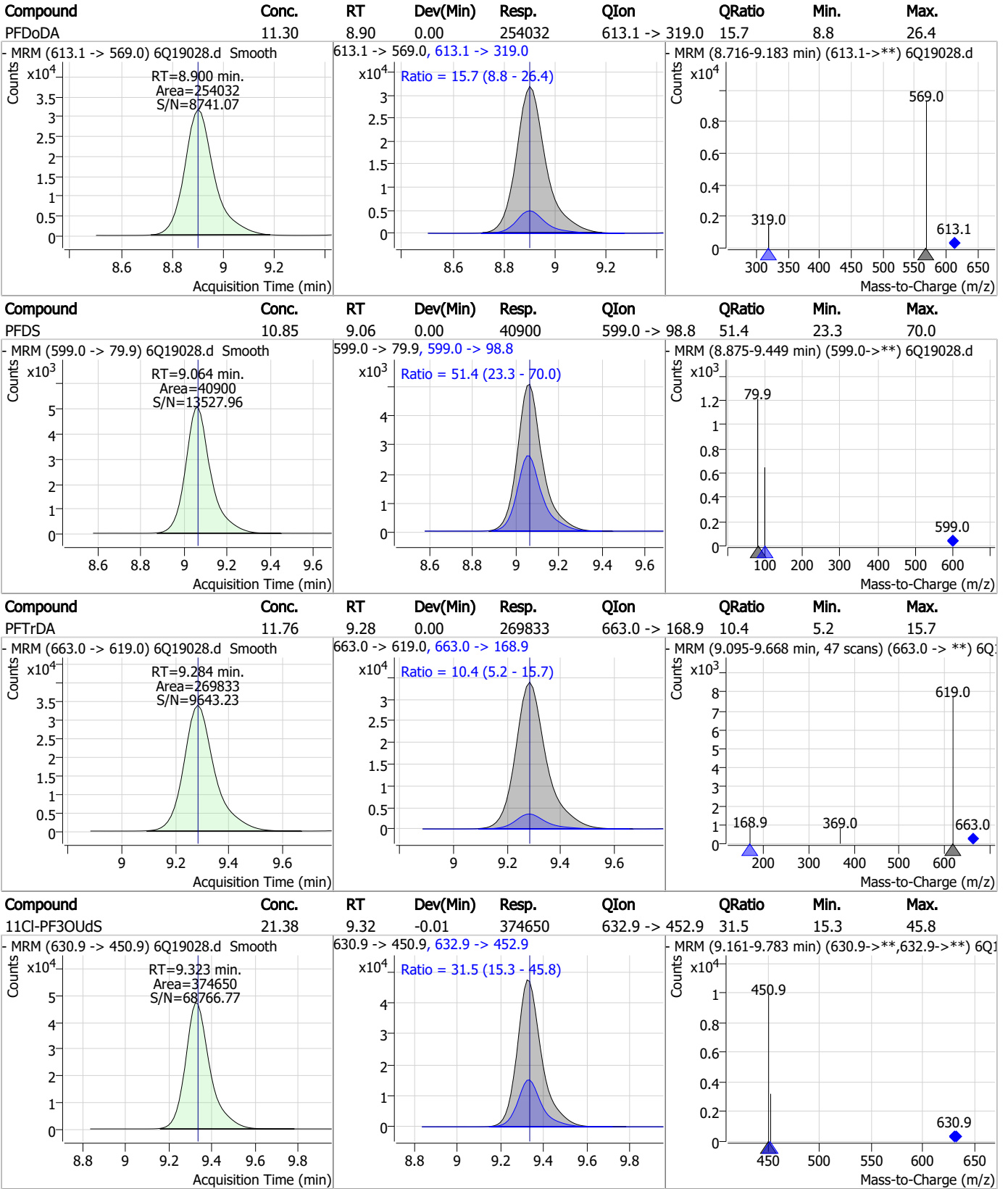


Perfluorinated Compounds by LC/MS/MS

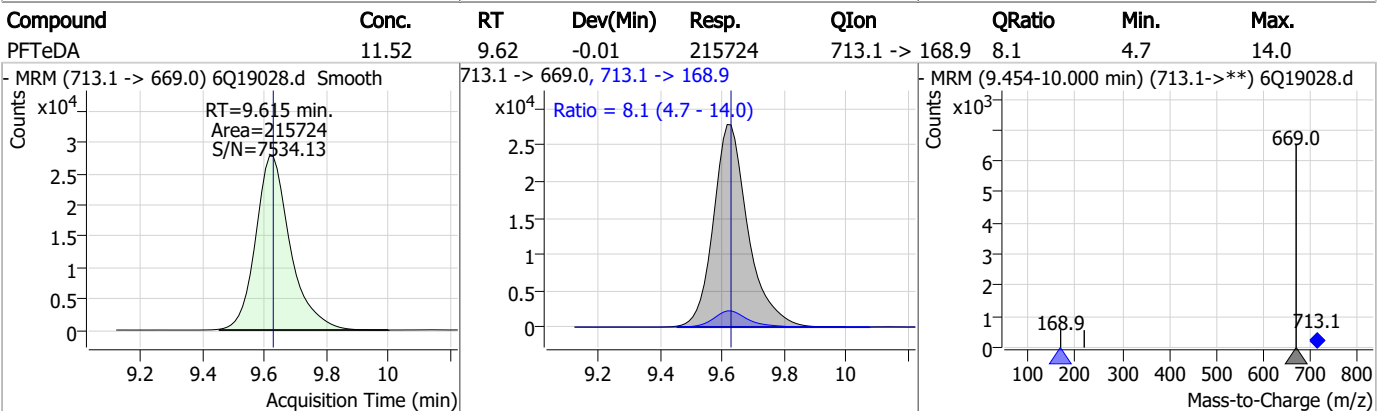
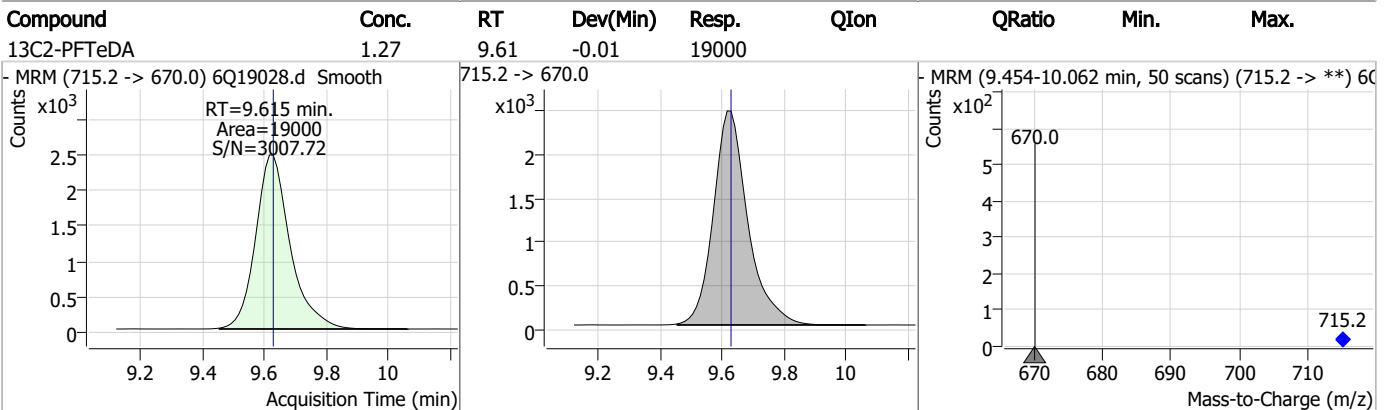
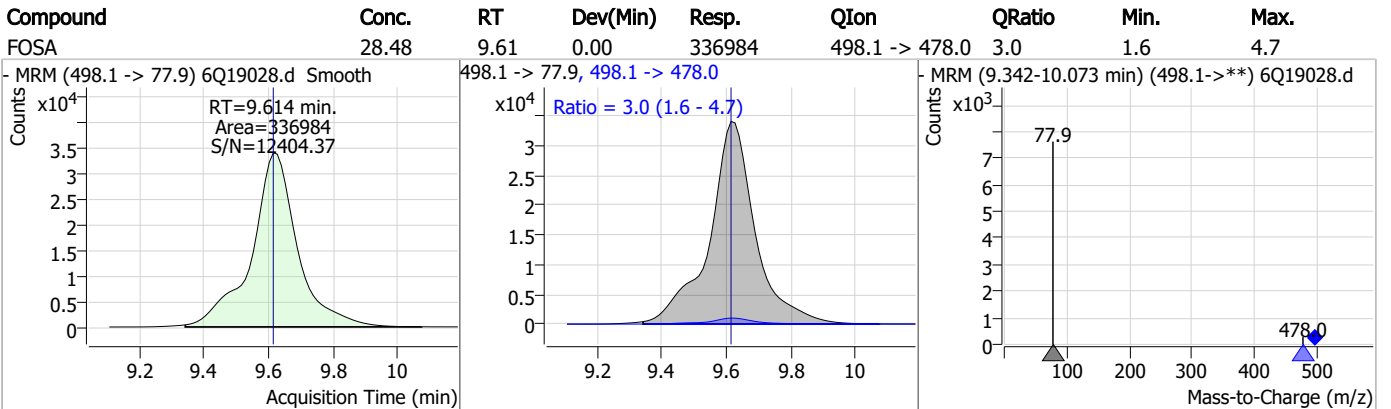
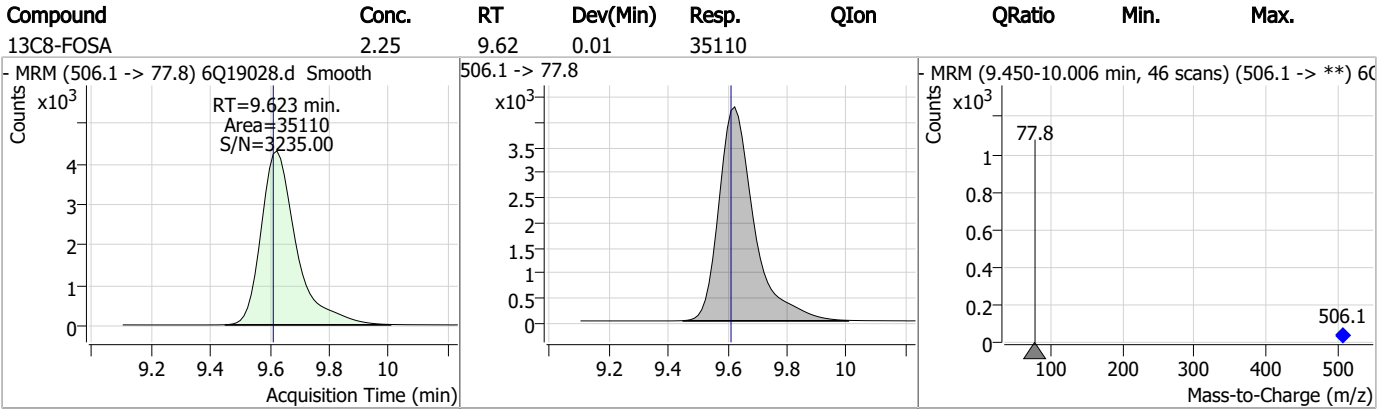


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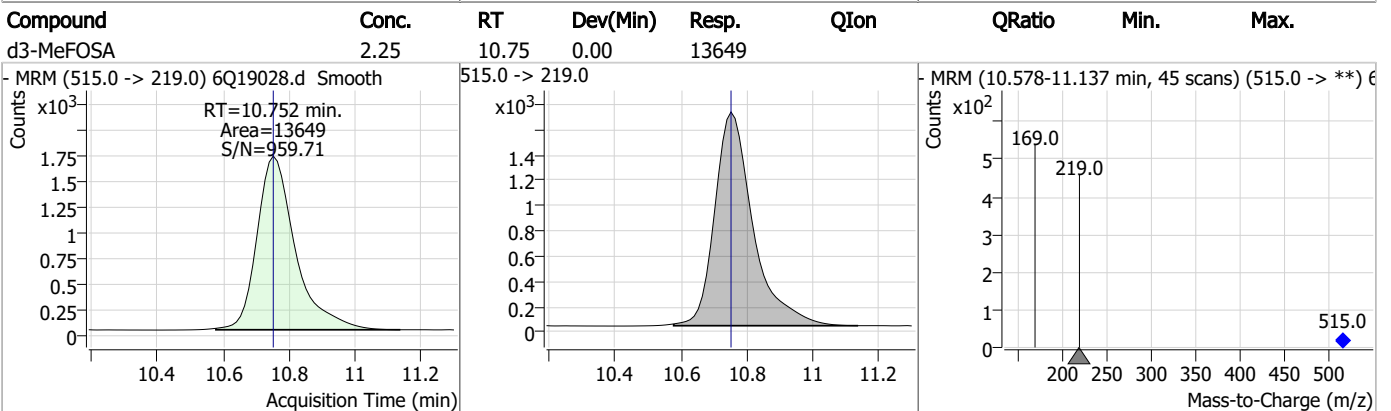
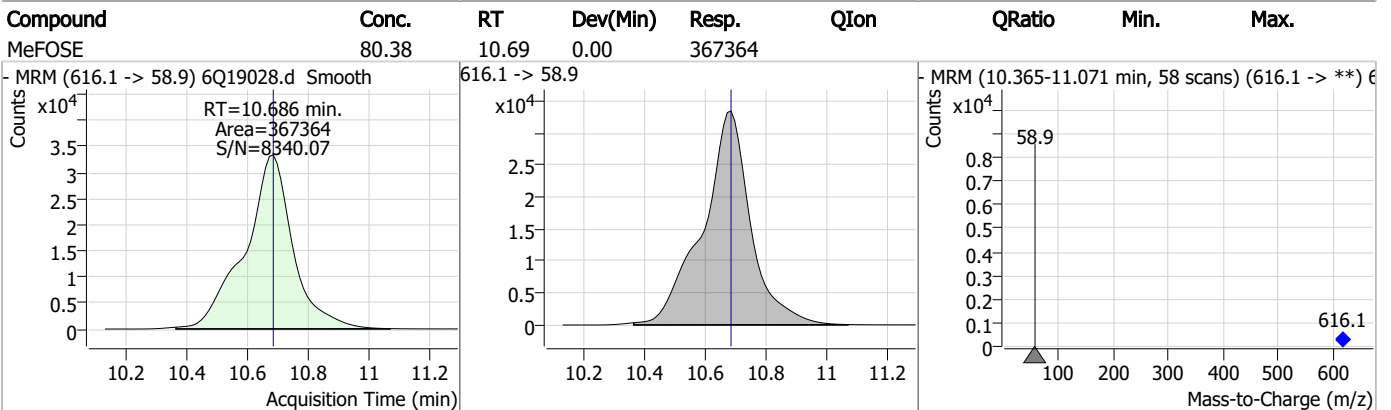
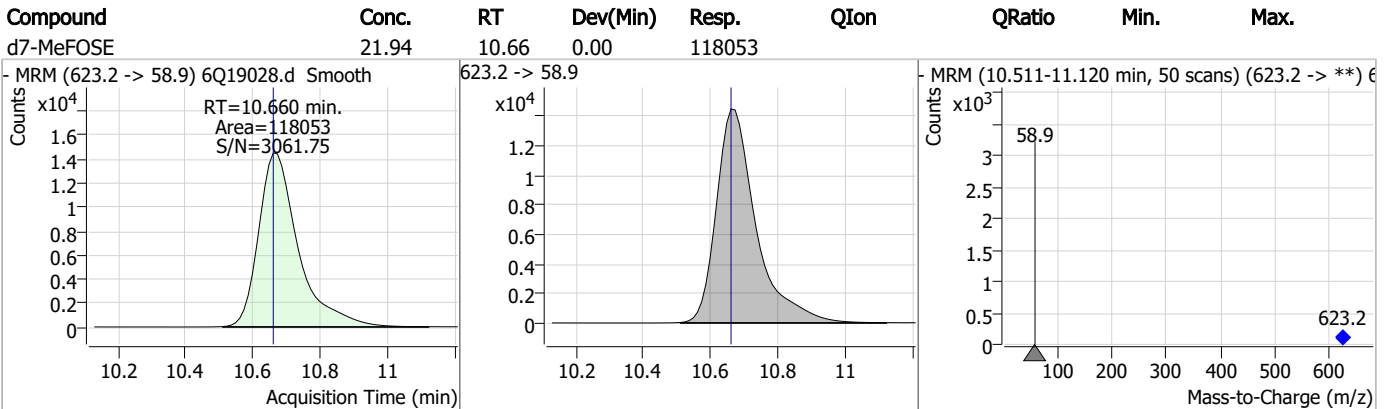
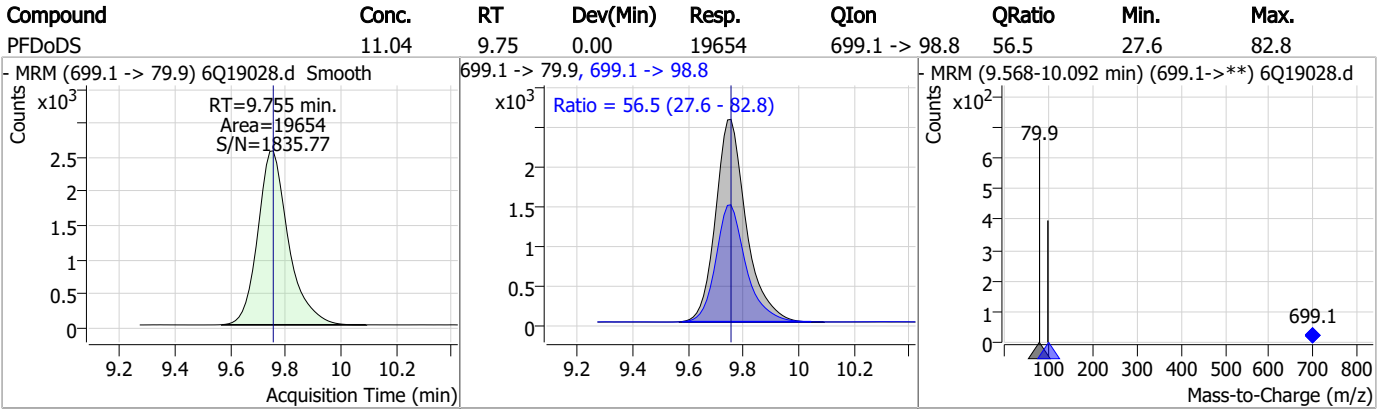
Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS



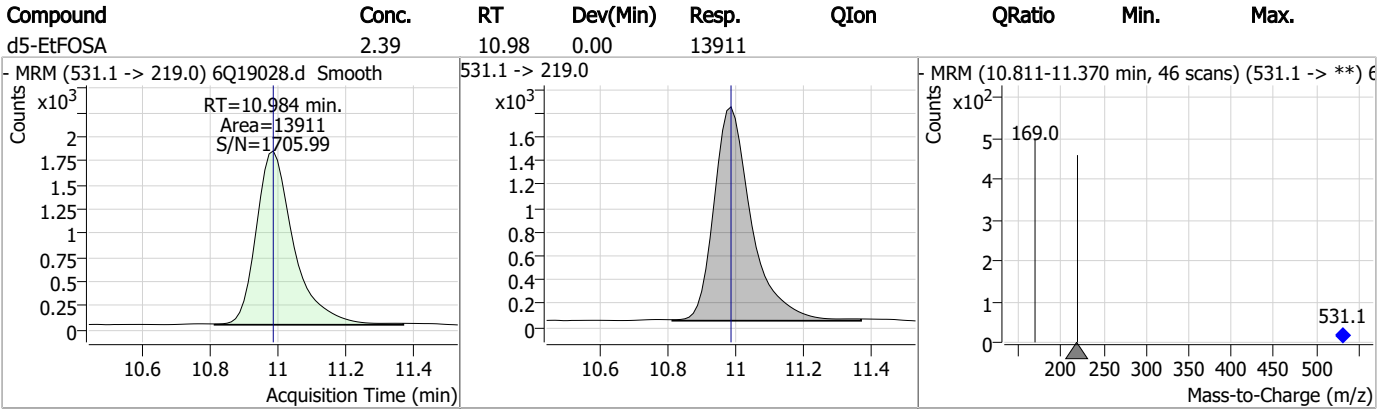
Perfluorinated Compounds by LC/MS/MS

Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	42.97	10.75	0.00	223404	511.9 -> 169.0	140.6	70.1	210.3
- MRM (511.9 -> 219.0) 6Q19028.d Smooth			511.9 -> 219.0, 511.9 -> 169.0		- MRM (10.443-11.215 min) (511.9->**) 6Q19028.d			
d9-EtFOSE	21.95	10.91	0.00	150441				
- MRM (639.2 -> 58.9) 6Q19028.d Smooth			639.2 -> 58.9		- MRM (10.745-11.292 min, 45 scans) (639.2 -> **) 6Q19028.d			
EtFOSE	77.43	10.92	0.00	508085				
- MRM (630.0 -> 58.9) 6Q19028.d Smooth			630.0 -> 58.9		- MRM (10.634-11.381 min, 61 scans) (630.0 -> **) 6Q19028.d			
EtFOSA	39.74	10.99	0.01	254755	526.0 -> 169.0	131.3	65.8	197.3
- MRM (526.0 -> 219.0) 6Q19028.d Smooth			526.0 -> 219.0, 526.0 -> 169.0		- MRM (10.663-11.373 min) (526.0->**) 6Q19028.d			

7.6.6

7

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

7

QQQ Check Tune Report



Negative Results

Analyzer: MS1 Polarity: Negative Width: Unit

m/z Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
112.99	112.95	-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 Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
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 Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
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 Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
69.00	69.02	0.02	Pass	1.20	1.04	-0.16	Pass	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 Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
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 Expected	m/z Measured	Delta	Result	FWHM Expected	FWHM Measured	Delta	Result	Abundance
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
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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 = 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

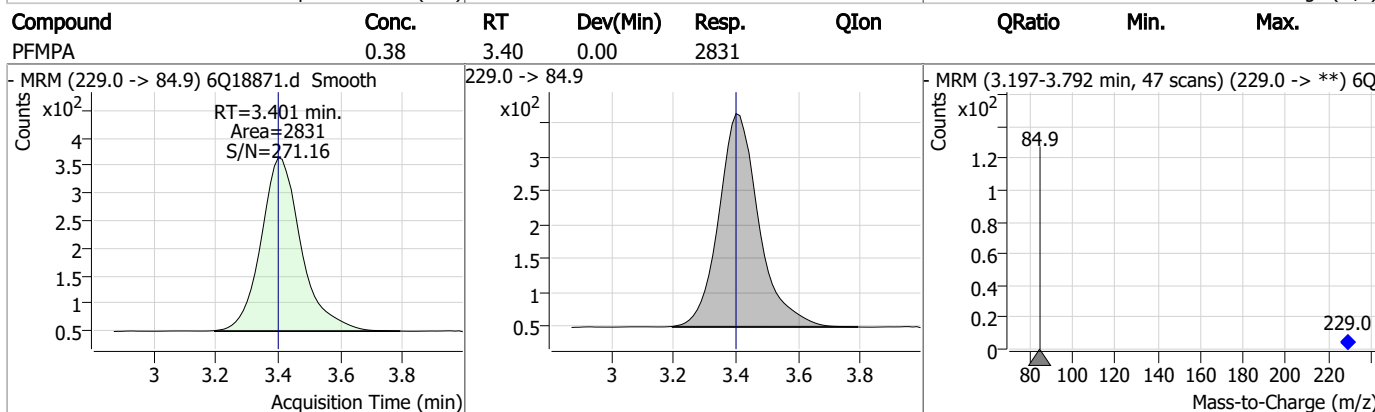
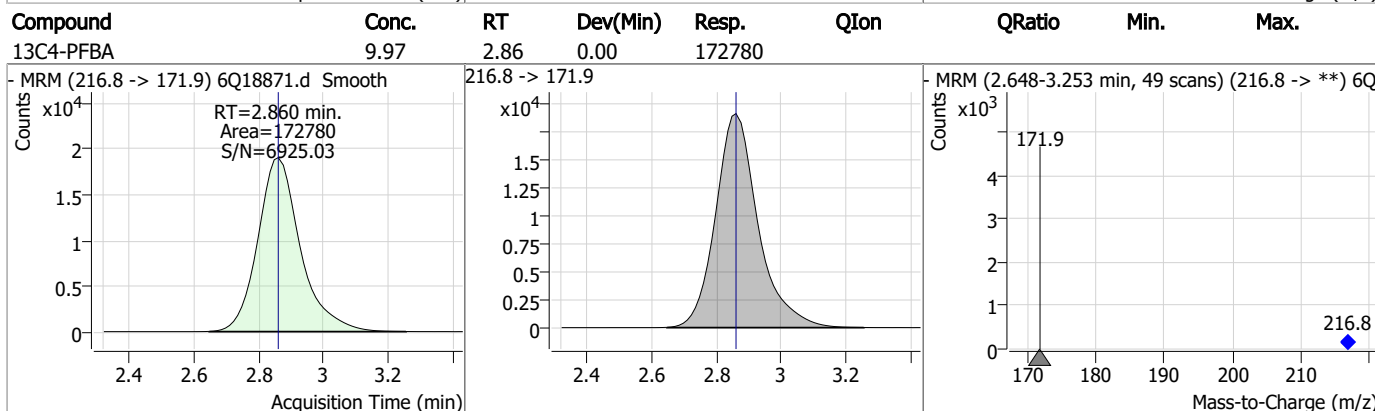
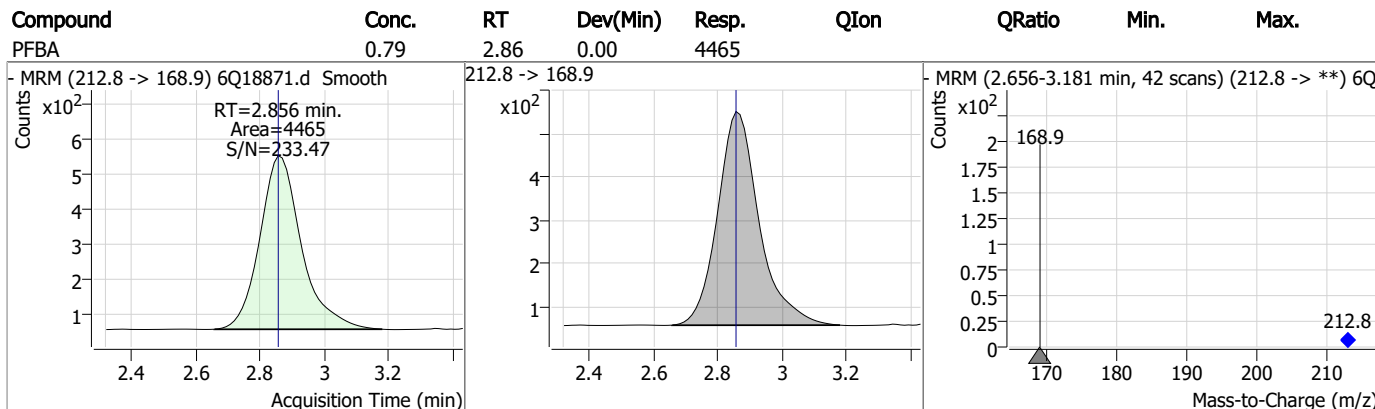
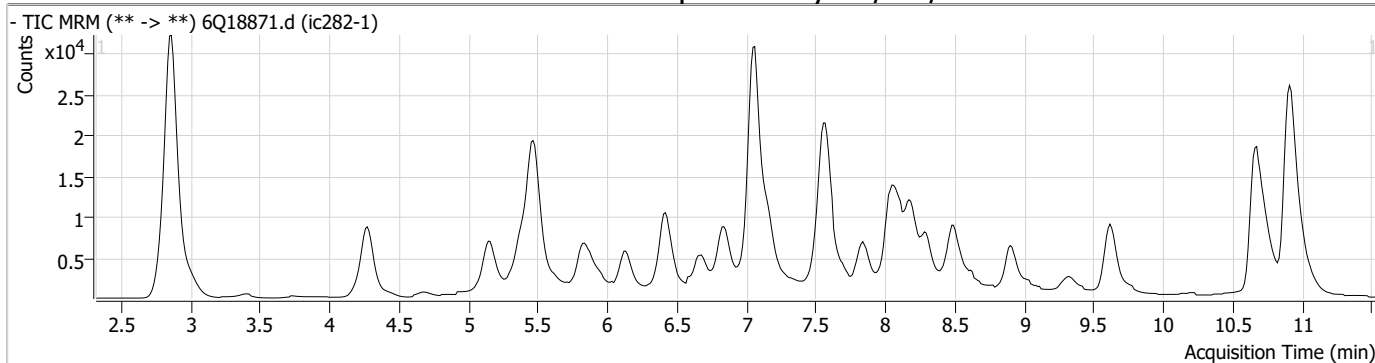
Perfluorinated Compounds by LC/MS/MS

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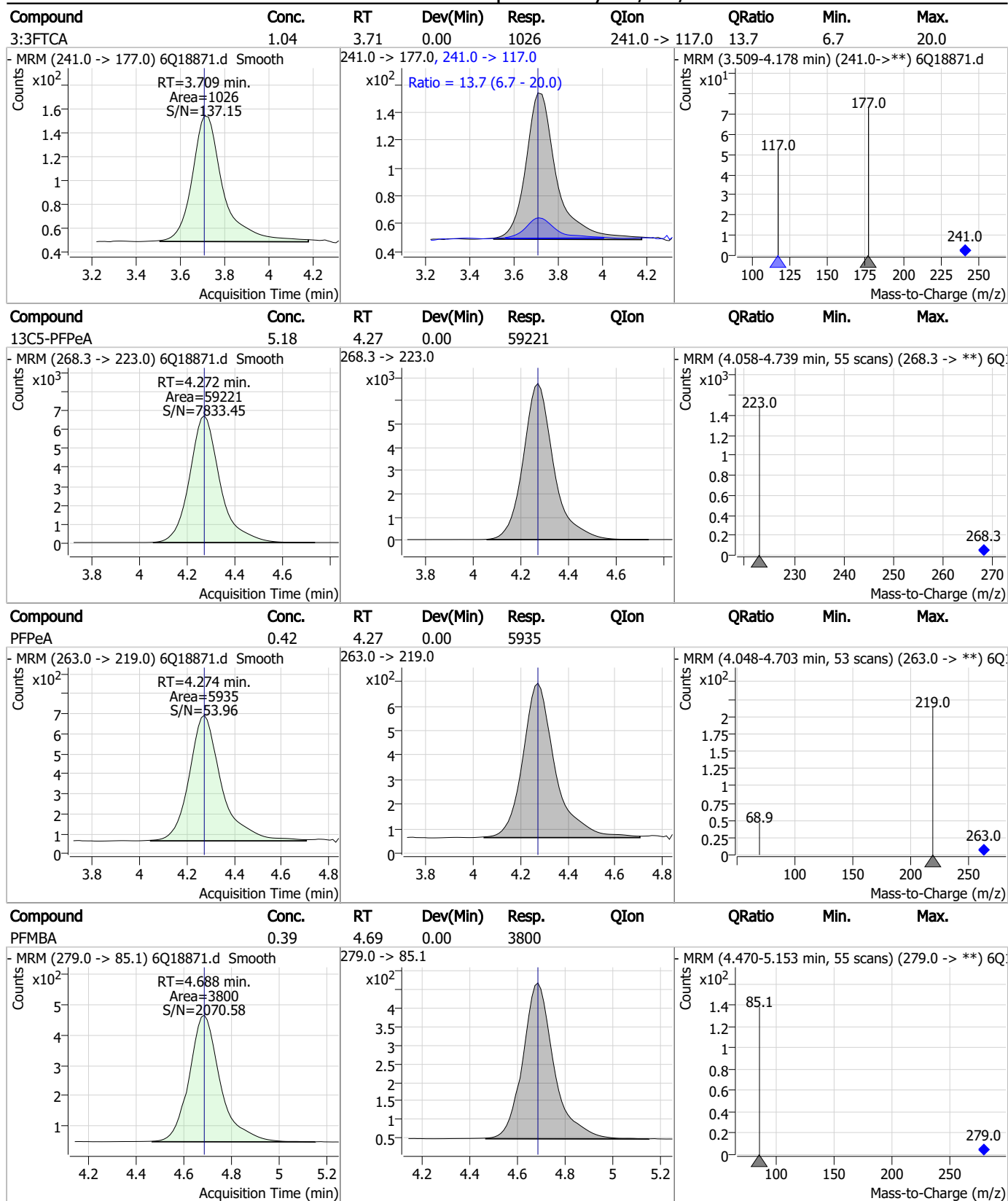
7.7.2
7



Perfluorinated Compounds by LC/MS/MS

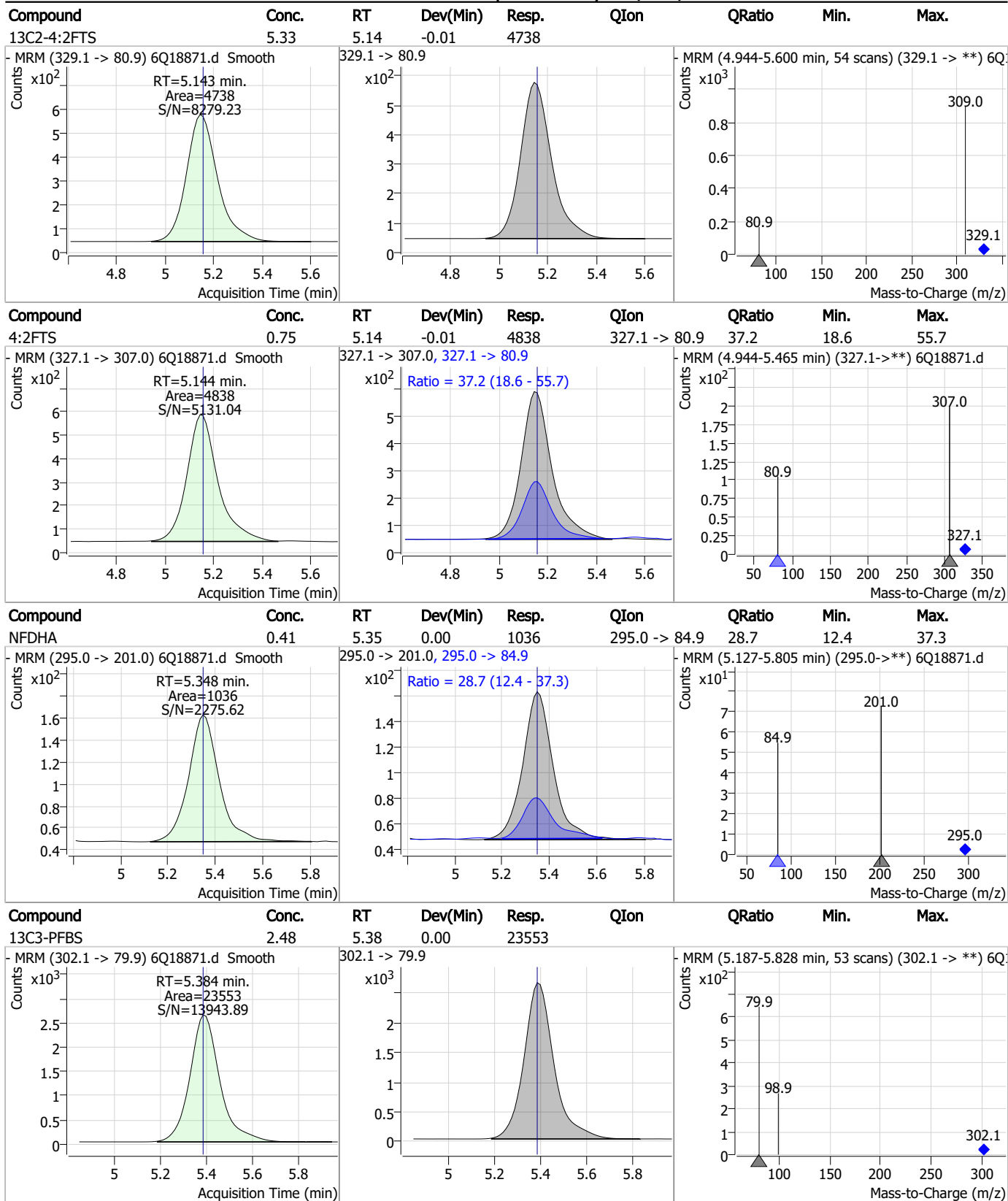


Perfluorinated Compounds by LC/MS/MS



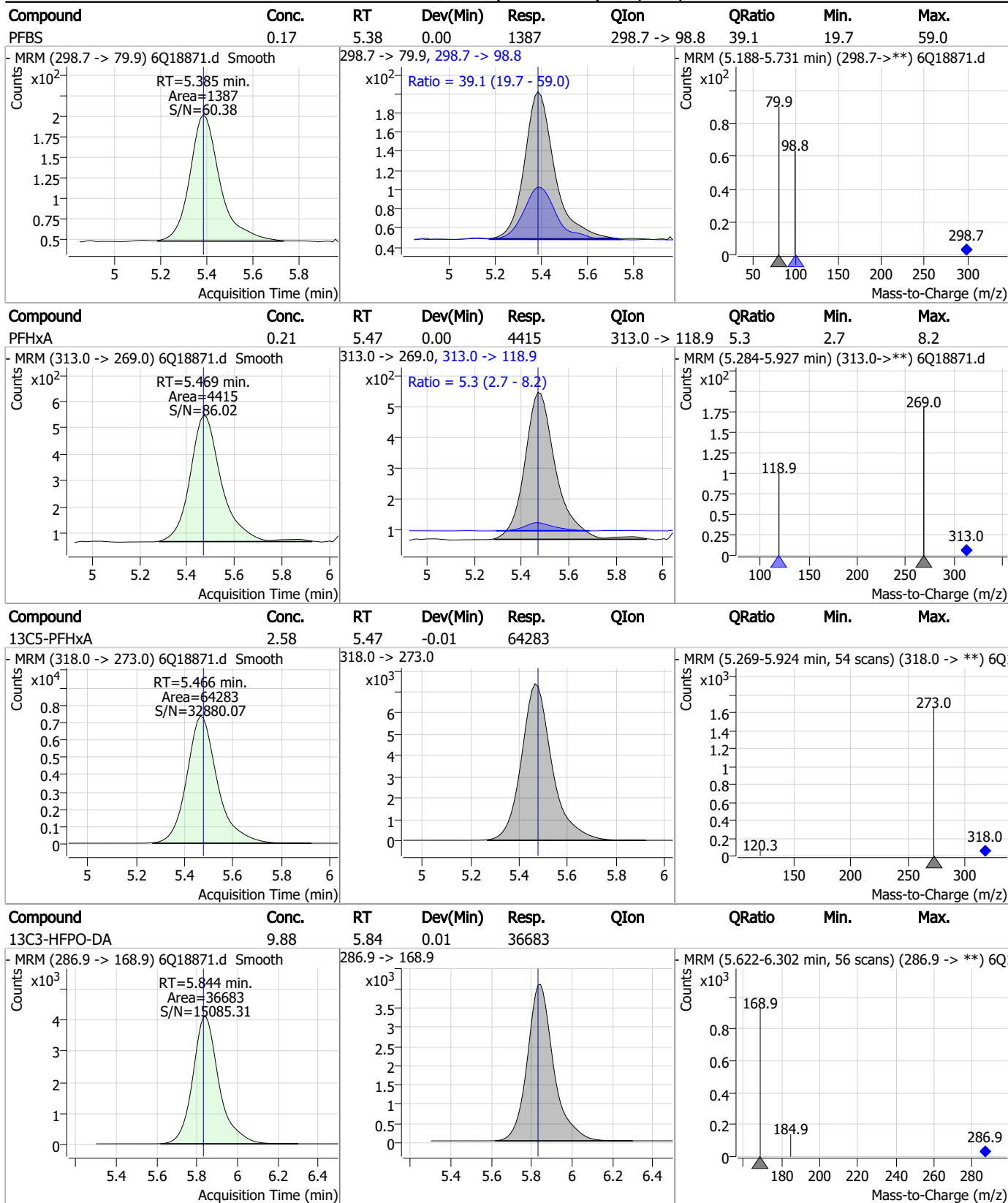
7.7.2
7

Perfluorinated Compounds by LC/MS/MS



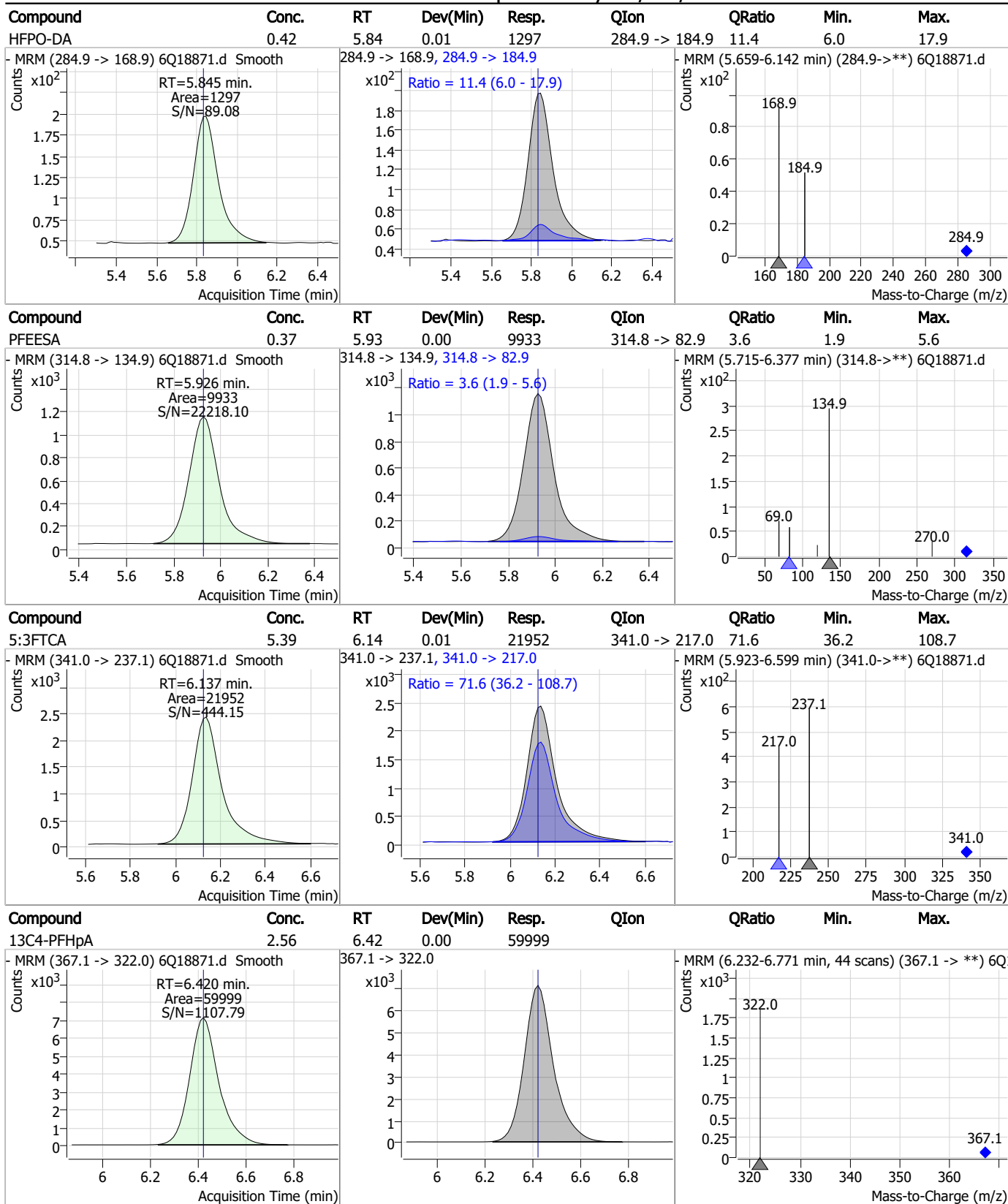
7.7.2
7

Perfluorinated Compounds by LC/MS/MS



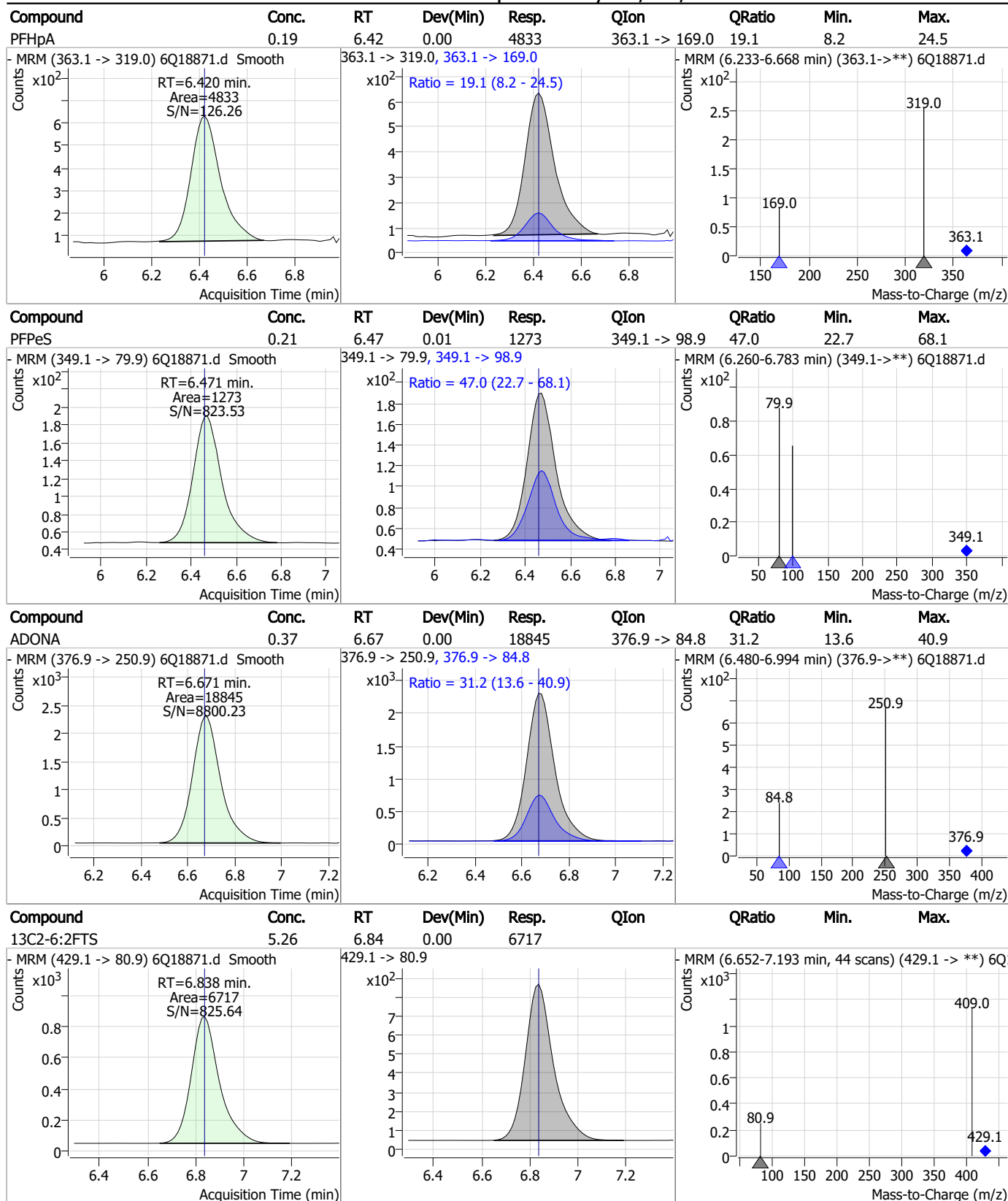
7.7.2
7

Perfluorinated Compounds by LC/MS/MS



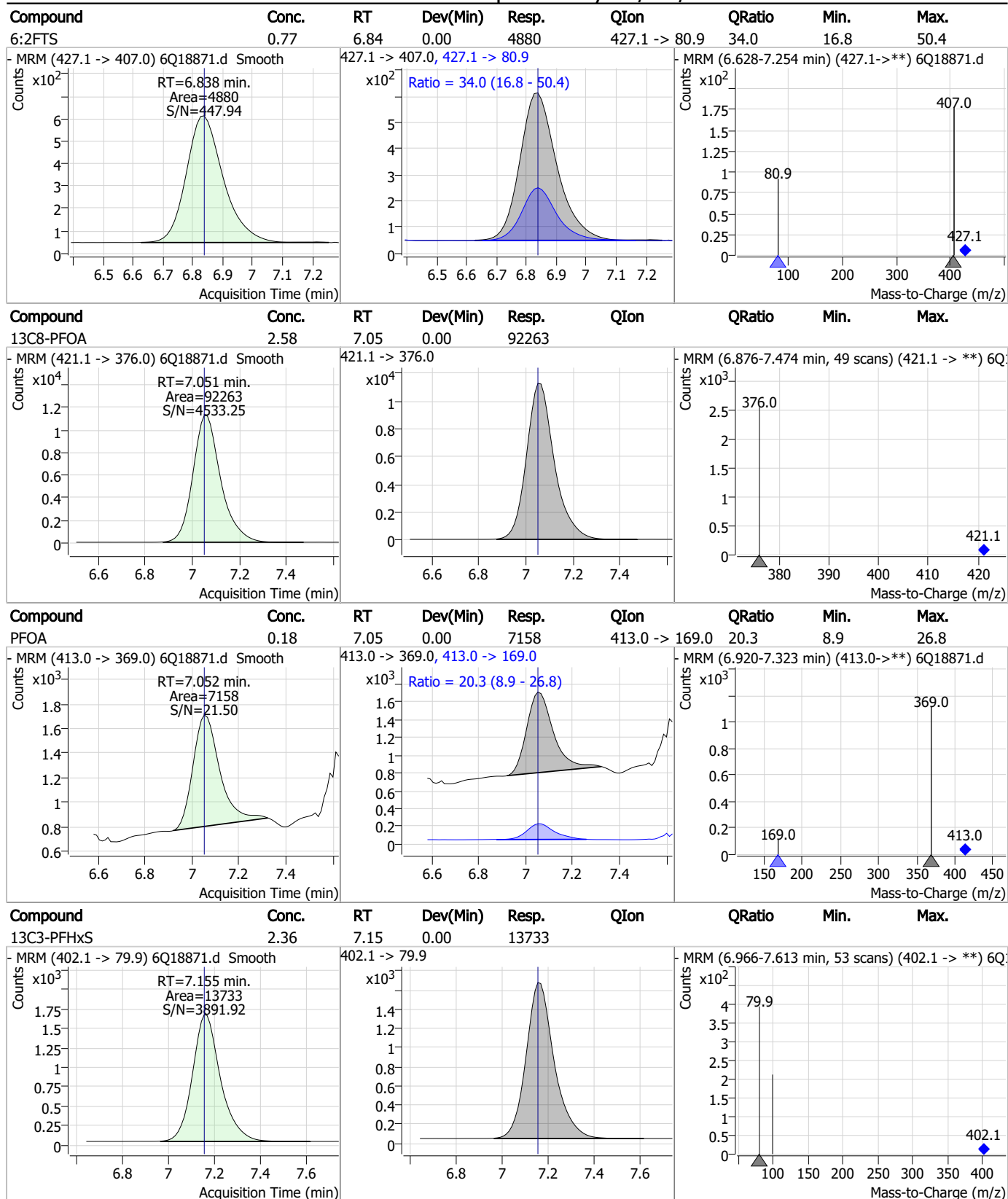
7.7.2
7

Perfluorinated Compounds by LC/MS/MS



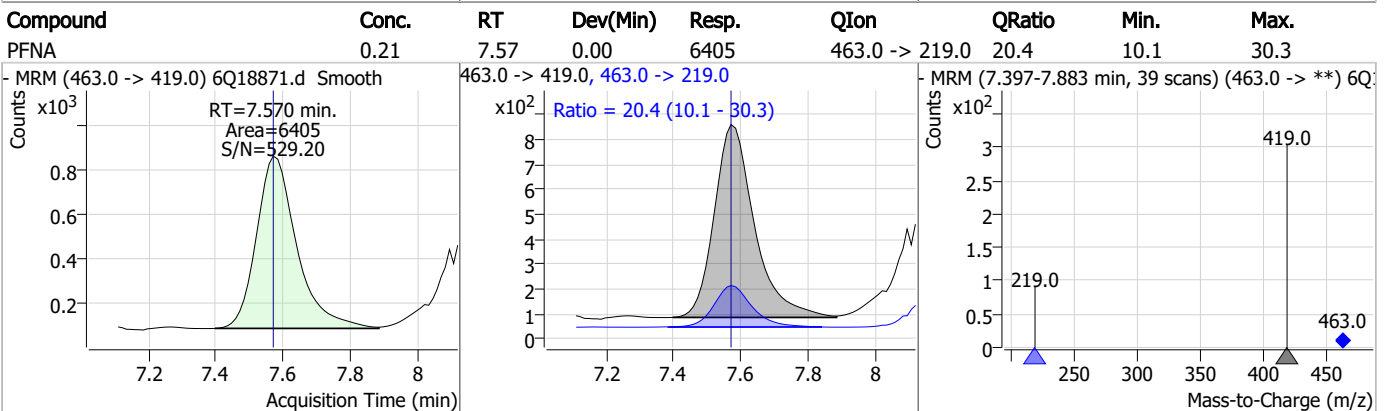
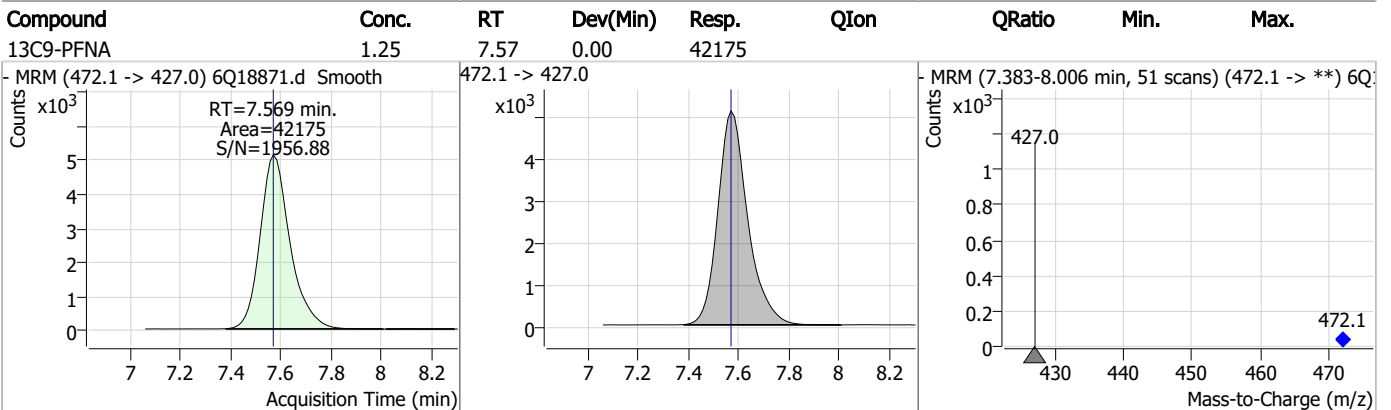
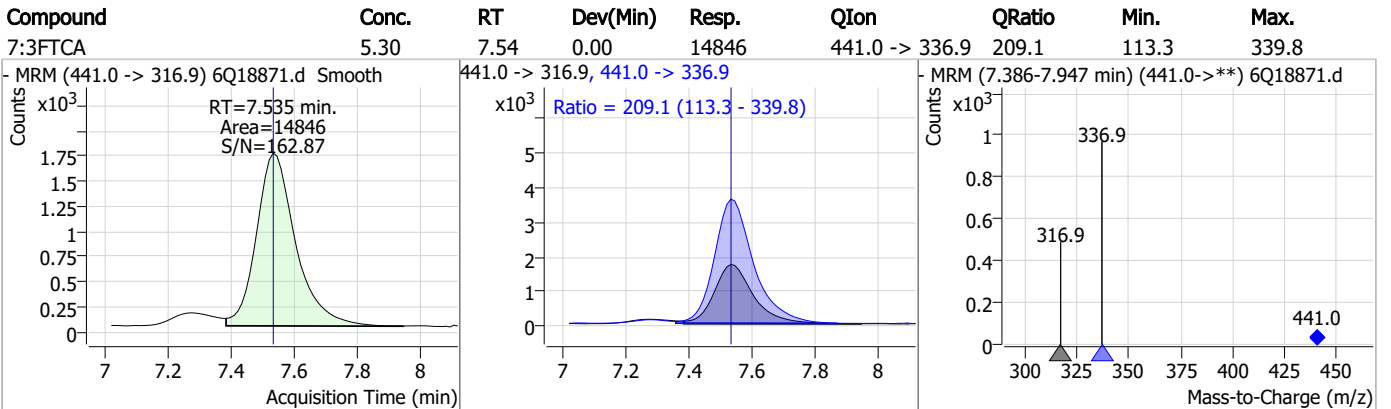
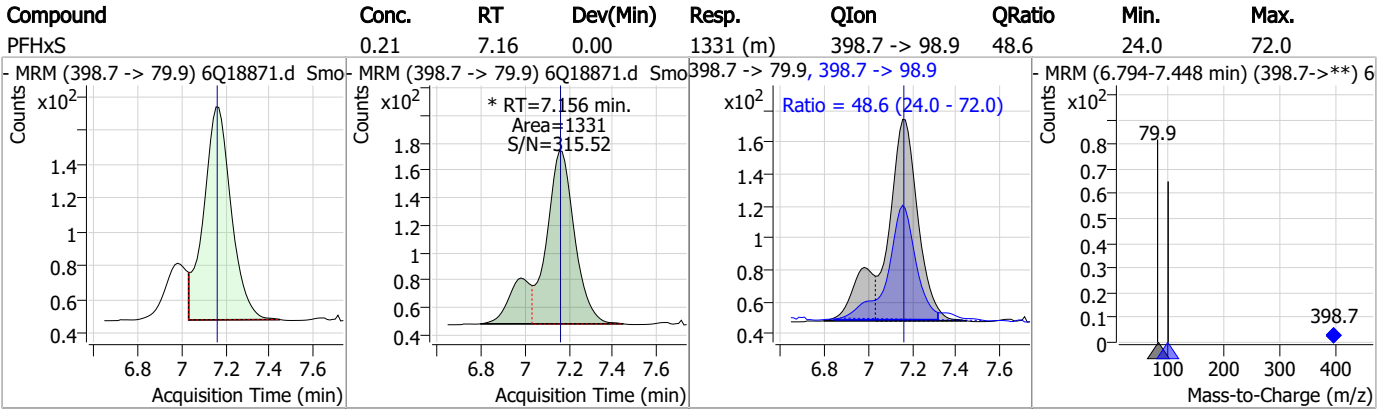
7.7.2
7

Perfluorinated Compounds by LC/MS/MS

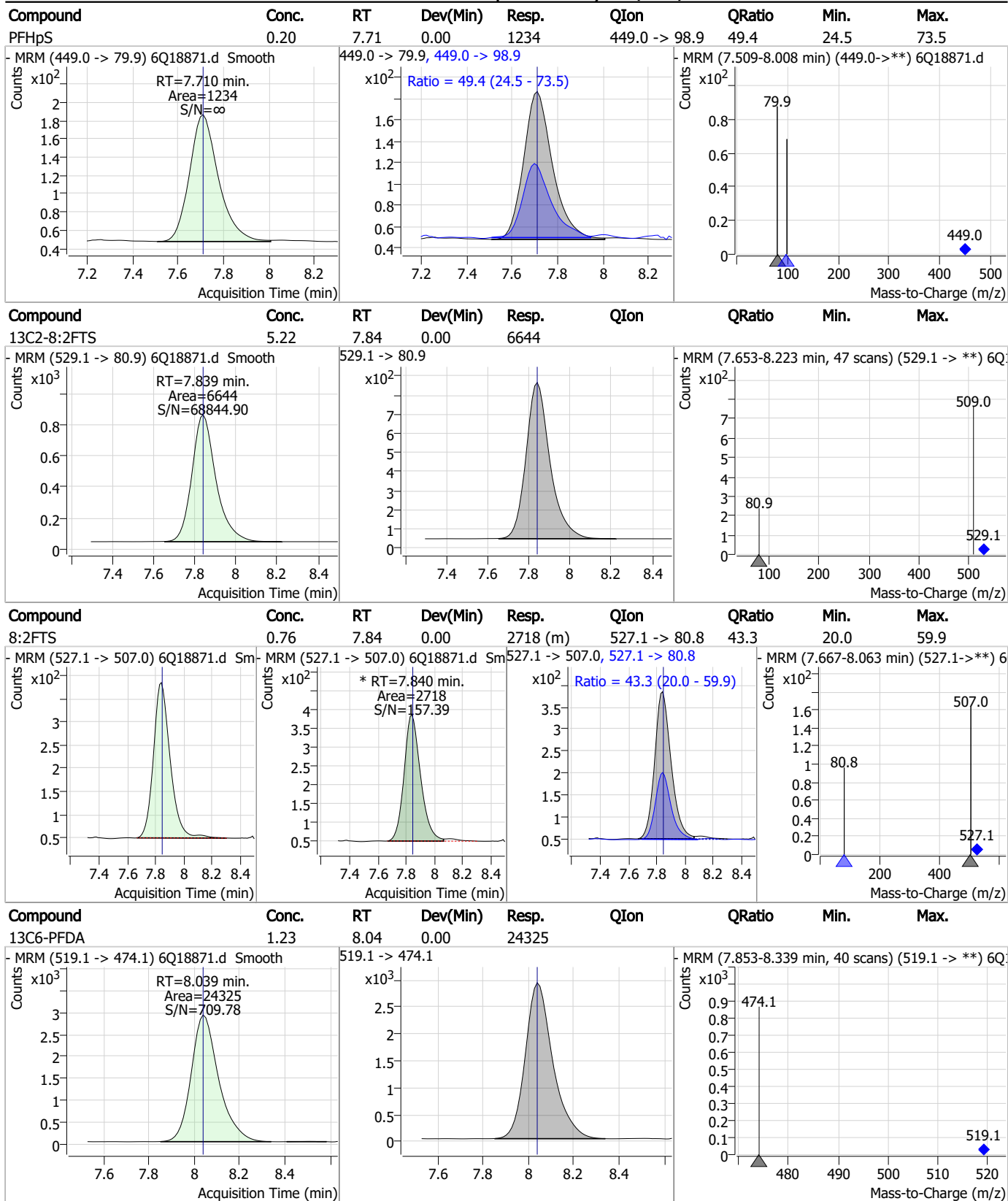


7.7.2
7

Perfluorinated Compounds by LC/MS/MS



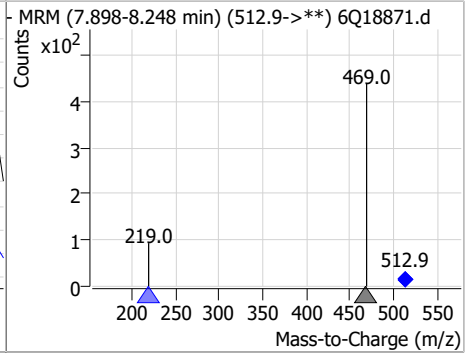
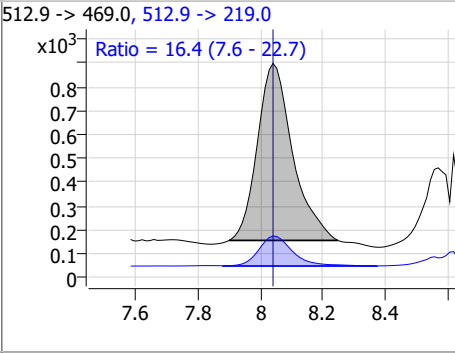
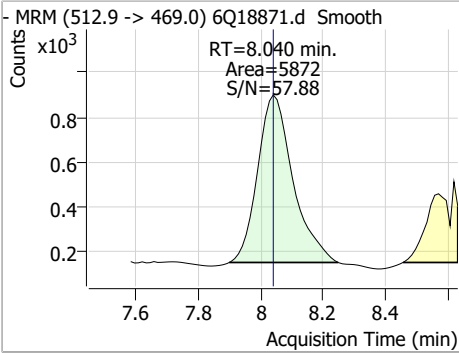
Perfluorinated Compounds by LC/MS/MS



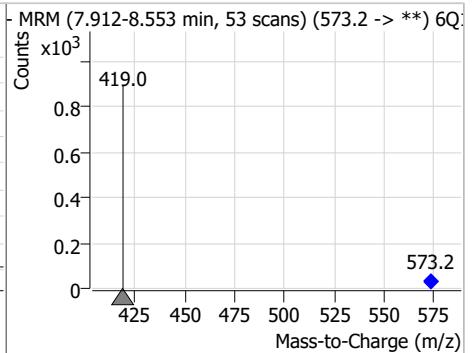
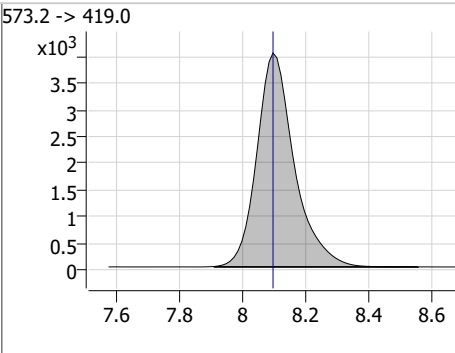
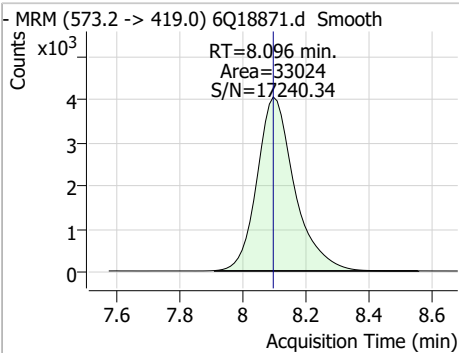
7.7.2
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Perfluorinated Compounds by LC/MS/MS

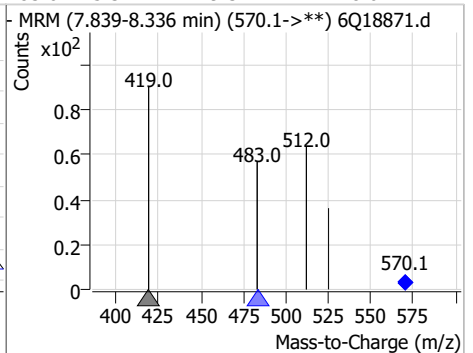
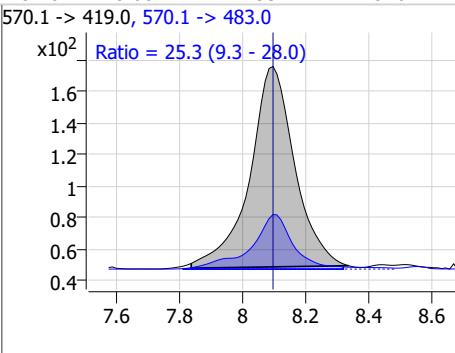
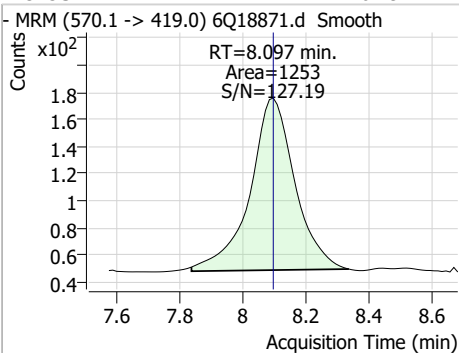
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.20	8.04	0.00	5872	512.9 -> 219.0	16.4	7.6	22.7



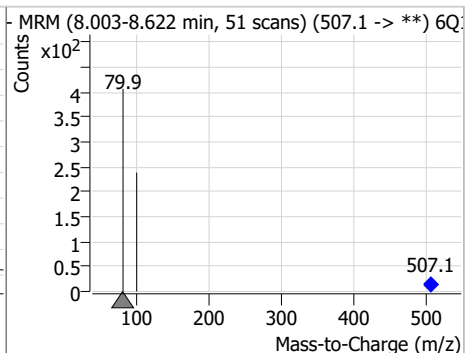
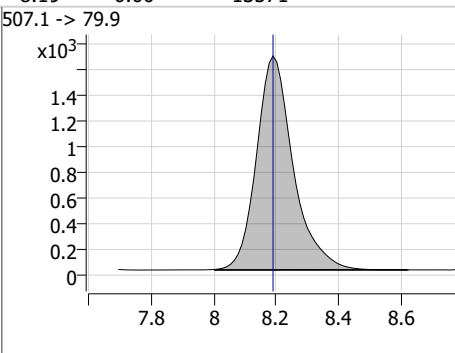
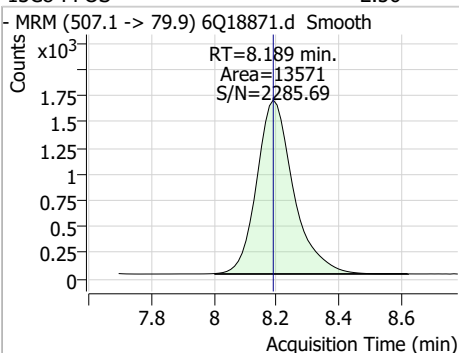
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	5.25	8.10	0.00	33024				



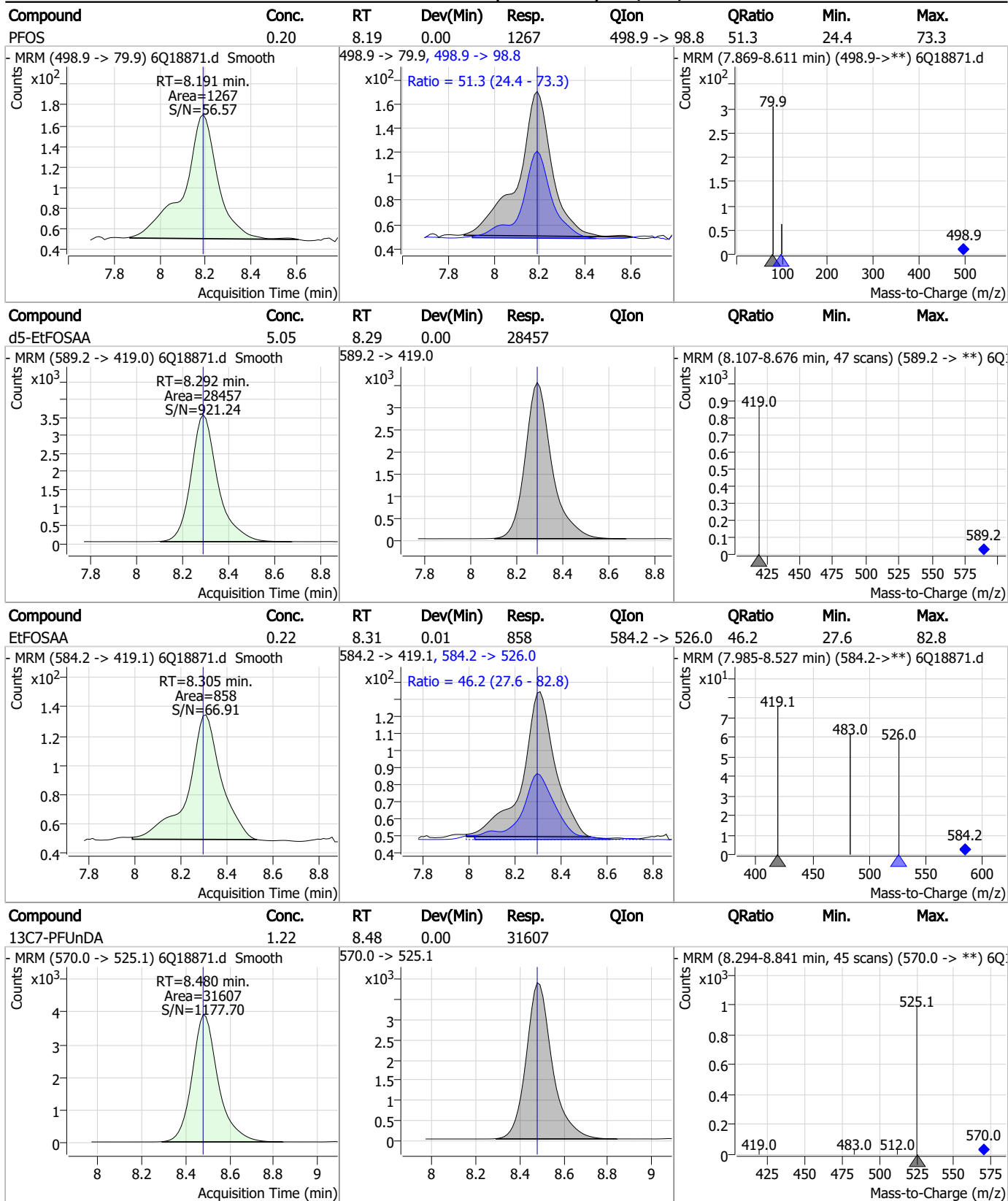
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	0.19	8.10	0.00	1253	570.1 -> 483.0	25.3	9.3	28.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.56	8.19	0.00	13571				

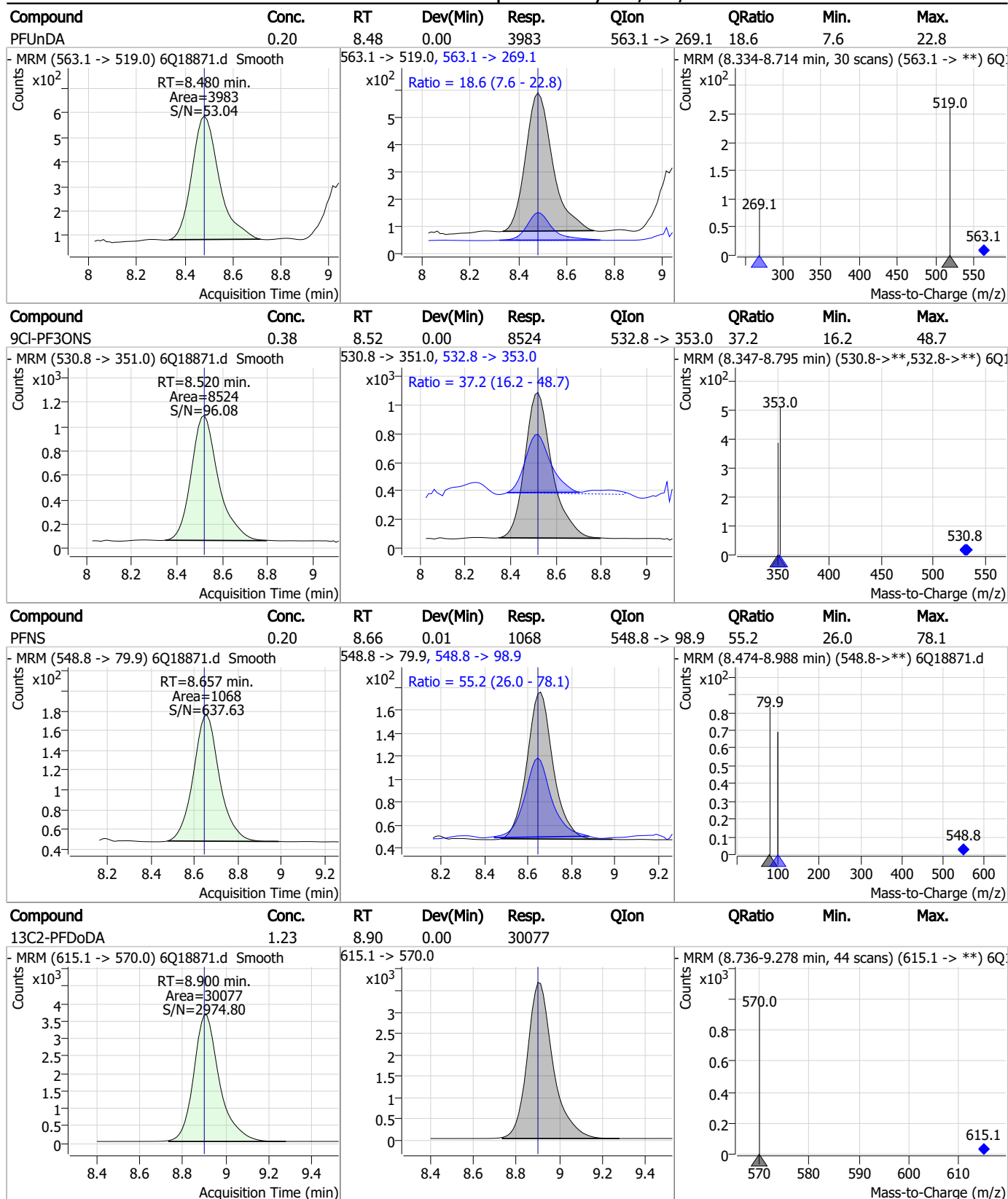


Perfluorinated Compounds by LC/MS/MS



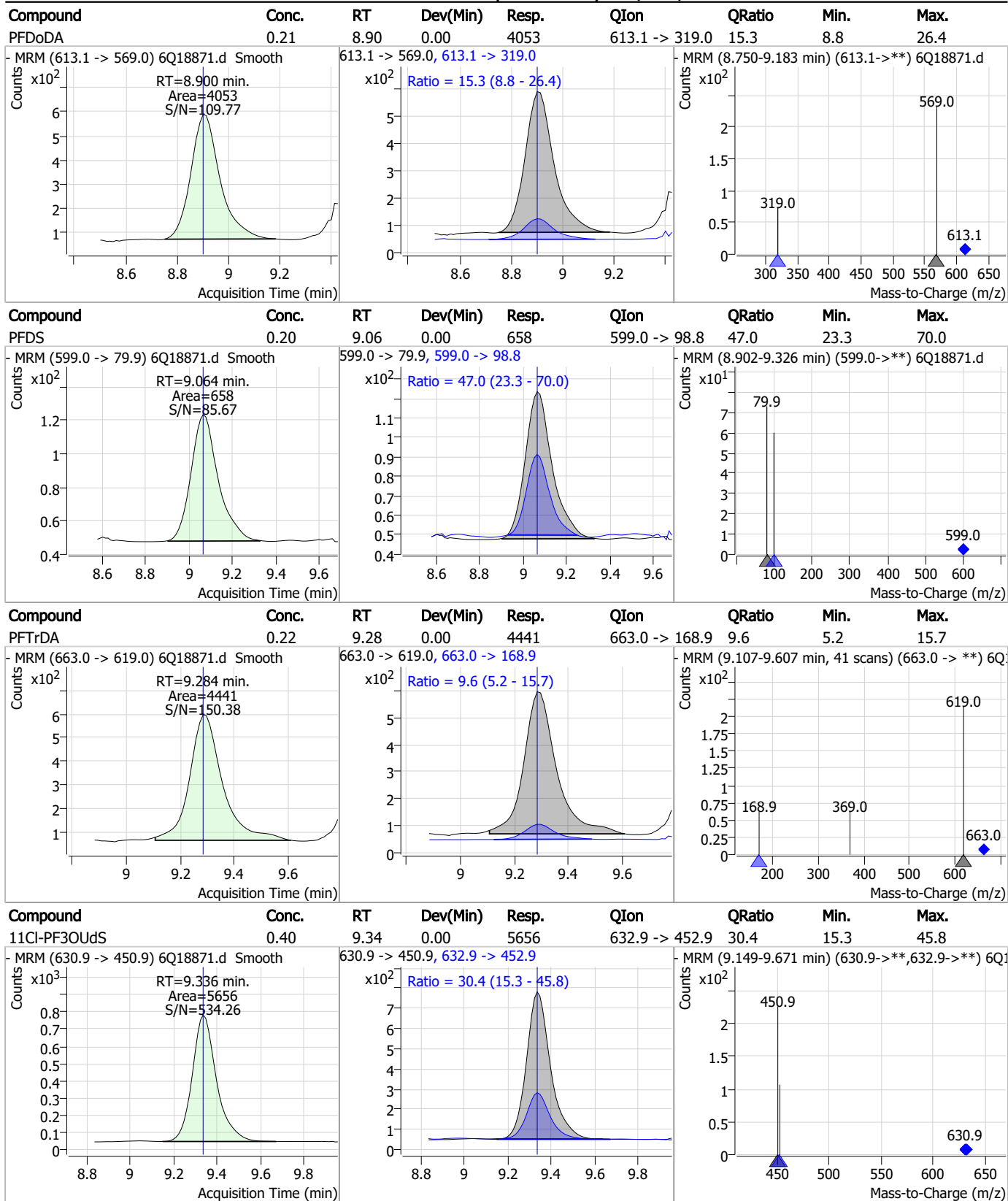
7.7.2
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Perfluorinated Compounds by LC/MS/MS



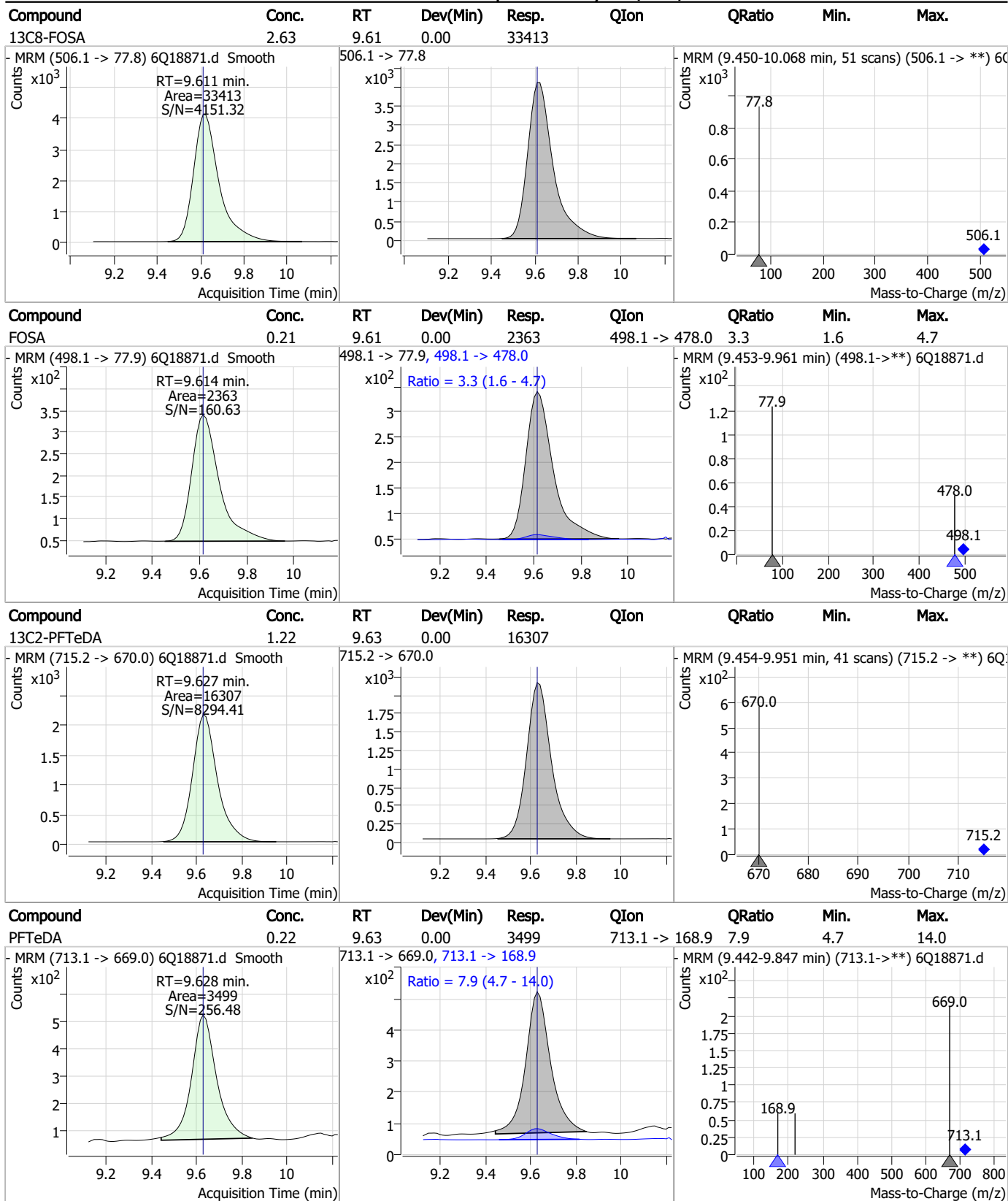
7.7.2
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Perfluorinated Compounds by LC/MS/MS



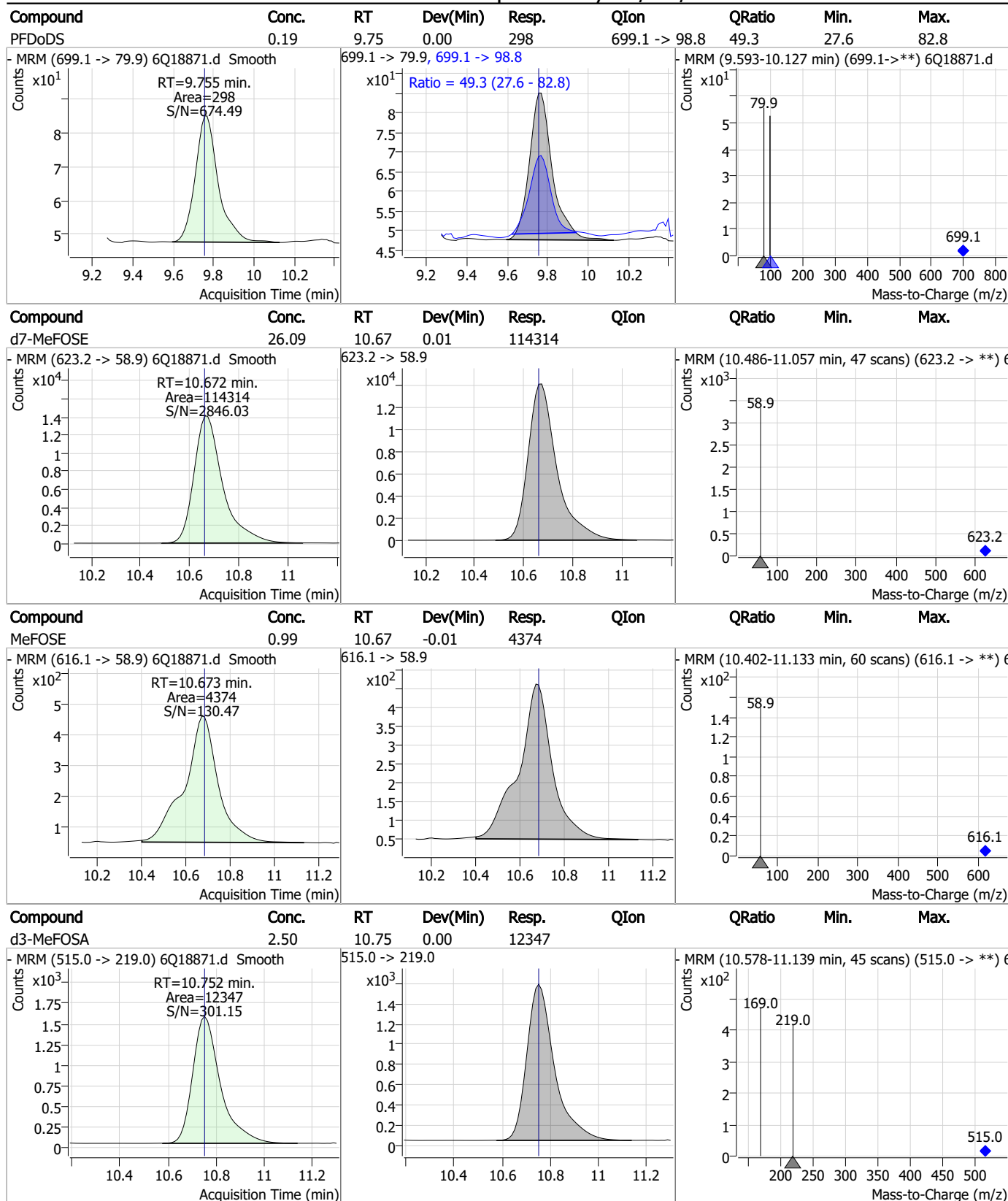
7.7.2
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Perfluorinated Compounds by LC/MS/MS



7.7.2
7

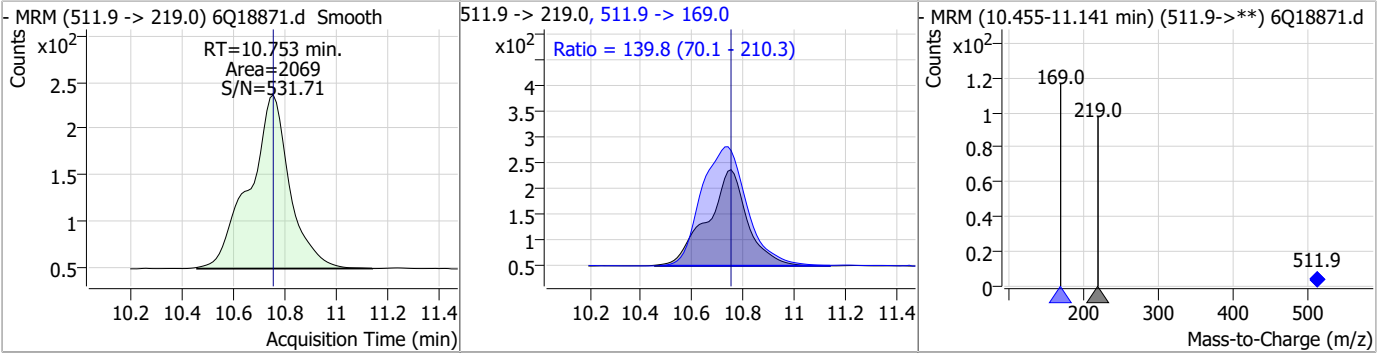
Perfluorinated Compounds by LC/MS/MS



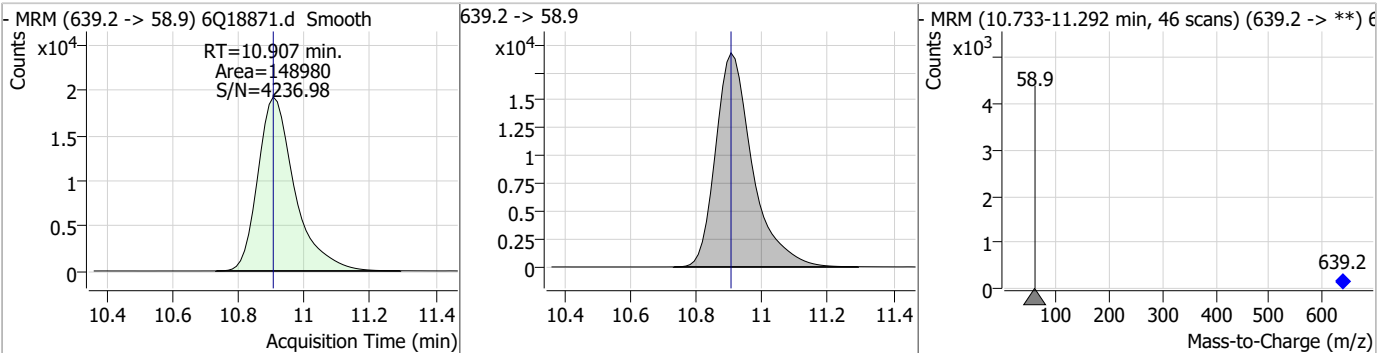
7.7.2
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Perfluorinated Compounds by LC/MS/MS

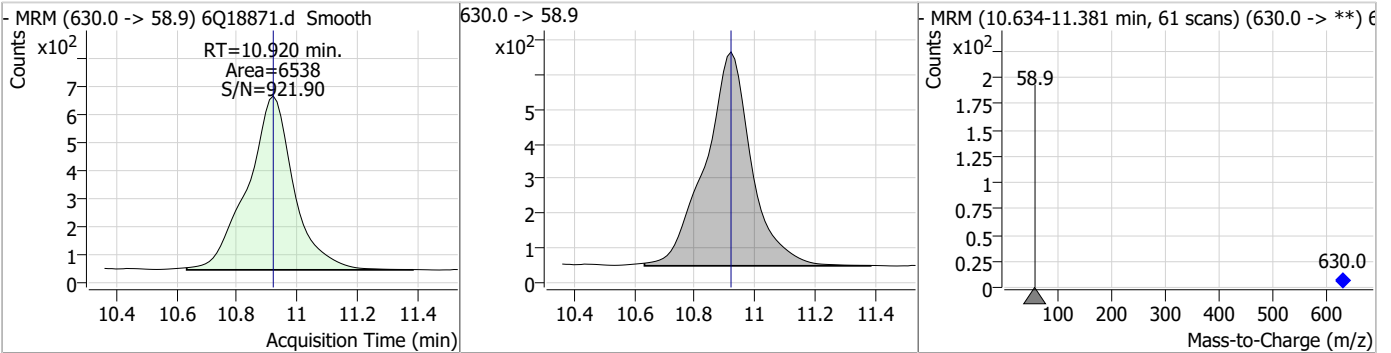
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOsa	0.44	10.75	0.00	2069	511.9 -> 169.0	139.8	70.1	210.3



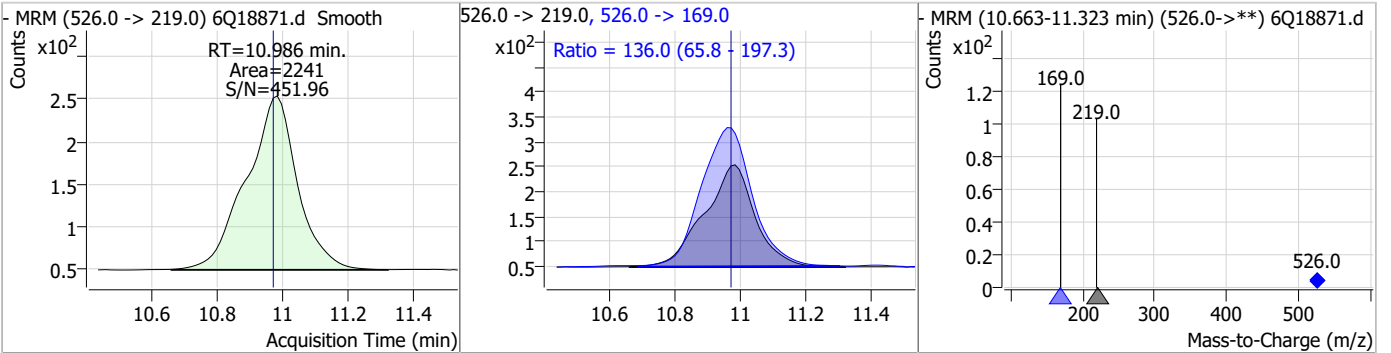
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	26.70	10.91	0.00	148980				



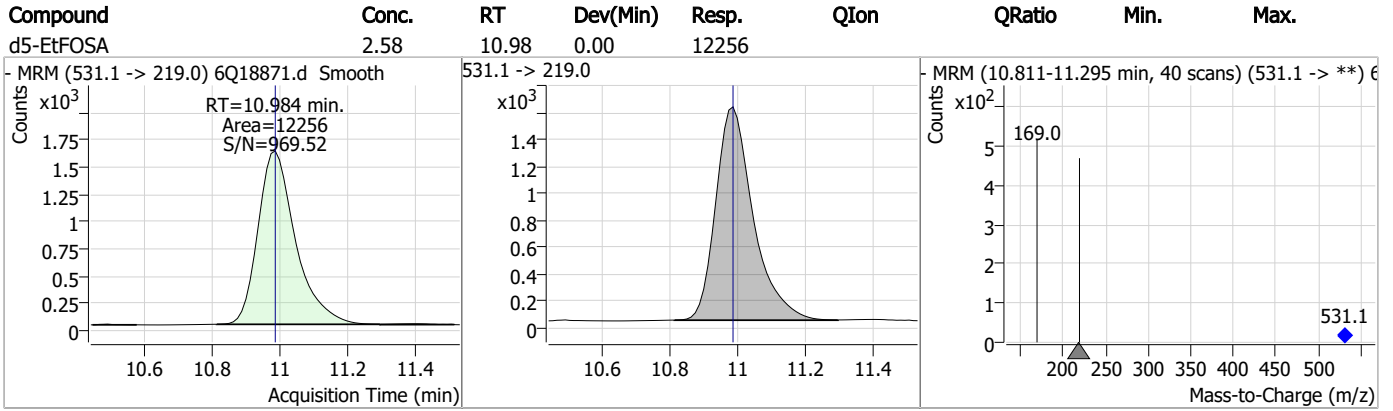
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	1.01	10.92	0.00	6538				



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

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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

7.7.3
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 = 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		
11CI-PF3OUdS	9.336	630.9 -> 450.9	11440	0.77 µg/L	99
		632.9 -> 452.9	3526		
9CI-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

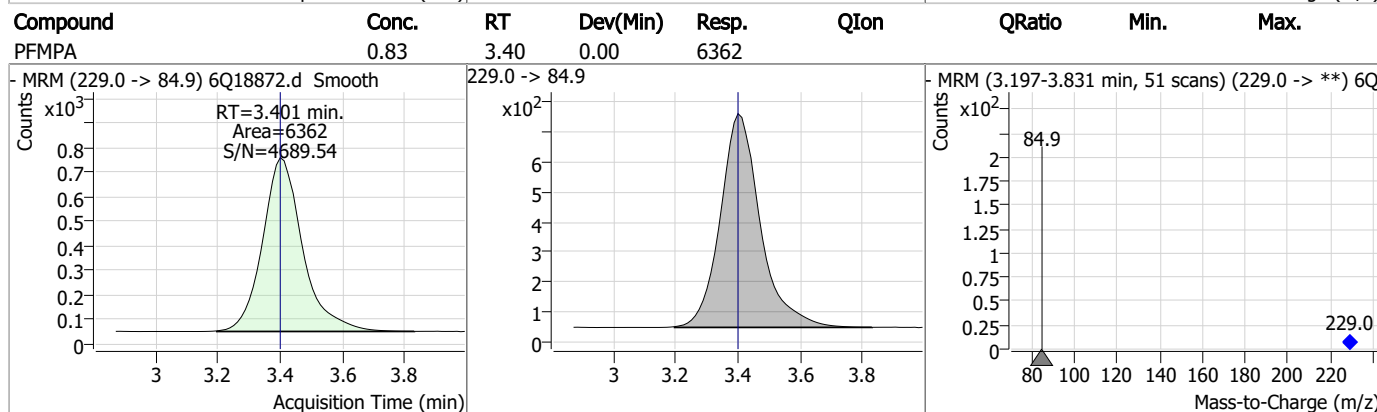
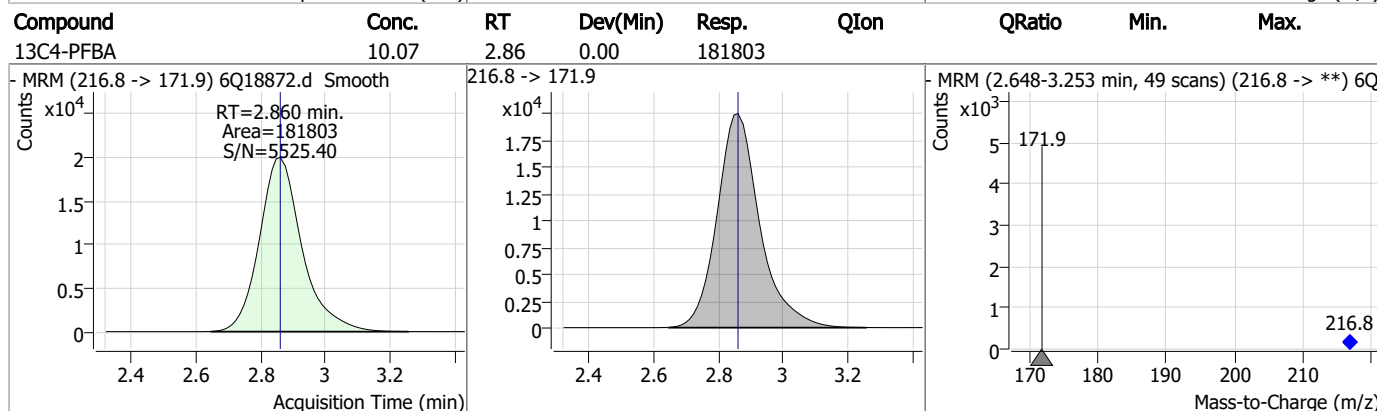
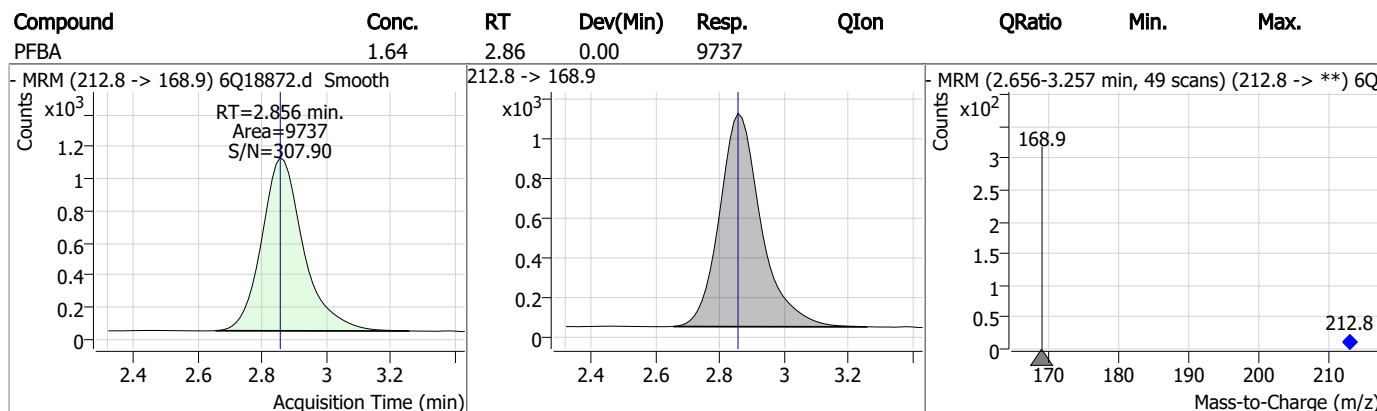
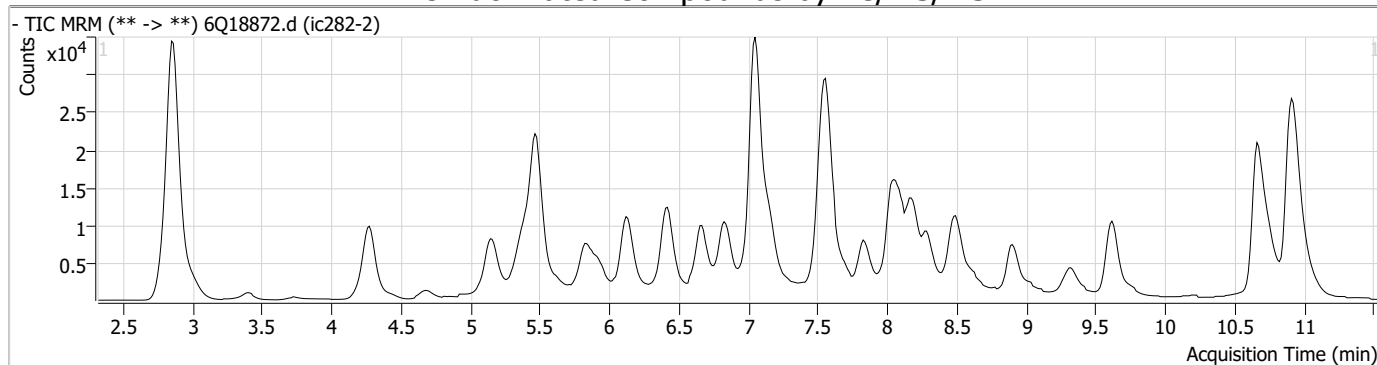
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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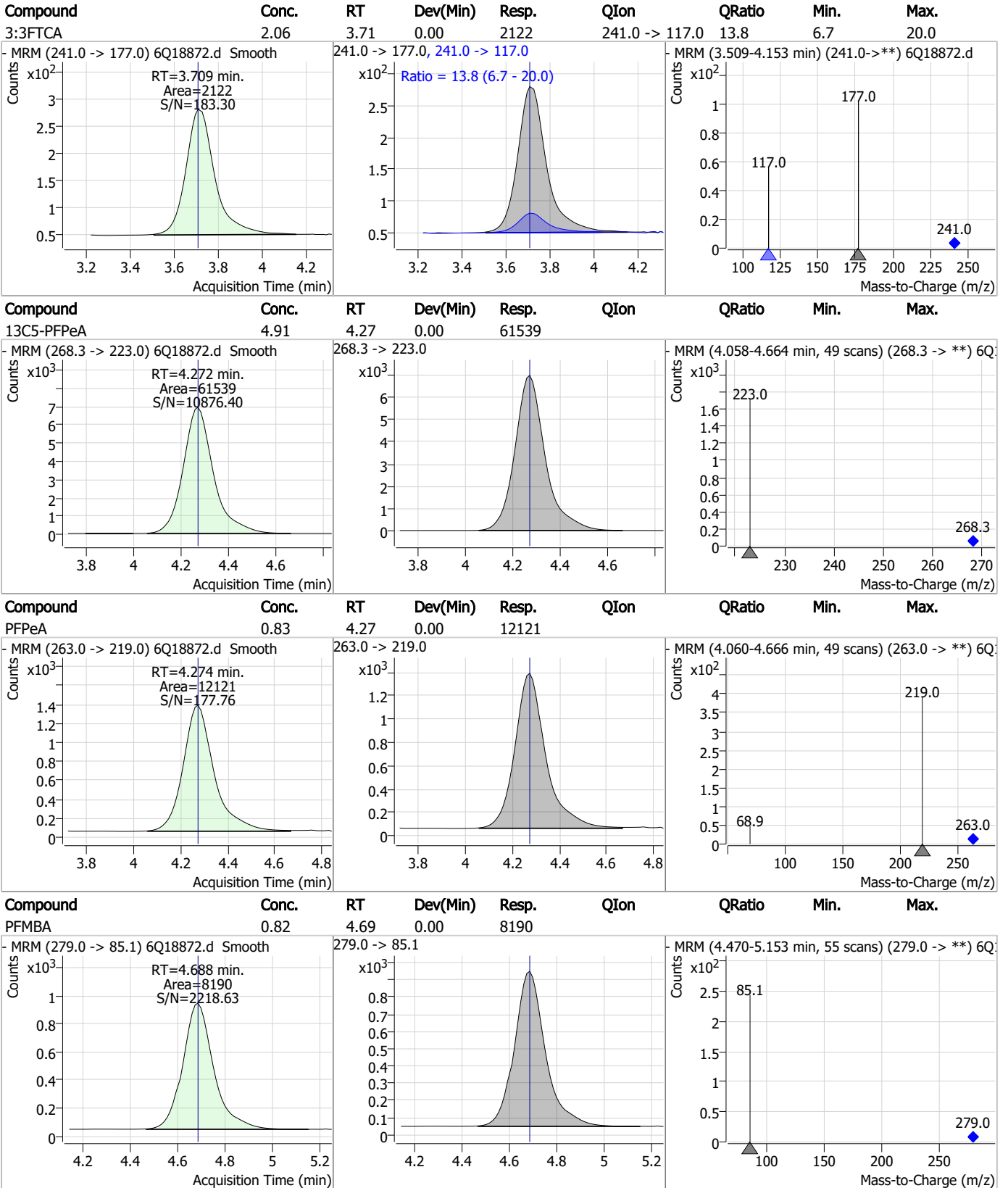
7.7.3
7



Perfluorinated Compounds by LC/MS/MS



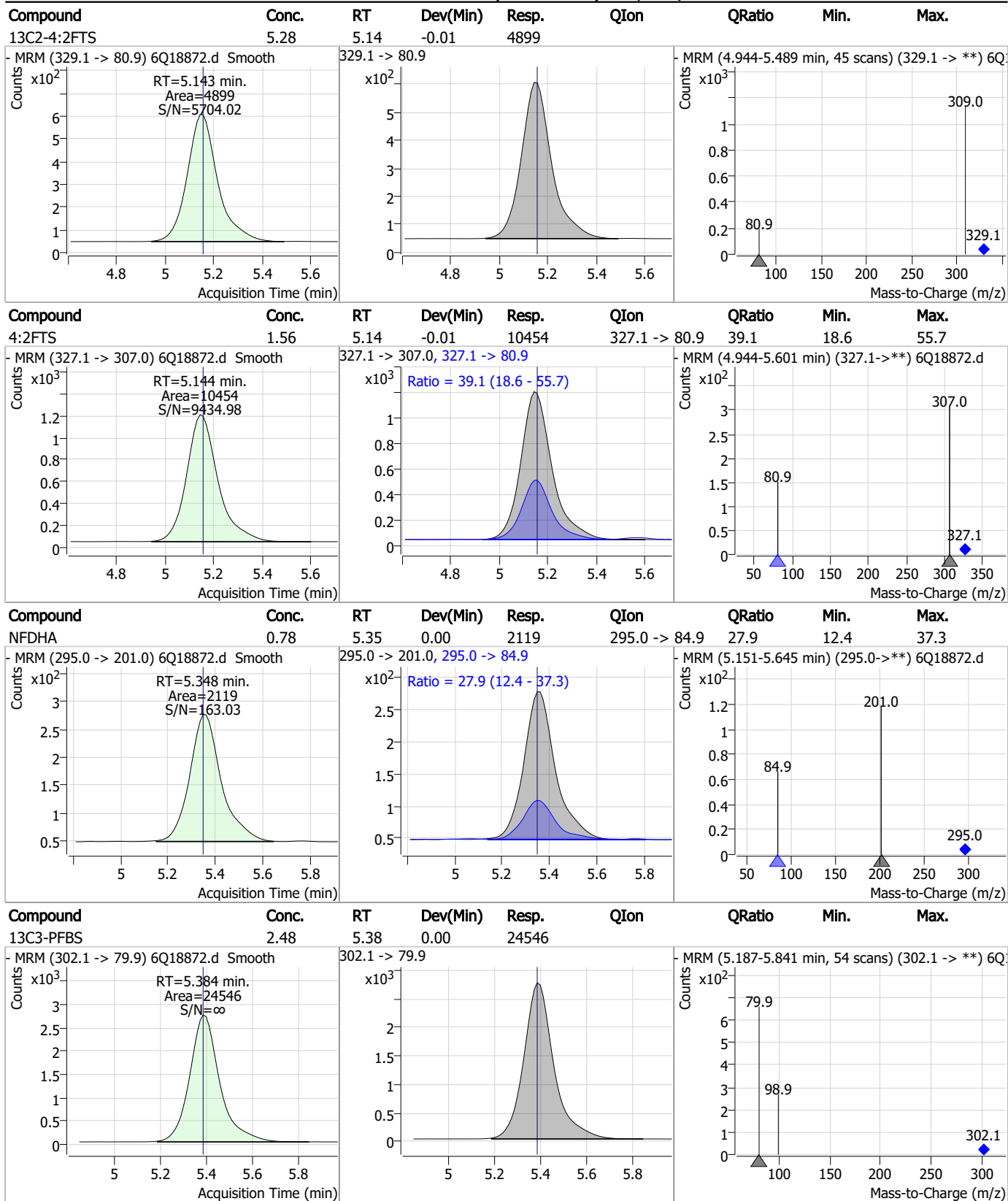
Perfluorinated Compounds by LC/MS/MS



7.7.3

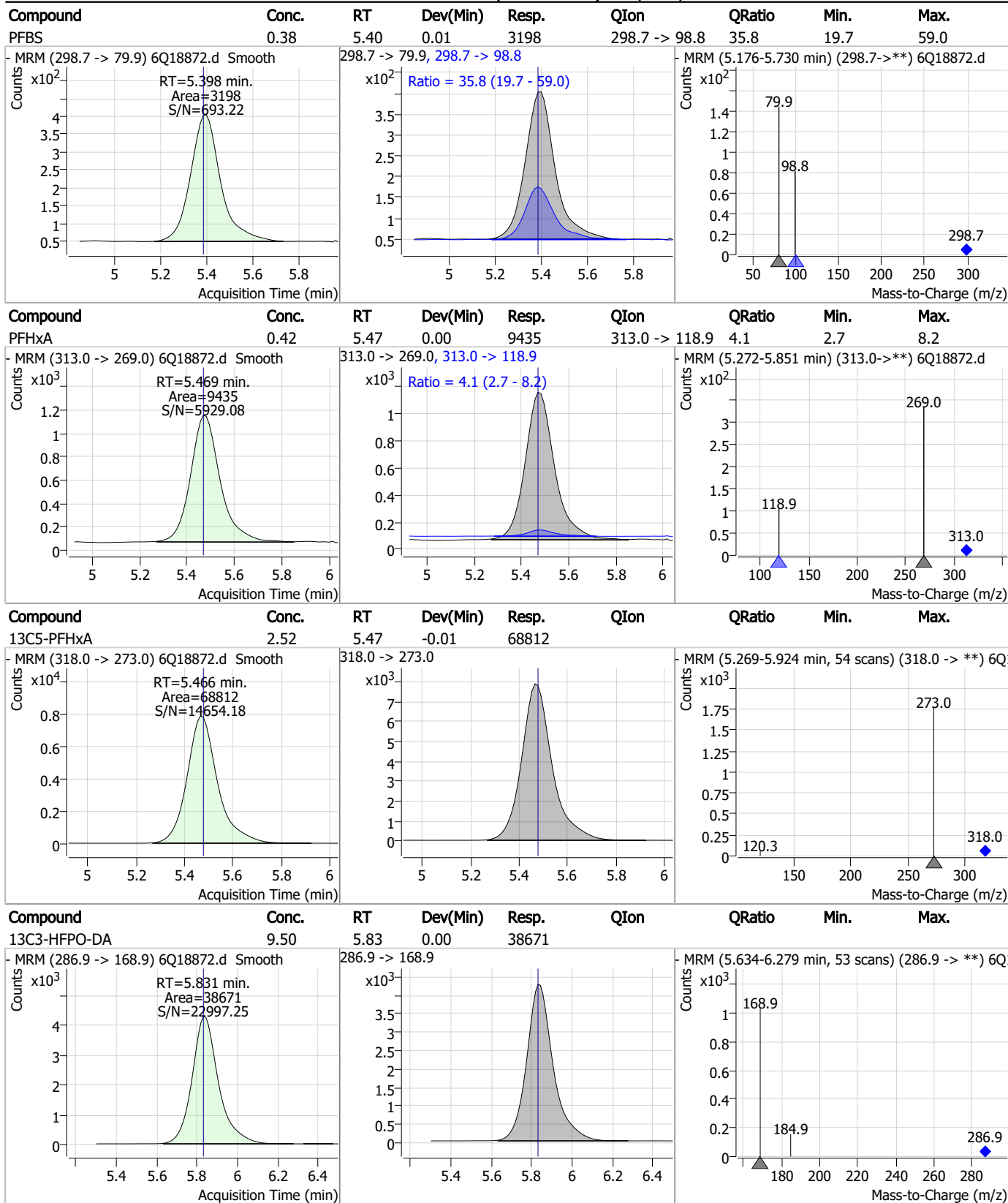
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Perfluorinated Compounds by LC/MS/MS



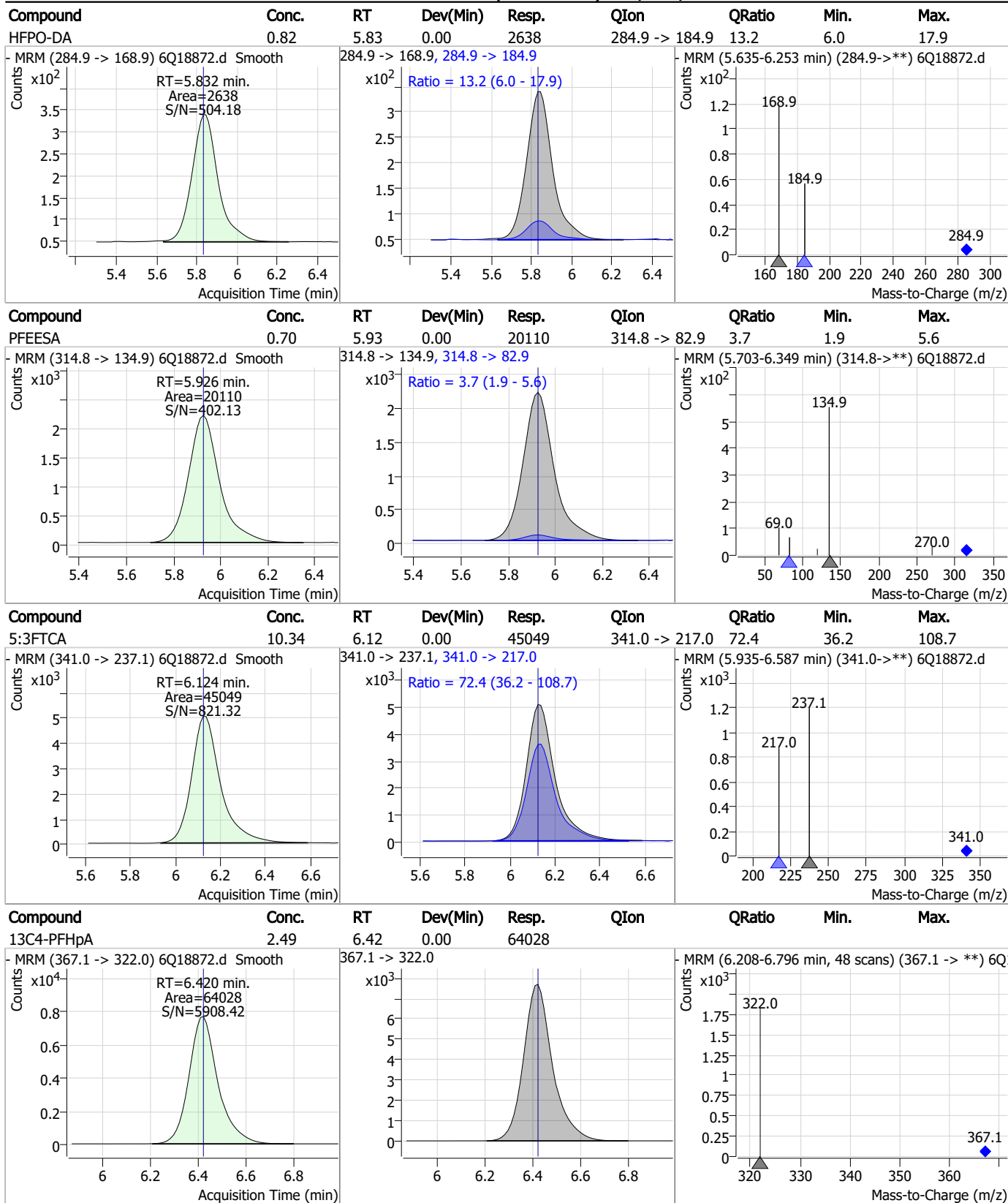
7.7.3
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Perfluorinated Compounds by LC/MS/MS



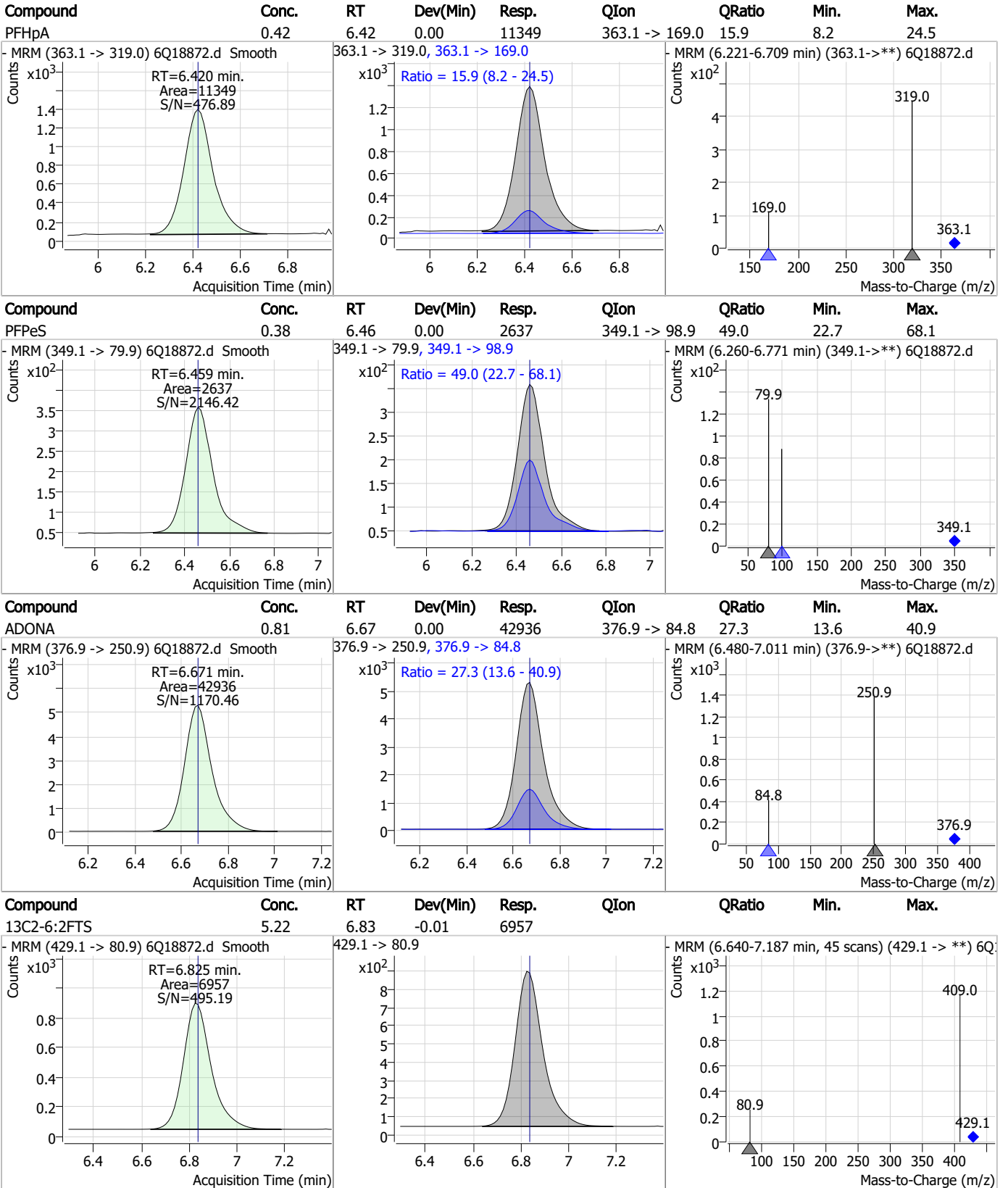
7.7.3
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Perfluorinated Compounds by LC/MS/MS



7.7.3
7

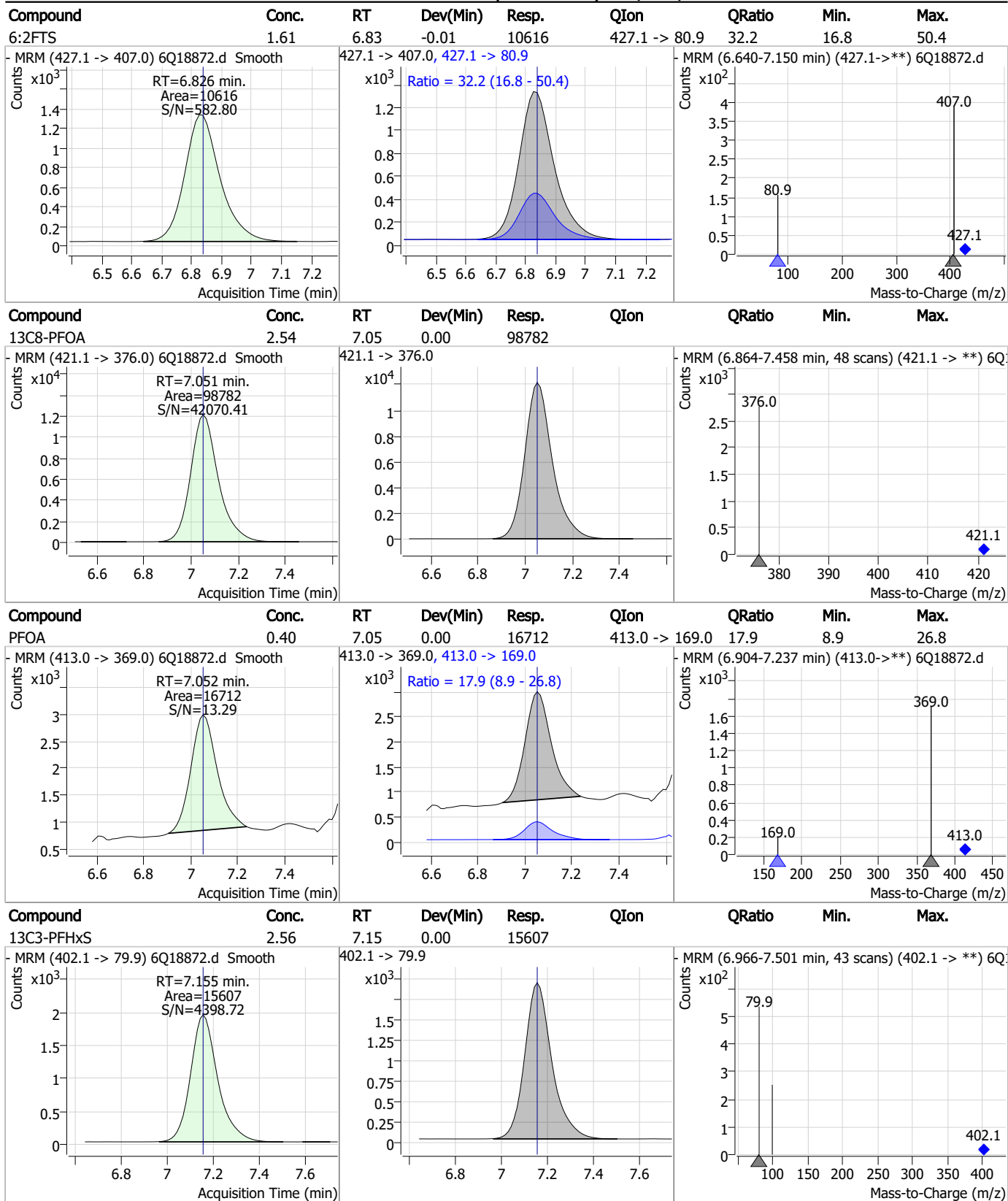
Perfluorinated Compounds by LC/MS/MS



7.7.3

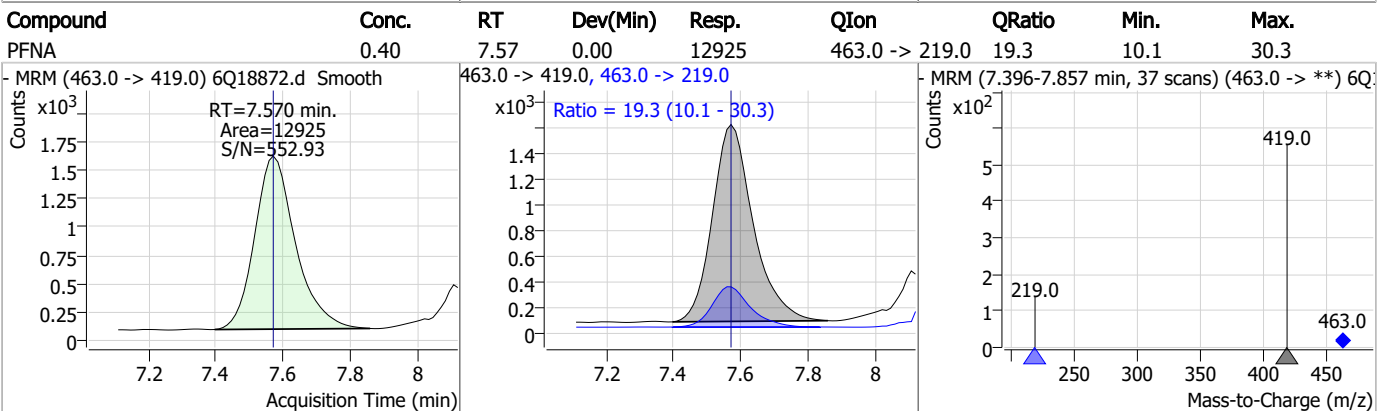
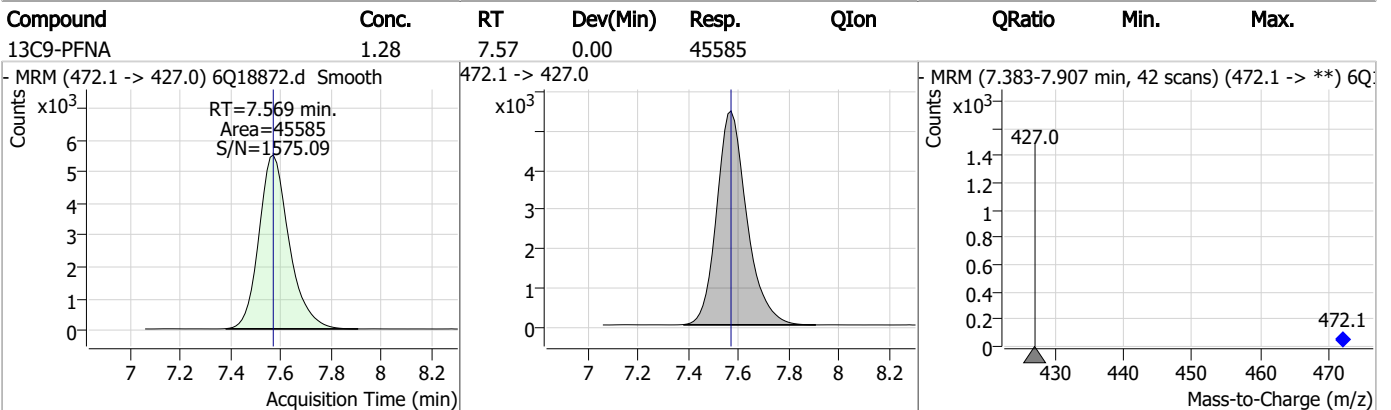
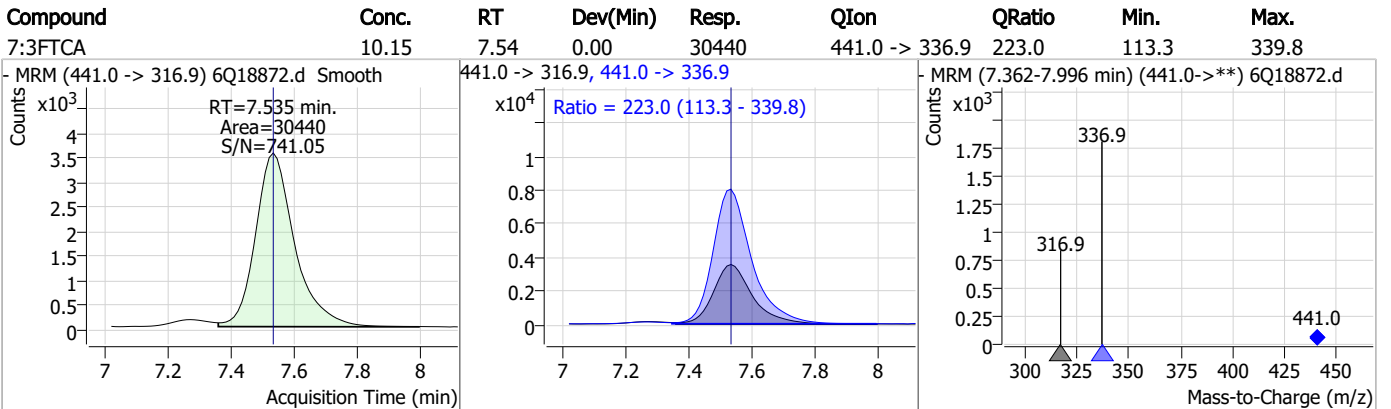
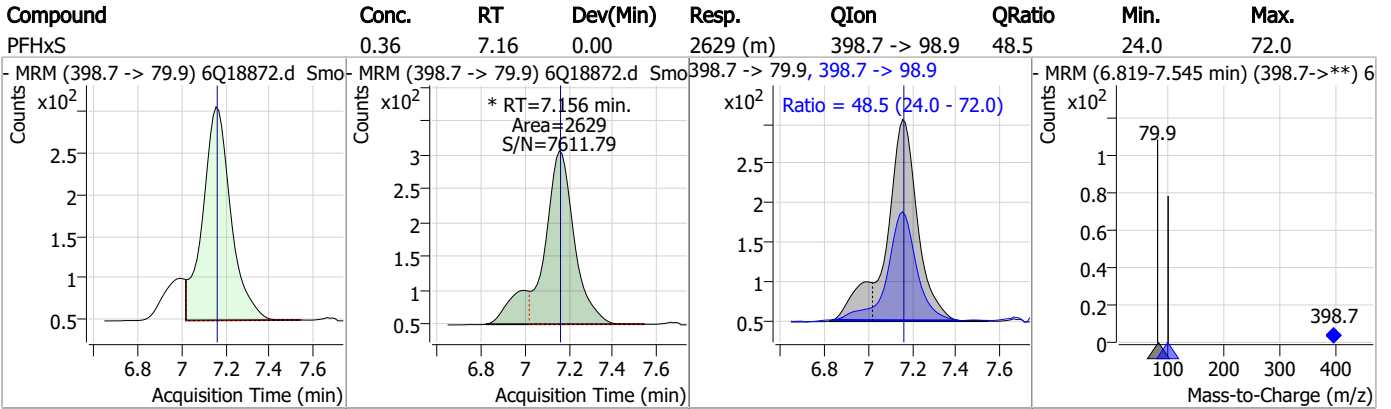
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Perfluorinated Compounds by LC/MS/MS



7.7.3
7

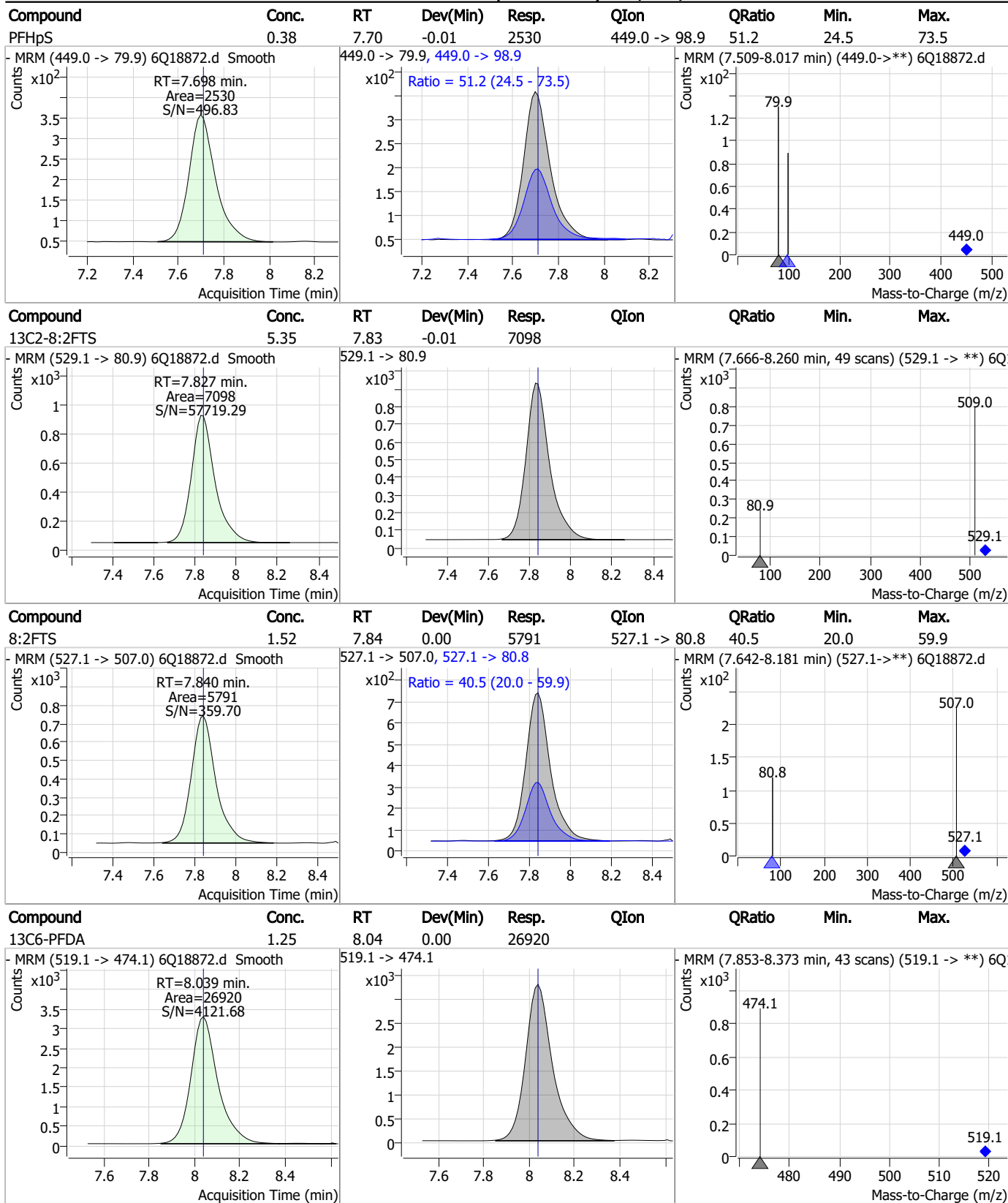
Perfluorinated Compounds by LC/MS/MS



7.7.3

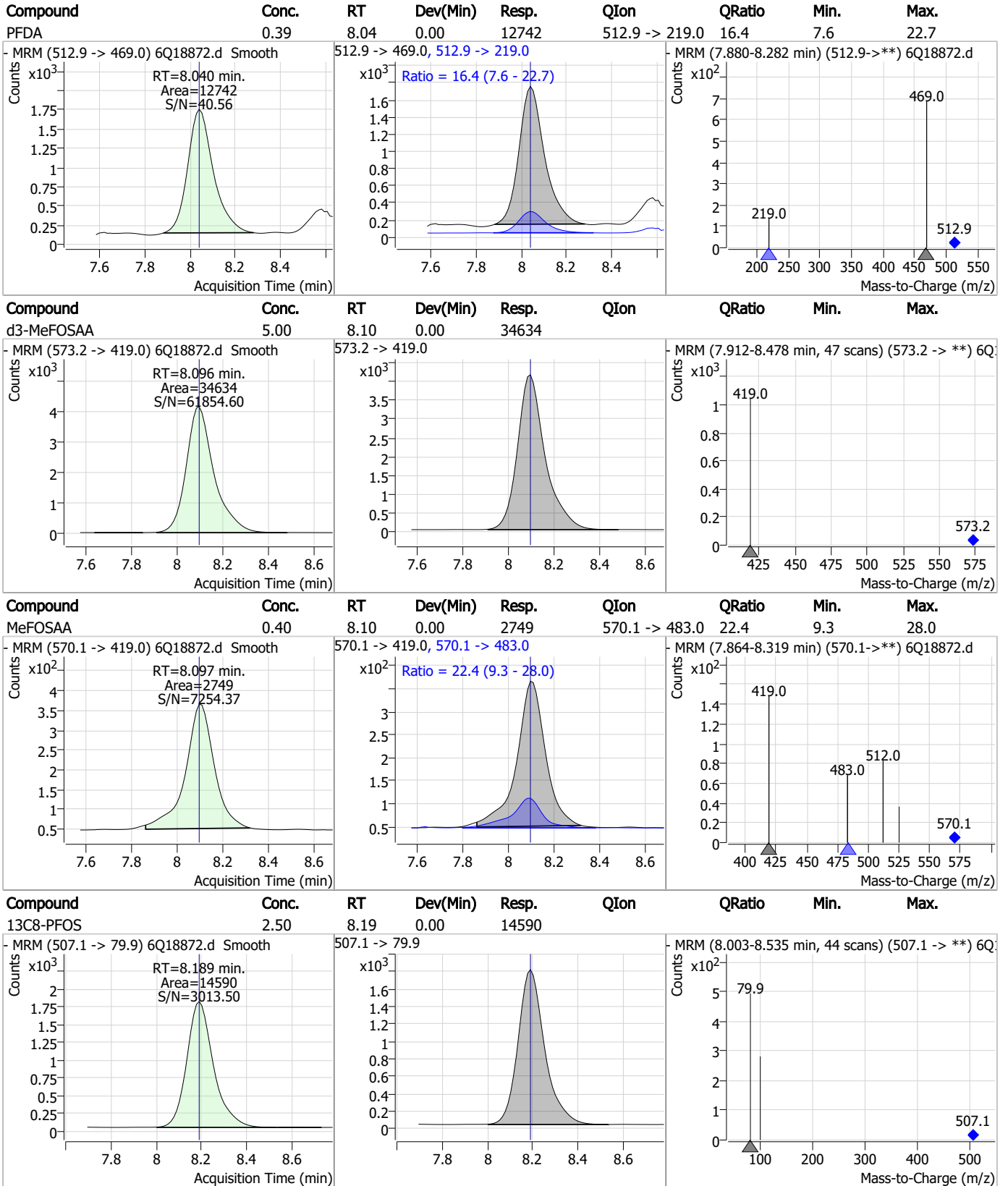
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Perfluorinated Compounds by LC/MS/MS



7.7.3
7

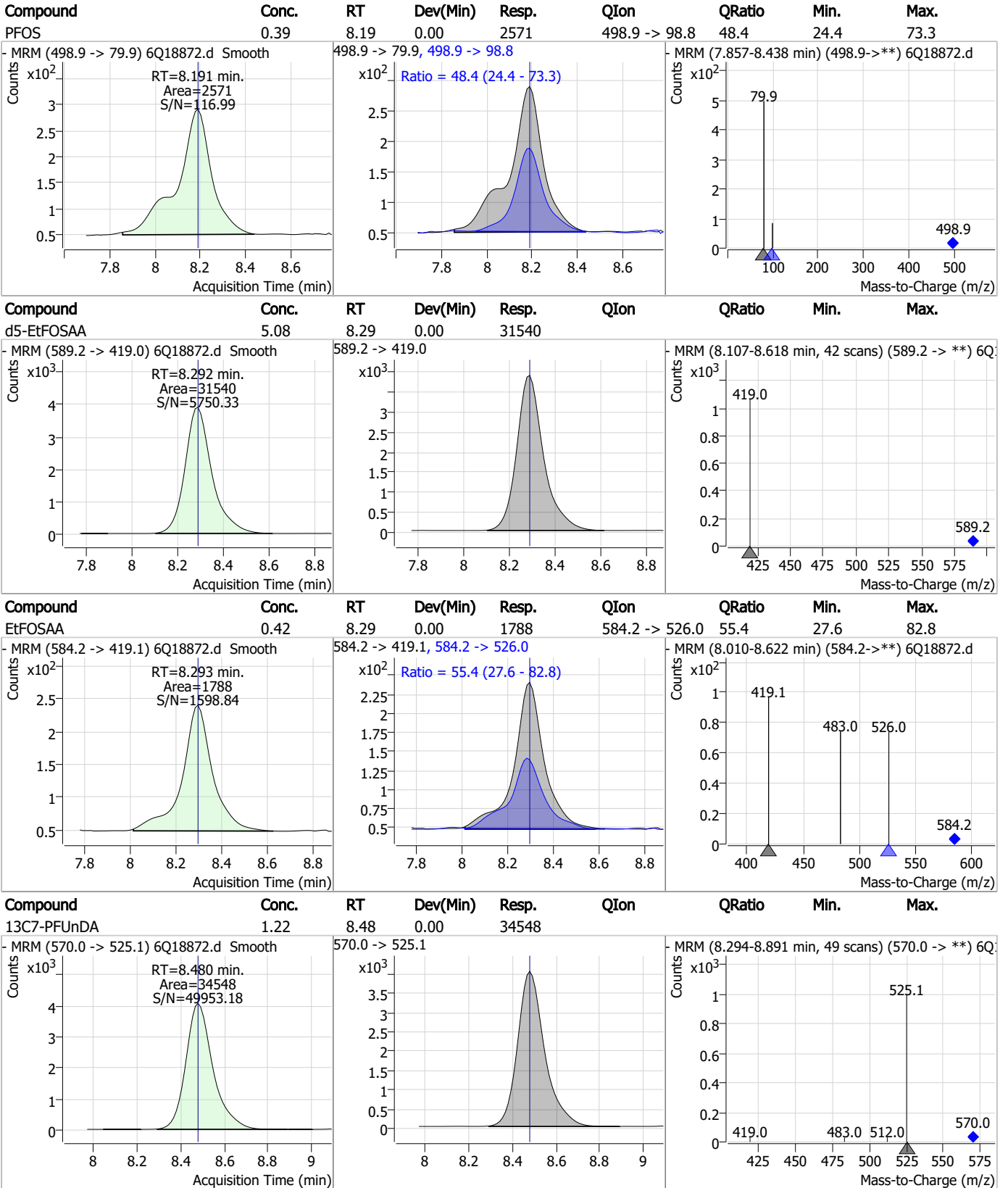
Perfluorinated Compounds by LC/MS/MS



7.7.3

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Perfluorinated Compounds by LC/MS/MS

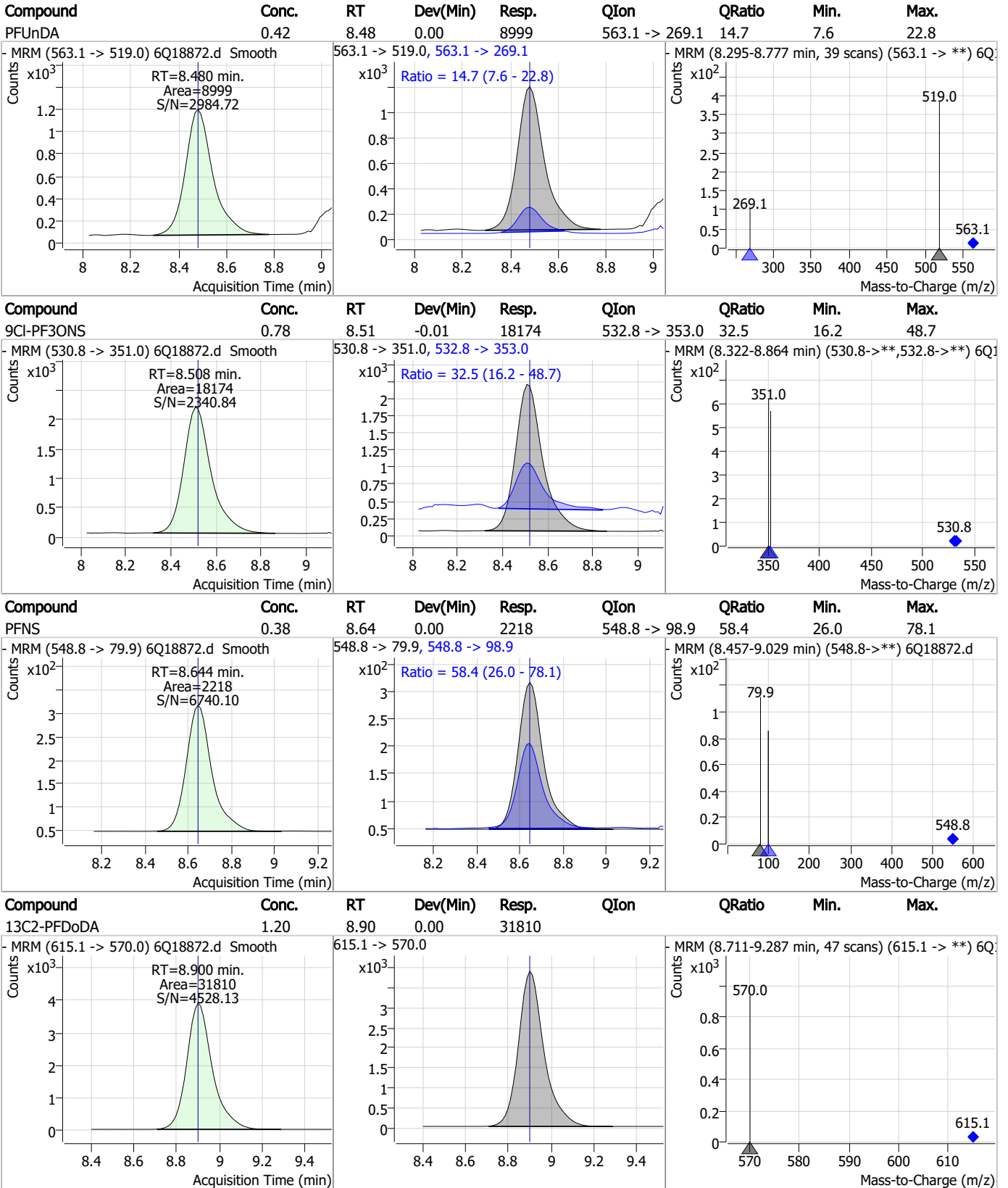


7.7.3

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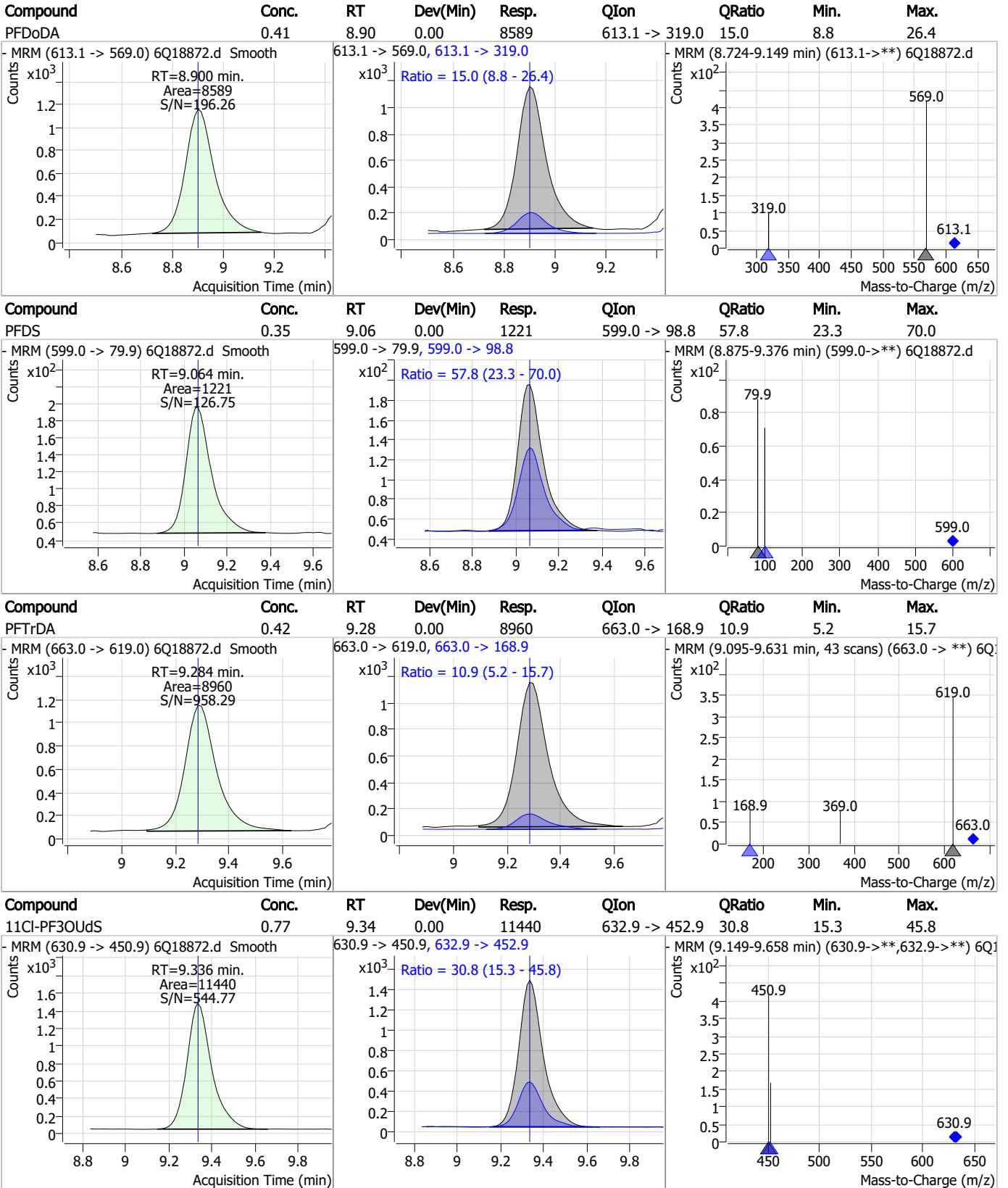
Perfluorinated Compounds by LC/MS/MS



7.7.3

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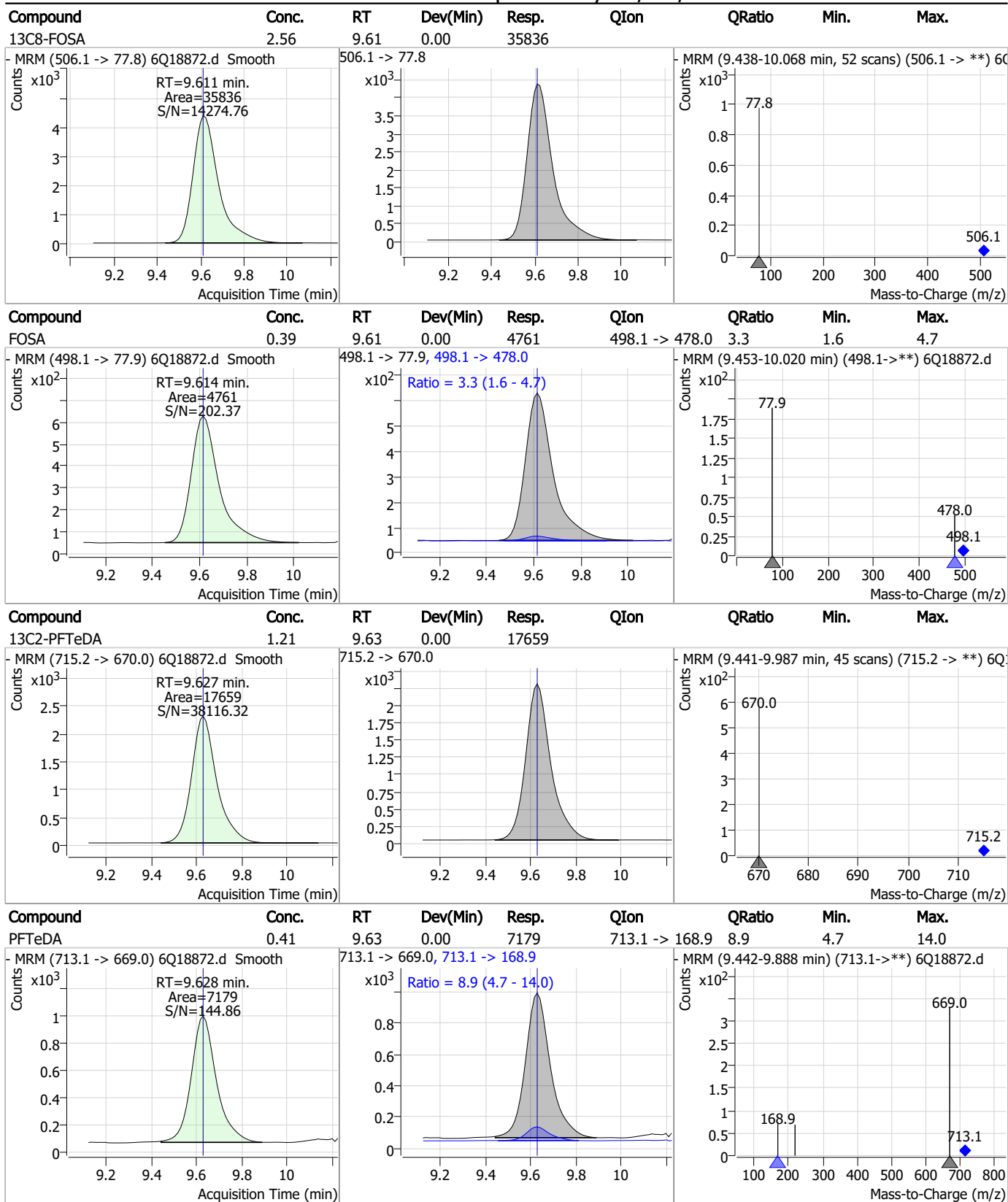
Perfluorinated Compounds by LC/MS/MS



7.7.3

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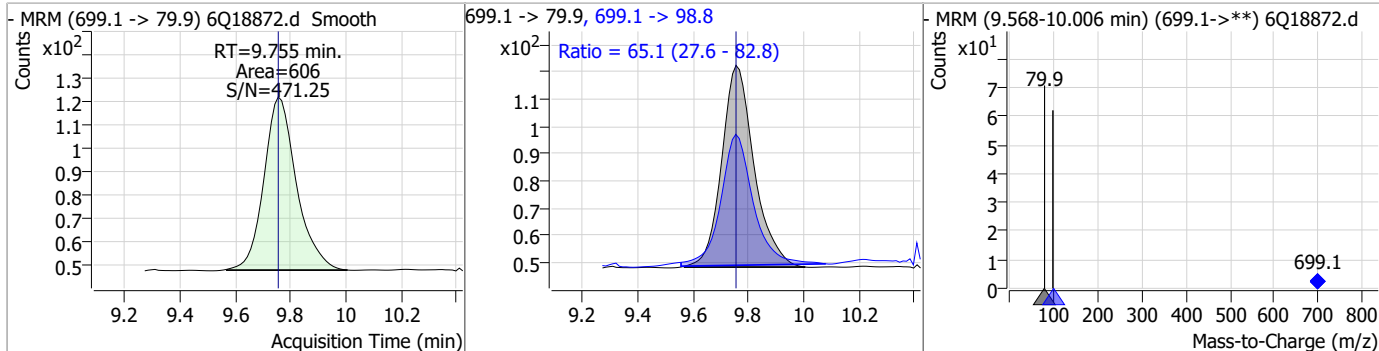
Perfluorinated Compounds by LC/MS/MS



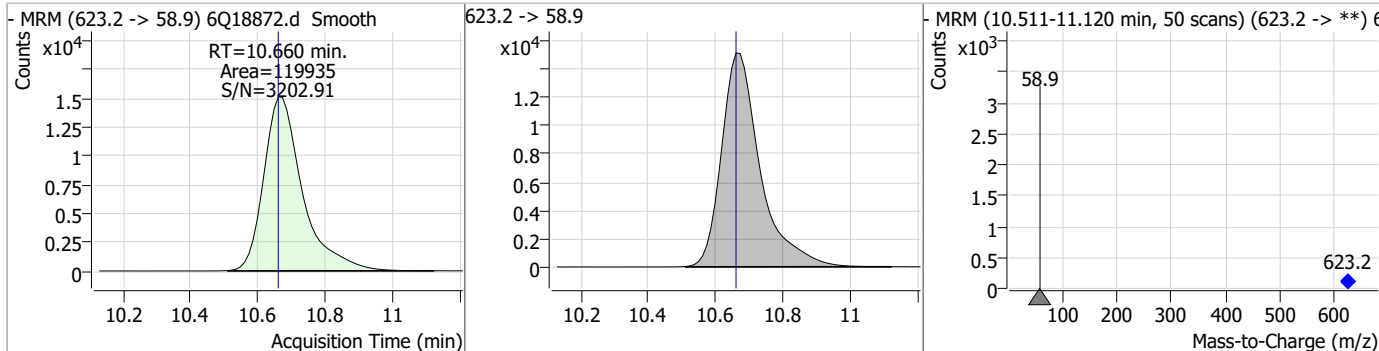
7.7.3
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Perfluorinated Compounds by LC/MS/MS

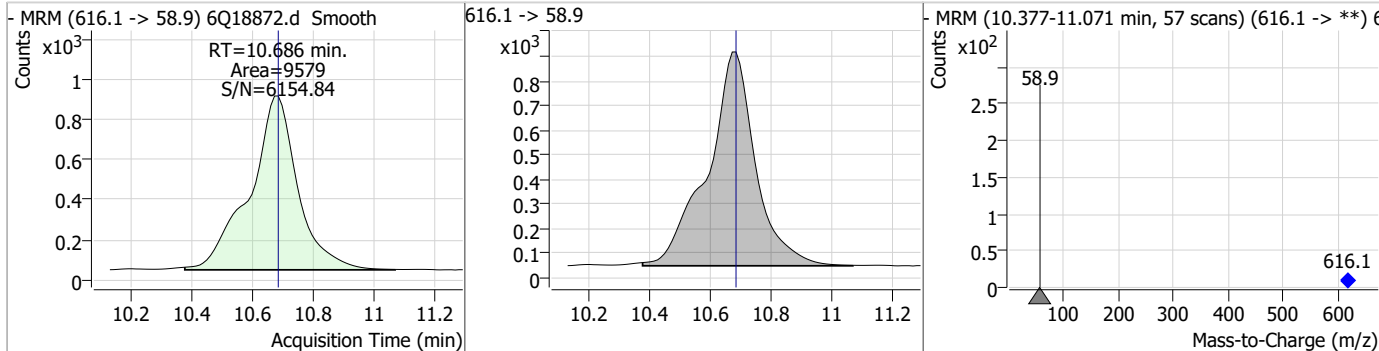
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	0.37	9.75	0.00	606	699.1 -> 98.8	65.1	27.6	82.8



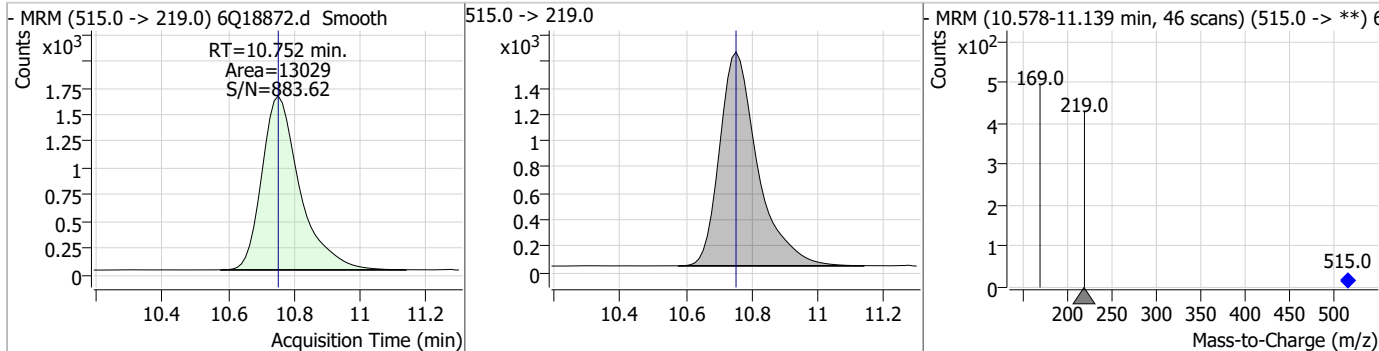
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.83	10.66	0.00	119935				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	2.06	10.69	0.00	9579				



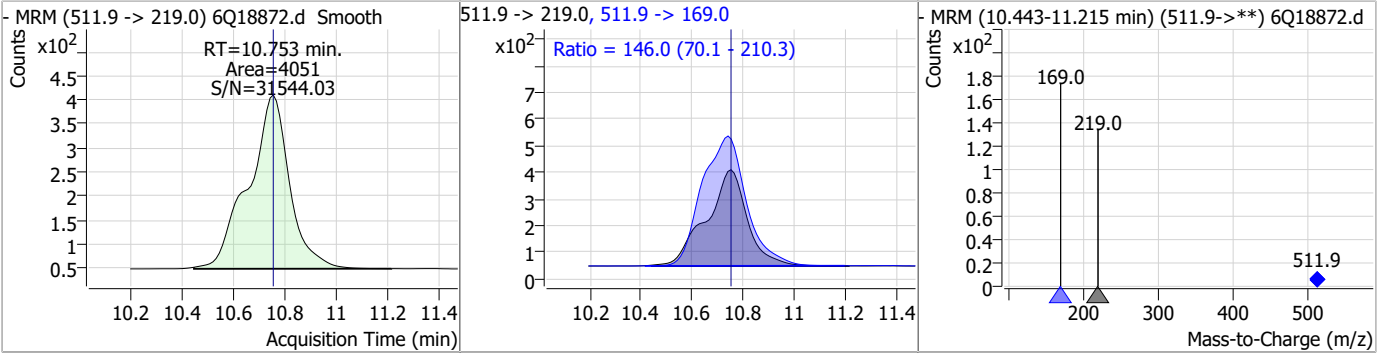
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.39	10.75	0.00	13029				



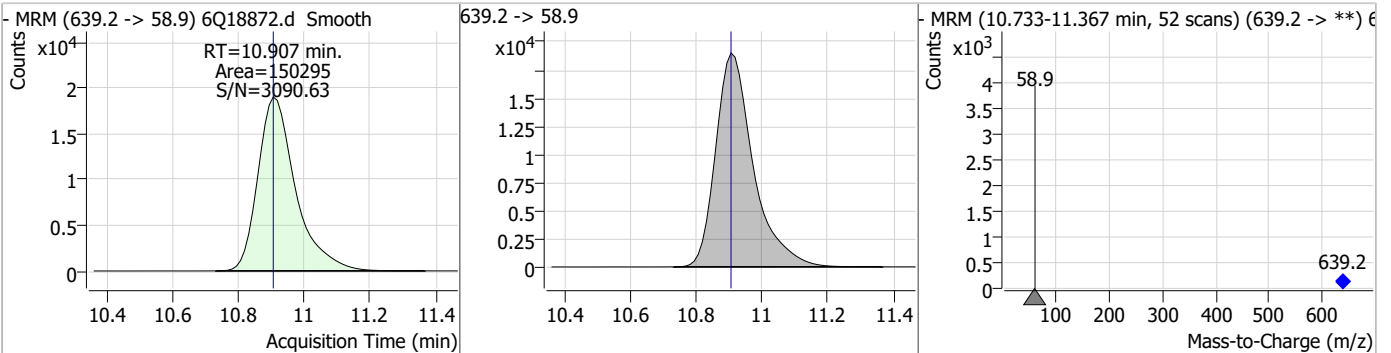
7.7.3
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Perfluorinated Compounds by LC/MS/MS

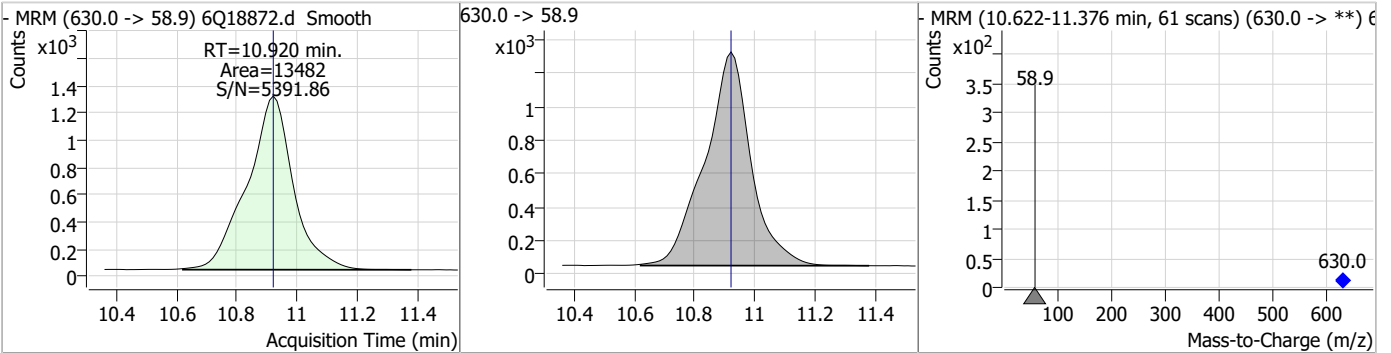
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.82	10.75	0.00	4051	511.9 -> 169.0	146.0	70.1	210.3



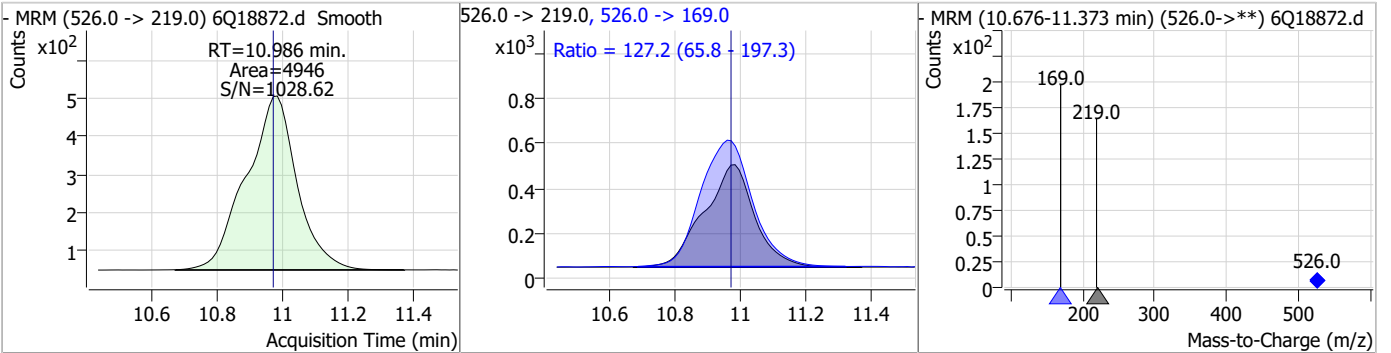
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	24.43	10.91	0.00	150295				



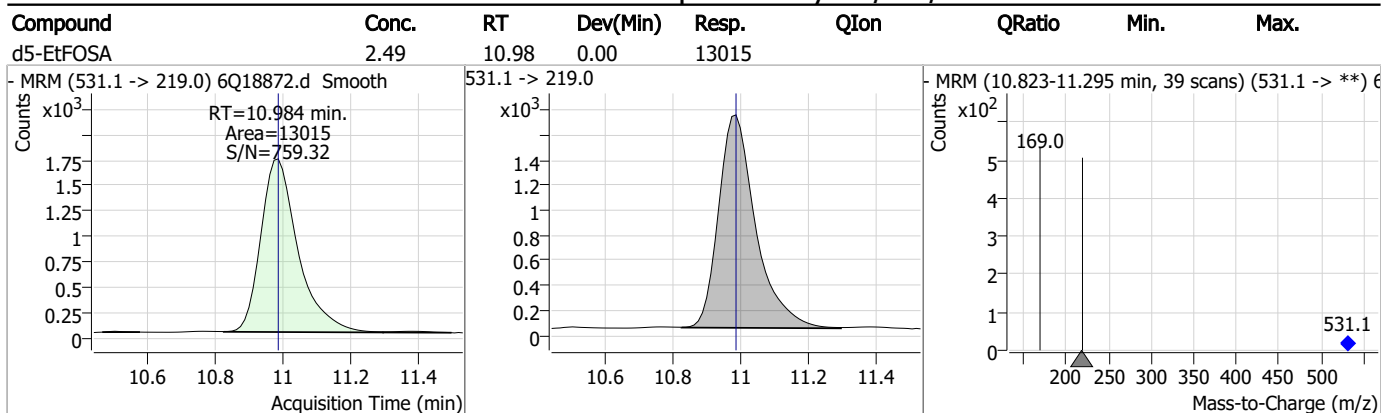
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	2.06	10.92	0.00	13482				



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

7

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

7

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

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

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			
11Cl-PF3OUdS	9.336	630.9 -> 450.9	35777	2.43	µg/L	99
		632.9 -> 452.9	10713			
9Cl-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

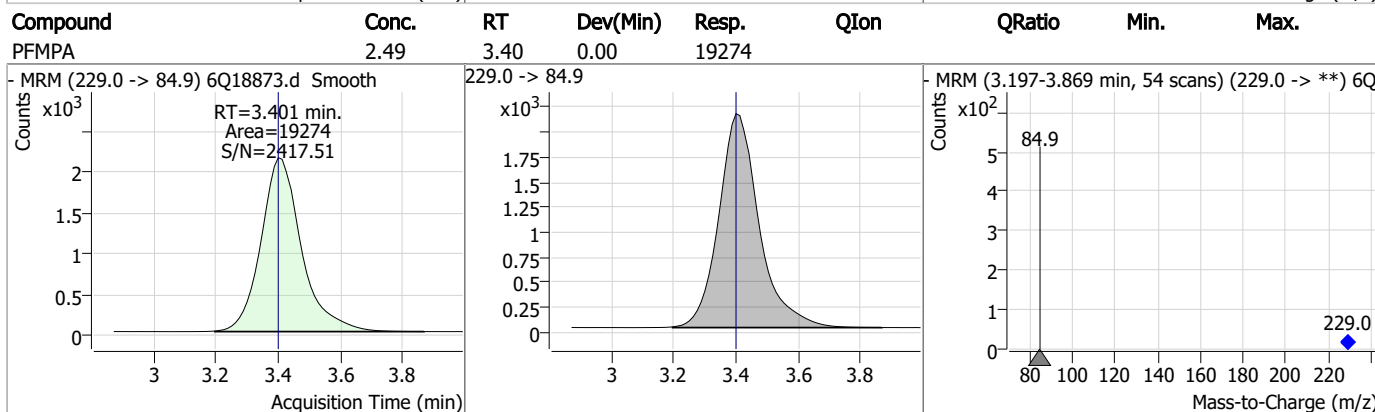
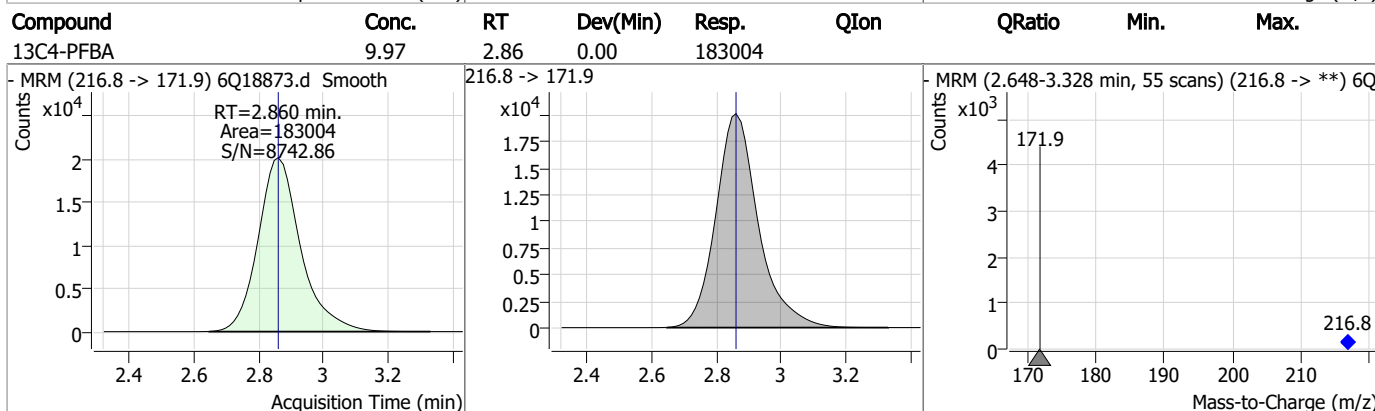
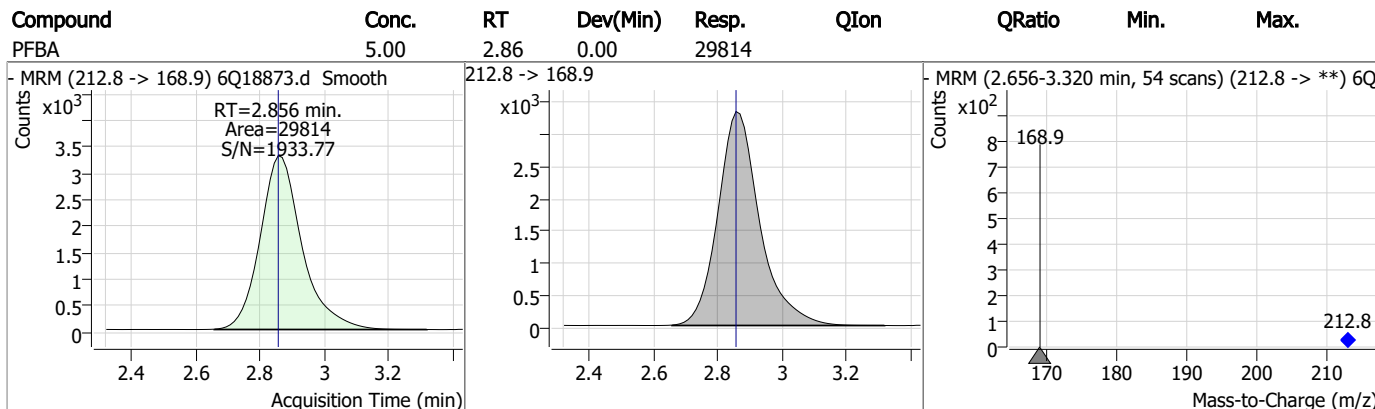
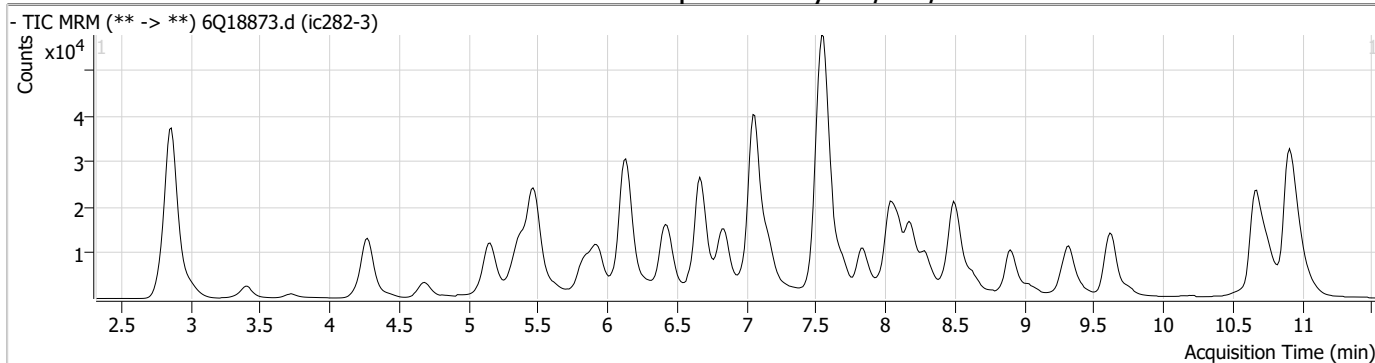
Perfluorinated Compounds by LC/MS/MS

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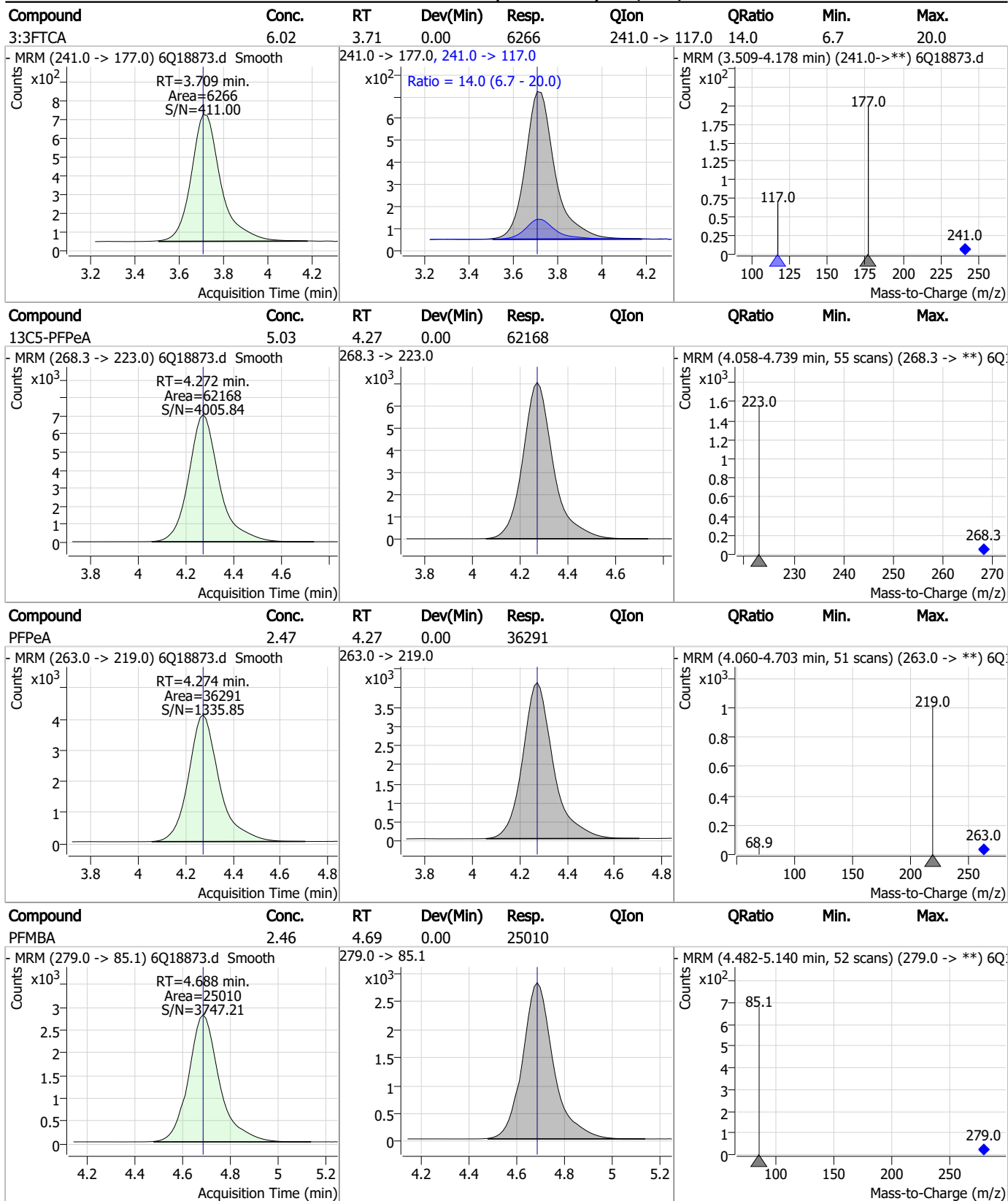
7.7.4

7

Perfluorinated Compounds by LC/MS/MS

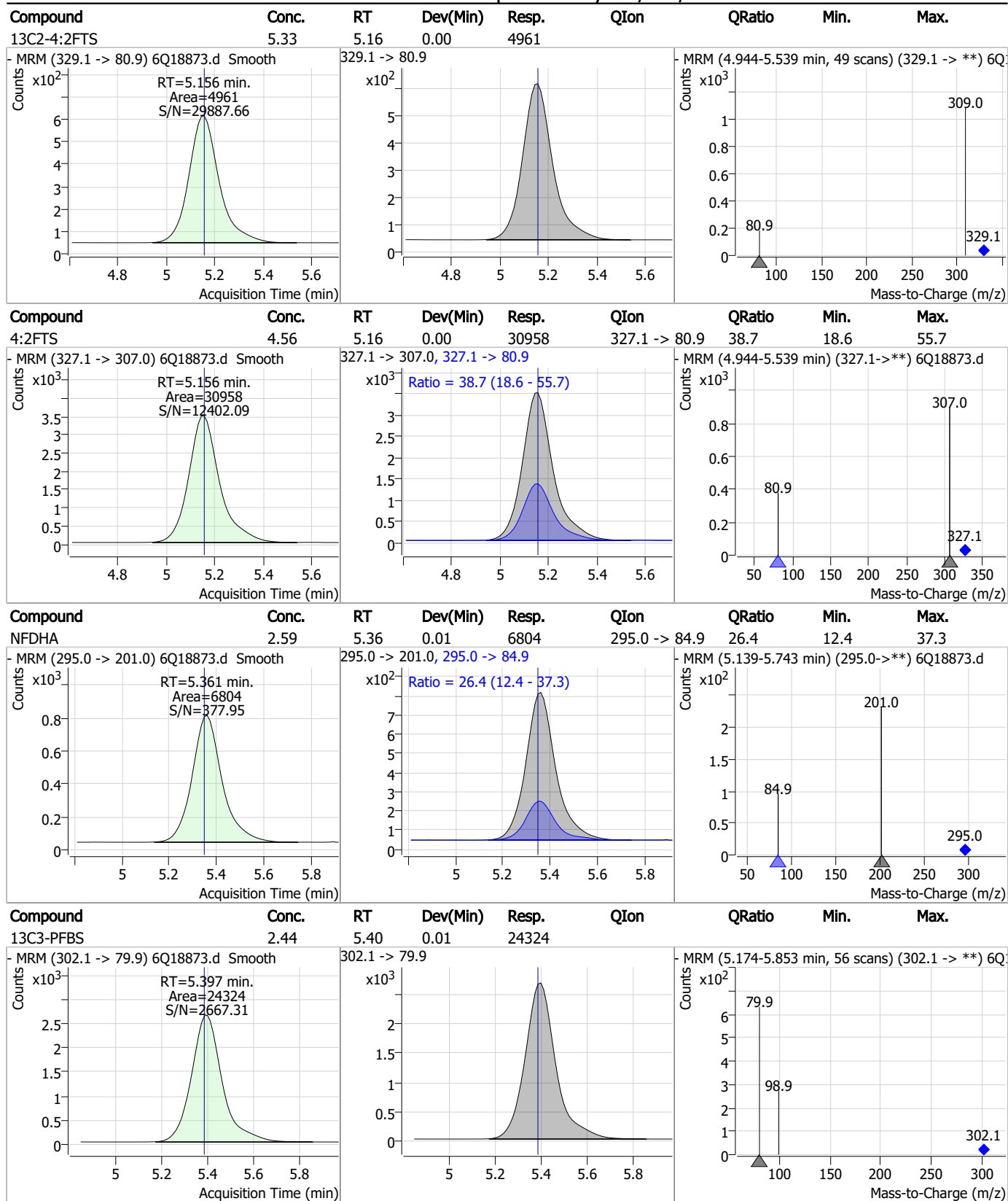


Perfluorinated Compounds by LC/MS/MS



7.7.4
7

Perfluorinated Compounds by LC/MS/MS

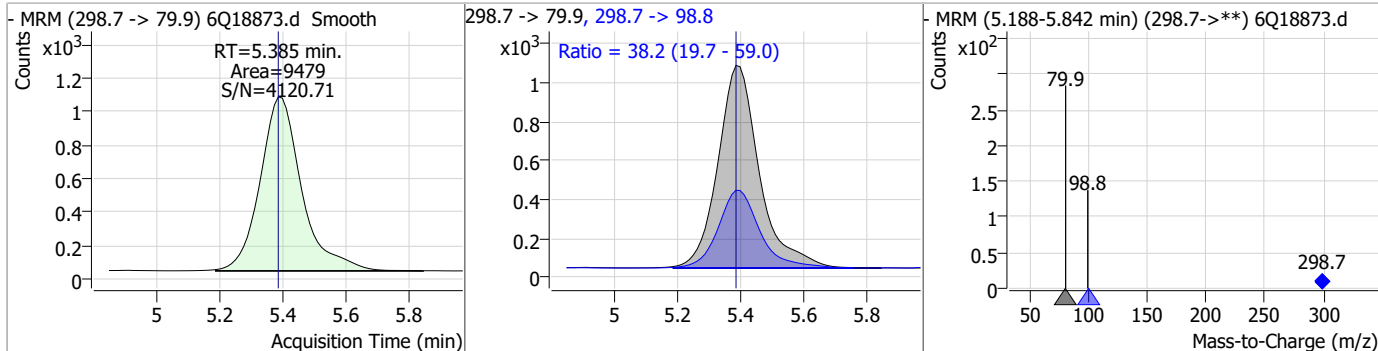


7.7.4
7

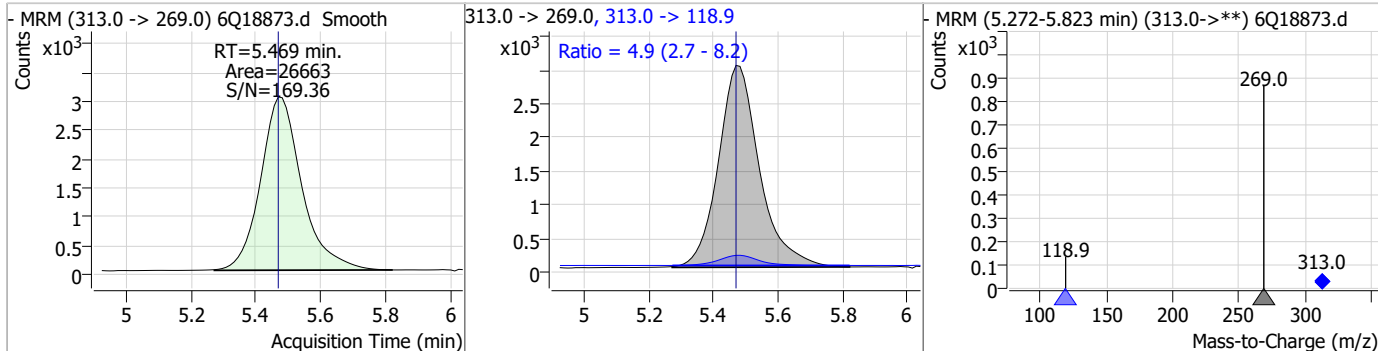


Perfluorinated Compounds by LC/MS/MS

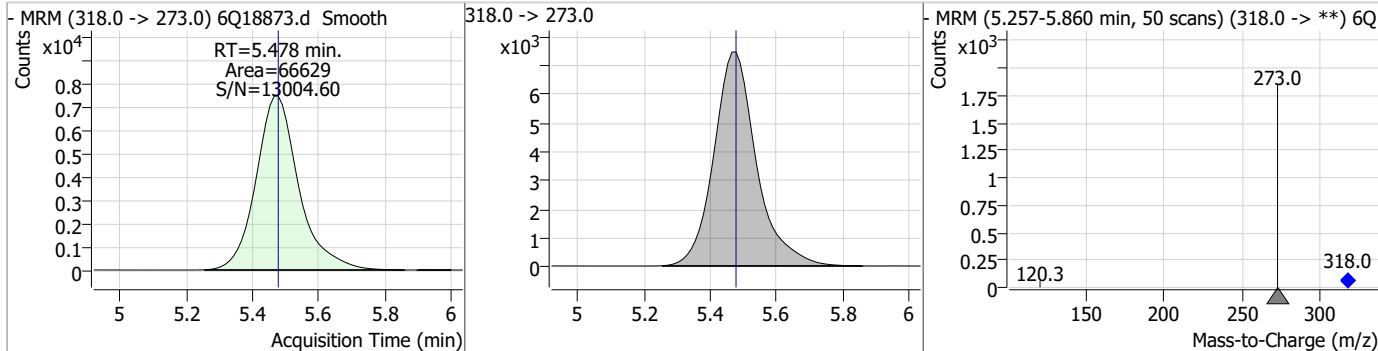
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	1.12	5.38	0.00	9479	298.7 -> 98.8	38.2	19.7	59.0



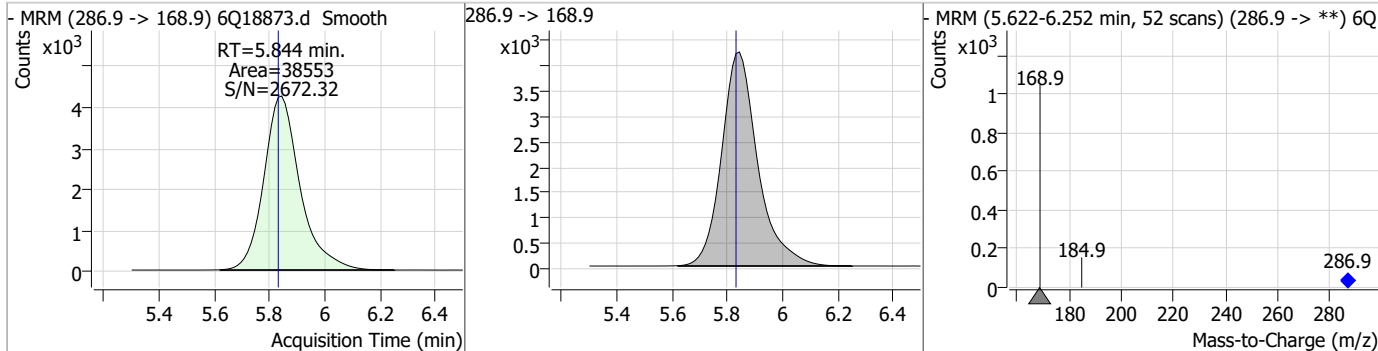
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	1.22	5.47	0.00	26663	313.0 -> 118.9	4.9	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.47	5.48	0.00	66629	318.0 -> 273.0			



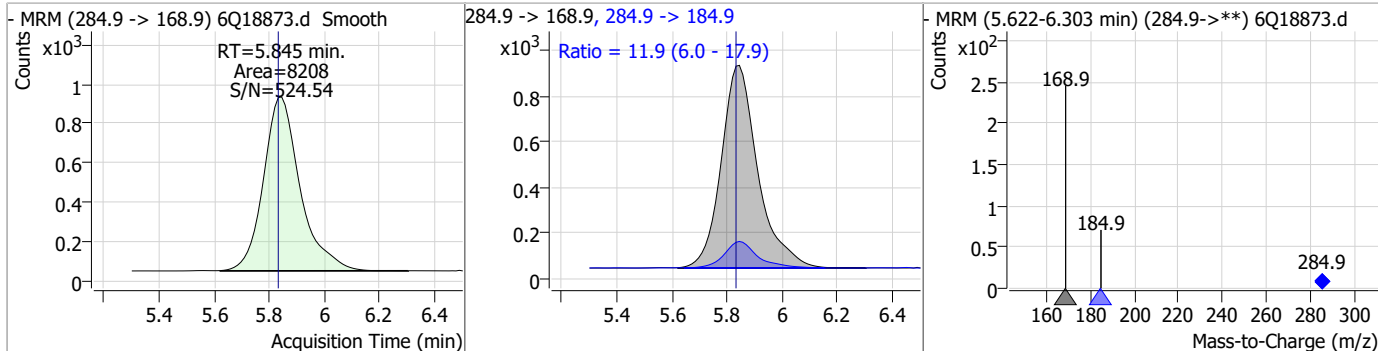
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	9.60	5.84	0.01	38553	286.9 -> 168.9			



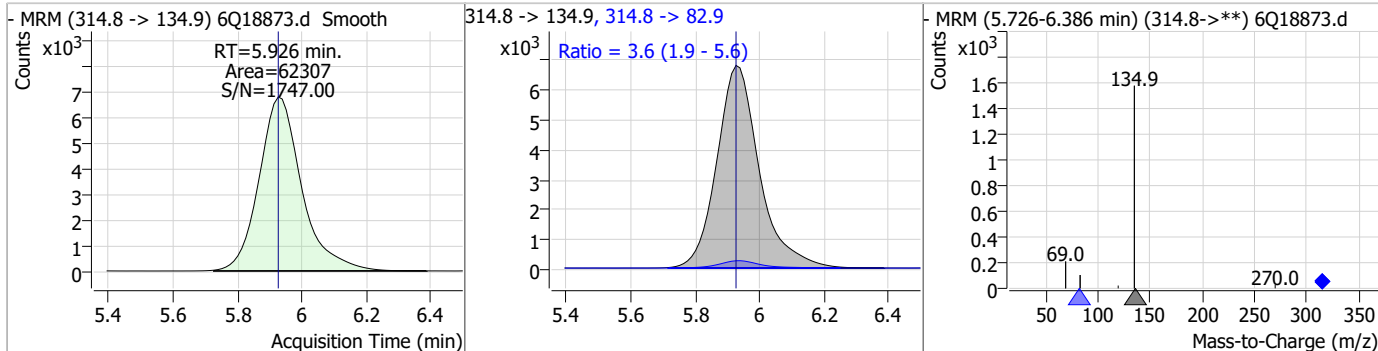
7.7.4
7

Perfluorinated Compounds by LC/MS/MS

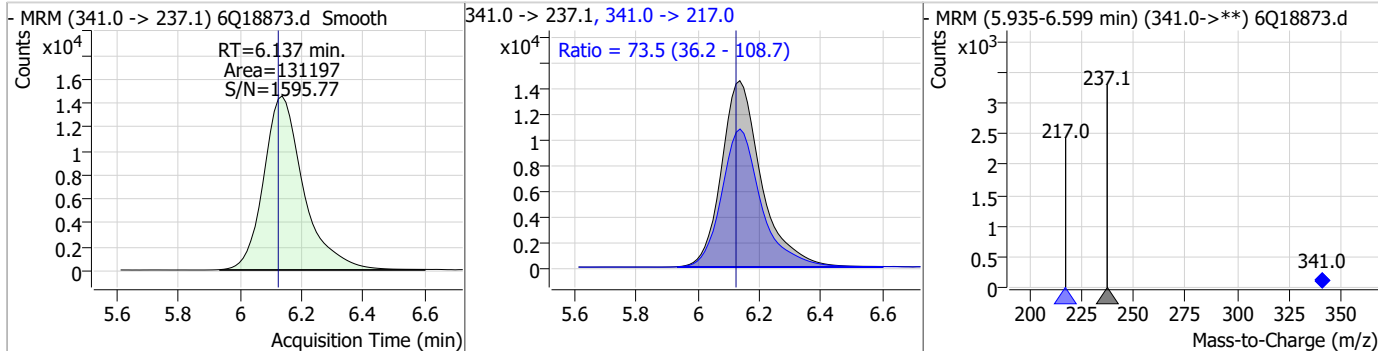
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	2.55	5.84	0.01	8208	284.9 -> 184.9	11.9	6.0	17.9



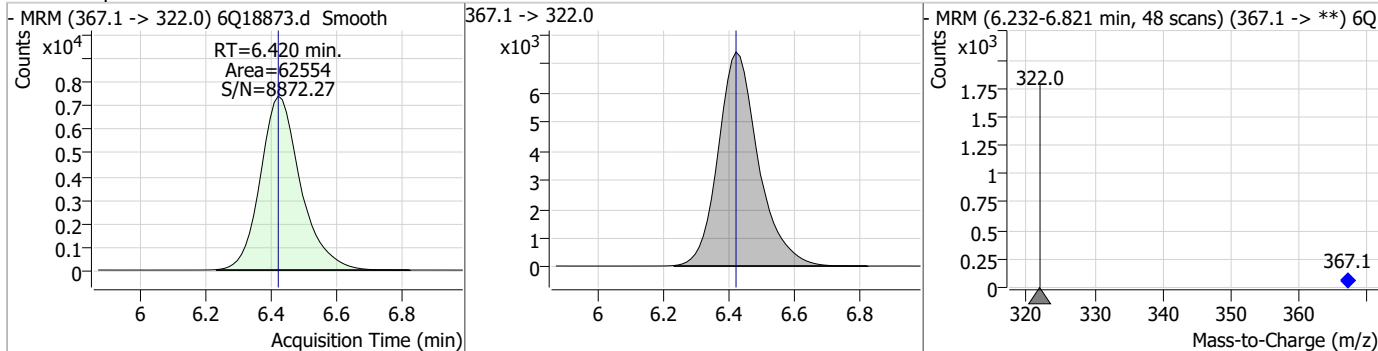
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	2.24	5.93	0.00	62307	314.8 -> 82.9	3.6	1.9	5.6



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

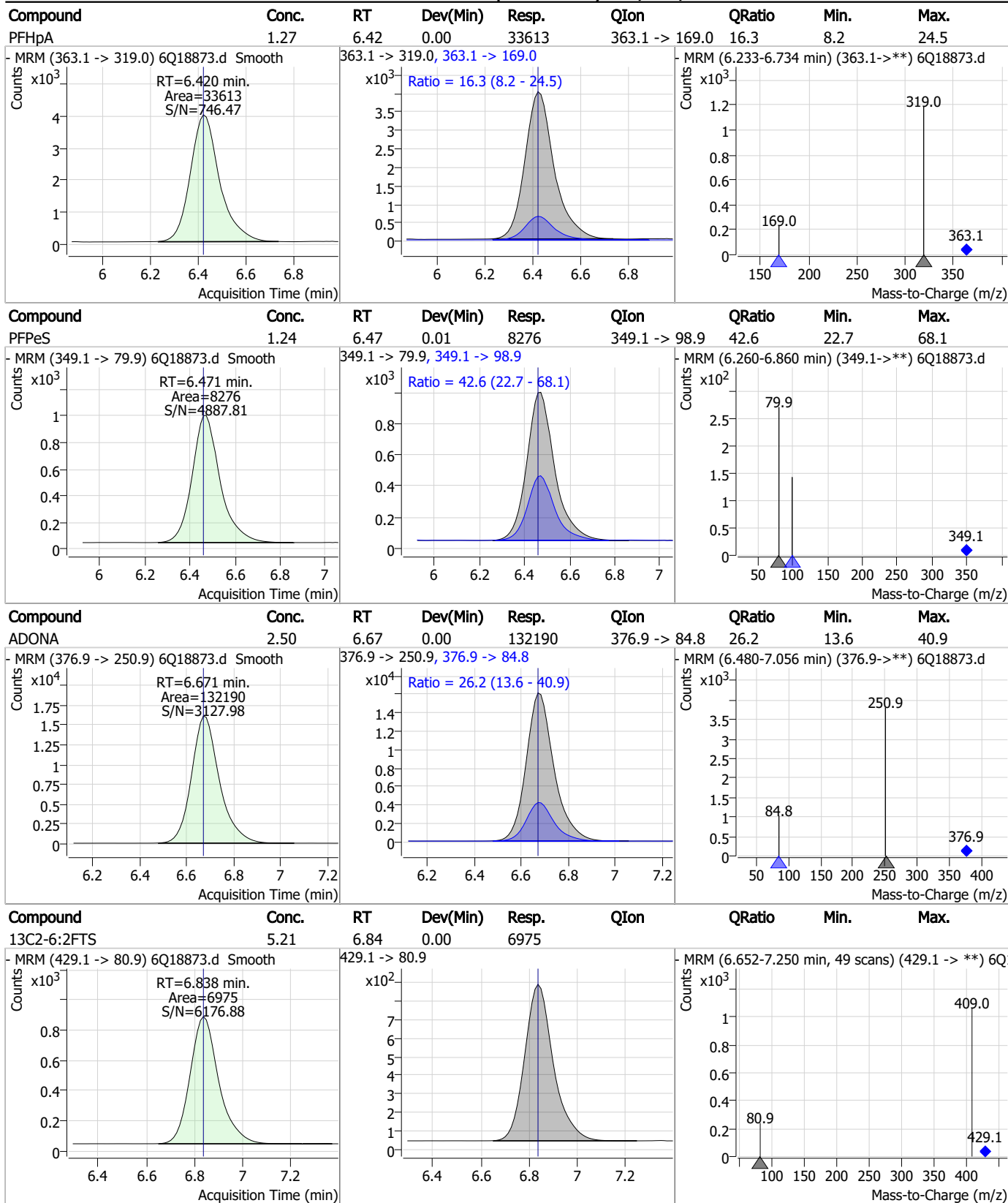


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.46	6.42	0.00	62554	367.1 -> 322.0			



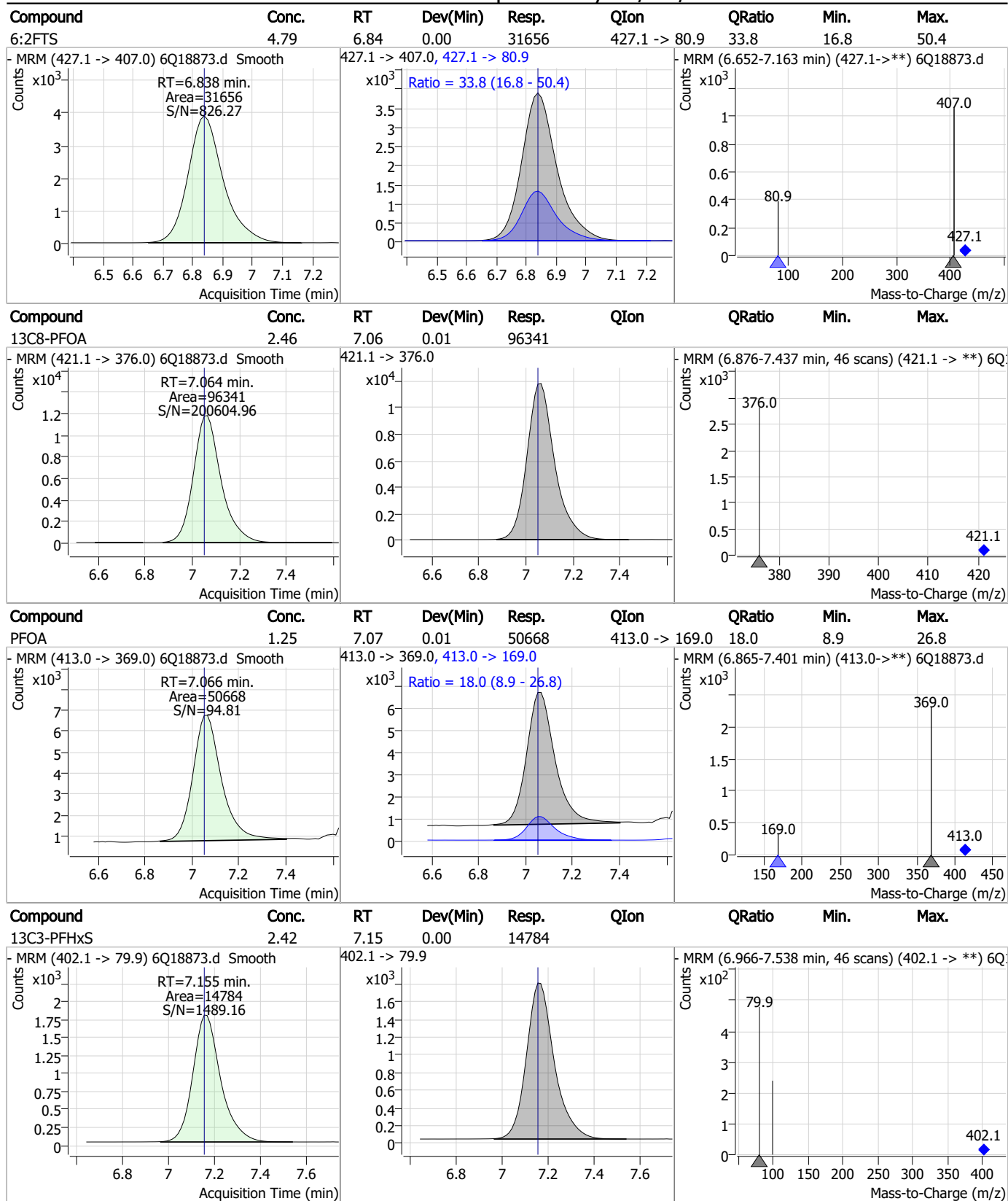
7.7.4
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Perfluorinated Compounds by LC/MS/MS



7.7.4
7

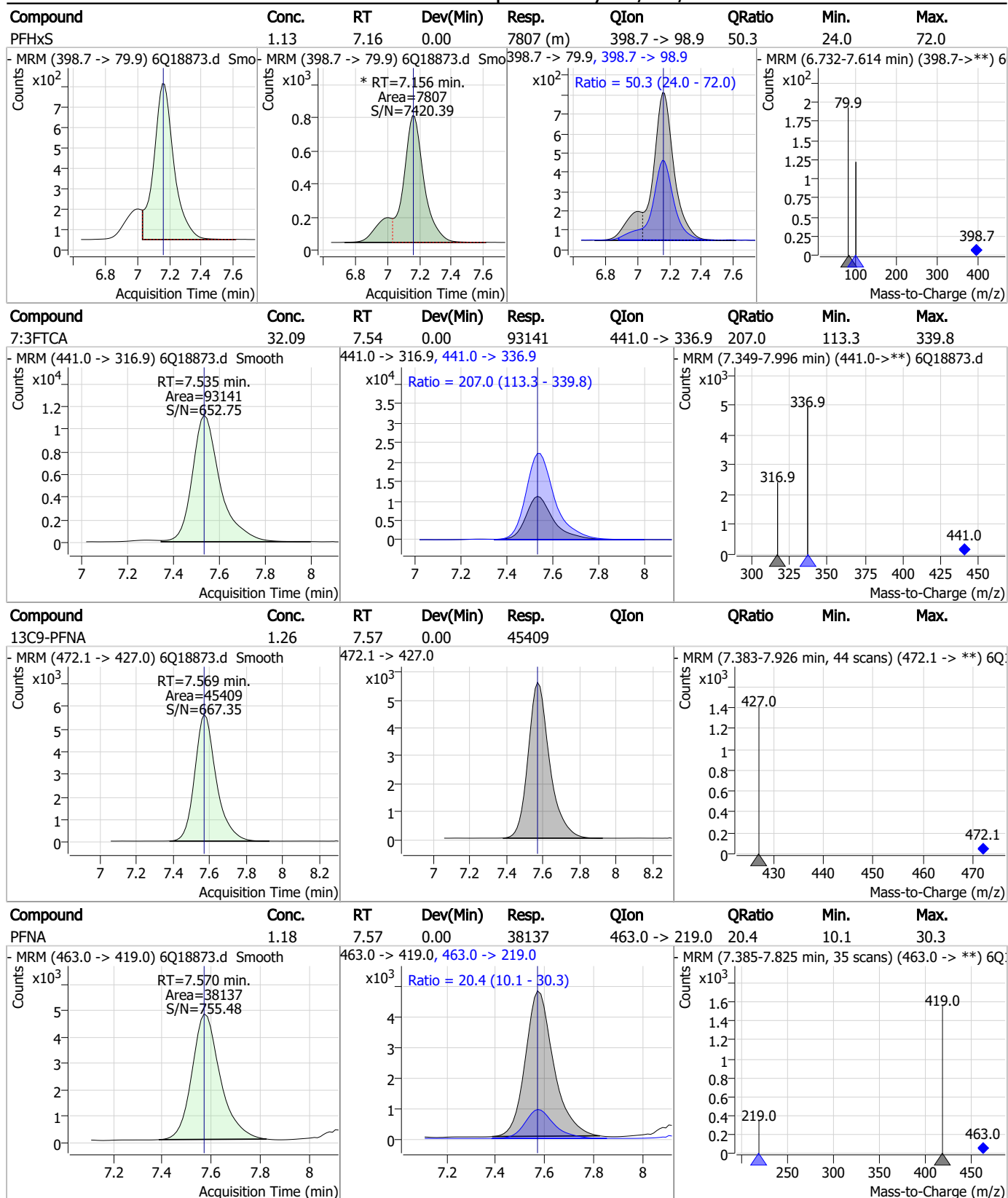
Perfluorinated Compounds by LC/MS/MS



7.7.4

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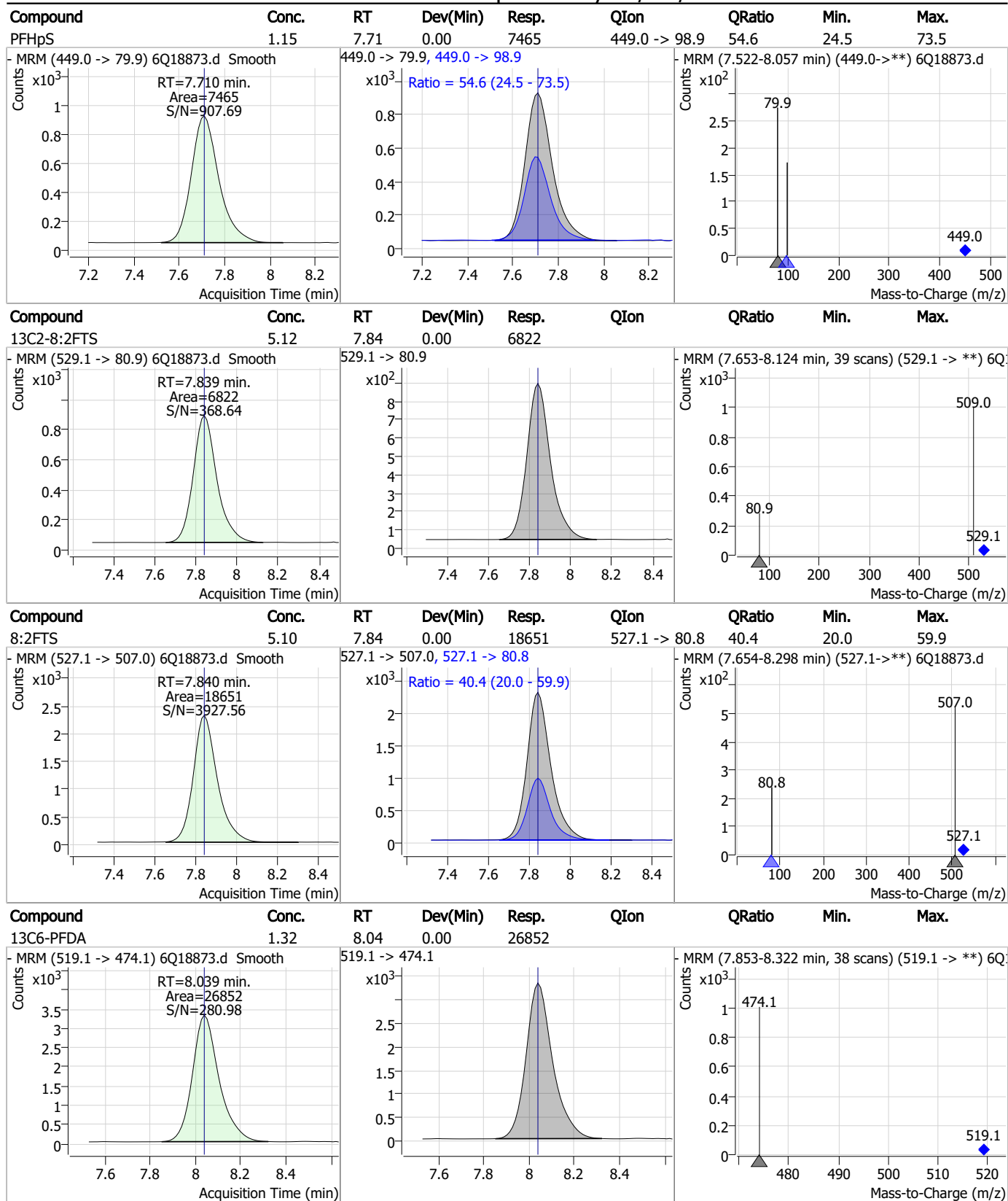
Perfluorinated Compounds by LC/MS/MS



7.7.4
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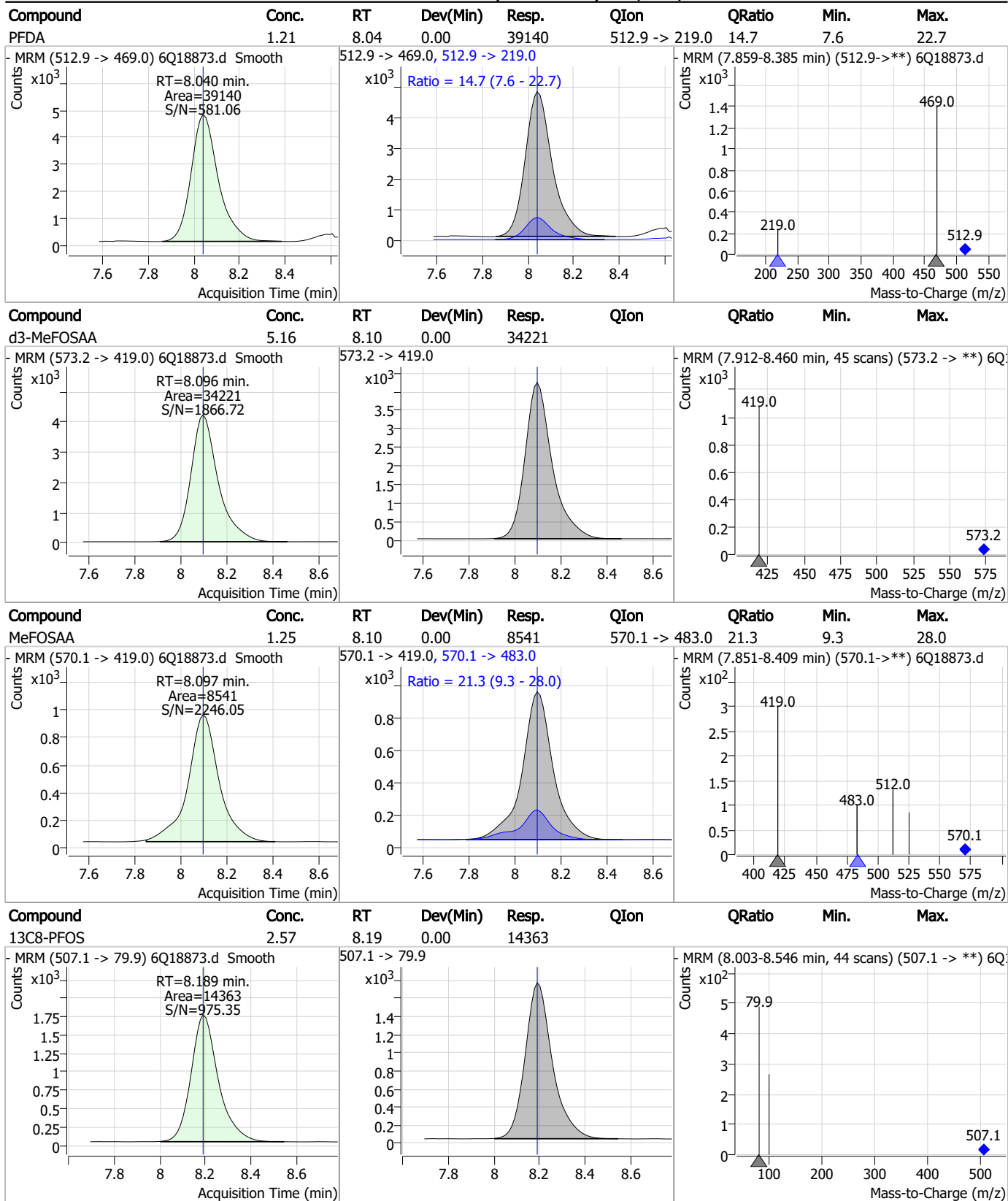


Perfluorinated Compounds by LC/MS/MS



7.7.4
7

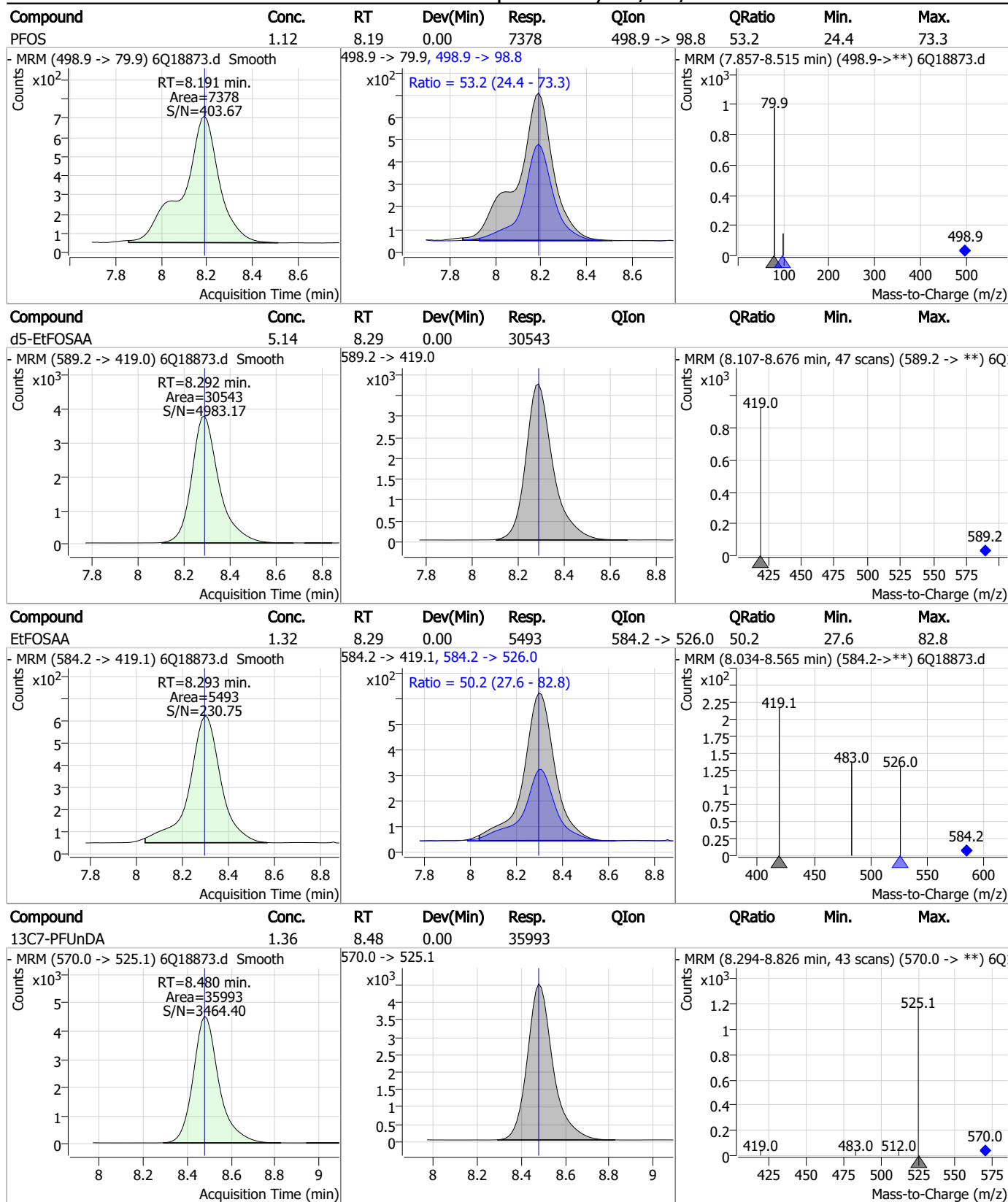
Perfluorinated Compounds by LC/MS/MS



7.7.4

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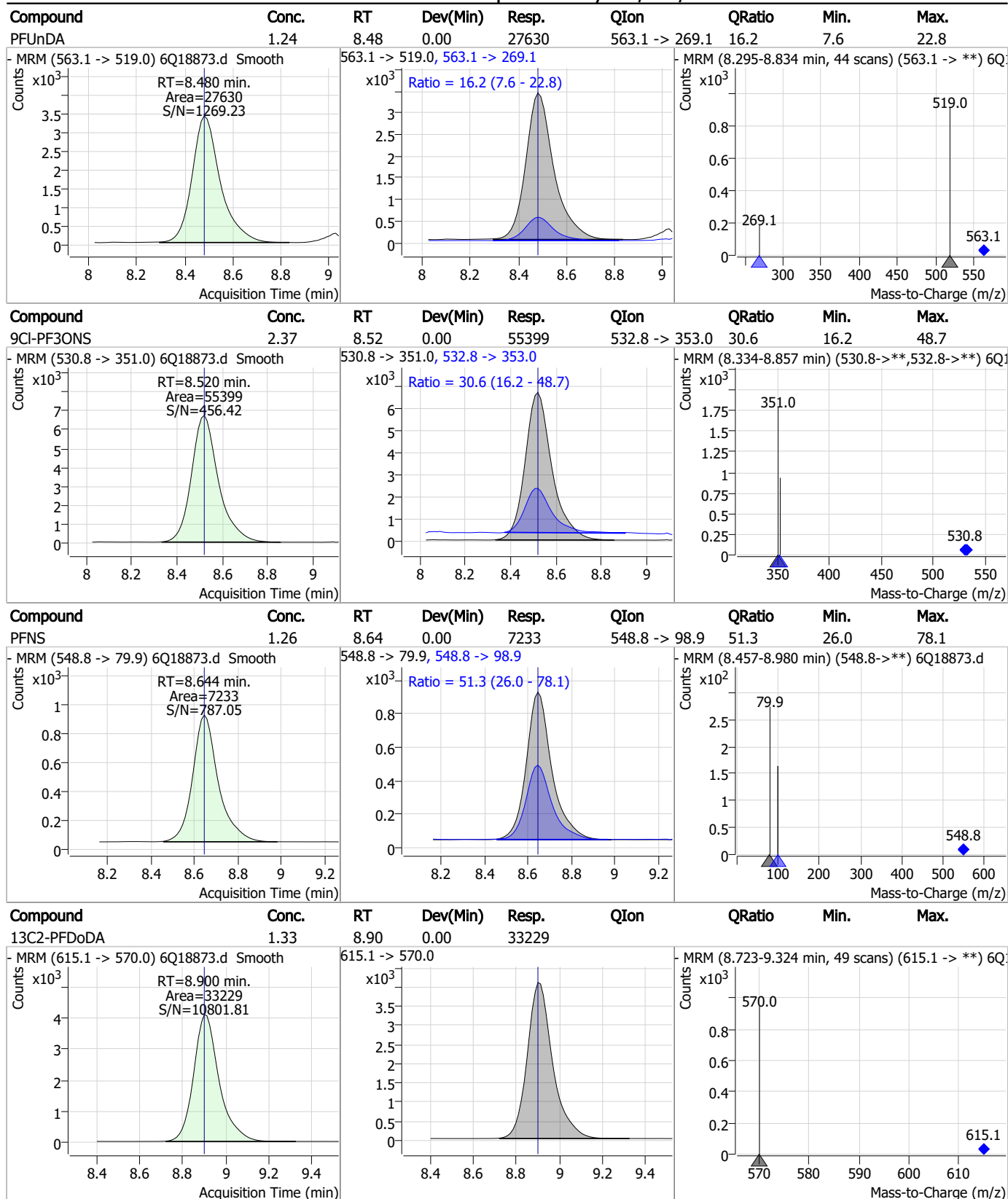
Perfluorinated Compounds by LC/MS/MS



7.7.4

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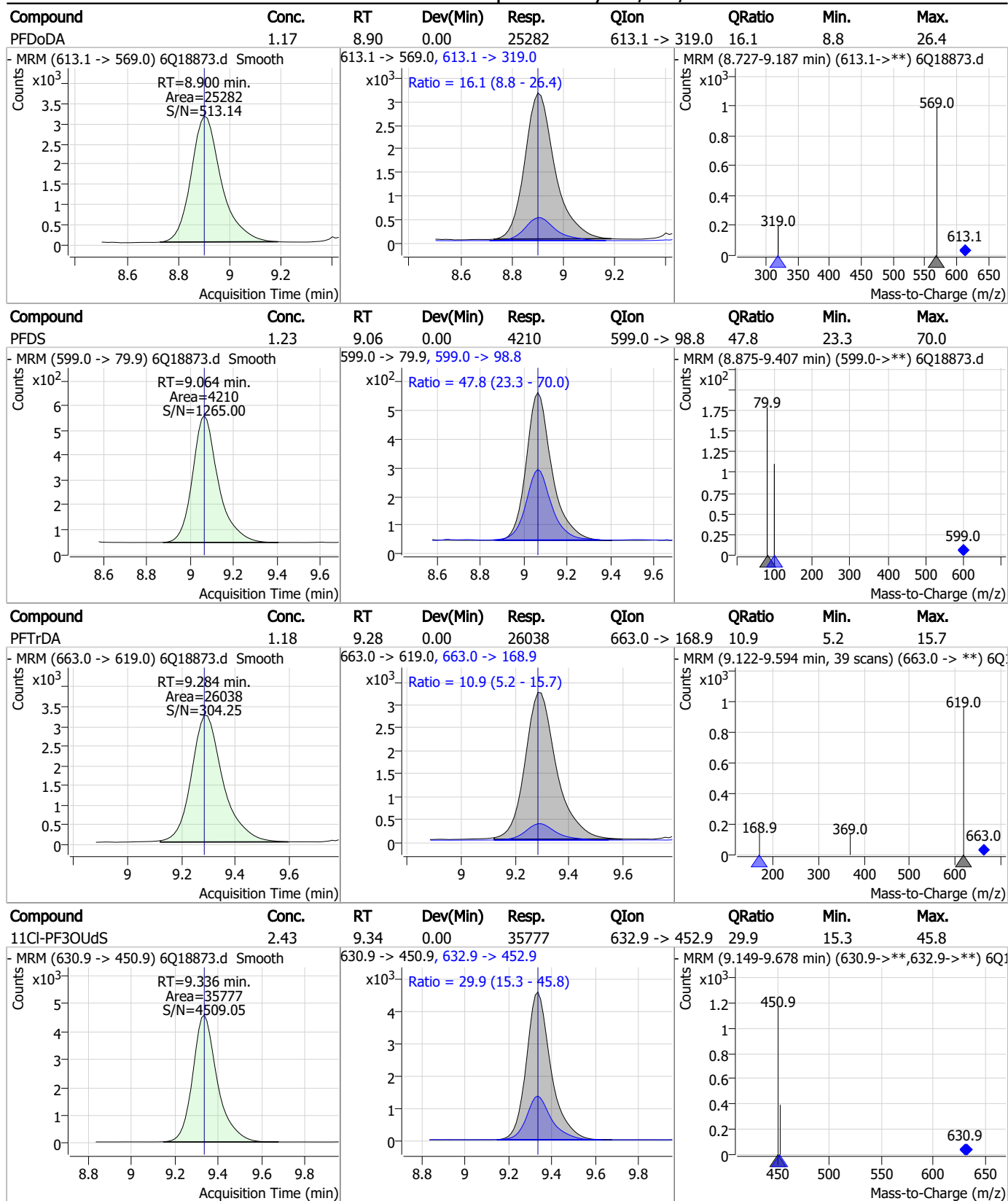
Perfluorinated Compounds by LC/MS/MS



7.7.4

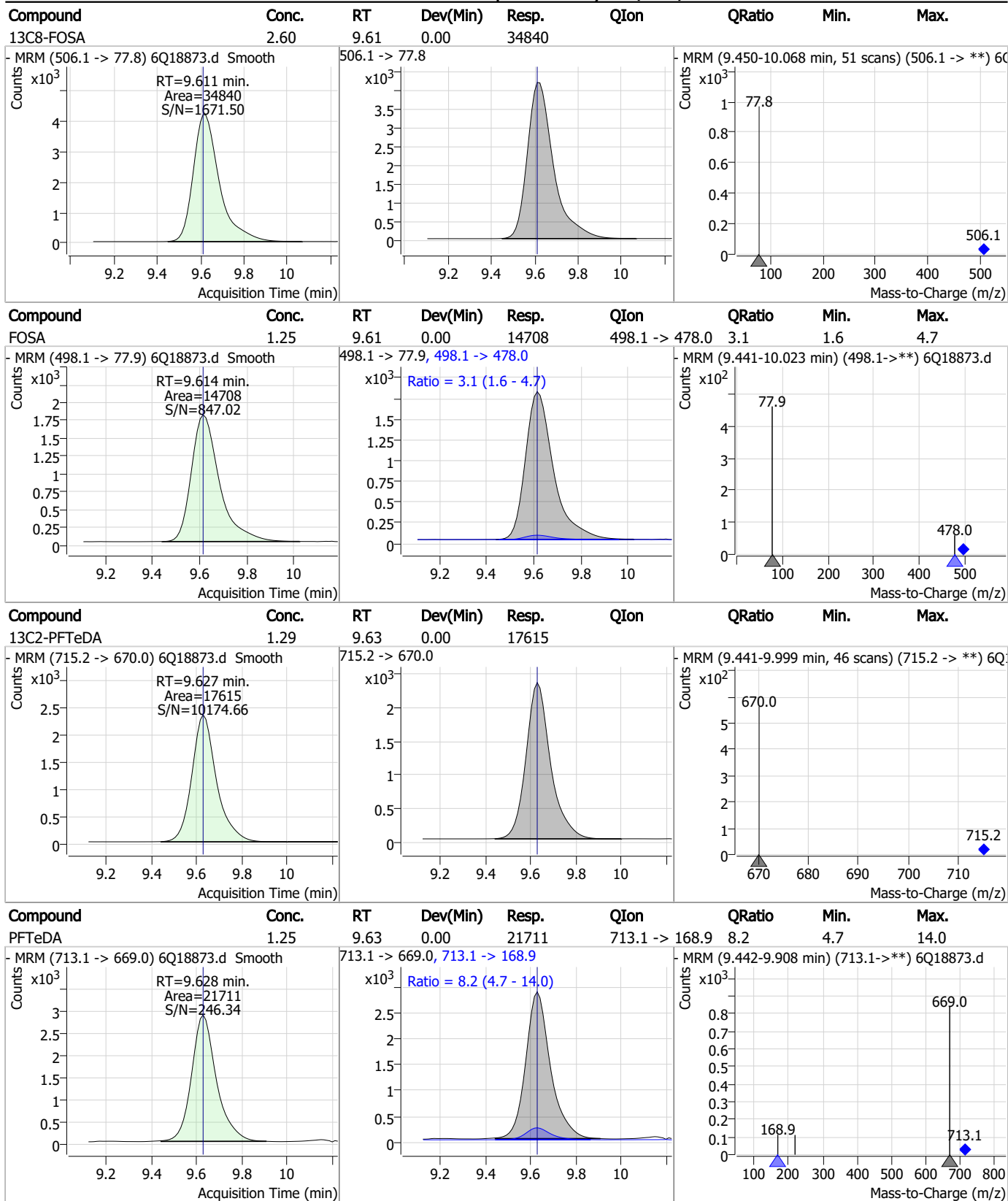
7

Perfluorinated Compounds by LC/MS/MS



7.7.4
7

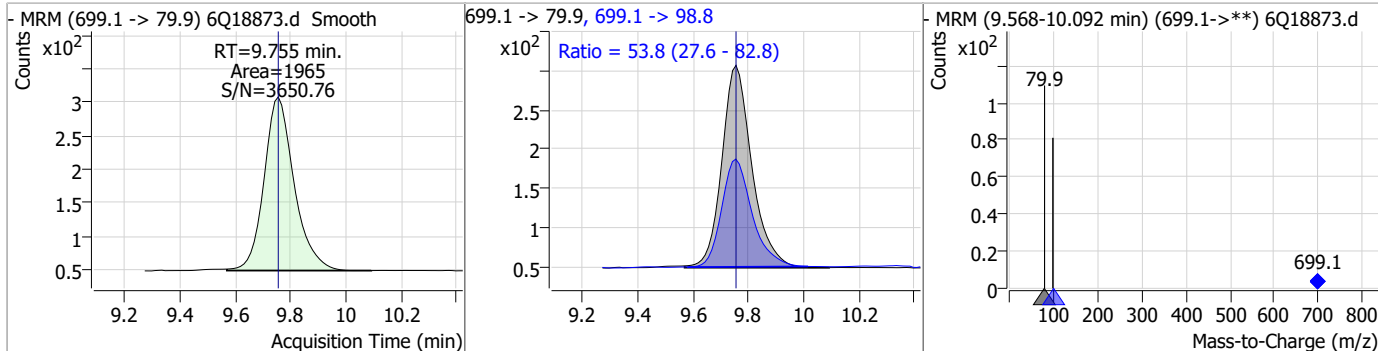
Perfluorinated Compounds by LC/MS/MS



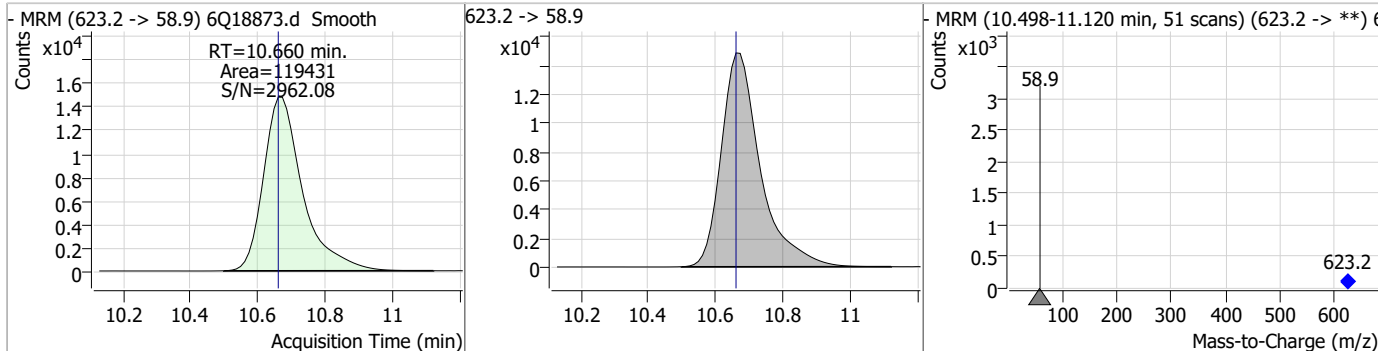
7.7.4
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Perfluorinated Compounds by LC/MS/MS

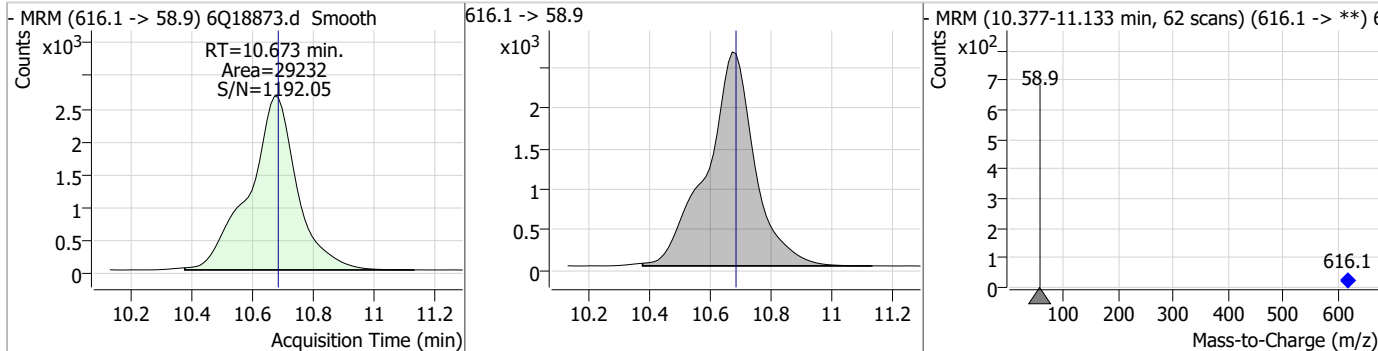
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	1.21	9.75	0.00	1965	699.1 -> 98.8	53.8	27.6	82.8



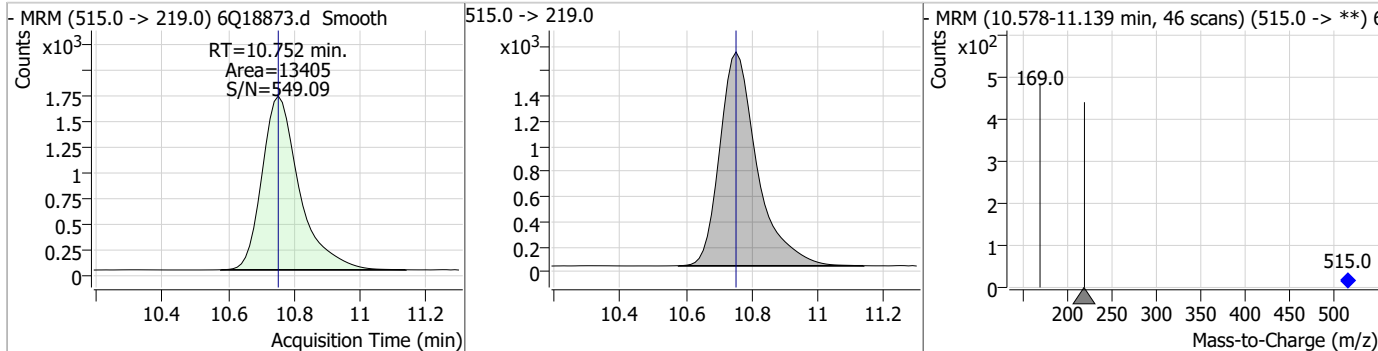
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.85	10.66	0.00	119431				



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

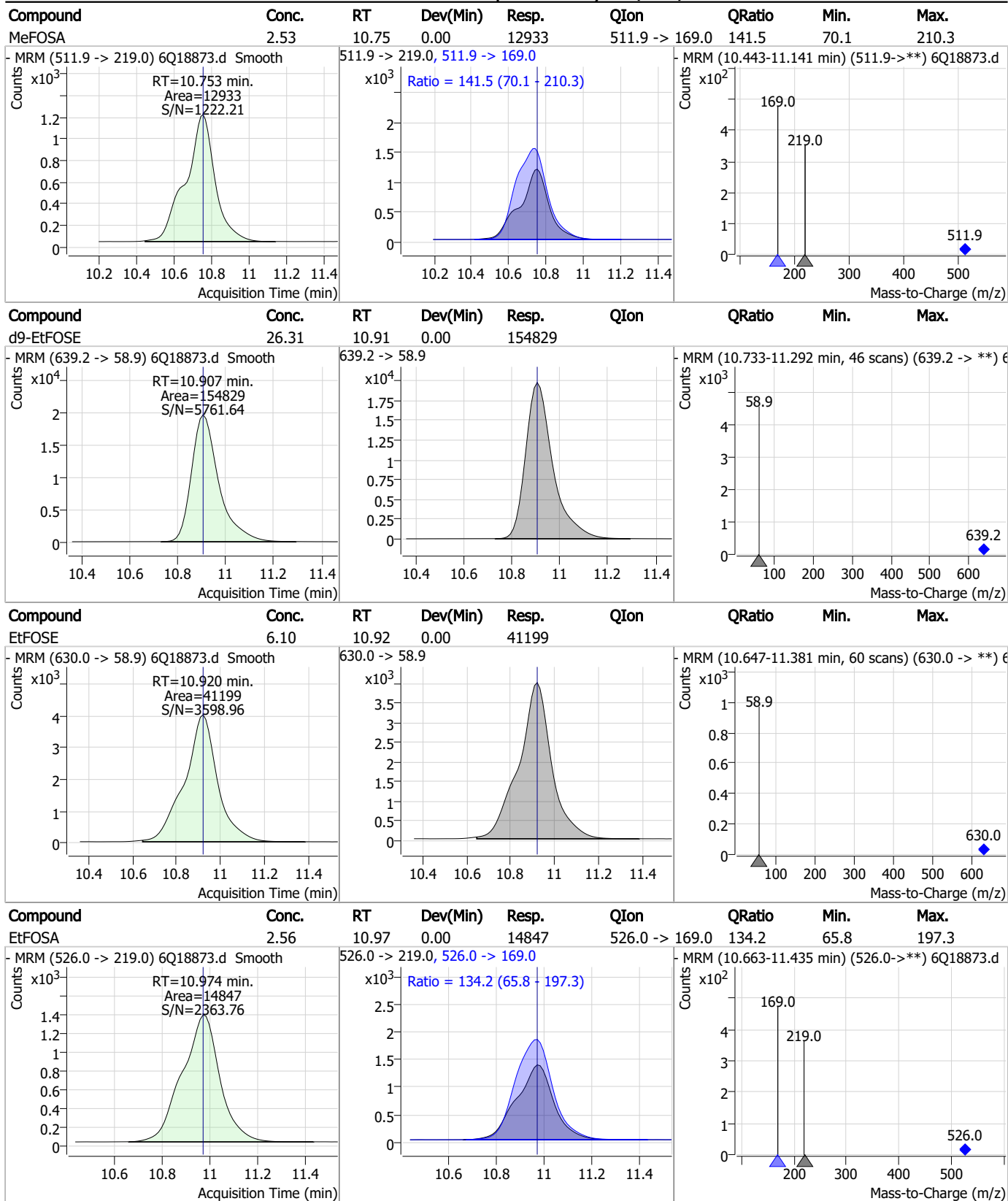


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.57	10.75	0.00	13405				



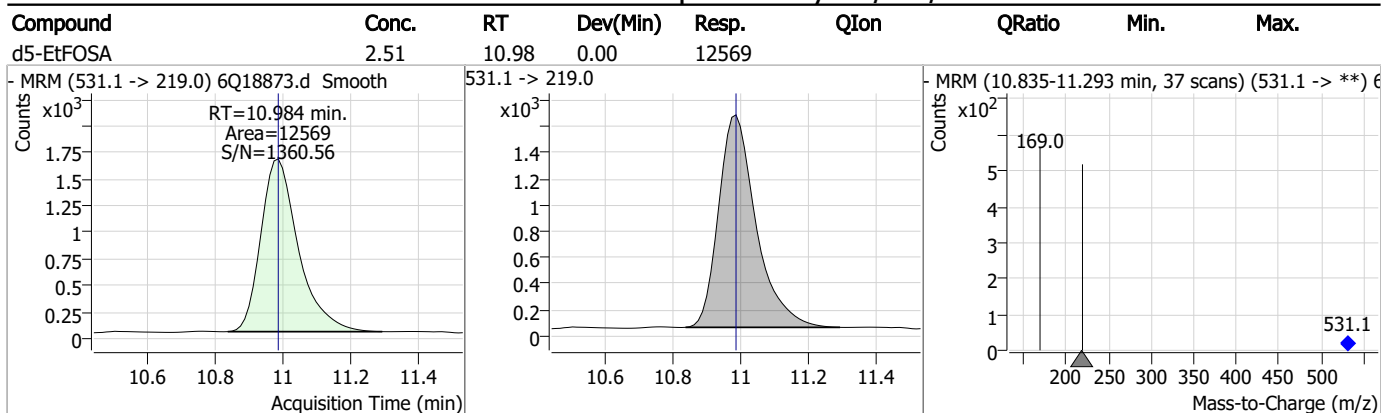
7.7.4
7

Perfluorinated Compounds by LC/MS/MS



7.7.4
7

Perfluorinated Compounds by LC/MS/MS



7.7.4

7

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

7

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

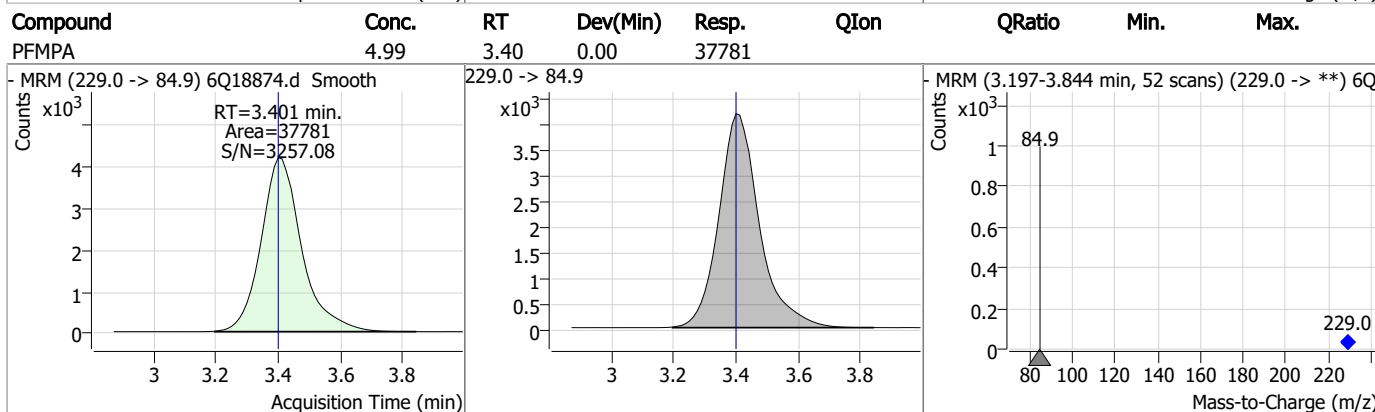
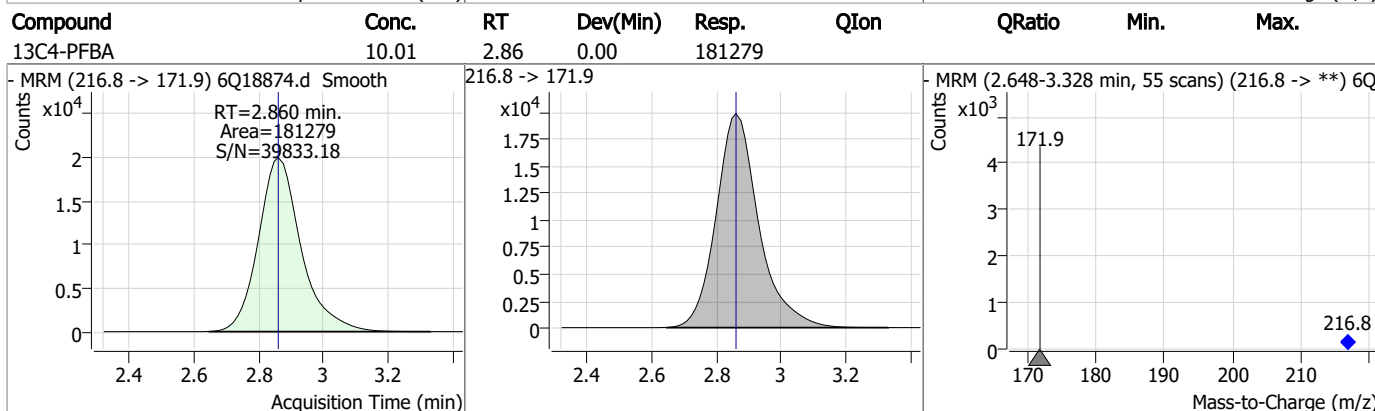
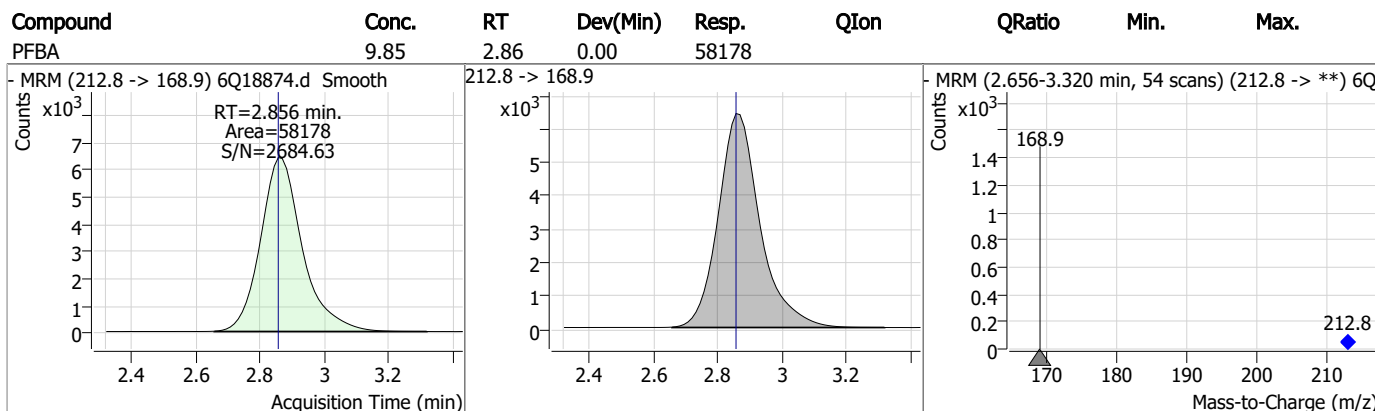
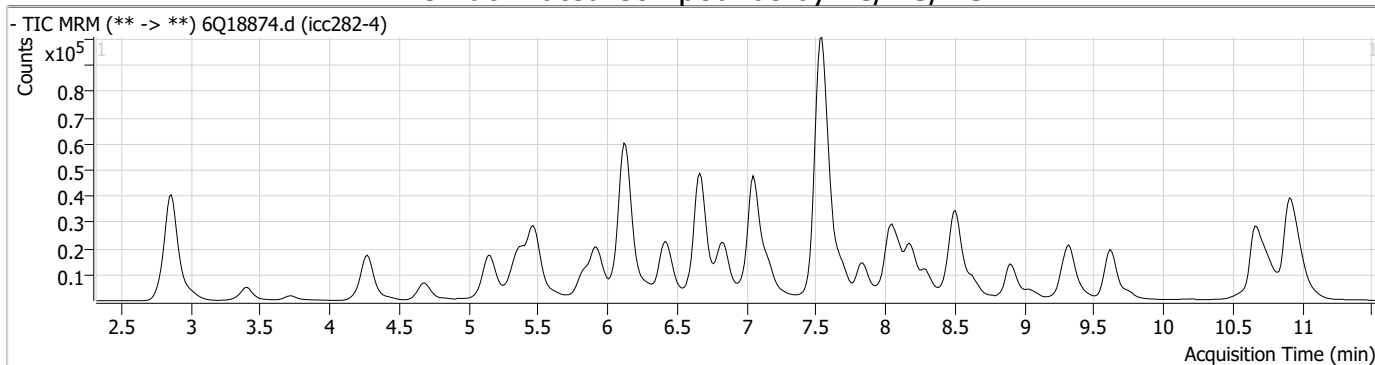
Perfluorinated Compounds by LC/MS/MS

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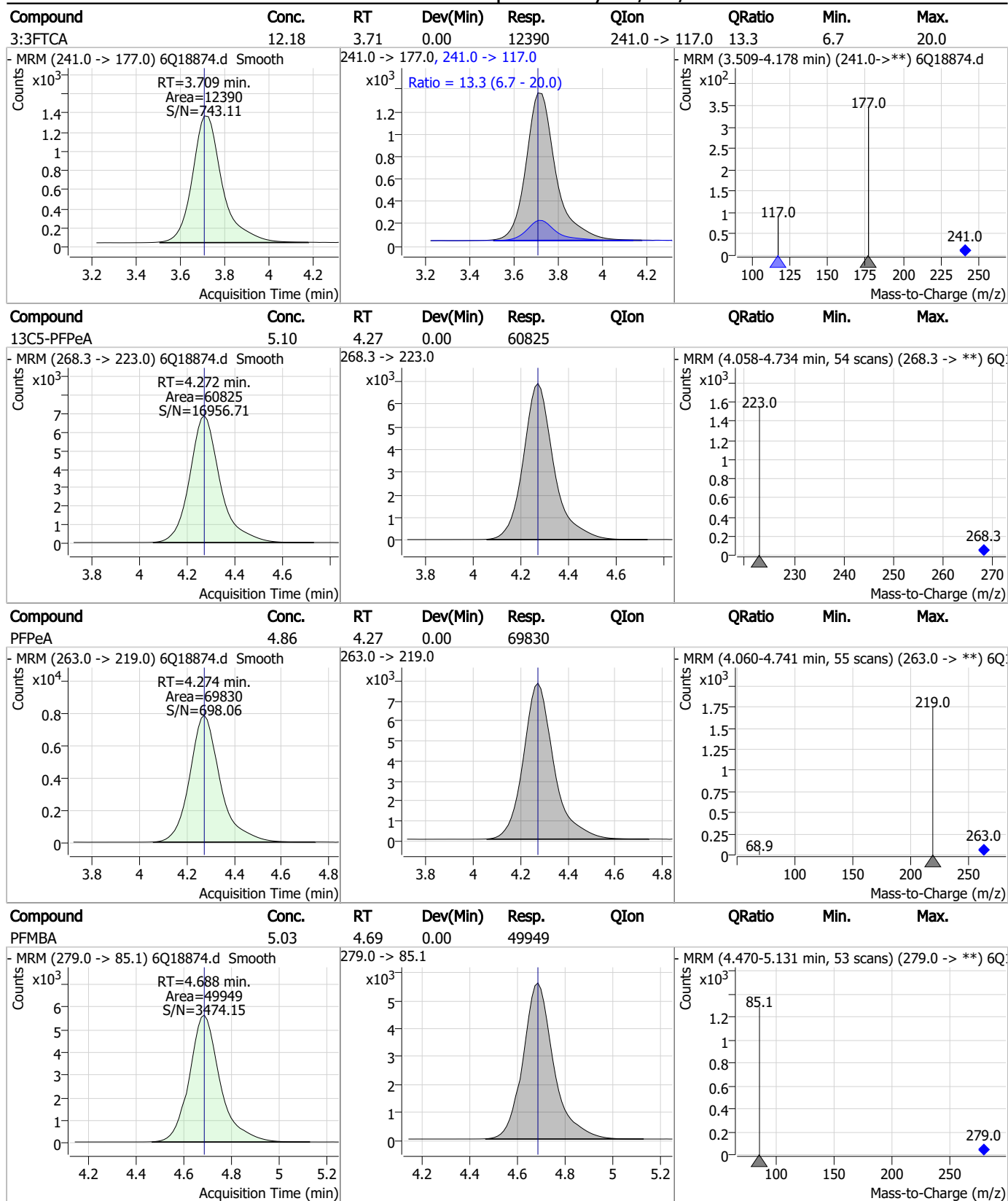
7.7.5
7



Perfluorinated Compounds by LC/MS/MS

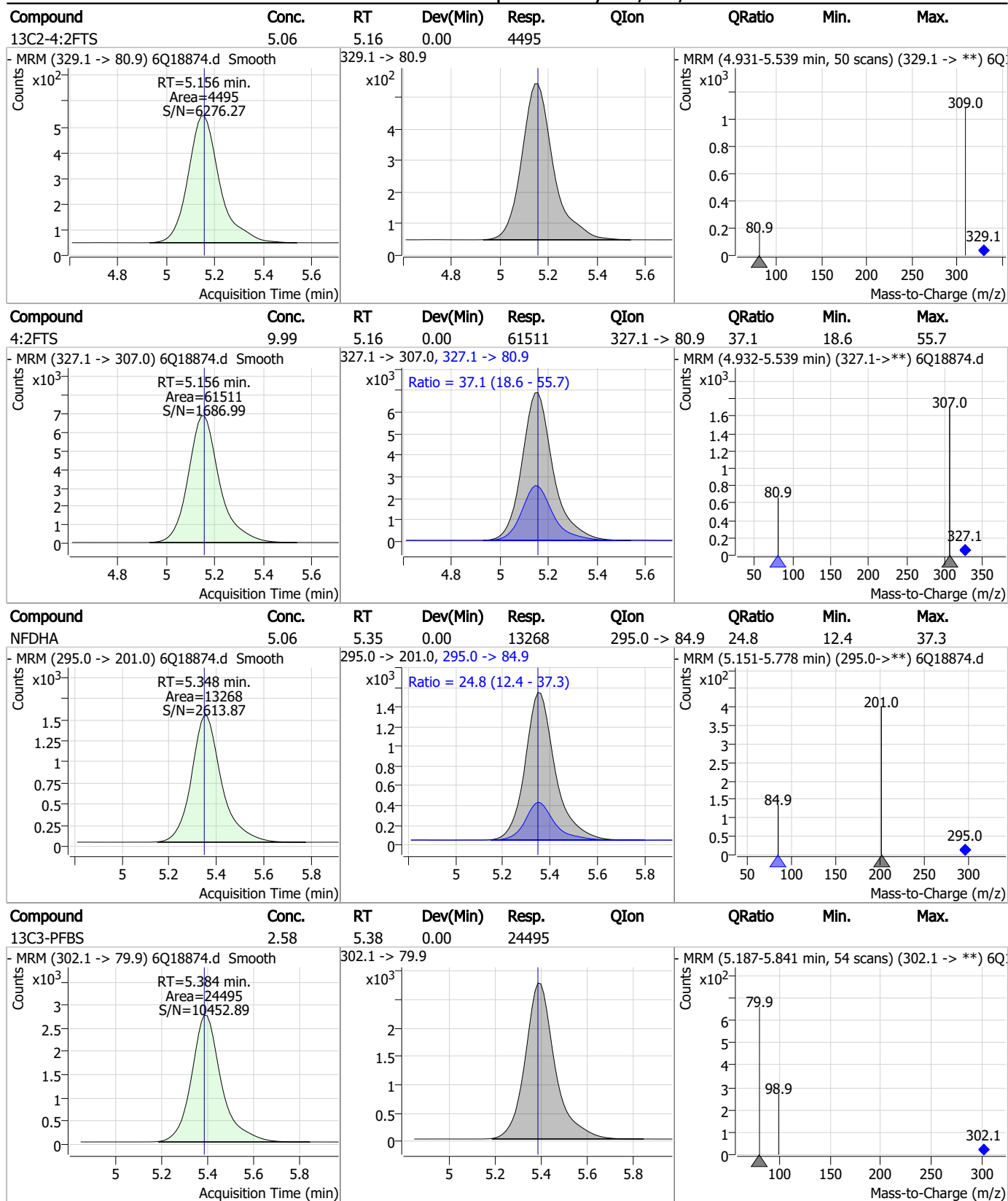


Perfluorinated Compounds by LC/MS/MS



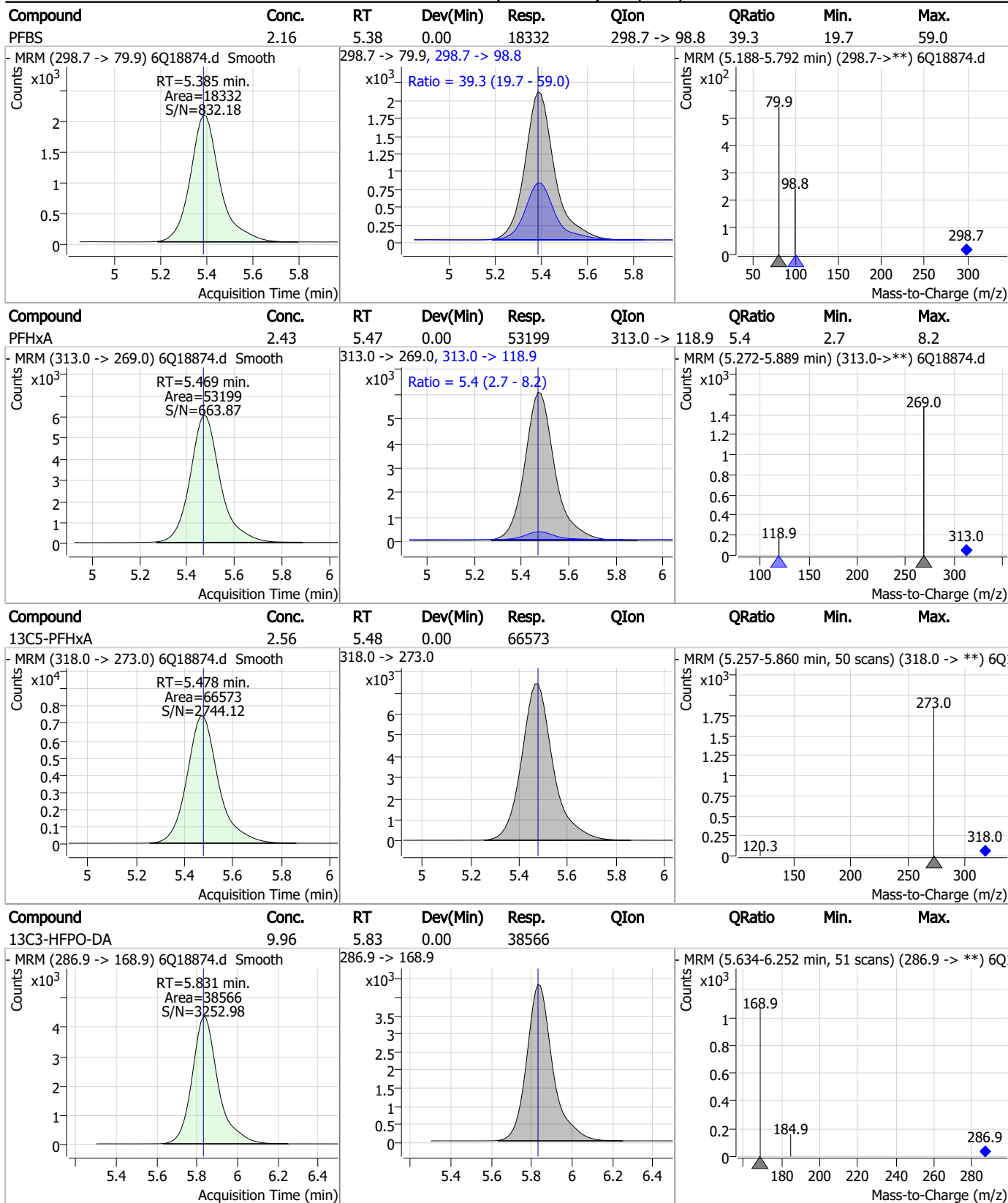
7.7.5
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Perfluorinated Compounds by LC/MS/MS



7.7.5
7

Perfluorinated Compounds by LC/MS/MS

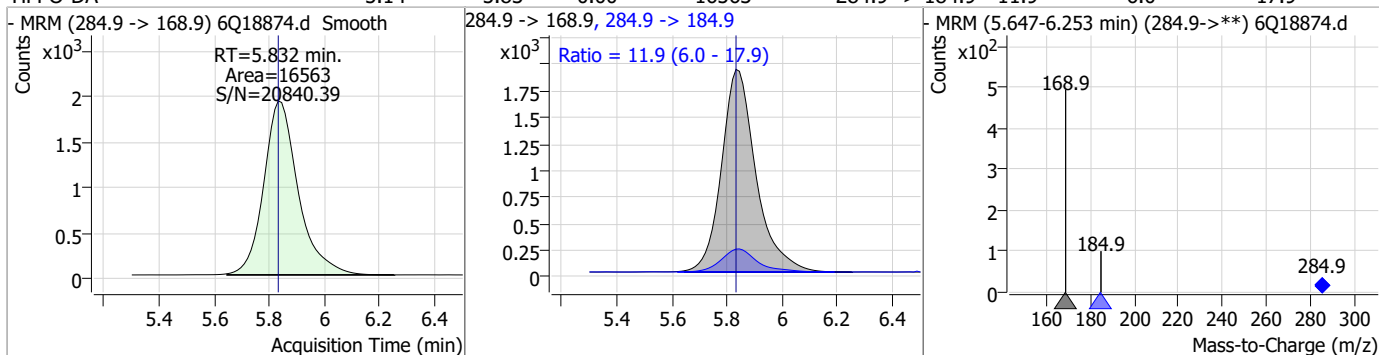


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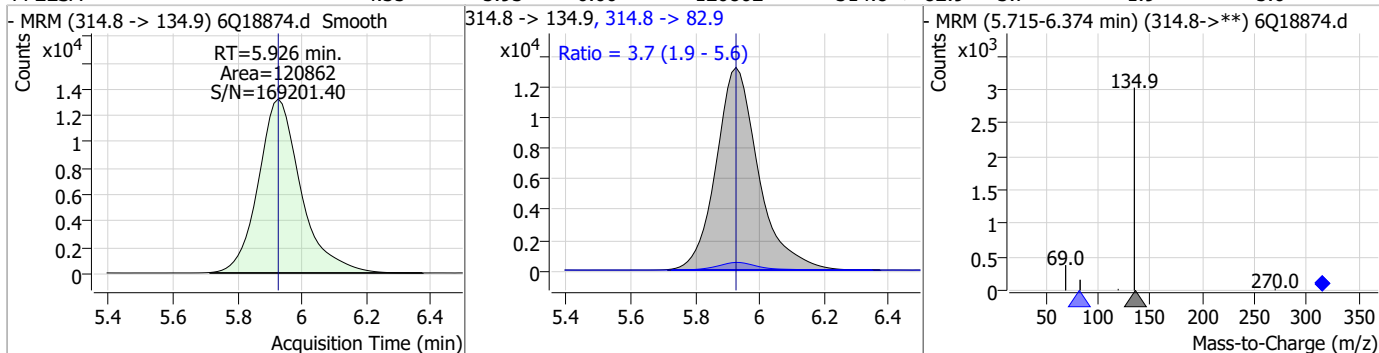
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Perfluorinated Compounds by LC/MS/MS

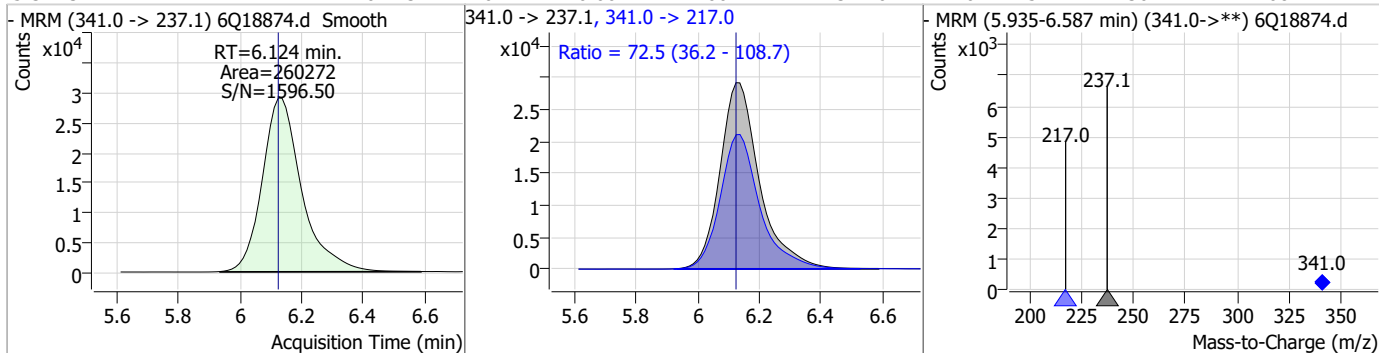
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.14	5.83	0.00	16563	284.9 -> 184.9	11.9	6.0	17.9



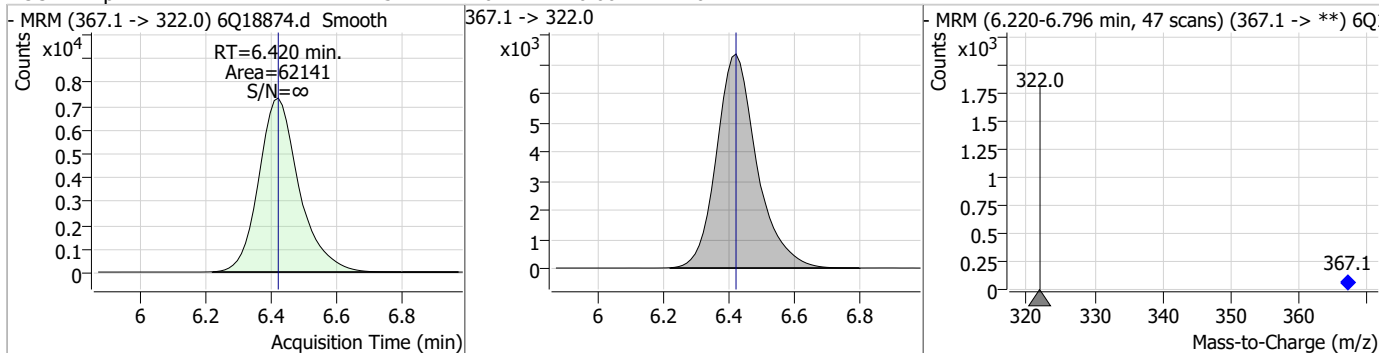
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.35	5.93	0.00	120862	314.8 -> 82.9	3.7	1.9	5.6



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	61.73	6.12	0.00	260272	341.0 -> 217.0	72.5	36.2	108.7

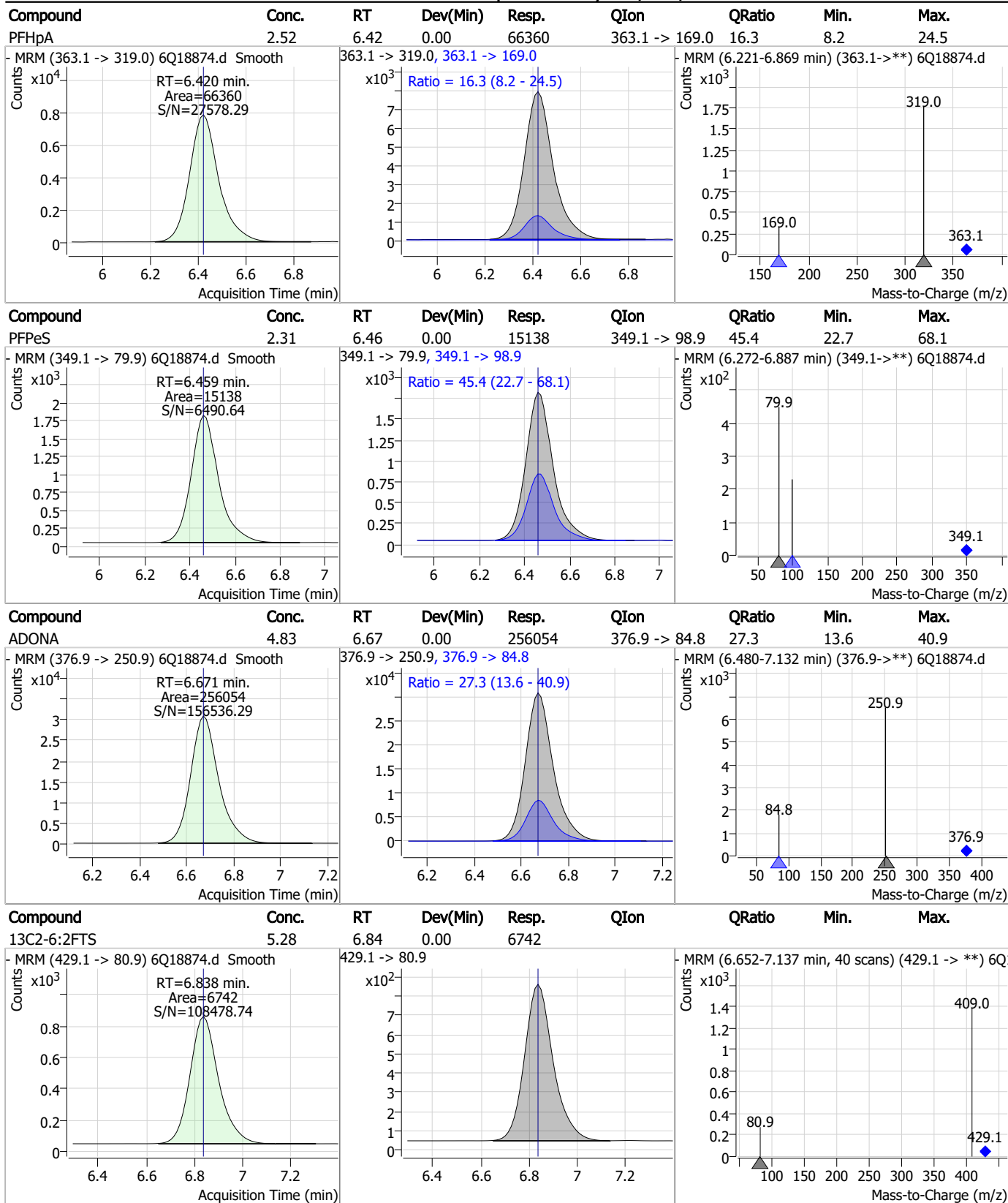


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.54	6.42	0.00	62141	367.1 -> 322.0			



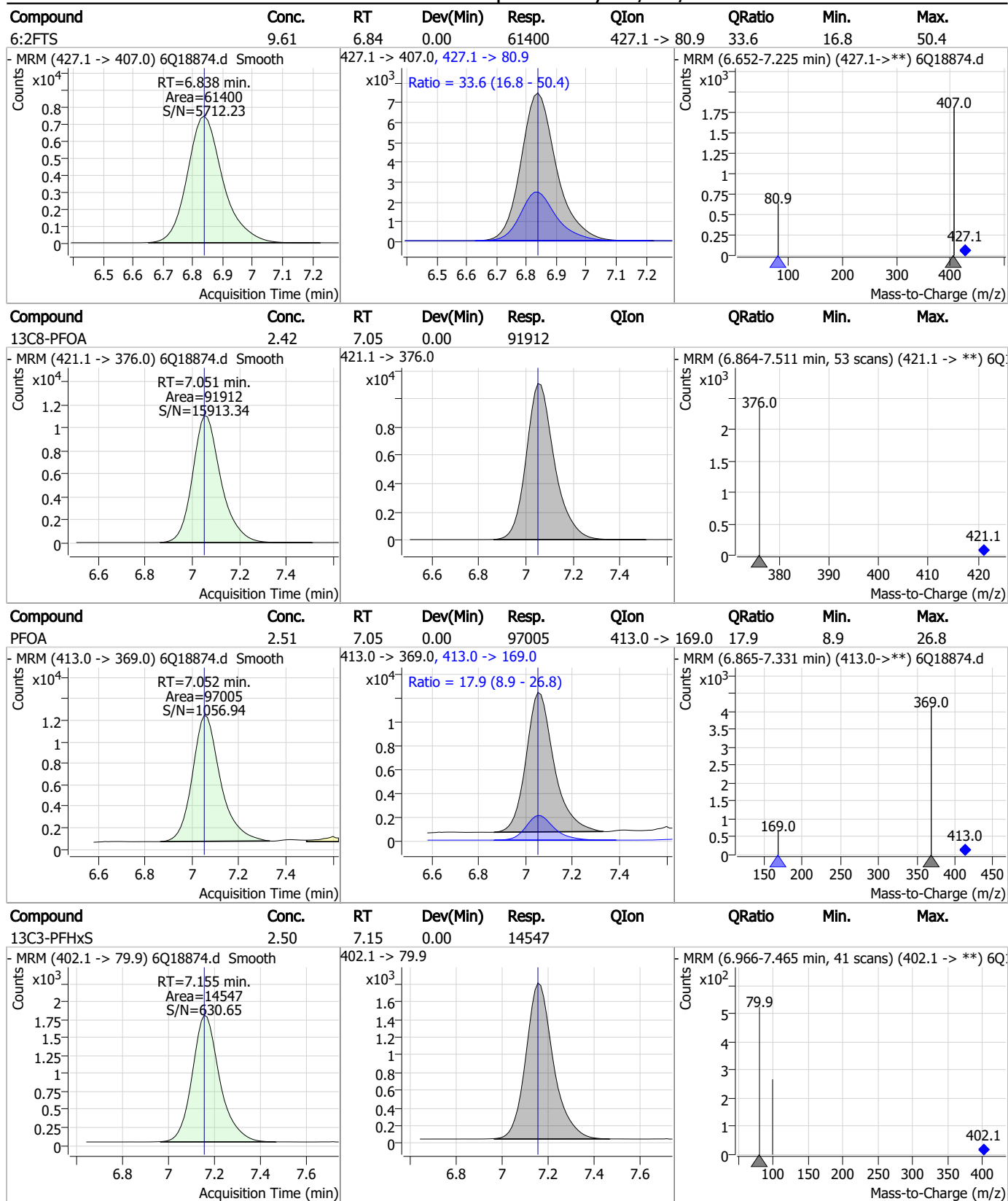
7.7.5
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Perfluorinated Compounds by LC/MS/MS



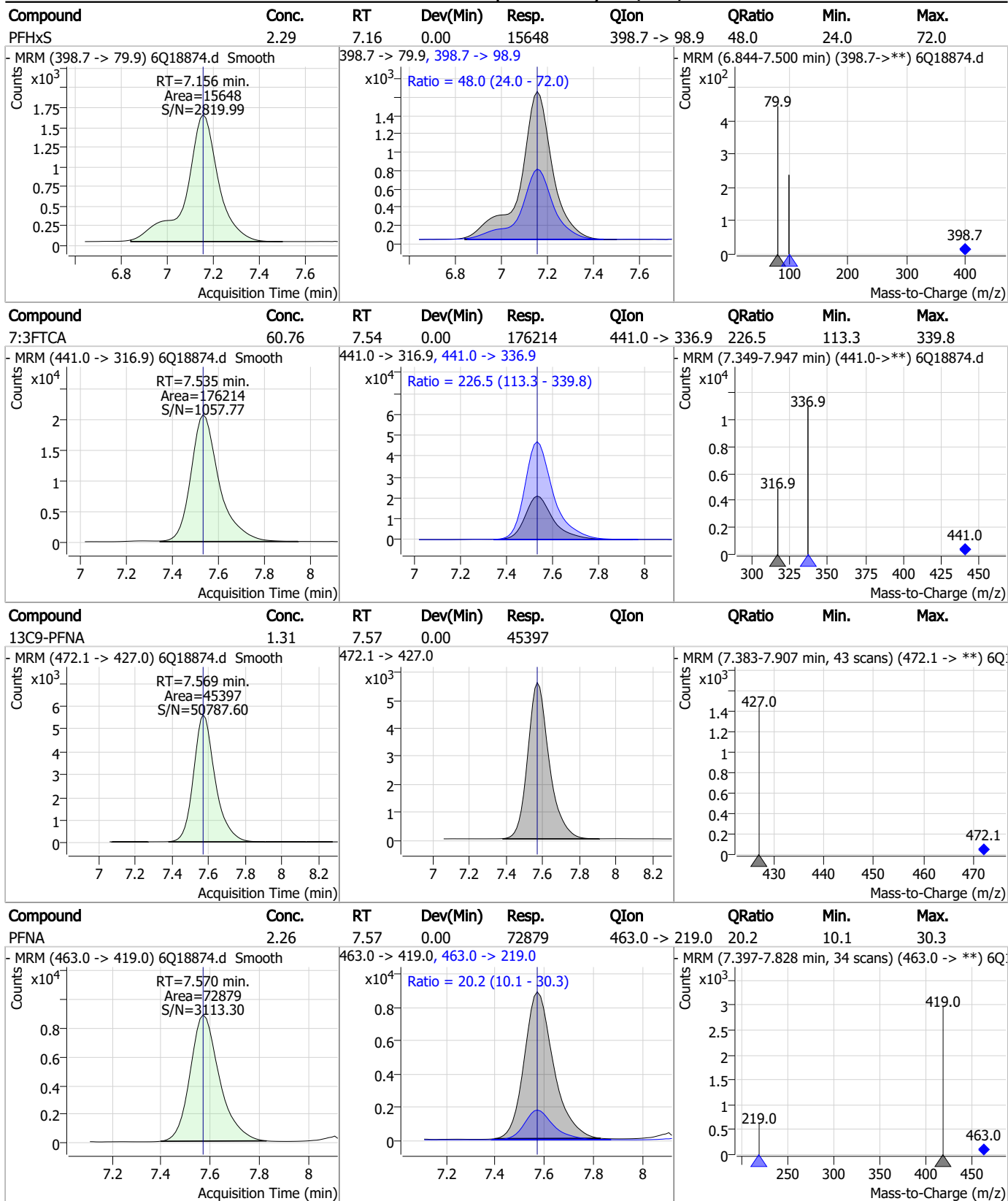
7.7.5
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Perfluorinated Compounds by LC/MS/MS



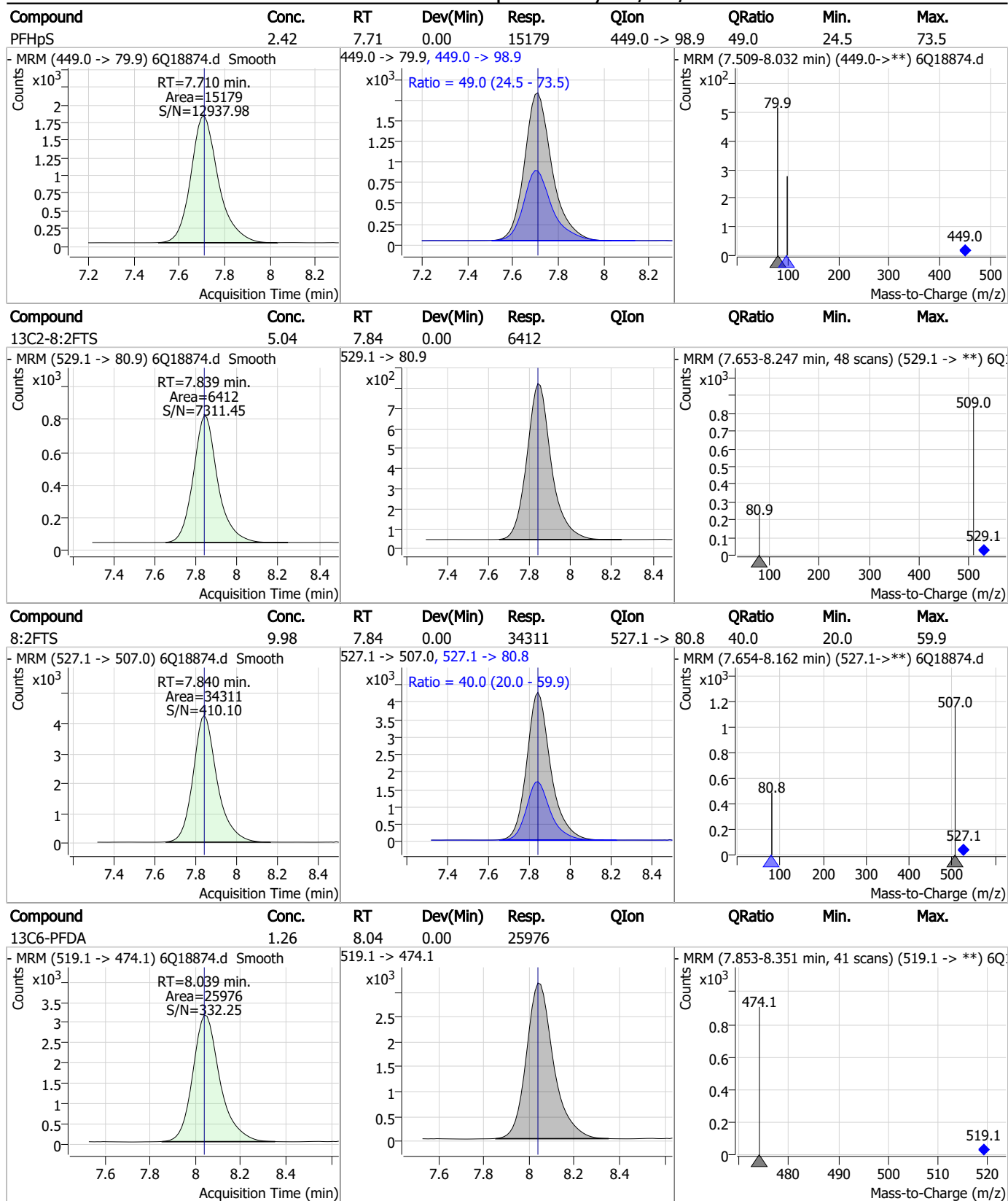
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Perfluorinated Compounds by LC/MS/MS



7.7.5
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Perfluorinated Compounds by LC/MS/MS

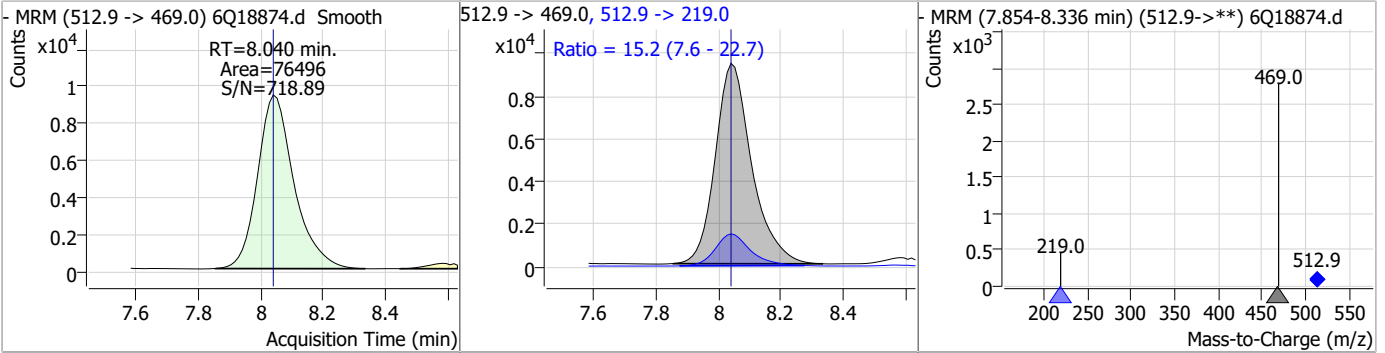


7.7.5
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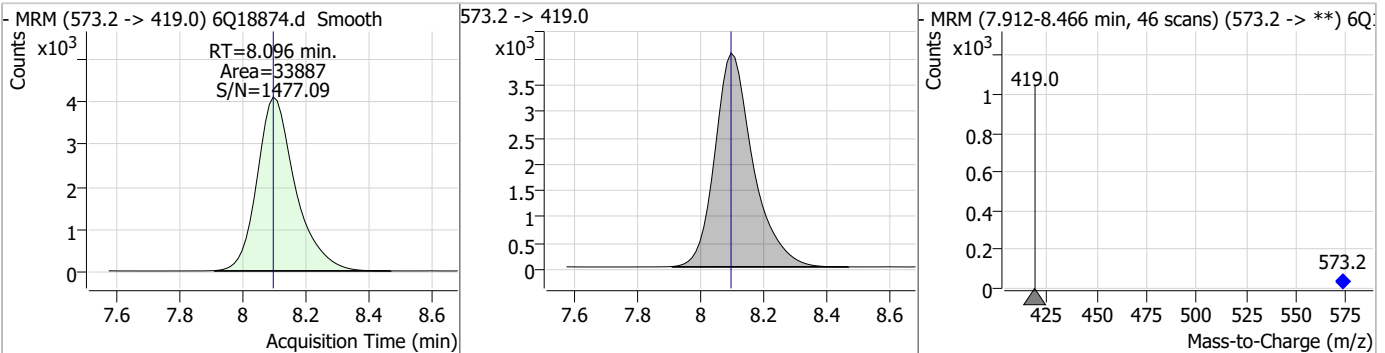


Perfluorinated Compounds by LC/MS/MS

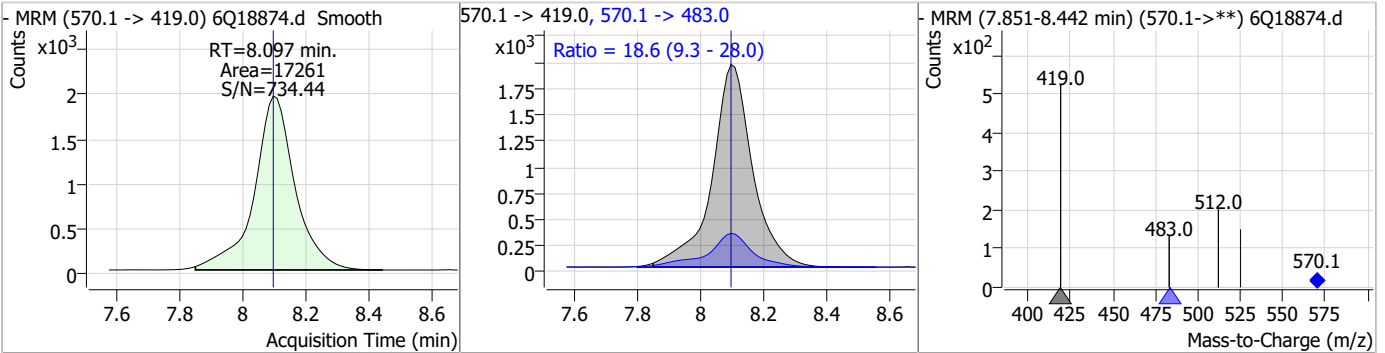
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	2.45	8.04	0.00	76496	512.9 -> 219.0	15.2	7.6	22.7



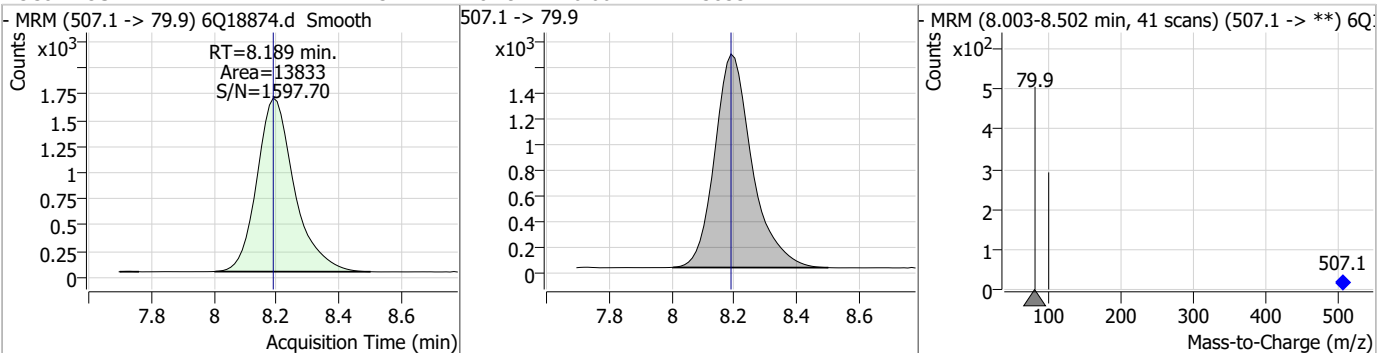
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.84	8.10	0.00	33887				



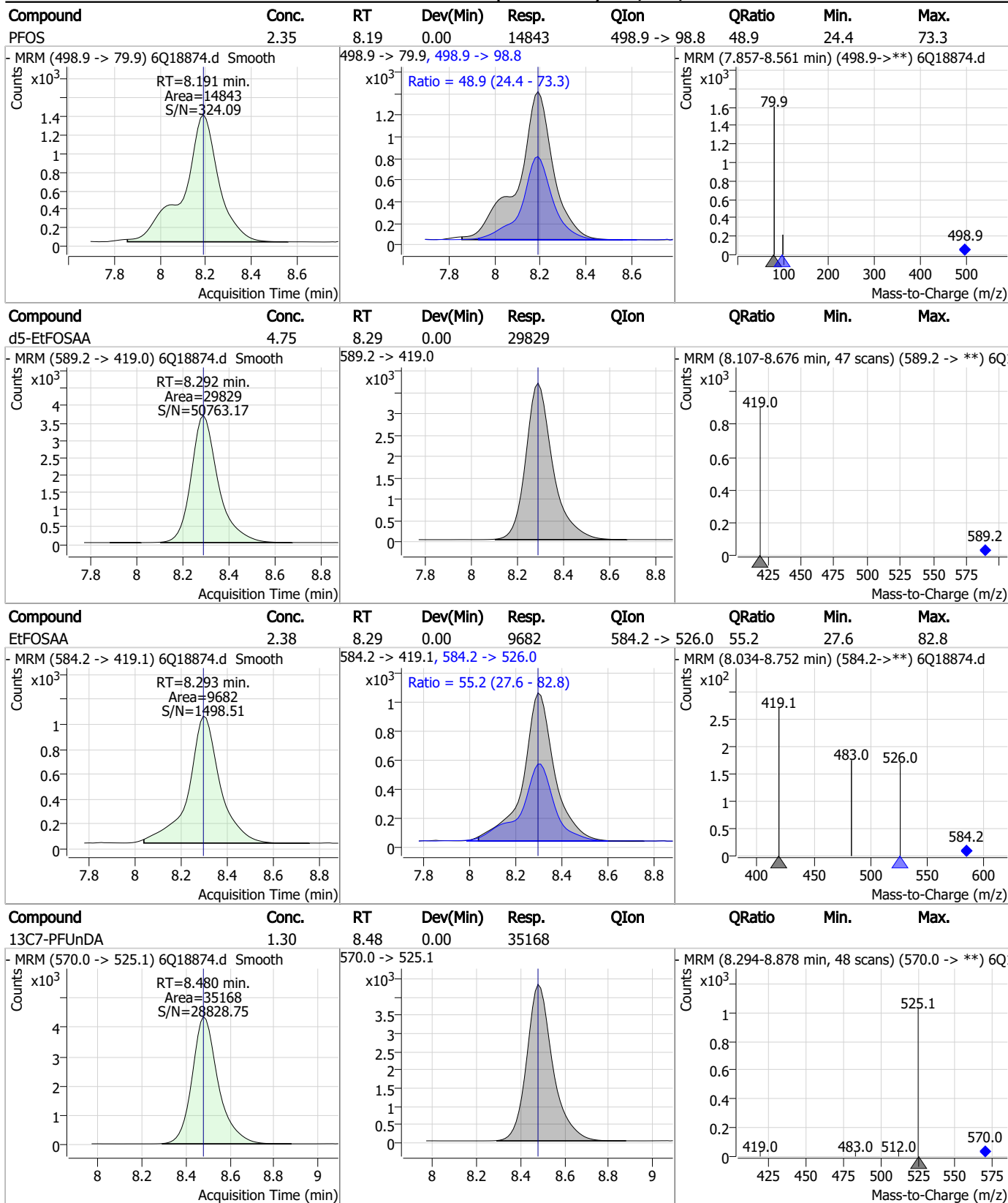
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	2.55	8.10	0.00	17261	570.1 -> 483.0	18.6	9.3	28.0



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.34	8.19	0.00	13833				



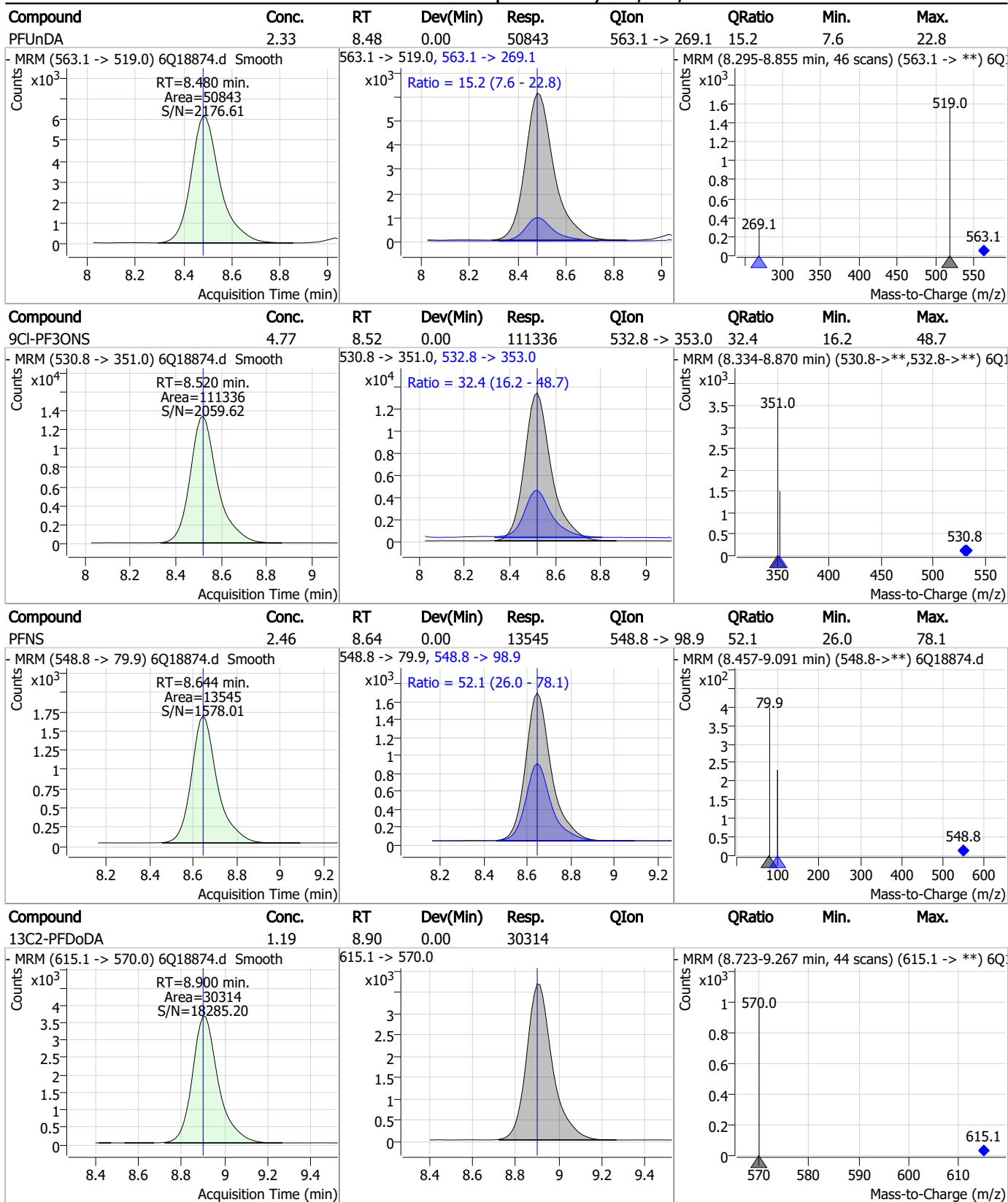
Perfluorinated Compounds by LC/MS/MS



7.7.5

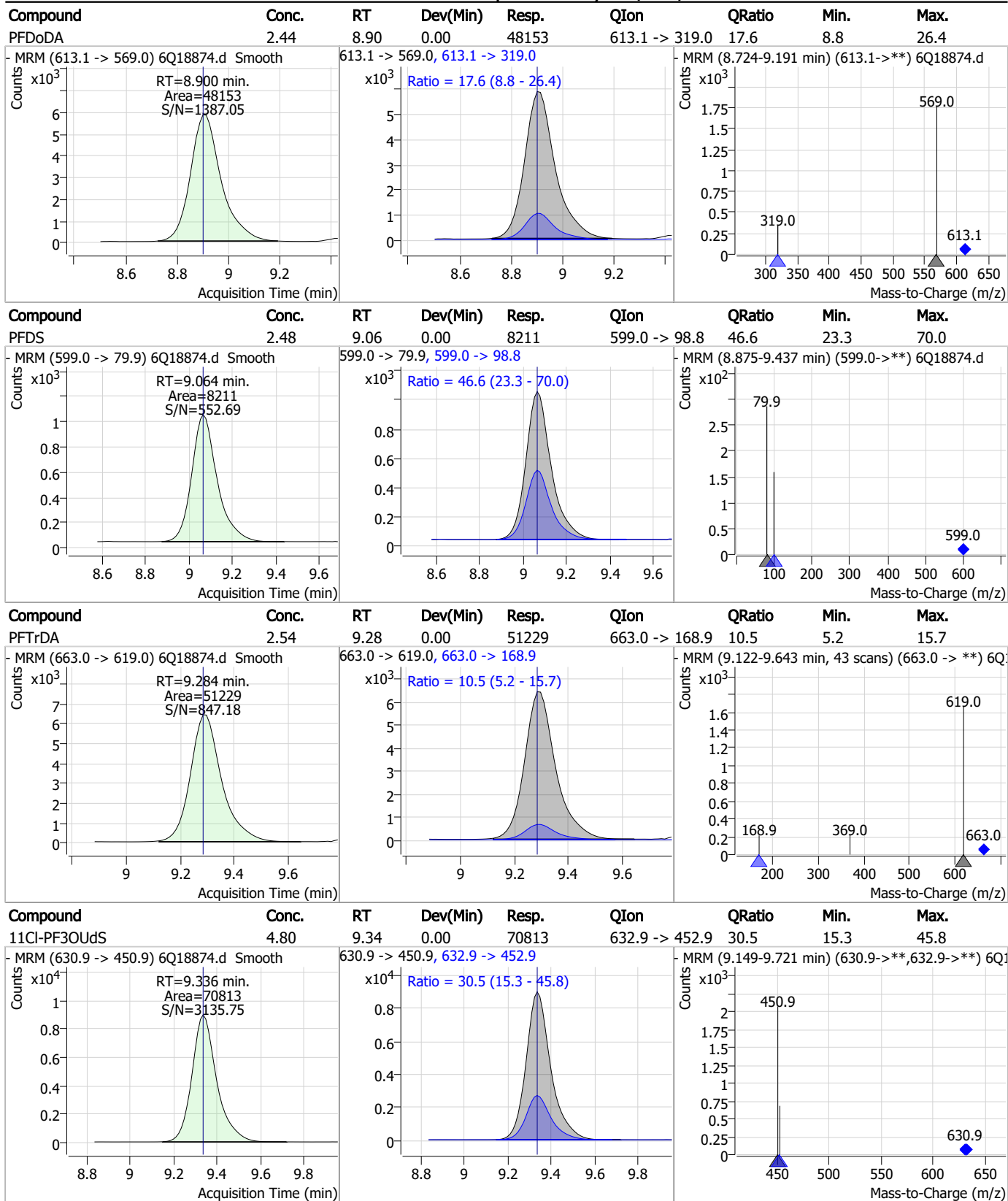
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Perfluorinated Compounds by LC/MS/MS



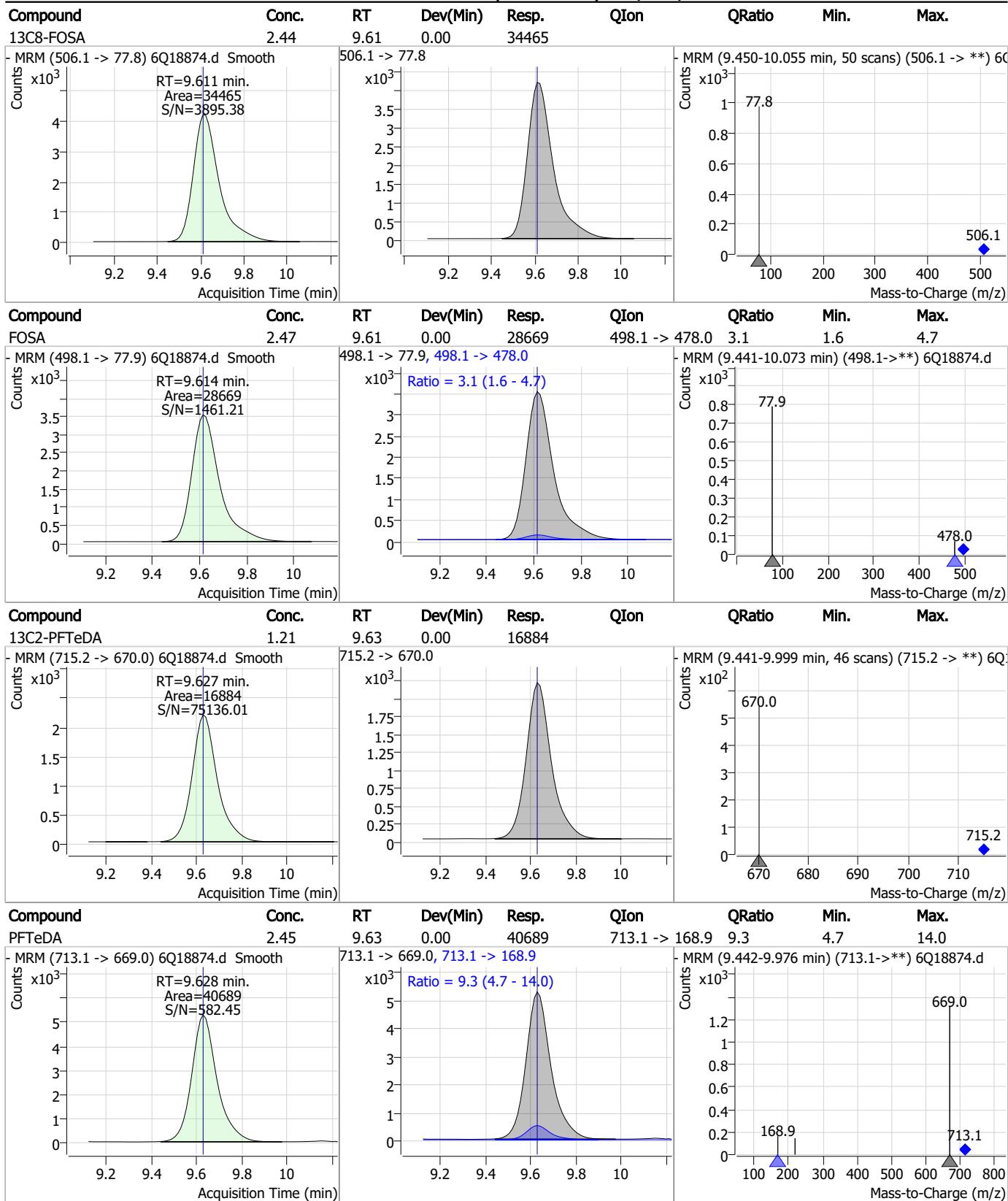
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Perfluorinated Compounds by LC/MS/MS



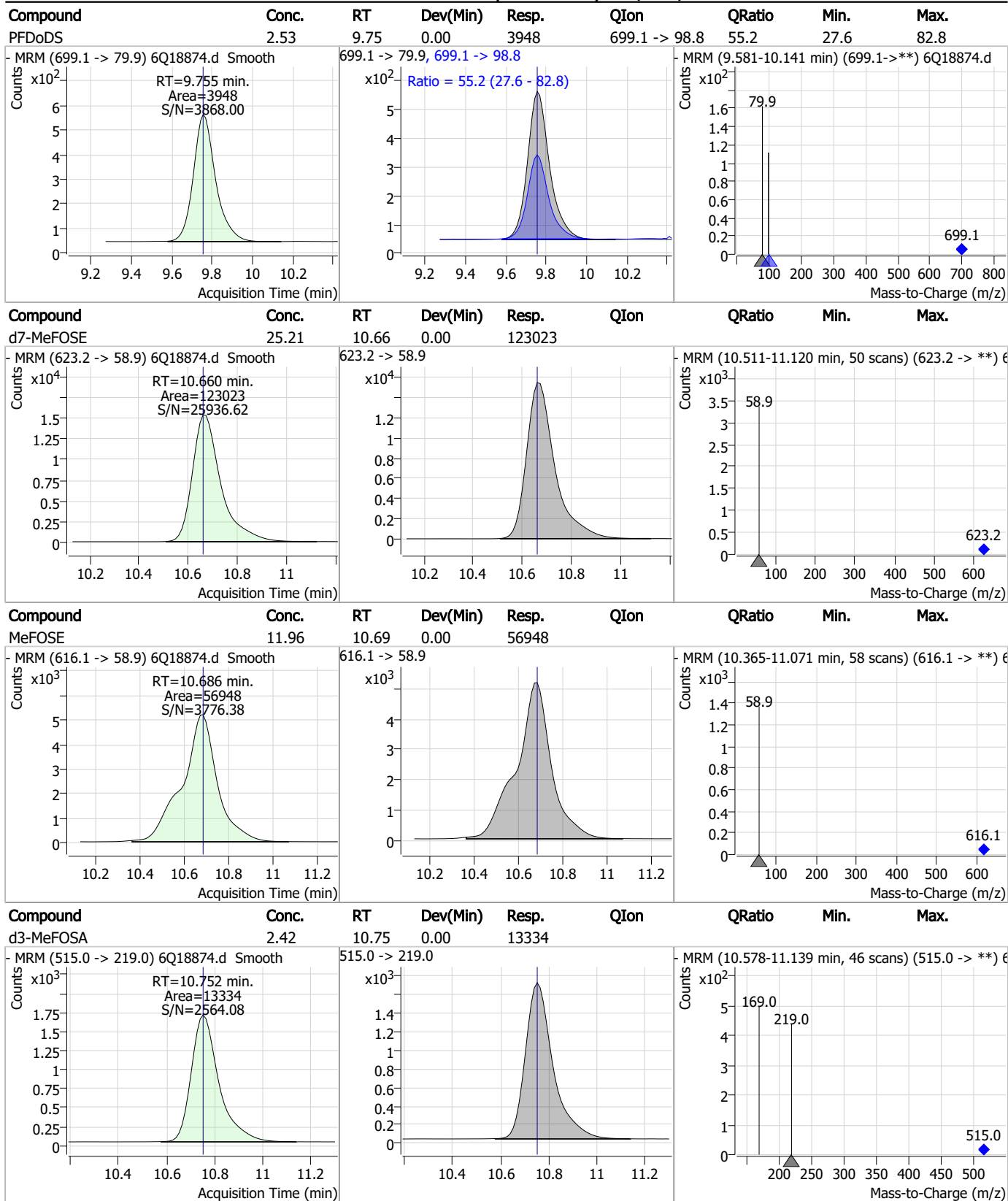
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Perfluorinated Compounds by LC/MS/MS



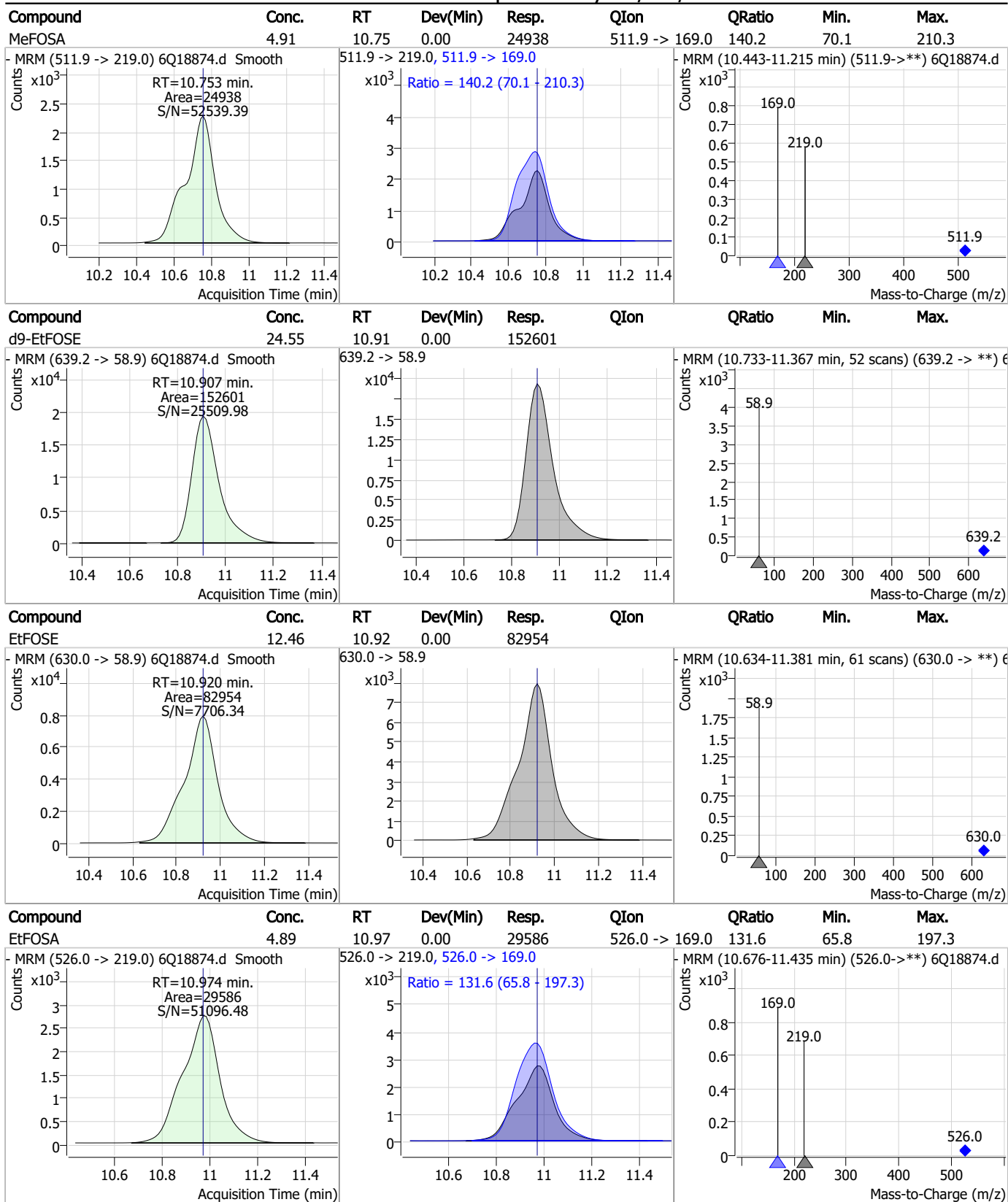
7.7.5
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Perfluorinated Compounds by LC/MS/MS



7.7.5
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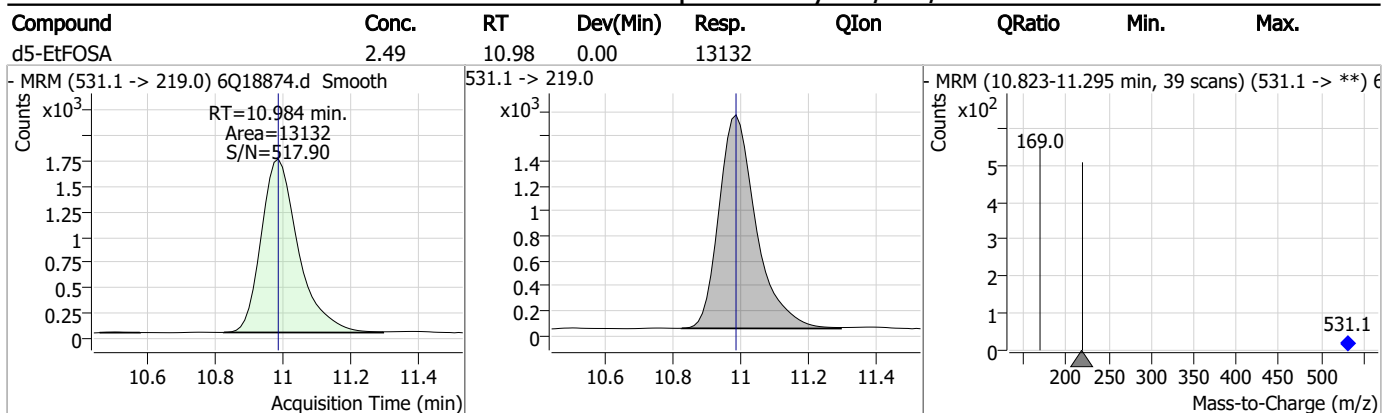
Perfluorinated Compounds by LC/MS/MS



7.7.5

7

Perfluorinated Compounds by LC/MS/MS



7.7.5

7

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

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

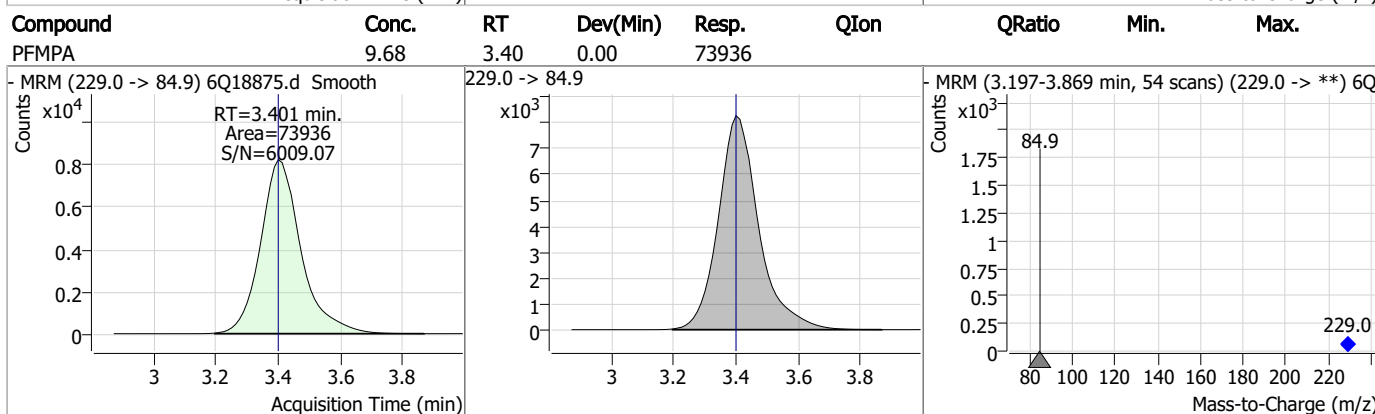
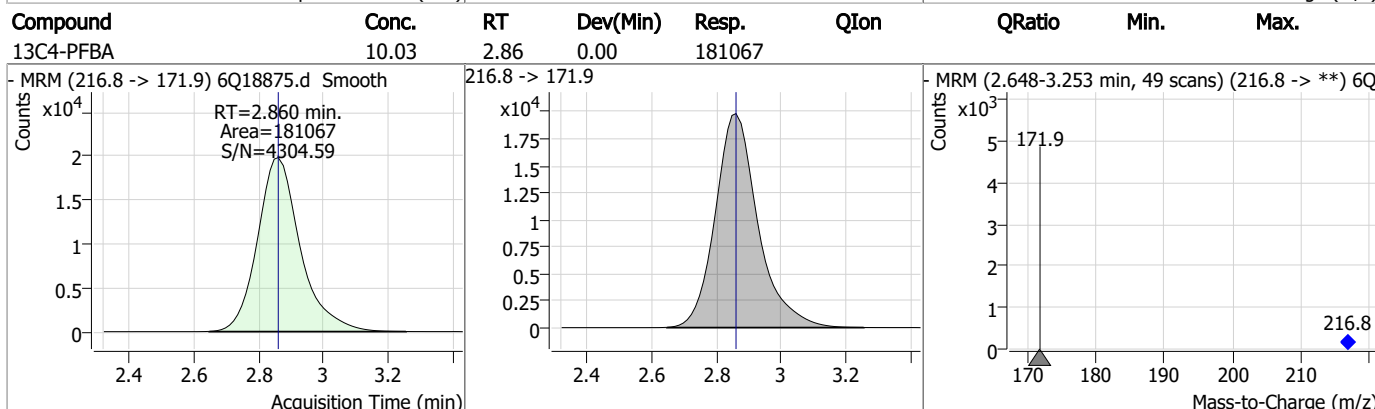
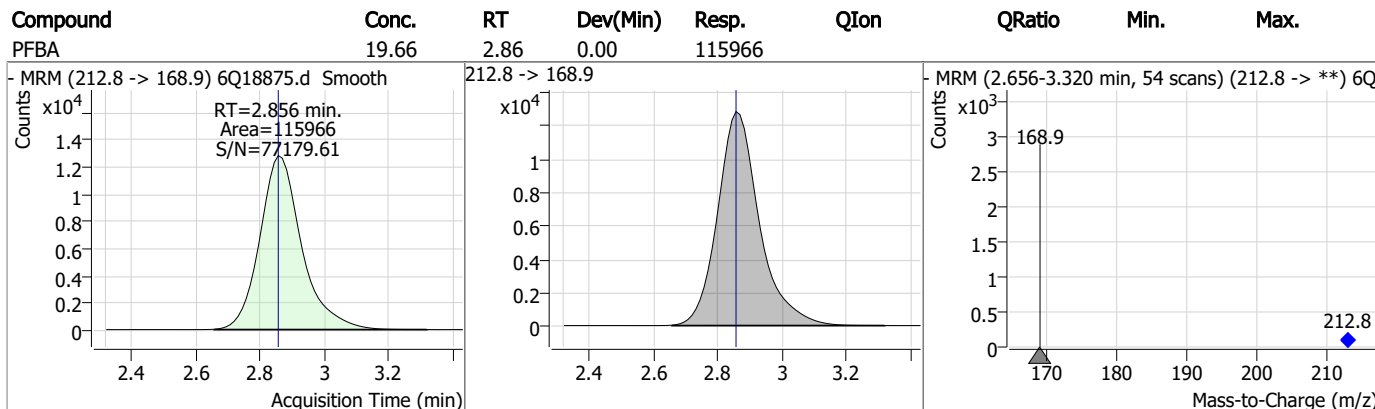
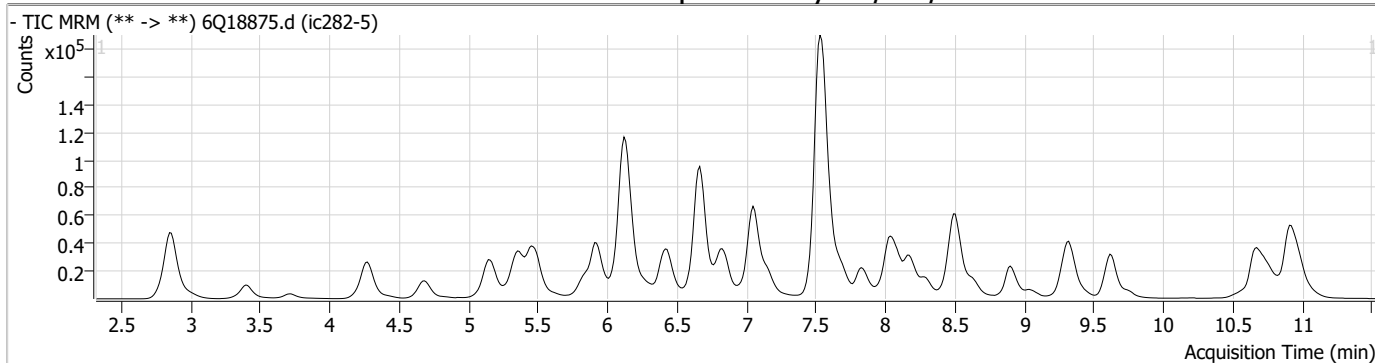
Perfluorinated Compounds by LC/MS/MS

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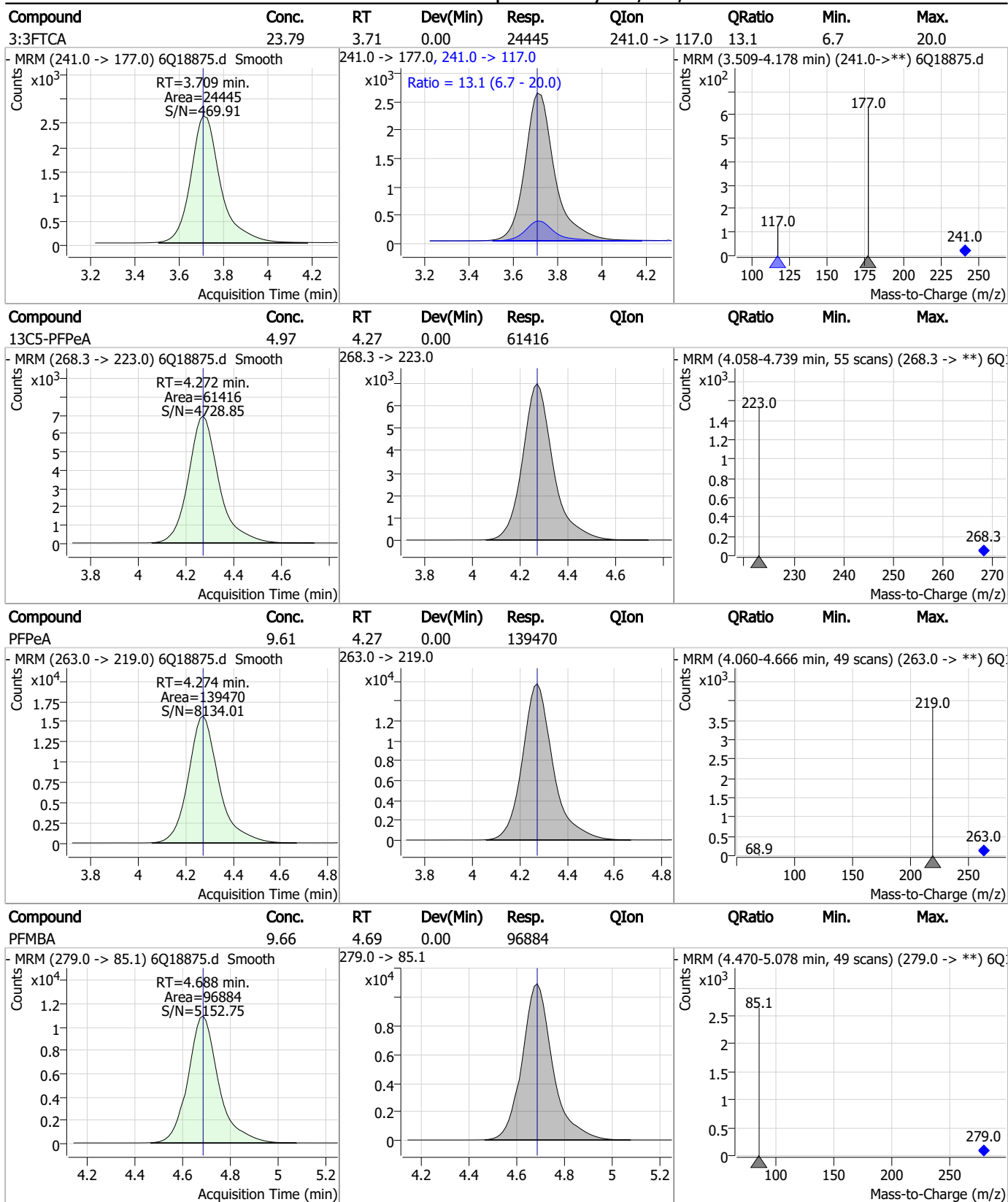
7.7.6

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Perfluorinated Compounds by LC/MS/MS



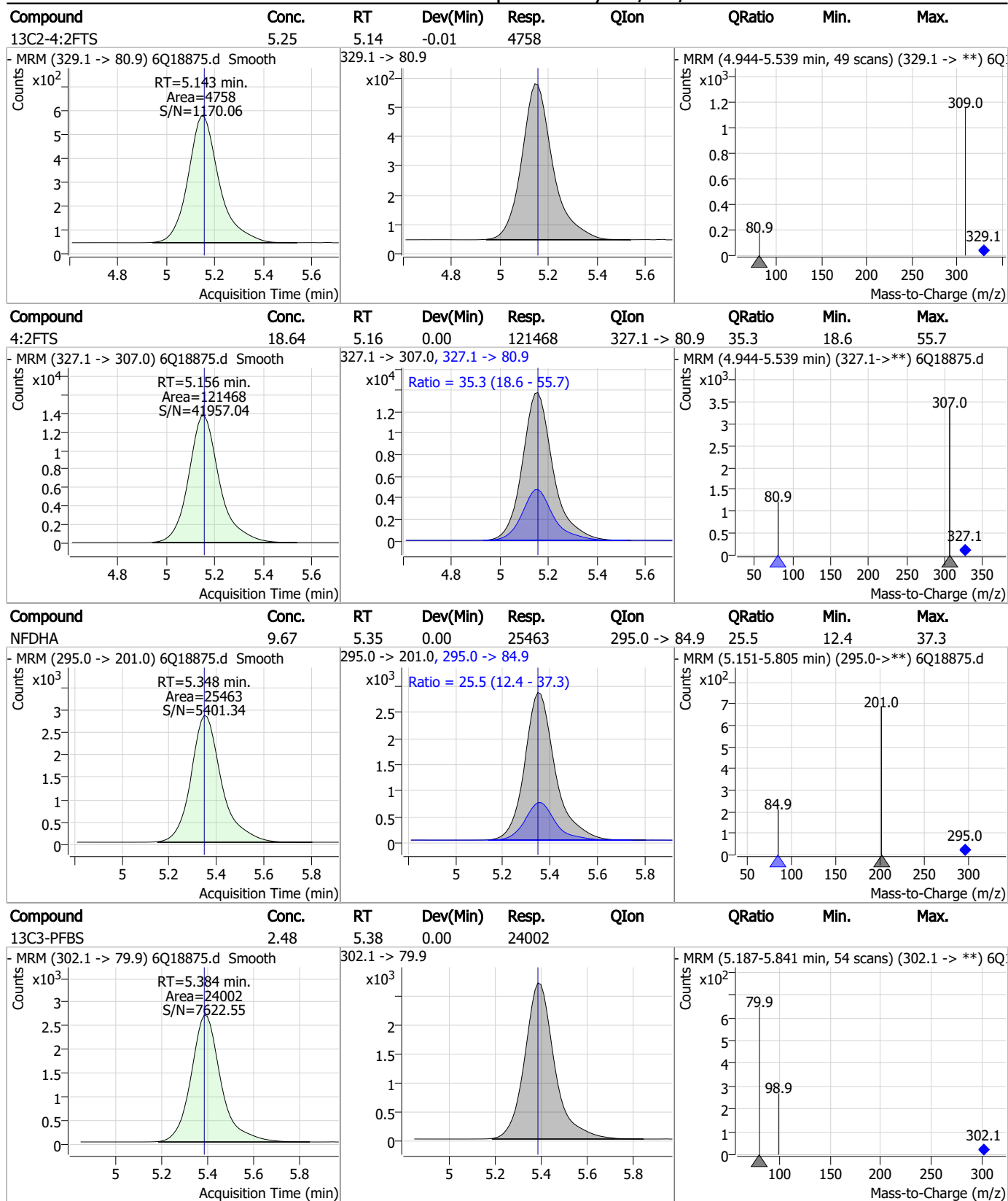
Perfluorinated Compounds by LC/MS/MS



7.7.6

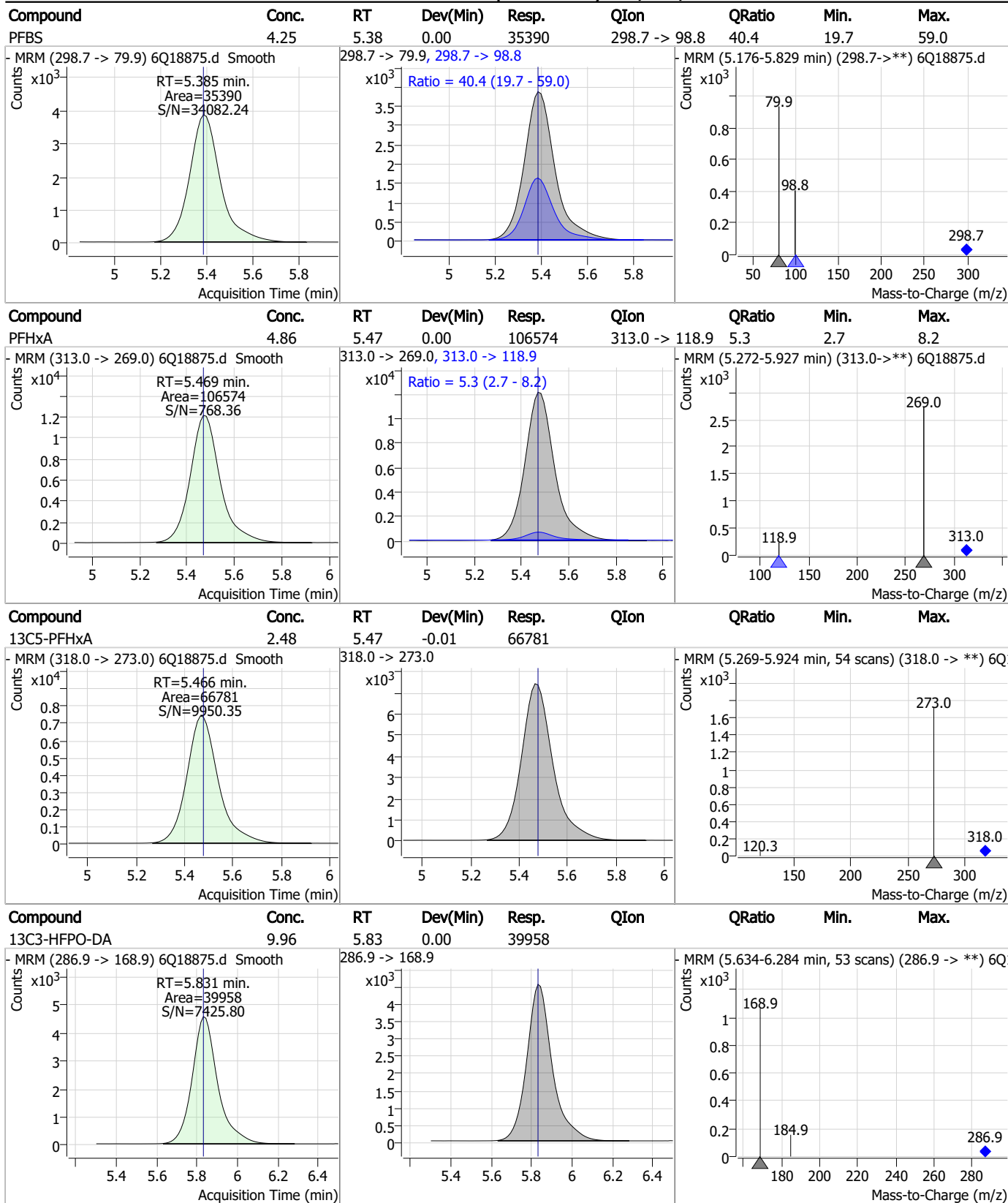
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Perfluorinated Compounds by LC/MS/MS



7.7.6
7

Perfluorinated Compounds by LC/MS/MS

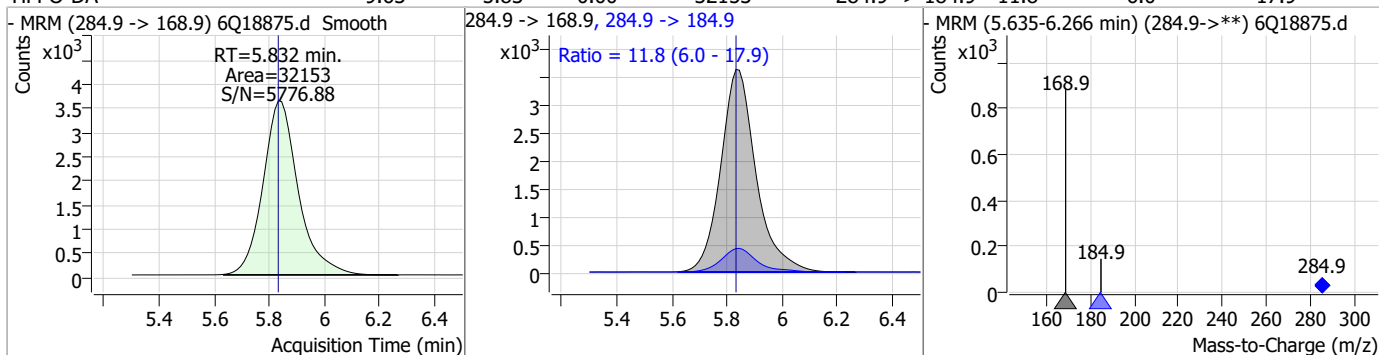


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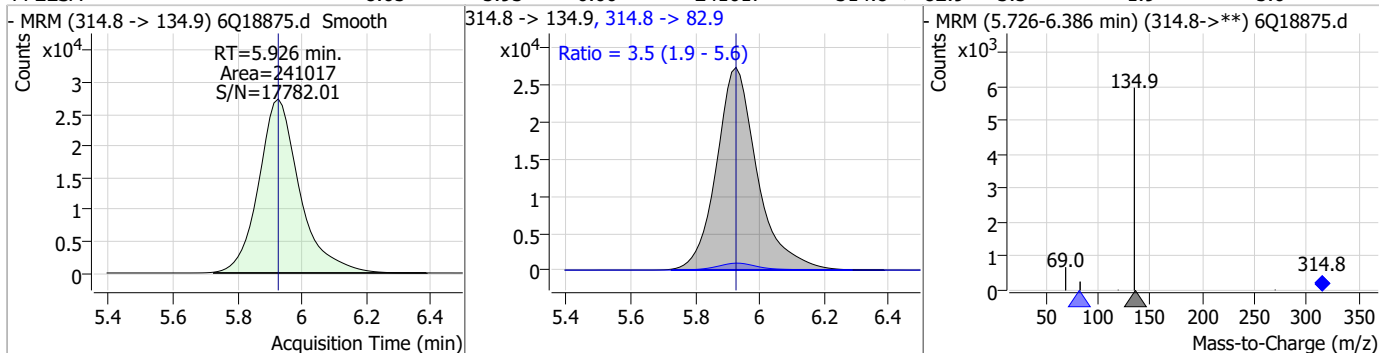
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Perfluorinated Compounds by LC/MS/MS

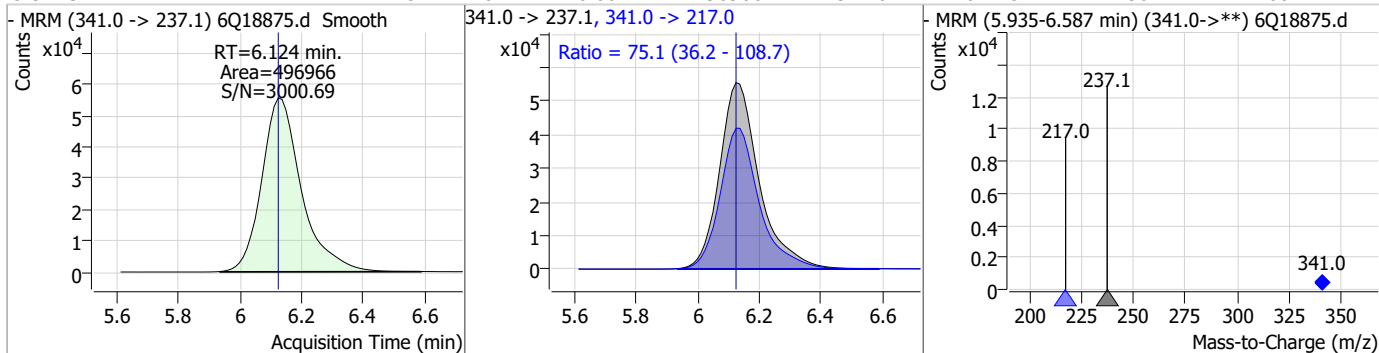
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	9.63	5.83	0.00	32153	284.9 -> 184.9	11.8	6.0	17.9



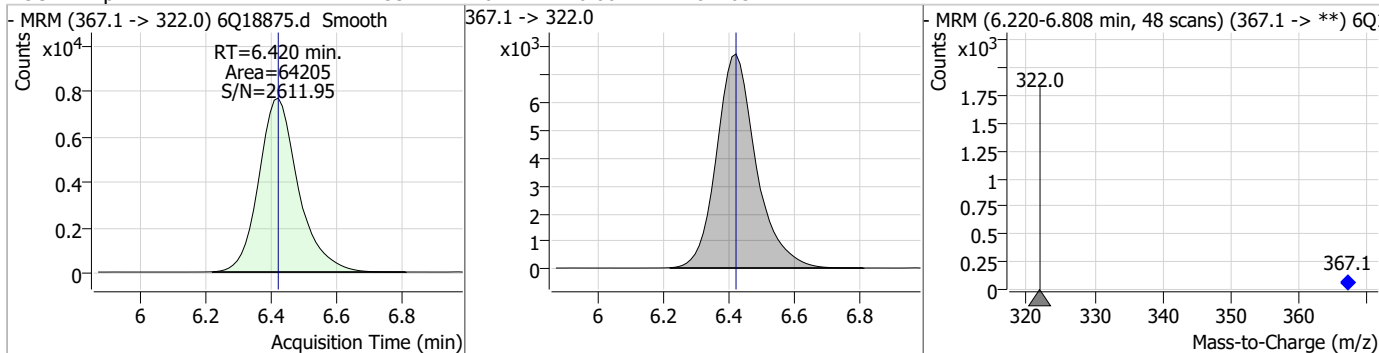
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	8.65	5.93	0.00	241017	314.8 -> 82.9	3.5	1.9	5.6



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

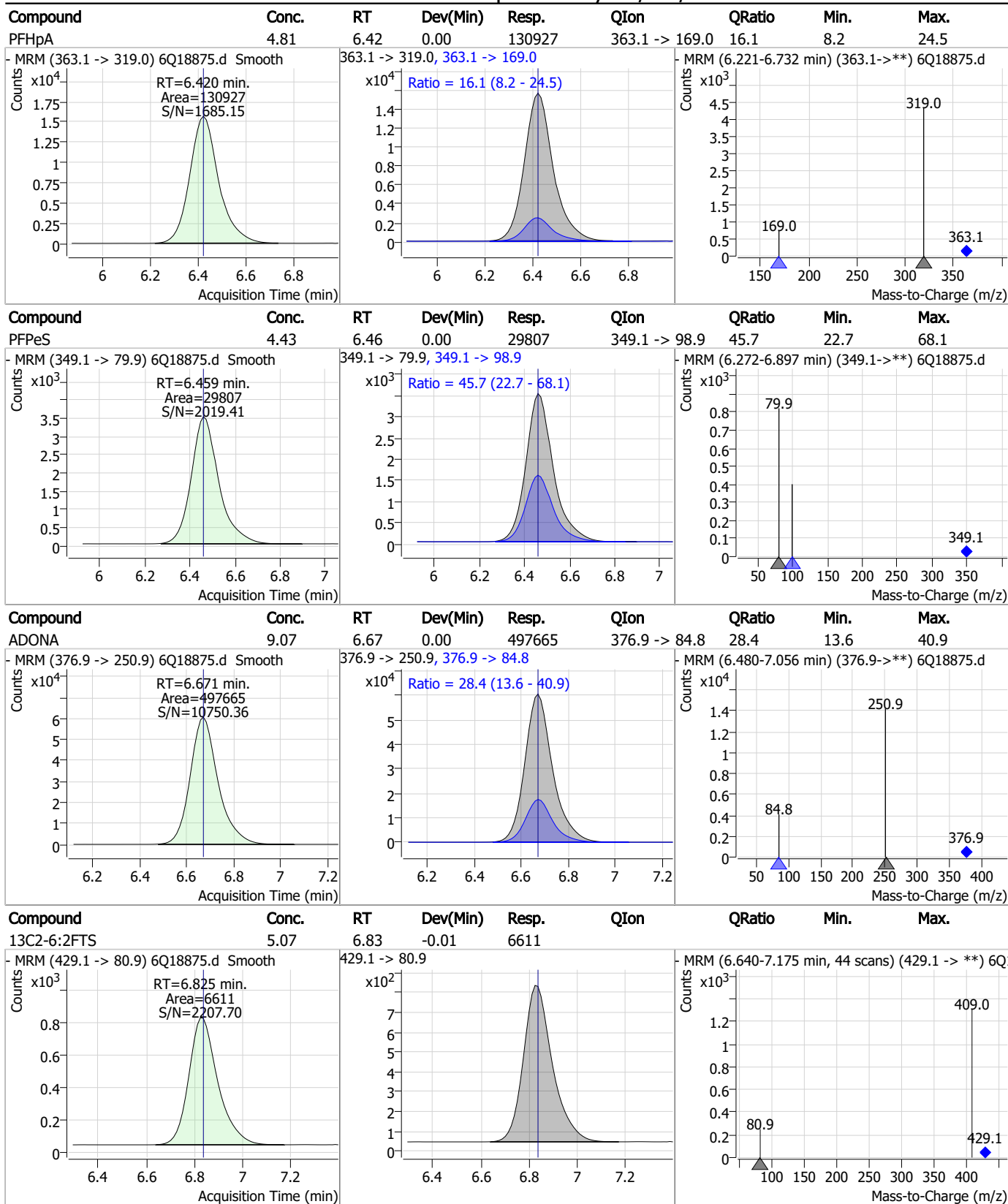


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.53	6.42	0.00	64205	367.1 -> 322.0			



7.7.6
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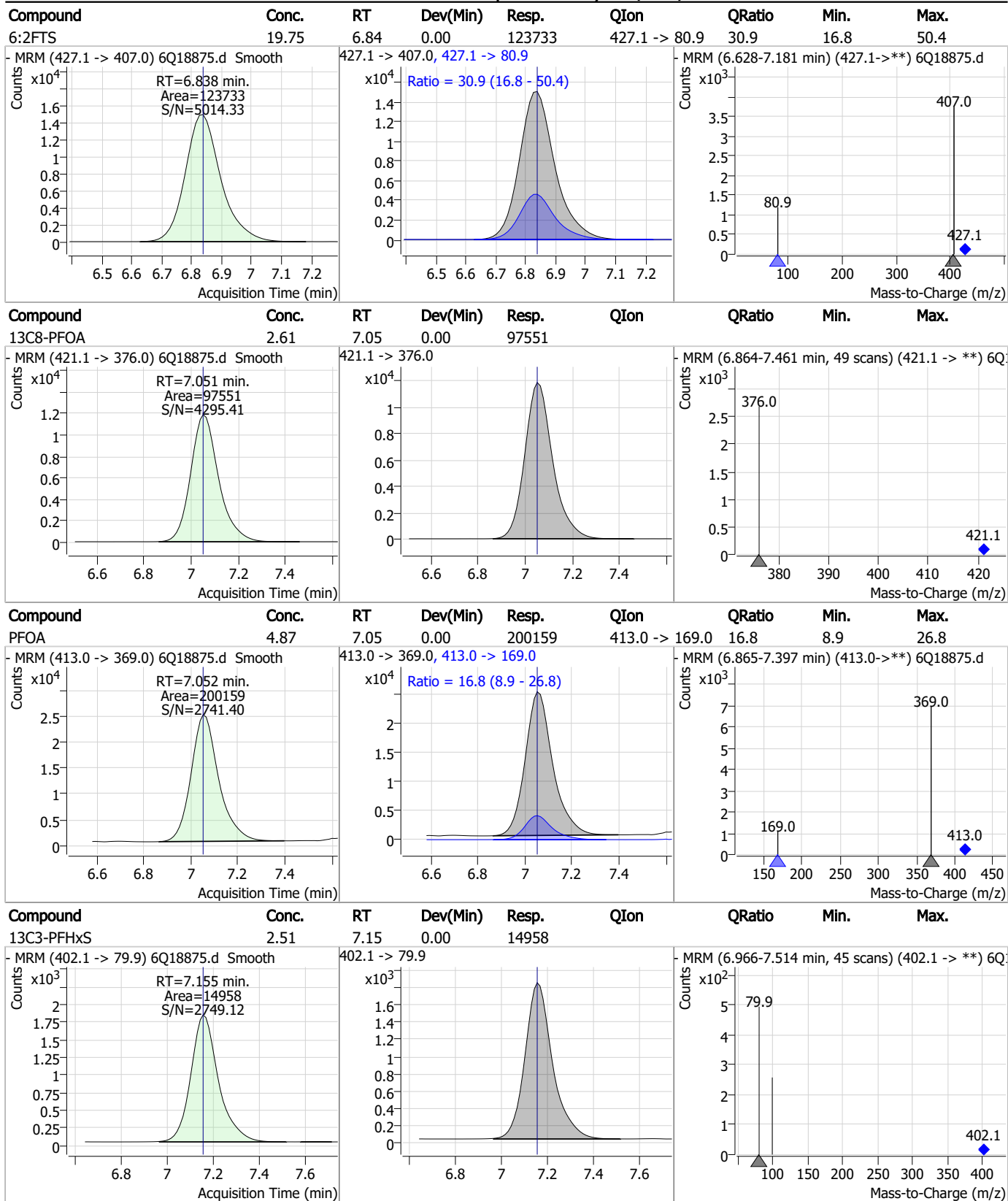
Perfluorinated Compounds by LC/MS/MS



7.7.6

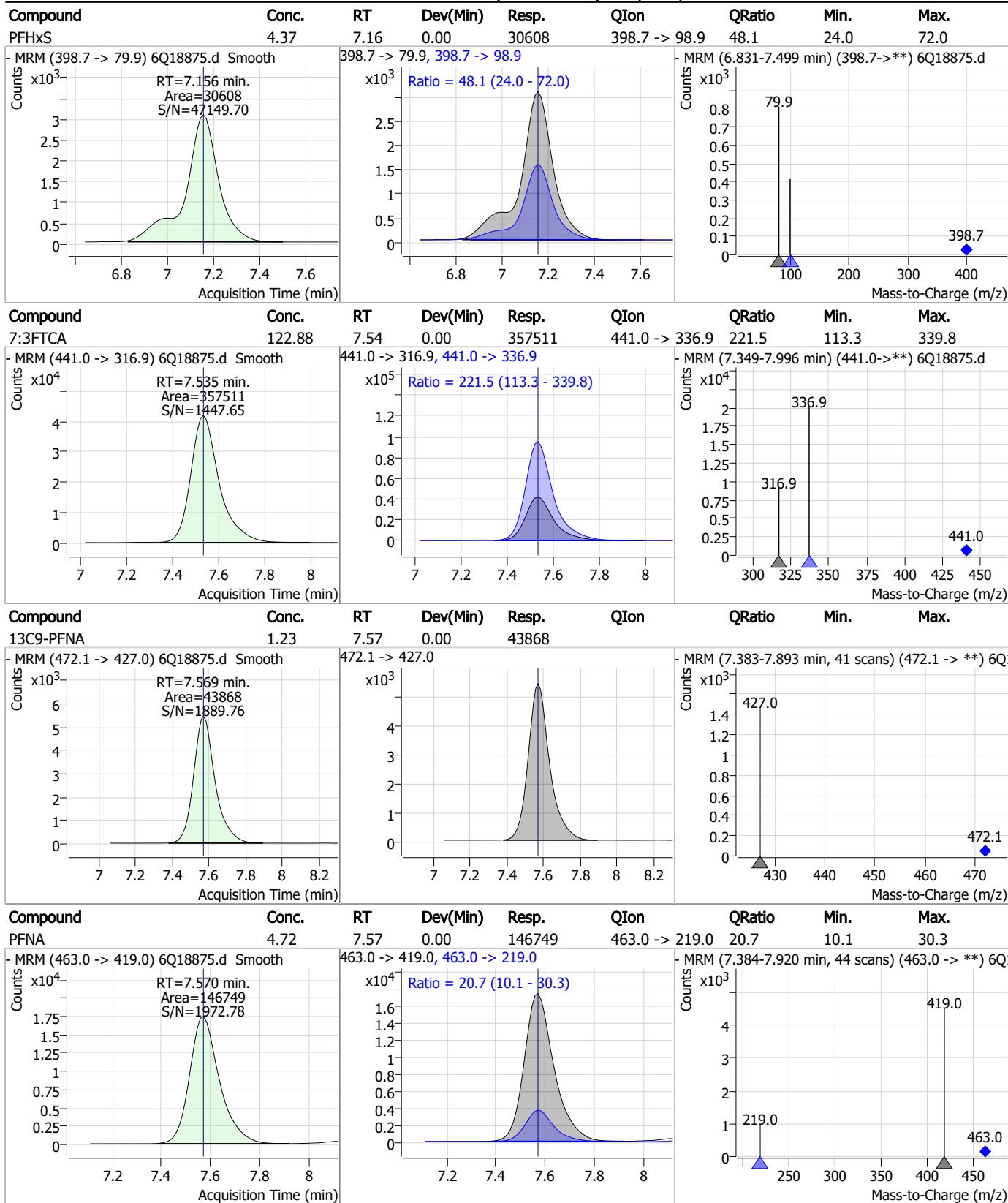
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Perfluorinated Compounds by LC/MS/MS



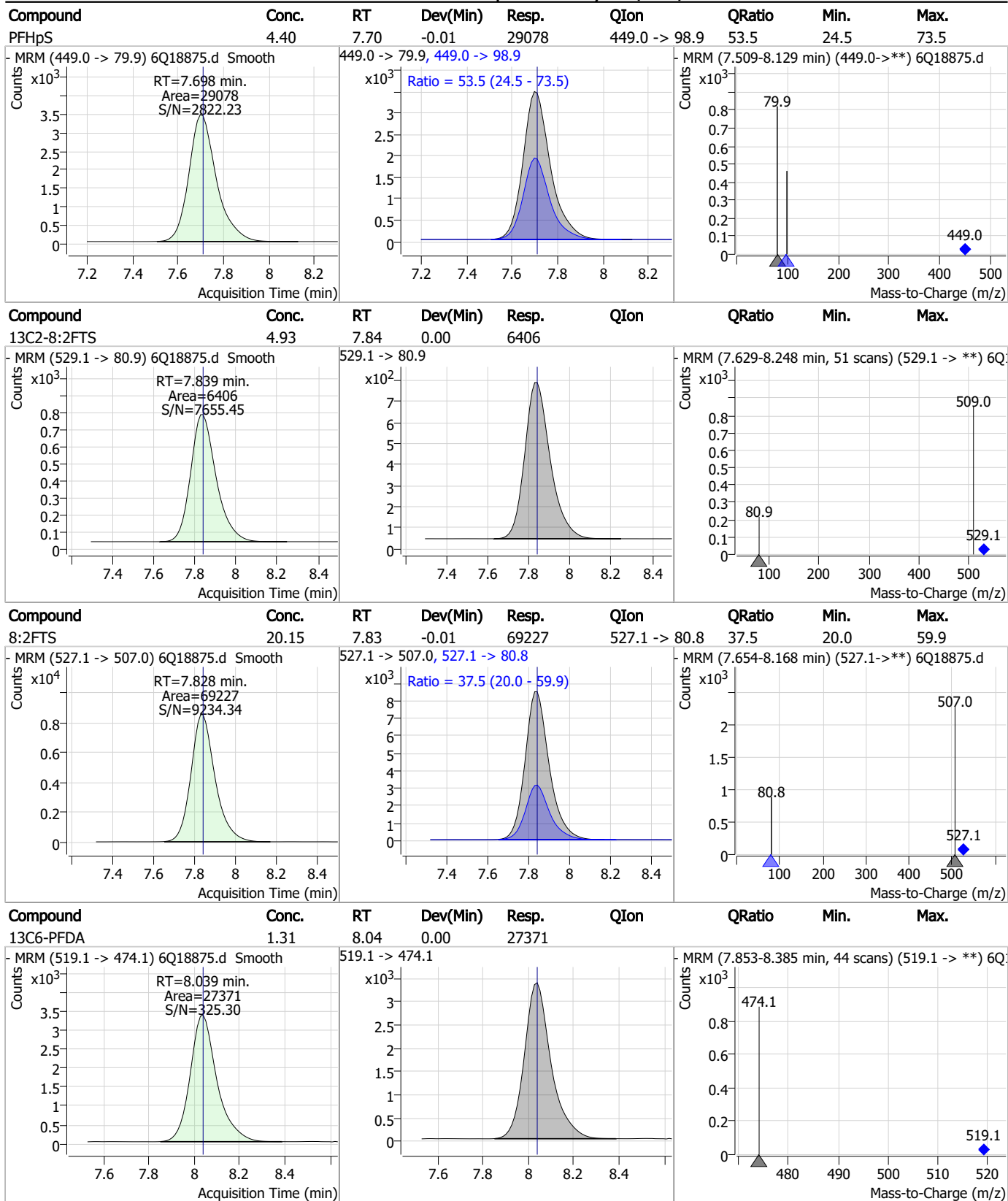
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Perfluorinated Compounds by LC/MS/MS



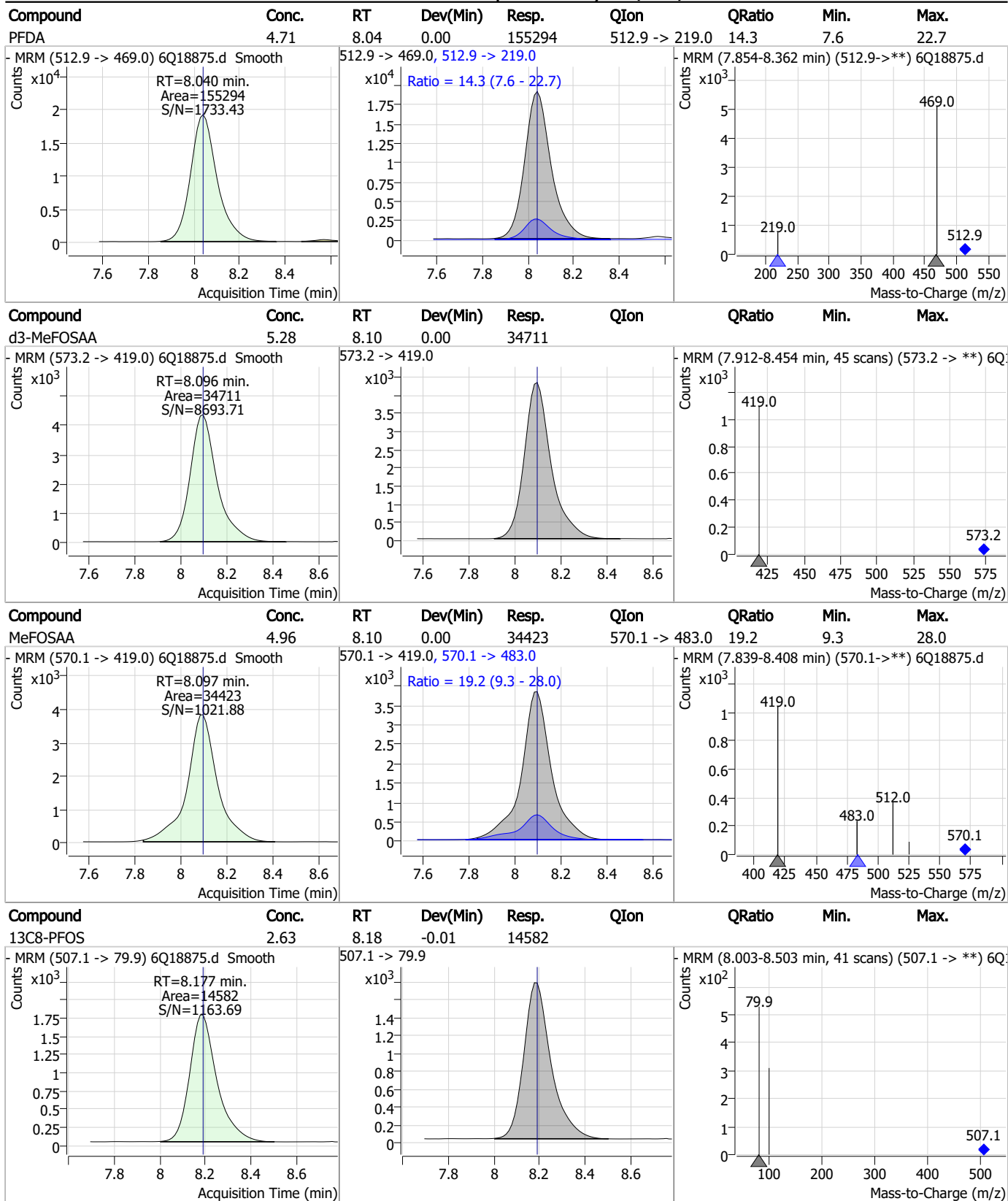
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Perfluorinated Compounds by LC/MS/MS



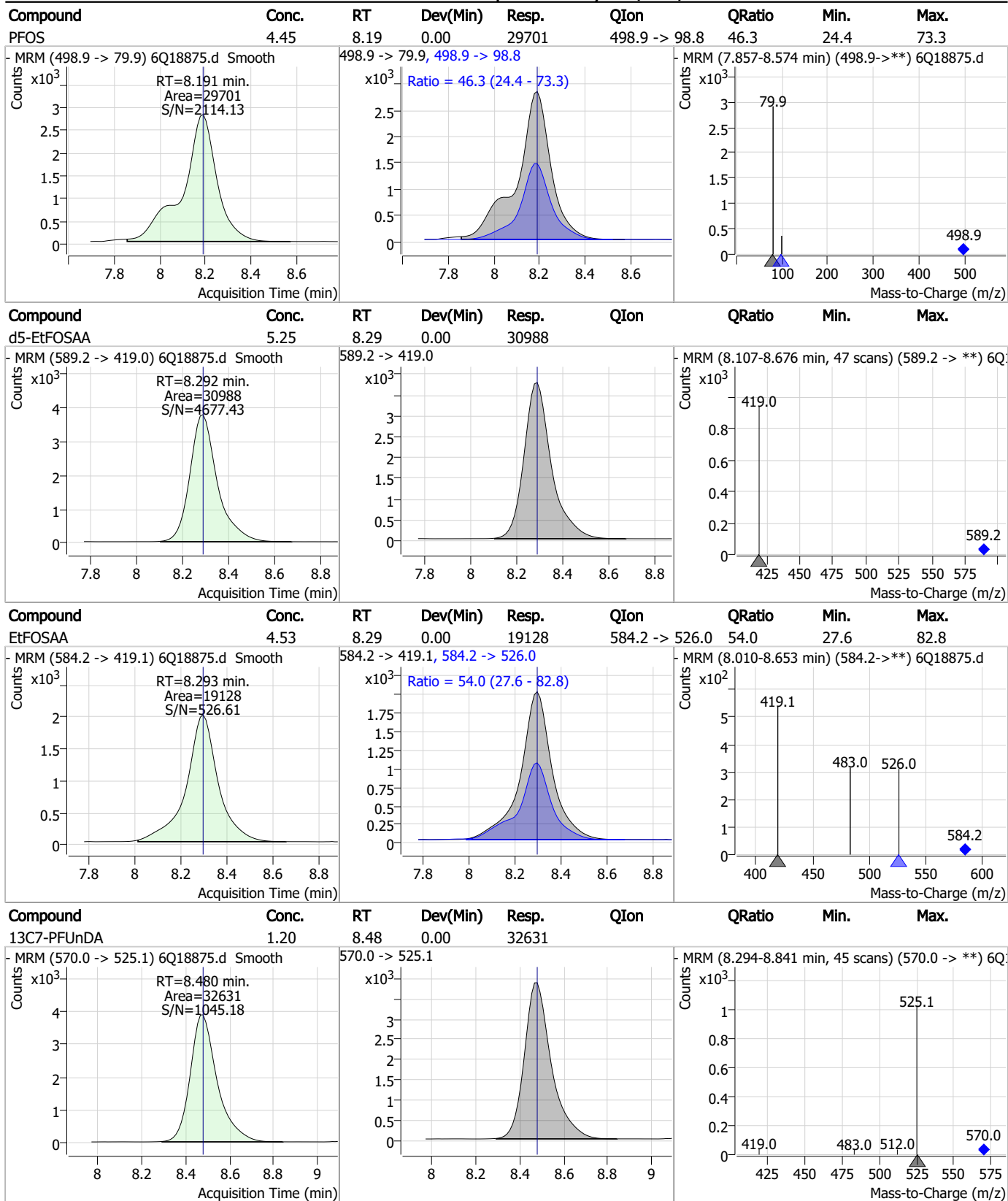
7.7.6
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Perfluorinated Compounds by LC/MS/MS



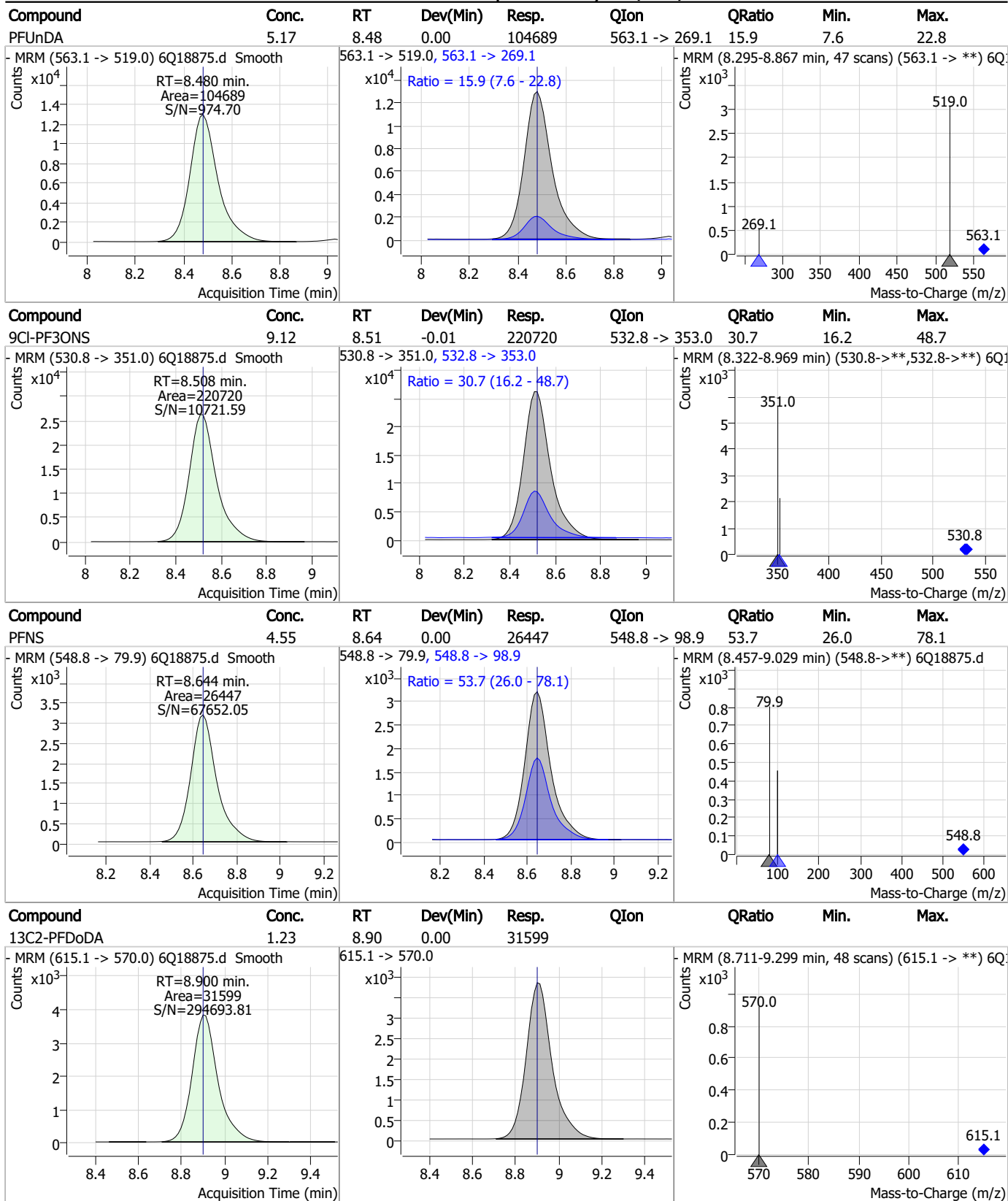
7.7.6
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Perfluorinated Compounds by LC/MS/MS



7.7.6
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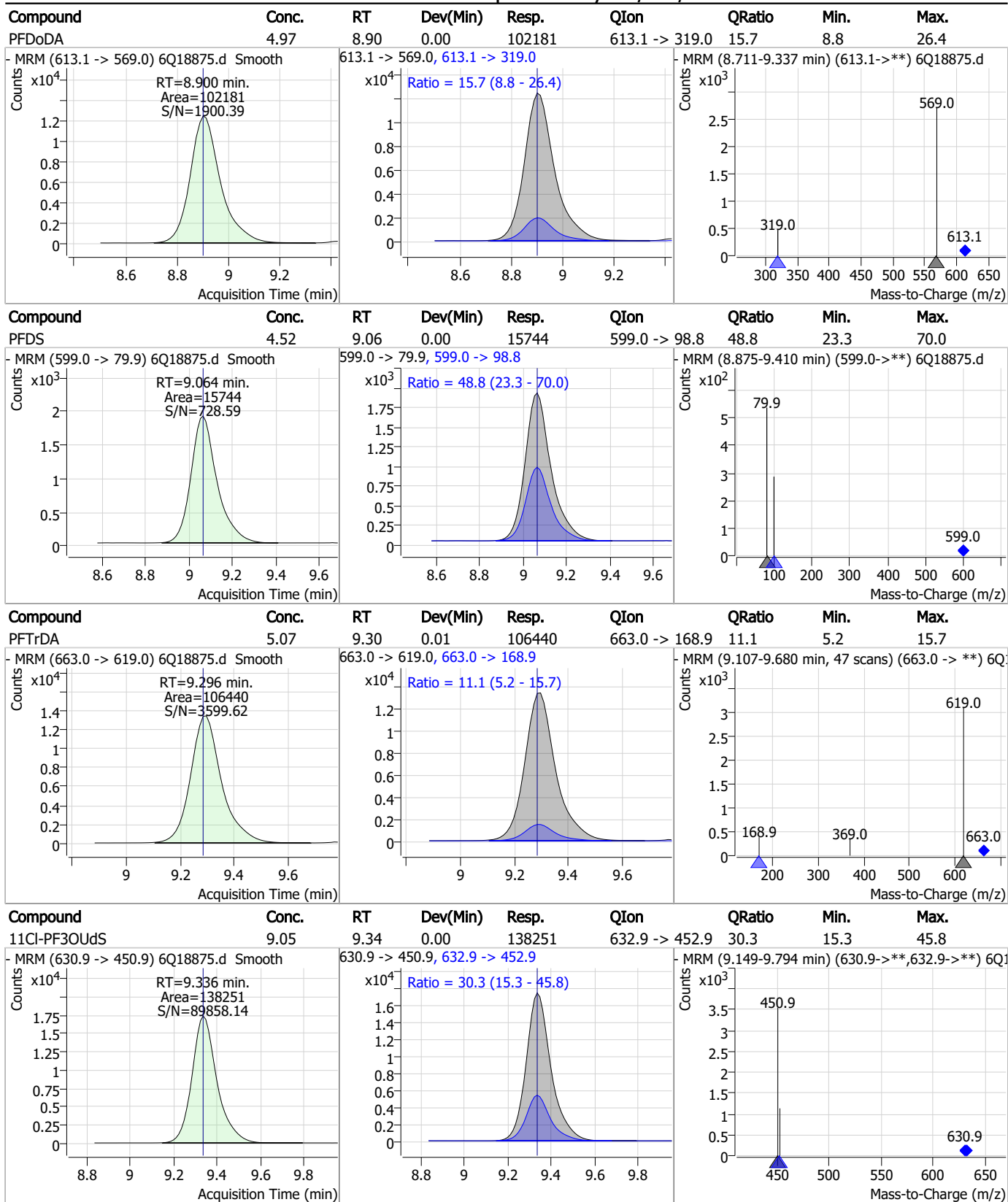
Perfluorinated Compounds by LC/MS/MS



7.7.6
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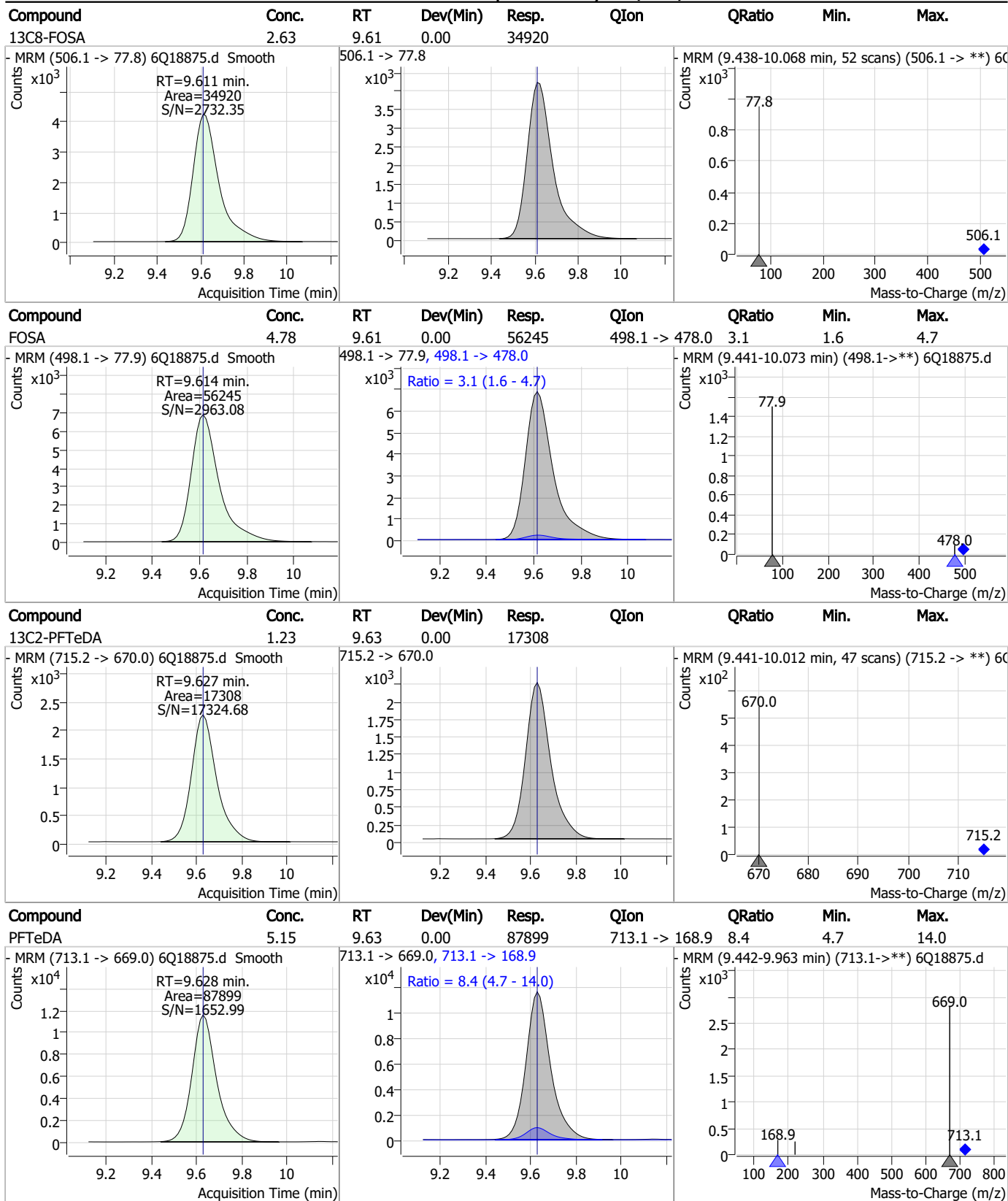


Perfluorinated Compounds by LC/MS/MS



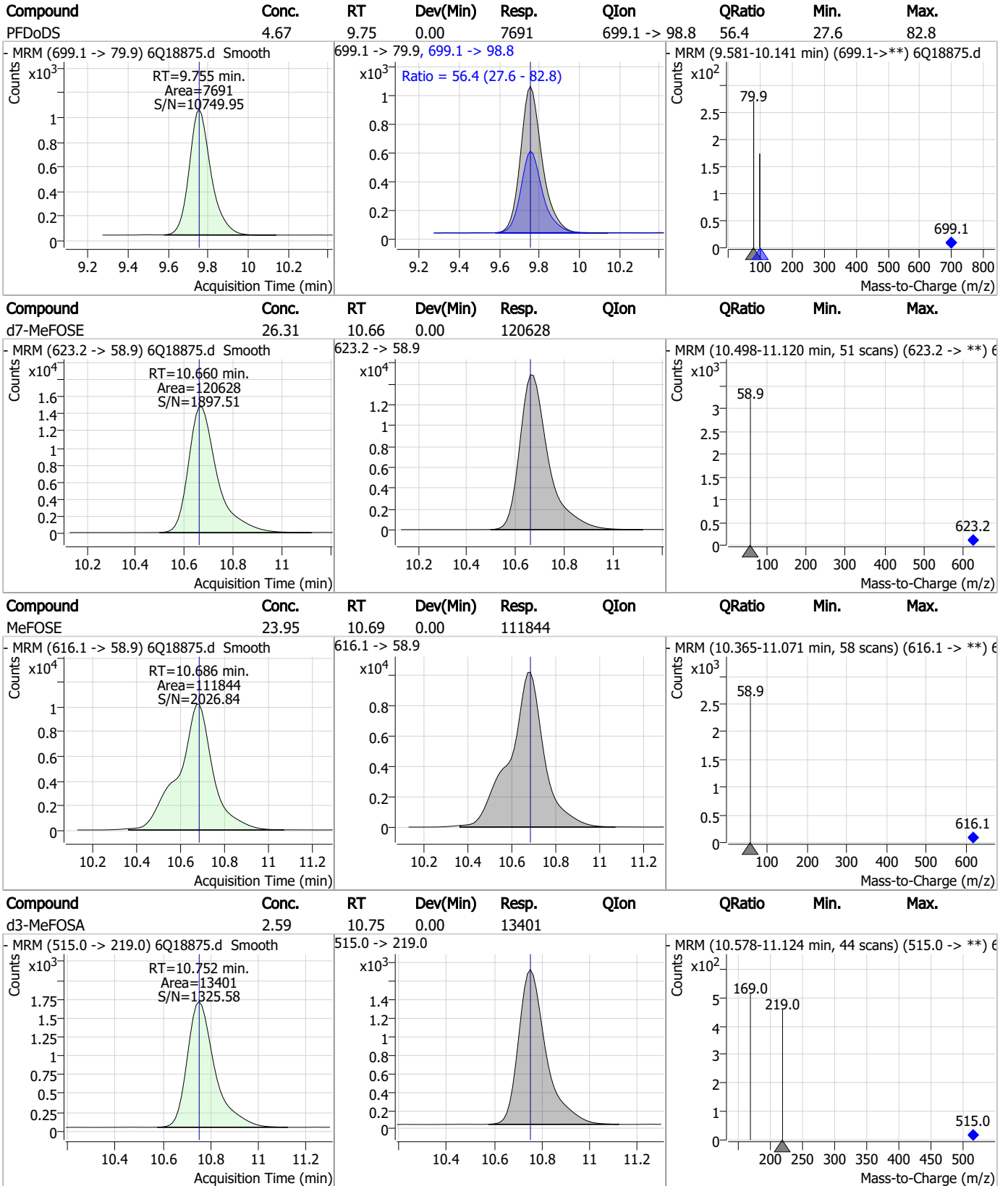
7.7.6
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Perfluorinated Compounds by LC/MS/MS



7.7.6
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Perfluorinated Compounds by LC/MS/MS

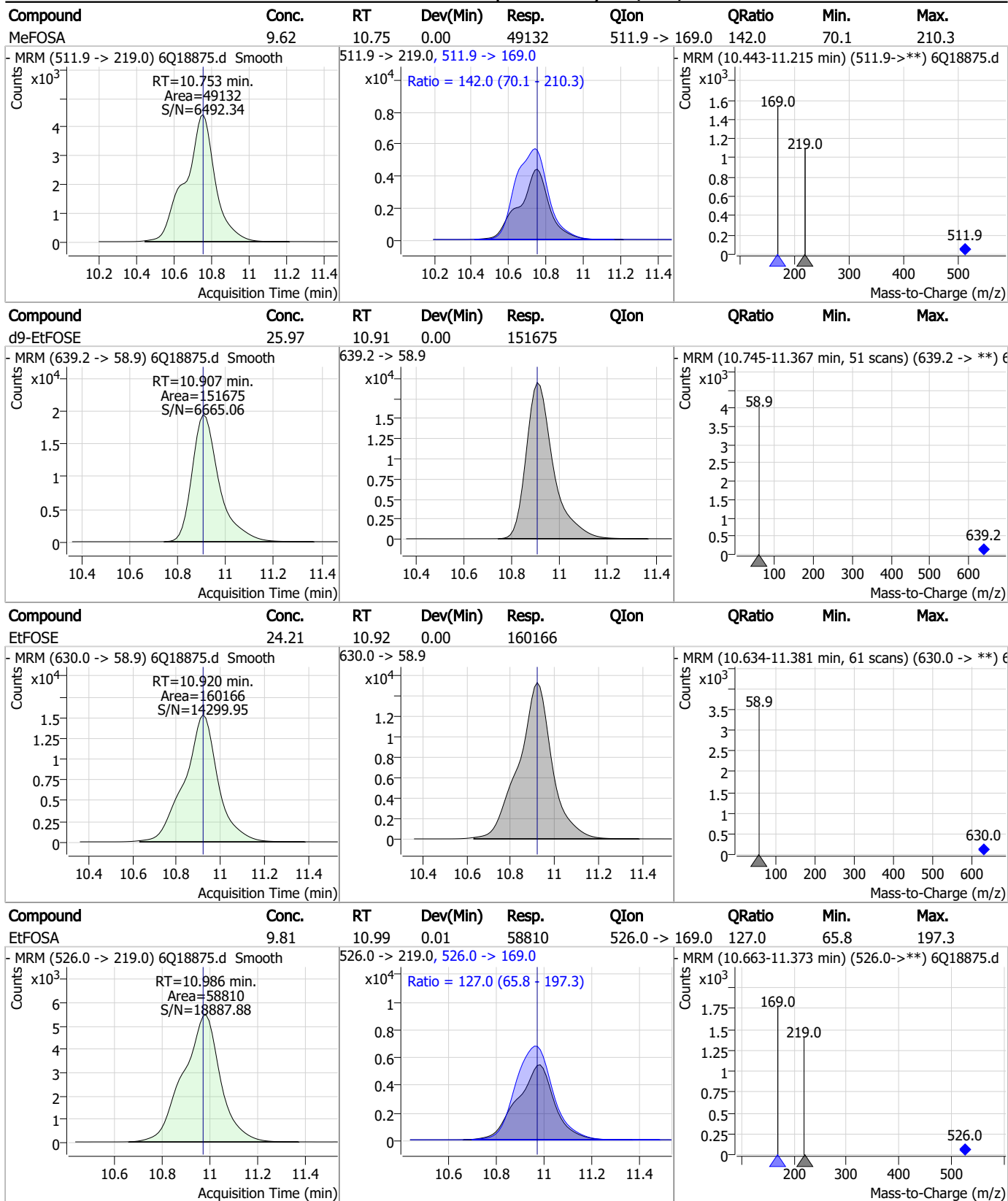


7.7.6

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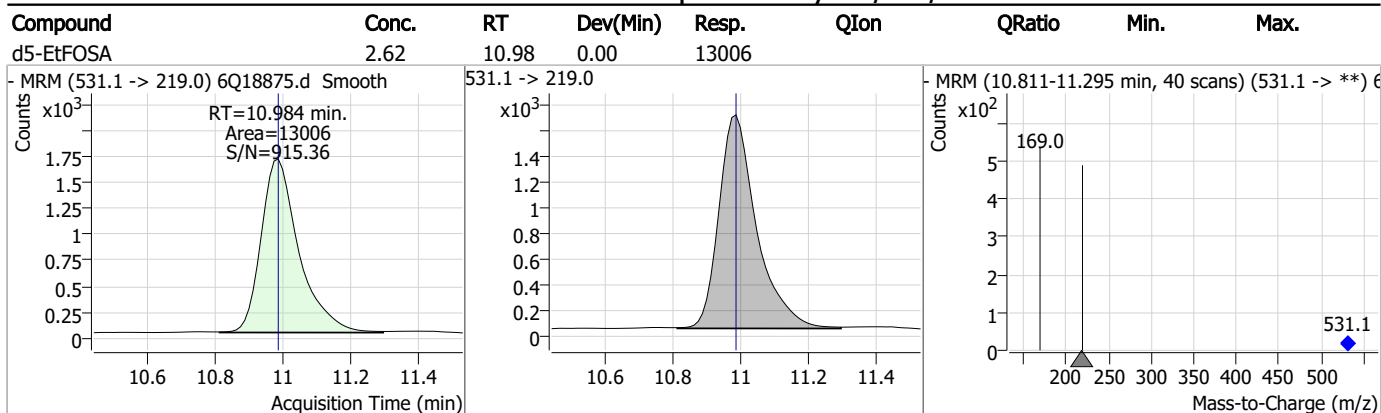


Perfluorinated Compounds by LC/MS/MS



7.7.6
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Perfluorinated Compounds by LC/MS/MS



7.7.6

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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

7.7.7
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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 = 106.0%	
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
PFDoDS	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			

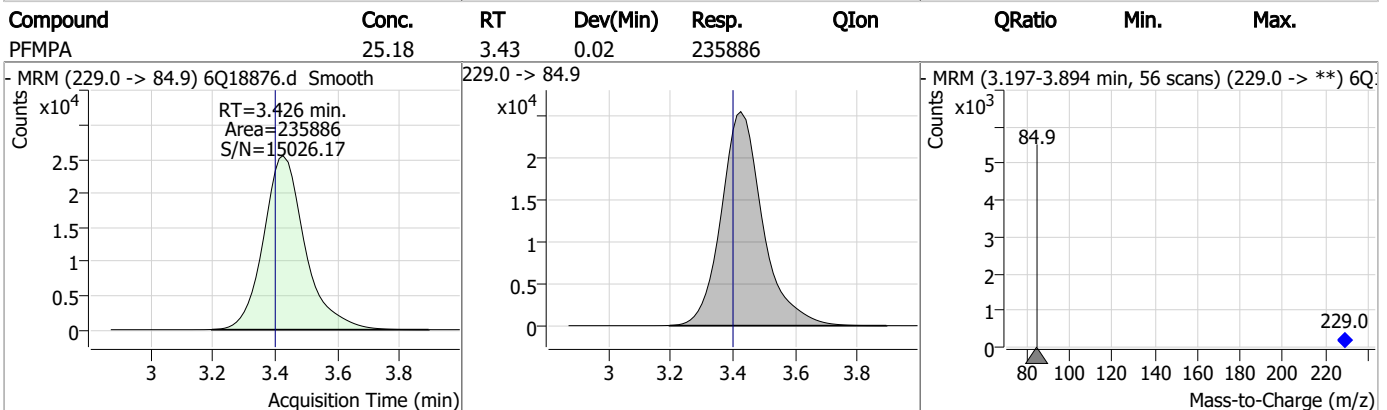
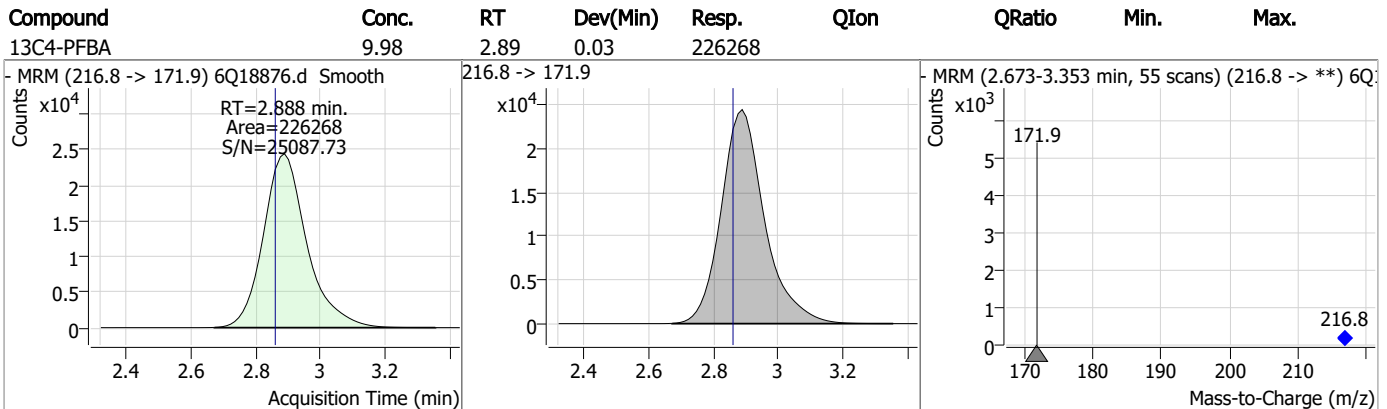
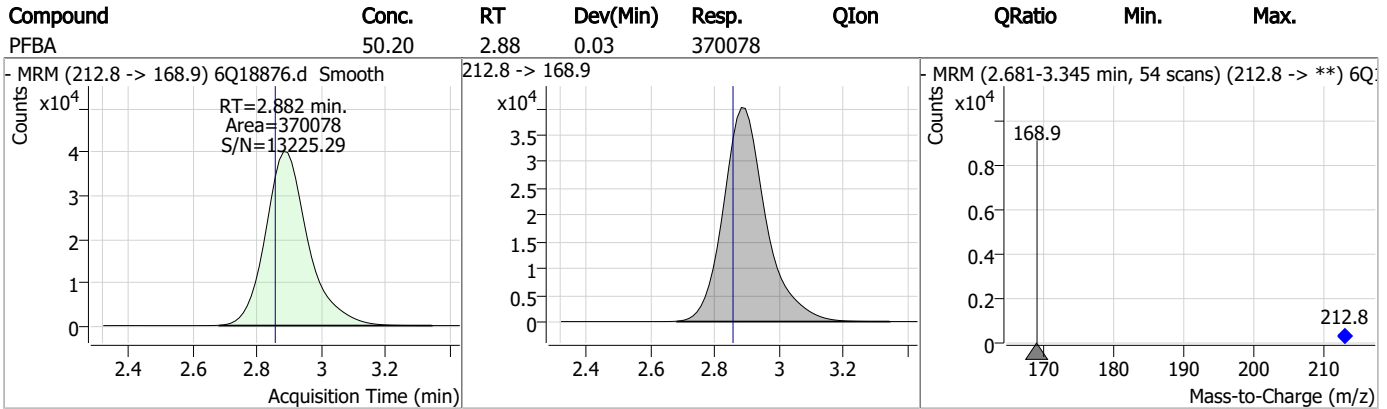
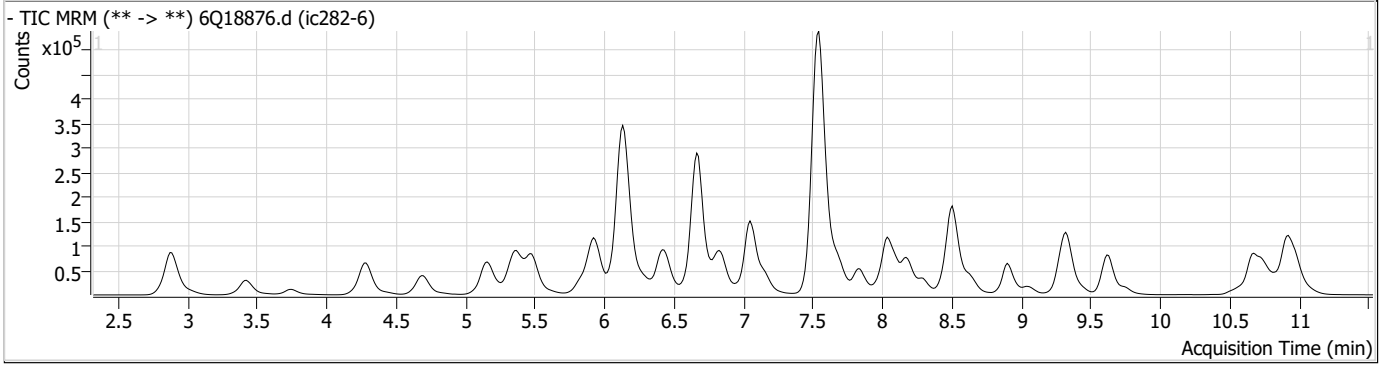
= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

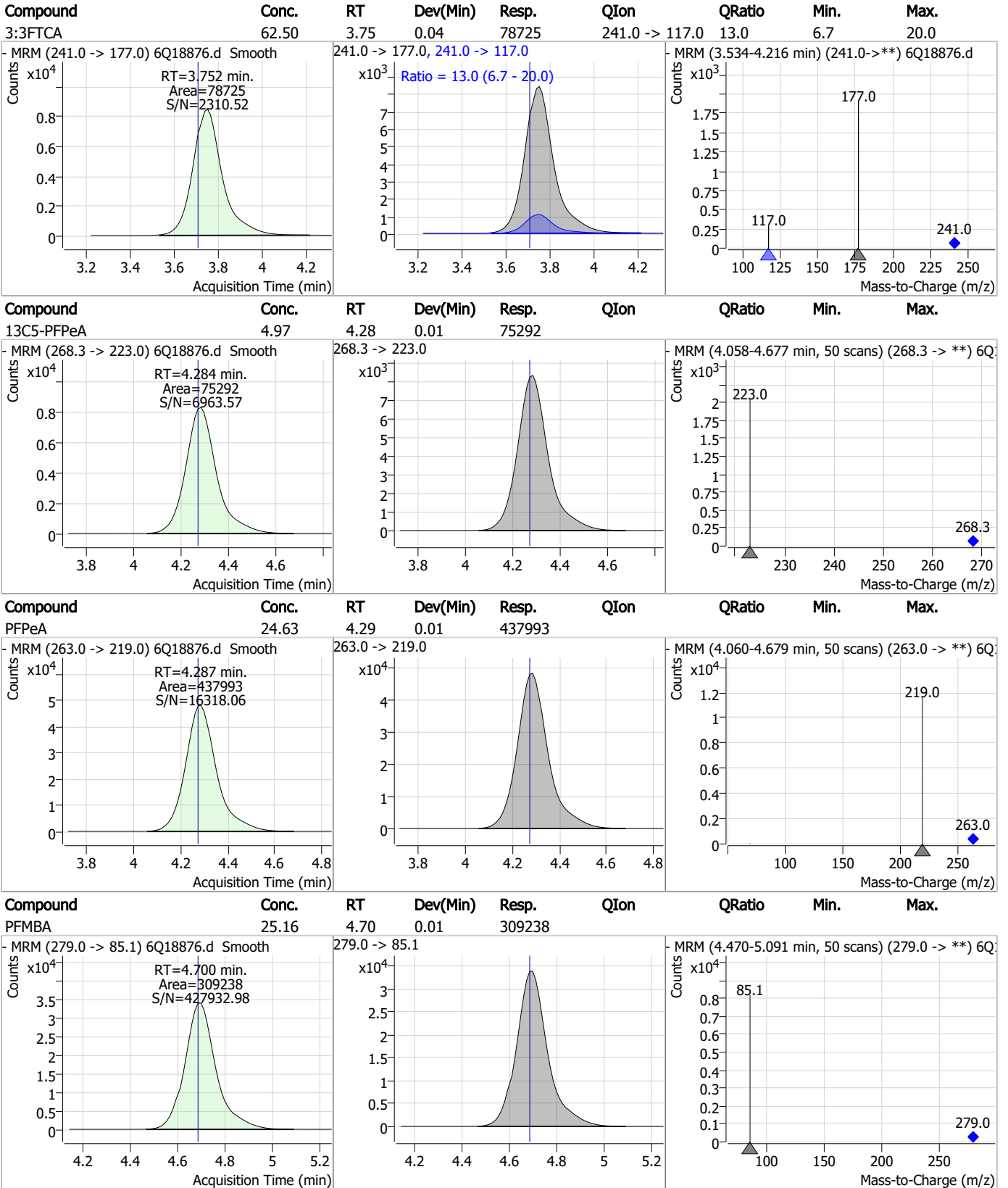
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.7
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Perfluorinated Compounds by LC/MS/MS



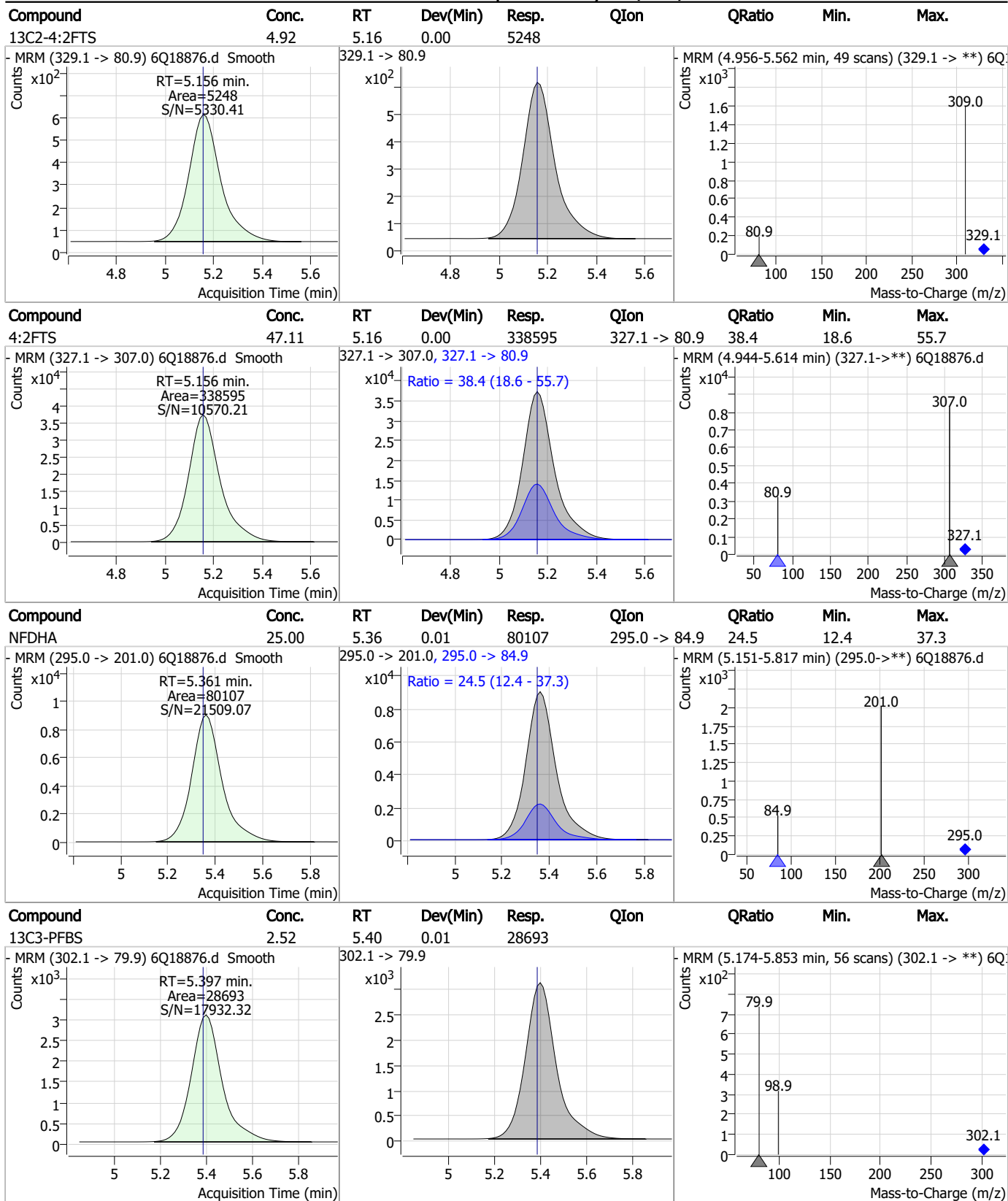
Perfluorinated Compounds by LC/MS/MS



7.7.7

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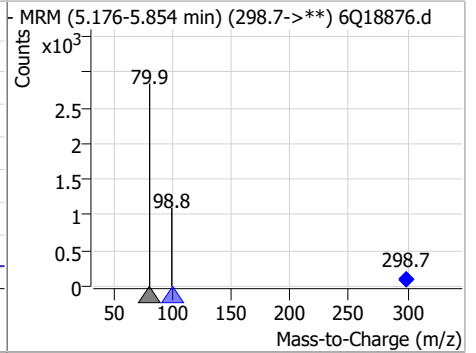
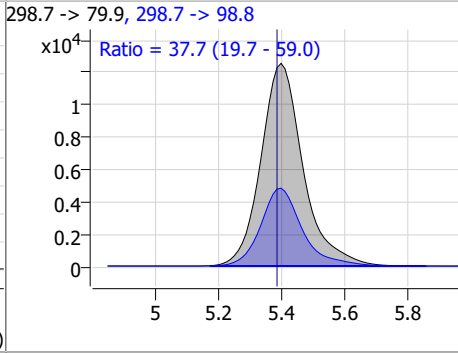
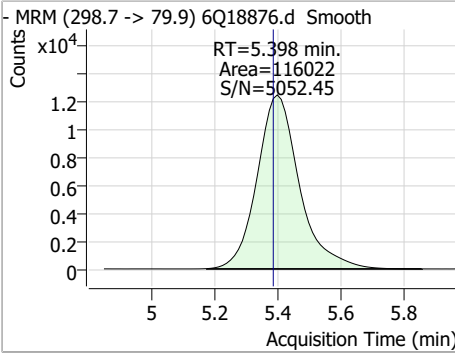
Perfluorinated Compounds by LC/MS/MS



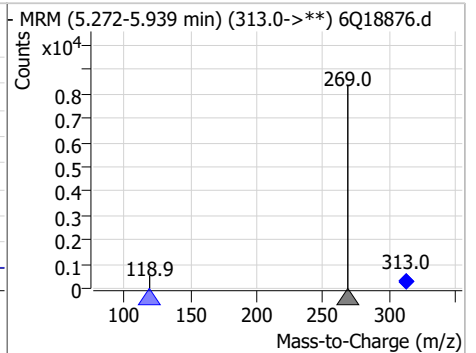
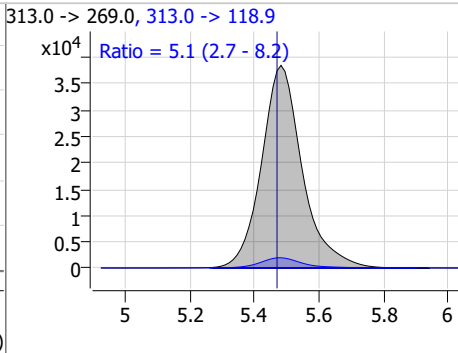
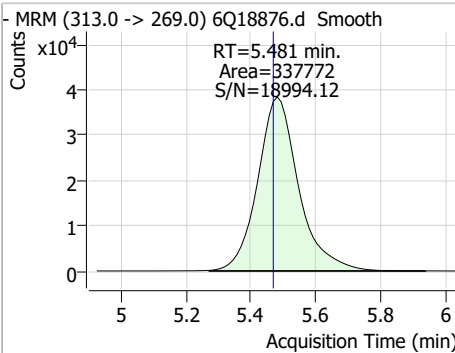
7.7.7

Perfluorinated Compounds by LC/MS/MS

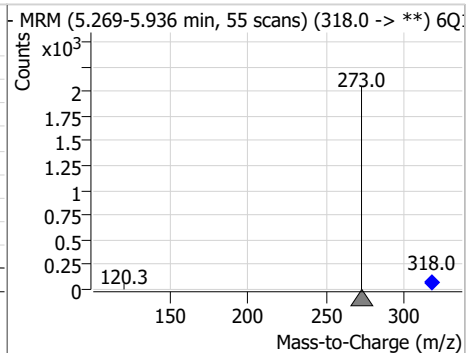
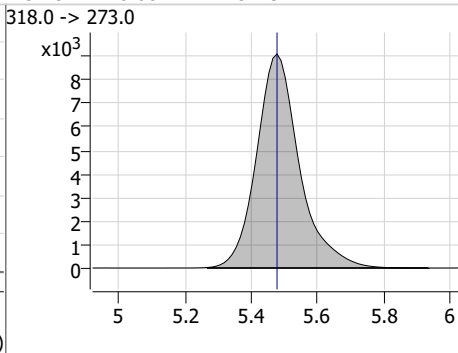
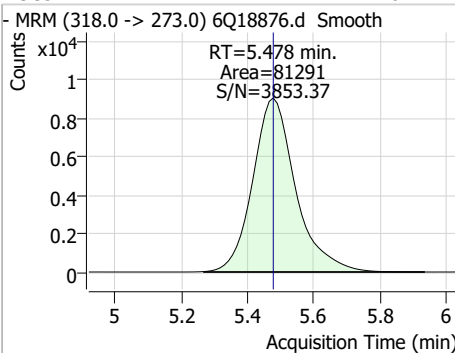
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	11.67	5.40	0.01	116022	298.7 -> 98.8	37.7	19.7	59.0



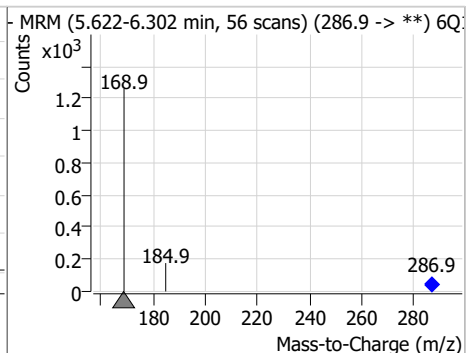
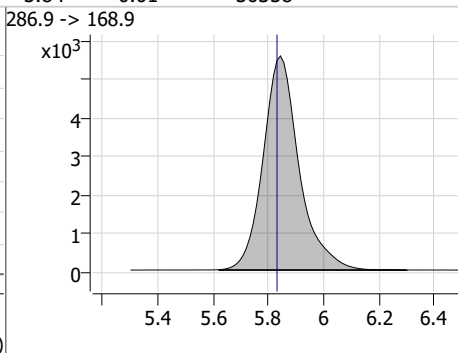
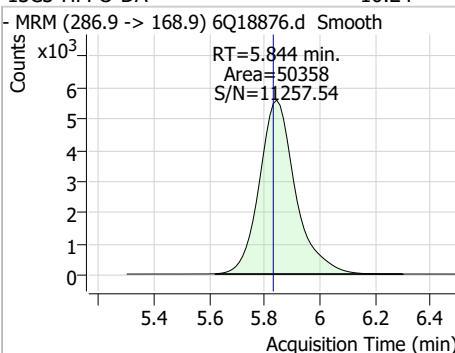
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	12.66	5.48	0.01	337772	313.0 -> 118.9	5.1	2.7	8.2



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

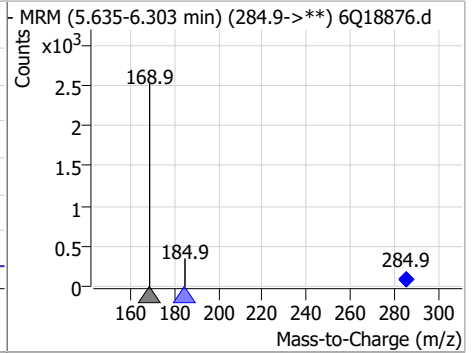
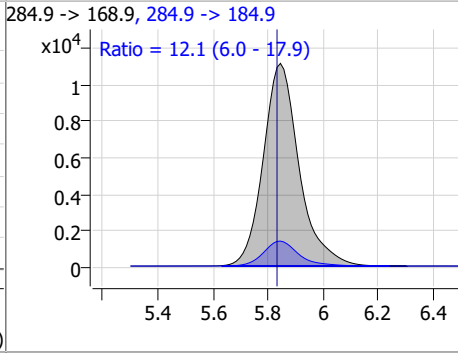
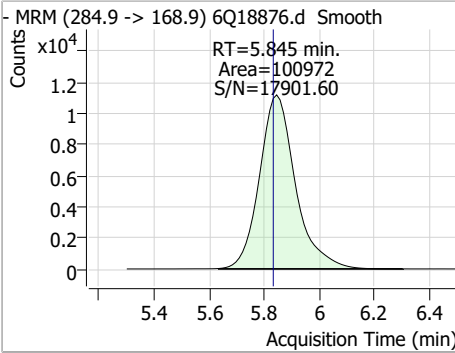


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.24	5.84	0.01	50358	286.9 -> 168.9			

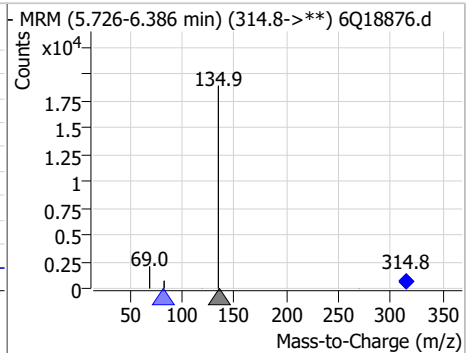
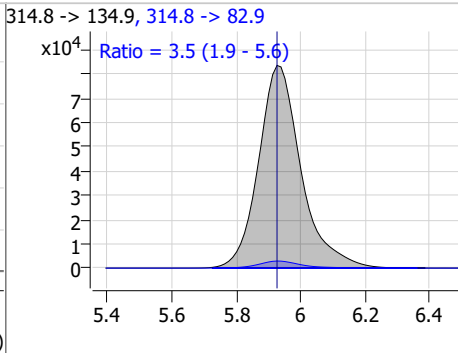
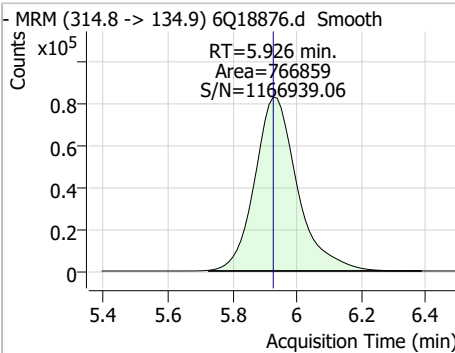


Perfluorinated Compounds by LC/MS/MS

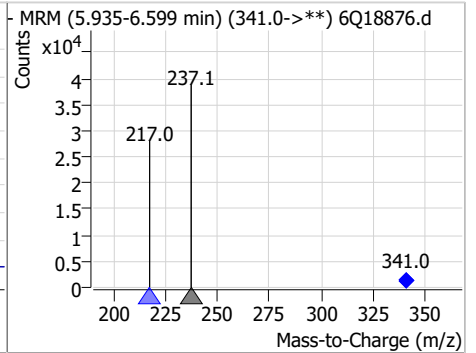
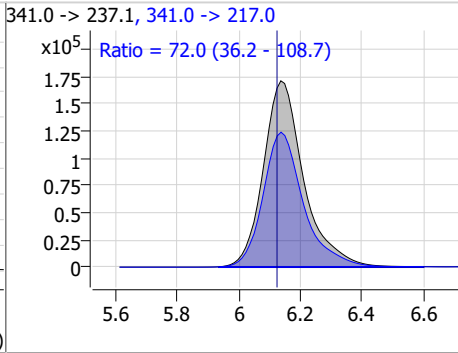
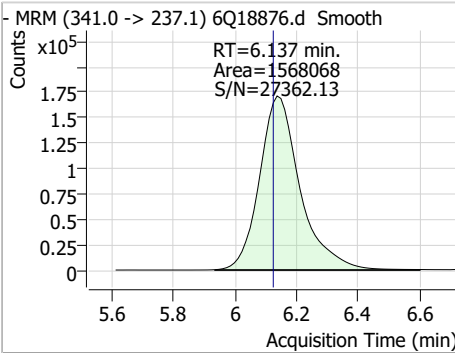
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	24.01	5.84	0.01	100972	284.9 -> 184.9	12.1	6.0	17.9



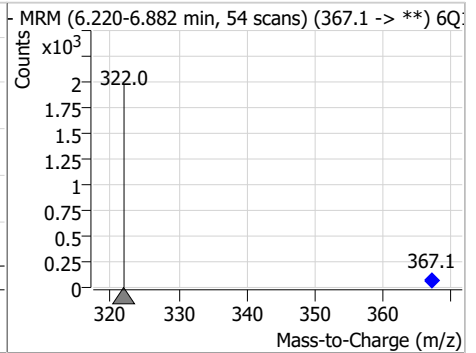
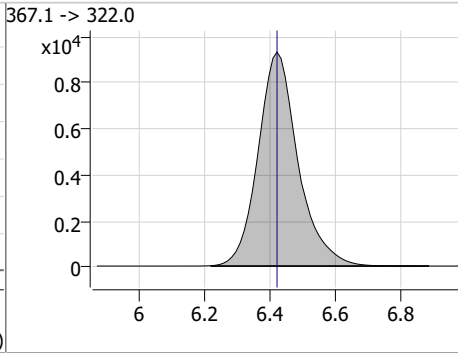
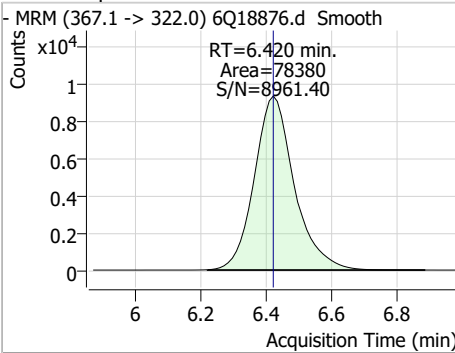
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	22.61	5.93	0.00	766859	314.8 -> 82.9	3.5	1.9	5.6



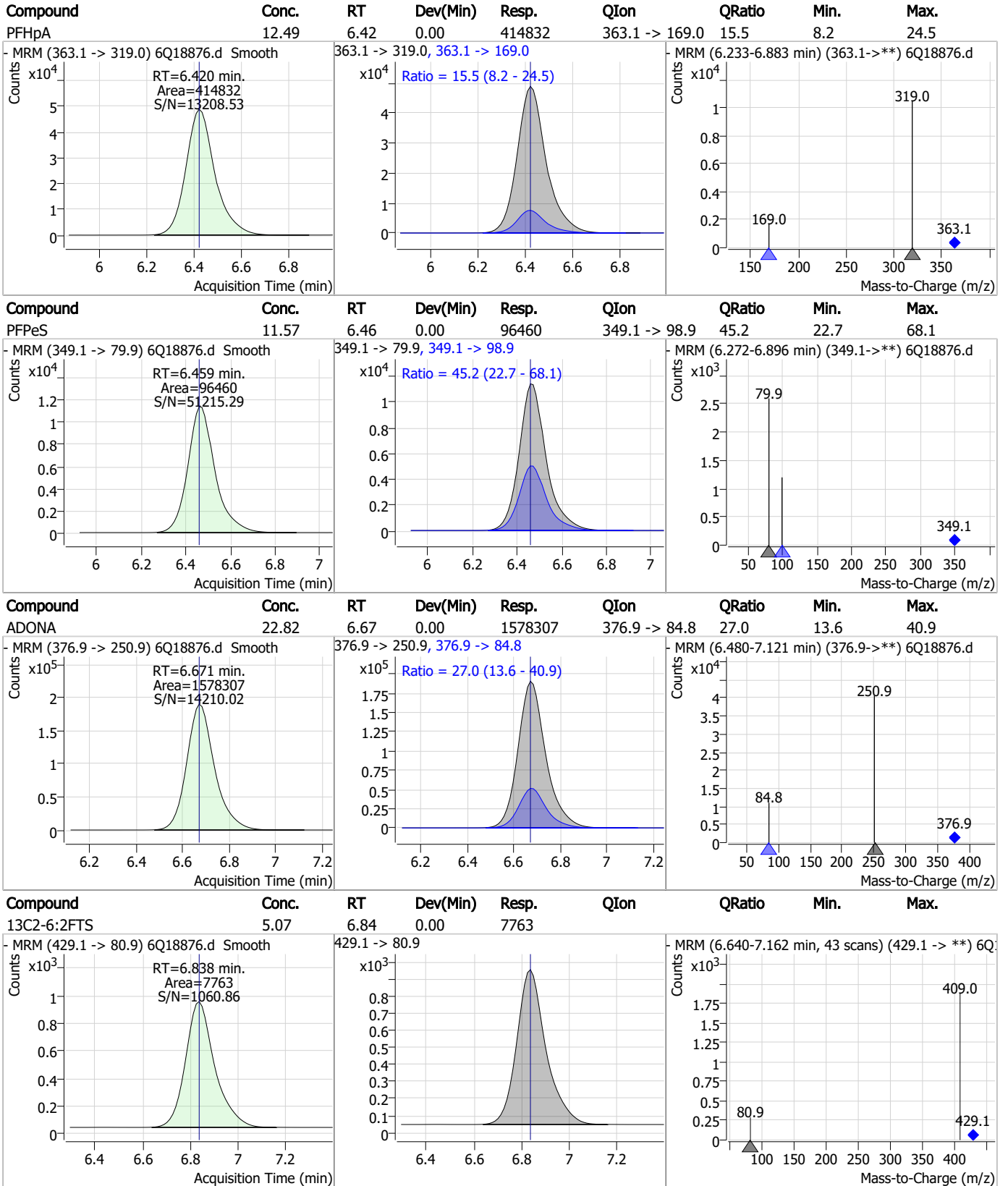
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	304.59	6.14	0.01	1568068	341.0 -> 217.0	72.0	36.2	108.7



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

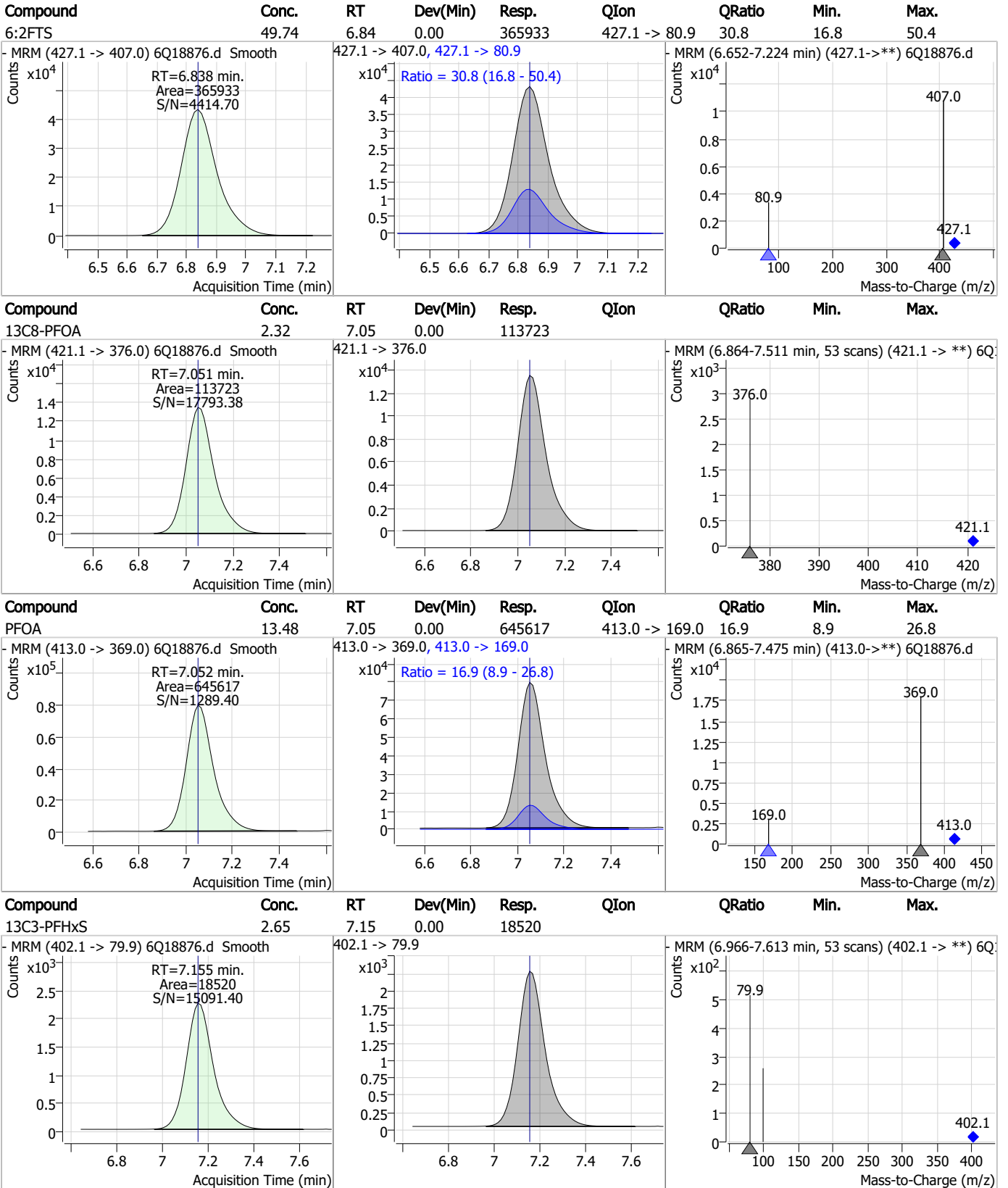


7.7.7

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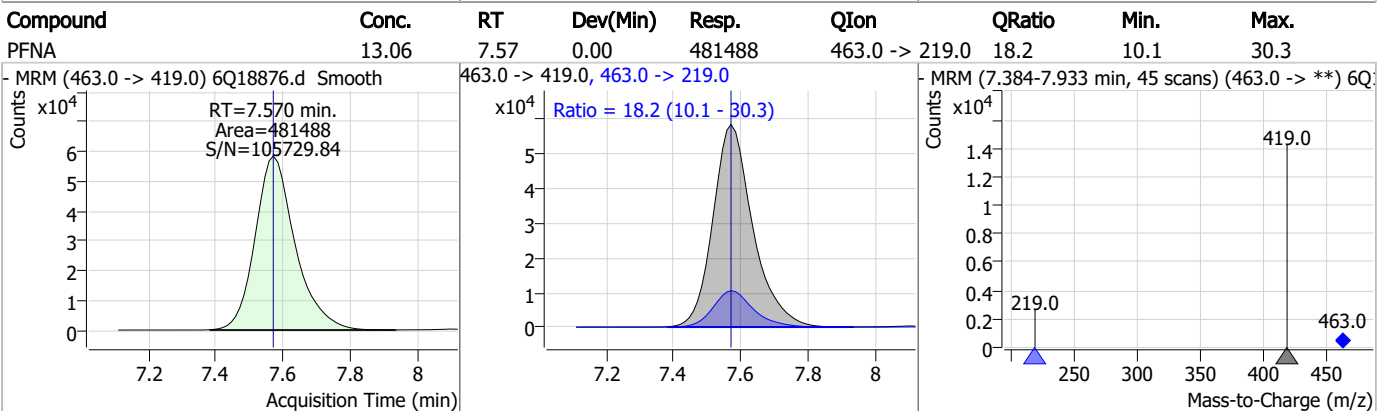
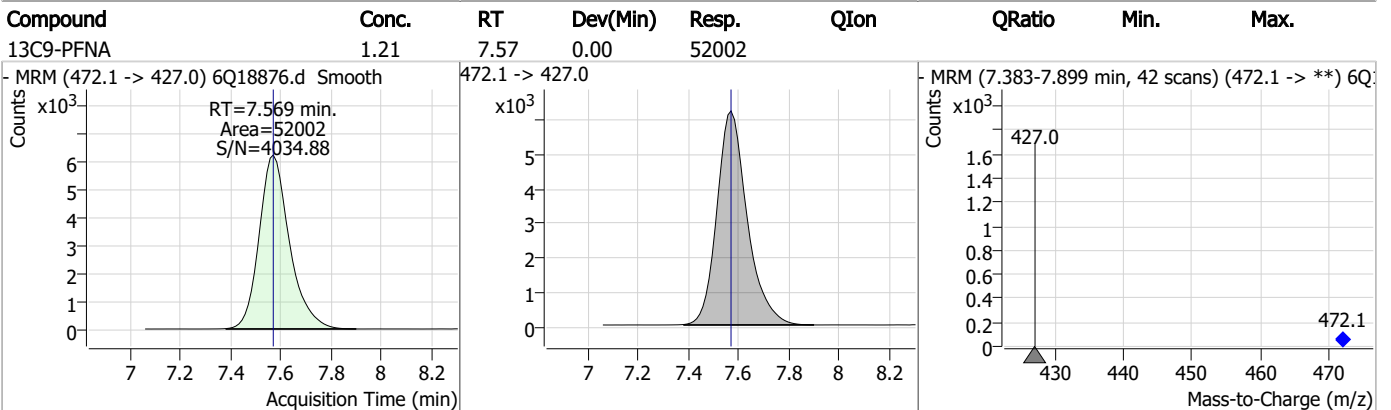
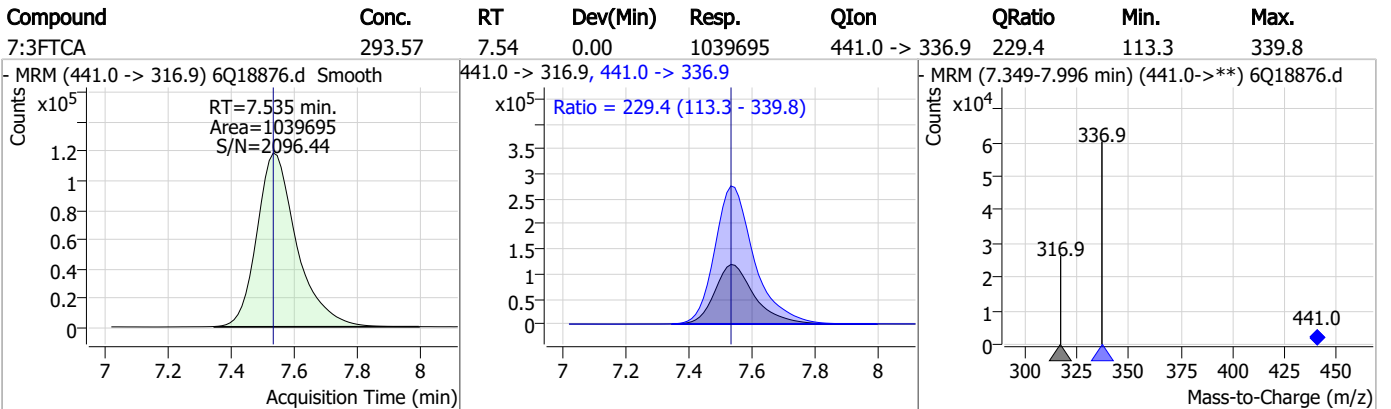
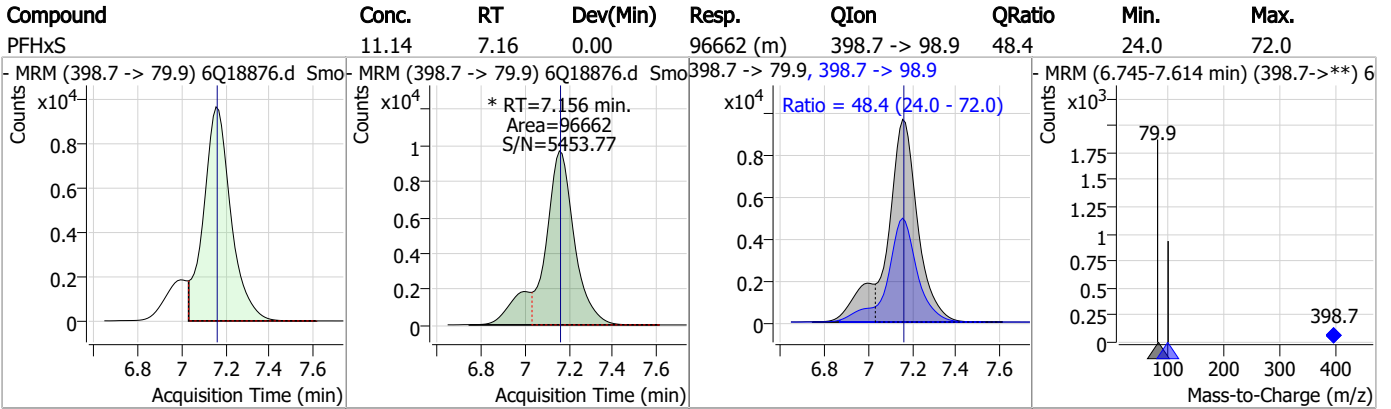
Perfluorinated Compounds by LC/MS/MS



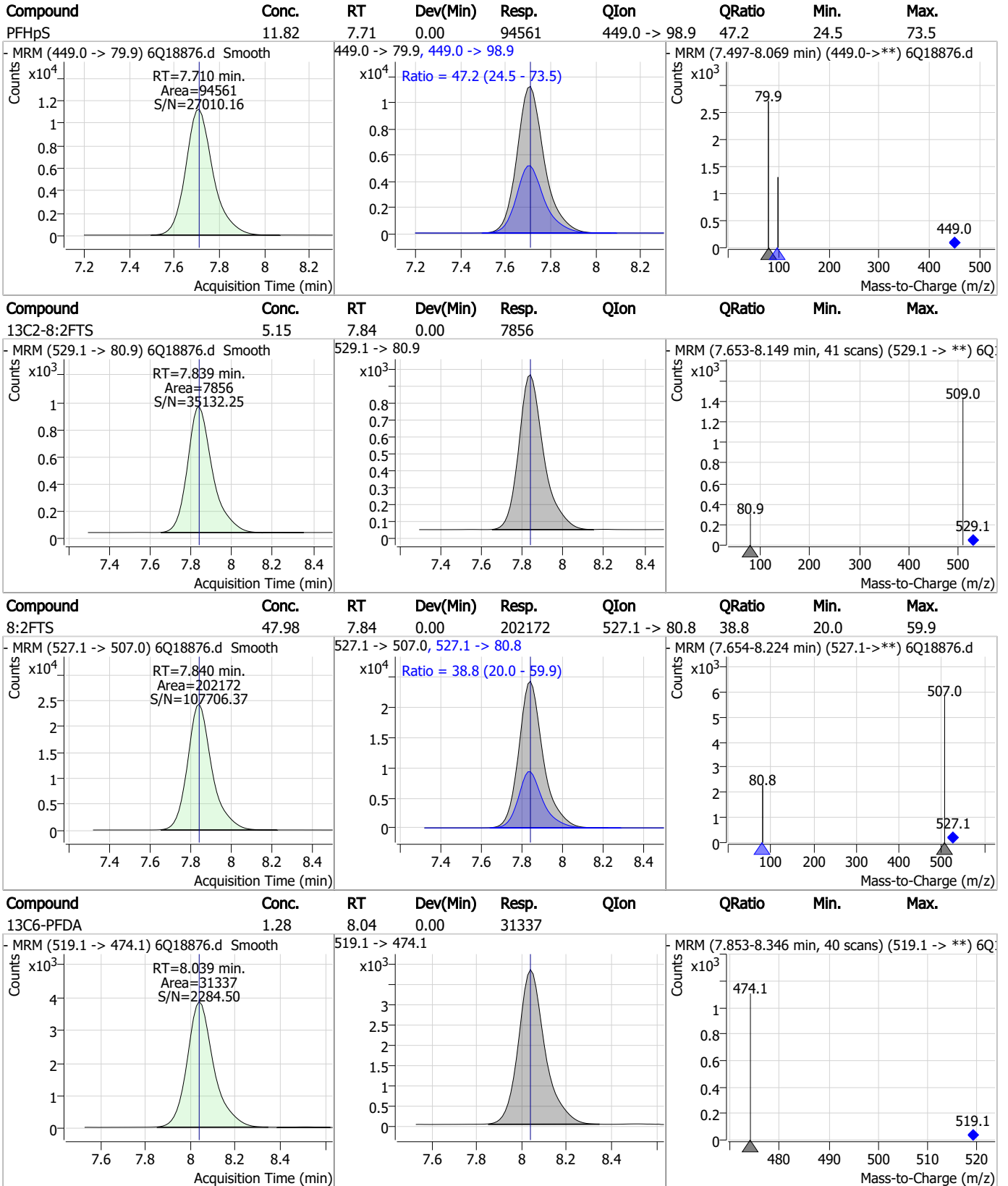
7.7.7

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Perfluorinated Compounds by LC/MS/MS



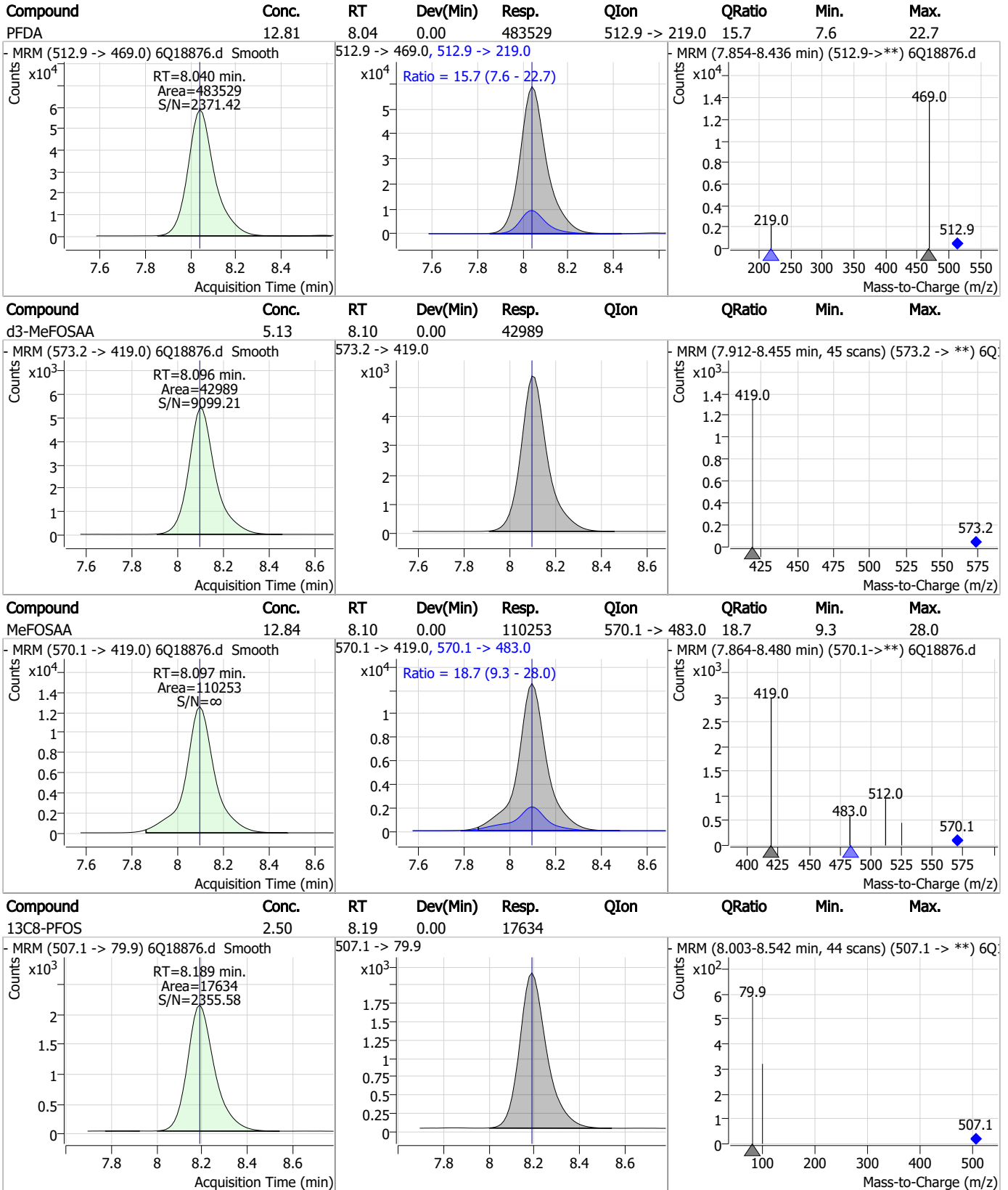
Perfluorinated Compounds by LC/MS/MS



7.7.7
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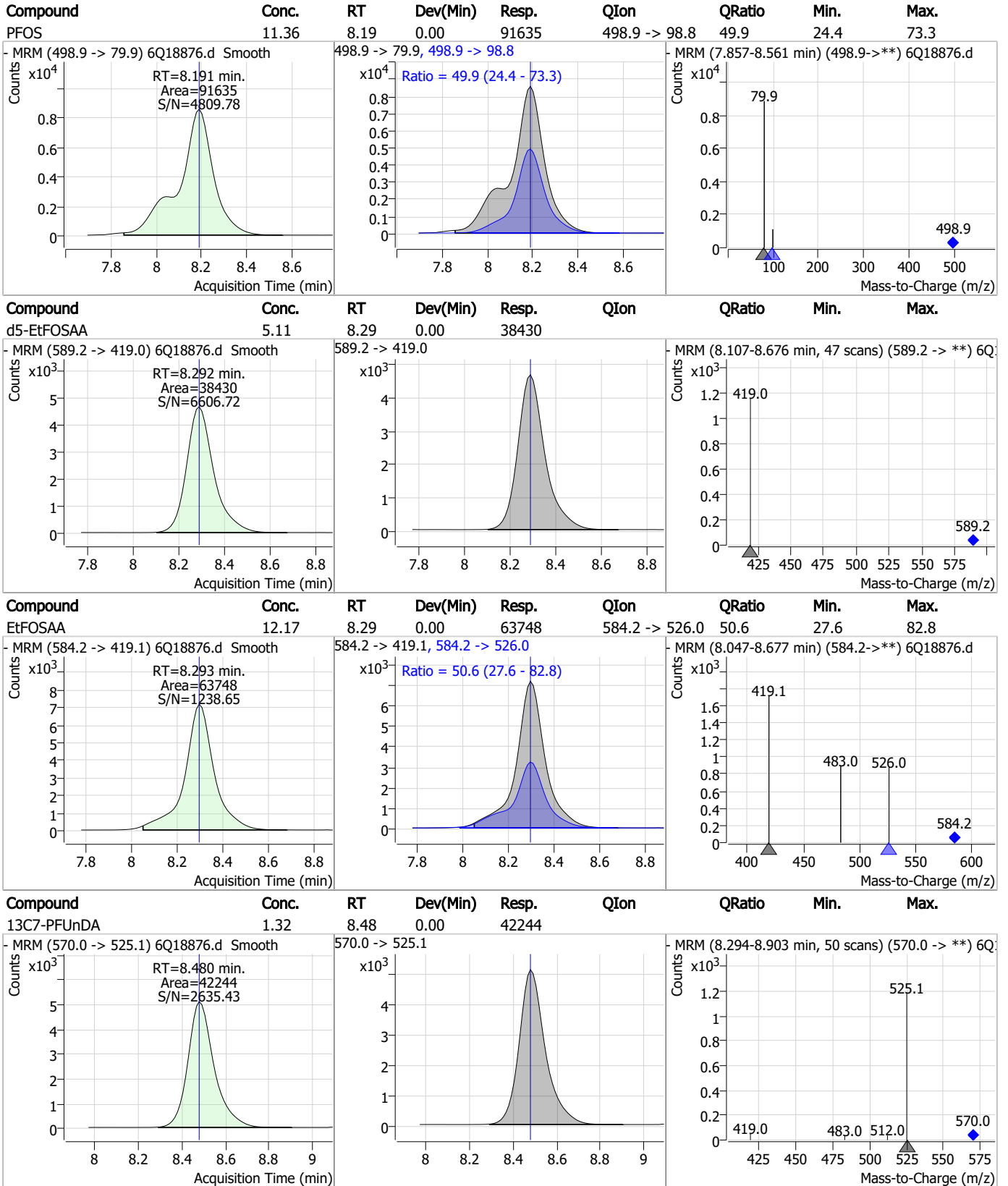
Perfluorinated Compounds by LC/MS/MS



7.7.7

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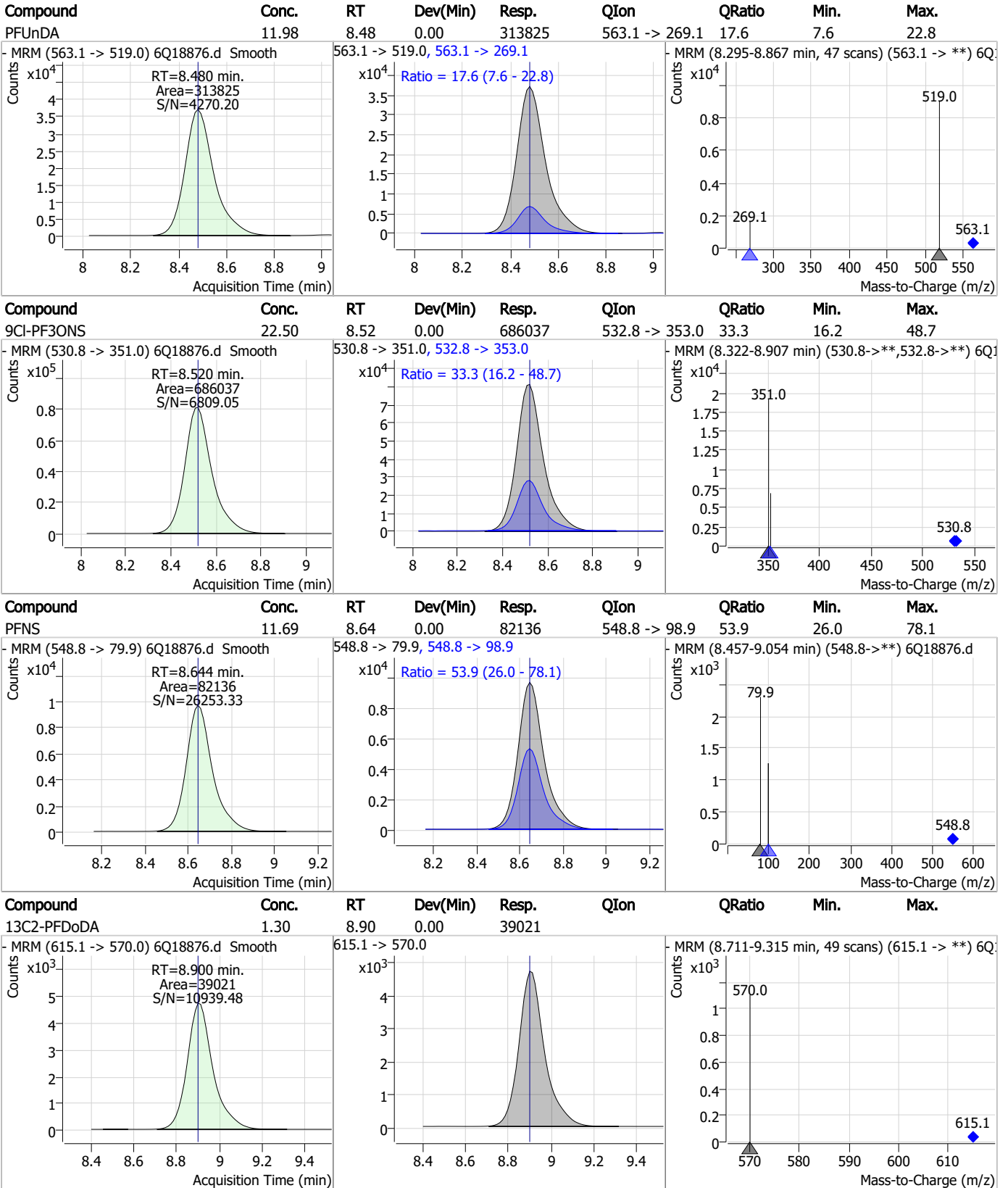
Perfluorinated Compounds by LC/MS/MS



7.7.7

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Perfluorinated Compounds by LC/MS/MS

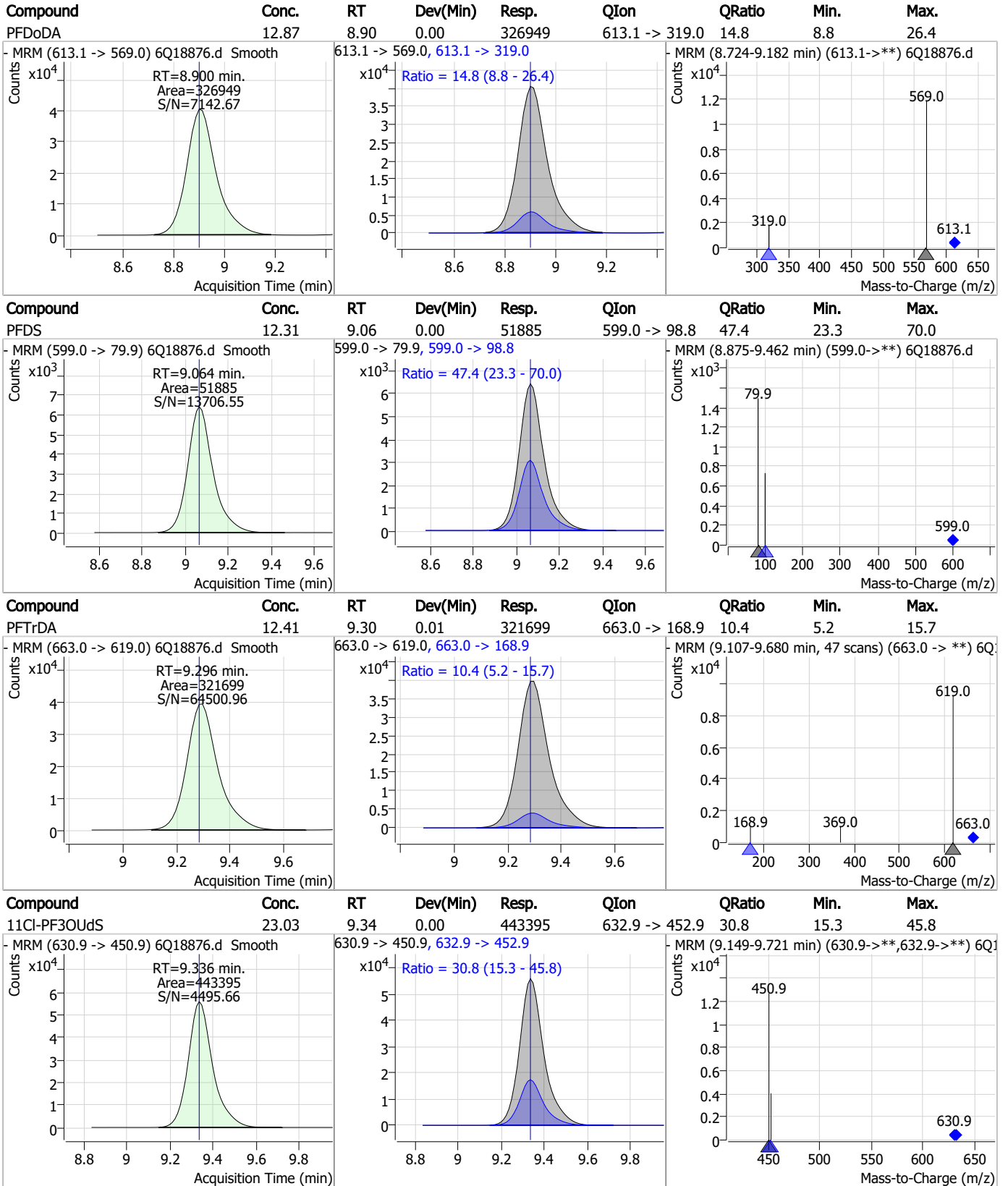


7.7.7

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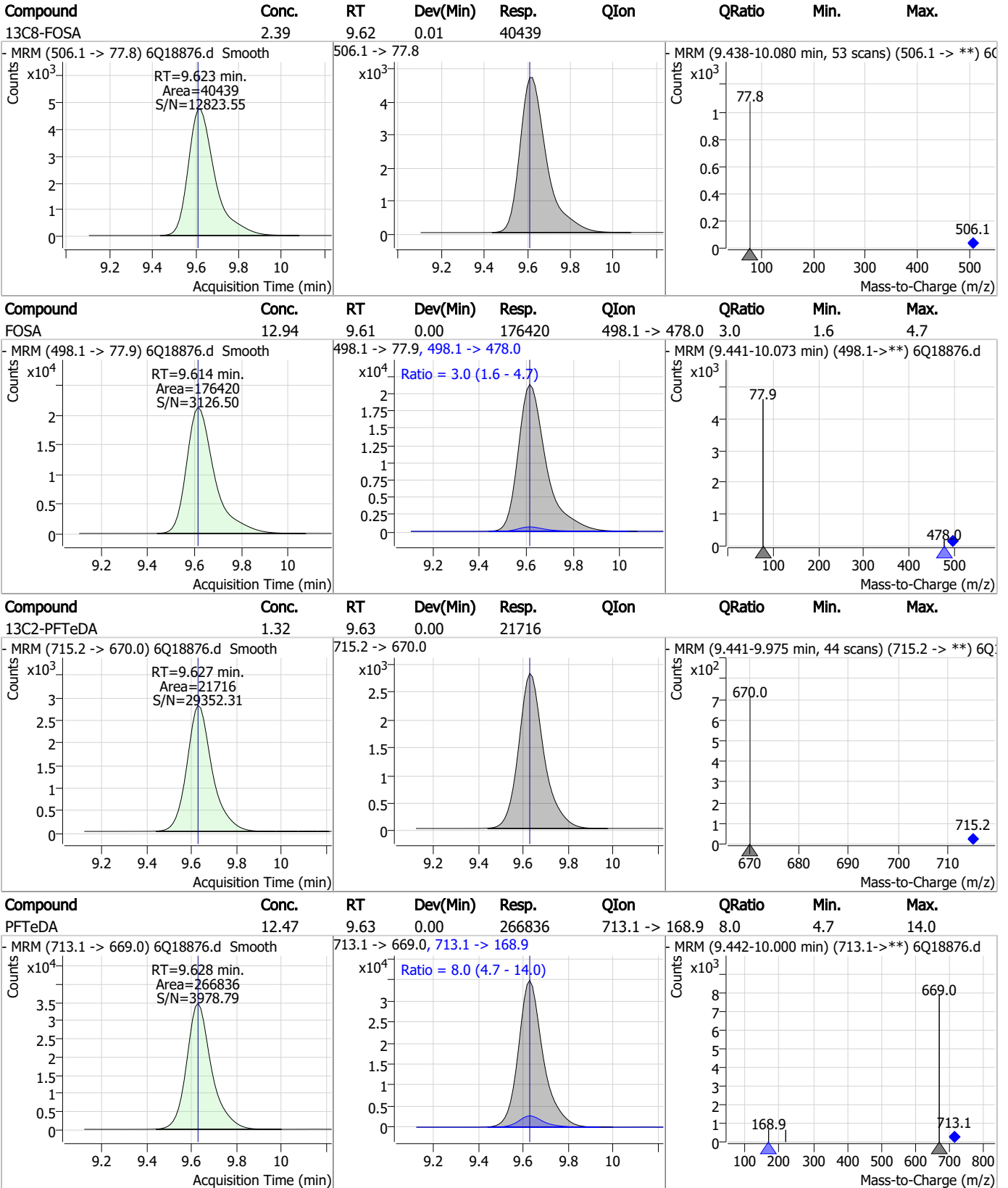


Perfluorinated Compounds by LC/MS/MS



7.7.7
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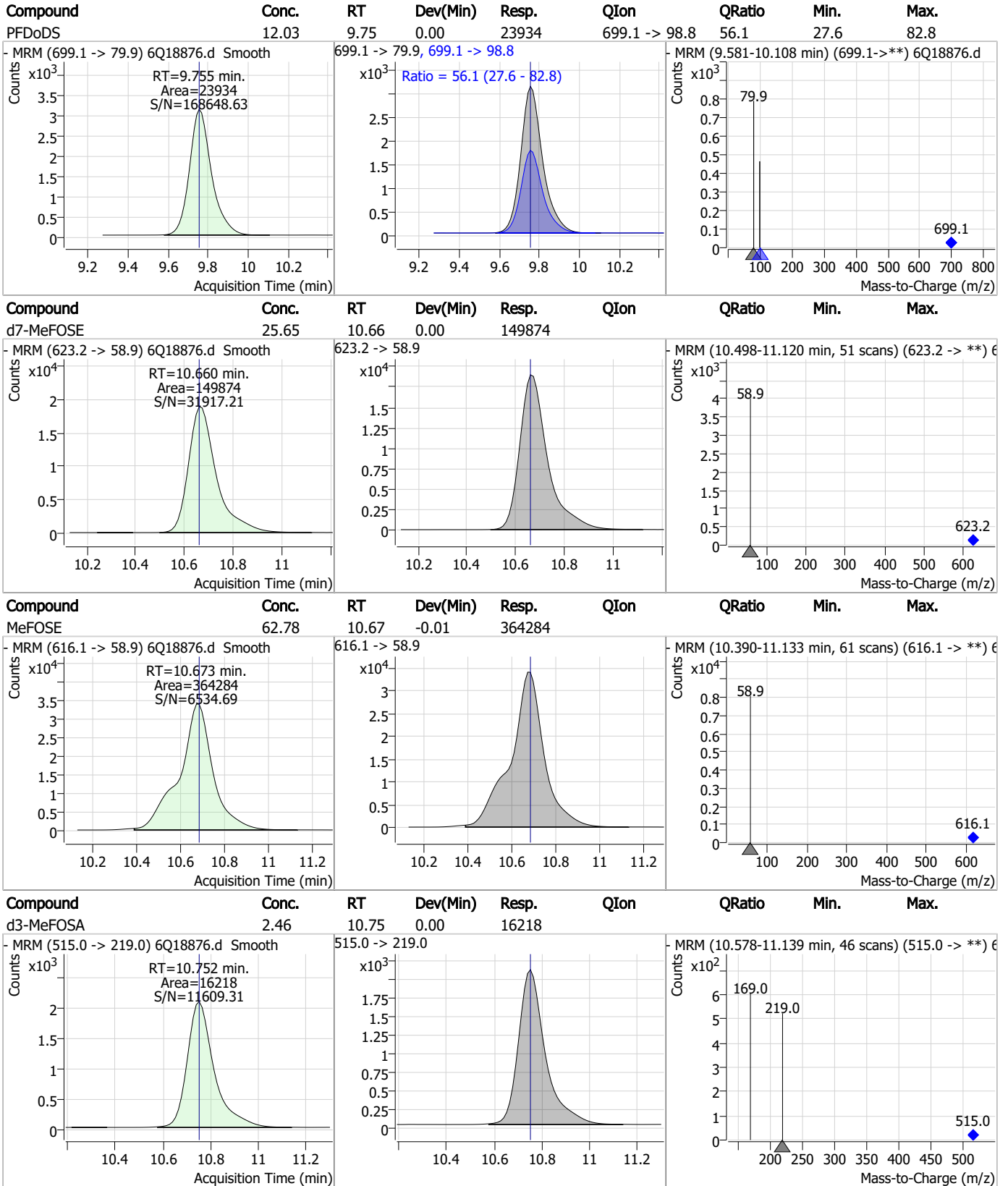
Perfluorinated Compounds by LC/MS/MS



7.7.7

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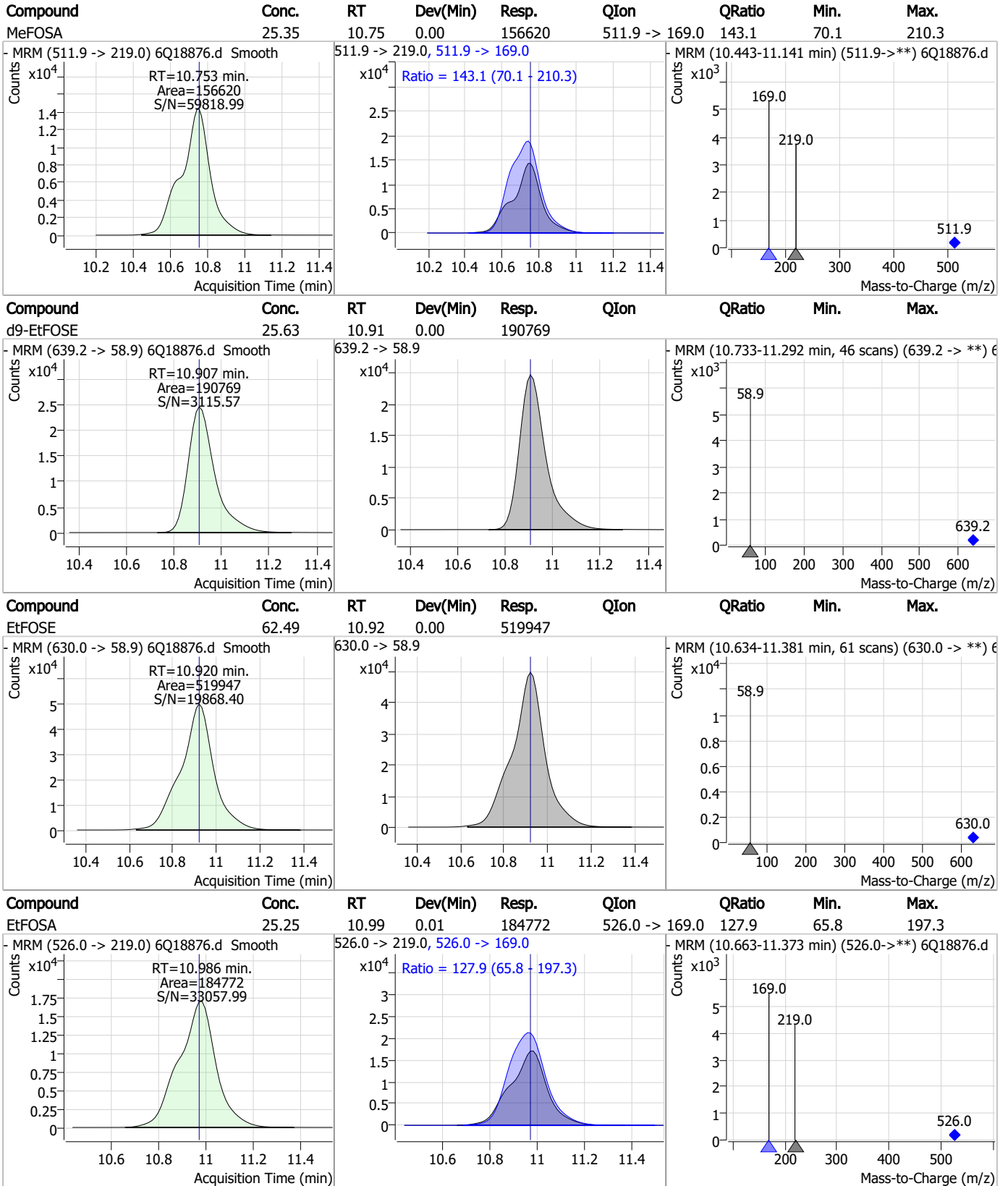
Perfluorinated Compounds by LC/MS/MS



7.7.7

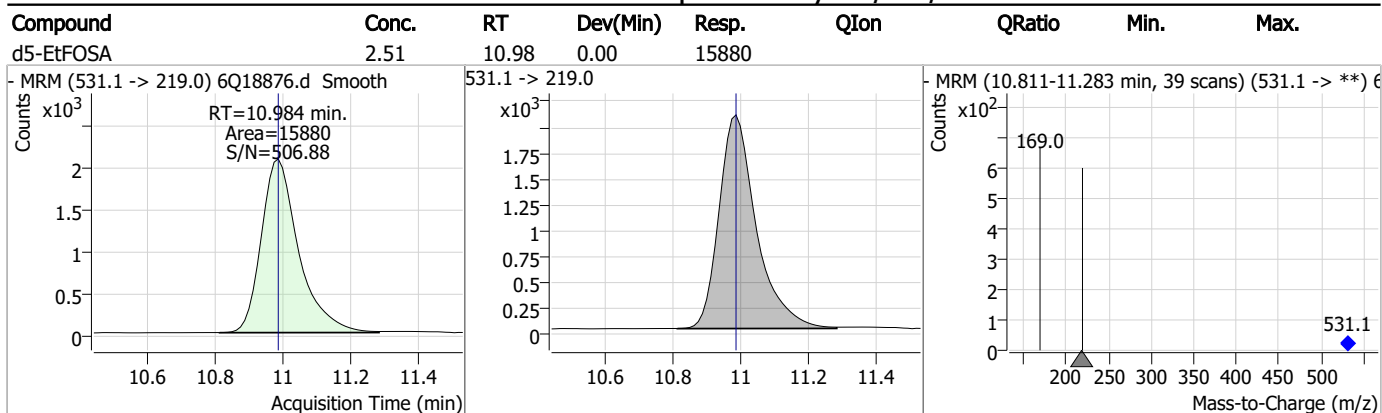
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Perfluorinated Compounds by LC/MS/MS



7.7.7
7

Perfluorinated Compounds by LC/MS/MS



7.7.7
7

Manual Integration Approval Summary

Sample Number: S6Q282-IC282
Lab FileID: 6Q18876.D
Injection Time: 06/06/23 15:28

Method: EPA DRAFT 1633
Analyst approved: 06/07/23 11:06 Martha Valls
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

7.7.8
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 = 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			
11CI-PF3OUdS	9.336	630.9 -> 450.9	705381	46.96	µg/L	99
		632.9 -> 452.9	219029			
9CI-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
PFDoDS	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			

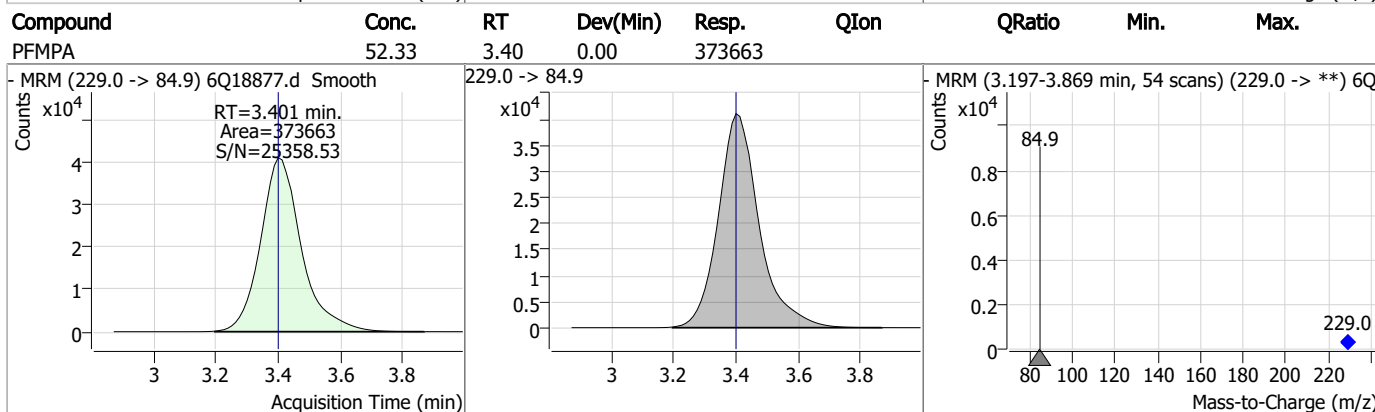
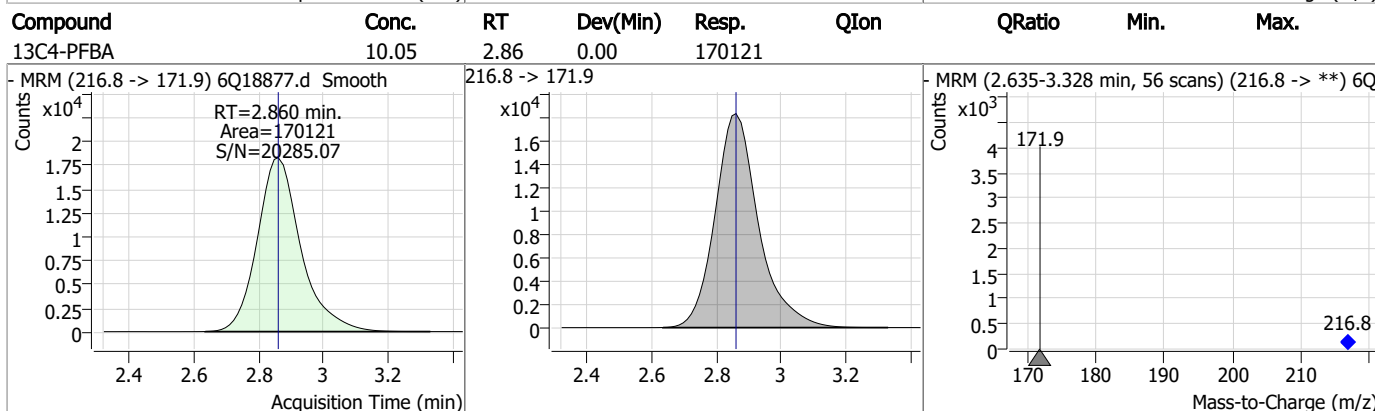
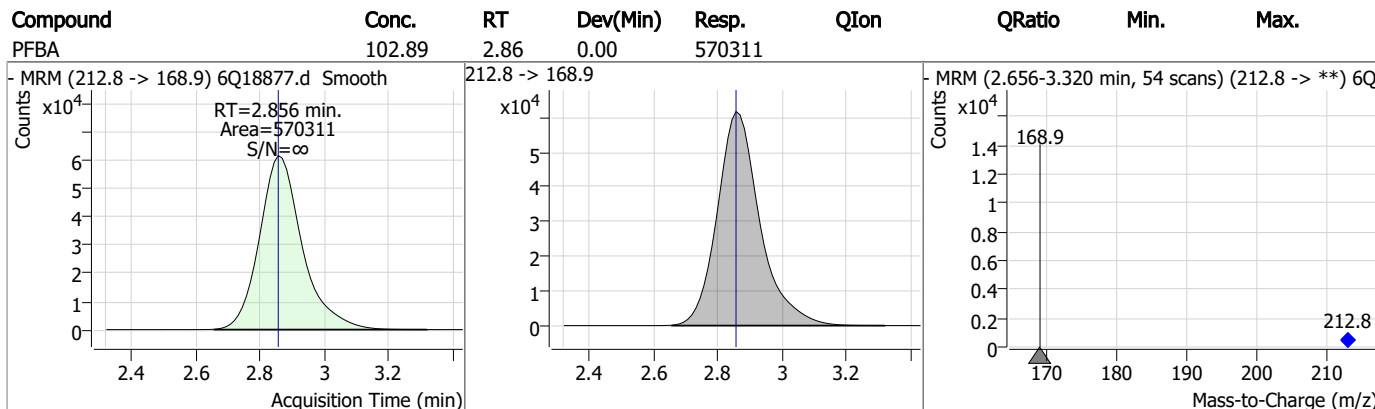
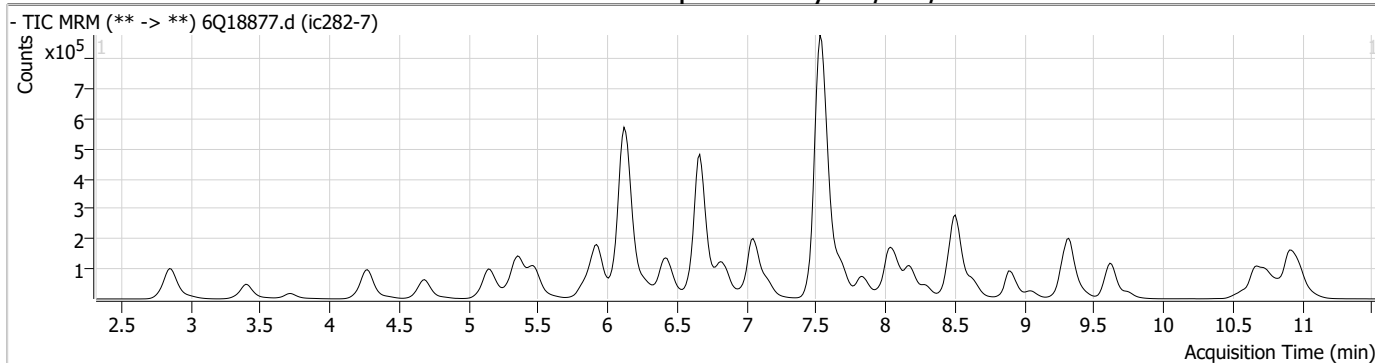
= Qualifier out of range, m = manually integrated, + = Area summed

Perfluorinated Compounds by LC/MS/MS

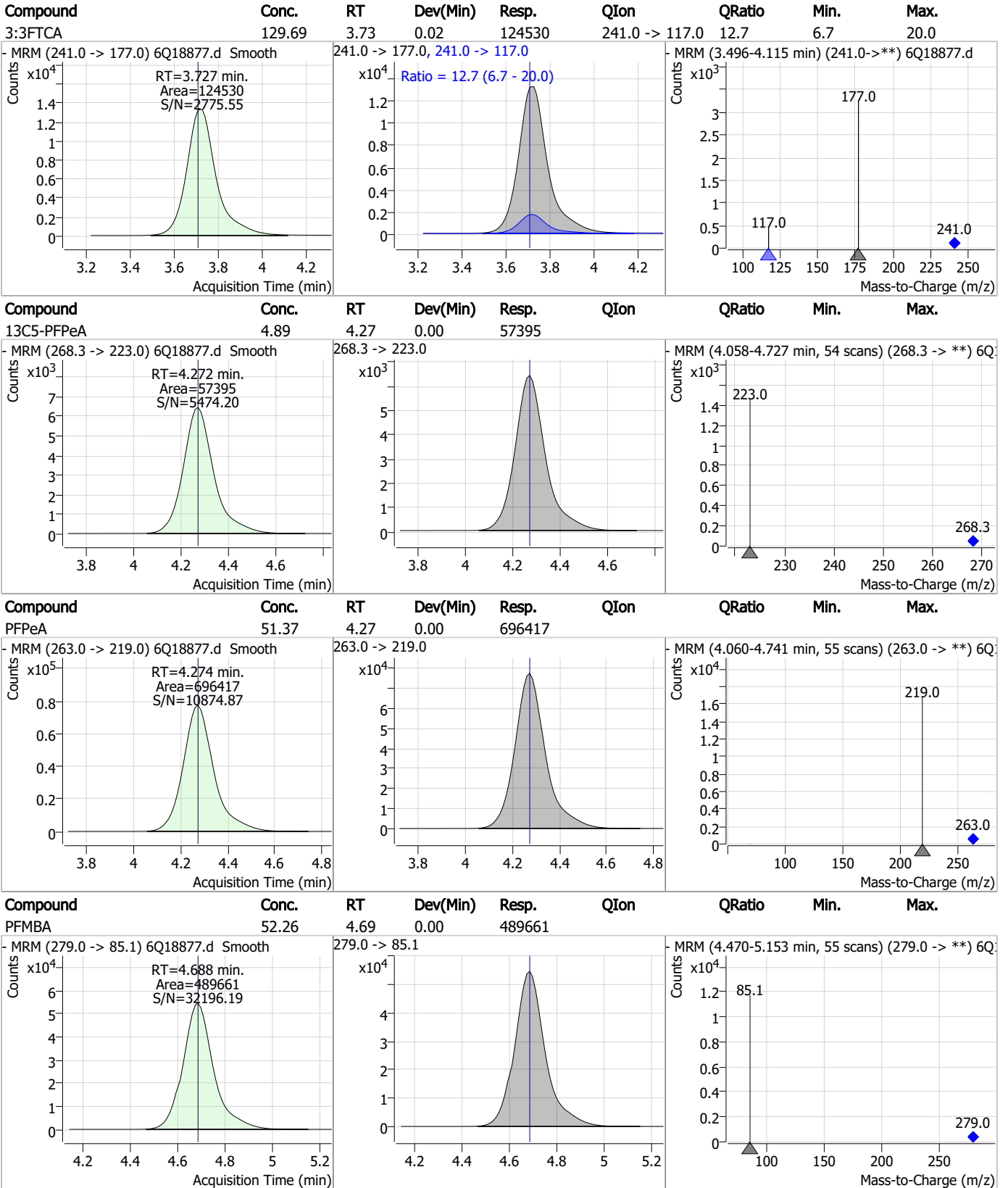
Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.8
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Perfluorinated Compounds by LC/MS/MS



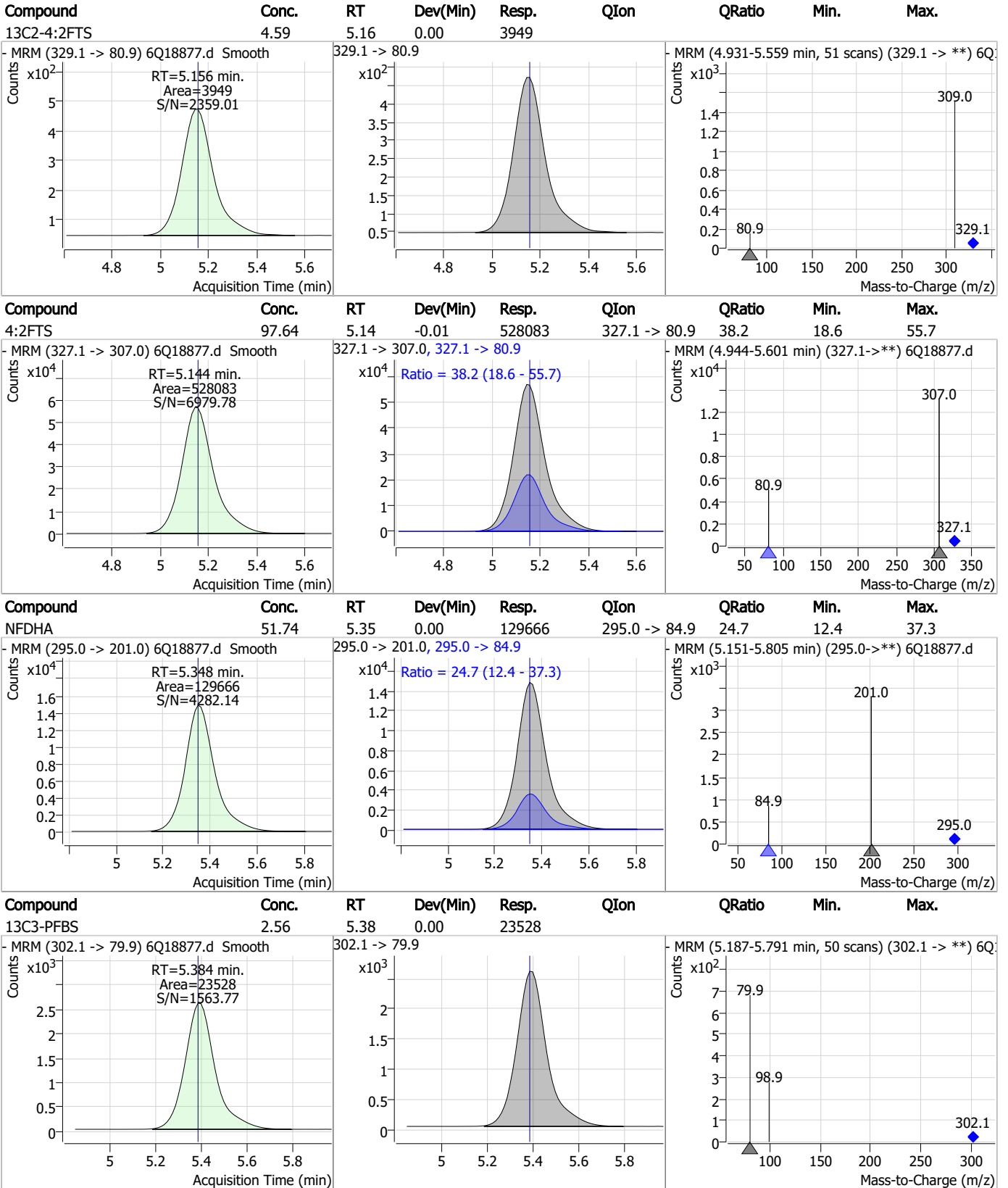
Perfluorinated Compounds by LC/MS/MS



7.7.8

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Perfluorinated Compounds by LC/MS/MS

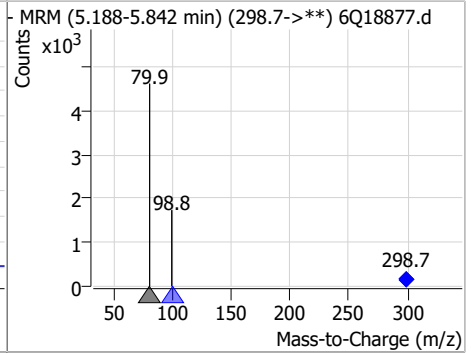
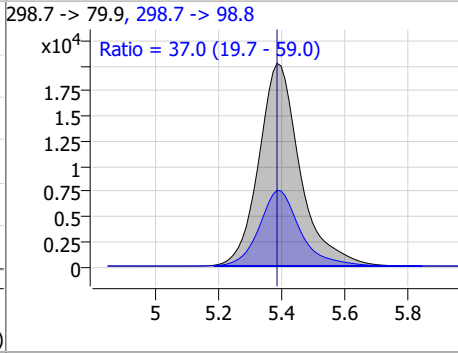
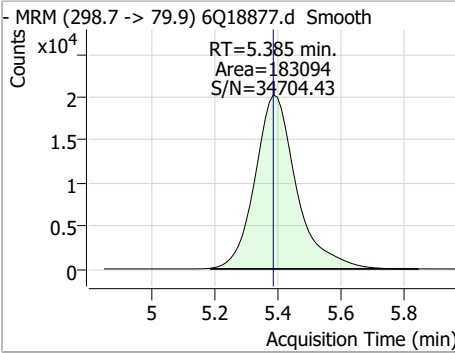


7.7.8

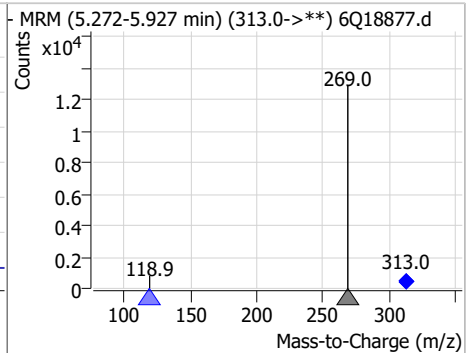
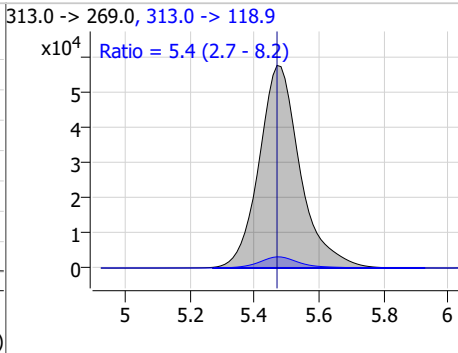
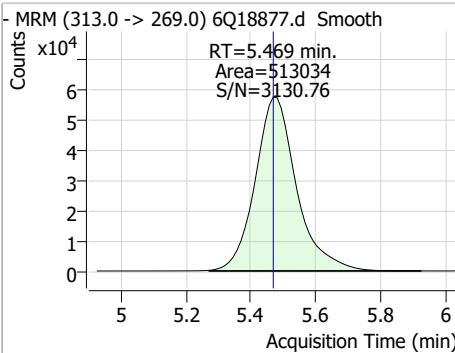
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Perfluorinated Compounds by LC/MS/MS

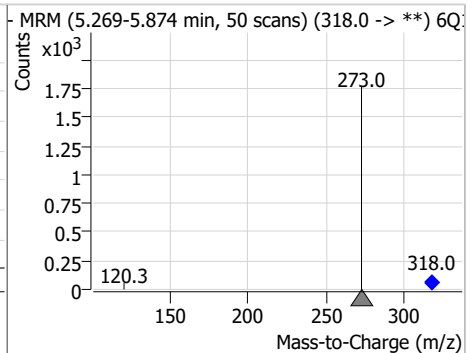
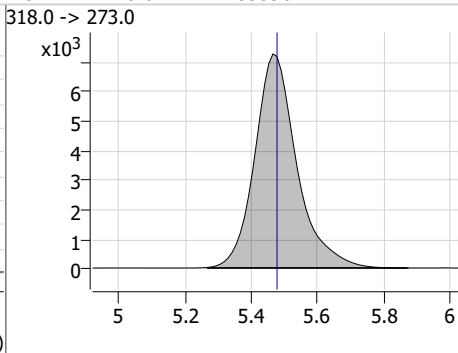
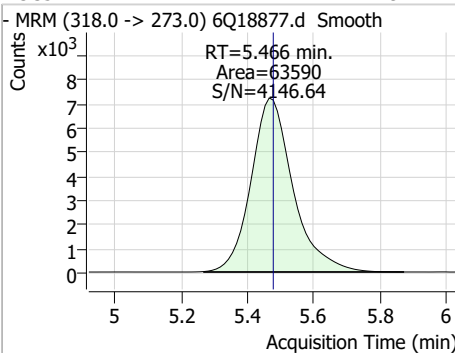
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	22.45	5.38	0.00	183094	298.7 -> 98.8	37.0	19.7	59.0



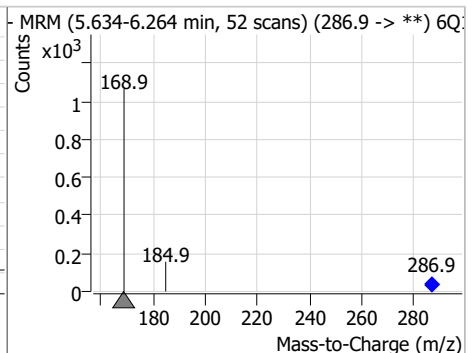
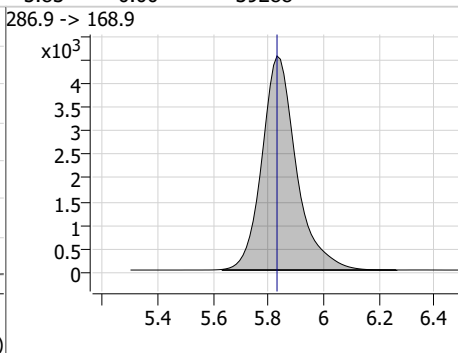
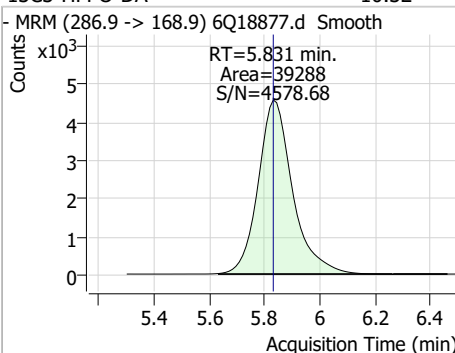
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	24.57	5.47	0.00	513034	313.0 -> 118.9	5.4	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.49	5.47	-0.01	63590	318.0 -> 273.0			

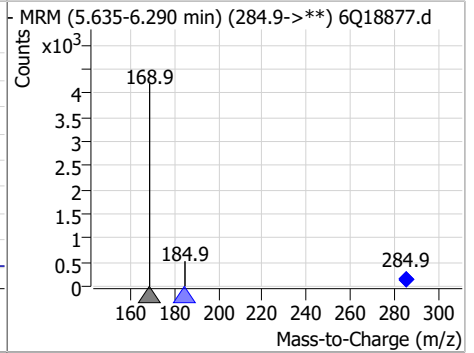
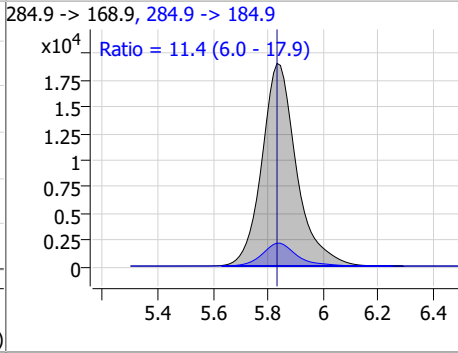
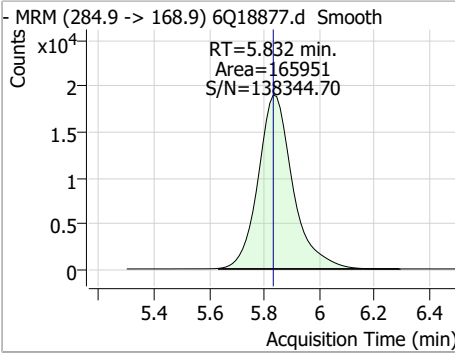


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.32	5.83	0.00	39288	286.9 -> 168.9			

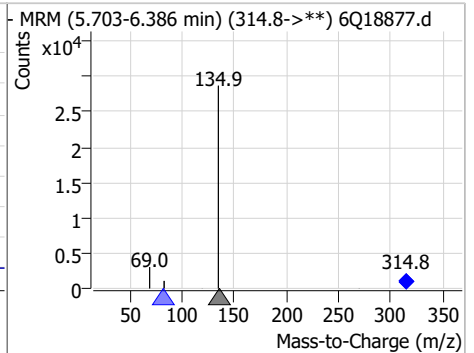
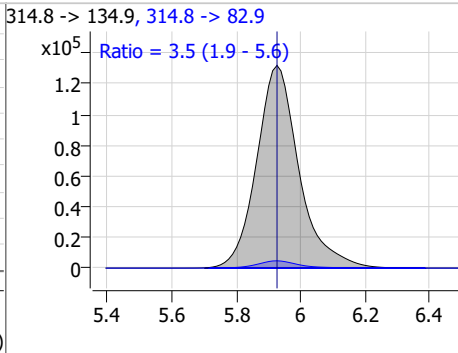
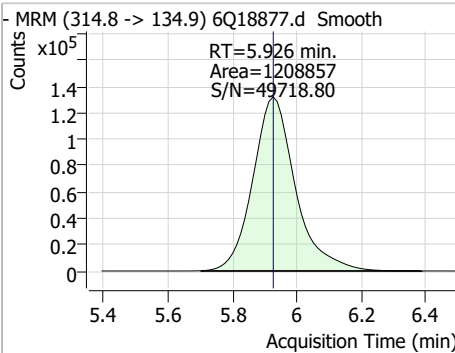


Perfluorinated Compounds by LC/MS/MS

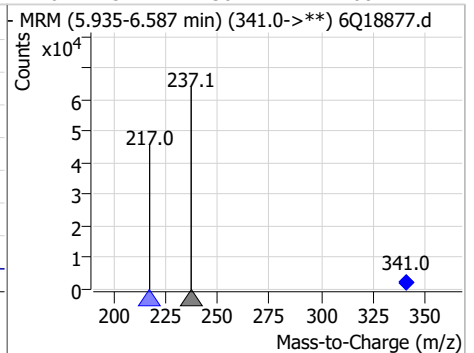
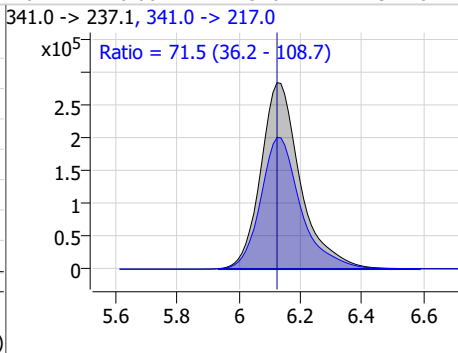
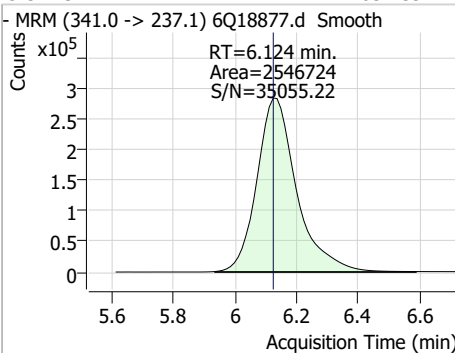
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	50.57	5.83	0.00	165951	284.9 -> 184.9	11.4	6.0	17.9



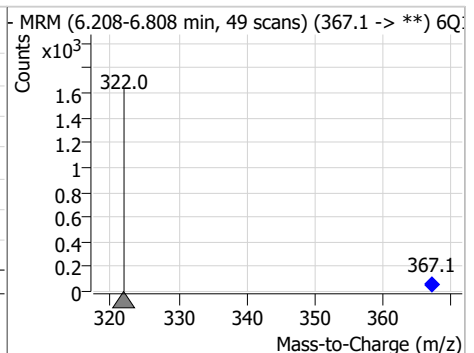
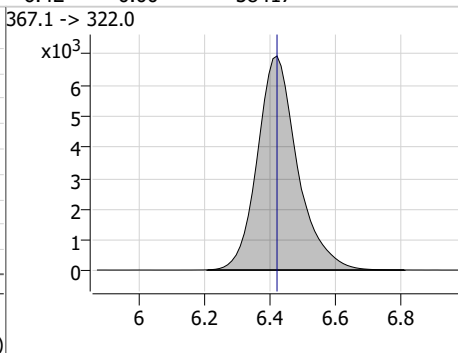
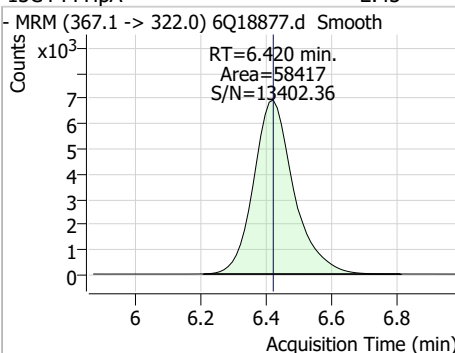
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	45.56	5.93	0.00	1208857	314.8 -> 82.9	3.5	1.9	5.6



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



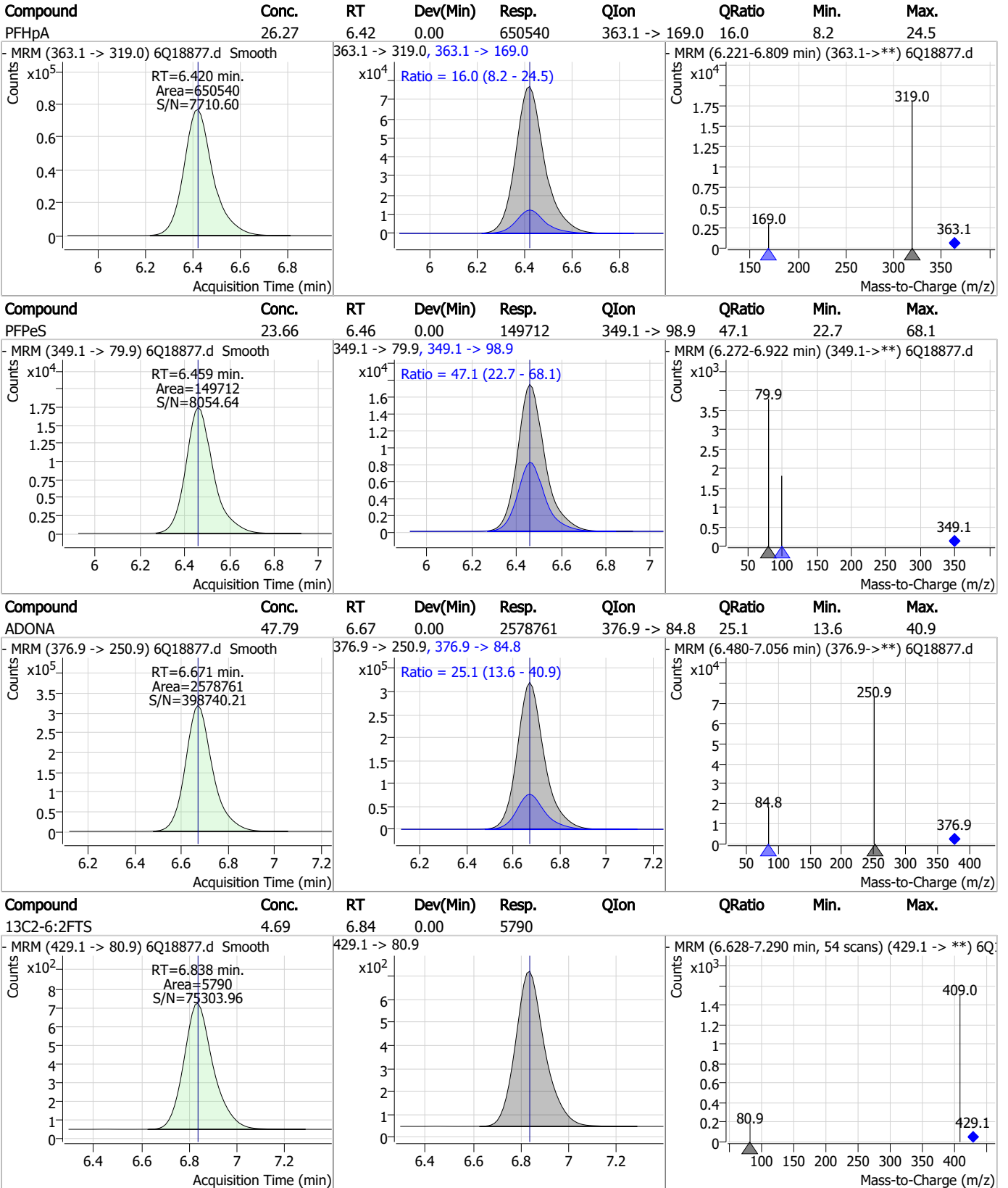
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.43	6.42	0.00	58417				



7.7.8

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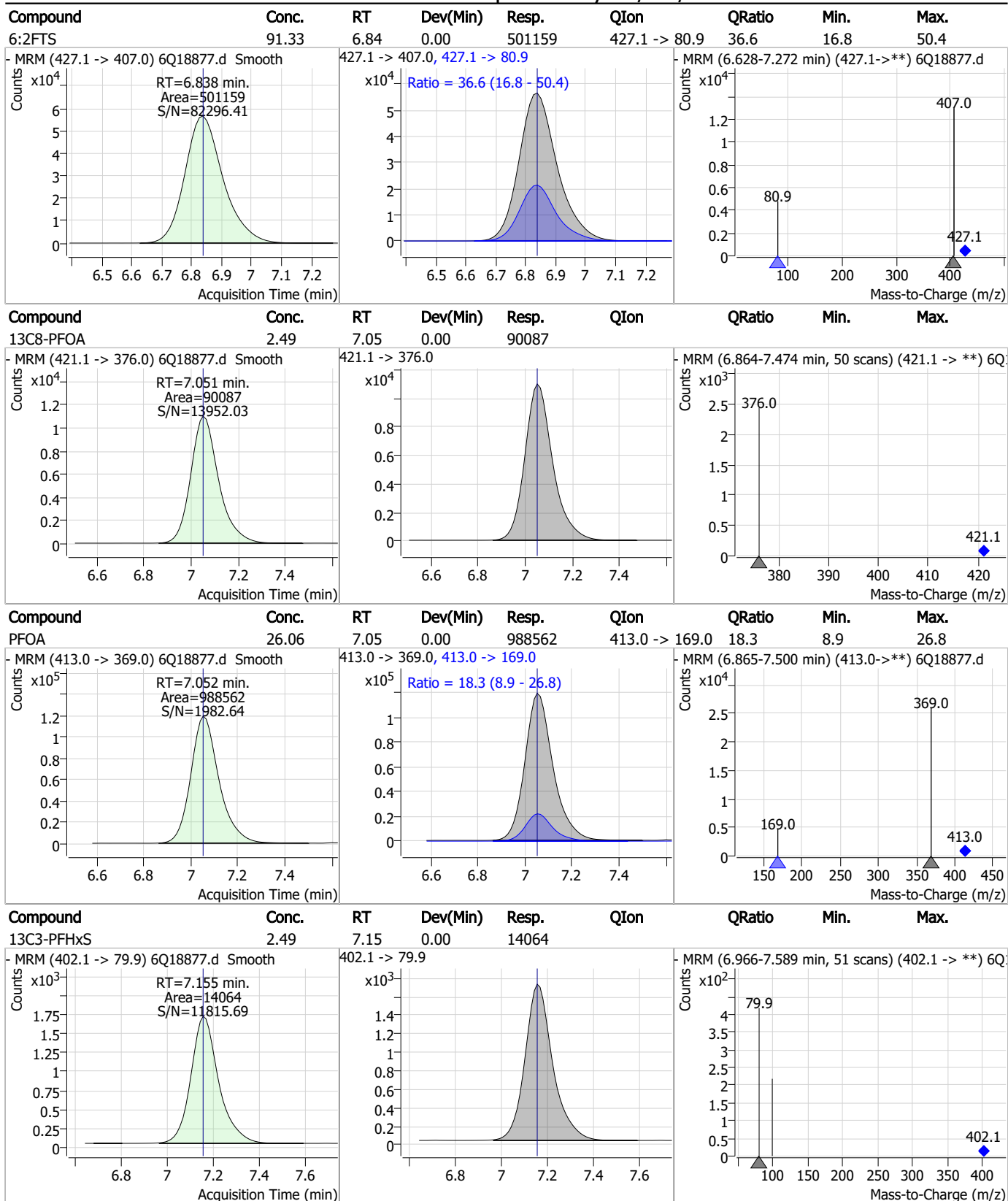
Perfluorinated Compounds by LC/MS/MS



7.7.8

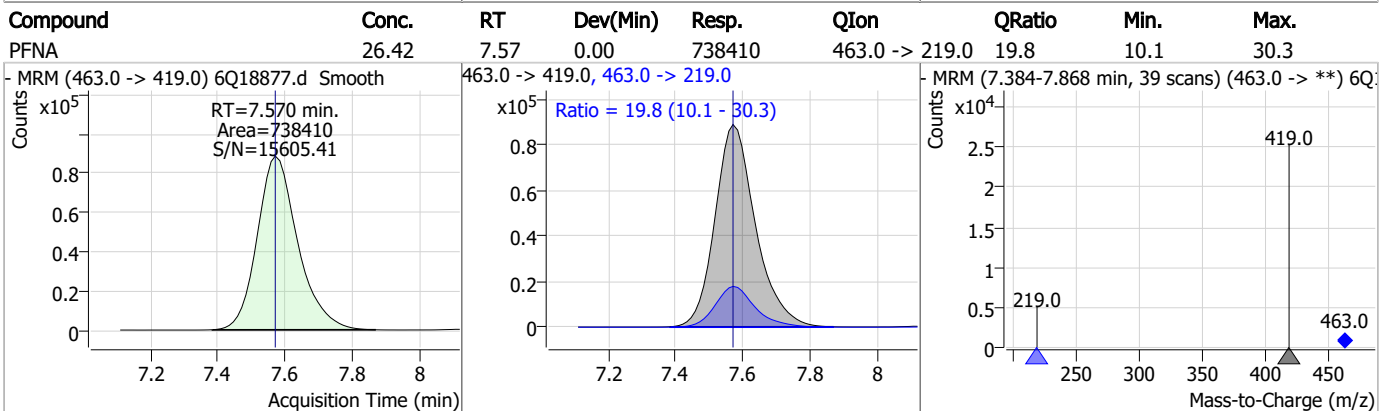
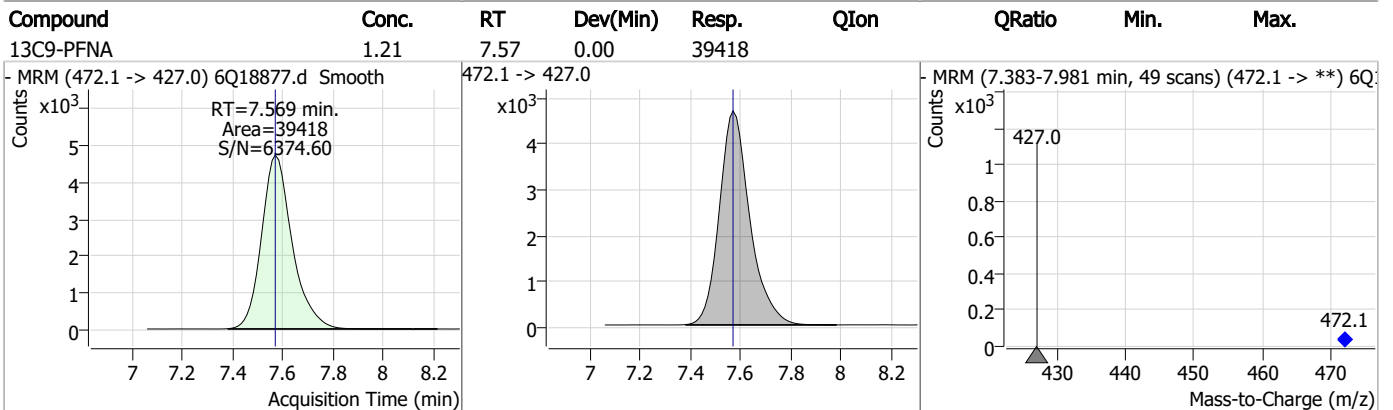
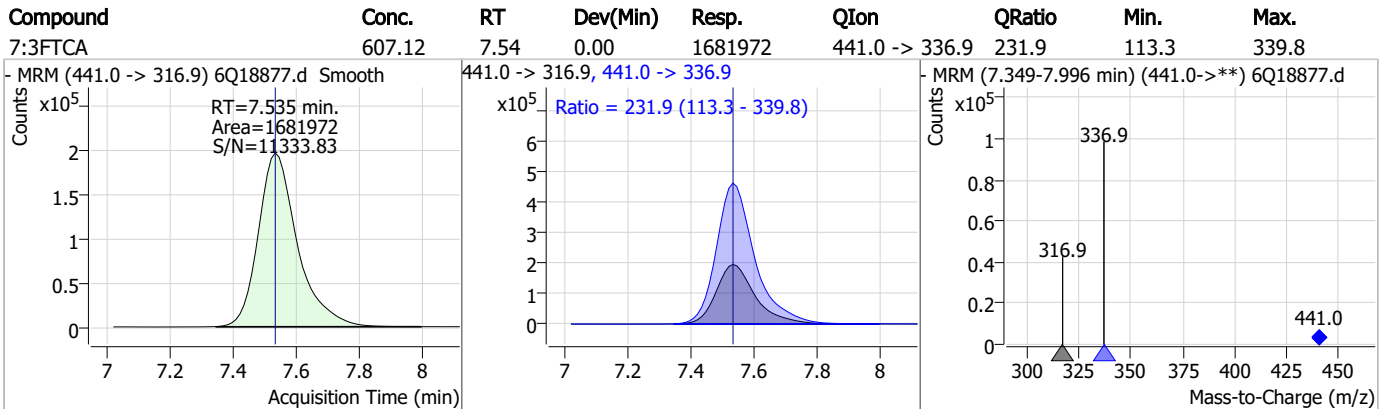
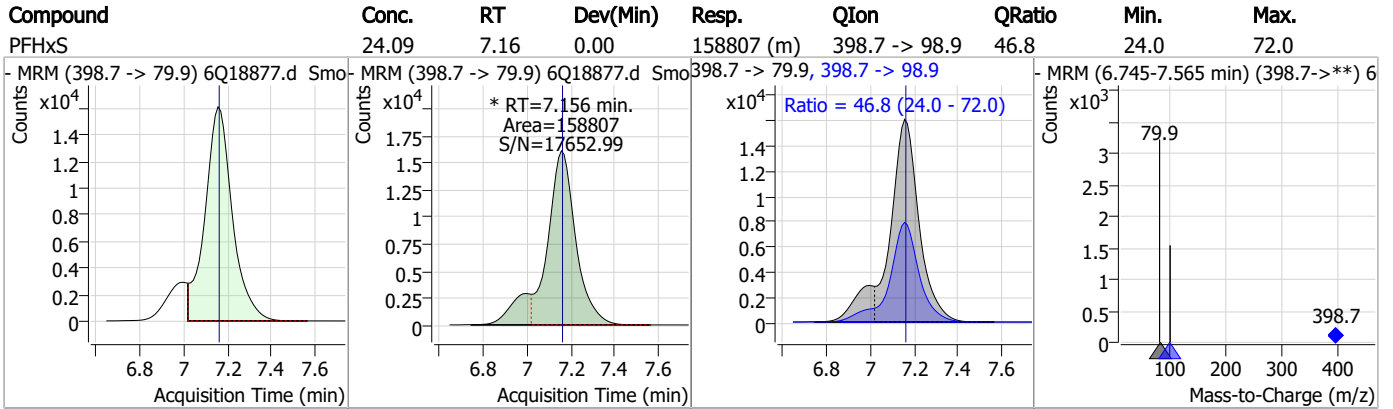
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Perfluorinated Compounds by LC/MS/MS



7.7.8
7

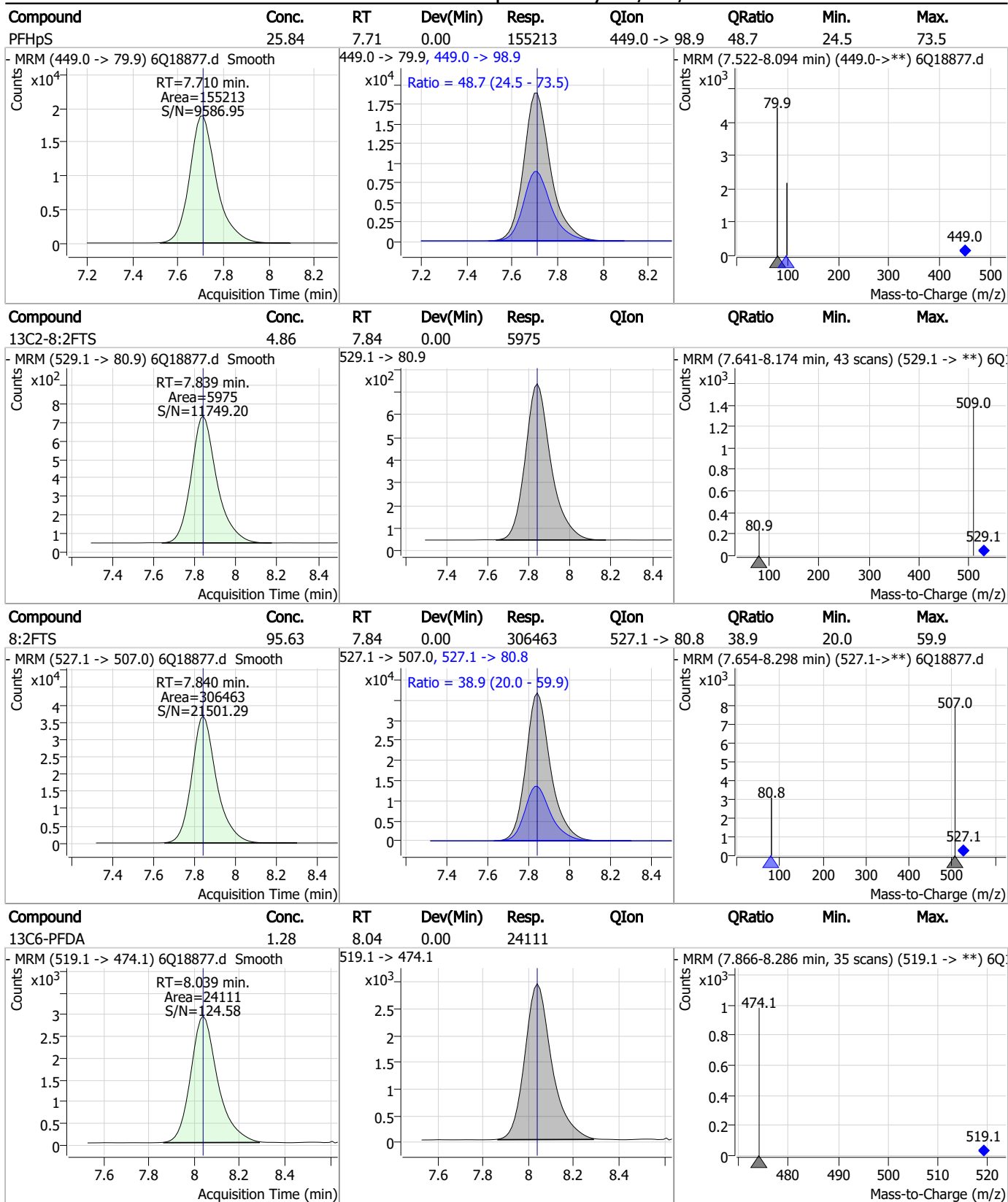
Perfluorinated Compounds by LC/MS/MS



7.7.8

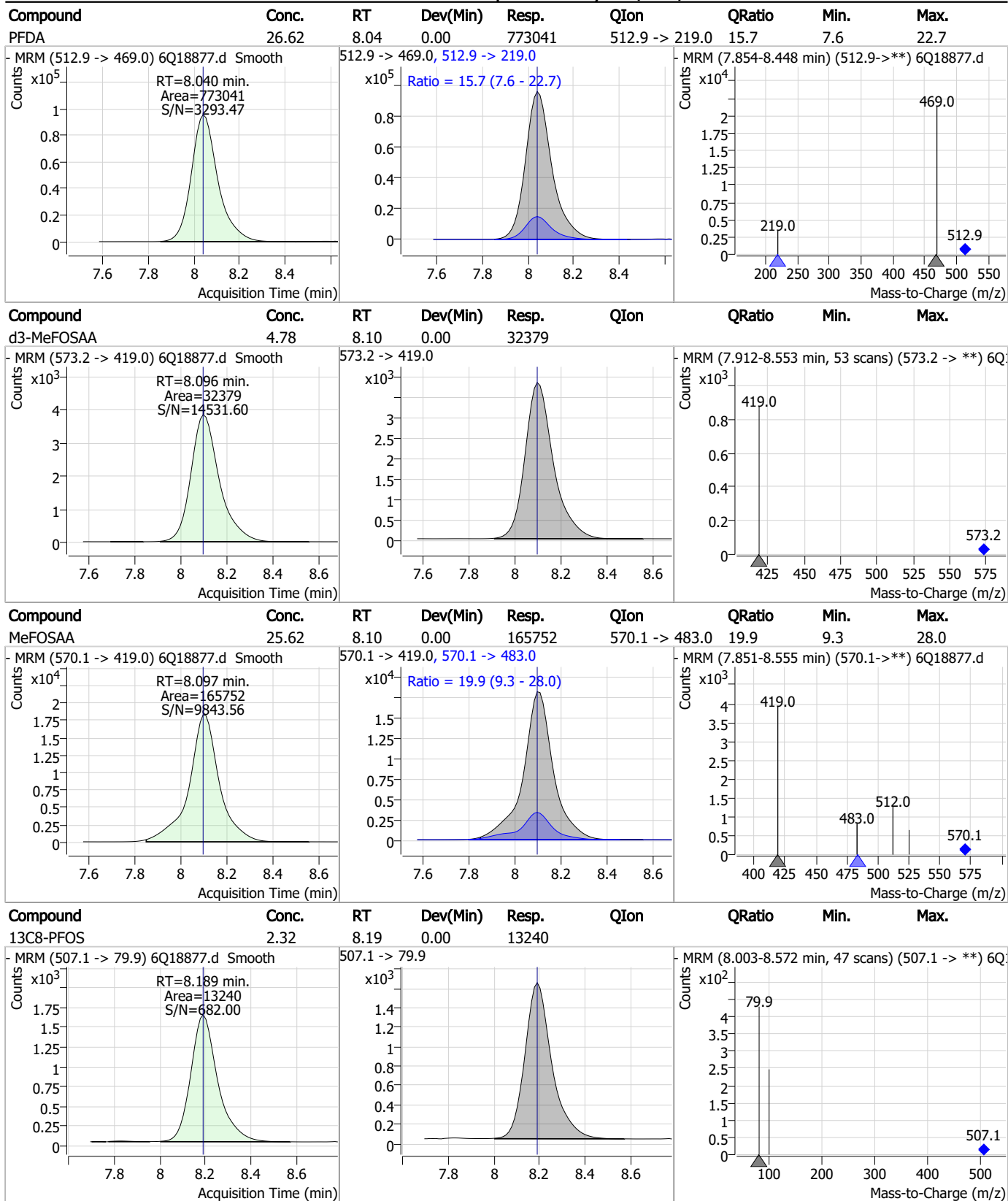
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Perfluorinated Compounds by LC/MS/MS



7.7.8
7

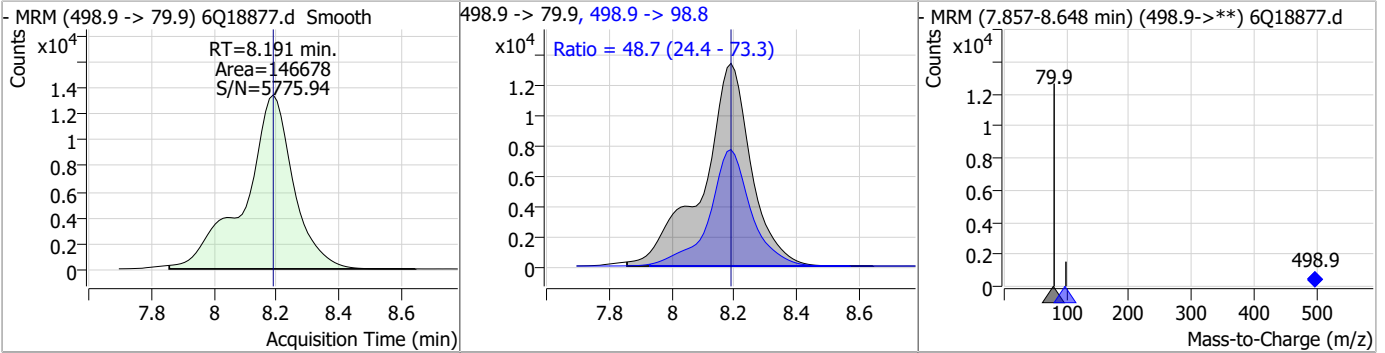
Perfluorinated Compounds by LC/MS/MS



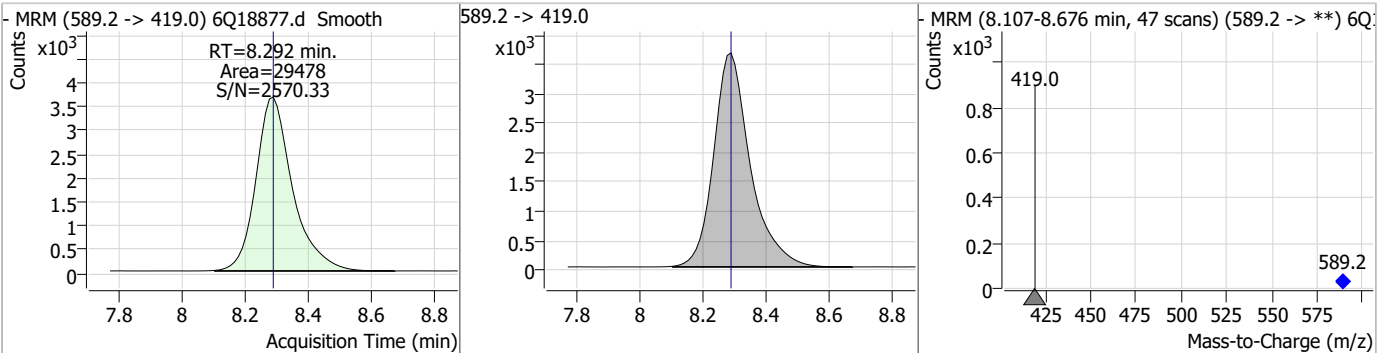
7.7.8
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Perfluorinated Compounds by LC/MS/MS

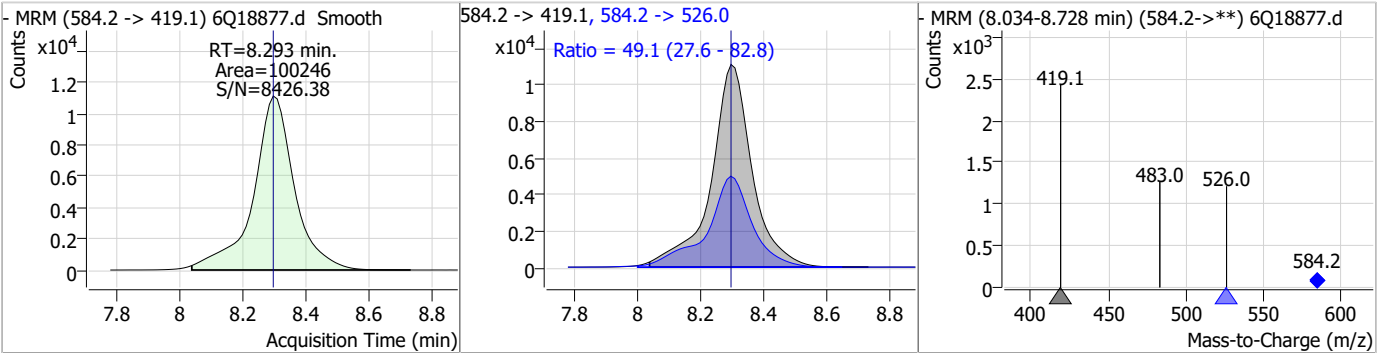
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	24.21	8.19	0.00	146678	498.9 -> 98.8	48.7	24.4	73.3



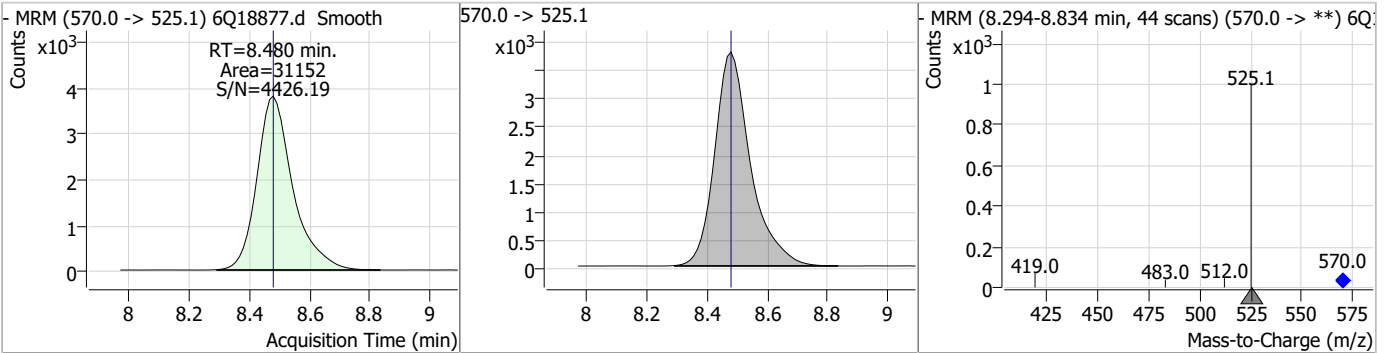
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	4.85	8.29	0.00	29478				



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

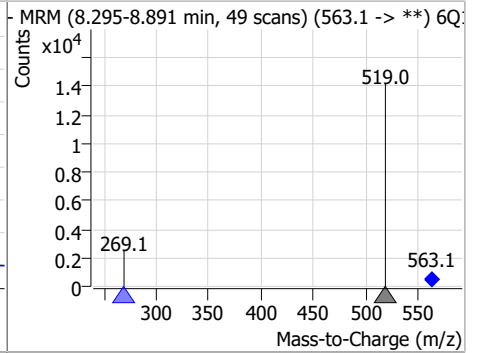
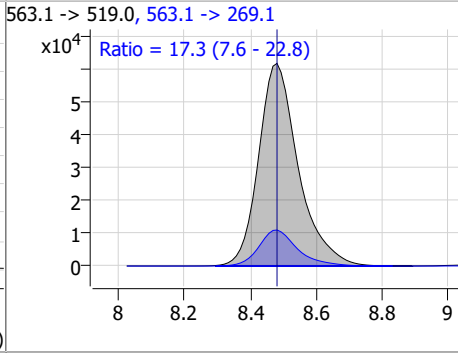
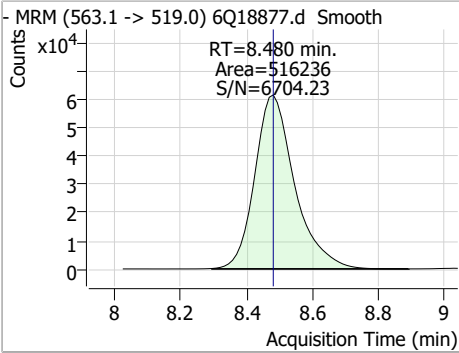


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.27	8.48	0.00	31152				

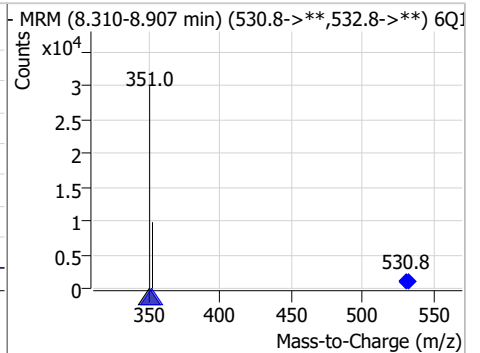
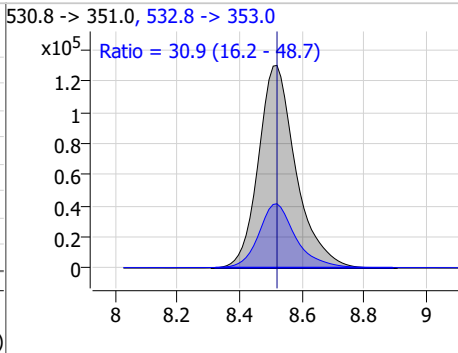
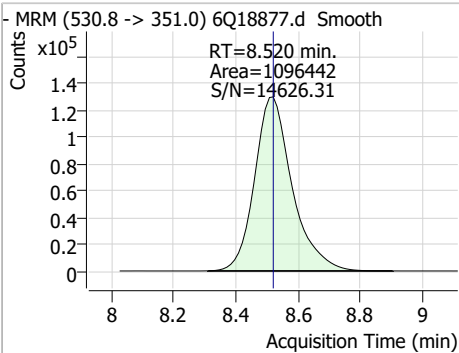


Perfluorinated Compounds by LC/MS/MS

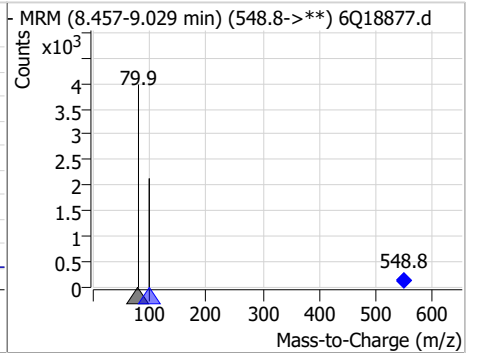
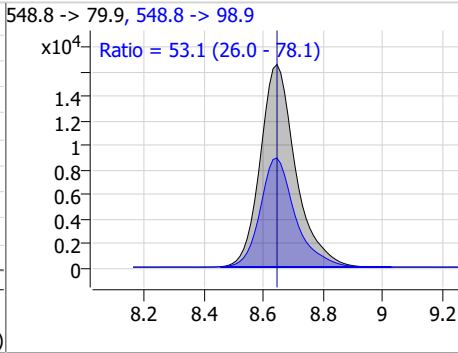
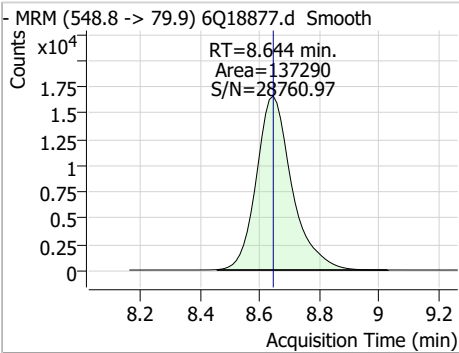
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	26.72	8.48	0.00	516236	563.1 -> 269.1	17.3	7.6	22.8



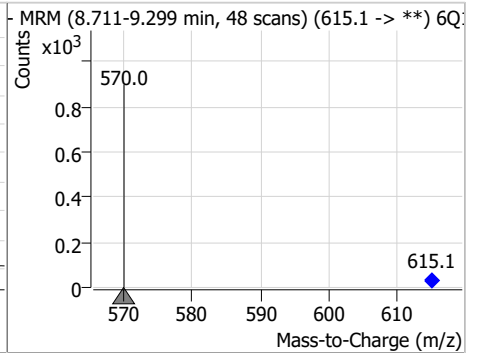
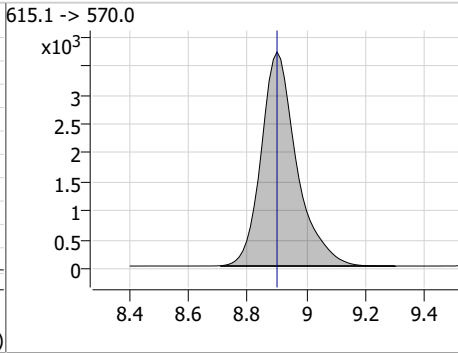
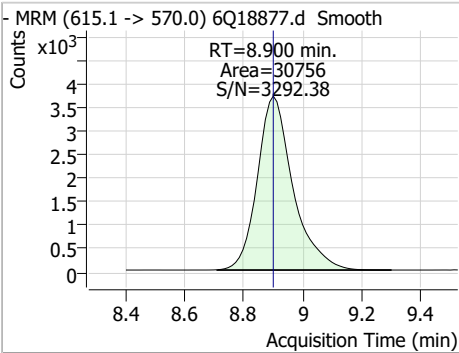
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	46.09	8.52	0.00	1096442	532.8 -> 353.0	30.9	16.2	48.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	26.03	8.64	0.00	137290	548.8 -> 98.9	53.1	26.0	78.1

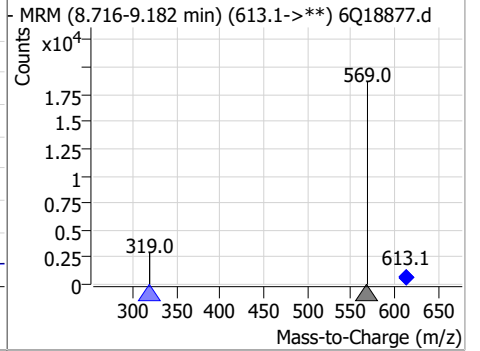
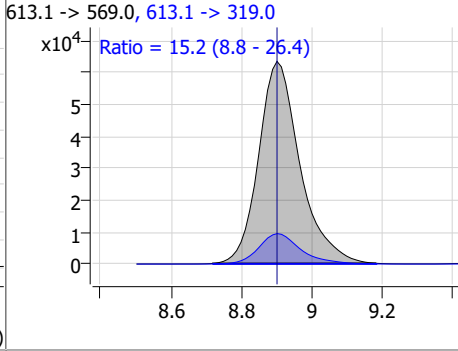
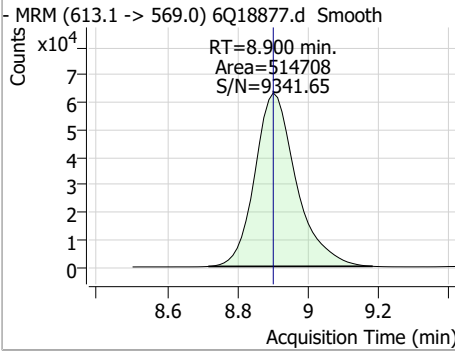


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.33	8.90	0.00	30756	615.1 -> 570.0			

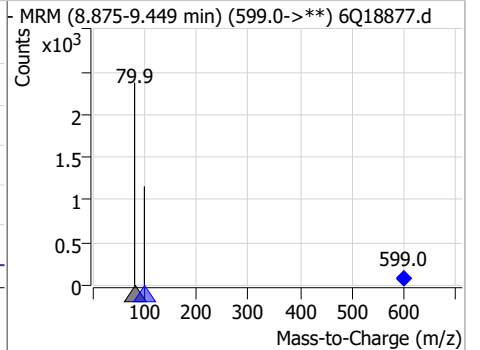
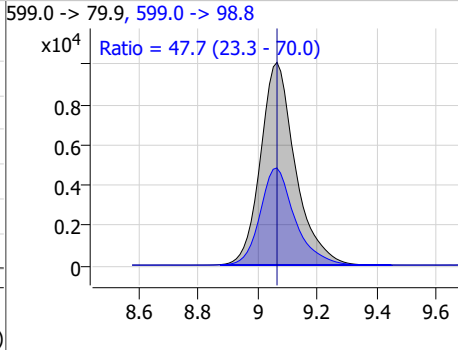
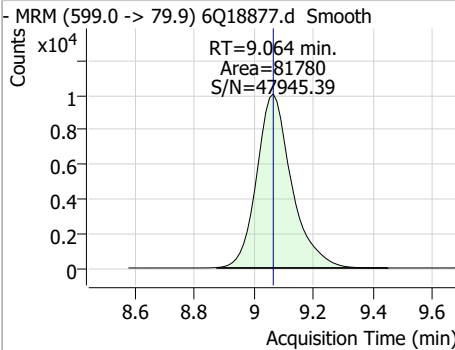


Perfluorinated Compounds by LC/MS/MS

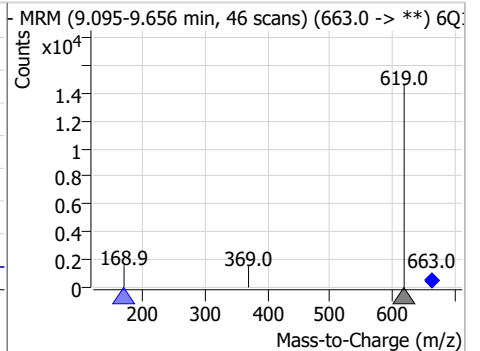
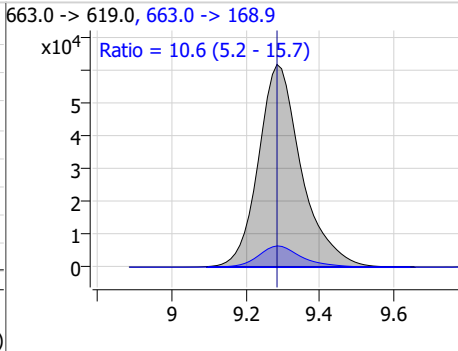
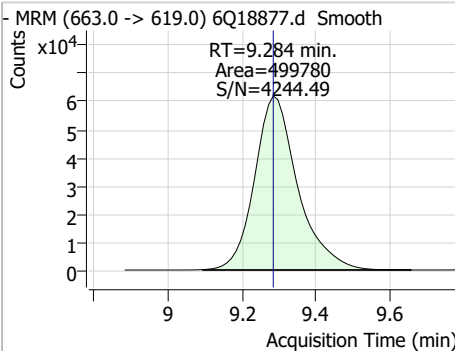
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	25.70	8.90	0.00	514708	613.1 -> 319.0	15.2	8.8	26.4



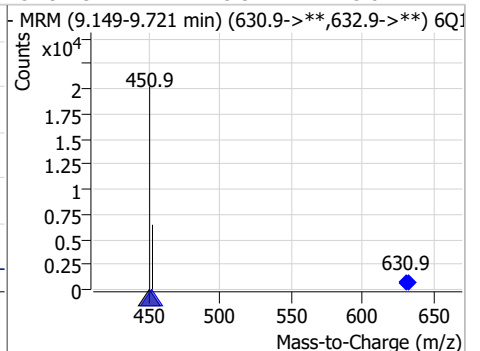
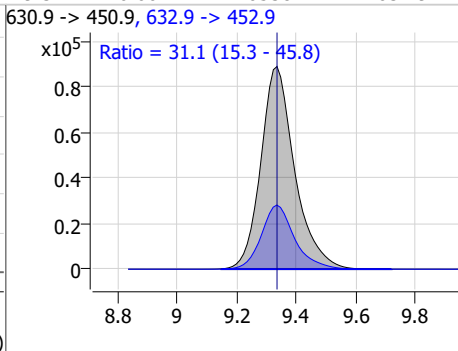
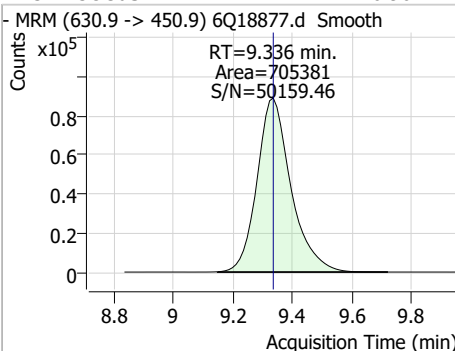
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	25.84	9.06	0.00	81780	599.0 -> 98.8	47.7	23.3	70.0



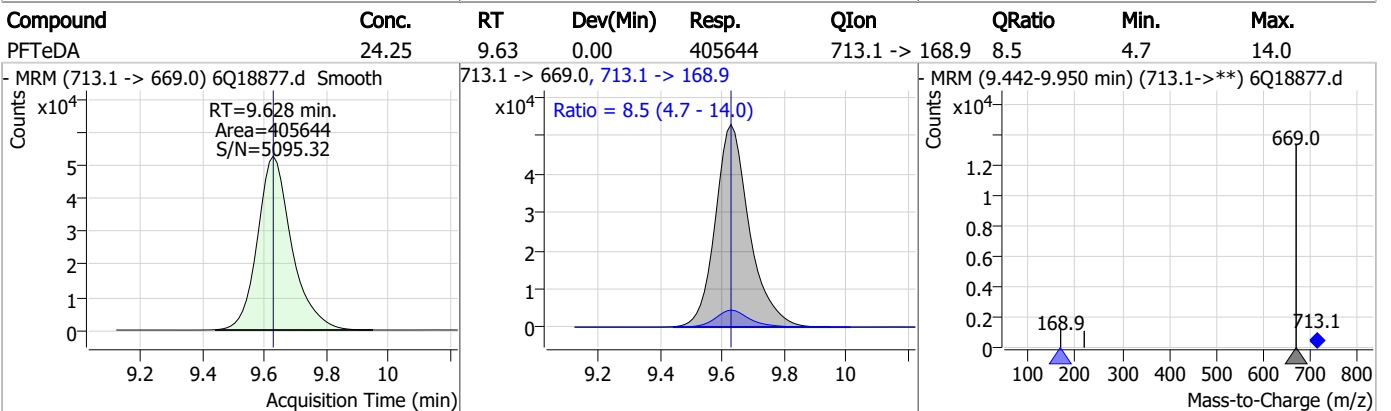
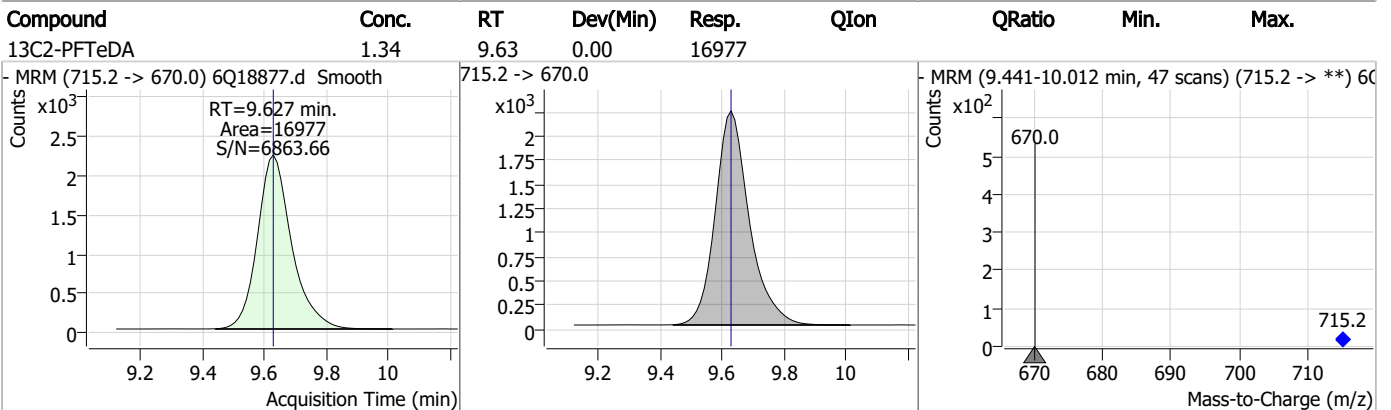
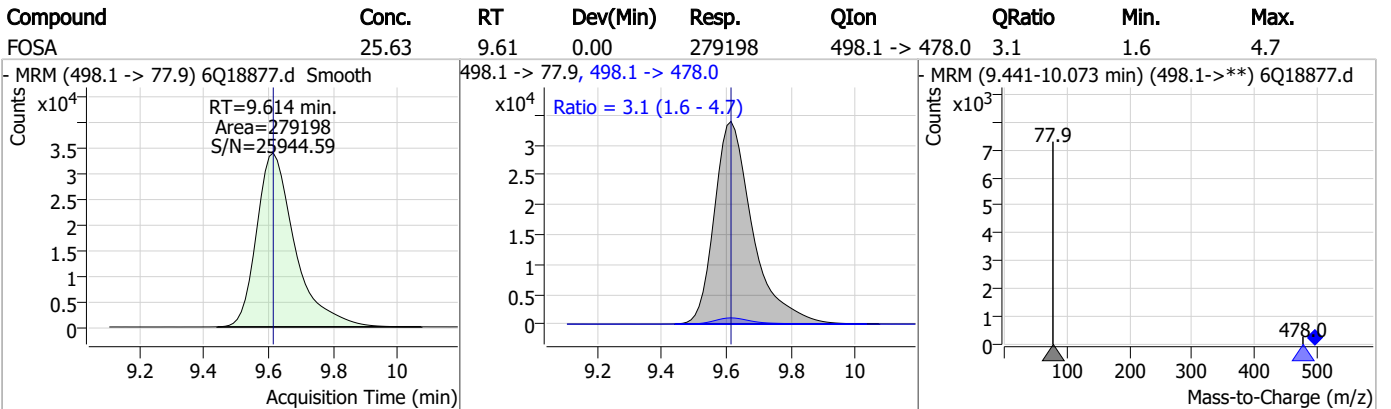
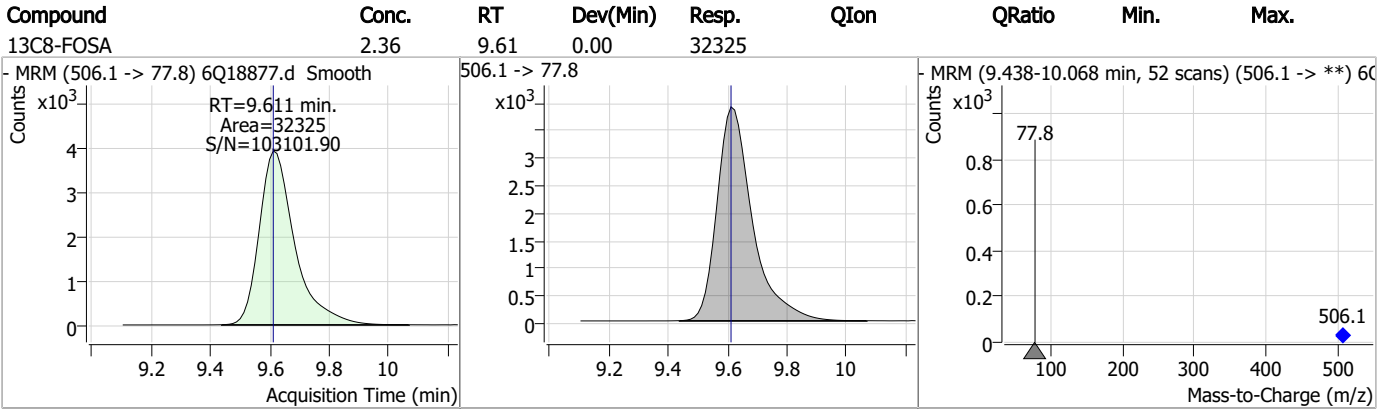
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	24.46	9.28	0.00	499780	663.0 -> 168.9	10.6	5.2	15.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUds	46.96	9.34	0.00	705381	632.9 -> 452.9	31.1	15.3	45.8



Perfluorinated Compounds by LC/MS/MS



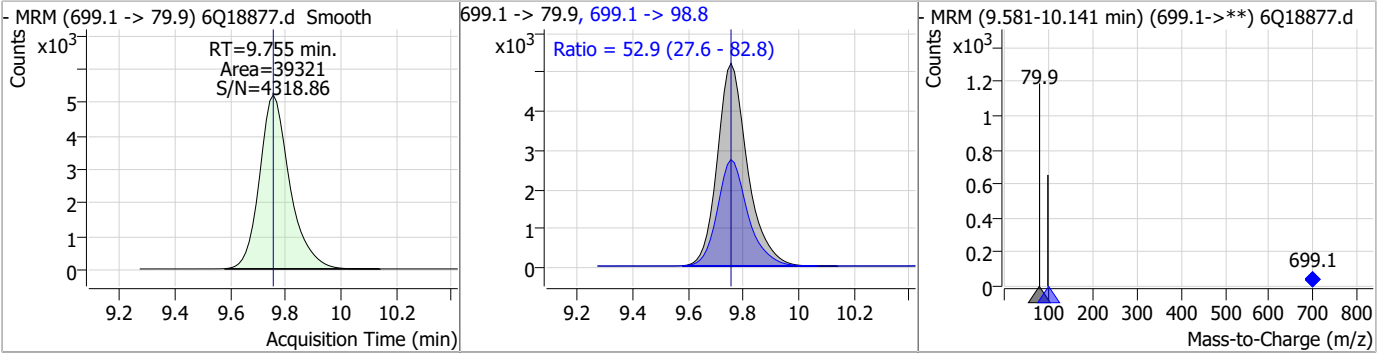
7.7.8

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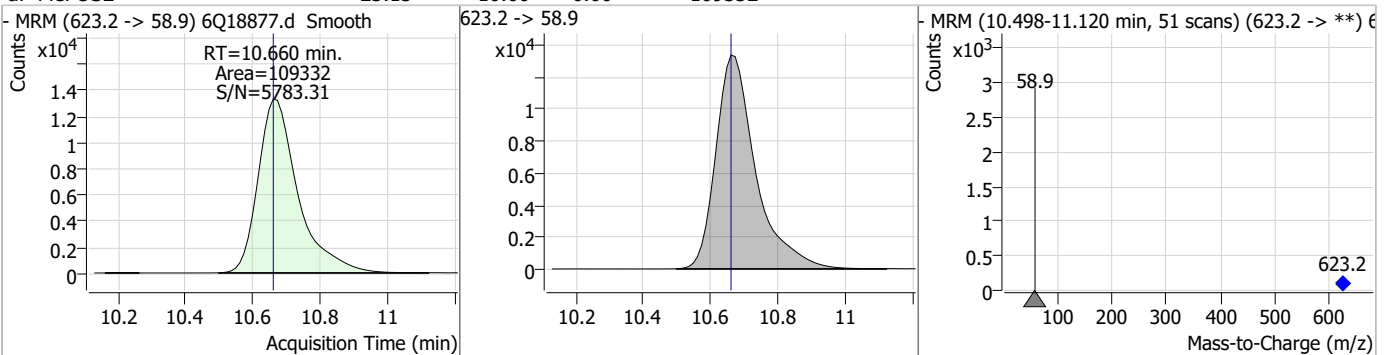


Perfluorinated Compounds by LC/MS/MS

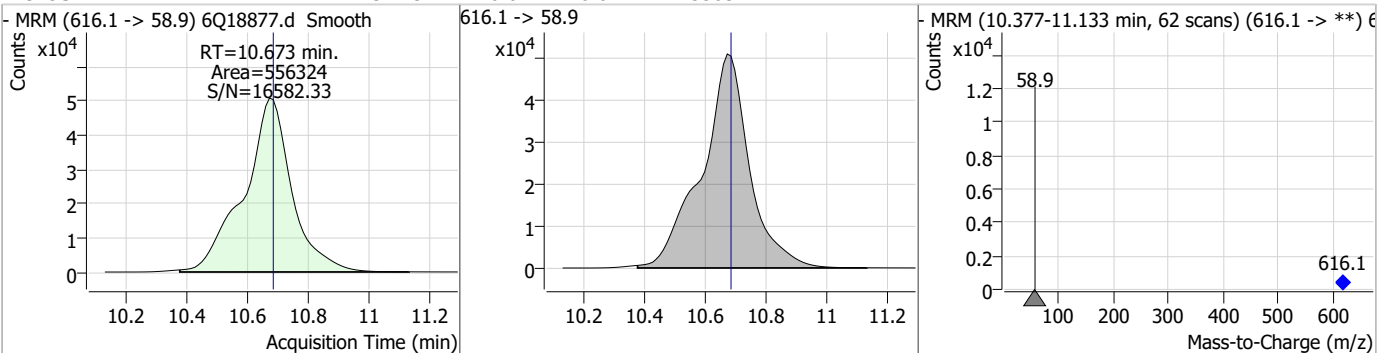
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	26.32	9.75	0.00	39321	699.1 -> 98.8	52.9	27.6	82.8



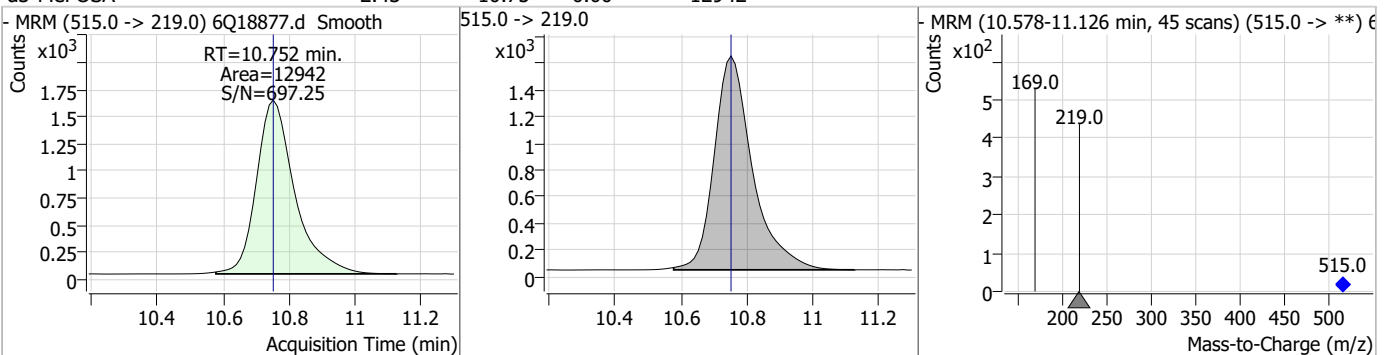
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	23.15	10.66	0.00	109332				



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

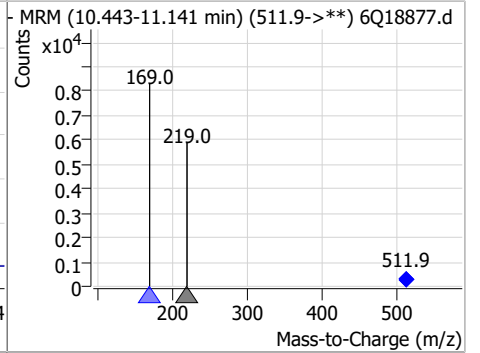
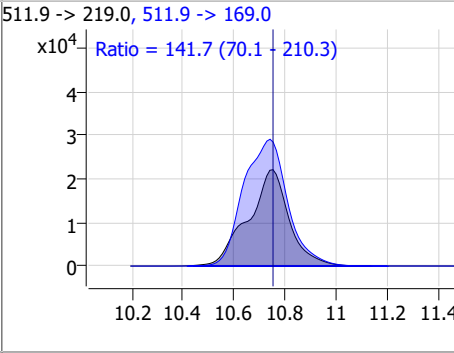
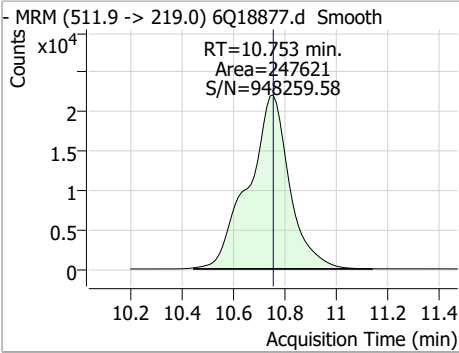


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.43	10.75	0.00	12942				

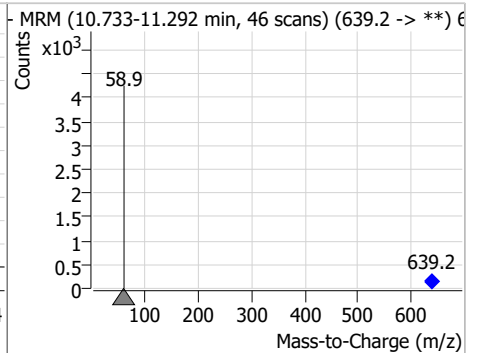
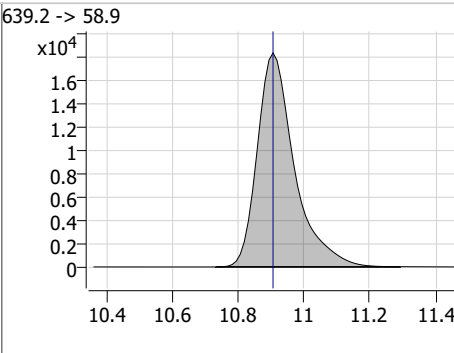
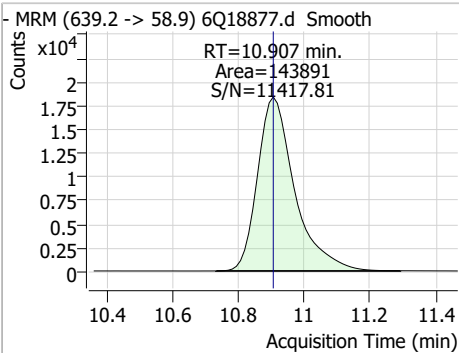


Perfluorinated Compounds by LC/MS/MS

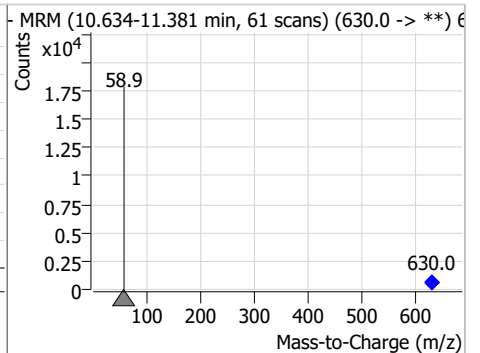
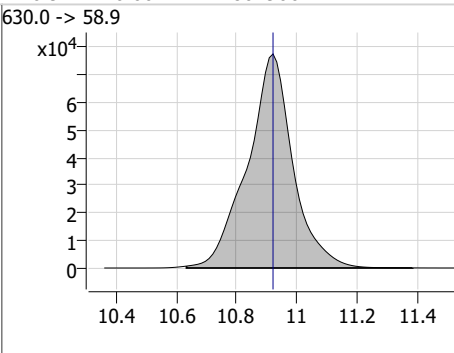
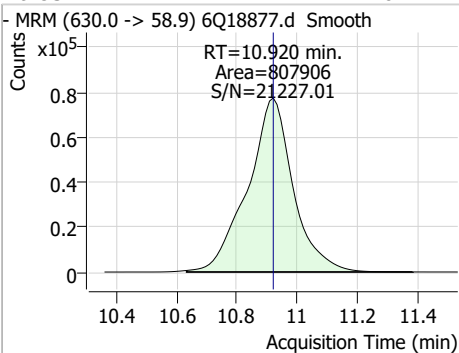
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	50.22	10.75	0.00	247621	511.9 -> 169.0	141.7	70.1	210.3



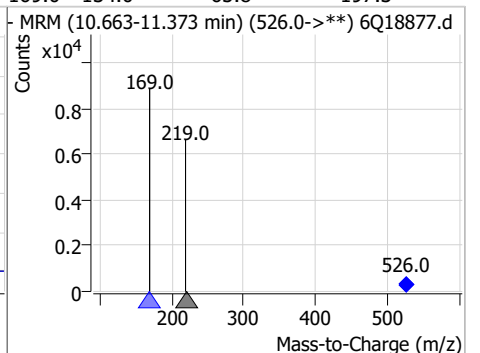
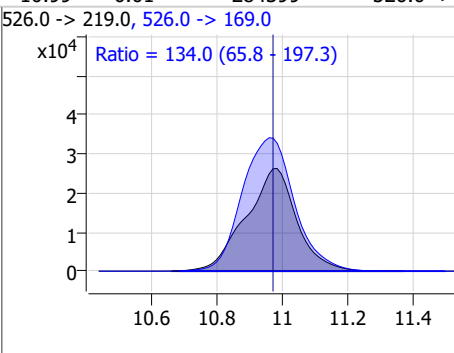
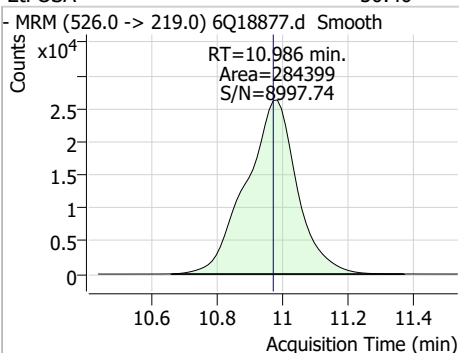
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	23.92	10.91	0.00	143891				



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

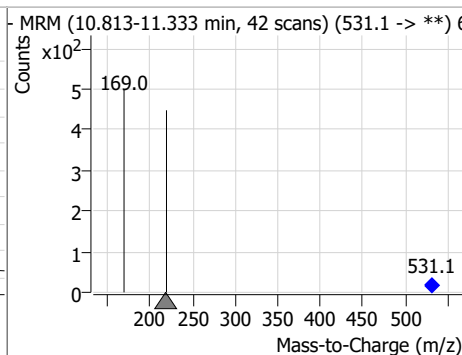
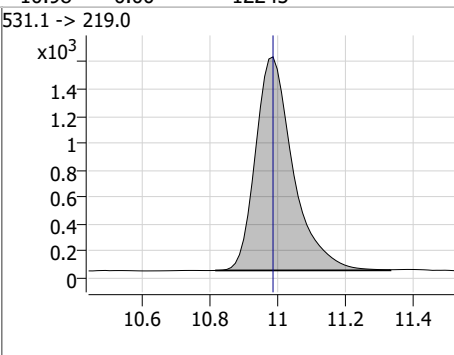
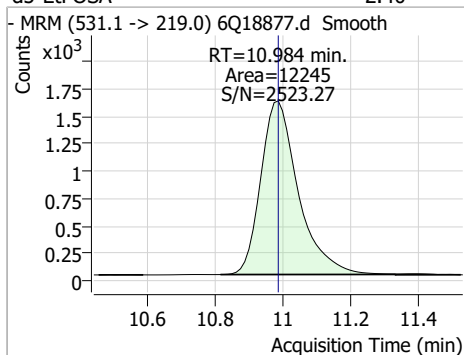


7.7.8

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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
7

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

7.7.8.1

7

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

7.7.9
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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

7.7.9
7



Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc.	Units	Dev(Min)
PFHpA	6.420	599.0 -> 98.8	94396	60.68	µg/L	99
		363.1 -> 319.0	1504271			
PFHpS	7.698	363.1 -> 169.0	249077	57.84	µg/L	99
		449.0 -> 79.9	376295			
PFHxA	5.469	449.0 -> 98.9	187008	62.12	µg/L	99
		313.0 -> 269.0	1249544			
PFHxS	7.156	313.0 -> 118.9	62831	52.22	µg/L	98
		398.7 -> 79.9	355238			
PFNA	7.558	398.7 -> 98.9	175957	64.43	µg/L	97
		463.0 -> 419.0	1839497			
PFNS	8.644	463.0 -> 219.0	346798	54.47	µg/L	100
		548.8 -> 79.9	311155			
PFOA	7.052	548.8 -> 98.9	162142	61.10	µg/L	100
		413.0 -> 369.0	2325612			
PFOS	8.178	413.0 -> 169.0	416462	52.43	µg/L	98
		498.9 -> 79.9	344000			
PFPeA	4.274	498.9 -> 98.8	163670	120.27	µg/L	100
		263.0 -> 219.0	1609167			
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
		511.9 -> 219.0	590538			
MeFOSA	10.753	511.9 -> 169.0	807231	113.05	µg/L	97
		616.1 -> 58.9	1273338			
MeFOSE	10.673	699.1 -> 79.9	94572	311.98	µg/L	100
		699.1 -> 98.8	51628			
PFDoDS	9.755	295.0 -> 201.0	286962	58.45	µg/L	99
		295.0 -> 84.9	73354			
NFDHA	5.348	279.0 -> 85.1	1143287	118.83	µg/L	98
		229.0 -> 84.9	867059			
PFMBA	4.688	314.8 -> 134.9	2785704	123.63	µg/L	100
		314.8 -> 82.9	101741			
PFMPA	3.401			123.03	µg/L	100
PFEESA	5.926			108.96	µg/L	100

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

7.7.9
7

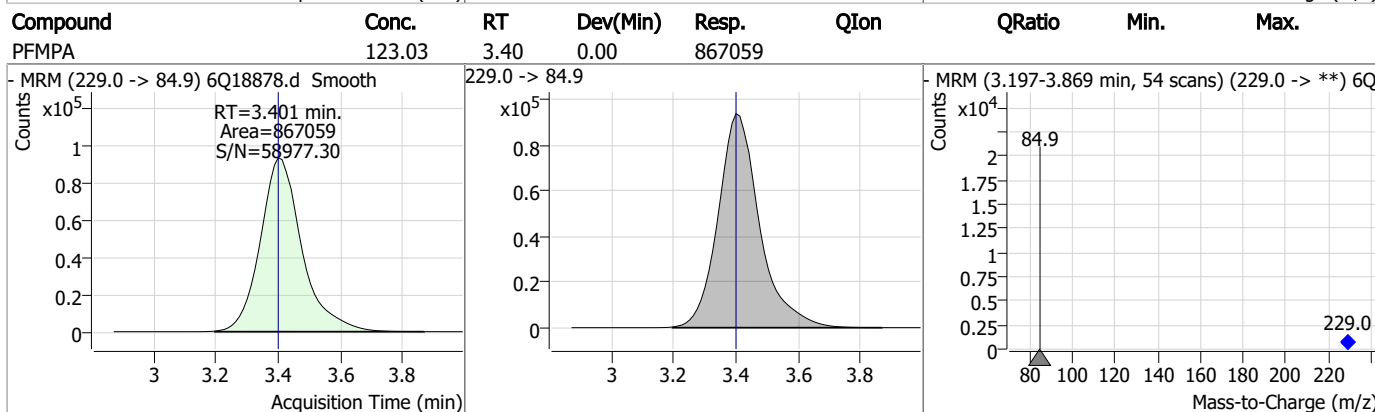
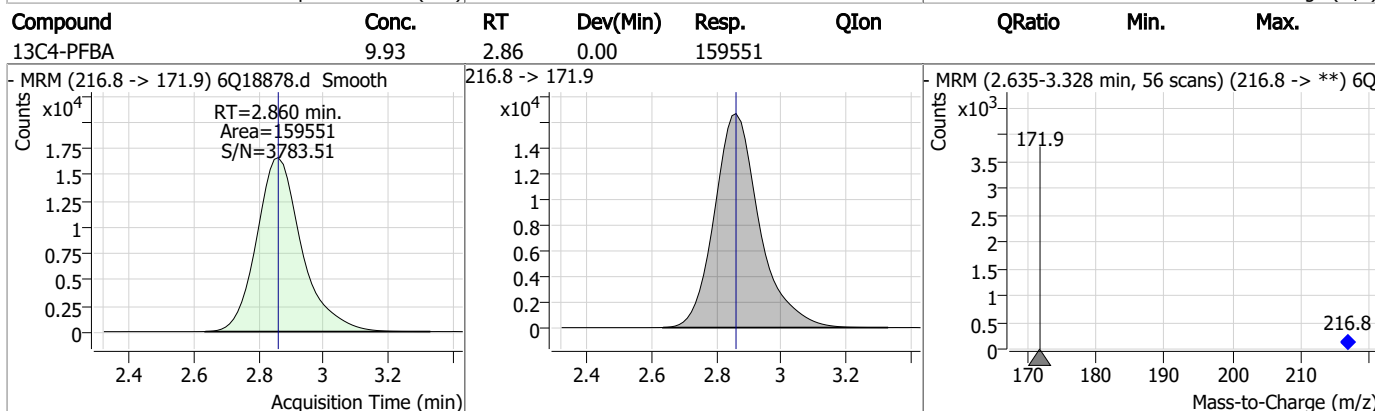
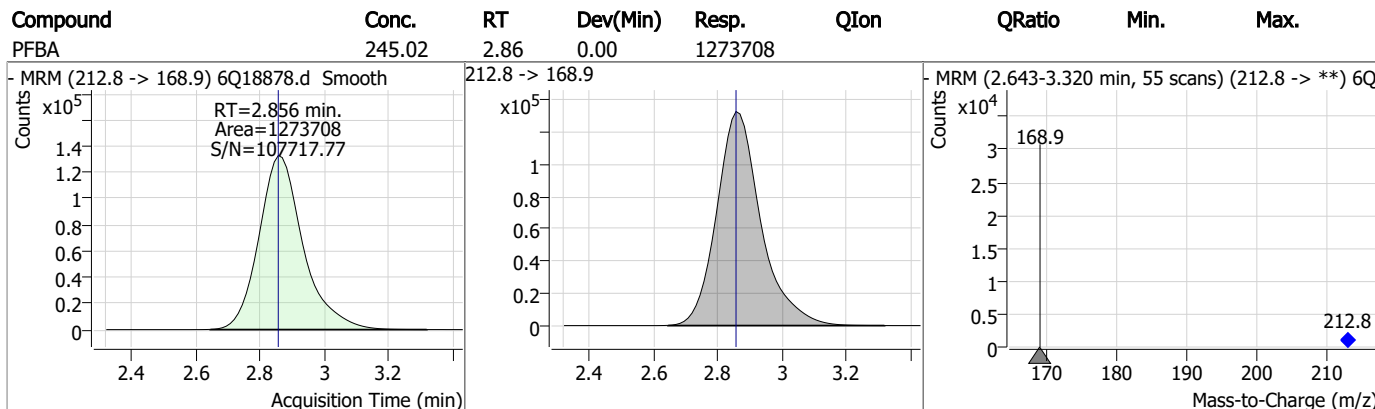
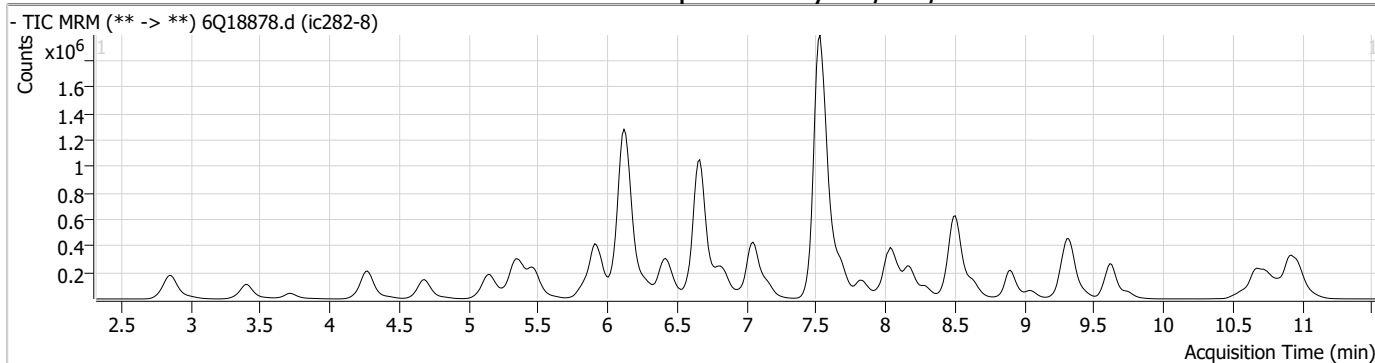
Perfluorinated Compounds by LC/MS/MS

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

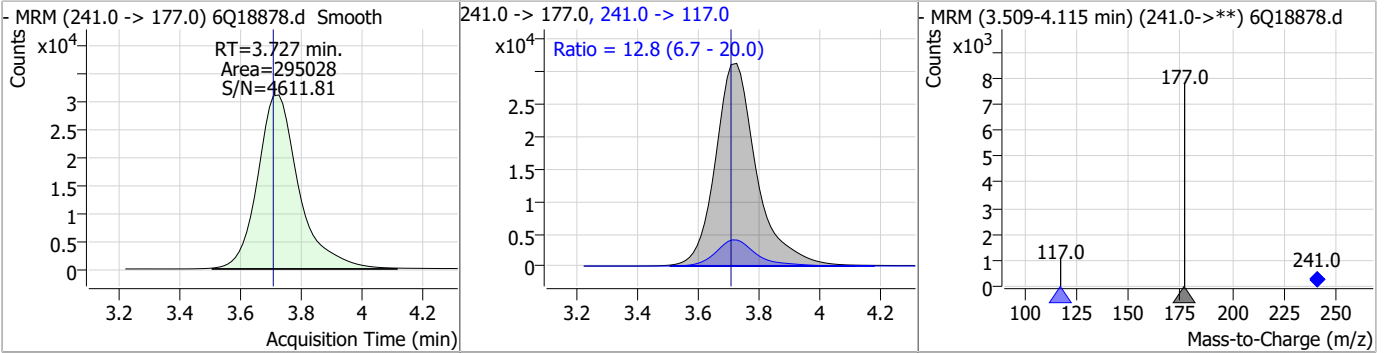
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Perfluorinated Compounds by LC/MS/MS

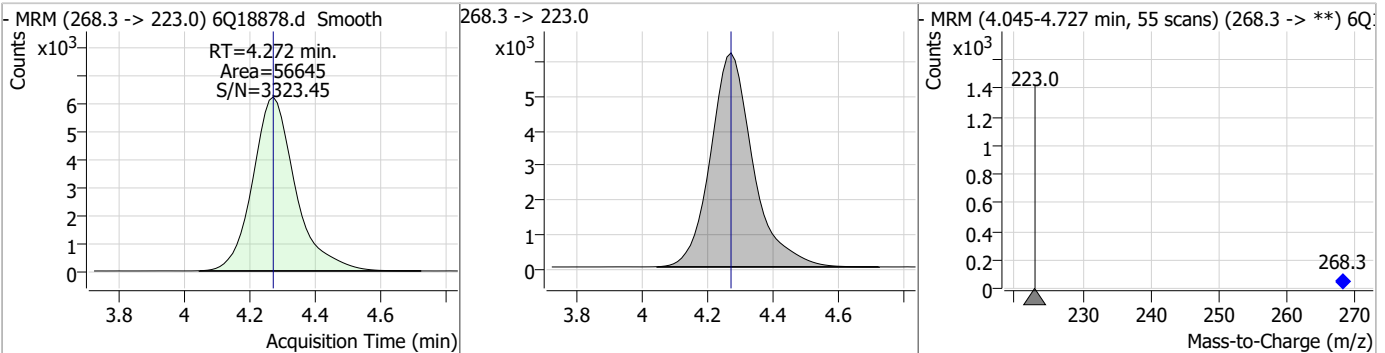


Perfluorinated Compounds by LC/MS/MS

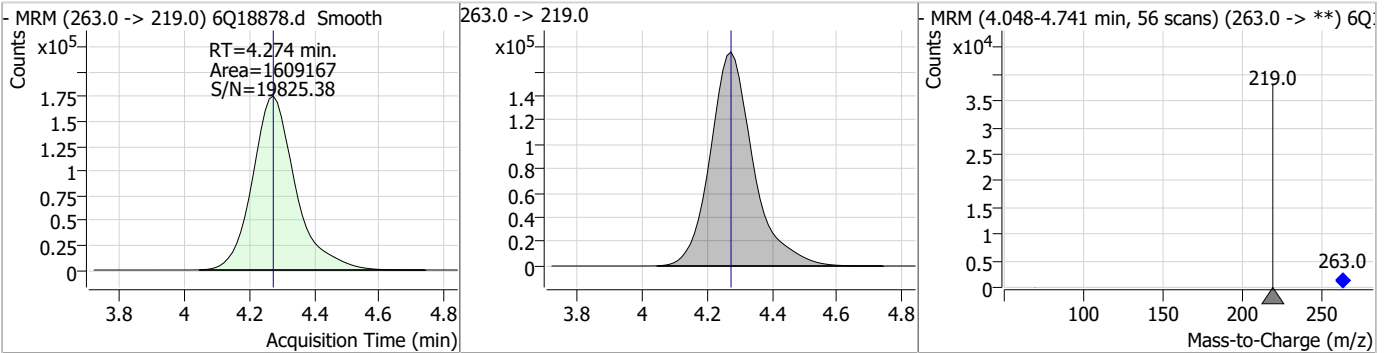
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	311.31	3.73	0.02	295028	241.0 -> 117.0	12.8	6.7	20.0



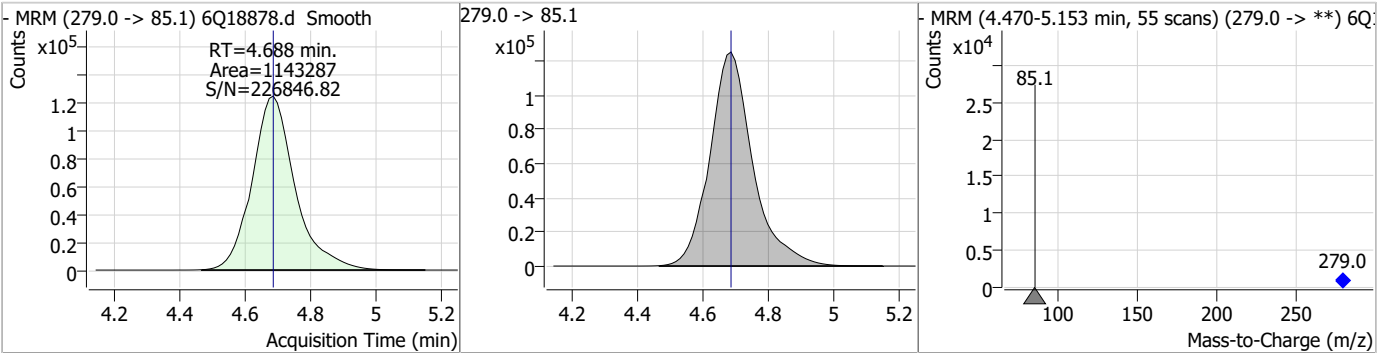
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	4.95	4.27	0.00	56645				



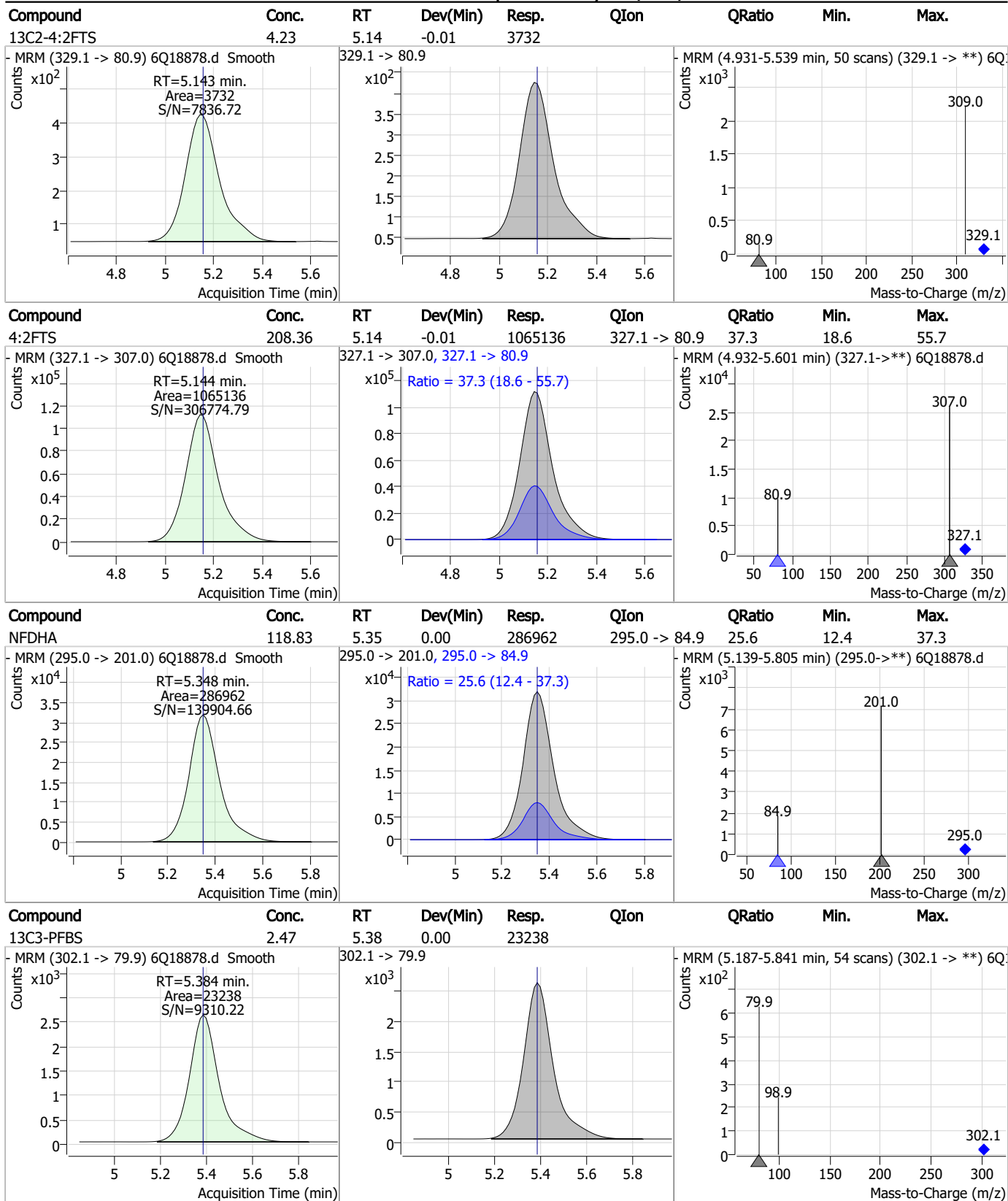
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	120.27	4.27	0.00	1609167				



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

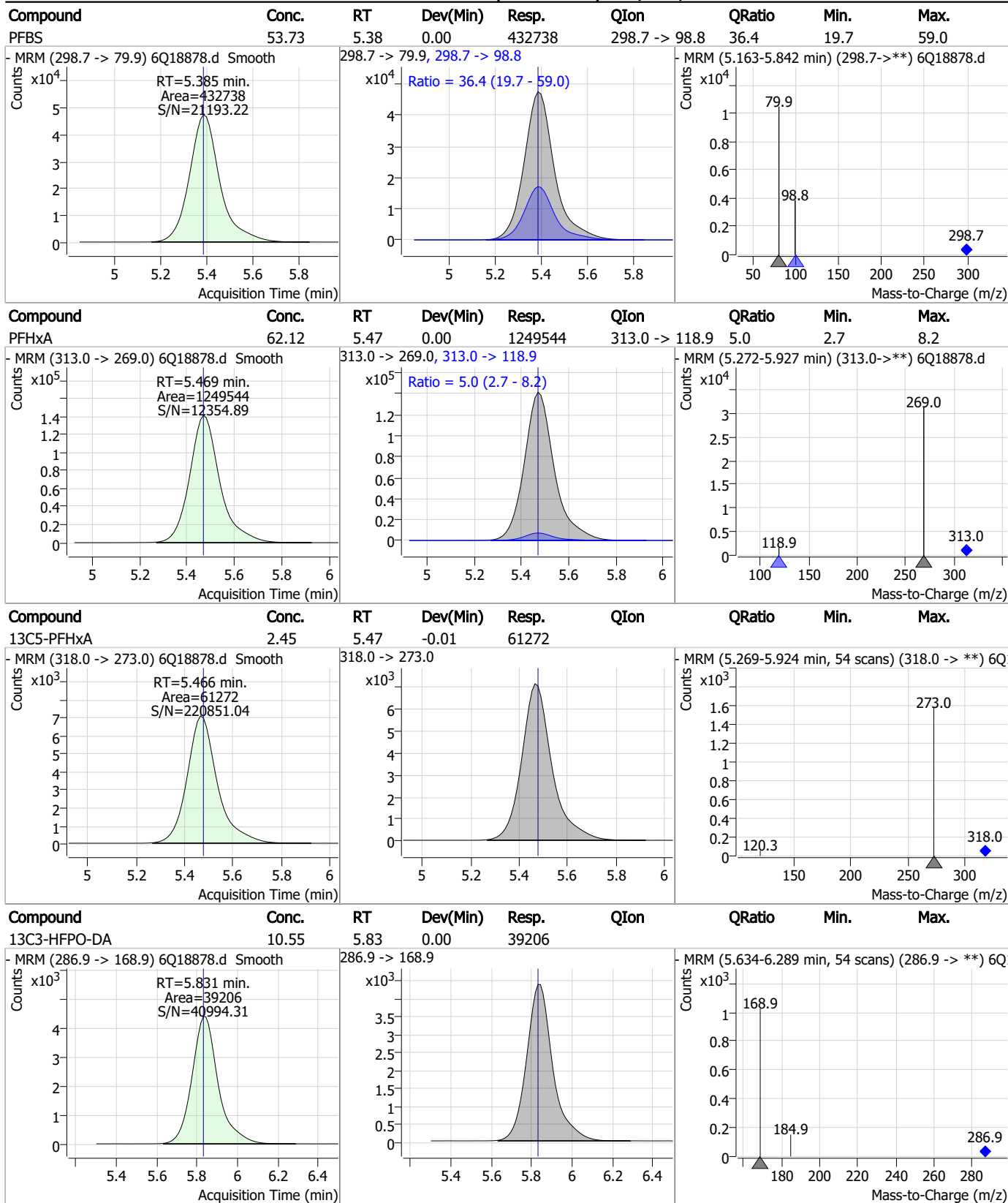


Perfluorinated Compounds by LC/MS/MS



7.7.9
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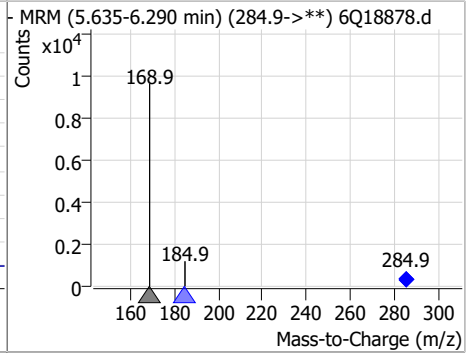
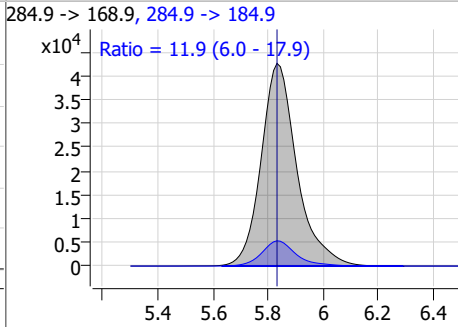
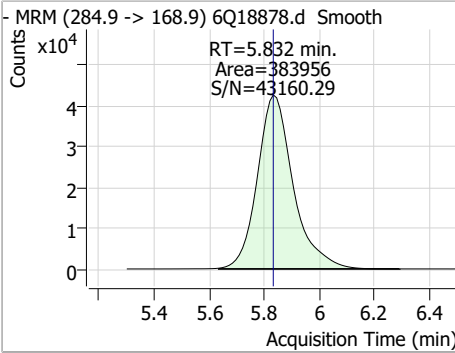
Perfluorinated Compounds by LC/MS/MS



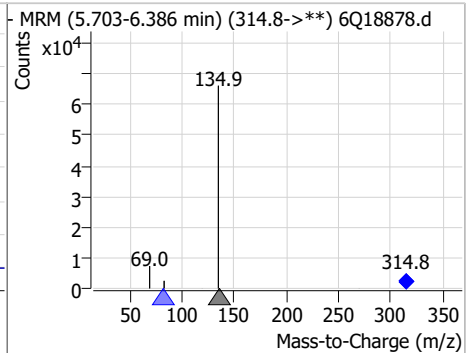
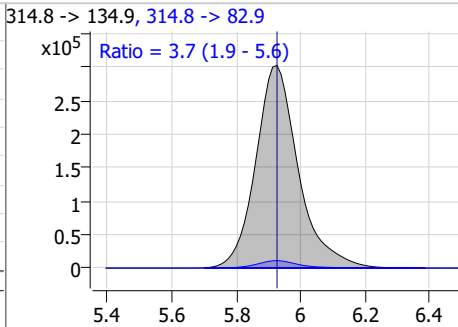
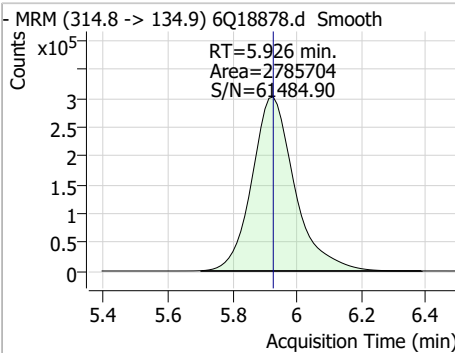
7.7.9
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Perfluorinated Compounds by LC/MS/MS

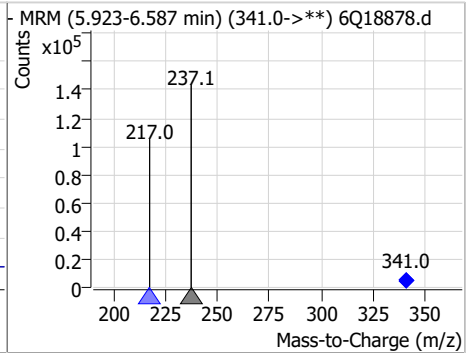
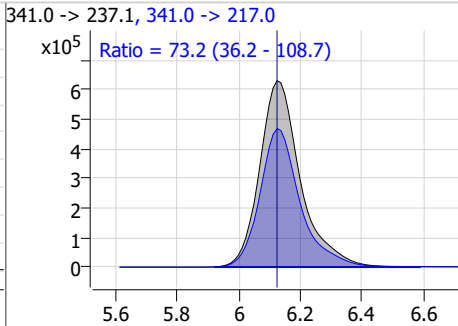
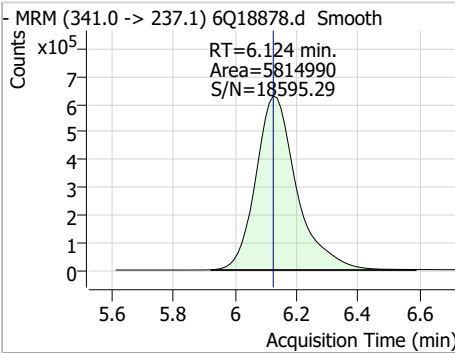
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	117.25	5.83	0.00	383956	284.9 -> 184.9	11.9	6.0	17.9



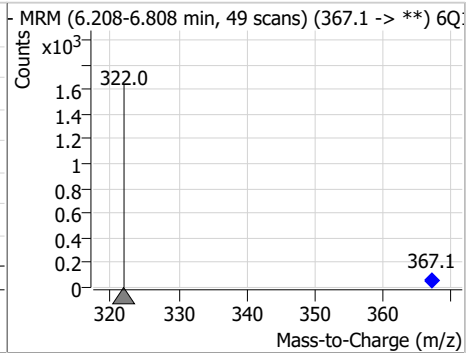
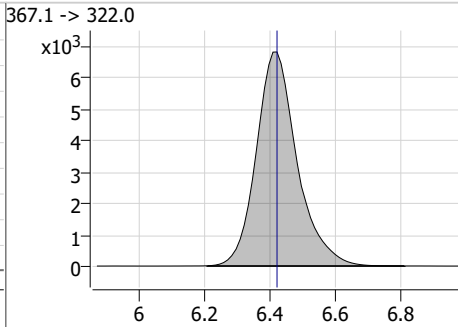
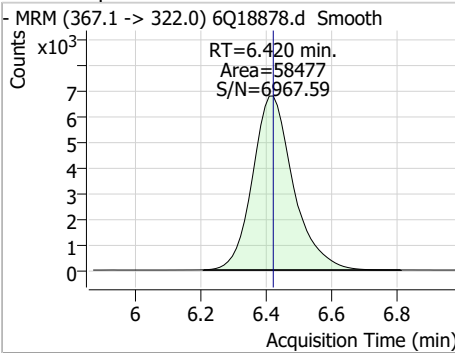
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	108.96	5.93	0.00	2785704	314.8 -> 82.9	3.7	1.9	5.6



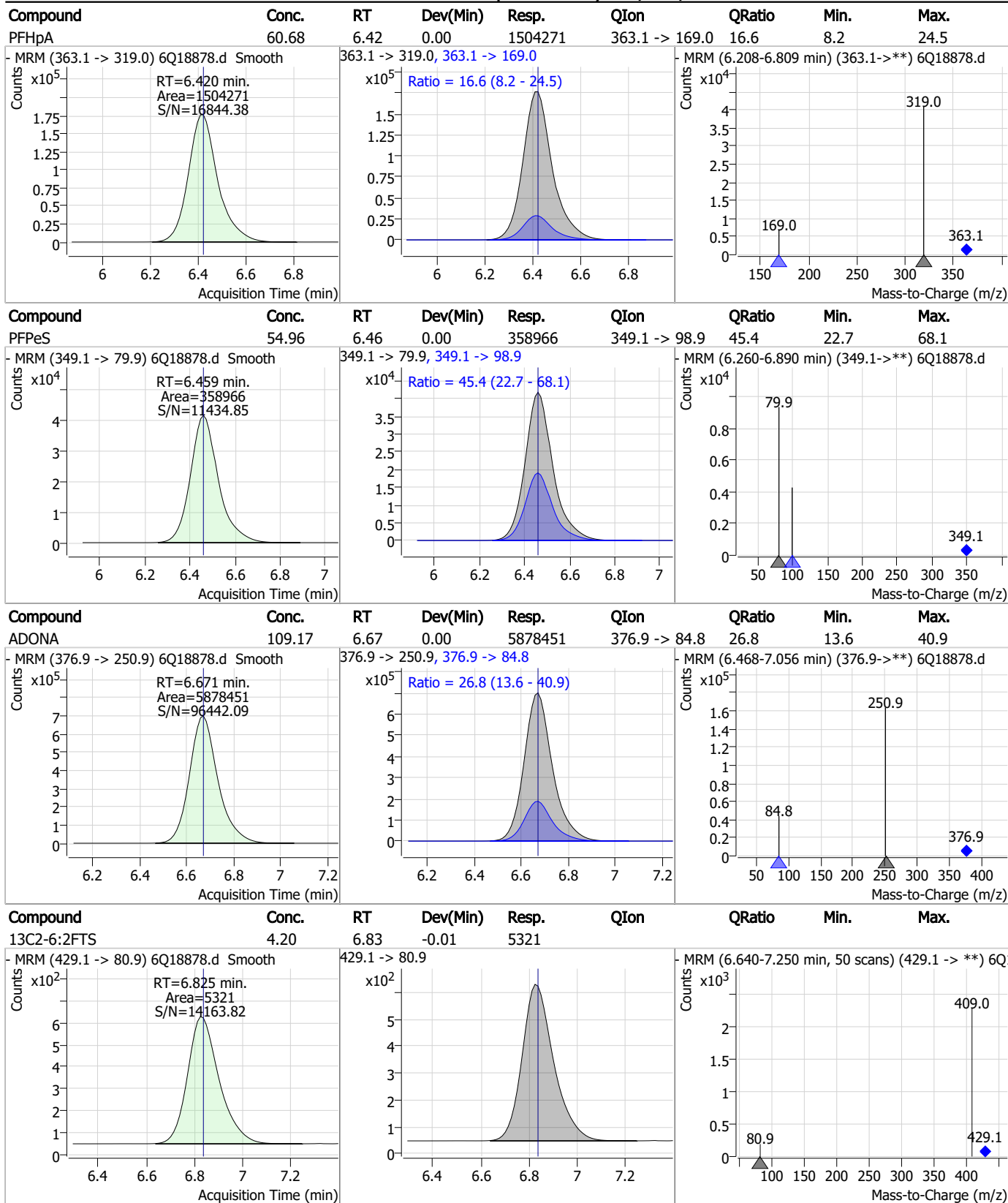
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	1498.58	6.12	0.00	5814990	341.0 -> 217.0	73.2	36.2	108.7



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

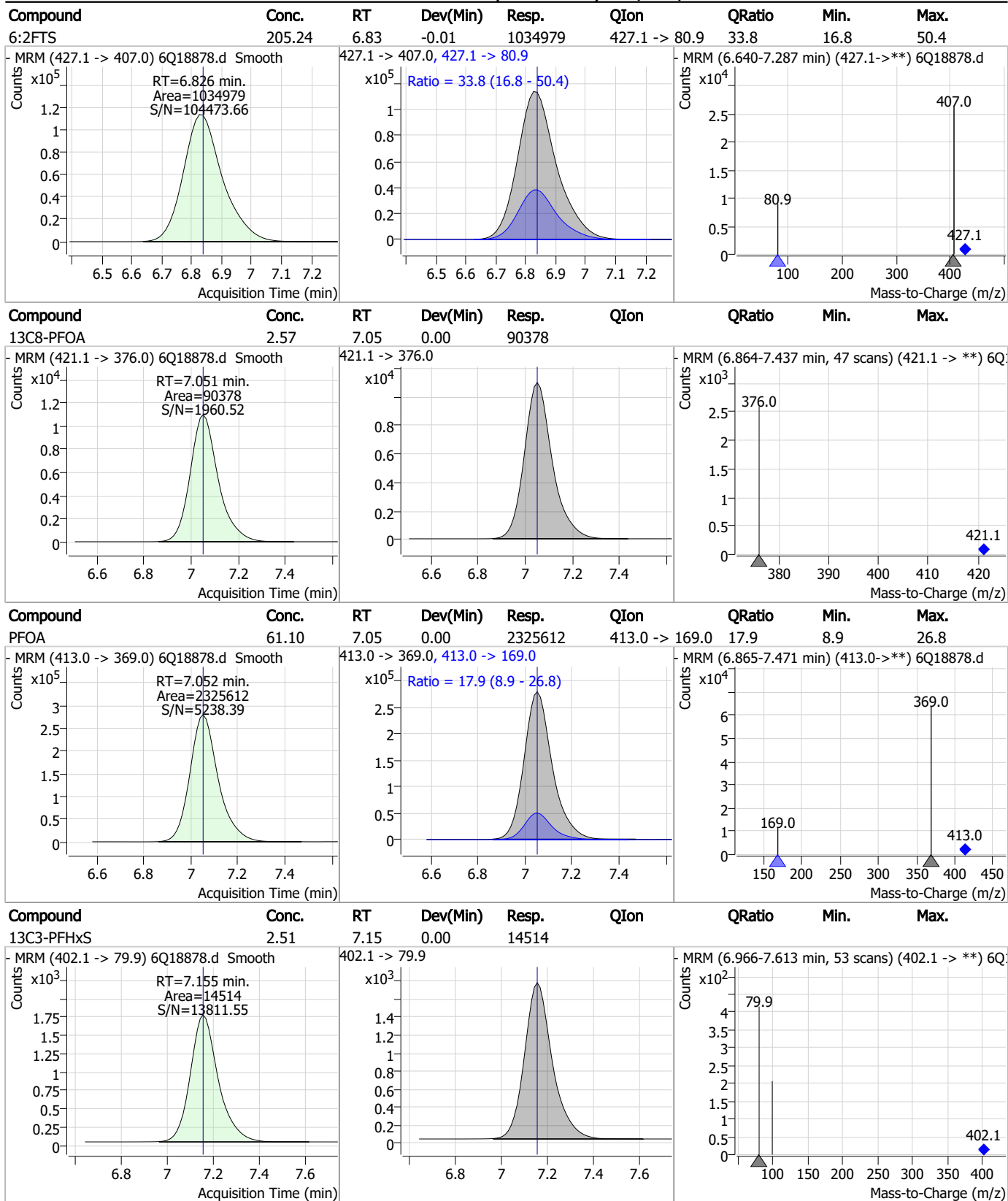


Perfluorinated Compounds by LC/MS/MS



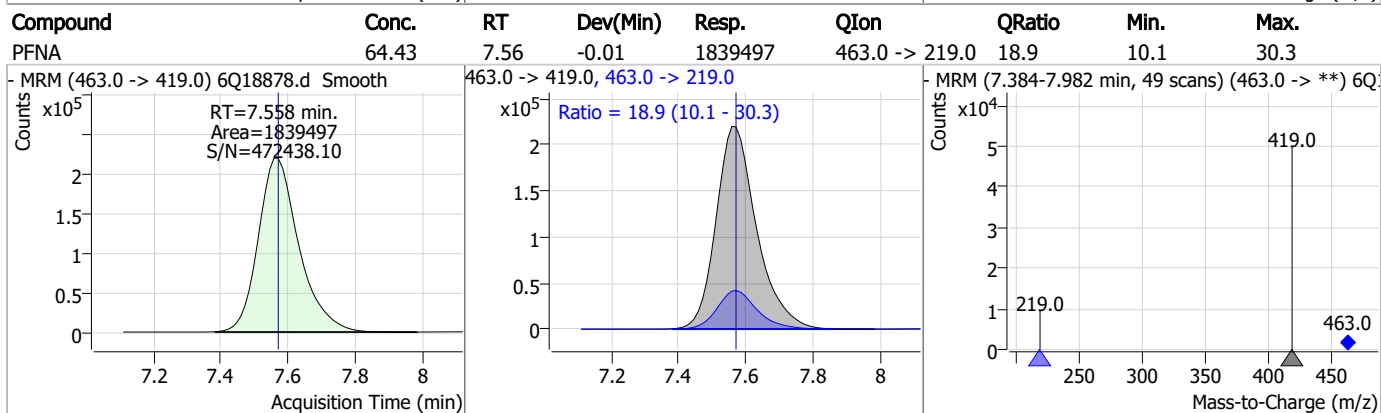
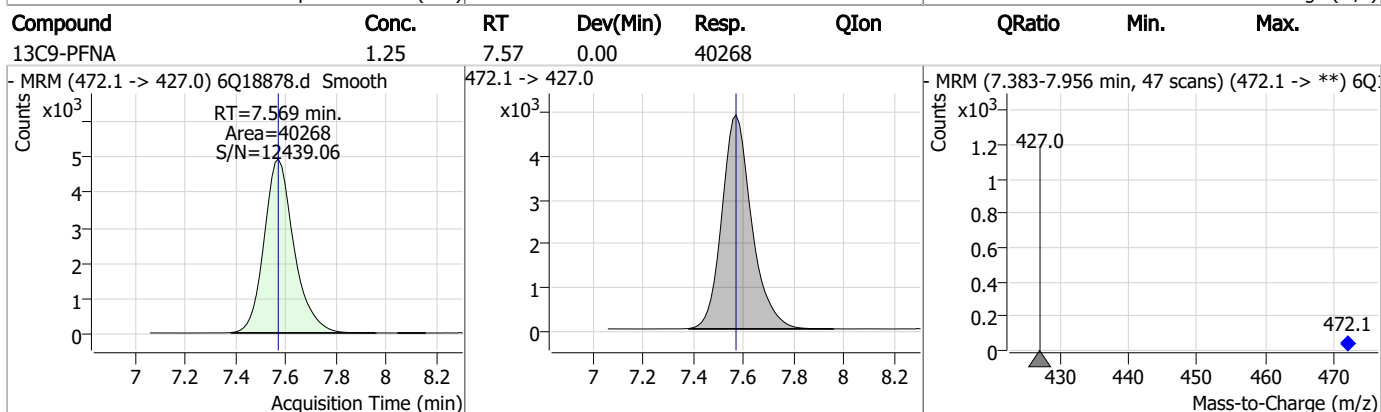
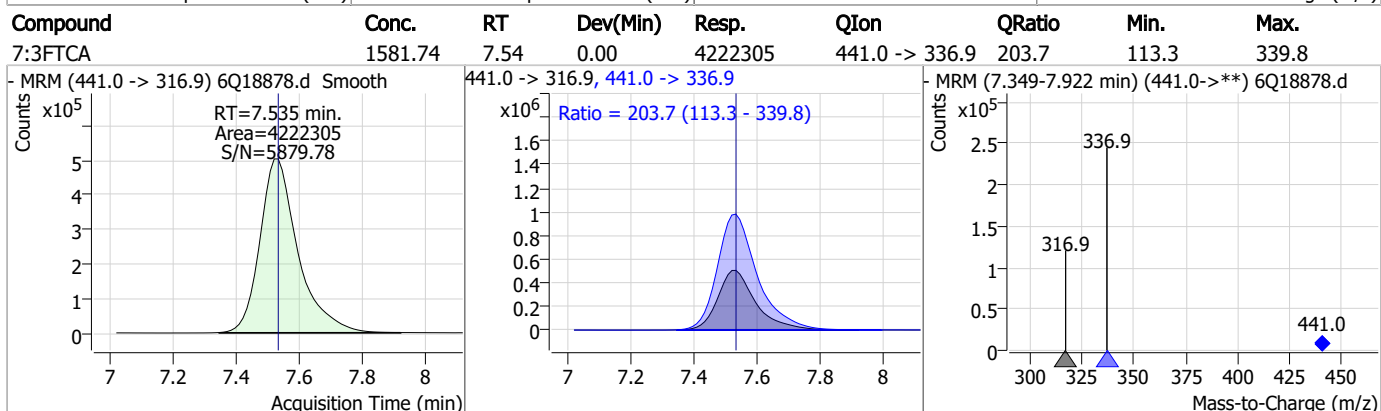
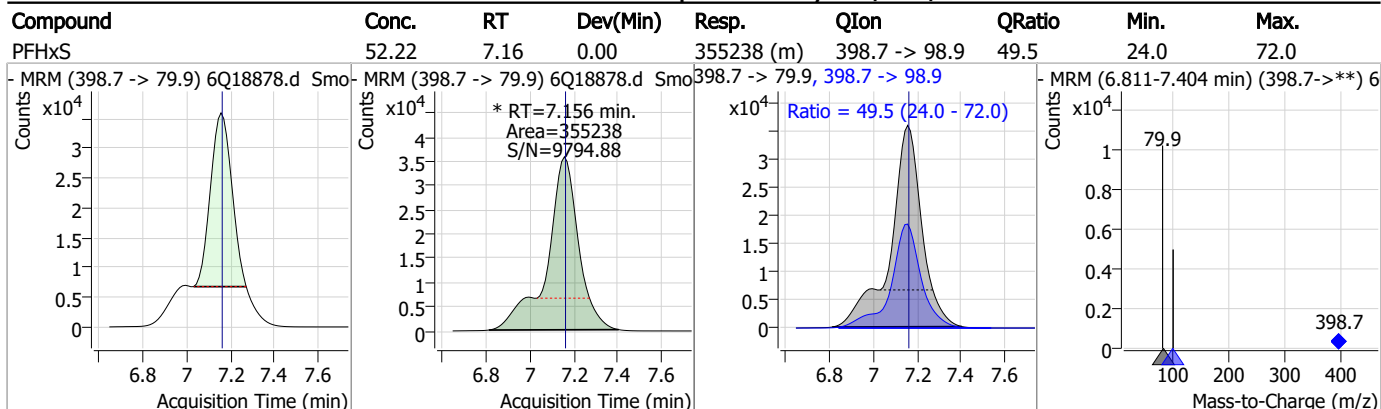
7.7.9
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Perfluorinated Compounds by LC/MS/MS



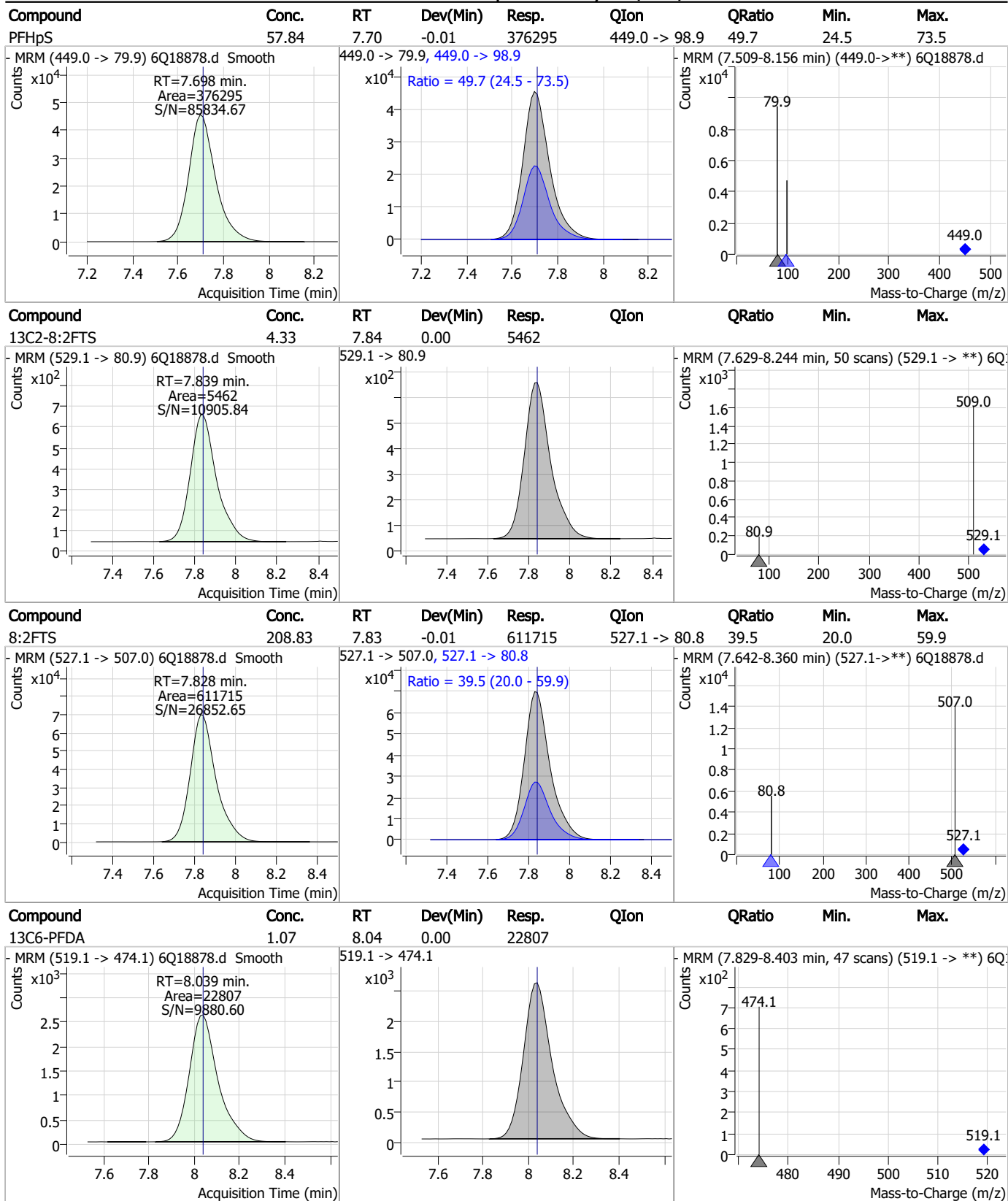
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Perfluorinated Compounds by LC/MS/MS



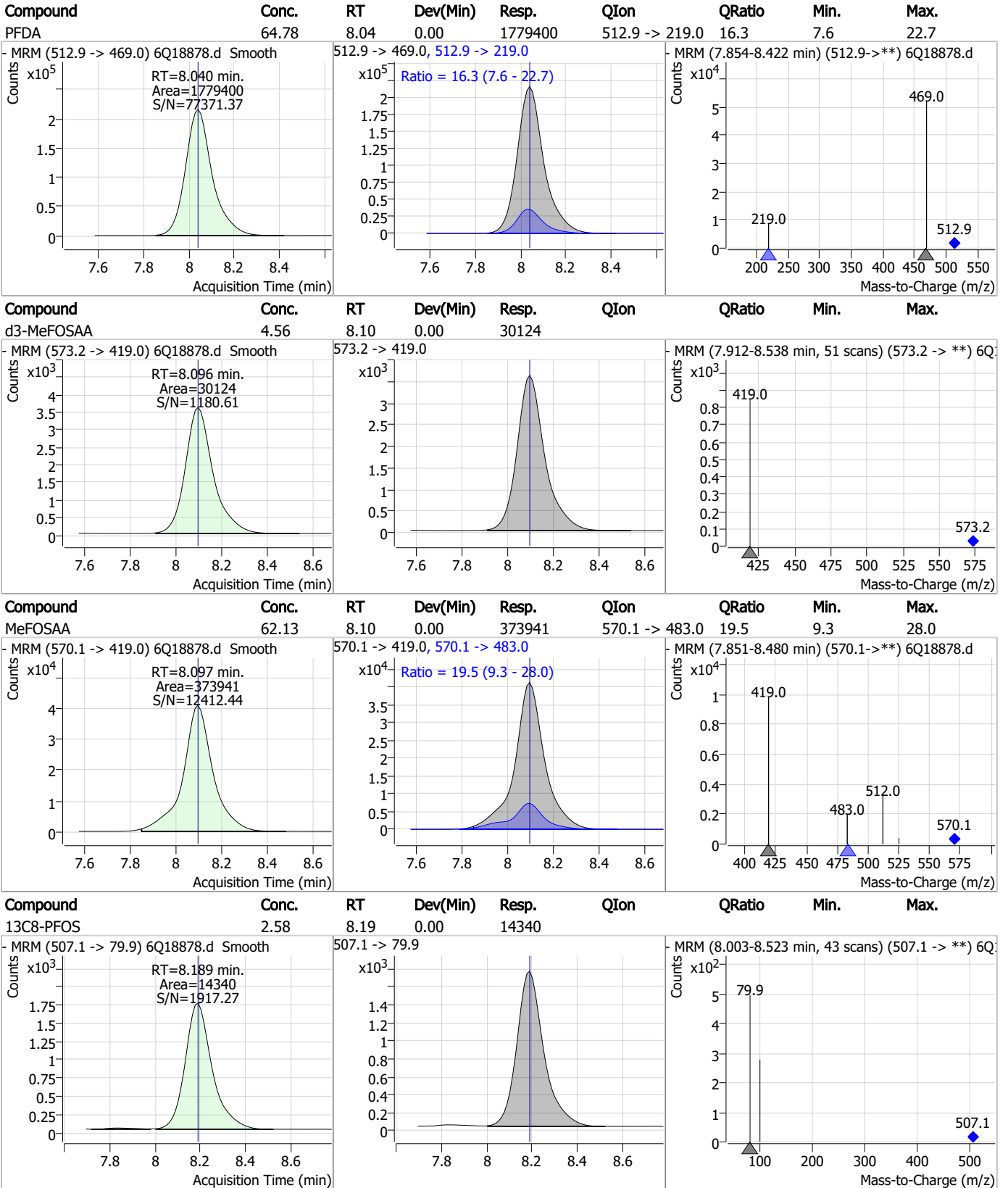
7.7.9
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Perfluorinated Compounds by LC/MS/MS



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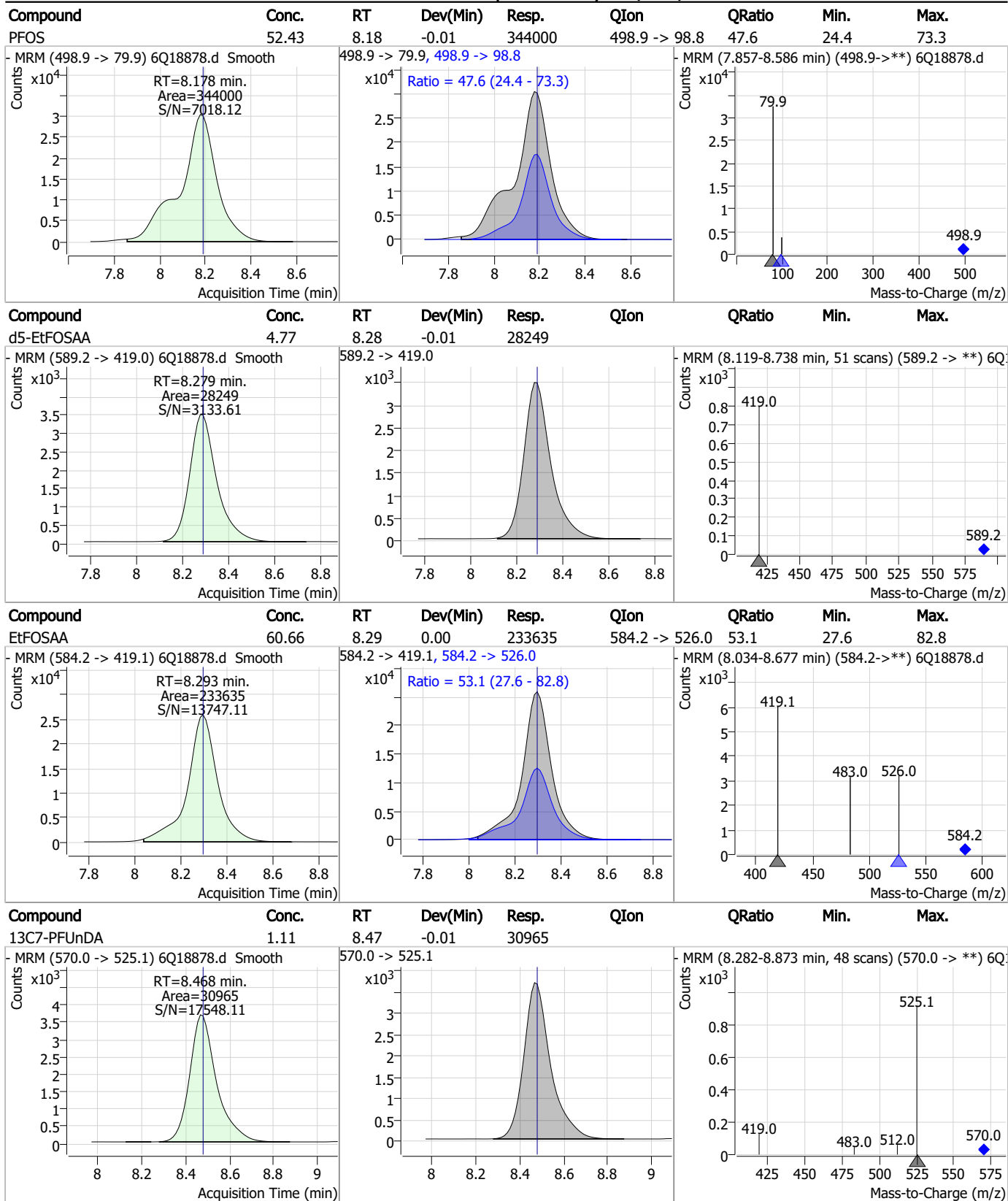
Perfluorinated Compounds by LC/MS/MS



7.7.9

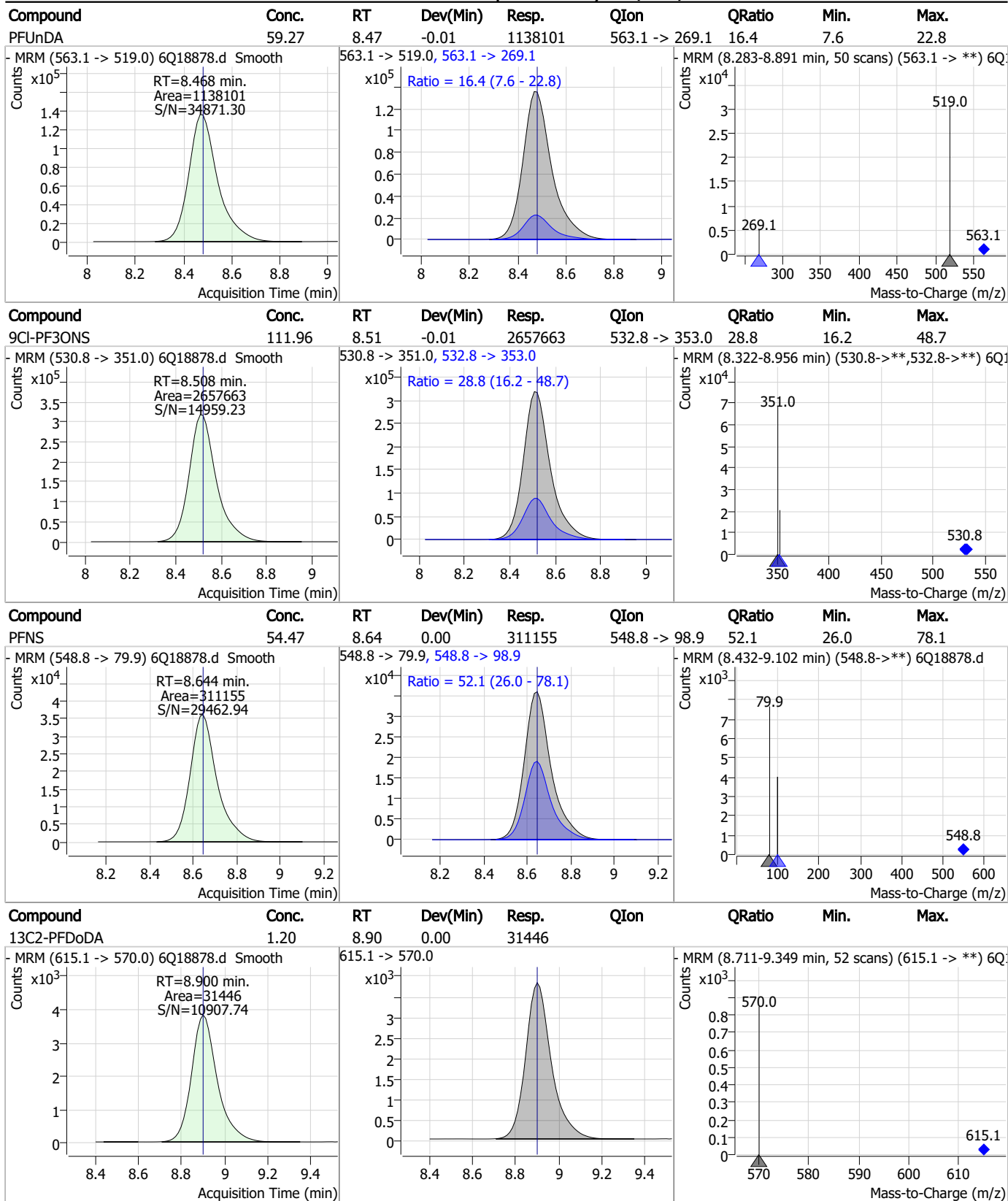
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Perfluorinated Compounds by LC/MS/MS



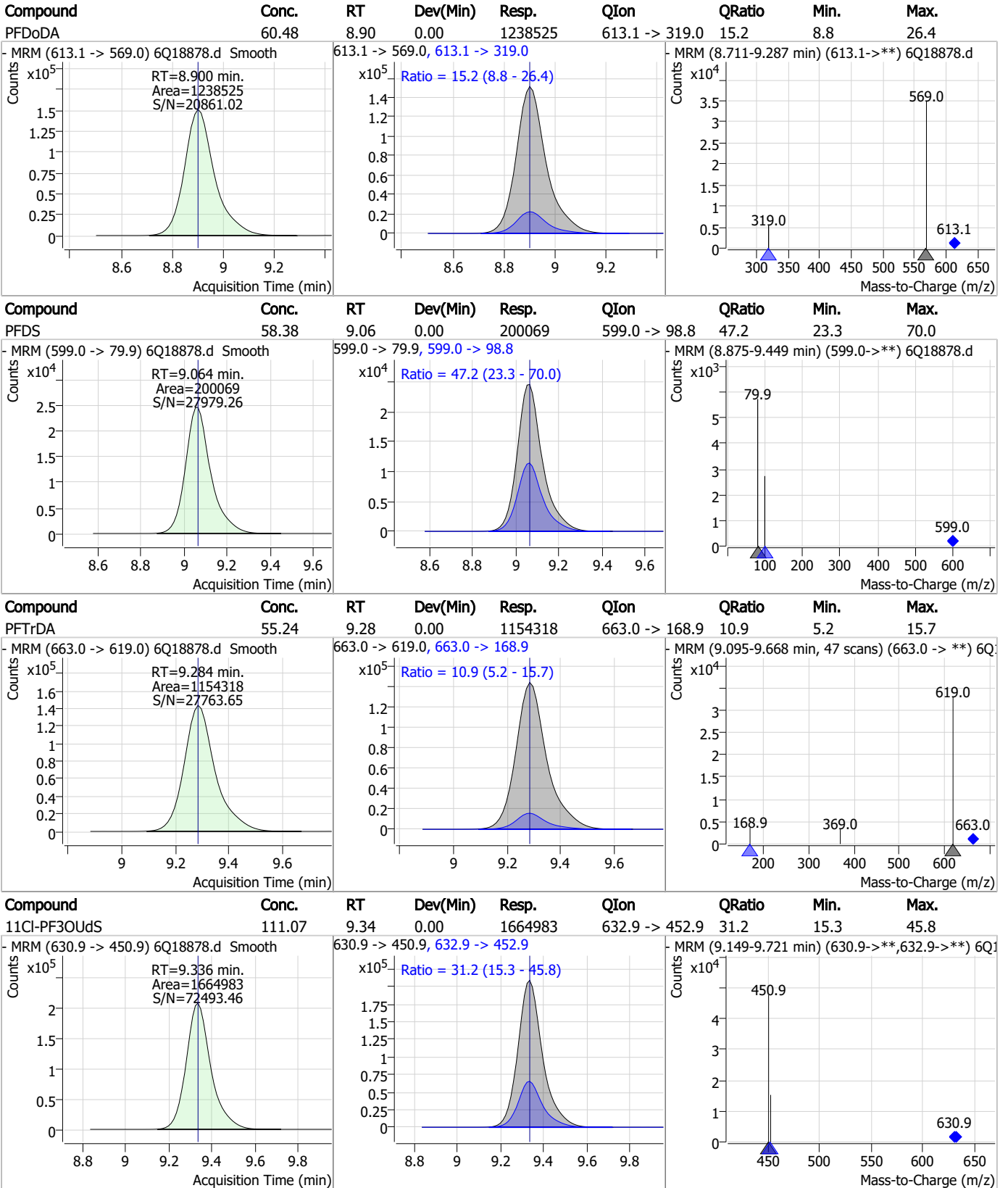
7.7.9
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

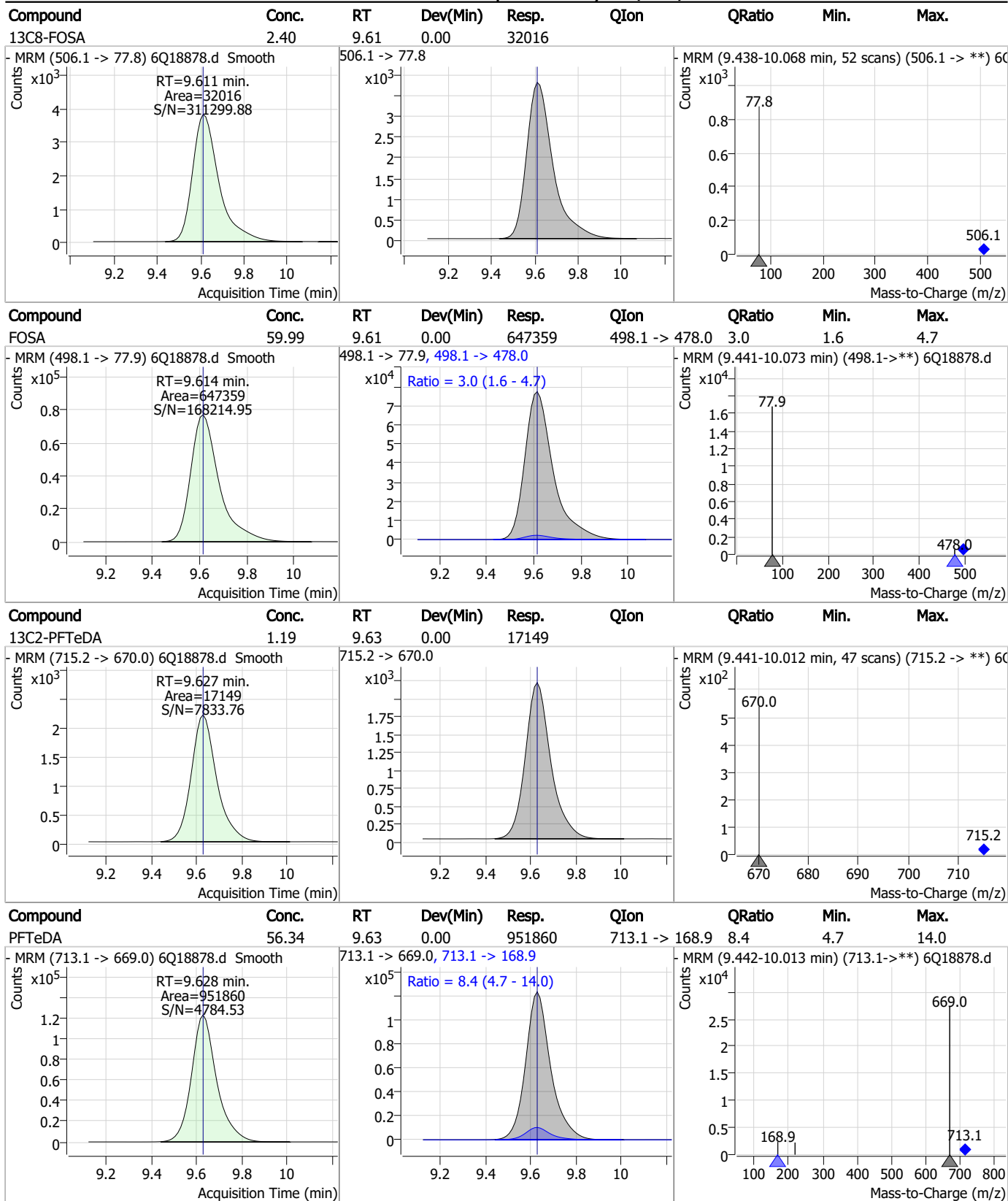


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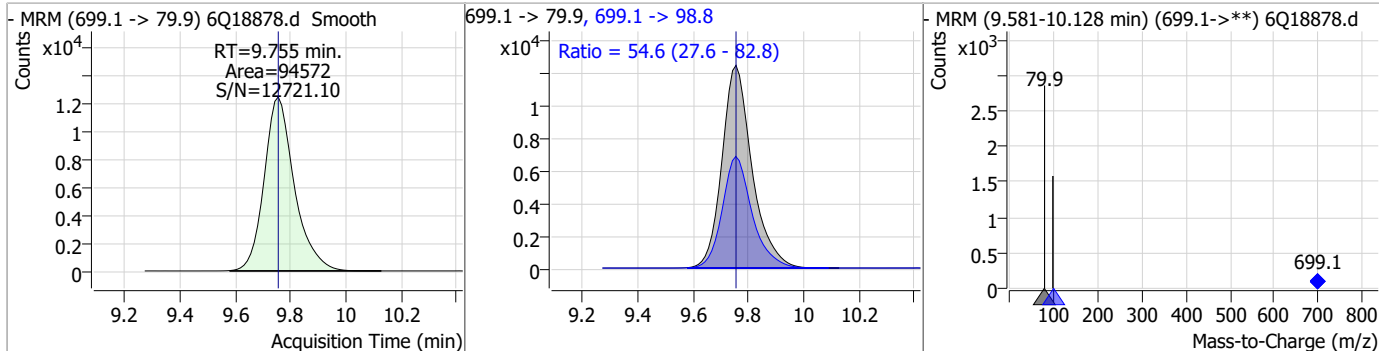
Perfluorinated Compounds by LC/MS/MS



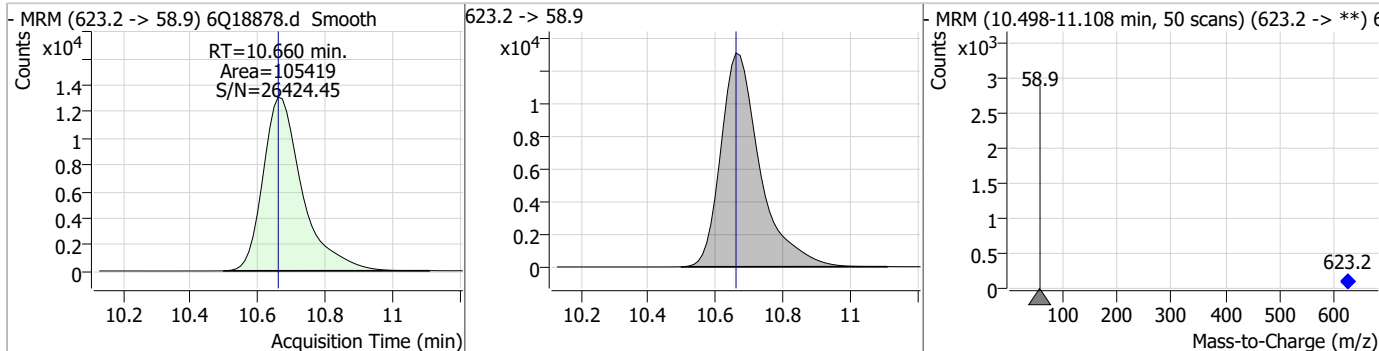
7.7.9
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Perfluorinated Compounds by LC/MS/MS

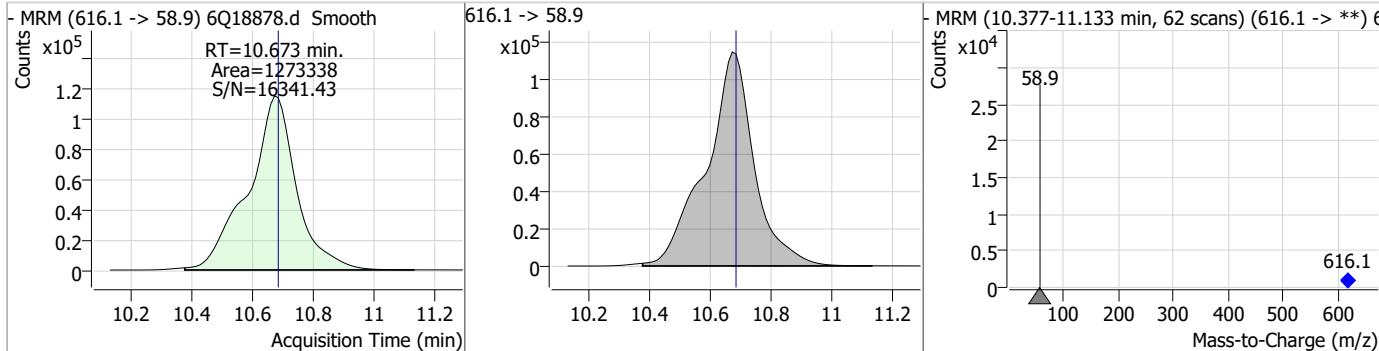
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	58.45	9.75	0.00	94572	699.1 -> 98.8	54.6	27.6	82.8



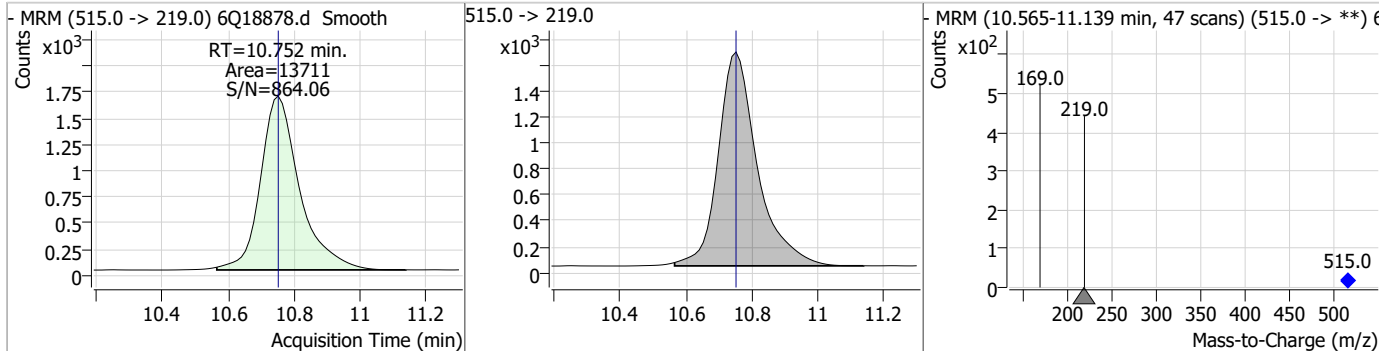
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	22.92	10.66	0.00	105419				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	311.98	10.67	-0.01	1273338				



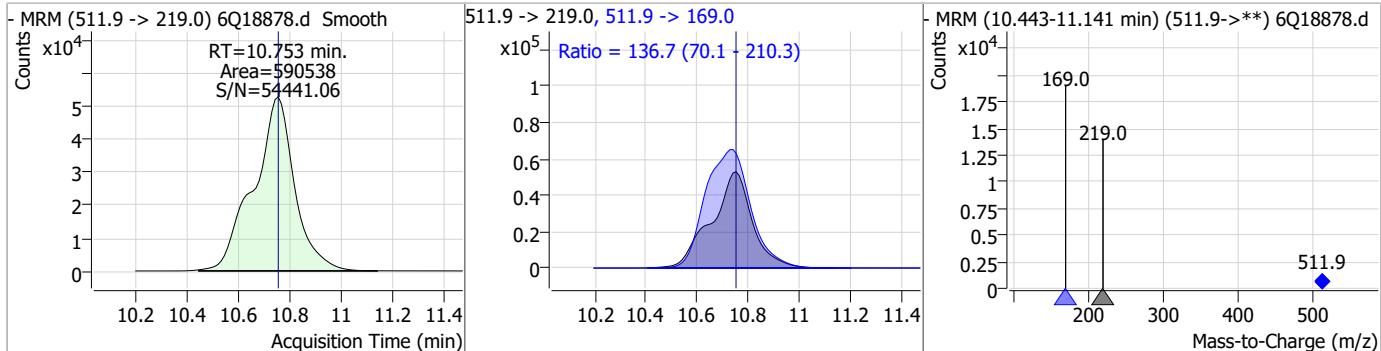
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.64	10.75	0.00	13711				



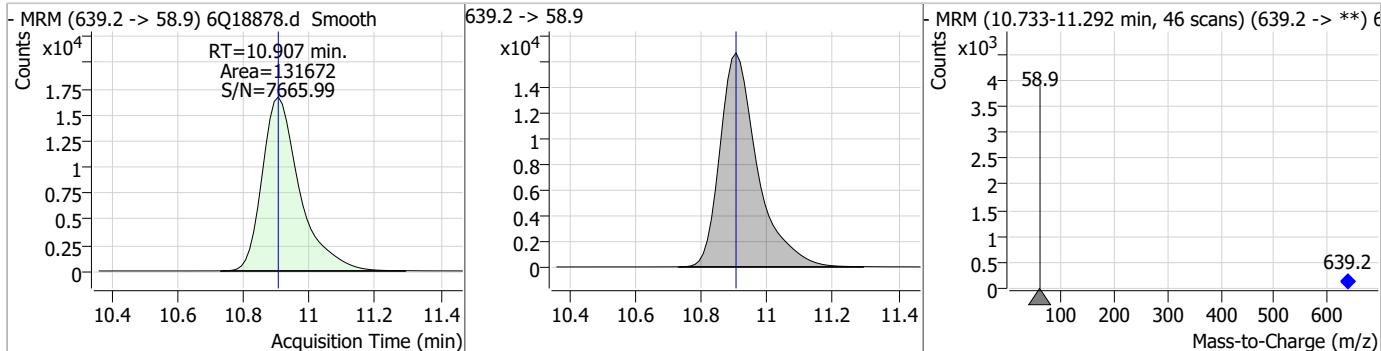
7.7.9
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Perfluorinated Compounds by LC/MS/MS

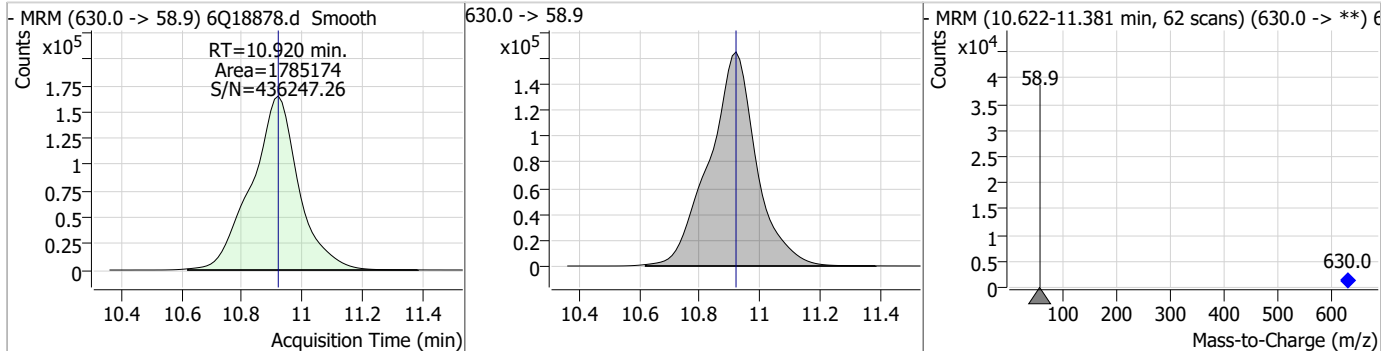
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOFA	113.05	10.75	0.00	590538	511.9 -> 169.0	136.7	70.1	210.3



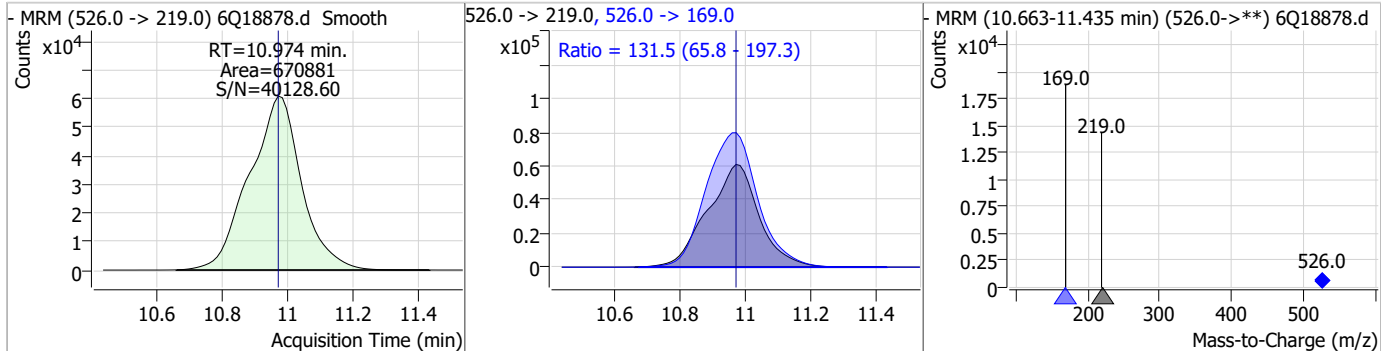
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	22.48	10.91	0.00	131672				



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

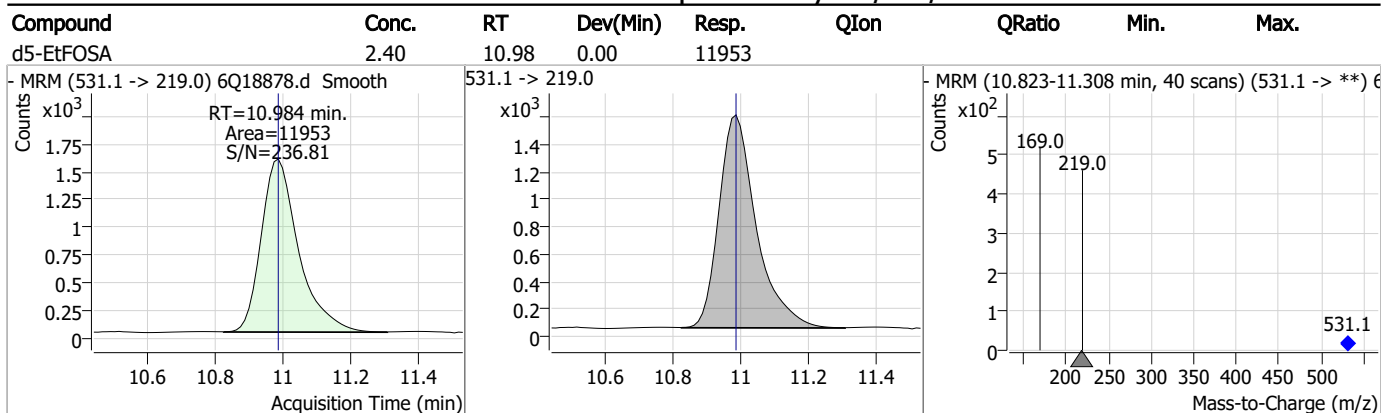


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOFA	121.80	10.97	0.00	670881	526.0 -> 169.0	131.5	65.8	197.3



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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

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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	4066	2.42 µg/L	99
		363.1 -> 319.0	65822		
PFHpS	7.698	363.1 -> 169.0	10951	2.26 µg/L	99
		449.0 -> 79.9	15477		
PFHxA	5.469	449.0 -> 98.9	7650	2.28 µg/L	99
		313.0 -> 269.0	52593		
PFHxS	7.156	313.0 -> 118.9	2746	2.16 µg/L	97
		398.7 -> 79.9	15243		
PFNA	7.570	398.7 -> 98.9	7581	2.29 µg/L	100
		463.0 -> 419.0	73142		
PFNS	8.644	463.0 -> 219.0	14694	2.18 µg/L	95
		548.8 -> 79.9	13117		
PFOA	7.052	548.8 -> 98.9	7258	2.51 µg/L	99
		413.0 -> 369.0	102532		
PFOS	8.191	413.0 -> 169.0	17716	2.13 µg/L	100
		498.9 -> 79.9	14667		
PFPeA	4.274	498.9 -> 98.8	7146	4.83 µg/L	100
		263.0 -> 219.0	71132		
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
		511.9 -> 219.0	24447		
MeFOSA	10.753	511.9 -> 169.0	34885	4.92 µg/L	98
		616.1 -> 58.9	56955		
MeFOSE	10.673	699.1 -> 79.9	3801	12.07 µg/L	100
		699.1 -> 98.8	1999		
PFDoDS	9.755	295.0 -> 201.0	13047	2.23 µg/L	96
		295.0 -> 84.9	3585		
NFDHA	5.348	279.0 -> 85.1	50354	4.70 µg/L	95
		229.0 -> 84.9	37656		
PFMBA	4.688	314.8 -> 134.9	121754	4.95 µg/L	100
		314.8 -> 82.9	4318		
PFMPA	3.401			4.85 µg/L	100
PFEESA	5.926			4.15 µg/L	100

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

7.7.10
7



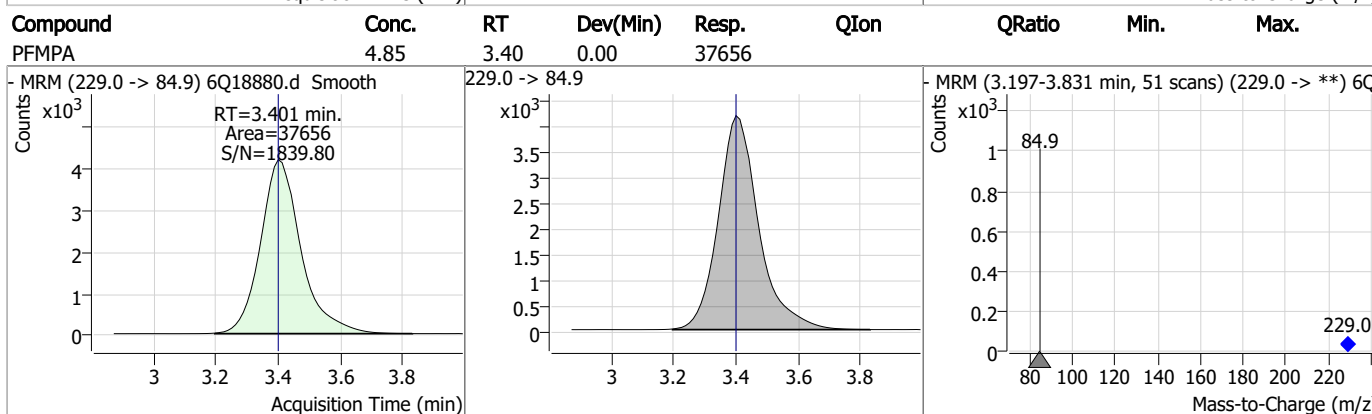
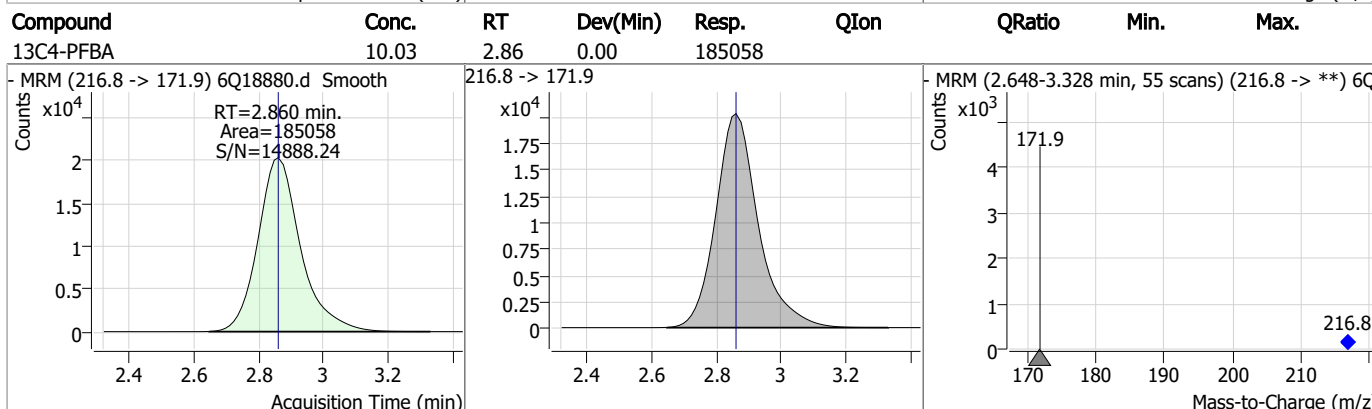
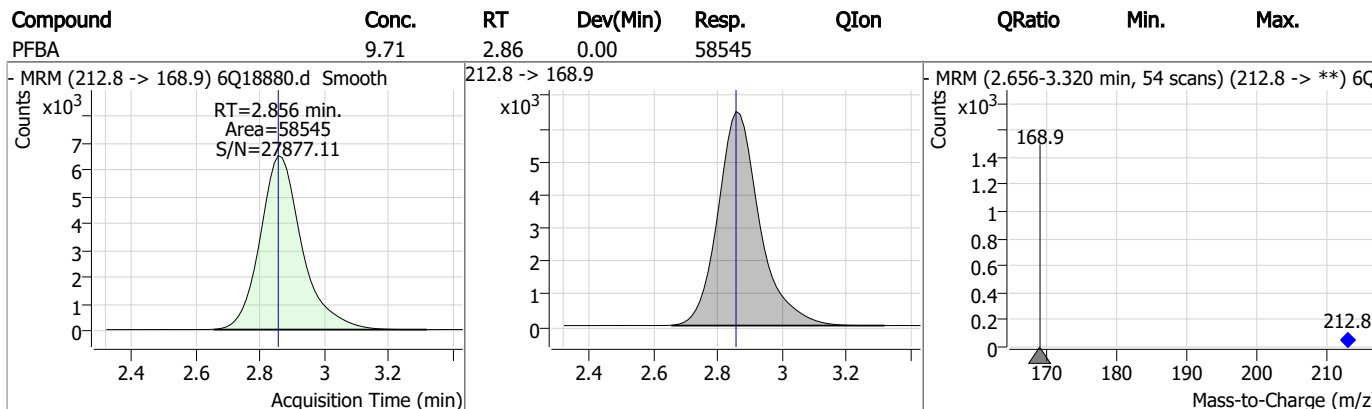
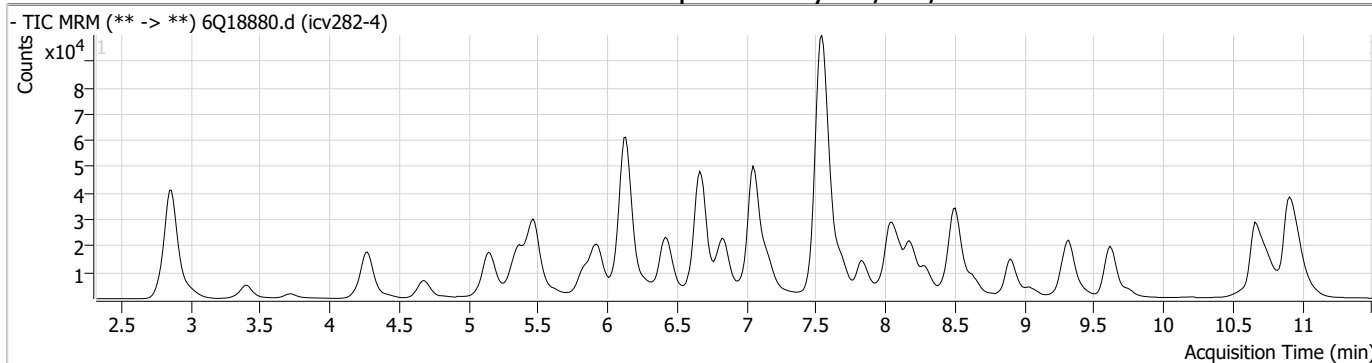
Perfluorinated Compounds by LC/MS/MS

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

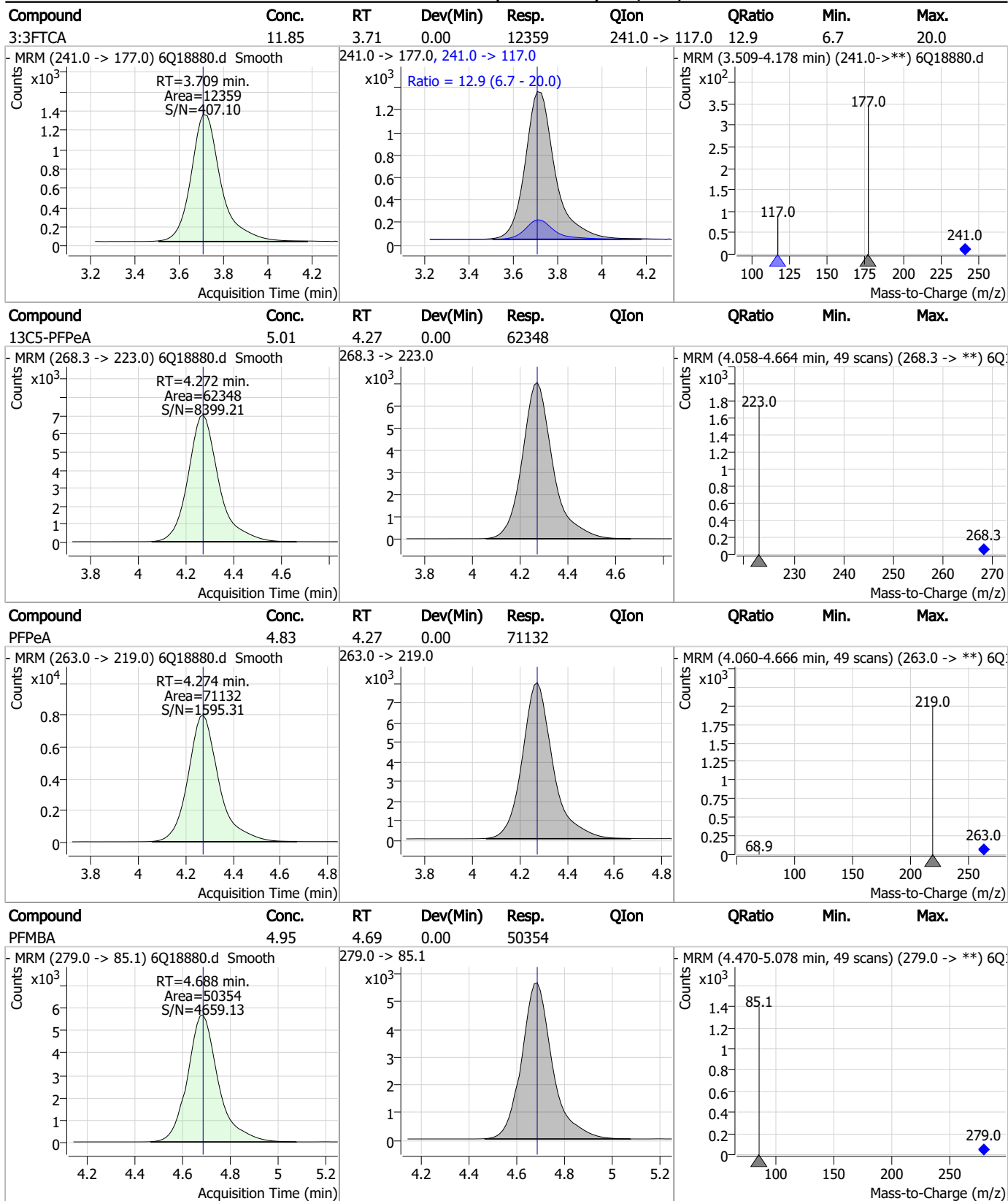
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Perfluorinated Compounds by LC/MS/MS



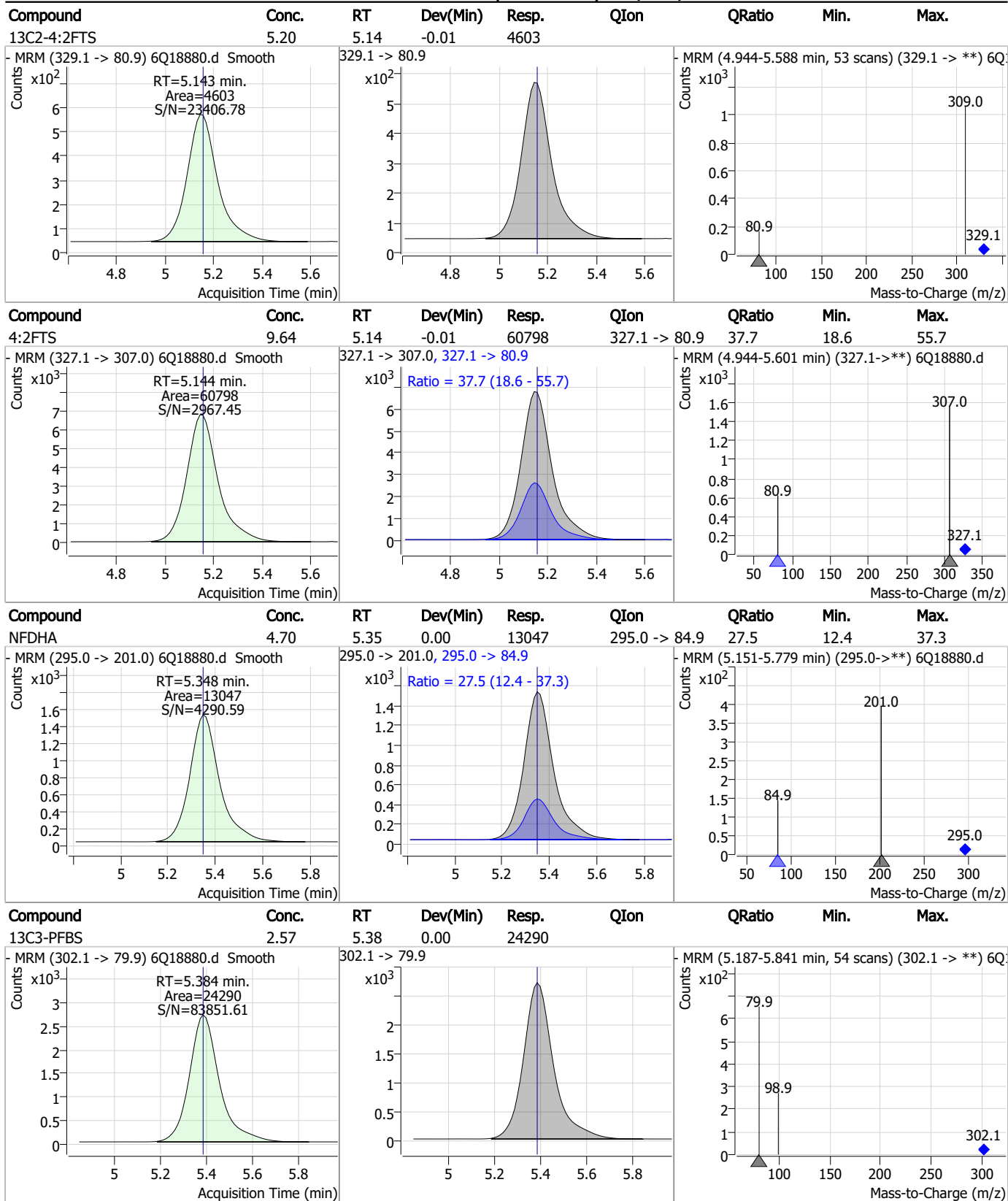
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Perfluorinated Compounds by LC/MS/MS



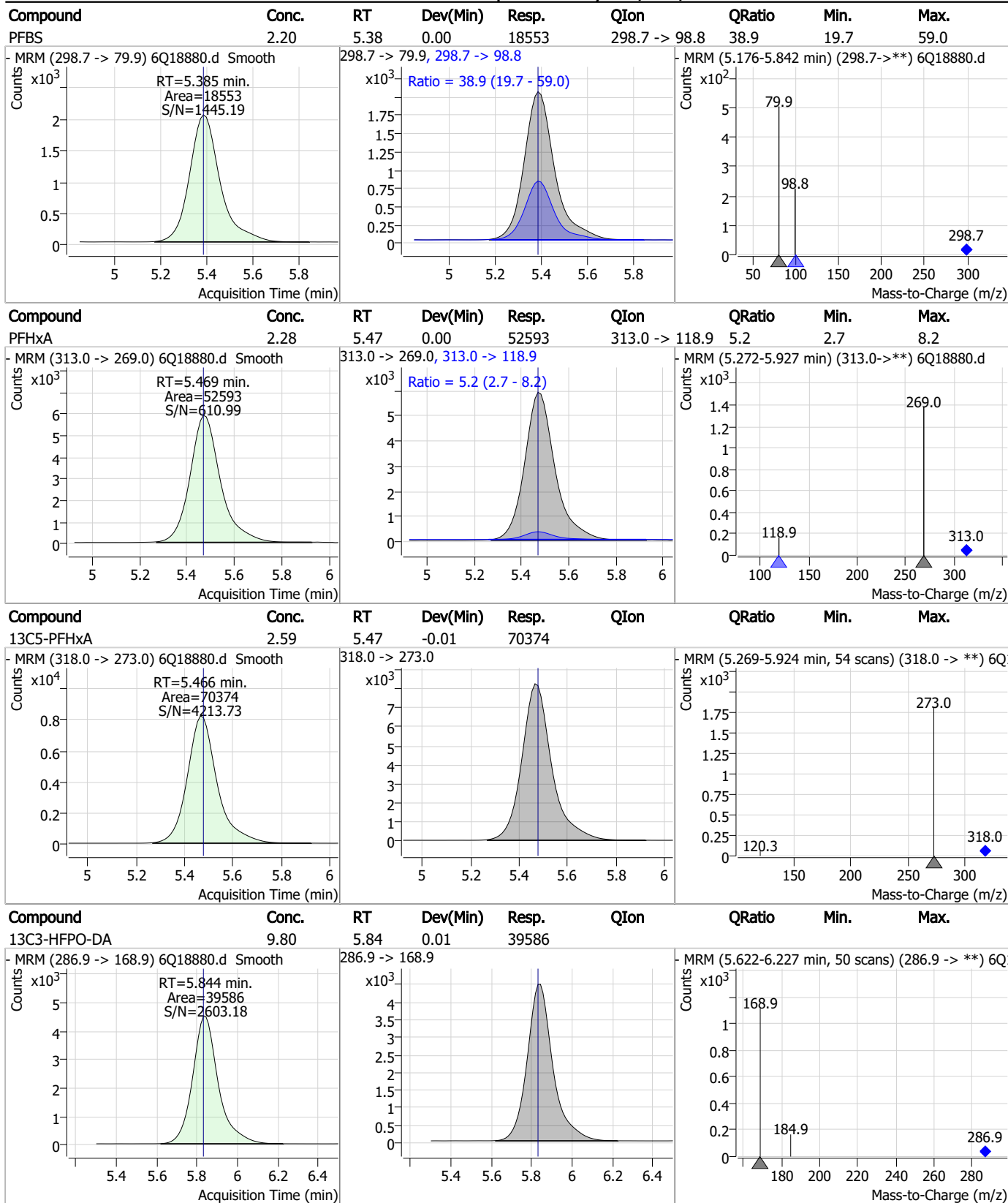
7.7.10
7

Perfluorinated Compounds by LC/MS/MS



7.7.10 7

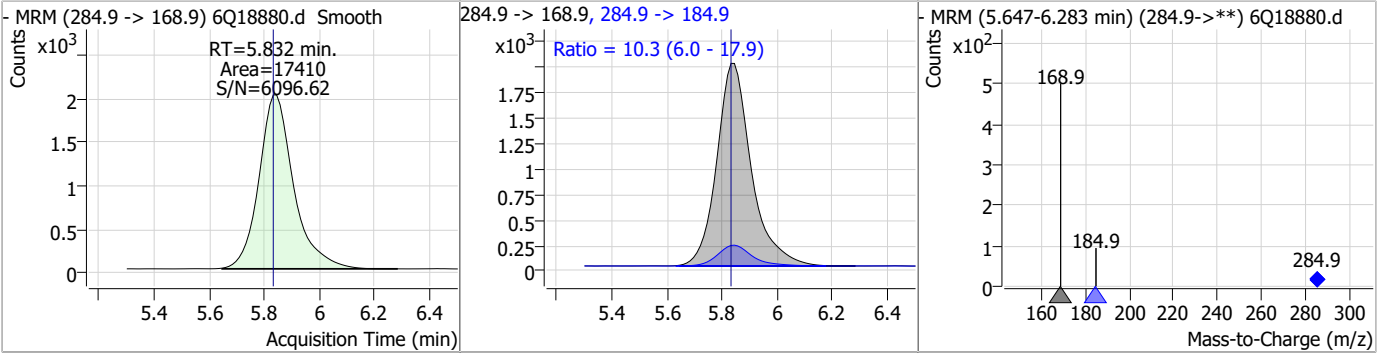
Perfluorinated Compounds by LC/MS/MS



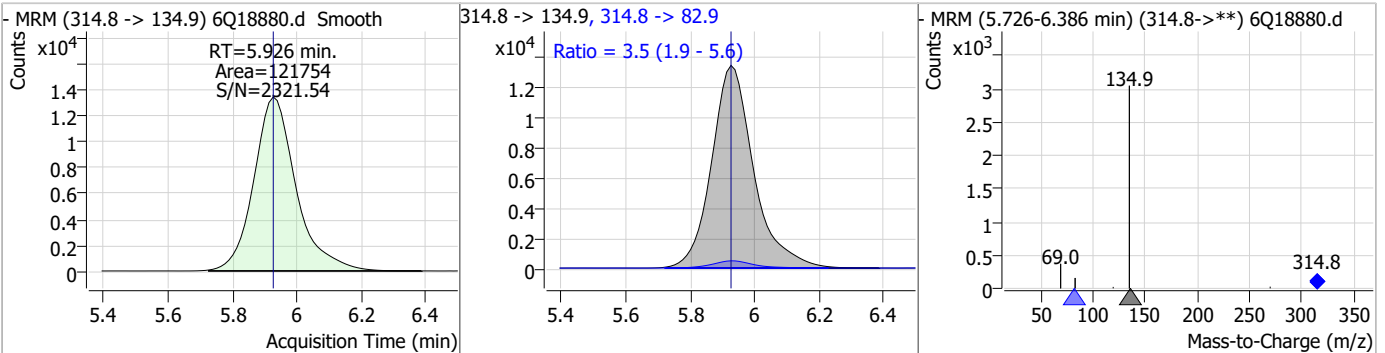
7.7.10 7

Perfluorinated Compounds by LC/MS/MS

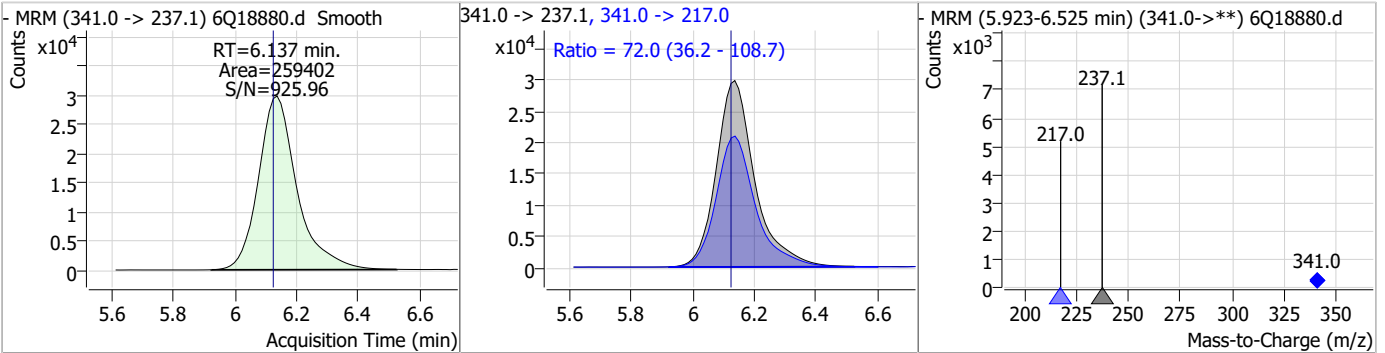
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.27	5.83	0.00	17410	284.9 -> 184.9	10.3	6.0	17.9



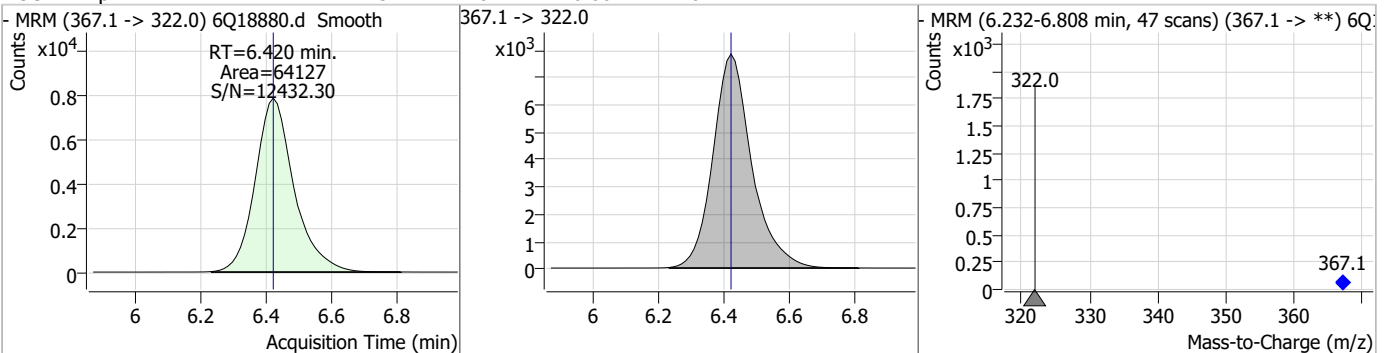
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.15	5.93	0.00	121754	314.8 -> 82.9	3.5	1.9	5.6



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

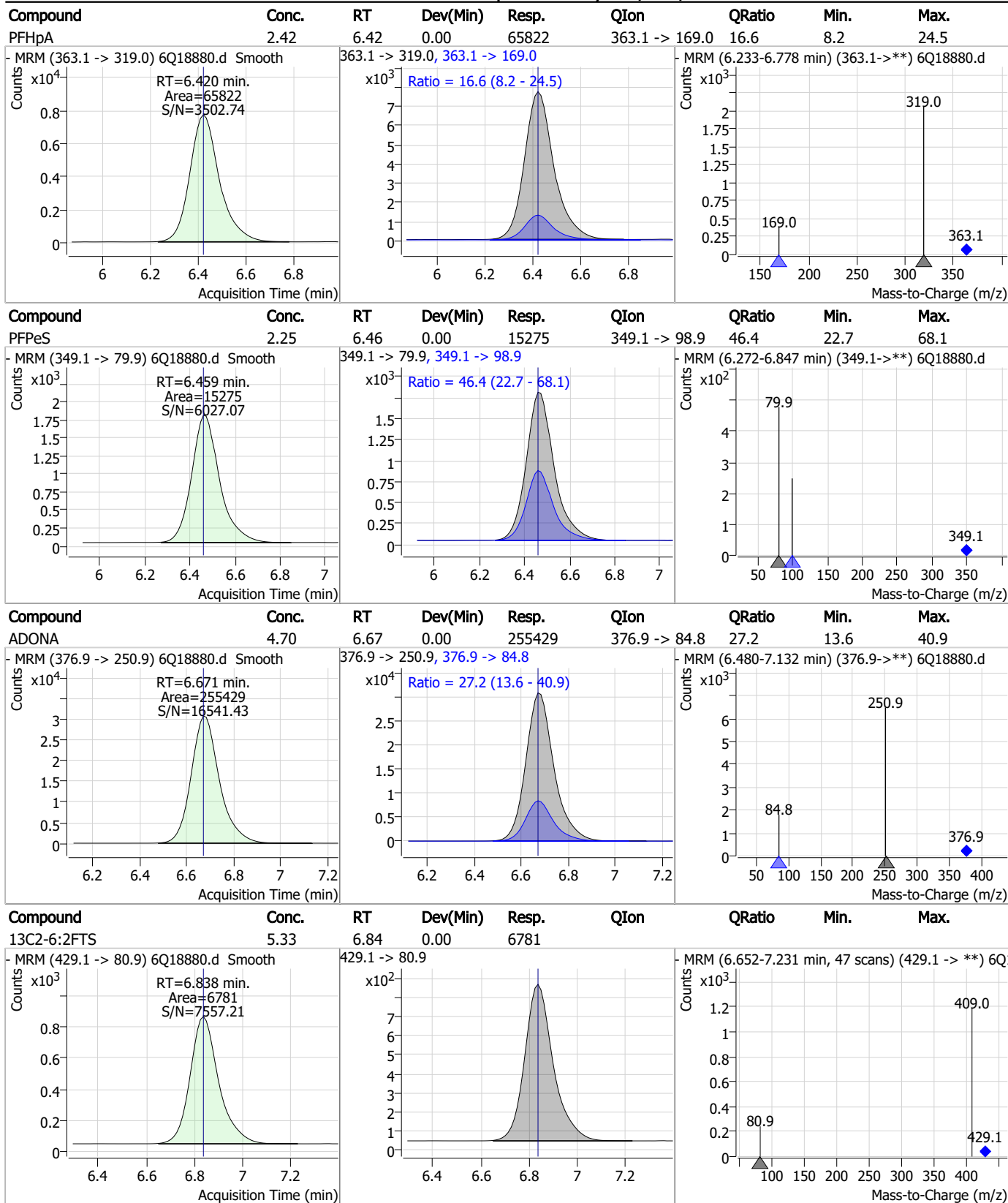


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.51	6.42	0.00	64127	367.1 -> 322.0	-	-	-



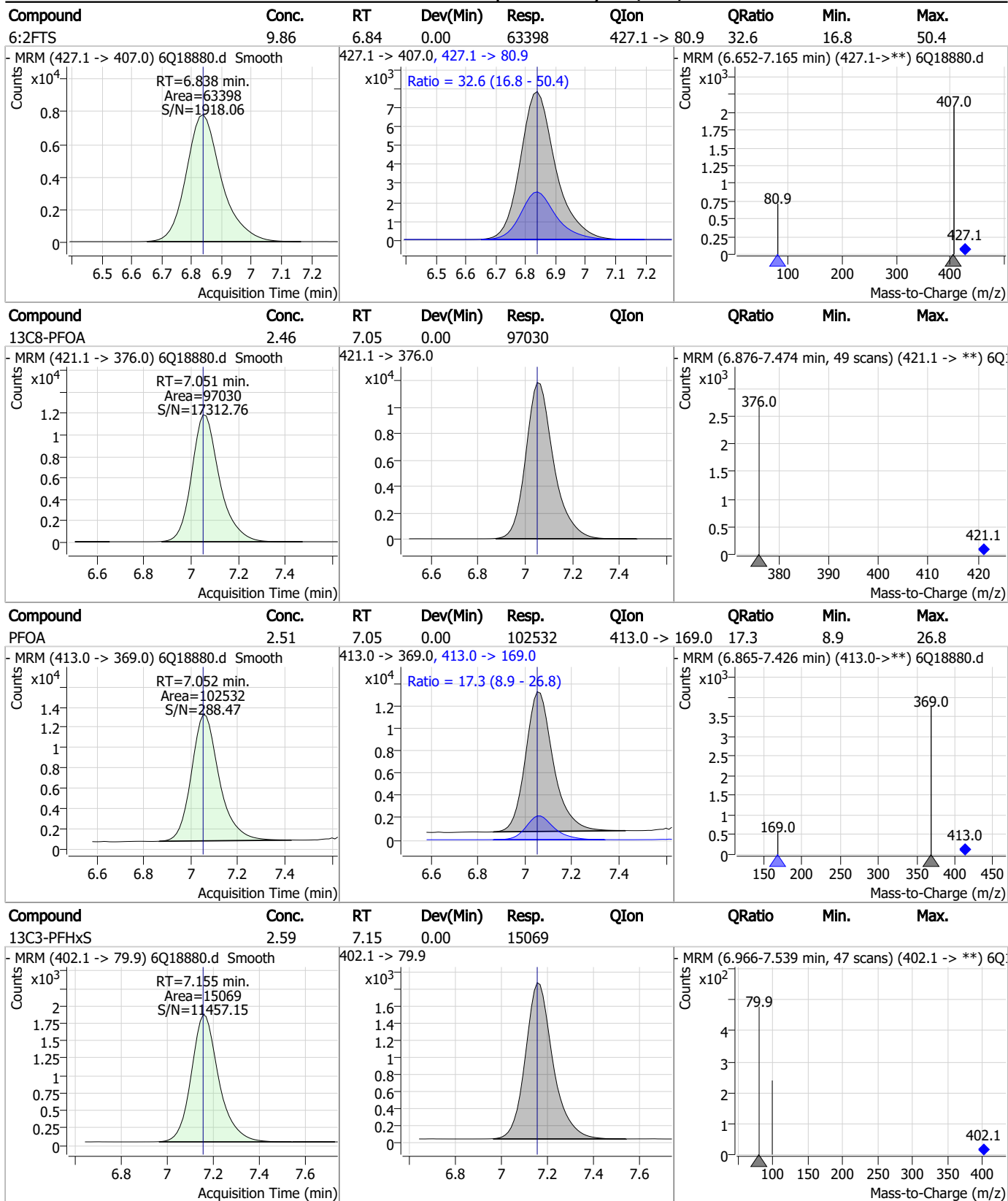
7.7.10 7

Perfluorinated Compounds by LC/MS/MS



7.7.10 7

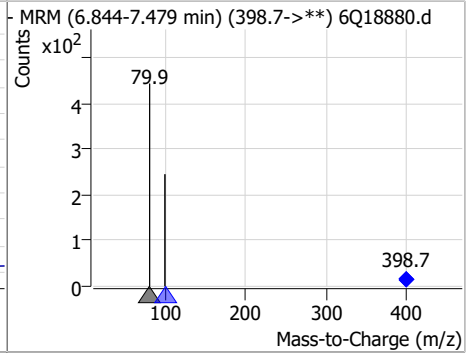
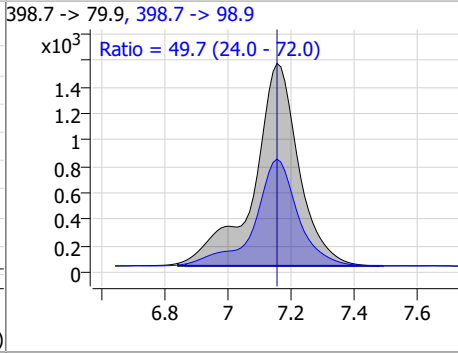
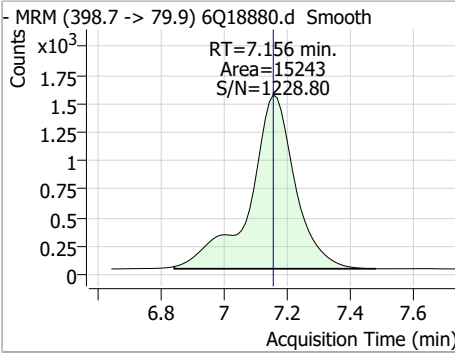
Perfluorinated Compounds by LC/MS/MS



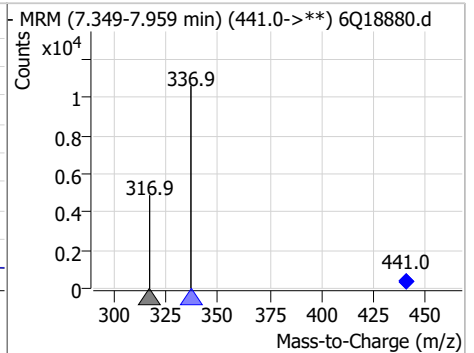
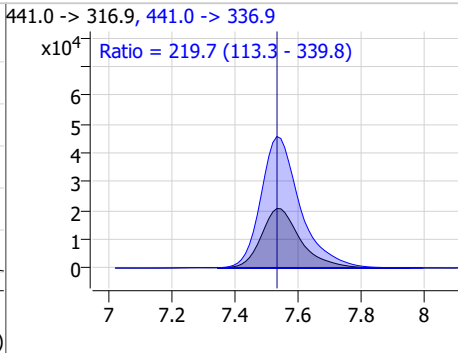
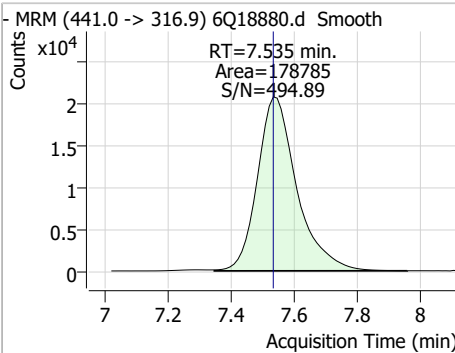
7.7.10 7

Perfluorinated Compounds by LC/MS/MS

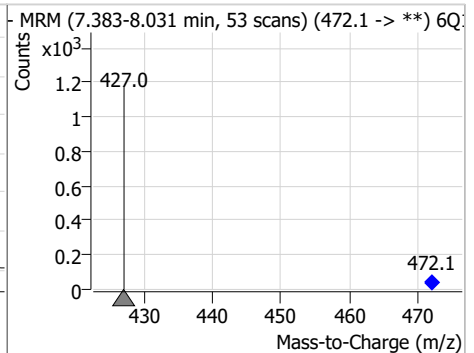
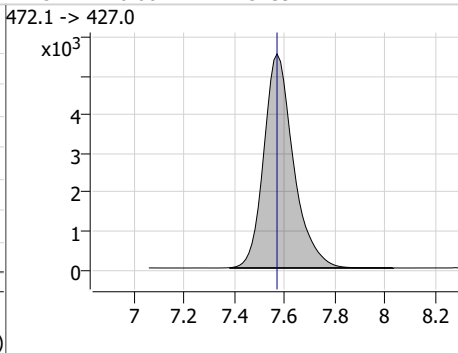
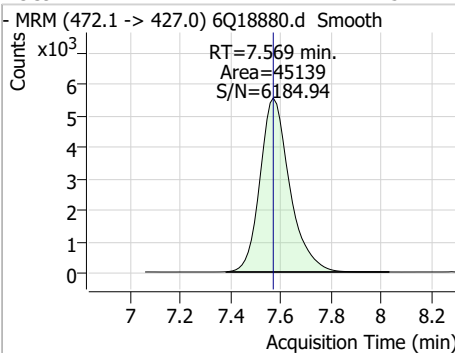
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.16	7.16	0.00	15243	398.7 -> 98.9	49.7	24.0	72.0



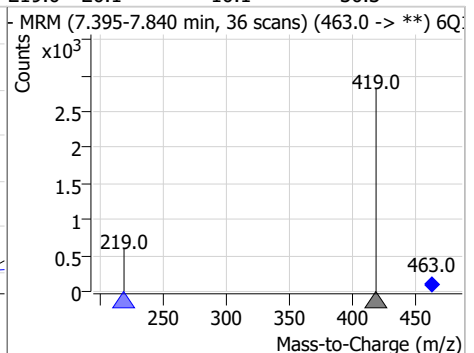
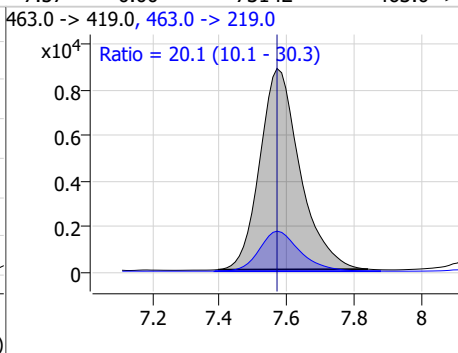
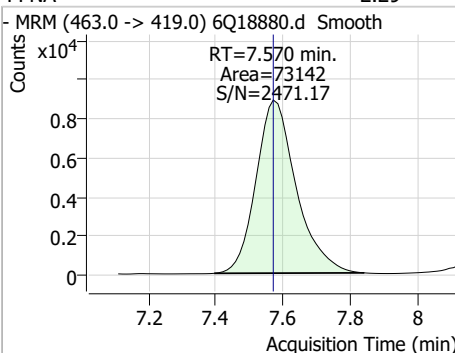
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	58.31	7.54	0.00	178785	441.0 -> 336.9	219.7	113.3	339.8



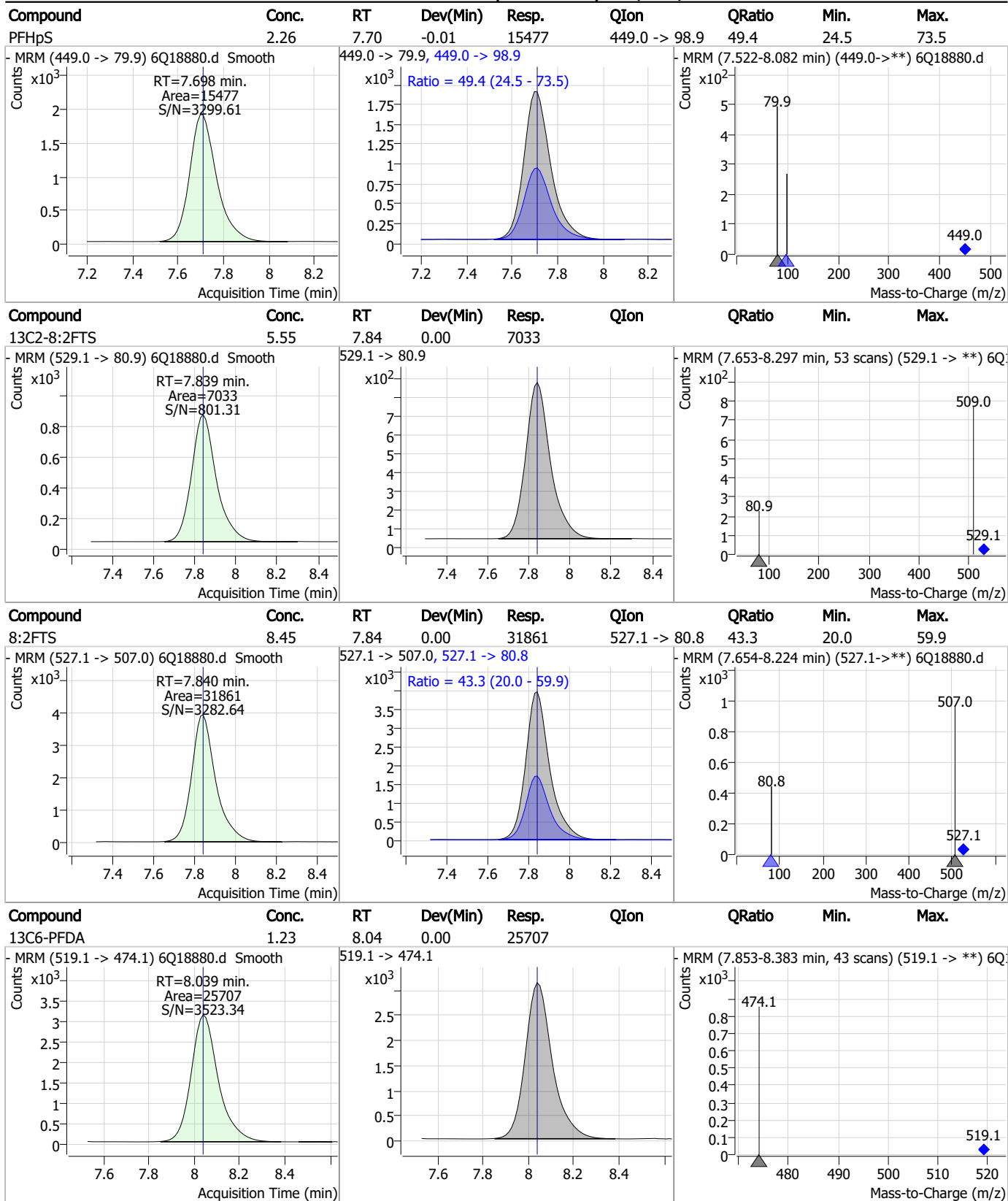
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.57	0.00	45139	472.1 -> 427.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.29	7.57	0.00	73142	463.0 -> 219.0	20.1	10.1	30.3

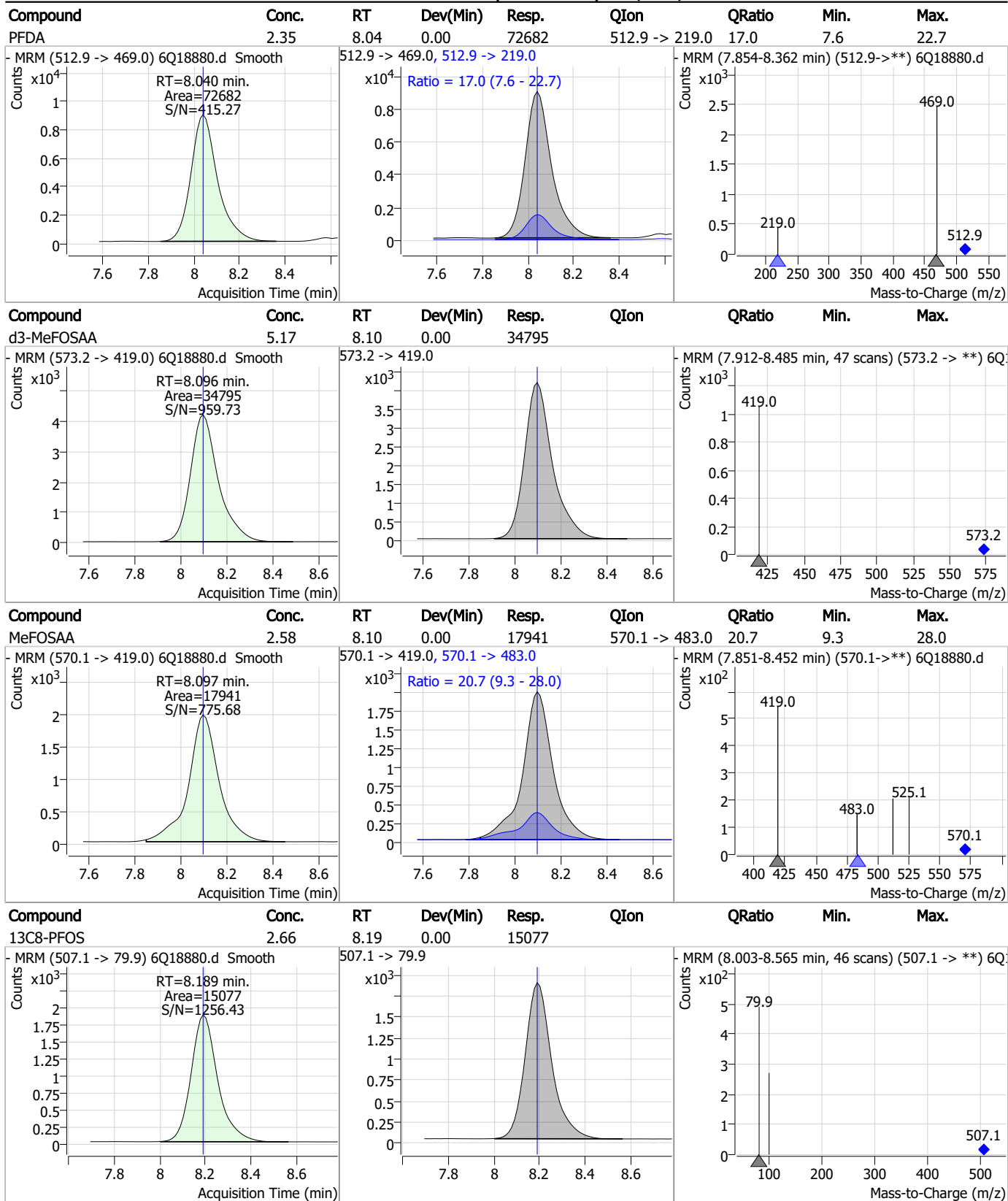


Perfluorinated Compounds by LC/MS/MS



7.7.10 7

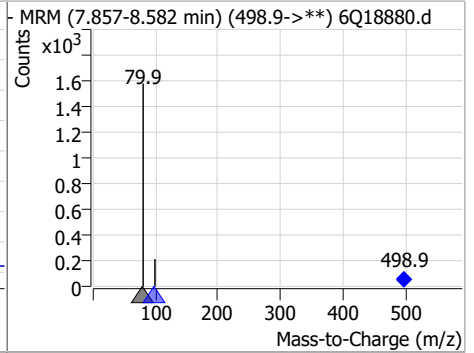
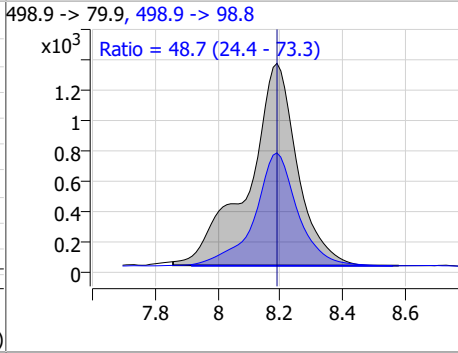
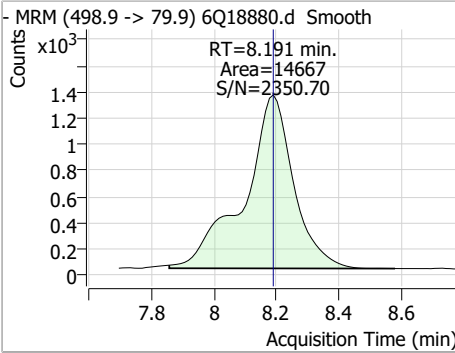
Perfluorinated Compounds by LC/MS/MS



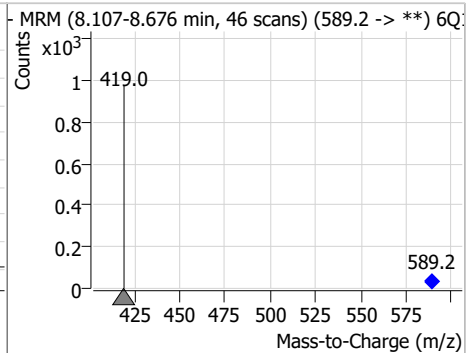
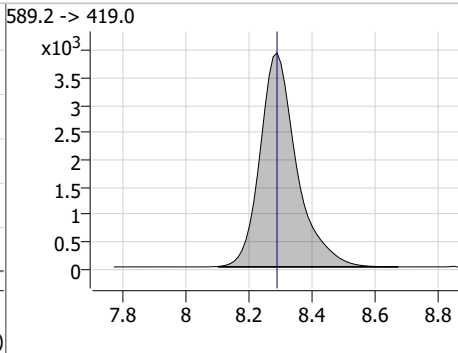
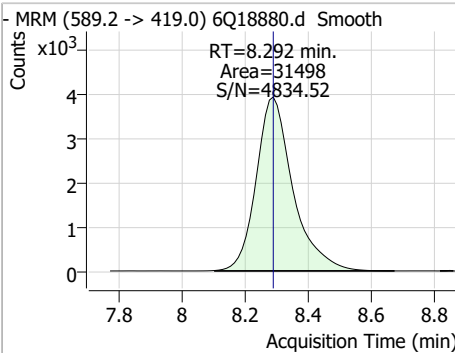
7.7.10 7

Perfluorinated Compounds by LC/MS/MS

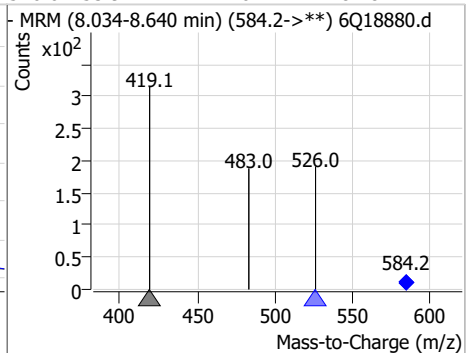
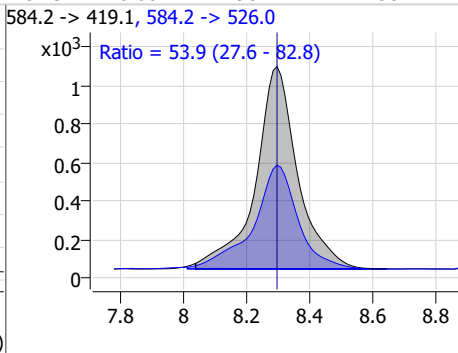
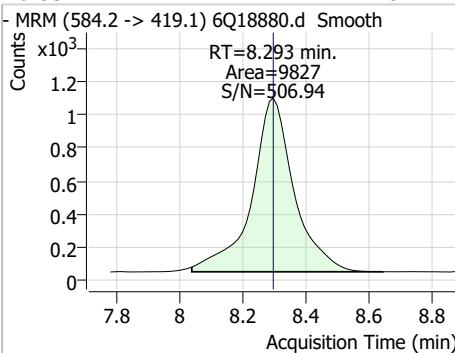
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFOS	2.13	8.19	0.00	14667	498.9 -> 98.8	48.7	24.4	73.3



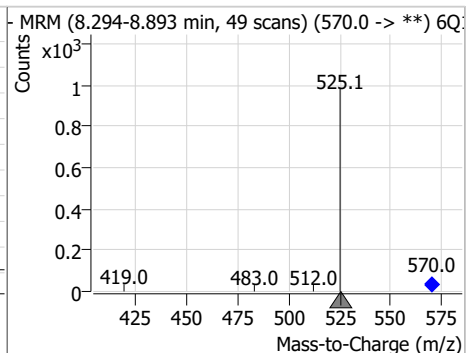
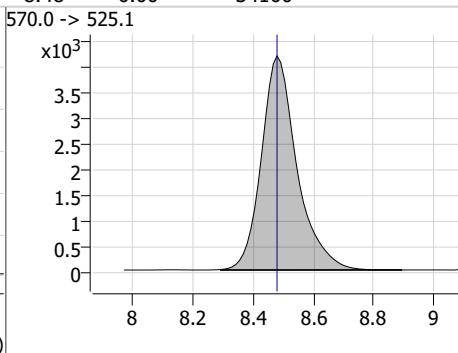
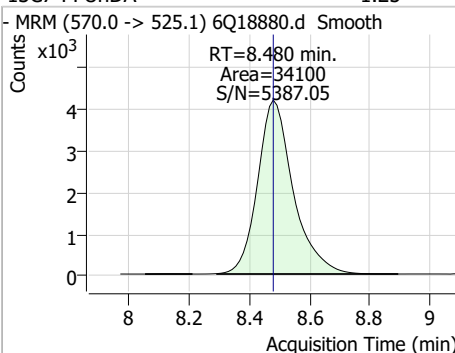
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d5-EtFOSAA	5.22	8.29	0.00	31498				



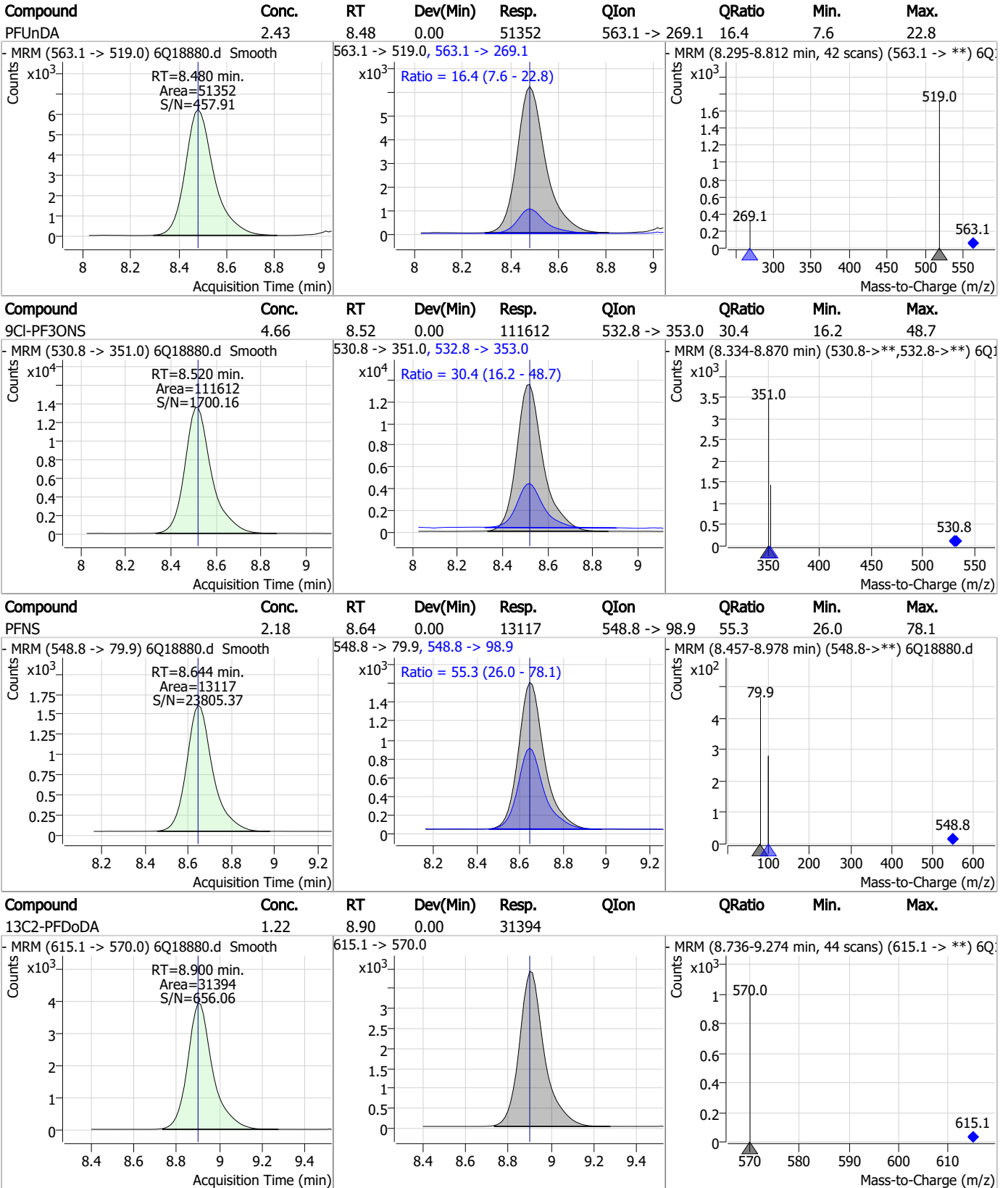
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSAA	2.29	8.29	0.00	9827	584.2 -> 526.0	53.9	27.6	82.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C7-PFUnDA	1.25	8.48	0.00	34100				



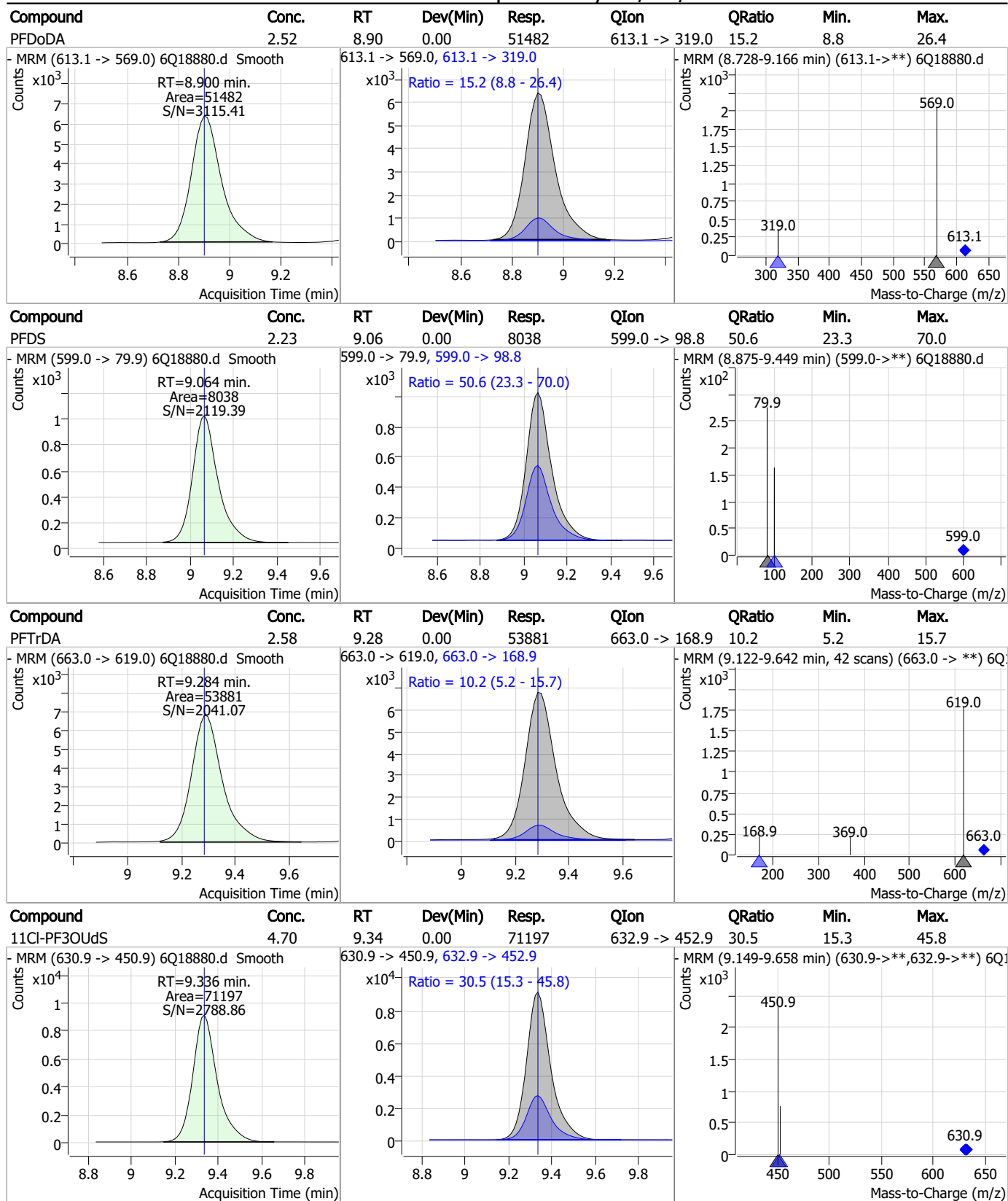
Perfluorinated Compounds by LC/MS/MS



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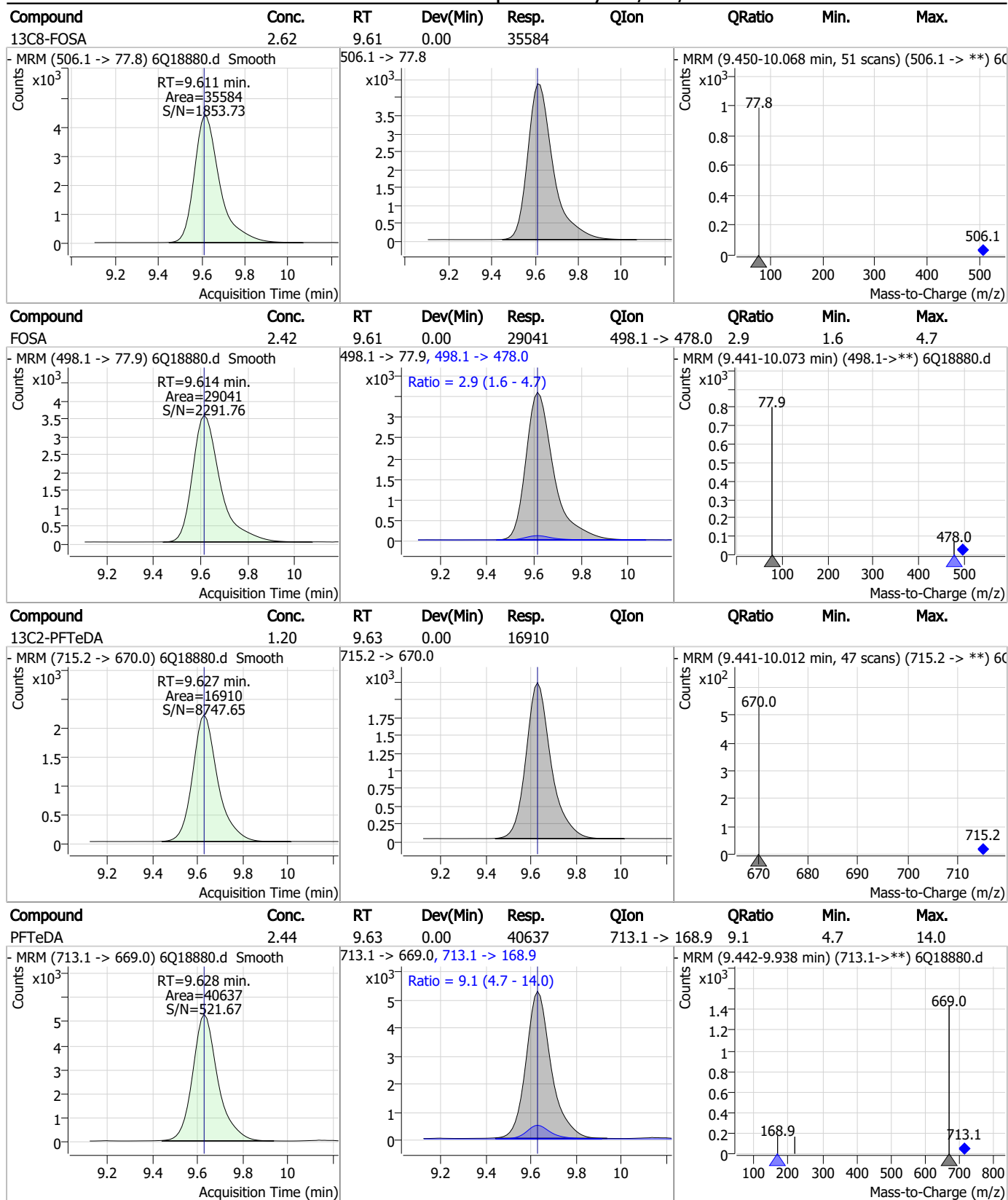
Perfluorinated Compounds by LC/MS/MS



7.7.10 7

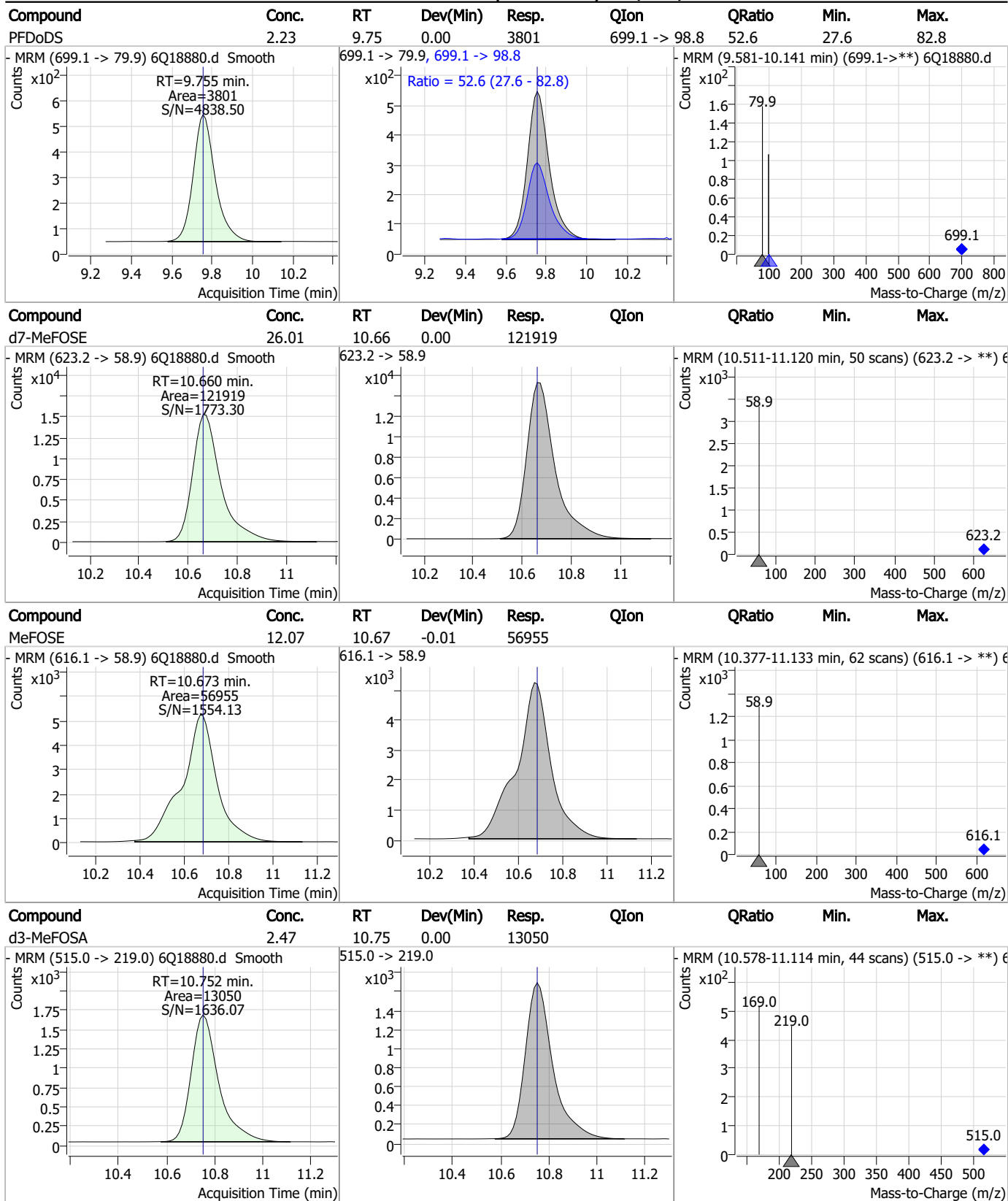


Perfluorinated Compounds by LC/MS/MS



7.7.10 7

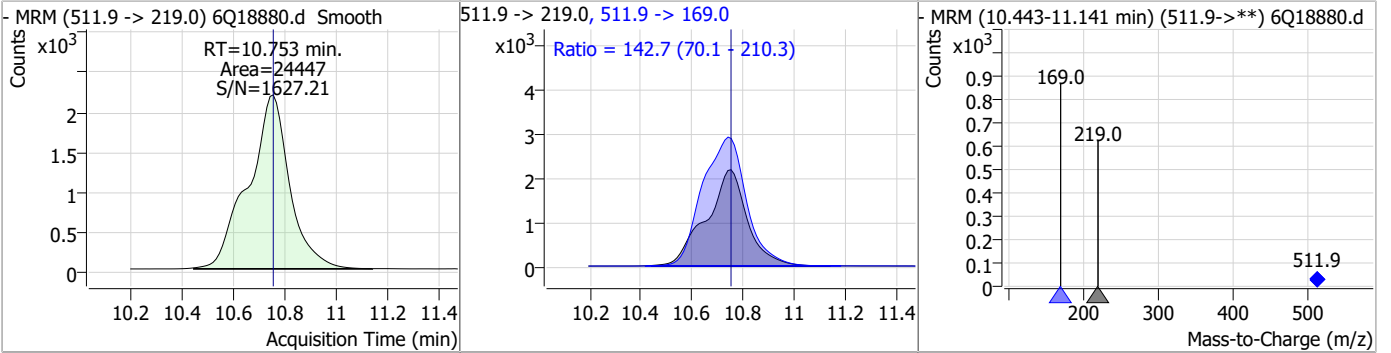
Perfluorinated Compounds by LC/MS/MS



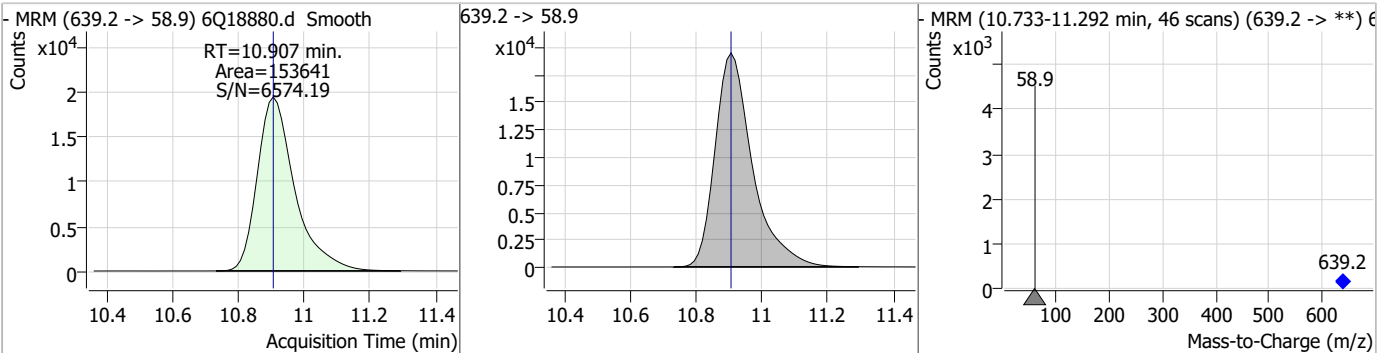
7.7.10
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Perfluorinated Compounds by LC/MS/MS

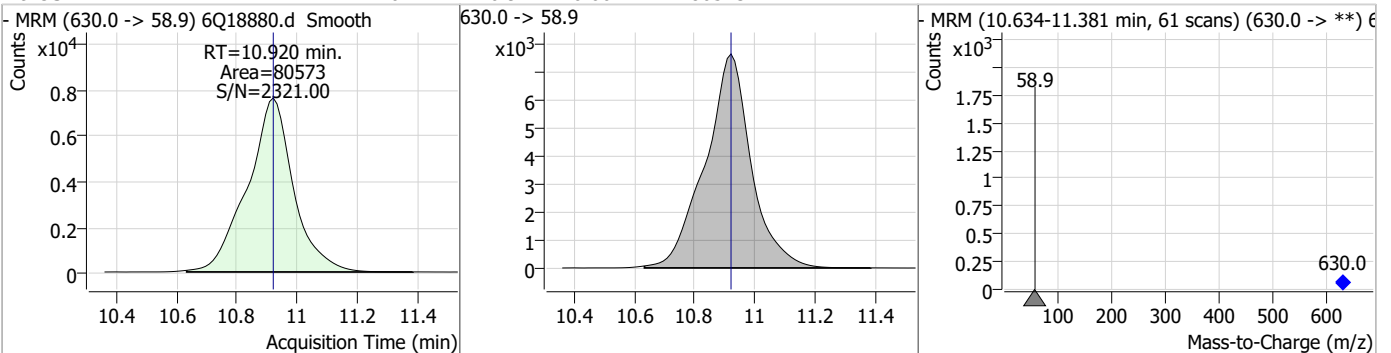
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	4.92	10.75	0.00	24447	511.9 -> 169.0	142.7	70.1	210.3



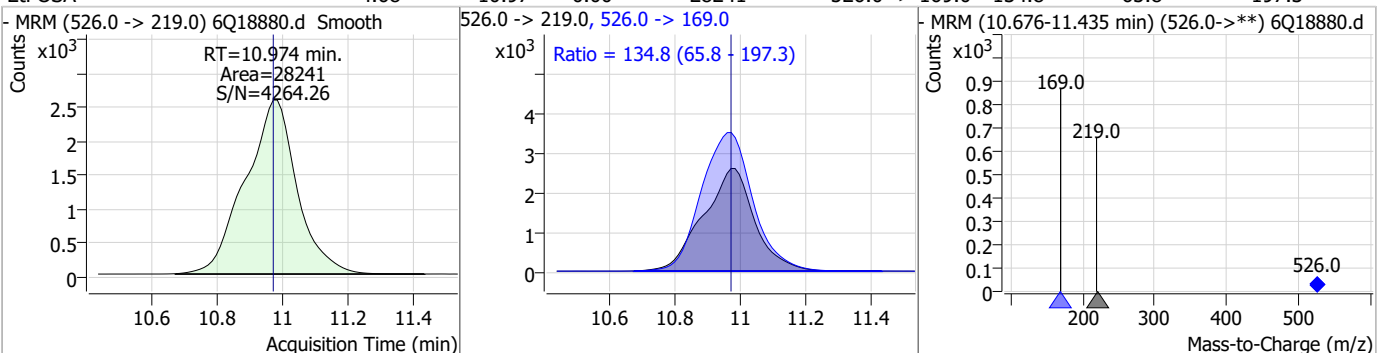
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.74	10.91	0.00	153641				



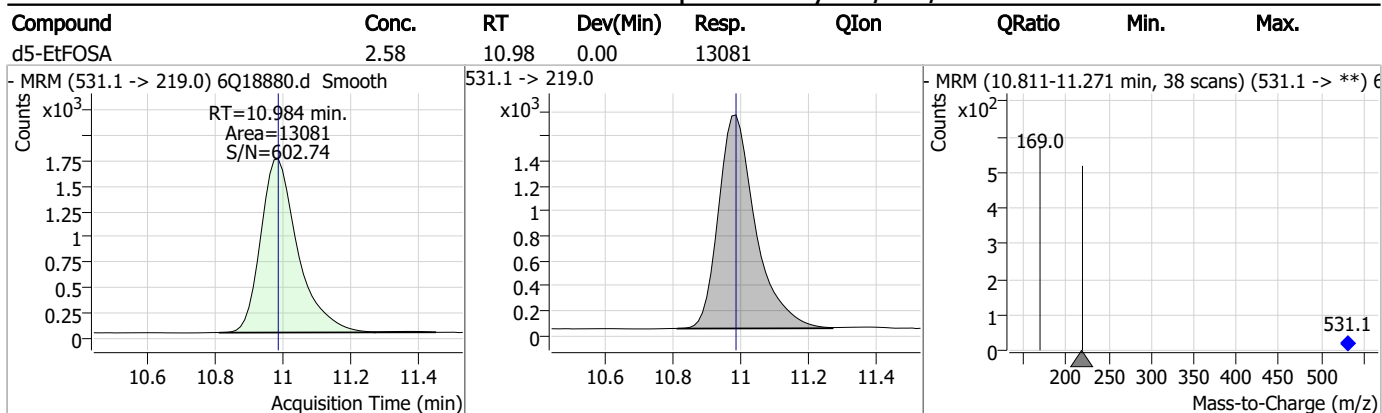
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	12.02	10.92	0.00	80573				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	4.68	10.97	0.00	28241	526.0 -> 169.0	134.8	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



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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

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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		
11CI-PF3OUdS	9.336	630.9 -> 450.9	299312	19.90 µg/L	99
		632.9 -> 452.9	92257		
9CI-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

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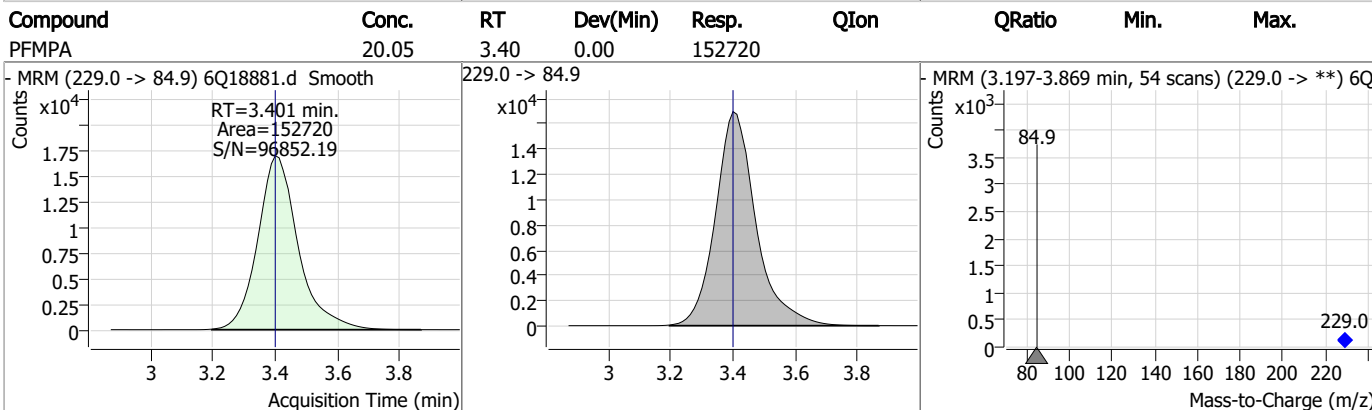
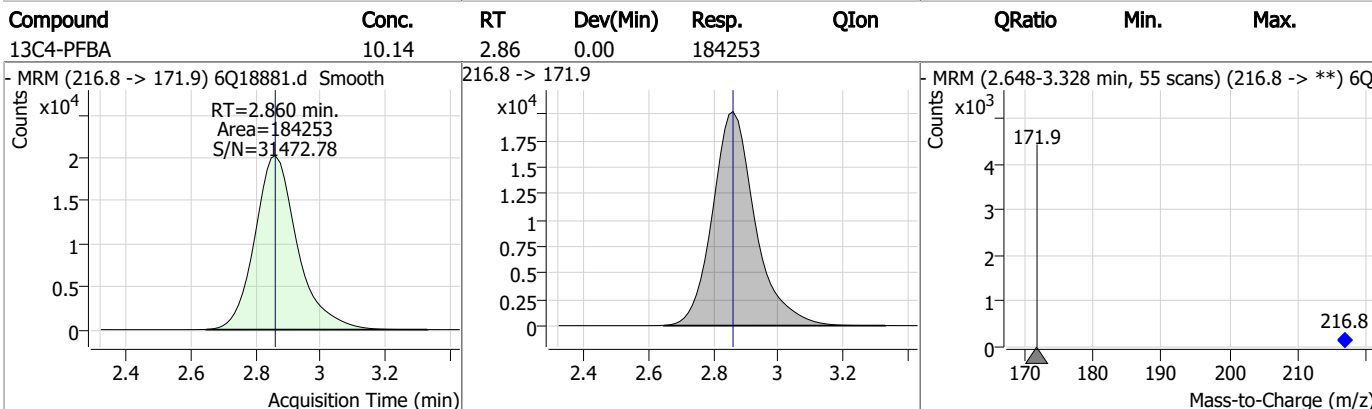
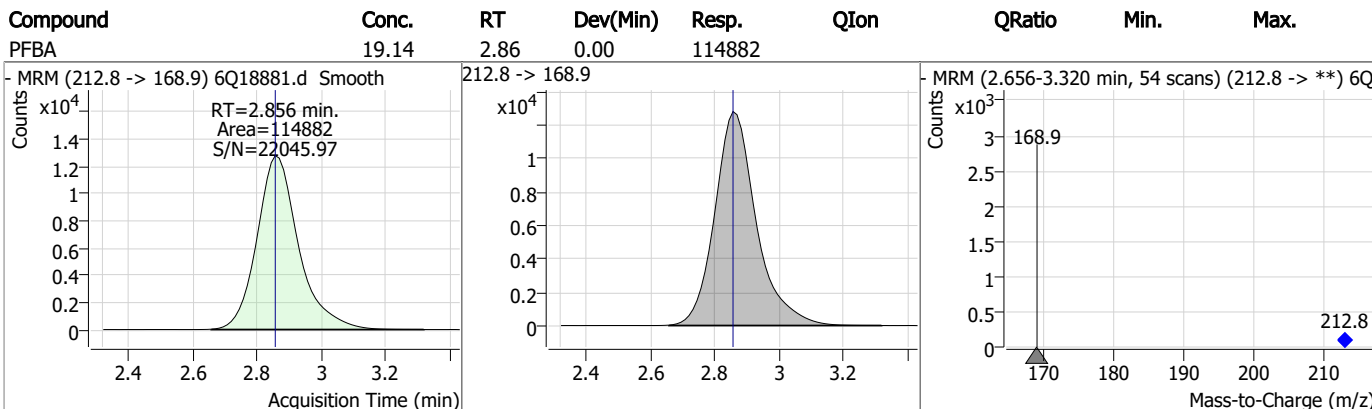
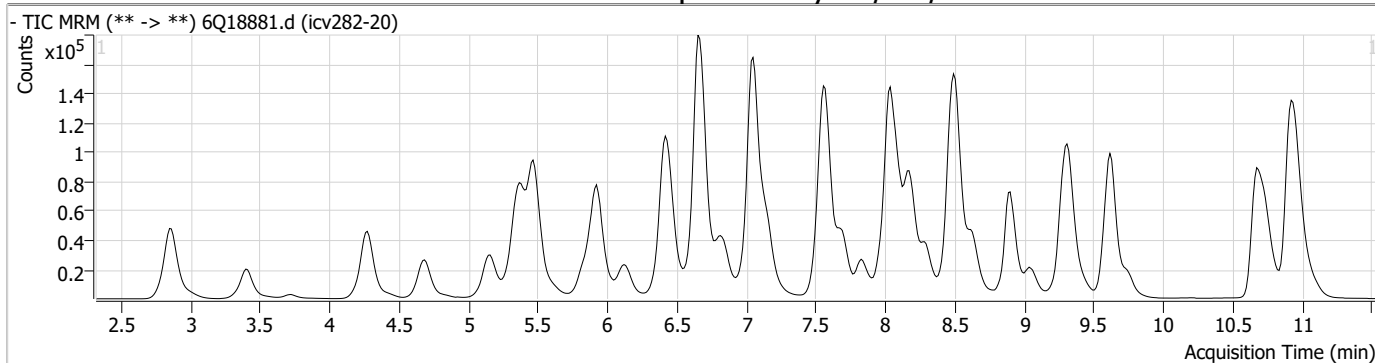
Perfluorinated Compounds by LC/MS/MS

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

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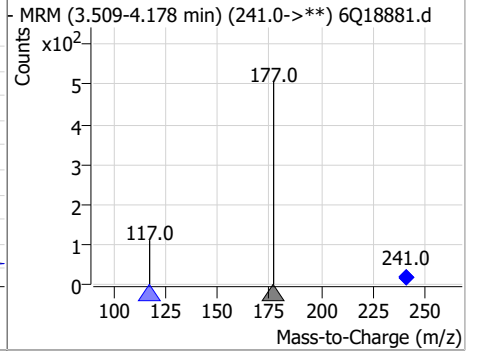
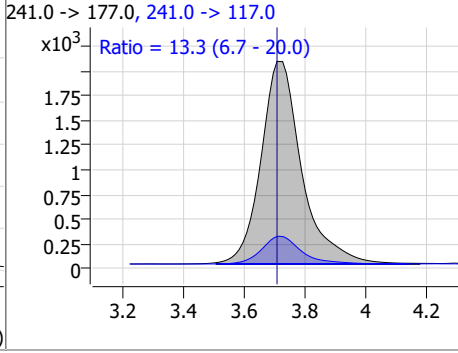
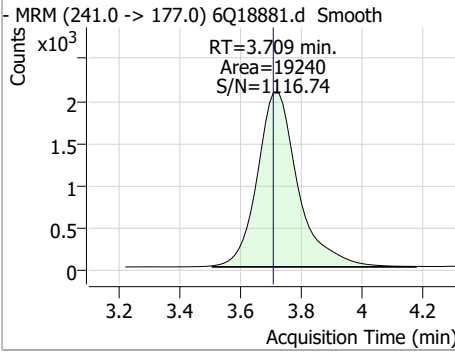
Perfluorinated Compounds by LC/MS/MS



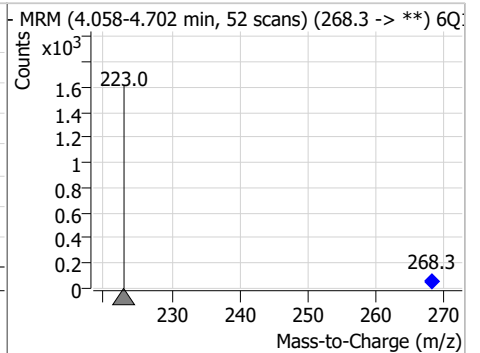
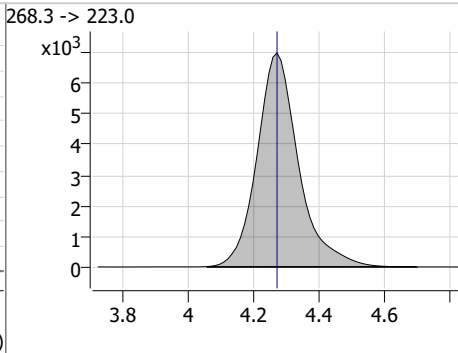
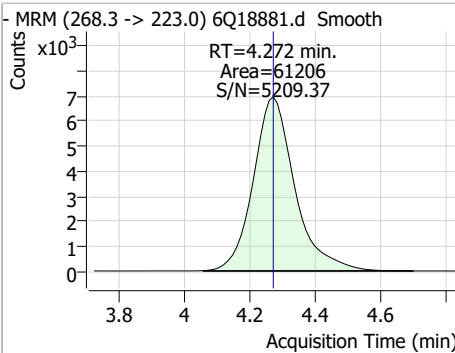
7.7.11
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Perfluorinated Compounds by LC/MS/MS

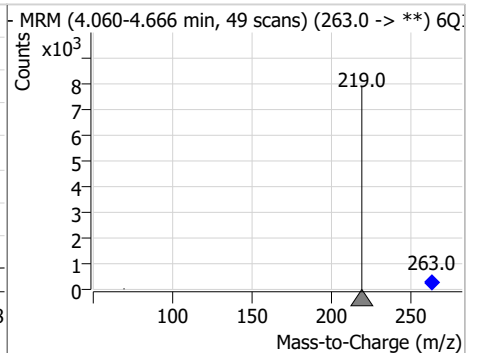
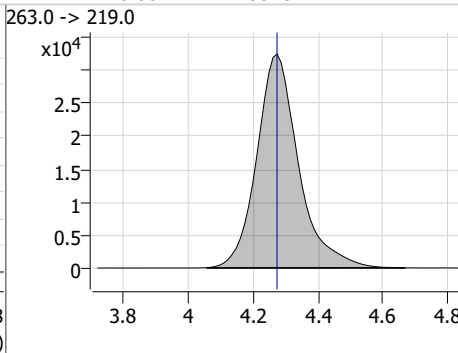
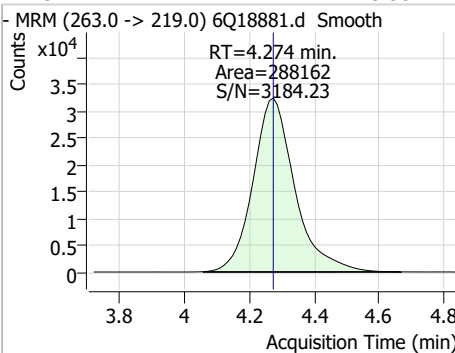
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
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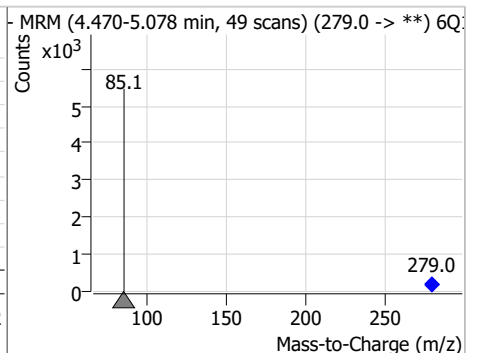
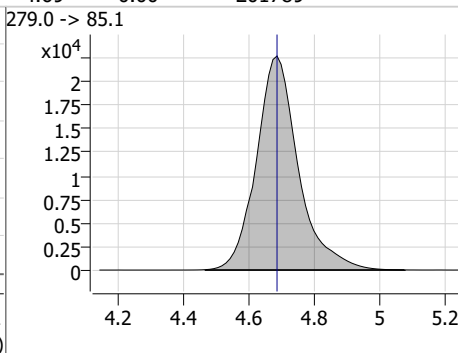
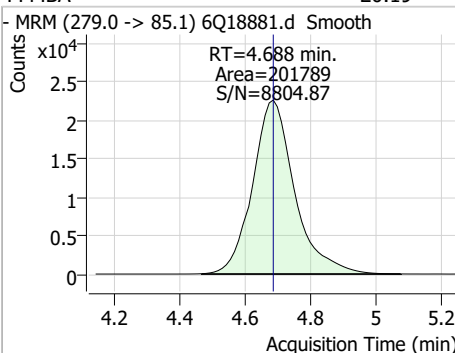
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.02	4.27	0.00	61206				



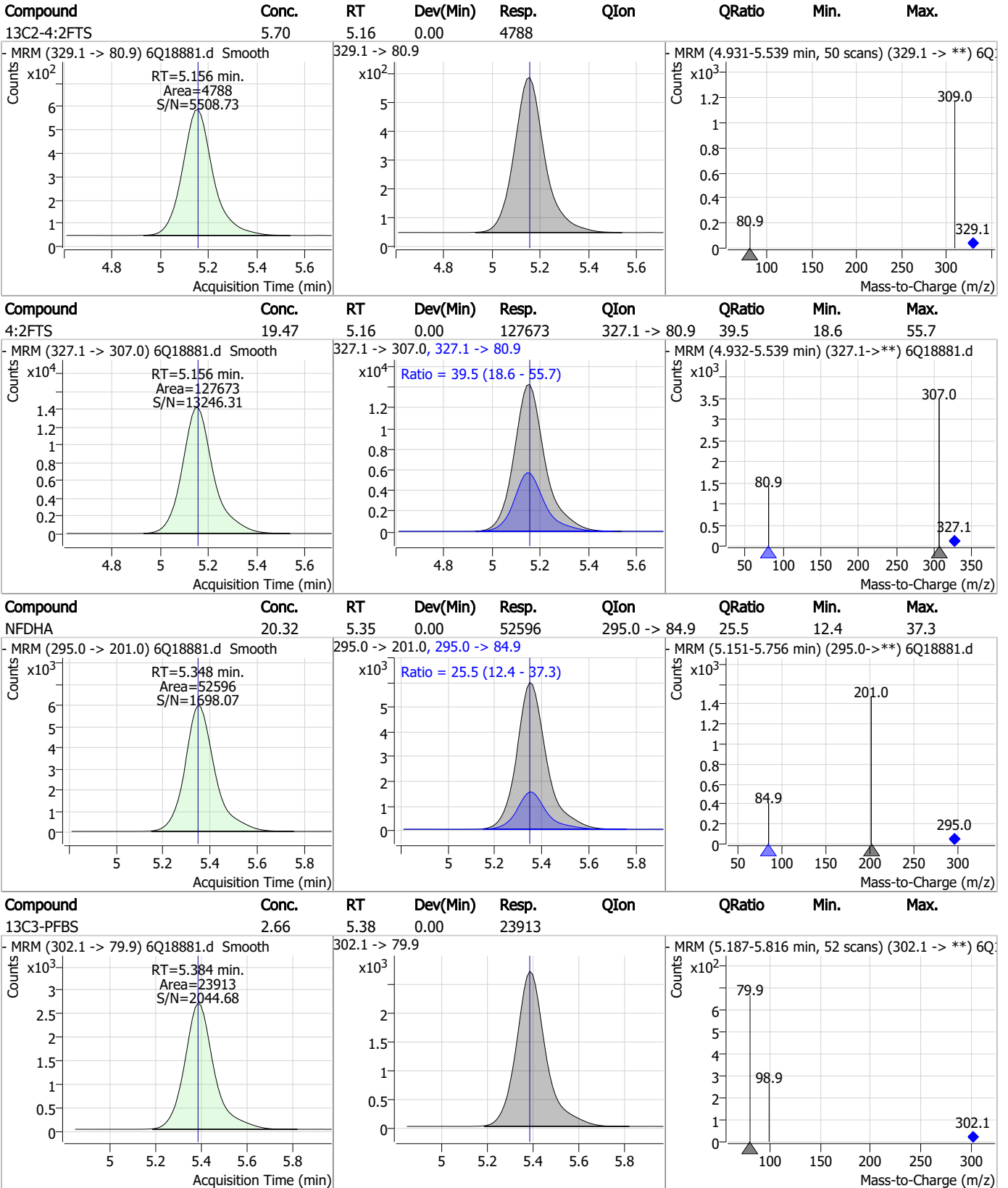
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	19.93	4.27	0.00	288162				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	20.19	4.69	0.00	201789				



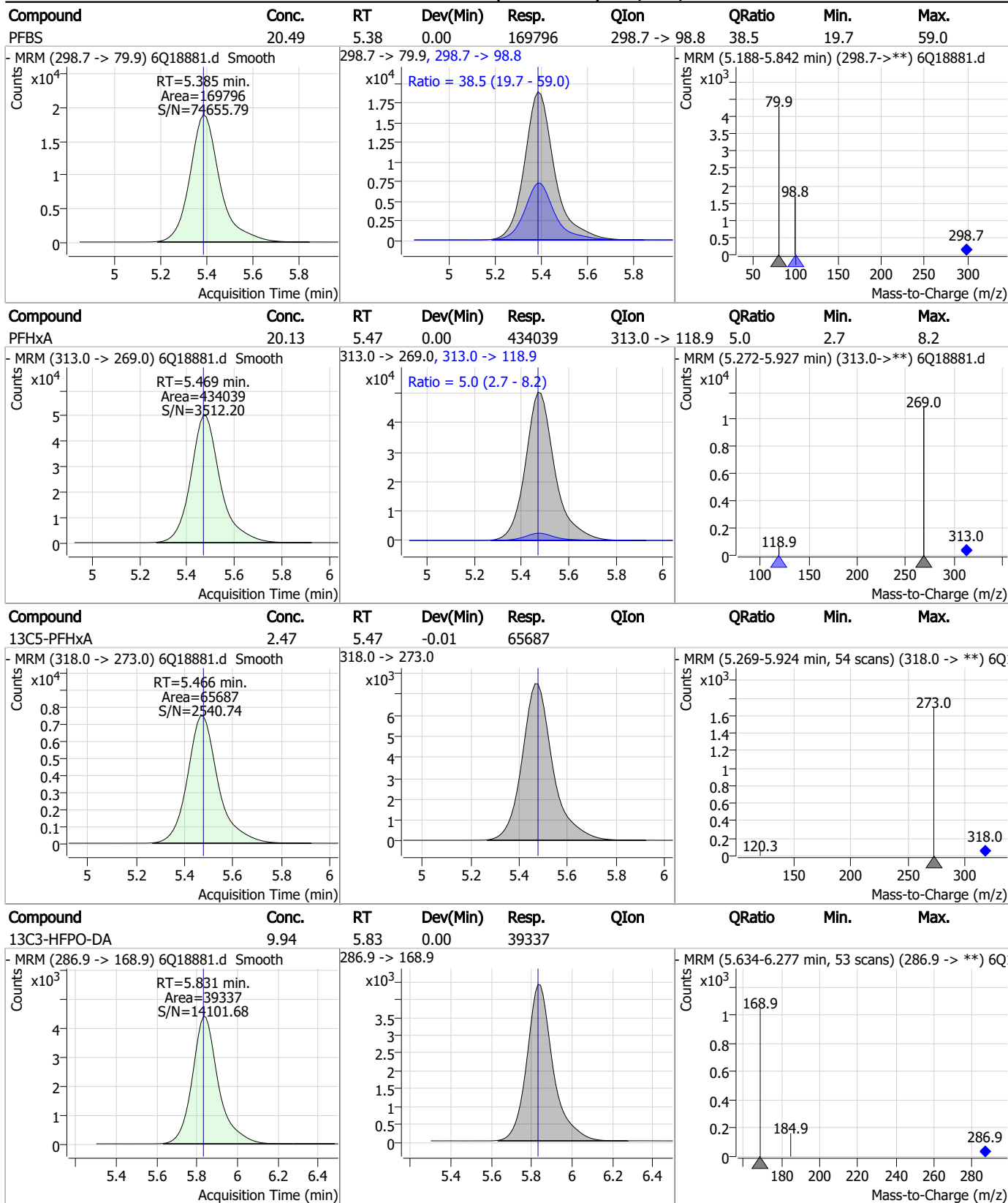
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

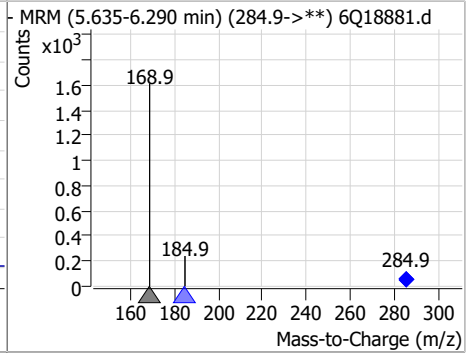
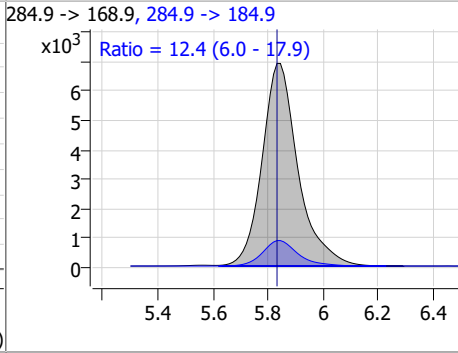
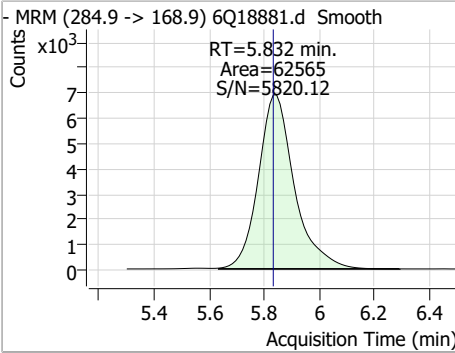


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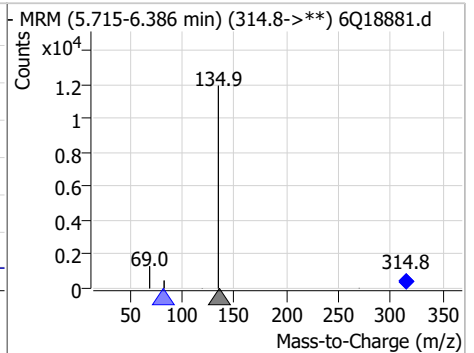
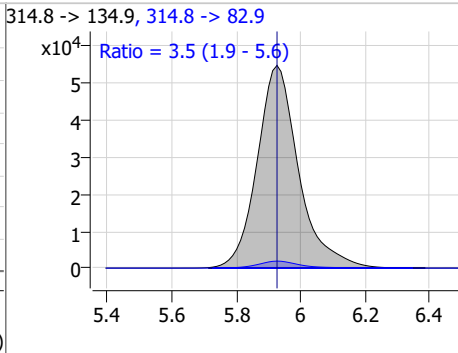
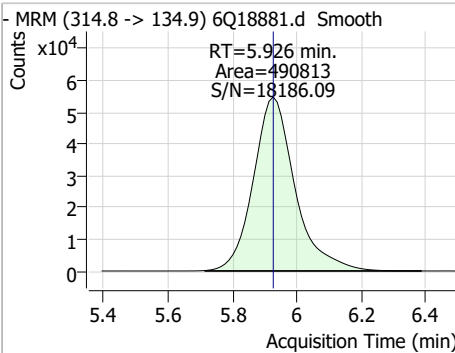
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Perfluorinated Compounds by LC/MS/MS

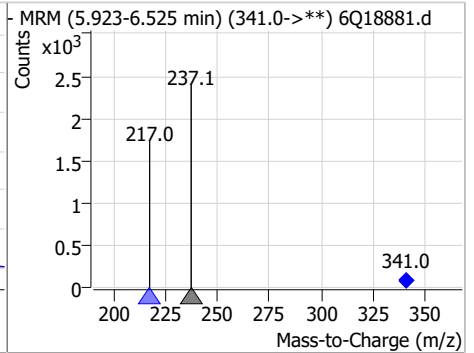
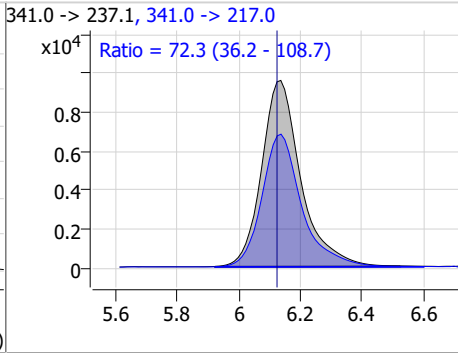
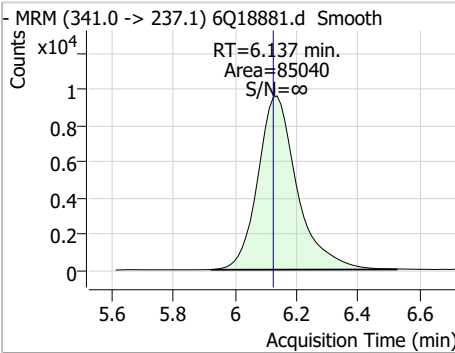
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	19.04	5.83	0.00	62565	284.9 -> 184.9	12.4	6.0	17.9



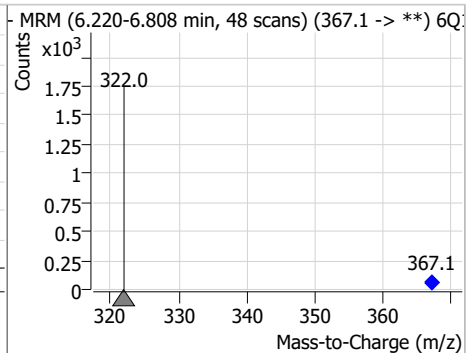
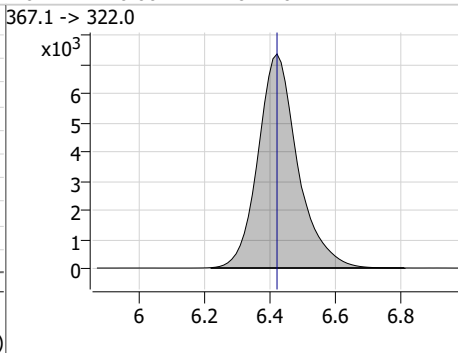
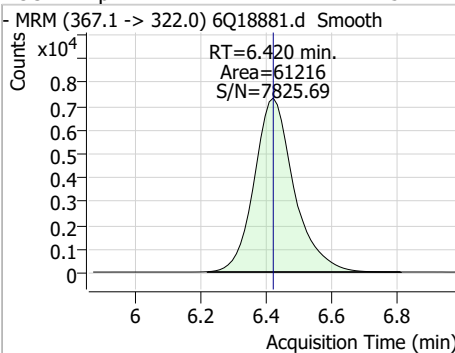
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	17.91	5.93	0.00	490813	314.8 -> 82.9	3.5	1.9	5.6



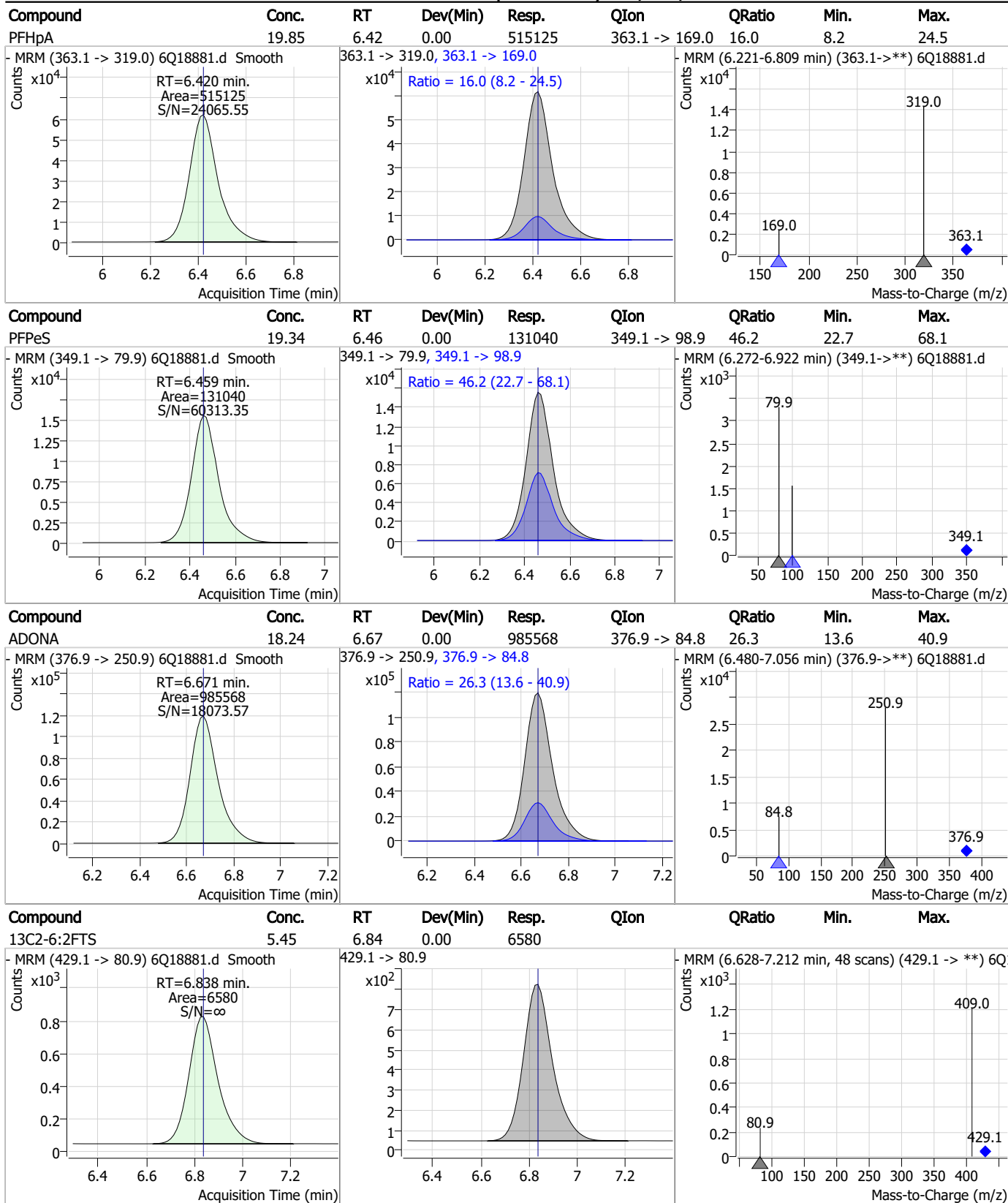
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	20.44	6.14	0.01	85040	341.0 -> 217.0	72.3	36.2	108.7



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



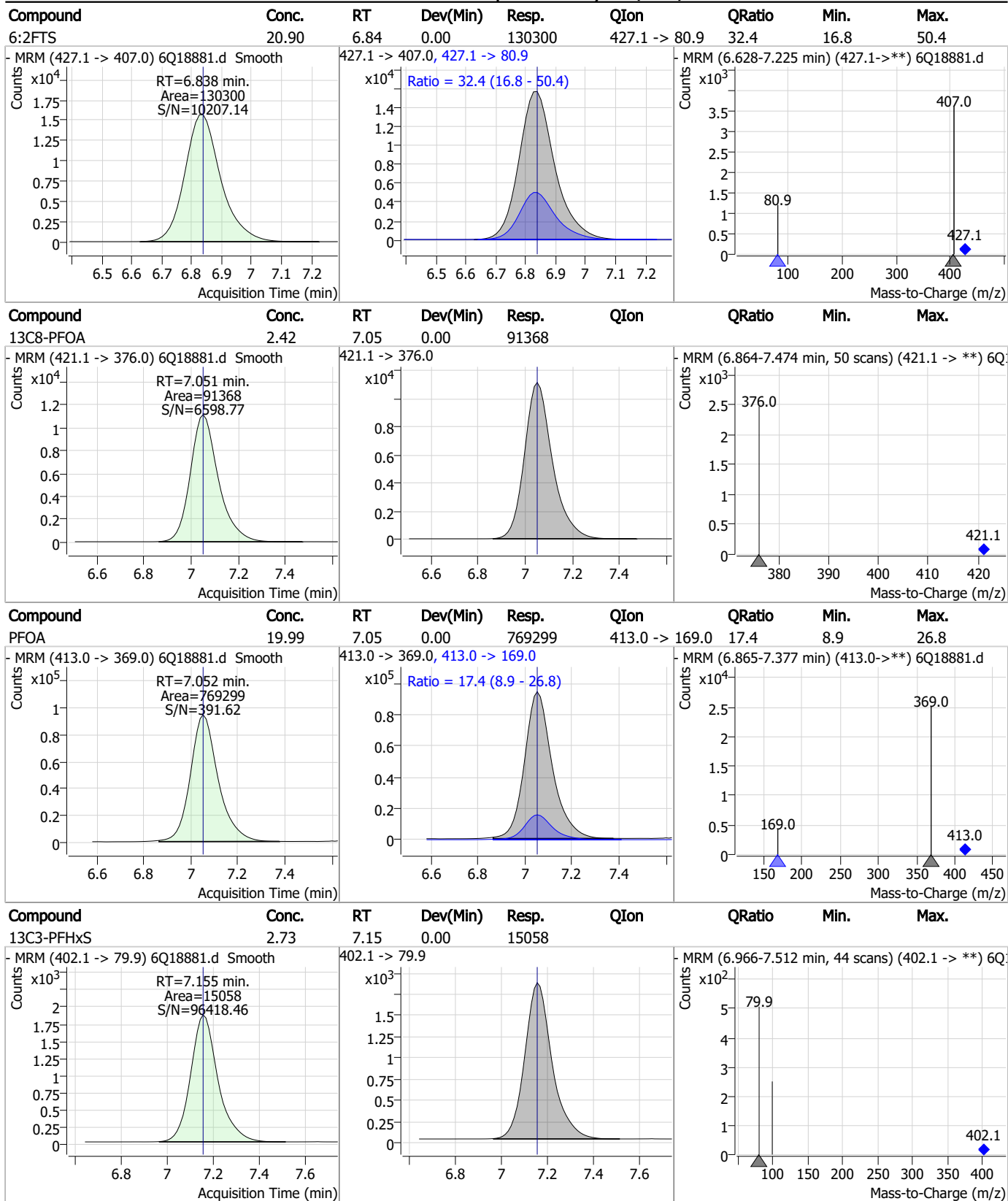
Perfluorinated Compounds by LC/MS/MS



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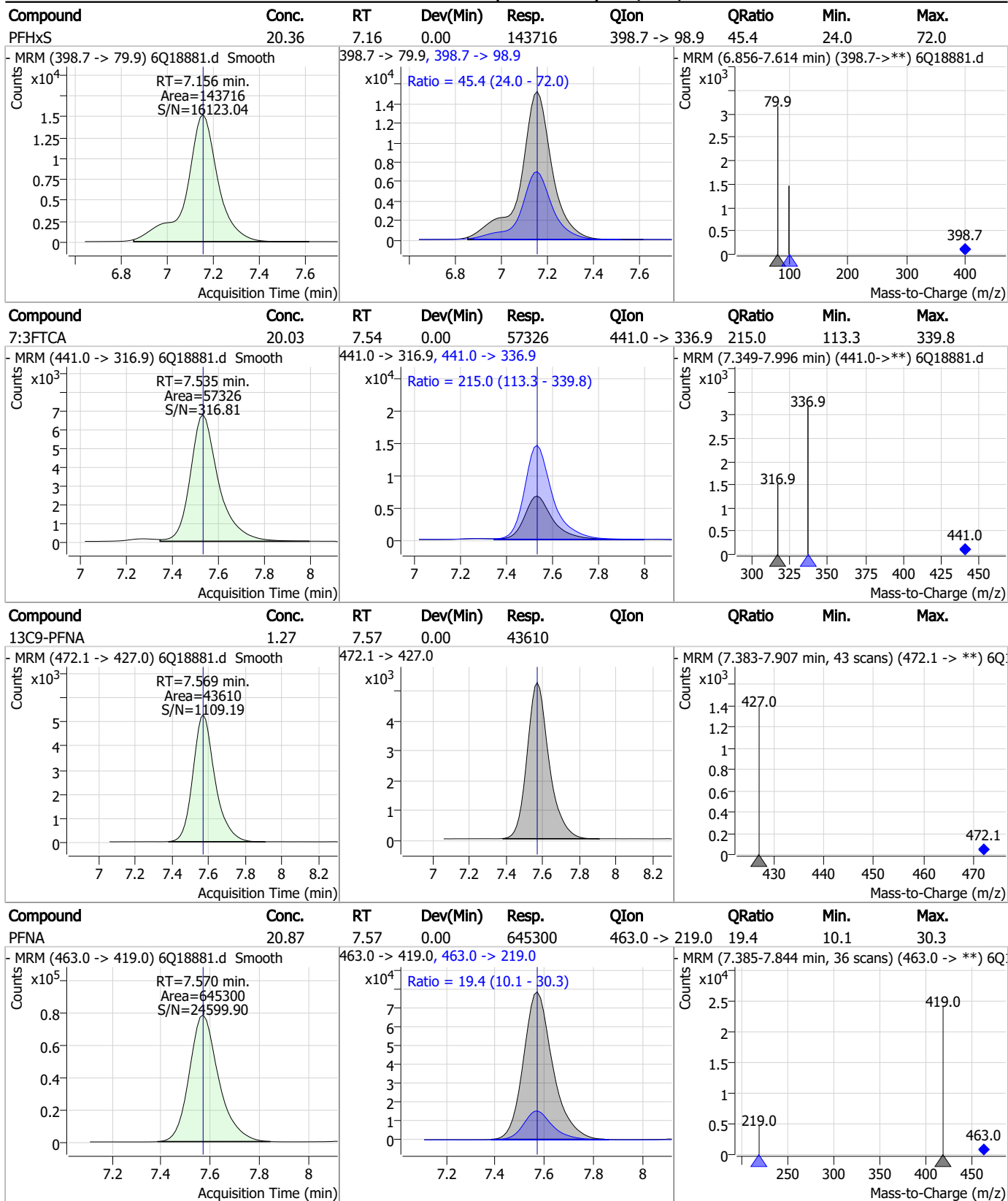


Perfluorinated Compounds by LC/MS/MS



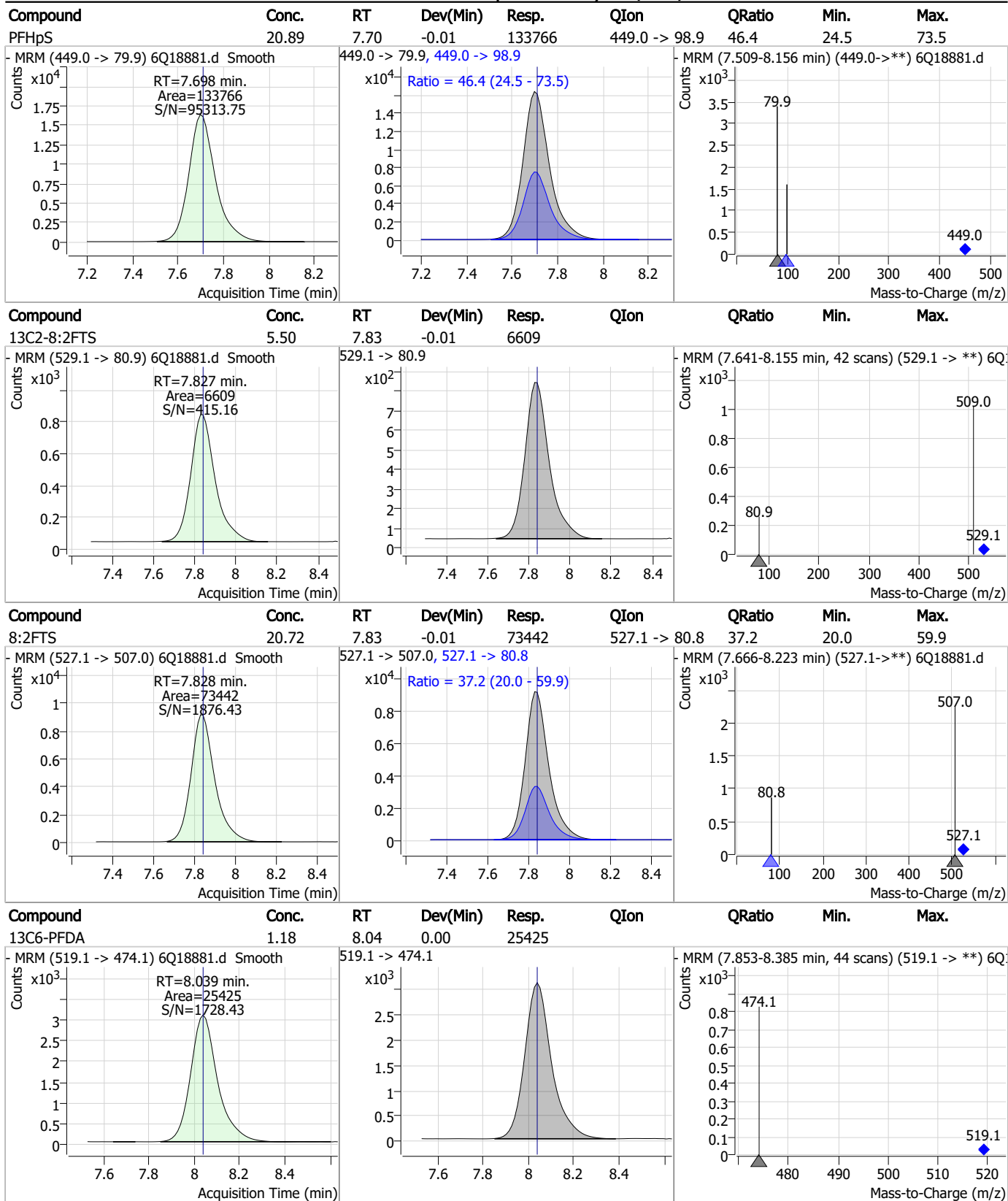
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Perfluorinated Compounds by LC/MS/MS



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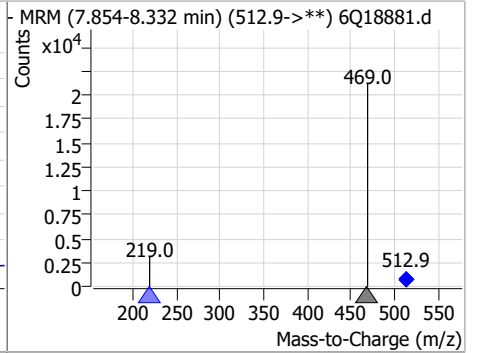
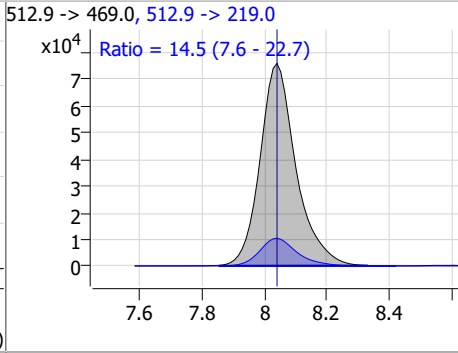
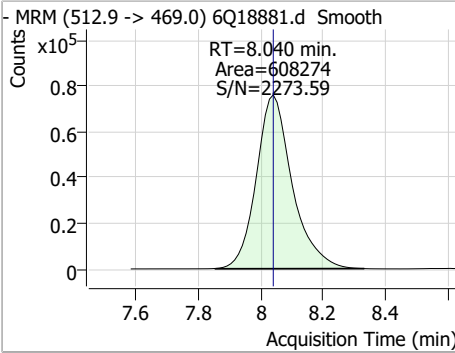
Perfluorinated Compounds by LC/MS/MS



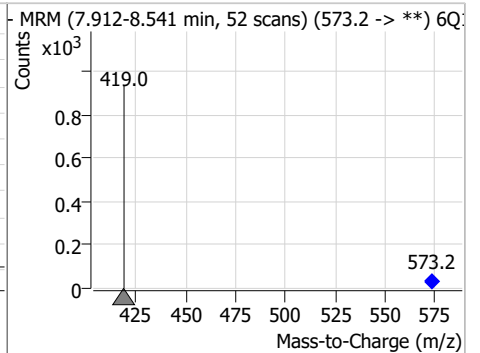
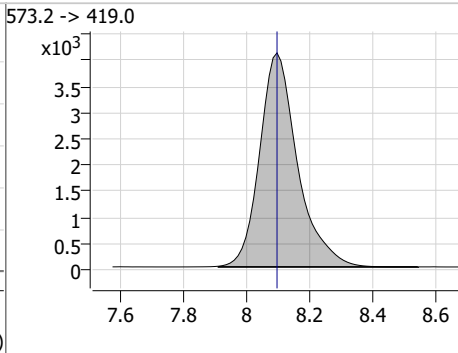
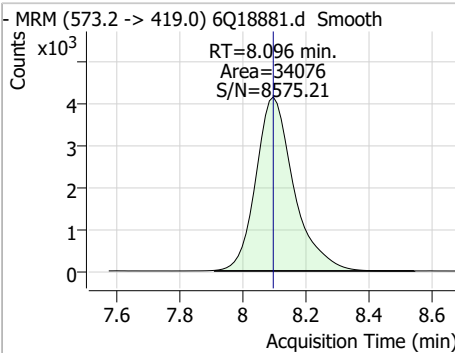
7.7.11

Perfluorinated Compounds by LC/MS/MS

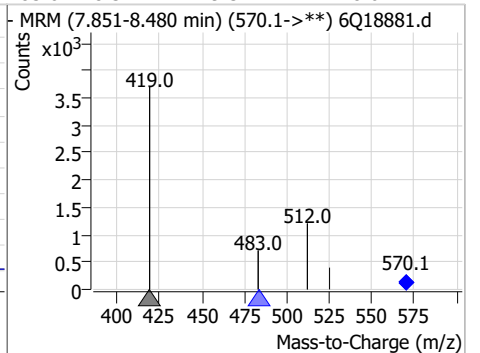
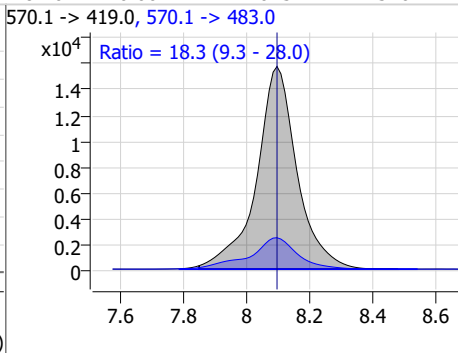
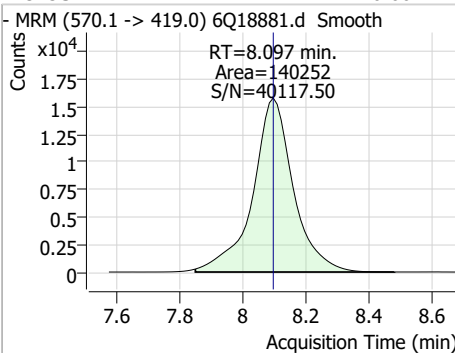
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	19.87	8.04	0.00	608274	512.9 -> 219.0	14.5	7.6	22.7



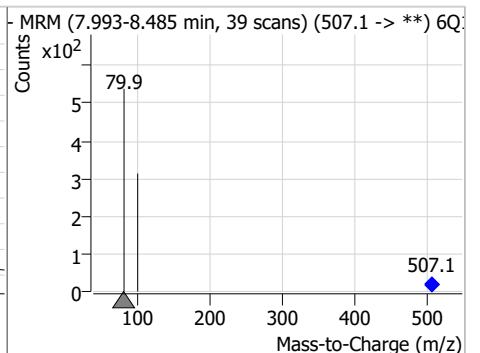
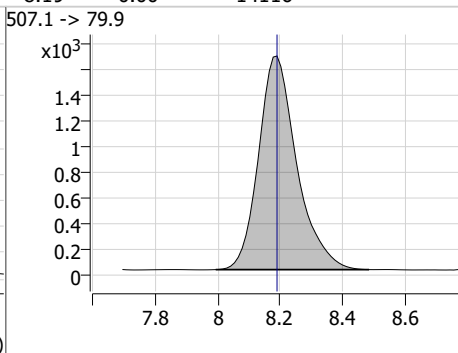
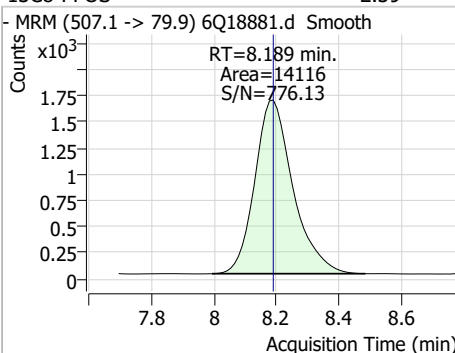
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	4.87	8.10	0.00	34076				



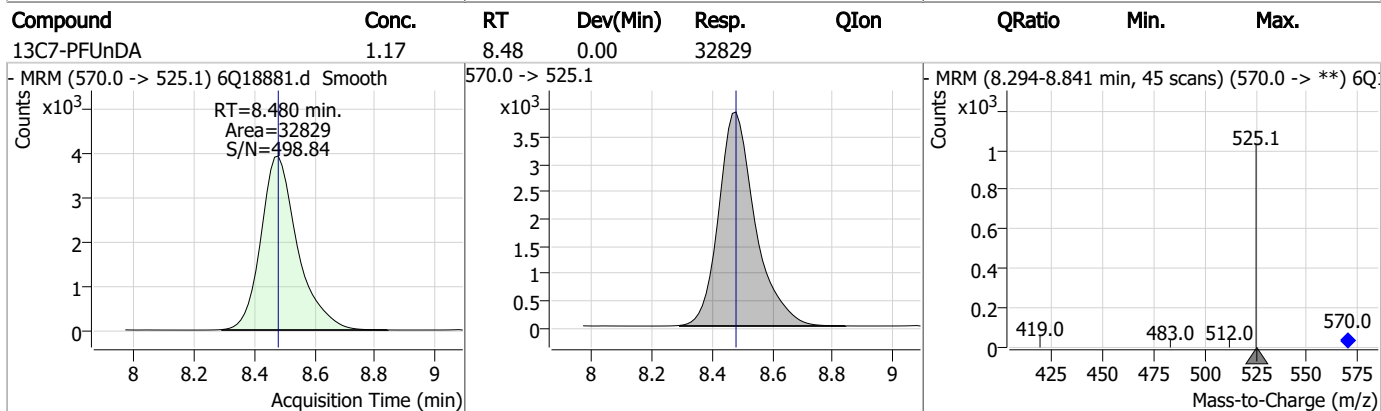
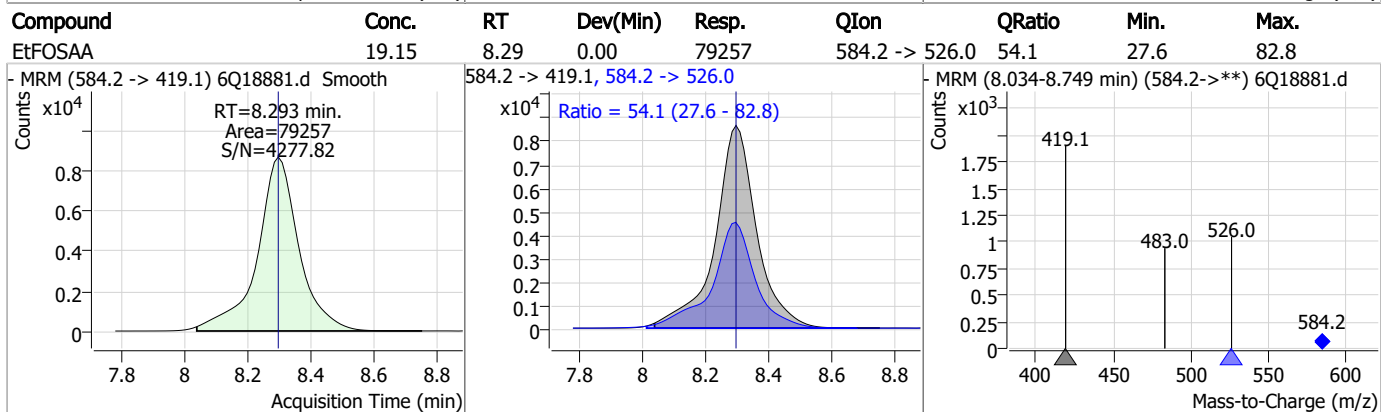
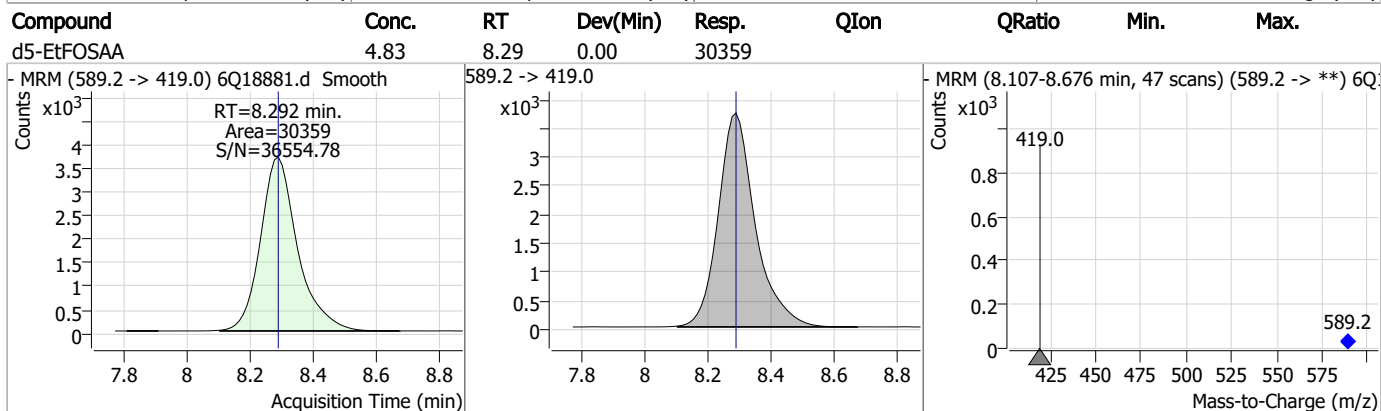
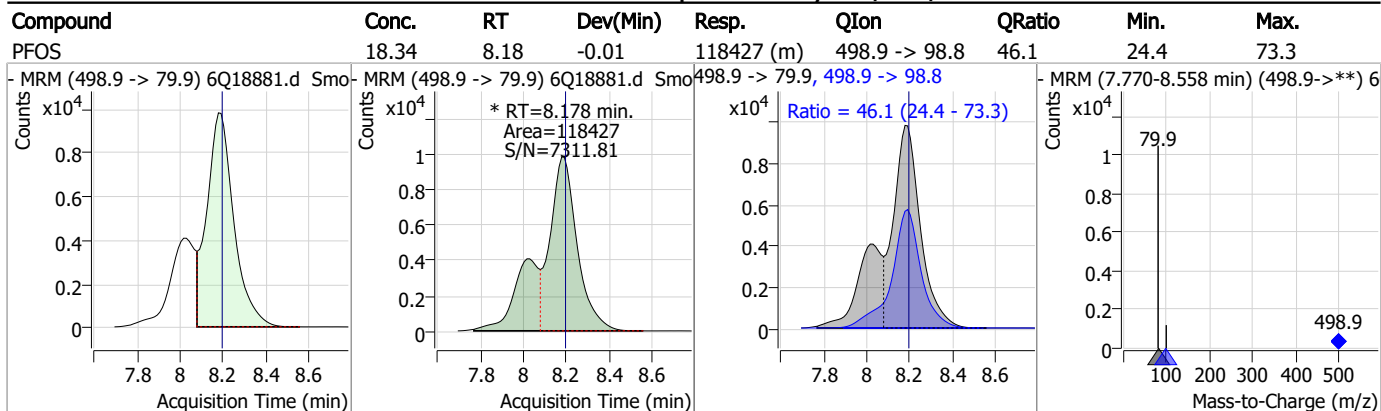
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSAA	20.60	8.10	0.00	140252	570.1 -> 483.0	18.3	9.3	28.0



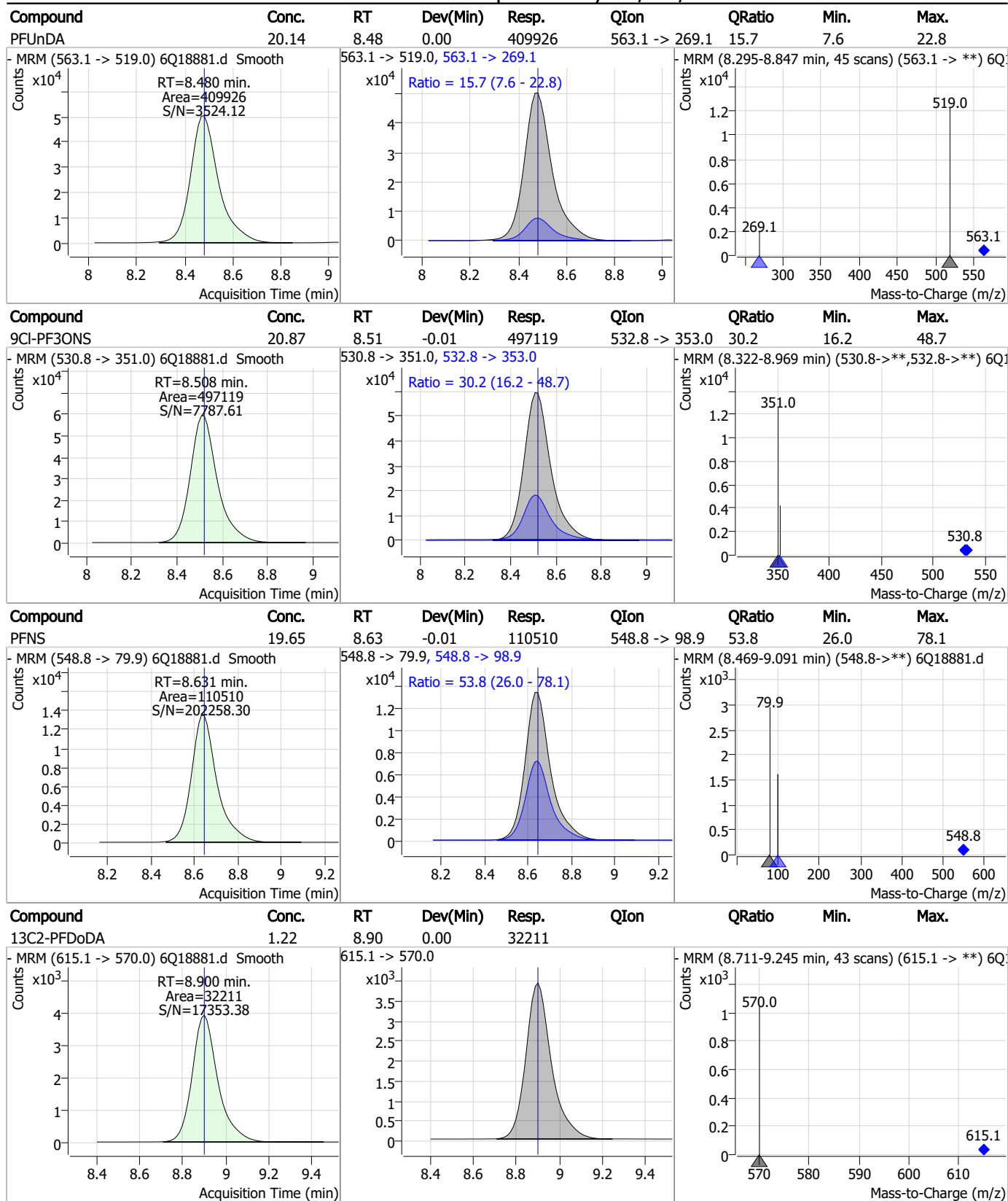
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.39	8.19	0.00	14116				



Perfluorinated Compounds by LC/MS/MS



Perfluorinated Compounds by LC/MS/MS

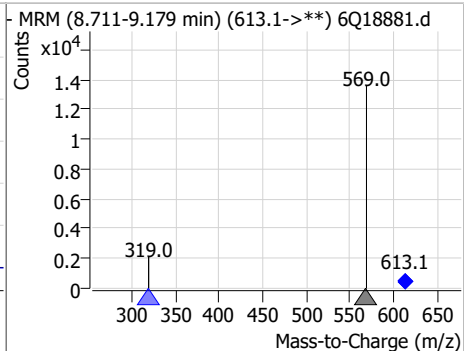
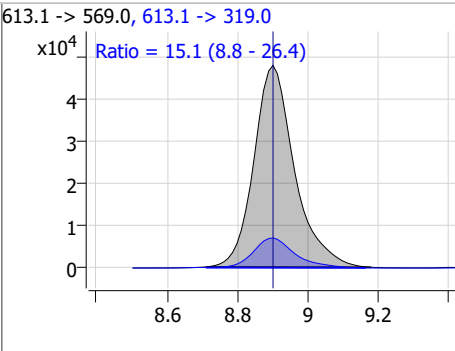
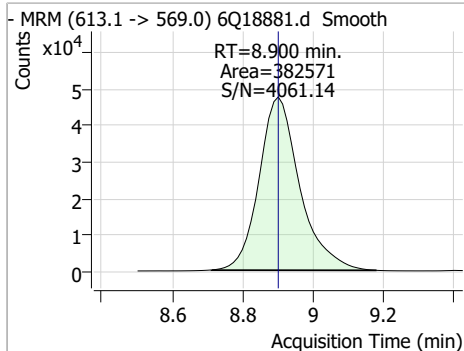


7.7.11

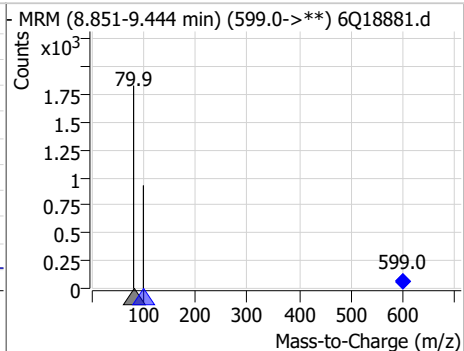
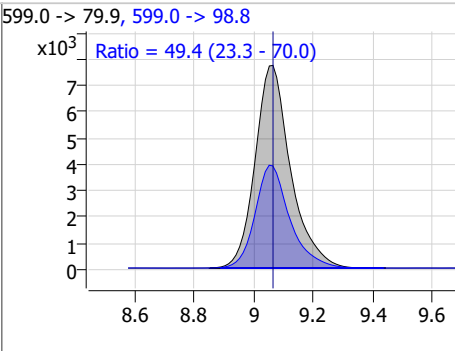
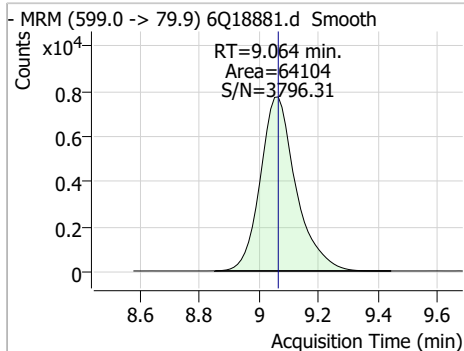
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Perfluorinated Compounds by LC/MS/MS

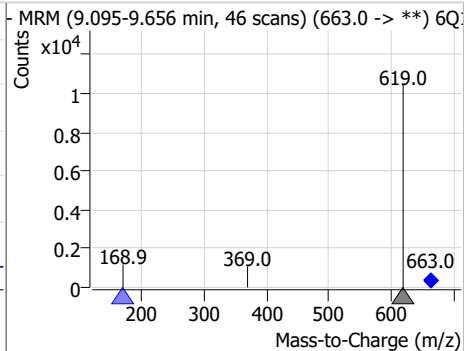
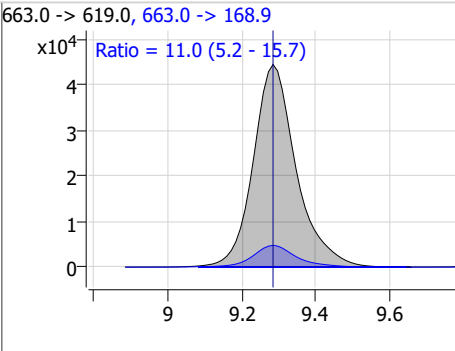
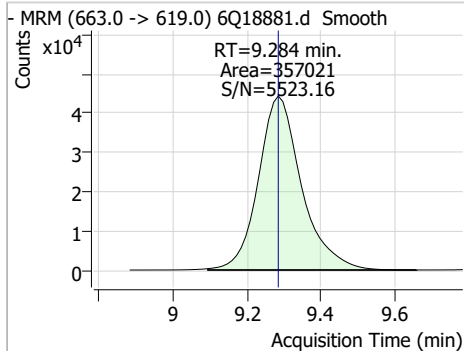
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDODA	18.24	8.90	0.00	382571	613.1 -> 319.0	15.1	8.8	26.4



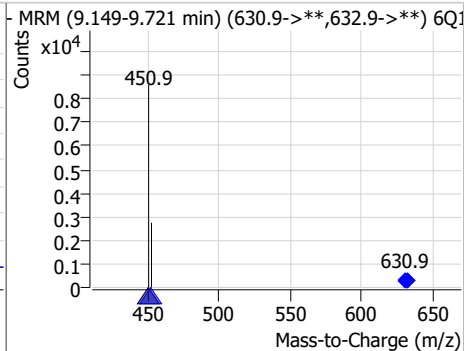
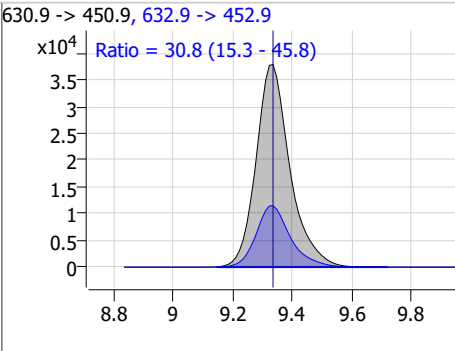
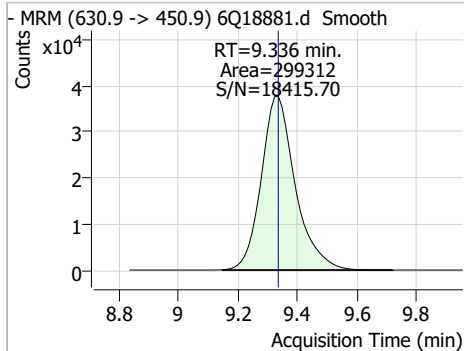
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDS	19.00	9.06	0.00	64104	599.0 -> 98.8	49.4	23.3	70.0



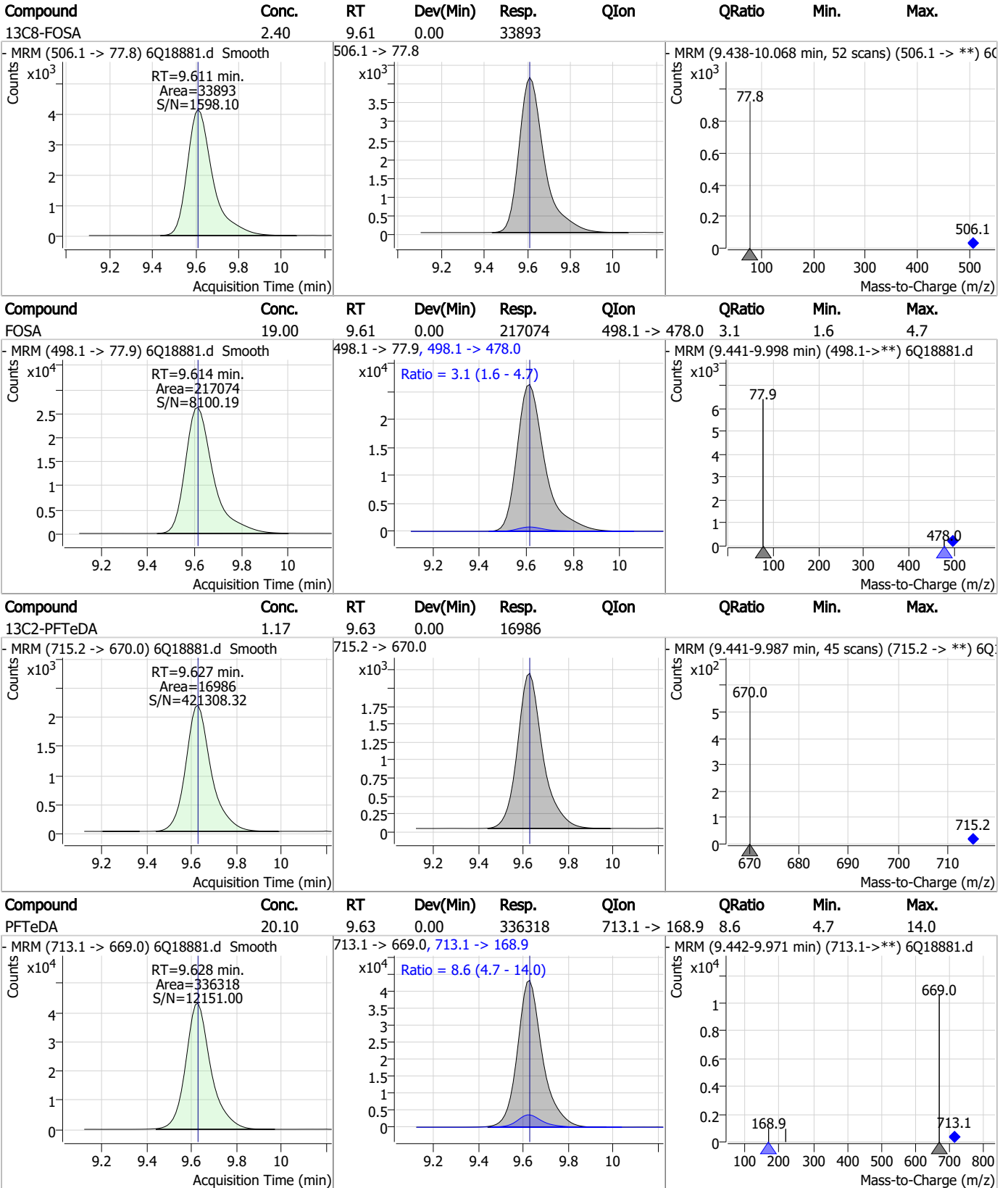
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFTrDA	16.68	9.28	0.00	357021	663.0 -> 168.9	11.0	5.2	15.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
11Cl-PF3OUds	19.90	9.34	0.00	299312	632.9 -> 452.9	30.8	15.3	45.8



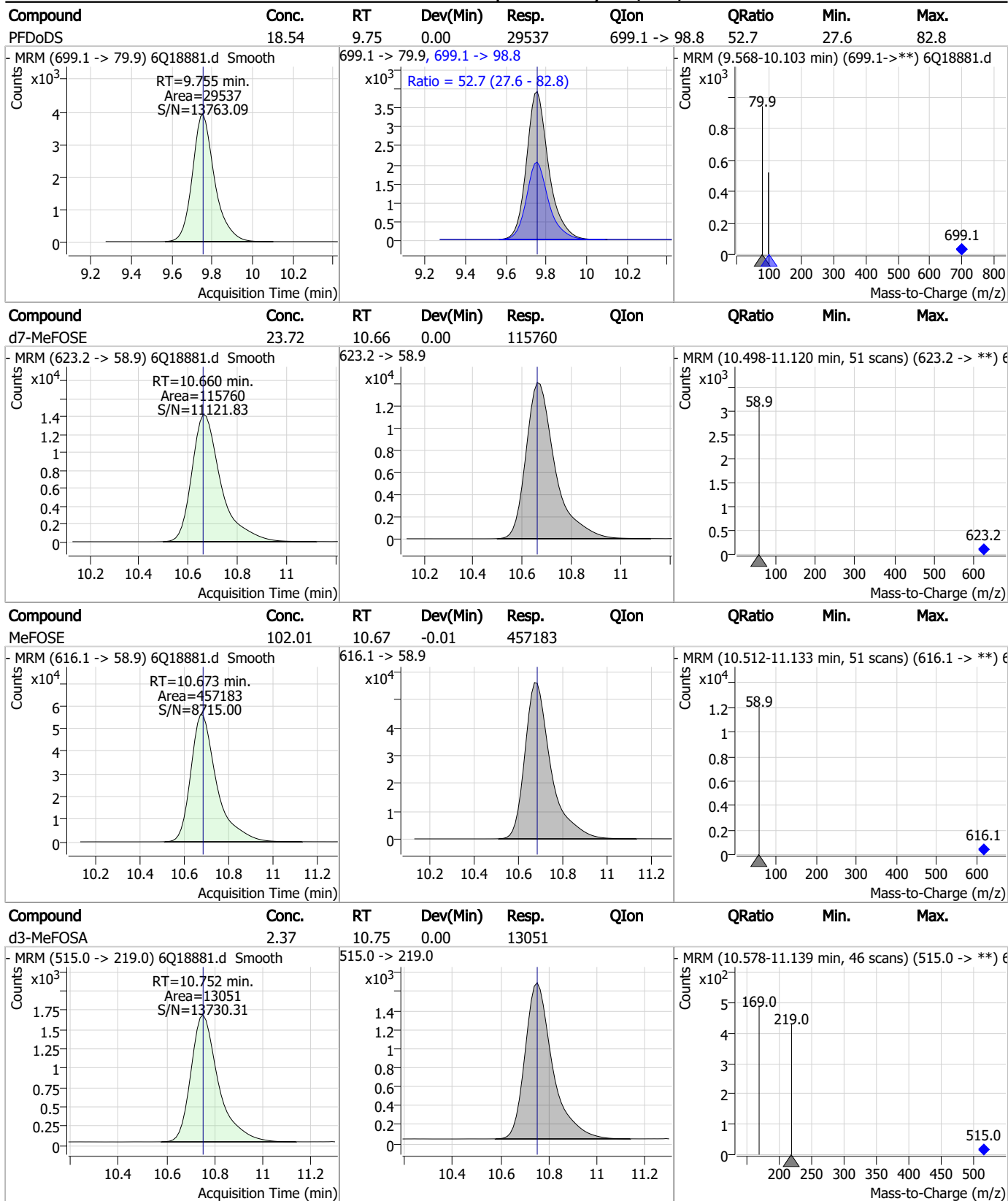
Perfluorinated Compounds by LC/MS/MS



7.7.11
7

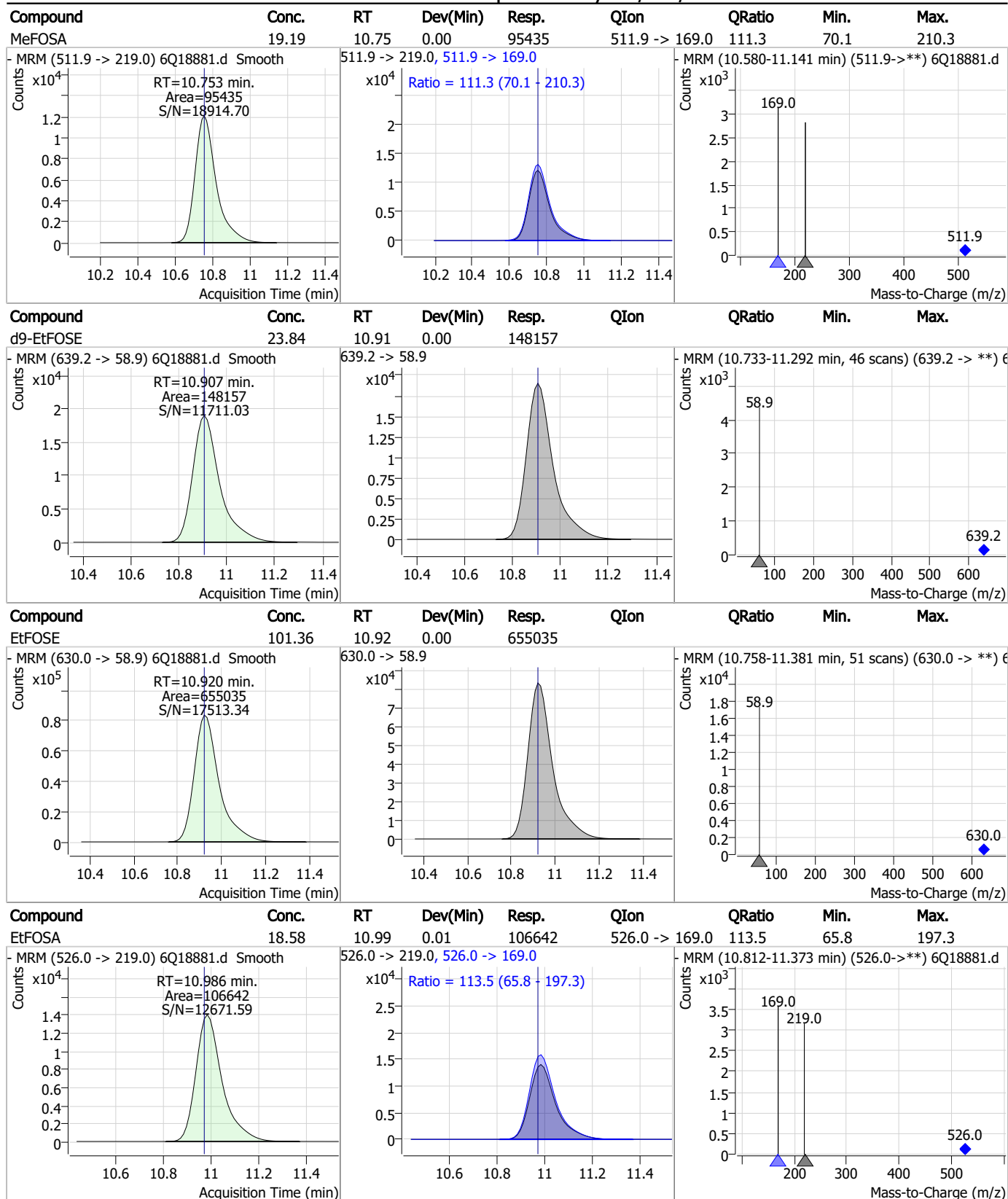


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

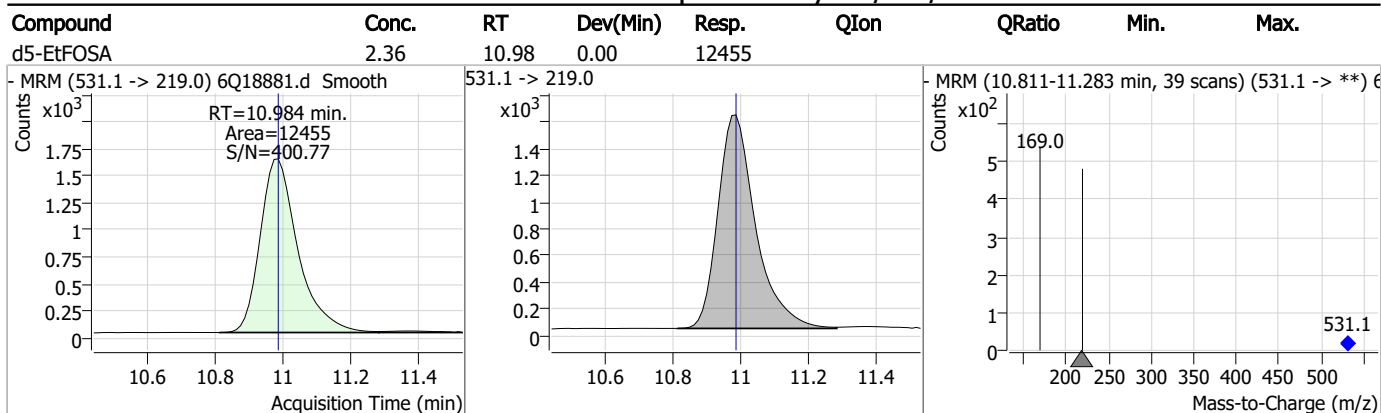


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Perfluorinated Compounds by LC/MS/MS



7.7.11

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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

7.7.11.1

7

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

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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 = 99.8%	
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	100
		229.0 -> 84.9	3122		
PFMBA	3.401	314.8 -> 134.9	9889	0.40 µg/L	100
		314.8 -> 82.9	400		
PFEESA	5.926			0.36 µg/L	99

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

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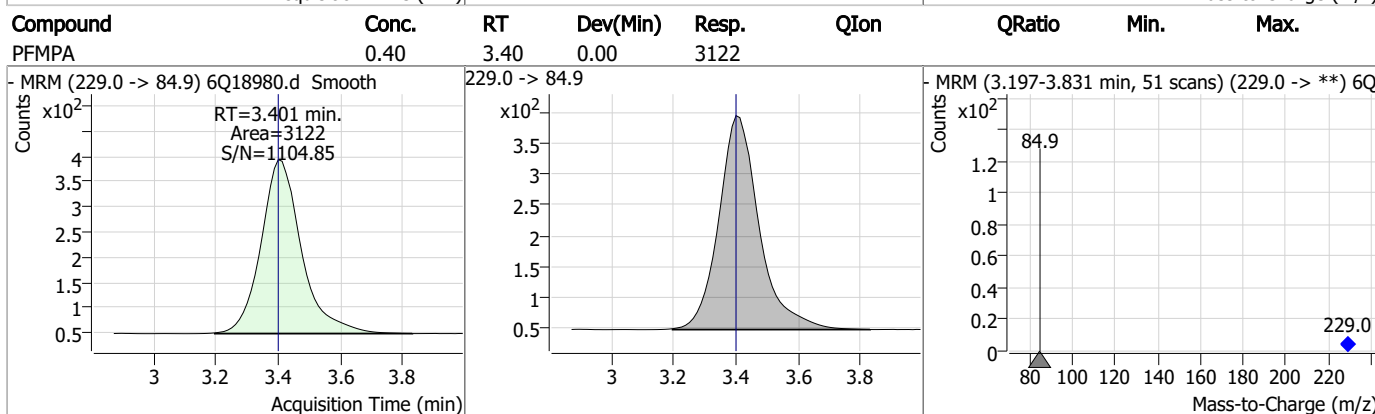
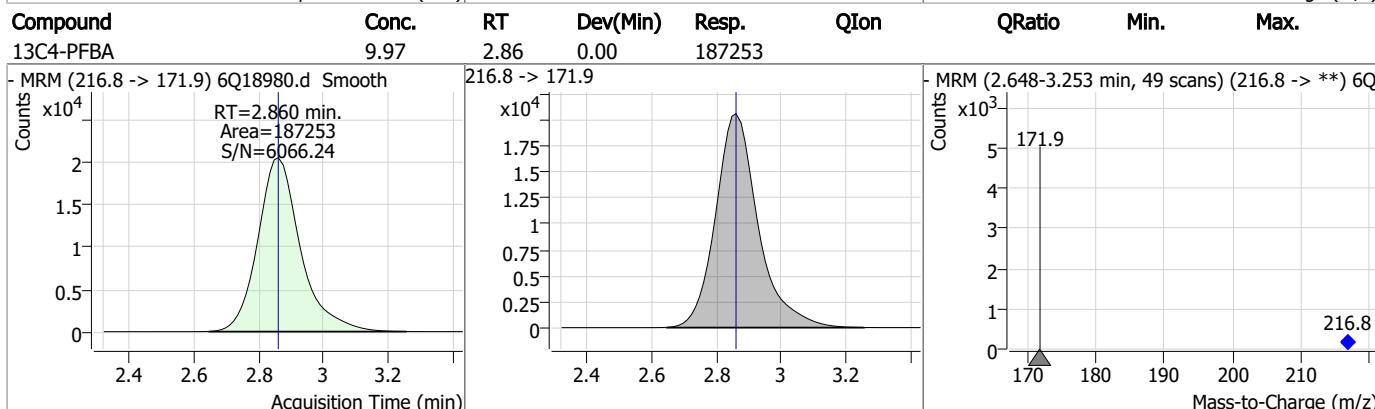
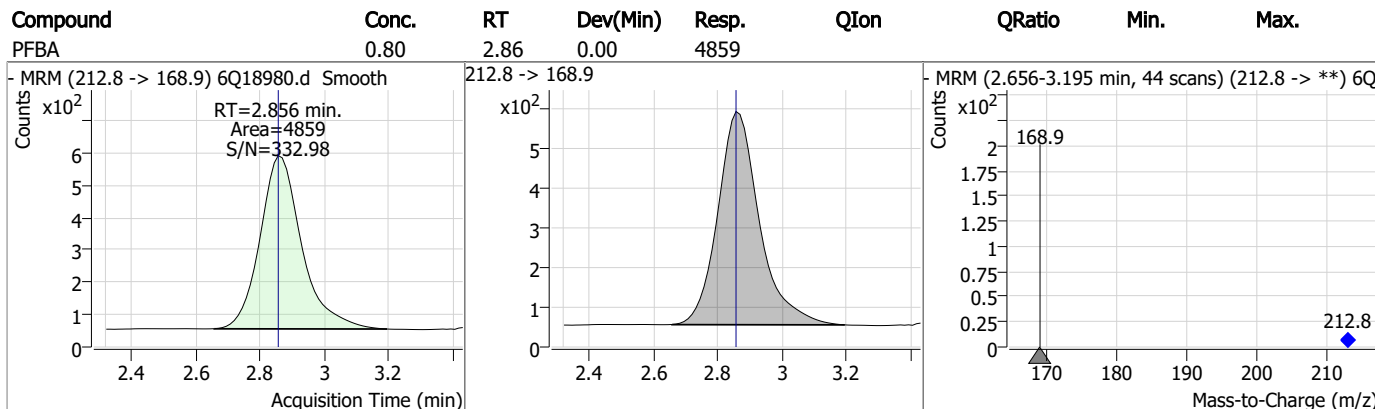
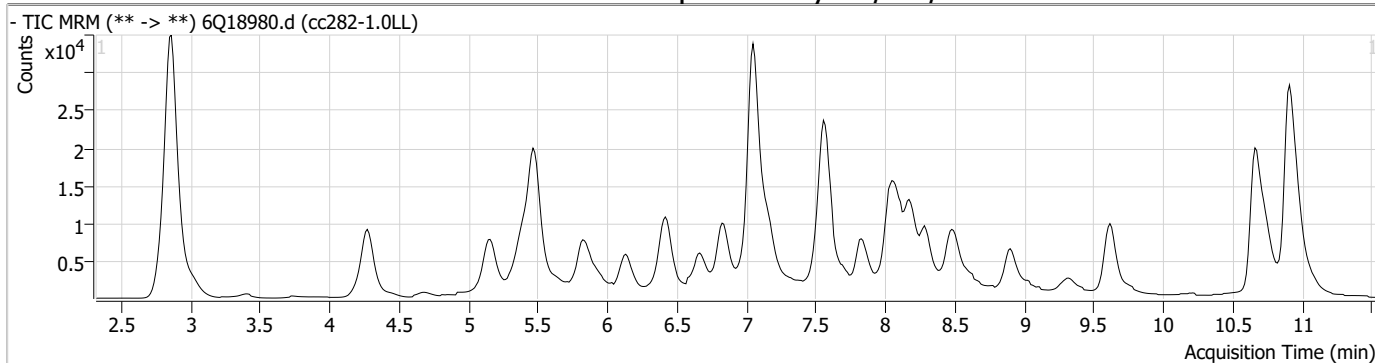
Perfluorinated Compounds by LC/MS/MS

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

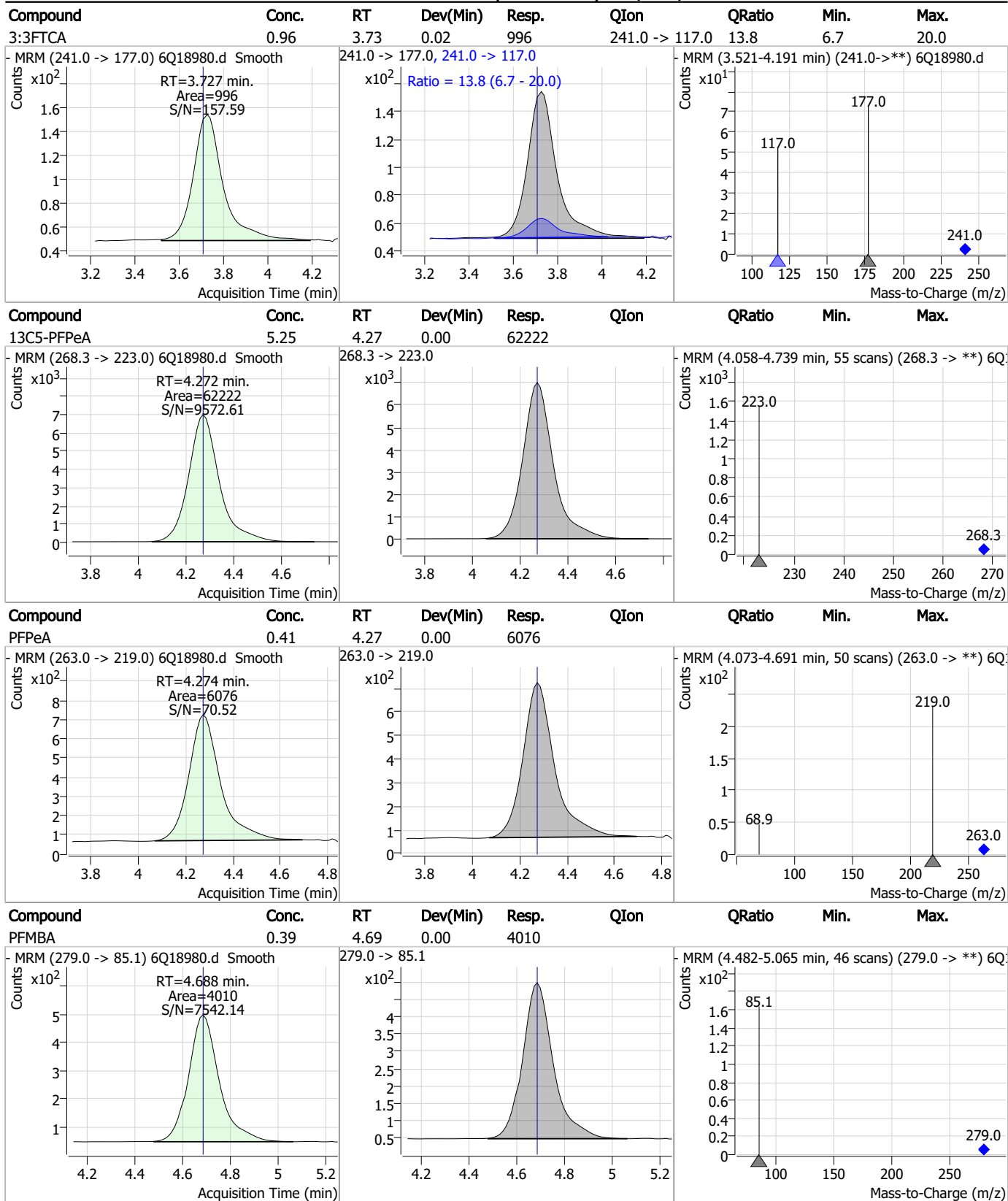
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Perfluorinated Compounds by LC/MS/MS



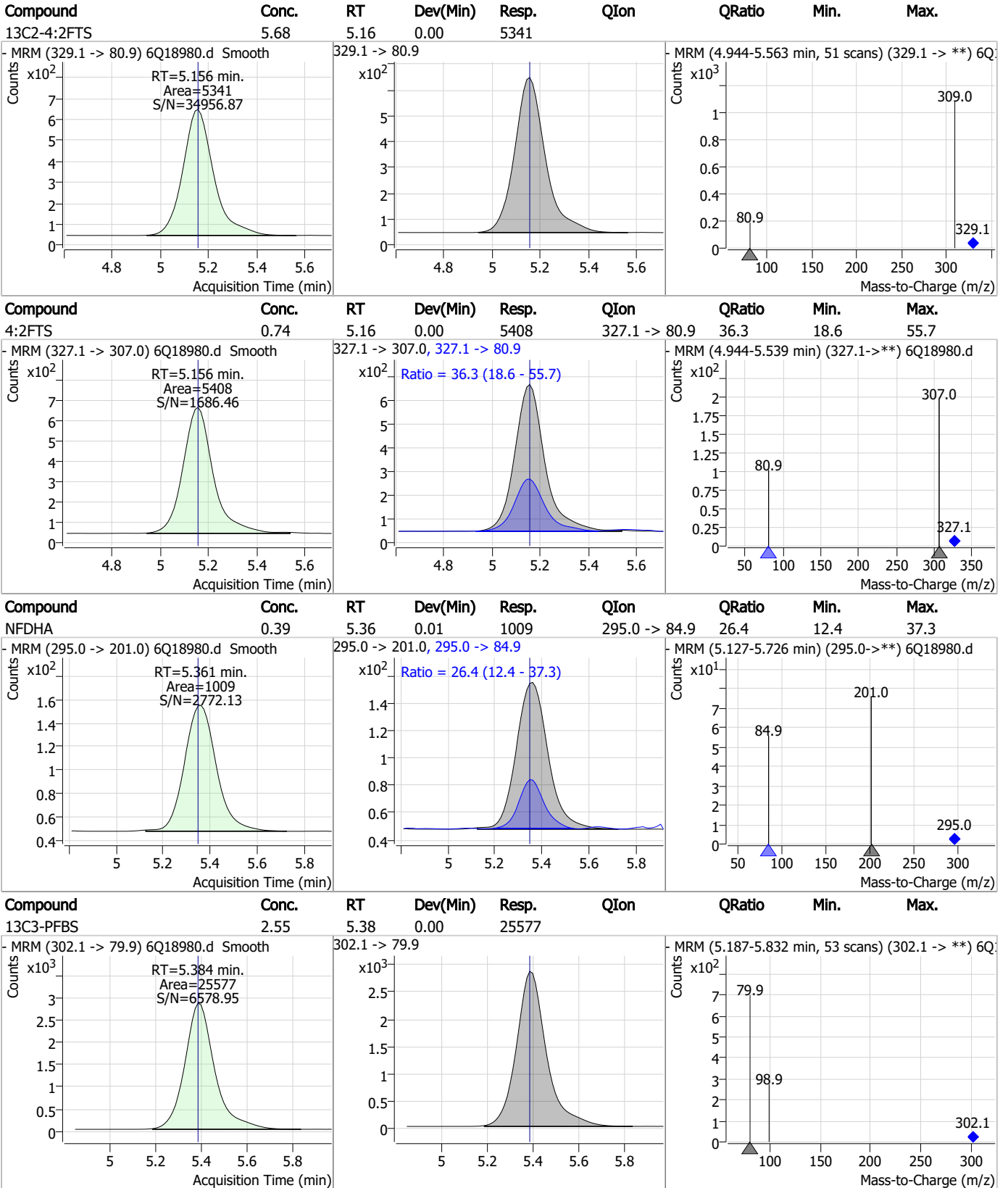
7.7.12
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

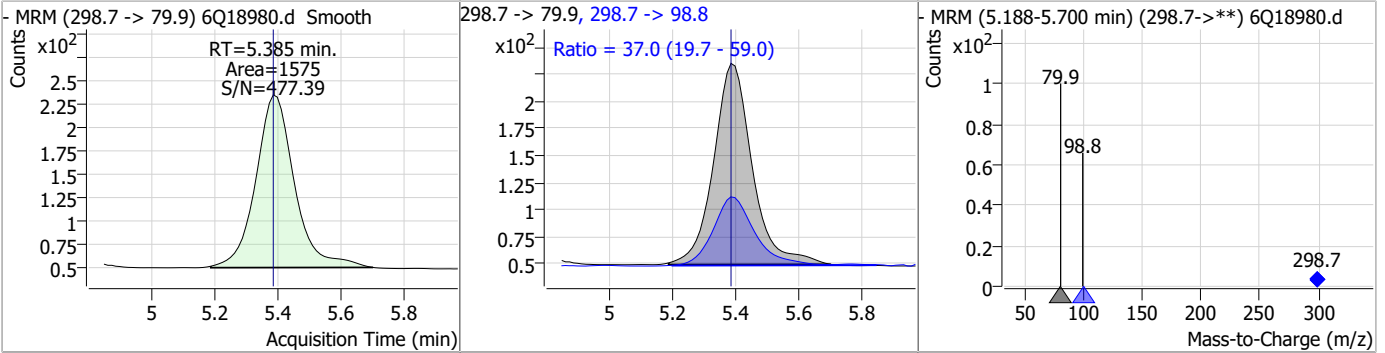


7.7.12 7

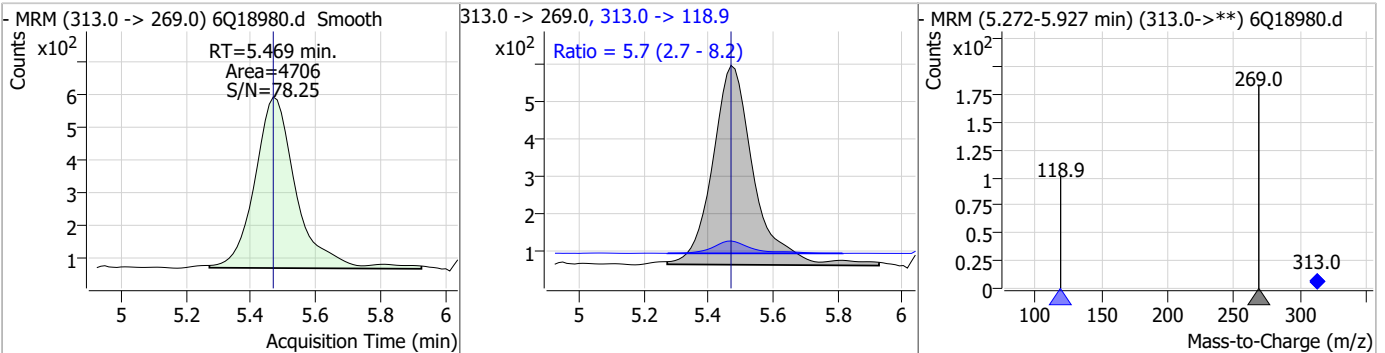


Perfluorinated Compounds by LC/MS/MS

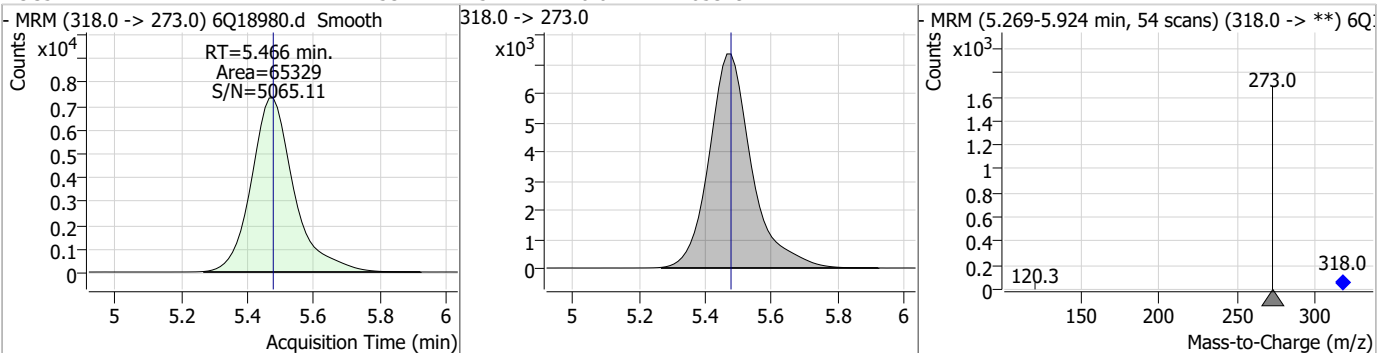
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	0.18	5.38	0.00	1575	298.7 -> 98.8	37.0	19.7	59.0



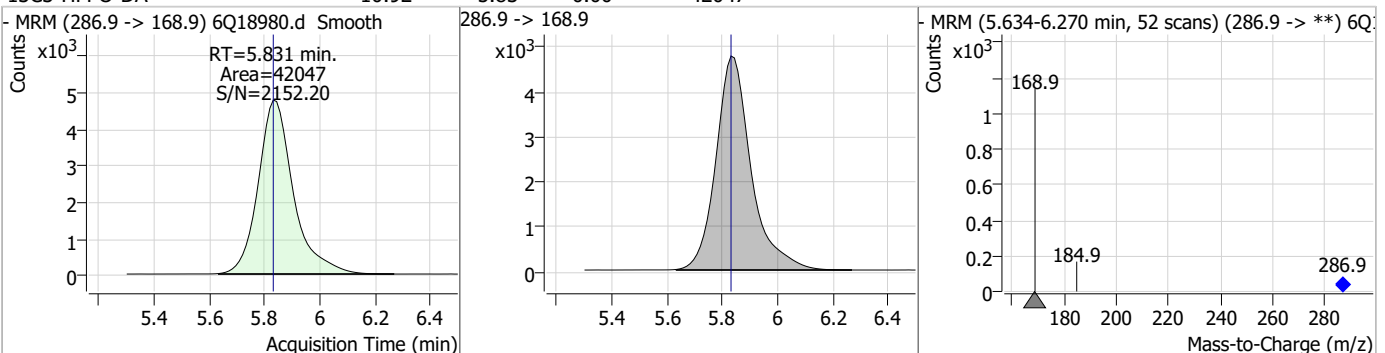
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	0.22	5.47	0.00	4706	313.0 -> 118.9	5.7	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.53	5.47	-0.01	65329	318.0 -> 273.0	-	-	-



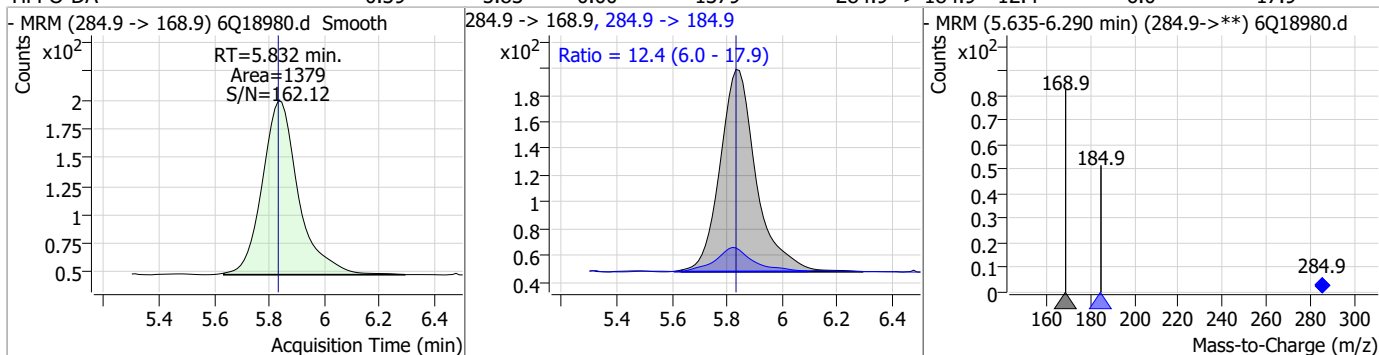
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.92	5.83	0.00	42047	286.9 -> 168.9	-	-	-



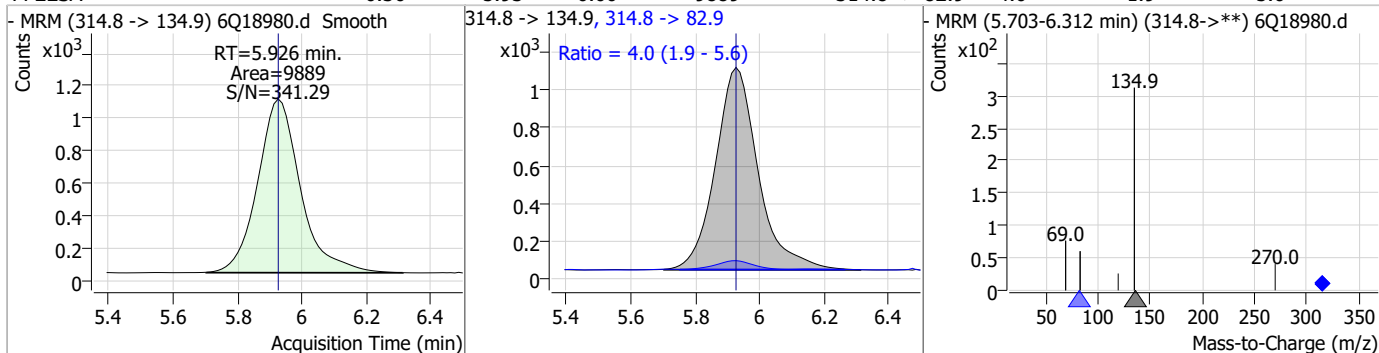
7.7.12 7

Perfluorinated Compounds by LC/MS/MS

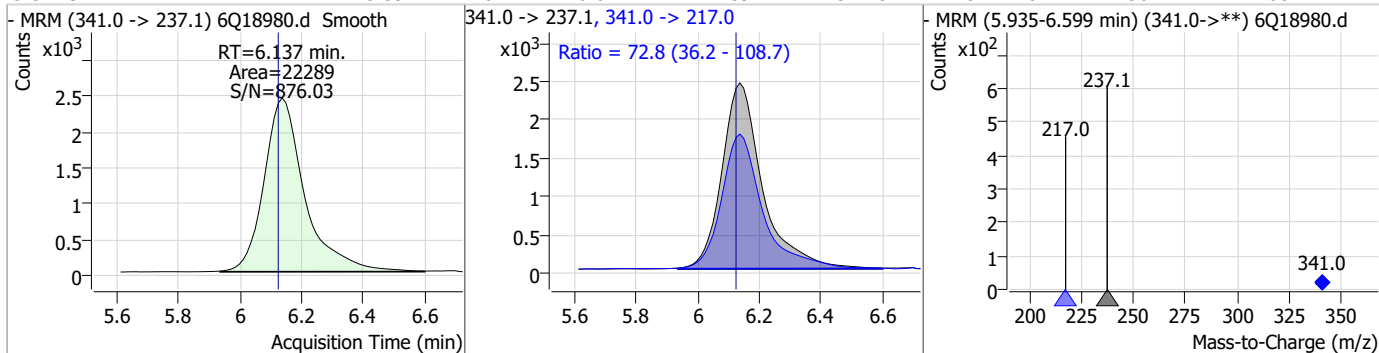
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.39	5.83	0.00	1379	284.9 -> 184.9	12.4	6.0	17.9



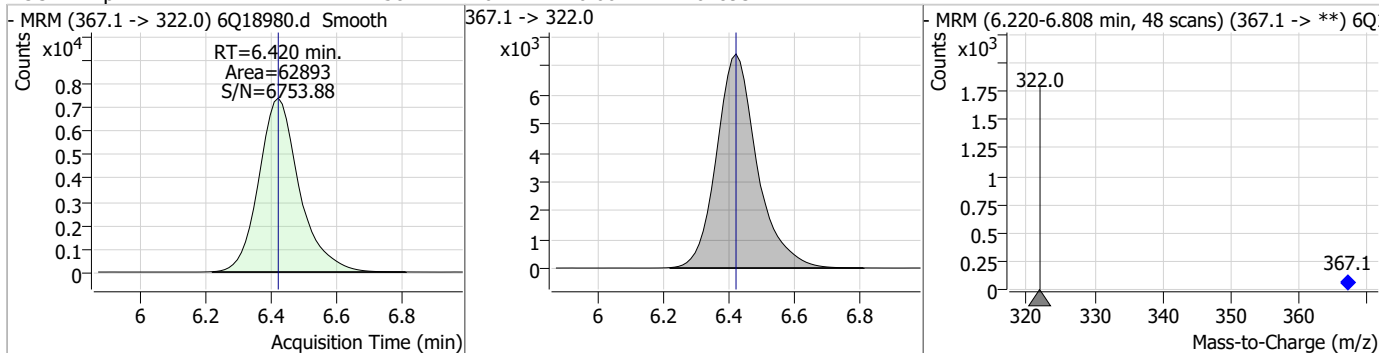
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.36	5.93	0.00	9889	314.8 -> 82.9	4.0	1.9	5.6



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

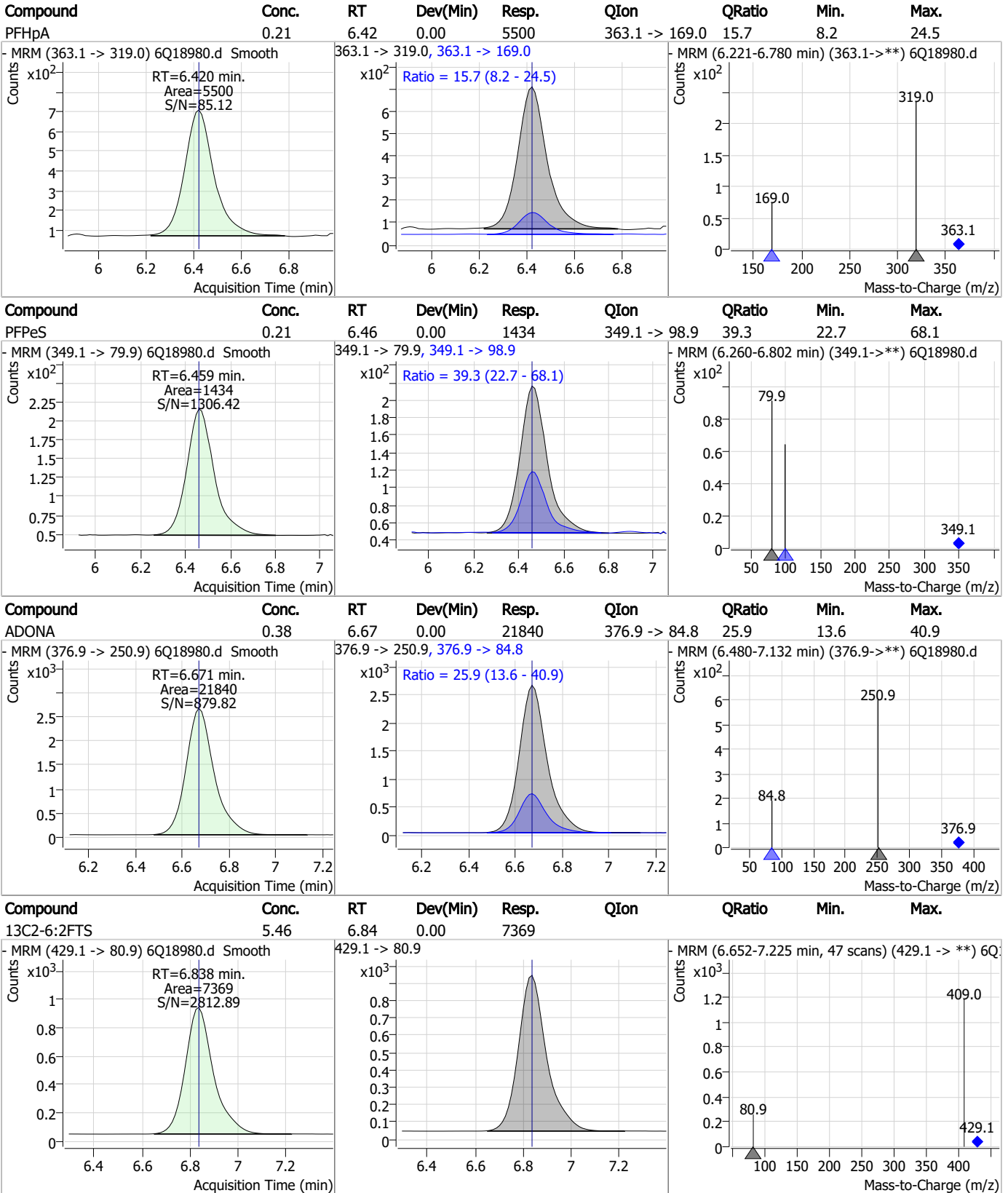


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.58	6.42	0.00	62893	367.1 -> 322.0			



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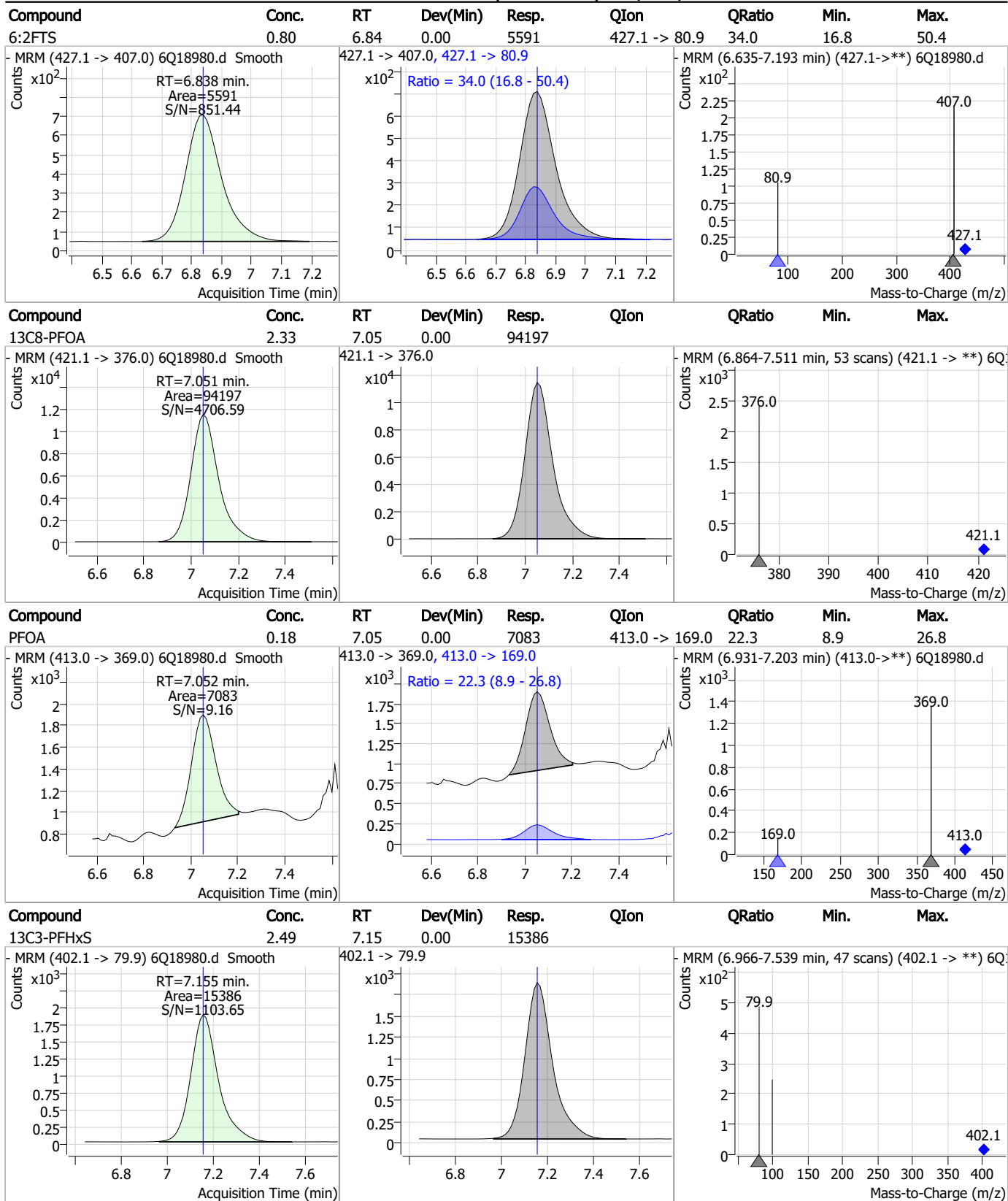
Perfluorinated Compounds by LC/MS/MS



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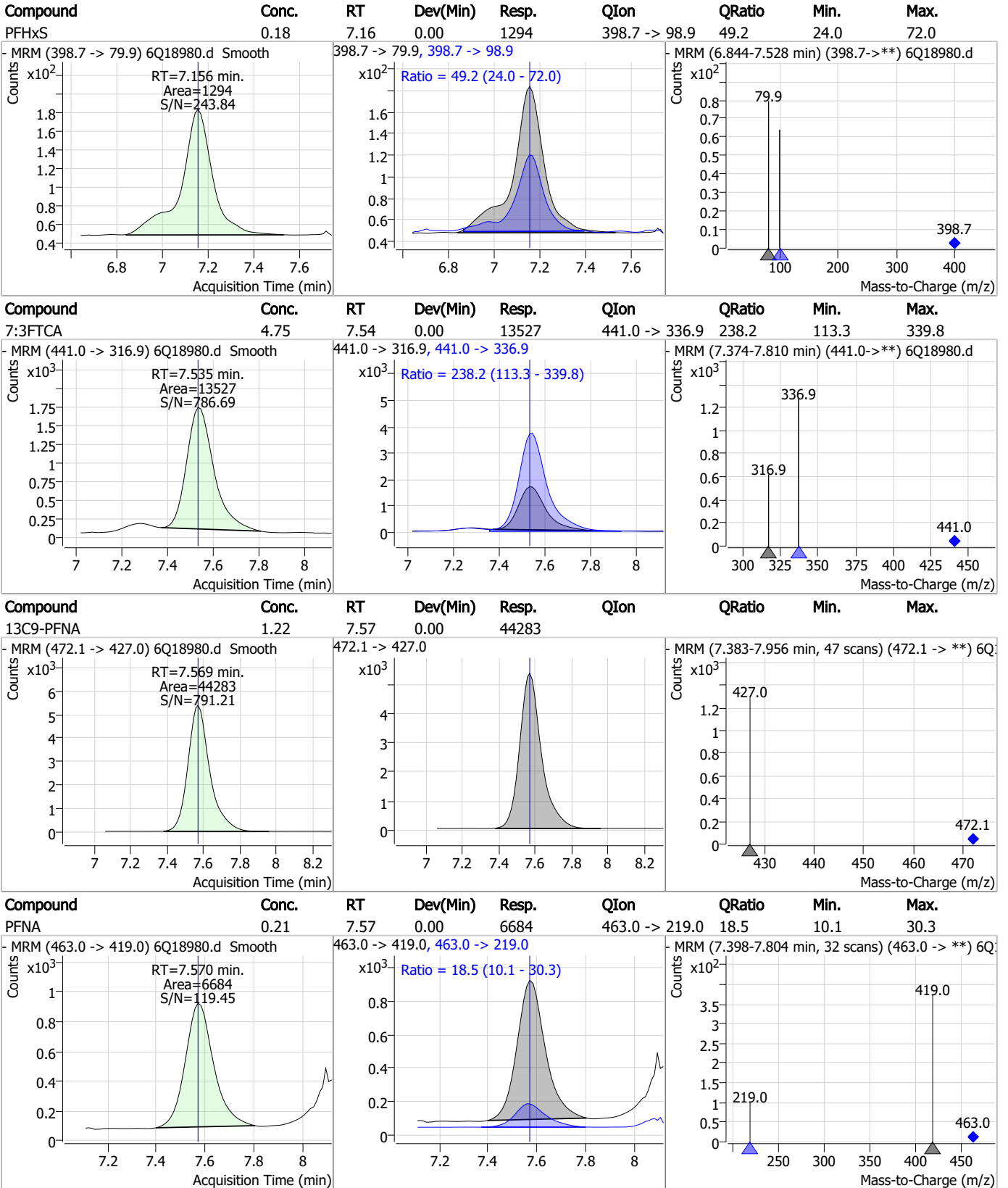


Perfluorinated Compounds by LC/MS/MS



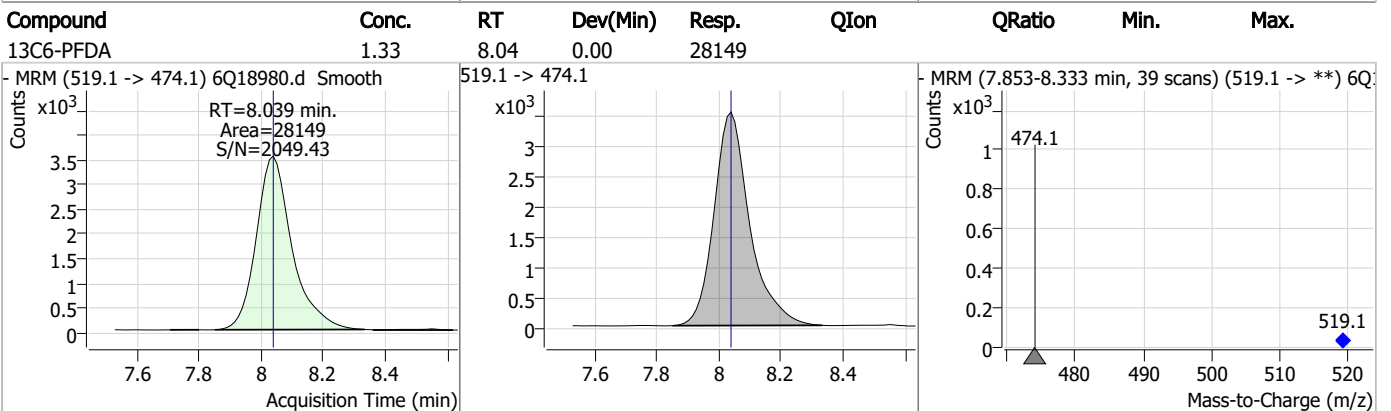
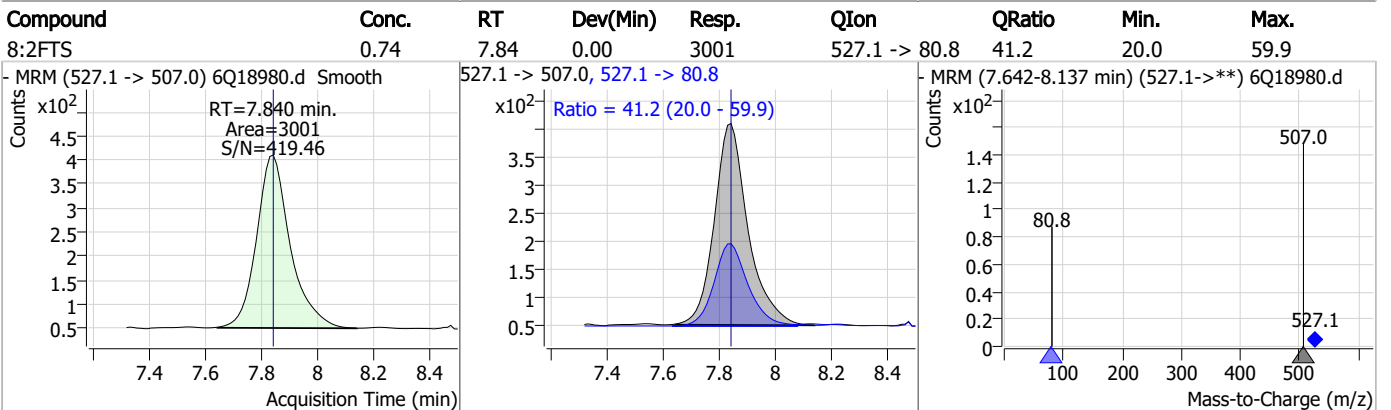
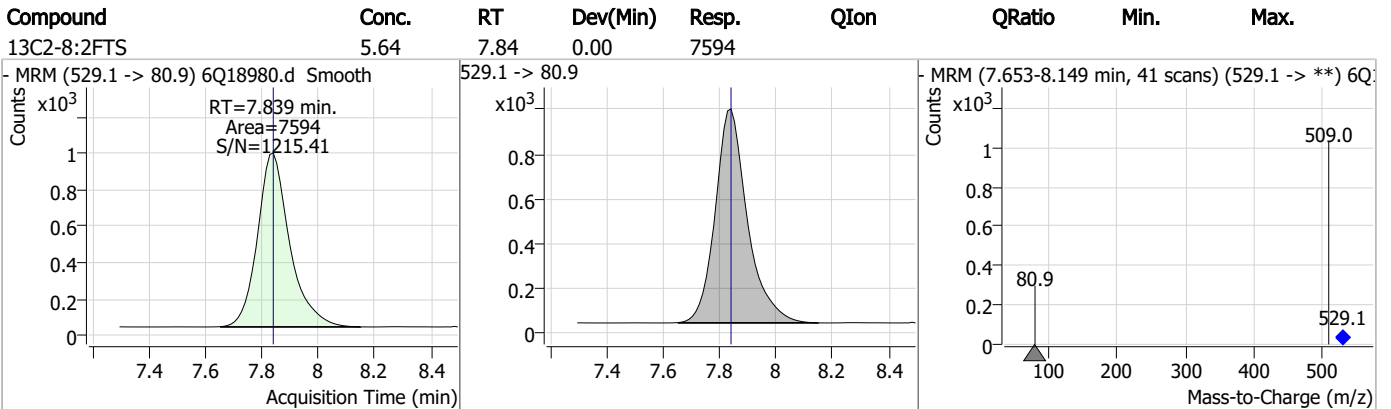
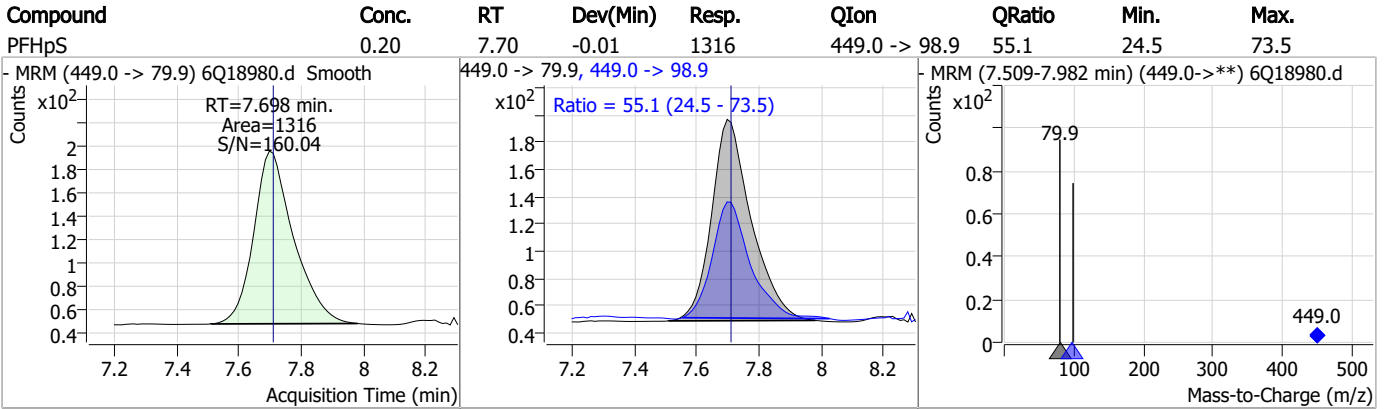
7.7.12

Perfluorinated Compounds by LC/MS/MS



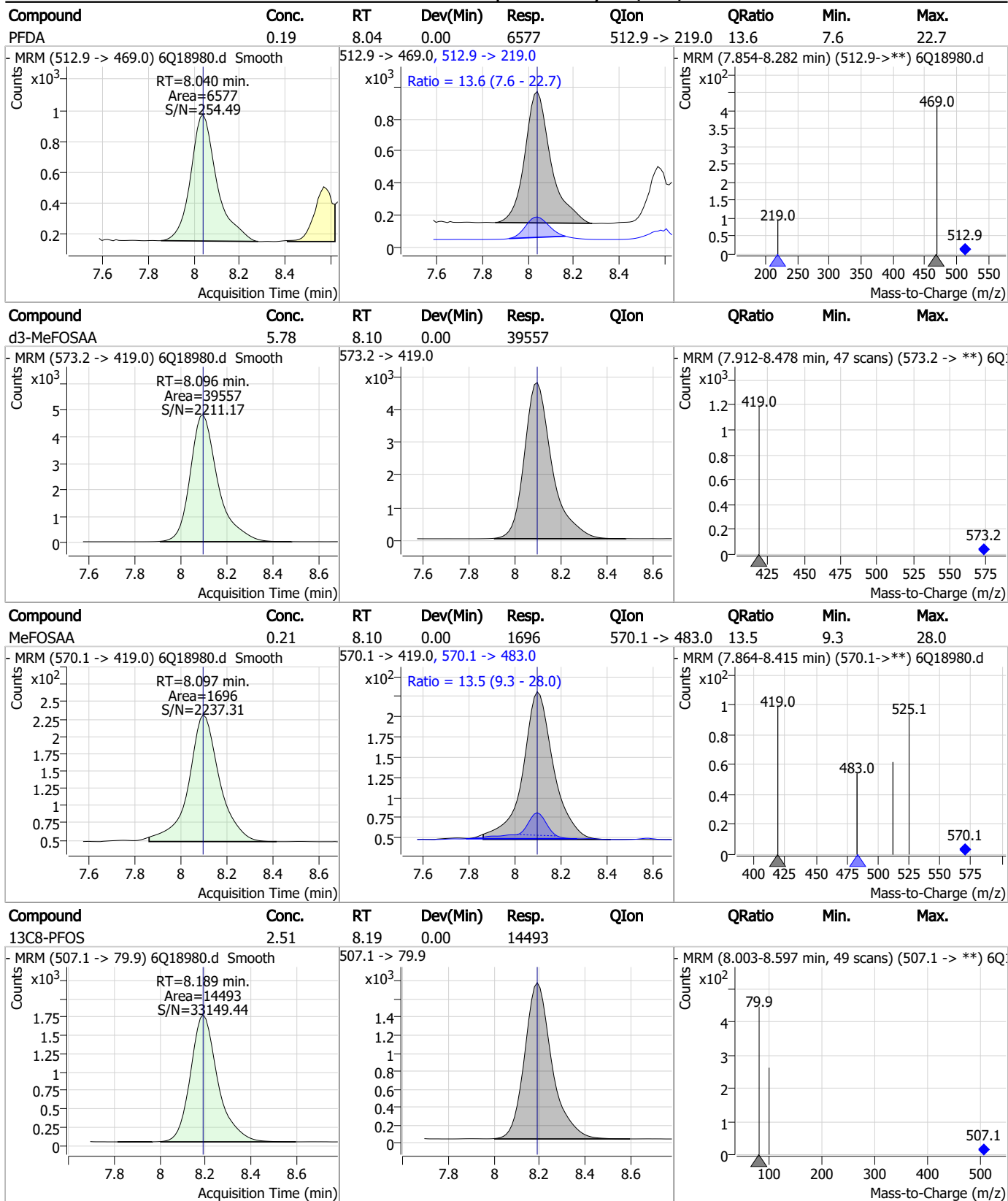
7.7.12 7

Perfluorinated Compounds by LC/MS/MS



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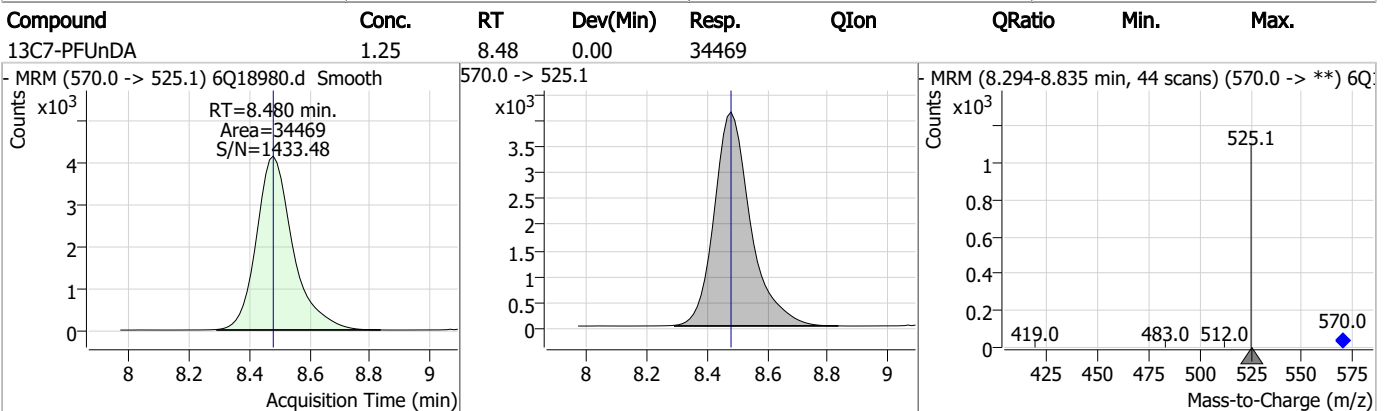
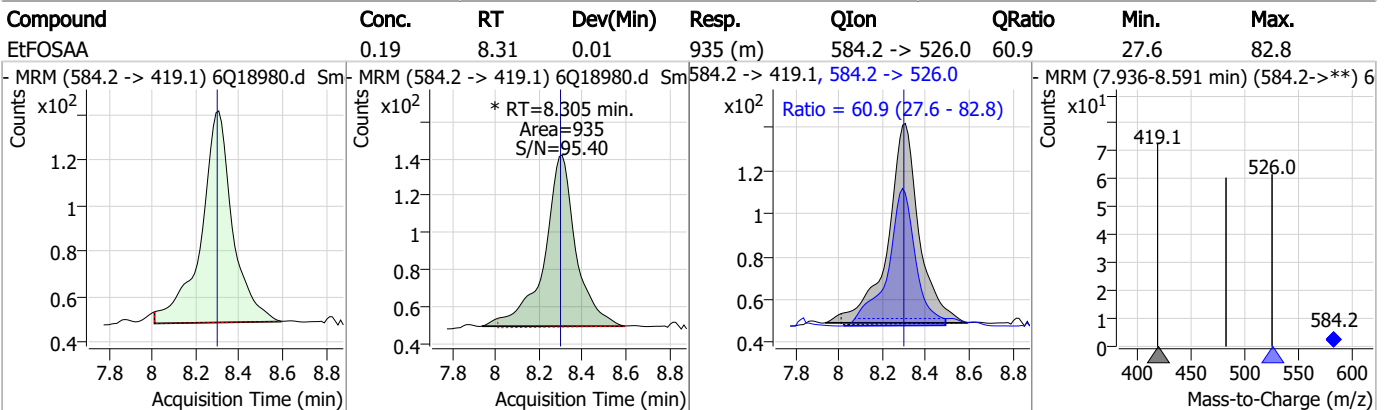
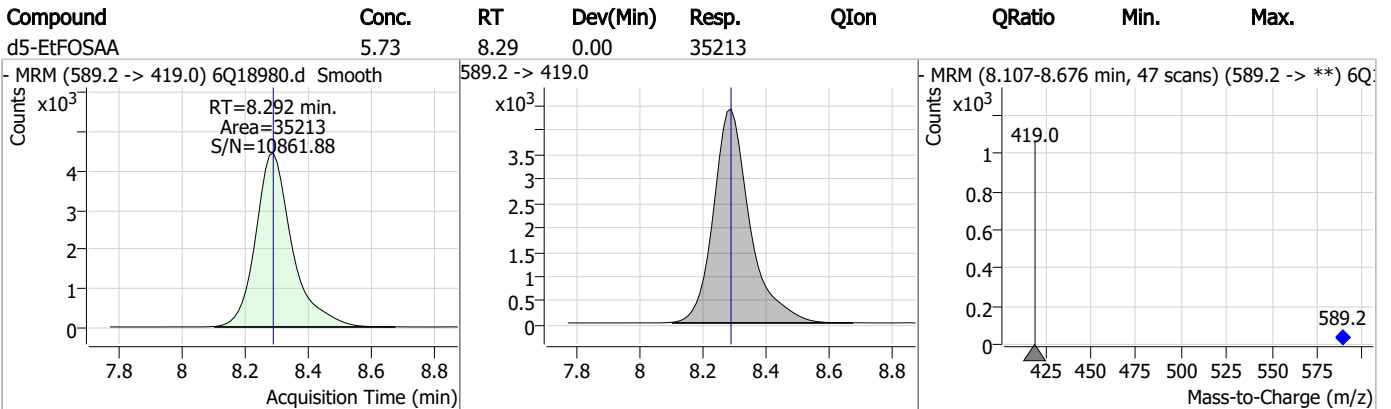
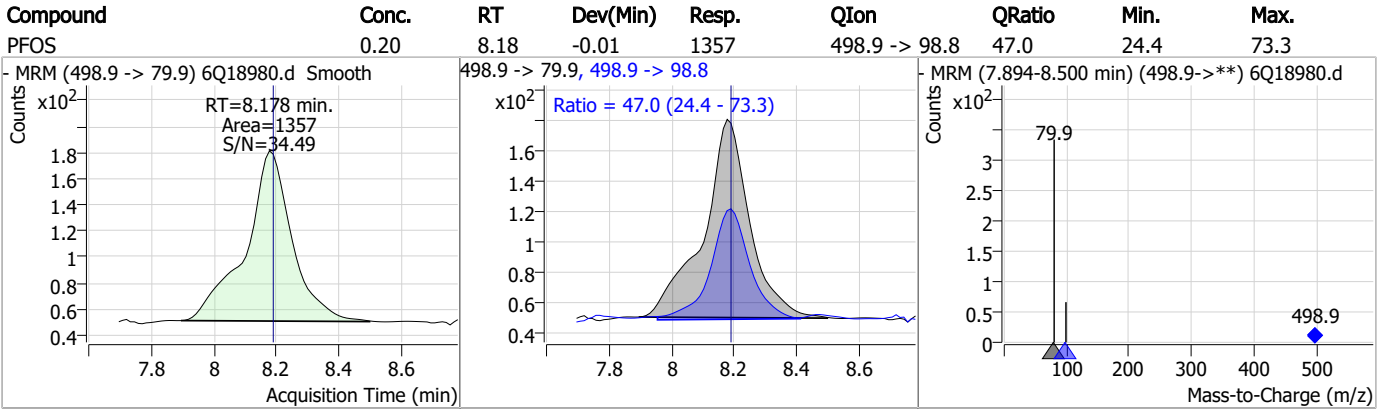
Perfluorinated Compounds by LC/MS/MS



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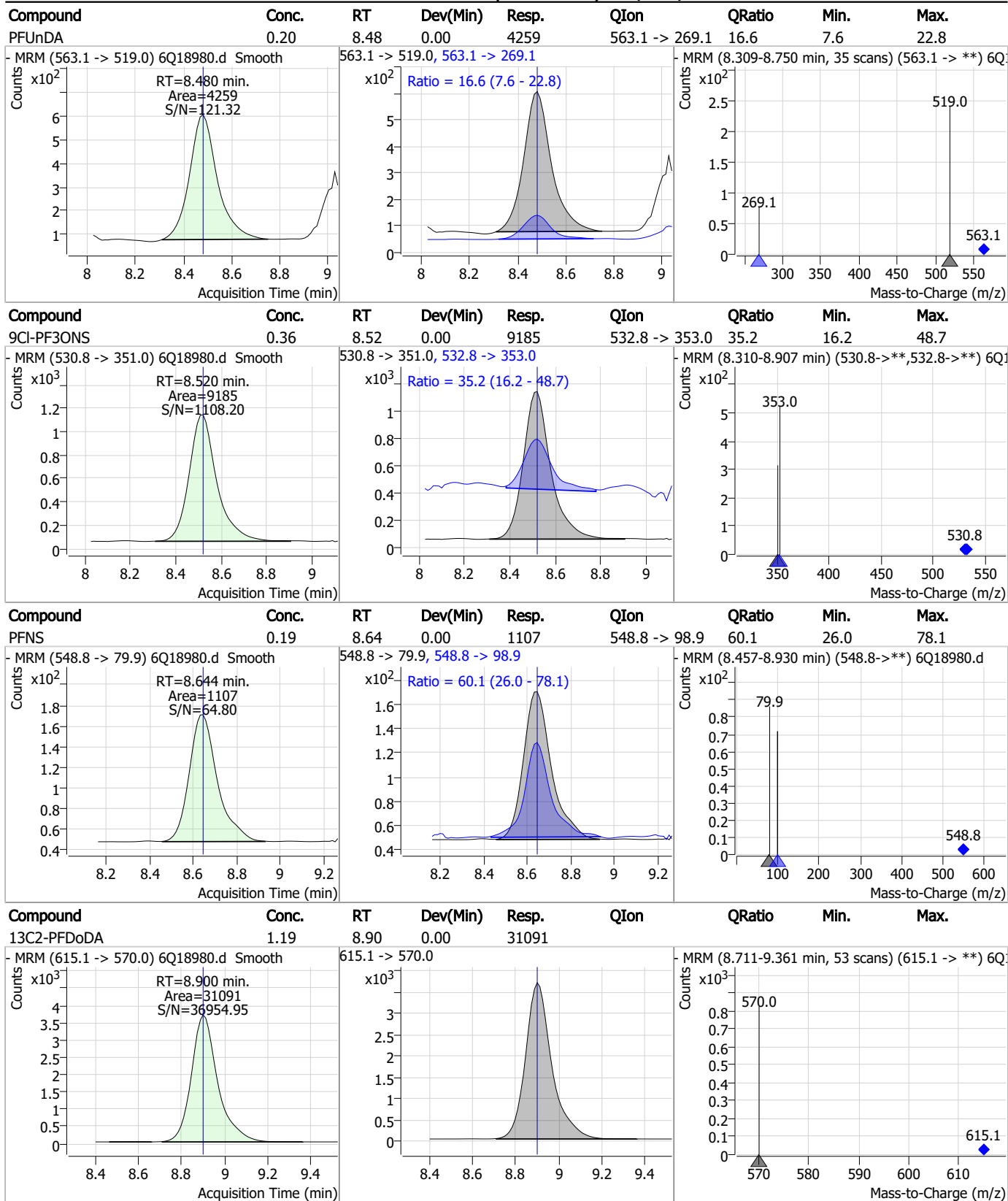


Perfluorinated Compounds by LC/MS/MS



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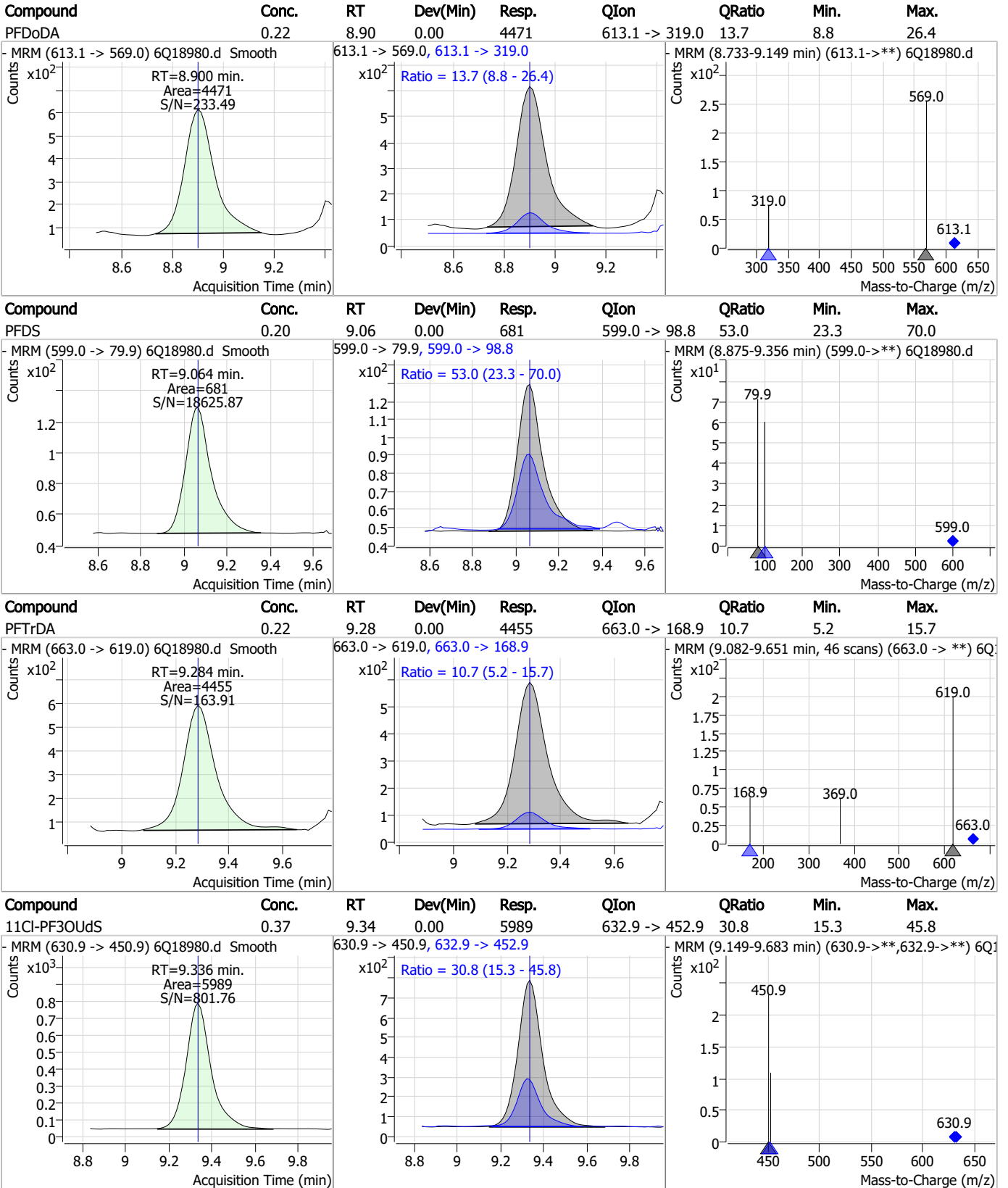
Perfluorinated Compounds by LC/MS/MS



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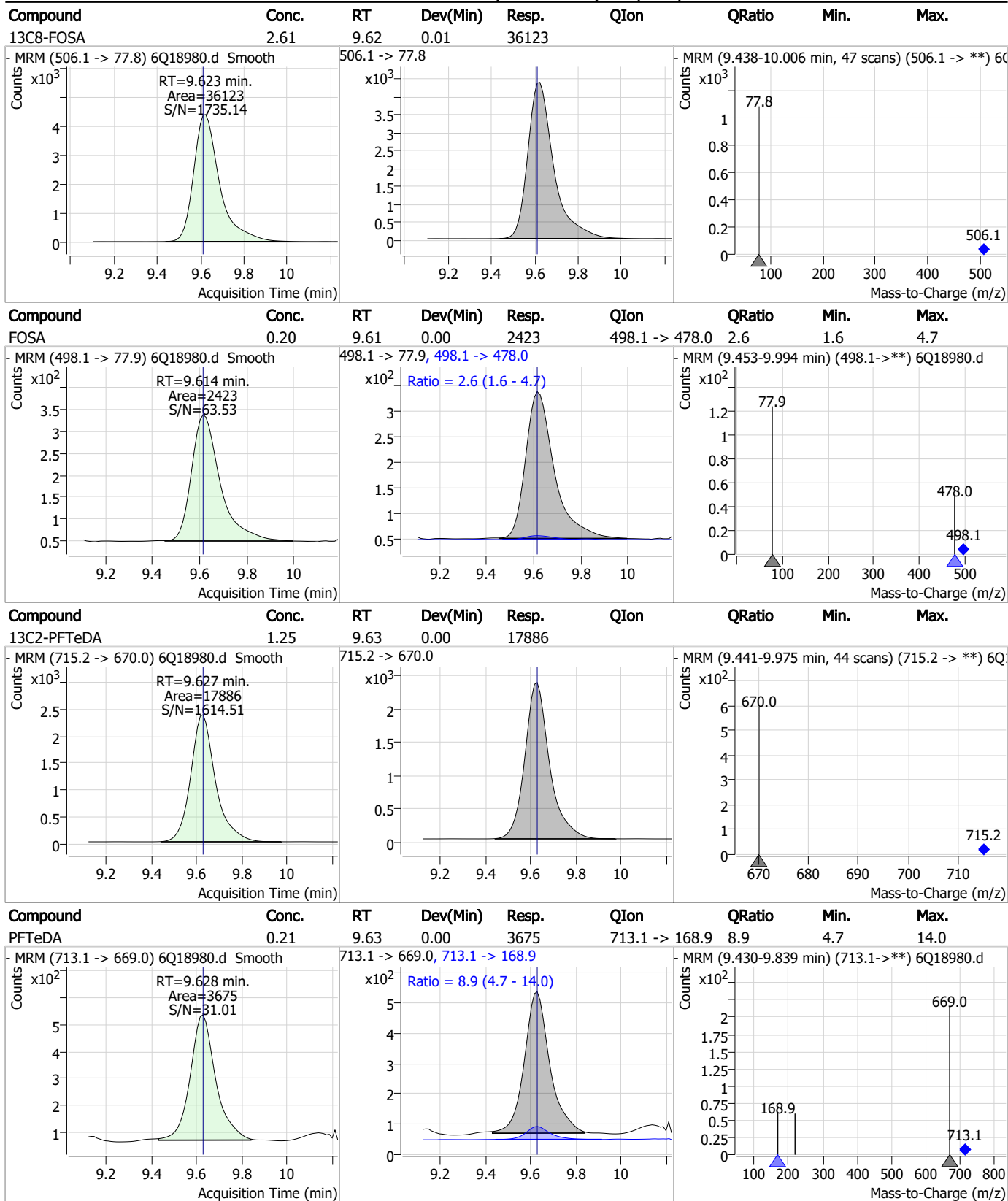
Perfluorinated Compounds by LC/MS/MS



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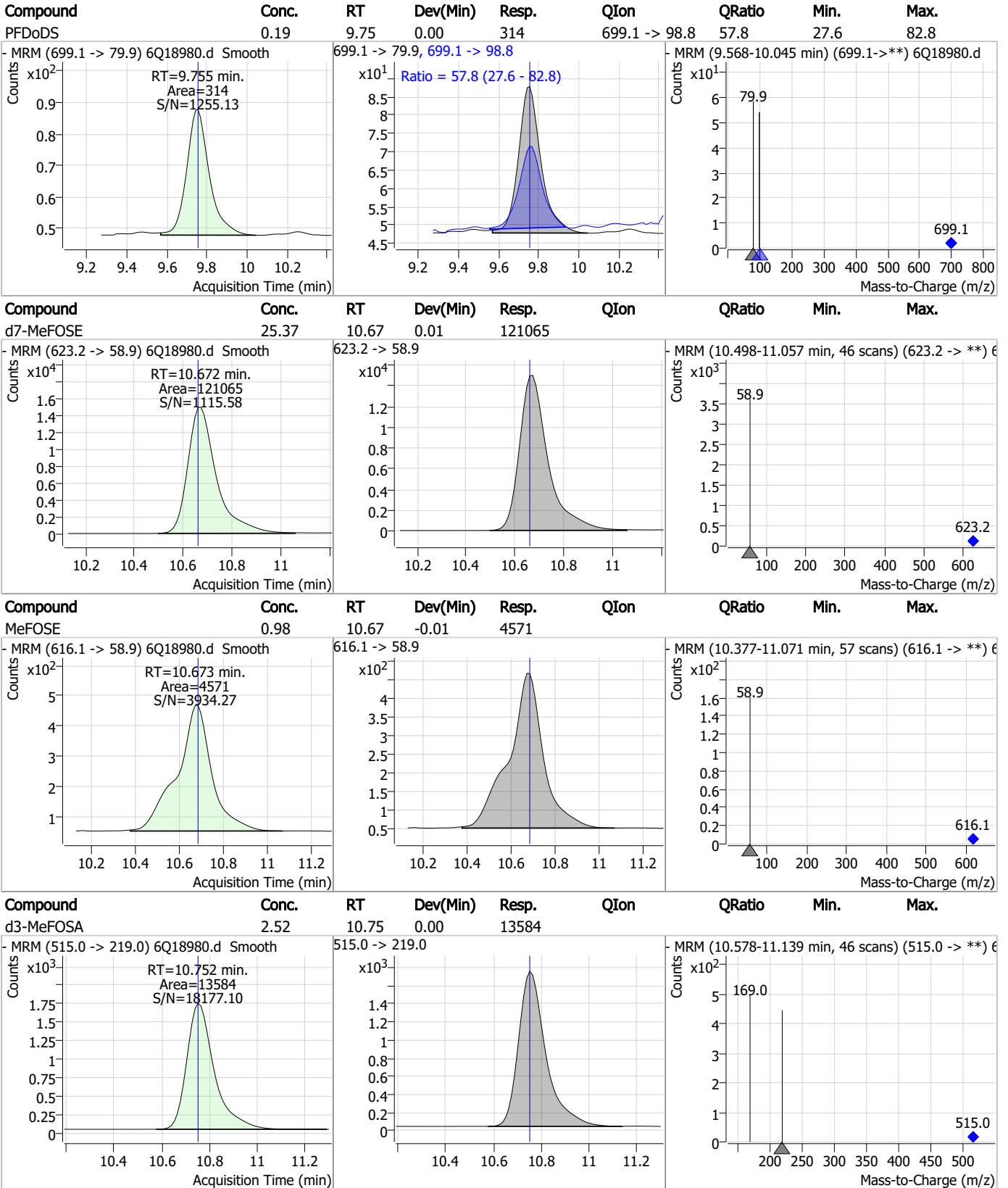


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

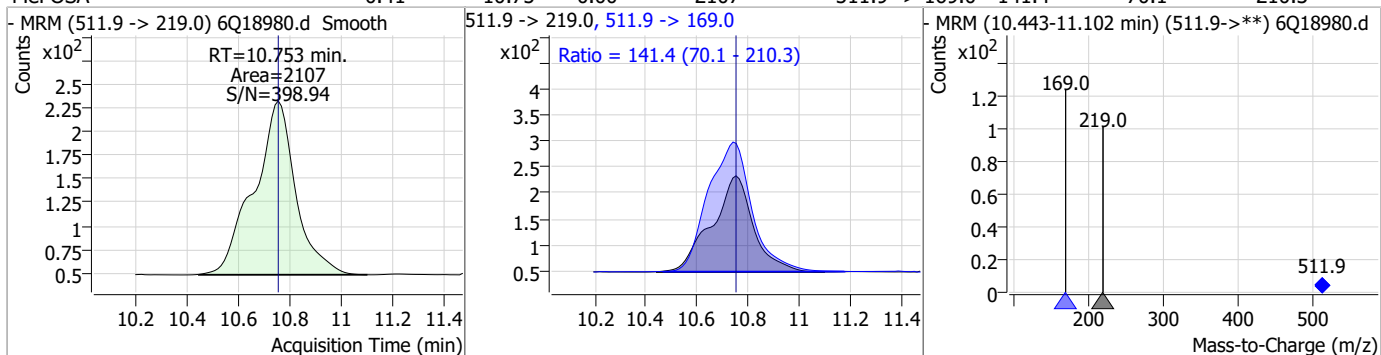


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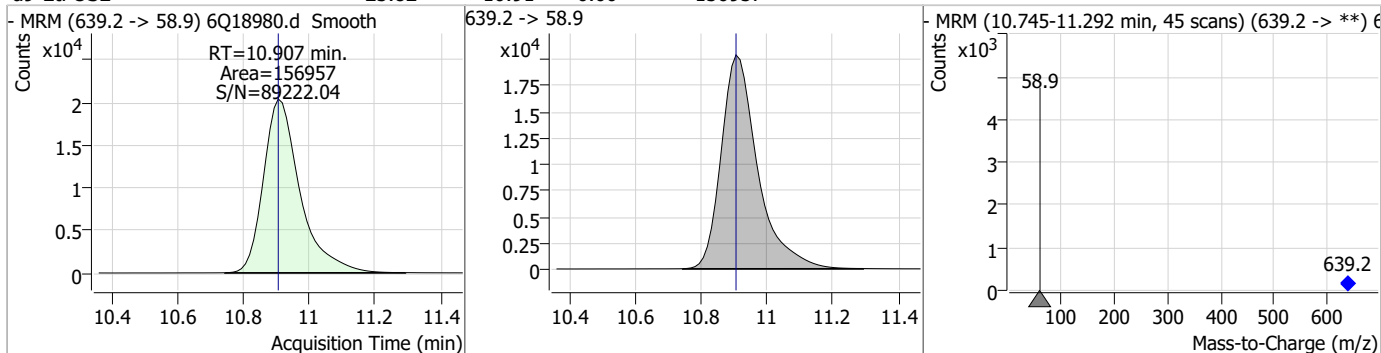


Perfluorinated Compounds by LC/MS/MS

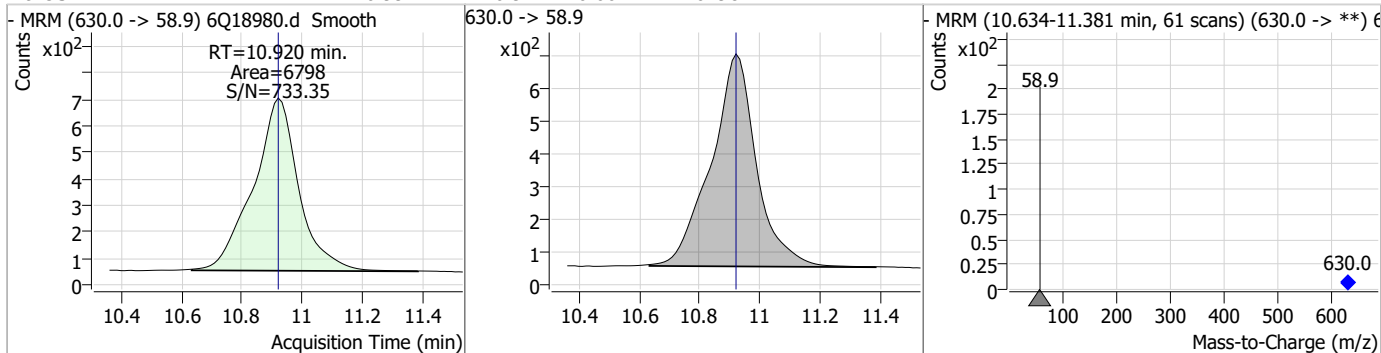
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.41	10.75	0.00	2107	511.9 -> 169.0	141.4	70.1	210.3



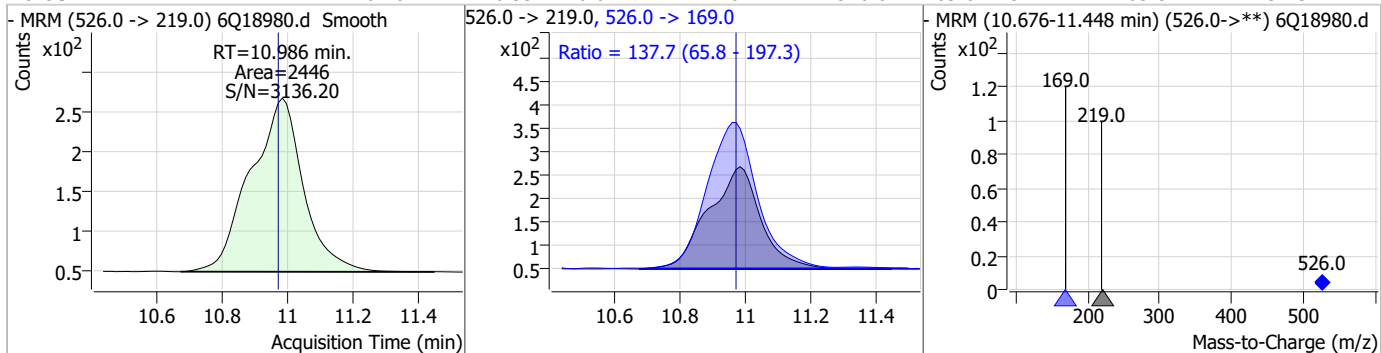
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.82	10.91	0.00	156957				



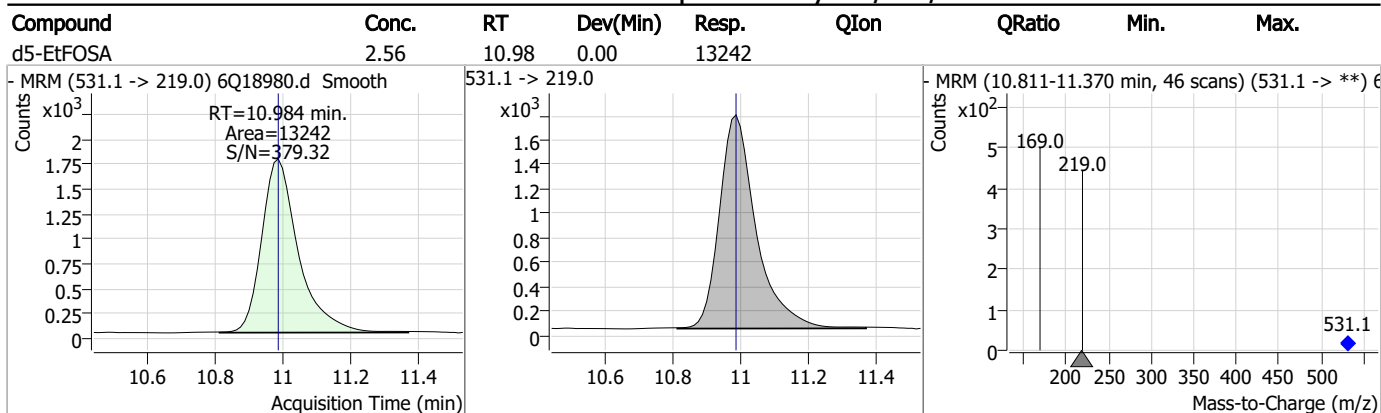
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	0.99	10.92	0.00	6798				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.40	10.99	0.01	2446	526.0 -> 169.0	137.7	65.8	197.3



Perfluorinated Compounds by LC/MS/MS



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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

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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

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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					

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



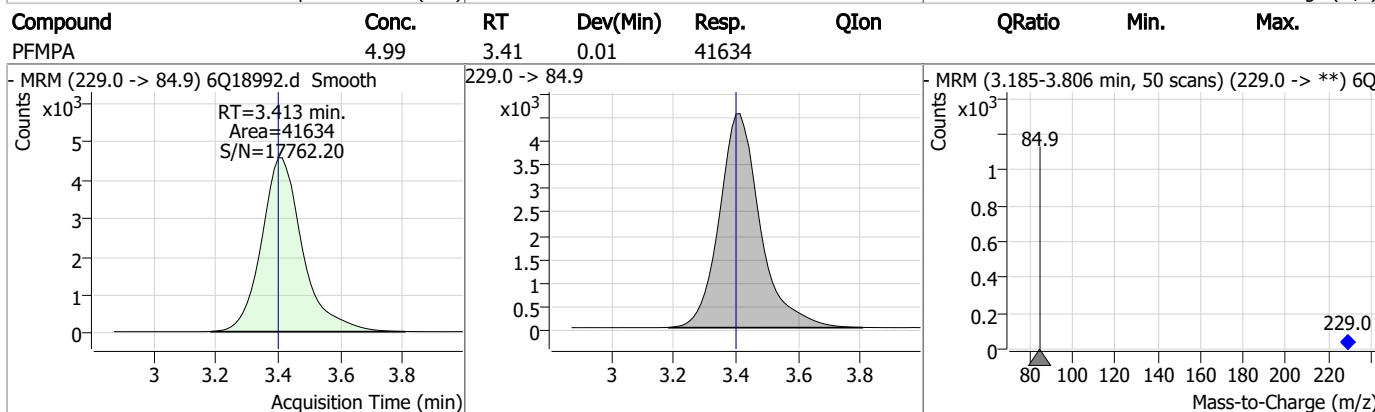
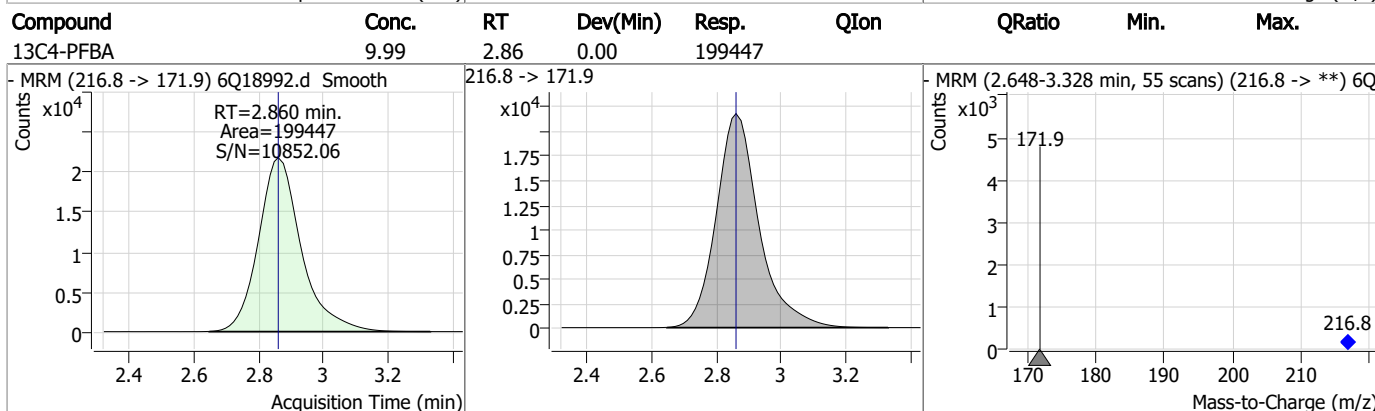
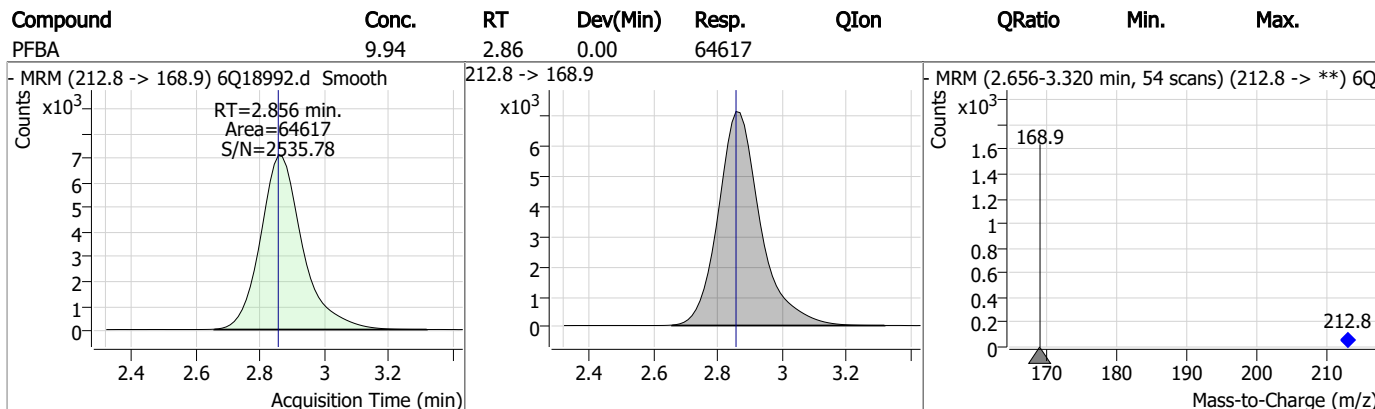
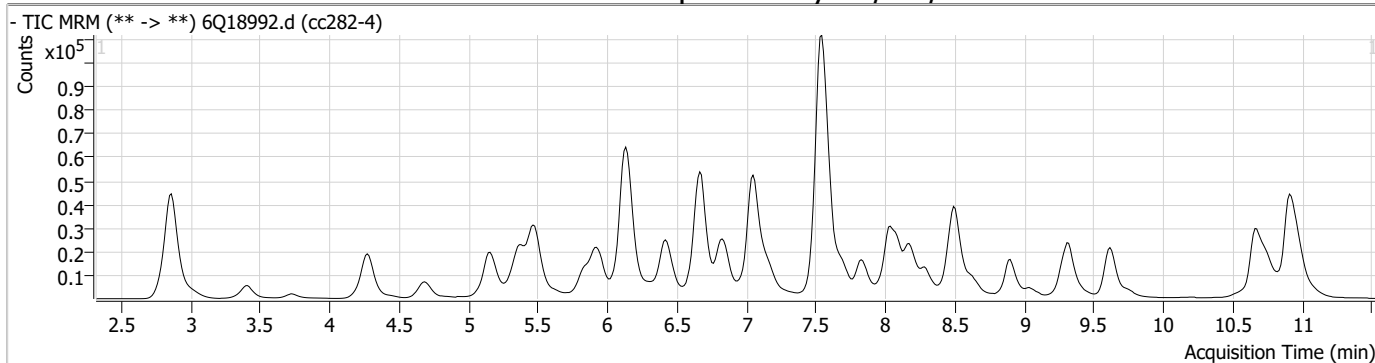
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.13

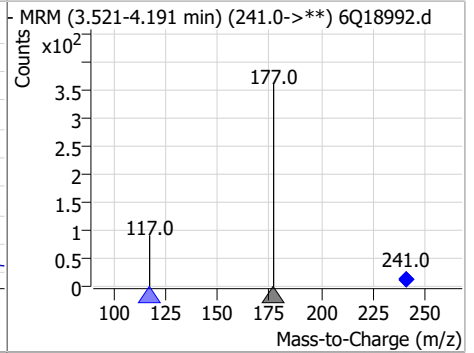
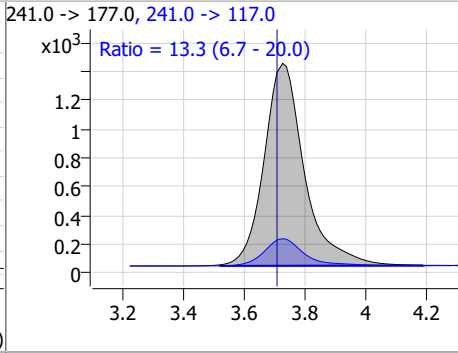
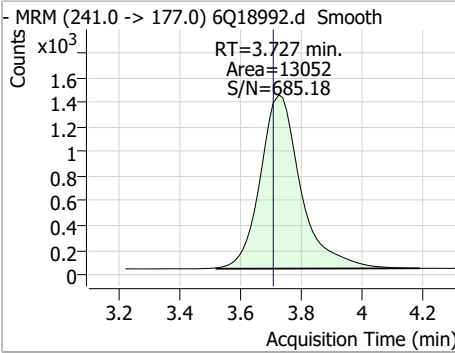
7

Perfluorinated Compounds by LC/MS/MS

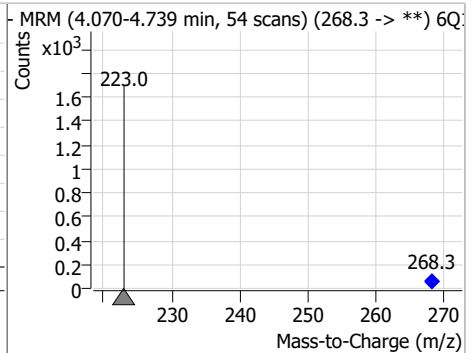
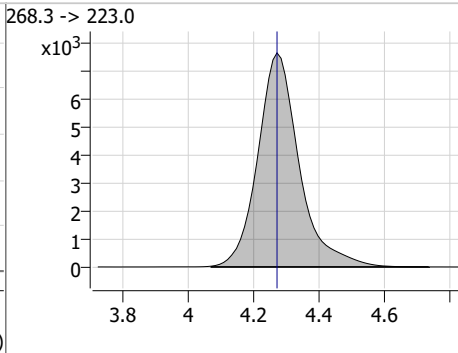
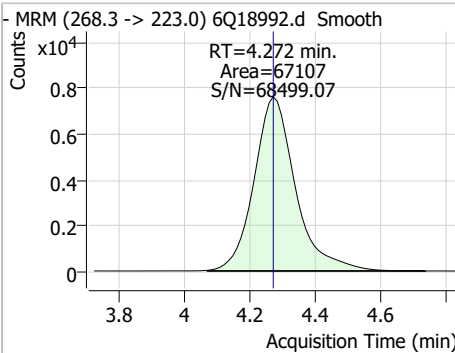


Perfluorinated Compounds by LC/MS/MS

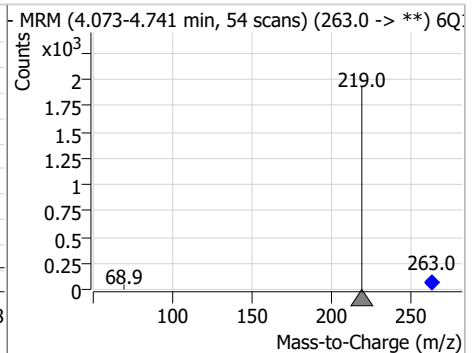
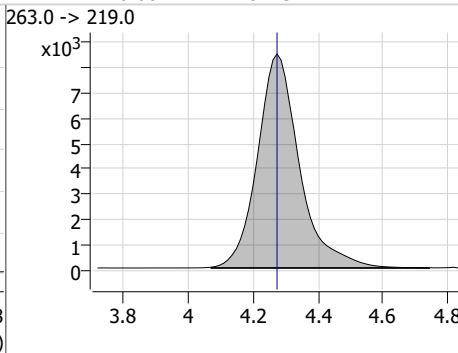
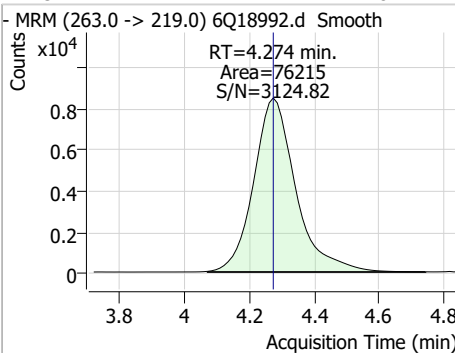
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.63	3.73	0.02	13052	241.0 -> 117.0	13.3	6.7	20.0



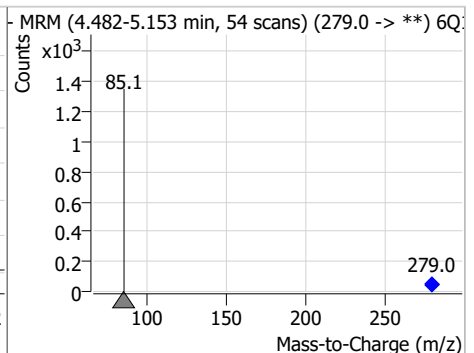
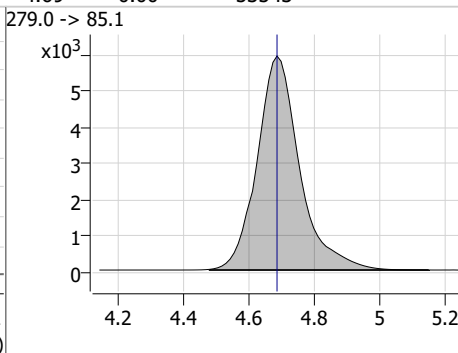
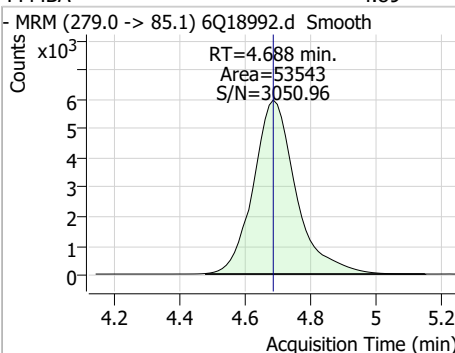
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.06	4.27	0.00	67107				



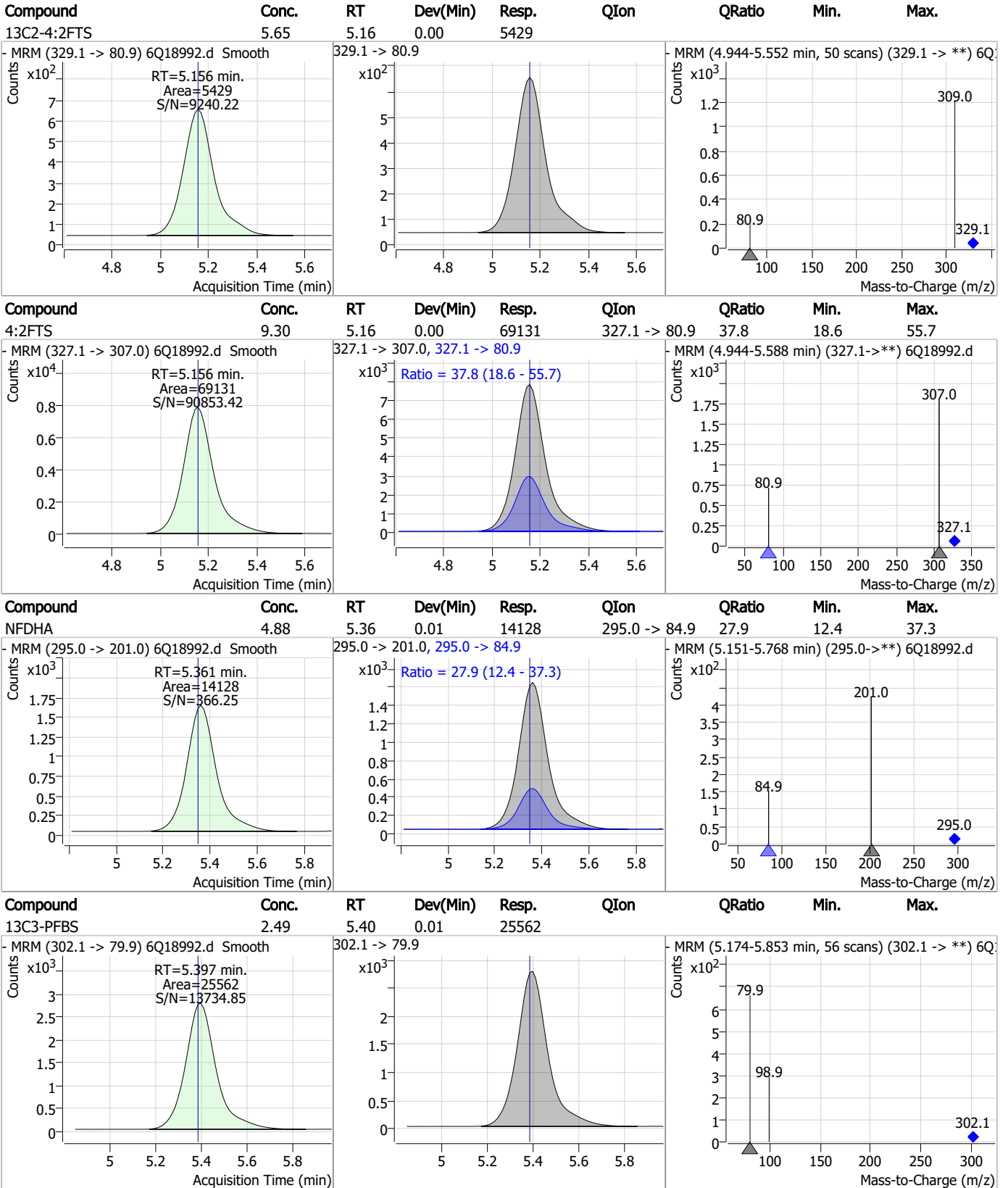
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.81	4.27	0.00	76215				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.89	4.69	0.00	53543				



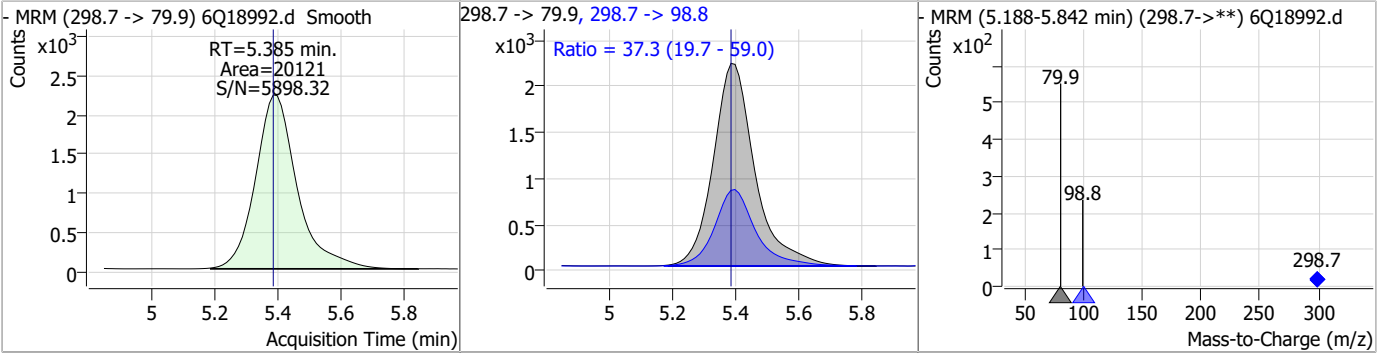
Perfluorinated Compounds by LC/MS/MS



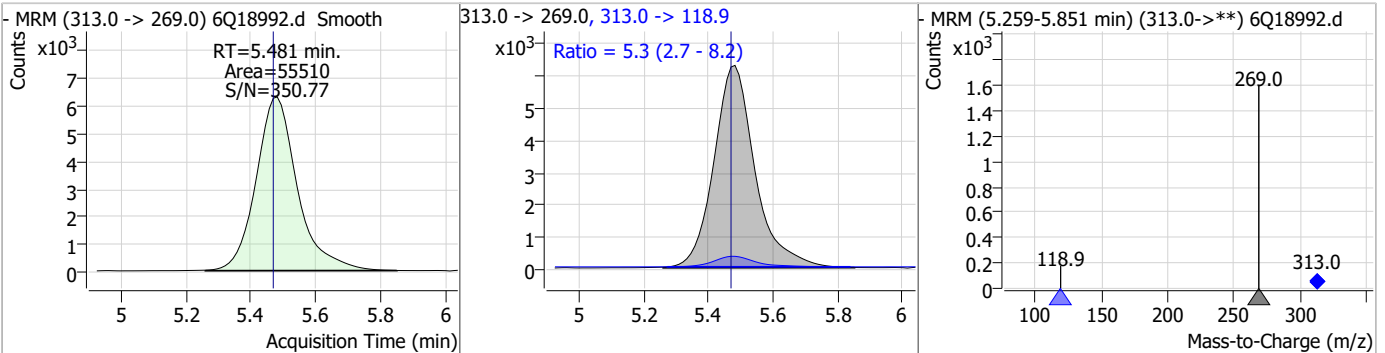
7.7.13 7

Perfluorinated Compounds by LC/MS/MS

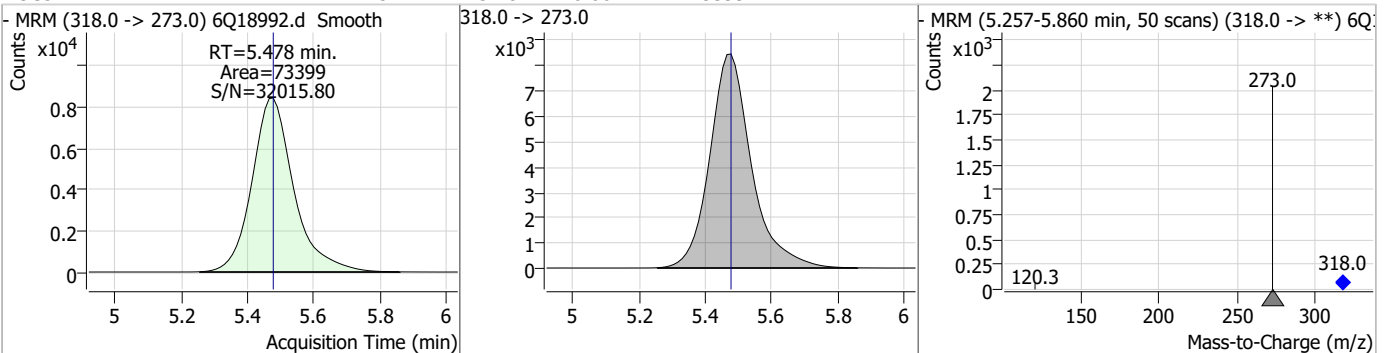
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.27	5.38	0.00	20121	298.7 -> 98.8	37.3	19.7	59.0



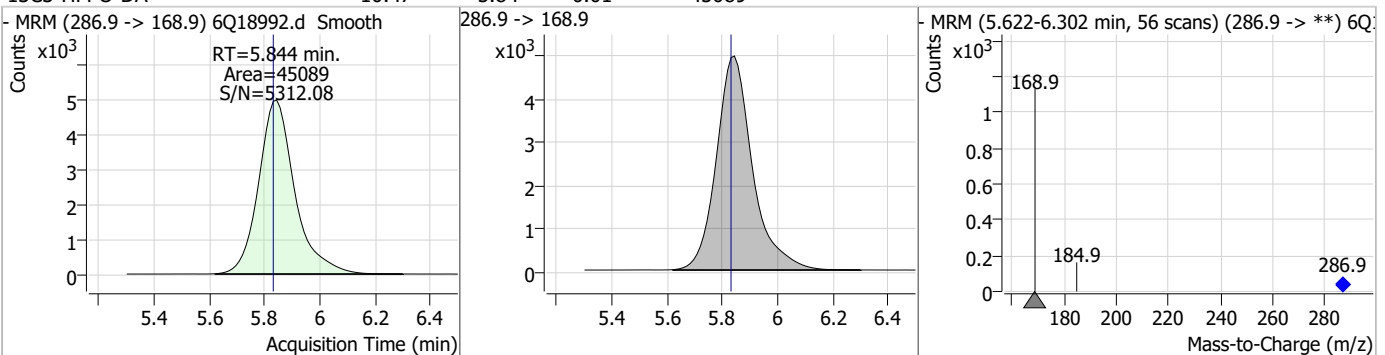
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.30	5.48	0.01	55510	313.0 -> 118.9	5.3	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.54	5.48	0.00	73399	318.0 -> 273.0	-	-	-

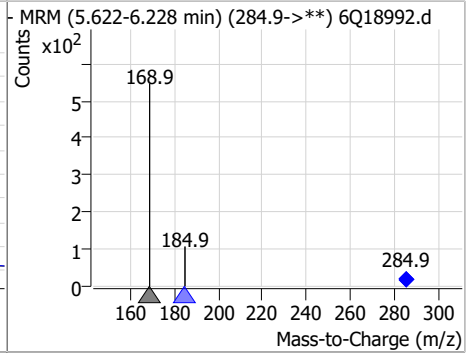
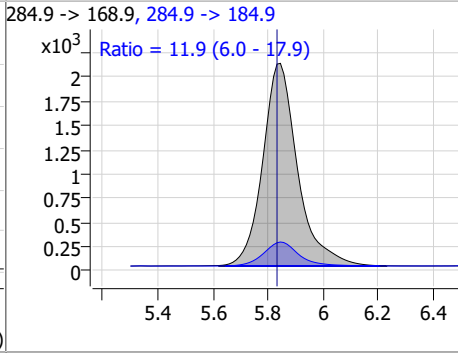
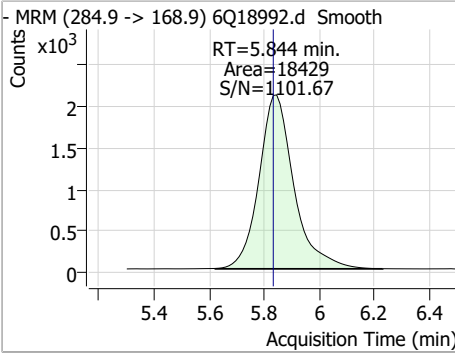


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.47	5.84	0.01	45089	286.9 -> 168.9	-	-	-

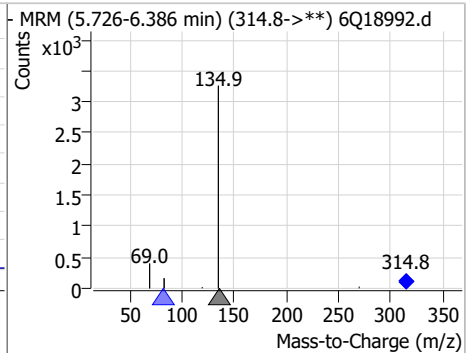
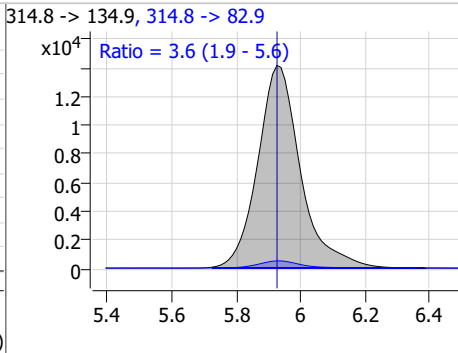
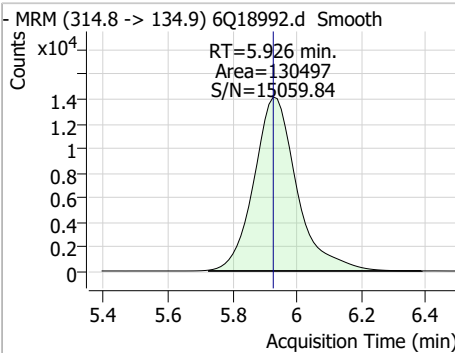


Perfluorinated Compounds by LC/MS/MS

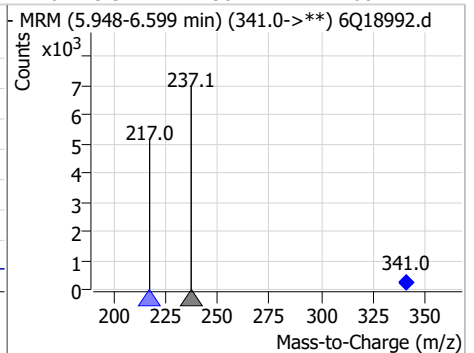
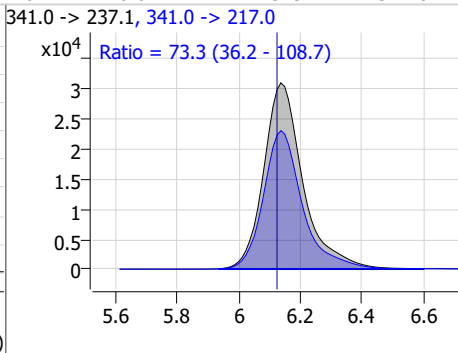
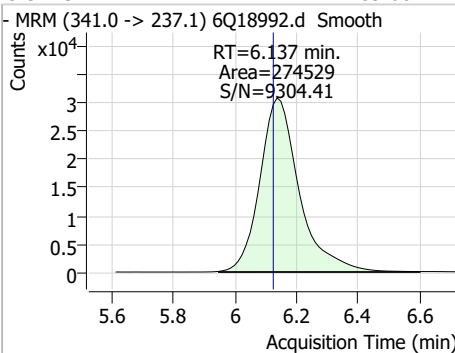
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	4.89	5.84	0.01	18429	284.9 -> 184.9	11.9	6.0	17.9



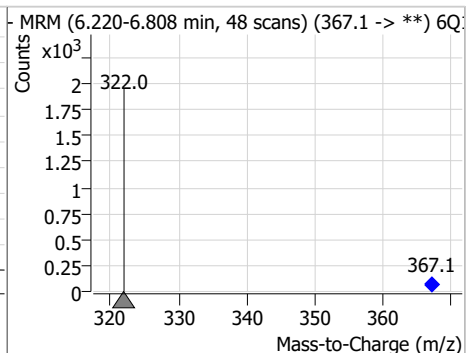
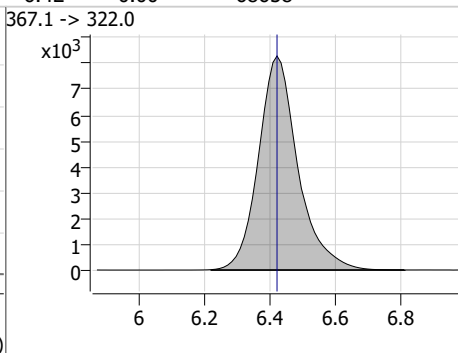
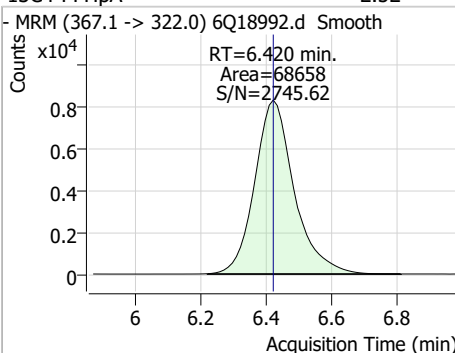
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.26	5.93	0.00	130497	314.8 -> 82.9	3.6	1.9	5.6



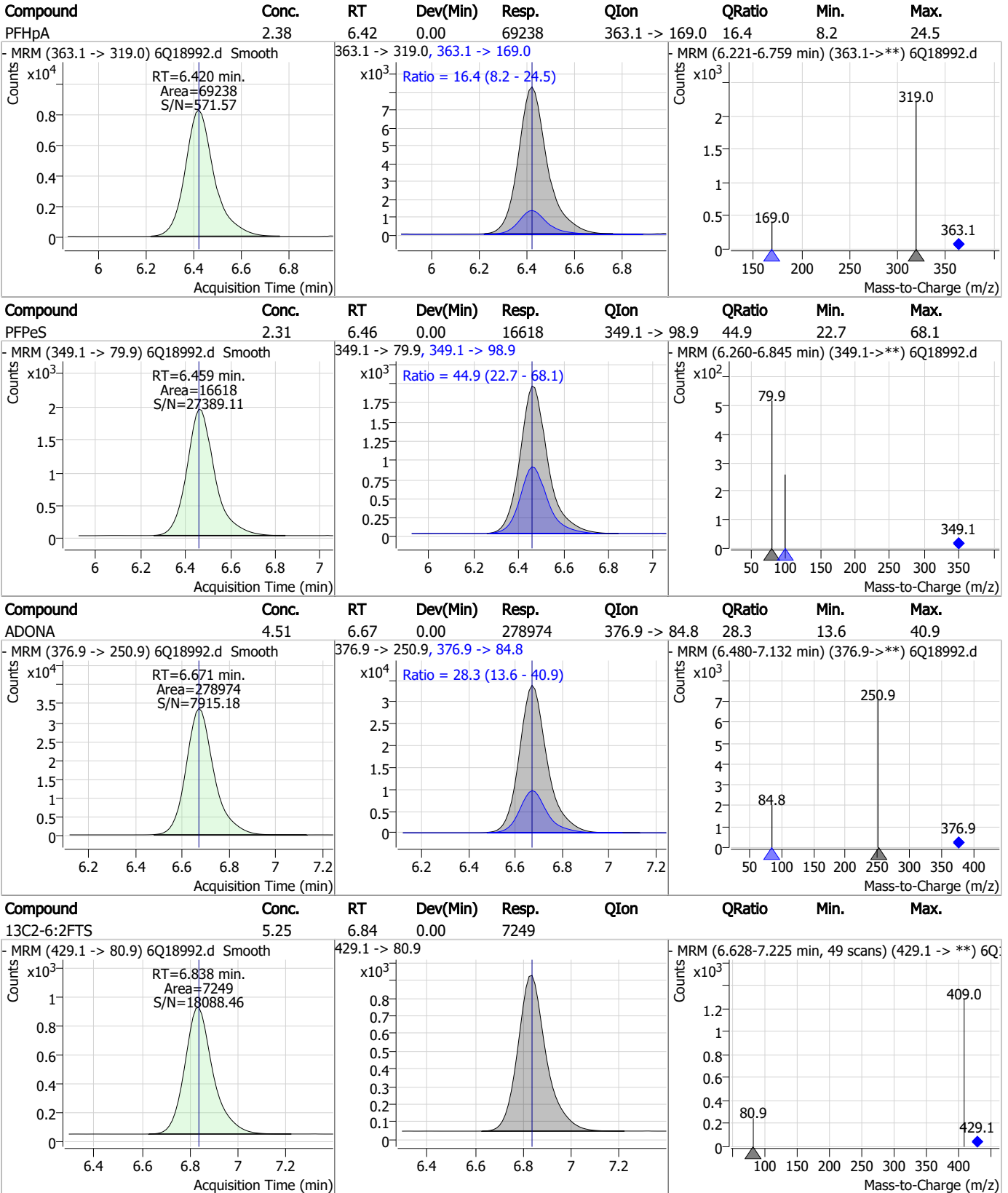
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	59.06	6.14	0.01	274529	341.0 -> 217.0	73.3	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.52	6.42	0.00	68658	367.1 -> 322.0			



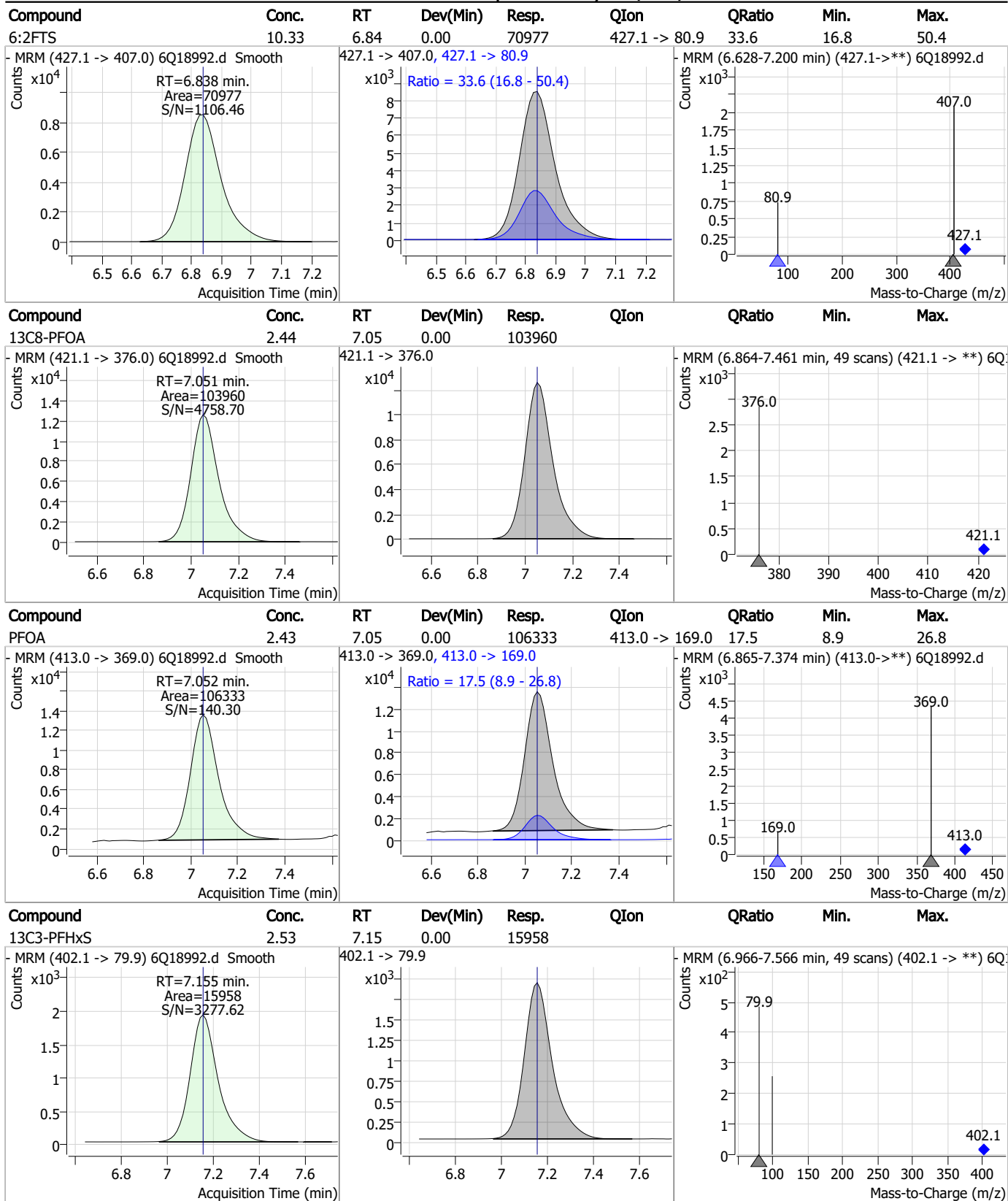
Perfluorinated Compounds by LC/MS/MS



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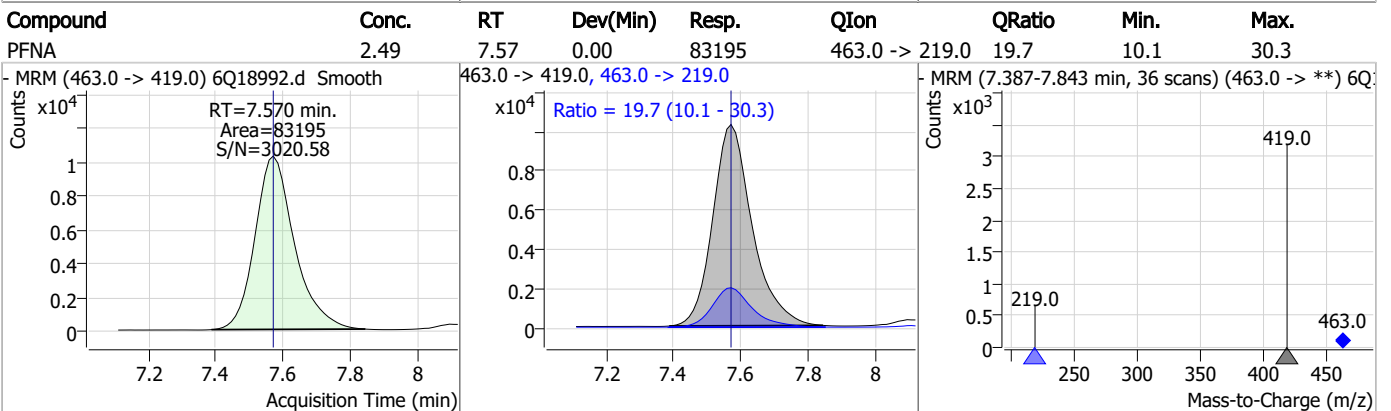
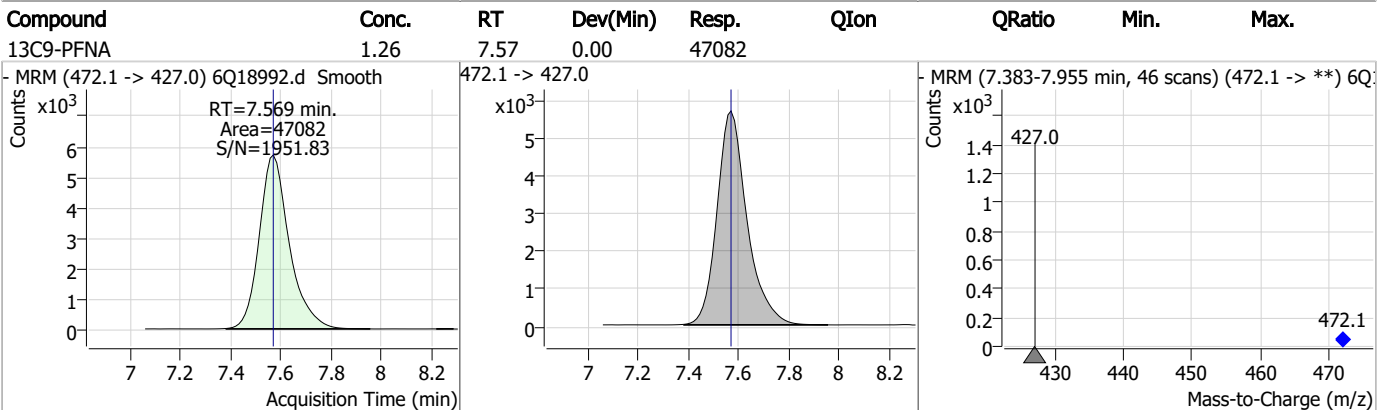
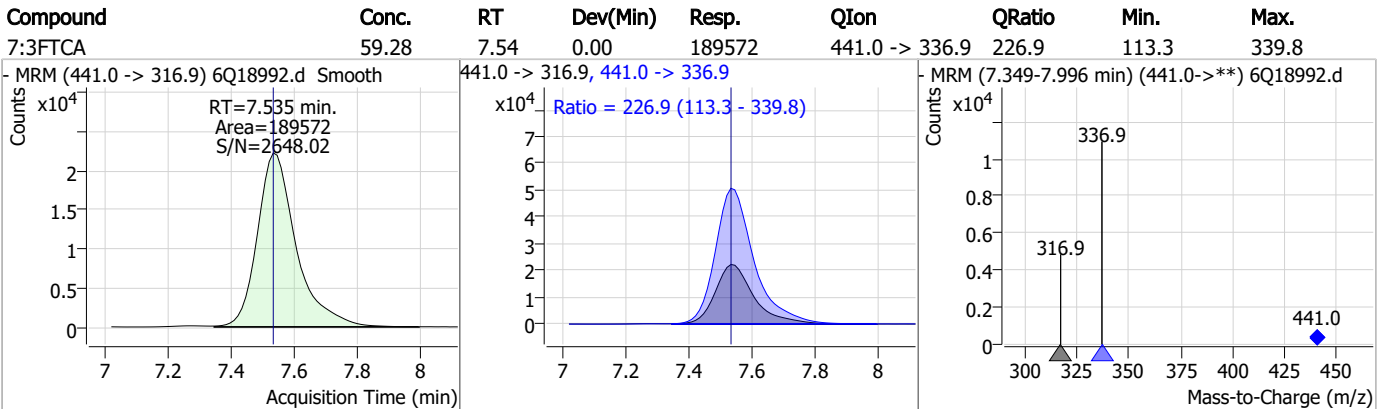
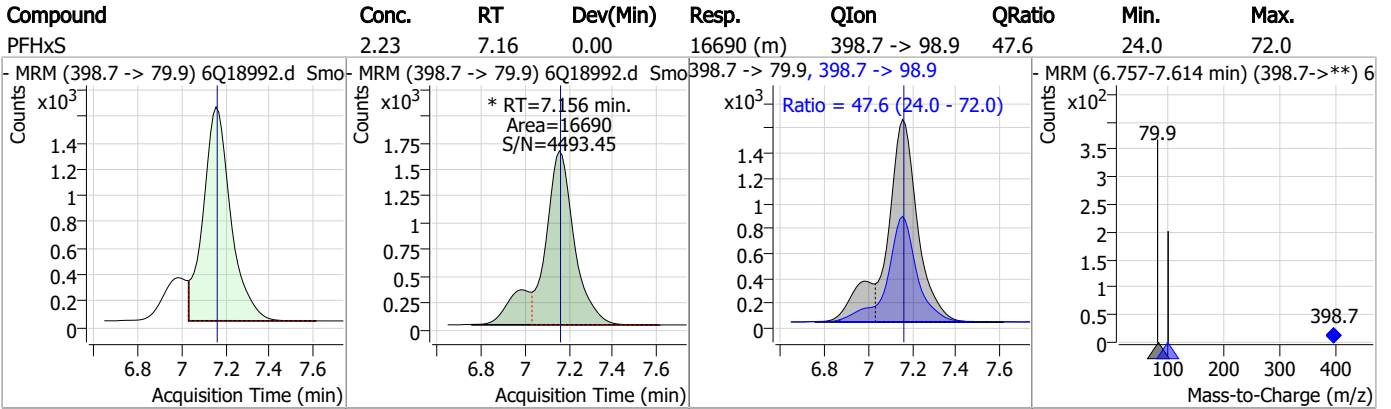
Perfluorinated Compounds by LC/MS/MS



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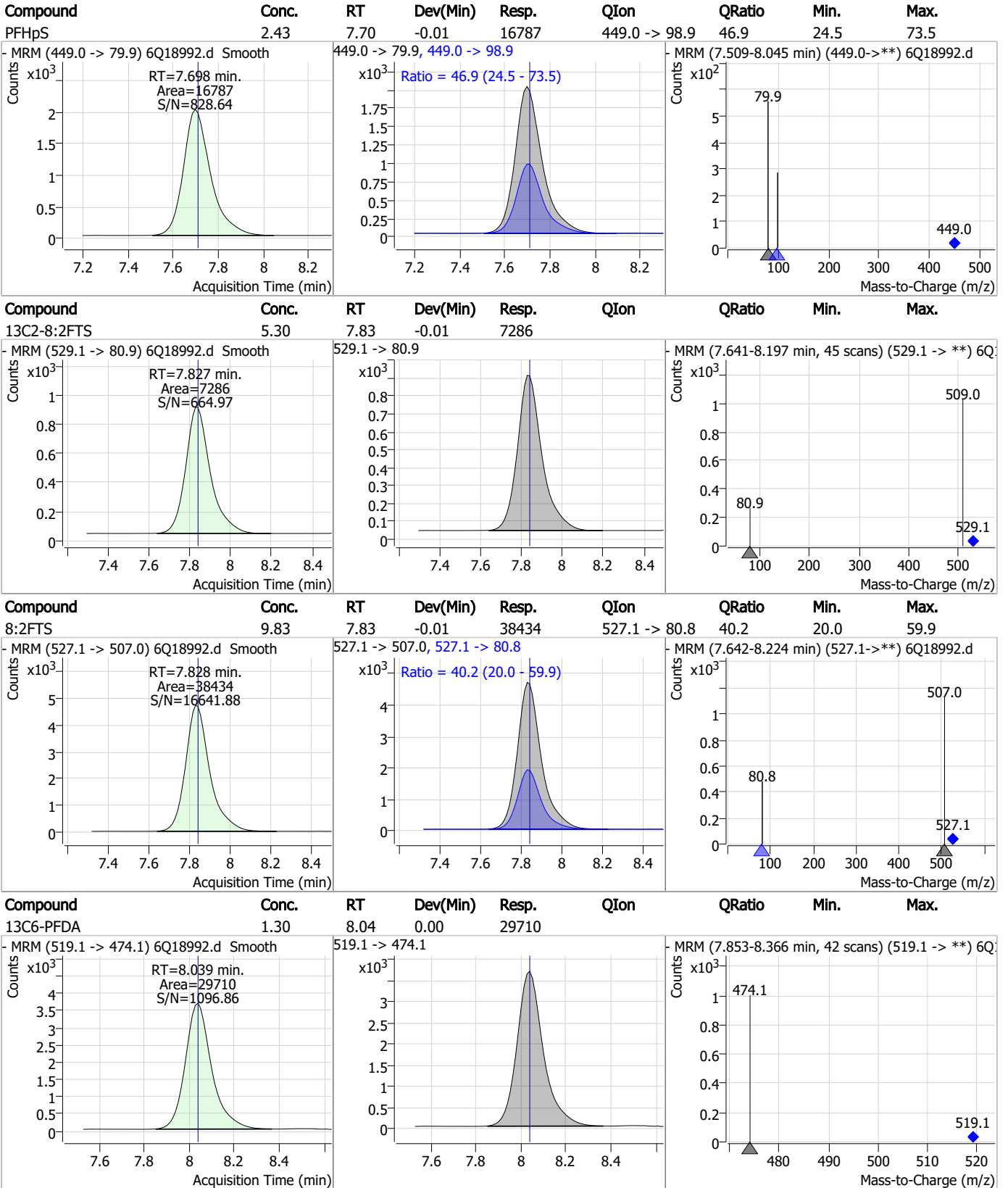
Perfluorinated Compounds by LC/MS/MS



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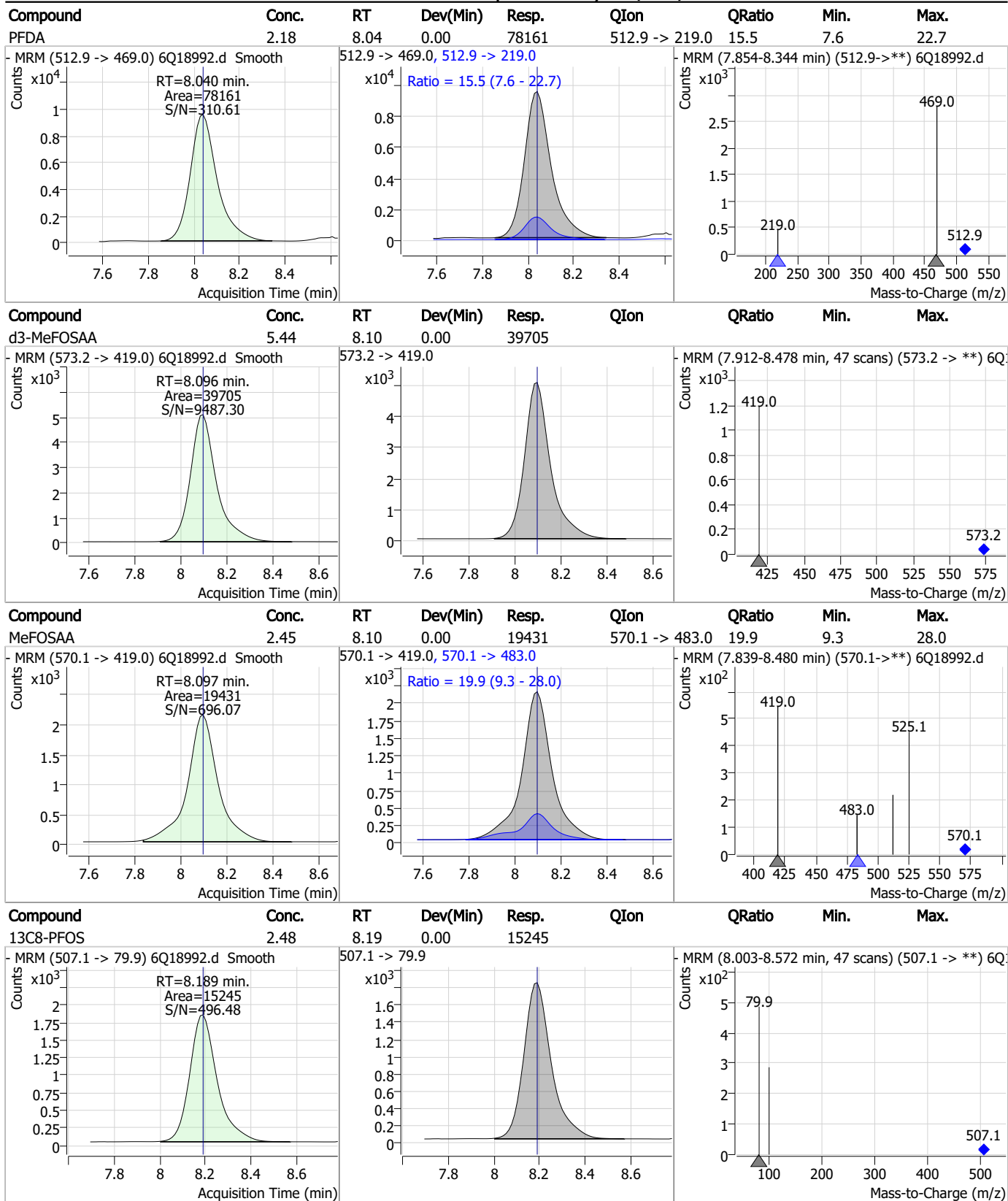
Perfluorinated Compounds by LC/MS/MS



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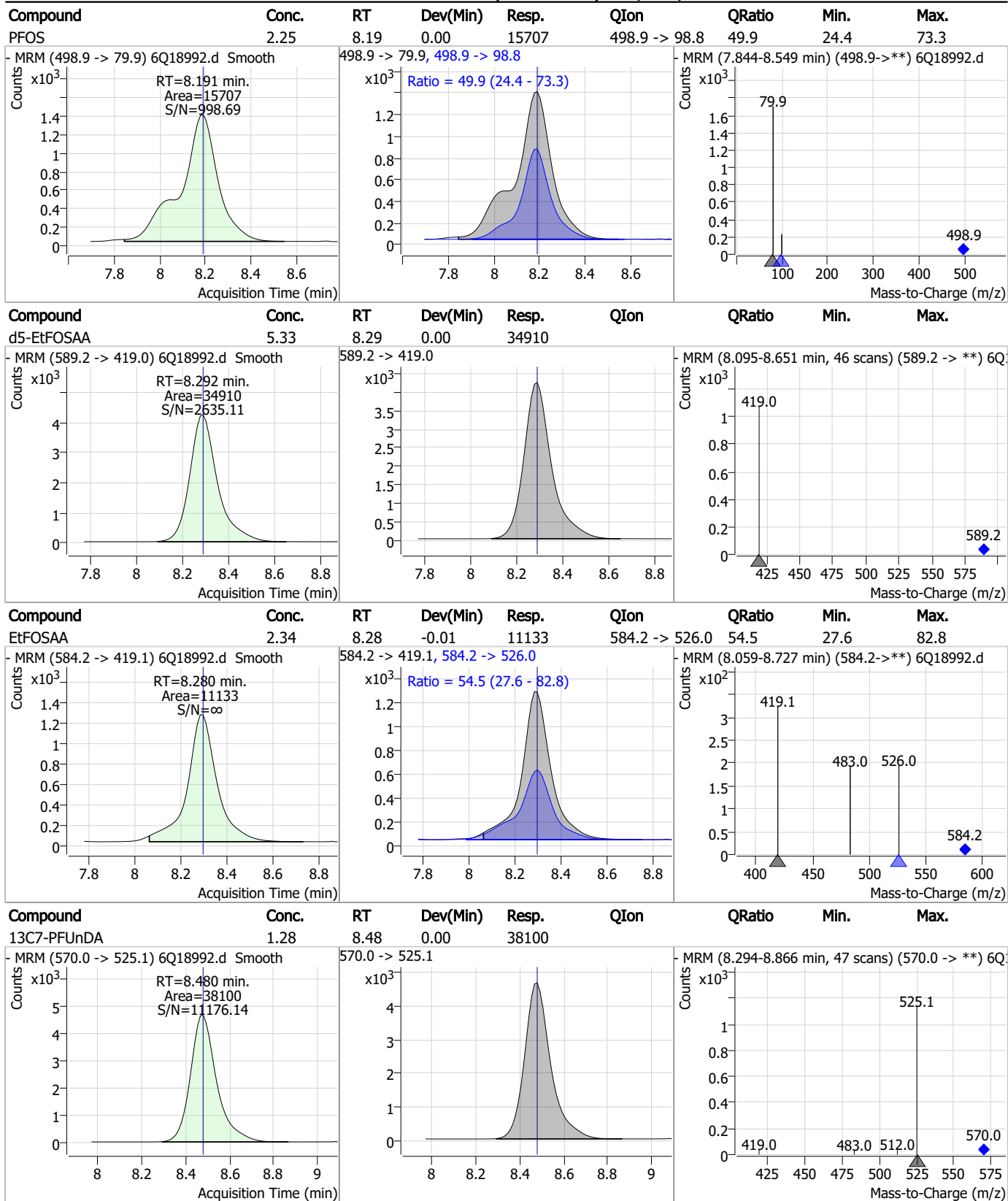
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

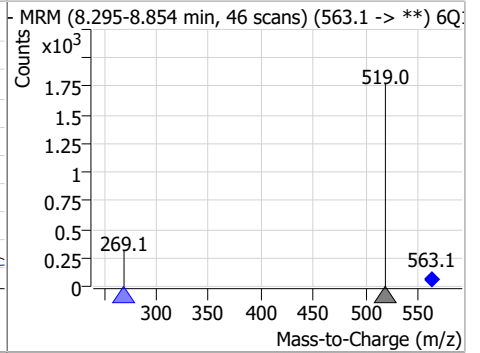
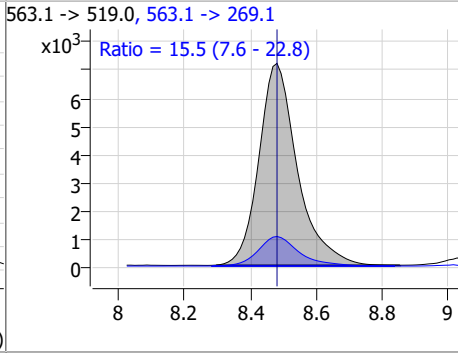
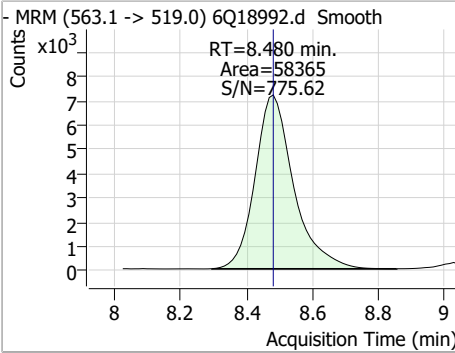


7.7.13

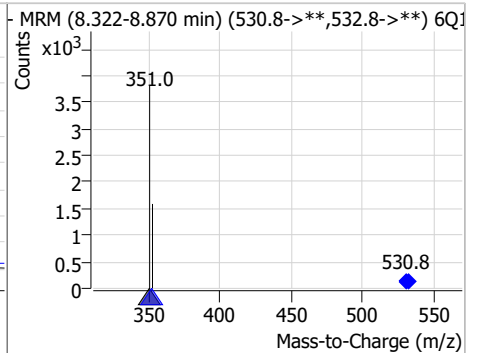
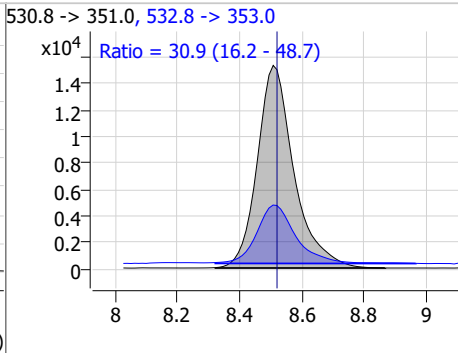
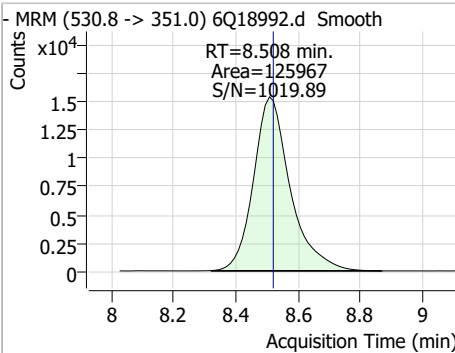
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Perfluorinated Compounds by LC/MS/MS

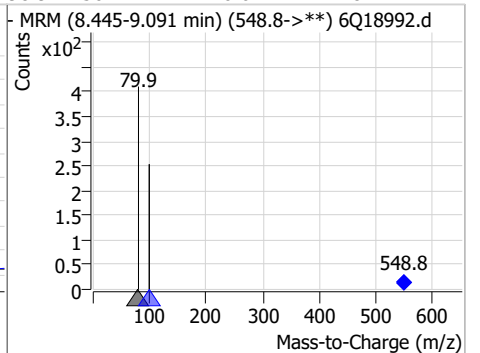
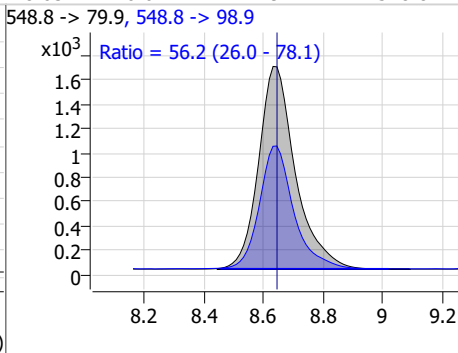
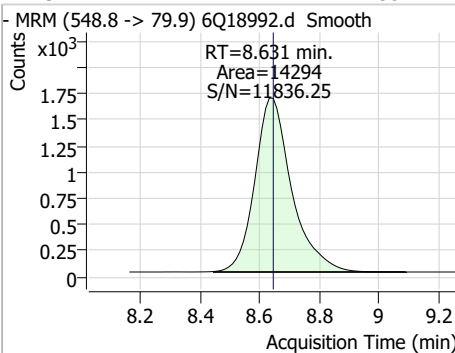
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.47	8.48	0.00	58365	563.1 -> 269.1	15.5	7.6	22.8



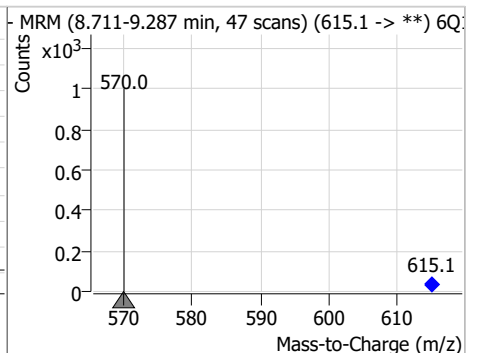
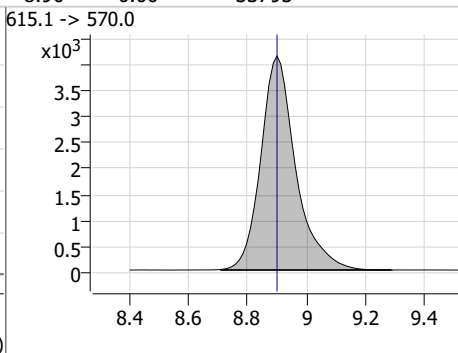
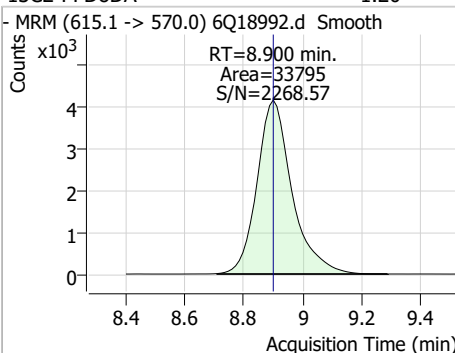
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9Cl-PF3ONS	4.61	8.51	-0.01	125967	532.8 -> 353.0	30.9	16.2	48.7



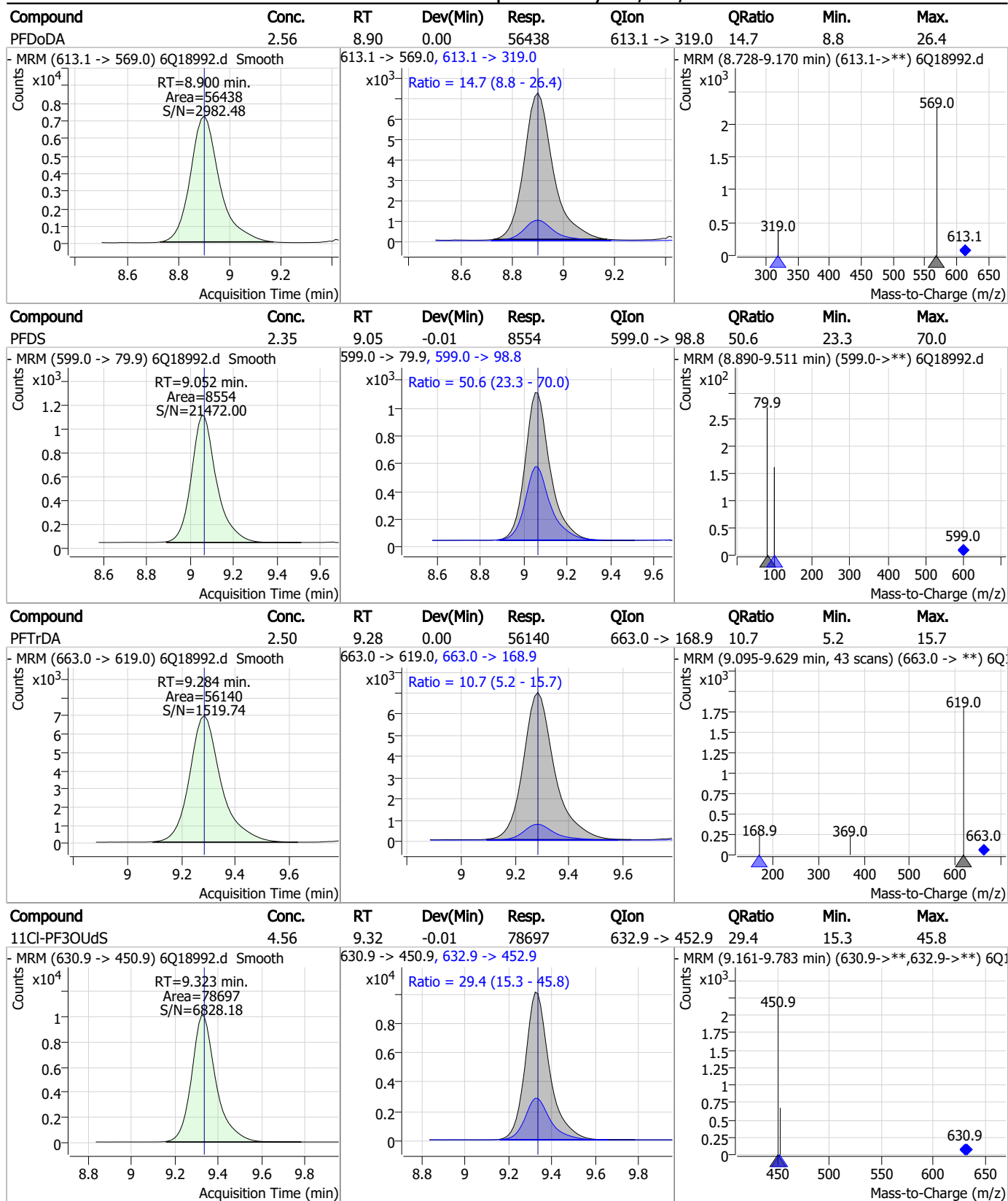
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.35	8.63	-0.01	14294	548.8 -> 98.9	56.2	26.0	78.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.20	8.90	0.00	33795	615.1 -> 570.0			



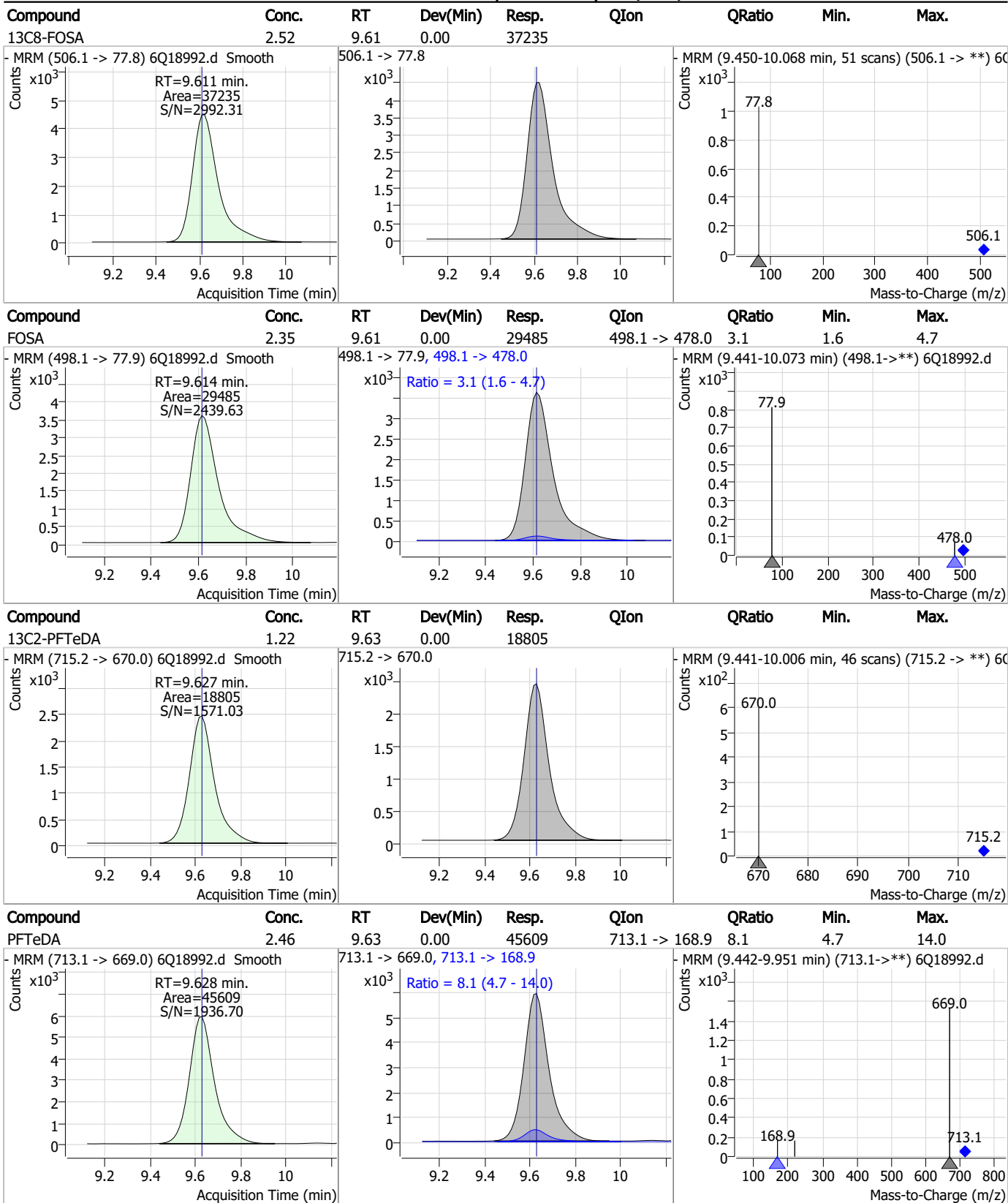
Perfluorinated Compounds by LC/MS/MS



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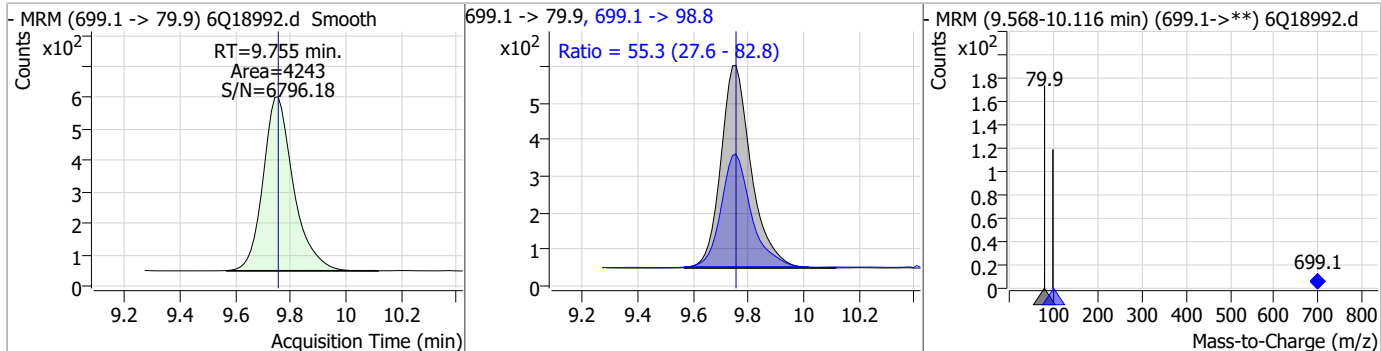
Perfluorinated Compounds by LC/MS/MS



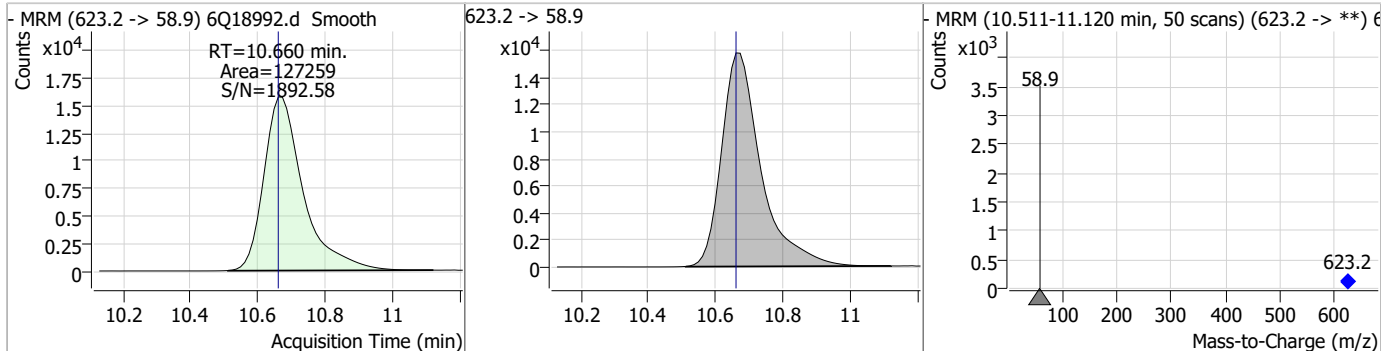
7.7.13
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Perfluorinated Compounds by LC/MS/MS

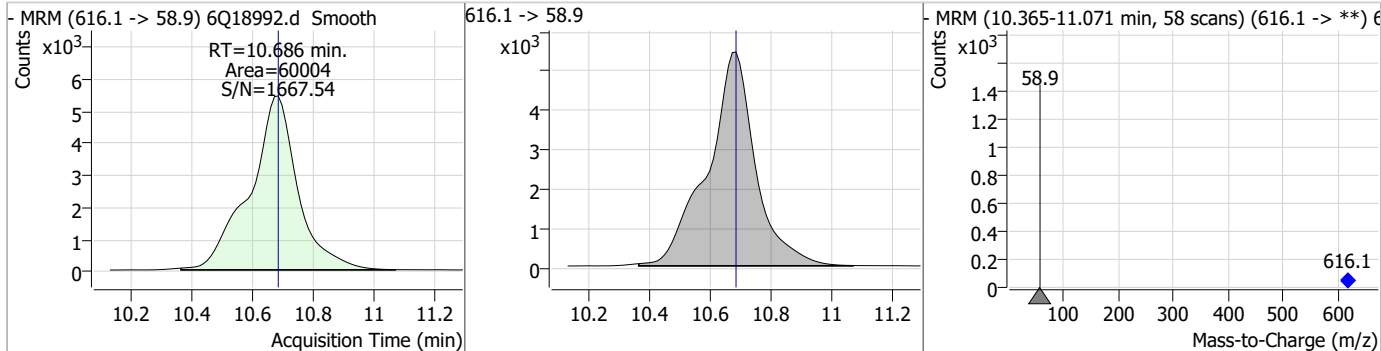
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.47	9.75	0.00	4243	699.1 -> 98.8	55.3	27.6	82.8



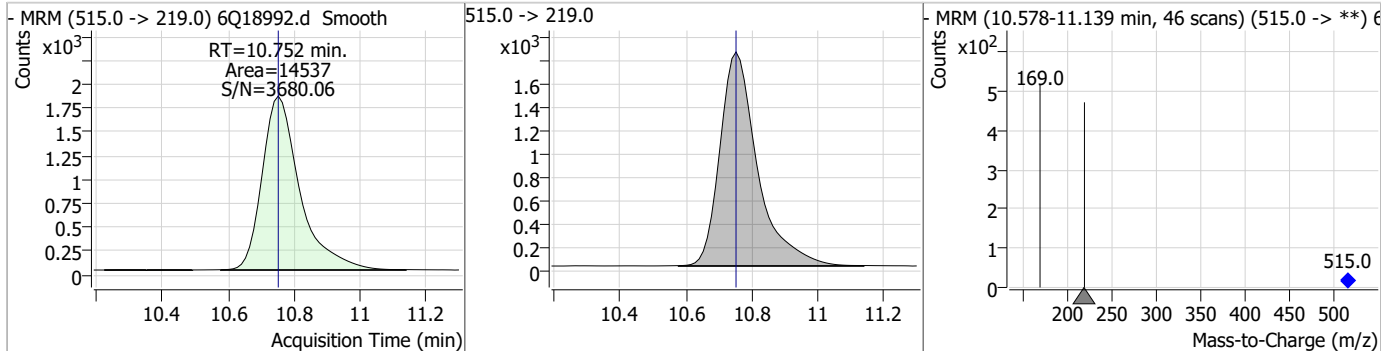
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.99	10.66	0.00	127259				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.18	10.69	0.00	60004				

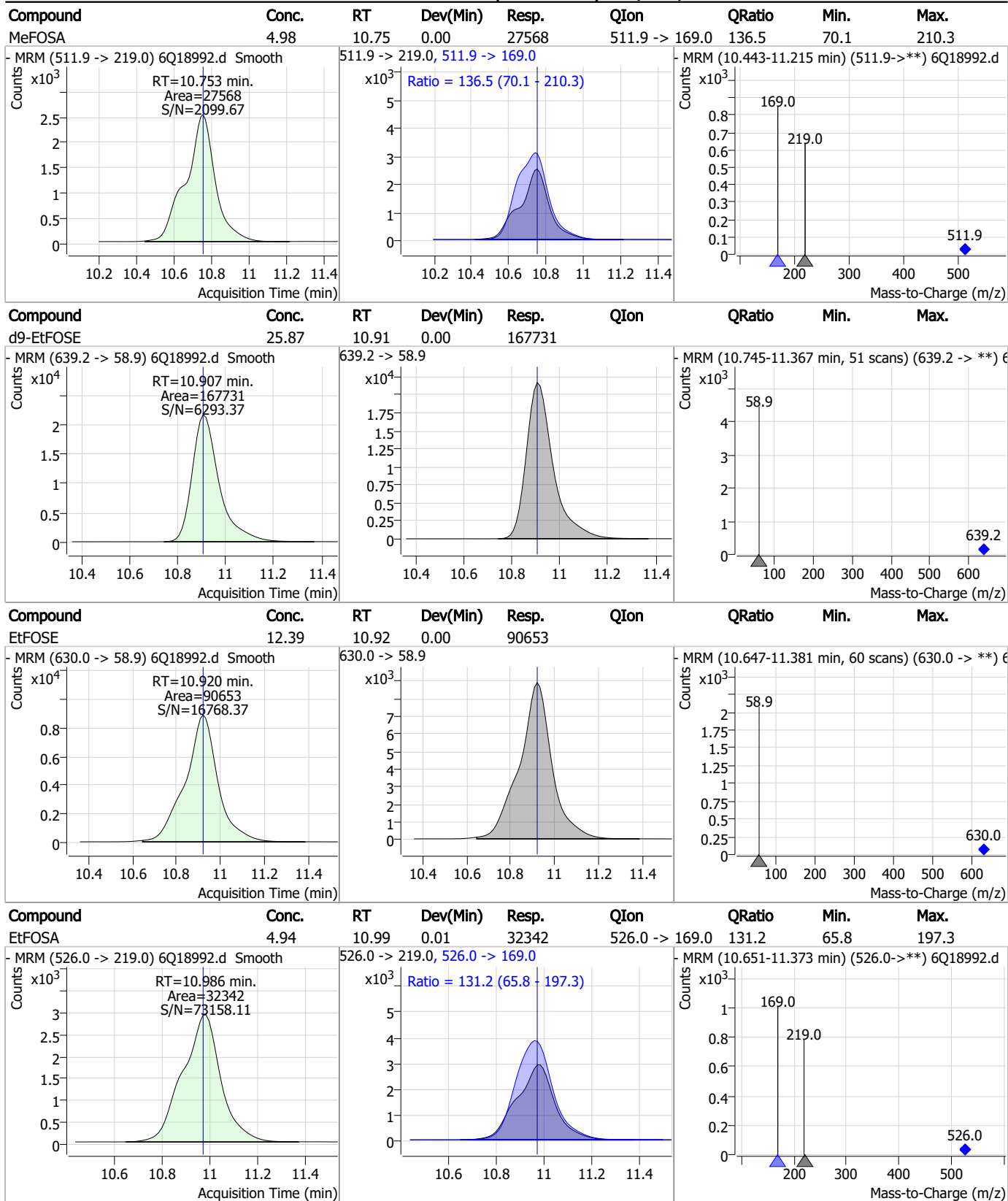


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.53	10.75	0.00	14537				



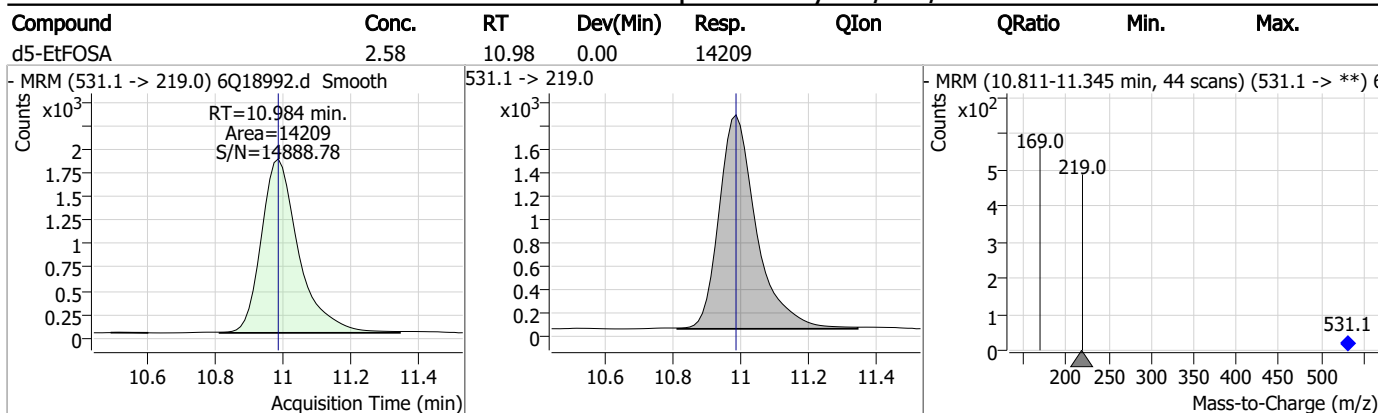
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7

Perfluorinated Compounds by LC/MS/MS



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7

Perfluorinated Compounds by LC/MS/MS



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7



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

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Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19004.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 4:32:12 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	199710	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	66473	5.00 µg/L	0.000
M5-PFHxA	5.478	318.0 -> 273.0	71149	2.50 µg/L	0.000
M4-PFHpA	6.420	367.1 -> 322.0	66503	2.50 µg/L	0.000
M8-PFOA	7.064	421.1 -> 376.0	101299	2.50 µg/L	0.013
M9-PFNA	7.569	472.1 -> 427.0	49774	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	29888	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	36389	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	34122	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	19379	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	37817	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	26303	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15868	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	16021	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5235	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7617	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	8023	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	39552	5.00 µg/L	0.000
M3-HFPO-DA	5.831	286.9 -> 168.9	45304	10.00 µg/L	0.000
M5-EtFOSAA	8.292	589.2 -> 419.0	35190	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	127596	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	165069	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	14105	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14220	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20580	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	84021	5.00 µg/L	0.000
18O2-PFHxS	7.166	403.0 -> 83.9	11773	2.50 µg/L	0.012
13C4-PFOA	7.065	417.1 -> 372.0	111342	2.50 µg/L	0.013
13C2-PFDA	8.039	515.1 -> 470.1	39182	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	60486	1.25 µg/L	0.000
13C2-PFHxA	5.479	315.1 -> 270.0	67578	2.50 µg/L	0.012
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5235	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	7617	5.47 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 109.5%		
13C2-8:2FTS	7.839	529.1 -> 80.9	8023	5.79 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 115.8%		
13C2-PFDoDA	8.900	615.1 -> 570.0	34122	1.19 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 95.3%		
13C2-PFTeDA	9.627	715.2 -> 670.0	19379	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	26303	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.7%		
13C3-PFHxS	7.155	402.1 -> 79.9	15868	2.50 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 = 99.9%	
13C4-PFBA	2.860	216.8 -> 171.9	199710	10.02 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 100.2%	
13C4-PFHpA	6.420	367.1 -> 322.0	66503	2.47 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 98.8%	
13C5-PFHxA	5.478	318.0 -> 273.0	71149	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	66473	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	29888	1.29 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C7-PFUnDA	8.480	570.0 -> 525.1	36389	1.20 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 95.8%	
13C8-FOSA	9.623	506.1 -> 77.8	37817	2.52 µg/L	0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C8-PFOA	7.064	421.1 -> 376.0	101299	2.37 µg/L	0.013
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 94.9%	
13C8-PFOS	8.189	507.1 -> 79.9	16021	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	49774	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	39552	5.34 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 106.7%	
13C3-HFPO-DA	5.831	286.9 -> 168.9	45304	10.64 µg/L	0.000
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 106.4%	
d3-MeFOSA	10.752	515.0 -> 219.0	14220	2.44 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 97.6%	
d5-EtFOSAA	8.292	589.2 -> 419.0	35190	5.29 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 105.9%	
d7-MeFOSE	10.660	623.2 -> 58.9	127596	24.70 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 98.8%	
d9-EtFOSE	10.907	639.2 -> 58.9	165069	25.09 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 100.4%	
d5-EtFOSA	10.984	531.1 -> 219.0	14105	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.9%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	69602	9.71 µg/L	98
		327.1 -> 80.9	26820		
6:2FTS	6.838	427.1 -> 407.0	72795	10.08 µg/L	97
		427.1 -> 80.9	23156		
8:2FTS	7.840	527.1 -> 507.0	40121	9.32 µg/L	99
		527.1 -> 80.8	15741		
EtFOSAA	8.293	584.2 -> 419.1	11555	2.41 µg/L	99
		584.2 -> 526.0	6270		
FOSA	9.614	498.1 -> 77.9	29628	2.32 µg/L	98
		498.1 -> 478.0	1082		
MeFOSAA	8.097	570.1 -> 419.0	19864	2.51 µg/L	99
		570.1 -> 483.0	3771		
PFBA	2.856	212.8 -> 168.9	64551	9.92 µg/L	100
PFBS	5.385	298.7 -> 79.9	19596	2.15 µg/L	99
		298.7 -> 98.8	7824		
PFDA	8.040	512.9 -> 469.0	78482	2.18 µg/L	97
		512.9 -> 219.0	13048		
PFDODA	8.900	613.1 -> 569.0	55931	2.52 µg/L	94
		613.1 -> 319.0	8346		
PFDS	9.064	599.0 -> 79.9	8817	2.30 µg/L	95

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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	4406	2.58 µg/L	99
		363.1 -> 319.0	72844		
PFHpS	7.710	363.1 -> 169.0	11490	2.30 µg/L	98
		449.0 -> 79.9	16732		
PFHxA	5.469	449.0 -> 98.9	8020	2.45 µg/L	100
		313.0 -> 269.0	57247		
PFHxS	7.156	313.0 -> 118.9	3038	2.27 µg/L	99
		398.7 -> 79.9	16909		
PFNA	7.570	398.7 -> 98.9	8197	2.30 µg/L	99
		463.0 -> 419.0	81309		
PFNS	8.644	463.0 -> 219.0	16025	2.37 µg/L	98
		548.8 -> 79.9	15110		
PFOA	7.066	548.8 -> 98.9	8078	2.55 µg/L	97
		413.0 -> 369.0	108612		
PFOS	8.191	413.0 -> 169.0	18113	2.10 µg/L	92
		498.9 -> 79.9	15397		
PFPeA	4.274	498.9 -> 98.8	8341	4.84 µg/L	100
		263.0 -> 219.0	76030		
PFPeS	6.471	349.1 -> 79.9	16478	2.31 µg/L	100
		349.1 -> 98.9	7449		
PFTeDA	9.628	713.1 -> 669.0	46625	2.44 µg/L	98
		713.1 -> 168.9	3933		
PFTrDA	9.284	663.0 -> 619.0	57330	2.53 µg/L	100
		663.0 -> 168.9	6105		
PFUnDA	8.480	563.1 -> 519.0	55873	2.48 µg/L	93
		563.1 -> 269.1	10156		
11CI-PF3OUdS	9.336	630.9 -> 450.9	76892	4.44 µg/L	98
		632.9 -> 452.9	24315		
9CI-PF3ONS	8.520	530.8 -> 351.0	126057	4.60 µg/L	97
		532.8 -> 353.0	38625		
ADONA	6.671	376.9 -> 250.9	283844	4.56 µg/L	100
		376.9 -> 84.8	77416		
HFPO-DA	5.844	284.9 -> 168.9	18957	5.01 µg/L	99
		284.9 -> 184.9	2168		
3:3FTCA	3.727	241.0 -> 177.0	13345	12.00 µg/L	98
		241.0 -> 117.0	1680		
5:3FTCA	6.149	341.0 -> 237.1	265135	58.84 µg/L	96
		341.0 -> 217.0	200790		
7:3FTCA	7.548	441.0 -> 316.9	194817	62.85 µg/L	93
		441.0 -> 336.9	419743		
EtFOSA	10.974	526.0 -> 219.0	32307	4.97 µg/L	100
		526.0 -> 169.0	42474		
EtFOSE	10.920	630.0 -> 58.9	86559	12.02 µg/L	100
		511.9 -> 219.0	27298		
MeFOSA	10.753	511.9 -> 169.0	37942	5.04 µg/L	99
		616.1 -> 58.9	60494		
MeFOSE	10.673	699.1 -> 79.9	4263	12.25 µg/L	100
		699.1 -> 98.8	2284		
PFDoDS	9.755	295.0 -> 201.0	14270	2.36 µg/L	98
		295.0 -> 84.9	3703		
NFDHA	5.348	279.0 -> 85.1	54195	5.09 µg/L	98
		229.0 -> 84.9	41945		
PFMBA	4.688	314.8 -> 134.9	135824	4.99 µg/L	100
		314.8 -> 82.9	4895		
PFMPA	3.413			5.07 µg/L	100
PFEESA	5.926			4.58 µg/L	100

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



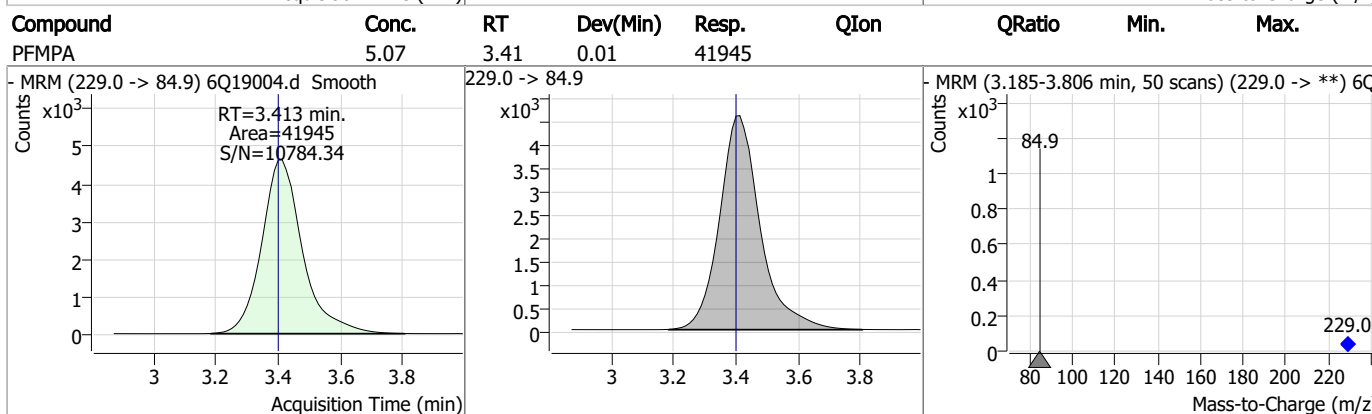
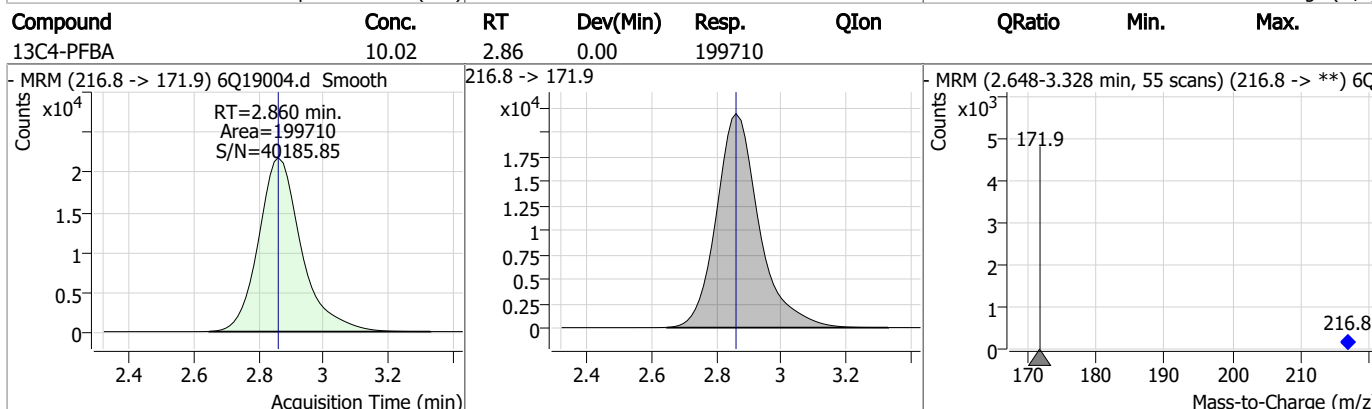
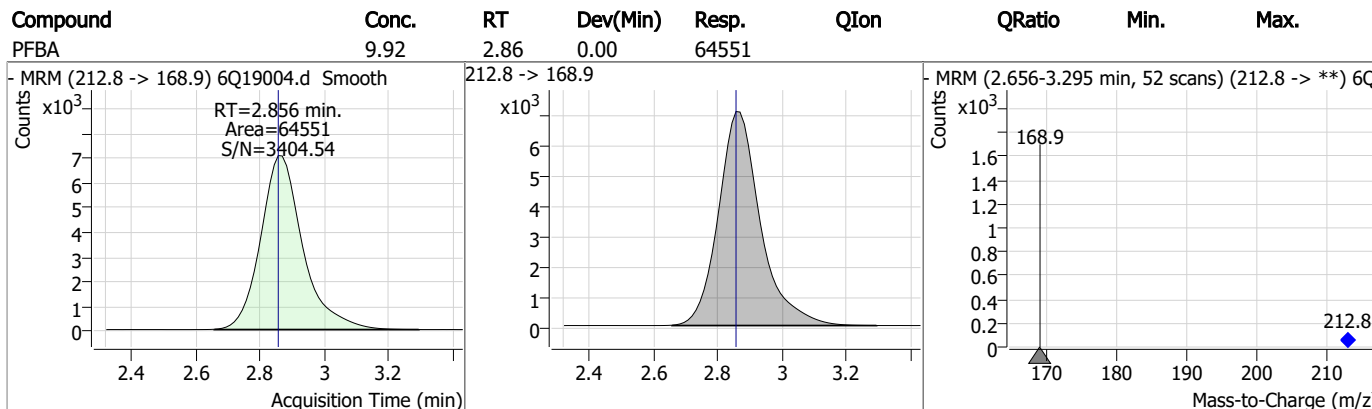
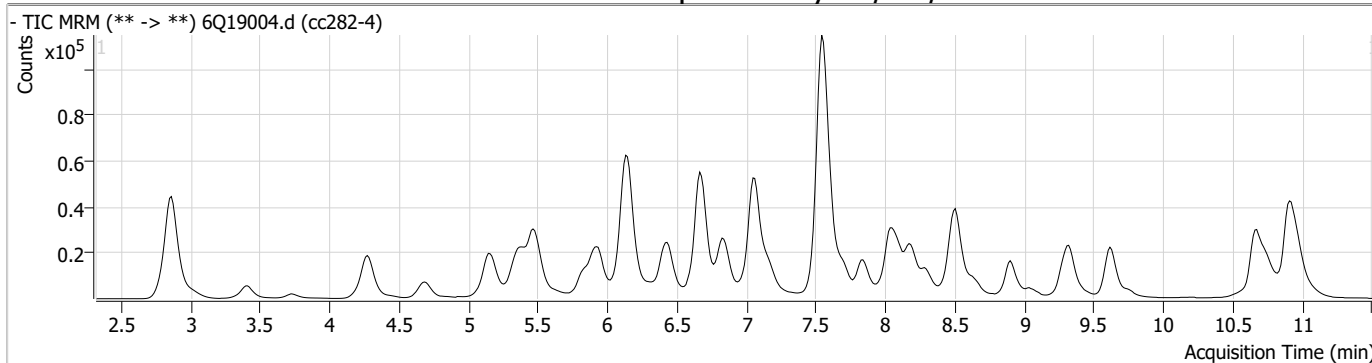
Perfluorinated Compounds by LC/MS/MS

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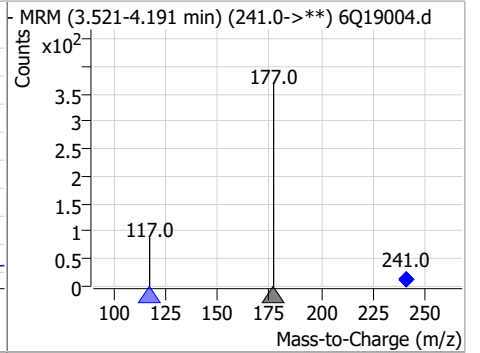
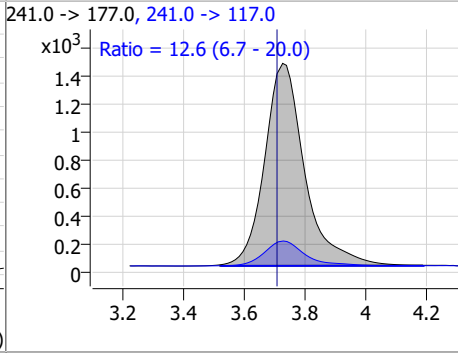
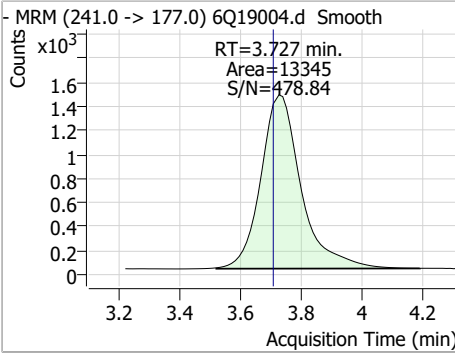
Perfluorinated Compounds by LC/MS/MS



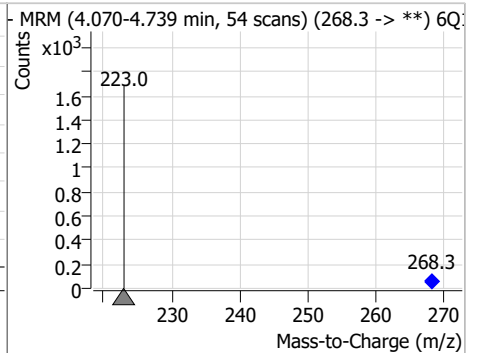
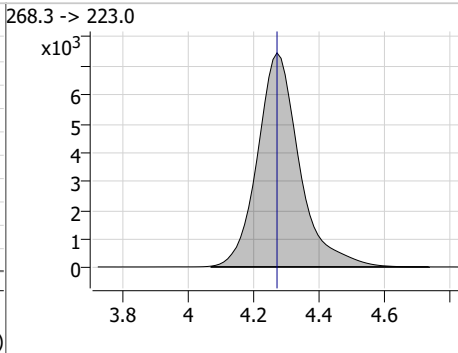
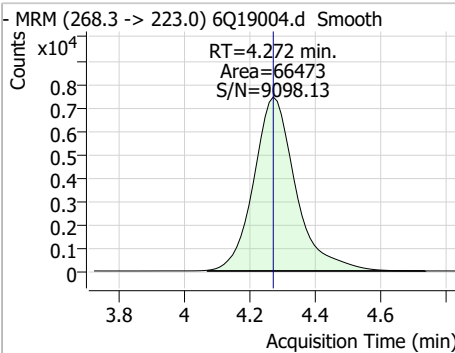
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Perfluorinated Compounds by LC/MS/MS

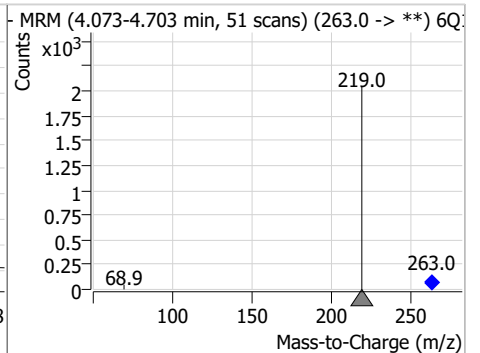
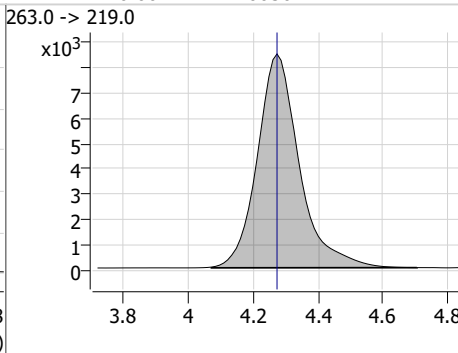
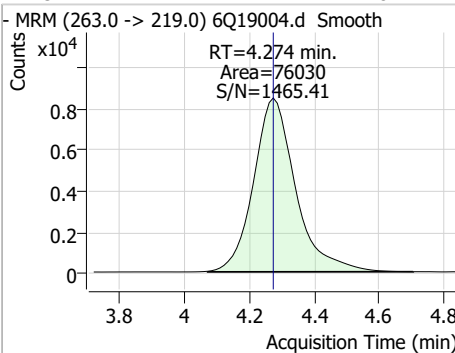
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.00	3.73	0.02	13345	241.0 -> 117.0	12.6	6.7	20.0



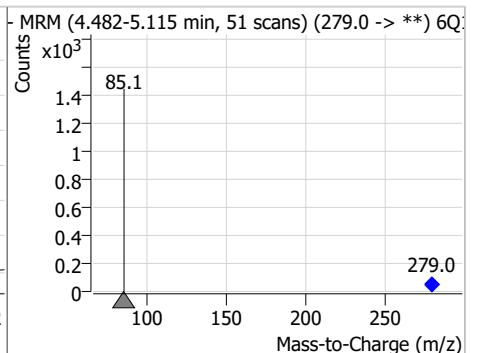
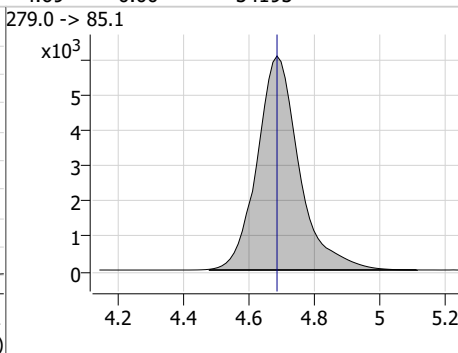
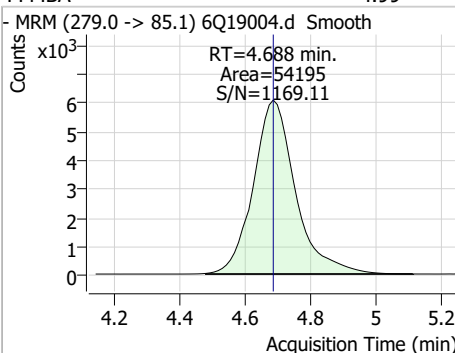
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.07	4.27	0.00	66473				



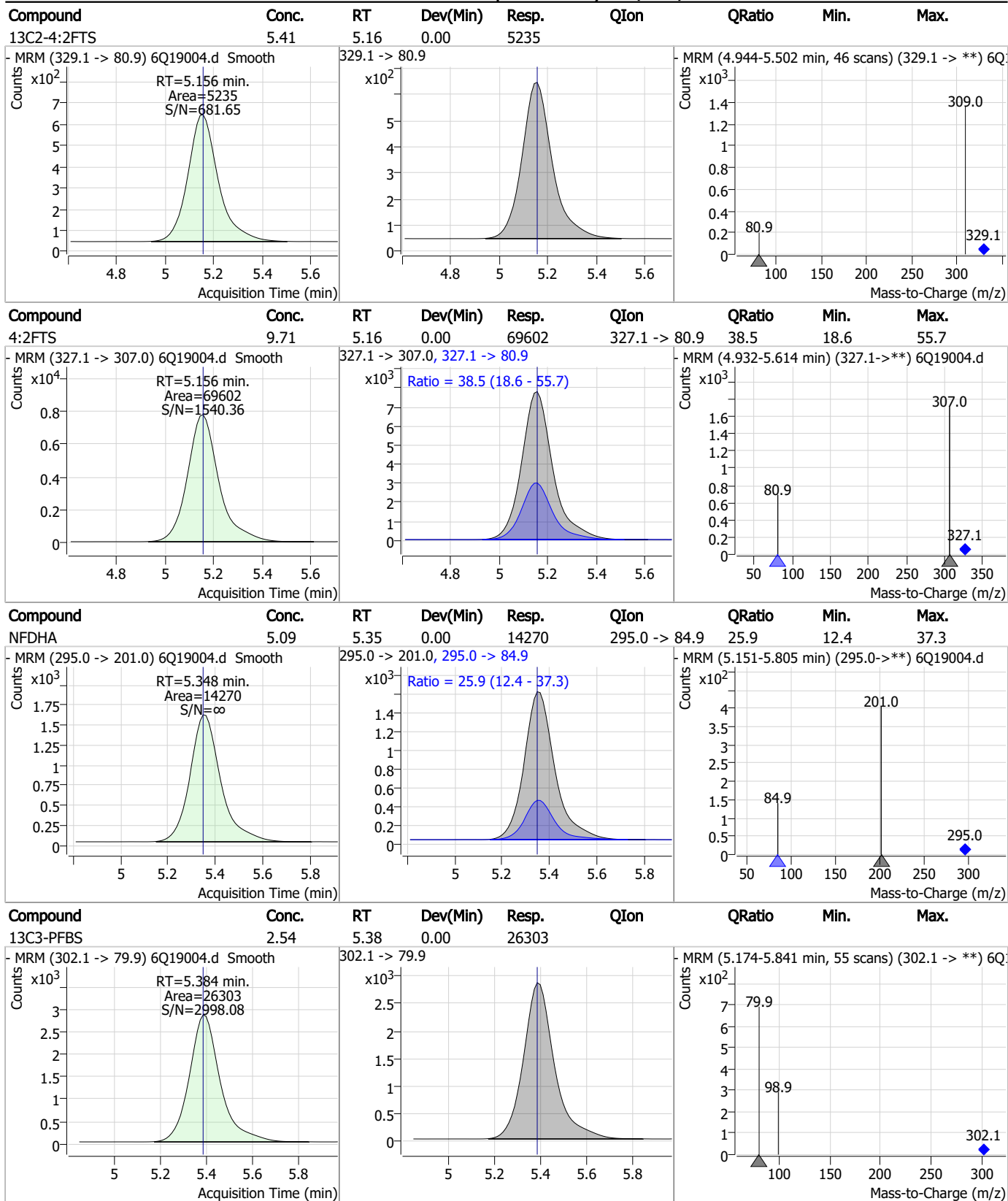
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.84	4.27	0.00	76030				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.99	4.69	0.00	54195				



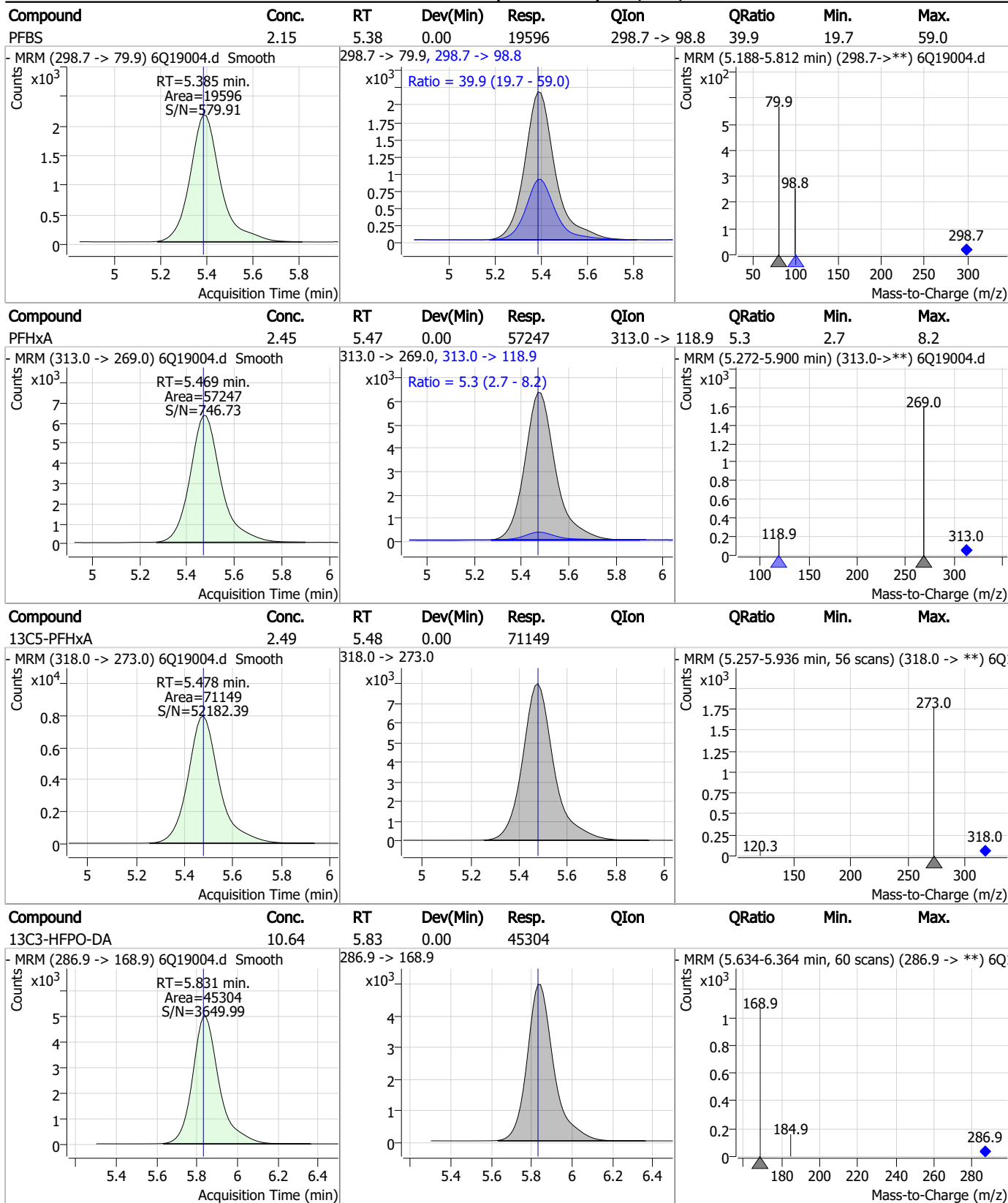
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

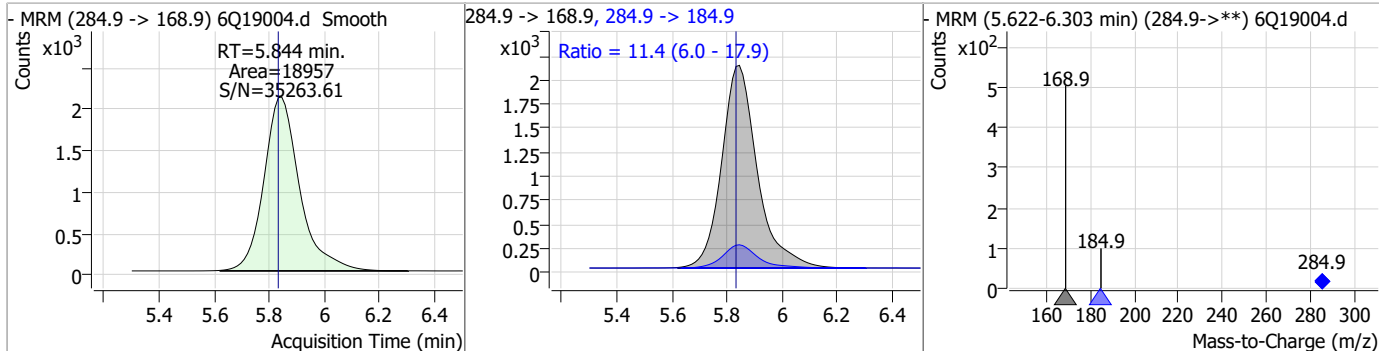


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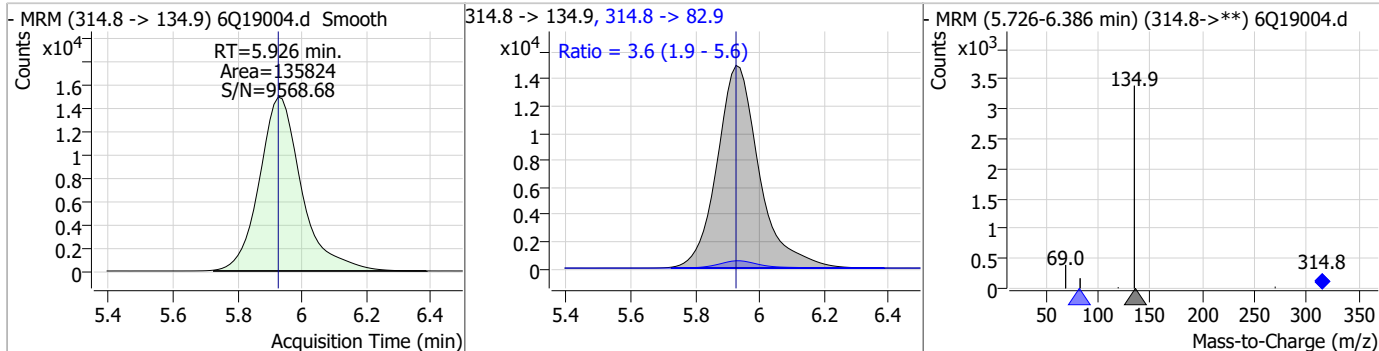


Perfluorinated Compounds by LC/MS/MS

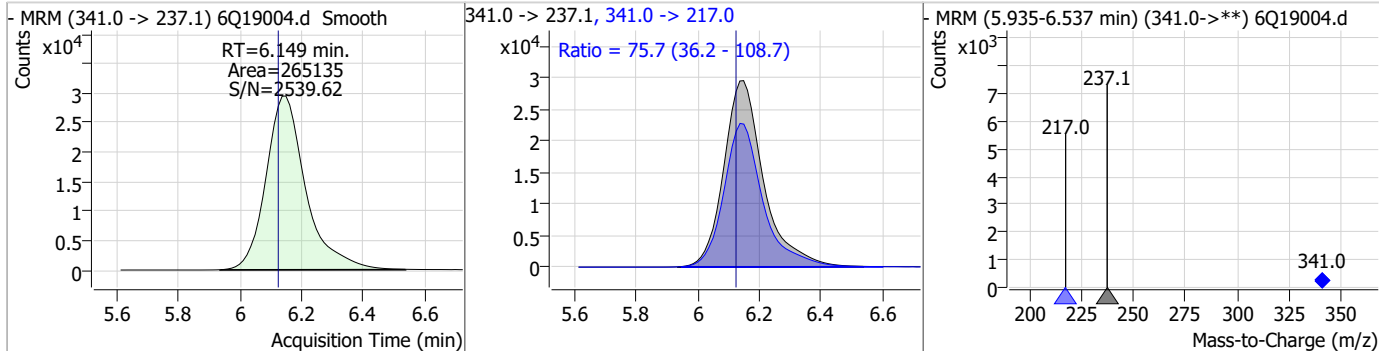
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.01	5.84	0.01	18957	284.9 -> 184.9	11.4	6.0	17.9



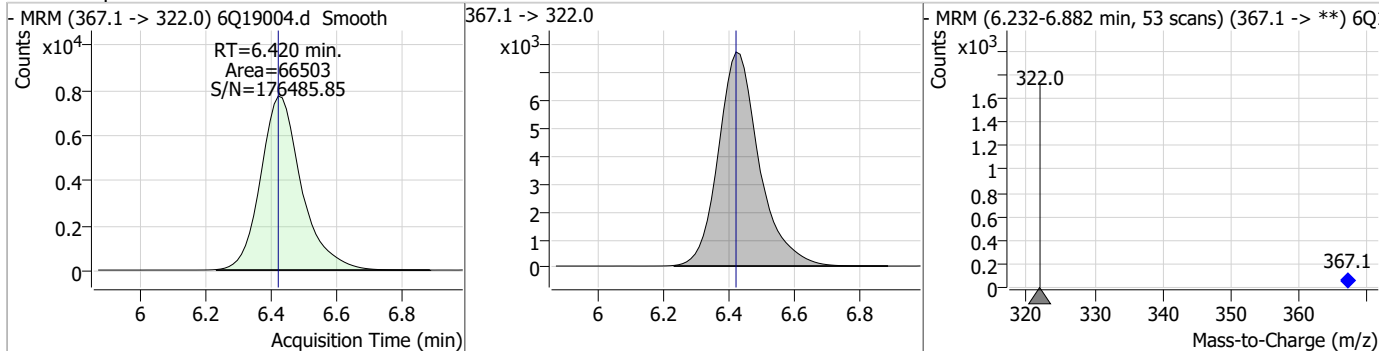
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.58	5.93	0.00	135824	314.8 -> 82.9	3.6	1.9	5.6



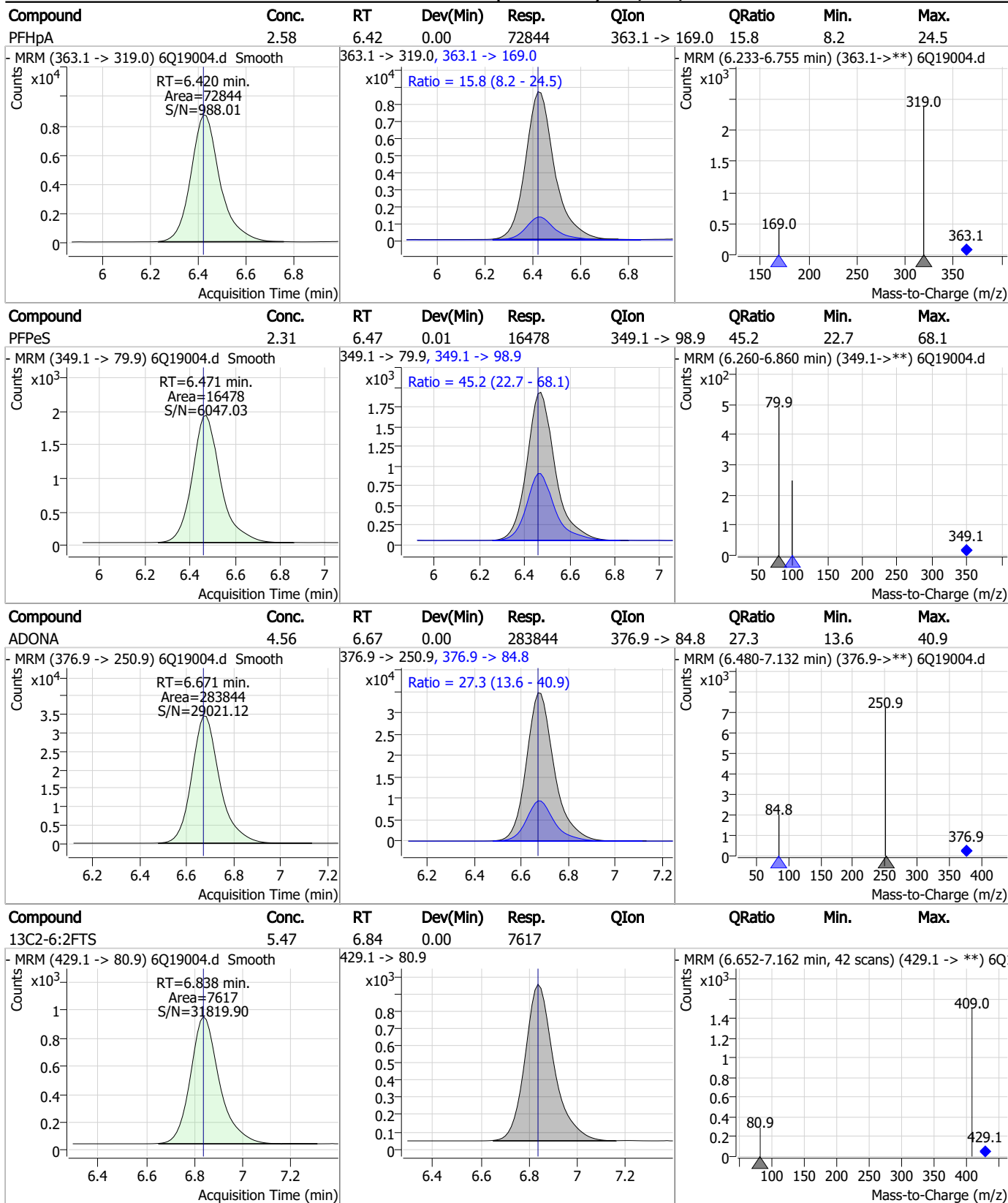
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	58.84	6.15	0.02	265135	341.0 -> 217.0	75.7	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.47	6.42	0.00	66503	367.1 -> 322.0			

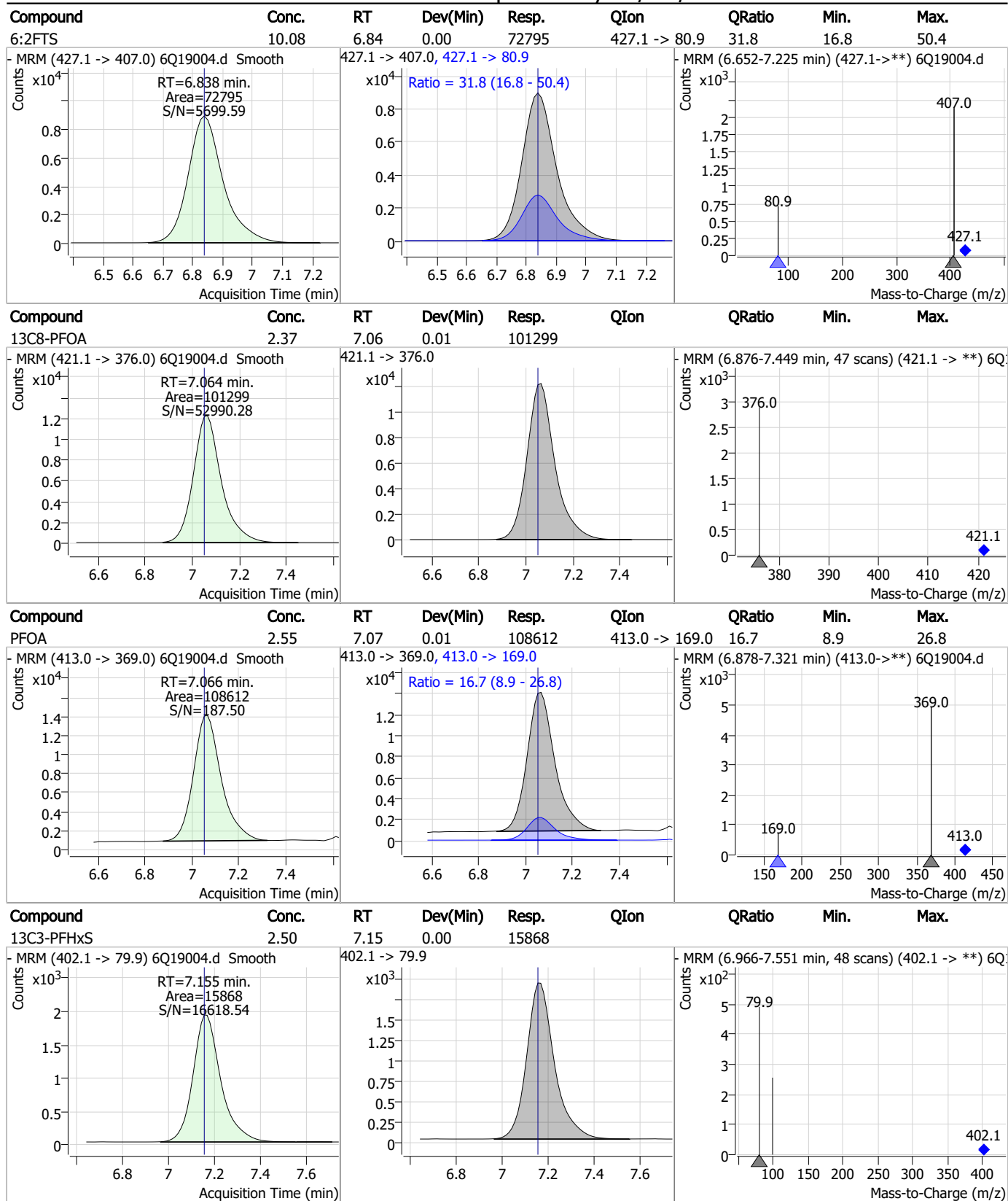


Perfluorinated Compounds by LC/MS/MS



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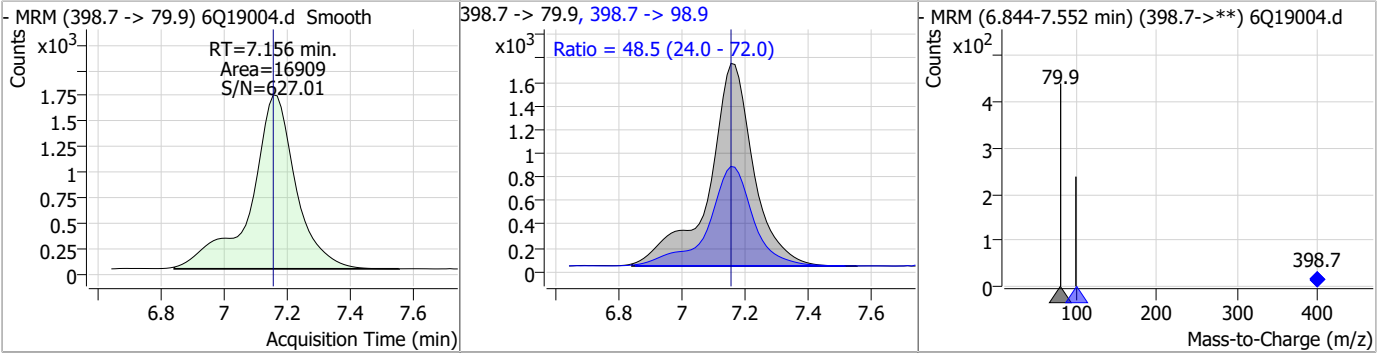
Perfluorinated Compounds by LC/MS/MS



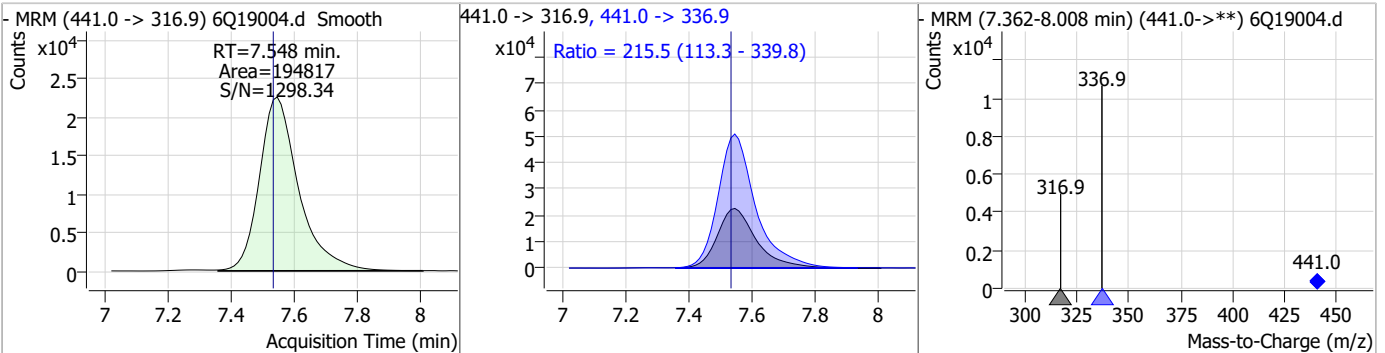
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Perfluorinated Compounds by LC/MS/MS

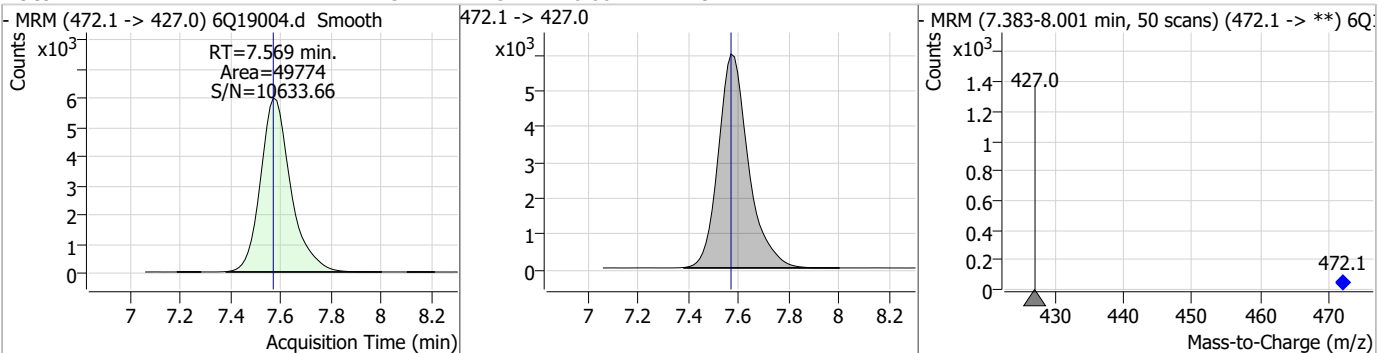
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.27	7.16	0.00	16909	398.7 -> 98.9	48.5	24.0	72.0



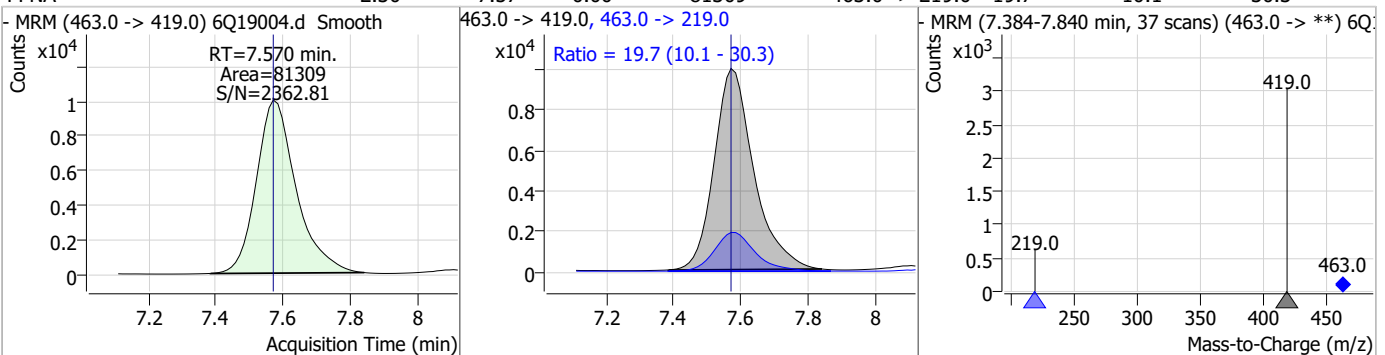
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	62.85	7.55	0.01	194817	441.0 -> 336.9	215.5	113.3	339.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.57	0.00	49774	472.1 -> 427.0			

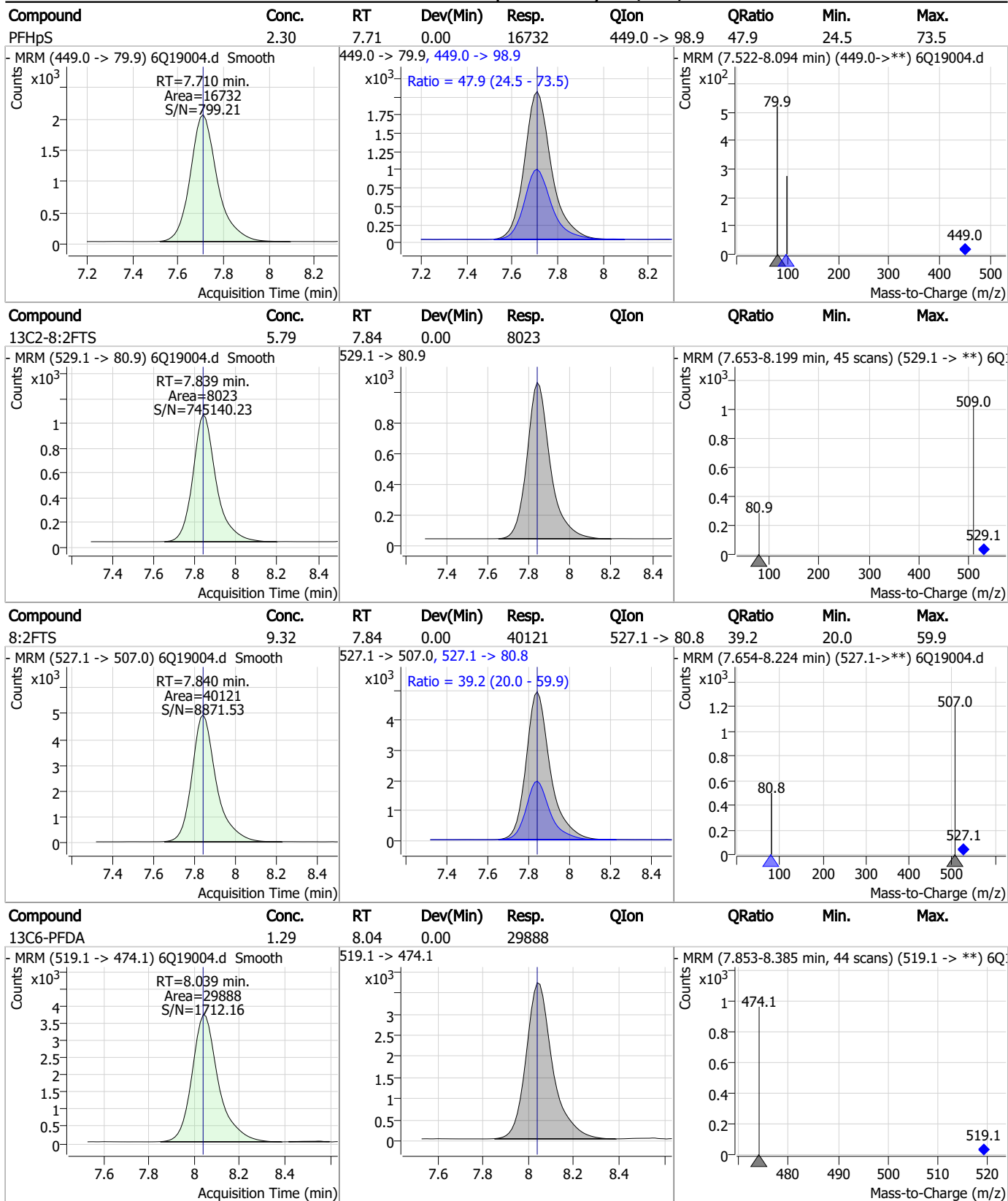


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.30	7.57	0.00	81309	463.0 -> 219.0	19.7	10.1	30.3



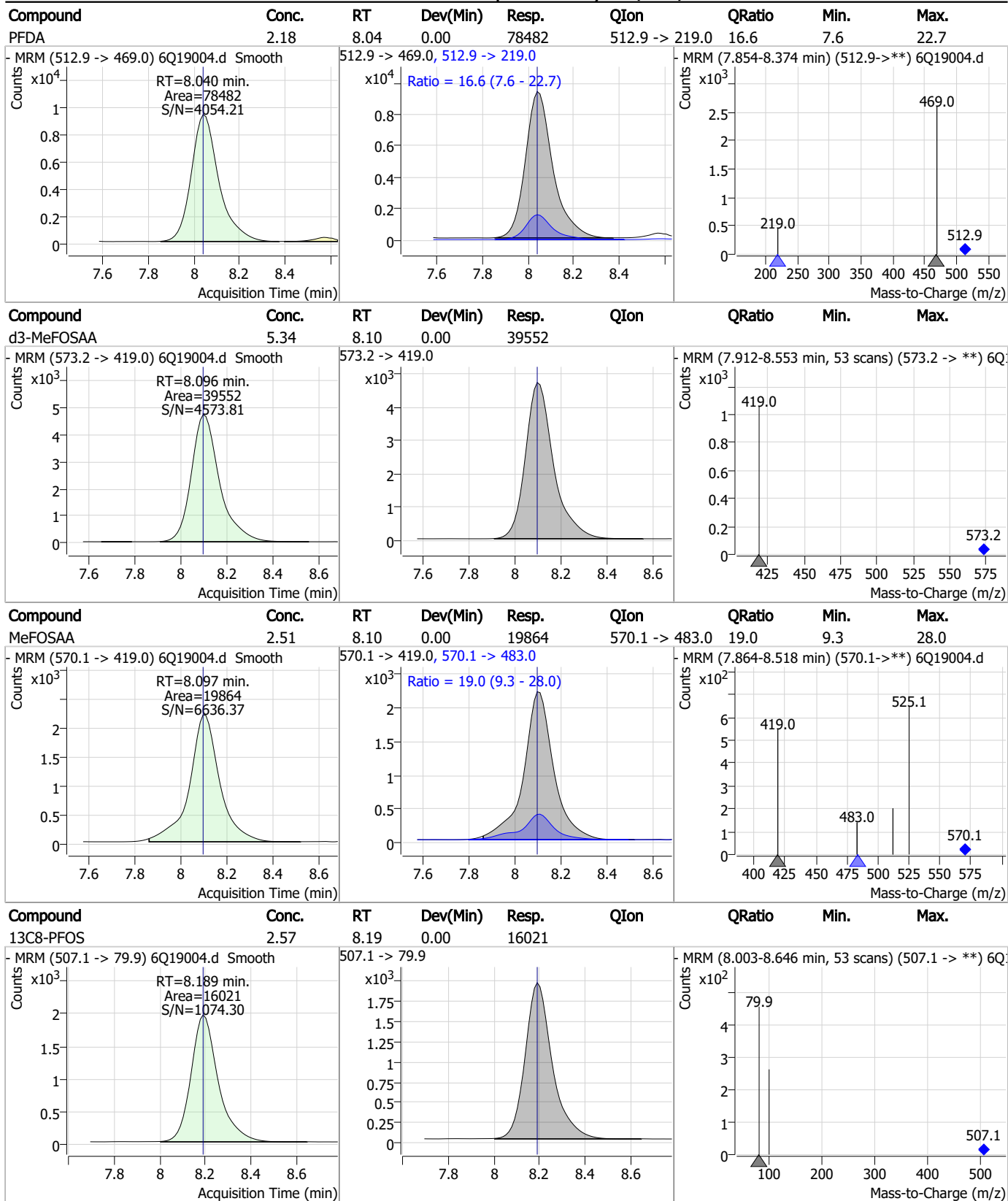
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Perfluorinated Compounds by LC/MS/MS



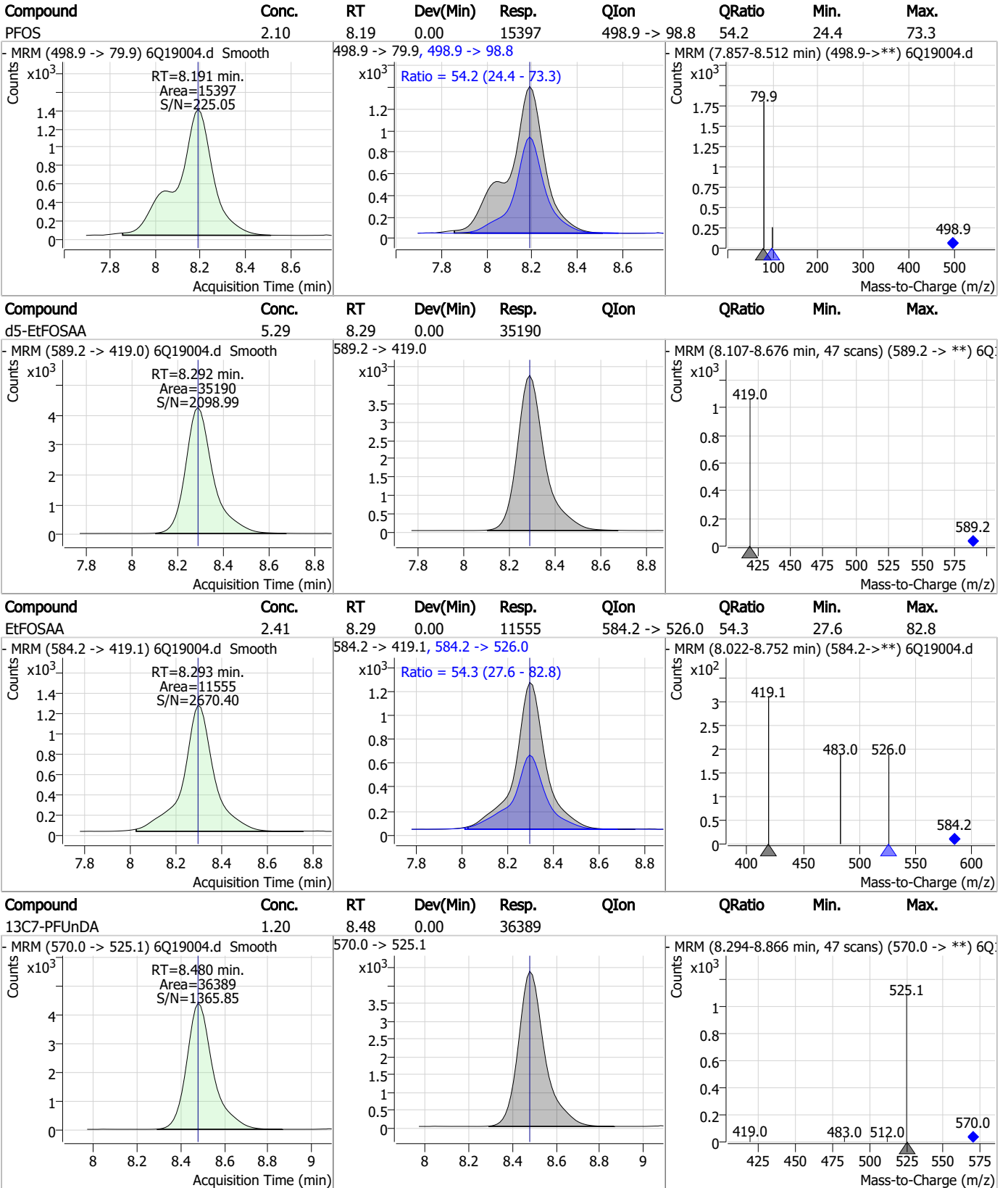
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

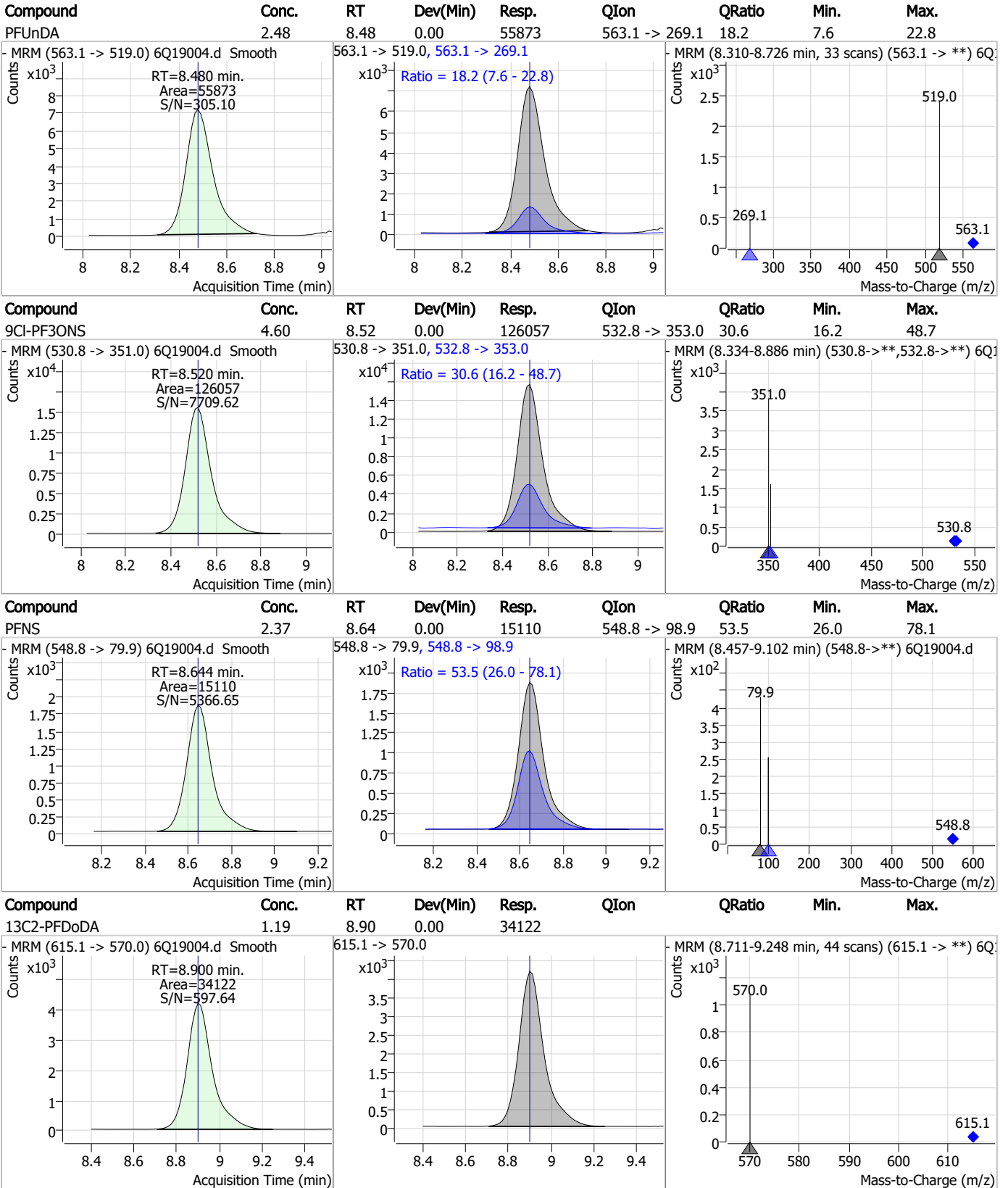


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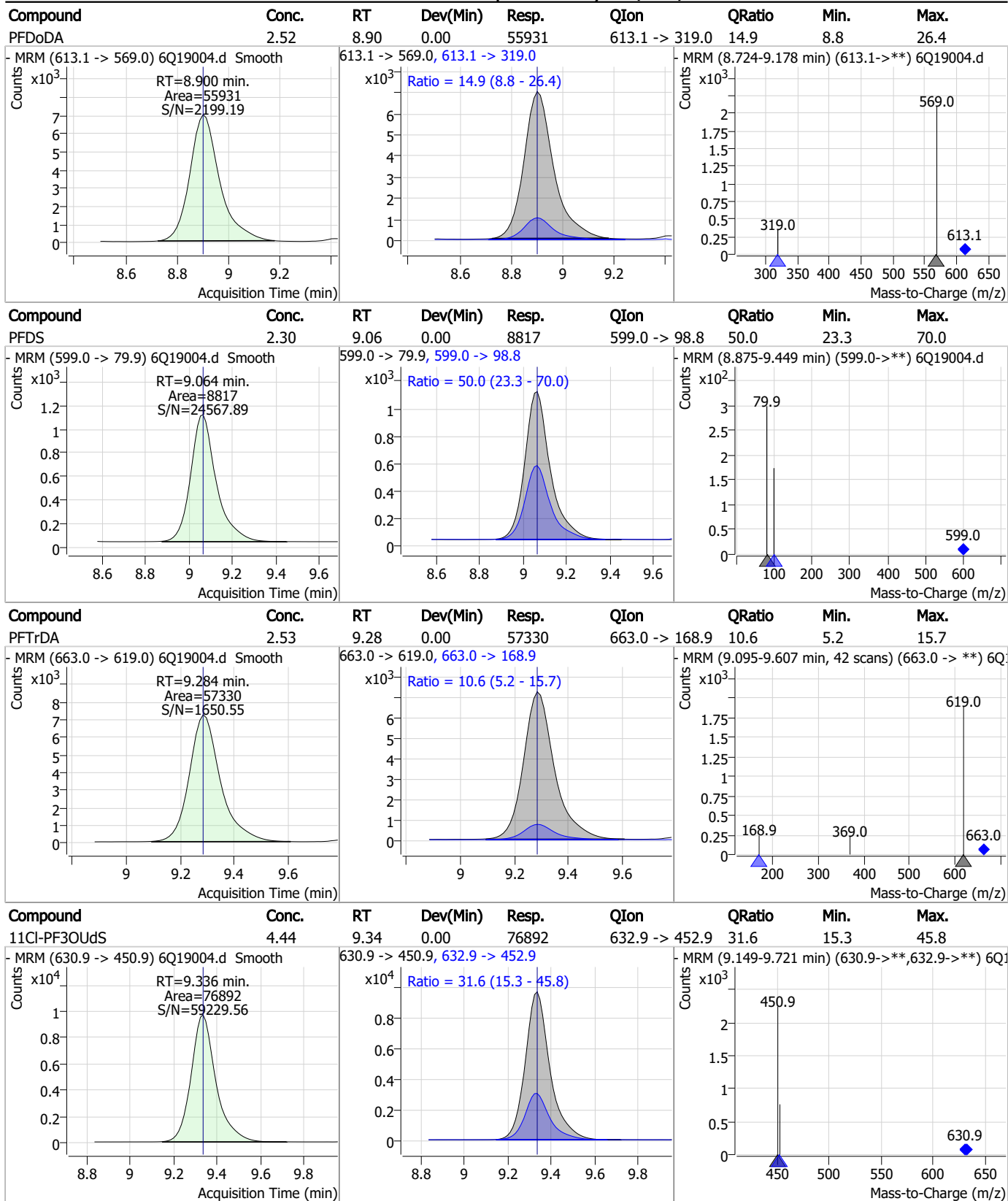
Perfluorinated Compounds by LC/MS/MS



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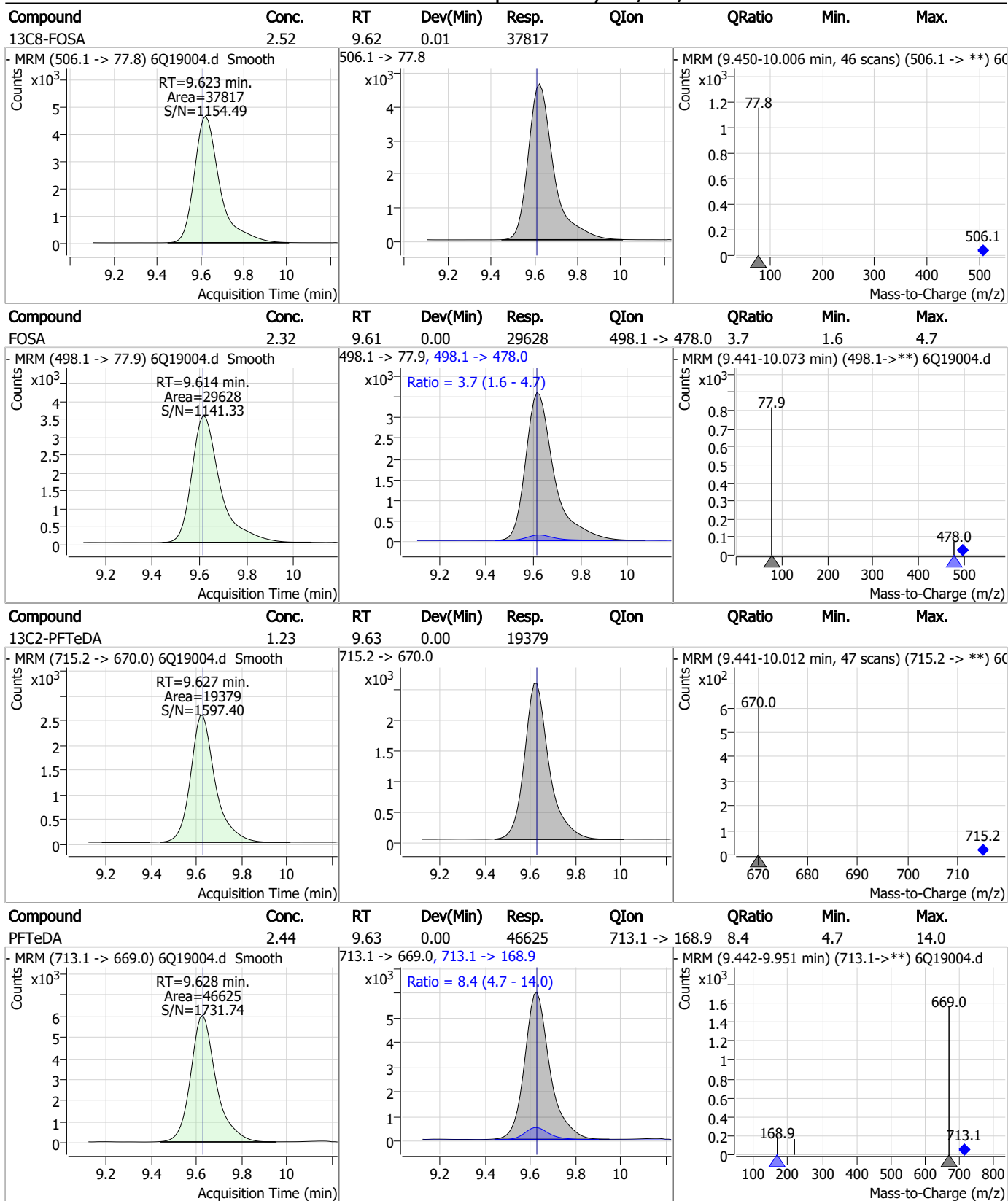
Perfluorinated Compounds by LC/MS/MS



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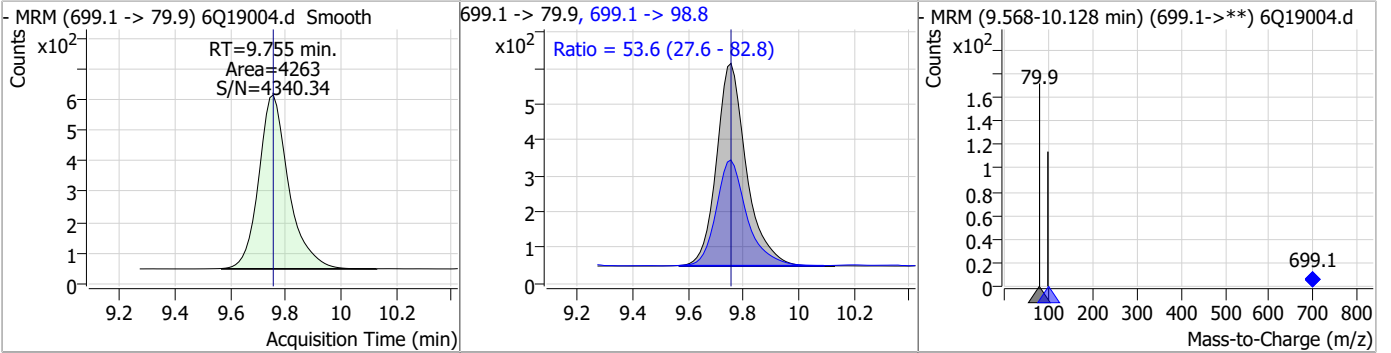
Perfluorinated Compounds by LC/MS/MS



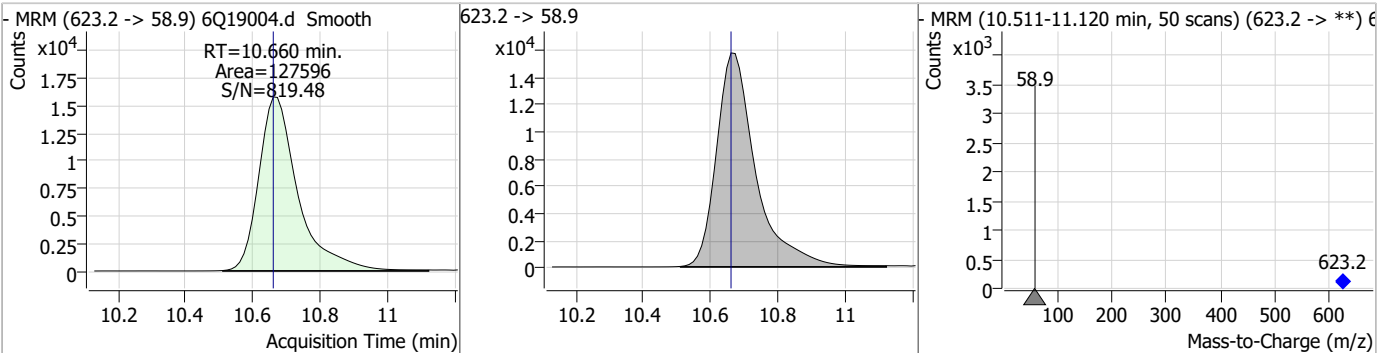
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Perfluorinated Compounds by LC/MS/MS

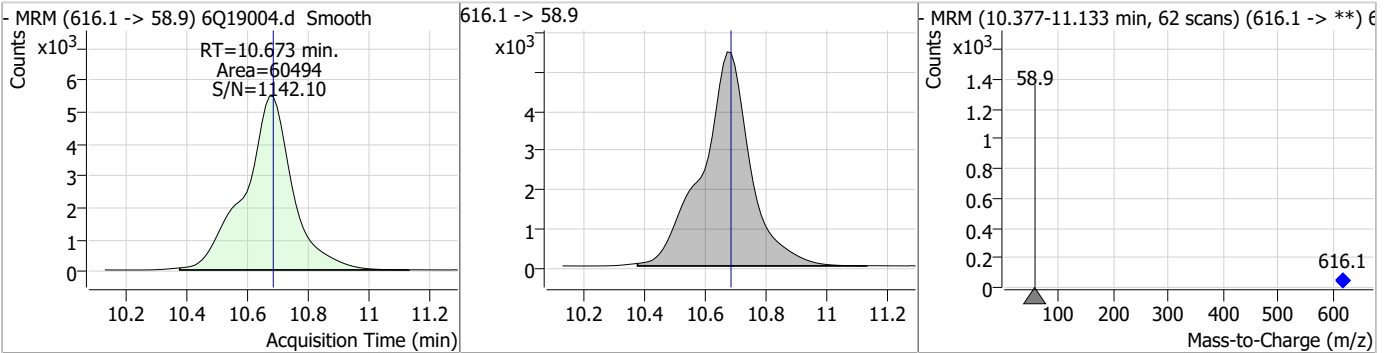
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.36	9.75	0.00	4263	699.1 -> 98.8	53.6	27.6	82.8



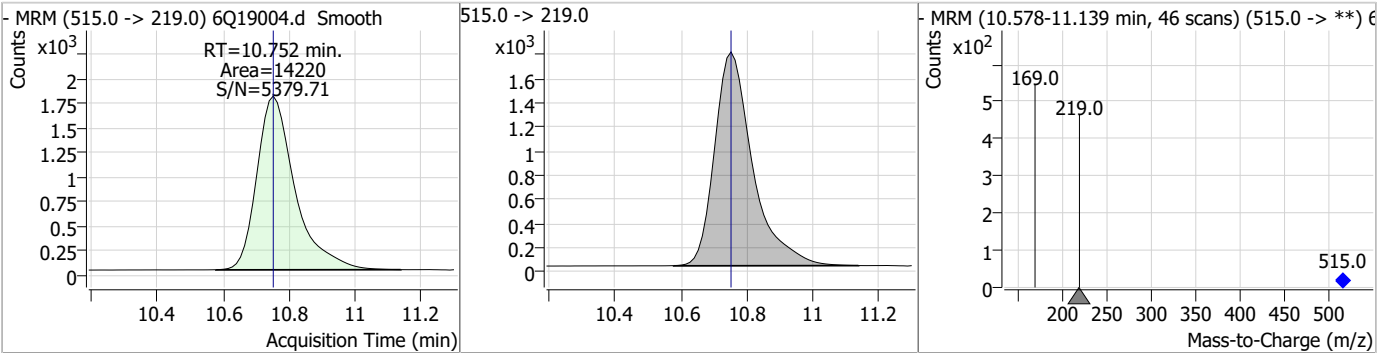
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.70	10.66	0.00	127596				



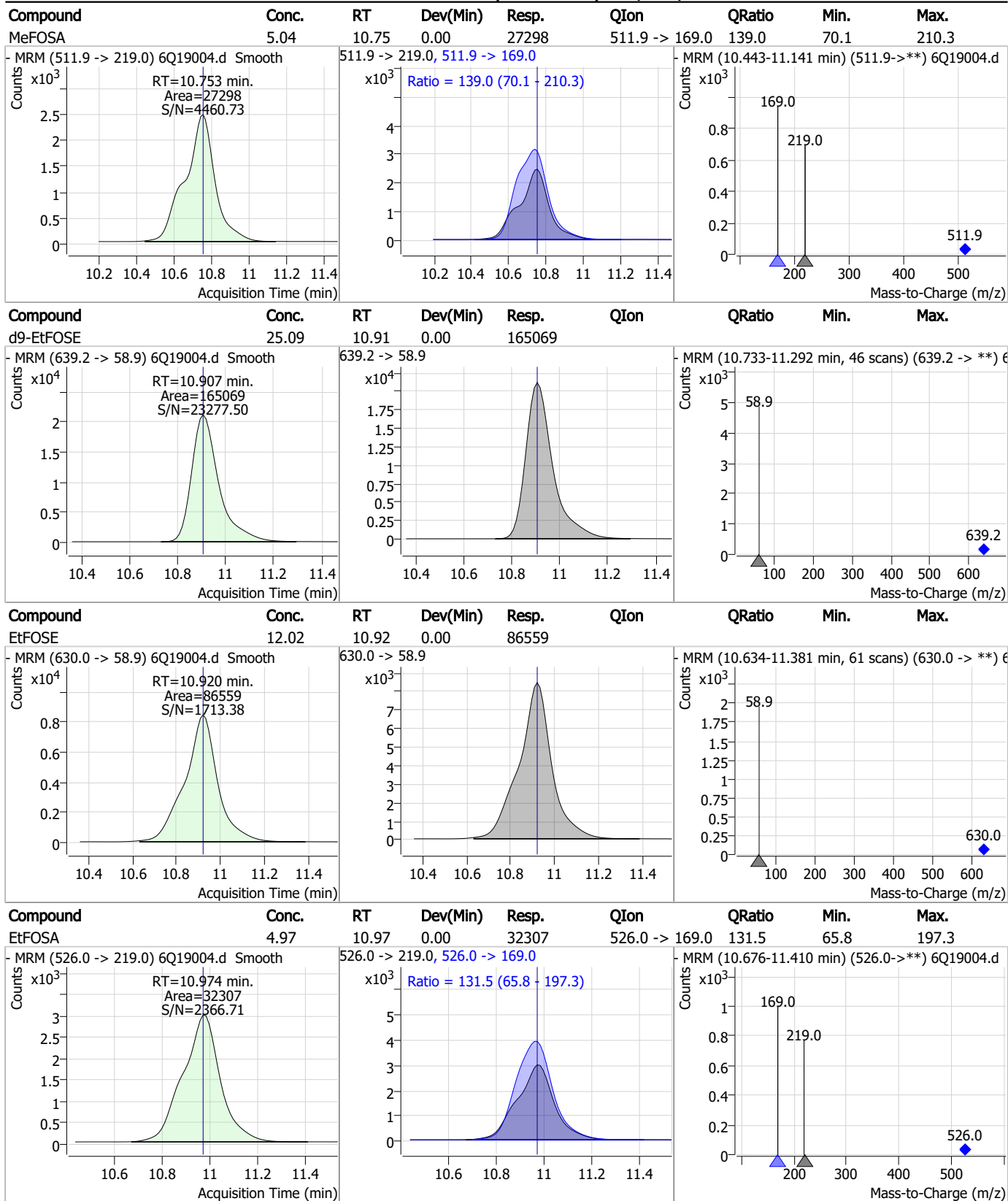
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.25	10.67	-0.01	60494				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.44	10.75	0.00	14220				

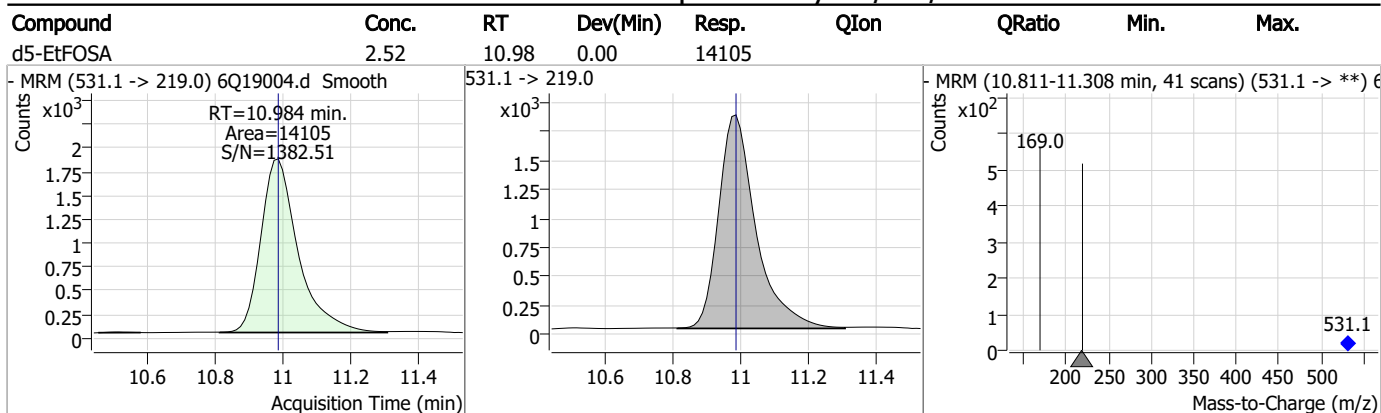


Perfluorinated Compounds by LC/MS/MS



7.7.14

Perfluorinated Compounds by LC/MS/MS



7.7.14

7

Perfluorinated Compounds by LC/MS/MS

Data File : 6Q19016.d
 Operator : marthav
 Acq. Method : 1633full.m
 Acq. Date-Time : 6/8/2023 7:26:02 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	200058	10.00 µg/L	0.000
M5-PFPeA	4.272	268.3 -> 223.0	66643	5.00 µg/L	0.000
M5-PFHxA	5.466	318.0 -> 273.0	73989	2.50 µg/L	-0.012
M4-PFHpA	6.420	367.1 -> 322.0	68446	2.50 µg/L	0.000
M8-PFOA	7.051	421.1 -> 376.0	101976	2.50 µg/L	0.000
M9-PFNA	7.569	472.1 -> 427.0	48194	1.25 µg/L	0.000
M6-PFDA	8.039	519.1 -> 474.1	29426	1.25 µg/L	0.000
M7-PFUnDA	8.480	570.0 -> 525.1	39366	1.25 µg/L	0.000
M2-PFDoDA	8.900	615.1 -> 570.0	34853	1.25 µg/L	0.000
M2-PFTeDA	9.627	715.2 -> 670.0	18685	1.25 µg/L	0.000
M8-FOSA	9.623	506.1 -> 77.8	37532	2.50 µg/L	0.012
M3-PFBS	5.384	302.1 -> 79.9	28057	2.50 µg/L	0.000
M3-PFHxS	7.155	402.1 -> 79.9	15785	2.50 µg/L	0.000
M8-PFOS	8.189	507.1 -> 79.9	15521	2.50 µg/L	0.000
M2-4:2FTS	5.156	329.1 -> 80.9	5264	5.00 µg/L	0.000
M2-6:2FTS	6.838	429.1 -> 80.9	7894	5.00 µg/L	0.000
M2-8:2FTS	7.839	529.1 -> 80.9	7508	5.00 µg/L	0.000
M3-MeFOSAA	8.096	573.2 -> 419.0	40951	5.00 µg/L	0.000
M3-HFPO-DA	5.844	286.9 -> 168.9	46561	10.00 µg/L	0.012
M5-EtFOSAA	8.292	589.2 -> 419.0	36421	5.00 µg/L	0.000
M7-MeFOSE	10.660	623.2 -> 58.9	128689	25.00 µg/L	0.000
M9-EtFOSE	10.907	639.2 -> 58.9	164761	25.00 µg/L	0.000
M5-EtFOSA	10.984	531.1 -> 219.0	14346	2.50 µg/L	0.000
M3-MeFOSA	10.752	515.0 -> 219.0	14251	2.50 µg/L	0.000
13C4-PFOS	8.190	502.8 -> 79.9	20294	2.50 µg/L	0.000
13C3-PFBA	2.864	216.0 -> 172.0	84306	5.00 µg/L	0.000
18O2-PFHxS	7.154	403.0 -> 83.9	12556	2.50 µg/L	0.000
13C4-PFOA	7.051	417.1 -> 372.0	111498	2.50 µg/L	0.000
13C2-PFDA	8.039	515.1 -> 470.1	39936	1.25 µg/L	0.000
13C5-PFNA	7.570	468.0 -> 423.0	58963	1.25 µg/L	0.000
13C2-PFHxA	5.467	315.1 -> 270.0	68030	2.50 µg/L	0.000
System Monitoring Compounds					
13C2-4:2FTS	5.156	329.1 -> 80.9	5264	5.10 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 102.0%		
13C2-6:2FTS	6.838	429.1 -> 80.9	7894	5.32 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 106.4%		
13C2-8:2FTS	7.839	529.1 -> 80.9	7508	5.08 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%		Recovery = 101.6%		
13C2-PFDoDA	8.900	615.1 -> 570.0	34853	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	18685	1.17 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%		Recovery = 93.4%		
13C3-PFBS	5.384	302.1 -> 79.9	28057	2.54 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%		Recovery = 101.7%		
13C3-PFHxS	7.155	402.1 -> 79.9	15785	2.33 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 = 93.2%	
13C4-PFBA	2.860	216.8 -> 171.9	200058	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	68446	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C5-PFHxA	5.466	318.0 -> 273.0	73989	2.57 µg/L	-0.012
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 102.8%	
13C5-PFPeA	4.272	268.3 -> 223.0	66643	5.05 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 101.0%	
13C6-PFDA	8.039	519.1 -> 474.1	29426	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.3%	
13C7-PFUnDA	8.480	570.0 -> 525.1	39366	1.27 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 101.7%	
13C8-FOSA	9.623	506.1 -> 77.8	37532	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	101976	2.38 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 95.4%	
13C8-PFOS	8.189	507.1 -> 79.9	15521	2.52 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 100.8%	
13C9-PFNA	7.569	472.1 -> 427.0	48194	1.24 µg/L	0.000
Spiked Amount: 1.25	Range: 50.0 - 150.0%			Recovery = 99.4%	
d3-MeFOSAA	8.096	573.2 -> 419.0	40951	5.60 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 112.1%	
13C3-HFPO-DA	5.844	286.9 -> 168.9	46561	10.86 µg/L	0.012
Spiked Amount: 10.00	Range: 50.0 - 150.0%			Recovery = 108.6%	
d3-MeFOSA	10.752	515.0 -> 219.0	14251	2.48 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 99.2%	
d5-EtFOSAA	8.292	589.2 -> 419.0	36421	5.56 µg/L	0.000
Spiked Amount: 5.00	Range: 50.0 - 150.0%			Recovery = 111.1%	
d7-MeFOSE	10.660	623.2 -> 58.9	128689	25.26 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.1%	
d9-EtFOSE	10.907	639.2 -> 58.9	164761	25.40 µg/L	0.000
Spiked Amount: 25.00	Range: 50.0 - 150.0%			Recovery = 101.6%	
d5-EtFOSA	10.984	531.1 -> 219.0	14346	2.60 µg/L	0.000
Spiked Amount: 2.50	Range: 50.0 - 150.0%			Recovery = 104.1%	
Target Compounds					QValue
4:2FTS	5.156	327.1 -> 307.0	67283	9.33 µg/L	96
		327.1 -> 80.9	26528		
6:2FTS	6.838	427.1 -> 407.0	72234	9.66 µg/L	99
		427.1 -> 80.9	23820		
8:2FTS	7.840	527.1 -> 507.0	39022	9.69 µg/L	99
		527.1 -> 80.8	15926		
EtFOSAA	8.293	584.2 -> 419.1	11253	2.27 µg/L	96
		584.2 -> 526.0	5877		
FOSA	9.614	498.1 -> 77.9	29975	2.37 µg/L	100
		498.1 -> 478.0	977		
MeFOSAA	8.097	570.1 -> 419.0	20558	2.51 µg/L	96
		570.1 -> 483.0	4193		
PFBA	2.856	212.8 -> 168.9	65069	9.98 µg/L	100
PFBS	5.385	298.7 -> 79.9	19850	2.04 µg/L	97
		298.7 -> 98.8	7420		
PFDA	8.040	512.9 -> 469.0	81633	2.30 µg/L	99
		512.9 -> 219.0	12598		
PFDODA	8.900	613.1 -> 569.0	55351	2.44 µg/L	95
		613.1 -> 319.0	8449		
PFDS	9.064	599.0 -> 79.9	8975	2.42 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	4410	2.38 µg/L	98
		363.1 -> 319.0	68961		
PFHpS	7.710	363.1 -> 169.0	11728	2.35 µg/L	97
		449.0 -> 79.9	16548		
PFHxA	5.481	449.0 -> 98.9	8464	2.40 µg/L	98
		313.0 -> 269.0	58239		
PFHxS	7.156	313.0 -> 118.9	2797	2.29 µg/L	98
		398.7 -> 79.9	16916		
PFNA	7.570	398.7 -> 98.9	8362	2.39 µg/L	98
		463.0 -> 419.0	81794		
PFNS	8.644	463.0 -> 219.0	15843	2.33 µg/L	99
		548.8 -> 79.9	14410		
PFOA	7.052	548.8 -> 98.9	7568	2.58 µg/L	97
		413.0 -> 369.0	110841		
PFOS	8.191	413.0 -> 169.0	18452	2.29 µg/L	97
		498.9 -> 79.9	16262		
PFPeA	4.274	498.9 -> 98.8	8232	4.86 µg/L	100
		263.0 -> 219.0	76500		
PFPeS	6.459	349.1 -> 79.9	16845	2.37 µg/L	99
		349.1 -> 98.9	7506		
PFTeDA	9.628	713.1 -> 669.0	45204	2.46 µg/L	98
		713.1 -> 168.9	3888		
PFTrDA	9.284	663.0 -> 619.0	59995	2.59 µg/L	100
		663.0 -> 168.9	6198		
PFUnDA	8.480	563.1 -> 519.0	58834	2.41 µg/L	99
		563.1 -> 269.1	9121		
11CI-PF3OUdS	9.336	630.9 -> 450.9	77444	4.35 µg/L	96
		632.9 -> 452.9	25179		
9CI-PF3ONS	8.520	530.8 -> 351.0	126366	4.48 µg/L	98
		532.8 -> 353.0	39312		
ADONA	6.671	376.9 -> 250.9	280041	4.38 µg/L	99
		376.9 -> 84.8	77335		
HFPO-DA	5.844	284.9 -> 168.9	20056	5.16 µg/L	97
		284.9 -> 184.9	2125		
3:3FTCA	3.727	241.0 -> 177.0	13384	12.00 µg/L	99
		241.0 -> 117.0	1715		
5:3FTCA	6.137	341.0 -> 237.1	269526	57.52 µg/L	99
		341.0 -> 217.0	197886		
7:3FTCA	7.548	441.0 -> 316.9	189526	58.80 µg/L	97
		441.0 -> 336.9	437462		
EtFOSA	10.986	526.0 -> 219.0	31866	4.82 µg/L	95
		526.0 -> 169.0	43734		
EtFOSE	10.920	630.0 -> 58.9	84886	11.81 µg/L	100
		511.9 -> 219.0	27298		
MeFOSA	10.753	511.9 -> 169.0	39106	5.03 µg/L	97
		616.1 -> 58.9	60166		
MeFOSE	10.673	699.1 -> 79.9	4279	12.08 µg/L	100
		699.1 -> 98.8	2316		
PFDoDS	9.755	295.0 -> 201.0	14558	2.44 µg/L	99
		295.0 -> 84.9	3731		
NFDHA	5.348	279.0 -> 85.1	53763	4.94 µg/L	98
		229.0 -> 84.9	41857		
PFMBA	4.688	314.8 -> 134.9	132390	5.05 µg/L	100
		314.8 -> 82.9	4762		
PFMPA	3.413			4.29 µg/L	100
PFEESA	5.926				100

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



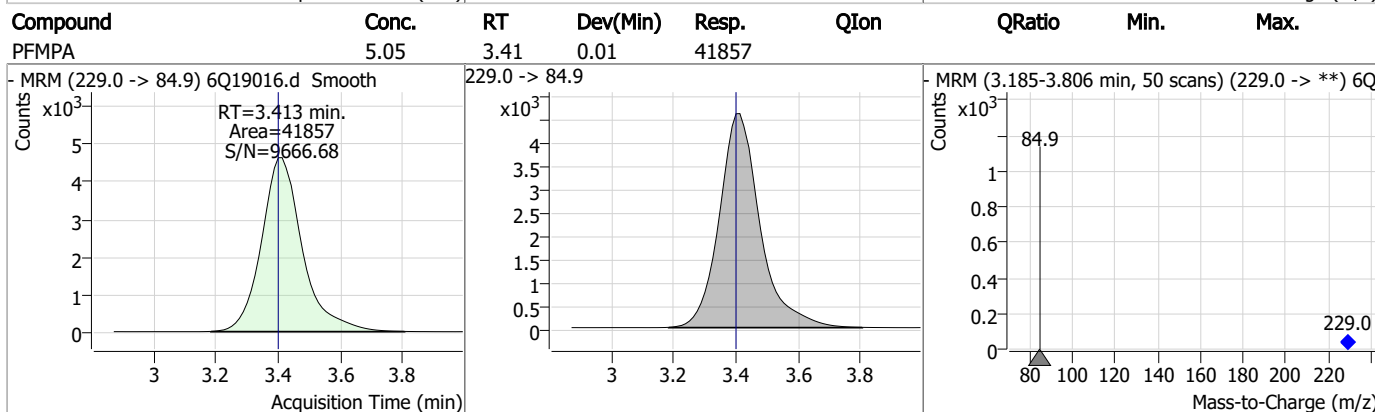
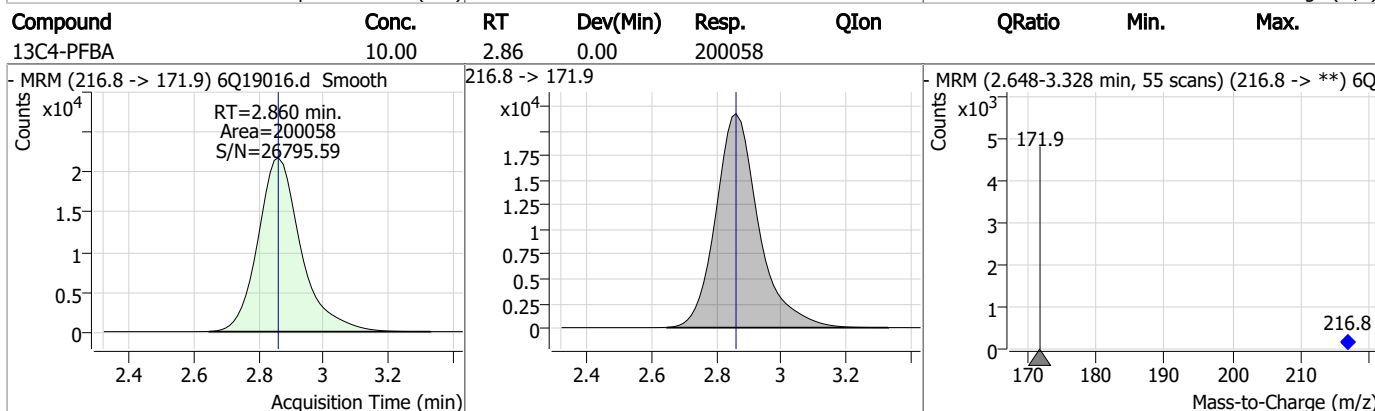
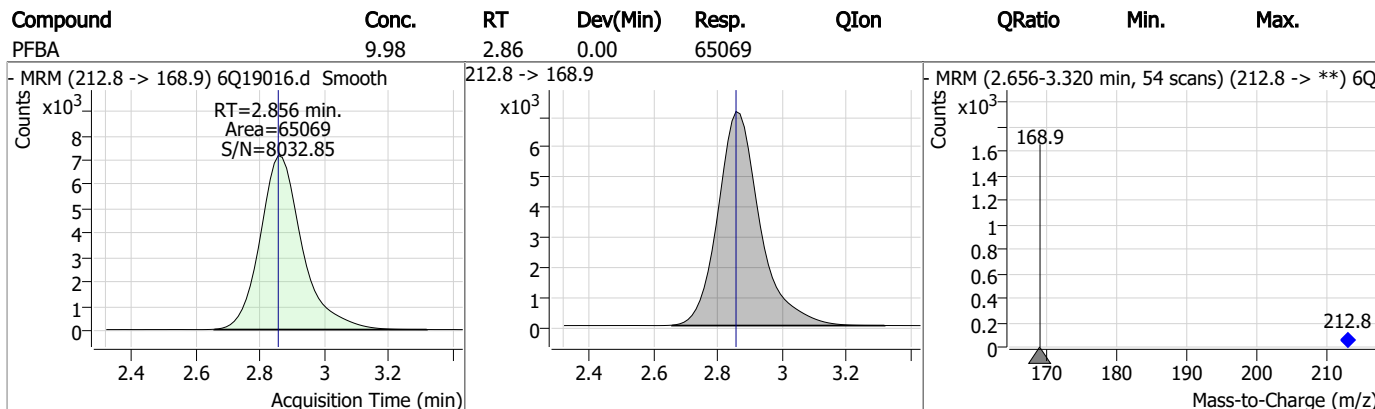
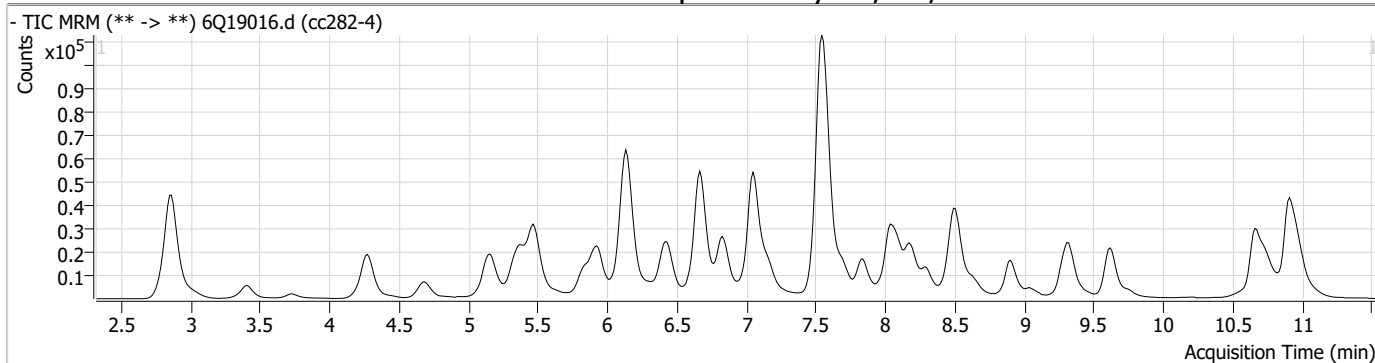
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.15

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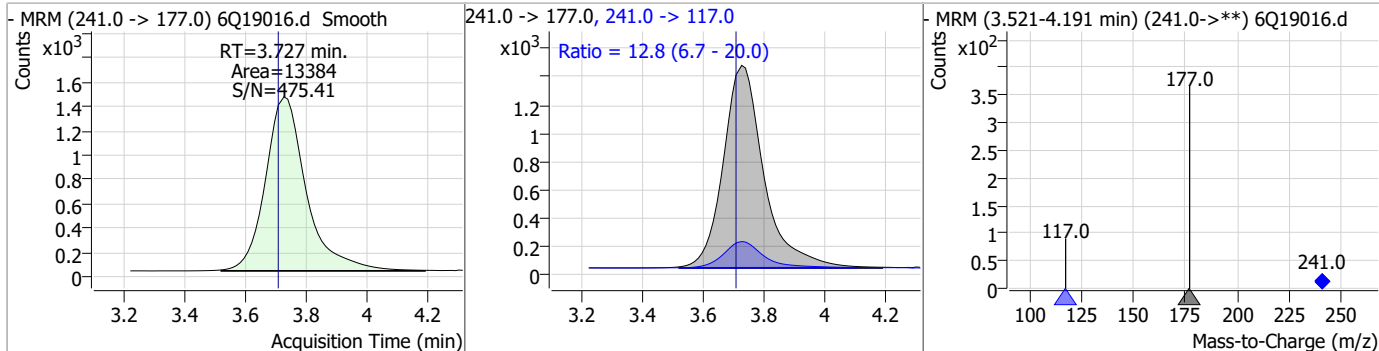
Perfluorinated Compounds by LC/MS/MS



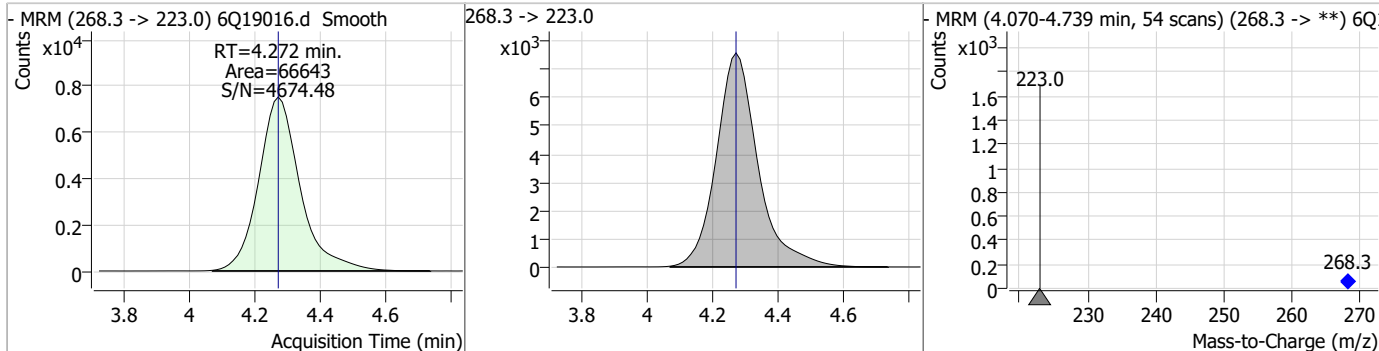
7.7.15
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Perfluorinated Compounds by LC/MS/MS

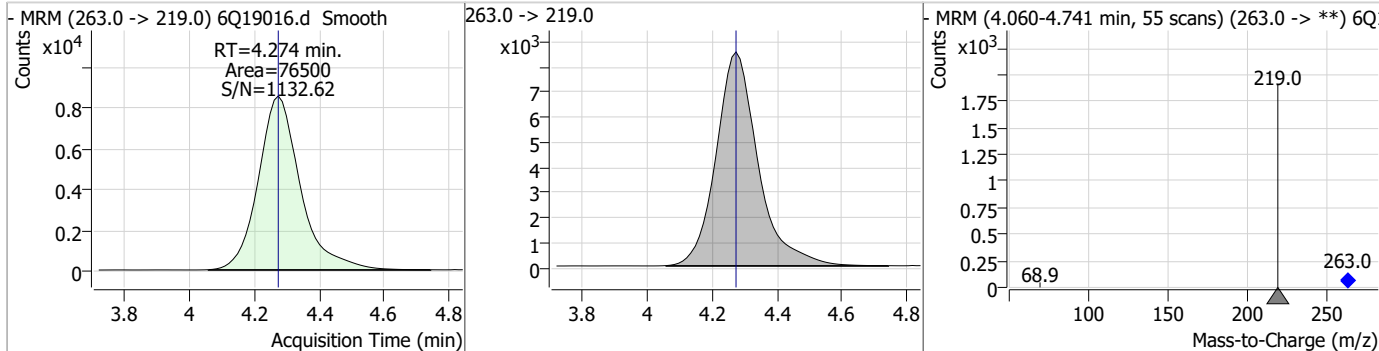
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	12.00	3.73	0.02	13384	241.0 -> 117.0	12.8	6.7	20.0



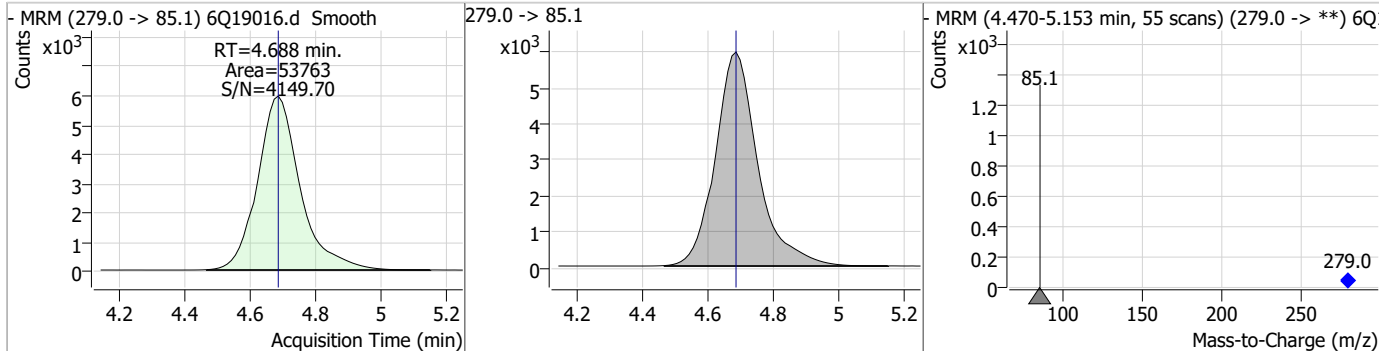
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.05	4.27	0.00	66643				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.86	4.27	0.00	76500				

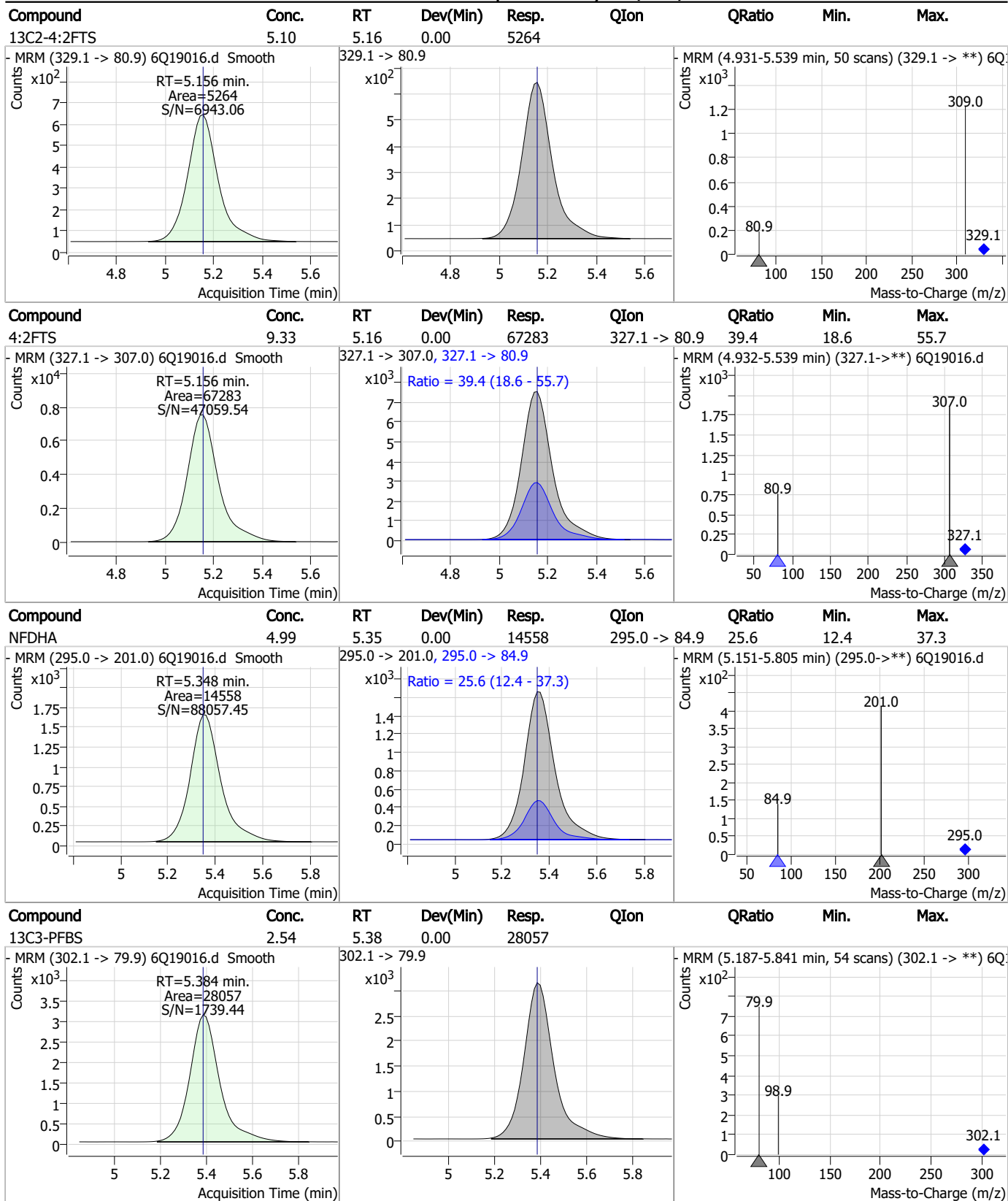


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.94	4.69	0.00	53763				



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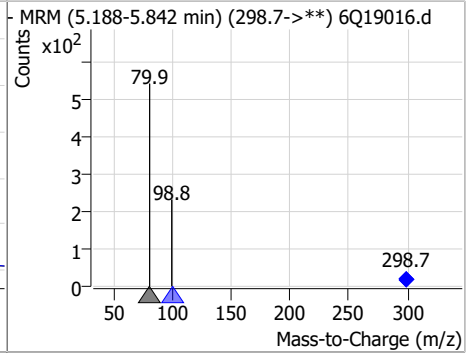
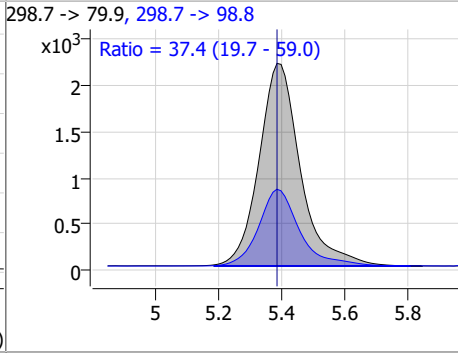
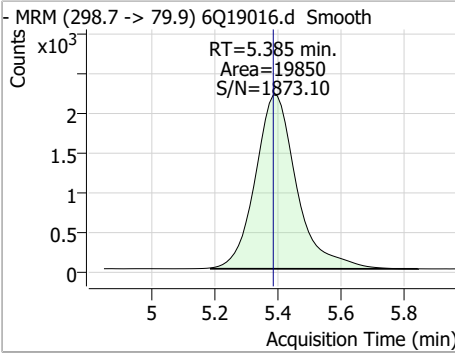
Perfluorinated Compounds by LC/MS/MS



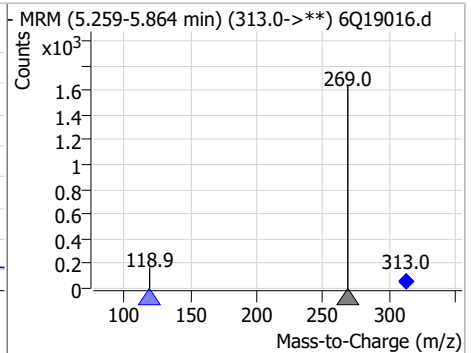
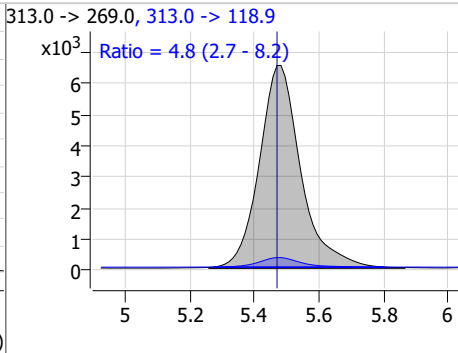
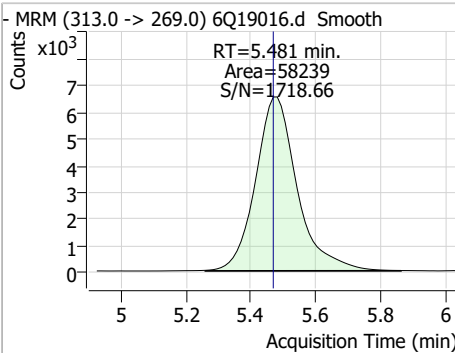
7.7.15
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Perfluorinated Compounds by LC/MS/MS

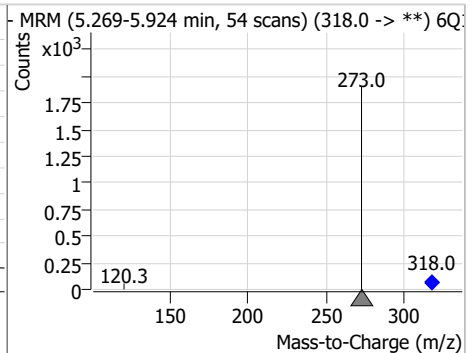
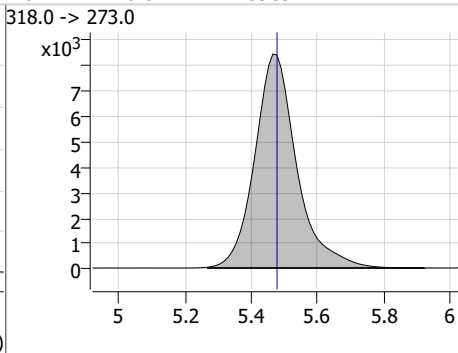
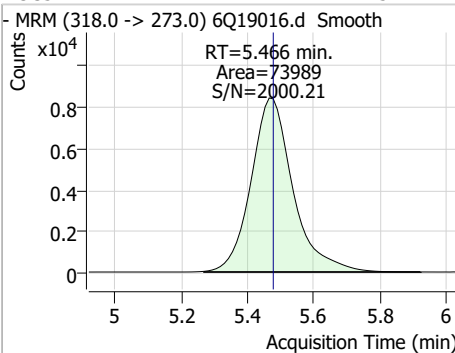
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.04	5.38	0.00	19850	298.7 -> 98.8	37.4	19.7	59.0



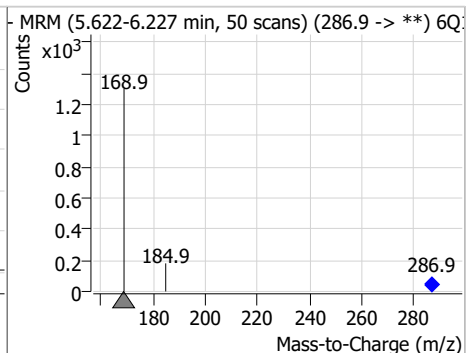
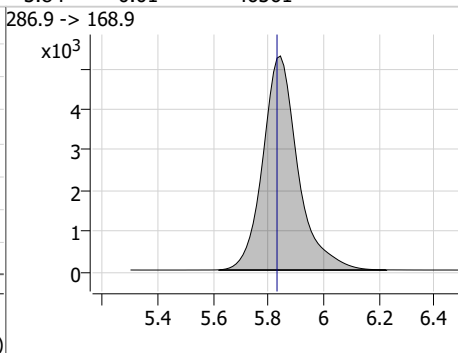
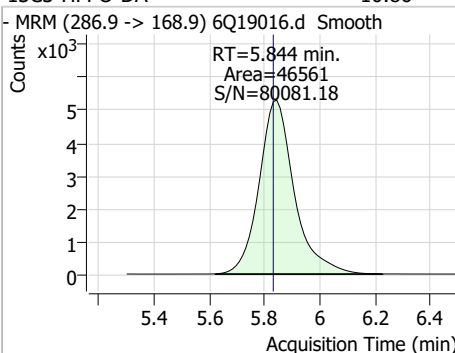
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.40	5.48	0.01	58239	313.0 -> 118.9	4.8	2.7	8.2



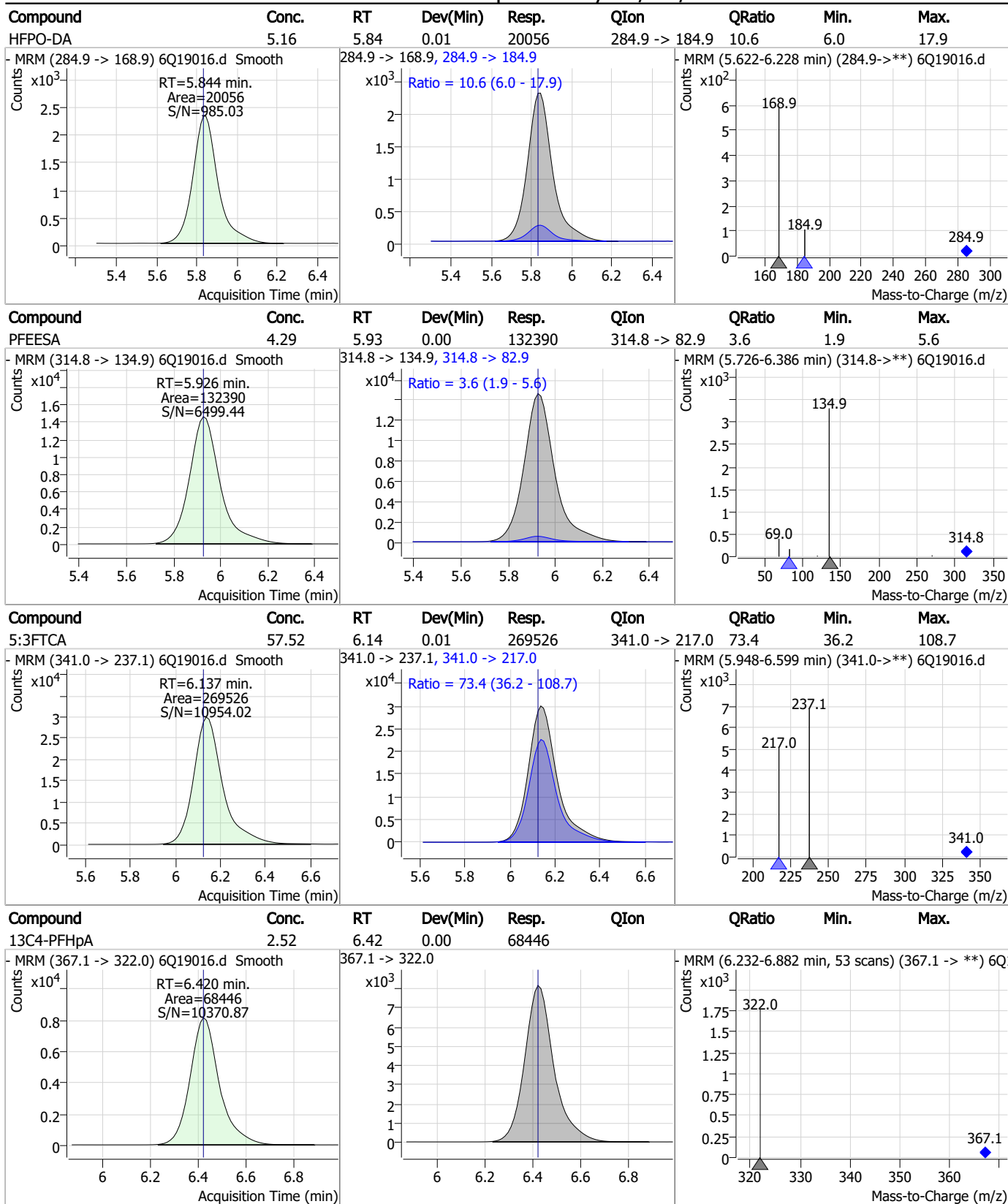
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.57	5.47	-0.01	73989	318.0 -> 273.0			



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.86	5.84	0.01	46561	286.9 -> 168.9			



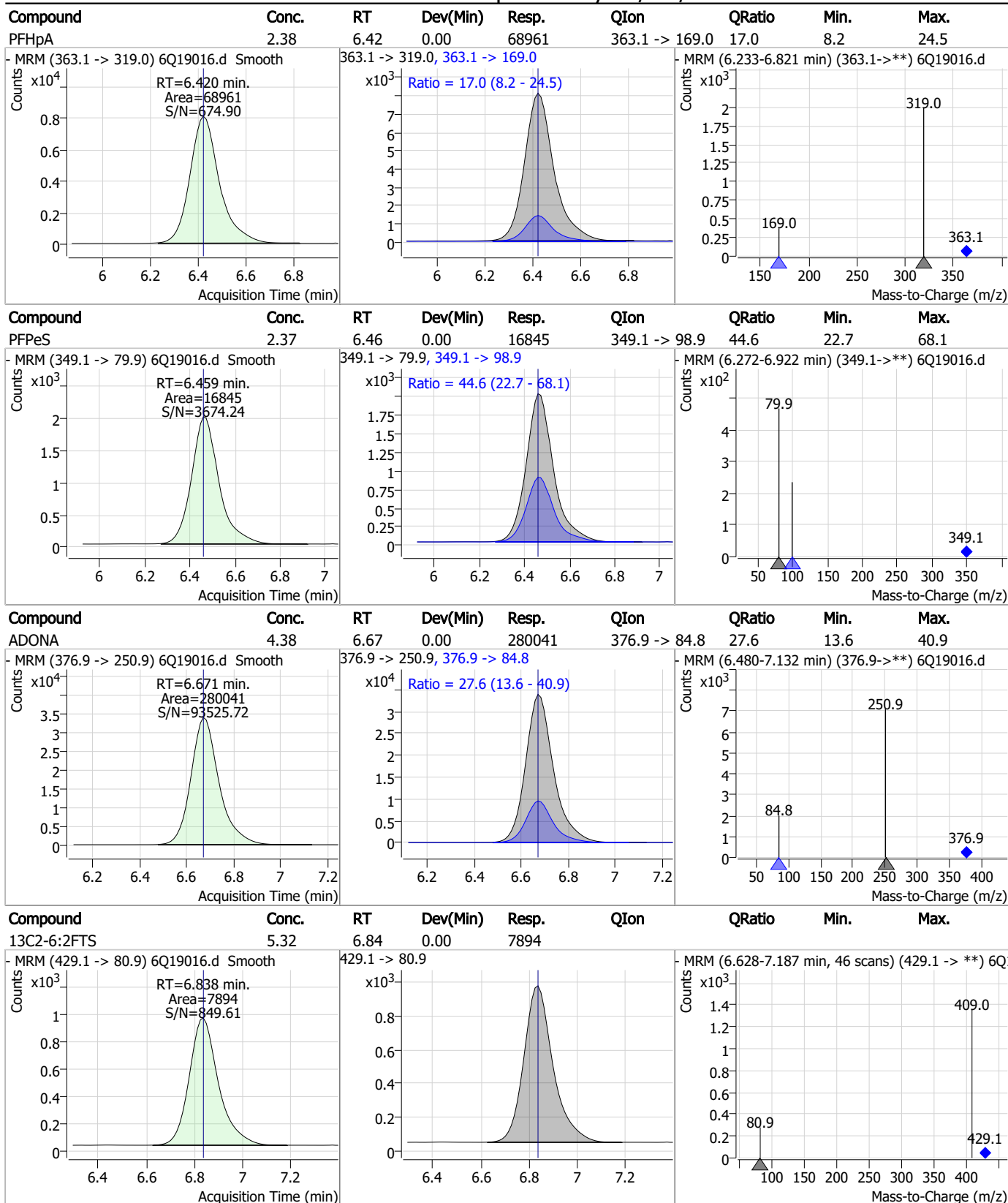
Perfluorinated Compounds by LC/MS/MS



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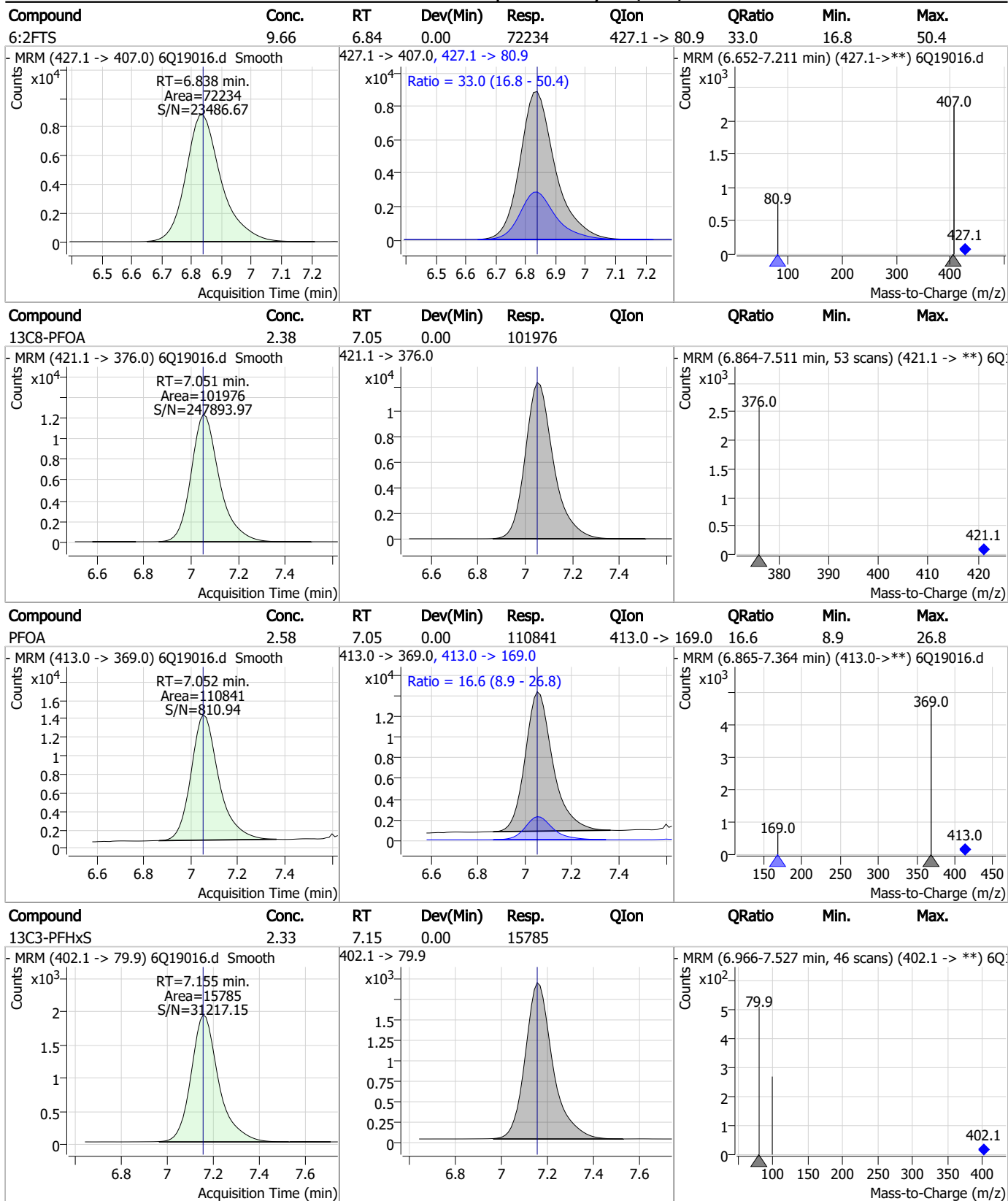
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Perfluorinated Compounds by LC/MS/MS



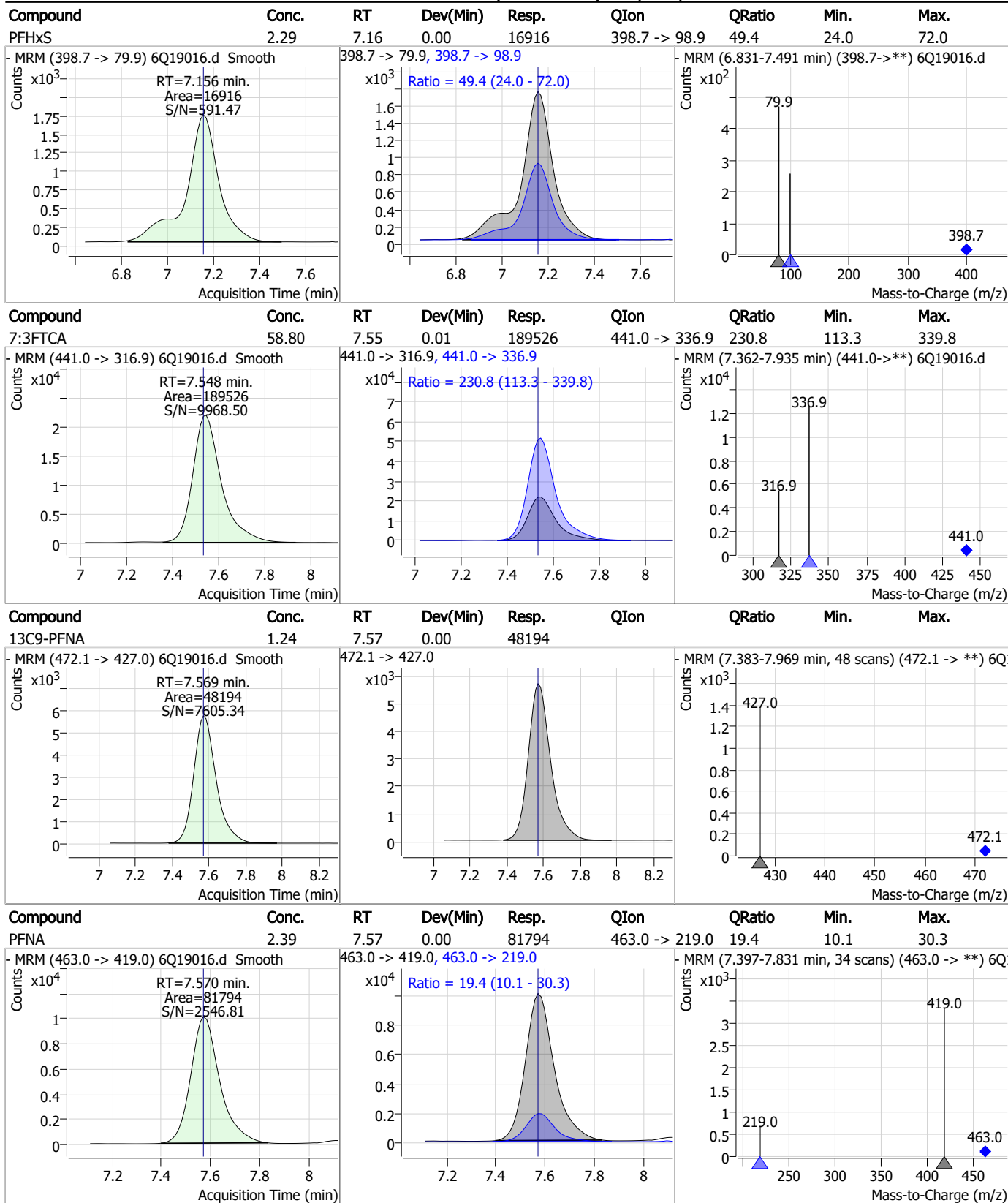
7.7.15
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Perfluorinated Compounds by LC/MS/MS



7.7.15
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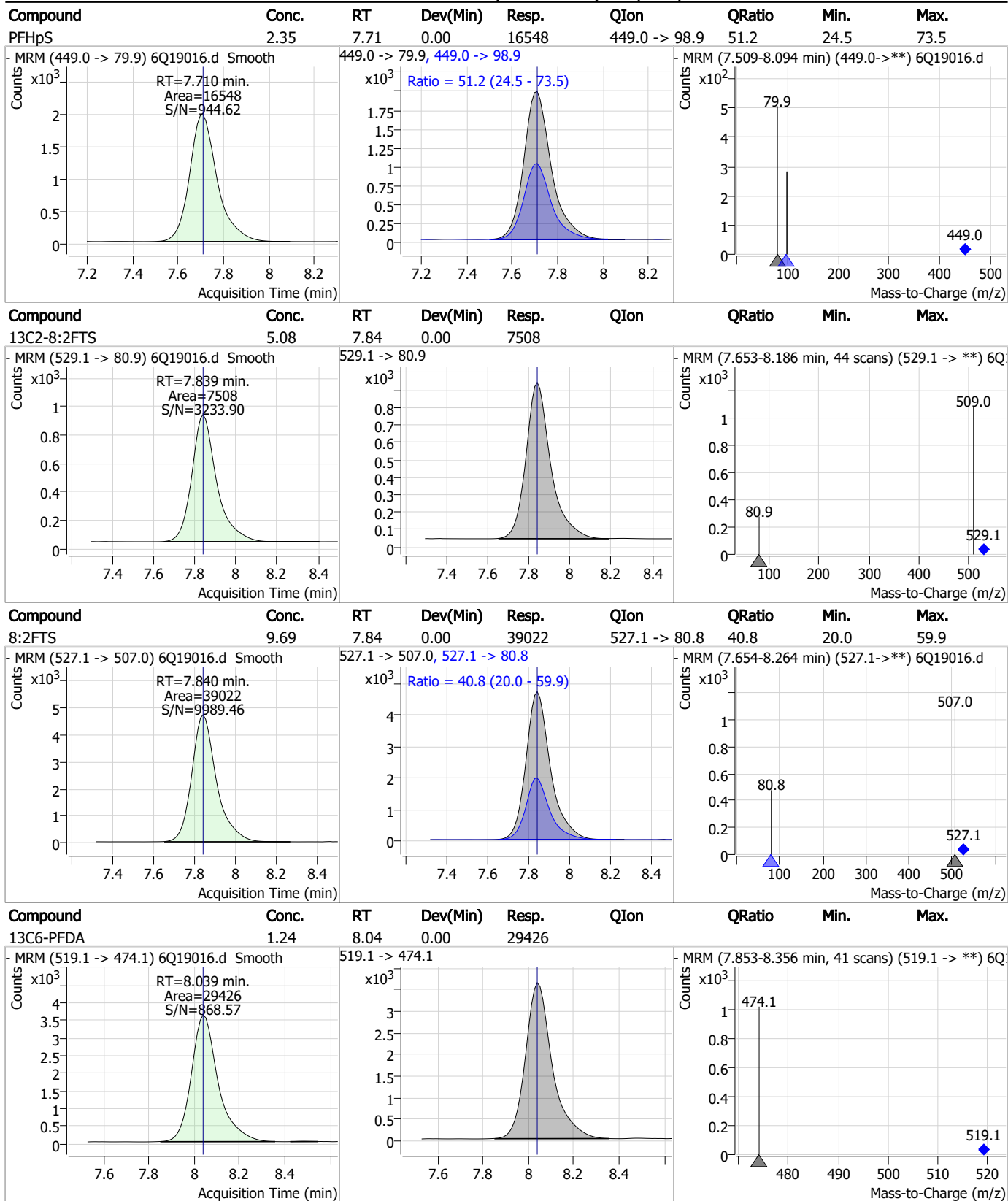
Perfluorinated Compounds by LC/MS/MS



7.7.15
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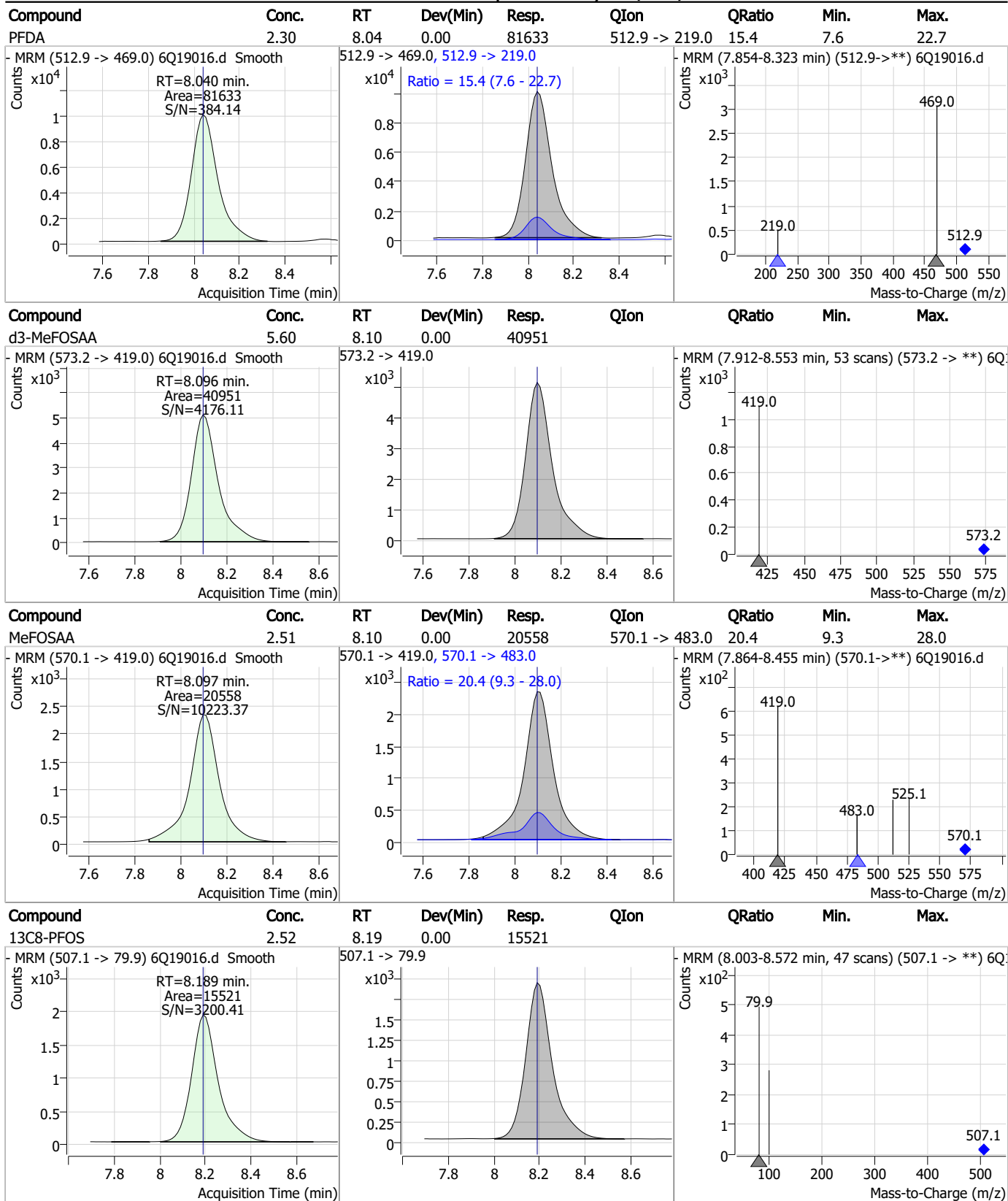


Perfluorinated Compounds by LC/MS/MS



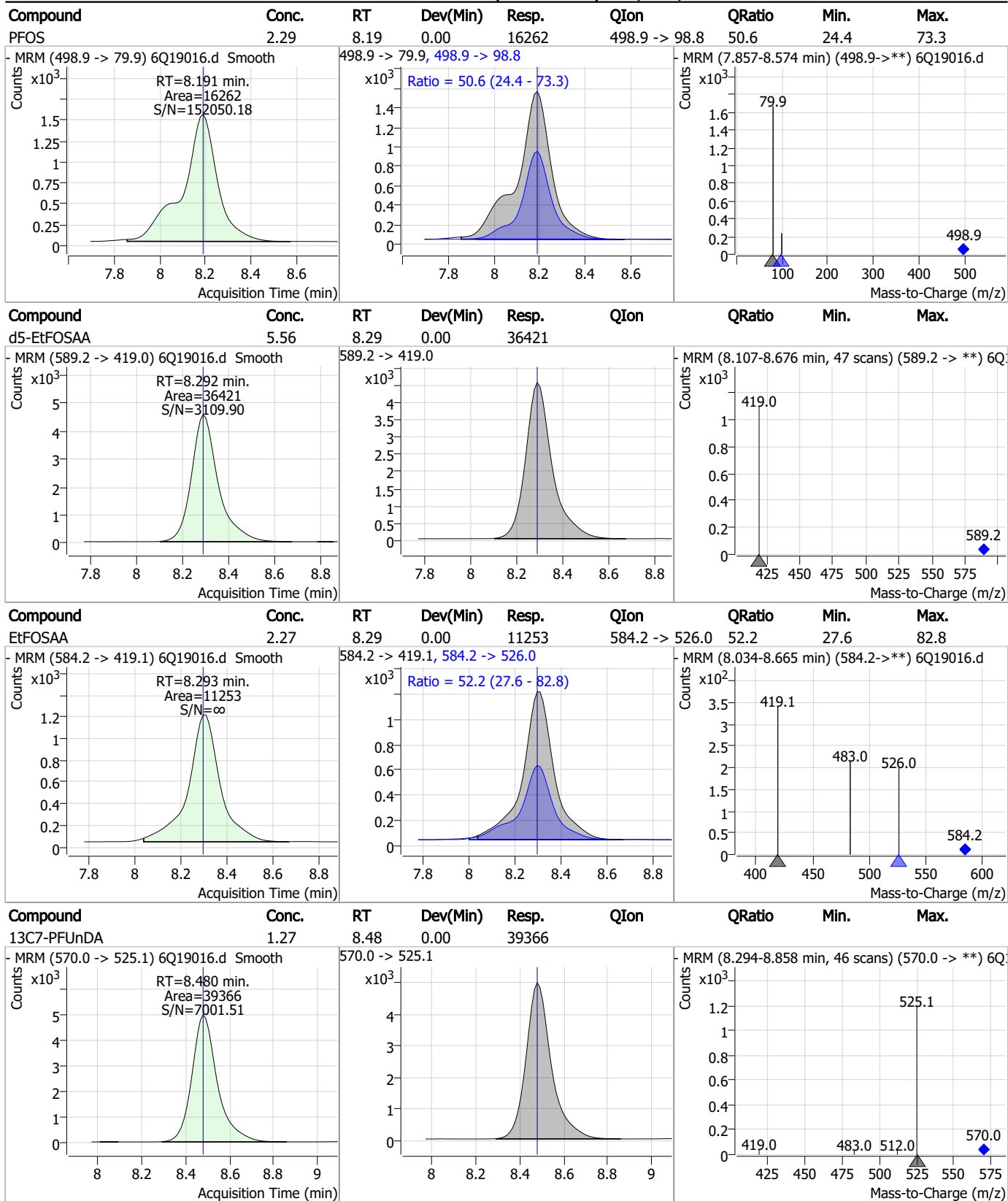
7.7.15
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Perfluorinated Compounds by LC/MS/MS



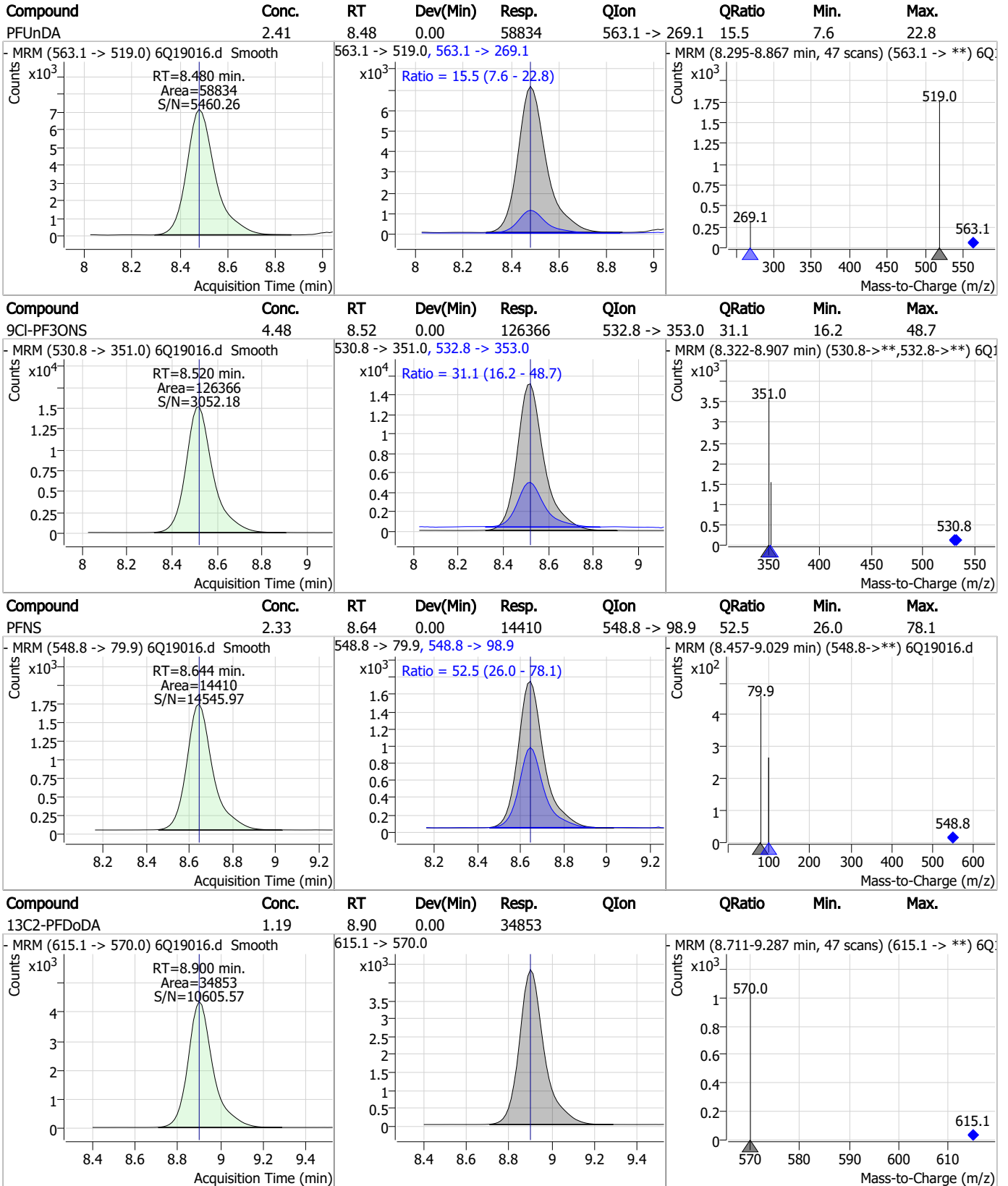
7.7.15
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Perfluorinated Compounds by LC/MS/MS



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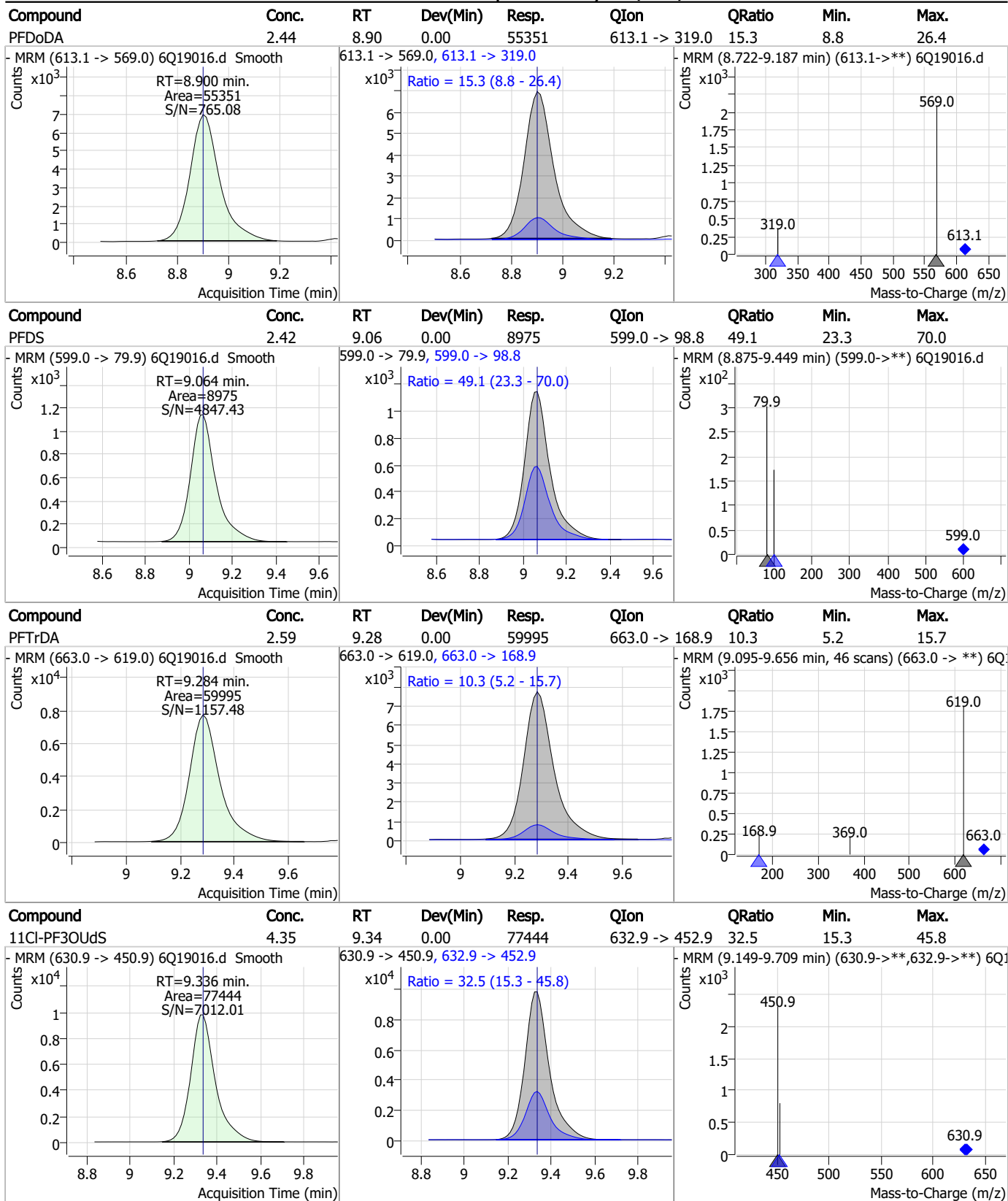
Perfluorinated Compounds by LC/MS/MS



7.7.15 7

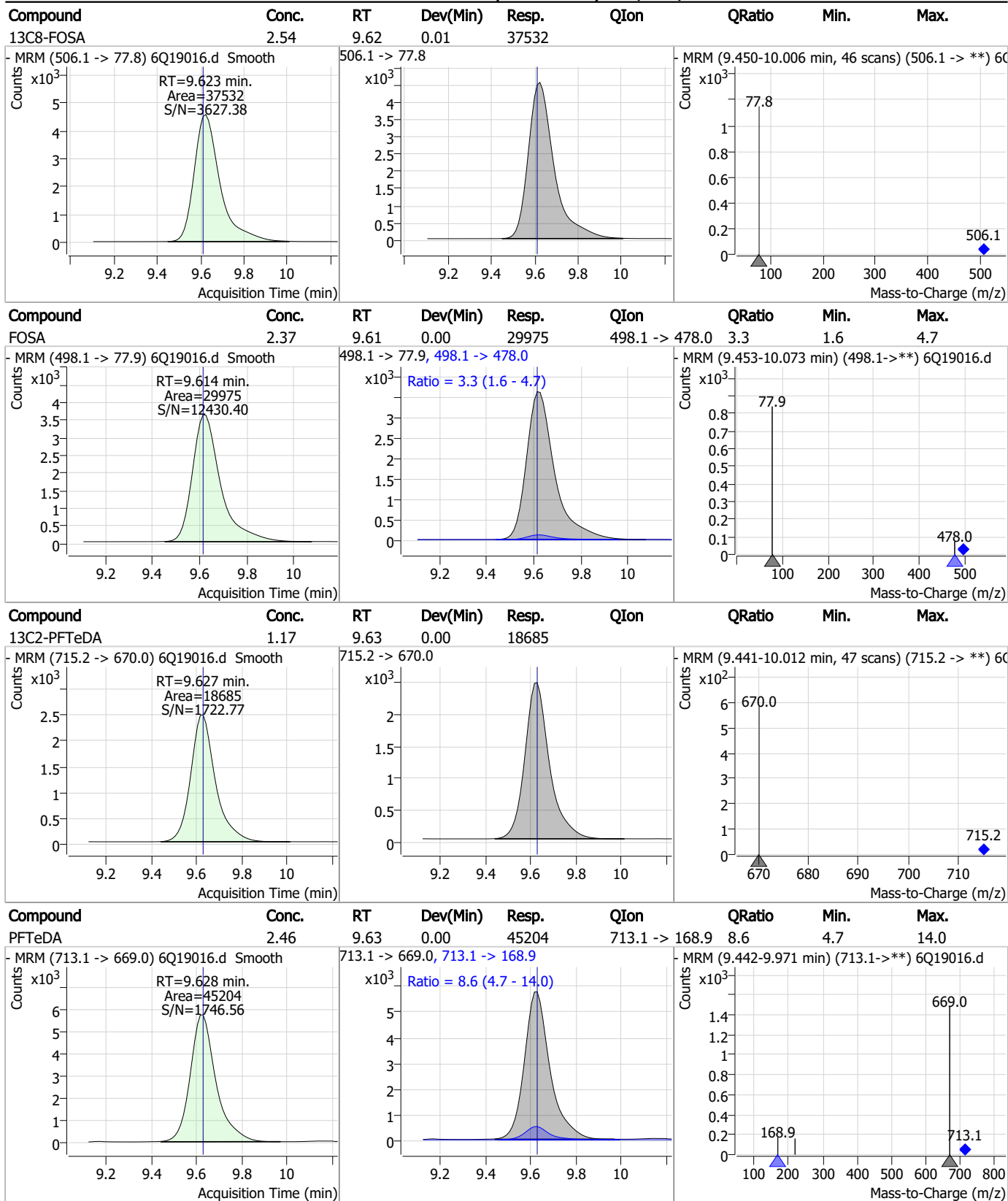


Perfluorinated Compounds by LC/MS/MS



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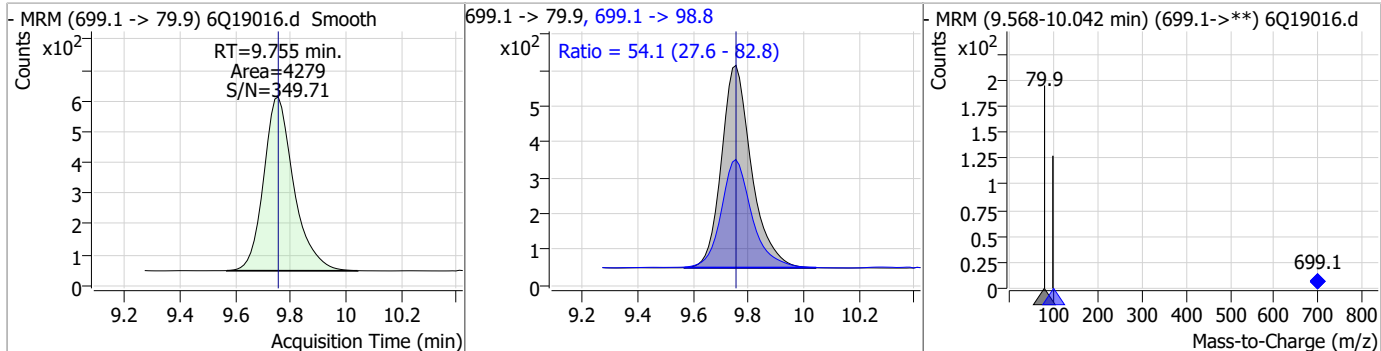
Perfluorinated Compounds by LC/MS/MS



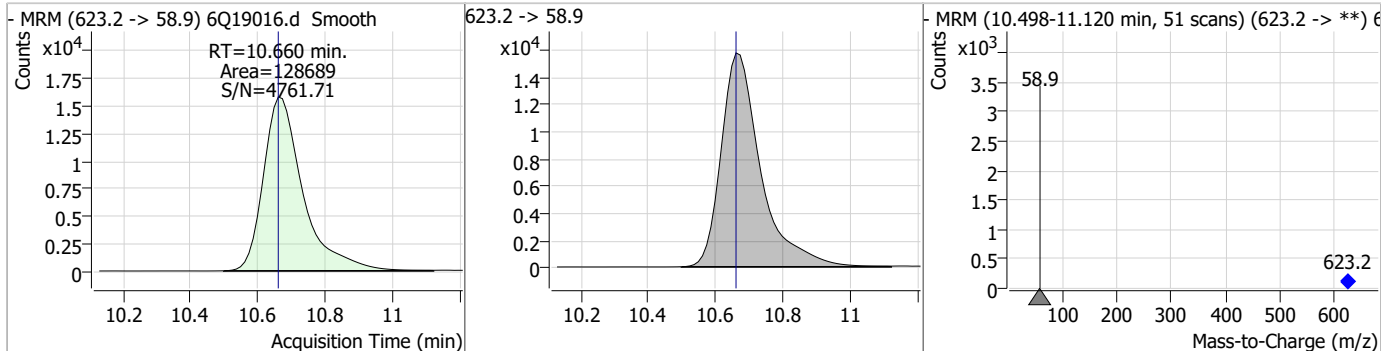
7.7.15
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Perfluorinated Compounds by LC/MS/MS

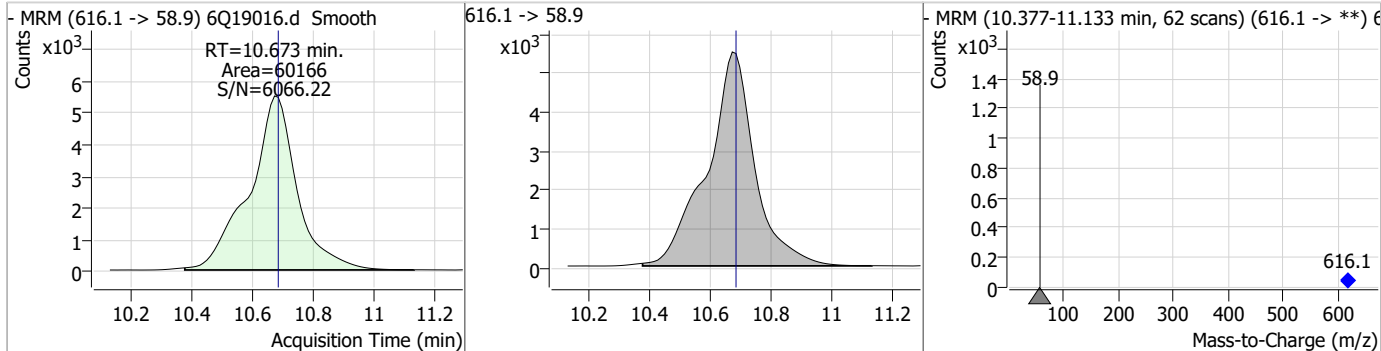
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.44	9.75	0.00	4279	699.1 -> 98.8	54.1	27.6	82.8



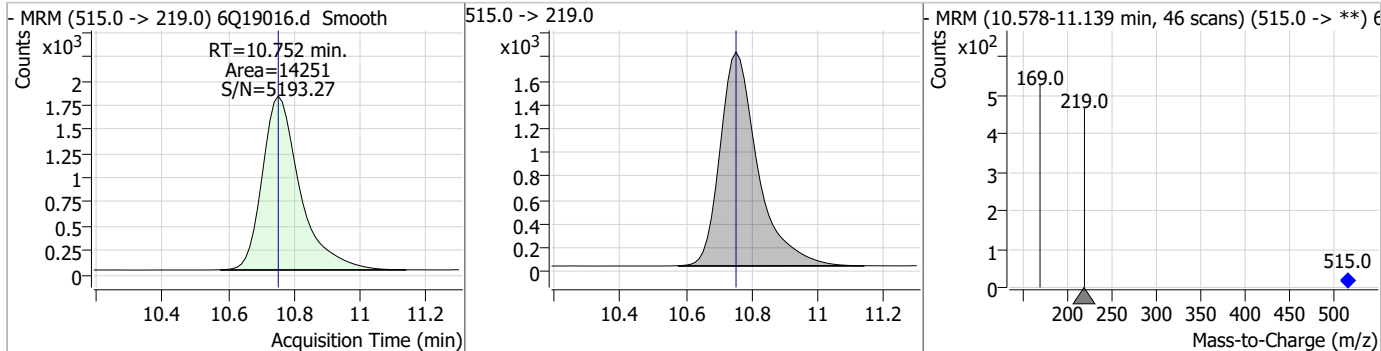
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.26	10.66	0.00	128689				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.08	10.67	-0.01	60166				

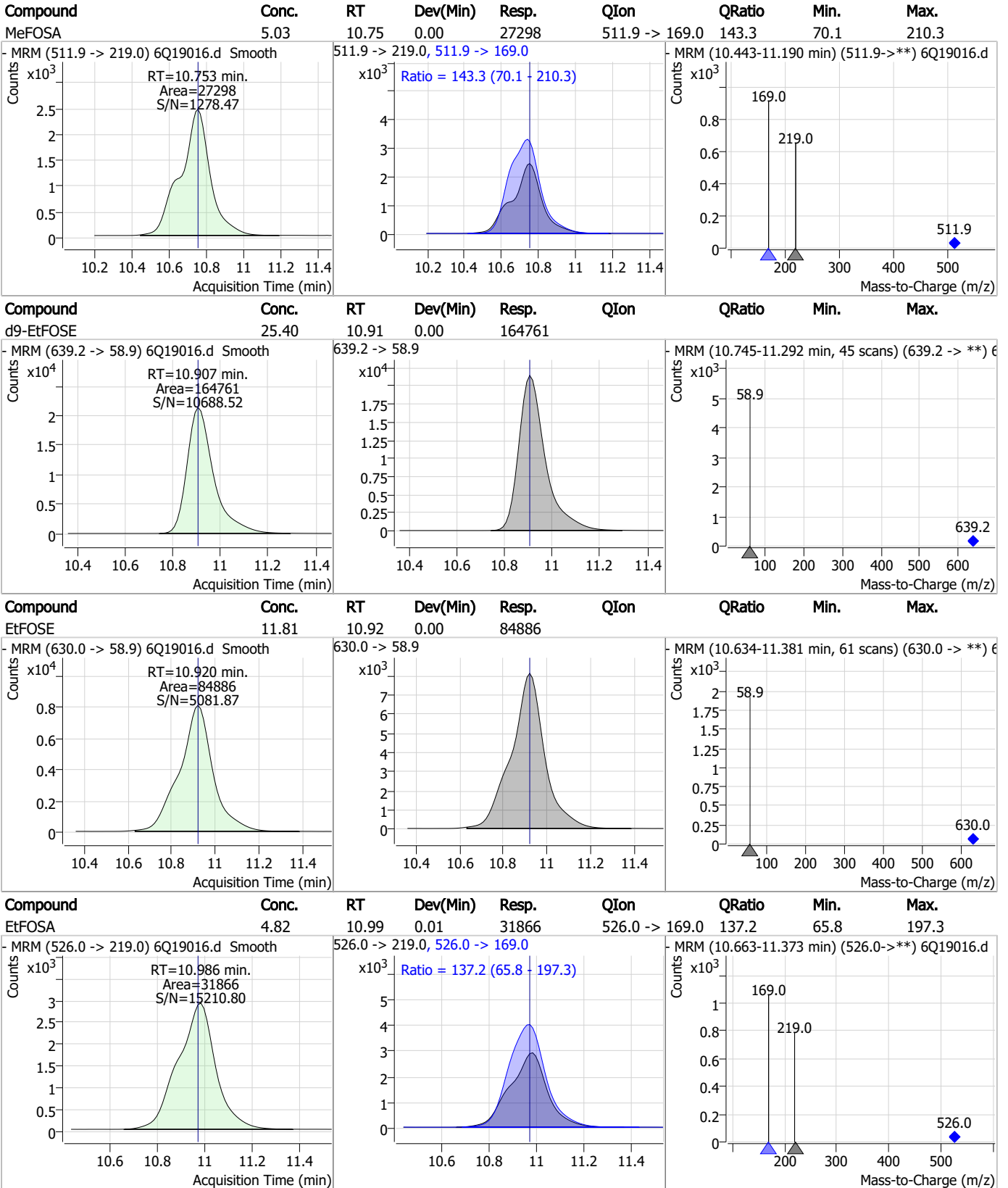


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.48	10.75	0.00	14251				



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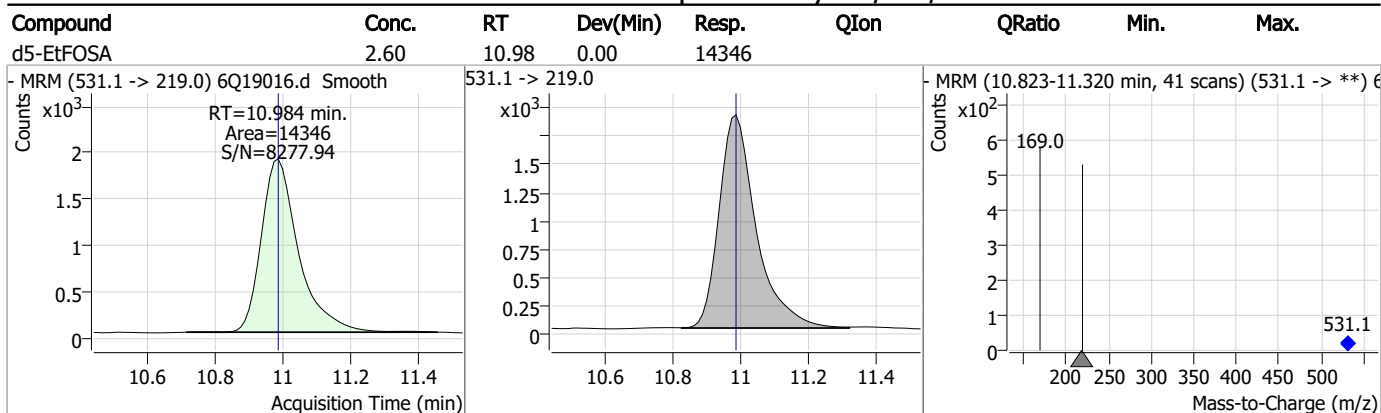
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 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
PFDoDS	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		

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



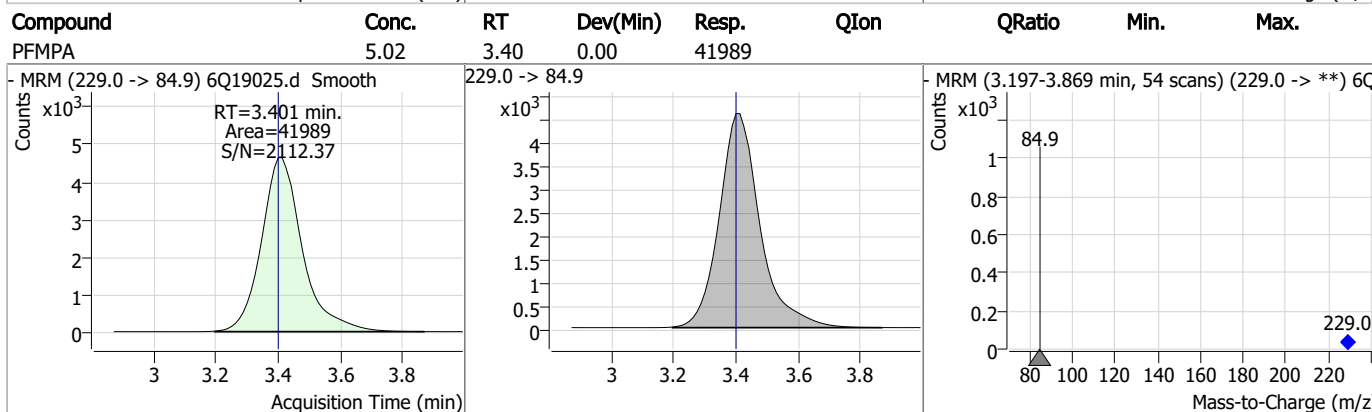
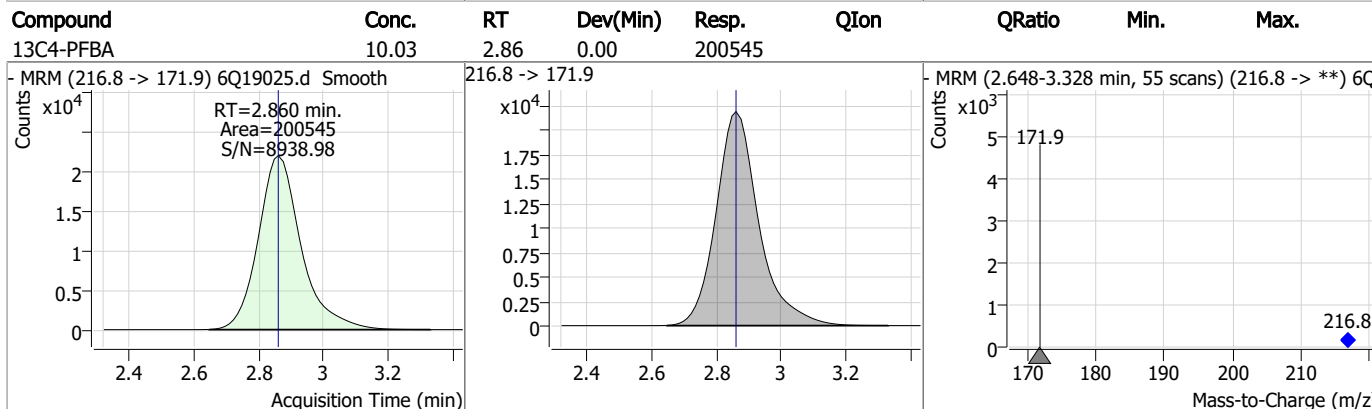
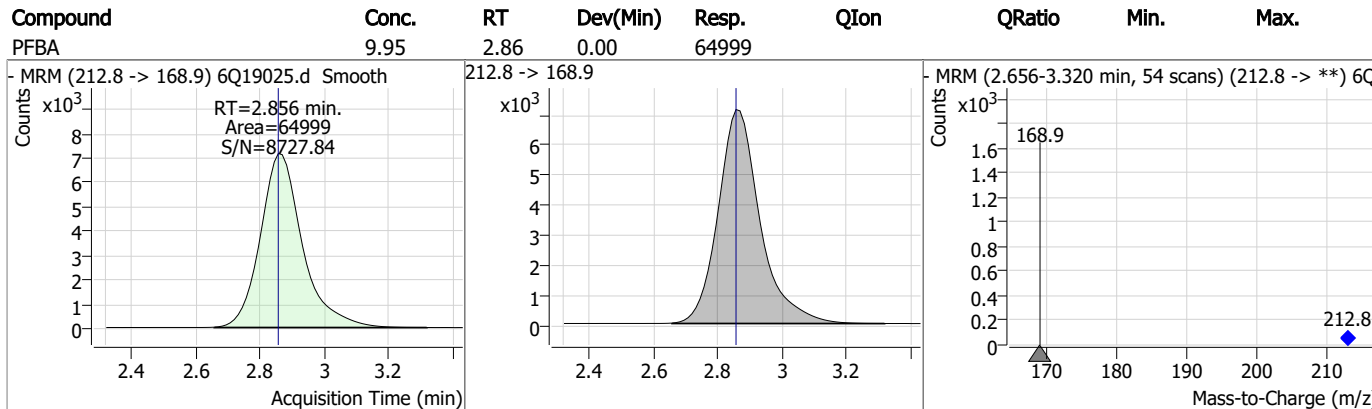
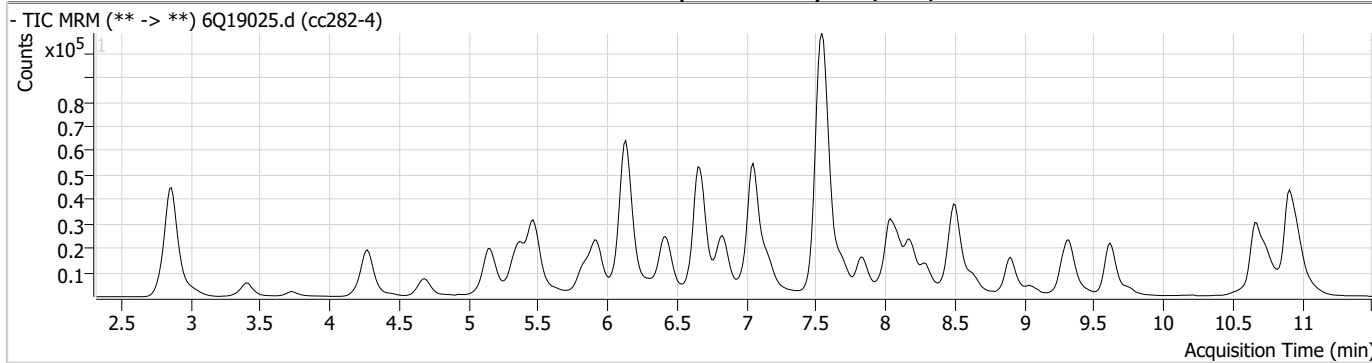
Perfluorinated Compounds by LC/MS/MS

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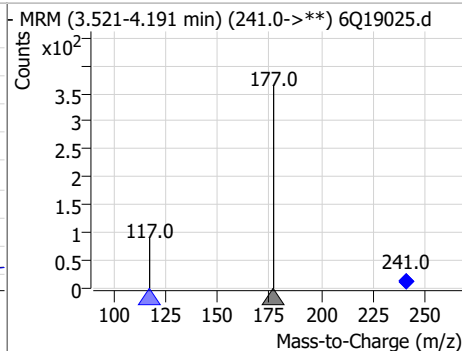
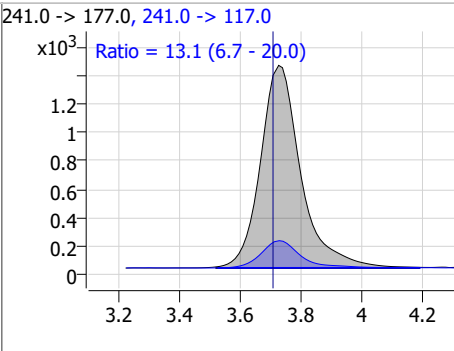
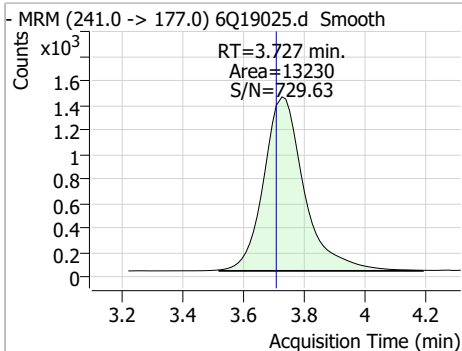
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Perfluorinated Compounds by LC/MS/MS

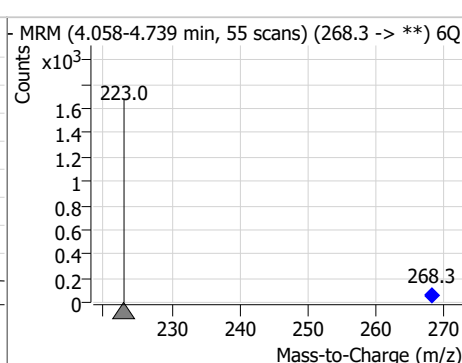
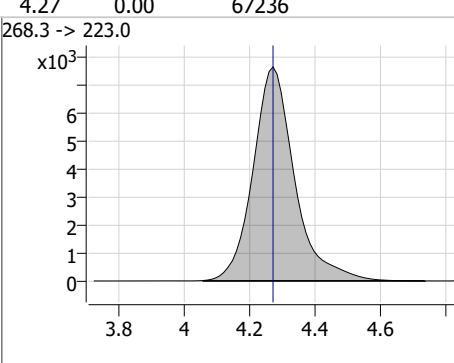
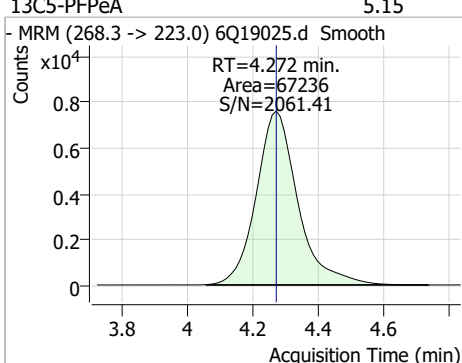


Perfluorinated Compounds by LC/MS/MS

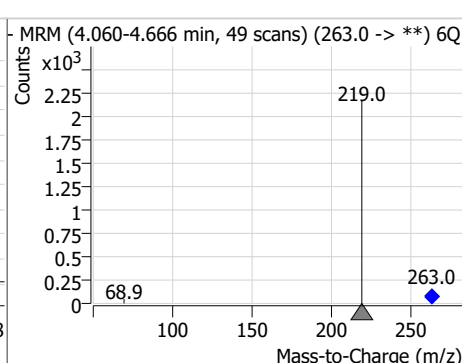
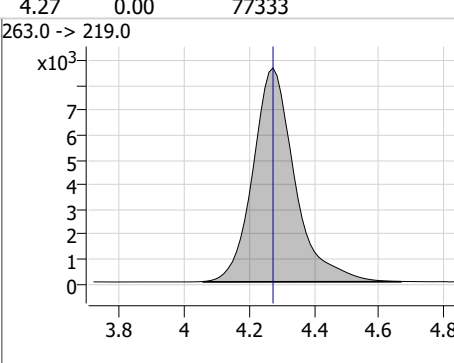
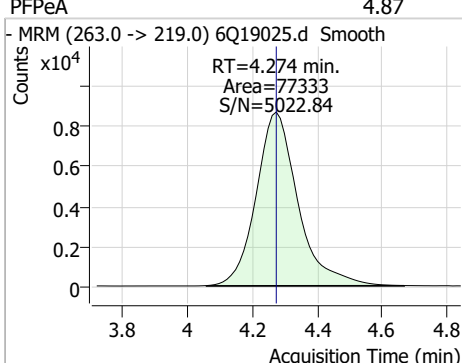
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.76	3.73	0.02	13230	241.0 -> 117.0	13.1	6.7	20.0



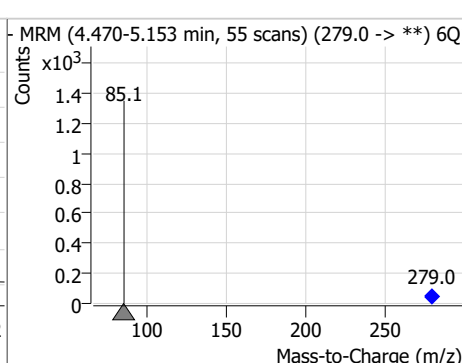
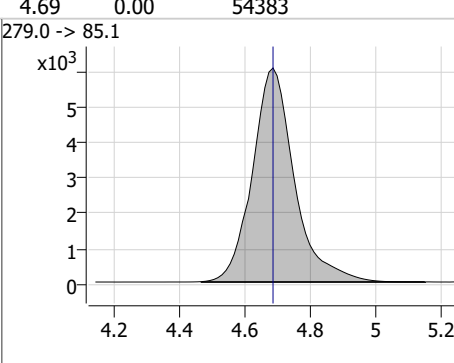
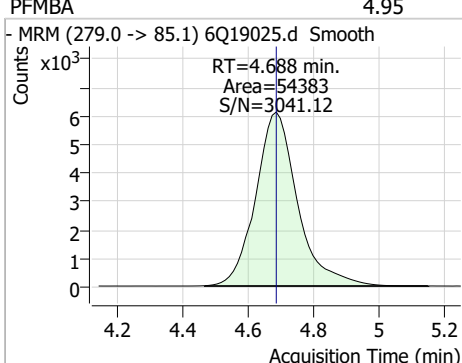
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.15	4.27	0.00	67236				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.87	4.27	0.00	77333				

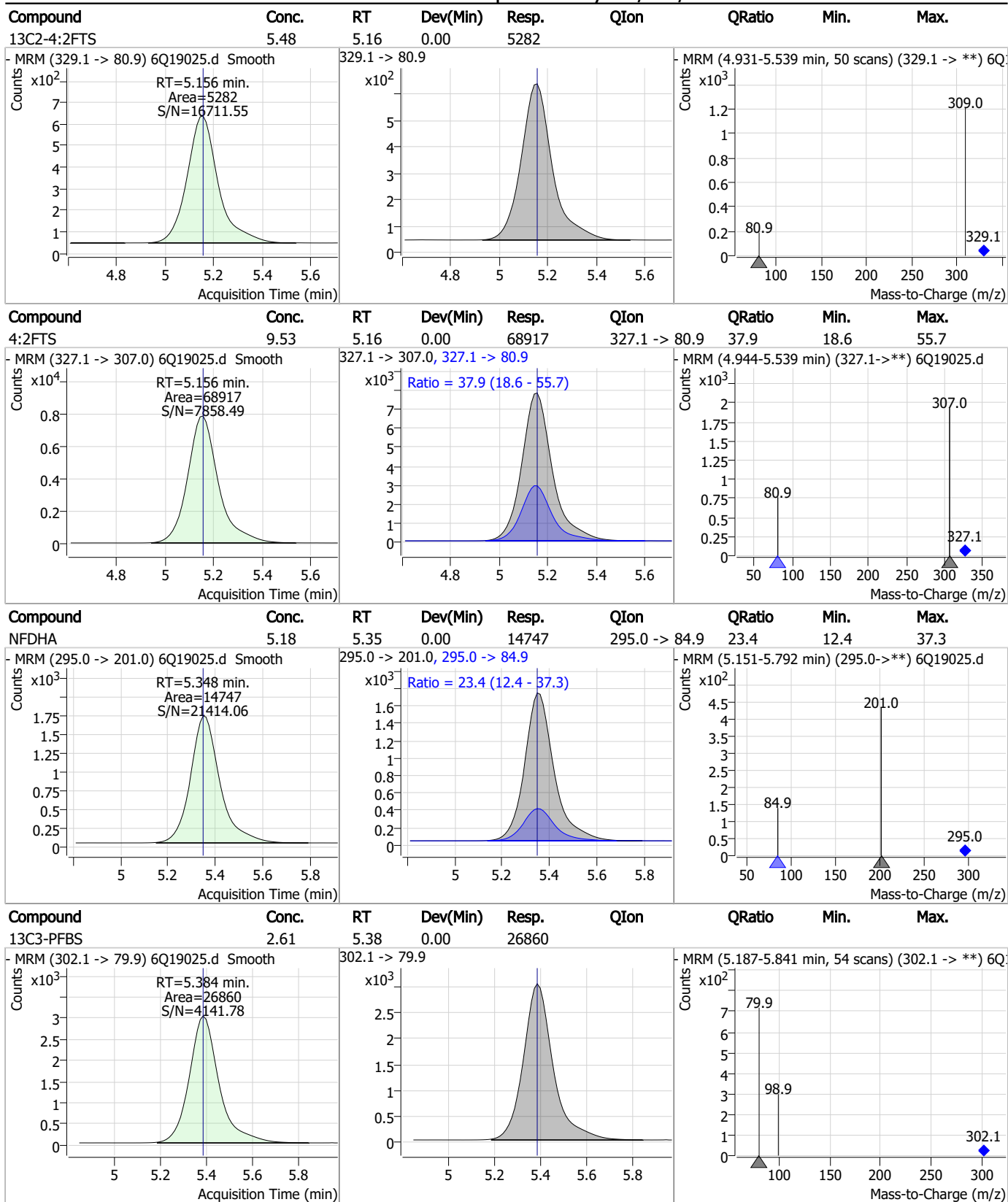


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	4.95	4.69	0.00	54383				



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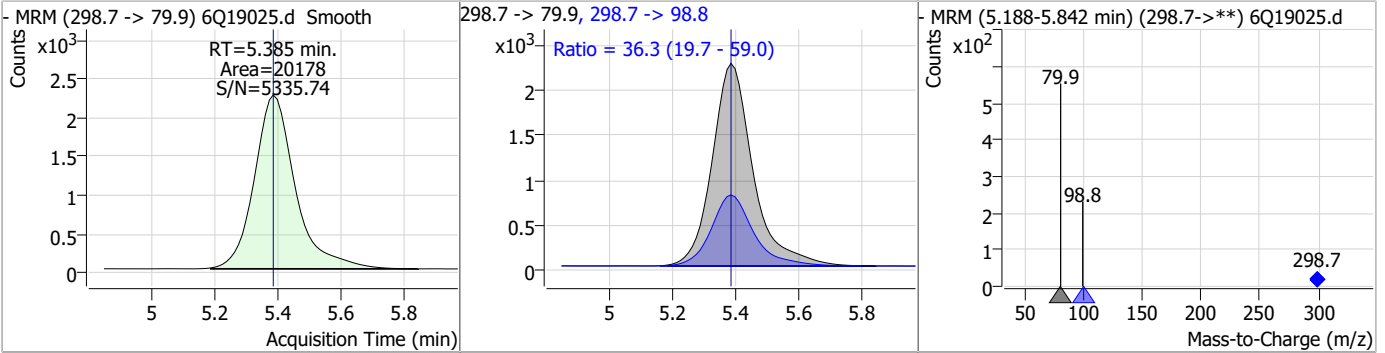
Perfluorinated Compounds by LC/MS/MS



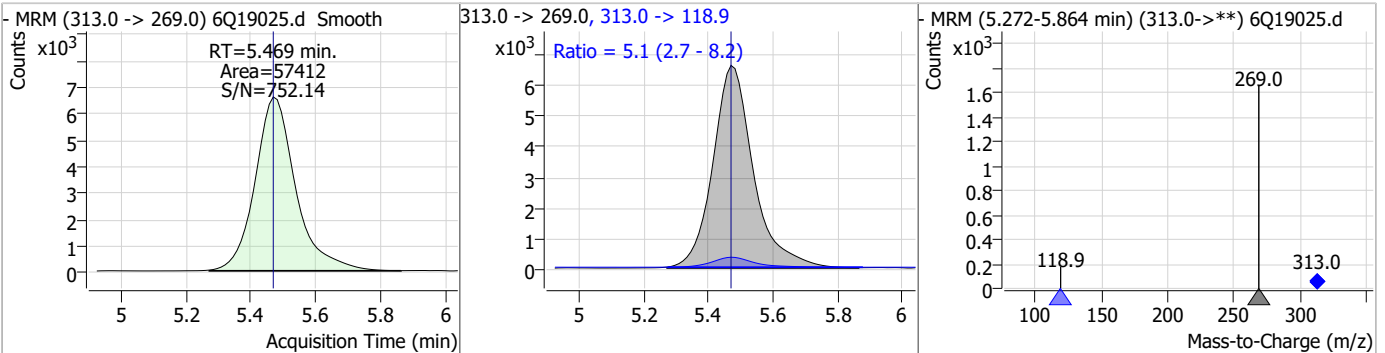
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Perfluorinated Compounds by LC/MS/MS

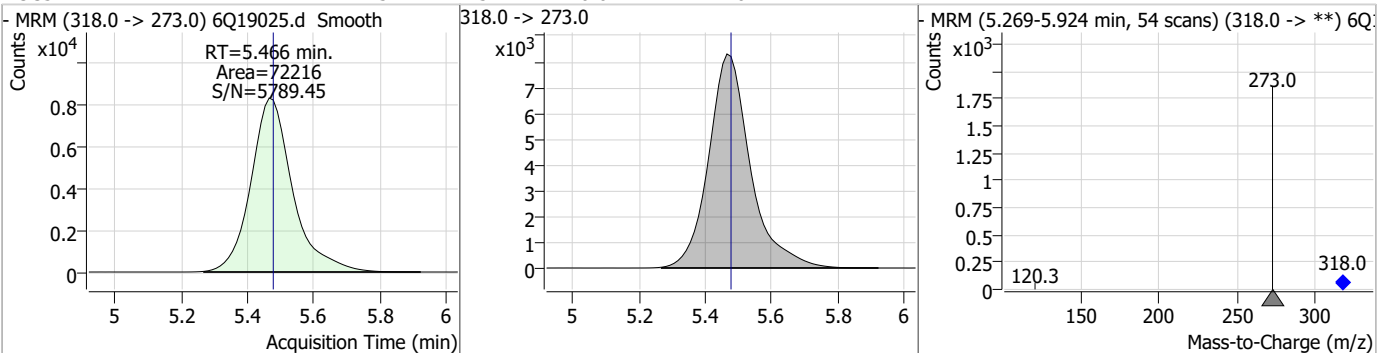
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.17	5.38	0.00	20178	298.7 -> 98.8	36.3	19.7	59.0



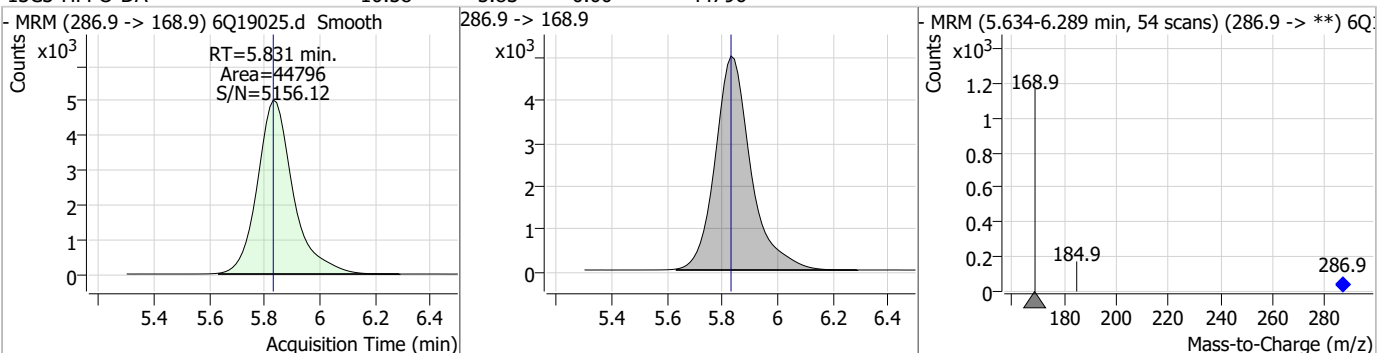
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.42	5.47	0.00	57412	313.0 -> 118.9	5.1	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.54	5.47	-0.01	72216	318.0 -> 273.0	-	-	-

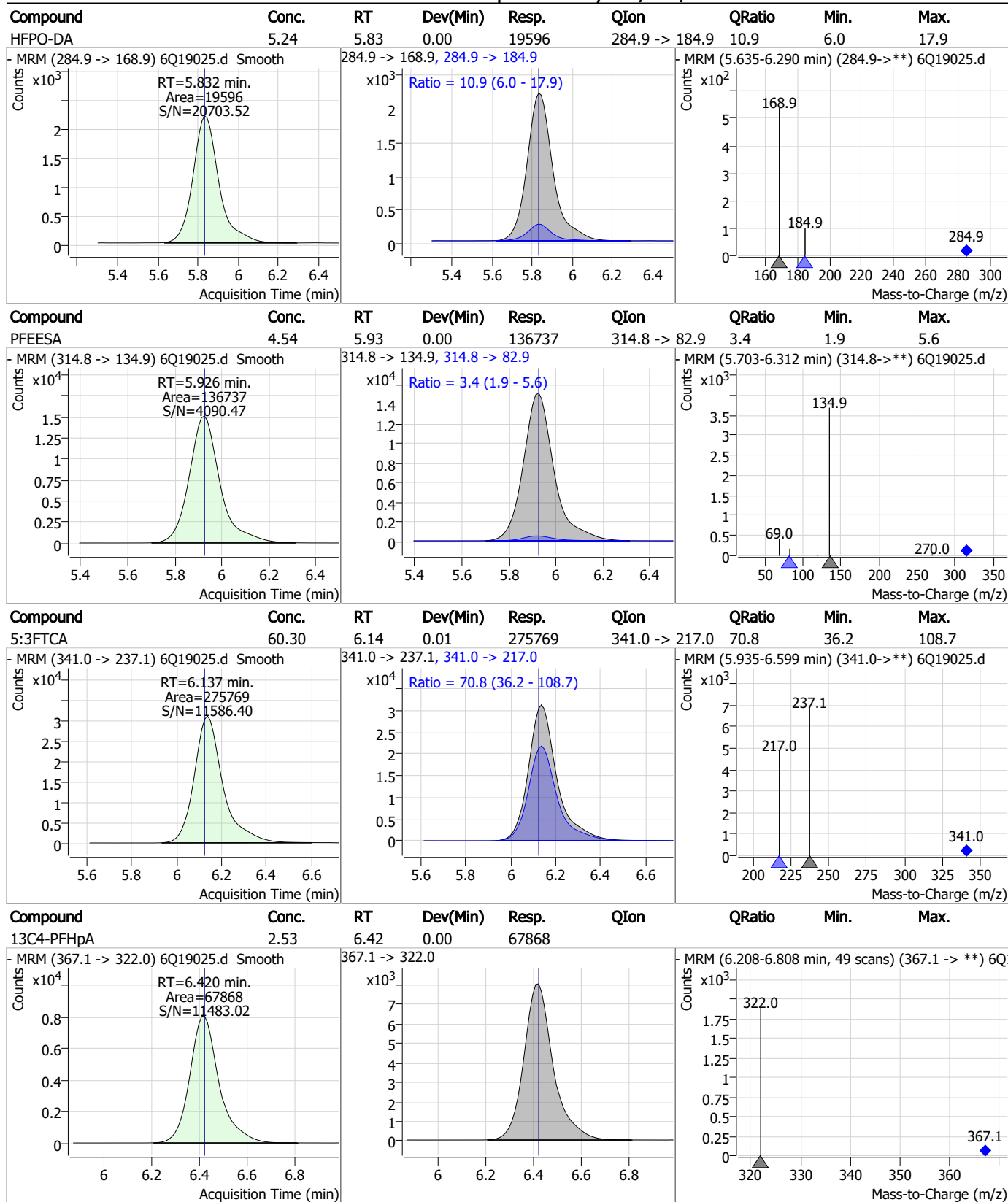


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.58	5.83	0.00	44796	286.9 -> 168.9	-	-	-



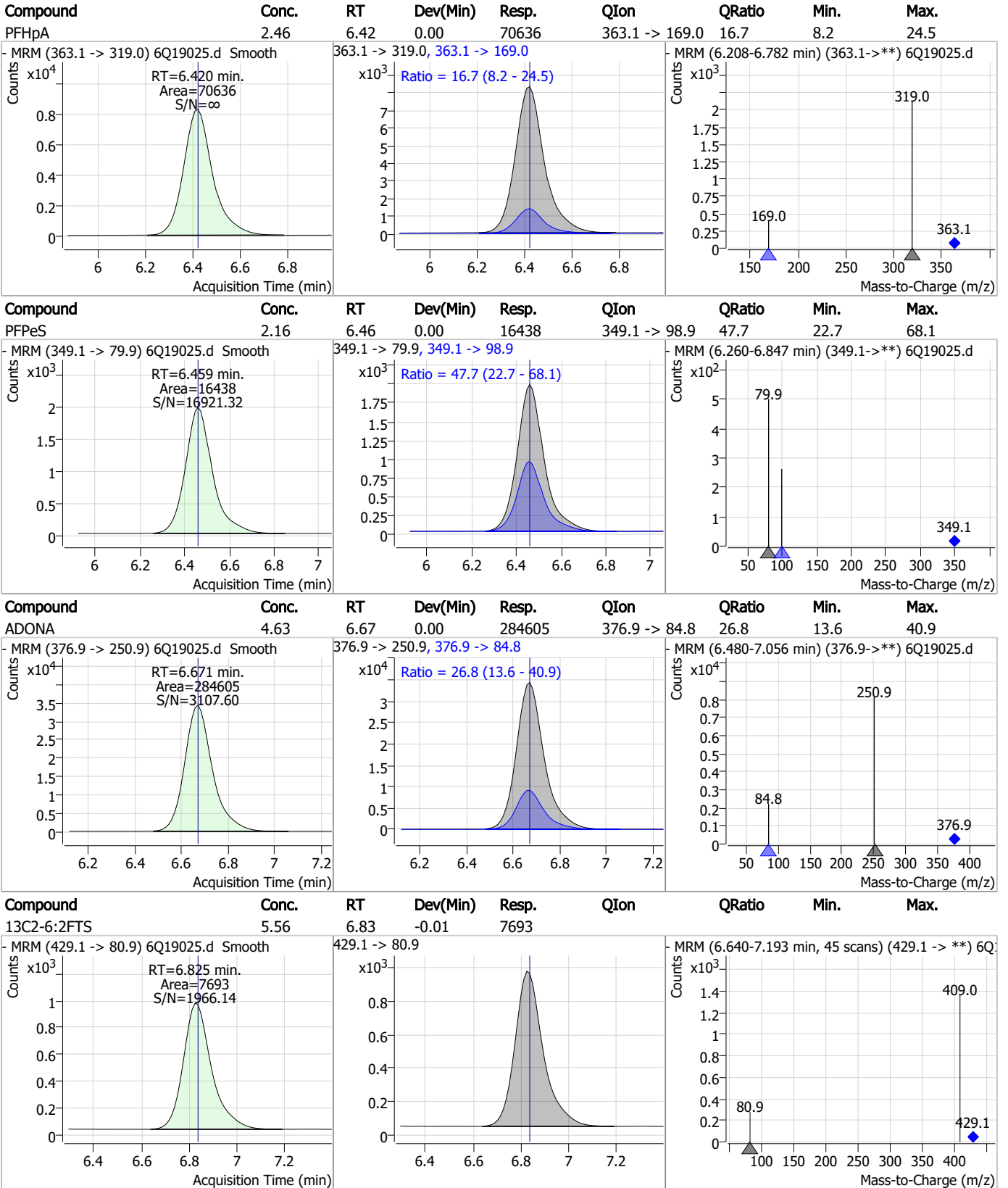
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Perfluorinated Compounds by LC/MS/MS



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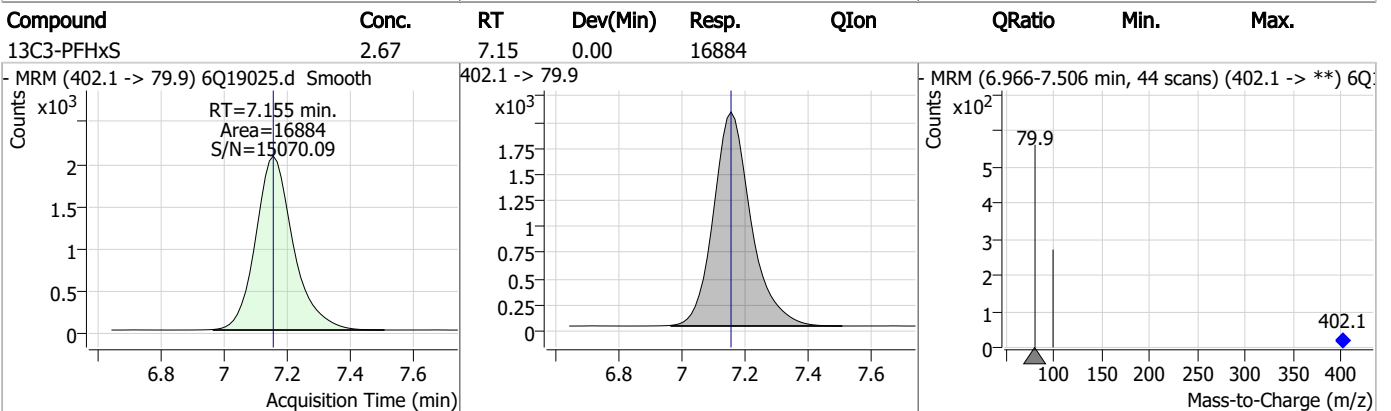
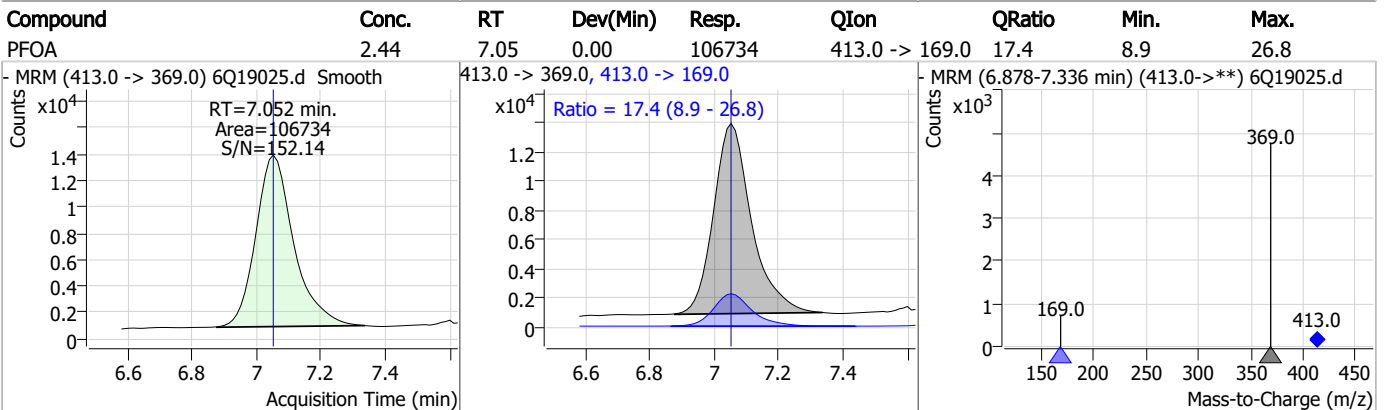
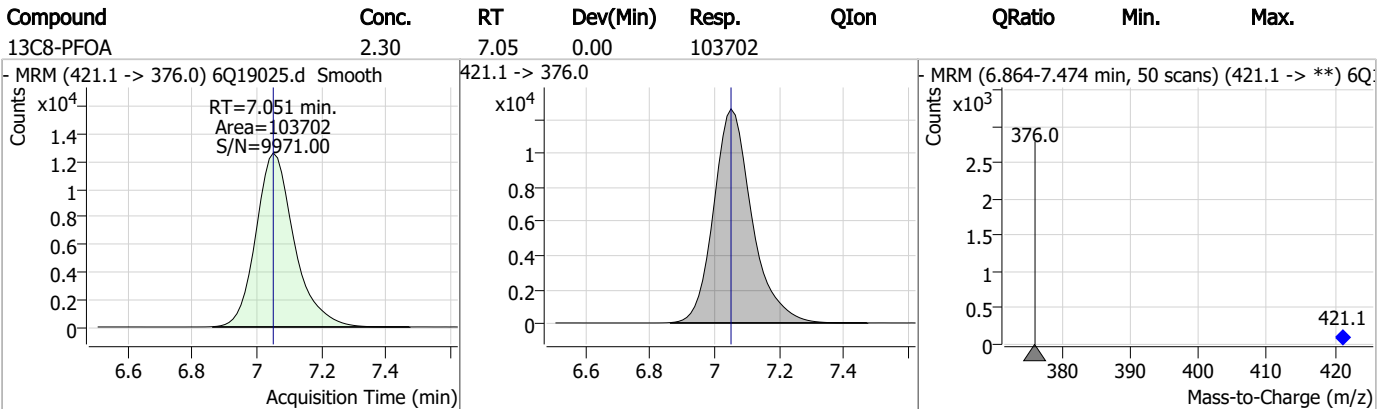
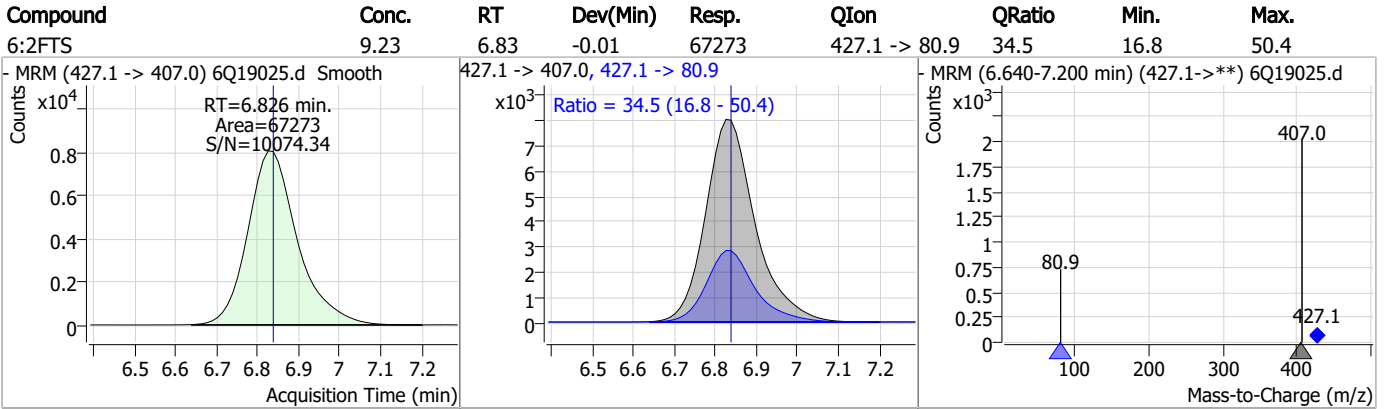
Perfluorinated Compounds by LC/MS/MS



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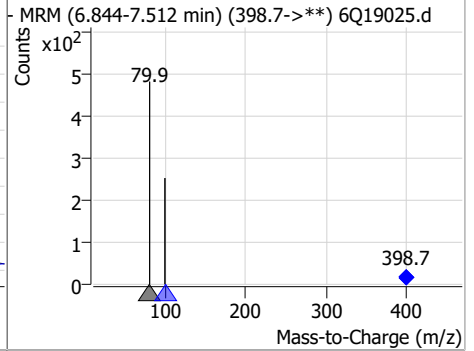
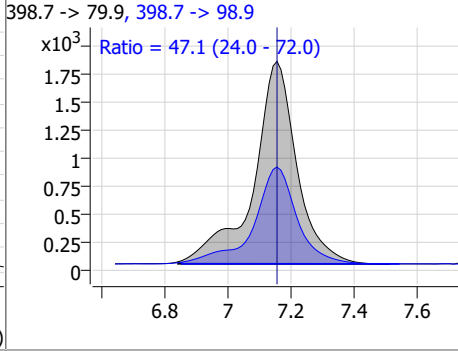
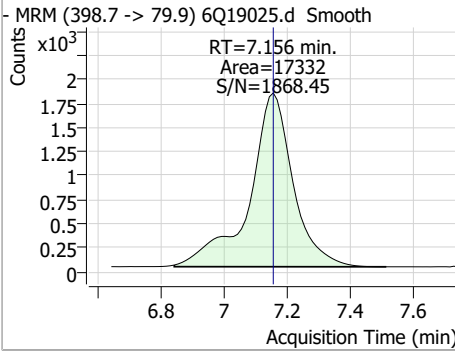


Perfluorinated Compounds by LC/MS/MS

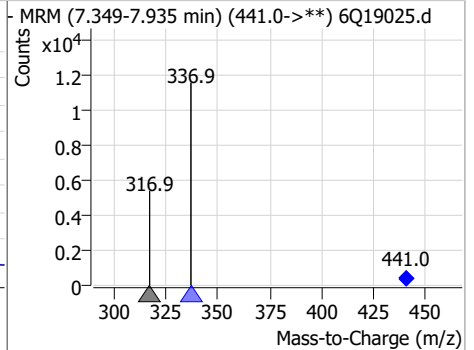
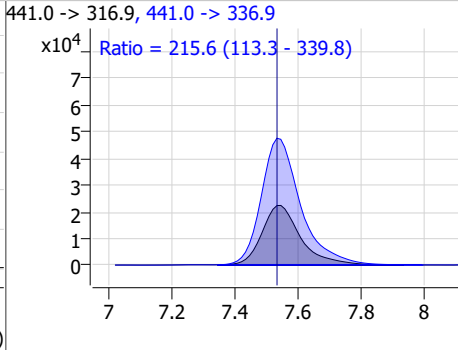
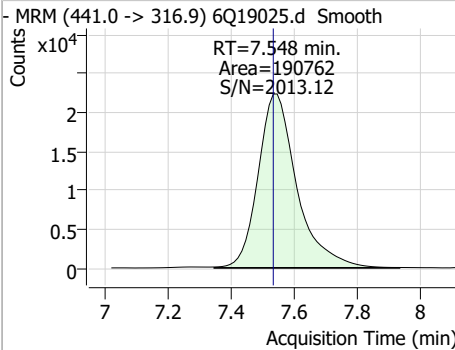


Perfluorinated Compounds by LC/MS/MS

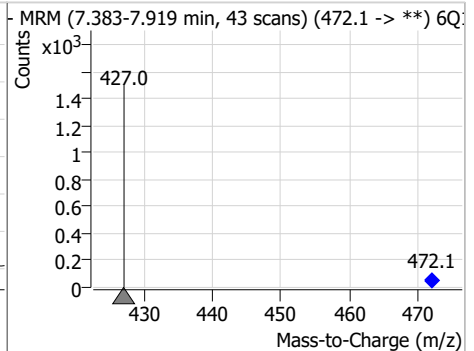
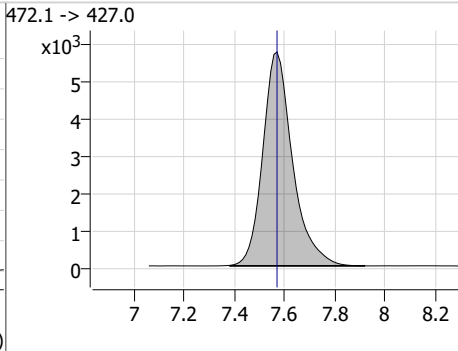
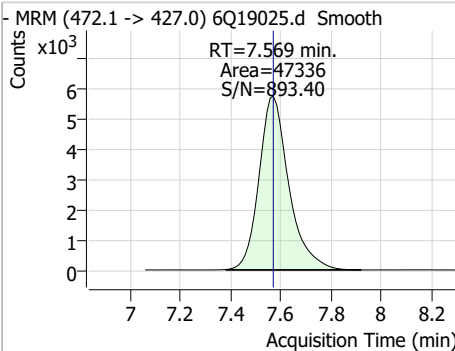
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.19	7.16	0.00	17332	398.7 -> 98.9	47.1	24.0	72.0



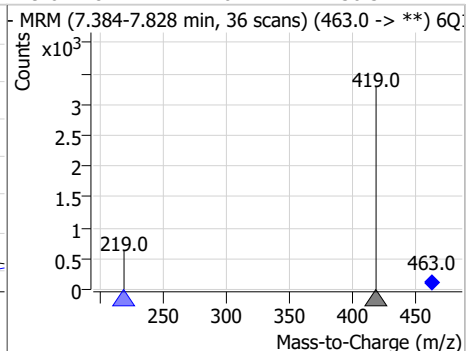
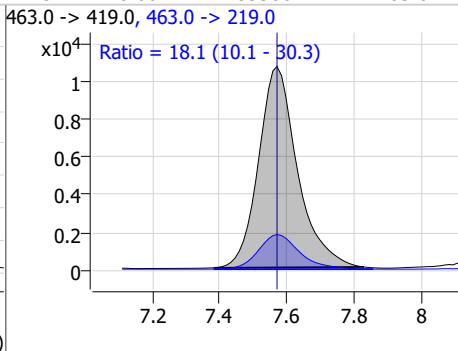
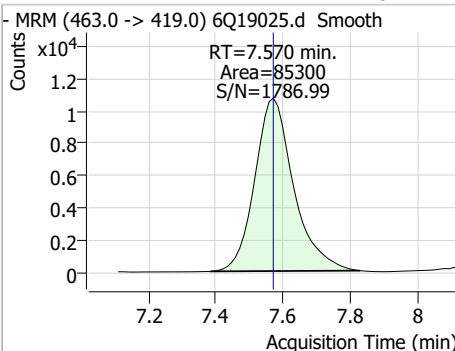
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	60.63	7.55	0.01	190762	441.0 -> 336.9	215.6	113.3	339.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.25	7.57	0.00	47336	472.1 -> 427.0			



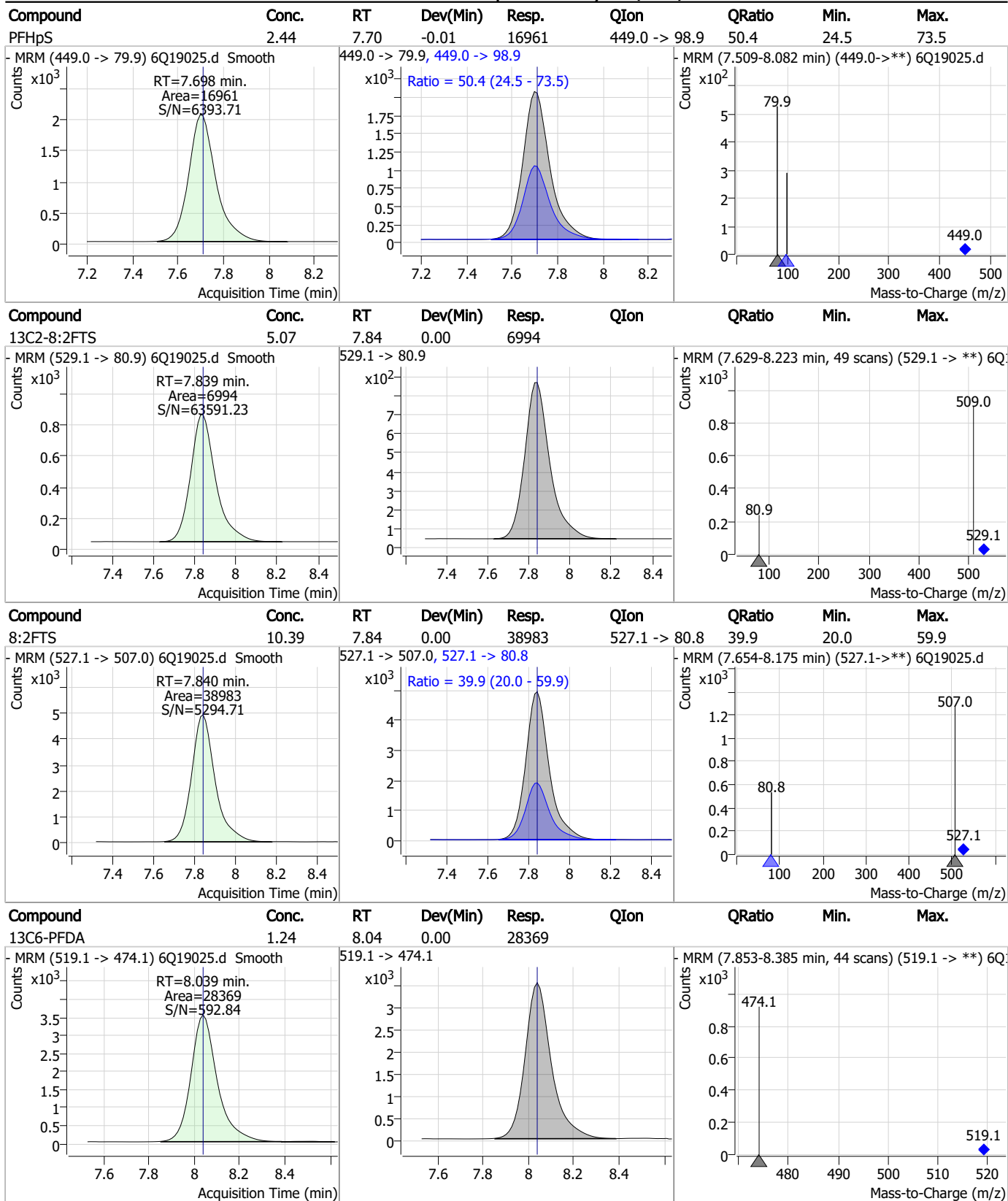
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.54	7.57	0.00	85300	463.0 -> 219.0	18.1	10.1	30.3



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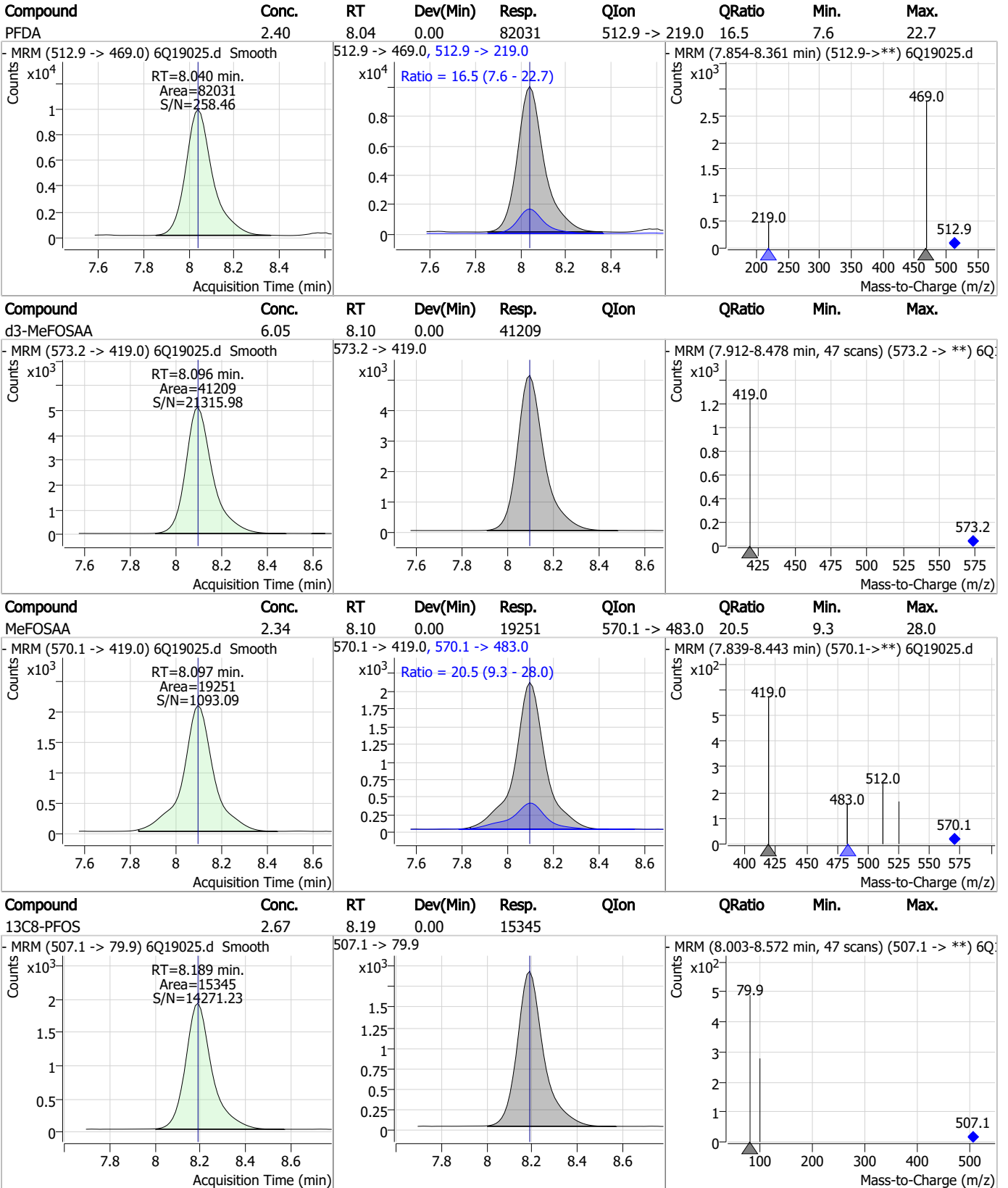


Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

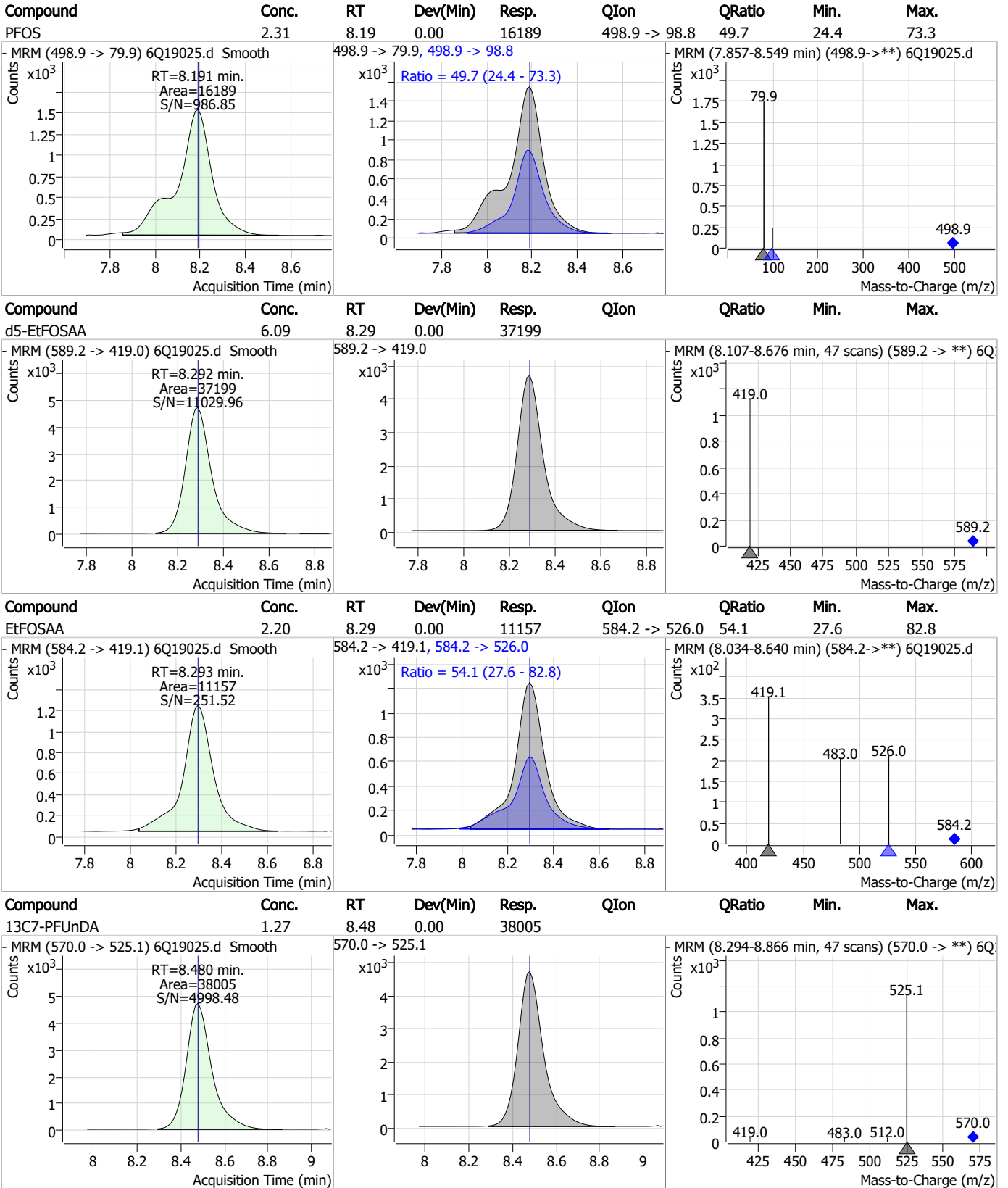


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Perfluorinated Compounds by LC/MS/MS



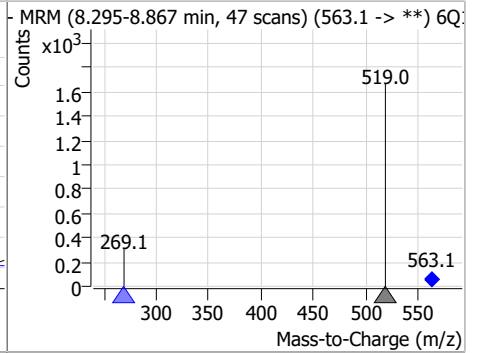
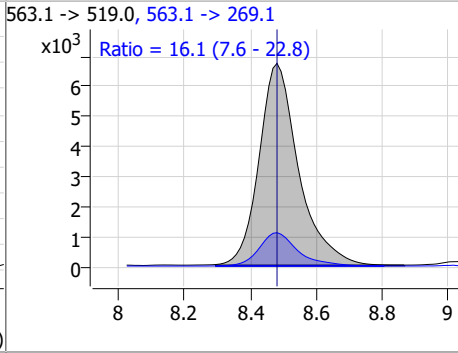
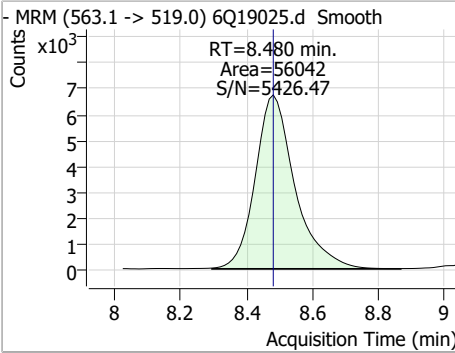
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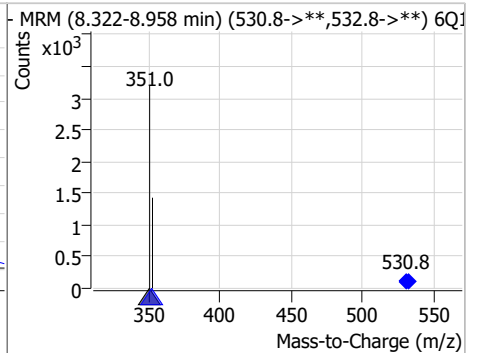
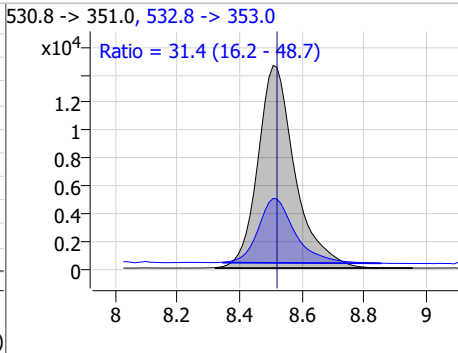
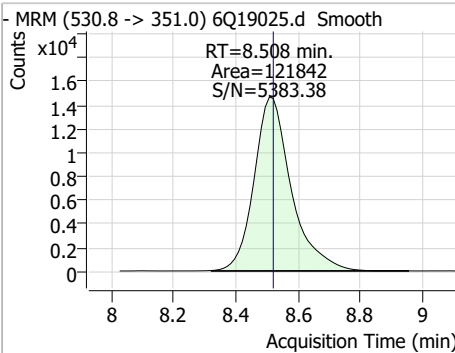


Perfluorinated Compounds by LC/MS/MS

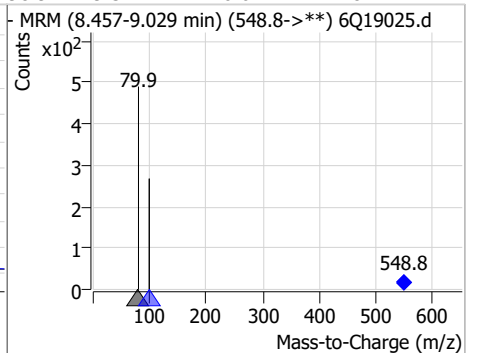
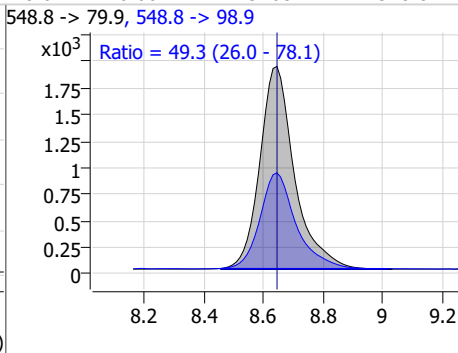
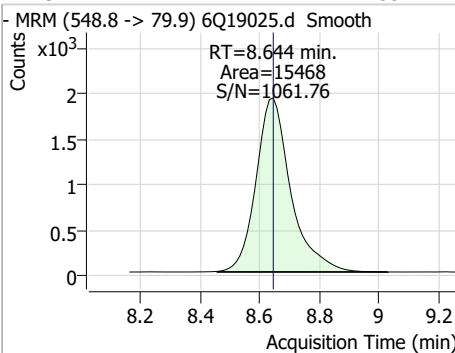
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFUnDA	2.38	8.48	0.00	56042	563.1 -> 269.1	16.1	7.6	22.8



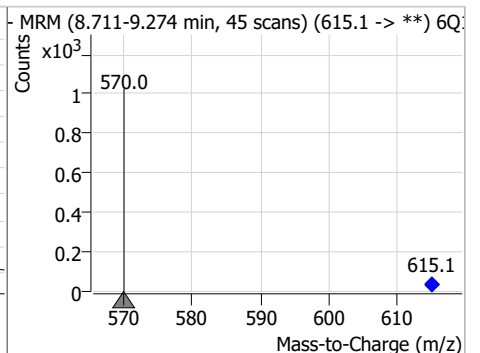
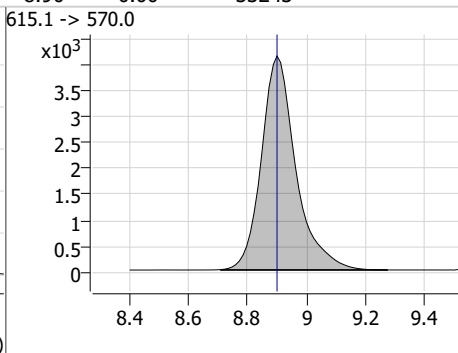
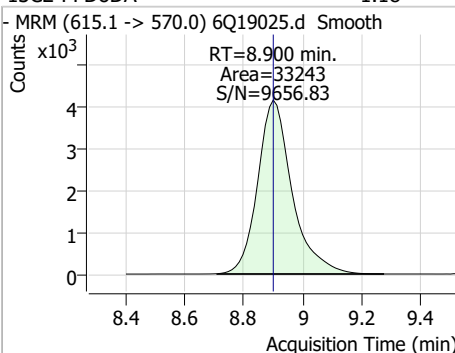
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
9CI-PF3ONS	4.49	8.51	-0.01	121842	532.8 -> 353.0	31.4	16.2	48.7



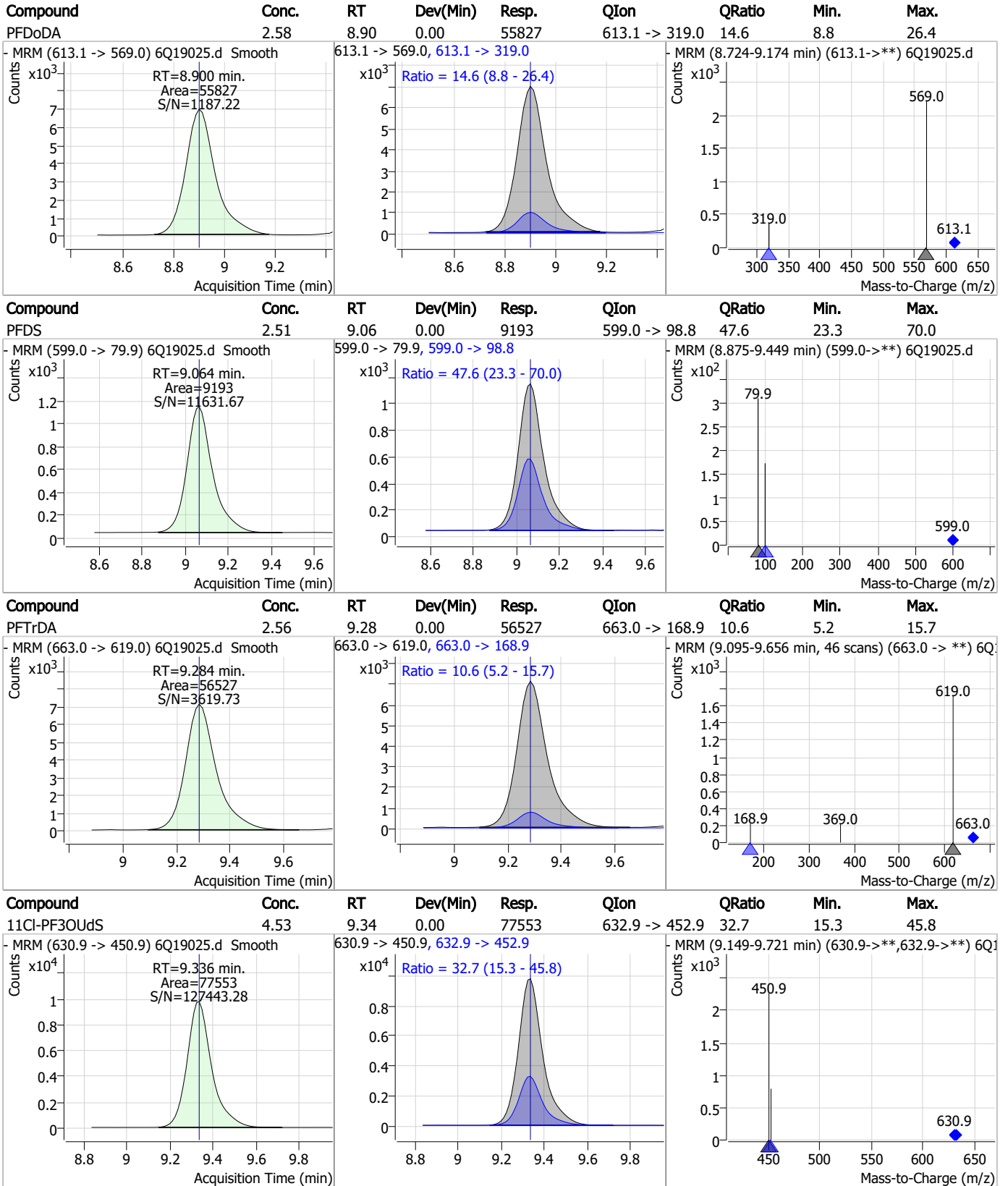
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNS	2.53	8.64	0.00	15468	548.8 -> 98.9	49.3	26.0	78.1



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C2-PFDoDA	1.18	8.90	0.00	33243	615.1 -> 570.0			



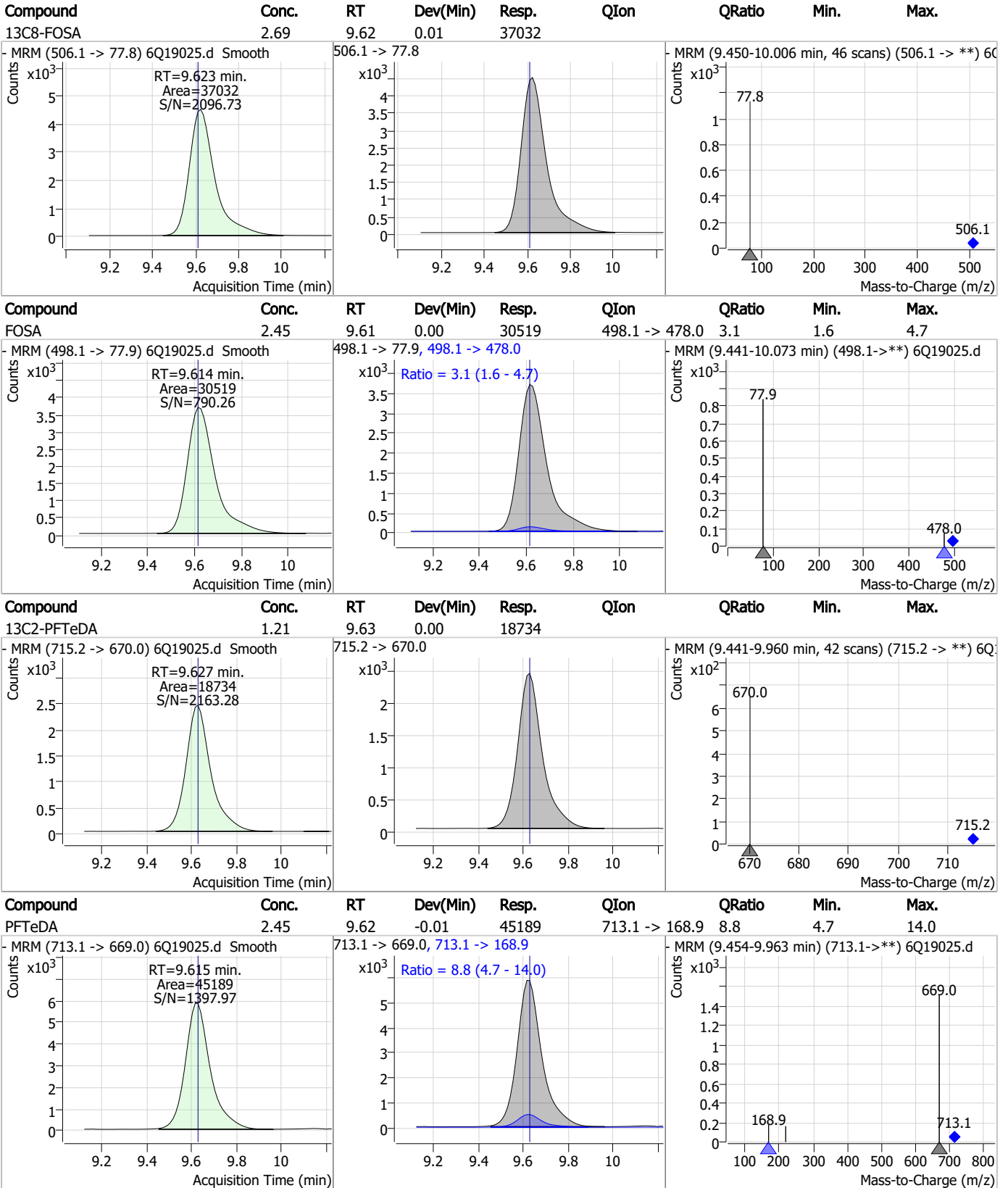
Perfluorinated Compounds by LC/MS/MS



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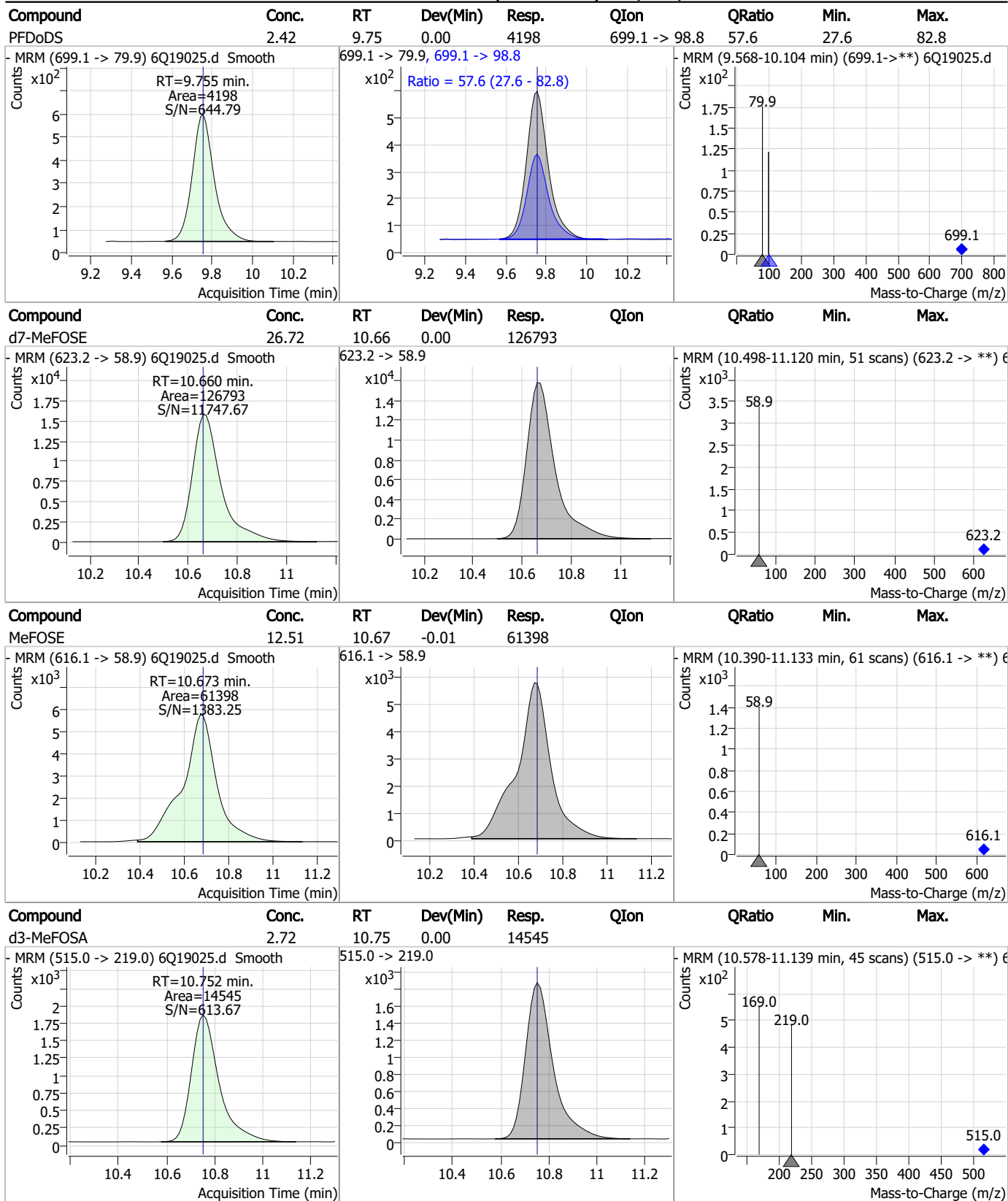
Perfluorinated Compounds by LC/MS/MS



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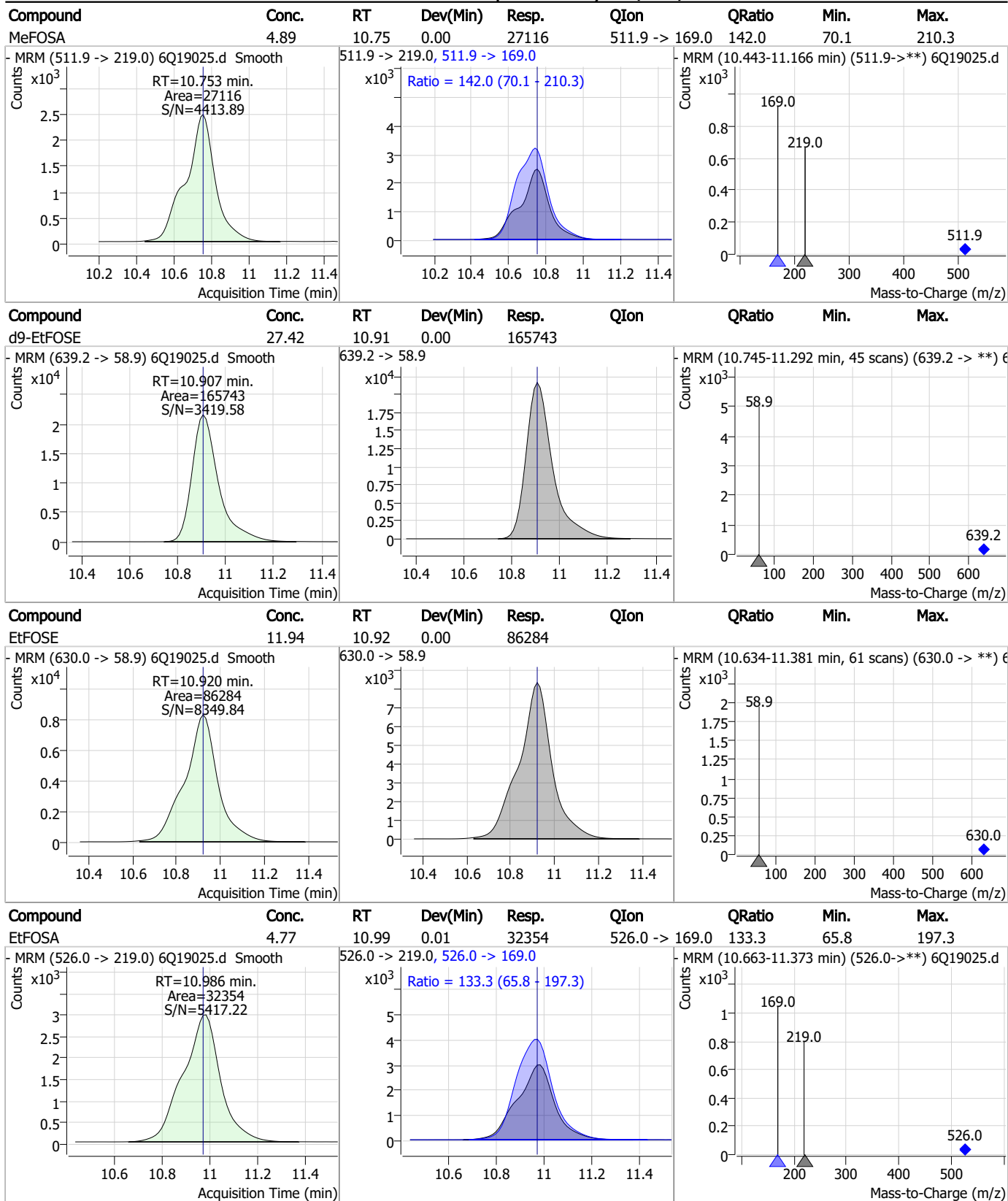


Perfluorinated Compounds by LC/MS/MS



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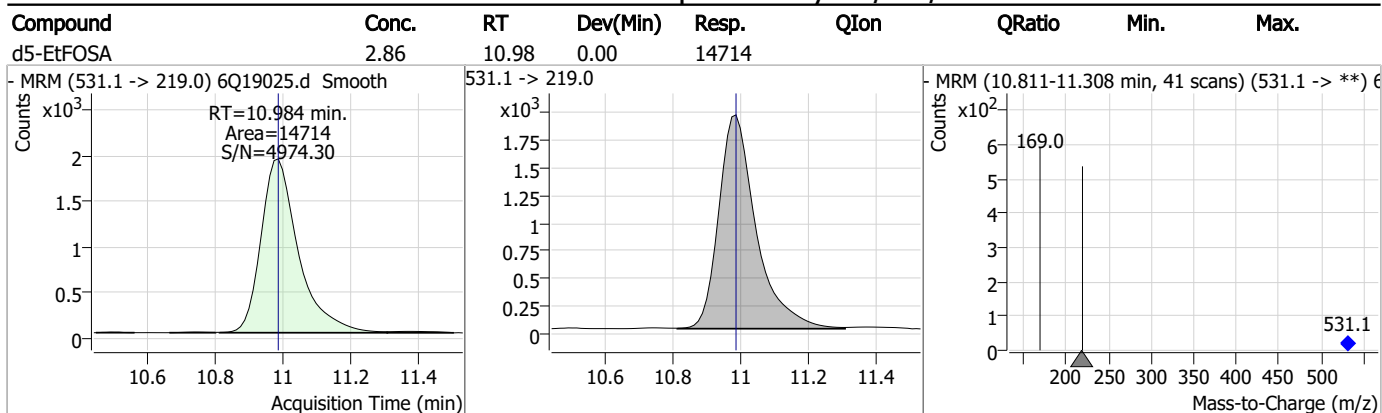
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

Data File : 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	314.8 -> 134.9	10065	0.39 µg/L	100
PFMPA	3.401	314.8 -> 82.9	376	0.40 µg/L	100
PFEESA	5.926			0.34 µg/L	100

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

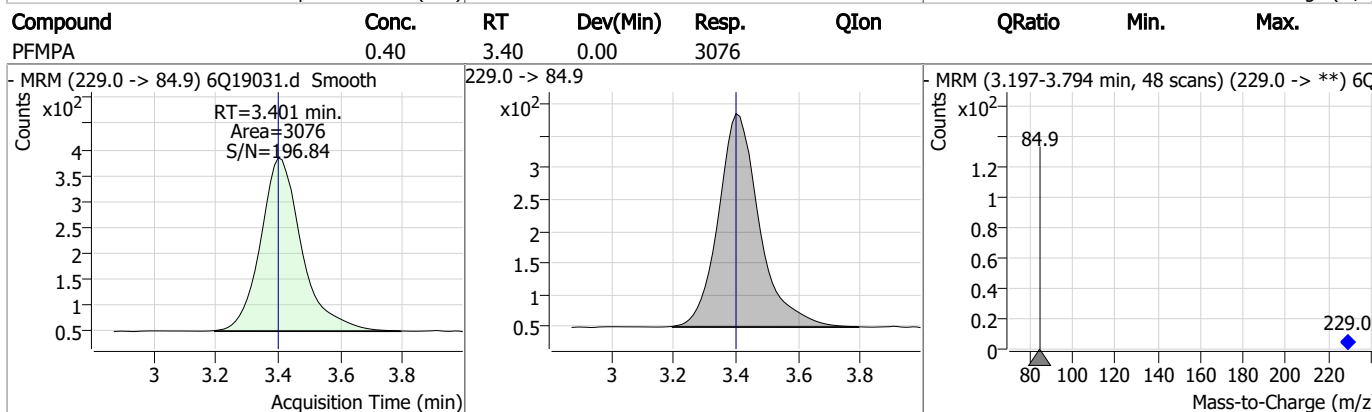
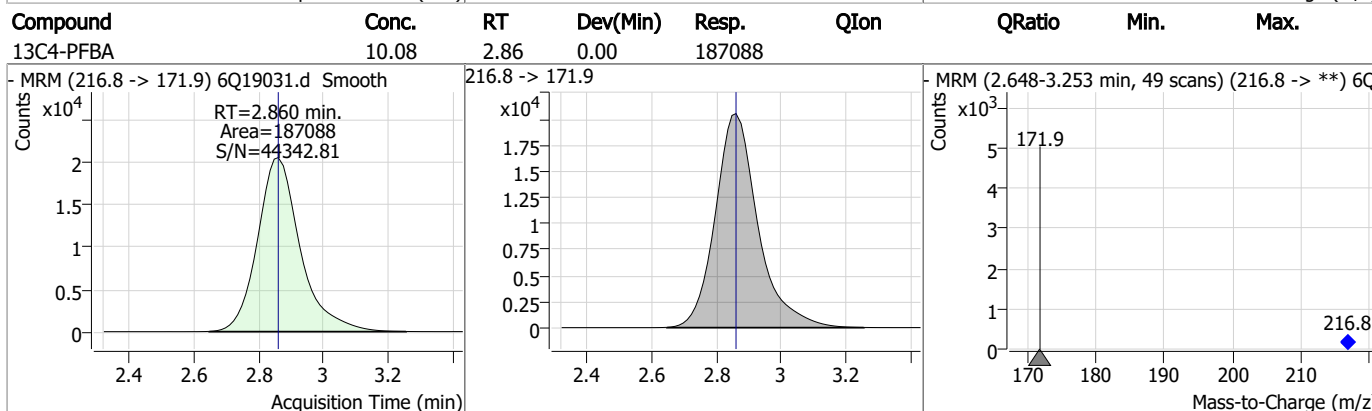
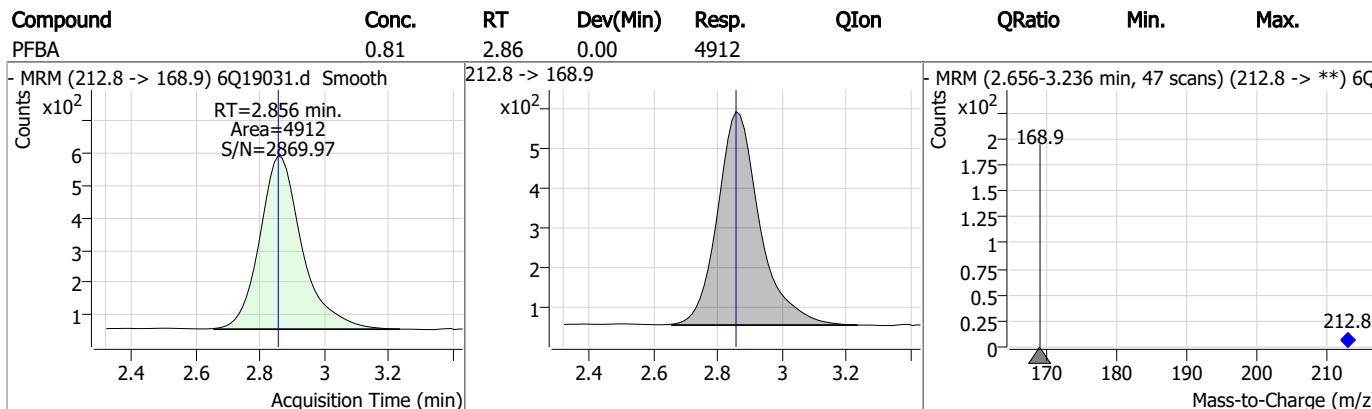
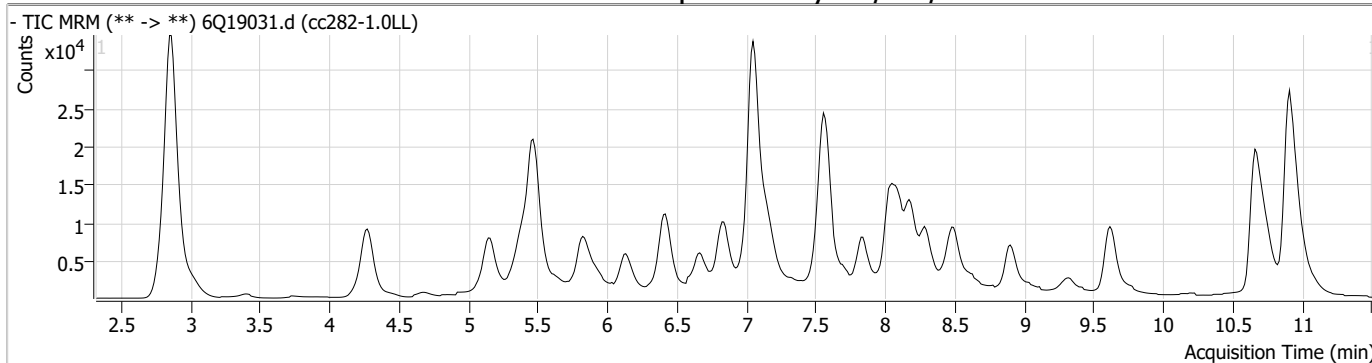
Perfluorinated Compounds by LC/MS/MS

Compound	RT	Transition	Response	Conc. Units	Dev(Min)
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7.7.17
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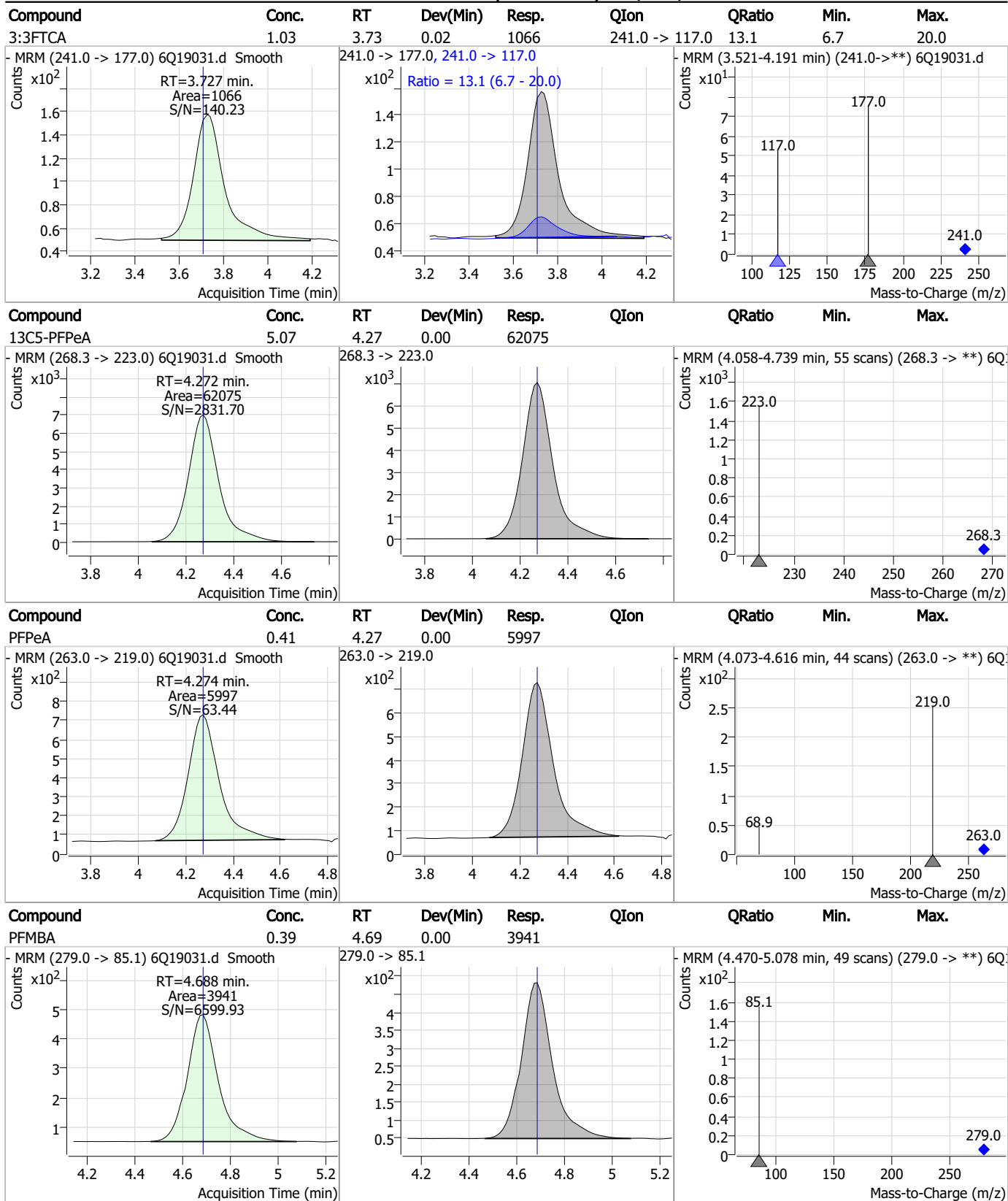


Perfluorinated Compounds by LC/MS/MS



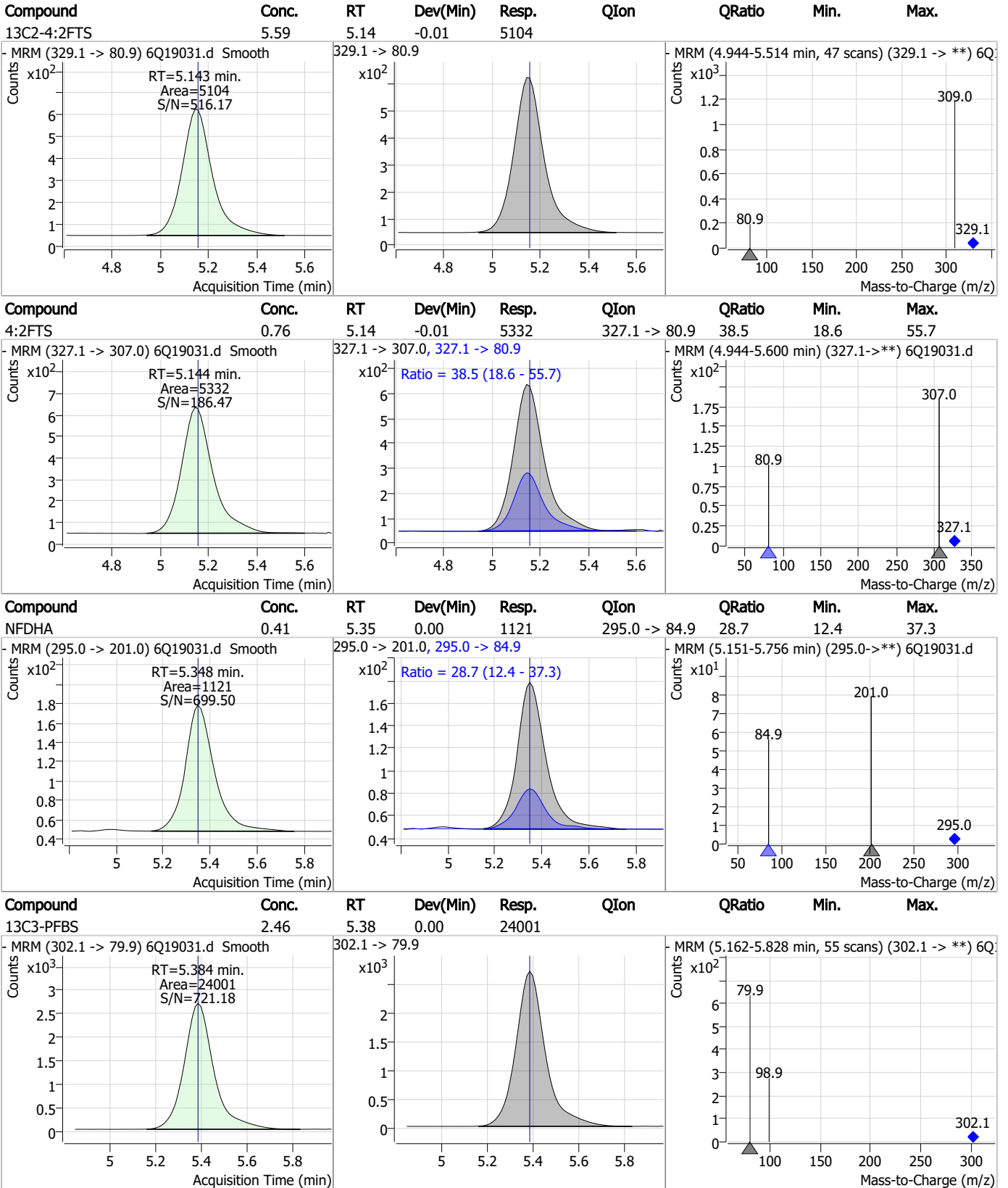
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Perfluorinated Compounds by LC/MS/MS



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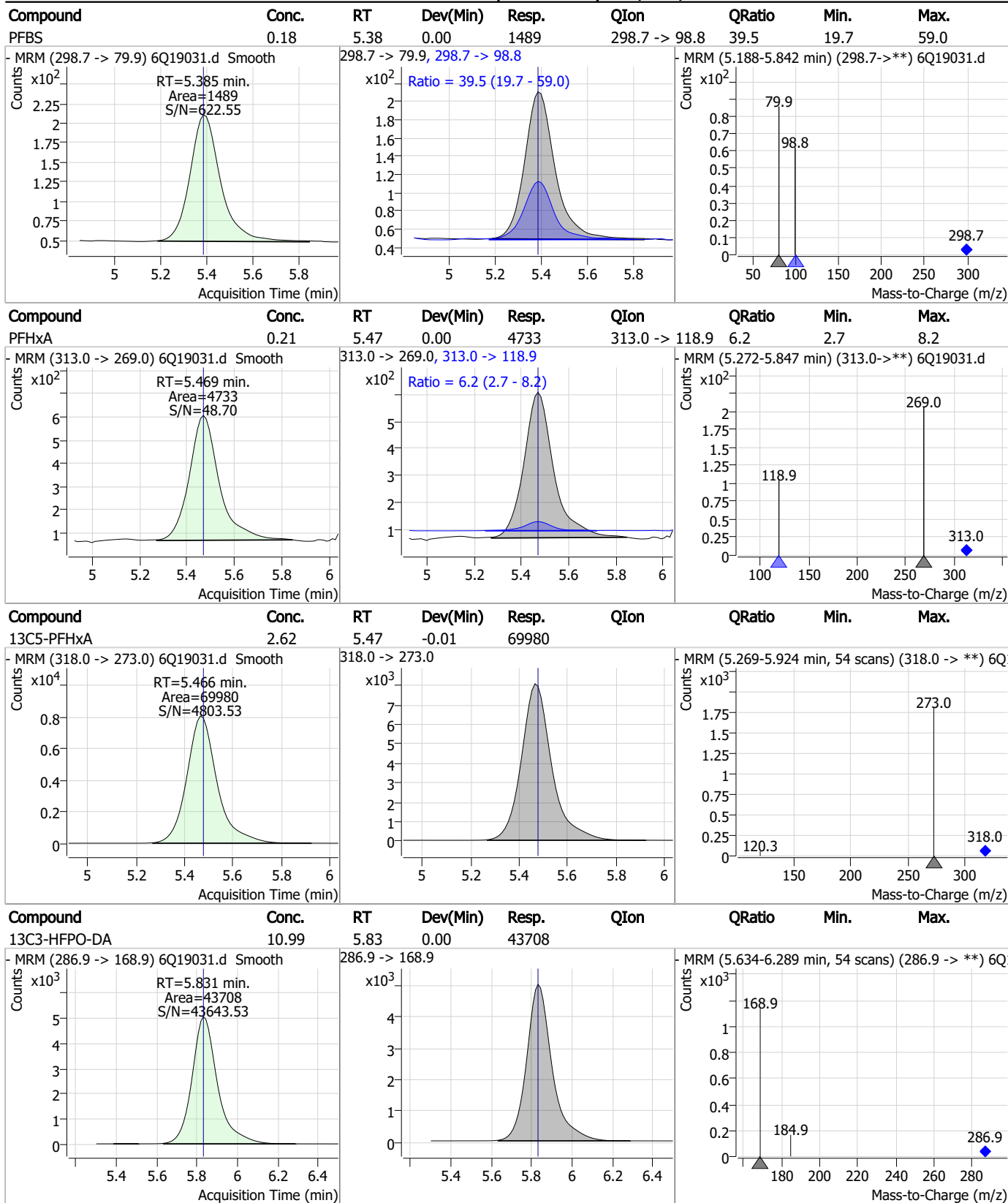
Perfluorinated Compounds by LC/MS/MS



7.7.17



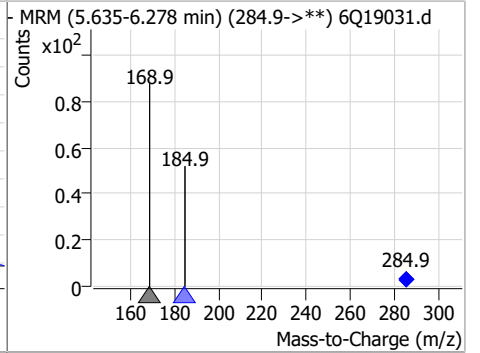
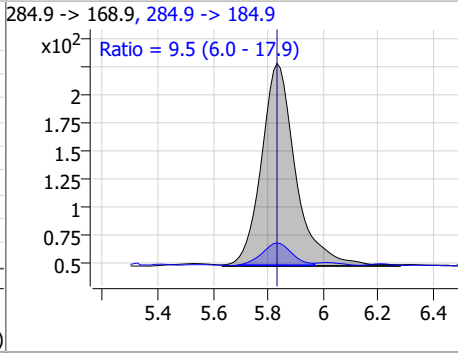
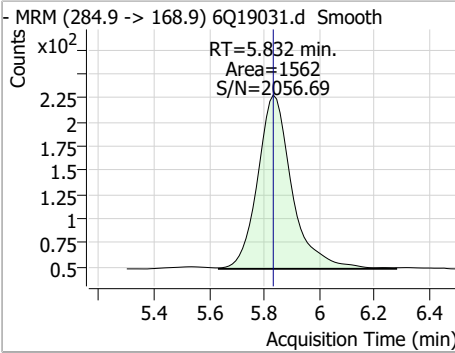
Perfluorinated Compounds by LC/MS/MS



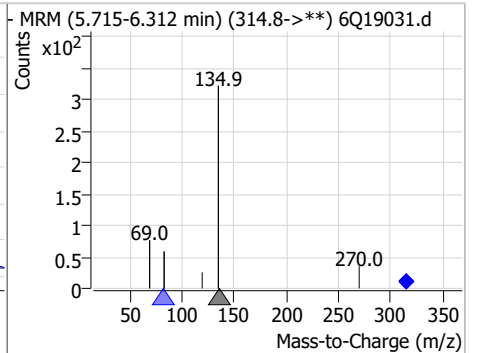
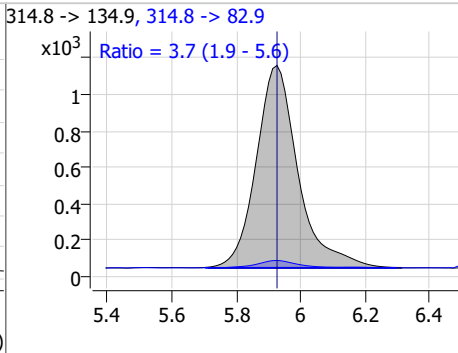
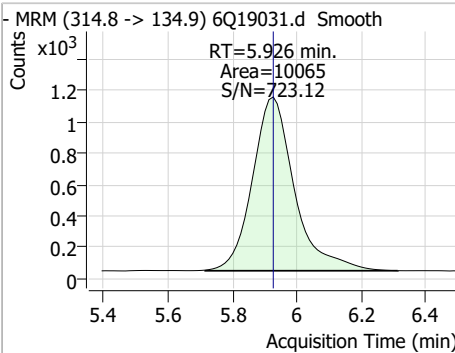
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Perfluorinated Compounds by LC/MS/MS

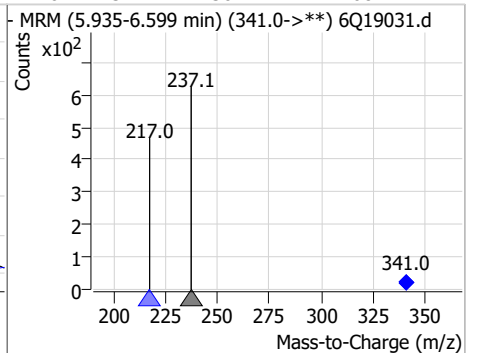
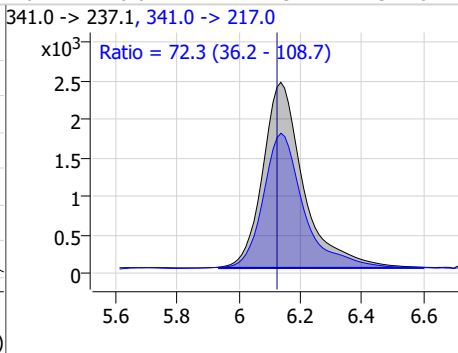
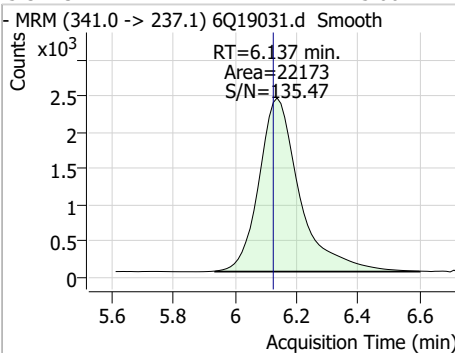
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	0.43	5.83	0.00	1562	284.9 -> 184.9	9.5	6.0	17.9



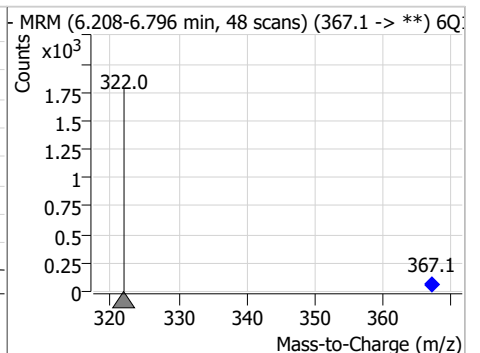
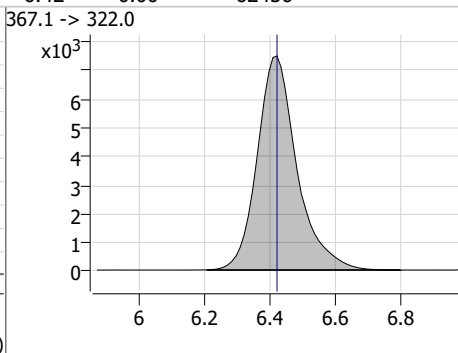
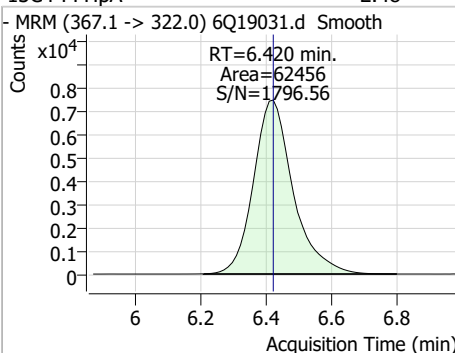
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	0.34	5.93	0.00	10065	314.8 -> 82.9	3.7	1.9	5.6



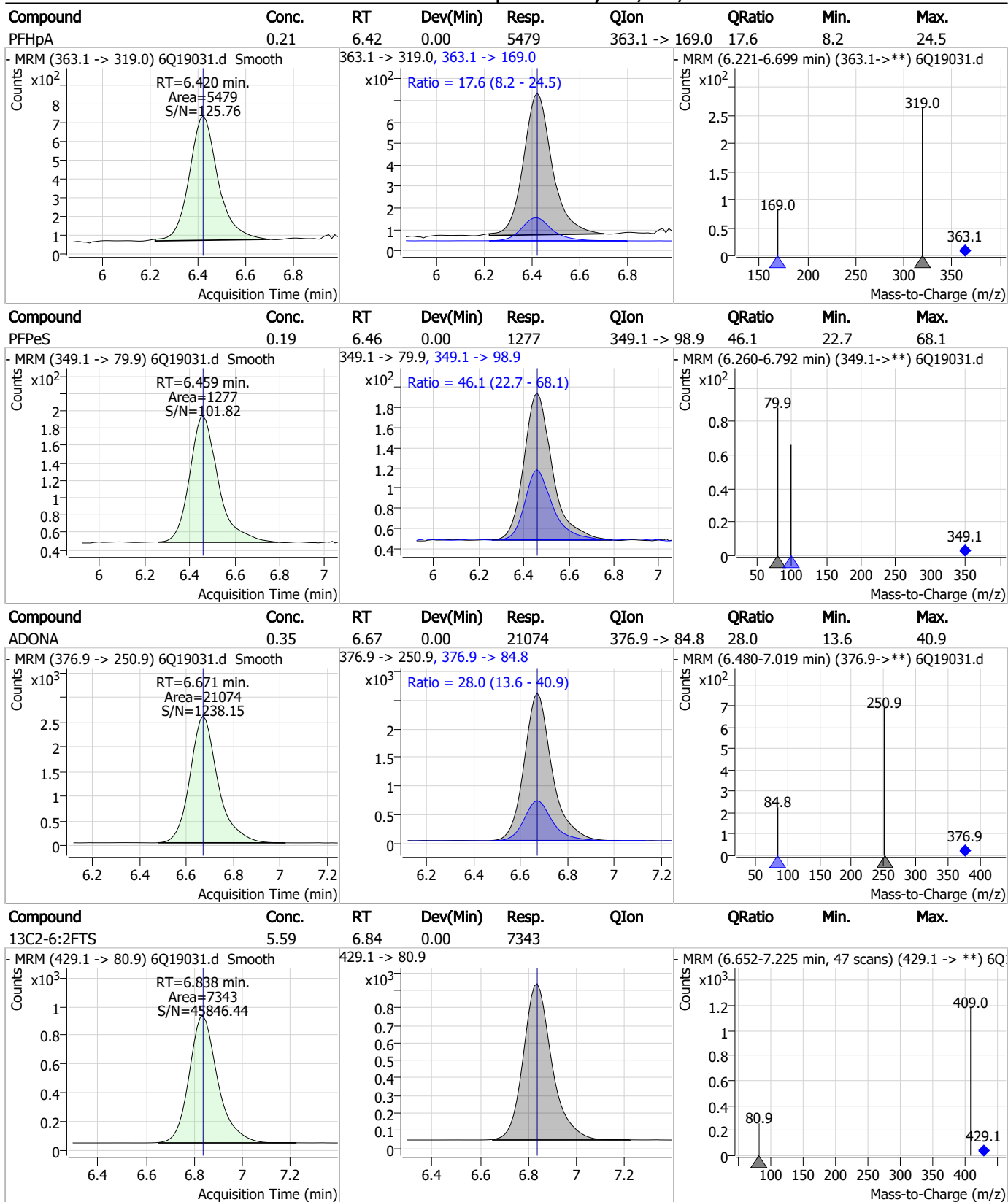
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
5:3FTCA	5.00	6.14	0.01	22173	341.0 -> 217.0	72.3	36.2	108.7



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpA	2.48	6.42	0.00	62456	367.1 -> 322.0			

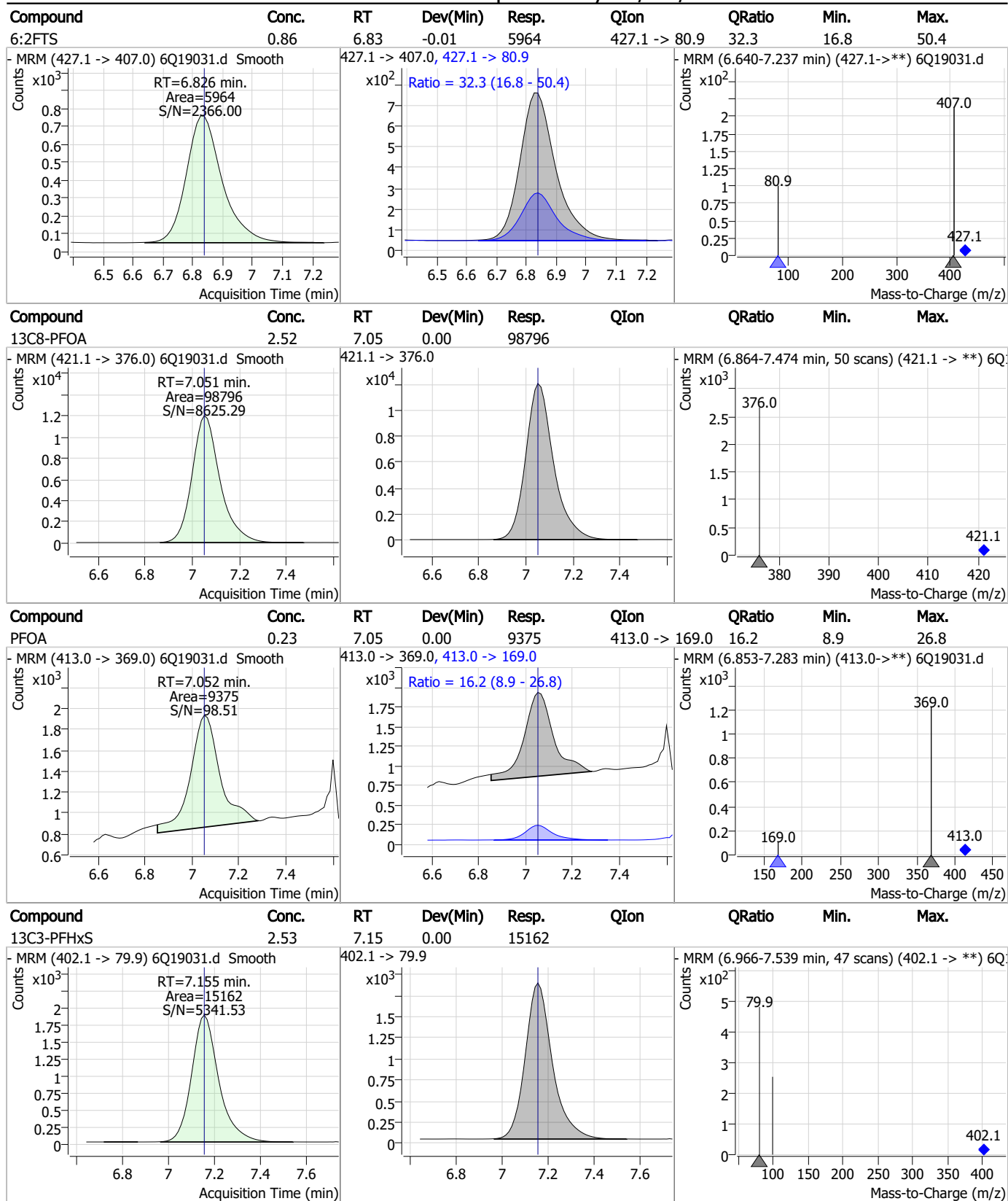


Perfluorinated Compounds by LC/MS/MS



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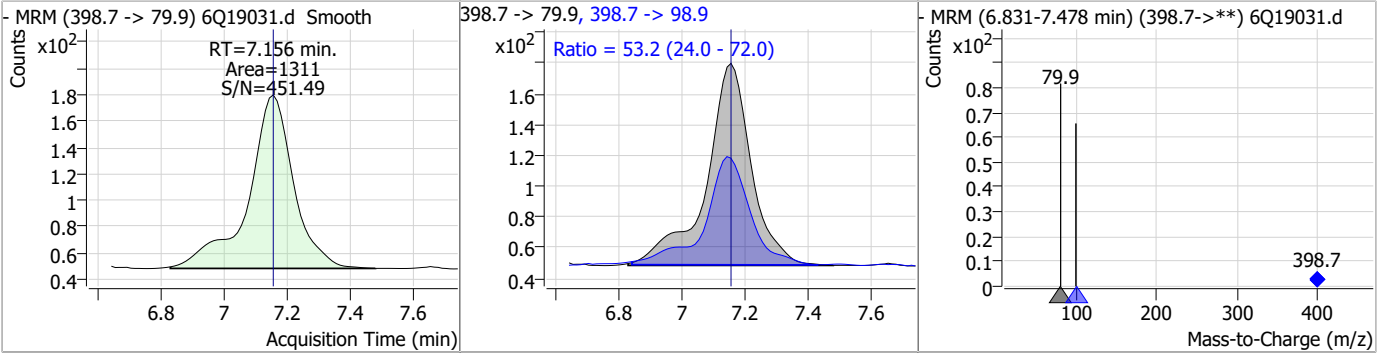
Perfluorinated Compounds by LC/MS/MS



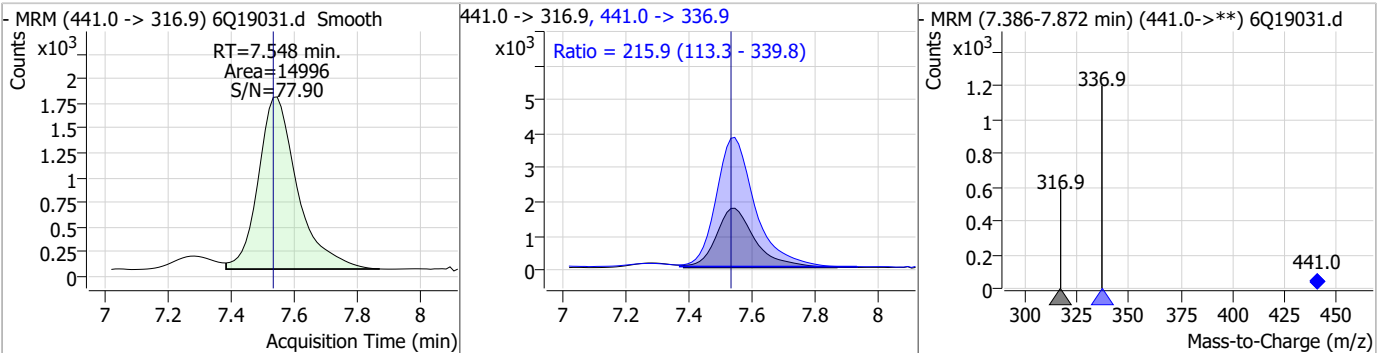
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Perfluorinated Compounds by LC/MS/MS

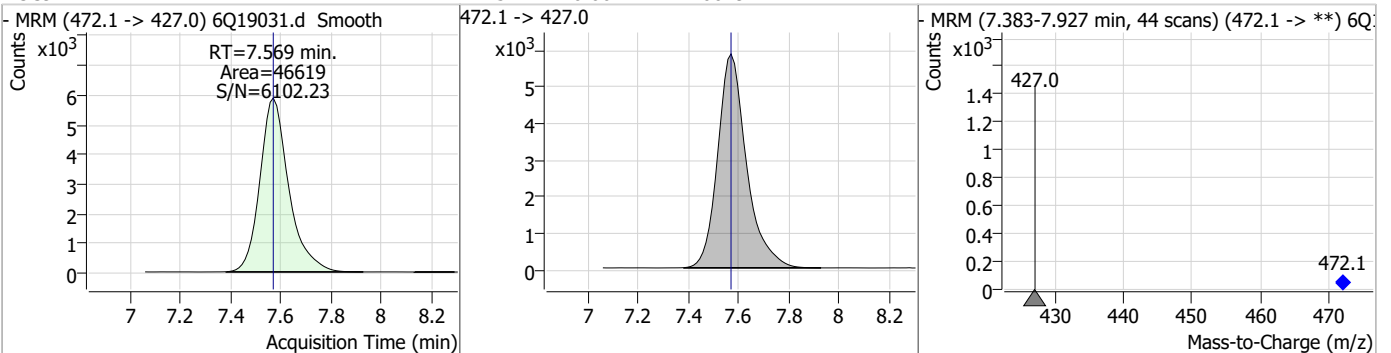
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	0.18	7.16	0.00	1311	398.7 -> 98.9	53.2	24.0	72.0



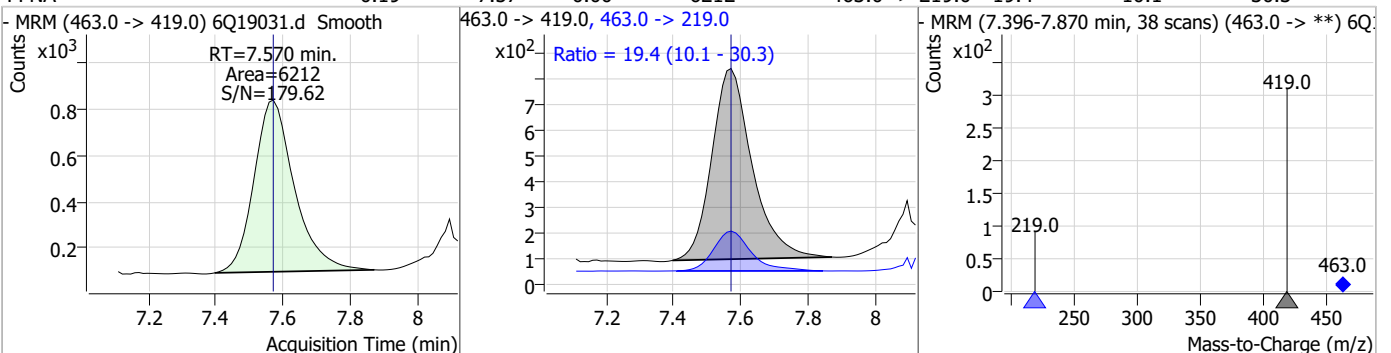
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	4.92	7.55	0.01	14996	441.0 -> 336.9	215.9	113.3	339.8



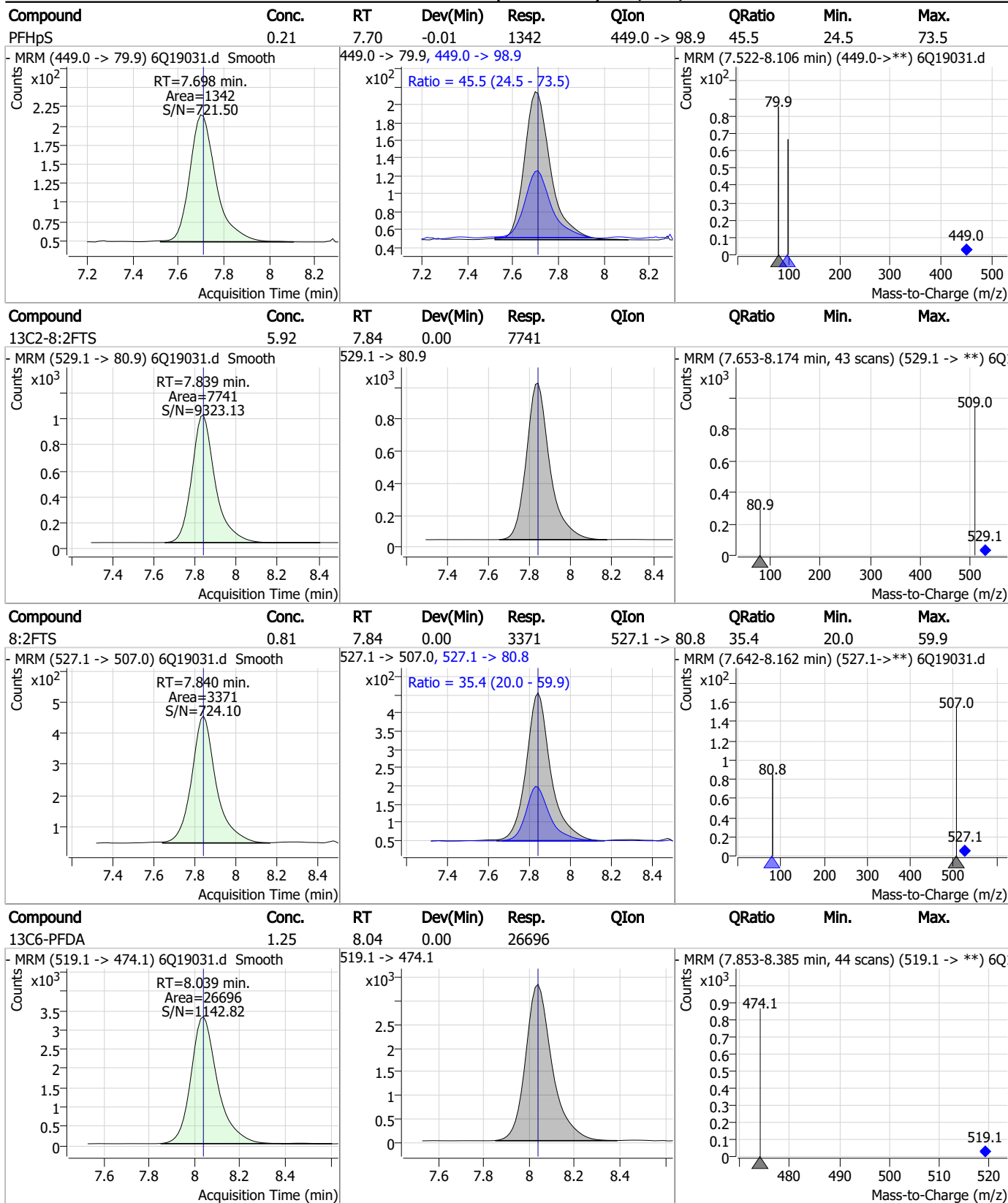
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.27	7.57	0.00	46619	472.1 -> 427.0			



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



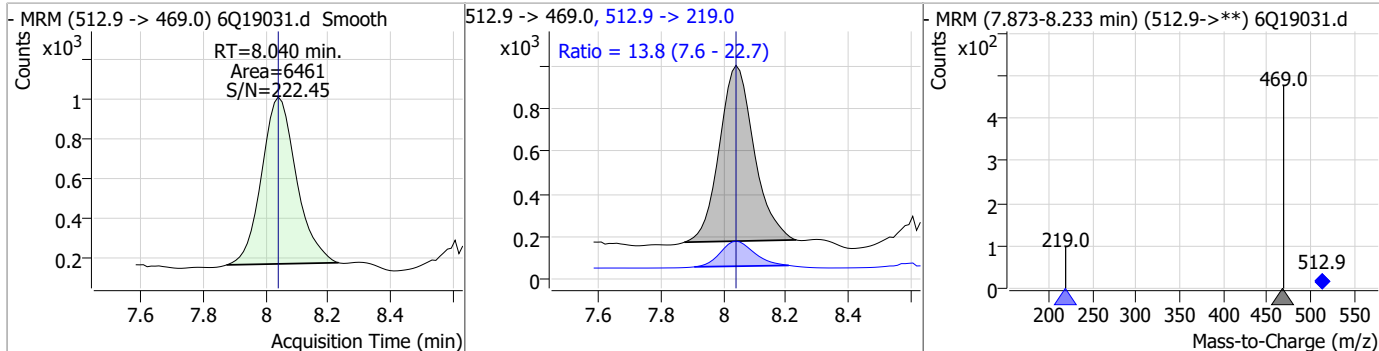
Perfluorinated Compounds by LC/MS/MS



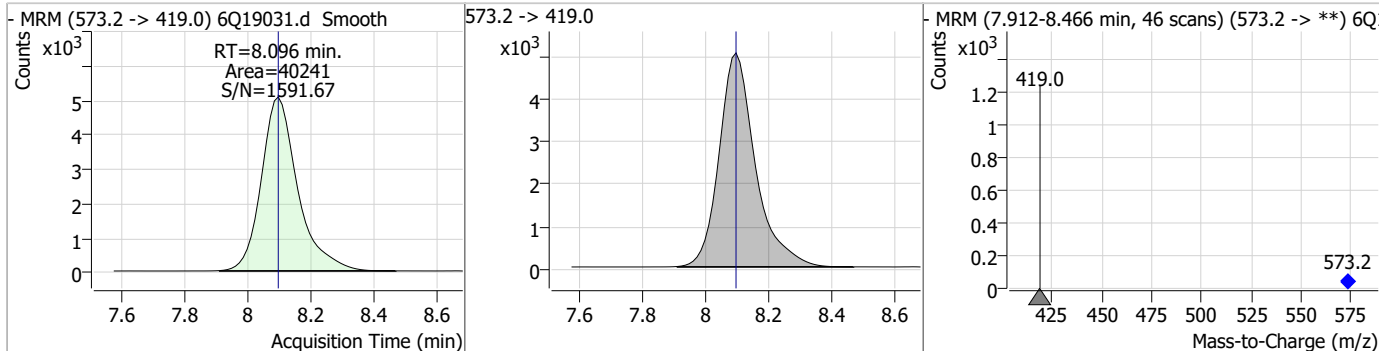
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Perfluorinated Compounds by LC/MS/MS

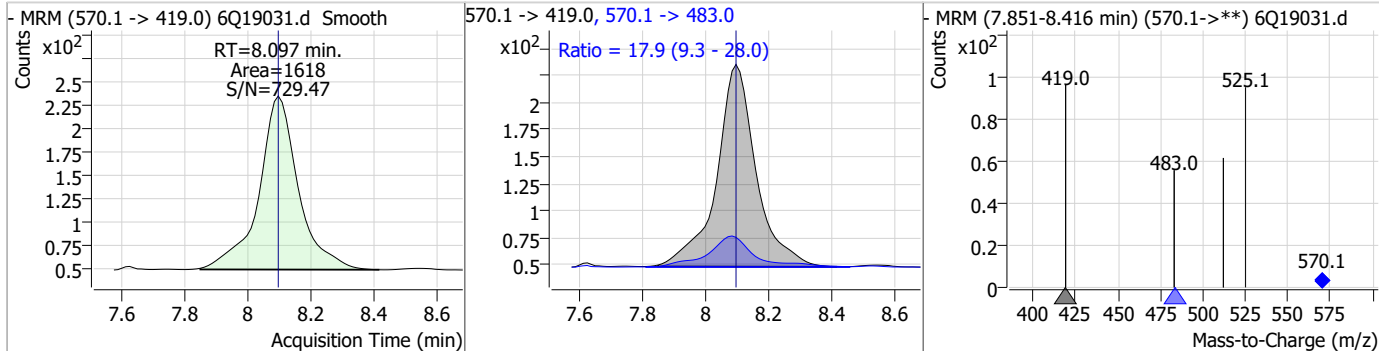
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDA	0.20	8.04	0.00	6461	512.9 -> 219.0	13.8	7.6	22.7



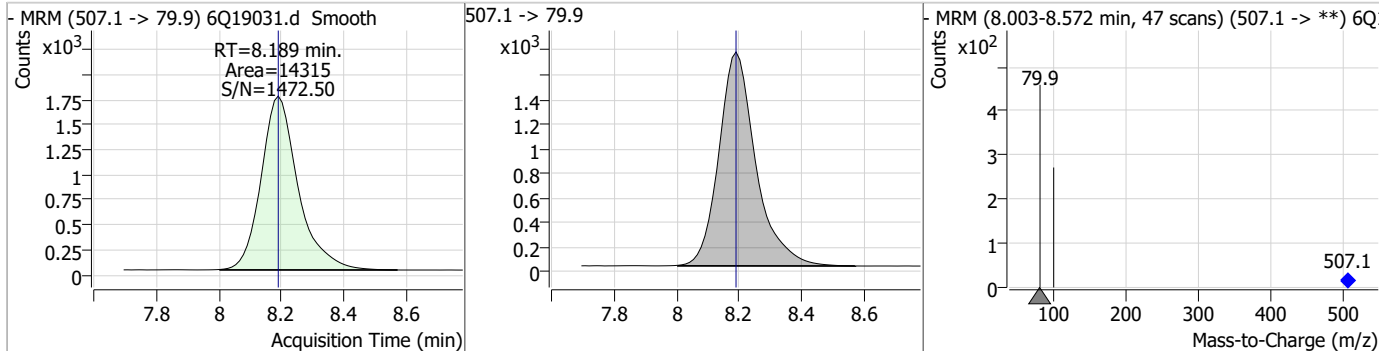
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSAA	6.08	8.10	0.00	40241				



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

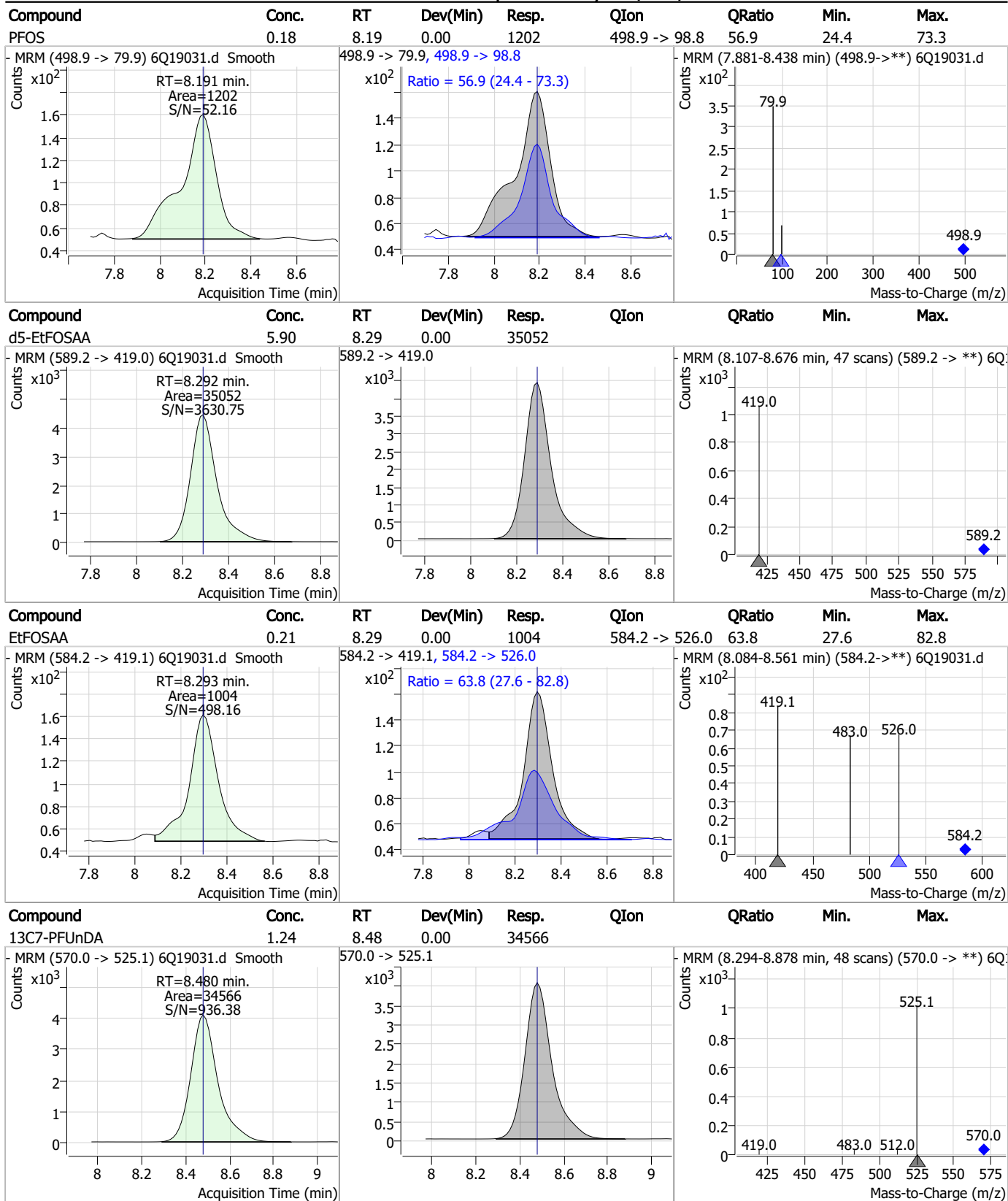


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C8-PFOS	2.57	8.19	0.00	14315				



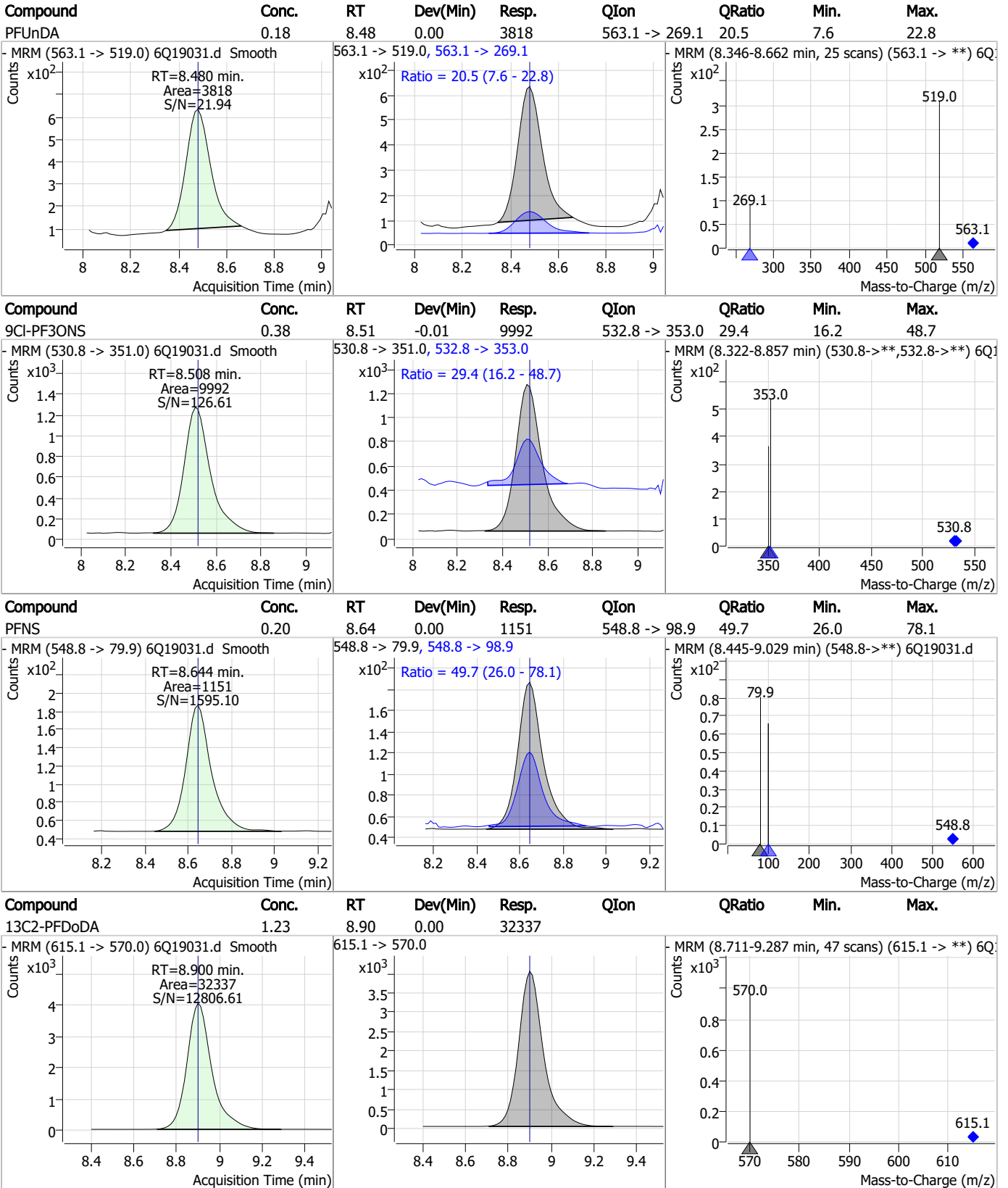
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Perfluorinated Compounds by LC/MS/MS



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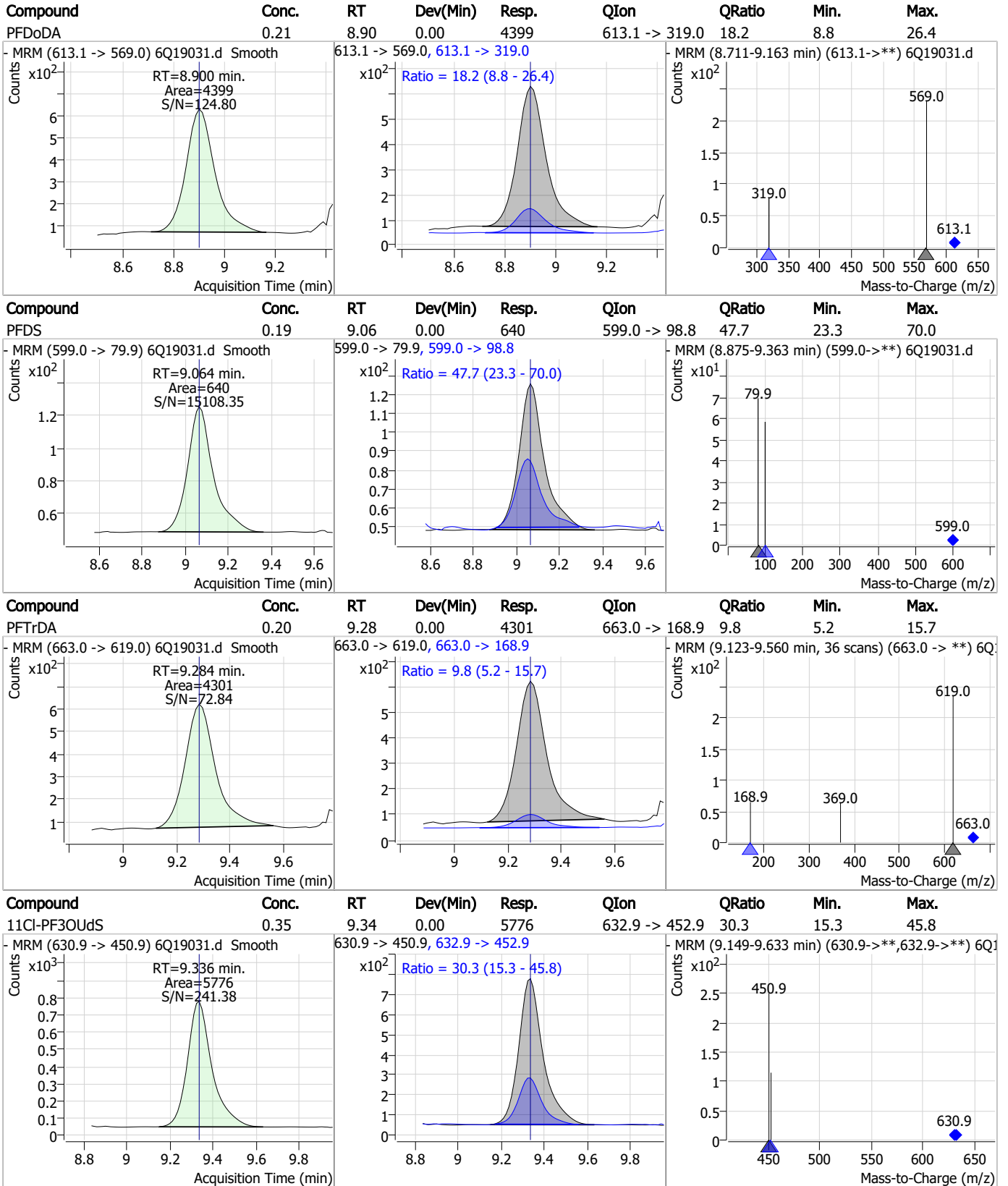
Perfluorinated Compounds by LC/MS/MS



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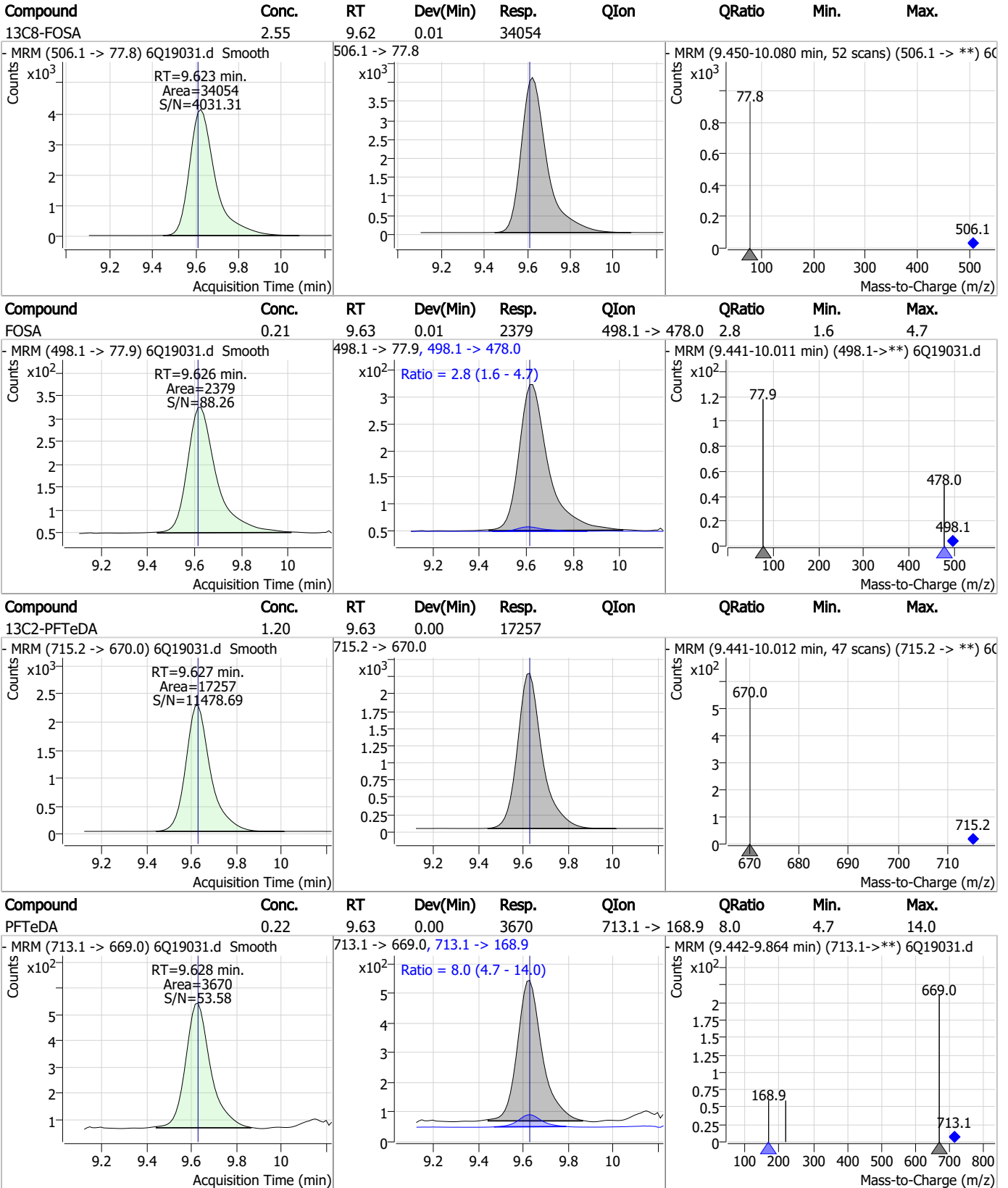
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS



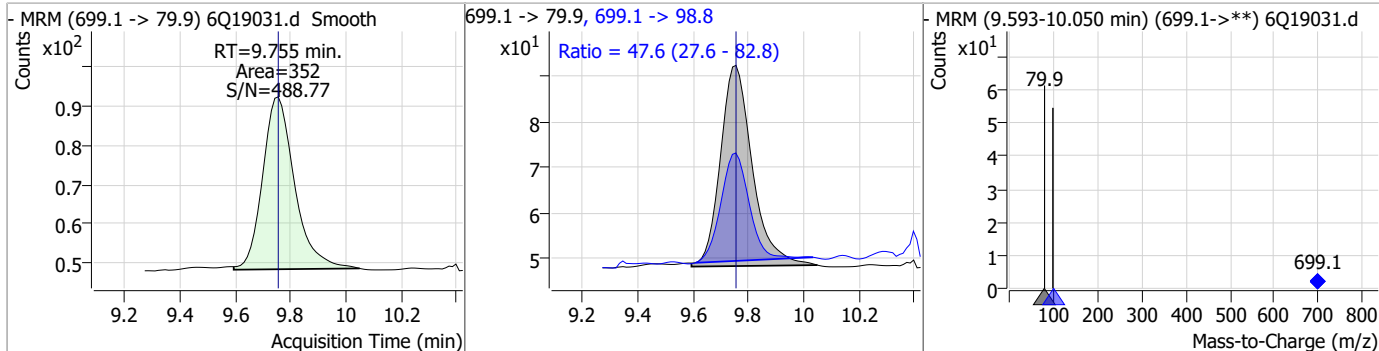
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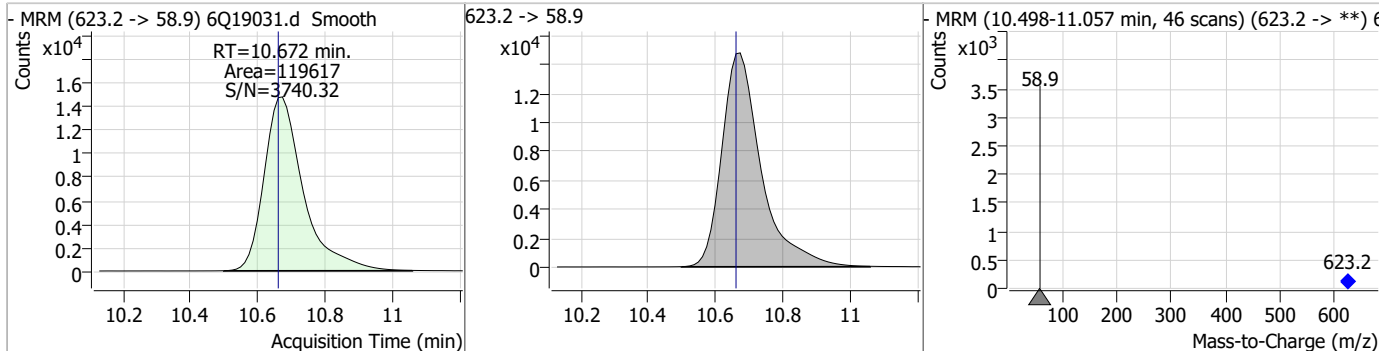


Perfluorinated Compounds by LC/MS/MS

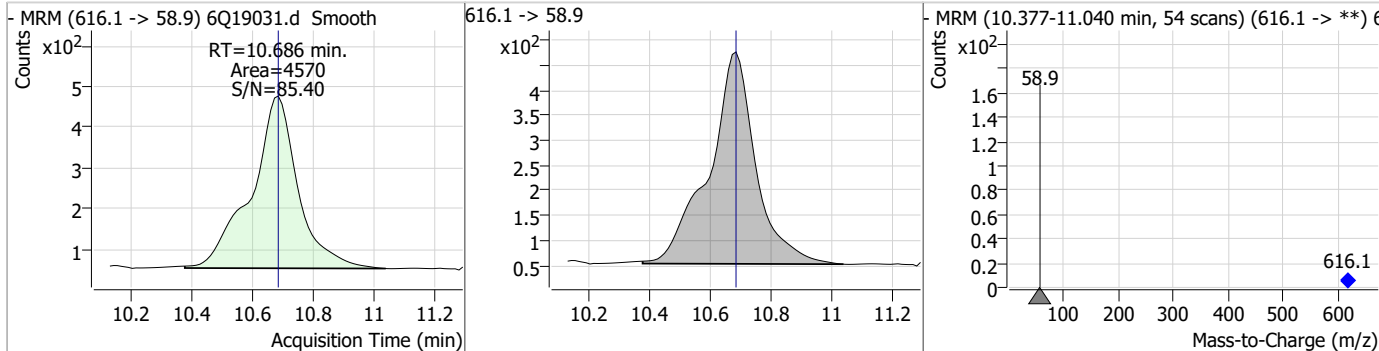
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFD _o DS	0.22	9.75	0.00	352	699.1 -> 98.8	47.6	27.6	82.8



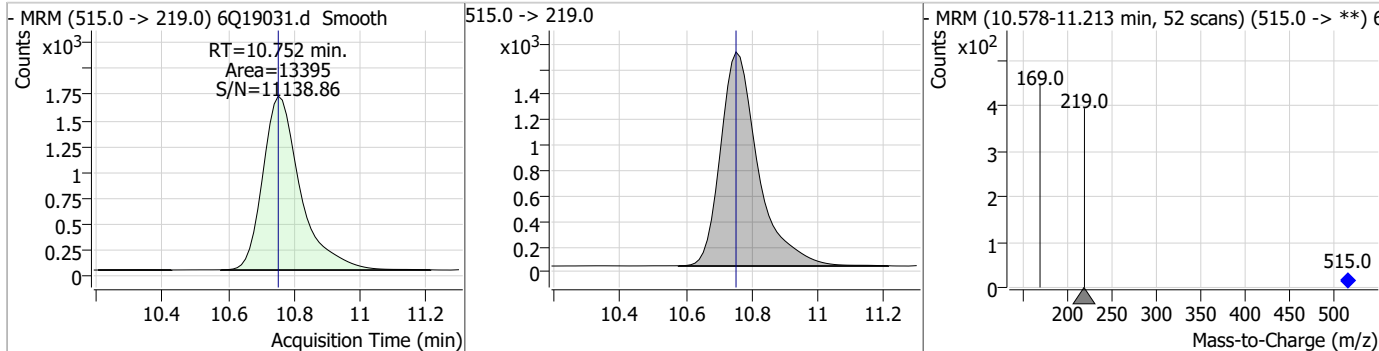
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	25.92	10.67	0.01	119617				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	0.99	10.69	0.00	4570				

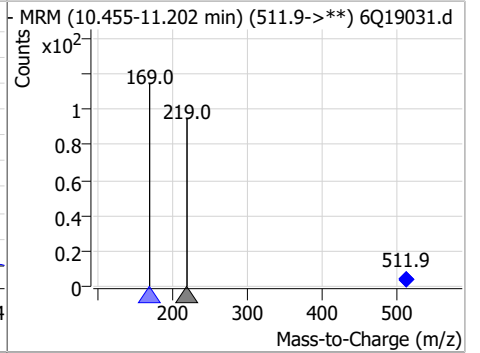
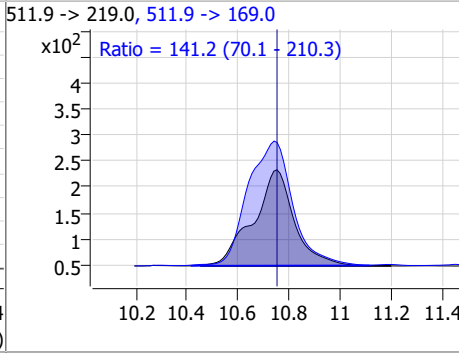
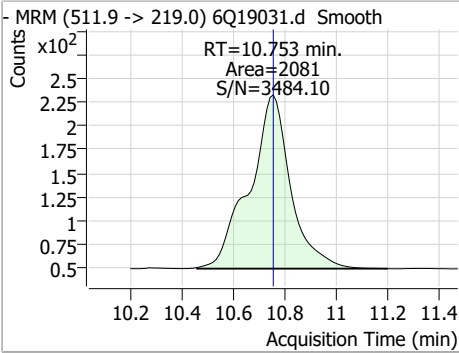


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.57	10.75	0.00	13395				

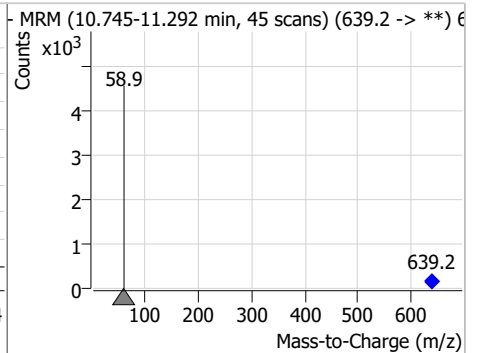
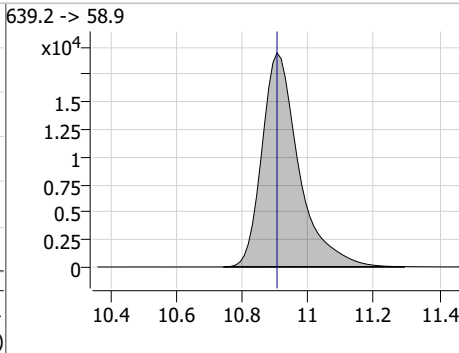
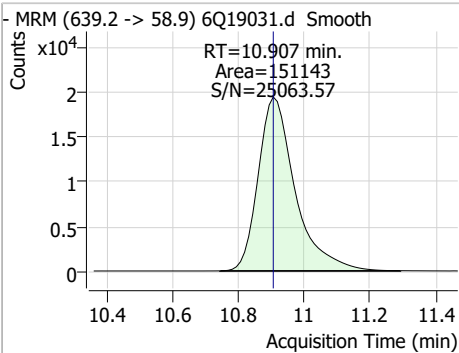


Perfluorinated Compounds by LC/MS/MS

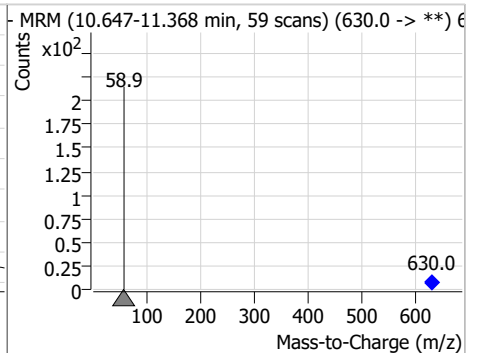
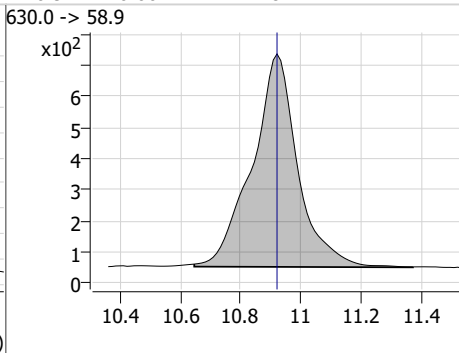
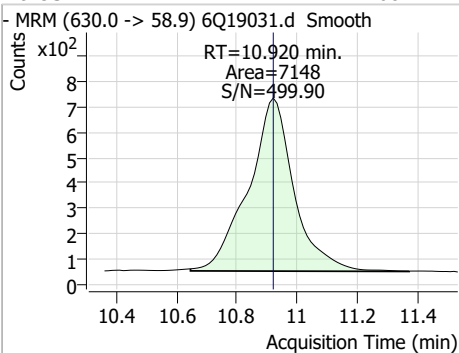
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSA	0.41	10.75	0.00	2081	511.9 -> 169.0	141.2	70.1	210.3



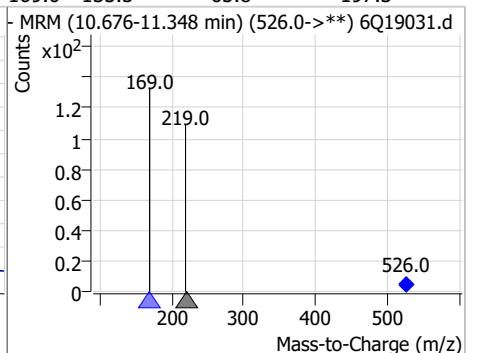
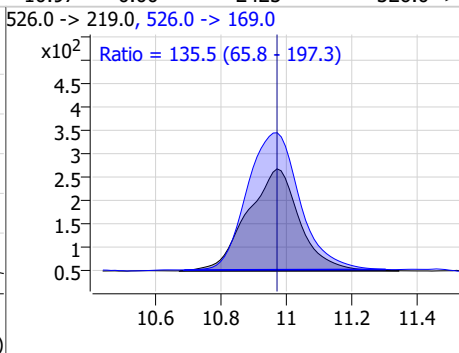
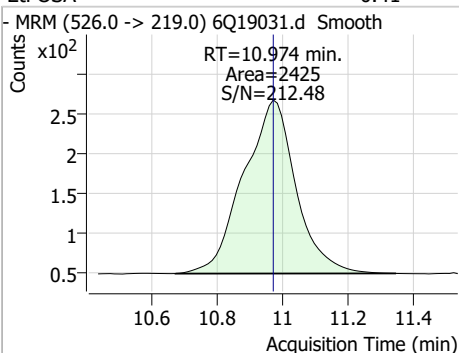
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d9-EtFOSE	25.72	10.91	0.00	151143				



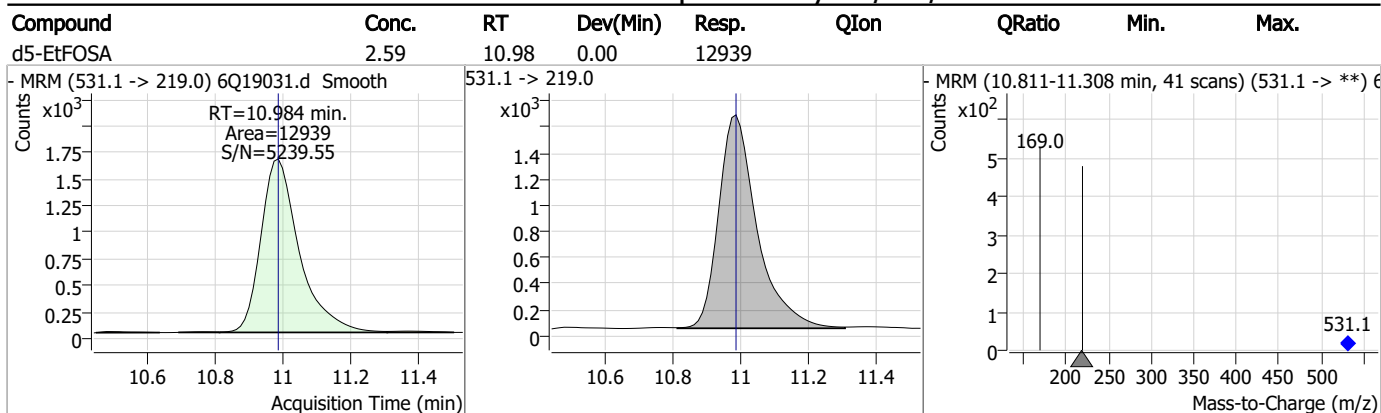
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSE	1.08	10.92	0.00	7148				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
EtFOSA	0.41	10.97	0.00	2425	526.0 -> 169.0	135.5	65.8	197.3



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			
11CI-PF3OUdS	9.323	630.9 -> 450.9	77161	4.62	µg/L	100
		632.9 -> 452.9	23726			
9CI-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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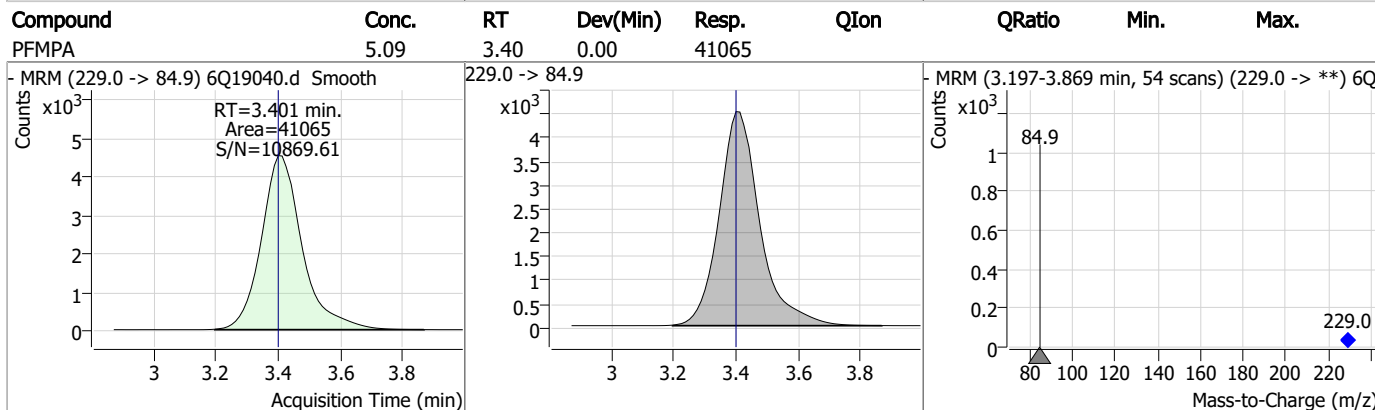
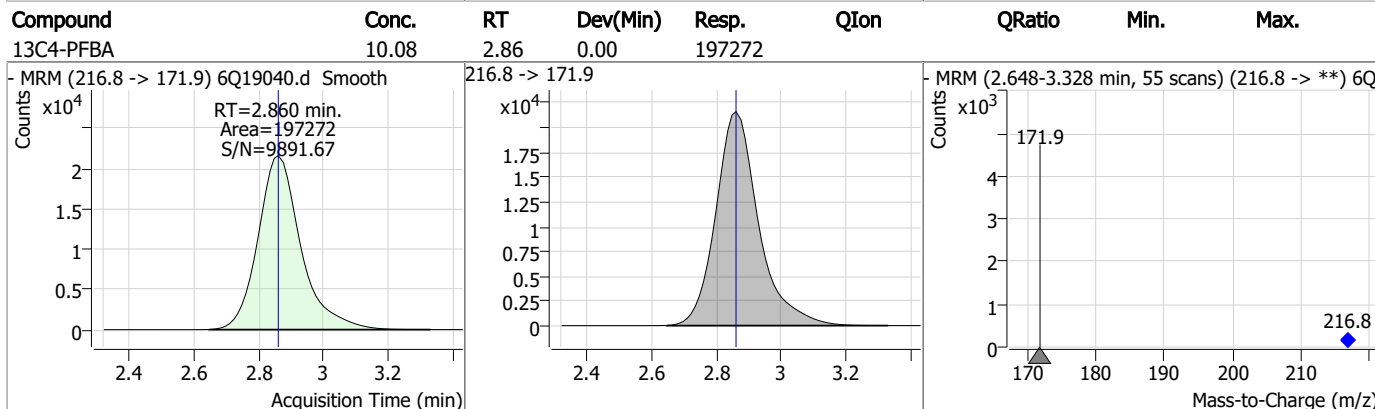
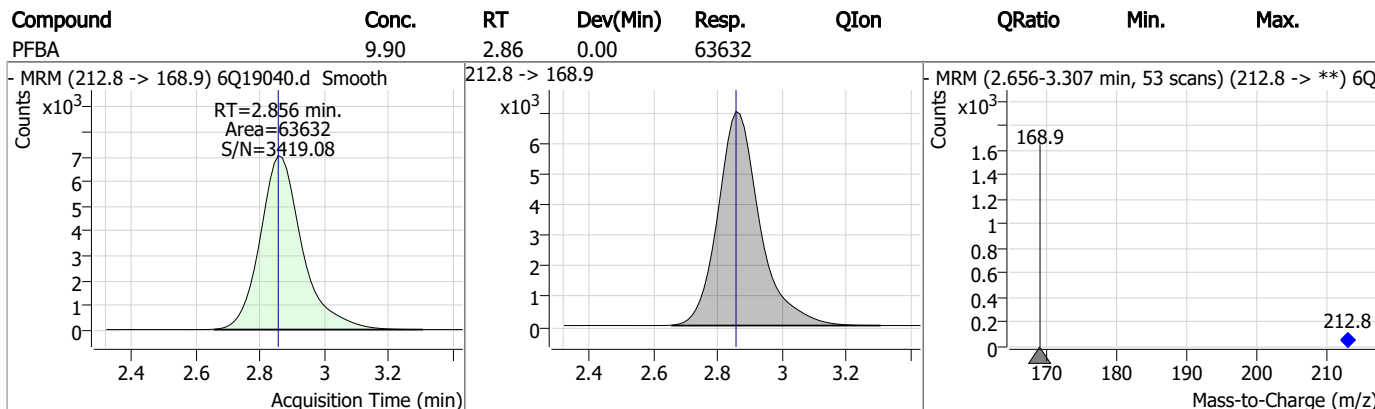
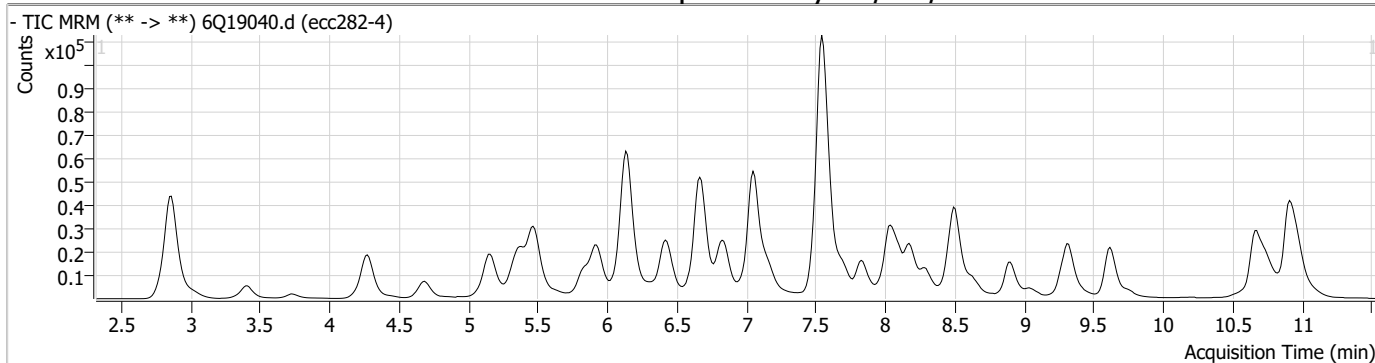
Perfluorinated Compounds by LC/MS/MS

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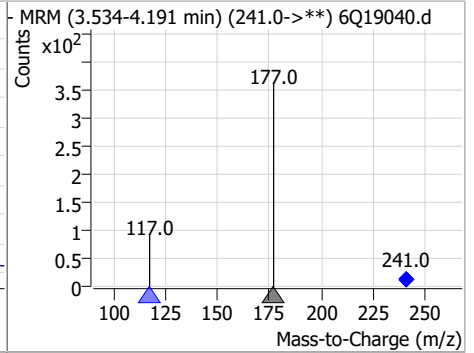
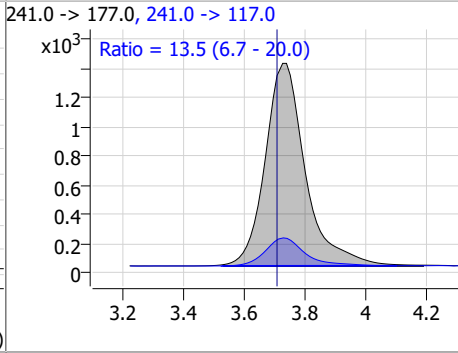
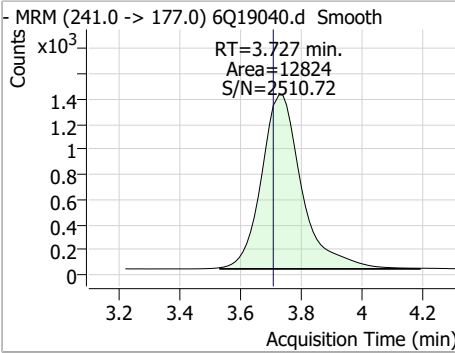
Perfluorinated Compounds by LC/MS/MS



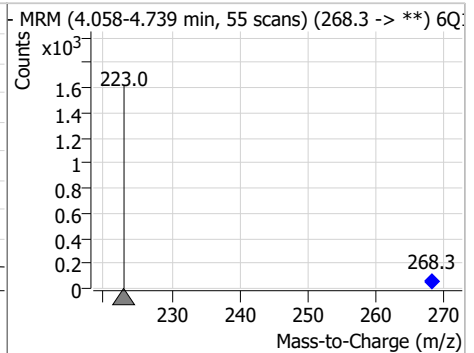
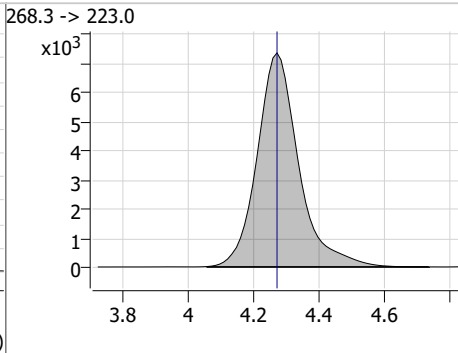
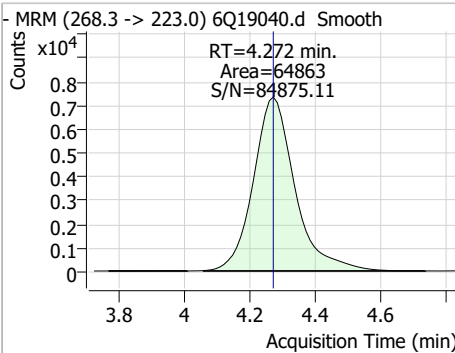
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Perfluorinated Compounds by LC/MS/MS

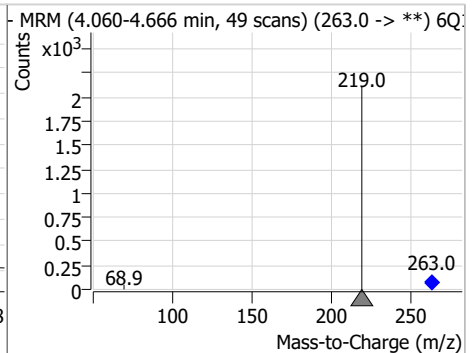
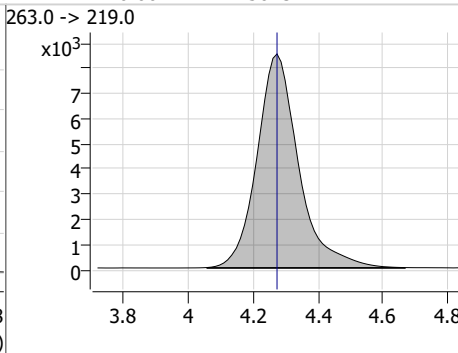
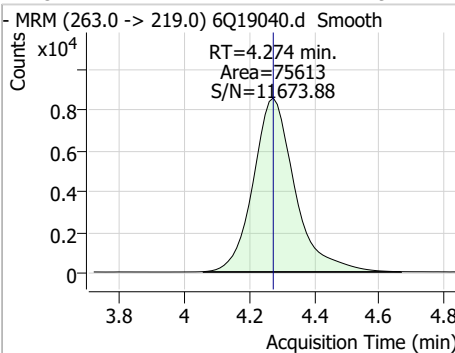
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
3:3FTCA	11.82	3.73	0.02	12824	241.0 -> 117.0	13.5	6.7	20.0



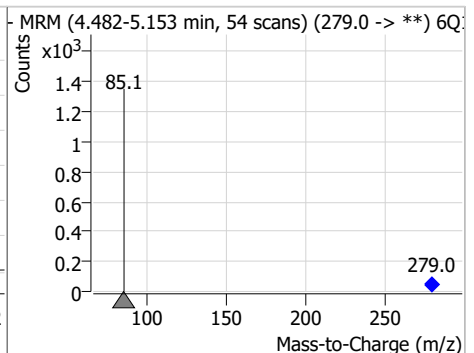
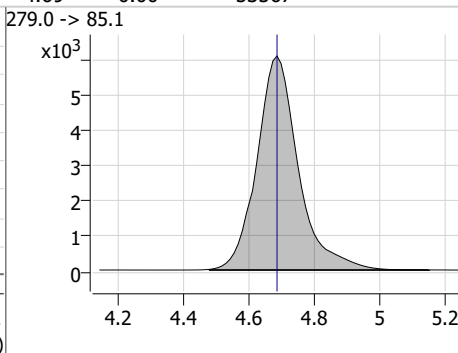
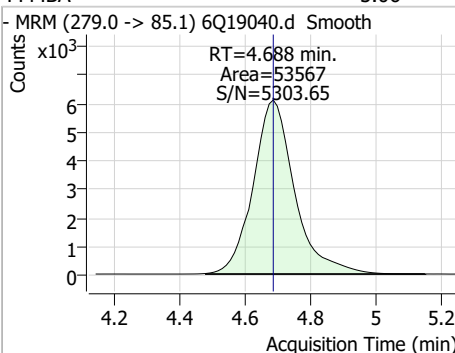
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFPeA	5.11	4.27	0.00	64863				



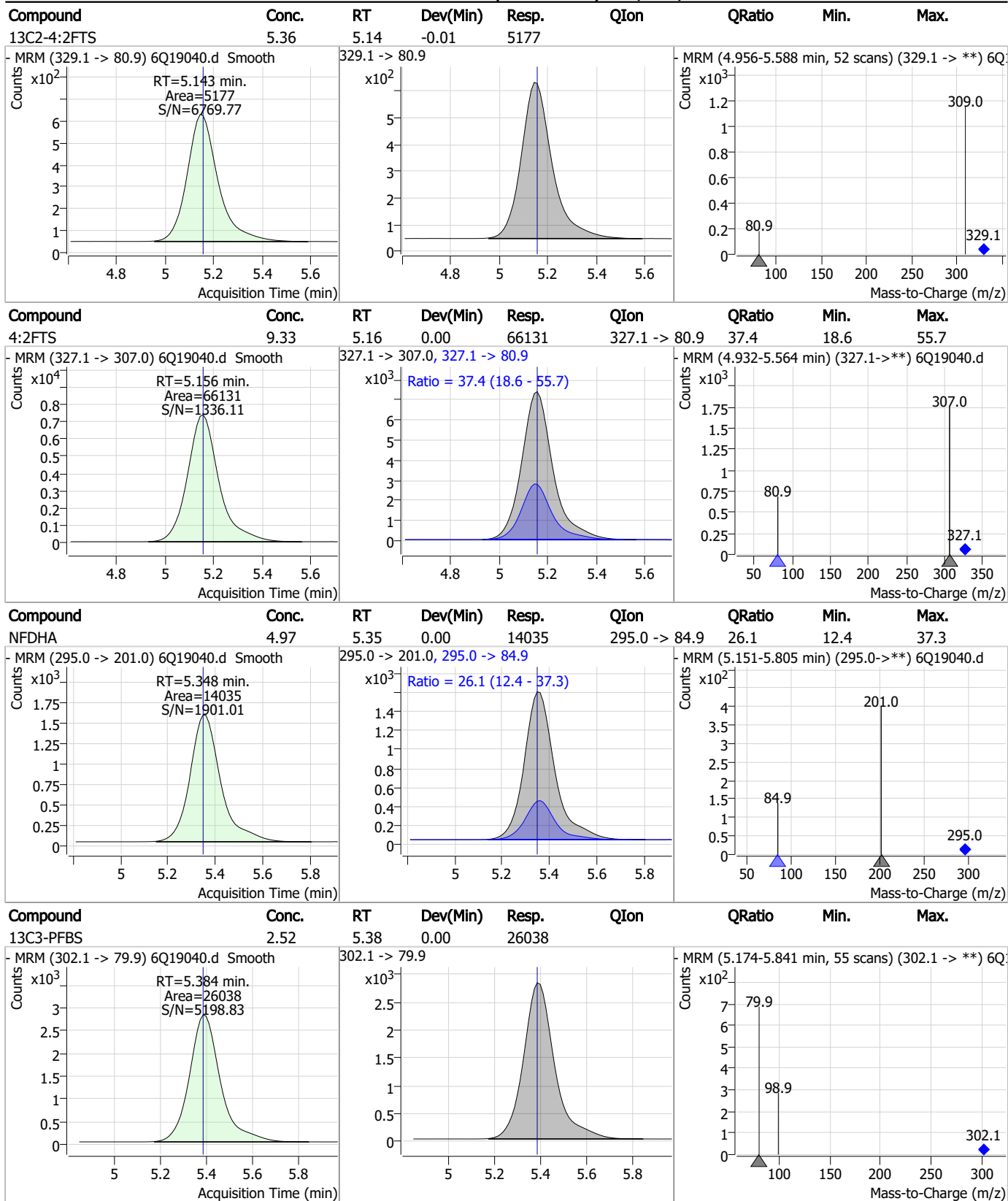
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFPeA	4.94	4.27	0.00	75613				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFMBA	5.06	4.69	0.00	53567				



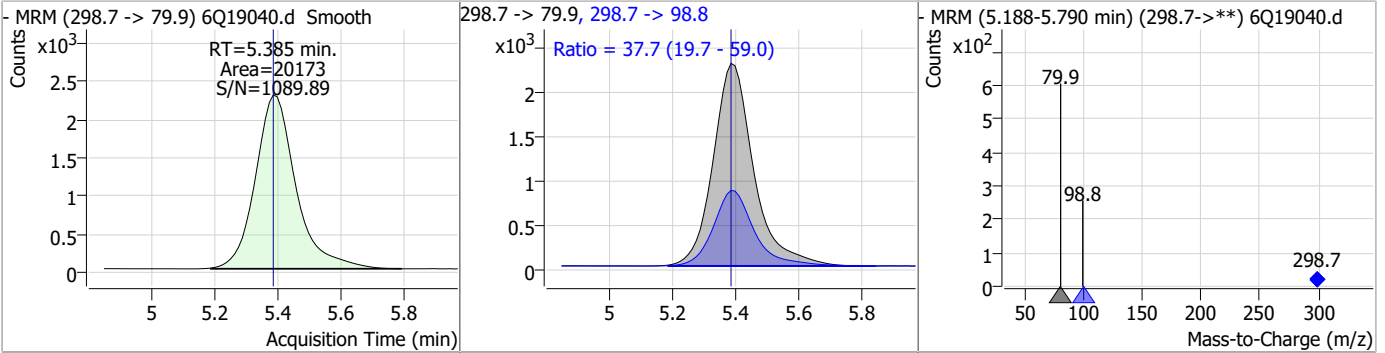
Perfluorinated Compounds by LC/MS/MS



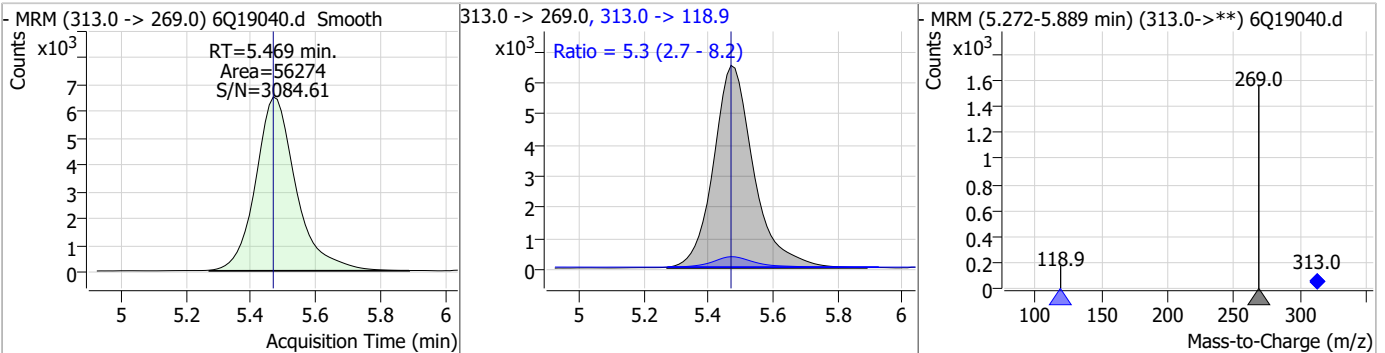
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Perfluorinated Compounds by LC/MS/MS

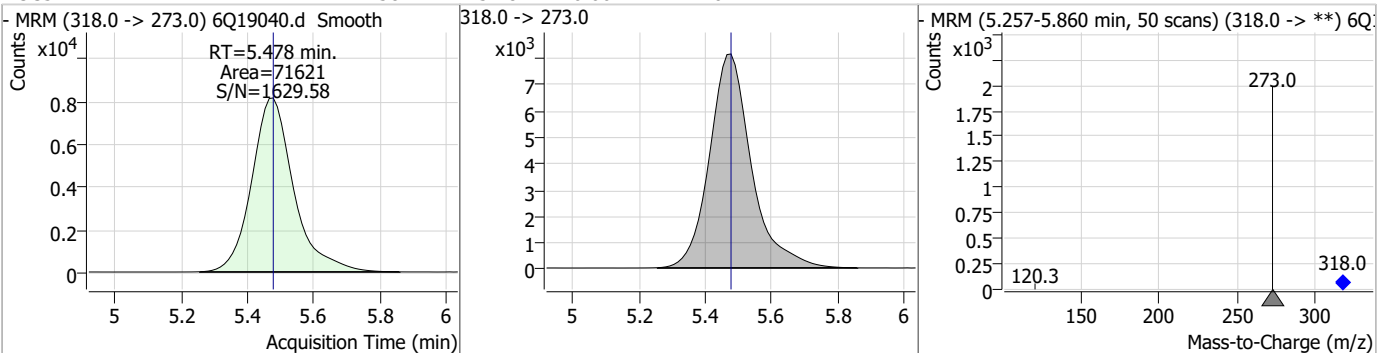
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFBS	2.24	5.38	0.00	20173	298.7 -> 98.8	37.7	19.7	59.0



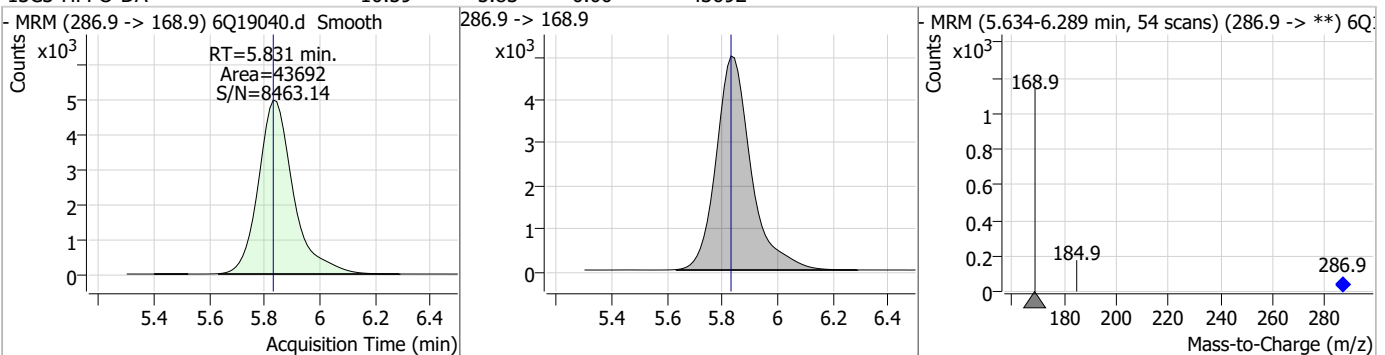
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxA	2.39	5.47	0.00	56274	313.0 -> 118.9	5.3	2.7	8.2



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C5-PFHxA	2.58	5.48	0.00	71621	318.0 -> 273.0	-	-	-

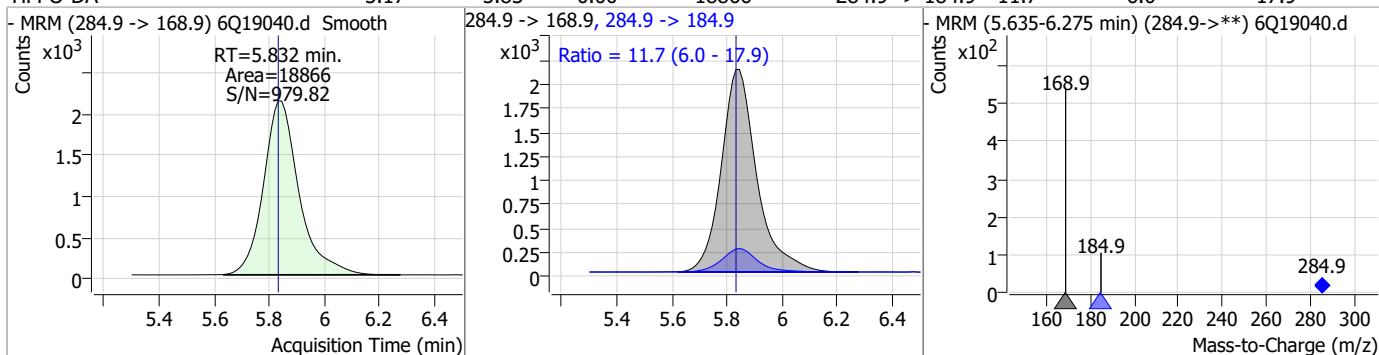


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C3-HFPO-DA	10.59	5.83	0.00	43692	286.9 -> 168.9	-	-	-

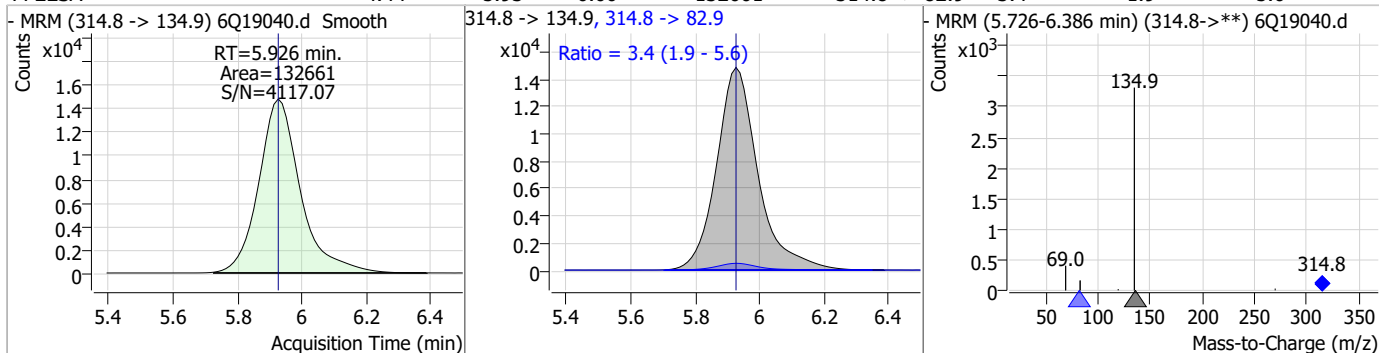


Perfluorinated Compounds by LC/MS/MS

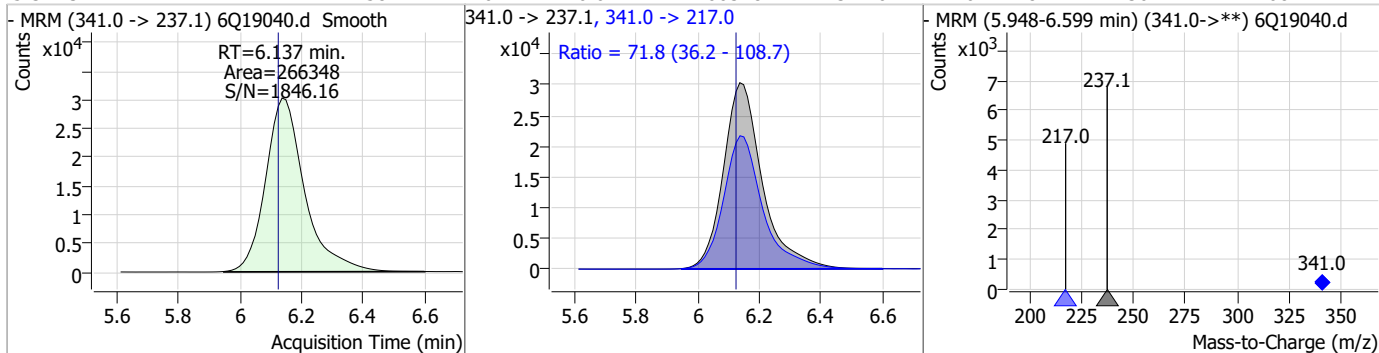
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
HFPO-DA	5.17	5.83	0.00	18866	284.9 -> 184.9	11.7	6.0	17.9



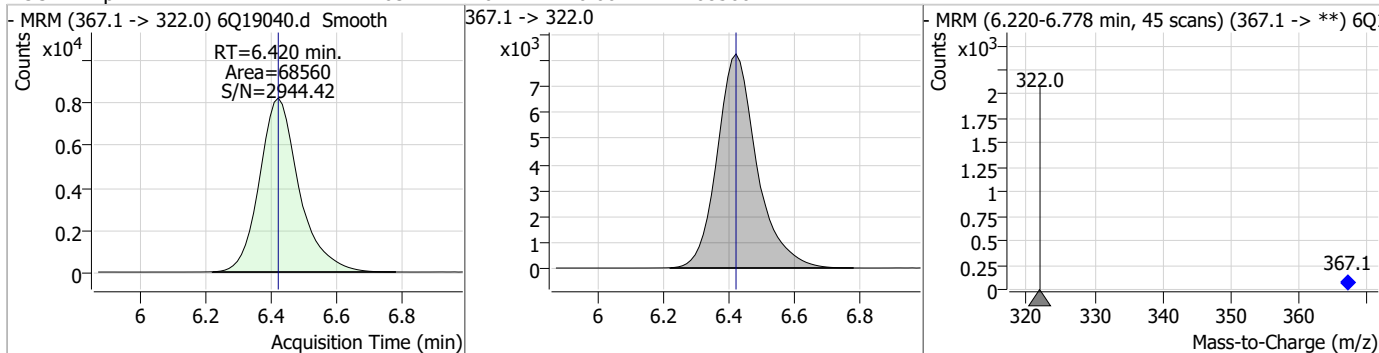
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFEESA	4.44	5.93	0.00	132661	314.8 -> 82.9	3.4	1.9	5.6



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

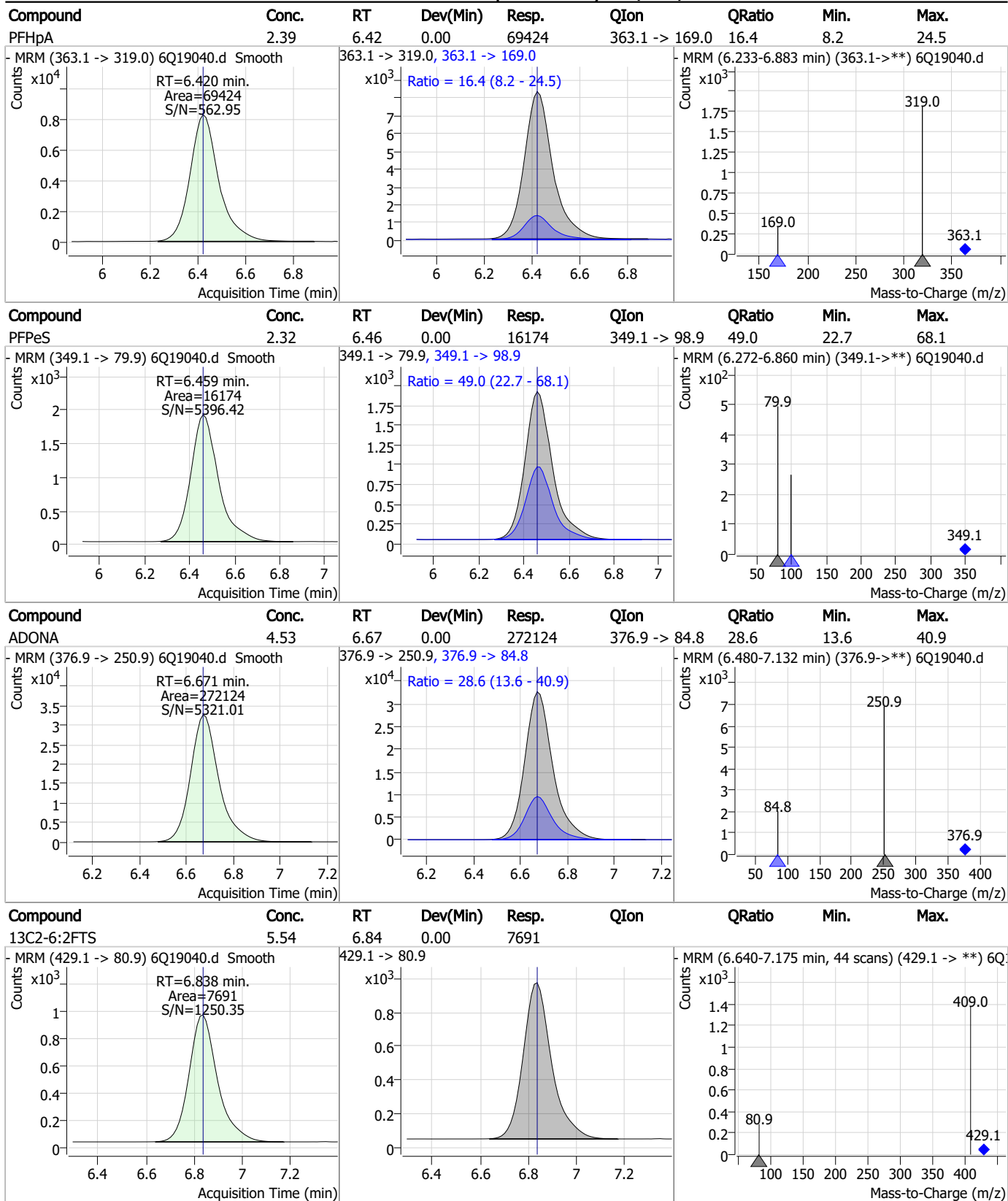


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C4-PFHpa	2.63	6.42	0.00	68560	367.1 -> 322.0			



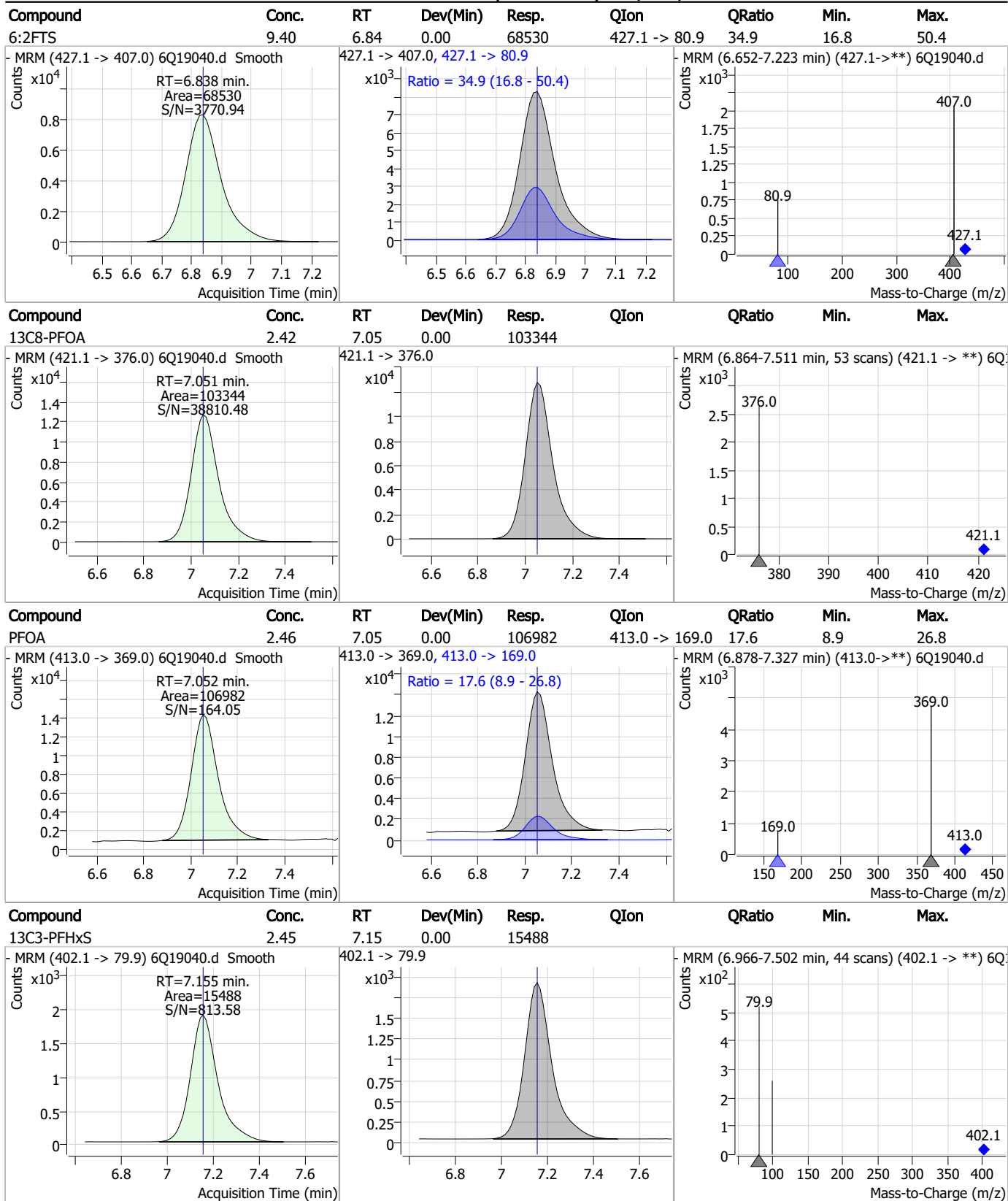
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Perfluorinated Compounds by LC/MS/MS



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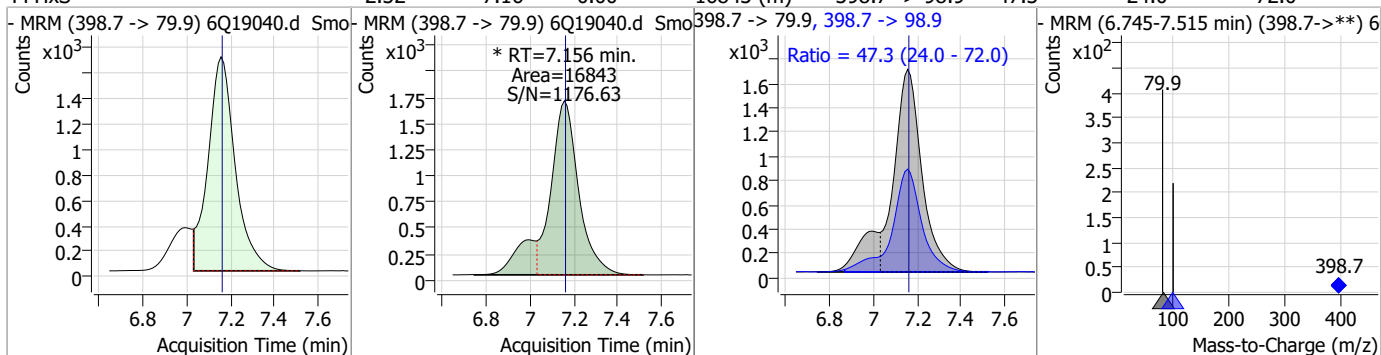
Perfluorinated Compounds by LC/MS/MS



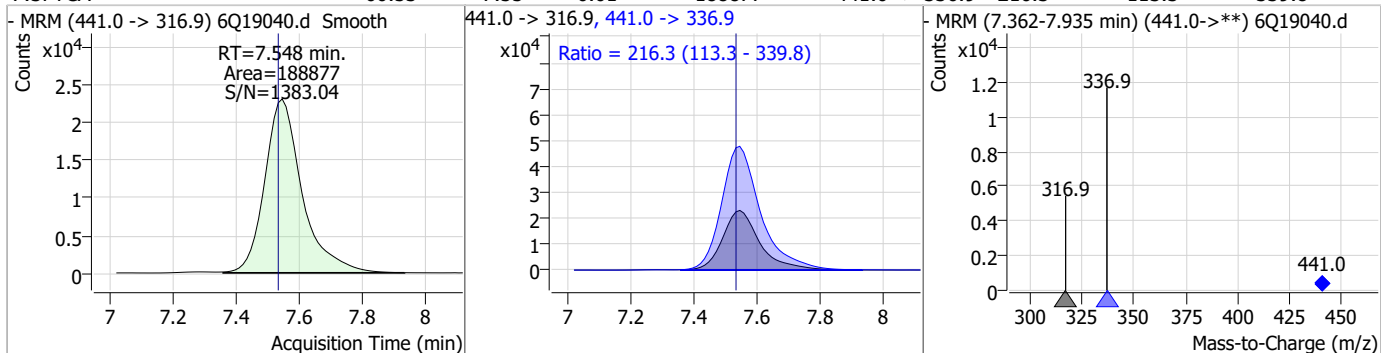
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Perfluorinated Compounds by LC/MS/MS

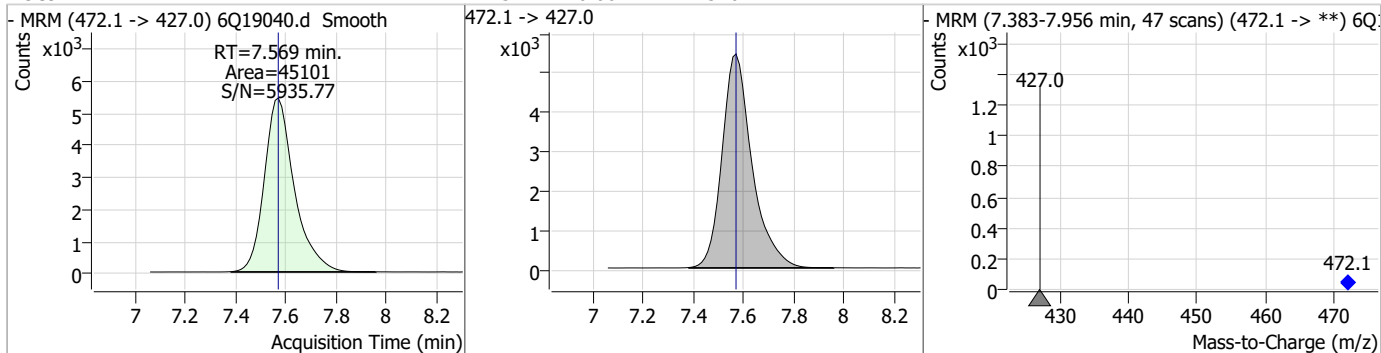
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFHxS	2.32	7.16	0.00	16843 (m)	398.7 -> 98.9	47.3	24.0	72.0



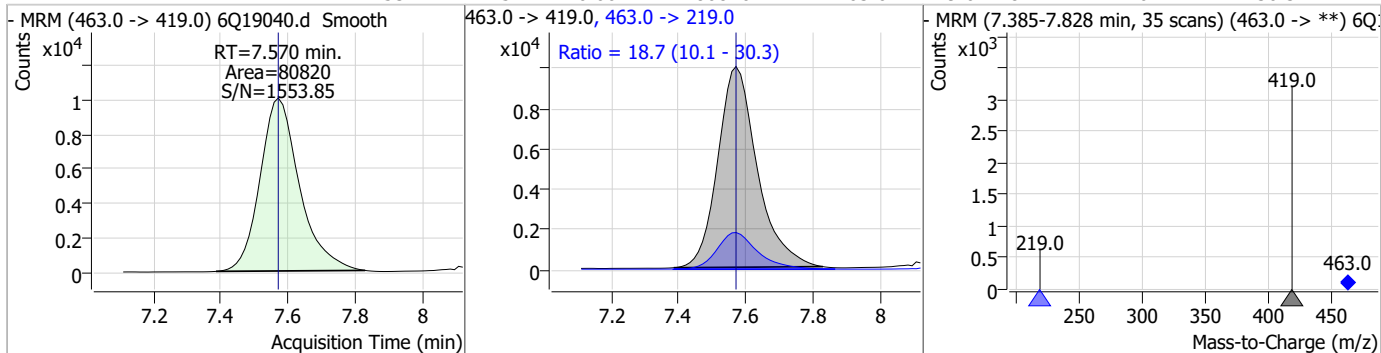
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
7:3FTCA	60.53	7.55	0.01	188877	441.0 -> 336.9	216.3	113.3	339.8



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
13C9-PFNA	1.14	7.57	0.00	45101	472.1 -> 427.0			

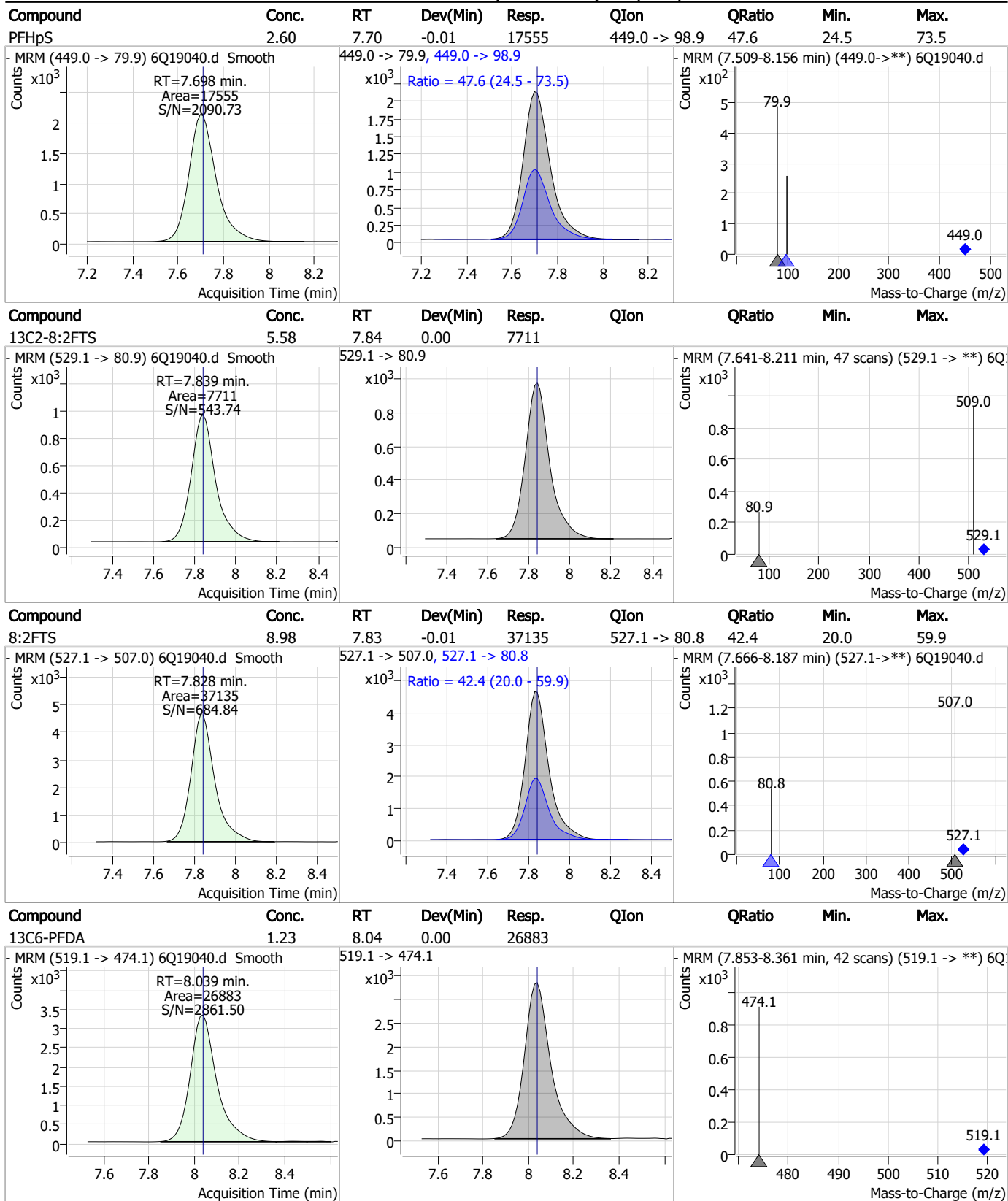


Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFNA	2.53	7.57	0.00	80820	463.0 -> 219.0	18.7	10.1	30.3



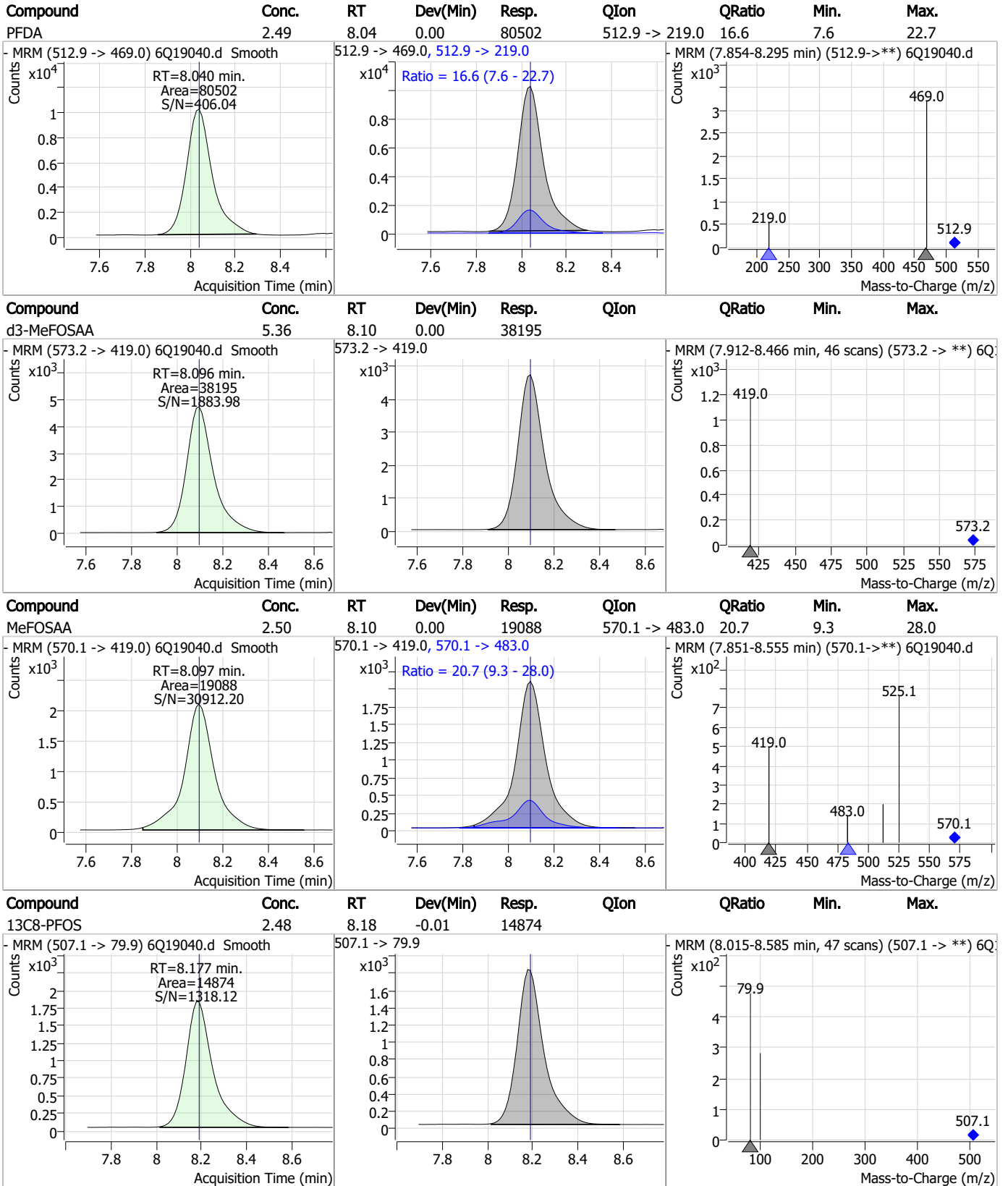
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Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

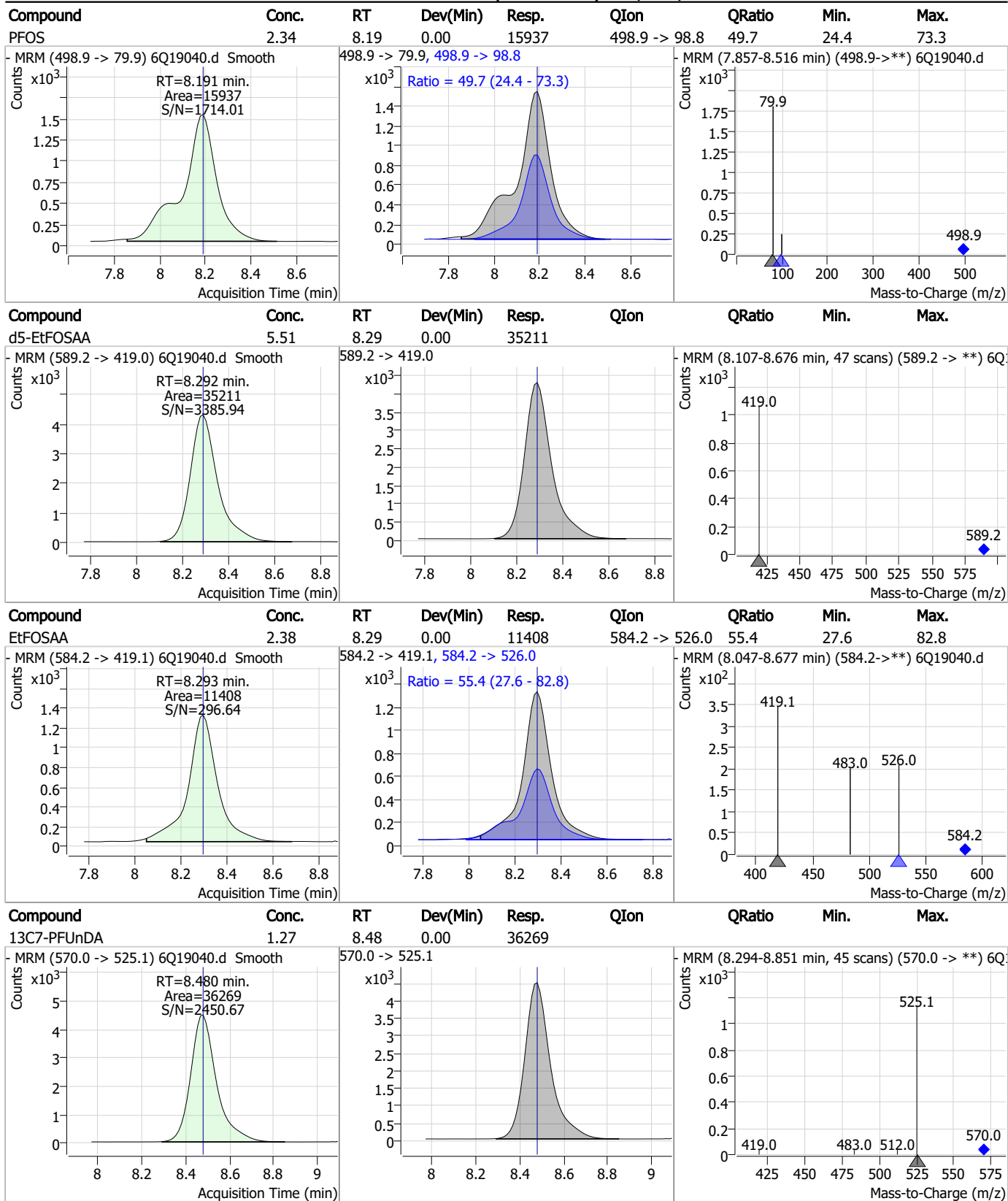


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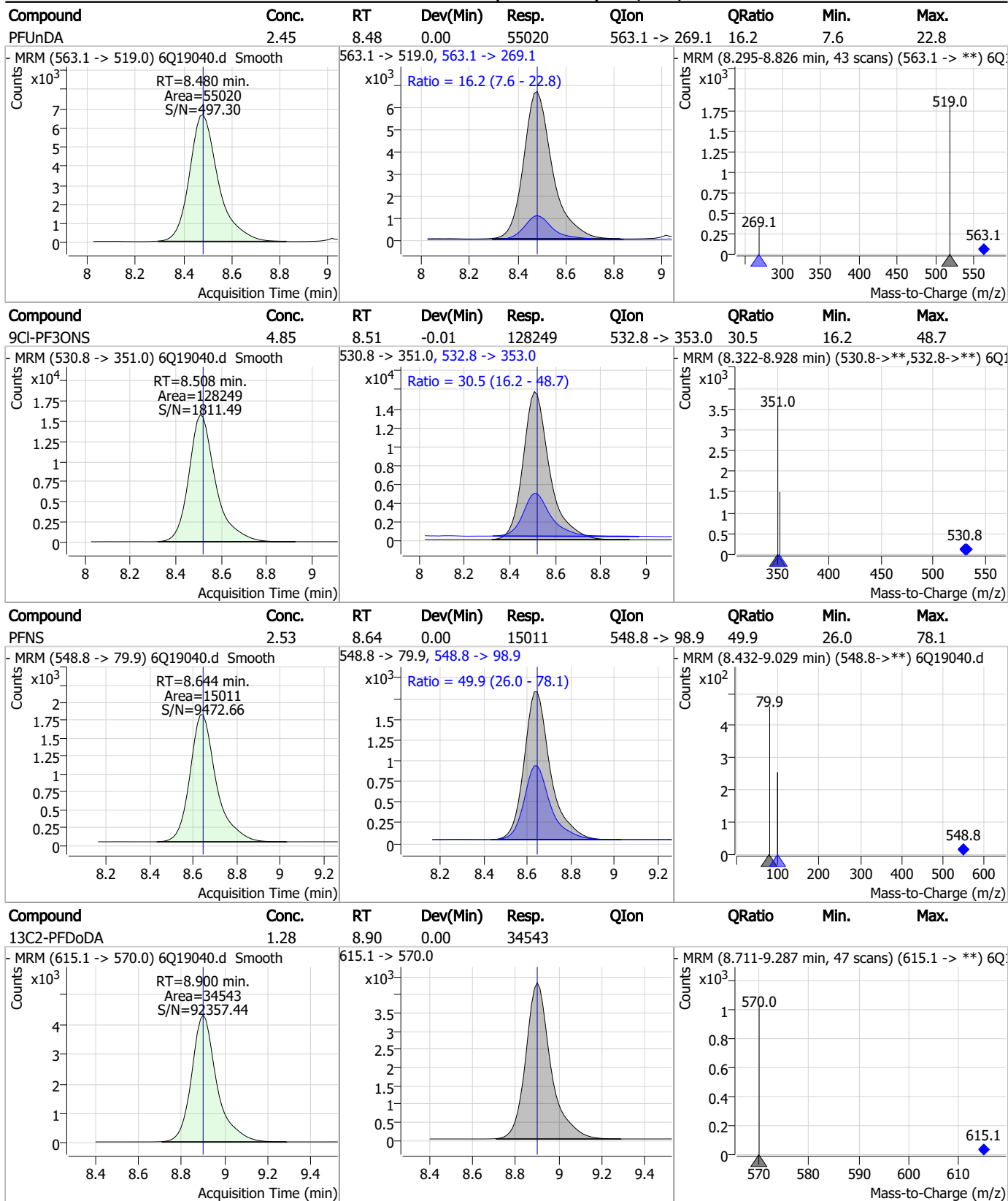


Perfluorinated Compounds by LC/MS/MS



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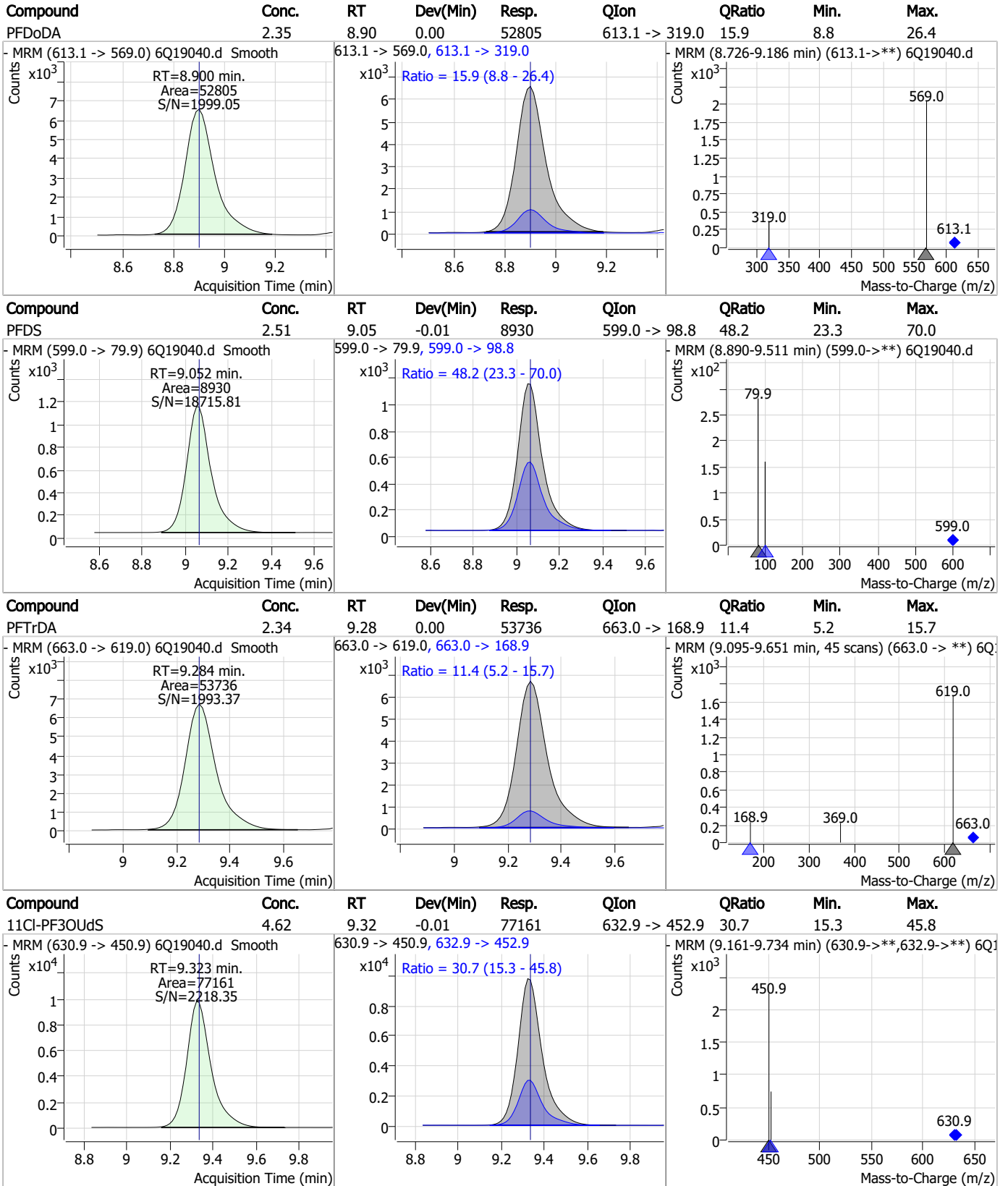
Perfluorinated Compounds by LC/MS/MS



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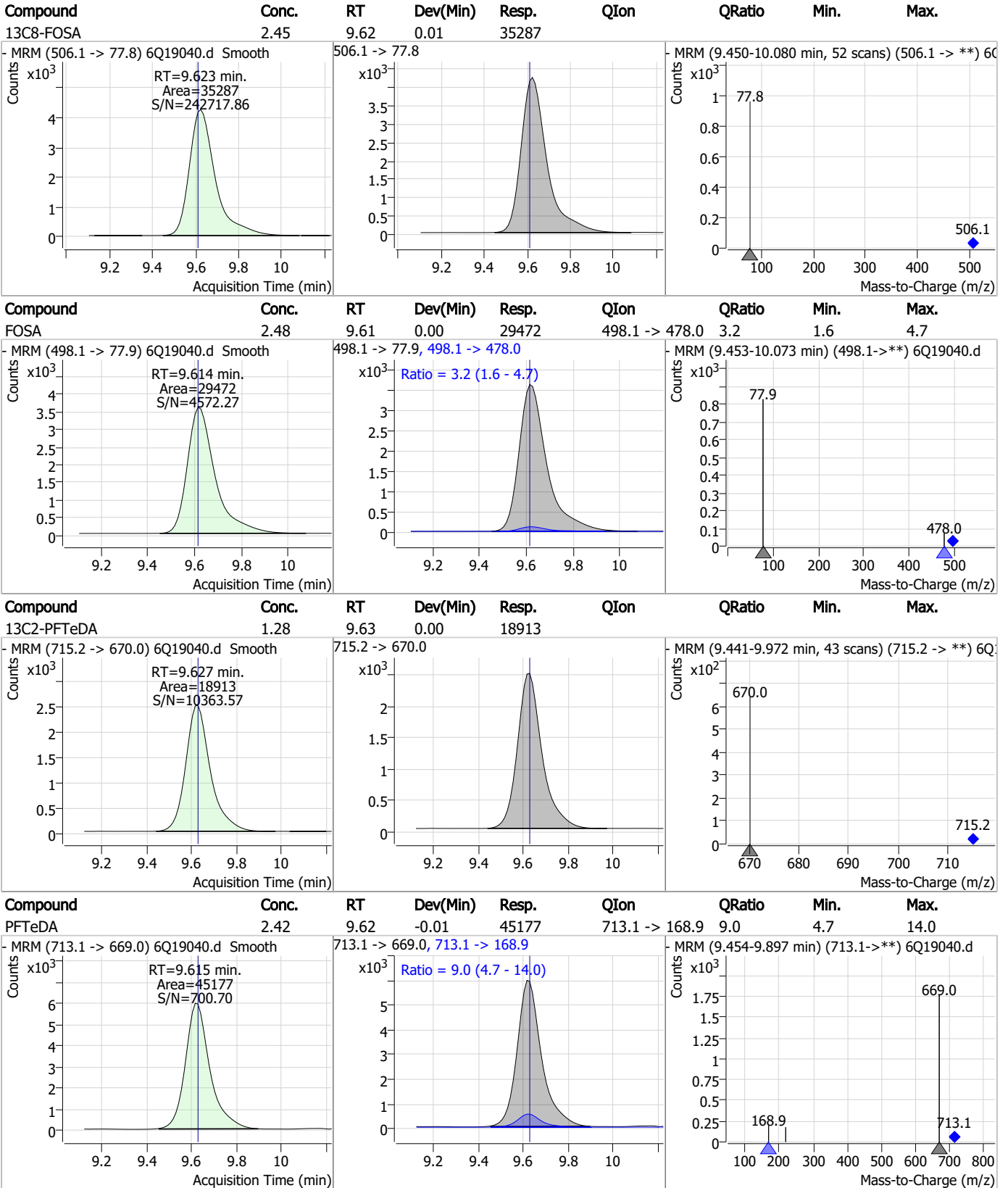
Perfluorinated Compounds by LC/MS/MS



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Perfluorinated Compounds by LC/MS/MS

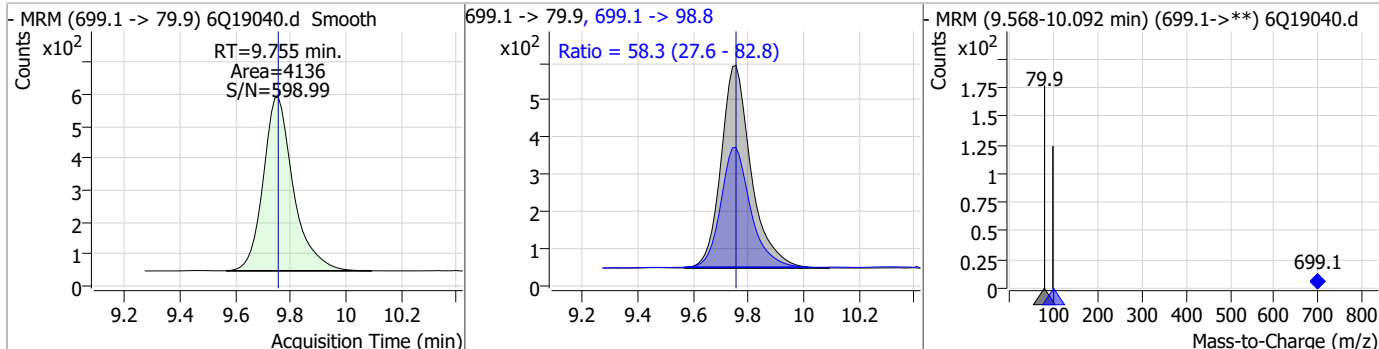


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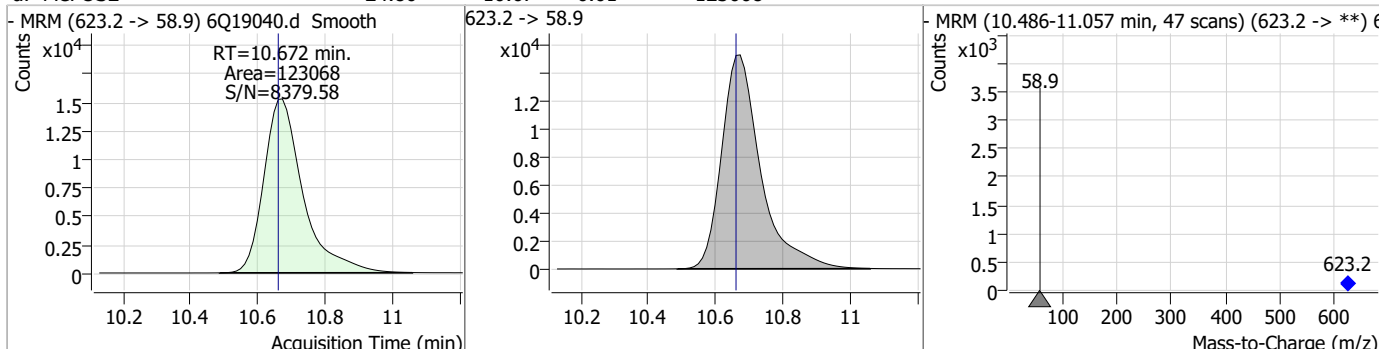


Perfluorinated Compounds by LC/MS/MS

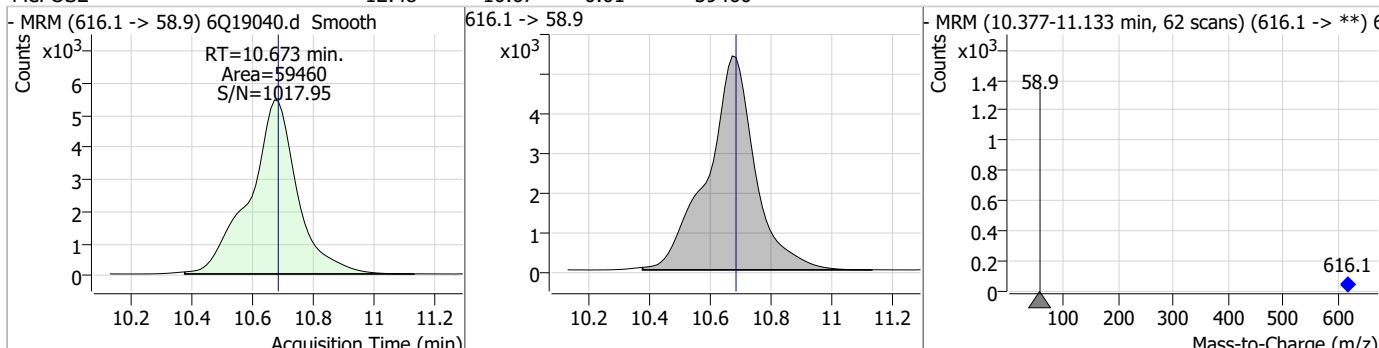
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
PFDoS	2.46	9.75	0.00	4136	699.1 -> 98.8	58.3	27.6	82.8



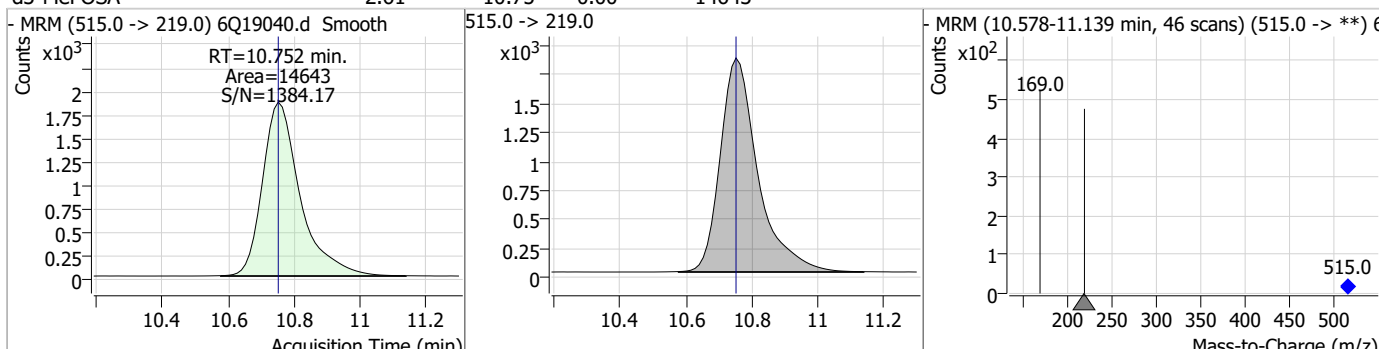
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d7-MeFOSE	24.80	10.67	0.01	123068				



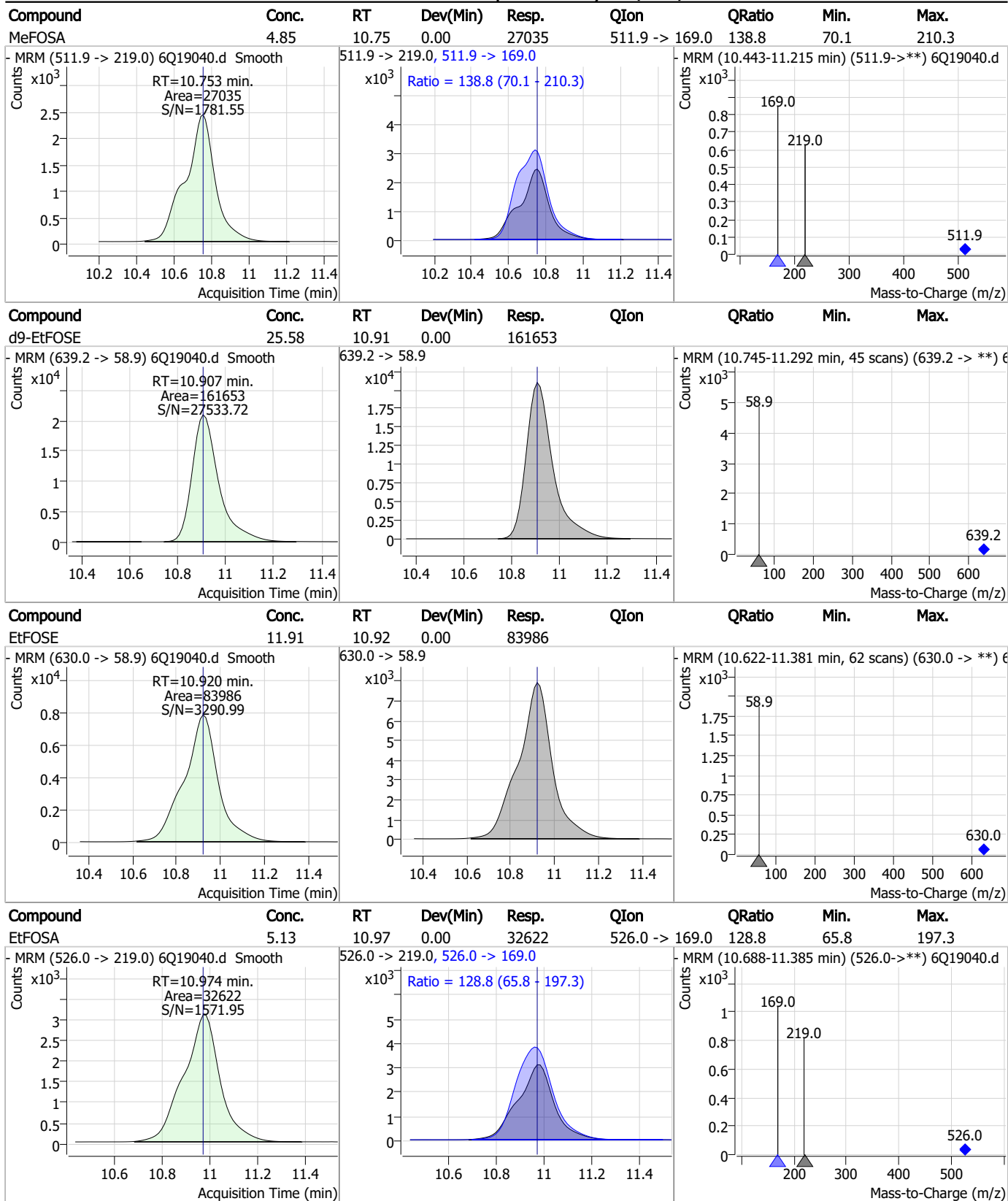
Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
MeFOSE	12.48	10.67	-0.01	59460				



Compound	Conc.	RT	Dev(Min)	Resp.	QIon	QRatio	Min.	Max.
d3-MeFOSA	2.61	10.75	0.00	14643				



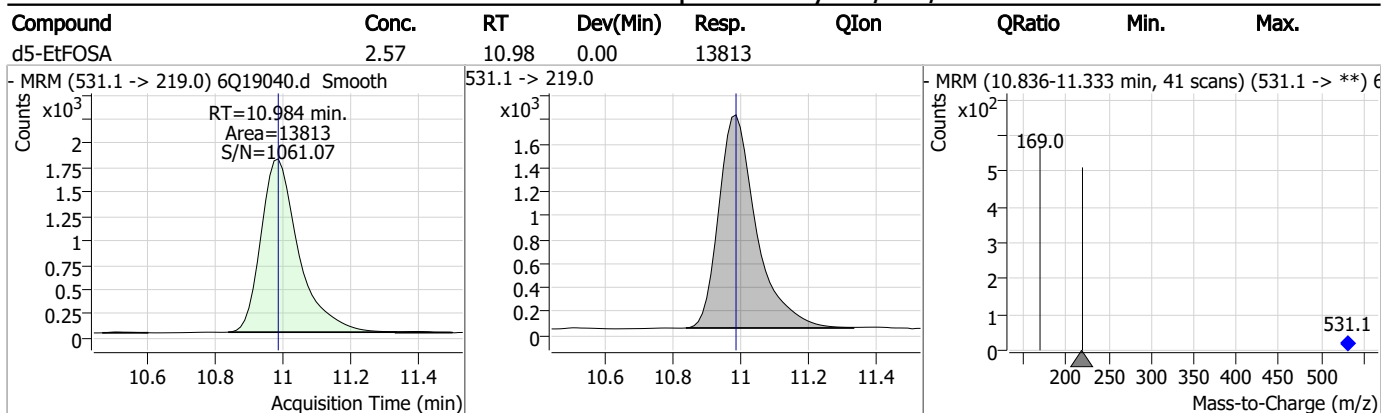
Perfluorinated Compounds by LC/MS/MS



7.7.18

7

Perfluorinated Compounds by LC/MS/MS



7.7.18
7



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

7.7.18.1

7

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	6Q18891.d	P5-E7	FC6086-15	1633full.m	Sample	OP97180,S6Q282,5.05,,5.0,1,soil	✓
37	6Q18892.d	P5-E8	FC6086-16	1633full.m	Sample	OP97180,S6Q282,4.96,,5.0,1,soil	✓
38	6Q18893.d	P5-E9	FC6086-17	1633full.m	Sample	OP97180,S6Q282,5.02,,5.0,1,soil	✓
39	6Q18894.d	P1-A5	cc282-4	1633full.m	QC	20/500 OP96663,S6Q282,500,,5.0,1,water	✓
40	6Q18895.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q282,500,,5.0,1,water	✓
41	6Q18896.d	P5-F1	op97180-ms	1633full.m	Sample	OP97180,S6Q282,4.97,,5.0,1,soil	✓
42	6Q18897.d	P5-F2	op97180-mnsd	1633full.m	Sample	OP97180,S6Q282,4.98,,5.0,1,soil	✓
43	6Q18898.d	P5-F3	FC6086-18	1633full.m	Sample	OP97180,S6Q282,4.98,,5.0,1,soil	✓
44	6Q18899.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	↓

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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

LCMS6-6Q ANALYSIS LOG

SGS ORLANDO

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	20/500	✓
43	6Q18967.d	P1-A2	cc282-1.0LL	1633full.m	QC	1.6/500	✓
44	6Q18968.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q283,5.00,,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	20/500	✓
56	6Q18980.d	P1-A2	cc282-1.0LL	1633full.m	QC	1.6/500	✓
57	6Q18981.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q283,5.00,,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	20/500	✓
69	6Q18993.d	P1-A1	iccb	1633full.m	Sample	OP96663,S6Q283,5.00,,5.0,1,water	✓
70	6Q18994.d	P3-A3	FC6215-16	1633full.m	Sample	OP96663,S6Q283,5.00,,5.0,1,water	✓
71	6Q18995.d	P3-A4	op97216-bs	1633full.m	Sample	OP97121,S6Q283,4.98,,5.0,1,soil	✓
72	6Q18996.d	P3-A5	op97216-llbs:3	1633full.m	Sample	OP97216,S6Q283,5.00,,5.0,1,water	✓
73	6Q18997.d	P3-A6	op97216-mb	1633full.m	Sample	OP97216,S6Q283,5.00,,5.0,1,water	✓
74	6Q18998.d	P3-A7	FC6537-1	1633full.m	Sample	OP97216,S6Q283,5.60,,5.0,1,water	✓
75	6Q18999.d	P3-A8	FC6537-2	1633full.m	Sample	OP97216,S6Q283,5.50,,5.0,1,water	✓
76	6Q19000.d	P3-A9	op97216-ms	1633full.m	Sample	OP97216,S6Q283,5.50,,5.0,1,water	✓
77	6Q19001.d	P3-B1	FC6537-3	1633full.m	Sample	OP97216,S6Q283,5.40,,5.0,1,water	✓
78	6Q19002.d	P3-B2	op97216-dup	1633full.m	Sample	OP97216,S6Q283,5.50,,5.0,1,water	✓

LCMS6-6Q ANALYSIS LOG

SGS ORLANDO

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	20/500	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	20/500	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	20/500	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	1.6/500	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	20/500	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	PROA 28 Comp.	Alcalde	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 Pdd on #1	595-Std.	—	8/23/23	1.0ppm	400ul	↓	↓	(2.400ml)	↓	↓	↓
LCN75 2125A-E	↓	LCN75 2117	40 2.5f Pdd on #2	—	—	11/8/23	1.0ppm	400ul	↓	↓	↓	↓	↓	↓
LCN75 2125A-E	↓	LCN75 2101	FOSE Std.	Wellington Labs	—	7/19/23	5.0ppm	400ul	↓	500ppb	PS1400H 05123231133123	↓	↓	↓
LCN75 2125A-E	↓	11804 A-5	MPK - GUES	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	H3HPD-DA	Wellington Labs	01/1/28	05/23/24	50ppm	20ul	↓	↓	↓	↓	↓	MS
LCN75 2125A-E	↓	11431	D-N-NEBASAN	Wellington Labs	05/01/27	03/01/24	50ppm	20ul	↓	↓	↓	↓	↓	MS
LCN75 2125A-E	↓	11399B 11807	PERC HxH	Wellington Labs	4/17/28	5/24/24	1.4ppm	25ul	4ml	6.25 125 250ppb	1633 M14	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 11808	PERC MXF	Wellington Labs	3/24/26	5/22/24	2ppm	2ppm	↓	125ppb	↓	↓	↓	↓
LCN75 2125A-E	↓	11802B 11809	PERC MXG	Wellington Labs	12/1/27	5/22/24	2ppm	2ppm	↓	125ppb	↓	↓	↓	↓
LCN75 2125A-E	↓	11803B 11810	PERC MXJ	Wellington Labs	3/28/28	5/22/24	4.30ppm	3/20ul	↓	312 1160ppb	↓	↓	↓	↓
LCN75 2125A-E	↓	11819	MPK - GUES	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	H3HPD-DA	Wellington Labs	01/1/28	05/23/24	50ppm	20ul	↓	↓	↓	↓	↓	MS
LCN75 2125A-E	↓	11584	D-N-NEBASAN	Wellington Labs	11/1/27	06/01/24	50ppm	20ul	↓	↓	↓	↓	↓	MS
LCN75 2125A-E	↓	11584	D-N-NEBASAN	Wellington Labs	11/1/27	06/01/24	50ppm	20ul	↓	↓	↓	↓	↓	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
 10/21

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 PERPA		2/3/27	2/8/24								
		10685A	5:3FTCA PERPA		11/1/25	8/23/23								
		1116A	7:3FTCA FHPA		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	PMMPA PE406A		3/3/25	2/8/24								
		10765B	NEHDA 3.6-08PA		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	50 ppm	200 uL	2 ml	5 ppm (1/5)	95% MeOH 5% H ₂ O	5/19/23	8/23/23	NV
		11460	d9-N-Etfose		1/23/27	12/6/23		200 uL		5 ppm				
		11115	M2-PTHXDA		1/23/28	8/23/23		40 uL		1 ppm				
		10836	D-N-Etfose		12/30/25	8/23/23		40 uL		1 ppm				
LCMS 2116	Full List (40) Spike (cal std)	11053	PROA 200 28 Comp.	Absolute	11/9/27	4/18/24	1.0 ppm	400 uL	4.0 ml	100 ppb	95% MeOH 5% H ₂ O (2.400 ml)	5/19/23	8/23/23	NV
		LCMS 2067	40 List Add on #1	Eqs std.		8/23/23	1.0 ppm	400 uL						
		LCMS 2117	40 List Add on #2			5/18/23	1.0 ppm	400 uL						
		LCMS 2054	Fose Std.			7/24/23	5.0 ppm	4800 uL		500 ppb				
LCMS 2117	40 List Add on #2	11250	FB5A-1	Wellington	11/10/26	11/8/23	50 ppm	80 uL	4.0 ml	1 ppm	95% MeOH 5% H ₂ O	5/19/23	11/8/23	MU
		11249	FHXSA-1		2/29/26	11/3/23	50 ppm	80 uL						
		11140B	L-PR5		7/12/26	5/9/24	50 ppm	80 uL						
		LCMS 2118A	PIC ID Sum (10 ppb)				1.0 ppm	2.4 ml	5.0 ml	0.5 ppm	95% MeOH 5% H ₂ O	5/10/23	11/2/23	MJ
		11775A	NPRAC 24 ES	Wellington	1/18/28	5/10/24	50 ppm	48 uL						
		1635A	M3-H0 DA		11/8/25	4/24/24	50 ppm	48 uL						
		11431	d-11 Mehsam		5/16/27	3/13/24	50 ppm	48 uL						

* based on date opened as specified in each SGS - Orlando SOP.

NS 05/12/23

11494



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NMeFOSE

2-(N-Methylperfluorooctanesulfonamido)ethanol Isomeric Mix

PRODUCT CODE: br-NMeFOSE
LOT NUMBER: brNMeFOSE0922
CONCENTRATION: 50.0 ± 2.5 µg/mL
SOLVENT(S): Methanol
DATE PREPARED: (mm/dd/yyyy) 09/02/2022
LAST TESTED: (mm/dd/yyyy) 09/07/2022 (HRGC/LRMS)
 10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy) 10/07/2027
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-methylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by 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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 519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Form#:13, Issued 2004-11-10
 Revision#:9, Revised 2020-12-23

brNMeFOSE0922 (1 of 7)
 rev1

7.9.1

7

11495



**WELLINGTON
LABORATORIES**

**CERTIFICATE OF ANALYSIS
DOCUMENTATION**

br-NEtFOSE

**2-(N-Ethylperfluorooctanesulfonamido)ethanol
Isomeric Mix**

PRODUCT CODE: br-NEtFOSE
LOT NUMBER: brNEtFOSE1022
CONCENTRATION: 50.0 ± 2.5 µg/mL
SOLVENT(S): Methanol
DATE PREPARED: (mm/dd/yyyy) 09/12/2022
LAST TESTED: (mm/dd/yyyy) 09/12/2022 (HRGC/LRMS)
10/07/2022 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy) 10/07/2027
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% 2-(N-ethylperfluorooctanesulfonamido)ethanol linear and branched isomers. The full name, structure, and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by 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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Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

brNEtFOSE1022 (1 of 7)
rev1

7.9.1

7

11497



**WELLINGTON
LABORATORIES**

**CERTIFICATE OF ANALYSIS
DOCUMENTATION**

br-NMeFOSA

**N-Methylperfluorooctanesulfonamide
Isomeric Mix**

PRODUCT CODE: br-NMeFOSA
LOT NUMBER: brNMeFOSA0822
CONCENTRATION: 50.0 ± 2.5 µg/mL
SOLVENT(S): Methanol
DATE PREPARED: (mm/dd/yyyy) 08/18/2022
LAST TESTED: (mm/dd/yyyy) 08/23/2022
EXPIRY DATE: (mm/dd/yyyy) 08/23/2027
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by 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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**Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com**

Form#:13, Issued 2004-11-10
Revision#:9, Revised 2020-12-23

brNMeFOSA0822 (1 of 6)
rev1

7.9.1

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11498



WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-NEtFOSA

N-Ethylperfluorooctanesulfonamide Isomeric Mix

PRODUCT CODE:	br-NEtFOSA
LOT NUMBER:	brNEtFOSA0922
CONCENTRATION:	50.0 ± 2.5 µg/mL
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	08/23/2022
LAST TESTED: (mm/dd/yyyy)	10/07/2022
EXPIRY DATE: (mm/dd/yyyy)	10/07/2027
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-ethylperfluorooctanesulfonamide (linear and branched isomers). The full name, structure, and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by 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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rev1

7.9.1

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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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Form#: 13, Issued 2004-11-10
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.

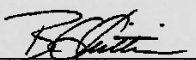
^b See Table C for percent composition of linear and branched N-EtFOSAA isomers.

^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



WELLINGTON
LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PFAC-MXF

**Native Replacement PFAS
Solution/Mixture**

PRODUCT CODE:

PFAC-MXF

LOT NUMBER:

PFACMXF0323

SOLVENT(S):

Methanol / Water (<1%)

DATE PREPARED: (mm/dd/yyyy)

03/23/2023

LAST TESTED: (mm/dd/yyyy)

03/24/2023

EXPIRY DATE: (mm/dd/yyyy)

03/24/2026

RECOMMENDED STORAGE:

Refrigerate ampoule

DESCRIPTION:

PFAC-MXF is a solution/mixture of sodium dodecafluoro-3H-4,8-dioxanonanoate (NaDONA), the major and minor components of F-53B (9Cl-PF3ONS and 11Cl-PF3OUS), 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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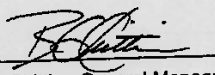
Form#13, Issued 2004-11-10
Revision#9, Revised 2020-12-23

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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Form#: 13, Issued 2004-11-10
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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-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)

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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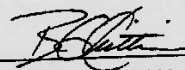
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Concentrations (µg/mL; ± 5% in methanol)

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)

PFACMXJ0323 (3 of 5)
rev0

11807
received 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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Revision#:9, Revised 2020-12-23

PFACMXH0423 (1 of 11)
rev1

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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Form#:13, Issued 2004-11-10
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; ± 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



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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Form#: 13, Issued 2004-11-10
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; ± 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

<u>PRODUCT CODE:</u>	PFAC-MXJ
<u>LOT NUMBER:</u>	PFACMXJ0323
<u>SOLVENT(S):</u>	Methanol
<u>DATE PREPARED:</u> (mm/dd/yyyy)	03/27/2023
<u>LAST TESTED:</u> (mm/dd/yyyy)	03/28/2023
<u>EXPIRY DATE:</u> (mm/dd/yyyy)	03/28/2028
<u>RECOMMENDED STORAGE:</u>	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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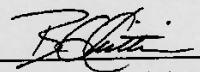
Form#: 13, Issued 2004-11-10
Revision#: 9, Revised 2020-12-23

PFACMXJ0323 (1 of 5)
rev0

7.9.1
7

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

7.9.1
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CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:

FPePA

LOT NUMBER:

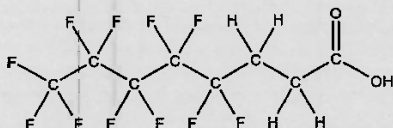
FPePA1120

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

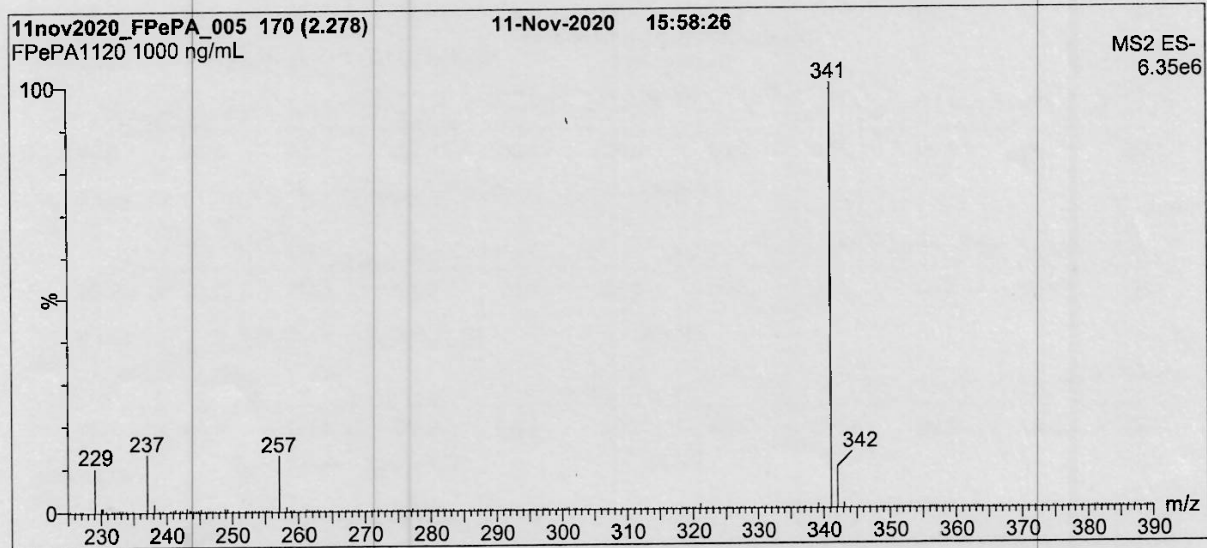
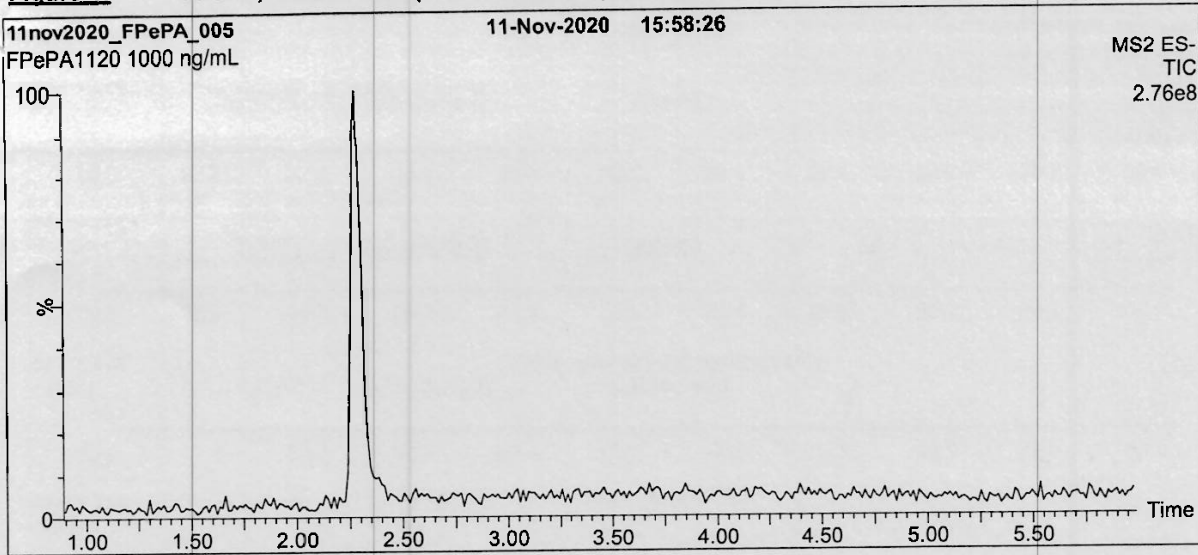
Date: 11/27/2020
(mm/dd/yyyy)

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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



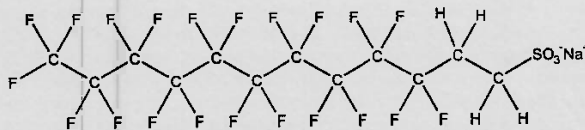
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CERTIFICATE OF ANALYSIS DOCUMENTATION

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

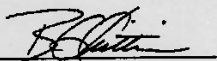
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

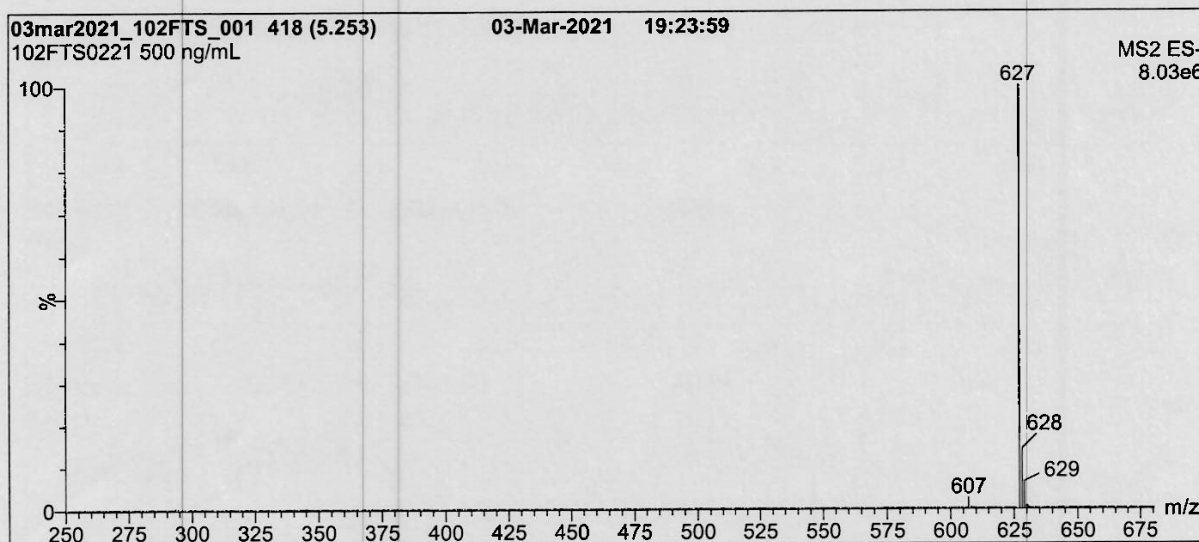
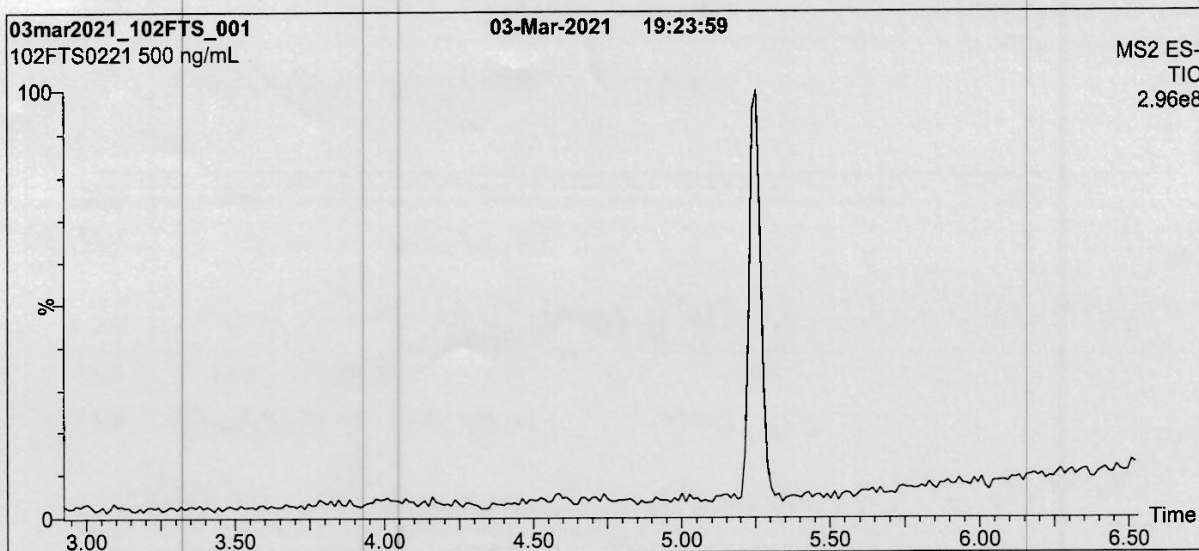
- See page 2 for further details.

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Certified By:  **Date:** 03/05/2021
(mm/dd/yyyy)
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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

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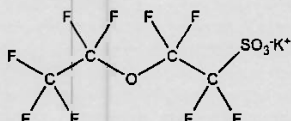


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CERTIFICATE OF ANALYSIS DOCUMENTATION

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) **SOLVENT(S):** Methanol
44.6 ± 2.2 µg/ml (PFEESA acid)
44.5 ± 2.2 µg/ml (PFEESA anion)
CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/13/2020
EXPIRY DATE: (mm/dd/yyyy) 05/13/2025
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

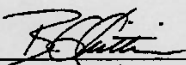
DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (TIC and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.2% of perfluoro-n-octanoic acid (PFOA).

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Certified By:  **Date:** 05/29/2020
B.G. Chittim, General Manager (mm/dd/yyyy)

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Revision#: 7, Revised 2020-01-09

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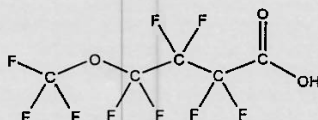
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PRODUCT CODE: PF5OHxA
COMPOUND: Perfluoro-5-oxahexanoic acid
SYNONYM: Perfluoro-4-methoxybutanoic acid (PFMBA)
STRUCTURE:

re'd
with
8/20/21

LOT NUMBER: PF5OHxA0320
CAS #: 863090-89-5



MOLECULAR FORMULA: C₅HF₉O₃
CONCENTRATION: 50.0 ± 2.5 µg/mL

MOLECULAR WEIGHT: 280.05
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

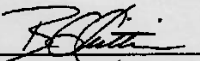
DOCUMENTATION/ DATA ATTACHED:

- 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: 12/21/2020
(mm/dd/yyyy)

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10764A-B



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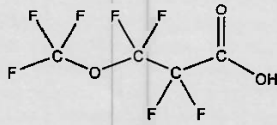
rec'd
w/ln
8/20/21

PRODUCT CODE: PF4OPeA **LOT NUMBER:** PF4OPeA0320

COMPOUND: Perfluoro-4-oxapentanoic acid

SYNONYM: Perfluoro-3-methoxypropanoic acid (PFMPA)

STRUCTURE: **CAS #:** 377-73-1



MOLECULAR FORMULA: C₅HF₇O₃ **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

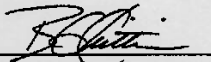
DOCUMENTATION/ DATA ATTACHED:

- 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)

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Revision#: 8, Revised 2020-09-10

PF4OPeA0320 (1 of 4)
rev1

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

3,6-OPFHpA

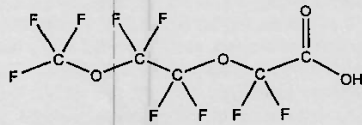
LOT NUMBER:

36OPFHpA0320

COMPOUND:

Perfluoro-3,6-dioxaheptanoic acid

STRUCTURE:



CAS #:

151772-58-6

MOLECULAR FORMULA:

C₅HF₉O₄

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)

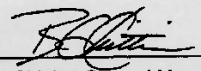
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

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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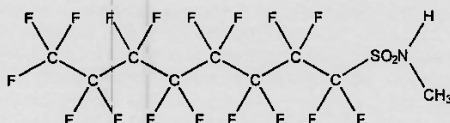
CERTIFICATE OF ANALYSIS DOCUMENTATION

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

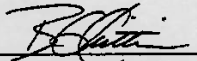
DOCUMENTATION/ DATA ATTACHED:

- 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: 
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Date: 08/04/2021
(mm/dd/yyyy)

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Revision#: 9, Revised 2020-12-23

NMeFOSA0721M (1 of 4)
rev0

7.9.1

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PRODUCT CODE:

N-EtFOSA-M

10837

LOT NUMBER:

NEtFOSA0821M

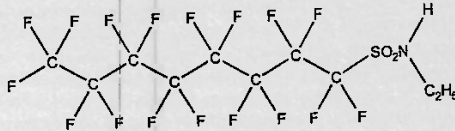
COMPOUND:

N-ethylperfluoro-1-octanesulfonamide

STRUCTURE:

CAS #:

4151-50-2



MOLECULAR FORMULA:

$C_{10}H_{17}F_{17}NO_2S$

MOLECULAR WEIGHT:

527.20

CONCENTRATION:

$50.0 \pm 2.5 \mu\text{g/mL}$

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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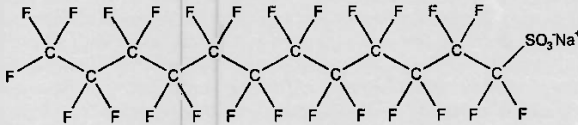
10840

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 NG 01/18/23

PRODUCT CODE:

PFODA

LOT NUMBER:

PFODA0821

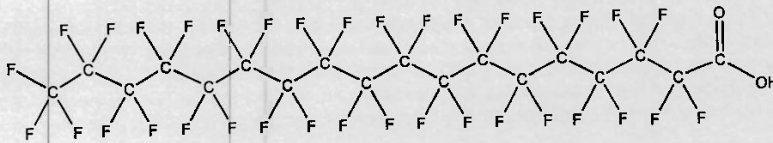
COMPOUND:

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:

B.G. Chittim, General Manager

Date: 09/28/2021
(mm/dd/yyyy)

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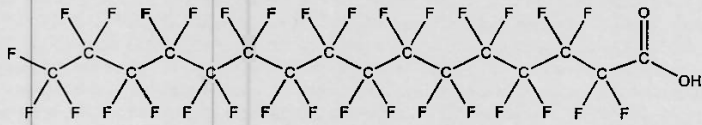
CERTIFICATE OF ANALYSIS
DOCUMENTATION

10842 NG 01/18/23

PRODUCT CODE: PFHxDA **LOT NUMBER:** PFHxDA0421

COMPOUND: Perfluoro-n-hexadecanoic acid

STRUCTURE: **CAS #:** 67905-19-5



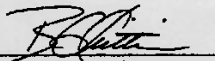
MOLECULAR FORMULA: C₁₆HF₃₁O₂ **MOLECULAR WEIGHT:** 814.13
CONCENTRATION: 50.0 ± 2.5 µg/mL **SOLVENT(S):** Methanol
 Water (<1%)

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:  **Date:** 05/25/2021
 B.G. Chittim, General Manager (mm/dd/yyyy)

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Form#:27, Issued 2004-11-10
 Revision#:9, Revised 2020-12-23

PFHxDA0421 (1 of 4)
 rev0

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1116 A-B ^{nw}

1116B on the back nw



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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

FHpPA

LOT NUMBER:

FHpPA1020

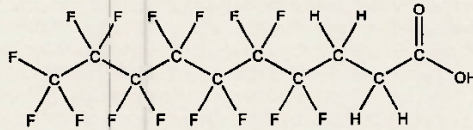
COMPOUND:

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

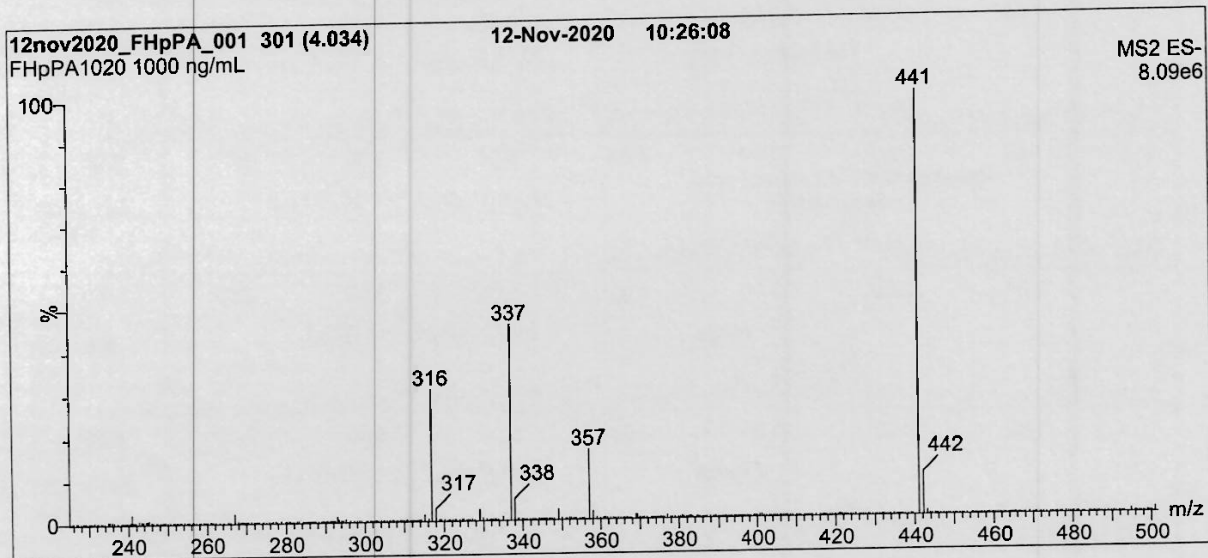
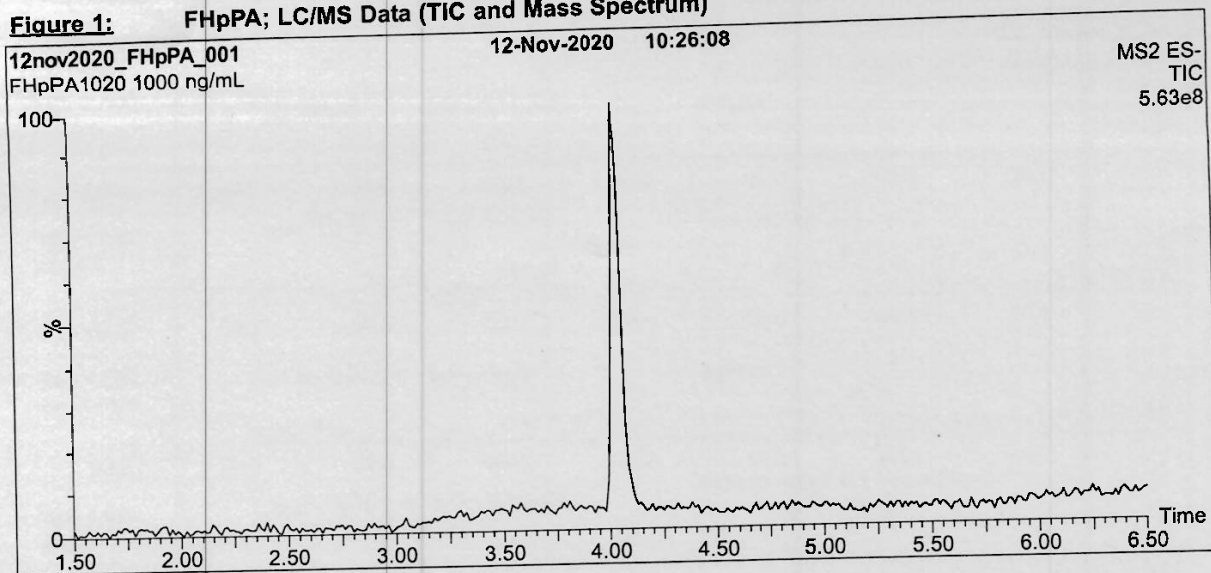
Date:

11/27/2020

(mm/dd/yyyy)

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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 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) = 28.50
Desolvation Temperature ($^{\circ}$ C) = 500
Desolvation Gas Flow (L/hr) = 1000

FHpPA1020 (3 of 4)
rev0

Form#:27, Issued 2004-11-10
Revision#:8, Revised 2020-09-10

FPr PA(3:3 FTA) 1116 B



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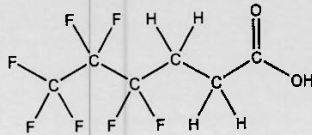
CERTIFICATE OF ANALYSIS
DOCUMENTATION

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

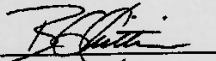
DOCUMENTATION/ DATA ATTACHED:

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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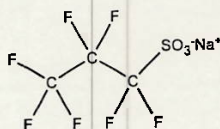
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFPrS
COMPOUND: Sodium perfluoro-1-propanesulfonate

LOT NUMBER: LPFPrS0721

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

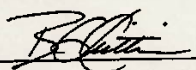
DOCUMENTATION/ DATA ATTACHED:

- 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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Form# 27, Issued 2004-11-10
Revision# 9, Revised 2020-12-23

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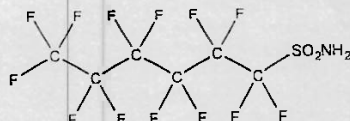
CERTIFICATE OF ANALYSIS DOCUMENTATION

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

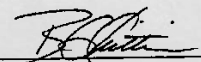
DOCUMENTATION/ DATA ATTACHED:

- 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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Certified By: 
B.G. Chittim, General Manager

Date: 01/10/2022
(mm/dd/yyyy)

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FHxSA12211 (1 of 4)
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PRODUCT CODE:

FBSA-I

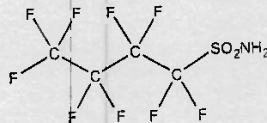
LOT NUMBER: FBSA11211

COMPOUND:

Perfluoro-1-butananesulfonamide

STRUCTURE:

CAS #: 30334-69-1



MOLECULAR FORMULA:

C₄H₂F₉NO₂S

MOLECULAR WEIGHT: 299.11

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S): Isopropanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

11/10/2021

EXPIRY DATE: (mm/dd/yyyy)

11/10/2026

RECOMMENDED STORAGE:

Refrigerate ampoule

DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By:

B.G. Chittim, General Manager

Date: 11/10/2021

(mm/dd/yyyy)

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FBSA11211 (1 of 4)
rev0

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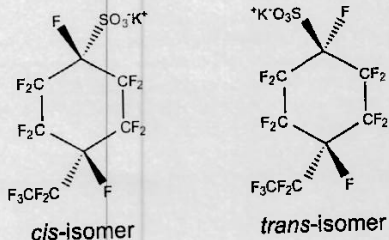
PRODUCT CODE:
COMPOUND:

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)
>98%

MOLECULAR WEIGHT: 500.22
SOLVENT(S): Methanol

CHEMICAL PURITY:

LAST TESTED: (mm/dd/yyyy)

03/28/2022

EXPIRY DATE: (mm/dd/yyyy)

03/28/2027

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

- Figure 1: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains a mixture of the *cis/trans* isomers of PFECHS at a ratio of 1:1.27 (*cis:trans*).

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Certified By:

B.G. Chittim, General Manager

Date: 03/30/2022
(mm/dd/yyyy)

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PRODUCT CODE:

N-EtFOSE-M

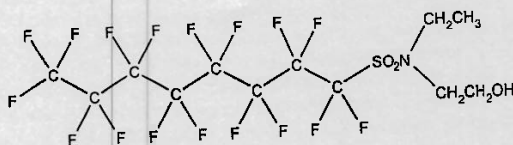
LOT NUMBER: NEtFOSE0622M

COMPOUND:

2-(N-ethylperfluoro-1-octanesulfonamido)ethanol

CAS #: 1691-99-2

STRUCTURE:



MOLECULAR FORMULA:

C₁₂H₁₀F₁₇NO₃S

MOLECULAR WEIGHT: 571.25

CONCENTRATION:

50.0 ± 2.5 µg/mL

SOLVENT(S): Methanol

CHEMICAL PURITY:

>98%

LAST TESTED: (mm/dd/yyyy)

05/13/2022 (HRGC/LRMS)
05/13/2022 (LC/MS)

EXPIRY DATE: (mm/dd/yyyy)

05/13/2027

RECOMMENDED STORAGE:

Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

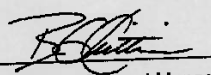
- Figure 1: HRGC/LRMS Data (Full Scan and Mass Spectrum)
- Figure 2: LC/MS Data (Full Scan and Mass Spectrum)
- Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By:


B.G. Chittim, General Manager

Date: 07/13/2022
(mm/dd/yyyy)

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NEtFOSE0622M (1 of 5)
rev0

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:

N-MeFOSE-M

LOT NUMBER:

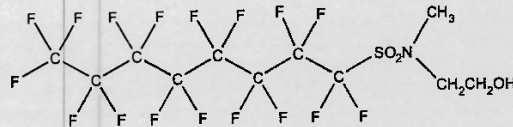
NMeFOSE0522M

COMPOUND:

2-(N-methylperfluoro-1-octanesulfonamido)ethanol

STRUCTURE:**CAS #:**

24448-09-7

**MOLECULAR FORMULA:**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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11764 A-5
rec'd: 04/20/23



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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
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Table A: MPFAC-HIF-IS; Components and Concentrations (ng/mL, ± 5% in methanol/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		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



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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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Revision#:9, Revised 2020-12-23

MPFACHIFES1022 (1 of 7)
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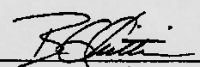
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Table A: MPFAC-HIF-ES; Components and Concentrations (ng/mL, ± 5% in methanol/isopropanol (1%)/water (<1%))

Compound	Acronym	Concentration (ng/mL)		Peak Assignment in Figure 1
		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 ₅)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 ₇)decanoic acid	M6PFDA	250		14
Perfluoro-n-(1,2,3,4,5,6,7- ¹³ C ₈)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 ₂ -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)

